MITSUBISHI ELECTRIC ENGINEERING

FAgoods

Upgrade Tool Products

General Catalog

Time and Wire Saving Devices

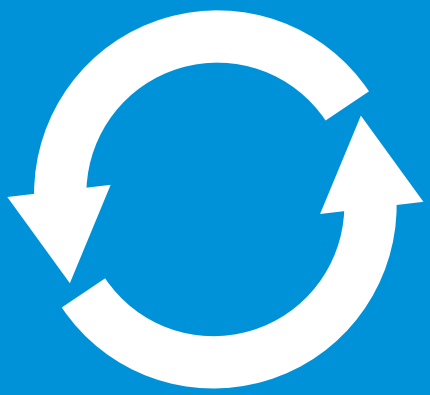
Network Devices

Products for Monitoring and Traceability

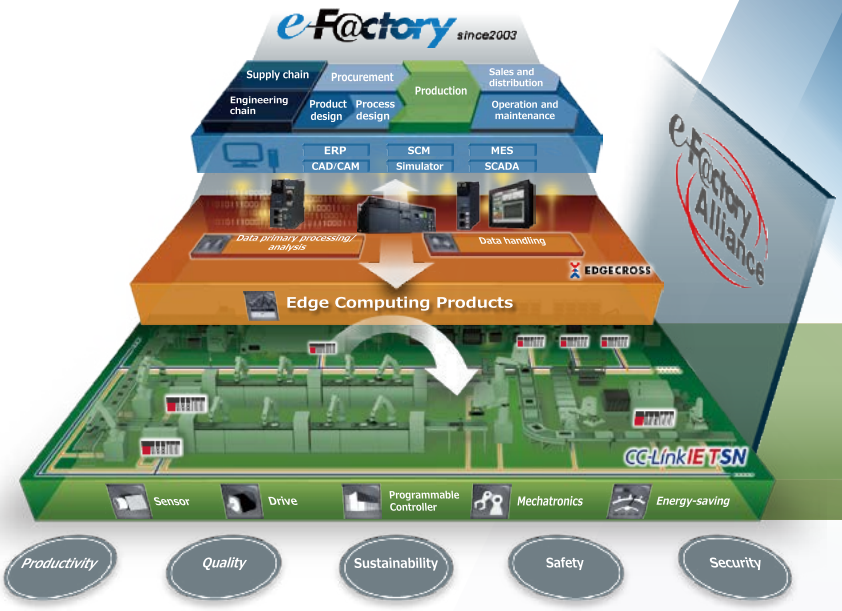
Products for System Maintenance

2024-25

Upgrading the existing production equipment



MITSUBISHI ELECTRIC ENGINEERING COMPANY LIMITED



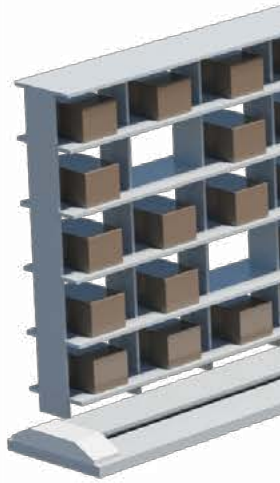
Source: Mitsubishi Electric Corporation

e-F@ctory

Manufacturing can be optimized by analyzing and utilizing the data collected from various devices and equipment connected with IIoT in developing, manufacturing, and logistics processes.
Our high technical capability and quality and technique to link FA devices and IT system will offer solutions for next-generation manufacturing such as mass customization, preventive maintenance, and traceability.

Fields of manufacturing are changing and to be changed

Labor-saving will support future manufacturing as the number of workers is decreasing today.
Our products provide five methods for control panel solutions according to fields of manufacturing.



Five methods for smart factory

Time and wire saving devices

01 Easy wiring to reduce unnecessary work

Network devices

02 Introduction of small-scale IIoT to reform production sites

Products for monitoring and traceability

03 Visualization (monitoring and diagnosis) of production sites

Upgrade tool products

04 Upgrading system leading to smart factory

Products for system maintenance

05 Stable operation for productivity improvement

Time and wire saving devices

Easy wiring to reduce unnecessary work

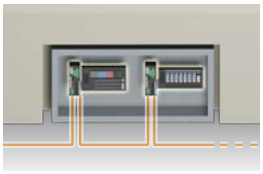
Our products help solve the problems of wiring work in the control panel by reducing wiring work for PLCs (programmable controllers), servo systems, HMIs (Human Machine Interfaces), and computerized numerical controllers (CNCs).



Network devices

Introduction of small-scale IIoT to reform production sites

We provide products to use the CC-Link family, SSCNET, or FL-net communication.



Products for monitoring and traceability

Visualization (monitoring and diagnosis) of production sites

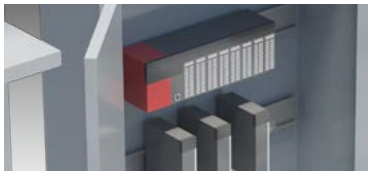
Our products and solutions enable monitoring and diagnosis.



Upgrade tool products

Upgrading system leading to smart factory

Our products help replacement of old programmable controllers and servo devices or gradual replacement of CC-Link with CC-Link IE TSN to achieve smart factory.



Products for system maintenance

Stable operation for productivity improvement

From preventive maintenance to predict troubles at the production site to corrective maintenance to deal with emergencies, our products support the starting line to solve your issues.



Our products solve your issues.

Upgrade tool products

Upgrading system leading to smart factory

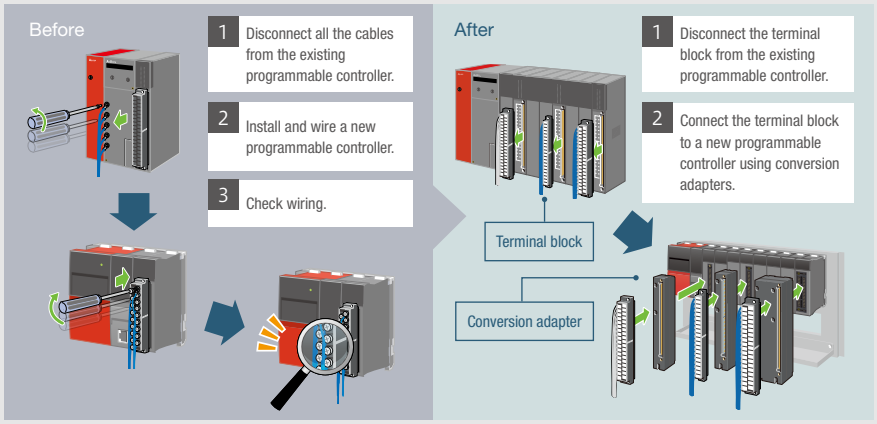
As operation in production lines must be stable, devices in the system should be replaced as required.
During replacement, a production line is stopped, resulting in production stop.
Replacement should be performed in as short time as possible.
Our products can minimize production line downtime.

- Minimizing the production line downtime
- Reducing wiring errors
- Achieving smart factory (e-F@ctory) by replacing your programmable controller

- Minimizing the production line downtime
- Dividing the cost and resuming the operation after replacement smoothly

Refer to P.6 to P.315.

Easy replacement with the newest programmable controller



Replaceable combinations

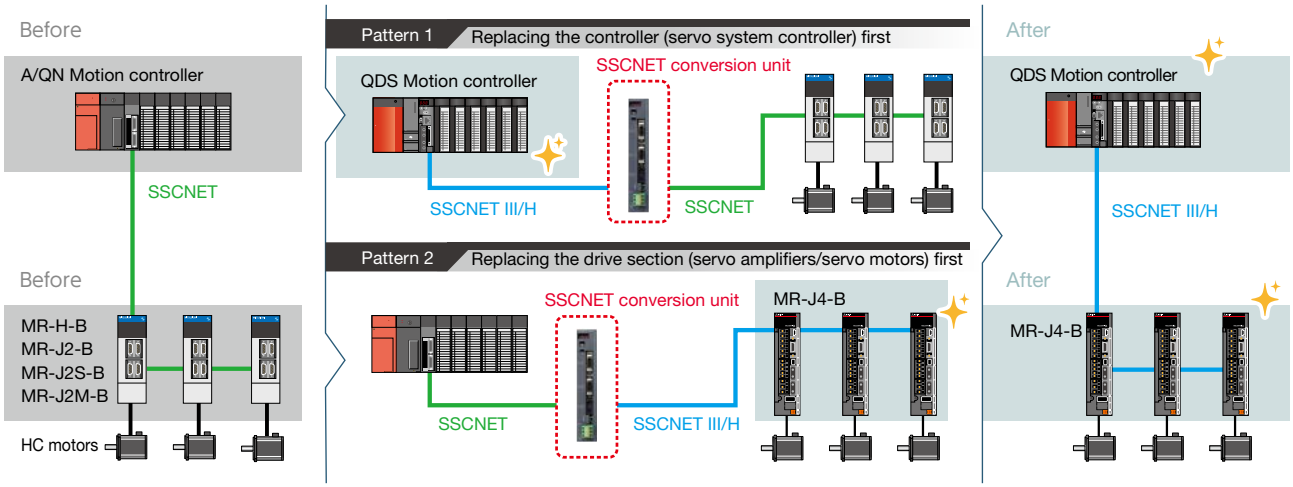
Existing programmable controller	Replacing programmable controller
Mitsubishi Electric MELSEC-A/AnS series	MELSEC iQ-R series
	MELSEC-Q series
	MELSEC-L series
PLCs manufactured by OMRON*, YASKAWA, SHARP, or other manufacturers	MELSEC iQ-R series
	MELSEC-Q series

* Program converter is available for replacing OMRON's PLCs.

The existing programmable controller can be replaced easily by using upgrade tool products. Wiring with conversion adapters requires only two steps to disconnect the existing programmable controller and install a new programmable controller. Disconnecting and wiring all the cables, modifying cables, and checking wiring are not required. Therefore, the wiring work time can be reduced significantly.

Refer to P.316 to P.329.

Replacing devices in servo system separately



The Motion controllers or servo amplifiers/motors can be replaced separately. Machine downtime is less than that when all devices are replaced all at once, and the cost can be divided.

Upgrade tool products

For programmable controllers

For programmable controllers

INDEX

Upgrade tool products for programmable controllers P.8

Selectional tool P.10

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Replacing the MELSEC-A/QnA series P.12

Replacing the MELSEC-AnS/QnAS series P.14

Replacing non-Mitsubishi PLCs P.18

Replacing general-purpose PLCs (using a universal conversion adapter) P.22

Replacing the MELSEC series P.26

MELSEC-A/QnA series

→ MELSEC iQ-R series P.26

→ MELSEC-Q series P.34

MELSEC-AnS/QnAS series

→ MELSEC iQ-R series P.42

→ MELSEC-Q series P.52

→ MELSEC-L series P.66

Upgrading existing programmable controller systems using the time and wire saving devices P.74

Replacing non-Mitsubishi PLCs P.98

OMRON SYSMAC C series

→ MELSEC iQ-R series Large type P.98

Small type P.104

→ MELSEC-Q series Large type P.130

Small type P.136

→ MELSEC series program converter P.162

SHARP New Satellite JW series

→ MELSEC iQ-R series Large type P.168

Small type P.184

→ MELSEC-Q series Large type P.194

Small type P.209

YASKAWA MEMOCON-SC GL series

→ MELSEC iQ-R series Large type P.216

Small type P.233

→ MELSEC-Q series Large type P.242

Small type P.261

Replacing general-purpose PLCs (using a universal conversion adapter) P.270

General-purpose PLC

→ MELSEC iQ-R series P.270

→ MELSEC-Q series P.292

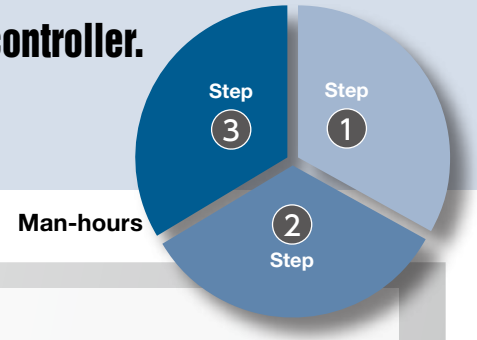
Upgrade tool products for programmable controllers

Upgrade tool products help users to replace an existing programmable controller with a new programmable controller. Since the wiring of the existing programmable controller is used as it is even after replacement, the work time and wiring errors can be reduced significantly.

Before

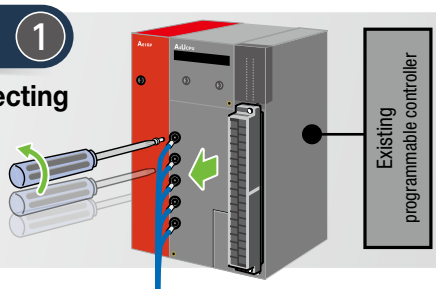
We would like to upgrade our programmable controller.

But... it takes time and we do not want to stop production lines for a long time.



Step 1

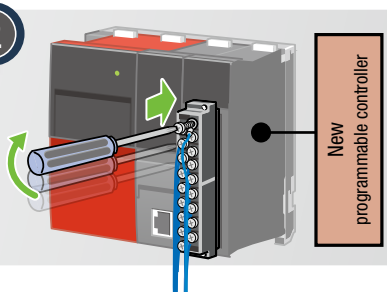
Disconnecting cables



All cables need to be disconnected.

Step 2

Connecting cables

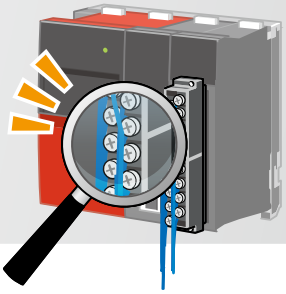


All cables need to be connected again.

(Drilling of additional base unit installation holes is required.)

Step 3

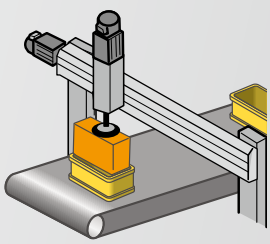
Wiring check



All cables needs to be checked.

Step 4

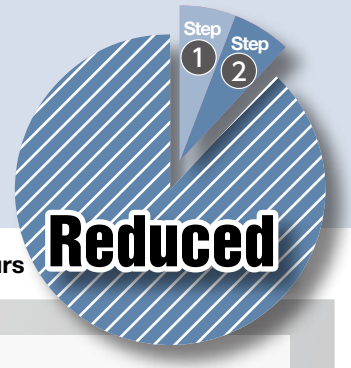
Operation
(including test operation)



It takes much time to perform Steps 1, 2, and 3.

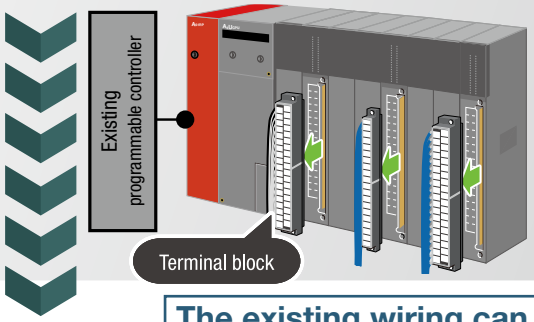
After

Upgrade tool products approx. 230 products make the replacement procedure simple!



Step 1

Removing terminal blocks



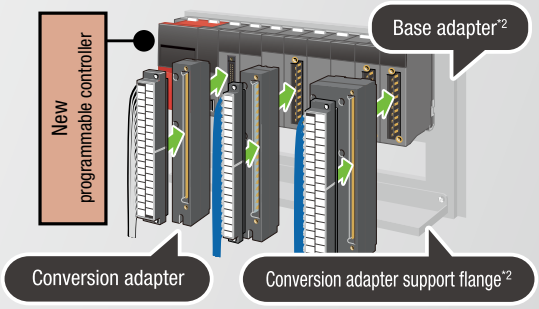
Only two steps to complete the replacement!

The wiring work time is reduced significantly because the existing wiring (terminal blocks) can be used as it is.

The existing wiring can be restored easily.

Step 2

Installing terminal blocks



No wiring check! *1

The production line downtime is minimized because test operation can be performed immediately after replacement.

*1: Power cables may need to be checked in some cases.
*2: These products may not be required depending on the new programmable controller series.

Supported programmable controllers

Before replacement	After replacement		
Mitsubishi Electric MELSEC-A/AnS series	MELSEC iQ-R series	MELSEC-Q series	MELSEC-L series
Non-Mitsubishi programmable controllers	MELSEC iQ-R series	MELSEC-Q series	

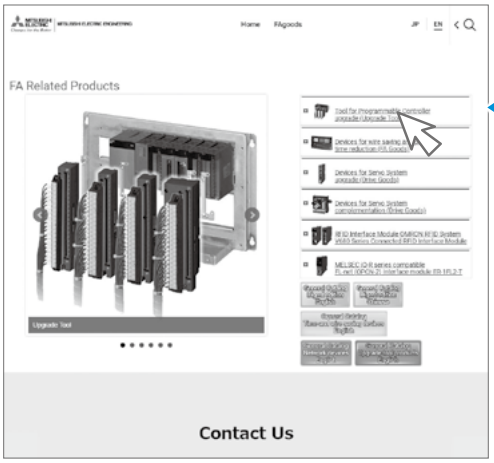
Selection tool

The selection tool on our website helps replace Mitsubishi Electric programmable controllers.
New modules and the upgrade tool products are displayed by selecting the model names of the existing MELSEC series modules.

www.mitsubishielectricengineering.com/sales/fa/meefan/

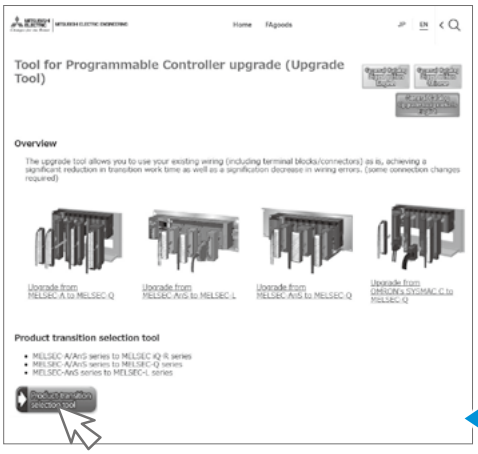
From our website
(www.mitsubishielectricengineering.com/sales/fa/meefan/)

1 Click "Tool for Programmable Controller upgrade (Upgrade Tool)".



Click

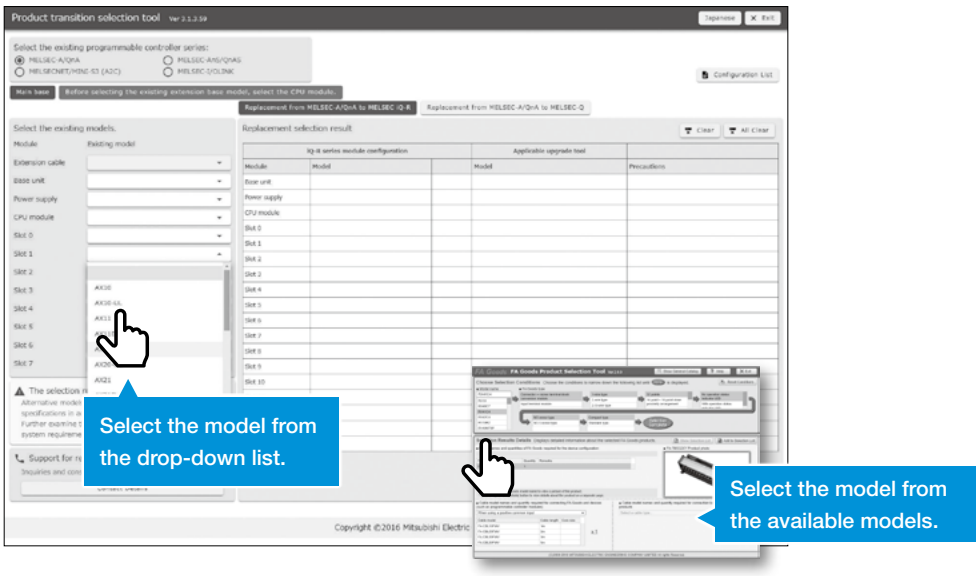
2 Click the [Product transition selection tool] button.



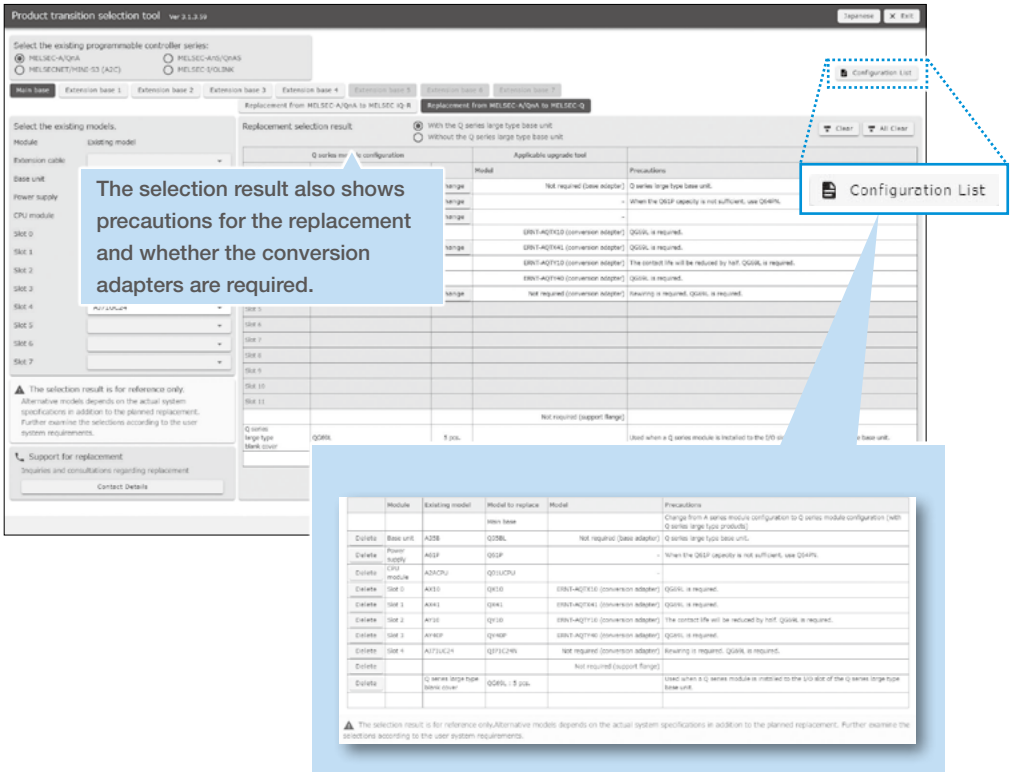
Click

The product transition selection tool starts.

3 On the left of the window, select the model names of the existing MELSEC series modules from the drop-down lists.



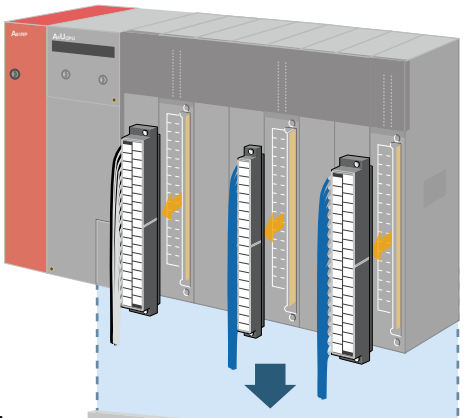
4 After the existing modules are selected as required, new MELSEC series modules and the conversion adapters are displayed.



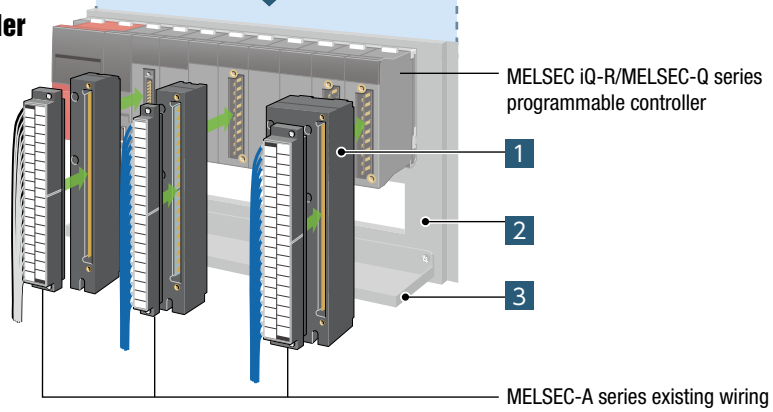
Replacing the MELSEC-A/QnA series

Target MELSEC-A/QnA series → MELSEC iQ-R/Q series

MELSEC-A series



New programmable controller



Products required for the replacement

1 Conversion adapter



An adapter to connect the MELSEC-A series existing wiring to a new (MELSEC iQ-R/MELSEC-Q series) programmable controller

2 Base adapter



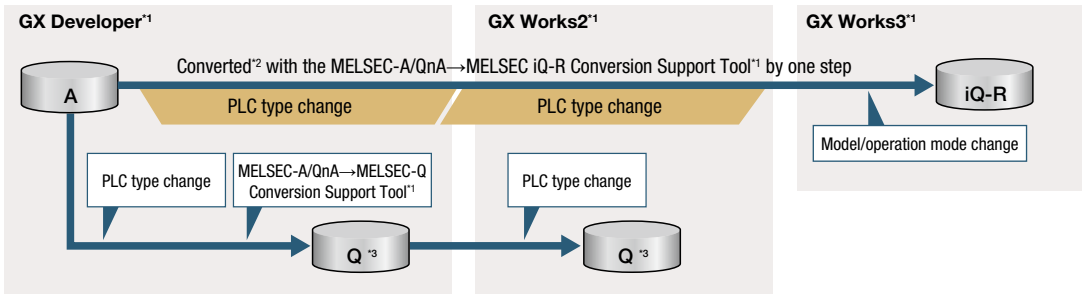
An adapter to install a new (MELSEC iQ-R/ MELSEC-Q series) programmable controller base unit using the MELSEC-A series base unit installation holes

1 Conversion adapter support flange



A support flange that secures the lower part of a conversion adapter

Program conversion



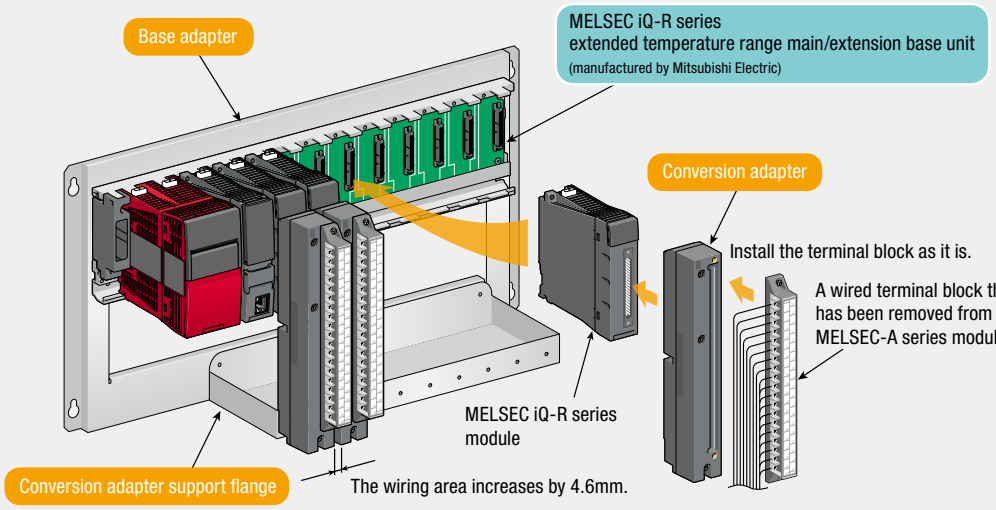
*1: Manufactured by Mitsubishi Electric
*2: GX Developer, GX Works2, and GX Works3 have to be installed.
*3: GX Developer does not support all MELSEC-Q series CPU module types.

A/QnA iQ-R series P.26 A/QnA Q series P.34

Replacement considering wiring interference and wiring area

Replacement with the MELSEC iQ-R series

Use of an extended temperature range base unit manufactured by Mitsubishi Electric

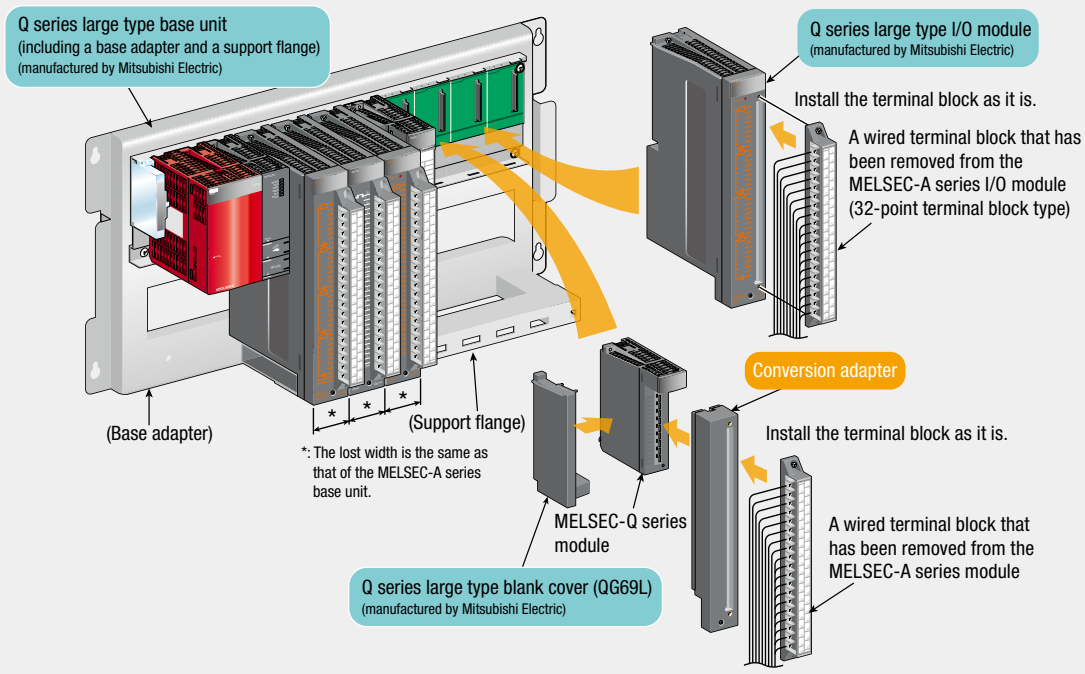


- 2-slot type conversion adapters cannot be used.

MELSEC-A series model	MELSEC iQ-R series extended temperature range base unit model	Base adapter model	Conversion adapter support flange model
A38B(-UL/-E), A38HB(EU)	R310B-HT	ERNT-AQB38N	ERNT-1AR10F3
A68B(-UL)	R610B-HT	ERNT-AQB68N	ERNT-1AR10F6

Replacement with the MELSEC-Q series

Use of a Q series large type base unit and Q series large type I/O modules manufactured by Mitsubishi Electric



- The Q series large type base unit has the same dimensions as the MELSEC-A series programmable controller. Drilling of additional holes is not required.
- The Q series large type base unit can be used together with the Q series large type I/O modules.
- 2-slot type conversion adapters cannot be used.

Q series large type base units

A series model	Q series large type base unit model
A35B(-E, -UL)	Q35BL
A38B(-E, -UL)	Q38BL
A65B(-UL)	Q65BL
A68B(-UL)	Q68BL
A55B(-UL)	Q55BL

Q series large type blank cover

A series model	Q series large type blank cover model
-	QG69L

Q series large type I/O modules

A series model	Q series large type I/O module model
AX11	QX11L
AX21	QX21L
AY10A	QY11AL
AY11A(EU)	
AY13(E, EU)	QY13L
AY23	QY23L
AY41(P)	QY51PL
AY51(-S1)	

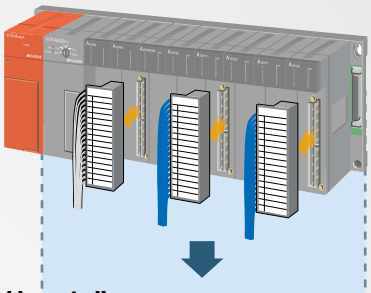
Replacing the MELSEC-AnS/QnAS series

Target

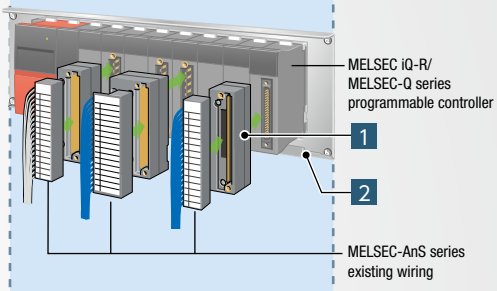
MELSEC-AnS/QnAS series → MELSEC iQ-R/Q/L series

Panel surface installation

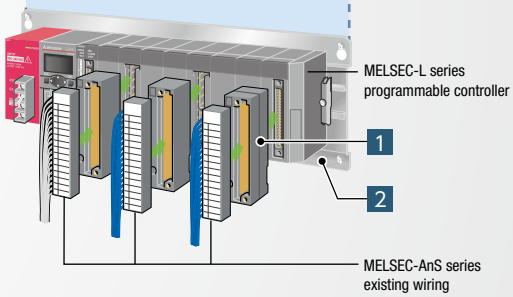
MELSEC-AnS series



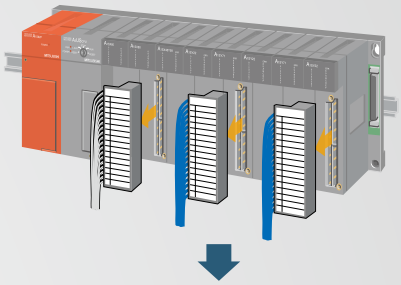
New programmable controller

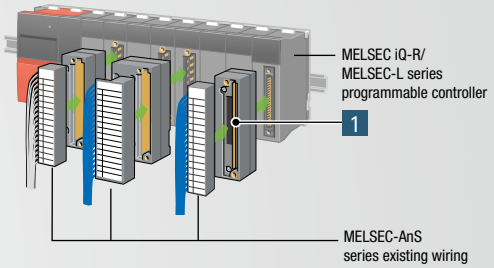


New programmable controller

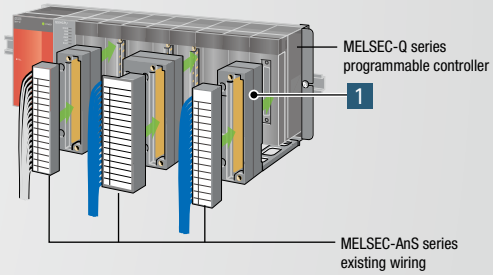


DIN rail installation





*: When a conversion adapter with a fixture or a disconnection detection connector conversion cable for the temperature control module is used, a conversion adapter DIN rail mounting bracket is required.



Products required for the replacement

1 Conversion adapter



An adapter to connect the MELSEC-AnS series existing wiring to a new (MELSEC iQ-R/MELSEC-Q/MELSEC-L series) programmable controller

2 Base adapter

MELSEC iQ-R/MELSEC-Q series



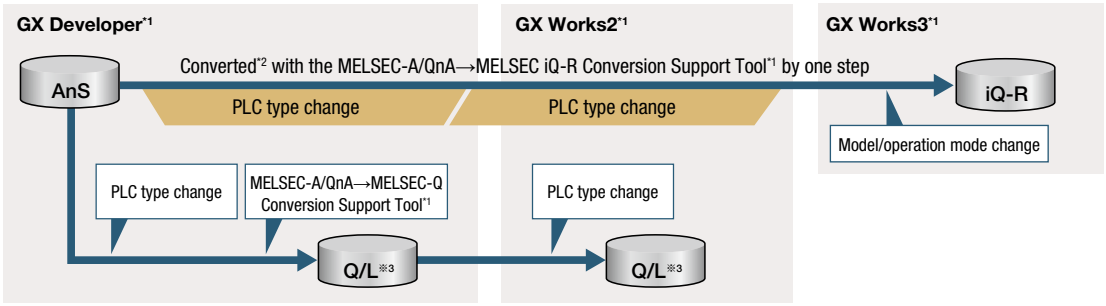
MELSEC-L series



An adapter to install a new (MELSEC iQ-R/MELSEC-Q/MELSEC-L series) programmable controller base unit using the MELSEC-AnS series base unit installation holes

AnS/QnAS iQ-R series P.42 AnS/QnAS Q series P.52 AnS/QnAS L series P.66

Program conversion

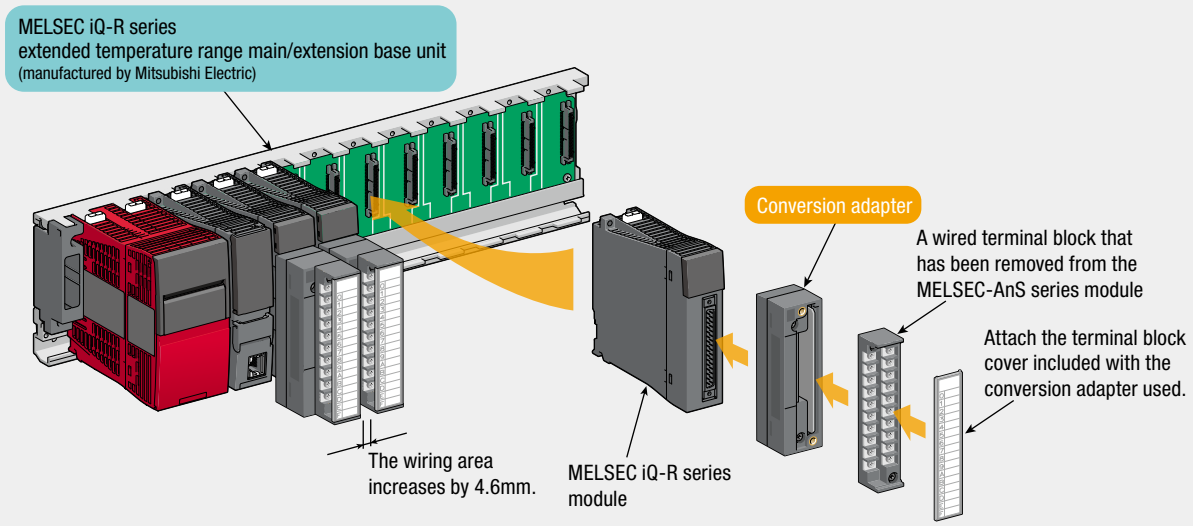


*1: Manufactured by Mitsubishi Electric
*2: GX Developer, GX Works2, and GX Works3 have to be installed.
*3: GX Developer does not support all MELSEC-Q/L series CPU module types.

Replacement considering wiring interference and wiring area

Replacement with the MELSEC iQ-R series

Use of an extended temperature range base unit manufactured by Mitsubishi Electric

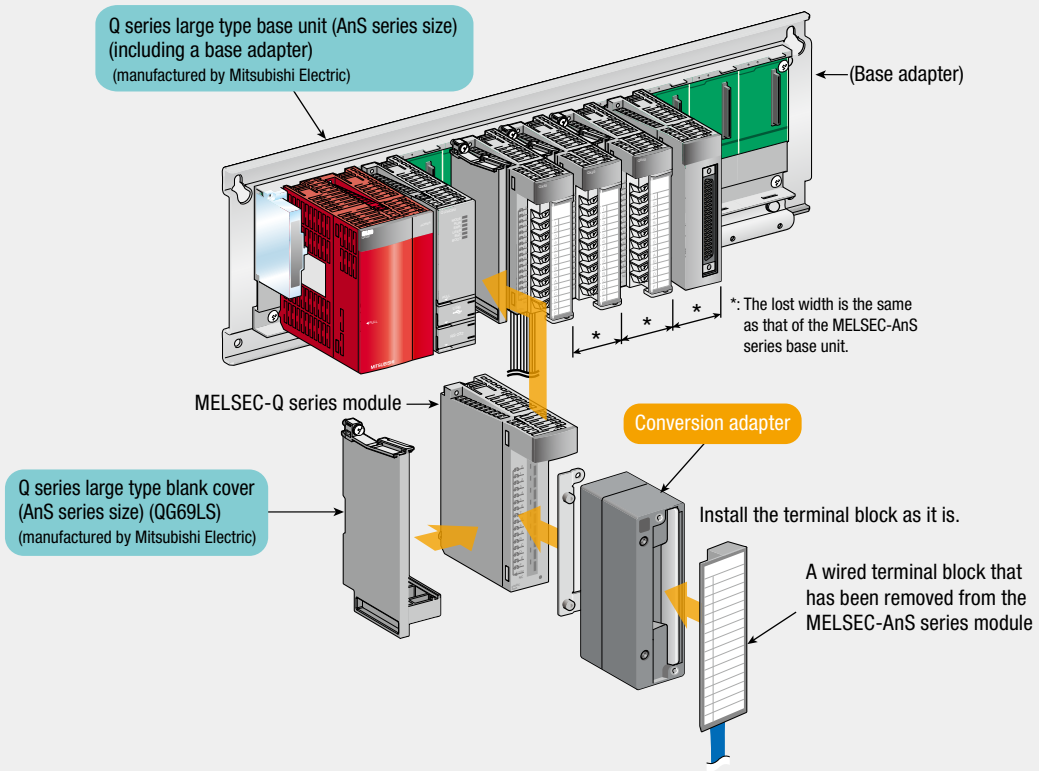


- There is no applicable base adapter.
- 2-slot type conversion adapters cannot be used.

MELSEC iQ-R series extended temperature range base unit model
R310B-HT
R610B-HT

Replacement with the MELSEC-Q series

Use of a Q series large type base unit (AnS series size) manufactured by Mitsubishi Electric



Q series large type base units (AnS series size)

Panel surface installation type

AnS series model	Q series large type base unit model
A1S35B	Q35BLS
A1S38B	Q38BLS
A1S65B	Q65BLS
A1S68B	Q68BLS
A1S55B	Q55BLS

DIN rail installation type

AnS series model	Q series large type base unit model
A1S35B	Q35BLS-D
A1S38B	Q38BLS-D
A1S65B	Q65BLS-D
A1S68B	Q68BLS-D
A1S55B	Q55BLS-D

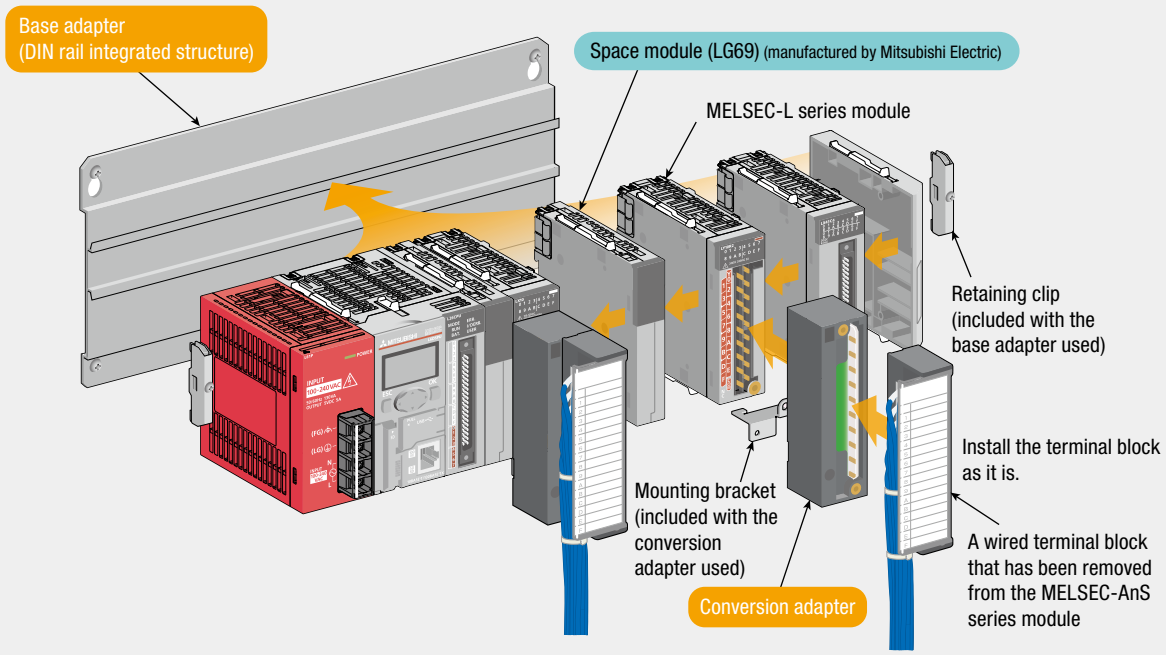
Q series large type blank cover (AnS series size)

Q series large type blank cover model
QG69LS

- The Q series large type base unit (AnS series size) (panel surface installation type) has the same dimensions as the MELSEC-AnS series programmable controller. Drilling of additional holes is not required.
- The Q series large type base unit (AnS series size) has screw holes for securing the fixture of a conversion adapter.
- 2-slot type conversion adapters and some of 1-slot type conversion adapters cannot be used. For the applicable conversion adapters, refer to the model list on P.52 to P.55.

Replacement with the MELSEC-L series

Use of a space module (LG69) manufactured by Mitsubishi Electric



- The number of space modules (LG69) to be mounted is restricted. For details, refer to the MELSEC-L CPU Module User's Manual (Hardware Design, Maintenance and Inspection) published by Mitsubishi Electric.
- Depending on the system configuration, the width may increase, making it no longer possible to use the base adapter. Check the installation method referring to "How to select the installation method" on P.68.

Replacing non-Mitsubishi PLCs

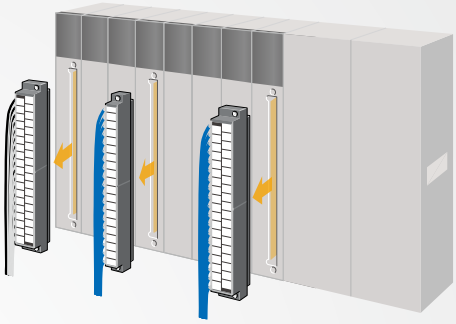
Target

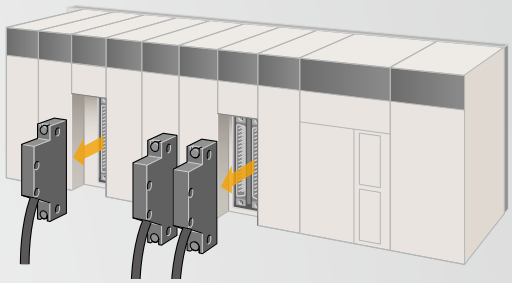
- SYSMAC C series (OMRON)
- New satellite JW series (SHARP)
- MEMOCON-SC GL series (YASKAWA)

→ MELSEC iQ-R/Q series

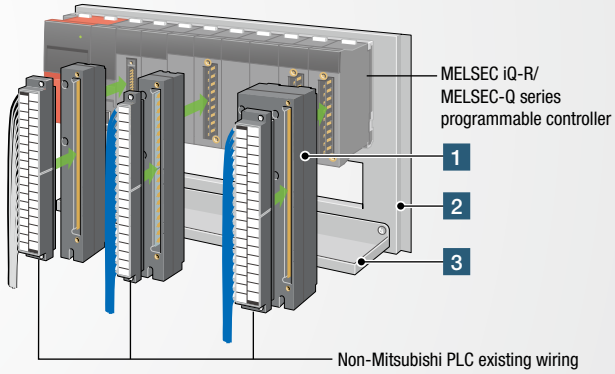
Large type	Small type

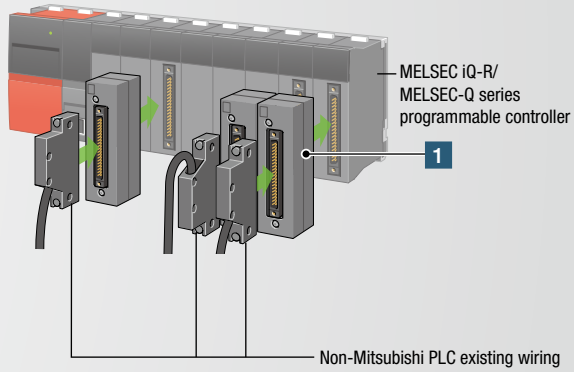
Non-Mitsubishi PLC





New programmable controller





Products required for the replacement

1 Conversion adapter



An adapter to connect the non-Mitsubishi PLC existing wiring to a new (MELSEC iQ-R/MELSEC-Q series) programmable controller

2 Base adapter



An adapter to install a new (MELSEC iQ-R/MELSEC-Q series) programmable controller base unit and a 3 conversion adapter support flange. The SYSMAC C series base unit installation holes can be used.

3 Conversion adapter support flange



A support flange that secures the lower part of a conversion adapter

4 Program converter (for SYSMAC C series)

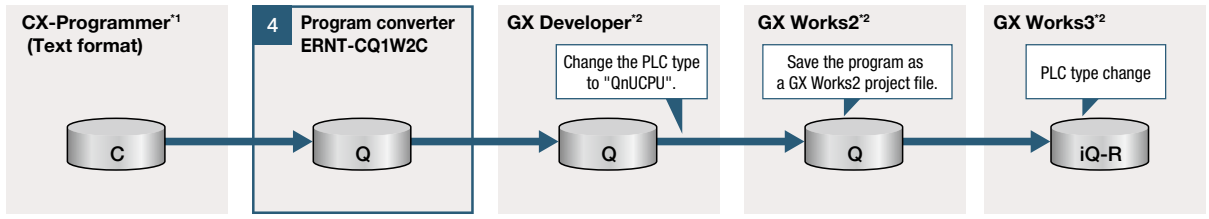


C1000H
C2000H
C200H
C200HS
C200HX
C200HE
C200HG
CS1
CJ1

A tool to convert programs into MELSEC-Q series programs (GX Developer project)

C	iQ-R series	Large	P.98	Small	P.104	JW	iQ-R series	Large	P.168	Small	P.184	GL	iQ-R series	Large	P.222	Small	P.239
C	Q series	Large	P.130	Small	P.136	JW	Q series	Large	P.194	Small	P.211	GL	Q series	Large	P.248	Small	P.267

Program conversion (OMRON SYSMAC C series only)



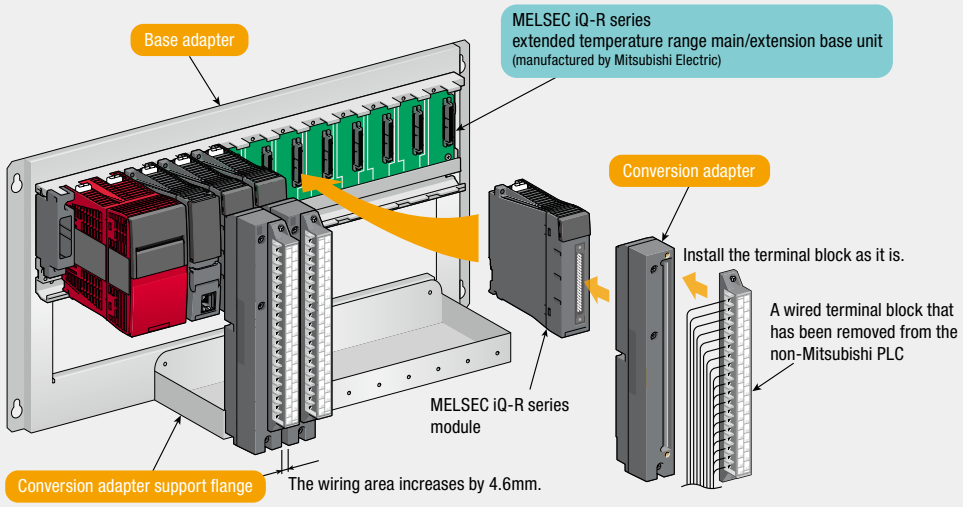
*1: Manufactured by OMRON Corporation
*2: Manufactured by Mitsubishi Electric

Replacement considering wiring interference and wiring area

Replacement with the MELSEC iQ-R series

Use of an extended temperature range base unit manufactured by Mitsubishi Electric

Large type



- 2-slot type conversion adapters cannot be used.
- If the same base adapter and conversion adapter support flange for replacing the MELSEC-A series with the MELSEC iQ-R series are used, an extended temperature range base unit can be used to replace the JW series and the GL series.
  (Note, however, that drilling of two additional installation holes may be required depending on the existing base unit.)

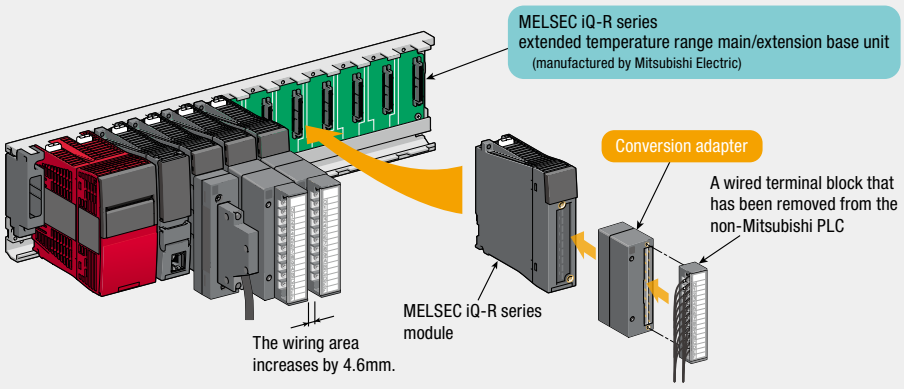
For replacing the SYSMAC C series

SYSMAC C series model	MELSEC iQ-R series extended temperature range base unit model	Base adapter model	Conversion adapter support flange model
C500-BC081/082/091, C2000-BC061	R310B-HT	ERNT-CQB081N	ERNT-1CR10F
C500-BI081, C2000-BI083	R610B-HT		

For replacing the new Satellite JW series and the MEMOCON-SC GL series

MELSEC iQ-R series extended temperature range base unit model	Base adapter model	Conversion adapter support flange model
R310B-HT	ERNT-AQB38N	ERNT-1AR10F3
R610B-HT	ERNT-AQB68N	ERNT-1AR10F6

Small type

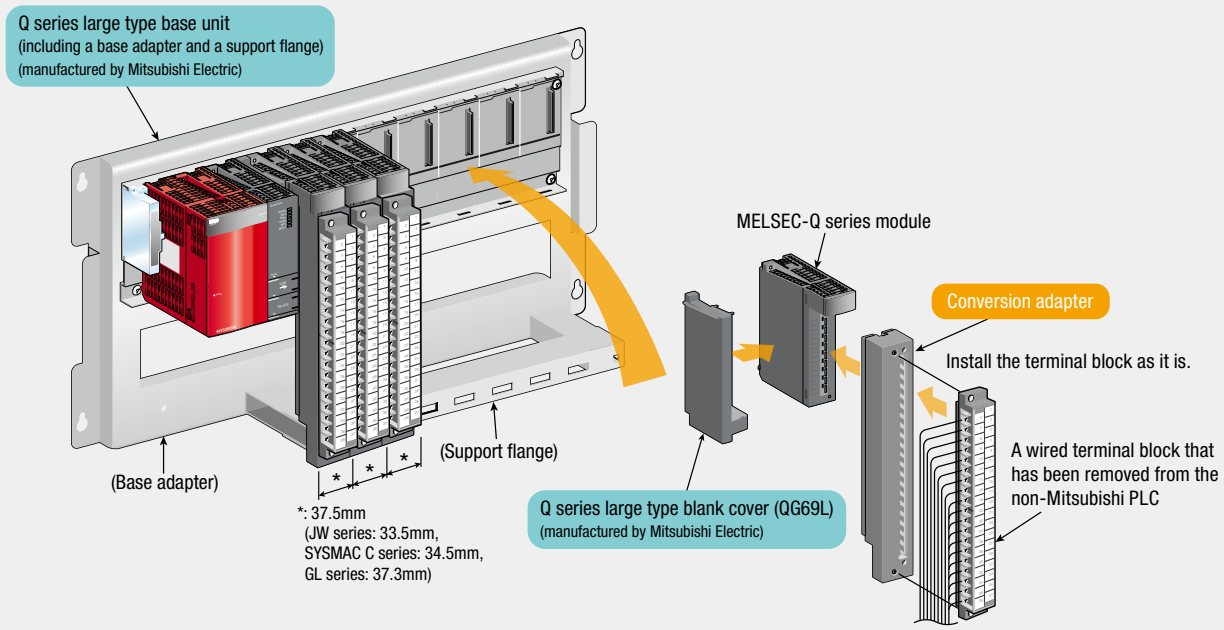


MELSEC iQ-R series extended temperature range base unit model
R310B-HT
R610B-HT

Replacement with the MELSEC-Q series

Use of a Q series large type base unit manufactured by Mitsubishi Electric

Large type



• 2-slot type conversion adapters cannot be used.

Q series large type base units

Model	Description	No. of slots
Q38BL	Main base unit	8
Q35BL		5
Q68BL	Extension base unit (type requiring a power supply module)	8
Q65BL		5
Q55BL	Extension base unit (type requiring no power supply module)	5

Q series large type blank cover

Model	Description
QG69L	A cover to adjust the gap between modules

Q series large type I/O modules

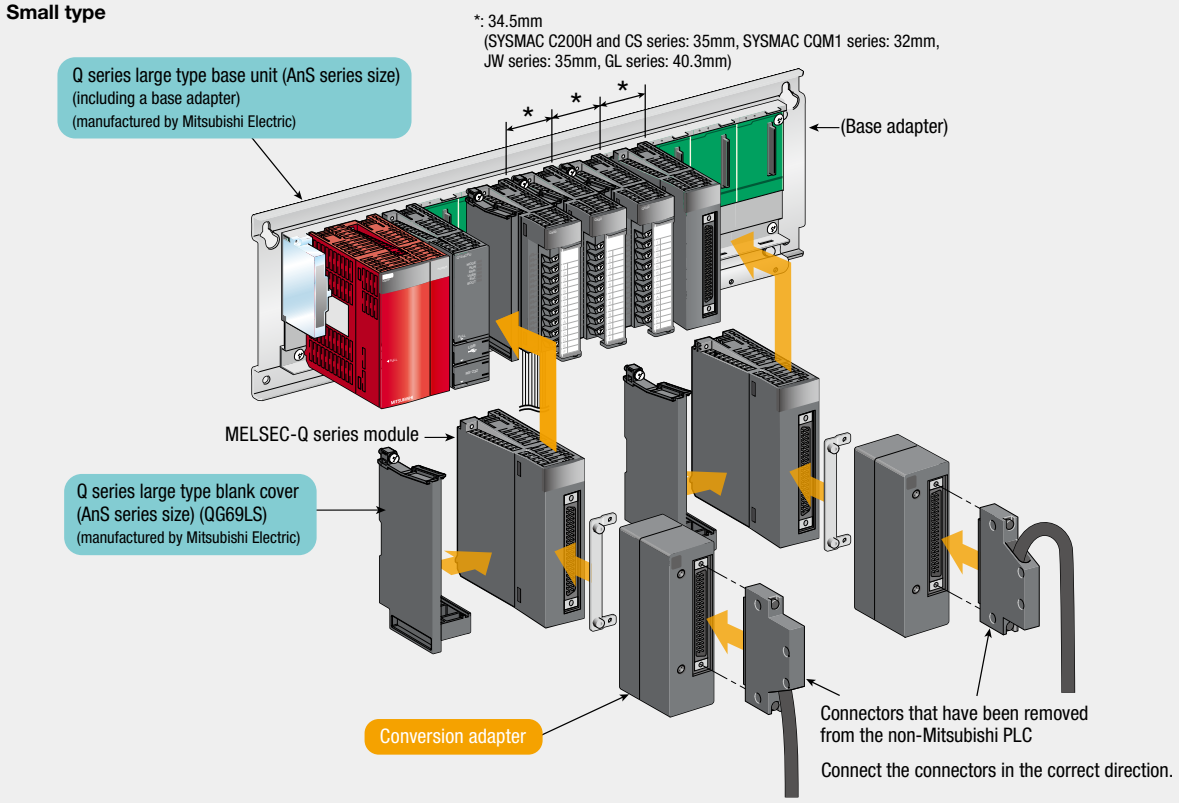
Model
QX11L
QX21L
QY11AL
QY13L
QY23L
QY51PL

Terminal blocks need to be prepared by the user.

Replacement with the MELSEC-Q series

Use of a Q series large type base unit (AnS series size) manufactured by Mitsubishi Electric

Small type



Q series large type base units (AnS series size)

Model		Description	No. of slots
Panel surface installation type	DIN rail installation type		
Q38BLS	Q38BLS-D	Main base unit	8
Q35BLS	Q35BLS-D		5
Q68BLS	Q68BLS-D	Extension base unit (type requiring a power supply module)	8
Q65BLS	Q65BLS-D		5
Q55BLS	Q55BLS-D	Extension base unit (type requiring no power supply module)	5

Q series large type blank cover (AnS series size)

Model	Description
QG69LS	A cover to adjust the gap between modules

Replacing general-purpose PLCs (using a universal conversion adapter)

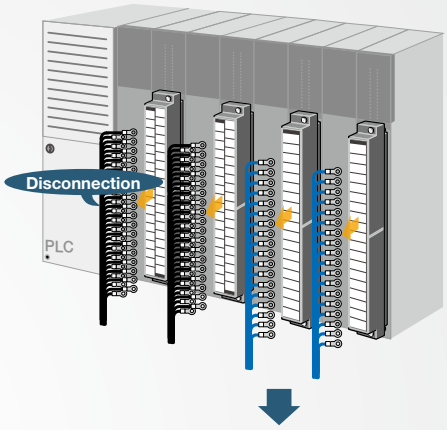
Target

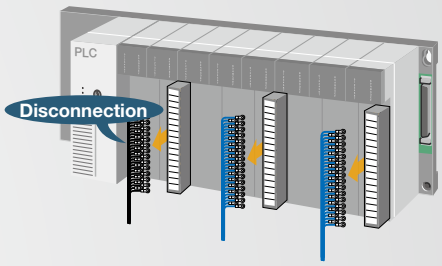
OMRON
SHARP
YASKAWA
FUJI ELECTRIC and others

→ MELSEC iQ-R/Q series

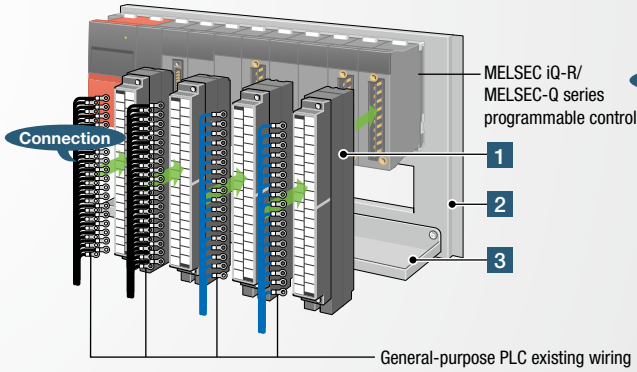
Large type	Small type

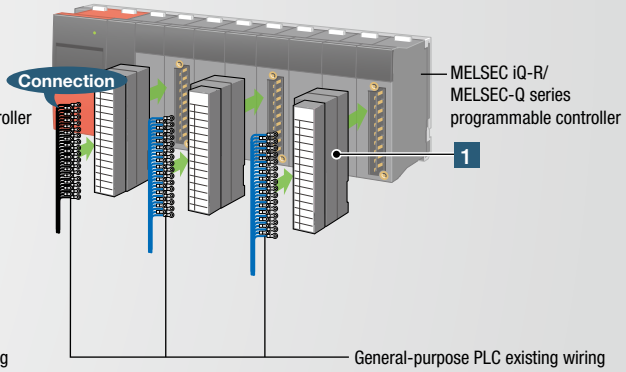
General-purpose PLC





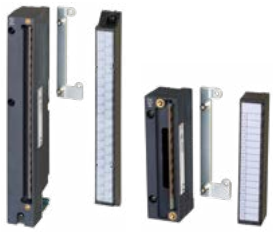
New programmable controller





Products required for the replacement

1 Conversion adapter



An adapter to connect the PLC existing wiring to a new (MELSEC iQ-R/MELSEC-Q series) programmable controller

2 Base adapter



An adapter to install a new (MELSEC iQ-R/MELSEC-Q series) programmable controller base unit and a 3 conversion adapter support flange

3 Conversion adapter support flange



A support flange that secures the lower part of a conversion adapter (Required)

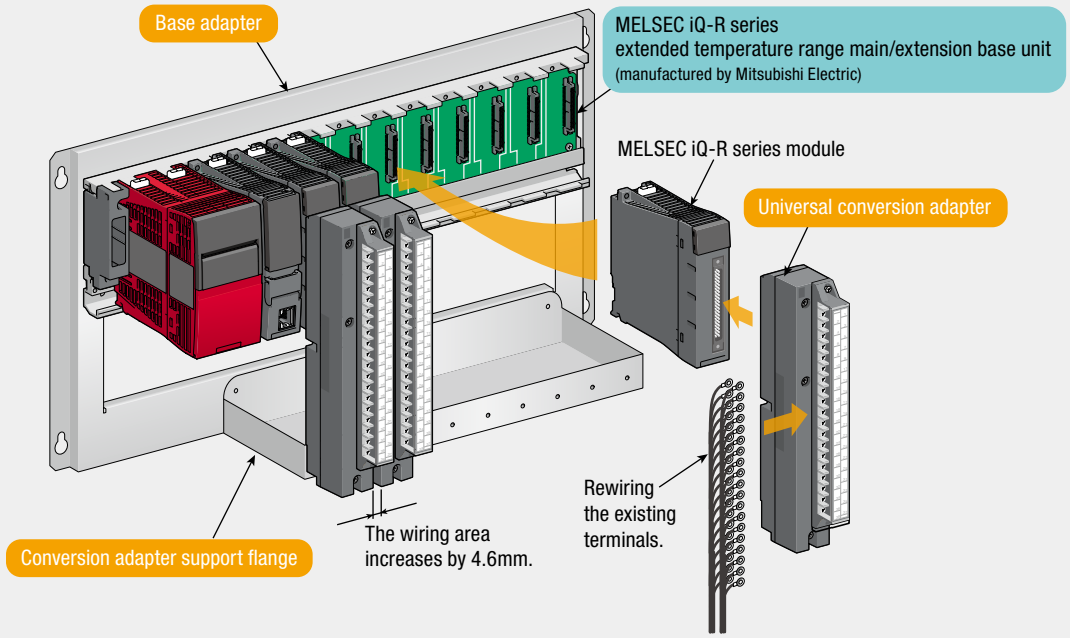
General-purpose PLC iQ-R series P.270 Large P.281 Small P.288 General-purpose PLC Q series P.292 Large P.304 Small P.313

Replacement considering wiring interference and wiring area

Replacement with the MELSEC iQ-R series

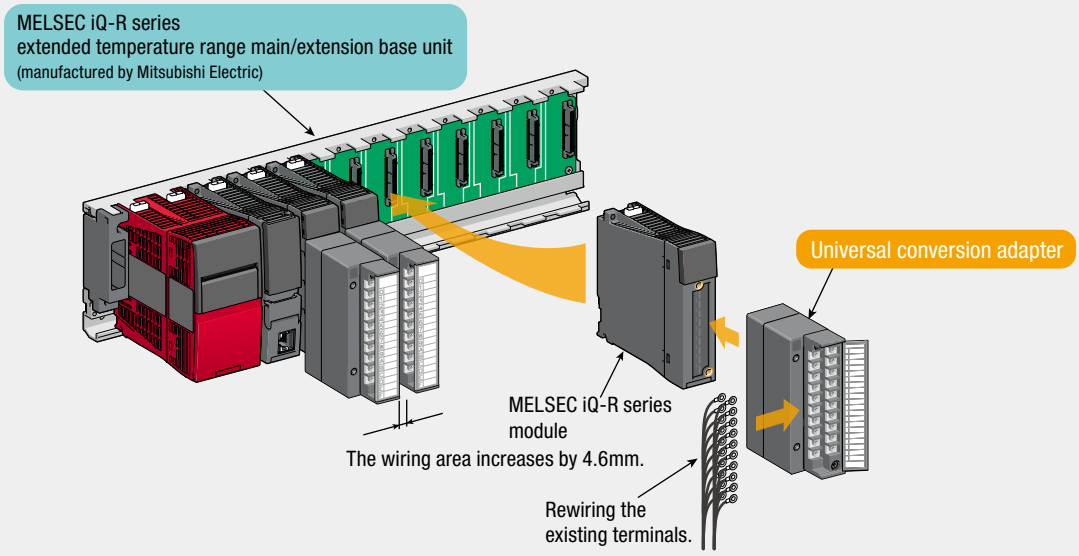
Use of an extended temperature range base unit manufactured by Mitsubishi Electric

Large type



MELSEC iQ-R series extended temperature range base unit model	Base adapter model	Conversion adapter support flange model
R310B-HT	ERNT-AQB38N	ERNT-1AR10F3
R610B-HT	ERNT-AQB68N	ERNT-1AR10F6

Small type

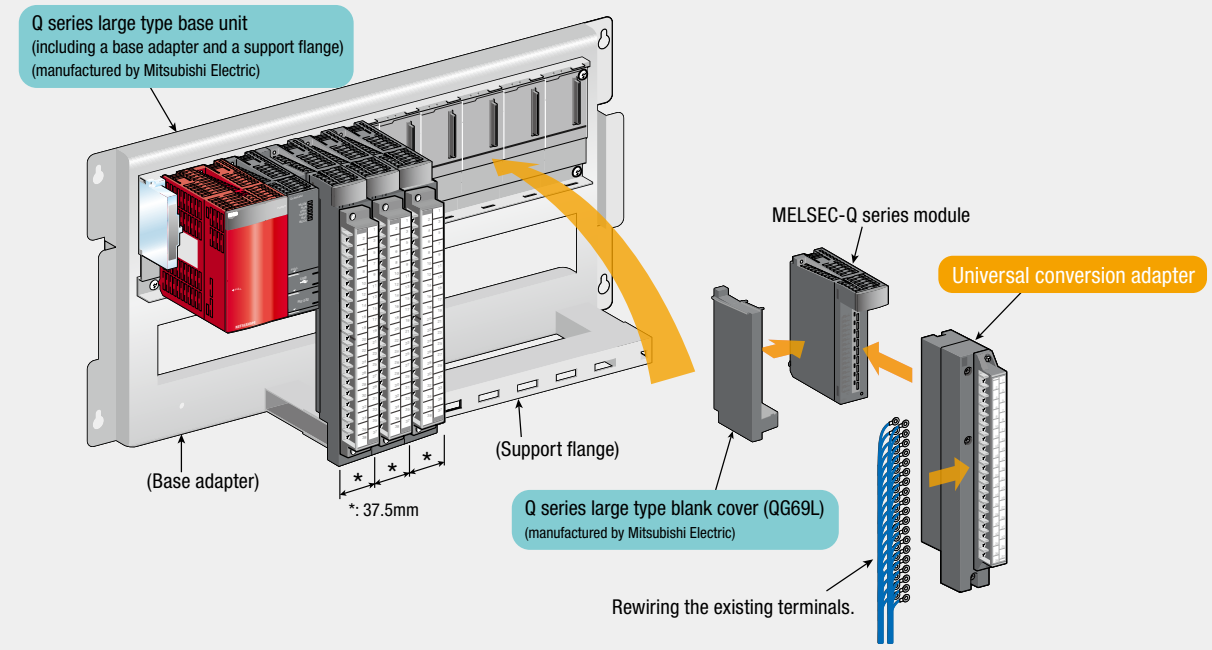


MELSEC iQ-R series extended temperature range base unit model
R310B-HT
R610B-HT

Replacement with the MELSEC-Q series

Use of a Q series large type base unit manufactured by Mitsubishi Electric

Large type



Q series large type base units

Model	Description	No. of slots
Q38BL	Main base unit	8
Q35BL		5
Q68BL	Extension base unit (type requiring a power supply module)	8
Q65BL		5
Q55BL	Extension base unit (type requiring no power supply module)	5

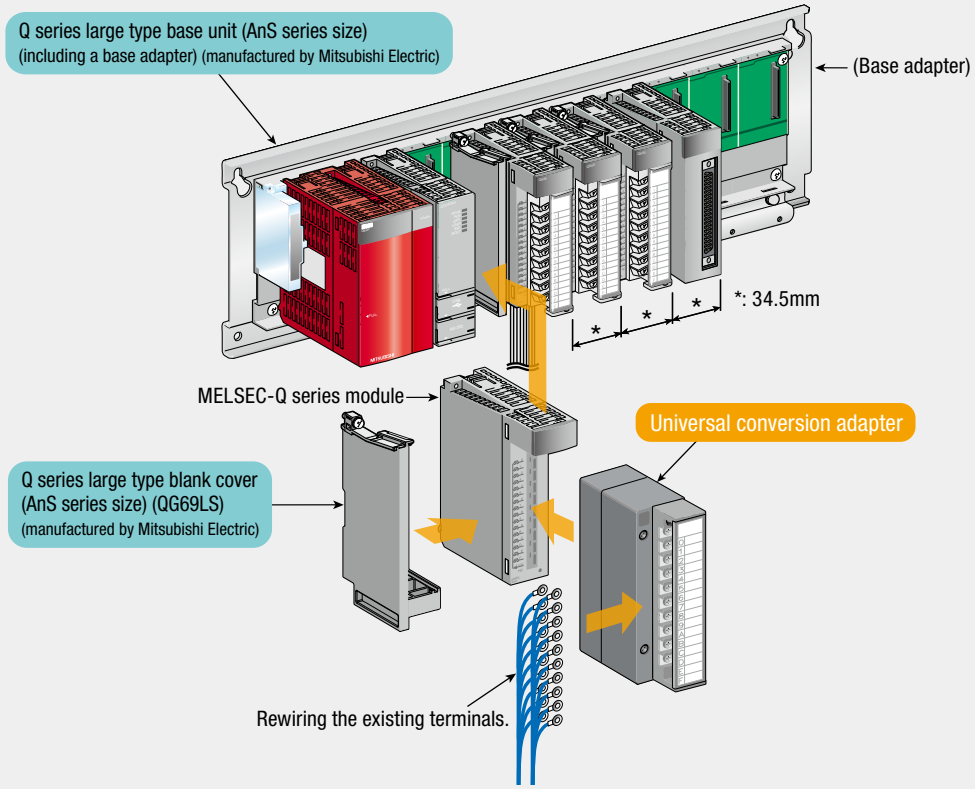
Q series large type blank cover

Model	Description
QG69L	A cover to adjust the gap between modules

Replacement with the MELSEC-Q series

Use of a Q series large type base unit (AnS series size) manufactured by Mitsubishi Electric

Small type



Q series large type base units (AnS series size)

Model		Description	No. of slots
Panel surface installation type	DIN rail installation type		
Q38BLS	Q38BLS-D	Main base unit	8
Q35BLS	Q35BLS-D		5
Q68BLS	Q68BLS-D	Extension base unit (type requiring a power supply module)	8
Q65BLS	Q65BLS-D		5
Q55BLS	Q55BLS-D	Extension base unit (type requiring no power supply module)	5

Q series large type blank cover (AnS series size)

Model	Description
QG69LS	A cover to adjust the gap between modules

MELSEC-A/QnA series → MELSEC iQ-R series

Model list

Conversion adapters

For the specifications of conversion adapters and modules before and after replacement, refer to user's manuals. (User's manuals can be downloaded from our website.)
Also, check that the modules satisfy the specifications of the devices currently connected.

For input/output modules

1-slot type

Input/ Output	MELSEC-A series module before replacement	MELSEC iQ-R series module after replacement	Note	Conversion adapter			
				Model	Shape		No. of input/ output points
					MELSEC-A series	MELSEC iQ-R series	
Input	AX10, AX10-UL	RX10	-	ERNT-1AR10XY	Terminal block (20 points)	Terminal block (18 points)	16
	AX40, AX40-UL	RX40C7, RX70C4	*1				
	AX70, AX70-UL						
	AX80, AX80-UL						
	AX80E						
	AI61		*7				
	AI61-S1	RX40C7					
Output	AY10	RY10R2	*1				
	AY11, AY11-UL						
	AY11E						
	AY11EEU						
	AY22	RY20S6					
	AY40, AY40-UL	RY40NT5P		ERNT-1AR40Y			
	AY40P						
	AY50, AY50-UL						
	AY70, AY70-UL		*1, *3				
	AY80	RY40PT5P	*1				
	AY80EP						
Input	AX31	RX41C4, RX41C6HS, RX71C4	*2	ERNT-1AR41X	Terminal block (38 points)	Connector (40P)	32
	AX41, AX41-UL		*1				
	AX41-S1						
	AX81						
	AX81-S1						
	AX81-S3						
	AX31-S1	RX41C4, RX41C6HS	-				
	AX71	RX41C4, RX41C6HS, RX61C6HS, RX71C4	*1				
Output	AY41, AY41-UL	RY41NT2P	*1, *4	ERNT-1AR41Y			
	AY41P						
	AY71		*1, *3, *4				
	AY81	RY41PT1P	*1, *5, *6				
	AY81EP						
Input	AX82	RX41C4 × 2, RX41C6HS × 2, RX71C4 × 2	*8, *9	ERNT-ASLCXY81 × 2	D-Sub connector (37P) × 2	Connector (40P) × 2	64
Output	AY82EP	RY41PT1P × 2	*8, *9				

*1: Since the number of points per common changes, check the common terminal connection of the module before replacement. When 24VDC and 8 points/common are used, consider replacing the module with the RX40PC6H or RX40NC6H using a universal conversion adapter (refer to P.282).
*2: When a rated input voltage of 12 or 24VAC is used, the voltage needs to be changed to 5, 12, or 24VDC.
*3: When a rated load voltage of 5VDC is used, the voltage needs to be changed to 12 or 24VDC.
*4: When 16 points/2 commons are used, consider replacing the module with two RY40NT5Ps using the ERNT-1AR51Y.
*5: When 16 points/2 commons are used, consider replacing the module with two RY40PT5Ps using the ERNT-1AR51Y.
*6: When the maximum load current is insufficient, consider replacing the module with two RY40PT5Ps using the ERNT-1AR51Y.
*7: Interrupt operation setting must be set in module parameters using GX Works3 (an engineering tool manufactured by Mitsubishi Electric).
*8: For replacement, two MELSEC iQ-R series modules and two conversion adapters are required.
*9: A conversion adapter for replacing the MELSEC-AnS series with the MELSEC-L series is used.

2-slot type (Not applicable to extended temperature range base units (R310B-HT, R610B-HT))

Input/ Output	MELSEC-A series module before replacement	MELSEC iQ-R series module after replacement		Note	Conversion adapter			
					Model	Shape		No. of input/ output points
						MELSEC-A series	MELSEC iQ-R series	
Input	AX11	RX10	× 2	*10	ERNT-1AR11X13Y	Terminal block (38 points)	Terminal block (18 points) × 2	32
	AX11EU							
Output	AY13	RY10R2	× 2	*10, *11				
	AY13E							
	AY13EU							
	AY23	RY20S6	× 2					
	AY10A, AY10A-UL	RY18R2A	× 2	*10	ERNT-1AR10AY			
	AY11A							
	AY11AEU							
	AY40A			*10, *12				
	AY51, AY51-UL	RY40NT5P	× 2	*10	ERNT-1AR51Y			
	AY51-S1							
	AY41, AY41-UL							
	AY41P							
	AY71			*10, *13				
	AY81	RY40PT5P	× 2	*10				
	AY81EP							

*10: A 2-slot type module is replaced. Two MELSEC iQ-R series modules are required.
*11: Since the number of points per common changes, check the common terminal connection of the module before replacement.
*12: The output type changes from transistor output to contact output.
*13: When a rated input voltage of 5VDC is used, the voltage needs to be changed to 12 or 24VDC.

Modules that can use the existing wiring as it is even after replacement (Conversion adapter not required)

Input/Output	MELSEC-A series module before replacement			MELSEC iQ-R series module after replacement			
	Model	Specifications	No. of points	Model	Specifications	No. of points	No. of required modules
Input	AX42 AX42-S1	12/24VDC, sink type	64	RX42C4	24VDC, positive/negative common shared type	64	1
				RX41C6HS		32	2
Output	AY42 AY42-S1 AY42-S3			RX72C4	5/12VDC, positive/negative common shared type	64	1
				RY42NT2P	12/24VDC, sink type		
	AY42-S4				12/24VDC, sink type (An external power supply needs to be connected to the module.)		
	AY72	5/12VDC, sink type		RY41NT2H	5/12/24VDC, sink type	32	2
I/O combined	AH42	Input: 12/24VDC, sink type	32	RH42C4NT2P (when input is 24VDC)	Input: 24VDC, positive/negative common shared type (12VDC input not supported)		1
		Output: 12/24VDC, sink type			Output: 12/24VDC, sink type		

Replacement using a universal conversion adapter ▶ P.276

Input/output modules in the table below do not support the use of a conversion adapter. However, these modules can be replaced using a universal conversion adapter even though rewiring is required.

Input/ Output	MELSEC-A series			MELSEC iQ-R series				Use of a universal conversion adapter
	Model	Specifications	No. of points	Model	Specifications	No. of points	No. of required modules	
Input	AX20, AX20-UL	200 to 240VAC	16	RX28	100 to 240VAC	8	2	Supported
	AX21, AX21EU	200 to 240VAC	32				4	
	AX40, AX40-UL	12/24VDC, sink type, 8 points/common	16	RX40PC6H	24VDC, positive common, 8 points/common	16	1	
	AX50	48VDC, sink type		There is no applicable MELSEC iQ-R series module.				-
	AX50-S1	48VDC, sink/source type						
	AX60	100/110/125VDC, sink type						
	AX60-S1	100/110/125VDC, sink/source type						
	AX80, AX80-UL	12/24VDC, source type, 8 points/common		RX40NC6H	24VDC, negative common, 8 points/common	16	1	Supported
	AX80E							
	AX81-S2	48/60VDC, source type	32	There is no applicable MELSEC iQ-R series module.				-
	AX81B	24VDC, sink/source type, disconnection detection function						
Output	AY15EU	240VAC/24VDC, 2A/point, contact	24	RY10R2	240VAC/24VDC, 2A/point, contact	16	2	Supported
	AY20EU	100 to 240VAC, triac	16	RY20S6	100 to 240VAC, triac		1	
	AY60	24VDC (12/48VDC), 2A/point, sink type		There is no applicable MELSEC iQ-R series module.				-
	AY60E	24VDC (12/48VDC), 2A/point, source type						
	AY60EP	12/24VDC, 2A/point, source type						
	AY60S, AY60S-UL	24/48VDC (12VDC), 2A/point, sink type						
I/O combined	A42XY	Dynamic scanning	Input: 64 Output: 64					

When there is no applicable module to be replaced Upgrading existing programmable controller systems using the time and wire saving devices ▶ P.74

Refer to the later section. The section describes how to replace modules that have no applicable module in the programmable controller series after replacement or modules that do not support the use of a conversion adapter.

(Example) The existing module uses 200VAC. But, the model list for the programmable controller series after replacement does not have a module that uses 200VAC.
In such a case, the module can be replaced by using our digital signal converter (terminal module) (200VAC input type).

For analog modules

1-slot type

Input/ Output	MELSEC-A series module before replacement		MELSEC iQ-R series module after replacement	Note	Conversion adapter			
					Model	Shape		No. of channels
						MELSEC-A series	MELSEC iQ-R series	
Input	A68AD	(Voltage input)	R60ADV8	*14	ERNT-1AR68AD	Terminal block (38 points)	Terminal block (18 points)	8
	A68AD	(Current input)	R60ADI8					
	A68AD-S2	(Voltage input)	R60ADV8					
	A68AD-S2	(Current input)	R60ADI8					
	A68ADN	(Voltage input)	R60ADV8	*14	ERNT-1AR68AN			
	A68ADN	(Current input)	R60ADI8	*14, *15				
Output	A62DA		R60DA4	*16, *17	ERNT-AQT62DA	Terminal block (20 points)		2
	A62DA-S1							
	A68DAV		R60DAV8	*17	ERNT-AQT68DA	Terminal block (38 points)		8
	A68DAI		R60DAI8					
	A68DAI-S1							

*14: For the R60ADV8 and the R60ADI8, voltage input and current input cannot be used together in a single module.
*15: A minus current cannot be input.
*16: CH3 and CH4 of the R60DA4 cannot be used. (They are not connected inside a conversion adapter.)
*17: A conversion adapter for replacing the MELSEC-A series with the MELSEC-Q series is used.

2-slot type (Not applicable to extended temperature range base units (R310B-HT, R610B-HT))

Input/ Output	MELSEC-A series module before replacement		MELSEC iQ-R series module after replacement		Note	Conversion adapter			
						Model	Shape		No. of channels
							MELSEC-A series	MELSEC iQ-R series	
Input	A616AD	(Voltage input)	R60ADV8	× 2	*18, *19	ERNT-1AR616AD	Terminal block (38 points)	Terminal block (18 points) × 2	16
	A616AD	(Current input)	R60ADI8	× 2	*18, *19, *20				
Output	A616DAV		R60DAV8	× 2	*18	ERNT-1AR616DA			
	A616DAI		R60DAI8	× 2					

*18: A 2-slot type module is replaced. Two MELSEC iQ-R series modules are required.
*19: For the R60ADV8 and the R60ADI8, voltage input and current input cannot be used together in a single module. When CH0 to CH7 and CH8 to CHF of the MELSEC-A series module are used for both voltage and current inputs, the module cannot be replaced.
*20: A minus current cannot be input.

For high-speed counter modules

1-slot type

Input/ Output	MELSEC-A series module before replacement	MELSEC iQ-R series module after replacement	Note	Conversion adapter			
				Model	Shape		No. of channels
					MELSEC-A series	MELSEC iQ-R series	
Input	AD61	RD62P2	*21	ERNT-1AR61D	Terminal block (38 points)	Connector (40P)	2
	AD61-S1						

*21: When the CH1 side and the CH2 side use different external power supplies, the both sides must use the same external power supply after replacement.

Base adapters

Type	MELSEC-A series base unit before replacement	MELSEC iQ-R series base unit after replacement	Note	Base adapter model	Installable conversion adapter support flange model
Main	A38B, A38B-UL, A38HB A38HBEU, A38B-E	R312B	*22	ERNT-AQB38N	ERNT-1AR12F
		R38B			ERNT-1AR8F
		R310B-HT			ERNT-1AR10F3
	A35B, A35B-UL, A35B-E	R38B		ERNT-AQB35N	ERNT-1AR8F
		R35B			ERNT-1AR5F
	A32B, A32B-UL, A32B-E	R33B		ERNT-AQB32N	
Extension	A68B, A68B-UL	R612B		ERNT-AQB68N	ERNT-1AR12F
		R68B			ERNT-1AR8F
		R610B-HT			ERNT-1AR10F6
	A58B, A58B-UL	R68B	*22, *23	ERNT-AQB58N	ERNT-1AR8F
	A65B, A65B-UL	R68B	*22	ERNT-AQB65N	
		R65B			ERNT-1AR5F
	A55B, A55B-UL	R65B	*22, *23	ERNT-AQB55N	

*22: The ERNT-AQB**, a product without "N" at the end of its model name, cannot be used.
*23: There is no extension base unit (type requiring no power supply module) in the MELSEC iQ-R series. For this reason, only extension base units (type requiring a power supply module) are listed as replacement target modules.

Conversion adapter support flanges

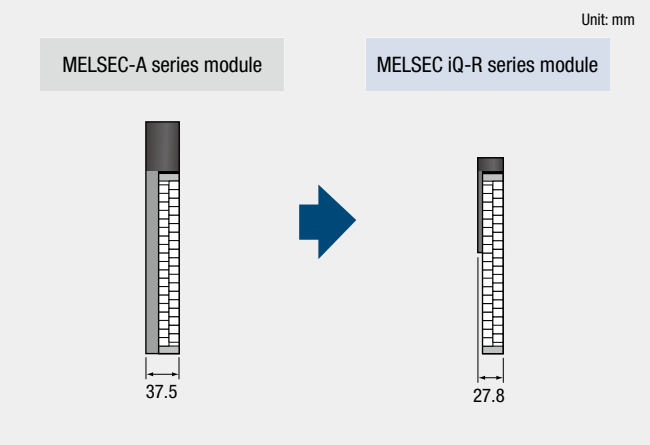
Conversion adapter support flange model	Description		Remarks
ERNT-1AR12F	12-slot conversion adapter support flange	For main/extension base units	A conversion adapter support flange is always required when a conversion adapter is used.
ERNT-1AR8F	8-slot conversion adapter support flange		
ERNT-1AR5F	5-slot conversion adapter support flange		
ERNT-1AR10F3	10-slot conversion adapter support flange	For extended temperature range main base units	
ERNT-1AR10F6	10-slot conversion adapter support flange	For extended temperature range extension base units	

Precautions

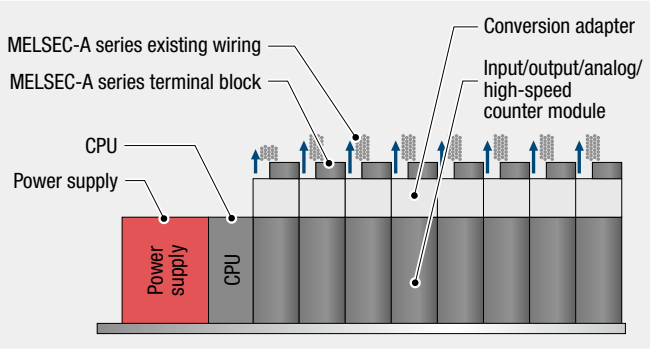
A conversion adapter is used to compensate the difference of the pin assignment when MELSEC-A series large type modules are replaced with MELSEC iQ-R series modules.
Before using the product, please read the user's manual for the conversion adapter used. (The user's manuals can be downloaded from our website.)
When replacing the MELSEC-A series with the MELSEC iQ-R series, refer to the user's manuals for each MELSEC iQ-R series module to check the differences in performance, functionality, input/output signals to/from the CPU module, and buffer memory addresses.
Also, refer to the Transition from MELSEC-A/QnA (Large Type) Series to MELSEC iQ-R Series Handbook published by Mitsubishi Electric. (Recommended)

Module width

(1) Since the width of MELSEC iQ-R series modules is smaller (MELSEC-A series: 37.5mm → MELSEC iQ-R series: 27.8mm), the wiring area becomes smaller as well. Check the wiring area when mounting a conversion adapter.

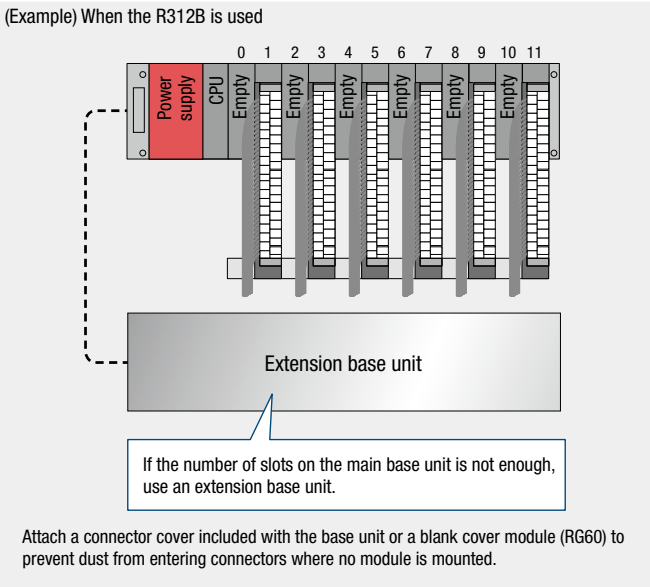


(2) If the wiring causes interference with adjacent modules, lift the cables forward to prevent interference.



(3) If interference still occurs, leave the next slot open to secure a space for wiring.

(Example) When the R312B is used



Attach a connector cover included with the base unit or a blank cover module (RG60) to prevent dust from entering connectors where no module is mounted.

(4) If modules cannot be replaced in accordance with (2) and (3), consider the use of the extended temperature range base unit manufactured by Mitsubishi Electric. → P.12
Note) 2-slot type conversion adapters cannot be used.

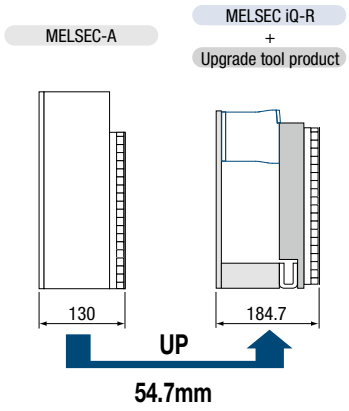
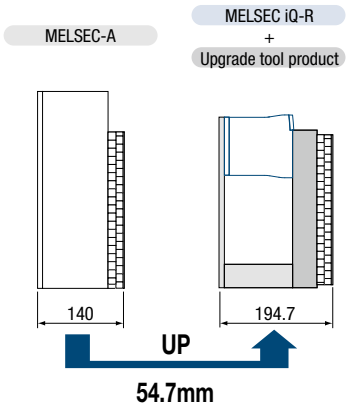
Depth

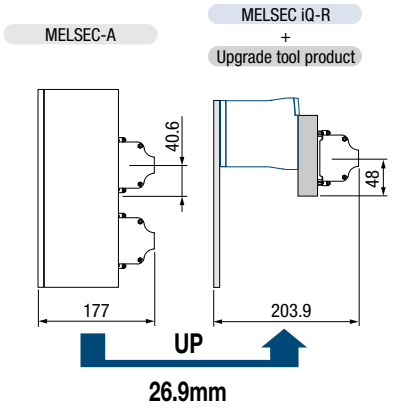
The depth from the panel surface increases. Check the depth when mounting a conversion adapter.

MELSEC-A series: Base unit + Input/output/analog/high-speed counter module + Terminal block/connector

MELSEC iQ-R series + Upgrade tool product: Base adapter + Base unit + Input/output/analog/high-speed counter module + Conversion adapter + Terminal block/connector

MELSEC-A : MELSEC-A series MELSEC iQ-R : MELSEC iQ-R series

Conversion adapter	ERNT-1AR10XY ERNT-1AR40Y ERNT-1AR68AD ERNT-1AR68AN ERNT-AQT62DA	ERNT-1AR41X ERNT-1AR41Y ERNT-1AR61D ERNT-AQT68DA	ERNT-1AR11X13Y ERNT-1AR10AY ERNT-1AR51Y ERNT-1AR616AD ERNT-1AR616DA
Depth	184.7mm	194.7mm	
Mounting diagram			

Conversion adapter	ERNT-ASLCXY81
Depth	203.9mm
Mounting diagram	

Conversion adapter support flange, base adapter

A conversion adapter support flange is always required when a conversion adapter is used.

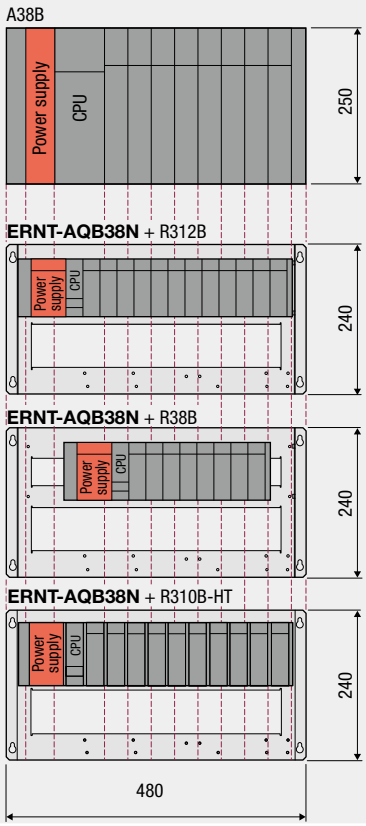
The use of a base adapter is recommended because the MELSEC iQ-R series can be installed using the MELSEC-A series base unit installation holes.

Slot positions

The slot positions differ between the MELSEC-A series modules before replacement and the MELSEC iQ-R series modules after replacement. Change the slot positions of modules and adjust wiring lengths prior to use.

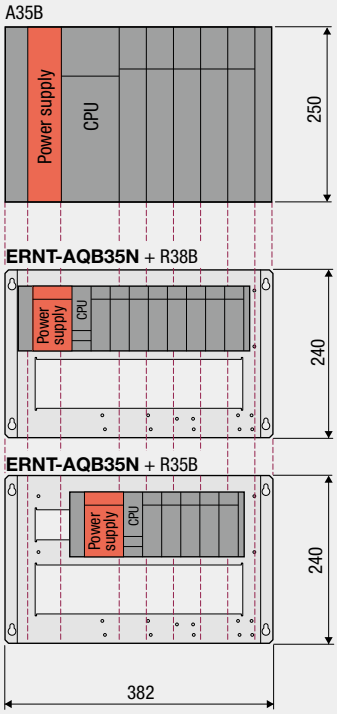
(1) A38B(-UL/-E)/A38HB(EU) → R312B, R38B, R310B-HT

Unit: mm



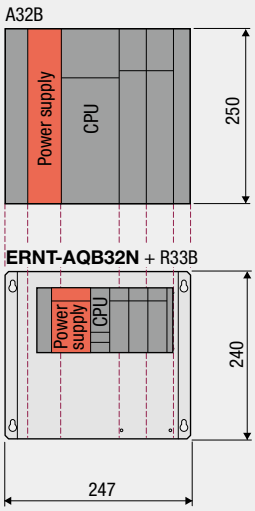
(2) A35B(-UL/-E) → R38B, R35B

Unit: mm



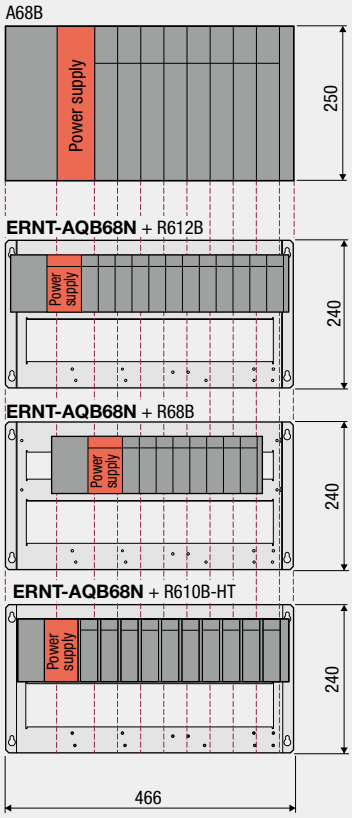
(3) A32B(-UL/-E) → R33B

Unit: mm



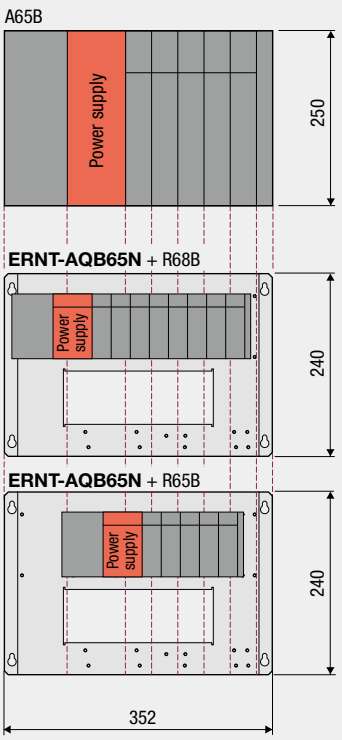
(4) A68B(-UL) → R612B, R68B, R610B-HT

Unit: mm



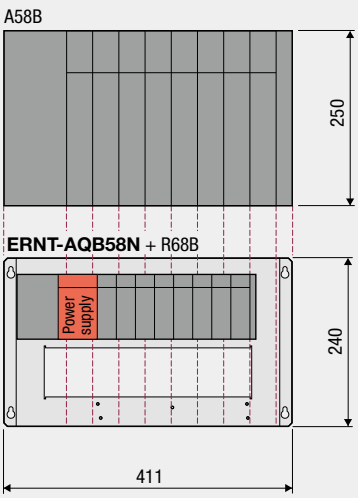
(5) A65B(-UL) → R68B, R65B

Unit: mm



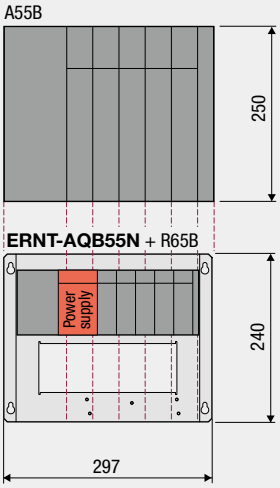
(6) A58B(-UL) → R68B

Unit: mm



(7) A55B(-UL) → R65B

Unit: mm



MEMO

MELSEC-A/QnA series → MELSEC-Q series

Model list

Conversion adapters

For the specifications of conversion adapters and modules before and after replacement, refer to user's manuals. (User's manuals can be downloaded from our website.)
Also, check that the modules satisfy the specifications of the devices currently connected.

For input/output modules

1-slot type (Applicable to MELSEC-Q series large type base units as well)

Input/ Output	MELSEC-A series module before replacement	MELSEC-Q series module after replacement	Note	Conversion adapter			
				Model	Shape		No. of input/ output points
					MELSEC-A series	MELSEC-Q series	
Input	AX10, AX10-UL	QX10	-	ERNT-AQTX10	Terminal block (20 points)	Terminal block (18 points)	16
	AX40, AX40-UL	QX40, QX70		ERNT-AQTX40			
		QX40-S1					
	AX70, AX70-UL	QX40, QX70					
	AX50	QX50					
	AX50-S1						
	AX70, AX70-UL AX80, AX80-UL	QX80		ERNT-AQTX80			
	AX41, AX41-UL	QX41, QX41-S2, QX71	*1	ERNT-AQTX41	Terminal block (38 points)	FCN connector (40P jack)	32
	AX31-S1	QX41, QX41-S2					
	AX41-S1	QX41-S1	-				
	AX71	QX71					
		QX81, QX81-S2		ERNT-AQTX81			
	AX81	QX81, QX81-S2	*1	ERNT-AQTX81	Terminal block (38 points)	D-Sub connector (37P)	
	AX81-S1						
Output	AY10	QY10	-	ERNT-AQTY10	Terminal block (20 points)	Terminal block (18 points)	16
	AY11	QY22		ERNT-AQTY22			
	AY11-UL	QY10		ERNT-AQTY10			
	AY11E						
	AY11EEU						
	AY22	QY22		ERNT-AQTY22			
	AY40, AY40-UL	QY40P		ERNT-AQTY40			
	AY40P						
	AY70, AY70-UL	QY70					
	AY50, AY50-UL	QY50		ERNT-AQTY50			
	AY80	QY80		ERNT-AQTY80			
	AY41, AY41-UL	QY41P		ERNT-AQTY41	Terminal block (38 points)	FCN connector (40P jack)	32
	AY41P						
	AY71	QY71					
	AY81	QY81P		ERNT-AQTY81	Terminal block (38 points)	D-Sub connector (37P)	
	AY81EP						

*1: The input specifications (such as input derating) differ between the modules before and after replacement. Check the specifications prior to use.

2-slot type (Not applicable to MELSEC-Q series large type base units)

Input/ Output	MELSEC-A series module before replacement	MELSEC-Q series module after replacement		Note	Conversion adapter			
					Model	Shape		No. of input/ output points
						MELSEC-A series	MELSEC-Q series	
Input	AX11	QX10	× 2	-	ERNT-AQTX11	Terminal block (38 points)	Terminal block (18 points) × 2	32
	AX11EU							
Output	AY10A, AY10A-UL	QY18A	× 2	-	ERNT-AQTY10A			16
	AY11A							
	AY11AEU							
	AY13	QY10	× 2		ERNT-AQTY13			32
	AY13E							
	AY13EU							
	AY23	QY22	× 2		ERNT-AQTY23			
	AY51, AY51-UL	QY50	× 2	*2	ERNT-AQTY51			
	AY51-S1							
	AY81	QY80	× 2					
	AY81EP							

*2: Mitsubishi Electric defines the QY81P as a module to replace the AY81/AY81EP. However, when replacing the AY81/AY81EP with two QY80s due to the difference in rated load current, this conversion adapter can be used.

Modules that can use the existing wiring as it is even after replacement (Conversion adapter not required)

Input/Output	MELSEC-A series module before replacement			MELSEC-Q series module after replacement			
	Model	Specifications	No. of points	Model	Specifications	No. of points	No. of required modules
Input	AX42	12/24VDC, sink type	64	QX42	24VDC, positive common	64	1
				QX72	5/12VDC, positive/negative common shared type		
				QX41-S2	24VDC, positive common	32	2
	AX42-S1			QX42-S1	24VDC, positive common	64	1
	AX82	12/24VDC, source type		QX81-S2	24VDC, negative common	32	2
Output	AY42	12/24VDC, sink type		QY42P	12/24VDC, sink type	64	1
	AY42-S1						
	AY42-S3						
	AY42-S4				12/24VDC, sink type (An external power supply needs to be connected to the module.)		
	AY72	5/12VDC, sink type		QY71	5/12VDC, sink type	32	2
	AY82EP	12/24VDC, source type		QY81P	12/24VDC, source type		
I/O combined	AH42	Input: 12/24VDC, sink type Output: 12/24VDC, sink type	Input: 32 Output: 32	QH42P (when input is 24VDC) QX41Y41P (when input is 24VDC)	Input: 24VDC (12VDC not supported), positive common Output: 12/24VDC, sink type	Input: 32 Output: 32	1

Replacement using a universal conversion adapter ▶P.298

Input/output modules in the table below do not support the use of a conversion adapter. However, these modules can be replaced using a universal conversion adapter even though rewiring is required.

Input/Output	MELSEC-A series module before replacement			MELSEC-Q series module after replacement				Universal conversion adapter
	Model	Specifications	No. of points	Model	Specifications	No. of points	No. of required modules	
Input	AX20(-UL)	200 to 240VAC	16	QX28	100 to 240VAC	8	2	Supported
	AX21(EU)		32				4	
	AX80	12/24VDC, source type	16	QX70	5/12VDC, sink/source type	16	1	
	AX80E				24VDC, source type			
				QX80H				
	AX81		32	QX71	5/12VDC, sink/source type	32		
	AX81-S1	12/24VDC, sink/source type						
	AX81-S3	12/24VDC, source type		QX82-S1	24VDC, source type	64		-
	AX82		64	QX72	5/12VDC, sink/source type			
				QX82	24VDC, source type			
	AX31	12/24VDC, 12/24VAC	32	QX41	24VDC	32		Supported
				QX71	12VDC			
Output	AY20EU	100 to 240VAC	16	QY22	100 to 240VAC	16		
	AY40A	12/24VDC, 0.3A, independent		QY68A	5 to 24VDC, 2A, independent	8	2	
	AY60	24VDC (12/48VDC), 2A						
	AY60E							
	AY60EP	12/24VDC, 2A						
	AY60S(-UL)	24/48VDC (12VDC), 2A						
	AY15EU	240VAC, 2A	24	QY10	240VAC, 2A	16		
	AY82EP	12/24VDC, source type	64	QY82P	12 to 24VDC, source type	64	1	-
Input	AX60(-S1)	There is no applicable MELSEC-Q series module.						
	AX81-S2							
	AX81B							
I/O combined	A42XY							

When there is no applicable module to be replaced Upgrading existing programmable controller systems using the time and wire saving devices ▶P.80

Refer to the later section. The section describes how to replace modules that have no applicable module in the programmable controller series after replacement or modules that do not support the use of a conversion adapter.

(Example) The existing module uses 200VAC. But, the model list for the programmable controller series after replacement does not have a module that uses 200VAC.
In such a case, the module can be replaced by using our digital signal converter (terminal module) (200VAC input type).

For analog modules

1-slot type (Applicable to MELSEC-Q series large type base units as well)

Input/ Output	MELSEC-A series module before replacement		MELSEC-Q series module after replacement	Conversion adapter			
				Model	Shape		No. of channels
					MELSEC-A series	MELSEC-Q series	
Input	A68AD	(Voltage input)	Q68ADV	ERNT-AQT68AD	Terminal block (38 points)	Terminal block (18 points)	8
	A68AD	(Current input)	Q68ADI				
	A68AD-S2	(Voltage input)	Q68ADV				
	A68AD-S2	(Current input)	Q68ADI				
	A68ADN	(Voltage input)	Q68ADV	ERNT-AQT68ADN			
	A68ADN	(Current input)	Q68ADI				
Output	A62DA		Q62DAN	ERNT-AQT62DA	Terminal block (20 points)		2
	A62DA-S1						
	A68DAV		Q68DAVN	ERNT-AQT68DA	Terminal block (38 points)		8
	A68DAI		Q68DAIN				
	A68DAI-S1						

2-slot type (Not applicable to MELSEC-Q series large type base units)

Input/ Output	MELSEC-A series module before replacement		MELSEC-Q series module after replacement		Note	Conversion adapter			
						Model	Shape		No. of channels
							MELSEC-A series	MELSEC-Q series	
Input	A68AD	(voltage/current mixed input)	Q64AD-GH	× 2	*3	ERNT-AQT68AD-GH	Terminal block (38 points)	Terminal block (18 points) × 2	8
	A68AD-S2	(voltage/current mixed input)							
	A68ADN	(voltage/current mixed input)							
	A616AD	(Voltage input)	Q68ADV	× 2	*4	ERNT-AQT616AD			16
	A616AD	(Current input)	Q68ADI	× 2					
Output	A616DAV		Q68DAVN	× 2	-	ERNT-AQT616DA			
	A616DAI		Q68DAIN	× 2					

*3: When the A68AD, A68AD-S2, and A68ADN uses both voltage and current inputs, replace the module with two Q64AD-GHs, which can switch the input type (voltage or current) for each channel.
*4: When the A68ADN uses either voltage input or current input for each 8-channel group, the module can be replaced with a combination of two different modules, the Q68ADV and the Q68ADI.

For high-speed counter modules

1-slot type (Applicable to MELSEC-Q series large type base units as well)

Input/ Output	MELSEC-A series module before replacement	MELSEC-Q series module after replacement	Conversion adapter			
			Model	Shape		No. of channels
				MELSEC-A series	MELSEC-Q series	
Input	AD61	QD62-H01	ERNT-AQTD61	Terminal block (38 points)	Connector (40P)	2
	AD61-S1	QD62-H02				

Note) Intelligent function modules other than the above (such as positioning modules, information system modules, and distribution modules) do not support the use of a conversion adapter. Therefore, rewiring is required.

Base adapters

MELSEC-A series module before replacement	MELSEC-Q series module after replacement	Note	Base adapter model	Installable conversion adapter support flange model
A38B, A38HB, A38HBEU, A38B-UL, A38B-E	Q312B	-	ERNT-AQB38N	ERNT-AQF12, ERNT-AQF8
	Q38B			ERNT-AQF8
A68B, A68B-UL	Q612B		ERNT-AQB68N	ERNT-AQF12, ERNT-AQF8
	Q68B			ERNT-AQF8
A58B, A58B-UL	Q68B	*5	ERNT-AQB58N	
A35B, A35B-UL, A35B-E	Q38B	-	ERNT-AQB35N	ERNT-AQF8, ERNT-AQF5
	Q35B			ERNT-AQF5
A65B, A65B-UL	Q68B		ERNT-AQB65N	ERNT-AQF8, ERNT-AQF5
	Q65B, Q55B			ERNT-AQF5
A55B, A55B-UL	Q65B, Q55B		ERNT-AQB55N	
A32B, A32B-UL, A32B-E	Q33B		ERNT-AQB32N	ERNT-AQF3
A62B	Q63B, Q52B		ERNT-AQB62	
A52B	Q52B		ERNT-AQB52	

*5: The power supply module is required after replacement.

Conversion adapter support flanges

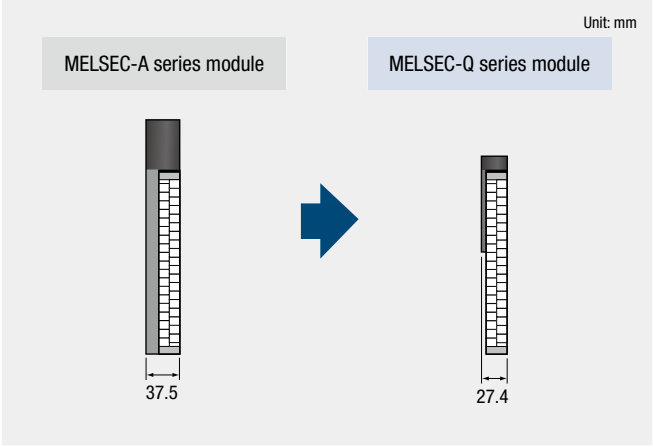
Conversion adapter support flange model	Description	Remarks
ERNT-AQF12	12-slot conversion adapter support flange	A conversion adapter support flange is always required when a conversion adapter is used.
ERNT-AQF8	8-slot conversion adapter support flange	
ERNT-AQF5	5-slot conversion adapter support flange	
ERNT-AQF3	3-slot conversion adapter support flange	

Precautions

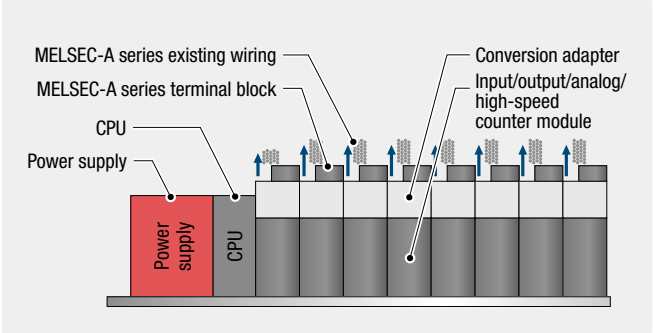
A conversion adapter is used to compensate the difference of the pin assignment when MELSEC-A series large type modules are replaced with MELSEC-Q series modules.
Before using the product, please read the user's manual for the conversion adapter used. (The user's manuals can be downloaded from our website.)
When replacing the MELSEC-A series with the MELSEC-Q series, refer to the user's manuals for each MELSEC-Q series module to check the differences in performance, functionality, input/output signals to/from the CPU module, and buffer memory addresses.
Also, refer to the Transition from MELSEC-A/QnA (Large Type) Series to Q Series Handbook published by Mitsubishi Electric. (Recommended)

Module width

(1) Since the width of MELSEC-Q series modules is smaller (MELSEC-A series: 37.5mm → MELSEC-Q series: 27.4mm), the wiring area becomes smaller as well. Check the wiring area when mounting a conversion adapter.

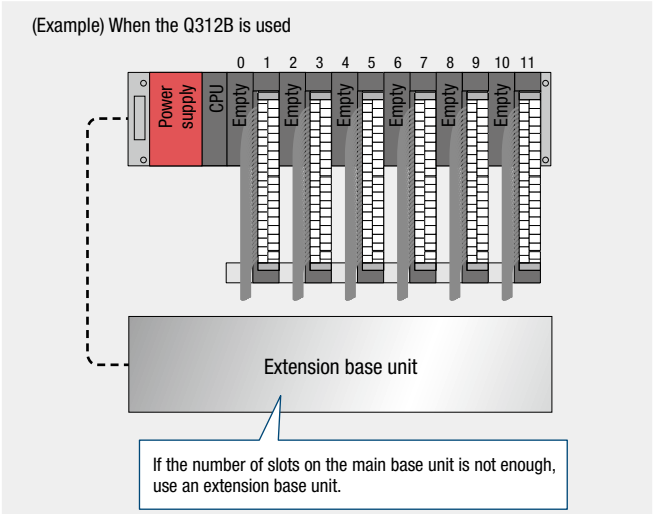


(2) If the wiring causes interference with adjacent modules, lift the cables forward to prevent interference.



(3) If interference still occurs, leave the next slot open to secure a space for wiring.

(Example) When the Q312B is used



Attach a connector cover included with the base unit or a blank cover module (QG60) to prevent dust from entering connectors where no module is mounted.

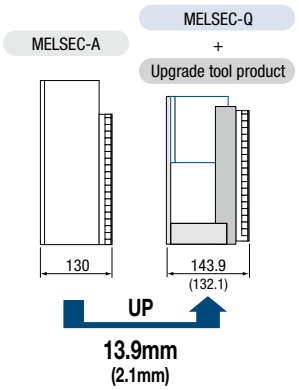
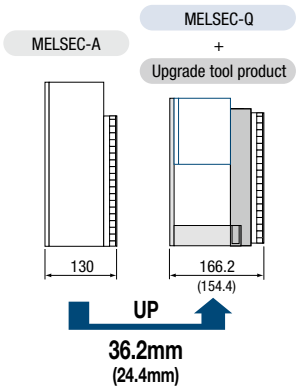
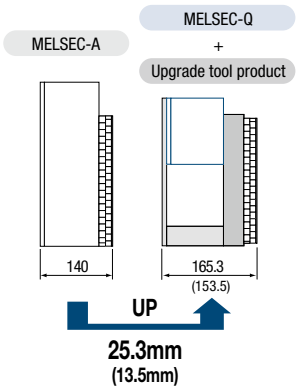
(4) If modules cannot be replaced in accordance with (2) and (3), consider the use of the Q series large type base unit manufactured by Mitsubishi Electric. → P.13
Note) 2-slot type conversion adapters cannot be used.

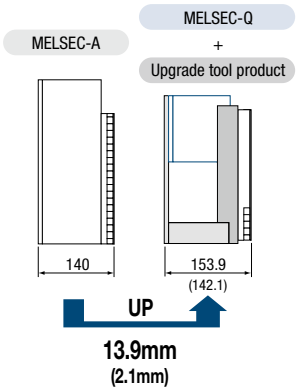
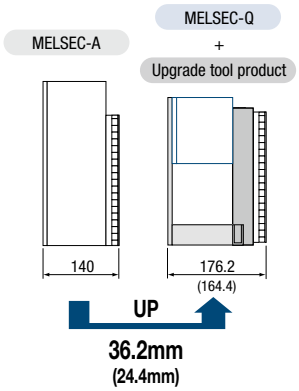
Depth

The depth from the panel surface after replacement is shown below. The depth from the panel surface increases. Check the depth when mounting a conversion adapter.
Values in parentheses (shorter by 11.8mm) are the dimensions when a base adapter is not used or when a standard base unit is used instead of a Q series large type base unit manufactured by Mitsubishi Electric.

MELSEC-A series: Base unit + Input/output/analog/high-speed counter module + Terminal block/connector
MELSEC-Q series + Upgrade tool product: Base adapter + Base unit + Input/output/analog/high-speed counter module + Conversion adapter + Terminal block/connector

MELSEC-A : MELSEC-A series MELSEC-Q : MELSEC-Q series

Conversion adapter	ERNT-AQTX10 ERNT-AQTX40 ERNT-AQTX80 ERNT-AQTY10 ERNT-AQTY40 ERNT-AQTY50 ERNT-AQTY80	ERNT-AQTY22 ERNT-AQT62DA	ERNT-AQTX41 ERNT-AQTX81 ERNT-AQTY41 ERNT-AQTY81 ERNT-AQTD61
Depth	143.9mm (132.1mm)	166.2mm (154.4mm)	165.3mm (153.5mm)
Mounting diagram			

Conversion adapter	ERNT-AQTX11 ERNT-AQTY10A ERNT-AQTY13 ERNT-AQTY51 ERNT-AQT68AD ERNT-AQT68ADN ERNT-AQT616AD	ERNT-AQTY23 ERNT-AQT68AD-GH ERNT-AQT68DA ERNT-AQT616DA
Depth	153.9mm (142.1mm)	176.2mm (164.4mm)
Mounting diagram		

Conversion adapter support flange, base adapter

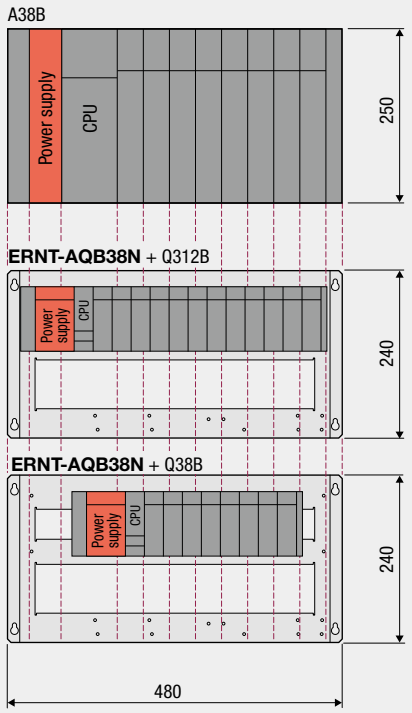
A conversion adapter support flange is always required when a conversion adapter is used.
The use of a base adapter is recommended because the MELSEC-Q series can be installed using the MELSEC-A series base unit installation holes.

Slot positions

The slot positions differ between the MELSEC-A series modules before replacement and the MELSEC-Q series modules after replacement. Change the slot positions of modules and adjust wiring lengths prior to use.

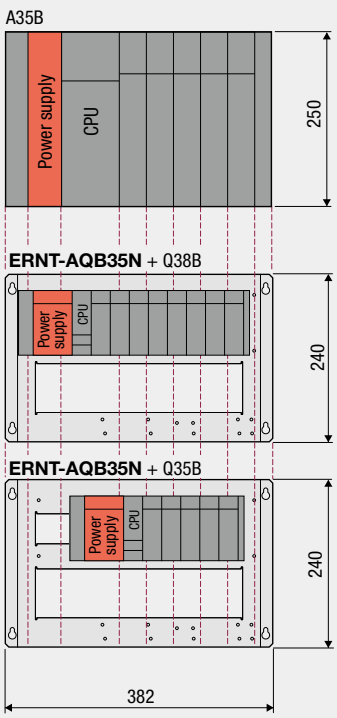
(1) A38B(-UL/-E)/A38HB(EU) → Q312B, Q38B

Unit: mm



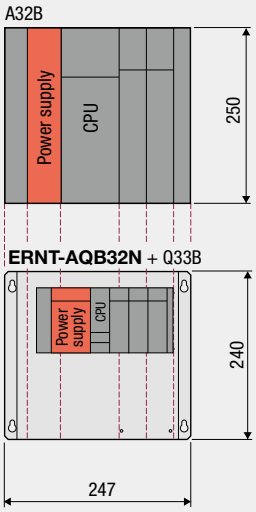
(2) A35B(-UL/-E) → Q38B, Q35B

Unit: mm



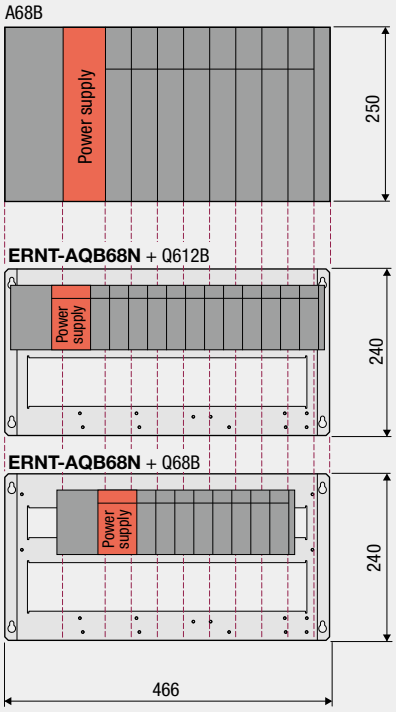
(3) A32B(-UL/-E) → Q33B

Unit: mm



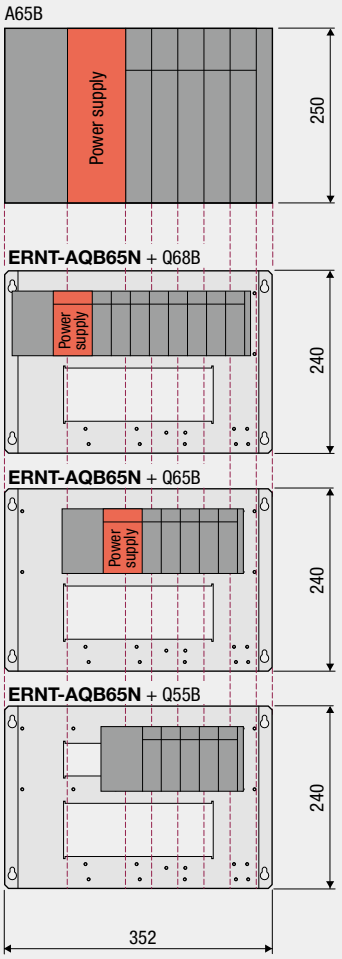
(4) A68B(-UL) → Q612B, Q68B

Unit: mm



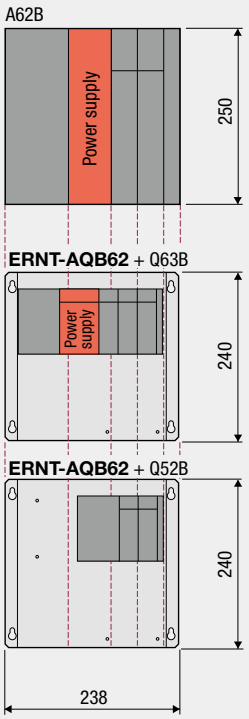
(5) A65B(-UL) → Q68B, Q65B, Q55B

Unit: mm



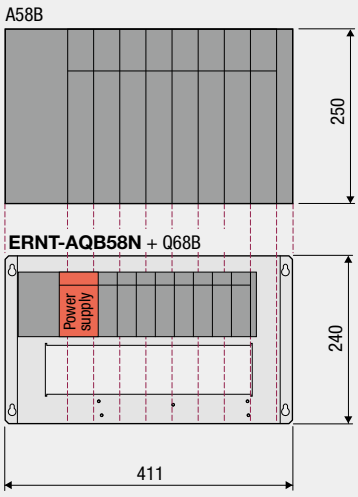
(6) A62B → Q63B, Q52B

Unit: mm



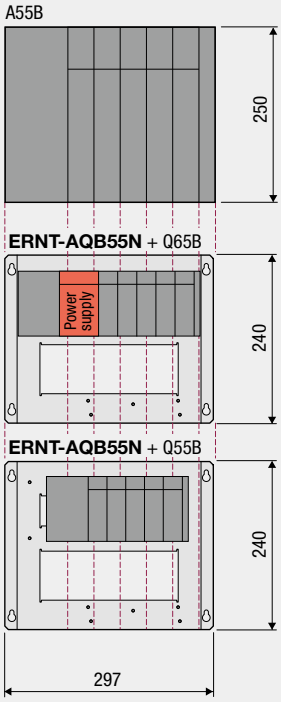
(7) A58B(-UL) → Q68B

Unit: mm



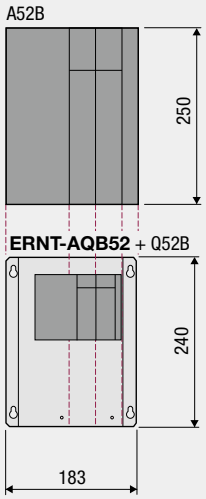
(8) A55B(-UL) → Q65B, Q55B

Unit: mm



(9) A52B → Q52B

Unit: mm



MELSEC-AnS/QnAS series → MELSEC iQ-R series

Model list

Conversion adapters

For the specifications of conversion adapters and modules before and after replacement, refer to user's manuals. (User's manuals can be downloaded from our website.)
Also, check that the modules satisfy the specifications of the devices currently connected.

For input/output modules

1-slot type

Input/ Output	MELSEC-AnS series module before replacement	MELSEC iQ-R series module after replacement	Note	Conversion adapter			
				Model	Shape		No. of input/ output points
					MELSEC-AnS series	MELSEC iQ-R series	
Input	A1SX10	RX10	*1	ERNT-ASQTXY10	Terminal block (20 points) ▶	Terminal block (18 points)	16
	A1SX10EU						
Output	A1SY10	RY10R2	*1, *2				
	A1SY10EU						
Input	A1SX30	RX40C7, RX70C4	*1, *3	ERNT-ASQTX40			
	A1SX40		*1				
	A1SX80						
	A1SI61		*1, *4				
	A1SX40-S1	RX40C7	*1				
	A1SX40-S2						
	A1SX80-S1						
	A1SX80-S2						
Output	A1SY22	RY20S6	*1, *2	ERNT-ASQTY22			
	A1SY40	RY40NT5P		ERNT-ASQTY40			
	A1SY40P						
	A1SY50	RY40NT5P		ERNT-ASQTY50			
	A1SY80	RY40PT5P		ERNT-ASQTY80			
Input	A1SX81	RX41C4, RX41C6HS, RX71C4	*5	ERNT-ASLCXY81	D-Sub connector (37P) ▶	Connector (40P)	32
	A1SX81-S2	RX41C4, RX41C6HS					
Output	A1SY81	RY41PT1P					
	A1SY81EP						

*1: A conversion adapter for replacing the MELSEC-AnS series with the MELSEC-Q series is used.
*2: Since the number of points per common changes, check the common terminal connection of the module before replacement.
*3: When a rated input voltage of 12 or 24VAC is used, the voltage needs to be changed to 5, 12, or 24VDC.
*4: Interrupt operation setting must be set in module parameters using GX Works3 (an engineering tool manufactured by Mitsubishi Electric).
*5: A conversion adapter for replacing the MELSEC-AnS series with the MELSEC-L series is used.

2-slot type (Not applicable to extended temperature range base units (R310B-HT, R610B-HT))

Input/ Output	MELSEC-AnS series module before replacement	MELSEC iQ-R series module after replacement	Note	Conversion adapter			
				Model	Shape		No. of input/ output points
					MELSEC-AnS series	MELSEC iQ-R series	
Input	A1SX20 A1SX20EU	RX28 × 2	-	ERNT-2AR20X	Terminal block (20 points) ▶	Terminal block (18 points) × 2	16

Modules that can use the existing wiring as it is even after replacement (Conversion adapter not required)

Input/ Output	MELSEC-AnS series			MELSEC iQ-R series			
	Model	Specifications	No. of points	Model	Specifications	No. of points	No. of required modules
Input	A1SX41	12/24VDC, sink type	32	RX41C4 (24VDC)	24VDC, positive/negative common shared type	32	1
				RX71C4 (12VDC)	5/12VDC, positive/negative common shared type	32	1
	A1SX41-S1	24VDC, sink type	32	RX41C4	24VDC, positive/negative common shared type	32	1
	A1SX41-S2	24VDC, sink type	32	RX41C4	24VDC, positive/negative common shared type	32	1
	A1SX71	5/12/24VDC, sink/source type	32	RX41C4	24VDC, positive/negative common shared type	32	1
				RX71C4	5/12VDC, positive/negative common shared type	32	1
	A1SX42	12/24VDC, sink type	64	RX42C4	24VDC, positive/negative common shared type	64	1
				RX72C4	5/12VDC, positive/negative common shared type	64	1
	A1SX42-S1	24VDC, sink type	64	RX42C4	24VDC, positive/negative common shared type	64	1
	A1SX42-S2	24VDC, sink type	64	RX42C4	24VDC, positive/negative common shared type	64	1
	A1SX82-S1	24VDC, sink/source type	64	RX42C4	24VDC, positive/negative common shared type	64	1
Output	A1SY41	12/24VDC, sink type	32	RY41NT2P	12/24VDC, sink type	32	1
	A1SY41P	12/24VDC, sink type	32	RY41NT2P	12/24VDC, sink type	32	1
	A1SY71	5/12VDC, sink type	32	RY41NT2P (12VDC)	12/24VDC, sink type (5VDC not supported)	32	1
	A1SY42	12/24VDC, sink type	64	RY42NT2P	12/24VDC, sink type	64	1
	A1SY42P	12/24VDC, sink type	64	RY42NT2P	12/24VDC, sink type	64	1
	A1SY82	12/24VDC, source type	64	RY42PT1P	12/24VDC, source type	64	1
I/O combined	A1SH42 A1SH42P	Input: 12/24VDC, sink type	Input: 32	RH42C4NT2P (when input is 24VDC)	Input: 24VDC, sink type (12VDC not supported)	Input: 32	1
		Output: 12/24VDC, sink type	Output: 32		Output: 12/24VDC, sink type	Output: 32	
	A1SH42-S1 A1SH42P-S1	Input: 24VDC, sink type	Input: 32	RH42C4NT2P	Input: 24VDC, sink type	Input: 32	1
		Output: 12/24VDC, sink type	Output: 32		Output: 12/24VDC, sink type	Output: 32	

Replacement using a universal conversion adapter ▶ P.276

Input/output modules in the table below do not support the use of a conversion adapter. However, these modules can be replaced using a universal conversion adapter even though rewiring is required.

Input/ Output	MELSEC-AnS series before replacement			MELSEC iQ-R series after replacement				Note	Universal conversion adapter
	Model	Specifications	No. of points	Model	Specifications	No. of points	No. of required modules		
Output	A1SY14EU	240VAC/24VDC, 2A/point, contact	12	RY10R2	240VAC/24VDC, 2A/point, contact	16	1	-	Supported
	A1SY18A A1SY18AEU	240VAC/24VDC, 2A/point, independent contact	8	RY18R2A	240VAC/24VDC, 2A/point, independent contact	8	1		
	A1SY28EU	100 to 240VAC, triac	8	There is no applicable MELSEC iQ-R series module.					*7
	A1SY60	24VDC, 2A/point, sink type	16	RY10R2	240VAC/24VDC, 2A/point, contact	16	1	*6	Supported
	A1SY60E	5/12/24VDC, 2A/point, source type	16	RY10R2	240VAC/24VDC, 2A/point, contact	16	1		
	A1SY68A	5/12/24/48VDC, 2A/point, sink/source type, all points independent	8	RY18R2A	240VAC/24VDC, 2A/point, independent contact	8	1		
	A1SY28A	100 to 240VAC, triac, all points independent	8	There is no applicable MELSEC iQ-R series module.				-	-
I/O combined	A1SX48Y18	Input: 24VDC, sink type	Input: 8	RX40C7	24VDC, positive/negative common shared type	16	1	-	Supported
		Output: 240VAC/24VDC, contact	Output: 8	RY10R2	240VAC/24VDC, 2A/point, contact	16	1		
	A1SX48Y58	Input: 24VDC, sink type	Input: 8	RX40C7	24VDC, positive/negative common shared type	16	1		
		Output: 12/24VDC, sink type	Output: 8	RY40NT5P	12/24VDC, sink type	16	1		
	A1SJ-56DT	Input: 24VDC, sink type	32	RX40C7	24VDC, positive/negative common shared type	16	2	-	-
		Output: 24VDC, sink type	24	RY40NT5P	12/24VDC, sink type	16	2		
	A1SJ-56DR	Input: 24VDC, sink type	32	RX40C7	24VDC, positive/negative common shared type	16	2		
		Output: 240VAC/24VDC, contact	24	RY10R2	240VAC/24VDC, contact	16	2		
Dynamic input	A1S42X	12/24VDC	16/32/ 48/64	There is no applicable MELSEC iQ-R series module.				-	-
Dynamic output	A1S42Y	12/24VDC	16/32/ 48/64						

*6: The output type changes from transistor output to contact output.
*7: The existing terminal block can be mounted to the universal conversion adapter as it is.

When there is no applicable module to be replaced Upgrading existing programmable controller systems using the time and wire saving devices ▶ P.86

Refer to the later section. The section describes how to replace modules that have no applicable module in the programmable controller series after replacement or modules that do not support the use of a conversion adapter.

(Example) The existing module uses 200VAC. But, the model list for the programmable controller series after replacement does not have a module that uses 200VAC.
In such a case, the module can be replaced by using our digital signal converter (terminal module) (200VAC input type).

For analog modules

1-slot type

Input/ Output	MELSEC-AnS series module before replacement	MELSEC iQ-R series module after replacement	Note	Conversion adapter			
				Model	Shape		No. of channels
					MELSEC-AnS series	MELSEC iQ-R series	
Input	A1S64AD	R60AD4	*8	ERNT-ASQT64AD	Terminal block (20 points)	Terminal block (18 points)	4
	A1S68AD (voltage input)	R60ADV8	*9, *11	ERNT-ASQT68AD			8
	A1S68AD (current input)	R60ADI8	*9, *10, *11				
	A1S68AD (voltage/current mixed input)	R60AD8-G	-	ERNT-2AR68AG		Connector (40P)	
Output	A1S62DA	R60DA4	*8, *11	ERNT-ASQT62DA		Terminal block (18 points)	2
	A1S68DAV	R60DAV8	*11	ERNT-ASQT68DA			8
	A1S68DAI	R60DAI8					

*8: CH3 and CH4 of the R60DA4 cannot be used. (They are not connected inside a conversion adapter.)
*9: For the R60ADV8 and the R60ADI8, voltage input and current input cannot be used together in a single module.
*10: A minus current cannot be input.
*11: A conversion adapter for replacing the MELSEC-AnS series with the MELSEC-Q series is used.

For high-speed counter modules

1-slot type

Input/ Output	MELSEC-AnS series module before replacement	MELSEC iQ-R series module after replacement	Note	Conversion adapter			
				Model	Shape		No. of channels
					MELSEC-AnS series	MELSEC iQ-R series	
Input	A1SD61	RD62P2	*12, *13	ERNT-ASLTD61	Terminal block (20 points)	Connector (40P)	1
	A1SD62	RD62P2	*13	ERNT-ASLTD62			2
	A1SD62E	RD62P2E					
	A1SD62D	RD62D2	-	ERNT-2AR62DD			

*12: The RD62P2 does not have the limit switch output function of the A1SD61. Use the coincidence output function of the RD62P2 instead. Note that the specifications differ, such as having a fewer number of settings.
*13: A conversion adapter for replacing the MELSEC-AnS series with the MELSEC-L series is used.

For temperature input modules

1-slot type

Input/ Output	MELSEC-AnS series module before replacement	MELSEC iQ-R series module after replacement	Note	Conversion adapter			
				Model	Shape		No. of channels
					MELSEC-AnS series	MELSEC iQ-R series	
Input	A1S68TD	R60TD8-G	-	ERNT-2AR68TD	Terminal block (20 points)	Connector (40P)	8
	A1S62RD3(N)	R60RD8-G	-	ERNT-2AR62RD			2

For temperature control modules

1-slot type

MELSEC-AnS series module before replacement	MELSEC iQ-R series module after replacement	Note	Conversion adapter			
			Model	Shape		No. of channels
				MELSEC-AnS series	MELSEC iQ-R series	
A1S64TCTT-S1	R60TCTRT2TT2	-	ERNT-2AR64TT	Terminal block (20 points)	Terminal block (18 points)	4
A1S64TCTRT		*14				
A1S64TCRT-S1	R60TCRT4	-	ERNT-2AR64TR			4
A1S64TCTRT		*15				
A1S62TCTT-S2	R60TCTRT2TT2	-	ERNT-2AR62TT			2
A1S64TCTRT		*16				
A1S62TCRT-S2	R60TCRT4	-	ERNT-2AR62TR			2
A1S64TCTRT		*17				

*14: For thermocouple input under standard control
*15: For platinum resistance thermometer input under standard control
*16: For thermocouple input under heating-cooling control
*17: For platinum resistance thermometer input under heating-cooling control

For temperature control modules with disconnection detection function

1-slot type + Disconnection detection connector conversion cable (Not applicable to extended temperature range base units (R310B-HT, R610B-HT))

This is a set product of a conversion adapter for the temperature control module (1-slot type) and a disconnection detection connector conversion cable. Use the model for the set product to order.

MELSEC-AnS series module before replacement	MELSEC iQ-R series module after replacement	Note	Set model	Conversion adapter for temperature control modules				Disconnection detection connector conversion cable	
				Model	Shape		No. of channels	Shape	
					MELSEC-AnS series	MELSEC iQ-R series		MELSEC-AnS series	MELSEC iQ-R series
A1S64TCTTBW-S1	R60TCTRT2TT2BW	-	ERNT-2AR64TT1BW	ERNT-2AR64TT	Terminal block (20 points) ▶	Terminal block (18 points)	4	Connector (8P) ▶	Terminal block (18 points)
A1S64TCTRTBW		*18							
A1S64TCRTBW-S1	R60TCRT4BW	-	ERNT-2AR64TR1BW	ERNT-2AR64TR			4		
A1S64TCTRTBW		*19							
A1S62TCTTBW-S2	R60TCTRT2TT2BW	-	ERNT-2AR62TT1BW	ERNT-2AR62TT			2		
A1S64TCTRTBW		*20							
A1S62TCRTBW-S2	R60TCRT4BW	-	ERNT-2AR62TR1BW	ERNT-2AR62TR			2		
A1S64TCTRTBW		*21							

*18: For thermocouple input under standard control
*19: For platinum resistance thermometer input under standard control
*20: For thermocouple input under heating-cooling control
*21: For platinum resistance thermometer input under heating-cooling control

Note) Intelligent function modules other than the above (such as positioning modules, information system modules, and distribution modules) do not support the use of a conversion adapter. Therefore, rewiring is required.

Base adapters

Type	MELSEC-AnS series base unit before replacement	MELSEC iQ-R series base unit after replacement	Note	Base adapter model	Remarks
Main	A1S38B A1S38HB A1S38HBEU	R38B	*22	ERNT-ASQB38N	To use the Q7BAT-SET, install the base unit with the CPU module being mounted to the base adapter first. Then, attach the Q7BAT-SET to the CPU module.
		R310B-HT	*24	None	
	A1S35B	R35B	*22	ERNT-ASQB35N	
	A1S33B	R33B	*22	ERNT-ASQB33N	
	A1S32B	R33B	*22	ERNT-ASQB32N	
	A1SJCPU	R35B	*22	ERNT-ASQB00JN	
	A1SJCPU-S3				
	A1SJHCPU				
Extension	A1S68B	R68B	*22	ERNT-ASQB68N	
		R610B-HT	*25	None	
	A1S65B	R65B	*22	ERNT-ASQB65N	
	A1S58B	R68B	*22, *23	ERNT-ASQB58N	
	A1S55B	R65B	-	None	
	A1S52B	R65B	-		

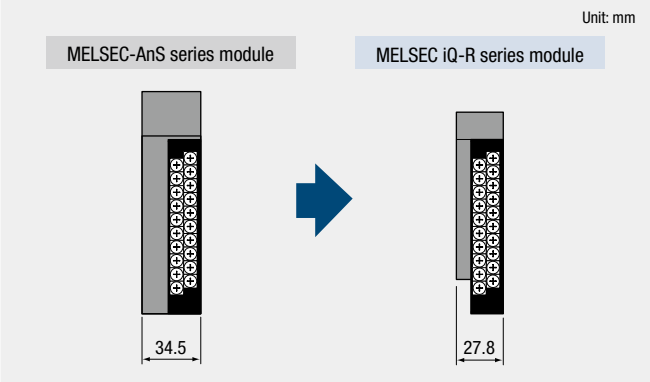
*22: A base adapter for replacing the MELSEC-AnS series with the MELSEC-Q series is used.
*23: There is no extension base unit (type requiring no power supply module) in the MELSEC iQ-R series. For this reason, only extension base units (type requiring a power supply module) are listed as replacement target modules.
*24: The width increases by 9mm (430mm → 439mm).
*25: The width increases by 19mm (420mm → 439mm).

Precautions

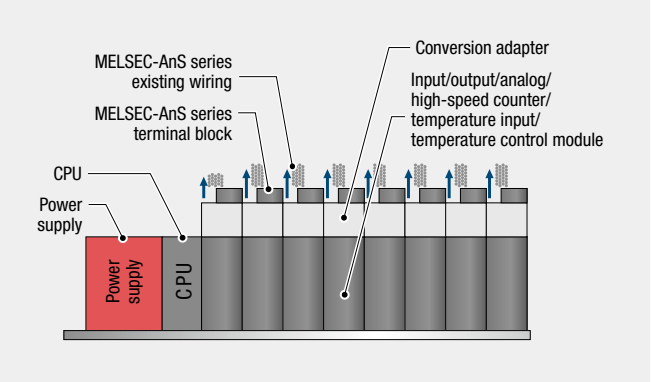
A conversion adapter is used to compensate the difference of the pin assignment when MELSEC-AnS series modules are replaced with MELSEC iQ-R series modules.
Before using the product, please read the user's manual for the conversion adapter used. (The user's manuals can be downloaded from our website.)
When replacing the MELSEC-AnS series with the MELSEC iQ-R series, refer to the user's manuals for each MELSEC iQ-R series module to check the differences in performance, functionality, input/output signals to/from the CPU module, and buffer memory addresses.
Also, refer to the Transition from MELSEC-AnS/QnAS (Small Type) Series to MELSEC iQ-R Series Handbook published by Mitsubishi Electric. (Recommended)

Module width

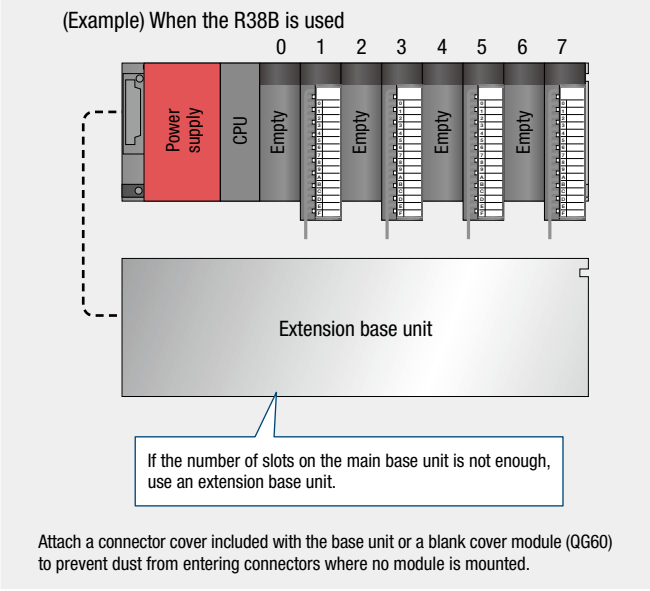
(1) Since the width of MELSEC iQ-R series modules is smaller (MELSEC-AnS series: 34.5 mm → MELSEC iQ-R series: 27.8 mm), the wiring area becomes smaller as well. Check the wiring area when mounting a conversion adapter.



(2) If the wiring causes interference with adjacent modules, lift the cables forward to prevent interference.

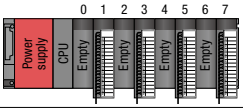
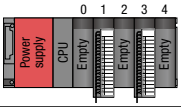
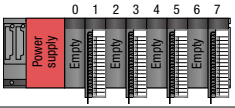
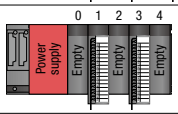
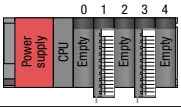
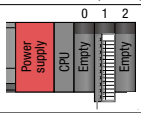
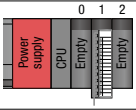


(3) If interference still occurs, leave the next slot open to secure a space for wiring.



Attach a connector cover included with the base unit or a blank cover module (QG60) to prevent dust from entering connectors where no module is mounted.

(4) Taking the wiring area into consideration, the number of replaceable modules will be as follows.

MELSEC-AnS series base unit model	Replaced with		
	MELSEC iQ-R series base unit model	Mounting method	No. of replaceable modules
A1S38B A1S38HB A1S38HBEU	R38B		4
A1S35B	R35B		2
A1S68B A1S58B	R68B		4
A1S65B	R65B		2
A1SJCPU A1SJCPU-S3 A1SJHCPU	R35B		2
A1S33B	R33B		1
A1S32B	R33B		1

(5) If modules cannot be replaced in accordance with (2), (3), and (4), consider the use of the extended temperature range base unit manufactured by Mitsubishi Electric.
→ P.15
Note) 2-slot type conversion adapters cannot be used.

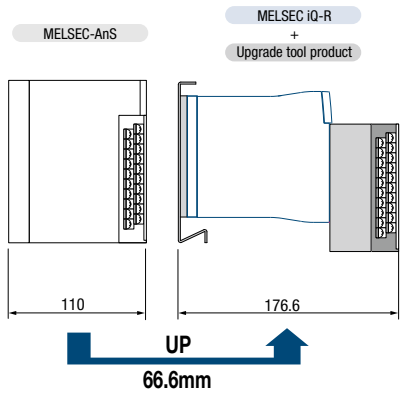
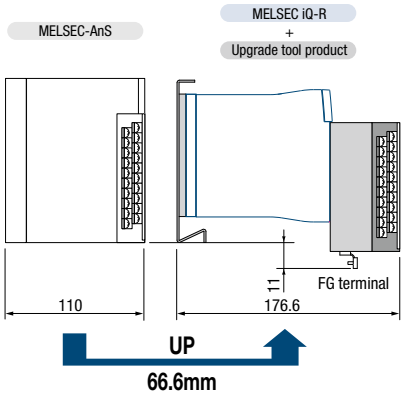
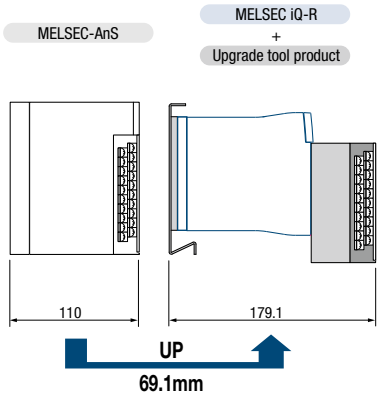
Depth / Height

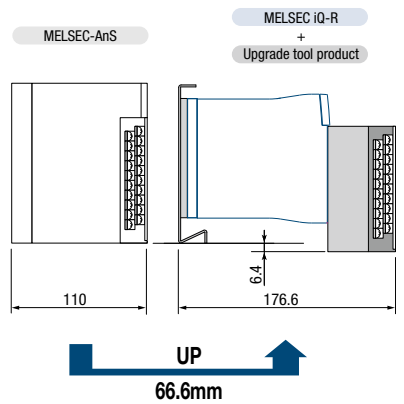
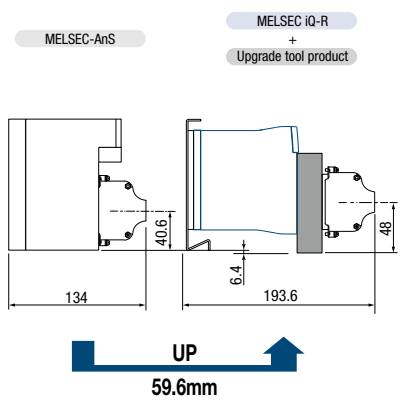
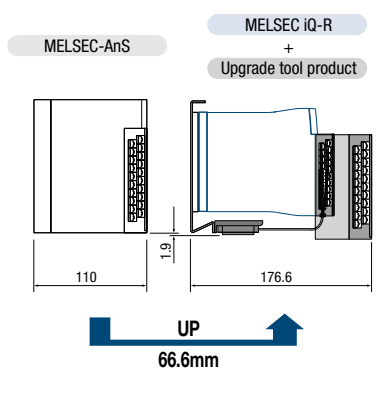
When a base adapter is used

The depth from the panel surface increases. Check the depth when mounting a conversion adapter.
The height may also increases toward the lower side depending on the replaced module. Check the depth and height when mounting a conversion adapter.

MELSEC-AnS series: Base unit + Input/output/analog/high-speed counter/temperature input/temperature control module + Terminal block/connector
MELSEC iQ-R series + Upgrade tool product: Base adapter + Base unit + Input/output/analog/high-speed counter/temperature input/temperature control module + Conversion adapter + Terminal block/connector

MELSEC-AnS : MELSEC-AnS series MELSEC iQ-R : MELSEC iQ-R series

Conversion adapter	ERNT-ASQTXY10 ERNT-ASQTY22 ERNT-ASQTX40 ERNT-ASQTY40 ERNT-ASQTY50 ERNT-ASQTY80 ERNT-ASQT64AD	ERNT-ASQT62DA ERNT-ASQT68DA ERNT-2AR64TT ERNT-2AR64TR ERNT-2AR62TT ERNT-2AR62TR	ERNT-ASQT68AD	ERNT-2AR20X
Depth	66.6mm UP		66.6mm UP	69.1mm UP
Height	0mm UP		11mm UP	0mm UP
Mounting diagram				

Conversion adapter	ERNT-ASLTD61 ERNT-ASLTD62 ERNT-2AR62DD ERNT-2AR68AG ERNT-2AR68TD ERNT-2AR62RD		ERNT-ASLCXY81	ERNT-2AR64TT1BW ERNT-2AR64TR1BW ERNT-2AR62TT1BW ERNT-2AR62TR1BW
Depth	66.6mm UP		59.6mm UP	66.6mm UP
Height	6.4mm UP		6.4mm UP	1.9mm UP
Mounting diagram				

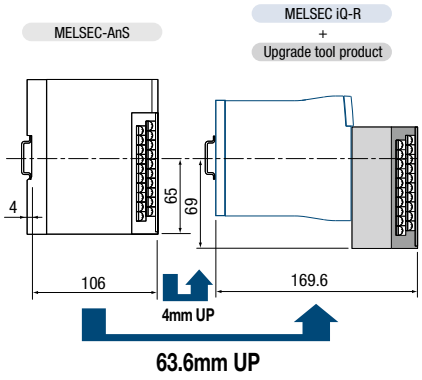
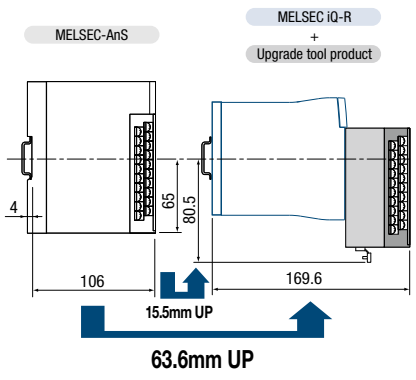
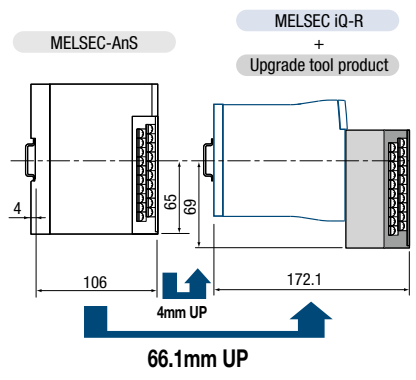
When a DIN rail is used

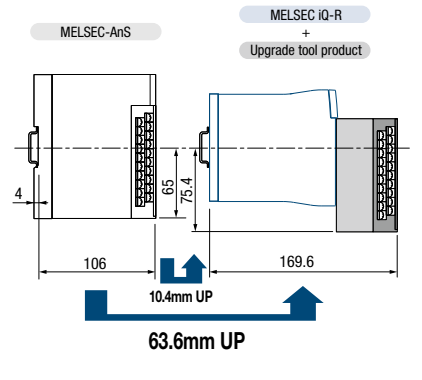
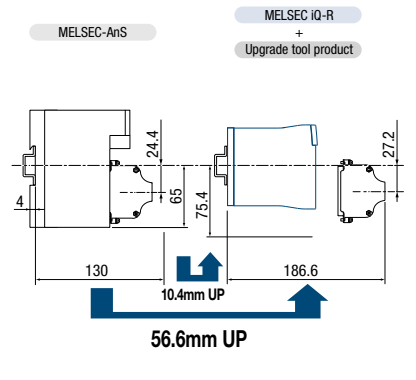
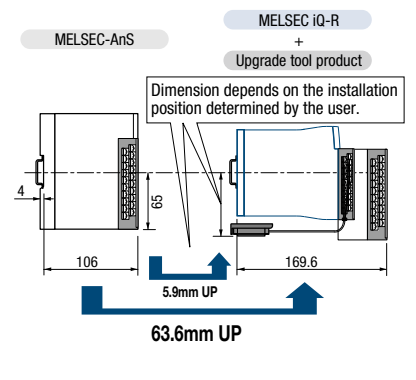
The depth increases, and also the height increases toward the lower side. Check the depth and height when mounting a conversion adapter.

MELSEC-AnS series: Base unit + Input/output/analog/high-speed counter/temperature input/temperature control module + Terminal block/connector

MELSEC iQ-R series + Upgrade tool product: Base unit + Input/output/analog/high-speed counter/temperature input/temperature control module + Conversion adapter + Terminal block/connector

MELSEC-AnS : MELSEC-AnS series MELSEC iQ-R : MELSEC iQ-R series

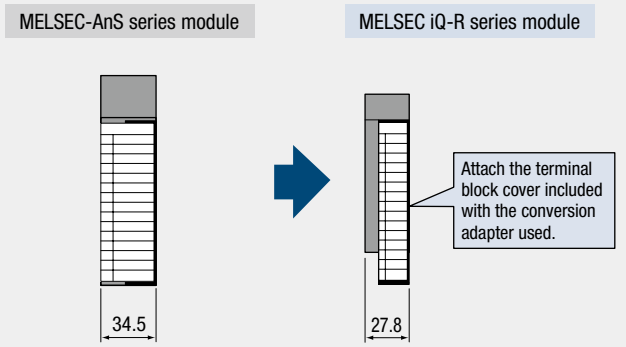
Conversion adapter	ERNT-ASQTXY10 ERNT-ASQTY22 ERNT-ASQTX40 ERNT-ASQTY40 ERNT-ASQTY50 ERNT-ASQTY80 ERNT-ASQT64AD	ERNT-ASQT62DA ERNT-ASQT68DA ERNT-2AR64TT ERNT-2AR64TR ERNT-2AR62TT ERNT-2AR62TR	ERNT-ASQT68AD	ERNT-2AR20X
Depth	63.6mm UP		63.6mm UP	66.1mm UP
Height	4mm UP		15.5mm UP	4mm UP
Mounting diagram				

Conversion adapter	ERNT-ASLTD61 ERNT-ASLTD62 ERNT-2AR62DD ERNT-2AR68AG ERNT-2AR68TD ERNT-2AR62RD		ERNT-ASLCXY81	ERNT-2AR64TT1BW ERNT-2AR64TR1BW ERNT-2AR62TT1BW ERNT-2AR62TR1BW
Depth	63.6mm UP		56.6mm UP	63.6mm UP
Height	10.4mm UP		10.4mm UP	5.9mm UP
Mounting diagram				

Terminal block cover

The MELSEC-AnS series terminal block cover is larger than the width of the MELSEC iQ-R series modules. Replace it with the terminal block cover included with the conversion adapter used.

Unit: mm



Base adapter

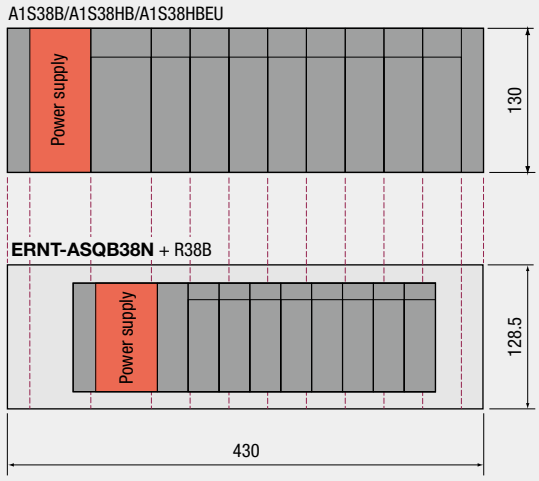
The use of a base adapter is recommended because the MELSEC iQ-R series can be installed using the MELSEC-AnS series base unit installation holes.
(Drilling of additional holes is not required.)

Slot positions

The slot positions differ between the MELSEC-AnS series modules before replacement and the MELSEC iQ-R series modules after replacement. Change the slot positions of modules (there may be empty slots) and adjust wiring lengths prior to use.

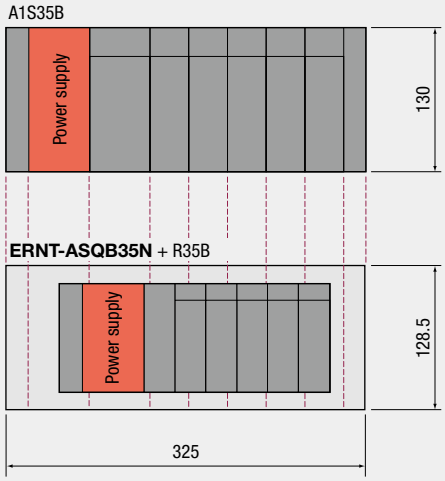
(1) A1S38B/A1S38HB/A1S38HBEU → R38B

Unit: mm



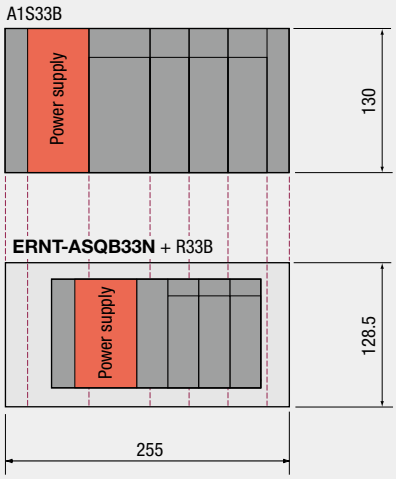
(2) A1S35B → R35B

Unit: mm



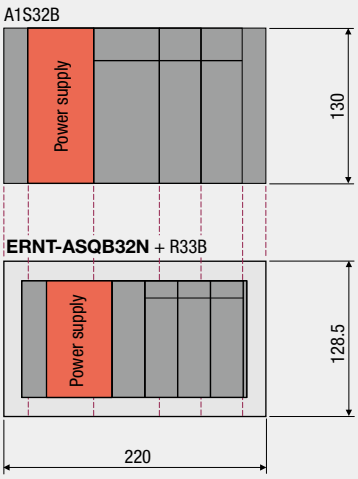
(3) A1S33B → R33B

Unit: mm



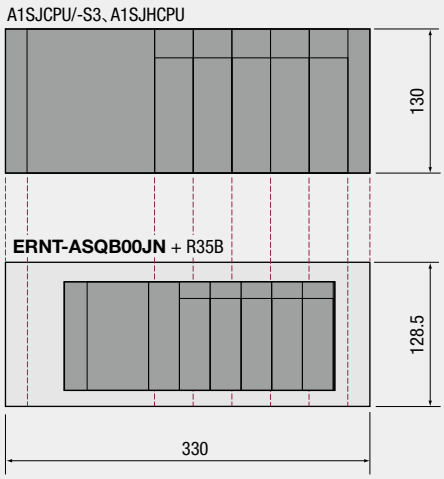
(4) A1S32B → R33B

Unit: mm



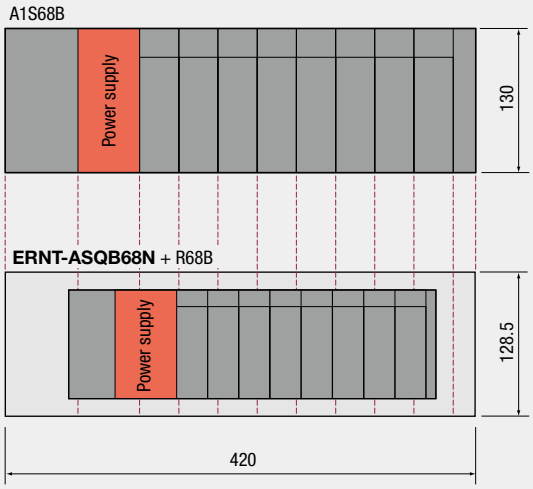
(5) A1SJCPU/-S3, A1SJHCPU → R35B

Unit: mm



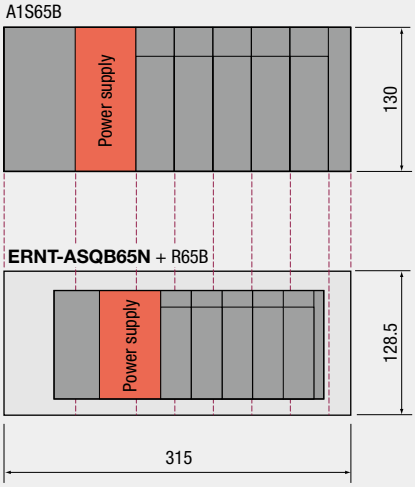
(6) A1S68B → R68B

Unit: mm



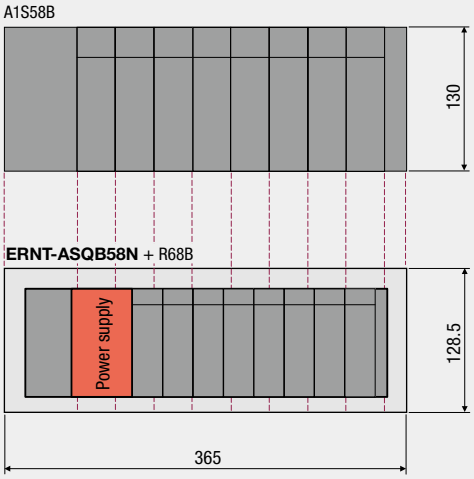
(7) A1S65B → R65B

Unit: mm



(8) A1S58B → R68B

Unit: mm



MEMO

MELSEC-AnS/QnAS series → MELSEC-Q series

Model list

Conversion adapters

For the specifications of conversion adapters and modules before and after replacement, refer to user's manuals. (User's manuals can be downloaded from our website.)
Also, check that the modules satisfy the specifications of the devices currently connected.

For input/output modules

1-slot type

○: Applicable to MELSEC-Q series large type base units (MELSEC-AnS series size)

Input/ Output	MELSEC-AnS series module before replacement	MELSEC-Q series module after replacement	Q series large base unit applicability	Conversion adapter				
				Model	Shape			No. of input/ output points
					MELSEC-AnS series	MELSEC-Q series	Fixture	
Input	A1SX10	QX10	○	ERNT-ASQTXY10	Terminal block (20 points)	Terminal block (18 points)	Without	16
	A1SX10EU							
Output	A1SY10	QY10	○					
	A1SY10EU							
Input	A1SX40	QX40, QX70	○	ERNT-ASQTX40			Without	
	A1SX40-S2	QX40	○					
	A1SX40-S1	QX40-S1	○					
	A1SX80	QX80	○	ERNT-ASQTX80			Without	
	A1SX80-S1							
	A1SX80-S2							
Output	A1SY22	QY22	○	ERNT-ASQTY22			Without	
	A1SY40	QY40P	○	ERNT-ASQTY40			Without	
	A1SY40P							
	A1SY50	QY50	○	ERNT-ASQTY50			Without	
	A1SY80	QY80	○	ERNT-ASQTY80			Without	

2-slot type

×: Not applicable to MELSEC-Q series large type base units (MELSEC-AnS series size)

Input/ Output	MELSEC-AnS series module before replacement	MELSEC-Q series module after replacement		Q series large base unit applicability	Conversion adapter				
					Model	Shape			No. of input/ output points
						MELSEC-AnS series	MELSEC-Q series	Fixture	
Input	A1SX20	QX28	× 2	×	ERNT-ASQTX20	Terminal block (20 points)	Terminal block (18 points) × 2	Without	16
	A1SX20EU								
Output	A1SY60	QY68A	× 2	×	ERNT-ASQTY60			Without	
	A1SY60E	QY68A	× 2	×	ERNT-ASQTY60E			Without	

Modules that can use the existing wiring as it is even after replacement (Conversion adapter not required)

Input/Output	MELSEC-AnS series module before replacement			MELSEC-Q series module after replacement			
	Model	Specifications	No. of points	Model	Specifications	No. of points	No. of required modules
Input	A1SX41	12/24VDC, sink type	32	QX41	24VDC, positive common	32	1
				QX41-S2	24VDC, positive common	32	1
				QX71 (12VDC)	5/12VDC, positive/negative common shared type	32	1
	A1SX41-S1	24VDC, sink type	32	QX41-S1	24VDC, positive common	32	1
	A1SX41-S2	24VDC, sink type	32	QX41	24VDC, positive common	32	1
				QX41-S2	24VDC, positive common	32	1
	A1SX71	5/12/24VDC, sink type	32	QX71 (5VDC, 12VDC)	5/12VDC, positive/negative common shared type	32	1
				QX41-S1	24VDC, positive common	32	1
	A1SX81	12/24VDC, sink type	32	QX81	24VDC, negative common	32	1
				QX81-S2	24VDC, negative common	32	1
	A1SX81-S2	24VDC, sink type	32	QX81	24VDC, negative common	32	1
				QX81-S2	24VDC, negative common	32	1
	A1SX42	12/24VDC, sink type	64	QX42	24VDC, positive common	64	1
				QX41-S2	24VDC, positive common	32	2
				QX72 (12VDC)	5/12VDC, positive/negative common shared type	64	1
	A1SX42-S2	24VDC, sink type	64	QX42	24VDC, positive common	64	1
				QX41-S2	24VDC, positive common	32	2
	A1SX42-S1	24VDC, sink type	64	QX42-S1	24VDC, positive common	64	1
	A1SX82-S1	24VDC, sink type	64	QX82-S1	24VDC, negative common	64	1
Output	A1SY41	12/24VDC, sink type	32	QY41P	12/24VDC, sink type	32	1
	A1SY41P	12/24VDC, sink type	32				1
	A1SY81	12/24VDC, source type	32	QY81P	5/12/24VDC, source type	32	1
	A1SY81EP	12/24VDC, source type	32				1
	A1SY71	5/12VDC, sink type	32	QY71	5/12VDC, sink type	32	1
	A1SY42	12/24VDC, sink type	64	QY42P	12/24VDC, sink type	64	1
	A1SY42P						1
	A1SY82	12/24VDC, source type	64	QY82P	12/24VDC, source type	64	1
I/O combined	A1SH42	Input: 12/24VDC, sink type	32	QH42P	Input: 24VDC (12VDC not supported), positive common	32	1
		Output: 12/24VDC, sink type	32		Output: 12/24VDC, sink type	32	
	A1SH42P	Input: 12/24VDC, sink type	32	QH42P	Input: 24VDC (12VDC not supported), positive common	32	1
		Output: 12/24VDC, sink type	32		Output: 12/24VDC, sink type	32	
	A1SH42-S1	Input: 24VDC, sink type	32	QH42P	Input: 24VDC, positive common	32	1
		Output: 12/24VDC, sink type	32		Output: 12/24VDC, sink type	32	
	A1SH42P-S1	Input: 24VDC, sink type	32	QH42P	Input: 24VDC, positive common	32	1
		Output: 12/24VDC, sink type	32		Output: 12/24VDC, sink type	32	

Replacement using a universal conversion adapter ▶P.298

Input/output modules in the table below do not support the use of a conversion adapter. However, these modules (except for some modules) can be replaced using a universal conversion adapter even though rewiring is required.

Input/Output	MELSEC-AnS series module before replacement		MELSEC-Q series module after replacement			Universal conversion adapter
	Model	No. of points	Model	No. of points	No. of required modules	
Output	A1SY14EU	12	QY10	16	1	Supported
	A1SY18A(EU)	8	QY18A	8	1	*1
	A1SY68A	8	QY68A	8	1	
I/O combined	A1SX48Y58	Input: 8, Output: 8	QX48Y57	Input: 8, Output: 7	1	
Input	A1SX30	16	QX40 (24VDC, positive common)	16	1	
I/O combined	A1SX48Y18	Input: 8, Output: 8	QX40 + QY10	16 + 16	1 + 1	
Output	A1SY28A	8	There is no applicable MELSEC-Q series module.			-
	A1SY28EU					
Dynamic input	A1S42X	16/32/48/64				
Dynamic output	A1S42Y	16/32/48/64				

*1: The existing terminal block can be mounted to the universal conversion adapter as it is.

When there is no applicable module to be replaced Upgrading existing programmable controller systems using the time and wire saving devices ▶P.92

Refer to the later section. The section describes how to replace modules that have no applicable module in the programmable controller series after replacement or modules that do not support the use of a conversion adapter.

(Example) The existing module uses 200VAC. But, the model list for the programmable controller series after replacement does not have a module that uses 200VAC.
In such a case, the module can be replaced by using our digital signal converter (terminal module) (200VAC input type).

For analog modules

1-slot type

○: Applicable to MELSEC-Q series large type base units (MELSEC-AnS series size)
×: Not applicable to MELSEC-Q series large type base units (MELSEC-AnS series size)

Input/ Output	MELSEC-AnS series module before replacement	MELSEC-Q series module after replacement	Q series large base unit applicability	Note	Conversion adapter				
					Model	Shape			No. of channels
						MELSEC-AnS series	MELSEC-Q series	Fixture	
Input	A1S64AD	Q64AD	○	-	ERNT-ASQT64AD	Terminal block (20 points)	Terminal block (18 points)	Without	4
	A1S68AD (voltage input)	Q68ADV	○		ERNT-ASQT68AD			Without	8
	A1S68AD (current input)	Q68ADI	○						
	A1S68AD (voltage/current mixed input)	Q68AD-G	×	*2	ERNT-ASQT68AD-G		Connector (40P)	With	
Output	A1S62DA	Q62DAN	○	-	ERNT-ASQT62DA		Terminal block (18 points)	Without	2
	A1S68DAV	Q68DAVN	○		ERNT-ASQT68DA			Without	8
	A1S68DAI	Q68DAIN	○						
I/O combined	A1S63ADA	Q64AD2DA	×	*2	ERNT-ASQT63ADA			Without	3

*2: Not applicable because the MELSEC-Q series large type blank cover (MELSEC-AnS series size), QG69LS, cannot be attached to the MELSEC-Q series module after replacement.

For high-speed counter modules

1-slot type

○: Applicable to MELSEC-Q series large type base units (MELSEC-AnS series size)

Input/ Output	MELSEC-AnS series module before replacement	MELSEC-Q series module after replacement	Q series large base unit applicability	Conversion adapter				
				Model	Shape			No. of channels
					MELSEC-AnS series	MELSEC-Q series	Fixture	
Input	A1SD61	QD62	○	ERNT-ASQTD61	Terminal block (20 points)	Connector (40P)	With	1
		QD62-H01	○					
		QD62-H02	○					
	A1SD62	QD62	○	ERNT-ASQTD62			With	2
	A1SD62E	QD62E	○					
	A1SD62D	QD62D	○	ERNT-ASQTD62D			With	

For temperature input modules

1-slot type

○: Applicable to MELSEC-Q series large type base units (MELSEC-AnS series size)
×: Not applicable to MELSEC-Q series large type base units (MELSEC-AnS series size)

Input/ Output	MELSEC-AnS series module before replacement	MELSEC-Q series module after replacement	Q series large base unit applicability	Note	Conversion adapter				
					Model	Shape			No. of channels
						MELSEC-AnS series	MELSEC-Q series	Fixture	
Input	A1S68TD	Q68TD-G-H01	○	-	ERNT-ASQT68TD-H01	Terminal block (20 points)	Connector (40P)	With	8
		Q68TD-G-H02	×	*3	ERNT-ASQT68TD-H02			With	
	A1S62RD3(N)	Q64RD	○	-	ERNT-ASQT62RD		Terminal block (18 points)	Without	2
	A1S62RD4(N)								

*3: Not applicable because the MELSEC-Q series large type blank cover (MELSEC-AnS series size), QG69LS, cannot be attached to the MELSEC-Q series module after replacement.

For temperature control modules

1-slot type

○: Applicable to MELSEC-Q series large type base units (MELSEC-AnS series size)

MELSEC-AnS series module before replacement	MELSEC-Q series module after replacement	Q series large base unit applicability	Note	Conversion adapter				
				Model	Shape			No. of channels
					MELSEC-AnS series	MELSEC-Q series	Fixture	
A1S64TCTT-S1	Q64TCTTN	○	-	ERNT-ASQT64TCTT	Terminal block (20 points)	Terminal block (18 points)	Without	4
A1S64TCTRT			*4					
A1S64TCRT-S1	Q64TCRTN	○	-	ERNT-ASQT64TCRT			Without	4
A1S64TCTRT			*5					
A1S62TCTT-S2	Q64TCTTN	○	-	ERNT-ASQT62TCTT			Without	2
A1S64TCTRT			*6					
A1S62TCRT-S2	Q64TCRTN	○	-	ERNT-ASQT62TCRT			Without	2
A1S64TCTRT			*7					

*4: For thermocouple input under standard control
*5: For platinum resistance thermometer input under standard control
*6: For thermocouple input under heating-cooling control
*7: For platinum resistance thermometer input under heating-cooling control

For temperature control modules with disconnection detection function

1-slot type + Disconnection detection connector conversion cable

This is a set product of a conversion adapter for the temperature control module (1-slot type) and a disconnection detection connector conversion cable. Use the model for the set product to order.

×: Not applicable to MELSEC-Q series large type base units (MELSEC-AnS series size)

MELSEC-AnS series module before replacement	MELSEC-Q series module after replacement	Q series large base unit applicability	Note	Set model	Conversion adapter for temperature control modules					Disconnection detection connector conversion cable	
					Model	Shape			No. of channels	Shape	
						MELSEC-AnS series	MELSEC-Q series	Fixture		MELSEC-AnS series	MELSEC-Q series
A1S64TCTTBW-S1	Q64TCTTBWN	×	*8	ERNT-ASQT64TCTTBW	ERNT-ASQT64TCTT	Terminal block (20 points) ▶	Terminal block (18 points)	Without	4	Connector (8P) ▶	Terminal block (18 points)
A1S64TCTRTBW			*8, *9								
A1S64TCRTBW-S1	Q64TCRTBWN	×	*8	ERNT-ASQT64TCRTBW	ERNT-ASQT64TCRT			Without	4		
A1S64TCTRTBW			*8, *10								
A1S62TCTTBW-S2	Q64TCTTBWN	×	*8	ERNT-ASQT62TCTTBW	ERNT-ASQT62TCTT			Without	2		
A1S64TCTRTBW			*8, *11								
A1S62TCRTBW-S2	Q64TCRTBWN	×	*8	ERNT-ASQT62TCRTBW	ERNT-ASQT62TCRT			Without	2		
A1S64TCTRTBW			*8, *12								

*8: Not applicable because the MELSEC-Q series module after replacement is 2-slot type.
*9: For thermocouple input under standard control
*10: For platinum resistance thermometer input under standard control
*11: For thermocouple input under heating-cooling control
*12: For platinum resistance thermometer input under heating-cooling control

Note) Intelligent function modules other than the above (such as positioning modules, information system modules, and distribution modules) do not support the use of a conversion adapter. Therefore, rewiring is required.

Base adapters

Type	MELSEC-AnS series base unit before replacement	MELSEC-Q series base unit after replacement	Note	Base adapter model	Remarks
Main	A1S38B/A1S38HB/ A1S38HBEU	Q38B	-	ERNT-ASQB38N	To use the Q7BAT-SET, install the base unit with the CPU module being mounted to the base adapter first, and then attach the Q7BAT-SET to the CPU module.
	A1S35B	Q35B		ERNT-ASQB35N	
	A1S33B	Q33B		ERNT-ASQB33N	
	A1S32B	Q33B		ERNT-ASQB32N	
	A1SJCPU	Q00JCPU Q00UJCPU Q35B		ERNT-ASQB00JN	
	A1SJCPU-S3				
	A1SJHCPU				
Extension	A1S68B	Q68B	-	ERNT-ASQB68N	
	A1S65B	Q65B		ERNT-ASQB65N	
	A1S58B	Q68B	*13	ERNT-ASQB58N	
	A1S55B	Q55B	-	ERNT-ASQB55N	
	A1S52B	Q52B		ERNT-ASQB52N	

*13: The power supply module is required after replacement.

Both a main base unit and a QA extension base unit can be installed to the following base adapters.

MELSEC-AnS series base unit before replacement	MELSEC-Q series base unit after replacement		Base adapter model	Remarks
	Main	Extension		
A1S38B/A1S38HB/ A1S38HBEU	Q38B/Q35B/Q33B	QA1S51B	ERNT-ASQB38N-S1	To use the Q7BAT-SET, install the base unit with the CPU module being mounted to the base adapter first, and then attach the Q7BAT-SET to the CPU module.
A1S35B	Q35B/Q33B		ERNT-ASQB35N-S1	
A1S33B	Q33B		ERNT-ASQB33N-S1	

*14: The width increases by 22mm for the ERNT-ASQB35N-S1 and by 36mm for the ERNT-ASQB33N-S1. Check the installation space.

Conversion adapter DIN rail mounting brackets

This bracket is required when installing the MELSEC-Q series base unit onto a DIN rail using a conversion adapter with a fixture or a disconnection detection connector conversion cable for the temperature control module. When a conversion adapter with a fixture or a disconnection detection connector conversion cable for the temperature control module is not used, this bracket is not required.

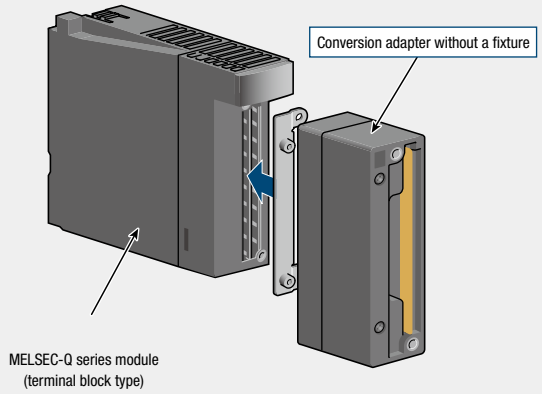
Type	MELSEC-AnS series base unit before replacement	MELSEC-Q series base unit after replacement	Conversion adapter DIN rail mounting bracket	Remarks
Main	A1S38B/A1S38HB/A1S38HBEU	Q38B	ERNT-ASQDIN3868	• A DIN rail adapter manufactured by Mitsubishi Electric (sold separately) is also required. • To use the Q7BAT-SET, mount the CPU module and attach the conversion adapter DIN rail mounting bracket to the base unit first. Then, attach the Q7BAT-SET to the CPU module.
Extension	A1S68B	Q68B		
	A1S58B			
Main	A1S35B	Q35B	ERNT-ASQDIN356500J	
Extension	A1S65B	Q65B		
Main	A1SJCPU	Q00JCPU Q00UJCPU Q35B		
	A1SJCPU-S3			
	A1SJHCPU			
Main	A1S33B	Q33B	ERNT-ASQDIN3355	
	A1S32B			
Extension	A1S55B	Q55B		
	A1S52B	Q52B	ERNT-ASQDIN52	

Types of conversion adaptors

There are two types of conversion adapters: a conversion adapter without a fixture (for terminal block type modules) and a conversion adapter with a fixture (for connector type modules).

When the MELSEC-Q series module after replacement is a terminal block type

Conversion adapter without a fixture

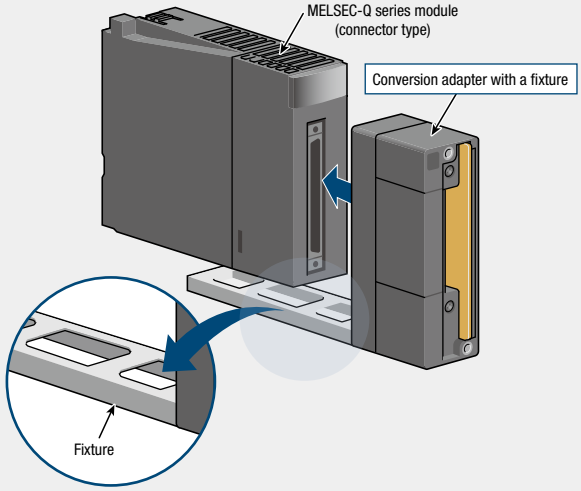


Base adapter ..... Used as necessary

Conversion adapter DIN rail mounting bracket ..... Not required

When the MELSEC-Q series module after replacement is a connector type

Conversion adapter with a fixture

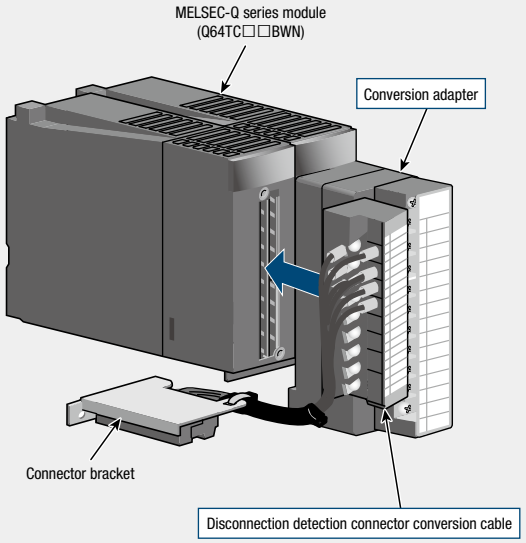


The fixture of a conversion adapter has to be secured to a base adapter (when installed to the panel surface) or a conversion adapter DIN rail mounting bracket (when installed onto a DIN rail).

For temperature control modules with disconnection detection function, the wiring on the left slot side of the MELSEC-Q series module (Q64TC□□BWN) is converted using a disconnection detection connector conversion cable.

Left slot side of the MELSEC-Q series module (Q64TC□□BWN)

Disconnection detection connector conversion cable

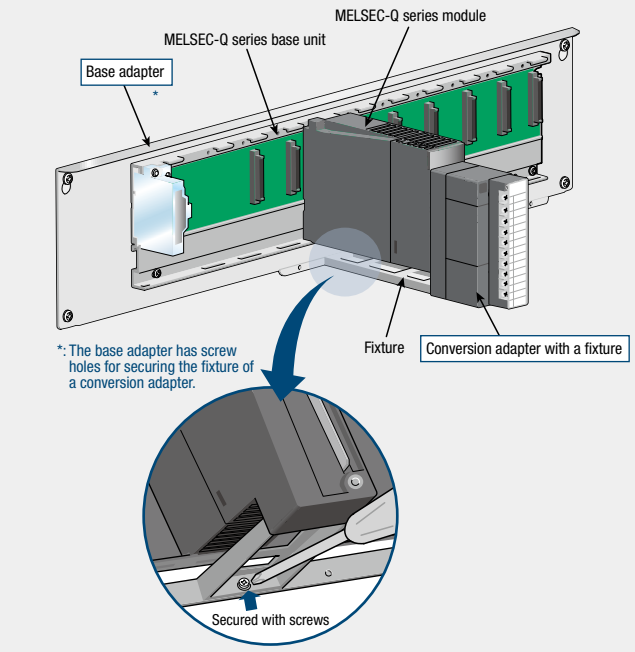


The connector bracket of a disconnection detection connector conversion cable has to be secured to a base adapter (when installed to the panel surface) or a conversion adapter DIN rail mounting bracket (when installed onto a DIN rail).

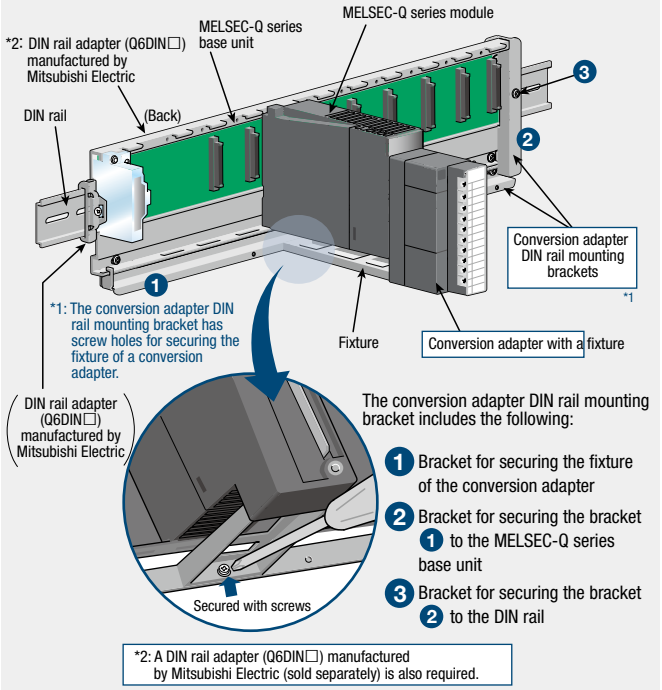
Mounting a conversion adapter with a fixture

To use a conversion adaptor with a fixture, the fixture has to be secured to a base adapter (when installed to the panel surface) or a conversion adapter DIN rail mounting bracket (when installed onto a DIN rail) with screws.

Panel surface installation



DIN rail installation



The conversion adapter DIN rail mounting bracket includes the following:

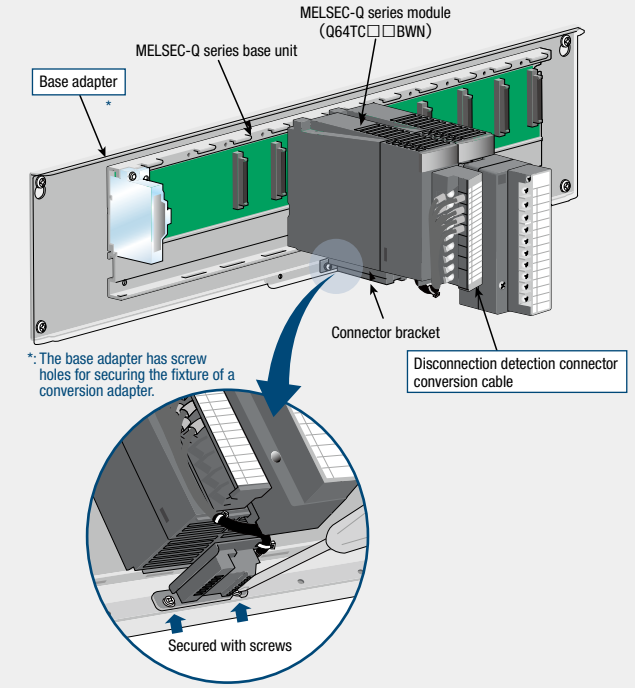
1. Bracket for securing the fixture of the conversion adapter
2. Bracket for securing the bracket 1 to the MELSEC-Q series base unit
3. Bracket for securing the bracket 2 to the DIN rail

*2: A DIN rail adapter (Q6DIN☐) manufactured by Mitsubishi Electric (sold separately) is also required.

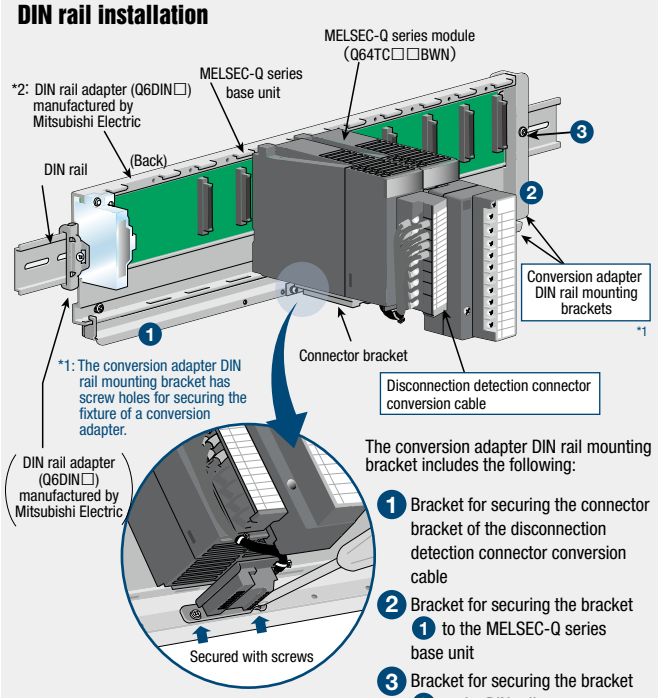
Installing a disconnection detection connector conversion cable

The connector bracket of a disconnection detection connector conversion cable has to be secured to a base adapter (when installed to the panel surface) or a conversion adapter DIN rail mounting bracket (when installed onto a DIN rail) with screws.

Panel surface installation



DIN rail installation



The conversion adapter DIN rail mounting bracket includes the following:

1. Bracket for securing the connector bracket of the disconnection detection connector conversion cable
2. Bracket for securing the bracket 1 to the MELSEC-Q series base unit
3. Bracket for securing the bracket 2 to the DIN rail

*2: A DIN rail adapter (Q6DIN☐) manufactured by Mitsubishi Electric (sold separately) is also required.

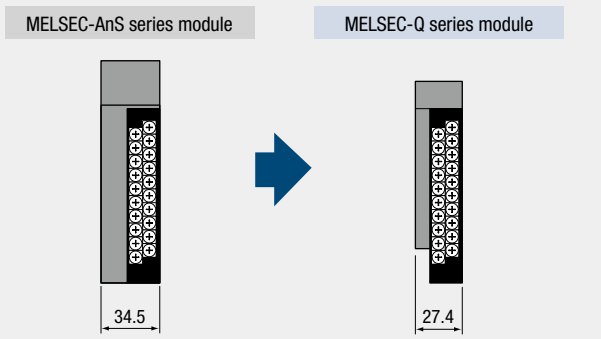
Precautions

A conversion adapter is used to compensate the difference of the pin assignment when MELSEC-AnS series modules are replaced with MELSEC-Q series modules.
Before using the product, please read the user's manual for the conversion adapter used. (The user's manuals can be downloaded from our website.)
When replacing the MELSEC-AnS series with the MELSEC-Q series, refer to the user's manuals for each MELSEC-Q series module to check the differences in performance, functionality, input/output signals to/from the CPU module, and buffer memory addresses.
Also, refer to the Transition from MELSEC-AnS/QnAS (Small Type) Series to Q Series Handbook published by Mitsubishi Electric. (Recommended)

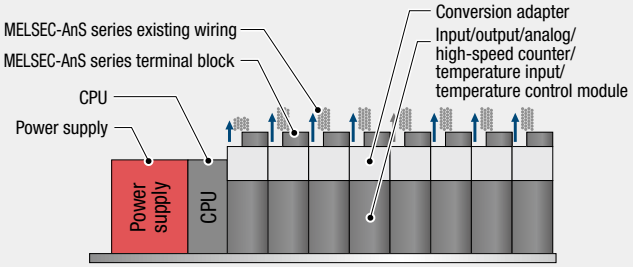
Module width

(1) Since the width of MELSEC-Q series modules is smaller (MELSEC-AnS series: 34.5mm → MELSEC-Q series: 27.4mm), the wiring area becomes smaller as well. Check the wiring area when mounting a conversion adapter.

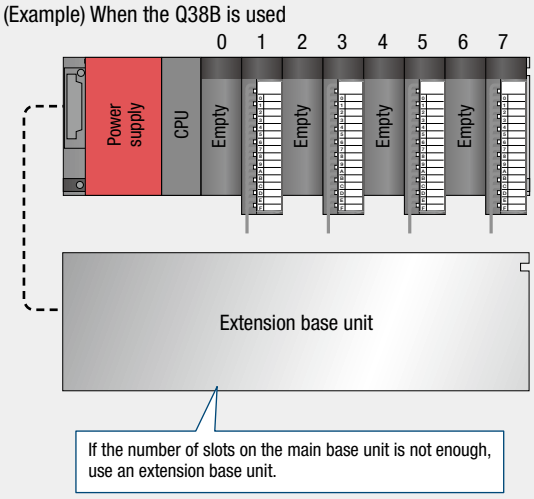
Unit: mm



(2) If the wiring causes interference with adjacent modules, lift the cables forward to prevent interference.

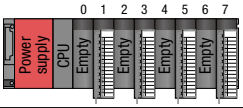
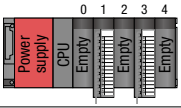
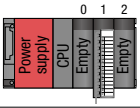
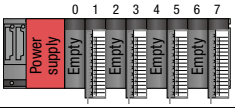
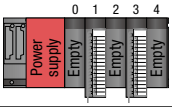
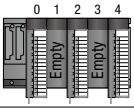
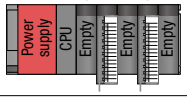


(3) If interference still occurs, leave the next slot open to secure a space for wiring.



Attach a connector cover included with the base unit or a blank cover module (QG60) to prevent dust from entering connectors where no module is mounted.

(4) Taking the wiring area into consideration, the number of replaceable modules will be as follows.

MELSEC-AnS series base unit model	Replaced with		
	MELSEC-Q series base unit model	Mounting method	No. of replaceable modules
A1S38B A1S38HB A1S38HBEU	Q38B		4
A1S35B	Q35B		2
A1S33B A1S32B	Q33B		1
A1S68B A1S58B	Q68B		4
A1S65B	Q65B		2
A1S55B	Q55B		3
A1S52B	Q52B		1
A1SJCPU A1SJCPU-S3 A1SJHCPU	Q00JCPU Q00UJCPU Q35B		2

(5) If modules cannot be replaced in accordance with (2), (3), and (4), consider the use of the Q series large type base unit (MELSEC-AnS series size) manufactured by Mitsubishi Electric. → P.16
Note) 2-slot type conversion adapters cannot be used.

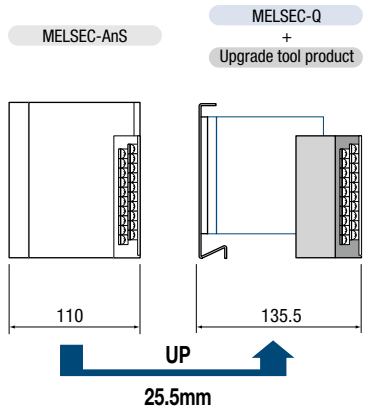
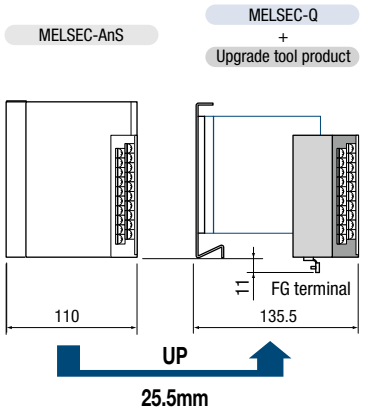
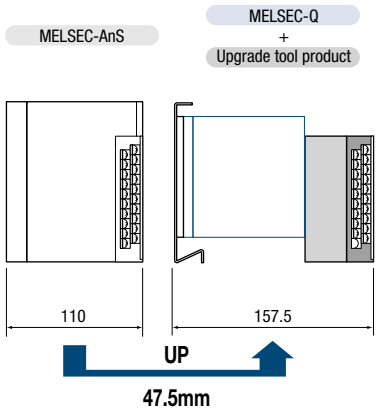
Depth / Height

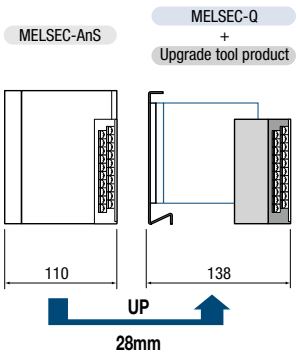
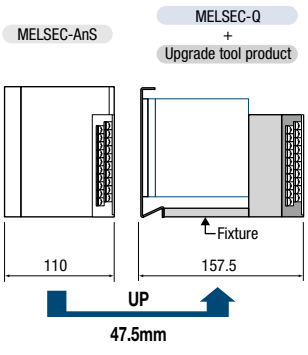
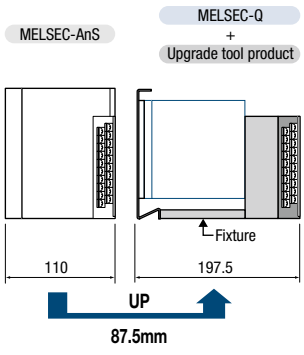
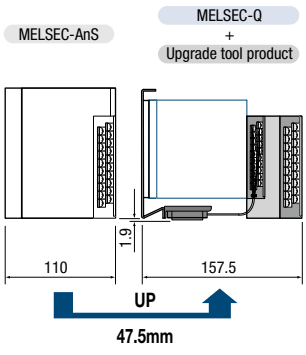
When a base adapter is used

The depth increases by 25.5 to 87.5mm.

The height increases by 11mm toward the lower side when the ERNT-ASQT68AD is used and by 1.9mm toward the lower side when the ERNT-ASQT6□TC□□BW is used.

MELSEC-AnS : MELSEC-AnS series MELSEC-Q : MELSEC-Q series

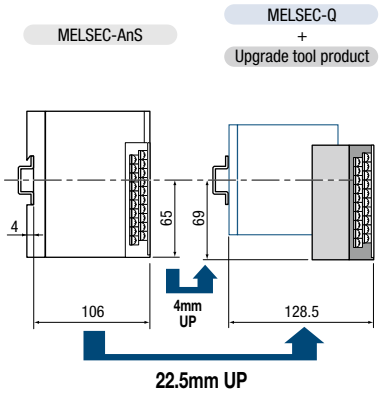
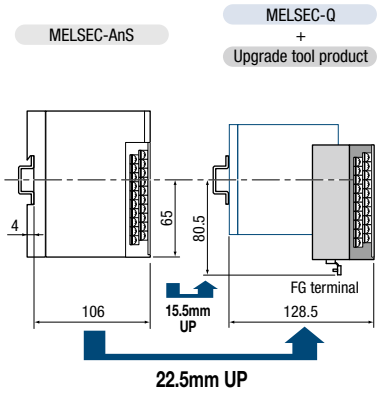
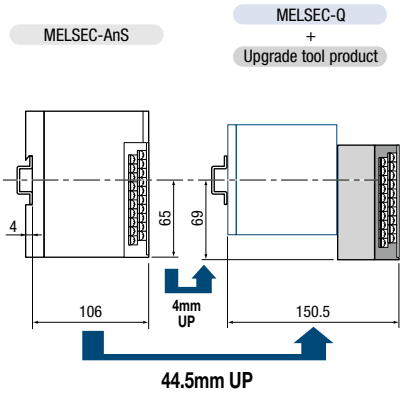
Conversion adapter	ERNT-ASQTXY10 ERNT-ASQTX40 ERNT-ASQTX80 ERNT-ASQTY40 ERNT-ASQTY50 ERNT-ASQTY80 ERNT-ASQT64AD ERNT-ASQT62RD	ERNT-ASQT68AD	ERNT-ASQTY22 ERNT-ASQT62DA ERNT-ASQT68DA ERNT-ASQT63ADA ERNT-ASQT64TCTT ERNT-ASQT64TCRT ERNT-ASQT62TCTT ERNT-ASQT62TCRT
Depth	25.5mm UP	25.5mm UP	47.5mm UP
Height	0mm UP	11mm UP	0mm UP
Mounting diagram			

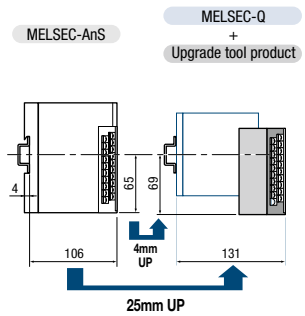
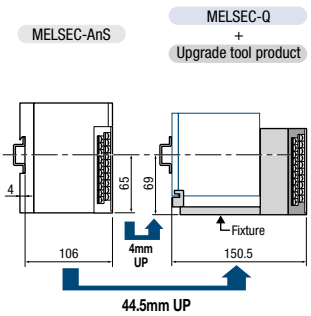
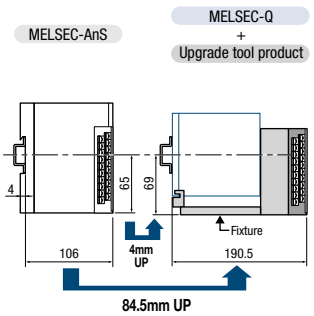
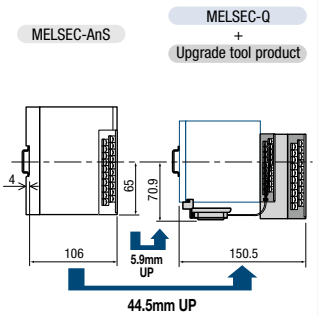
Conversion adapter	ERNT-ASQTX20 ERNT-ASQTY60 ERNT-ASQTY60E	ERNT-ASQT68AD-G ERNT-ASQTD61 ERNT-ASQTD62 ERNT-ASQTD62D ERNT-ASQT68TD-H01	ERNT-ASQT68TD-H02	ERNT-ASQT64TCTTBW ERNT-ASQT64TCRTBW ERNT-ASQT62TCTTBW ERNT-ASQT62TCRTBW
Depth	28mm UP	47.5mm UP	87.5mm UP	47.5mm UP
Height	0mm UP	0mm UP	0mm UP	1.9mm UP
Mounting diagram				

When a DIN rail is used

The depth increases by 22.5 to 84.5mm. The height increases by 4 to 15.5mm toward the lower side.

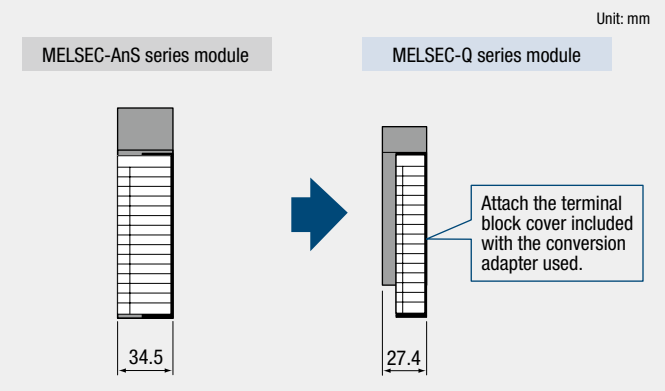
MELSEC-AnS : MELSEC-AnS series MELSEC-Q : MELSEC-Q series

Conversion adapter	ERNT-ASQTXY10 ERNT-ASQTX40 ERNT-ASQTX80 ERNT-ASQTY40 ERNT-ASQTY50 ERNT-ASQTY80 ERNT-ASQT64AD ERNT-ASQT62RD	ERNT-ASQT68AD	ERNT-ASQTY22 ERNT-ASQT62DA ERNT-ASQT68DA ERNT-ASQT63ADA ERNT-ASQT64TCTT ERNT-ASQT64TCRT ERNT-ASQT62TCTT ERNT-ASQT62TCRT
Depth	22.5mm UP	22.5mm UP	44.5mm UP
Height	4mm UP	15.5mm UP	4mm UP
Mounting diagram			

Conversion adapter	ERNT-ASQTX20 ERNT-ASQTY60 ERNT-ASQTY60E	ERNT-ASQT68AD-G ERNT-ASQTD61 ERNT-ASQTD62 ERNT-ASQTD62D ERNT-ASQT68TD-H01	ERNT-ASQT68TD-H02	ERNT-ASQT64TCTTBW ERNT-ASQT64TCRTBW ERNT-ASQT62TCTTBW ERNT-ASQT62TCRTBW
Depth	25mm UP	44.5mm UP	84.5mm UP	44.5mm UP
Height	4mm UP	4mm UP	4mm UP	5.9mm UP
Mounting diagram				

Terminal block cover

The MELSEC-AnS series terminal block cover is larger than the width of the MELSEC-Q series modules. Replace it with the terminal block cover included with the conversion adapter used.
(2-slot type modules are excluded.)



Base adapter, conversion adapter DIN rail mounting bracket

When a conversion adapter with a fixture or a disconnection detection connector conversion cable for the temperature control module is used, a base adapter or a conversion adapter DIN rail mounting bracket is required. Note that when installing the MELSEC-Q series base unit onto a DIN rail, a DIN rail adapter manufactured by Mitsubishi Electric (sold separately) is also required.

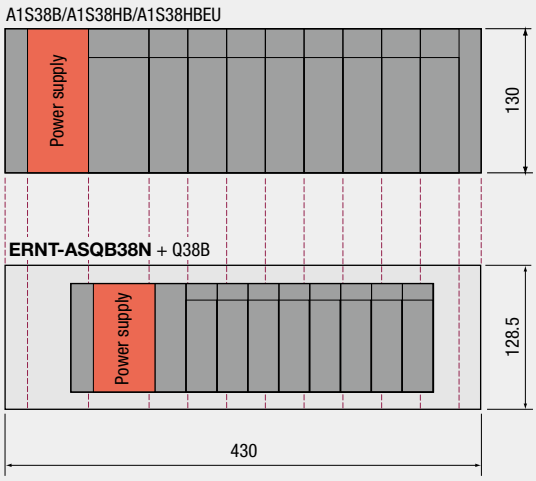
Installation method	Conversion adapter	Disconnection detection connector conversion cable	Base adapter ERNT-ASQB□□N	Conversion adapter DIN rail mounting bracket ERNT-ASQDIN□□	Remarks
Panel surface installation	With a fixture	Connected	Required	-	-
	Without a fixture	Not connected	Required*	-	*: Not required when the MELSEC-AnS series base unit installation holes are not used.
DIN rail installation	With a fixture	Connected	-	Required*	*: A DIN rail adapter manufactured by Mitsubishi Electric (sold separately) is also required.
	Without a fixture	Not connected	-	Not required	-

Slot positions

The slot positions differ between the MELSEC-AnS series modules before replacement and the MELSEC-Q series modules after replacement. Change the slot positions of modules (there may be empty slots) and adjust wiring lengths prior to use.

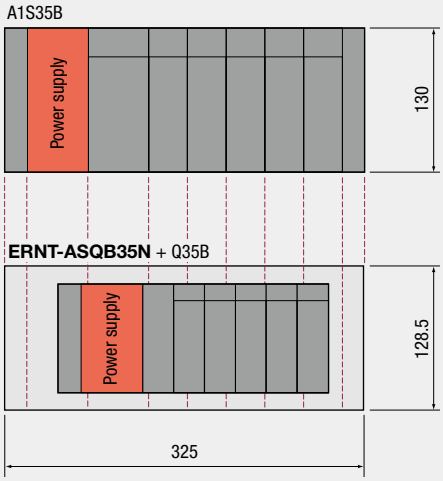
(1) A1S38B/A1S38HB/A1S38HBEU → Q38B

Unit: mm



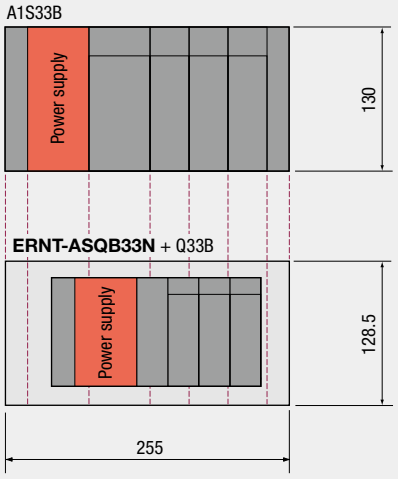
(2) A1S35B → Q35B

Unit: mm



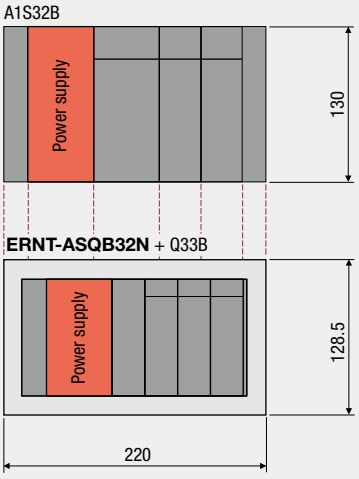
(3) A1S33B → Q33B

Unit: mm



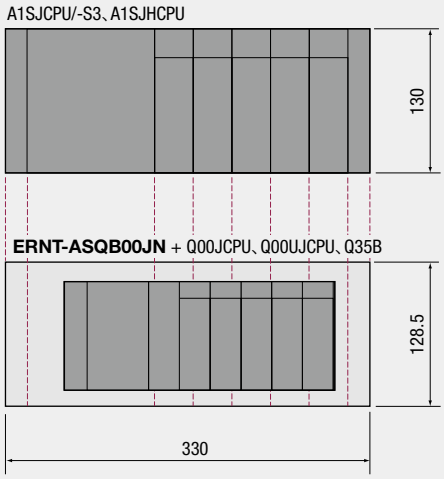
(4) A1S32B → Q33B

Unit: mm



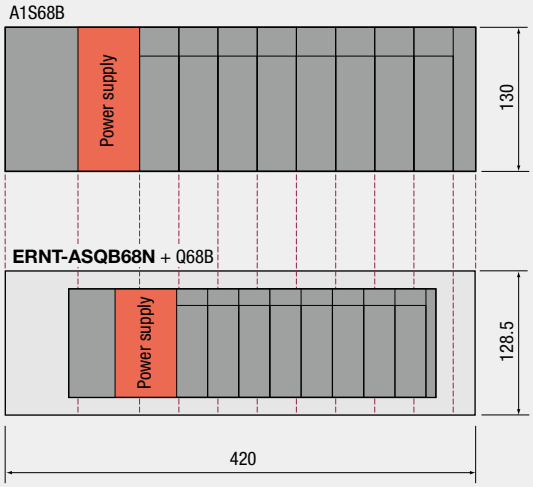
(5) A1SJCPU/-S3, A1SJHCPU → Q00JCPU, Q00UJCPU, Q35B

Unit: mm



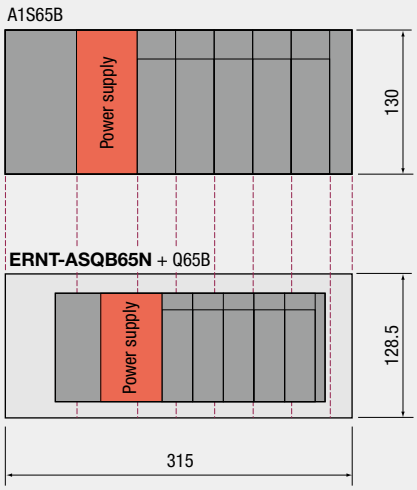
(6) A1S68B → Q68B

Unit: mm



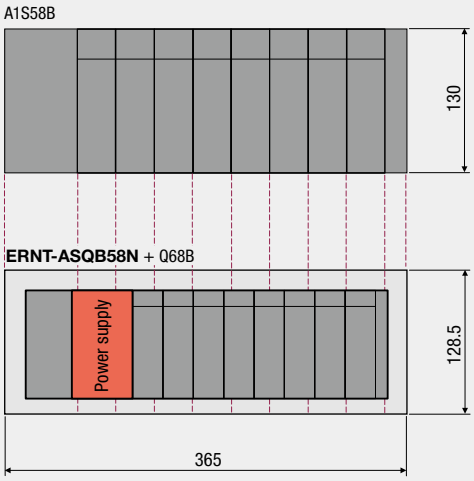
(7) A1S65B → Q65B

Unit: mm



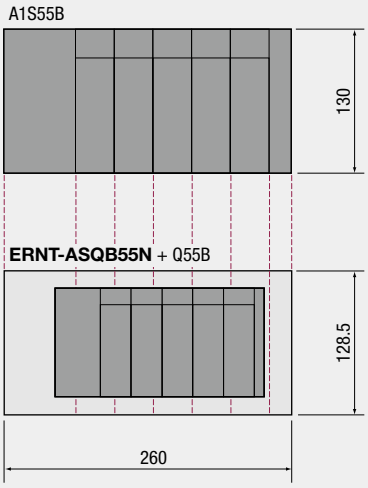
(8) A1S58B → Q68B

Unit: mm



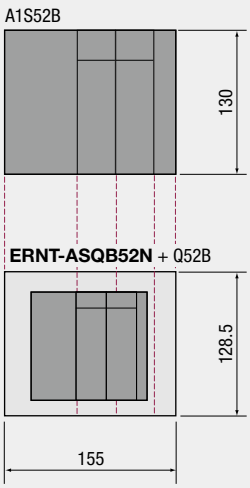
(9) A1S55B → Q55B

Unit: mm

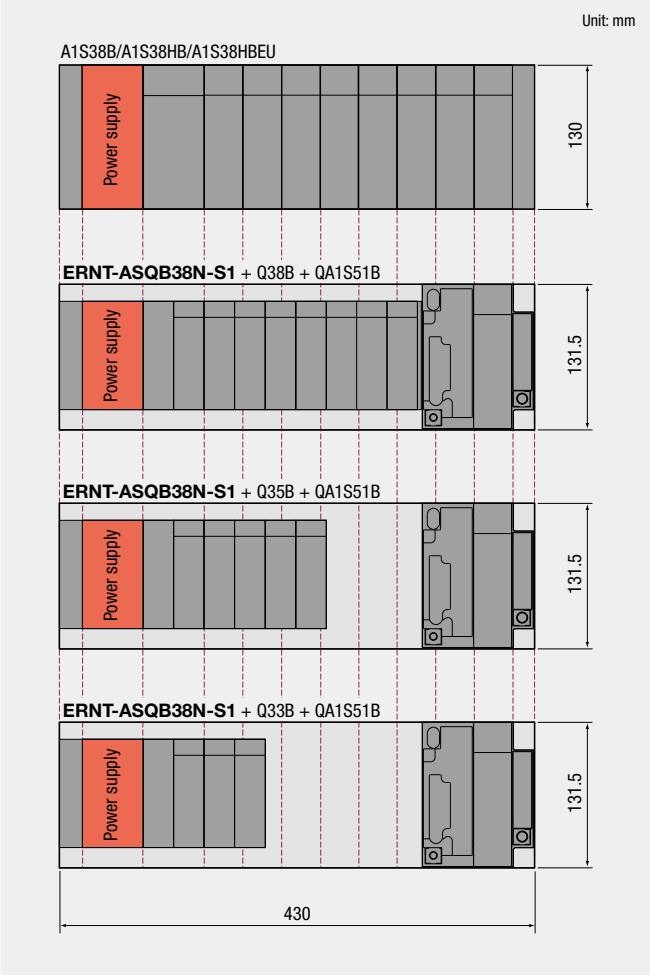


(10) A1S52B → Q52B

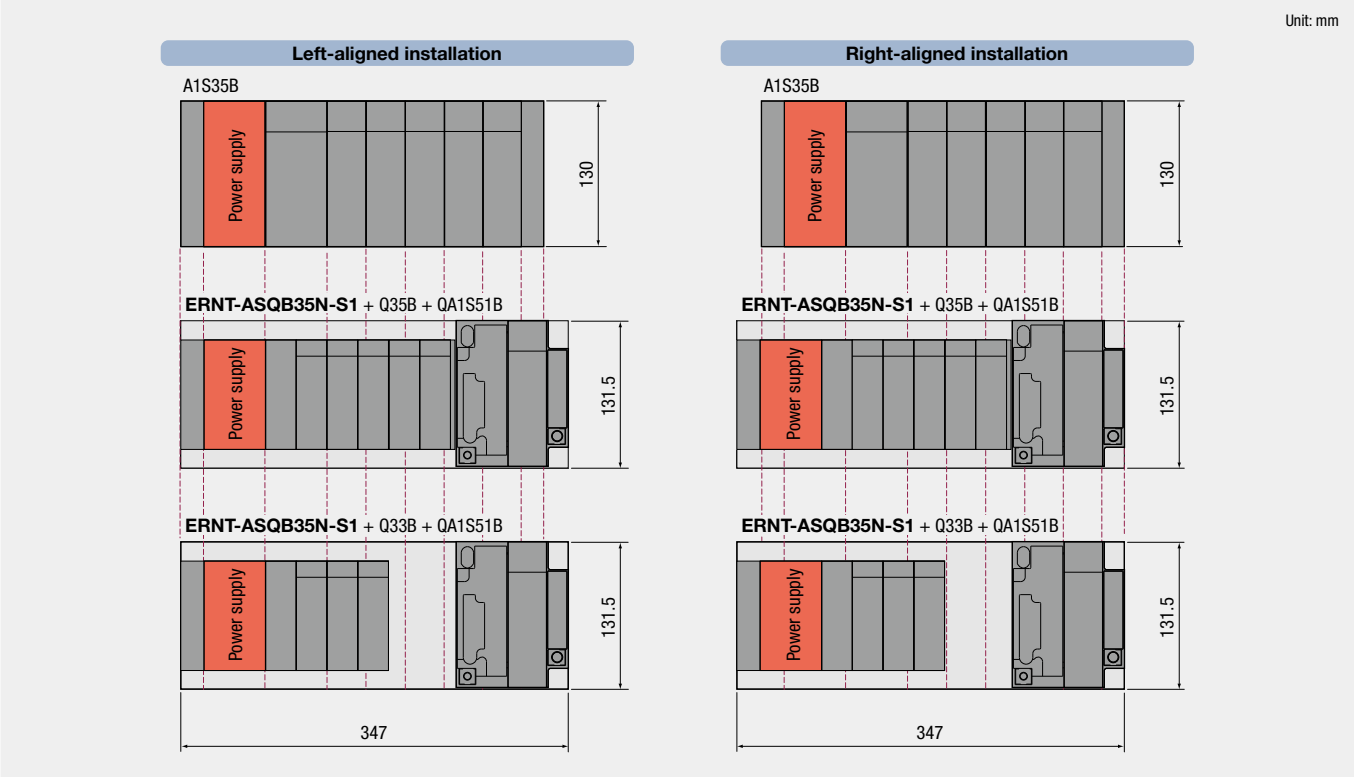
Unit: mm



(11) A1S38B/A1S38HB/A1S38HBEU → Q38B/Q35B/Q33B+QA1S51B



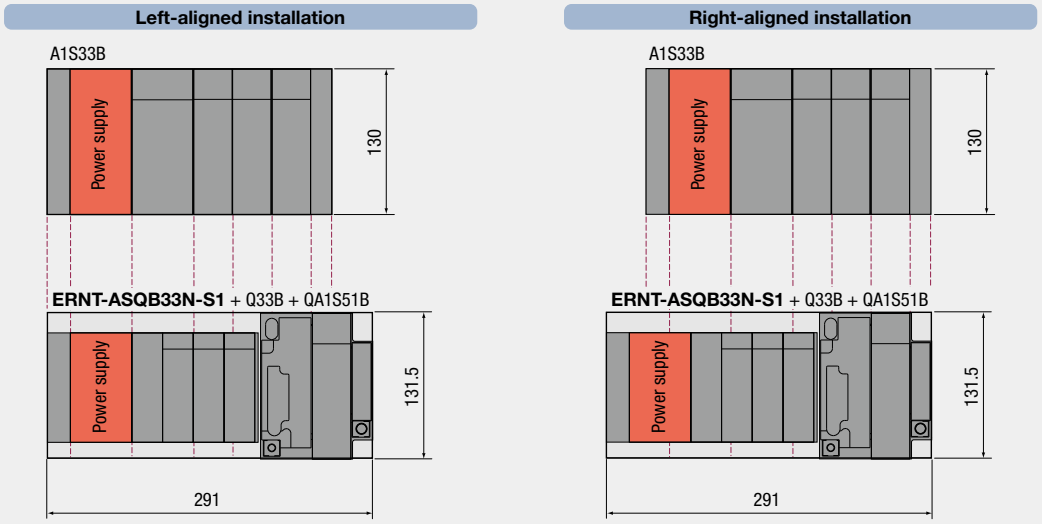
(12) A1S35B → Q35B/Q33B+QA1S51B



*1: The width increases by 22mm for the ERNT-ASQB35N-S1 and by 36mm for the ERNT-ASQB33N-S1. Check the installation space.

(13) A1S33B → Q33B+QA1S51B

Unit: mm



*2: The width increases by 22mm for the ERNT-ASQB35N-S1 and by 36mm for the ERNT-ASQB33N-S1. Check the installation space.

MELSEC-AnS/QnAS series → MELSEC-L series

Model list

Conversion adapters

For the specifications of conversion adapters and modules before and after replacement, refer to user's manuals. (User's manuals can be downloaded from our website.)
Also, check that the modules satisfy the specifications of the devices currently connected.

For input/output modules

1-module type

Input/Output	MELSEC-AnS series module before replacement	MELSEC-L series module after replacement	Conversion adapter			
			Model	Shape		No. of input/output points
				MELSEC-AnS series	MELSEC-L series	
Input	A1SX10	LX10	ERNT-ASLTXY10	Terminal block (20 points) ▶	Terminal block (18 points)	16
	A1SX10EU					
Output	A1SY10	LY10R2				
	A1SY10EU					
Input	A1SX40	LX40C6	ERNT-ASLTX40			
	A1SX40-S1					
	A1SX40-S2					
	A1SX80	LX40C6	ERNT-ASLTX80			
	A1SX80-S1					
	A1SX80-S2					
Output	A1SY22	LY20S6	ERNT-ASLTY22			
	A1SY40	LY40NT5P	ERNT-ASLTY40			
	A1SY40P					
	A1SY50	LY40NT5P	ERNT-ASLTY50			
	A1SY80	LY40PT5P	ERNT-ASLTY80			
Input	A1SX81	LX41C4	ERNT-ASLCXY81	D-Sub connector (37P) ▶	Connector (40P)	32
	A1SX81-S2					
Output	A1SY81	LY41PT1P				
	A1SY81EP					

Modules that can use the existing wiring as it is even after replacement (Conversion adapter not required)

Input/Output	MELSEC-AnS series before replacement			MELSEC-L series base unit after replacement			
	Model	Specifications	No. of points	Model	Specifications	No. of points	No. of required modules
Input	A1SX41	12/24VDC, positive common	32	LX41C4 (24VDC)	24VDC, positive/negative common shared type	32	1
	A1SX41-S1	24VDC, positive common	32	LX41C4	24VDC, positive/negative common shared type	32	1
	A1SX41-S2	24VDC, positive common	32				
	A1SX42	12/24VDC, sink type	64	LX42C4 (24VDC)	24VDC, positive/negative common shared type	64	1
	A1SX42-S1	24VDC, sink type	64	LX42C4	24VDC, positive/negative common shared type	64	1
	A1SX42-S2	24VDC, sink type	64				
	A1SX71	5/12/24VDC, sink type	32	LX41C4 (24VDC)	24VDC, positive/negative common shared type	32	1
	A1SX82-S1	24VDC, sink type	64	LX42C4	24VDC, positive/negative common shared type	64	1
Output	A1SY41	12/24VDC, sink type	32	LY41NT1P	12/24VDC, sink type	32	1
	A1SY41P	12/24VDC, sink type	32				
	A1SY42	12/24VDC, sink type	64	LY42NT1P	12/24VDC, sink type	64	1
	A1SY42P	12/24VDC, sink type	64				
	A1SY82	12/24VDC, source type	64	LY42PT1P	12/24VDC, source type	64	1
I/O combined	A1SH42	Input: 12/24VDC, sink type	32	LH42C4NT1P (24VDC)	Input: 24VDC (12VDC not supported), positive/negative common shared type	32	1
		Output: 12/24VDC, sink type	32		Output: 12/24VDC, sink type	32	1
	A1SH42P	Input: 12/24VDC, sink type	32	LH42C4NT1P (24VDC)	Input: 24VDC (12VDC not supported), positive/negative common shared type	32	1
		Output: 12/24VDC, sink type	32		Output: 12/24VDC, sink type	32	1
	A1SH42-S1	Input: 24VDC, sink type	32	LH42C4NT1P	Input: 24VDC, positive/negative common shared type	32	1
		Output: 12/24VDC, sink type	32		Output: 12/24VDC, sink type	32	1
	A1SH42P-S1	Input: 24VDC, sink type	32	LH42C4NT1P	Input: 24VDC, positive/negative common shared type	32	1
		Output: 12/24VDC, sink type	32		Output: 12/24VDC, sink type	32	1

Modules that do not support the use of a conversion adapter and require rewiring

Input/Output	MELSEC-AnS series module before replacement		MELSEC-L series module after replacement		
	Model	No. of points	Model	No. of points	No. of required modules
Input	A1SX20	16	LX28	8	2
	A1SX20EU				
	A1SX30	16	LX40C6 (24VDC)	16	1
Output	A1SY14EU	12	LY10R2	16	1
I/O combined	A1SX48Y18	Input: 8, Output: 8	LX40C6 + LY10R2	16 + 16	1 + 1
	A1SX48Y58	Input: 8, Output: 8	LX40C6 + LY40NT5P	16 + 16	1 + 1
Output	A1SY18A	8	LY18R2A	8	1
	A1SY18AEU				
	A1SY28A	8	LY28S1A	8	1
	A1SY28EU				
	A1SY60	16	There is no applicable MELSEC-L series module.		
	A1SY60E				
	A1SY68A	8			
	A1SY71	32			
Dynamic input	A1S42X	16/32/48/64			
Dynamic output	A1S42Y	16/32/48/64			

For analog modules

1-module type

Input/ Output	MELSEC-AnS series module before replacement	MELSEC-L series module after replacement	Conversion adapter			
			Model	Shape		No. of channels
				MELSEC-AnS series	MELSEC-L series	
Input	A1S64AD	L60AD4	ERNT-ASLT64AD	Terminal block (20 points) ▶	Terminal block (18 points)	4
Output	A1S62DA	L60DA4	ERNT-ASLT62DA			2

Note) Intelligent function modules other than the above do not support the use of a conversion adapter. Therefore, rewiring is required.

For high-speed counter modules

1-module type

MELSEC-AnS series module before replacement	MELSEC-L series module after replacement	Conversion adapter			
		Model	Shape		No. of channels
			MELSEC-AnS series	MELSEC-L series	
A1SD61	LD62	ERNT-ASLTD61	Terminal block (20 points) ▶	Connector (40P)	1
A1SD62	LD62	ERNT-ASLTD62			2

Base adapters

The width of the base adapter is the same as that of the MELSEC-AnS series base unit. For this reason, the following notes apply even when a space module (LG69) is not used.

Type	MELSEC-AnS series base unit before replacement	Base adapter model	Precautions for replacement
Main	A1S38B	ERNT-ASLB38	-
	A1S38HB		
	A1S35B	ERNT-ASLB35	-
	A1S33B	ERNT-ASLB33	When an extension block is connected, the number of modules that can be connected is two.*
	A1S32B	ERNT-ASLB32	When an extension block is connected, the number of modules that can be connected is one.*
	A1SJCPU	ERNT-ASLBJ	-
	A1SJCPU-S3		
	A1SJHCPU		
	A1S68B	ERNT-ASLB68	-
Extension	A1S65B	ERNT-ASLB65	-
	A1S58B	ERNT-ASLB58	-
	A1S55B	ERNT-ASLB55	-
	A1S52B	ERNT-ASLB52	The number of modules that can be connected is one.*

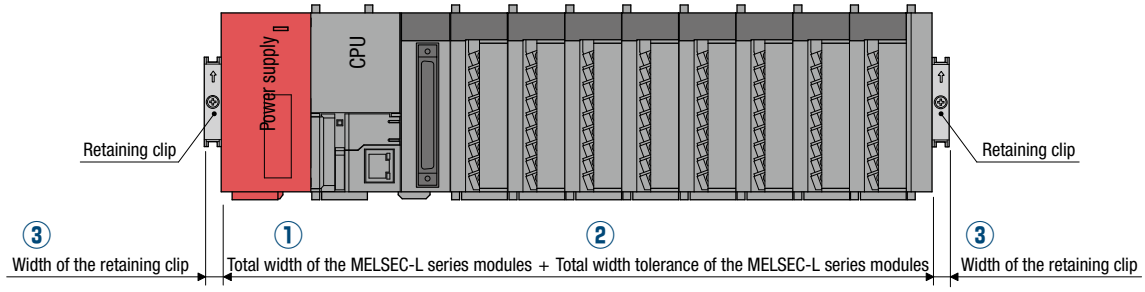
*: A module having a width of 28.5mm

How to select the installation method

The MELSEC-L series features a structure that connects modules without a base unit. Therefore, the width of the system after replacement need to be calculated, considering the width tolerance of each module. The installation method (base adapter or DIN rail) is determined based on the calculation result.

◎ Calculating the width of the system after replacement

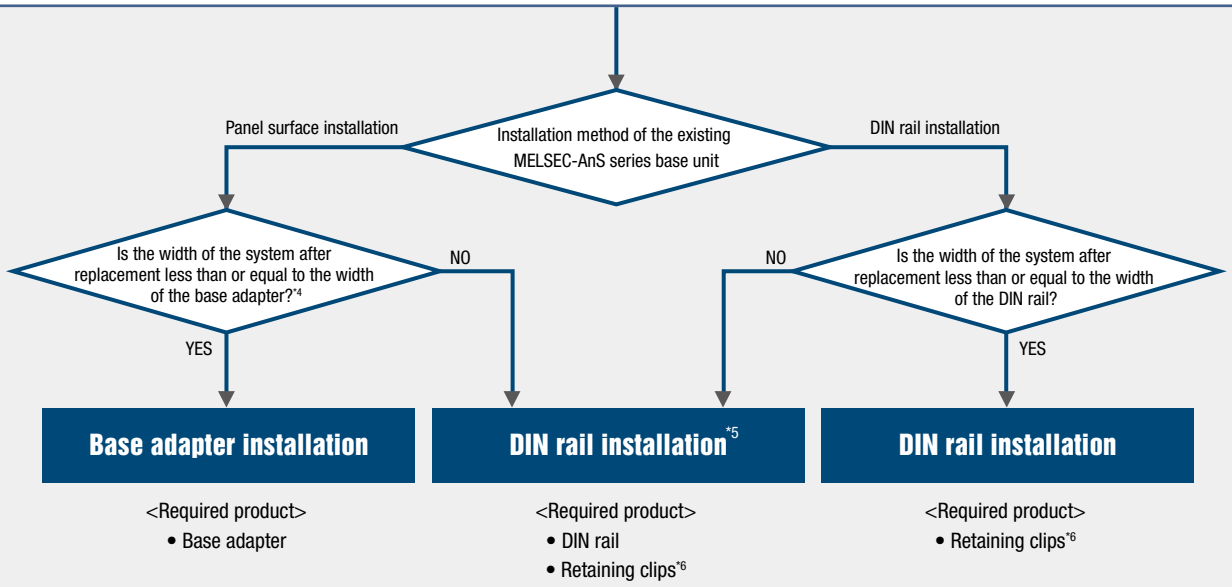
Calculate the width of the system using the following formula.



① Total width of the MELSEC-L series modules*1 + ② Total width tolerance of the MELSEC-L series modules*2 + ③ Width of the retaining clip*3

Automatic calculation

With the product transition selection tool provided by the Web information service MEEFAN, the width can be calculated automatically by simply selecting the model.



<Required product>
• Base adapter

<Required product>
• DIN rail
• Retaining clips*6

<Required product>
• Retaining clips*6

*1: Width described in the user's manual for the MELSEC-L series module used
*2: The width tolerance (per module) of the MELSEC-L series modules will be as follows:

Width of the MELSEC-L series module	Tolerance
28.5mm or less	+0.5mm (per module)
More than 28.5mm	+1.0mm (per module)

*3: Width of the retaining clips used (When the retaining clips included with the base adapter are used, the width will be 18mm (9mm each).)
*4: The following table lists the width of base adapters.

Base adapter model	Width (mm)
ERNT-ASLB38	430
ERNT-ASLB35	325
ERNT-ASLB33	255
ERNT-ASLB32	220
ERNT-ASLBJ	330
ERNT-ASLB68	420
ERNT-ASLB65	315
ERNT-ASLB58	365
ERNT-ASLB55	260
ERNT-ASLB52	155

*5: If the system after replacement does not fit in the installation space (width), consider using extension blocks for branch connection.
*6: Prepare retaining clips that can be attached to the DIN rail by the user.

(Example) When the A1S38B with eight input/output modules being mounted is replaced

◎ When no space module is used

(a) Width of the base adapter ERNT-ASLB38: 430mm
(b) Width after replacement
1) Power supply module: 45mm (tolerance +1.0mm)
2) CPU module: 70mm (tolerance +1.0mm)
3) Input/output module: 28.5mm (tolerance +0.5mm) × 8
4) End cover: 13mm (tolerance +0.5mm)
5) Retaining clip: 9mm × 2

$$\underbrace{(45+70+28.5\times8+13)}_{\substack{\text{Total width}\\ \text{of the MELSEC-L series modules}}} + \underbrace{(1.0+1.0+0.5\times8+0.5)}_{\substack{\text{Total width tolerance}\\ \text{of the MELSEC-L series modules}}} + \underbrace{(9\times2)}_{\substack{\text{Width of the}\\ \text{retaining clip}}}$$

= 356 + 6.5 + 18
= 380.5mm ≈ Max. 381mm

◎ When space modules are used

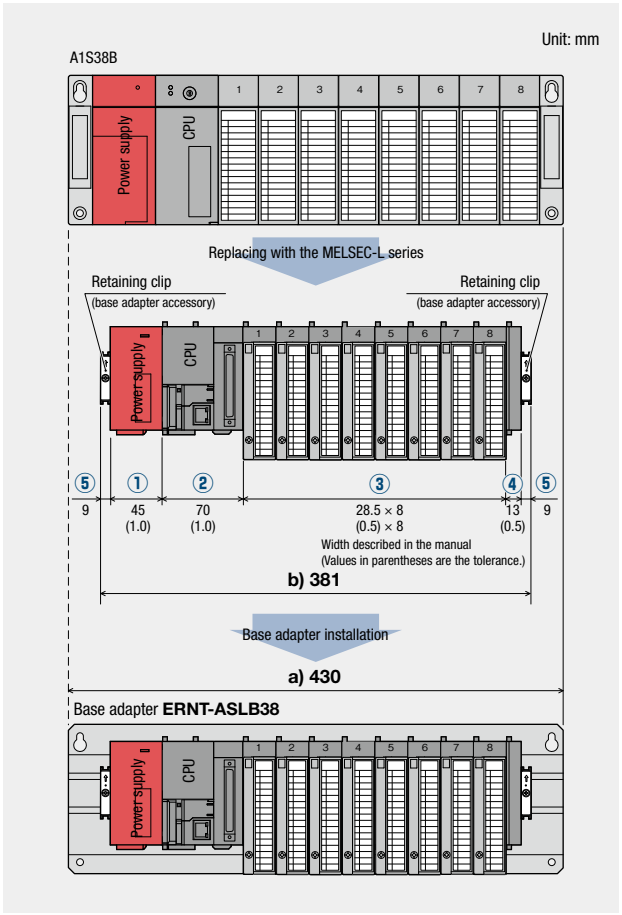
(a) Width of the base adapter ERNT-ASLB38: 430mm
(b) Width after replacement
1) Power supply module: 45mm (tolerance +1.0mm)
2) CPU module: 70mm (tolerance +1.0mm)
3) Space module: 16.5mm (tolerance +0.5mm) × 8
4) Input/output module: 28.5mm (tolerance +0.5mm) × 8
5) End cover: 13mm (tolerance +0.5mm)
6) Retaining clip: 9mm × 2

$$\underbrace{(45+70+16.5\times8+28.5\times8+13)}_{\substack{\text{Total width}\\ \text{of the MELSEC-L series modules}}} + \underbrace{(1.0+1.0+0.5\times8+0.5\times8+0.5)}_{\substack{\text{Total width tolerance}\\ \text{of the MELSEC-L series modules}}} + \underbrace{(9\times2)}_{\substack{\text{Width of the}\\ \text{retaining clip}}}$$

= 488 + 10.5 + 18
= 516.5mm ≈ Max. 517mm

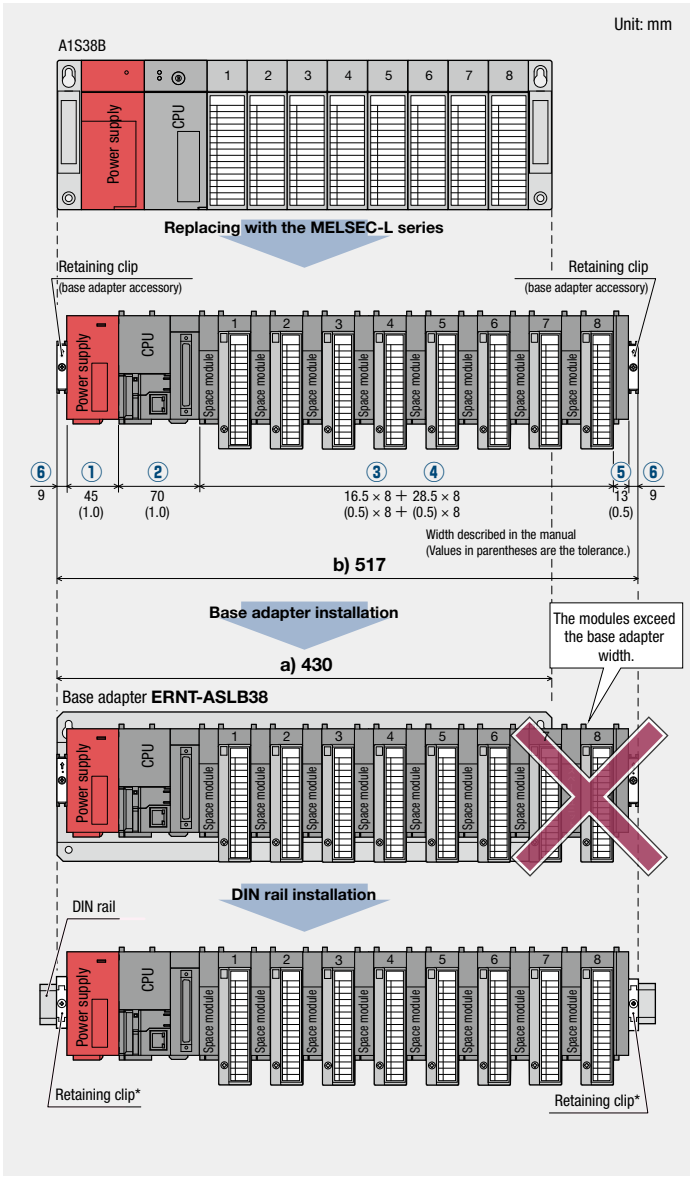
a) 430mm ≥ b) 381mm

The MELSEC-L series can be installed using a base adapter because the total width does not exceed the width of the base adapter ERNT-ASLB38 (430mm).



a) 430mm < b) 517mm

The MELSEC-L series needs to be installed using a DIN rail because the total width exceeds the width of the base adapter ERNT-ASLB38 (430mm).



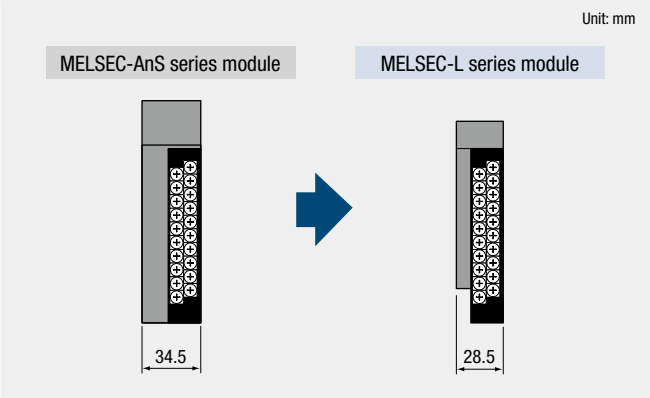
*: Prepare retaining clips that can be attached to the DIN rail by the user.

Precautions

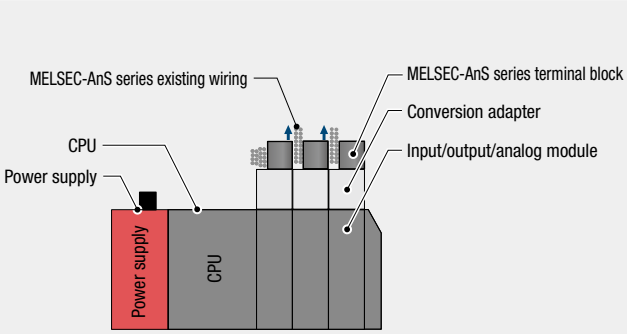
A conversion adapter is used to compensate the difference of the pin assignment when MELSEC-AnS series modules are replaced with MELSEC-L series modules.
Before using the product, please read the user's manual for the conversion adapter used. (The user's manuals can be downloaded from our website.)
When replacing the MELSEC-AnS series with the MELSEC-L series, refer to the user's manuals for each MELSEC-L series module to check the differences in performance, functionality, input/output signals to/from the CPU module, and buffer memory addresses.
Also, refer to the Transition from MELSEC-AnS/QnAS (Small Type) Series to L Series Handbook published by Mitsubishi Electric. (Recommended)

Module width

(1) Since the width of MELSEC iQ-R series modules is smaller (MELSEC-AnS series: 34.5mm → MELSEC iQ-R series: 28.5mm), the wiring area becomes smaller as well. Check the wiring area when mounting a conversion adapter.

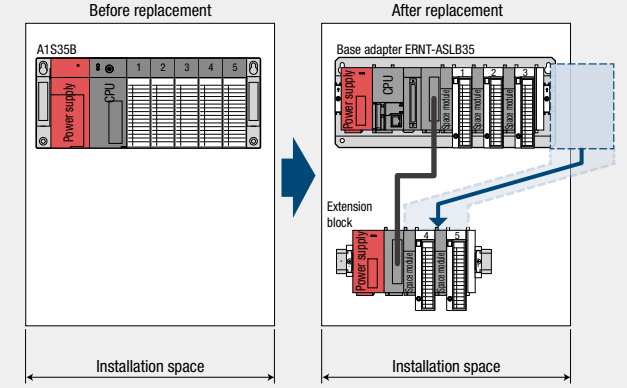


(2) If the wiring causes interference with adjacent modules, lift the cables forward to prevent interference.

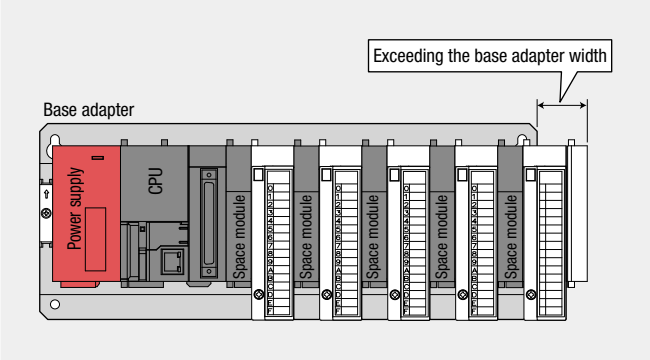


(3) If the modules cannot be replaced in accordance with (2), consider the use of the space module (LG69) manufactured by Mitsubishi Electric. → P.17

(4) If the system after replacement does not fit in the installation space (width), consider using extension blocks for branch connection.



(5) The MELSEC-L series modules must not be connected extending the base adapter width.

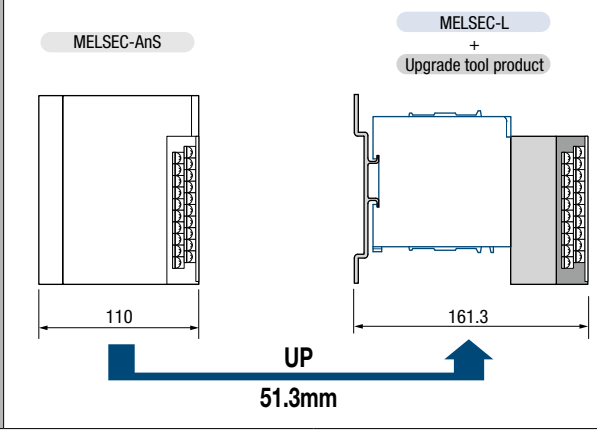
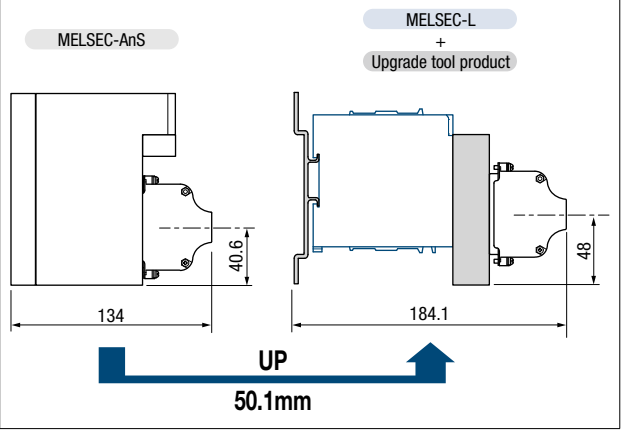


Depth / Height

When a base adapter is used

The depth increases by 50.1 to 51.3mm.

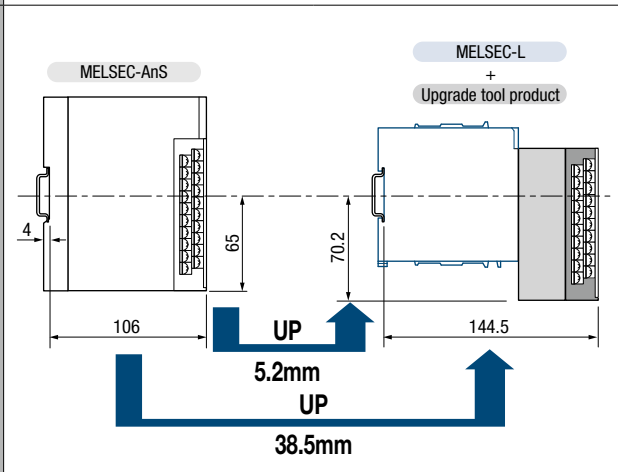
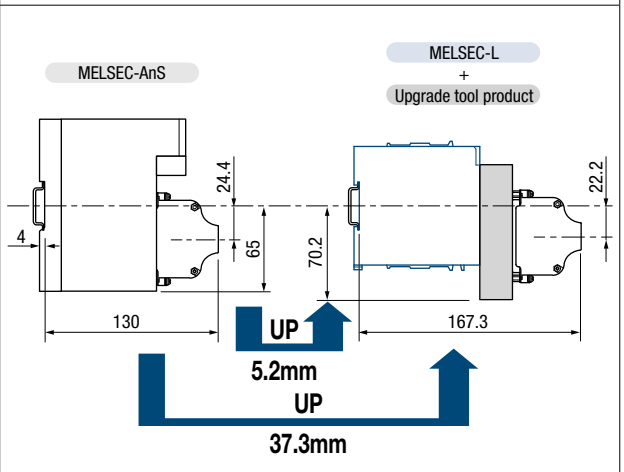
MELSEC-AnS : MELSEC-AnS series MELSEC-L : MELSEC-L series

Conversion adapter	ERNT-ASLTXY10 ERNT-ASLTX40 ERNT-ASLTX80 ERNT-ASLTY22 ERNT-ASLTY40 ERNT-ASLTY50	ERNT-ASLTY80 ERNT-ASLT64AD ERNT-ASLT62DA ERNT-ASLTD61 ERNT-ASLTD62	ERNT-ASLCXY81
Depth	51.3mm UP		50.1mm UP
Mounting diagram			

When a DIN rail is used

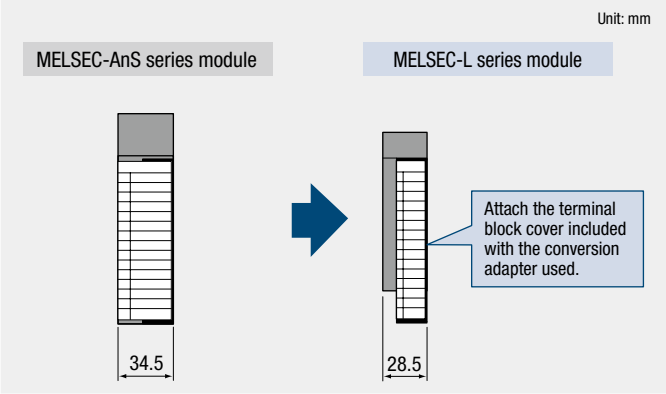
The depth increases by 37.3 to 38.5mm.
The height increases by 5.2mm toward the lower side.

MELSEC-AnS : MELSEC-AnS series MELSEC-L : MELSEC-L series

Conversion adapter	ERNT-ASLTXY10 ERNT-ASLTX40 ERNT-ASLTX80 ERNT-ASLTY22 ERNT-ASLTY40 ERNT-ASLTY50	ERNT-ASLTY80 ERNT-ASLT64AD ERNT-ASLT62DA ERNT-ASLTD61 ERNT-ASLTD62	ERNT-ASLCXY81
Depth	38.5mm UP		37.3mm UP
Height	5.2mm UP		5.2mm UP
Mounting diagram			

Terminal block cover

The MELSEC-AnS series terminal block cover is larger than the width of the MELSEC-L series modules. Replace it with the terminal block cover included with the conversion adapter used.



MEMO

Upgrading existing programmable controller systems using the time and wire saving devices

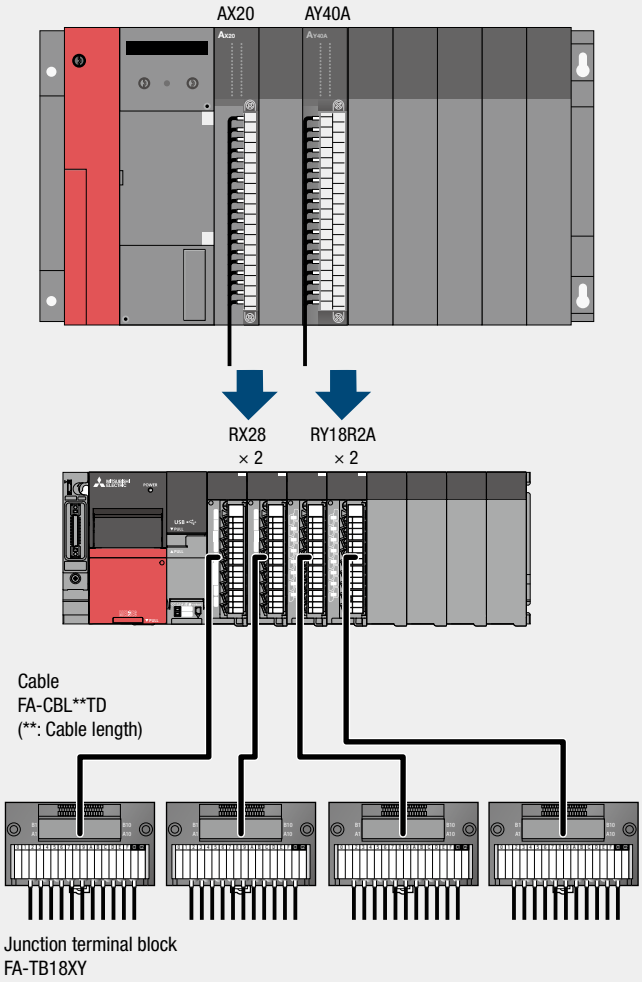
Modules that have no applicable module in the programmable controller series after replacement or modules that do not support the use of a conversion adapter can be replaced using the time and wire saving devices. With the use of these devices, the wiring work time can be reduced significantly.

Replacing the MELSEC-A series with the MELSEC iQ-R series

Suggestion [1]
Use of junction terminal blocks

◎ Replacement example using junction terminal blocks

Example) AX20 → RX28 × 2, AY40A → RY18R2A × 2

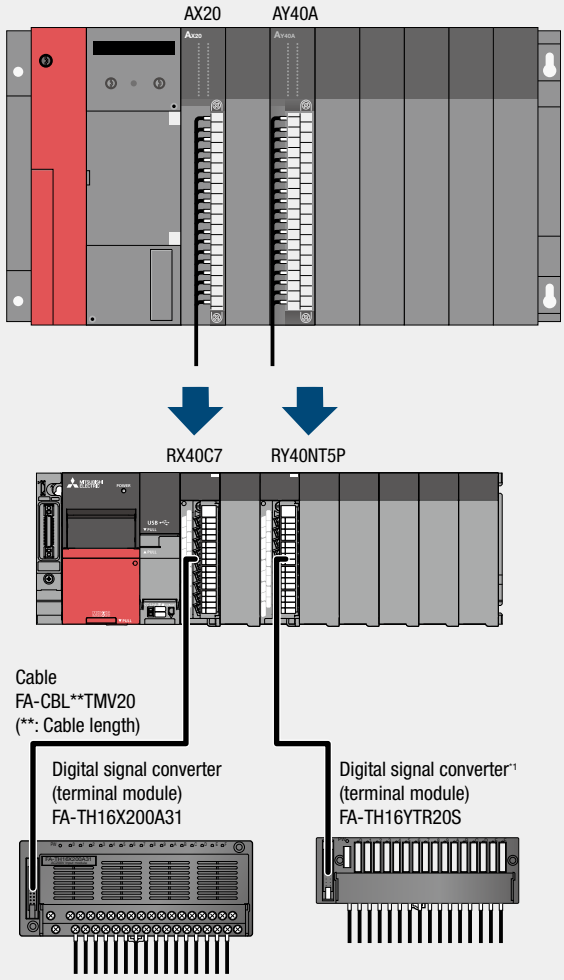


Reference
Replacement method → P.75
Modules to be replaced → P.78 and P.79

Suggestion [2]
Use of digital signal converters (terminal modules)

◎ Replacement example using digital signal converters (terminal modules)

Example) AX20 → RX40C7 × 1, AY40A → RY40NT5P × 1



Reference
Replacement method → P.76
Input modules to be replaced → P.78 and P.79
Output modules to be replaced → P.78 and P.79

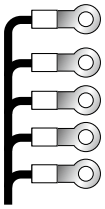
*1: The spring clamp terminal block type output terminal module, FA1-TH16Y1TR20S1E, can be used by changing the solderless terminals (round and Y-shaped) to the ferrules.

Junction terminal block

The following is an example when a MELSEC-A series input module (16-point, 200VAC) is replaced using a junction terminal block.



2) Check the solderless terminals.



- Check the model or dimensions of solderless terminals.
- Change the terminals which are not applicable to the junction terminal block.

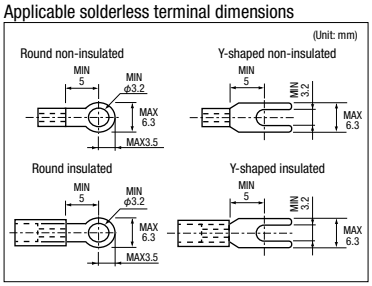
Solderless terminals used for the module

- R1.25-3
- RAV1.25-3

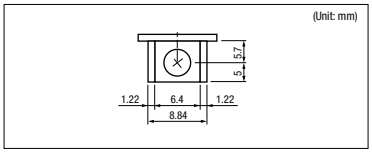
Solderless terminals applicable to the junction terminal block

Type		Round		Y-shaped	
Manufacturer	Applicable wire size	Non-insulated	Insulated	Non-insulated	Insulated
NICHIFU Co., Ltd. NTM	0.3 to 1.25mm²	R1.25-3N R1.25-3.5N	TG¼1.25-3N TG¼1.25-3.5N	1.25Y-3 1.25Y-3N 1.25Y-3L 1.25Y-3.5	TG¼1.25Y-3 TG¼1.25Y-3N TG¼1.25Y-3L TG¼1.25Y-3.5
	1.25 to 2.0mm²	R2-3N	TG¼2-3N	2Y-3 2Y-3.5S	TG¼2Y-3 TG¼2Y-3.5S
J.S.T.MFG. CO.,LTD JST	0.3 to 1.25mm²	1.25-MS3	V1.25-MS3	1.25-B3A 1.25-C3A 1.25-N3A 1.25-C3.5A	V1.25-B3A V1.25-N3A
	1.25 to 2.0mm²	2-MS3	V2-MS3	2-N3A 2-M3A	V2-N3A
Nippon Tanshi Co., Ltd. NTK	0.3 to 1.25mm²	1.25-3ML 1.25-3.5SL	RAV1.25-3ML RAP1.25-3ML	VD1.25-3L VD1.25-3.5SS VD1.25-3.5S	VDAV1.25-3L VDAV1.25-3.5SS VDAV1.25-3.5S
	1.25 to 2.0mm²	2-3SL	RAV2-3SL RAP2-3SL	VD2-3S VD2-3.5SS VD2-3.5S	VDAV2-3S VDAV2-3.5SS VDAV2-3.5S

Applicable solderless terminal dimensions

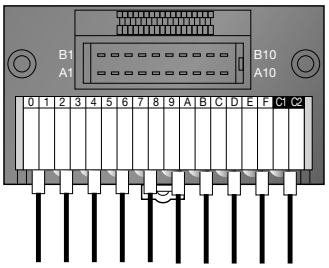


Terminal block dimensions

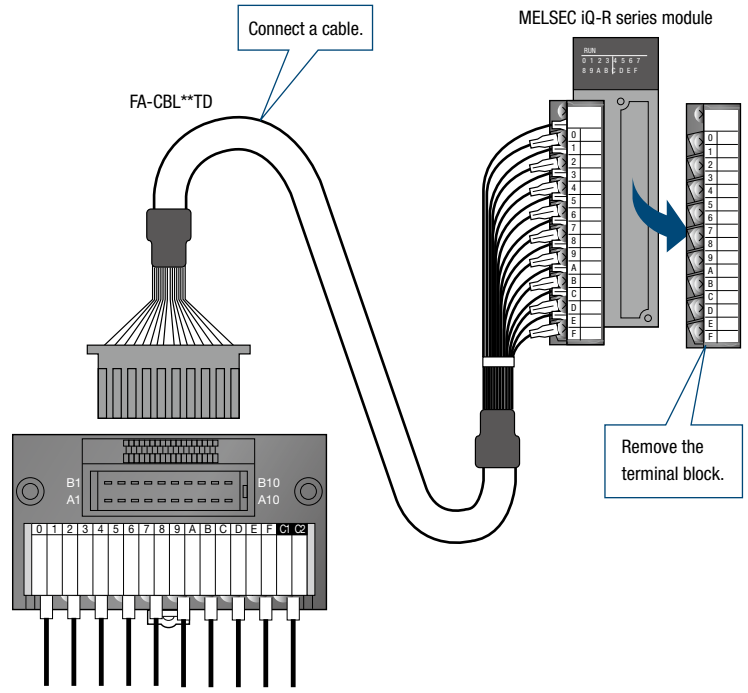


3) Wire the junction terminal block.

FA-TB18XY



4) Connect the replaced module to the junction terminal block with a cable.

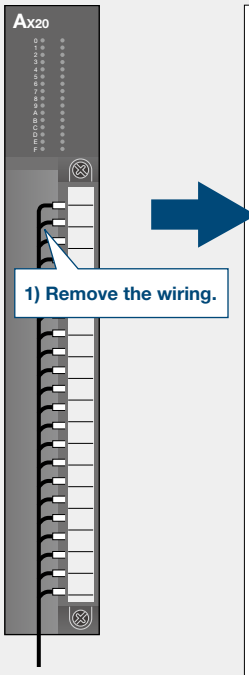


Note

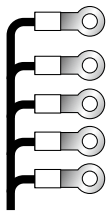
- For the specifications of the junction terminal block, refer to our website or the FAgoods General Catalog: Time and Wire Saving Devices.
- Check that the junction terminal block used satisfies the system specifications prior to use.

Digital signal converter (terminal module)

The following is an example when a MELSEC-A series input module (16-point, 200VAC) is replaced using a digital signal converter (terminal module).



2) Check the solderless terminals.



- Check the model or dimensions of solderless terminals.
- Change the terminals which are not applicable to the digital signal converter (terminal module). Especially, the solderless terminals need to be changed when the AX50, AX50-S1, AX60, and AX60-S1 are replaced. (This is because the screw size of the digital signal converter (terminal module) is M3.5.)

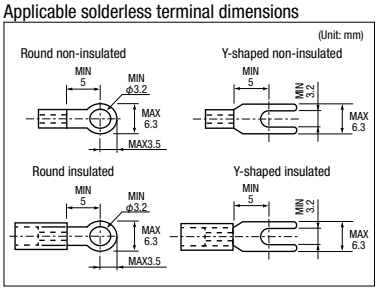
Solderless terminals used for the module

- R1.25-3
- RAV1.25-3

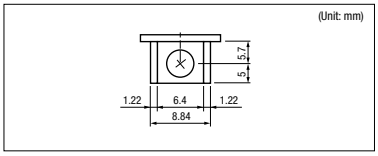
Solderless terminals applicable to the digital signal converter (terminal module) (M3 screw, 7.62mm pitch)

Type		Round		Y-shaped	
Manufacturer	Applicable wire size	Non-insulated	Insulated	Non-insulated	Insulated
NICHIFU Co., Ltd. NTM	0.3 to 1.25mm²	R1.25-3N R1.25-3.5N	TG$^{V}_{N}$1.25-3N TG$^{V}_{N}$1.25-3.5N	1.25Y-3 1.25Y-3N 1.25Y-3L 1.25Y-3.5	TG$^{V}_{N}$1.25Y-3 TG$^{V}_{N}$1.25Y-3N TG$^{V}_{N}$1.25Y-3L TG$^{V}_{N}$1.25Y-3.5
	1.25 to 2.0mm²	R2-3N	TG$^{V}_{N}$2-3N	2Y-3 2Y-3.5S	TG$^{V}_{N}$2Y-3 TG$^{V}_{N}$2Y-3.5S
J.S.T.MFG. CO.,LTD JST	0.3 to 1.25mm²	1.25-MS3	V1.25-MS3	1.25-B3A 1.25-C3A 1.25-N3A 1.25-C3.5A	V1.25-B3A V1.25-N3A
	1.25 to 2.0mm²	2-MS3	V2-MS3	2-N3A 2-M3A	V2-N3A
Nippon Tanshi Co., Ltd. NTK	0.3 to 1.25mm²	1.25-3ML 1.25-3.5SL	RAV1.25-3ML RAP1.25-3ML	VD1.25-3L VD1.25-3.5SS VD1.25-3.5S	VDAV1.25-3L VDAV1.25-3.5SS VDAV1.25-3.5S
	1.25 to 2.0mm²	2-3SL	RAV2-3SL RAP2-3SL	VD2-3S VD2-3.5SS VD2-3.5S	VDAV2-3S VDAV2-3.5SS VDAV2-3.5S

Applicable solderless terminal dimensions

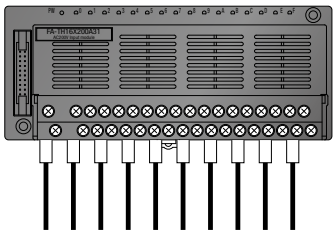


Terminal block dimensions



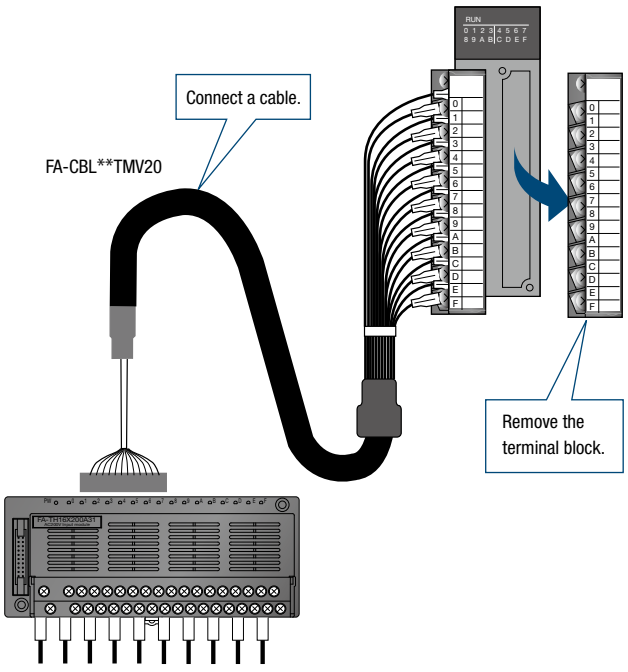
3) Wire the digital signal converter (terminal module).

FA-TH16X200A31



4) Connect the replaced module to the junction terminal block with a cable.

MELSEC iQ-R series module

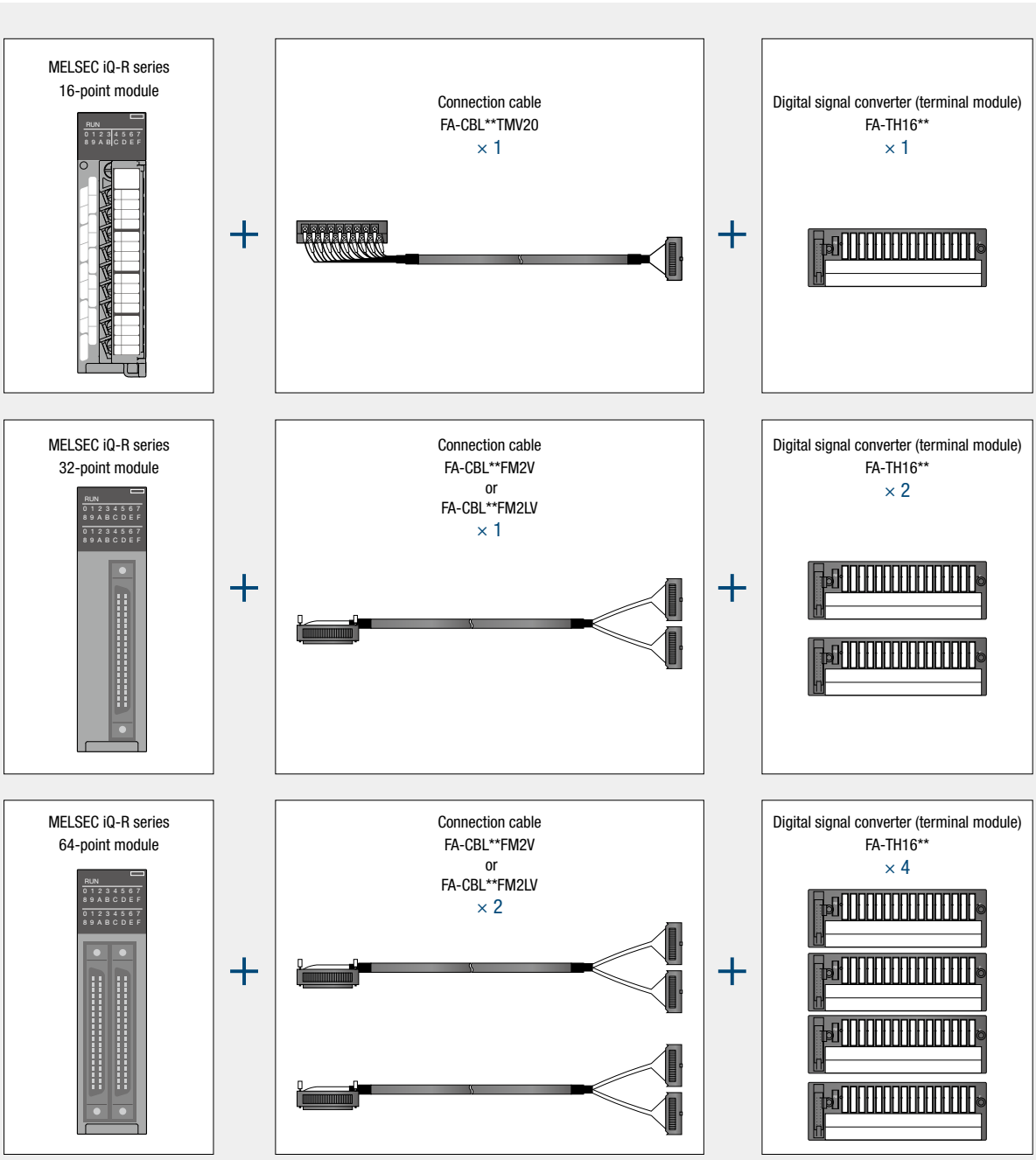


Note

- For the specifications of the digital signal converter, refer to our website or the FAgoods General Catalog: Time and Wire Saving Devices.
- Check that the digital signal converter (terminal module) used satisfies the system specifications prior to use.

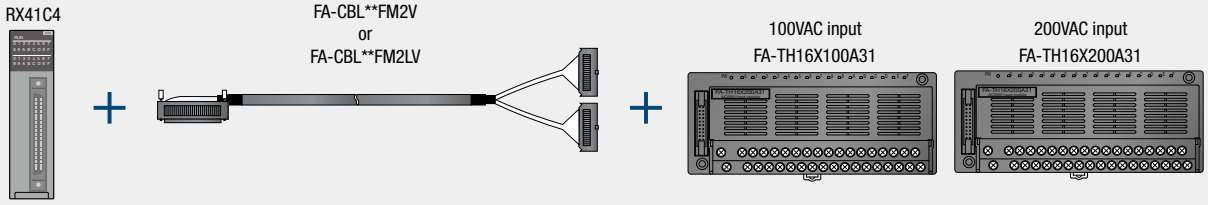
Number of cables and modules

The digital signal converter (terminal module) has 16 input/output points. Therefore, the number of cables and modules differs depending on the number of points of I/O module after replacement.
The number of cables and modules of the 16-point, 32-point, and 64-point I/O modules will be as follows.



Advantage of using a digital signal converter (terminal module)

- A digital signal converter (terminal module) has 16 input/output points and can be isolated from the programmable controller at every 16 points. Therefore, different digital signal converters (terminal modules) can be used for each 16-point group.



Modules to be replaced using a junction terminal block

MELSEC-A series module						Replacement using time and wire saving devices MELSEC iQ-R series module			
	Model	Specifications	No. of points	Terminal		Model	Specifications	No. of points	No. of required modules
Input	AX20	200VAC, 16 points/common	16	20P	→	RX28	100 to 240VAC, 8 points/common	8	2
	AX21	200VAC, 32 points/common	32	38P					4
Output	AY40A	Transistor output, 12/24VDC, 0.3A, independent common, sink type	16	38P		RY18R2A	Contact output, 240VAC/24VDC, 2A, independent common	8	2
	AY60	Transistor output, 24/(12/48)VDC, 2A, 8 points/common, sink type, with fuse		20P	→	RY10R2	Contact output, 240VAC/24VDC, 2A, 16 points/common	16	1
	AY60E	Transistor output, 24/(12)VDC, 2A, 48VDC, 0.8A, 8 points/common, source type, with fuse							
	AY60S	Transistor output, 24/48/(12)VDC, 2A, 8 points/common, sink type, with fuse							

Note) For the detailed specifications of each module, refer to the user's manual for each module used, our website, or the FAgoods General Catalog: Time and Wire Saving Devices.

Input modules to be replaced using a digital signal converter (terminal module)

MELSEC-A series input module						Replacement using time and wire saving devices						
						MELSEC iQ-R series module			Digital signal converter (terminal module)			
Input type	Model	Specifications	No. of points	No. of modules		Model	No. of points	No. of required modules	Cable model	No. of required cables	Module model	No. of required modules
200VAC input	AX20	200 to 240VAC input, 16 points/common, input current 10mA	16	1	→	RX40C7	16	1	FA-CBL**TMV20	1	FA-TH16X200A31	1
				2		RX41C4	32		FA-CBL**FM2V	1		2
				4		RX42C4	64			2		4
	AX21	200 to 240VAC input, 32 points/common, input current 10mA	32	1		RX41C4	32	1	FA-CBL**FM2V	1	FA-TH16X200A31	2
				2		RX42C4	64			2		4
48VDC input	AX50	48VDC input, 8 points/common, sink type, input current 4mA	16	1		RX40C7	16	1	FA-CBL**TMV20	1	FA-TH16X48D31L	1
				2		RX41C4	32		FA-CBL**FM2V	1		2
	AX50-S1	48VDC input, 8 points/common, sink/source type, input current 4mA		4		RX42C4	64			2		4
100VDC input	AX60	100/110/125VDC input, 8 points/common, sink type, input current 2mA	16	1		RX40C7	16	1	FA-CBL**TMV20	1	FA-TH16X100D31L	1
				2		RX41C4	32		FA-CBL**FM2V	1		2
	AX60-S1	100/110/125VDC input, 8 points/common, sink/source type, input current 2mA		4		RX42C4	64			2		4

Output modules to be replaced using a digital signal converter (terminal module)

MELSEC-A series input module						Replacement using time and wire saving devices						
						MELSEC iQ-R series module			Digital signal converter (terminal module)			
Output type	Model	Specifications	No. of points	No. of modules		Model	No. of points	No. of required modules	Cable model	No. of required cables	Module model	No. of required modules
Transistor output	AY40A	12/24VDC, 0.3A, independent common, sink type	16	1	→	RY40NT5P	16	1	FA-CBL**TMV20	1	FA-TH16YTR20S*1	1
				2		RY41NT2P	32		FA-CBL**FM2V	1		2
				4		RY42NT2P	64			2		4

*1: The spring clamp terminal block type output terminal module, FA1-TH16Y1TR20S1E, can be used by changing the solderless terminals (round and Y-shaped) to the ferrules.

** indicates a cable length.

	Replacement using time and wire saving devices							
	Junction terminal block							
	Cable model	No. of required cables	Module model	No. of required modules	Specifications	No. of points	Terminal	Remarks
	FA-CBL**TD	2	FA-TB18XY	2	18 points terminal conversion (8 points conversion, 1-wire type)	8	18P	• Two MELSEC iQ-R modules are required.
		4		4				• Four MELSEC iQ-R modules are required.
	FA-CBL**TD	2	FA-TB18XY	2	18 points terminal conversion (8 points conversion, independent common)	8	18P	• Two MELSEC iQ-R modules are required. • 48VDC is not supported.
		1	FA-TB161AC	1	18 points terminal conversion (16 points conversion, 1-wire type)	16		• The output type changes from transistor output to contact output. • MELSEC iQ-R modules do not have a fuse.
			FA-TB161ACC2		34 points terminal conversion (16 points conversion, 2-wire type)			
			FA-TB161AC		18 points terminal conversion (16 points conversion, 1-wire type)			
			FA-TB161ACC2		34 points terminal conversion (16 points conversion, 2-wire type)			
			FA-TB161AC		18 points terminal conversion (16 points conversion, 1-wire type)			
			FA-TB161ACC2		34 points terminal conversion (16 points conversion, 2-wire type)			

** indicates a cable length.

	Replacement using time and wire saving devices		
	Digital signal converter (terminal module)		
	Specifications	Wiring precautions	Remarks
	200 to 220VAC input, 16 points/common, input current approx. 7.5mA	-	• The input voltage changes from 200 to 240VAC to 200 to 220VAC. • The input current drops from 10mA to 7.5mA. • To use a digital signal converter, an external power supply (24VDC) is required.
	48VDC input, 16 points/common, sink/source type, input current approx. 5mA	• 8 points/common can no longer be used after replacement. • The terminal block uses M3.5 screws.	• The input current drops from 4mA to 5mA. • To use a digital signal converter, an external power supply (24VDC) is required.
	100/110VDC input, 16 points/common, input current 2.5mA	• 8 points/common can no longer be used after replacement. • The terminal block uses M3.5 screws.	• The input voltage changes from 100/110/125VDC to 100/110VDC. • The input current drops from 2mA to 2.5mA. • To use a digital signal converter, an external power supply (24VDC) is required.

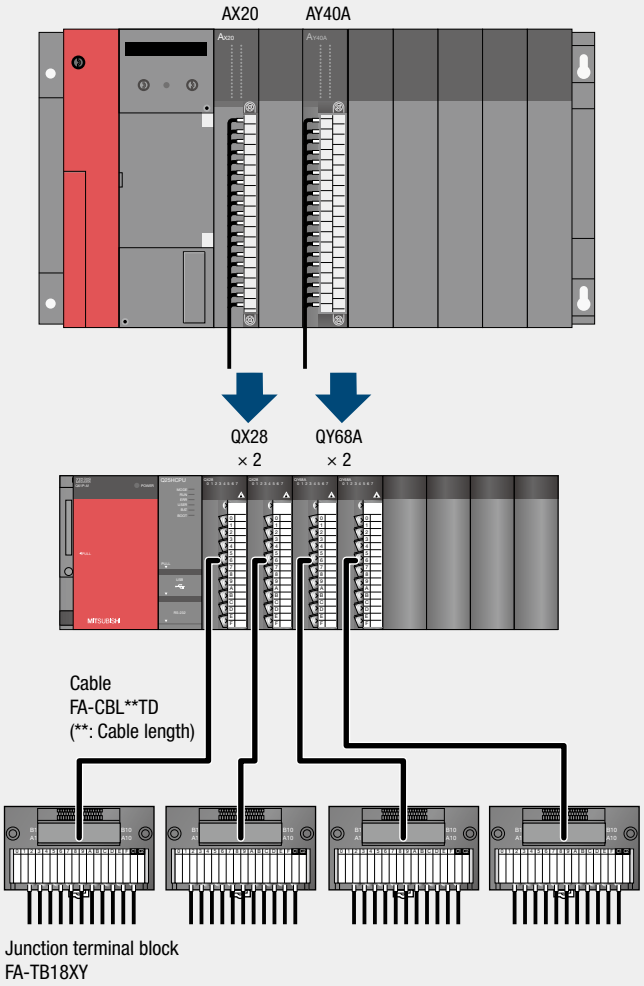
** indicates a cable length.

	Replacement using time and wire saving devices	
	Digital signal converter (terminal module)	
	Specifications	Remarks
	3 to 30VDC, 1A, independent common (socket type, transistor replaceable)	• To use a digital signal converter, an external power supply (24VDC) is required.

Suggestion [1]
Use of junction terminal blocks

◎ Replacement example using junction terminal blocks

Example) AX20 → QX28 × 2, AY40A → QY68A × 2



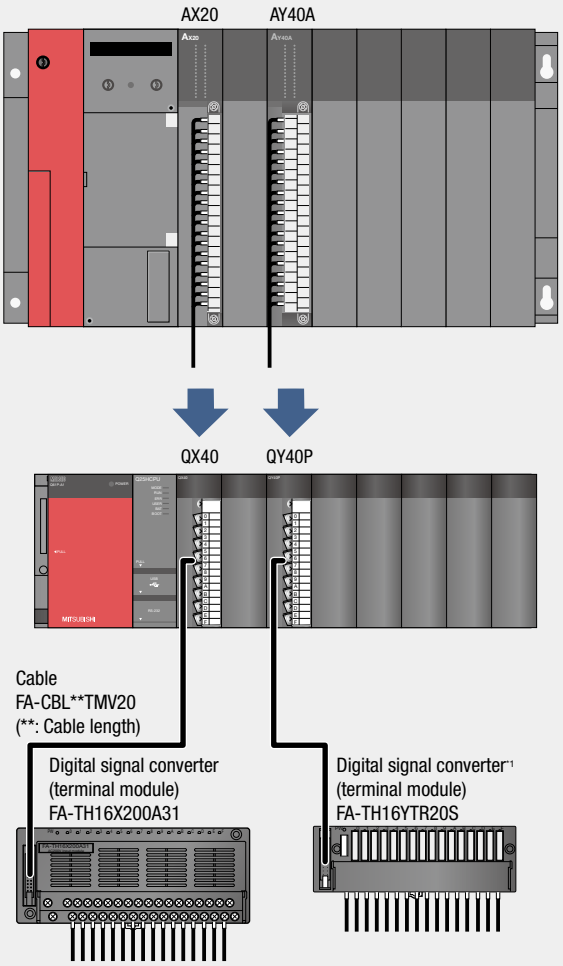
Reference

Replacement method → P.81
Modules to be replaced → P.84 and P.85

Suggestion [2]
Use of digital signal converters (terminal modules)

◎ Replacement example using digital signal converters (terminal modules)

Example) AX20 → QX40 × 1, AY40A → QY40P × 1



Reference

Replacement method → P.82
Input modules to be replaced → P.84 and P.85
Output modules to be replaced → P.84 and P.85

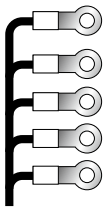
*1: The spring clamp terminal block type output terminal module, FA1-TH16Y1TR20S1E, can be used by changing the solderless terminals (round and Y-shaped) to the ferrules.

Junction terminal block

The following is an example when a MELSEC-A series input module (16-point, 200VAC) is replaced using a junction terminal block.



2) Check the solderless terminals.



- Check the model or dimensions of solderless terminals.
- Change the terminals which are not applicable to the junction terminal block.

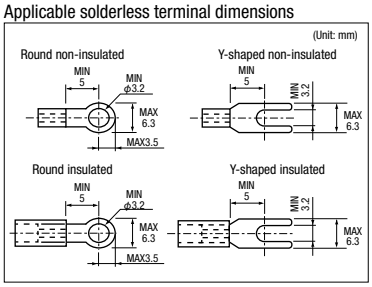
Solderless terminals used for the module

- R1.25-3
- RAV1.25-3

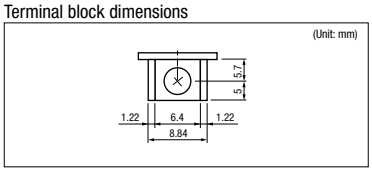
Solderless terminals applicable to the junction terminal block

Type		Round		Y-shaped	
Manufacturer	Applicable wire size	Non-insulated	Insulated	Non-insulated	Insulated
NICHIFU Co., Ltd. NTM	0.3 to 1.25mm²	R1.25-3N R1.25-3.5N	TG$^{V}_{N}$1.25-3N TG$^{V}_{N}$1.25-3.5N	1.25Y-3 1.25Y-3N 1.25Y-3L 1.25Y-3.5	TG$^{V}_{N}$1.25Y-3 TG$^{V}_{N}$1.25Y-3N TG$^{V}_{N}$1.25Y-3L TG$^{V}_{N}$1.25Y-3.5
	1.25 to 2.0mm²	R2-3N	TG$^{V}_{N}$2-3N	2Y-3 2Y-3.5S	TG$^{V}_{N}$2Y-3 TG$^{V}_{N}$2Y-3.5S
J.S.T.MFG. CO.,LTD JST	0.3 to 1.25mm²	1.25-MS3	V1.25-MS3	1.25-B3A 1.25-C3A 1.25-N3A 1.25-C3.5A	V1.25-B3A V1.25-N3A
	1.25 to 2.0mm²	2-MS3	V2-MS3	2-N3A 2-M3A	V2-N3A
Nippon Tanshi Co., Ltd. NTK	0.3 to 1.25mm²	1.25-3ML 1.25-3.5SL	RAV1.25-3ML RAP1.25-3ML	VD1.25-3L VD1.25-3.5SS VD1.25-3.5S	VDAV1.25-3L VDAV1.25-3.5SS VDAV1.25-3.5S
	1.25 to 2.0mm²	2-3SL	RAV2-3SL RAP2-3SL	VD2-3S VD2-3.5SS VD2-3.5S	VDAV2-3S VDAV2-3.5SS VDAV2-3.5S

Applicable solderless terminal dimensions

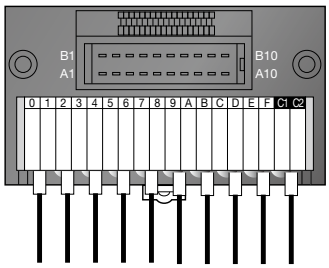


Terminal block dimensions

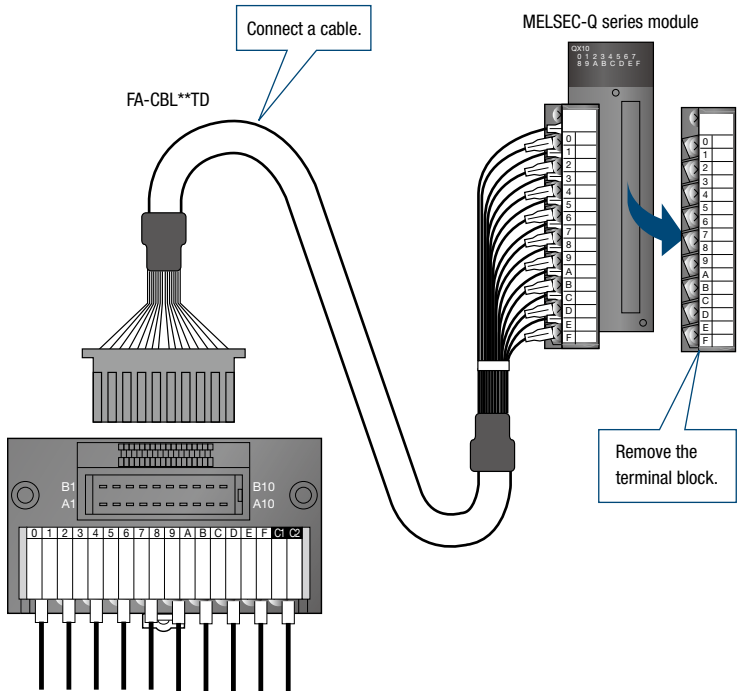


3) Wire the junction terminal block.

FA-TB18XY



4) Connect the replaced module to the junction terminal block with a cable.



Note

- For the specifications of the junction terminal block, refer to our website or the FAgoods General Catalog: Time and Wire Saving Devices.
- Check that the junction terminal block used satisfies the system specifications prior to use.

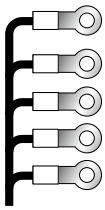
Digital signal converter (terminal module)

The following is an example when a MELSEC-A series input module (16-point, 200VAC) is replaced using a digital signal converter (terminal module).



1) Remove the wiring.

2) Check the solderless terminals.



- Check the model or dimensions of solderless terminals.
- Change the terminals which are not applicable to the digital signal converter (terminal module). Especially, the solderless terminals need to be changed when the AX50, AX50-S1, AX60, and AX60-S1 are replaced. (This is because the screw size of the digital signal converter (terminal module) is M3.5.)

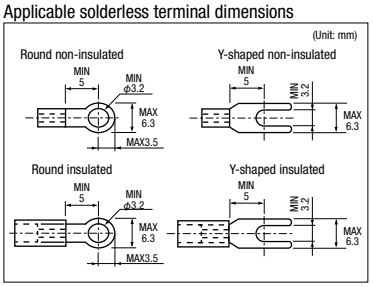
Solderless terminals used for the module

- R1.25-3
- RAV1.25-3

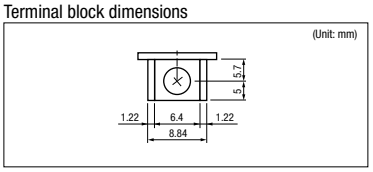
Solderless terminals applicable to the digital signal converter (terminal module) (M3 screw, 7.62mm pitch)

Type		Round		Y-shaped	
Manufacturer	Applicable wire size	Non-insulated	Insulated	Non-insulated	Insulated
NICHIFU Co., Ltd. NTM	0.3 to 1.25mm²	R1.25-3N R1.25-3.5N	TGV1.25-3N TGV1.25-3.5N	1.25Y-3 1.25Y-3N 1.25Y-3L 1.25Y-3.5	TGV1.25Y-3 TGV1.25Y-3N TGV1.25Y-3L TGV1.25Y-3.5
	1.25 to 2.0mm²	R2-3N	TGV2-3N	2Y-3 2Y-3.5S	TGV2Y-3 TGV2Y-3.5S
J.S.T.MFG. CO.,LTD JST	0.3 to 1.25mm²	1.25-MS3	V1.25-MS3	1.25-B3A 1.25-C3A 1.25-N3A 1.25-C3.5A	V1.25-B3A V1.25-N3A
	1.25 to 2.0mm²	2-MS3	V2-MS3	2-N3A 2-M3A	V2-N3A
Nippon Tanshi Co., Ltd. NTK	0.3 to 1.25mm²	1.25-3ML 1.25-3.5SL	RAV1.25-3ML RAP1.25-3ML	VD1.25-3L VD1.25-3.5SS VD1.25-3.5S	VDAV1.25-3L VDAV1.25-3.5SS VDAV1.25-3.5S
	1.25 to 2.0mm²	2-3SL	RAV2-3SL RAP2-3SL	VD2-3S VD2-3.5SS VD2-3.5S	VDAV2-3S VDAV2-3.5SS VDAV2-3.5S

Applicable solderless terminal dimensions

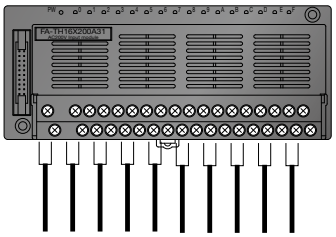


Terminal block dimensions



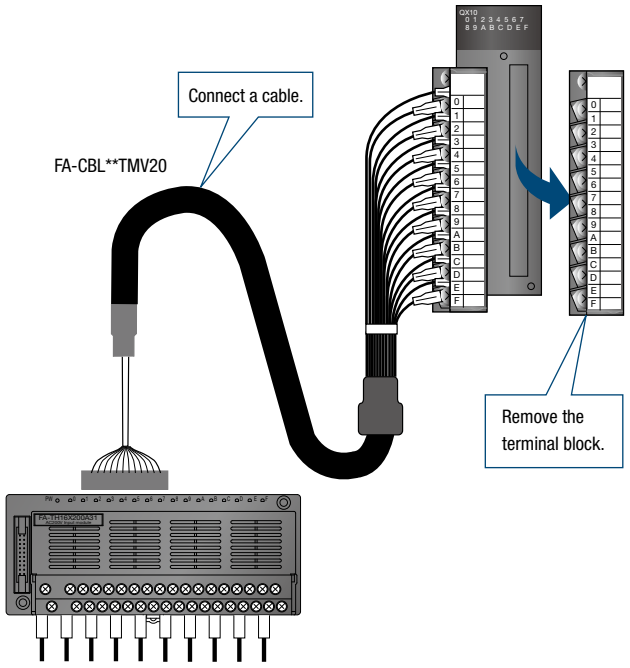
3) Wire the digital signal converter (terminal module).

FA-TH16X200A31



4) Connect the replaced module to the junction terminal block with a cable.

MELSEC-Q series module

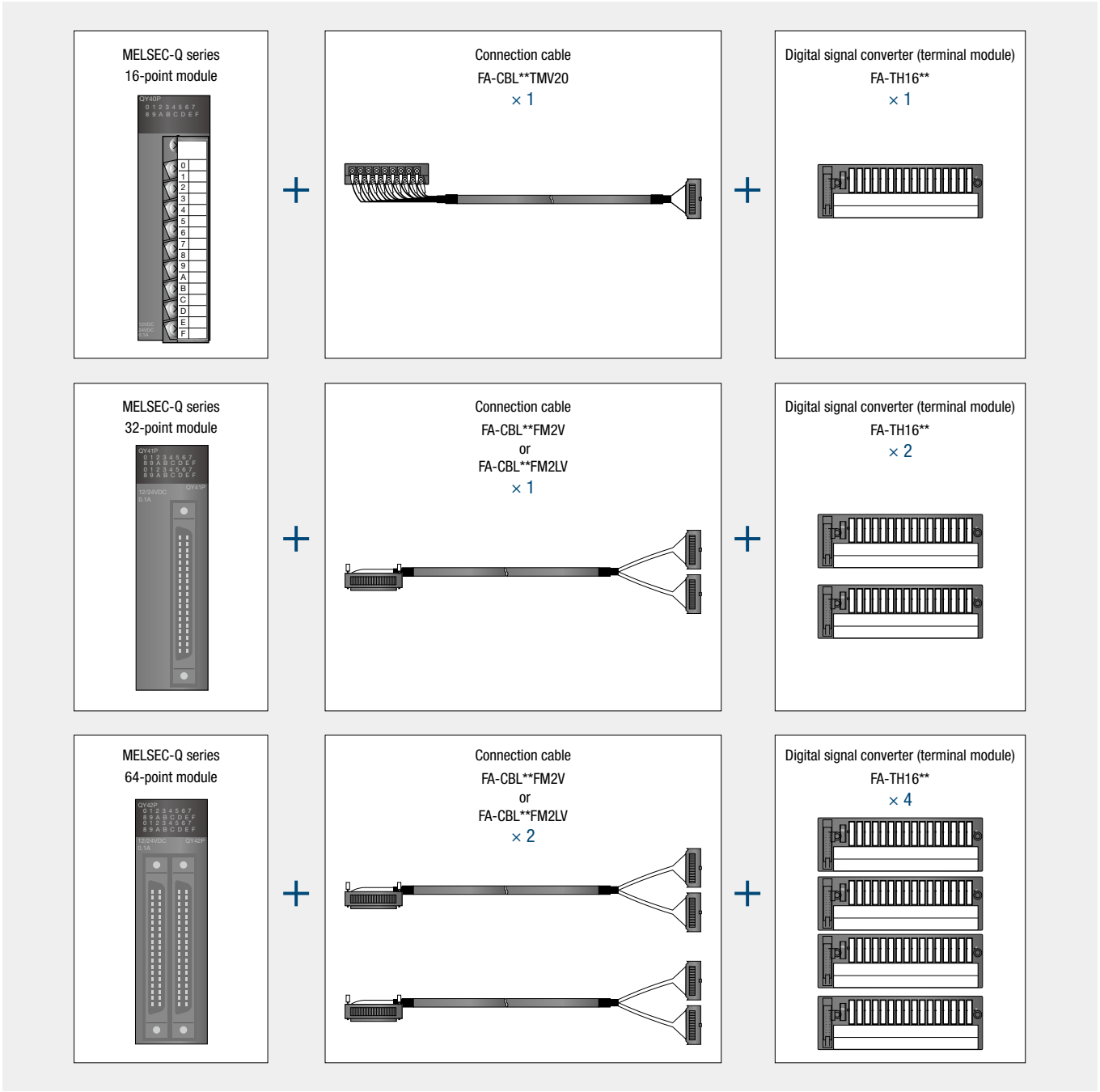


Note

- For the specifications of the digital signal converter, refer to our website or the FAgoods General Catalog: Time and Wire Saving Devices.
- Check that the digital signal converter (terminal module) used satisfies the system specifications prior to use.

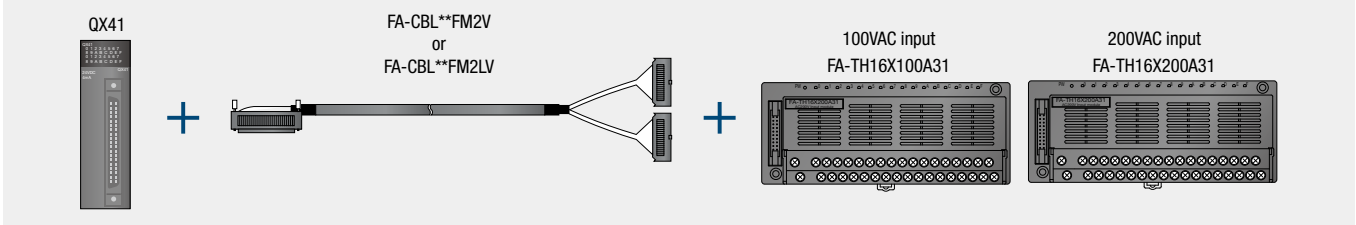
Number of cables and modules

The digital signal converter (terminal module) has 16 input/output points. Therefore, the number of cables and modules differs depending on the number of points of I/O module after replacement.
The number of cables and modules of the 16-point, 32-point, and 64-point I/O modules will be as follows.



Advantage of using a digital signal converter (terminal module)

- A digital signal converter (terminal module) has 16 input/output points and can be isolated from the programmable controller at every 16 points.
  Therefore, different digital signal converters (terminal modules) can be used for each 16-point group.



Modules to be replaced using a junction terminal block

MELSEC-A series module						Replacement using time and wire saving devices			
						MELSEC-Q series module			
	Model	Specifications	No. of points	Terminal		Model	Specifications	No. of points	No. of required modules
Input	AX20	200VAC, 16 points/common	16	20P	→	QX28	100 to 240VAC, 8 points/common	8	2
	AX21	200VAC, 32 points/common	32	38P					4
Output	AY40A	Transistor output, 12/24VDC, 0.3A, independent common, sink type	16	38P	→	QY68A	Transistor output, 5 to 24VDC, 2A, independent common, sink/source shared type	8	2
	AY60	Transistor output, 24/(12/48)VDC, 2A, 8 points/common, sink type, with fuse		20P					
	AY60E	Transistor output, 24/(12)VDC, 2A, 48VDC, 0.8A, 8 points/common, source type, with fuse							
	AY60S	Transistor output, 24/48/(12)VDC, 2A, 8 points/common, sink type, with fuse							

Note) For the detailed specifications of each module, refer to the user's manual for each module used, our website, or the FAgoods General Catalog: Time and Wire Saving Devices.

Input modules to be replaced using a digital signal converter (terminal module)

MELSEC-A series input module						Replacement using time and wire saving devices						
						MELSEC-Q series module			Digital signal converter (terminal module)			
Input type	Model	Specifications	No. of points	No. of modules		Model	No. of points	No. of required modules	Cable model	No. of required cables	Module model	No. of required modules
200VAC input	AX20	200 to 240VAC input, 16 points/common, input current 10mA	16	1	→	QX40	16	1	FA-CBL**TMV20	1	FA-TH16X200A31	1
				2		QX41	32		FA-CBL**FM2V	1		2
				4		QX42	64			2		4
	AX21	200 to 240VAC input, 32 points/common, input current 10mA	32	1		QX41	32	1	FA-CBL**FM2V	1	FA-TH16X200A31	2
				2		QX42	64			2		4
100VDC input	AX60	100/110/125VDC input, 8 points/common, sink type, input current 2mA	16	1		QX40	16	1	FA-CBL**TMV20	1	FA-TH16X100D31L	1
				2		QX41	32		FA-CBL**FM2V	1		2
				4		QX42	64			2		4
	AX60-S1	100/110/125VDC input, 8 points/common, sink/source type, input current 2mA		1		QX40	16	1	FA-CBL**TMV20	1	FA-TH16X100D31L	1
				2		QX41	32		FA-CBL**FM2V	1		2
				4		QX42	64			2		4

Output modules to be replaced using a digital signal converter (terminal module)

MELSEC-A series input module						Replacement using time and wire saving devices						
						MELSEC-Q series module			Digital signal converter (terminal module)			
Output type	Model	Specifications	No. of points	No. of modules		Model	No. of points	No. of required modules	Cable model	No. of required cables	Module model	No. of required modules
Transistor output	AY40A	12/24VDC, 0.3A, independent common, sink type	16	1	→	QY40P	16	1	FA-CBL**TMV20	1	FA-TH16YTR20S*1	1
				2		QY41P	32		FA-CBL**FM2V	1		2
				4		QY42P	64			2		4

*1: The spring clamp terminal block type output terminal module, FA1-TH16Y1TR20S1E, can be used by changing the solderless terminals (round and Y-shaped) to the ferrules.

** indicates a cable length.

	Replacement using time and wire saving devices							
	Junction terminal block							
	Cable model	No. of required cables	Module model	No. of required modules	Specifications	No. of points	Terminal	Remarks
	FA-CBL**TD	2	FA-TB18XY	2	18 points terminal conversion (8 points conversion, 1-wire type)	8	18P	• Two MELSEC-Q modules are required.
		4		4				• Four MELSEC-Q modules are required.
	FA-CBL**TD	2	FA-TB18XY	2	18 points terminal conversion (8 points conversion, independent common)	8	18P	• Two MELSEC-Q modules are required. • 48VDC is not supported.
								• Two MELSEC-Q modules are required. • A cable for wiring common terminals is required. • MELSEC iQ-R modules do not have a fuse. • 48VDC is not supported.

** indicates a cable length.

	Replacement using time and wire saving devices		
	Digital signal converter (terminal module)		
	Specifications	Wiring precautions	Remarks
	200 to 220VAC input, 16 points/common, input current approx. 7.5mA	-	• The input voltage changes from 200 to 240VAC to 200 to 220VAC. • The input current drops from 10mA to 7.5mA. • To use a digital signal converter, an external power supply (24VDC) is required.
	100/110VDC input, 16 points/common, input current 2.5mA	• 8 points/common can no longer be used after replacement. • The terminal block uses M3.5 screws.	• The input voltage changes from 100/110/125VDC to 100/110VDC. • The input current drops from 2mA to 2.5mA. • To use a digital signal converter, an external power supply (24VDC) is required.

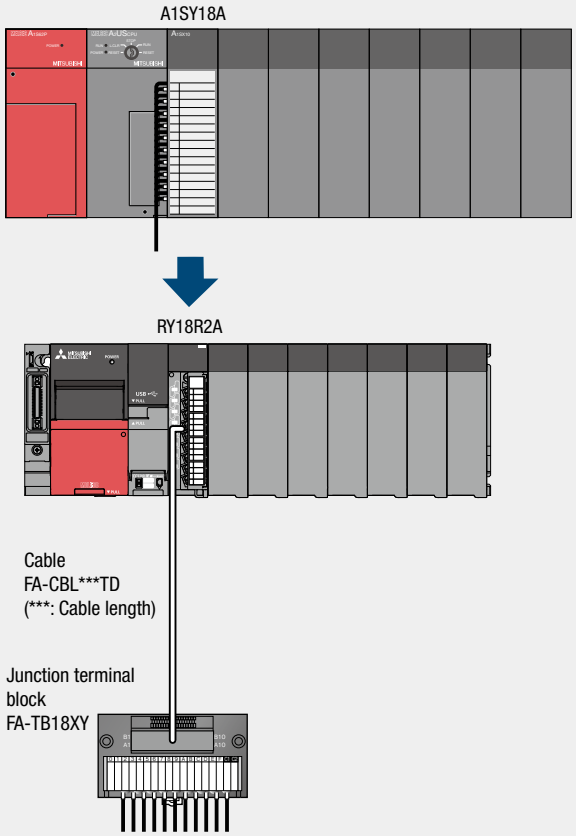
** indicates a cable length.

	Replacement using time and wire saving devices	
	Digital signal converter (terminal module)	
	Specifications	Remarks
	3 to 30VDC, 1A, independent common (socket type, transistor replaceable)	• To use a digital signal converter, an external power supply (24VDC) is required.

Suggestion [1]
Use of junction terminal blocks

◎ Replacement example using junction terminal blocks

Example) A1SY18A → RY18R2A

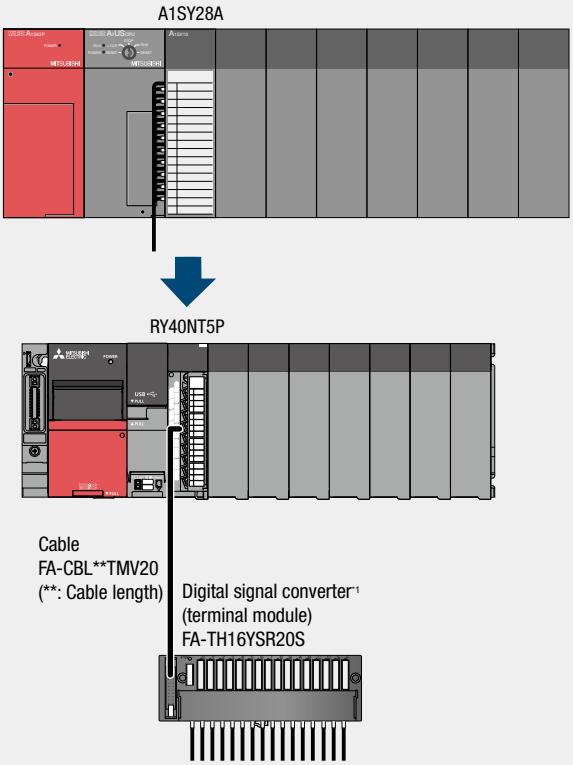


Reference
Replacement method → P.87
Modules to be replaced → P.90 and P.91

Suggestion [2]
Use of digital signal converters (terminal modules)

◎ Replacement example using digital signal converters (terminal modules)

Example) A1SY28A → RY40NT5P

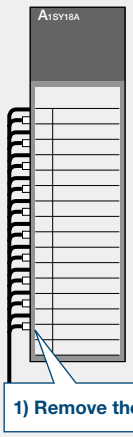


Reference
Replacement method → P.88
Modules to be replaced → P.90 and P.91

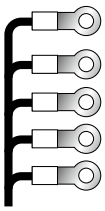
*1: The spring clamp terminal block type output terminal module, FA1-TH16Y1SR20S1E, can be used by changing the solderless terminals (round and Y-shaped) to the ferrules.

Junction terminal block

The following is an example when a MELSEC-AnS series output module (independent, 8-point, 24VDC/240VAC) is replaced using a junction terminal block.



2) Check the solderless terminals.



- Check the model or dimensions of solderless terminals.
- Change the terminals which are not applicable to the junction terminal block.

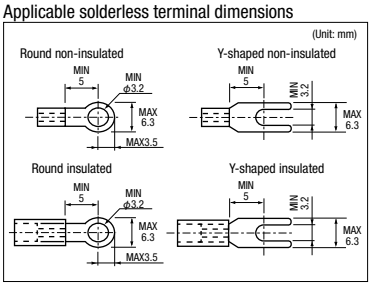
Solderless terminals used for the module

- R1.25-3.5, R2-3.5
- RAV1.25-3.5, RAV2-3.5

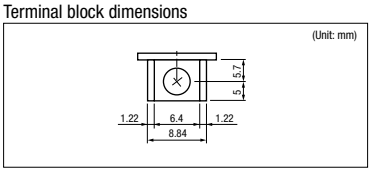
Solderless terminals applicable to the junction terminal block (M3 screw, 7.62mm pitch)

Type		Round		Y-shaped	
Manufacturer	Applicable wire size	Non-insulated	Insulated	Non-insulated	Insulated
NICHIFU Co., Ltd. NTM	0.3 to 1.25mm²	R1.25-3N R1.25-3.5N	TG㈱1.25-3N TG㈱1.25-3.5N	1.25Y-3 1.25Y-3N 1.25Y-3L 1.25Y-3.5	TG㈱1.25Y-3 TG㈱1.25Y-3N TG㈱1.25Y-3L TG㈱1.25Y-3.5
	1.25 to 2.0mm²	R2-3N	TG㈱2-3N	2Y-3 2Y-3.5S	TG㈱2Y-3 TG㈱2Y-3.5S
J.S.T.MFG. CO.,LTD JST	0.3 to 1.25mm²	1.25-MS3	V1.25-MS3	1.25-B3A 1.25-C3A 1.25-N3A 1.25-C3.5A	V1.25-B3A V1.25-N3A
	1.25 to 2.0mm²	2-MS3	V2-MS3	2-N3A 2-M3A	V2-N3A
Nippon Tanshi Co., Ltd. NTK	0.3 to 1.25mm²	R1.25-3ML R1.25-3.5SL	RAV1.25-3ML RAP1.25-3ML	VD1.25-3L VD1.25-3.5SS VD1.25-3.5S	VDAV1.25-3L VDAV1.25-3.5SS VDAV1.25-3.5S
	1.25 to 2.0mm²	R2-3SL	RAV2-3SL RAP2-3SL	VD2-3S VD2-3.5SS VD2-3.5S	VDAV2-3.5SS VDAV2-3.5S

Applicable solderless terminal dimensions

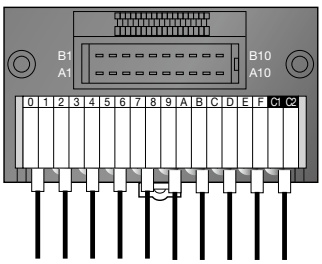


Terminal block dimensions

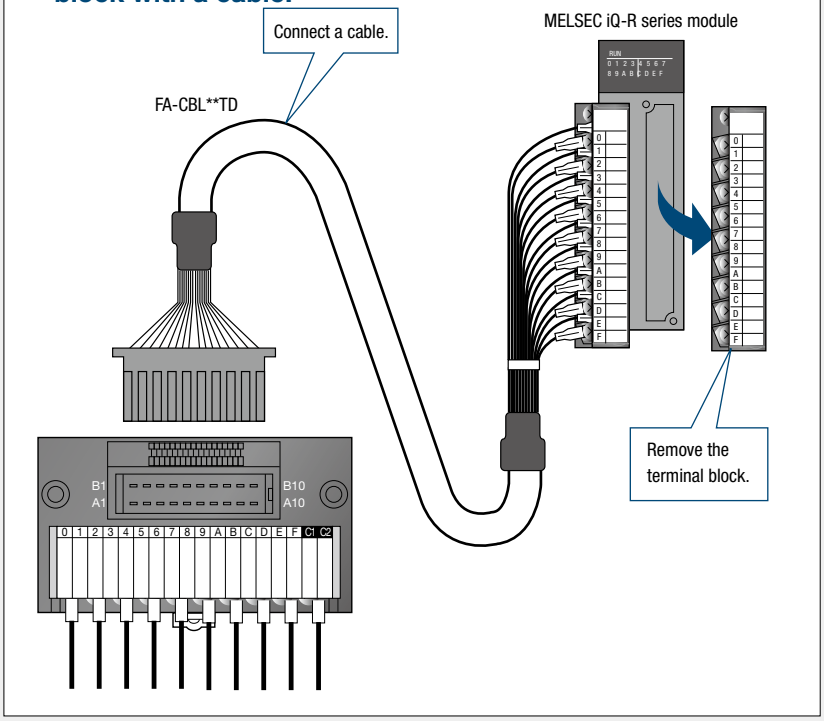


3) Wire the junction terminal block.

FA-TB18XY



4) Connect the replaced module to the junction terminal block with a cable.

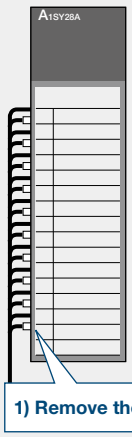


Note

- For the specifications of the junction terminal block, refer to our website or the FAgoods General Catalog: Time and Wire Saving Devices.
- Check that the junction terminal block used satisfies the system specifications prior to use.

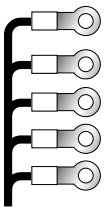
Digital signal converter (terminal module)

The following is an example when a MELSEC-AnS series output module (independent, 8-points, triac) is replaced using a digital signal converter (terminal module).



1) Remove the wiring.

2) Check the solderless terminals.



- Check the model or dimensions of solderless terminals.
- Change the terminals which are not applicable to the digital signal converter (terminal module).

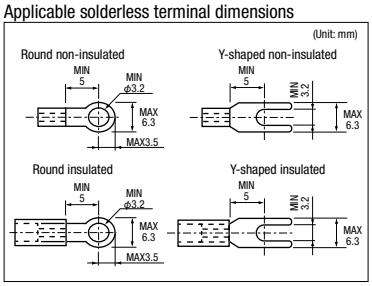
Solderless terminals used for the module

- R1.25-3.5, R2-3.5
- RAV1.25-3.5, RAV2-3.5

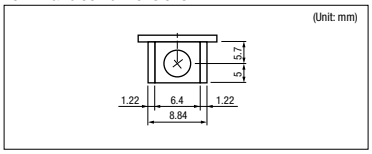
Solderless terminals applicable to the digital signal converter (terminal module) (M3 screw, 7.62mm pitch)

Type		Round		Y-shaped	
Manufacturer	Applicable wire size	Non-insulated	Insulated	Non-insulated	Insulated
NICHIFU Co., Ltd. NTM	0.3 to 1.25mm²	R1.25-3N R1.25-3.5N	TG$^{V}_{N}$1.25-3N TG$^{V}_{N}$1.25-3.5N	1.25Y-3 1.25Y-3N 1.25Y-3L 1.25Y-3.5	TG$^{V}_{N}$1.25Y-3 TG$^{V}_{N}$1.25Y-3N TG$^{V}_{N}$1.25Y-3L TG$^{V}_{N}$1.25Y-3.5
	1.25 to 2.0mm²	R2-3N	TG$^{V}_{N}$2-3N	2Y-3 2Y-3.5S	TG$^{V}_{N}$2Y-3 TG$^{V}_{N}$2Y-3.5S
J.S.T.MFG. CO.,LTD JST	0.3 to 1.25mm²	1.25-MS3	V1.25-MS3	1.25-B3A 1.25-C3A 1.25-N3A 1.25-C3.5A	V1.25-B3A V1.25-N3A
	1.25 to 2.0mm²	2-MS3	V2-MS3	2-N3A 2-M3A	V2-N3A
Nippon Tanshi Co., Ltd. NTK	0.3 to 1.25mm²	R1.25-3ML R1.25-3.5SL	RAV1.25-3ML RAP1.25-3ML	VD1.25-3L VD1.25-3.5SS VD1.25-3.5S	VDAV1.25-3L VDAV1.25-3.5SS VDAV1.25-3.5S
	1.25 to 2.0mm²	R2-3SL	RAV2-3SL RAP2-3SL	VD2-3S VD2-3.5SS VD2-3.5S	VDAV2-3.5SS VDAV2-3.5S

Applicable solderless terminal dimensions

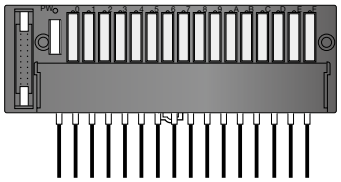


Terminal block dimensions



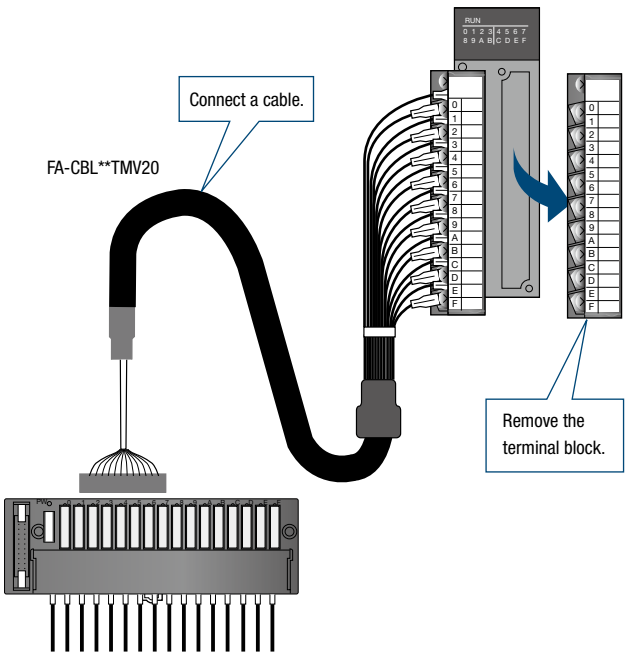
3) Wire the digital signal converter (terminal module).

FA-TH16YSR20S



4) Connect the replaced module to the junction terminal block with a cable.

MELSEC iQ-R series module

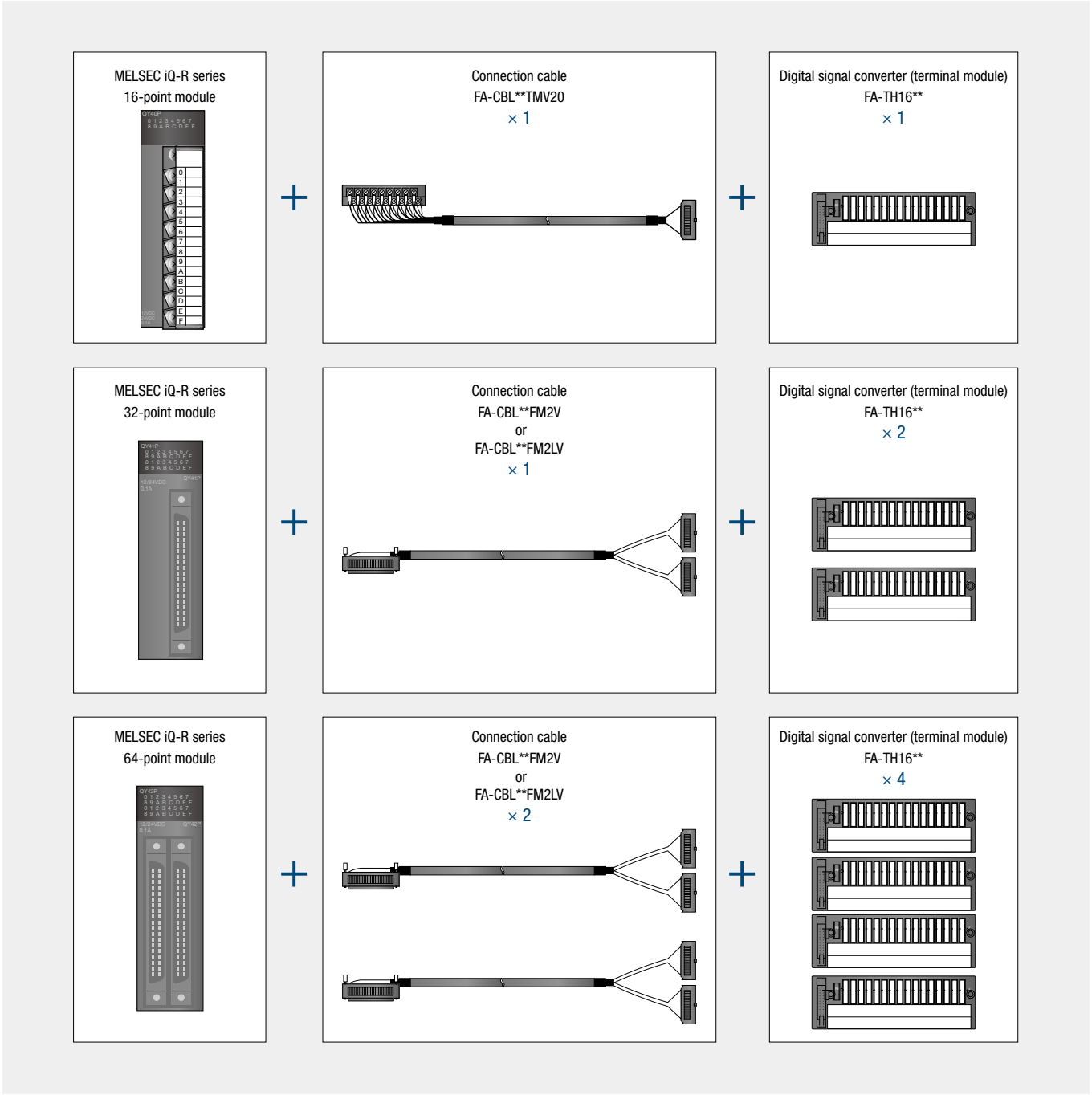


Note

- For the specifications of the digital signal converter, refer to our website or the FAgoods General Catalog: Time and Wire Saving Devices.
- Check that the digital signal converter (terminal module) used satisfies the system specifications prior to use.

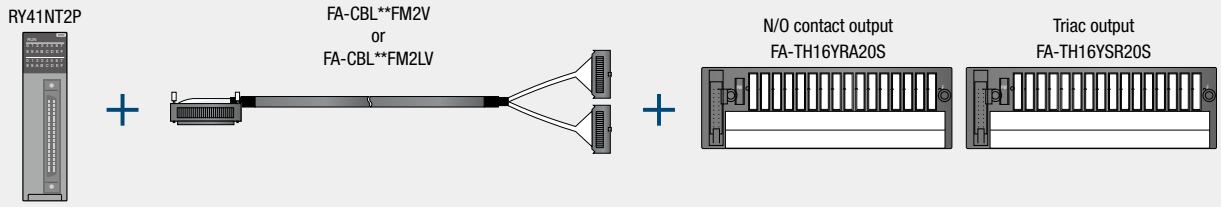
Number of cables and modules

The digital signal converter (terminal module) has 16 input/output points. Therefore, the number of cables and modules differs depending on the number of points of I/O module after replacement.
The number of cables and modules of the 16-point, 32-point, and 64-point I/O modules will be as follows.



Advantage of using a digital signal converter (terminal module)

- A digital signal converter (terminal module) has 16 input/output points and can be isolated from the programmable controller at every 16 points.
  Therefore, different digital signal converters (terminal modules) can be used for each 16-point group.



Modules to be replaced using a junction terminal block

MELSEC-AnS series module						Replacement using time and wire saving devices				
						MELSEC iQ-R series module				
	Model	Specifications	No. of points	Terminal		Model	Specifications	No. of points	No. of required modules	
Output	A1SY18A	Contact output, 24VDC/240VAC, 2A, independent common	8	20P	→	RY18R2A	Contact output, 24VDC/240VAC, 2A, independent common	8	1	
	A1SY28A	Triac output, 100 to 240VAC, 1A, independent common				RY20S6	Triac output, 100 to 240VAC, 0.6A, 16 points/common, with surge suppressor	16		
	A1SY28EU	Triac output, 100 to 240VAC, 0.6A, 4 points/common								
	A1SY68A	Transistor output, 5/12/24/48VDC, 2A, independent common, sink/source type				RY18R2A	Contact output, 24VDC/240VAC, 2A, independent common	8		

Note) For the detailed specifications of each module, refer to the user's manual for each module used, our website, or the FAgoods General Catalog: Time and Wire Saving Devices.

Modules to be replaced using a digital signal converter (terminal module)

MELSEC-AnS series input module						Replacement using time and wire saving devices						
						MELSEC iQ-R series module			Digital signal converter (terminal module)			
	Model	Specifications	No. of points	No. of modules		Model	No. of points	No. of required modules	Cable model	No. of required cables	Module model	No. of required modules
Output	A1SY18A	Contact output, 24VDC/240VAC, 2A, independent common	8	1	→	RY40NT5P	16	1	FA-CBL**TMV20	1	FA-TH16YRA20S*1	1
	A1SY28A	Triac output, 100 to 240VAC, 1A, independent common									FA-TH16YSR20S*2	
	A1SY28EU	Triac output, 100 to 240VAC, 0.6A, 4 points/common										
	A1SY68A	Transistor output, 5/12/24/48VDC, 2A, independent common, sink/source type									FA-TH16Y2TR20*3	

*1: The spring clamp terminal block type output terminal module, FA1-TH16Y2RA20S1E, can be used by changing the solderless terminals (round and Y-shaped) to the ferrules.
*2: The spring clamp terminal block type output terminal module, FA1-TH16Y1SR20S1E, can be used by changing the solderless terminals (round and Y-shaped) to the ferrules.
*3: The spring clamp terminal block type output terminal module, FA1-TH16Y1TR20S1E, can be used by changing the solderless terminals (round and Y-shaped) to the ferrules.

** indicates a cable length.

	Replacement using time and wire saving devices							
	Junction terminal block							
	Cable model	No. of required modules	Module model	No. of required modules	Specifications	No. of points	Terminal	Remarks
	FA-CBL**TD	1	FA-TB18XY	1	18 points terminal conversion (8 points conversion, independent common)	8	18P	• An external power supply is not required.
			FA-TB161AC		16 points conversion, 1-wire type	16	18P	• An independent common is not supported. • The output current changes from 1A to 0.6A.
			FA-TB161ACC2		16 points conversion, 2-wire type		34P	• The number of points per common changes from 4 to 16.
			FA-TB18XY		18 points terminal conversion (8 points conversion, independent common)	8	18P	• The output type changes from transistor output to contact output.

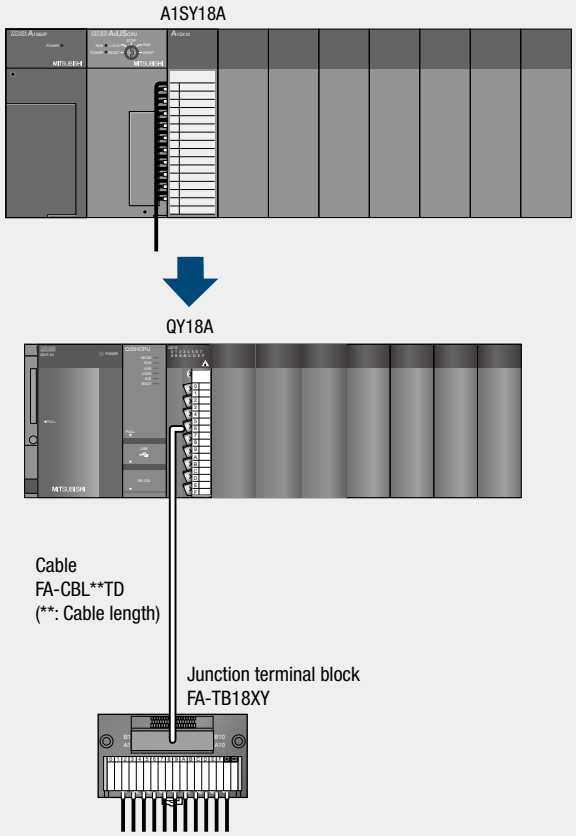
** indicates a cable length.

	Replacement using time and wire saving devices	
	Digital signal converter (terminal module)	
	Specifications	Remarks
	NO contact, 24VDC/200VAC, 2A, independent common (socket type, module replaceable)	• To use a digital signal converter, an external power supply (24VDC) is required.
	Triac output, 30 to 240VAC, 1A, independent common (socket type, module replaceable)	• To use a digital signal converter, an external power supply (24VDC) is required.
		• To use a digital signal converter, an external power supply (24VDC) is required. • A cable for wiring common terminals is required.
	Transistor output, 3 to 30VDC, 2A, independent common, sink/source type	• To use a digital signal converter, an external power supply (24VDC) is required. • 48VDC is not supported.

Suggestion [1]
Use of junction terminal blocks

◎ Replacement example using junction terminal blocks

Example) A1SY18A → QY18A

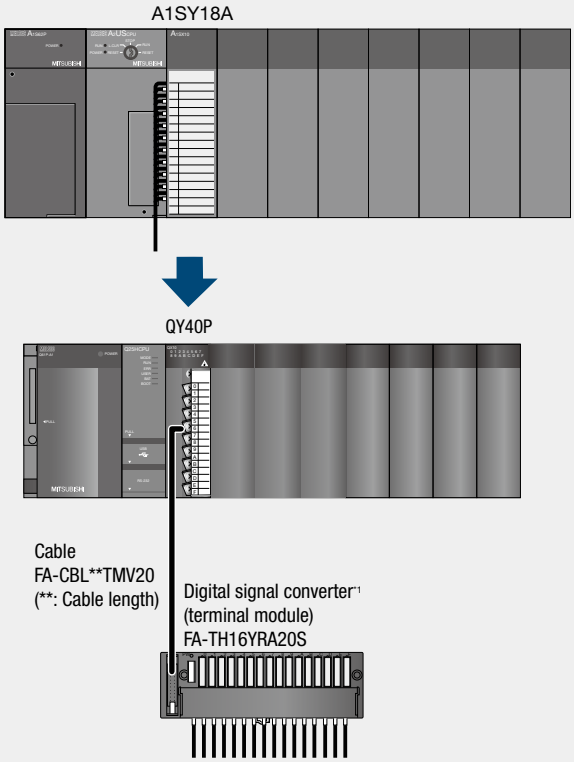


Reference
Replacement method → P.93
Modules to be replaced → P.96 and P.97

Suggestion [2]
Use of digital signal converters (terminal modules)

◎ Replacement example using digital signal converters (terminal modules)

Example) A1SY18A → QY40P

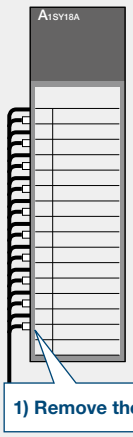


Reference
Replacement method → P.94
Modules to be replaced → P.96 and P.97

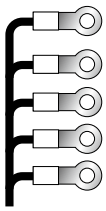
*1: The spring clamp terminal block type output terminal module, FA1-TH16Y2RA20S1E, can be used by changing the solderless terminals (round and Y-shaped) to the ferrules.

Junction terminal block

The following is an example when a MELSEC-AnS series output module (independent, 8-point, 24VDC/240VAC) is replaced using a junction terminal block.



2) Check the solderless terminals.



- Check the model or dimensions of solderless terminals.
- Change the terminals which are not applicable to the junction terminal block.

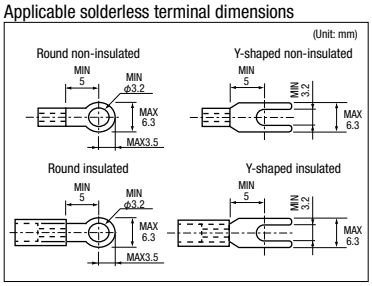
Solderless terminals used for the module

- R1.25-3.5, R2-3.5
- RAV1.25-3.5, RAV2-3.5

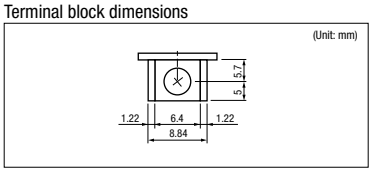
Solderless terminals applicable to the junction terminal block
(M3 screw, 7.62mm pitch)

Type		Round		Y-shaped	
Manufacturer	Applicable wire size	Non-insulated	Insulated	Non-insulated	Insulated
NICHIFU Co., Ltd. NTM	0.3 to 1.25mm²	R1.25-3N R1.25-3.5N	TG$^{V}_{N}$1.25-3N TG$^{V}_{N}$1.25-3.5N	1.25Y-3 1.25Y-3N 1.25Y-3L 1.25Y-3.5	TG$^{V}_{N}$1.25Y-3 TG$^{V}_{N}$1.25Y-3N TG$^{V}_{N}$1.25Y-3L TG$^{V}_{N}$1.25Y-3.5
	1.25 to 2.0mm²	R2-3N	TG$^{V}_{N}$2-3N	2Y-3 2Y-3.5S	TG$^{V}_{N}$2Y-3 TG$^{V}_{N}$2Y-3.5S
J.S.T.MFG. CO.,LTD JST	0.3 to 1.25mm²	1.25-MS3	V1.25-MS3	1.25-B3A 1.25-C3A 1.25-N3A 1.25-C3.5A	V1.25-B3A V1.25-N3A
	1.25 to 2.0mm²	2-MS3	V2-MS3	2-N3A 2-M3A	V2-N3A
Nippon Tanshi Co., Ltd. NTK	0.3 to 1.25mm²	R1.25-3ML R1.25-3.5SL	RAV1.25-3ML RAP1.25-3ML	VD1.25-3L VD1.25-3.5SS VD1.25-3.5S	VDAV1.25-3L VDAV1.25-3.5SS VDAV1.25-3.5S
	1.25 to 2.0mm²	R2-3SL	RAV2-3SL RAP2-3SL	VD2-3S VD2-3.5SS VD2-3.5S	VDAV2-3.5SS VDAV2-3.5S

Applicable solderless terminal dimensions

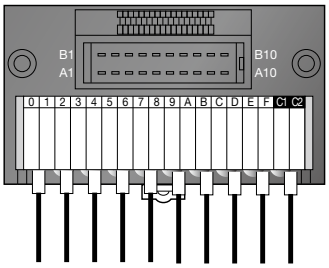


Terminal block dimensions

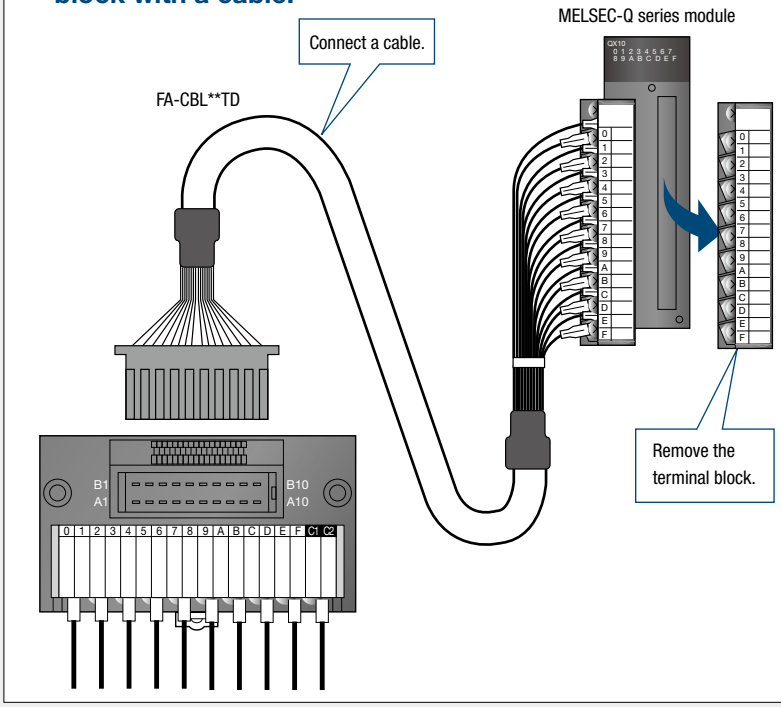


3) Wire the junction terminal block.

FA-TB18XY



4) Connect the replaced module to the junction terminal block with a cable.

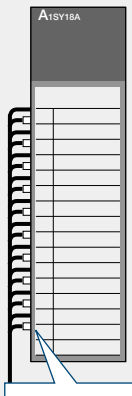


Note

- For the specifications of the junction terminal block, refer to our website or the FAgoods General Catalog: Time and Wire Saving Devices.
- Check that the junction terminal block used satisfies the system specifications prior to use.

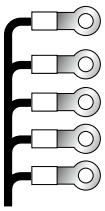
Digital signal converter (terminal module)

The following is an example when a MELSEC-AnS series output module (8-point, contact) is replaced using a digital signal converter (terminal module).



1) Remove the wiring.

2) Check the solderless terminals.



- Check the model or dimensions of solderless terminals.
- Change the terminals which are not applicable to the digital signal converter (terminal module).

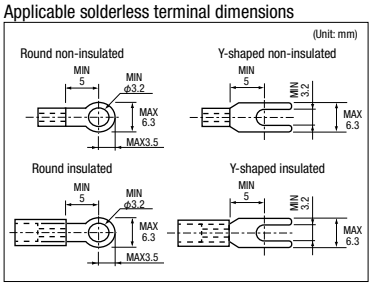
Solderless terminals used for the module

- R1.25-3.5, R2-3.5
- RAV1.25-3.5, RAV2-3.5

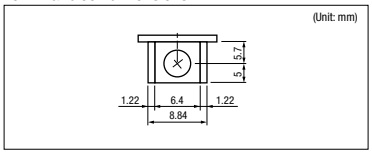
Solderless terminals applicable to the digital signal converter (terminal module) (M3 screw, 7.62mm pitch)

Type		Round		Y-shaped	
Manufacturer	Applicable wire size	Non-insulated	Insulated	Non-insulated	Insulated
NICHIFU Co., Ltd. NTM	0.3 to 1.25mm²	R1.25-3N R1.25-3.5N	TG⅛1.25-3N TG⅛1.25-3.5N	1.25Y-3 1.25Y-3N 1.25Y-3L 1.25Y-3.5	TG⅛1.25Y-3 TG⅛1.25Y-3N TG⅛1.25Y-3L TG⅛1.25Y-3.5
	1.25 to 2.0mm²	R2-3N	TG⅛2-3N	2Y-3 2Y-3.5S	TG⅛2Y-3 TG⅛2Y-3.5S
J.S.T.MFG. CO.,LTD JST	0.3 to 1.25mm²	1.25-MS3	V1.25-MS3	1.25-B3A 1.25-C3A 1.25-N3A 1.25-C3.5A	V1.25-B3A V1.25-N3A
	1.25 to 2.0mm²	2-MS3	V2-MS3	2-N3A 2-M3A	V2-N3A
Nippon Tanshi Co., Ltd. NTK	0.3 to 1.25mm²	R1.25-3ML R1.25-3.5SL	RAV1.25-3ML RAP1.25-3ML	VD1.25-3L VD1.25-3.5SS VD1.25-3.5S	VDAV1.25-3L VDAV1.25-3.5SS VDAV1.25-3.5S
	1.25 to 2.0mm²	R2-3SL	RAV2-3SL RAP2-3SL	VD2-3S VD2-3.5SS VD2-3.5S	VDAV2-3.5SS VDAV2-3.5S

Applicable solderless terminal dimensions

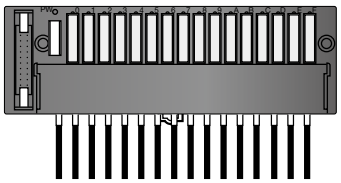


Terminal block dimensions

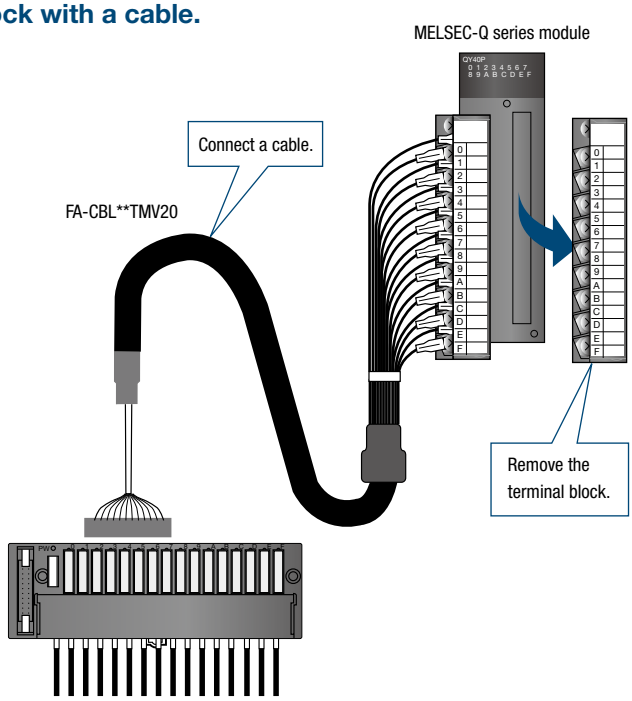


3) Wire the digital signal converter (terminal module).

FA-TH16YRA20S



4) Connect the replaced module to the junction terminal block with a cable.

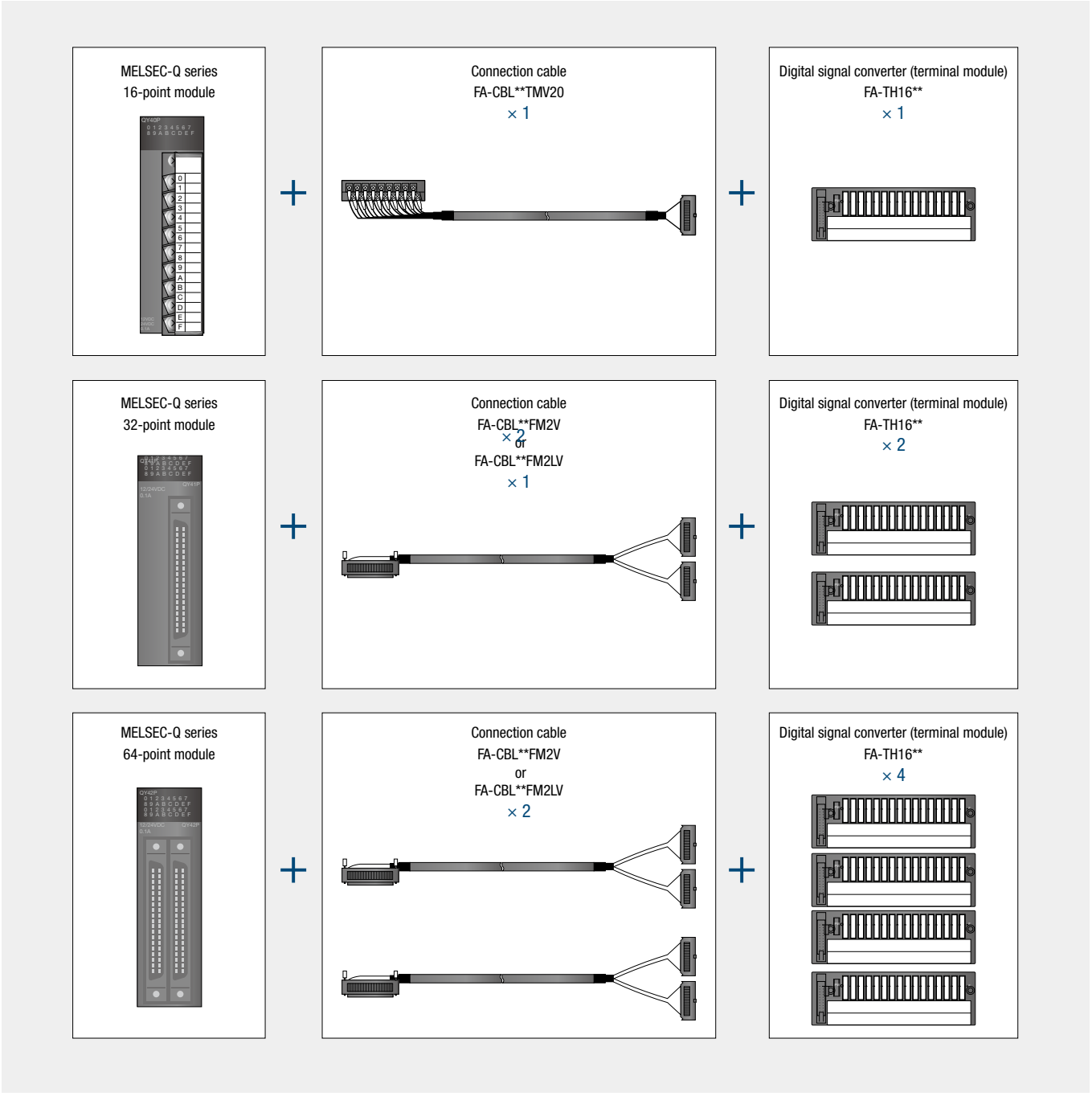


Note

- For the specifications of the digital signal converter, refer to our website or the FAgoods General Catalog: Time and Wire Saving Devices.
- Check that the digital signal converter (terminal module) used satisfies the system specifications prior to use.

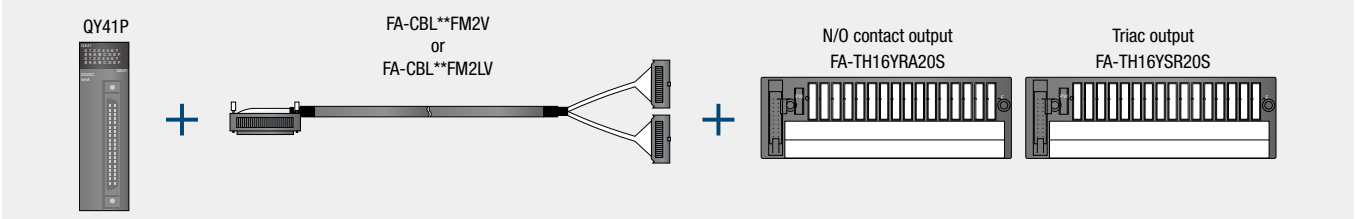
Number of cables and modules

The digital signal converter (terminal module) has 16 input/output points. Therefore, the number of cables and modules differs depending on the number of points of I/O module after replacement.
The number of cables and modules of the 16-point, 32-point, and 64-point I/O modules will be as follows.



Advantage of using a digital signal converter (terminal module)

- A digital signal converter (terminal module) has 16 input/output points and can be isolated from the programmable controller at every 16 points.
  Therefore, different digital signal converters (terminal modules) can be used for each 16-point group.



Modules to be replaced using a junction terminal block

MELSEC-AnS series module						Replacement using time and wire saving devices MELSEC-Q series module				
	Model	Specifications	No. of points	Terminal		Model	Specifications	No. of points	No. of required modules	
Output	A1SY18A	Contact output, 24VDC/240VAC, 2A, independent common	8	20P		QY18A	Contact output, 24VDC/240VAC, 2A, independent common	8	1	
	A1SY28A	Triac output, 100 to 240VAC, 1A, independent common				QY22	Triac output, 100 to 240VAC, 0.6A, 16 points/common, with surge suppressor	16		
	A1SY28EU	Triac output, 100 to 240VAC, 0.6A, 4 points/common								
	A1SY68A	Transistor output, 5/12/24/48VDC, 2A, independent common, sink/source type				QY68A	Transistor output, 5 to 24VDC, 2A, independent common, sink/source type	8		
I/O combined	A1SX48Y58	Input: 24VDC, 8 points/common Output: Transistor output, 12/24VDC, 0.5A, 8 points/common, sink type	Input: 8 Output: 8	20P		QX48Y57	Input: 24VDC, 8 points/common Output: Transistor output, 12/24VDC, 0.5A, 7 points/common, sink type	Input: 8 Output: 7	1	

Note) For the detailed specifications of each module, refer to the user's manual for each module used, our website, or the FAgoods General Catalog: Time and Wire Saving Devices.

Output modules to be replaced using a digital signal converter (terminal module)

MELSEC-AnS series input module						Replacement using time and wire saving devices						
						MELSEC-Q series module			Digital signal converter (terminal module)			
	Model	Specifications	No. of points	No. of modules		Model	No. of points	No. of required modules	Cable model	No. of required cables	Module model	No. of required modules
Output	A1SY18A	Contact output, 24VDC/240VAC, 2A, independent common	8	20P		QY40P	16	1	FA-CBL**TMV20	1	FA-TH16YRA20S*1	1
	A1SY28A	Triac output, 100 to 240VAC, 1A, independent common									FA-TH16YSR20S*2	
	A1SY28EU	Triac output, 100 to 240VAC, 0.6A, 4 points/common										
	A1SY68A	Transistor output, 5/12/24/48VDC, 2A, independent common, sink/source type									FA-TH16Y2TR20*3	

*1: The spring clamp terminal block type output terminal module, FA1-TH16Y2RA20S1E, can be used by changing the solderless terminals (round and Y-shaped) to the ferrules.
*2: The spring clamp terminal block type output terminal module, FA1-TH16Y1SR20S1E, can be used by changing the solderless terminals (round and Y-shaped) to the ferrules.
*3: The spring clamp terminal block type output terminal module, FA1-TH16Y1TR20S1E, can be used by changing the solderless terminals (round and Y-shaped) to the ferrules.

** indicates a cable length.

	Replacement using time and wire saving devices							
	Junction terminal block							
	Cable model	No. of required modules	Module model	No. of required modules	Specifications	No. of points	Terminal	Remarks
	FA-CBL**TD	1	FA-TB18XY	1	18 points terminal conversion (8 points conversion, independent common)	8	18P	• An external power supply is not required.
			FA-TB161AC		16 points conversion, 1-wire type	16	18P	• An independent common is not supported. • The output current changes from 1A to 0.6A.
			FA-TB161ACC2		16 points conversion, 2-wire type		34P	• The number of points per common changes from 4 to 16.
			FA-TB18XY		18 points terminal conversion (8 points conversion, independent common)	8	18P	-
	FA-CBL**TD	1	FA-TB18XY	1	18 points terminal conversion (8 points conversion, 1-wire type)	8	18P	• The number of output points changes from 8 to 7.

** indicates a cable length.

	Replacement using time and wire saving devices	
	Digital signal converter (terminal module)	
	Specifications	Remarks
	NO contact, 24VDC/200VAC, 2A, independent common (socket type, module replaceable)	• To use a digital signal converter, an external power supply (24VDC) is required.
	Triac output, 30 to 240VAC, 1A, independent common (socket type, module replaceable)	• To use a digital signal converter, an external power supply (24VDC) is required.
		• To use a digital signal converter, an external power supply (24VDC) is required. • A cable for wiring common terminals is required.
	Transistor output, 3 to 30VDC, 2A, independent common, sink/source type	• To use a digital signal converter, an external power supply (24VDC) is required. • 48VDC is not supported.

SYSMAC C series → MELSEC iQ-R series

Large type ▶ C500, C1000H, C2000H

Model list

Conversion adapters

For the specifications of conversion adapters and modules before and after replacement, refer to user's manuals. (User's manuals can be downloaded from our website.)
Also, check that the modules satisfy the specifications of the devices currently connected.

For input/output modules

1-slot type

Input/Output	SYSMAC C series module before replacement	MELSEC iQ-R series module after replacement	Note	Conversion adapter			
				Model	Shape		No. of input/output points
					SYSMAC C series	MELSEC iQ-R series	
Input	C500-IA121	RX10	-	ERNT-1CR121X221Y	Terminal block (20 points) ▶	Terminal block (18 points)	16
	C500-ID213	RX40C7, RX70C4	*1				
	C500-IM211	RX40C7, RX70C4	*2				
	C500-ID112	RX70C4	-				
Output	C500-OC221	RY10R2					
	C500-OA121	RY20S6					
	C500-OA222						
	C500-OA226						
	C500-OD219	RY40NT5P	*3	ERNT-1CR219Y411Y			
	C500-OD217						
	C500-OD411		*3, *4				
Input	C500-ID215	RX41C4, RX41C6HS, RX71C4	-	ERNT-1CR215X218X	Terminal block (38 points) ▶	Connector (40P)	32
	C500-ID218						
	C500-IM212		*2				
Output	C500-OD412	RY41NT2P, RY41NT2H	*4, *5	ERNT-1CR412Y414Y			
	C500-OD414						
	C500-OD218		*5				
Input	C500-ID219	RX41C4 × 2, RX41C6HS × 2	*6	ERNT-2CR216X218X × 2	Connector (40P) × 2 ▶	Connector (40P) × 2	64
	C500-ID114	RX71C4 × 2					
Output	C500-OD213	RY41NT2P × 2	*6, *7	ERNT-2CR218Y × 2			

*1: When 24VDC and 8 points/common are used, consider replacing the module with the RX40PC6H using a universal conversion adapter (refer to P.284).
*2: When a rated input voltage of 12 or 24VAC is used, the voltage needs to be changed to 5, 12, or 24VDC.
*3: If the current capacity of the RY40NT5P does not satisfy the specifications of the existing module, consider replacing the module with the contact output module (RY10R2) and the conversion adapter (ERNT-1CR121X221Y).
Note that this replacement will slow down the response speed. Check the specifications of the existing module.
*4: When a rated load voltage of 48VDC is used, the voltage needs to be changed to 12 or 24VDC.
*5: If the current capacity of the RY41NT2P or RY41NT2H does not satisfy the specifications of the existing module, consider replacing the module with two transistor output modules (RY40NT5P) and the conversion adapter (ERNT-1CR218Y). When replacing the C500-OD412, it is necessary to supply power to terminal number A18 of the existing terminal block, and connect all COM terminals (A8, A17, B8, B17).
*6: When replacing the existing module with two MELSEC iQ-R series modules and two conversion adapters, the mounting height of the existing wiring changes. Check the existing wiring length.
*7: If the response speed of the RY41NT2P does not satisfy the specifications of the existing module, consider replacing the module with the high-speed output module (RY41NT2H).

2-slot type (Not applicable to extended temperature range base units (R310B-HT, R610B-HT))

Input/Output	SYSMAC C series module before replacement	MELSEC iQ-R series module after replacement	Note	Conversion adapter			
				Model	Shape		No. of input/output points
					SYSMAC C series	MELSEC iQ-R series	
Input	C500-IA122	RX10 × 2	-	ERNT-1CR122X224Y	Terminal block (38 points) ▶	Terminal block (18 points) × 2	32
Output	C500-OC224	RY10R2 × 2					
	C500-OA223	RY20S6 × 2					
	C500-OA225						
	C500-OD412	RY40NT5P × 2	*8, *9	ERNT-1CR218Y			
	C500-OD414		*8				
	C500-OD218		-				

*8: When a rated load voltage of 48VDC is used, the voltage needs to be changed to 12 or 24VDC.
*9: When replacing the C500-OD412, it is necessary to supply power to terminal number A18 of the existing terminal block, and connect all COM terminals (A8, A17, B8, B17).

Replacement using a universal conversion adapter ▶P.277

Input/output modules in the table below do not support the use of a conversion adapter. However, these modules can be replaced using a universal conversion adapter even though rewiring is required.

Input/Output	SYSMAC C series module before replacement			MELSEC iQ-R series module after replacement				Universal conversion adapter
	Model	Specifications	No. of points	Model	Specifications	No. of points	No. of required modules	
Input	C500-IA222	200 to 240VAC	16	RX28	100 to 240VAC	8	2	Supported
	C500-IA223	200 to 240VAC	32	RX28	100 to 240VAC	8	4	
Output	C500-OC223	24VDC/250VAC, independent	16	RY18R2A	240VAC/24VDC, 2A/point, independent contact	8	2	
	C500-OD215	24VDC, sink type, independent	16	RY18R2A	240VAC/24VDC, 2A/point, contact	8	2	*10
	C500-OD212	12 to 24VDC, 0.3A/point, source type	32	RY41PT1P	12/24VDC, 0.1A/point, source type	32	1	Supported
				RY40PT5P	12/24VDC, 0.5A/point, source type	16	2	

*10: The output type changes from transistor output to contact output.

Base adapters

Type	SYSMAC C series base unit before replacement	MELSEC iQ-R series base unit after replacement	Note	Base adapter model	Conversion adapter support flange model
Main	C500-BC081/082/091 C2000-BC061	R312B	-	ERNT-CQB081N	ERNT-1CR12F, ERNT-1CR8F
		R38B			ERNT-1CR8F
		R310B-HT (extended temperature range)			ERNT-1CR10F
Extension	C500-BI081 C2000-BI083	R612B			ERNT-1CR12F, ERNT-1CR8F
		R68B			ERNT-1CR8F
		R610B-HT (extended temperature range)			ERNT-1CR10F
Main	C500-BC051/052/061	R38B	-	ERNT-CQB051N	ERNT-1CR8F, ERNT-1CR5F
		R35B			ERNT-1AR5F
Extension	C500-BI051	R68B			ERNT-1CR8F, ERNT-1CR5F
		R65B			ERNT-1AR5F
Main	C500-BC031	R35B, R33B	-	ERNT-CQB031N	ERNT-1AR5F

Conversion adapter support flanges

Model	Note	Description		Remarks
ERNT-1CR12F	-	12-slot conversion adapter support flange	For main/extension base units	A conversion adapter support flange is always required when a conversion adapter is used.
ERNT-1CR8F		8-slot conversion adapter support flange		
ERNT-1AR5F		5-slot conversion adapter support flange		
ERNT-1CR10F		10-slot conversion adapter support flange	For extended temperature range main/extension base units	

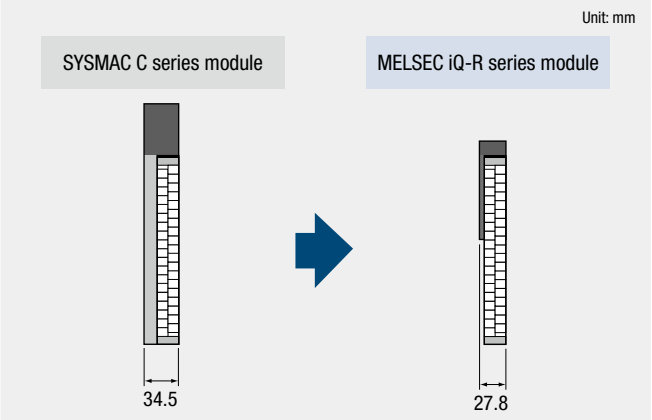
Program converter ▶P.162

Model	Remarks
ERNT-CQ1W2C	This software converts OMRON SYSMAC C series programs into MELSEC-Q series project files for GX Developer. To use OMRON SYSMAC C series programs in MELSEC iQ-R series modules, the converted MELSEC-Q series project files need to be converted again using GX Works2 or GX Works3.

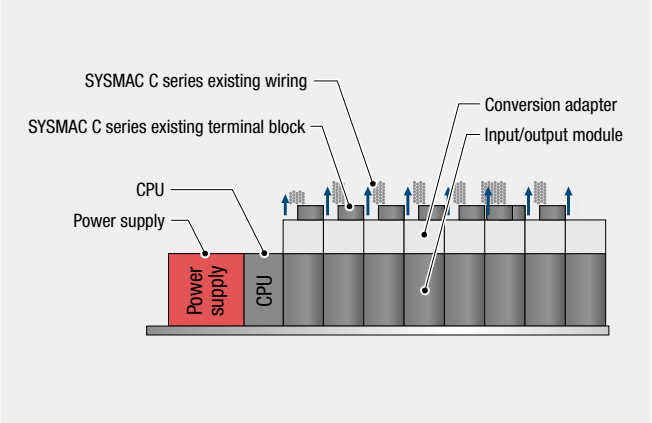
Precautions

Module width

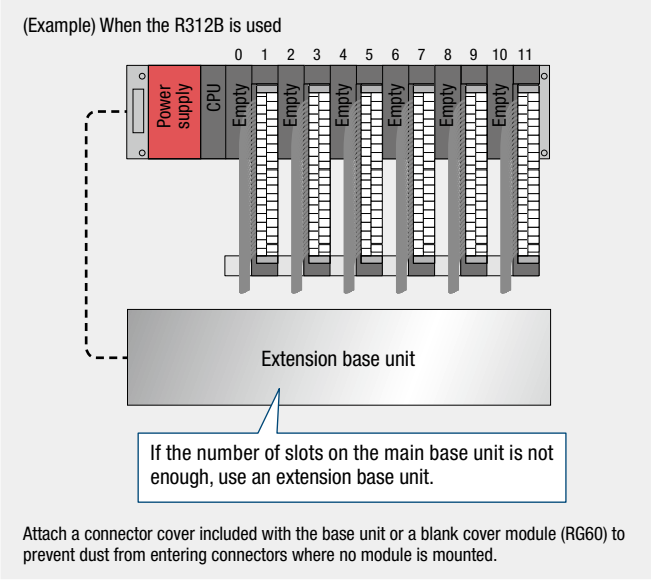
(1) Since the width of MELSEC iQ-R series modules is smaller (SYSMAC C series: 34.5mm → MELSEC iQ-R series: 27.8mm), the wiring area becomes smaller as well. Check the wiring area when mounting a conversion adapter.



(2) If the wiring causes interference with adjacent modules, lift the cables forward to prevent interference.



(3) If interference still occurs, leave the next slot open to secure a space for wiring.



Attach a connector cover included with the base unit or a blank cover module (RG60) to prevent dust from entering connectors where no module is mounted.

(4) If modules cannot be replaced in accordance with (2) and (3), consider the use of the extended temperature range base unit manufactured by Mitsubishi Electric. → P.12
Note) 2-slot type conversion adapters cannot be used.

Depth

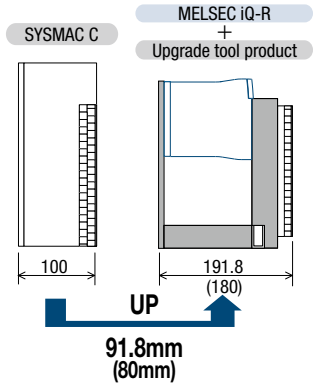
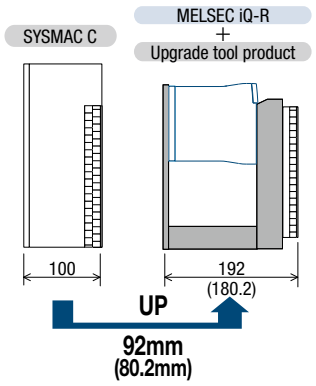
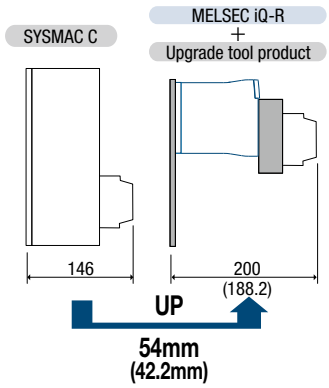
The depth from the panel surface increases. Check the depth when mounting a conversion adapter.

SYSMAC C series: Base unit + Input/output module + Terminal block/connector

MELSEC iQ-R series + Upgrade tool product: Base adapter + Base unit + Input/output module + Conversion adapter + Terminal block/connector

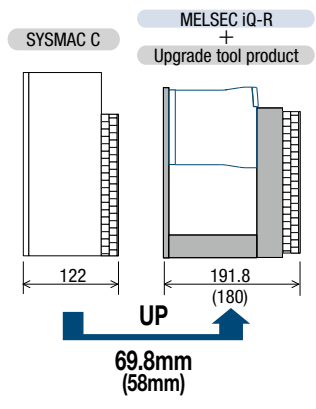
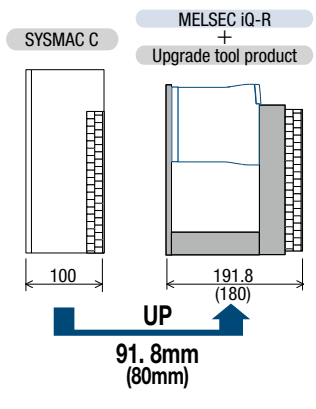
1-slot type

Values in parentheses are the depth when a base adapter is not used.

Conversion adapter	ERNT-1CR121X221Y ERNT-1CR219Y411Y	ERNT-1CR215X218X ERNT-1CR412Y414Y	ERNT-2CR216X218X ERNT-2CR218Y
Depth	91.8mm UP (80.0mm UP)	92mm UP (80.2mm UP)	54mm UP (42.2mm UP)
Mounting diagram			

2-slot type

Values in parentheses are the depth when a base adapter is not used.

Conversion adapter	ERNT-1CR122X224Y	ERNT-1CR218Y
Depth	69.8mm UP (58mm UP)	91.8mm UP (80mm UP)
Mounting diagram		

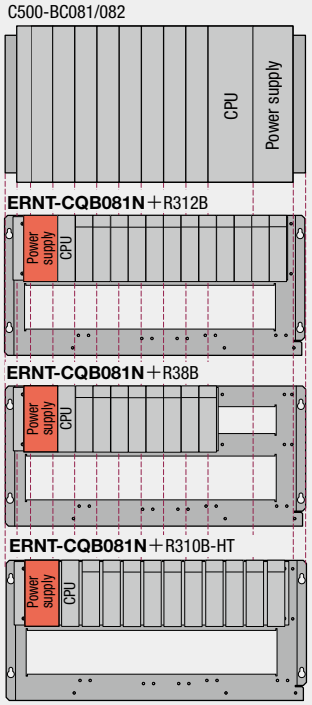
Conversion adapter support flange, base adapter

A conversion adapter support flange is always required when a conversion adapter is used. The use of a base adapter is recommended because the MELSEC iQ-R series can be installed using the SYSMAC C series base unit installation holes. (Drilling of additional holes is not required.)

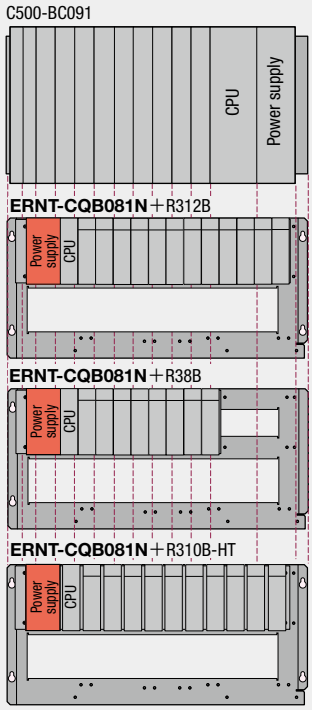
Slot positions

The slot positions differ between the SYSMAC C series modules before replacement and the MELSEC iQ-R series modules after replacement. Change the slot positions of modules and adjust wiring lengths prior to use.

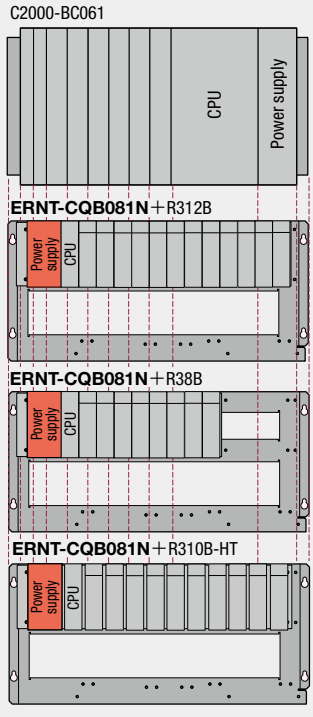
(1) C500-BC081/082 → R312B/R38B/R310B-HT



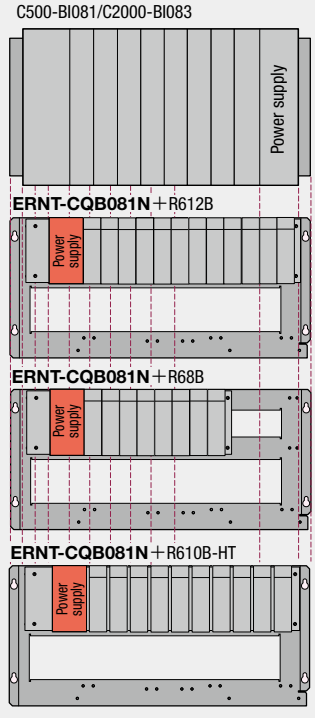
(2) C500-BC091 → R312B/R38B/R310B-HT



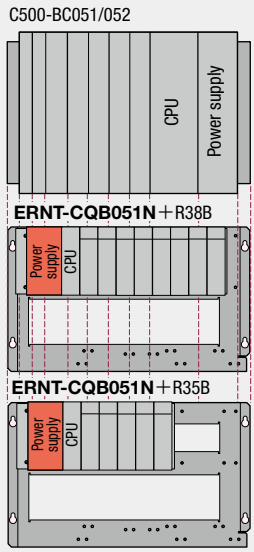
(3) C2000-BC061 → R312B/R38B/R310B-HT



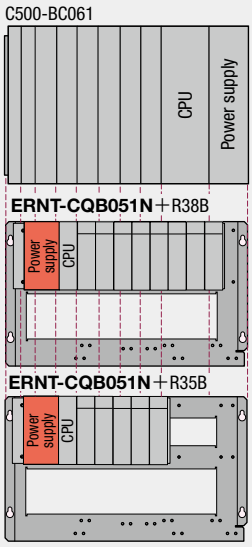
(4) C500-BI081/C2000-BI083 → R612B/R68B/R610B-HT



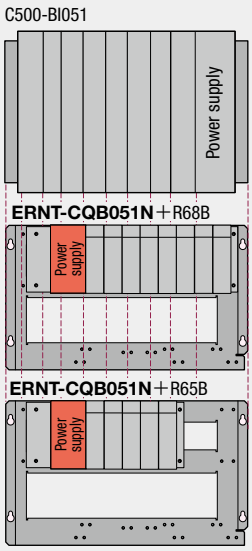
(5) C500-BC051/052 → R38B/R35B



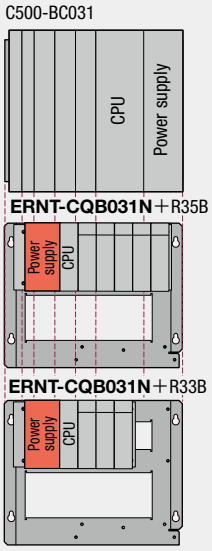
(6) C500-BC061 → R38B/R35B



(7) C500-BI051 → R68B/R65B



(8) C500-BC031 → R35B/R33B



Small type ▶ C200H series, CS series, CQM1 series

Model list

Conversion adapters

For the specifications of conversion adapters and modules before and after replacement, refer to user's manuals. (User's manuals can be downloaded from our website.)
Also, check that the modules satisfy the specifications of the devices currently connected.

For input/output modules

1-slot type

C200H series

Input/ Output	SYSMAC C series module before replacement	MELSEC iQ-R series module after replacement	Note		Conversion adapter: Model	Conversion adapter: Shape: SYSMAC C series	Conversion adapter: Shape: MELSEC iQ-R series	Conversion adapter: No. of input/ output points
Input	C200H-ID216 C200H-ID218	RX41C4 RX41C6HS	*1	-	ERNT-2CR216X218X	Connector (40P)	Connector (40P)	32
	C200H-ID217 C200H-ID219	RX41C4 × 2 RX41C6HS × 2		*2	ERNT-2CR216X218X × 2	Connector (40P) × 2	Connector (40P) × 2	64
	C200H-ID111	RX71C4 × 2						
Output	C200H-OD218	RY41NT2P		*3	ERNT-2CR218Y	Connector (40P)	Connector (40P)	32
	C200H-OD21B	RY41PT1P		-				
	C200H-OD219	RY41NT2P × 2		*2, *3	ERNT-2CR218Y × 2	Connector (40P) × 2	Connector (40P) × 2	64

*1: SYSMAC C series modules with "-N" at the end of their model name are not listed because only the difference is whether a connector is included or not.
*2: Two MELSEC iQ-R series modules and two conversion adapters are required.
*3: When a rated load voltage of 5VDC is used, the voltage needs to be changed to 12 or 24VDC.

CS series

Input/Output	SYSMAC C series module before replacement		MELSEC iQ-R series module after replacement	Note		Conversion adapter: Model	Conversion adapter: Shape: SYSMAC C series	Conversion adapter: Shape: MELSEC iQ-R series	Conversion adapter: No. of input/ output points
Input	CS1W-ID231		RX41C4 RX41C6HS	*4	*5	ERNT-2CR216X218X	Connector (40P)	Connector (40P)	32
	CS1W-ID261		RX41C4 × 2 RX41C6HS × 2		*6	ERNT-2CR216X218X × 2	Connector (40P) × 2	Connector (40P) × 2	64
Output	CS1W-OD231		RY41NT2P		*7	ERNT-2CR218Y	Connector (40P)	Connector (40P)	32
	CS1W-OD232		RY41PT1P		*8, *9				
	CS1W-OD261		RY41NT2P × 2		*10	ERNT-2CR218Y × 2	Connector (40P) × 2	Connector (40P) × 2	64
	CS1W-OD262		RY41PT1P × 2		*9, *11				
I/O combined	CS1W-MD261	Input	RX41C4 RX41C6HS		*5	ERNT-2CR216X218X	Connector (40P)	Connector (40P)	32
		Output	RY41NT2P		*7	ERNT-2CR218Y			
	CS1W-MD561	Input	RX61C6HS RX71C4		*12	ERNT-2CR216X218X			
		Output	RY41NT2H		-	- (Rewiring is required.)	-	-	-
	CS1W-MD262	Input	RX41C4 RX41C6HS		*5	ERNT-2CR216X218X	Connector (40P)	Connector (40P)	32
		Output	RY41PT1P		*9	ERNT-2CR218Y			

*4: Since the number of points per common changes (16 points/common → 32 points/common), check the common terminal connection of the module before replacement.
*5: If the existing module uses a different power supply for each 16-point group, consider rewiring to two RX40C7s.
*6: Two MELSEC iQ-R series modules and two conversion adapters are required. If the existing module uses a different power supply for each 16-point group, consider rewiring to four RX40C7s.
*7: If the existing module uses a different power supply for each 16-point group, consider rewiring to two RY40NT5Ps.
*8: If the existing module uses a different power supply for each 16-point group, consider rewiring to two RY40PT5Ps.
*9: If the current capacity of the RY41PT1P does not satisfy the specifications of the existing module, consider replacing the module with the high-speed input module (RY41PT2H).
*10: Two MELSEC iQ-R series modules and two conversion adapters are required. If the existing module uses a different power supply for each 16-point group, consider rewiring to four RY40NT5Ps.
*11: If the existing module uses a different power supply for each 16-point group, consider rewiring to four RY40PT5Ps.
*12: If the existing module uses a different power supply for each 16-point group, consider rewiring to two RX70C4s.

CQM1 series

Input/Output	SYSMAC C series module before replacement	MELSEC iQ-R series module after replacement	Note	Conversion adapter: Model	Conversion adapter: Shape: SYSMAC C series	Conversion adapter: Shape: MELSEC iQ-R series	Conversion adapter: No. of input/ output points
Input	CQM1-ID213 CQM1-ID214	RX41C4 RX41C6HS	-	ERNT-2CR216X218X	Connector (40P)	Connector (40P)	32
	CQM1-ID112	RX71C4	-				
Output	CQM1-OD213	RY41NT2P	*13	ERNT-2CR218Y			
	CQM1-OD216	RY41PT1P	-				

*13: When a rated load voltage of 5VDC is used, the voltage needs to be changed to 12 or 24VDC. Or, consider replacing the module with the high-speed output module (RY41NT2H).

Replacement using a universal conversion adapter ▶P.278

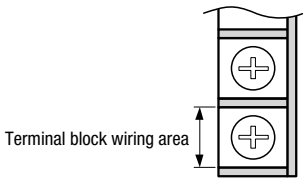
Input/output modules in the table below do not support the use of a conversion adapter. However, these modules can be replaced using a universal conversion adapter even though rewiring is required.

Input/ Output	SYSMAC C series module before replacement			MELSEC iQ-R series module after replacement				Note	Universal conversion adapter
	Model	Specifications	No. of points	Model	Specifications	No. of points	No. of required modules		
Input	C200H-IA121	100 to 120VAC	8	RX10	100 to 120VAC	16	1	-	Supported
	C200H-IA122		16						
	C200H-IA122V								
	C200H-IA221	200 to 240VAC	8	RX28	100 to 240VAC	8	1		
	C200H-IA222		16				2		
	C200H-IA222V								
	C200H-ID001	No-voltage input (No-contact input), for NPN output	8	RX40C7	24VDC, positive/negative common shared type	16	1	*14	
	C200H-ID002	No-voltage input (No-contact input), for PNP output							
	C200H-ID211	12 to 24VDC, positive/negative common shared type	8	RX40C7	24VDC, positive/negative common shared type	16	1	-	
				RX70C4	5/12VDC, positive/negative common shared type	16	1		
	C200H-ID212	24VDC, positive/negative common shared type	16	RX40C7	24VDC, positive/negative common shared type	16	1		
	C200H-IM211	12 to 24VAC/DC	8	RX40C7	24VDC, positive/negative common shared type	16	1	*15	
				RX70C4	5/12VDC, positive/negative common shared type	16	1		
	C200H-IM212	24VAC/DC	16	RX40C7	24VDC, positive/negative common shared type	16	1	*16	
	CS1W-IA111	100 to 120VAC/DC	16	RX10	100 to 120VAC	16	1	*17	
	CS1W-IA211	200 to 240VAC	16	RX28	100 to 240VAC	8	2	-	
	CS1W-ID211	24VDC, positive/negative common shared type	16	RX40C7	24VDC, positive/negative common shared type	16	1		
Output	C200H-OA221	250VAC maximum, 1A	8	RY20S6	100 to 240VAC, 0.6A	16	1	-	
	C200H-OA222	250VAC maximum, 0.5A	12						
	C200H-OA222V	250VAC maximum, 0.3A	12						
	C200H-OA223	250VAC maximum, 1.2A	8						
	C200H-OA224	250VAC maximum, 0.5A	12						
	C200H-OC221	250VAC/24VDC maximum, 2A	8	RY10R2	240VAC/24VDC, 2A	16	1		
	C200H-OC222		12						
	C200H-OC222N								
	C200H-OC222V								
	C200H-OC225		16						
	C200H-OC226								
	C200H-OC226N								
	C200H-OC223	250VAC/24VDC maximum, 2A, independent contact	5	RY18R2A	240VAC/24VDC, 2A, independent contact	8	1		
	C200H-OC224		8						
	C200H-OC224N								
	C200H-OC224V								
	C200H-OD411	12 to 48VDC, 1A, sink type	8	RY40NT5P	12 to 24VDC, 0.5A, sink type	16	1	*18	
	C200H-OD211	24VDC, 0.3A, sink type	12					-	
	C200H-OD212		16						
	C200H-OD213	24VDC, 2.1A, sink type	8						
	C200H-OD214	24VDC, 0.8A, source type	8	RY40PT5P	12 to 24VDC, 0.5A, source type	16	1	-	
	C200H-OD216	5 to 24VDC, 0.3A, source type	8					*19	
	C200H-OD217		12						
	C200H-OD21A	24VDC, 1A, source type	16					-	
	CS1W-OC201	250VAC/24VDC, 2A, 120VDC, 0.1A, independent contact	8	RY18R2	240VAC/24VDC, 2A, independent contact	8	1	*20	
	CS1W-OC211	250VAC/24VDC, 2A, 120VDC, 0.1A	16	RY10R2	240VAC/24VDC, 2A	16	1		
	CS1W-OA201	250VAC, 1.2A	8	RY20S6	100 to 240VAC, 0.6A	16	1	-	
	CS1W-OA211	250VAC, 0.5A	16						
	CS1W-OD211	12 to 24VDC, 0.5A, sink type	16	RY40NT5P	12 to 24VDC, 0.5A, sink type	16	1		
	CS1W-OD212	24VDC, 0.5A, source type	16	RY40PT5P	12 to 24VDC, 0.5A, source type	16	1		

*14: Additional power supply input is required at the wiring side.
*15: When a rated input voltage of 12 or 24VAC is used, the voltage needs to be changed to 12 or 24VDC.
*16: When a rated input voltage of 24VAC is used, the voltage needs to be changed to 24VDC.
*17: When a rated input voltage of 100VDC is used, the module cannot be replaced.
*18: When a rated load voltage of 48VDC is used, the voltage needs to be changed to 12 or 24VDC.
*19: When a rated load voltage of 5VDC is used, the power supply voltage needs to be changed.
*20: When a rated load voltage of 100VDC is used, the module cannot be replaced.

Reference: Solderless terminal and wire specifications

Item	SYSMAC C series module before replacement	MELSEC iQ-R series module after replacement	Universal conversion adapter
Solderless terminal size	M3.5	M3	M3.5
Terminal block wiring area	7mm	6mm	7.3mm



Replacement of modules that do not support the use of a conversion adapter

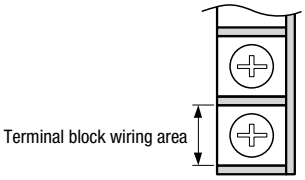
Input/ Output	SYSMAC C series module before replacement			MELSEC iQ-R series module after replacement				Note
	Model	Specifications	No. of points	Model	Specifications	No. of points	No. of required modules	
Input	CQM1H-CPU61 CQM1H-CPU51 CQM1H-CPU21 CQM1H-CPU11	24VDC, positive/negative common shared type	16	RX40C7	24VDC, positive/negative common shared type	16	1	*21
	CQM1-ID211	12 to 24VDC, independent common	8	There is no applicable MELSEC iQ-R series module.				-
	CQM1-ID111	12VDC, positive/negative common shared type	16	RX70C4	5/12VDC, positive/negative common shared type	16	1	
	CQM1-ID212	24VDC, positive/negative common shared type	16	RX40C7	24VDC, positive/negative common shared type	16	1	
	CQM1-IA121	100 to 120VAC	8	RX10	100 to 120VAC	16	1	
	CQM1-IA221	200 to 240VAC	8	RX28	100 to 240VAC	8	1	
Output	CQM1-OC221 CQM1-OC224	250VAC/24VDC, 2A, independent	8	RY18R2A	240VAC/24VDC, 2A, independent	8	1	-
	CQM1-OC222	250VAC/24VDC, 2A	16	RY10R2	240VAC/24VDC, 2A	16	1	
	CQM1-OD211	24VDC, 2A, sink type	8	RY40NT5P	12 to 24VDC, 0.5A, sink type	16	1	
	CQM1-OD212	4.5 to 26.4VDC, sink type	16	RY40NT5P	12 to 24VDC, 0.5A, sink type	16	1	*22
	CQM1-OD214	4.5 to 26.4VDC, source type	16	RY40PT5P	12 to 24VDC, 0.5A, source type	16	1	
	CQM1-OD215	24VDC, 1.0A, source type	8	There is no applicable MELSEC iQ-R series module.				-
	CQM1-OA221 CQM1-OA222	100 to 240VAC, 0.4A	8	RY20S6	100 to 240VAC, 0.6A	16	1	

*21: The module after replacement is an input module. A CPU module needs to be replaced as well.
*22: When a rated input voltage of 5VDC is used, the power supply voltage needs to be changed.

Reference: Solderless terminal and wire specifications

Item	SYSMAC C series module before replacement	MELSEC iQ-R series module after replacement
Solderless terminal size	M3*	M3
Terminal block wiring area	6.2mm*	6mm

*: The width of solderless terminals before replacement must be 6.2mm or less.
Note that there may be a case that the terminals cannot be wired to the terminal block of the MELSEC iQ-R series.



Program converter ▶P.162

Model	Remarks
ERNT-CQ1W2C	This software converts OMRON SYSMAC C series programs into MELSEC-Q series project files for GX Developer. To use OMRON SYSMAC C series programs in MELSEC iQ-R series modules, the converted MELSEC-Q series project files need to be converted again using GX Works2 or GX Works3.

Base units manufactured by Mitsubishi Electric

Note

The base unit installation hole positions (four holes) differ between the SYSMAC C series (C200H, CS, CQM1) base units and the MELSEC iQ-R series base units. Drilling of additional holes to the control panel is required.

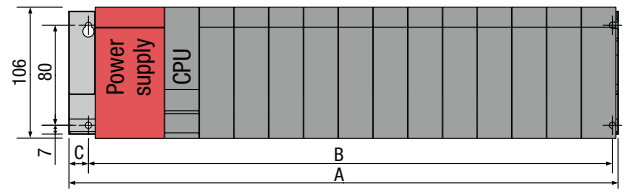
C200H series

Installation dimensions

When replacing the SYSMAC C200H series with the MELSEC iQ-R series, the installation dimensions differ depending on the base unit used.

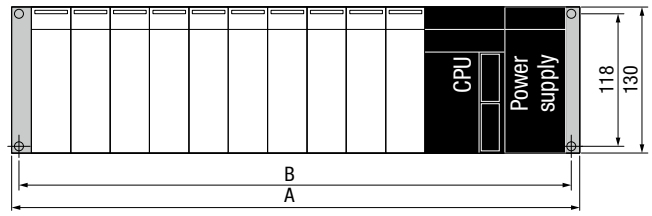
Unit: mm

◎ MELSEC iQ-R series



MELSEC iQ-R series base unit model	Description	A	B	C	Installation hole screw size
R312B	Main base unit	439	417 to 419	15.5	M4
R38B		328	306 to 308	15.5	
R35B		245	222.5 to 224.5	15.5	
R33B		189	167 to 169	15.5	
R612B	Extension base unit (type requiring a power supply module)	439	417 to 419	15.5	
R68B		328	306 to 308	15.5	
R65B		245	222.5 to 224.5	15.5	
R310B-HT	Extended temperature range main base unit	439	417 to 419	15.5	
R610B-HT	Extended temperature range extension base unit	439	417 to 419	15.5	

◎ (Reference) C200H series



CS series base unit model	Description	A	B	Installation hole screw size
C200HW-BC101-V1	CPU base unit	505	491	M4
C200HW-BC081-V1		435	421	
C200HW-BC051		330	316	
C200HW-BC031		260	246	
C200HW-BI101-V1	I/O base unit	434	420	
C200HW-BI081-V1		364	350	
C200HW-BI051		259	245	
C200HW-BI031		189	175	

Comparison of external dimensions and installation hole pitches

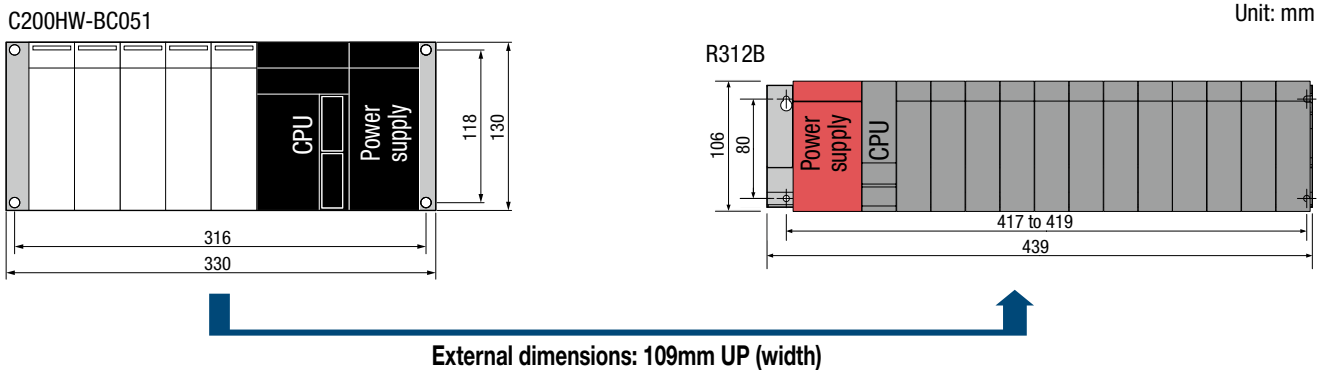
Use the following tables to check the differences of external dimensions and installation hole pitches before and after replacement.

Note

"▲" in the tables indicates an increase of the external dimensions after replacement as shown in the example below. The installation position needs to be reconsidered.
If the number of slots on the main base unit is not enough, use an extension base unit.

(Example) When the C200H series base unit (C200HW-BC051) is replaced with the MELSEC iQ-R series base unit (R312B)

Unit: mm



External dimensions: 109mm UP (width)

Replacing with the MELSEC iQ-R series base unit

1) Main base units

◎: Same dimensions, ○: C200H series is larger, ▲: C200H series is smaller

	C200H series base unit			MELSEC iQ-R series base unit							Remarks
							Comparison*1 ([MELSEC iQ-R series] - [C200H series])				
							External dimensions		Installation hole pitch*2		
	Model	Power supply	Maximum No. of slots	Model	Power supply	Maximum No. of slots	Width	Height	Width	Height	
(1)	C200HW-BC101-V1	Required	10	R312B	Required	12	○ (-66)	○ (-24)	-74 to -72	-38	
				R310B-HT	Required	10	○ (-66)	○ (-24)	-74 to -72	-38	
(2)	C200HW-BC081-V1	Required	8	R312B	Required	12	▲ (4)	○ (-24)	-4 to -2	-38	
				R310B-HT	Required	10	▲ (4)	○ (-24)	-4 to -2	-38	
				R38B	Required	8	○ (-107)	○ (-24)	-115 to -113	-38	• Reconsider the base unit position in the control panel in accordance with the external dimensions and installation hole pitches after replacement.
(3)	C200HW-BC051	Required	5	R312B	Required	12	▲ (109)	○ (-24)	101 to 103	-38	
				R310B-HT	Required	10	▲ (109)	○ (-24)	101 to 103	-38	
				R38B	Required	8	○ (-2)	○ (-24)	-10 to -8	-38	
				R35B	Required	5	○ (-85)	○ (-24)	-93.5 to -91.5	-38	
(4)	C200HW-BC031	Required	3	R38B	Required	8	▲ (68)	○ (-24)	60 to 62	-38	
				R35B	Required	5	○ (-15)	○ (-24)	-23.5 to -21.5	-38	
				R33B	Required	3	○ (-71)	○ (-24)	-79 to -77	-38	

*1: Values in parentheses are differences in dimensions between the MELSEC iQ-R series base units and the C200H series base units. (Unit: mm)
*2: The difference in dimension equals to the distance between installation holes. When installing the MELSEC iQ-R series base unit using the existing installation hole(s) (at least one) of the C200H series base unit, it is difficult or impossible to drill new holes as the difference value becomes closer to zero.

2) Extension base units

◎: Same dimensions, ○: C200H series is larger, ▲: C200H series is smaller

	C200H series base unit			MELSEC iQ-R series base unit							Remarks
	Model	Power supply	Maximum No. of slots	Model	Power supply	Maximum No. of slots	Comparison*1 ([MELSEC iQ-R series] - [C200H series])				
							External dimensions		Installation hole pitch*2		
							Width	Height	Width	Height	
(1)	C200HW-BI101-V1	Required	10	R612B	Required	12	▲ (5)	○ (-24)	-3 to -1	-38	• Reconsider the base unit position in the control panel in accordance with the external dimensions and installation hole pitches after replacement.
				R610B-HT	Required	10	▲ (5)	○ (-24)	-3 to -1	-38	
(2)	C200HW-BI081-V1	Required	8	R612B	Required	12	▲ (75)	○ (-24)	67 to 69	-38	
				R610B-HT	Required	10	▲ (75)	○ (-24)	67 to 69	-38	
				R68B	Required	8	○ (-36)	○ (-24)	-44 to -42	-38	
(3)	C200HW-BI051	Required	5	R612B	Required	12	▲ (180)	○ (-24)	172 to 174	-38	
				R610B-HT	Required	10	▲ (180)	○ (-24)	172 to 174	-38	
				R68B	Required	8	▲ (69)	○ (-24)	61 to 63	-38	
				R65B	Required	5	○ (-14)	○ (-24)	-22.5 to -20.5	-38	
(4)	C200HW-BI031	Required	3	R68B	Required	8	▲ (139)	○ (-24)	131 to 133	-38	
				R65B	Required	5	▲ (56)	○ (-24)	47.5 to 49.5	-38	

*1: Values in parentheses are differences in dimensions between the MELSEC iQ-R series base units and the C200H series base units. (Unit: mm)
*2: The difference in dimension equals to the distance between installation holes. When installing the MELSEC iQ-R series base unit using the existing installation hole(s) (at least one) of the C200H series base unit, it is difficult or impossible to drill new holes as the difference value becomes closer to zero.

Slot positions

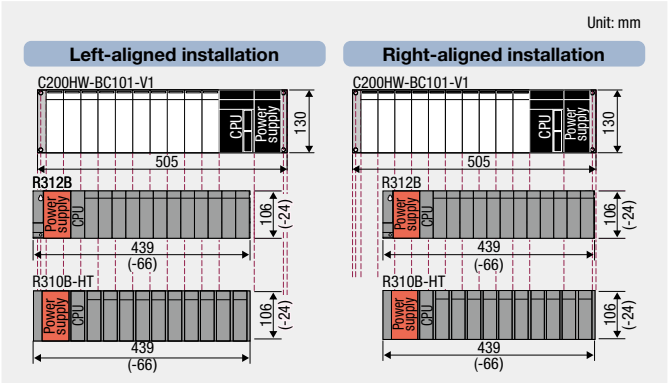
The slot positions differ between the SYSMAC C200H series modules before replacement and the MELSEC iQ-R series modules after replacement. Change the slot positions of modules and adjust wiring lengths prior to use.

Note

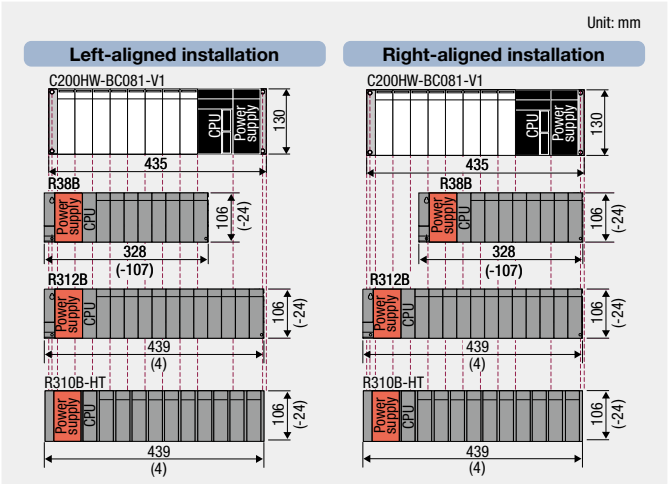
The installation hole size of the MELSEC iQ-R series base unit is the same as that of the SYSMAC C200H series base unit. Therefore, the installation holes are used as the reference for left-aligned and right-aligned installations.
Values in parentheses are differences in dimensions between the MELSEC iQ-R series base unit and the C200H series base unit.

When a main base unit is replaced

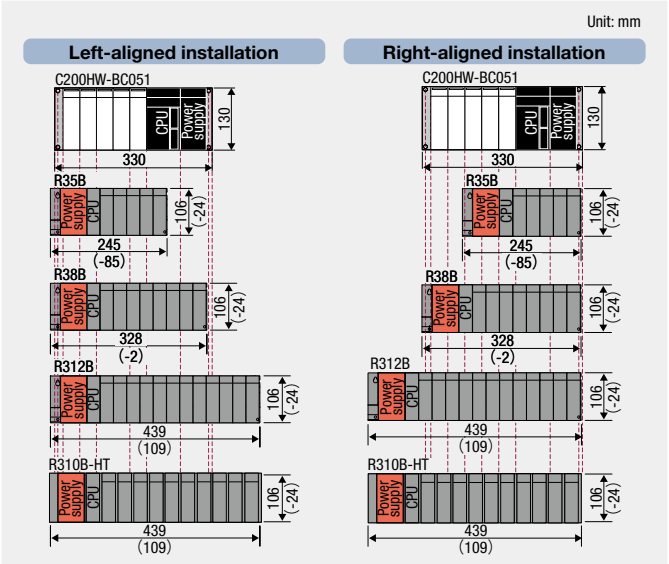
(1) C200HW-BC101-V1 → R312B, R310B-HT



(2) C200HW-BC081-V1 → R38B, R312B, R310B-HT

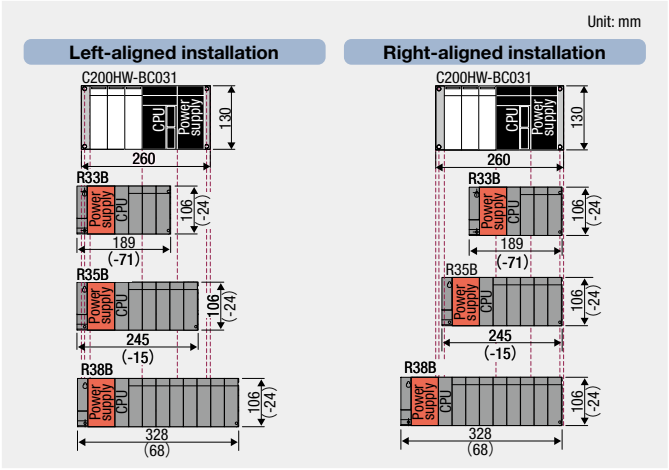


(3) C200HW-BC051 → R35B, R38B, R312B, R310B-HT



(4) C200HW-BC031 → R33B, R35B, R38B

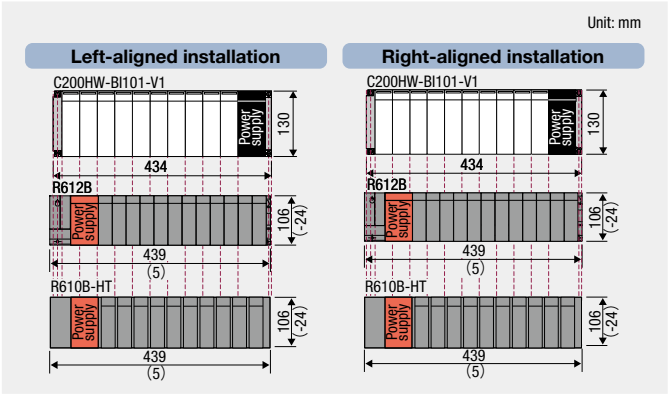
Unit: mm



When an extension base unit is replaced

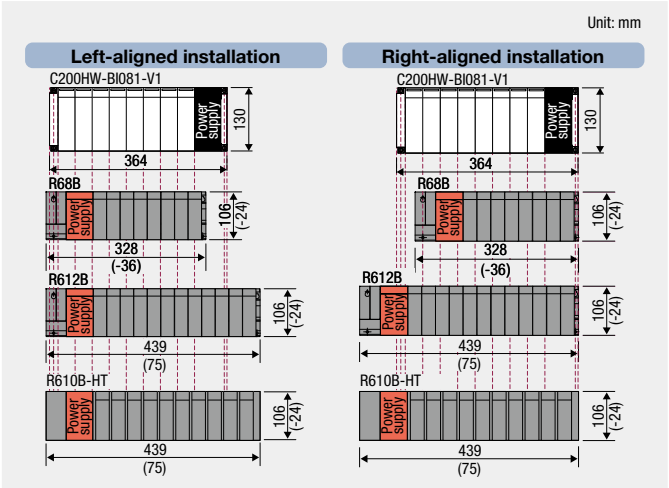
(1) C200HW-BI101-V1 → R612B, R610B-HT

Unit: mm



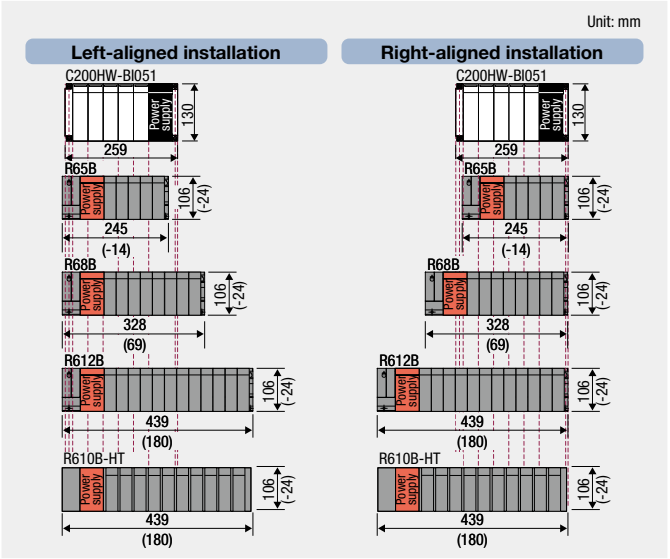
(2) C200HW-BI081-V1 → R68B, R612B, R610B-HT

Unit: mm



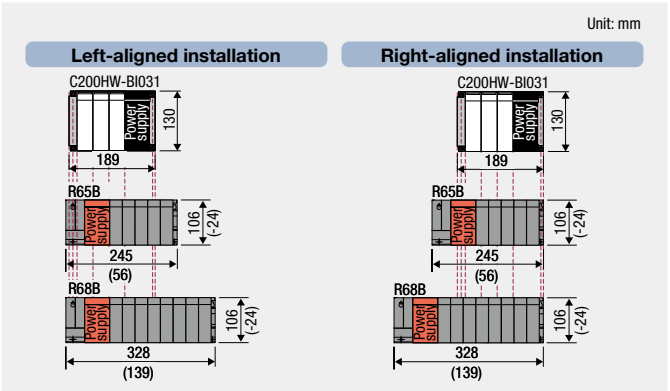
(3) C200HW-BI051 → R65B, R68B, R612B, R610B-HT

Unit: mm



(4) C200HW-BI031 → R65B, R68B

Unit: mm



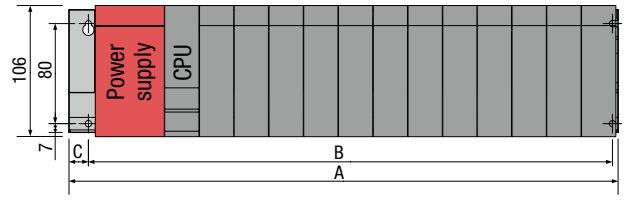
CS series

Installation dimensions

When replacing the SYSMAC CS series with the MELSEC iQ-R series, the installation dimensions differ depending on the base unit used.

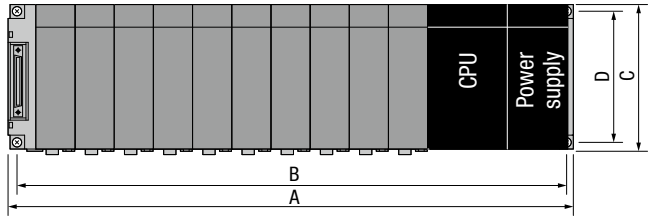
Unit: mm

◎ MELSEC iQ-R series



MELSEC iQ-R series base unit model	Description	A	B	C	Installation hole screw size
R312B	Main base unit	439	417 to 419	15.5	M4
R38B		328	306 to 308	15.5	
R35B		245	222.5 to 224.5	15.5	
R33B		189	167 to 169	15.5	
R612B	Extension base unit (type requiring a power supply module)	439	417 to 419	15.5	
R68B		328	306 to 308	15.5	
R65B		245	222.5 to 224.5	15.5	
R310B-HT	Extended temperature range main base unit	439	417 to 419	15.5	
R610B-HT	Extended temperature range extension base unit	439	417 to 419	15.5	

◎ (Reference) CS series



CS series base unit model	Description	A	B	C	D	Installation hole screw size
CS1W-BC102, CS1W-BC103	CPU base unit	505	491	132	118	M4
CS1W-BC082, CS1W-BC083		435	421			
CS1W-BC052, CS1W-BC053		330	316			
CS1W-BC032, CS1W-BC033		260	246			
CS1W-BC022, CS1W-BC023		198.5	172.3	157	145	
CS1W-BI102, CS1W-BI103	Extension base unit	505	491	130	118	
CS1W-BI082, CS1W-BI083		435	421			
CS1W-BI052, CS1W-BI053		330	316			
CS1W-BI032, CS1W-BI033		260	246			

Comparison of external dimensions and installation hole pitches

Use the following tables to check the differences of external dimensions and installation hole pitches before and after replacement.

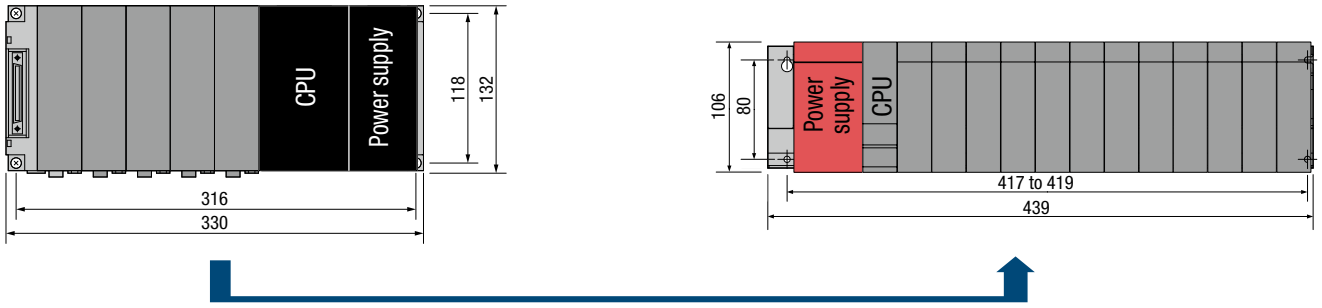
Note

"▲" in the tables indicates an increase of the external dimensions after replacement as shown in the example below. The installation position needs to be reconsidered.
If the number of slots on the main base unit is not enough, use an extension base unit.

(Example) When the CS series base unit (CS1W-BC102, CS1W-BC103) is replaced with the MELSEC iQ-R series base unit (R312B)

CS1W-BC052/CS1W-BC053

Unit: mm



External dimensions: 109mm UP (width)

Replacing with the MELSEC iQ-R series base unit

1) Main base units

◎: Same dimensions, ○: CQM1 series is larger, ▲: CQM1 series is smaller

	CS series base unit			MELSEC iQ-R series base unit							Remarks
	Model	Power supply	Maximum No. of slots	Model	Power supply	Maximum No. of slots	Comparison*1 ([MELSEC iQ-R series] - [CS series])				
							External dimensions		Installation hole pitch*2		
							Width	Height	Width	Height	
(1)	CS1W-BC102, CS1W-BC103	Required	10	R312B	Required	12	○ (-66)	○ (-26)	-74 to -72	-38	• Reconsider the base unit position in the control panel in accordance with the external dimensions and installation hole pitches after replacement.
				R310B-HT	Required	10	○ (-66)	○ (-26)	-74 to -72	-38	
(2)	CS1W-BC082, CS1W-BC083	Required	8	R312B	Required	12	▲ (4)	○ (-26)	-4 to -2	-38	
				R310B-HT	Required	10	▲ (4)	○ (-26)	-4 to -2	-38	
				R38B	Required	8	○ (-107)	○ (-26)	-115 to -113	-38	
(3)	CS1W-BC052, CS1W-BC053	Required	5	R312B	Required	12	▲ (109)	○ (-26)	101 to 103	-38	
				R310B-HT	Required	10	▲ (109)	○ (-26)	101 to 103	-38	
				R38B	Required	8	○ (-2)	○ (-26)	-10 to -8	-38	
				R35B	Required	5	○ (-85)	○ (-26)	-93.5 to -91.5	-38	
(4)	CS1W-BC032, CS1W-BC033	Required	3	R38B	Required	8	▲ (68)	○ (-26)	60 to 62	-38	
				R35B	Required	5	○ (-15)	○ (-26)	-23.5 to -21.5	-38	
				R33B	Required	3	○ (-71)	○ (-26)	-79 to -77	-38	
(5)	CS1W-BC022, CS1W-BC023	Required	2	R35B	Required	5	▲ (46.5)	○ (-51)	50.2 to 52.2	-65	
				R33B	Required	3	○ (-9.5)	○ (-51)	-5.3 to -3.3	-65	

*1: Values in parentheses are differences in dimensions between the MELSEC iQ-R series base units and the CS series base units. (Unit: mm)
*2: The difference in dimension equals to the distance between installation holes. When installing the MELSEC iQ-R series base unit using the existing installation hole(s) (at least one) of the CS series base unit, it is difficult or impossible to drill new holes as the difference value becomes closer to zero.

2) Extension base units

◎: Same dimensions, ○: CQM1 series is larger, ▲: CQM1 series is smaller

	CS series base unit			MELSEC iQ-R series base unit							Remarks
	Model	Power supply	Maximum No. of slots	Model	Power supply	Maximum No. of slots	Comparison*1 ([MELSEC iQ-R series] - [CS series])				
							External dimensions		Installation hole pitch*2		
							Width	Height	Width	Height	
(1)	CS1W-BI102, CS1W-BI103	Required	10	R612B	Required	12	○ (-66)	○ (-24)	-74 to -72	-38	
				R610B-HT	Required	10	○ (-66)	○ (-24)	-74 to -72	-38	
(2)	CS1W-BI082, CS1W-BI083	Required	8	R612B	Required	12	▲ (4)	○ (-24)	-4 to -2	-38	
				R610B-HT	Required	10	▲ (4)	○ (-24)	-4 to -2	-38	
				R68B	Required	8	○ (-107)	○ (-24)	-115 to -113	-38	• Reconsider the base unit position in the control panel in accordance with the external dimensions and installation hole pitches after replacement.
(3)	CS1W-BI052, CS1W-BI053	Required	5	R612B	Required	12	▲ (109)	○ (-24)	101 to 103	-38	
				R610B-HT	Required	10	▲ (109)	○ (-24)	101 to 103	-38	
				R68B	Required	8	○ (-2)	○ (-24)	-10 to -8	-38	
				R65B	Required	5	○ (-85)	○ (-24)	-93.5 to -91.5	-38	
(4)	CS1W-BI032, CS1W-BI033	Required	3	R68B	Required	8	▲ (68)	○ (-24)	60 to 62	-38	
				R65B	Required	5	○ (-15)	○ (-24)	-23.5 to -21.5	-38	

*1: Values in parentheses are differences in dimensions between the MELSEC iQ-R series base units and the CS series base units. (Unit: mm)
*2: The difference in dimension equals to the distance between installation holes. When installing the MELSEC iQ-R series base unit using the existing installation hole(s) (at least one) of the CS series base unit, it is difficult or impossible to drill new holes as the difference value becomes closer to zero.

Slot positions

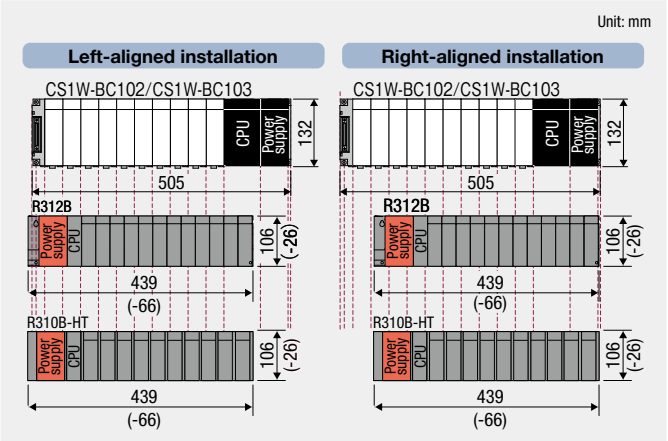
The slot positions differ between the SYSMAC CS series modules before replacement and the MELSEC iQ-R series modules after replacement. Change the slot positions of modules and adjust wiring lengths prior to use.

Note

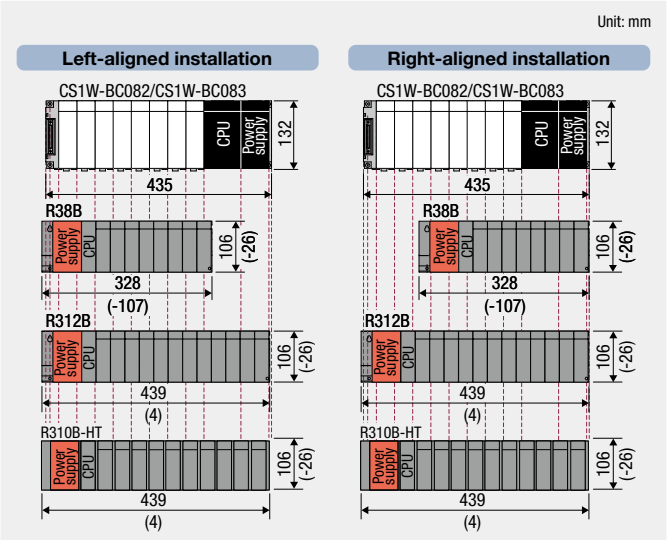
The installation hole size of the MELSEC iQ-R series base unit is the same as that of the SYSMAC CS series base unit. Therefore, the installation holes are used as the reference for left-aligned and right-aligned installations. Values in parentheses are differences in dimensions between the MELSEC iQ-R series base unit and the CS series base unit.

When a main base unit is replaced

(1) CS1W-BC102, CS1W-BC103 → R312B, R310B-HT

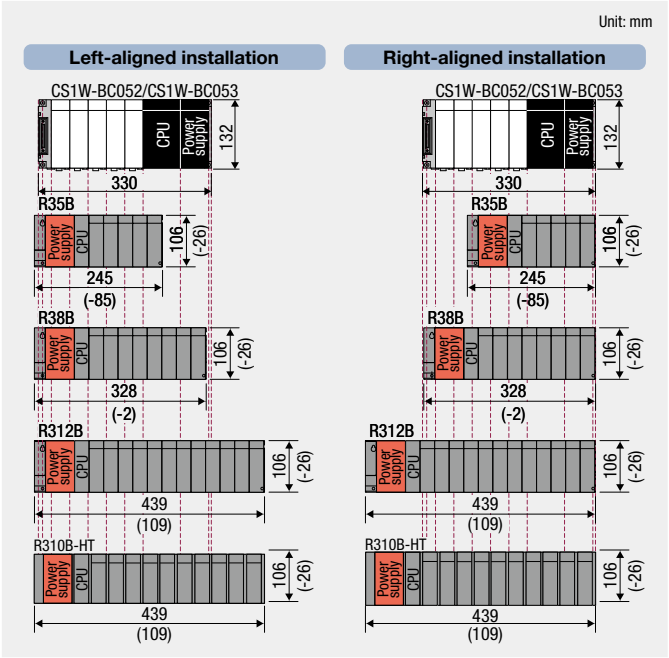


(2) CS1W-BC082, CS1W-BC083 → R38B, R312B, R310B-HT



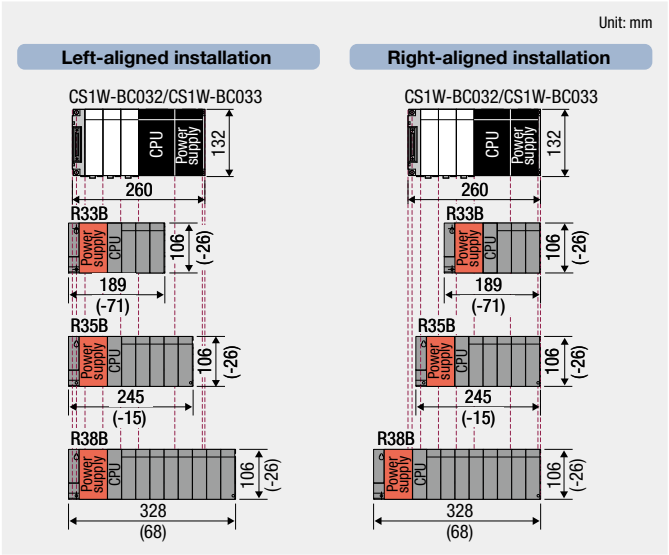
(3) CS1W-BC052, CS1W-BC053 → R35B, R38B, R312B, R310B-HT

Unit: mm



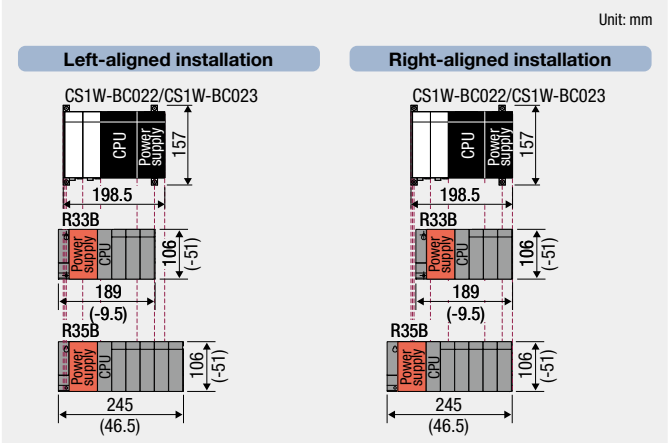
(4) CS1W-BC032, CS1W-BC033 → R33B, R35B, R38B

Unit: mm



(5) CS1W-BC022, CS1W-BC023 → R33B, R35B

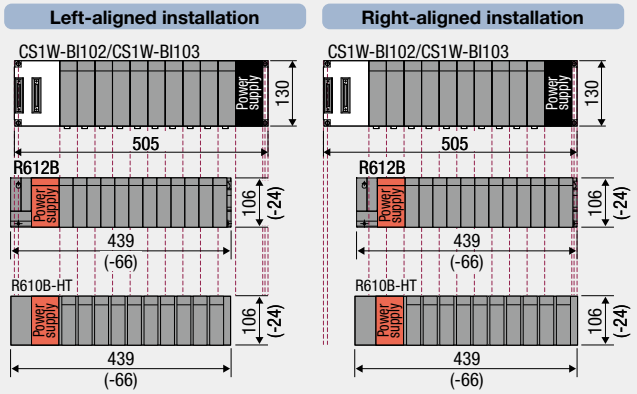
Unit: mm



When an extension base unit is replaced

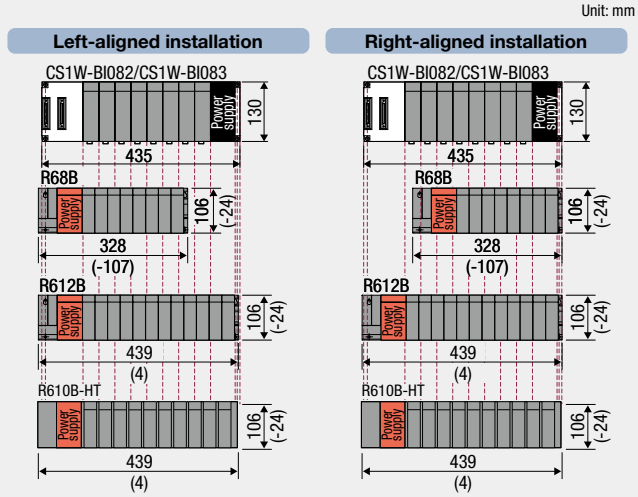
(1) CS1W-BI102, CS1W-BI103 → R612B, R610B-HT

Unit: mm



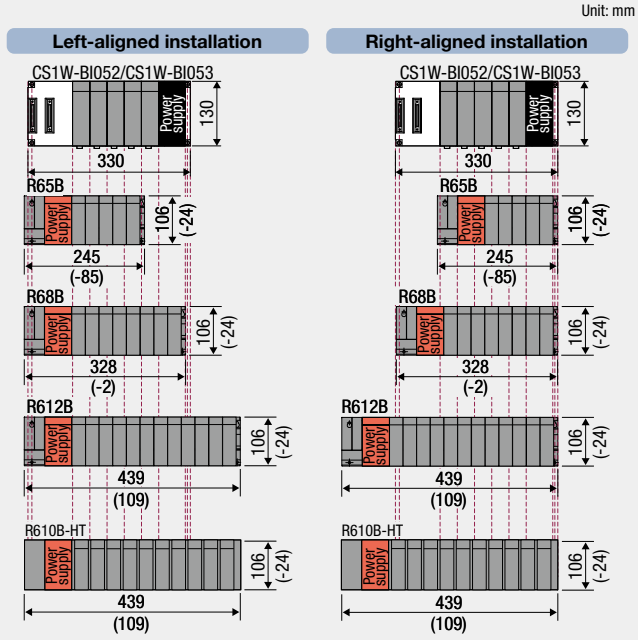
(2) CS1W-BI082, CS1W-BI083 → R68B, R612B, R610B-HT

Unit: mm



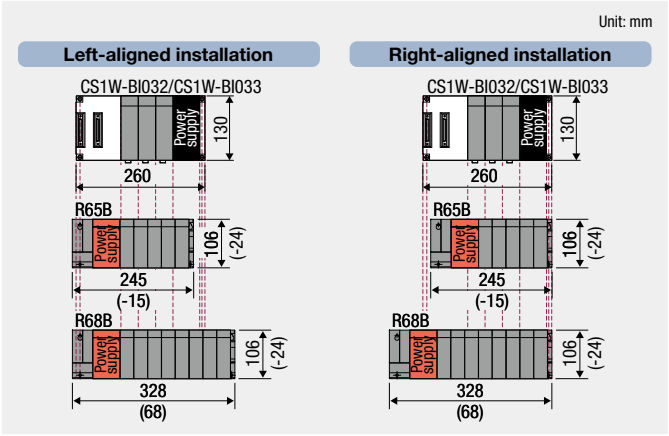
(3) CS1W-BI052, CS1W-BI053 → R65B, R68B, R612B, R610B-HT

Unit: mm



(4) CS1W-BI032, CS1W-BI033 → R65B, R68B

Unit: mm

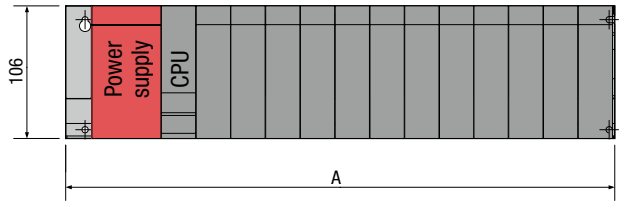


Installation dimensions

When replacing the SYSMAC CQM1 series with the MELSEC iQ-R series, the installation dimensions differ depending on the base unit used.

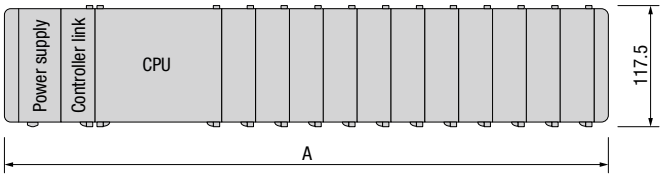
◎ MELSEC iQ-R series

Unit: mm



MELSEC iQ-R series base unit model	Description	A
R312B	Main base unit	439
R38B		328
R35B		245
R33B		189
R612B	Extension base unit (type requiring a power supply module)	439
R68B		328
R65B		245
R310B-HT	Extended temperature range main base unit	439
R610B-HT	Extended temperature range extension base unit	

◎ (Reference) CQM1 series



CQM1 series base unit model	Description	A
CQM1-PA203 + 11 I/O modules, controller link module	Power supply module: CQM1-PA203	571
CQM1-PA203 + 11 I/O modules		539
CQM1-PA203 + 8 I/O modules		443
CQM1-PA203 + 5 I/O modules		347
CQM1-PA203 + 3 I/O modules		283
CQM1-PA206/PA216/PD026 + 11 I/O modules, controller link module	Power supply module: CQM1-PA206/PA216/PD026	603
CQM1-PA206/PA216/PD026 + 11 I/O modules		571
CQM1-PA206/PA216/PD026 + 8 I/O modules		475
CQM1-PA206/PA216/PD026 + 5 I/O modules		379
CQM1-PA206/PA216/PD026 + 3 I/O modules		315
CQM1-PA203 + 5 I/O modules, I/O expansion module, controller link module	Power supply module: CQM1-PA203, I/O expansion module	411
CQM1-PA203 + 5 I/O modules, I/O expansion module		379
CQM1-PA206/PA216/PD026 + 5 I/O modules, I/O expansion module, controller link module	Power supply module: CQM1-PA206/PA216/PD026, I/O expansion module	443
CQM1-PA206/PA216/PD026 + 5 I/O modules, I/O expansion module		411
I/O expansion block with 11 I/O modules	I/O expansion block	412.2
I/O expansion block with 8 I/O modules		316.2
I/O expansion block with 5 I/O modules		220.2
I/O expansion block with 3 I/O modules		156.2

Comparison of external dimensions

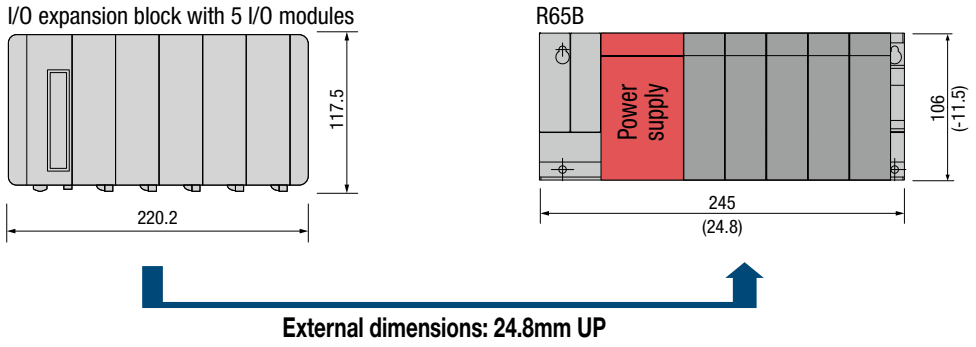
Use the following tables to check the differences of external dimensions before and after replacement.

Note

"▲" in the tables indicates an increase of the external dimensions after replacement as shown in the example below. The installation position needs to be reconsidered.
If the number of slots on the main base unit is not enough, use an extension base unit.

(Example) When the CQM1 series base unit (I/O expansion block with 5 I/O modules) is replaced with the MELSEC iQ-R series base unit (R65B)

Unit: mm



Replacing with the MELSEC iQ-R series base unit

1) Main base units

◎: Same dimensions, ○: CQM1 series is larger, ▲: CQM1 series is smaller

	CQM1 series			MELSEC iQ-R series base unit					Remarks
	Configuration example*1	Power supply	Maximum No. of slots	Model	Power supply	Maximum No. of slots	Comparison*2 ([MELSEC iQ-R series] - [CQM1 series]) Width	Comparison*2 ([MELSEC iQ-R series] - [CQM1 series]) Height	
(1)	CQM1-PA206/PA216/PD026 + 11 I/O modules, controller link module	Required	12	R312B	Required	12	○ (-164)	○ (-11.5)	• Reconsider the base unit position in the control panel in accordance with the external dimensions after replacement.
(2)	CQM1-PA206/PA216/PD026 + 11 I/O modules	Required	11	R312B	Required	12	○ (-132)	○ (-11.5)	
(3)	CQM1-PA206/PA216/PD026 + 8 I/O modules	Required	8	R312B	Required	12	○ (-36)	○ (-11.5)	
				R310B-HT	Required	10	○ (-36)	○ (-11.5)	
				R38B	Required	8	○ (-147)	○ (-11.5)	
(4)	CQM1-PA206/PA216/PD026 + 5 I/O modules	Required	5	R38B	Required	8	○ (-51)	○ (-11.5)	
				R35B	Required	5	○ (-134)	○ (-11.5)	
(5)	CQM1-PA206/PA216/PD026 + 3 I/O modules	Required	3	R35B	Required	5	○ (-70)	○ (-11.5)	
				R33B	Required	3	○ (-126)	○ (-11.5)	
(6)	CQM1-PA203 + 11 I/O modules, controller link module	Required	12	R312B	Required	12	○ (-132)	○ (-11.5)	
(7)	CQM1-PA203 + 11 I/O modules	Required	11	R312B	Required	12	○ (-100)	○ (-11.5)	
(8)	CQM1-PA203 + 8 I/O modules	Required	8	R312B	Required	12	○ (-4)	○ (-11.5)	
				R310B-HT	Required	10	○ (-4)	○ (-11.5)	
				R38B	Required	8	○ (-115)	○ (-11.5)	
(9)	CQM1-PA203 + 5 I/O modules	Required	5	R38B	Required	8	○ (-19)	○ (-11.5)	
				R35B	Required	5	○ (-102)	○ (-11.5)	
(10)	CQM1-PA203 + 3 I/O modules	Required	3	R35B	Required	5	○ (-38)	○ (-11.5)	
				R33B	Required	3	○ (-94)	○ (-11.5)	

	CQM1 series			MELSEC iQ-R series base unit					Remarks
	Configuration example*1	Power supply	Maximum No. of slots	Model	Power supply	Maximum No. of slots	Comparison*2 ([MELSEC iQ-R series] - [CQM1 series])		
							Width	Height	
(11)	CQM1-PA206/PA216/PD026 + 5 I/O modules, I/O expansion module, controller link module	Required	5	R38B	Required	8	○ (-115)	○ (-11.5)	• Reconsider the base unit position in the control panel in accordance with the external dimensions after replacement.
				R35B	Required	5	○ (-198)	○ (-11.5)	
(12)	CQM1-PA206/PA216/PD026 + 5 I/O modules, I/O expansion module	Required	5	R38B	Required	8	○ (-83)	○ (-11.5)	
				R35B	Required	5	○ (-166)	○ (-11.5)	
(13)	CQM1-PA203 + 5 I/O modules, I/O expansion module, controller link module	Required	5	R38B	Required	8	○ (-83)	○ (-11.5)	
				R35B	Required	5	○ (-166)	○ (-11.5)	
(14)	CQM1-PA203 + 5 I/O modules, I/O expansion module	Required	5	R38B	Required	8	○ (-51)	○ (-11.5)	
				R35B	Required	5	○ (-134)	○ (-11.5)	

*1: These are the configuration examples. If your system configuration is not listed here, check the system to select the optimum base unit.
*2: Values in parentheses are differences in dimensions between the MELSEC iQ-R series base unit and the CQM1 series base unit. (Unit: mm)

2) Extension base units

◎: Same dimensions, ○: CQM1 series is larger, ▲: CQM1 series is smaller

	CQM1 series			MELSEC iQ-R series base unit					Remarks
	Configuration example*1	Power supply	Maximum No. of slots	Model	Power supply	Maximum No. of slots	Comparison*2 ([MELSEC iQ-R series] - [CQM1 series])		
							Width	Height	
(1)	I/O expansion block with 11 I/O modules	Required	11	R612B	Required	12	▲ (26.8)	○ (-11.5)	• Reconsider the base unit position in the control panel in accordance with the external dimensions after replacement.
(2)	I/O expansion block with 8 I/O modules	Required	8	R68B	Required	8	▲ (11.8)	○ (-11.5)	
(3)	I/O expansion block with 5 I/O modules	Required	5	R65B	Required	5	▲ (24.8)	○ (-11.5)	
(4)	I/O expansion block with 3 I/O modules	Required	3	R65B	Required	5	▲ (88.8)	○ (-11.5)	

*1: These are the configuration examples. If your system configuration is not listed here, check the system to select the optimum base unit.
*2: Values in parentheses are differences in dimensions between the MELSEC iQ-R series base unit and the CQM1 series base unit. (Unit: mm)

Slot positions

The slot positions differ between the SYSMAC CQM1 series modules before replacement and the MELSEC iQ-R series modules after replacement. Change the slot positions of modules and adjust wiring lengths prior to use.

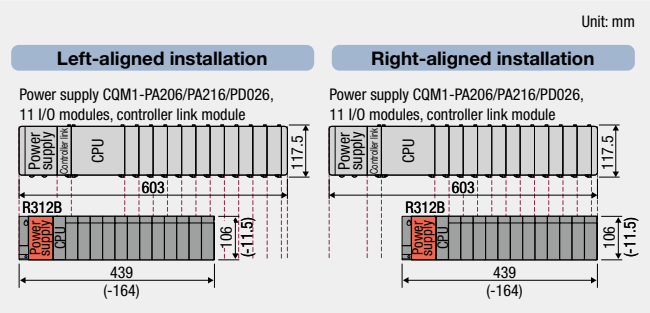
Note

The edge of the SYSMAC CQM1 series base unit is used as the reference for left-aligned and right-aligned installations. Values in parentheses are differences in dimensions between the MELSEC iQ-R series base unit and the CQM1 series base unit.

When a main base unit is replaced

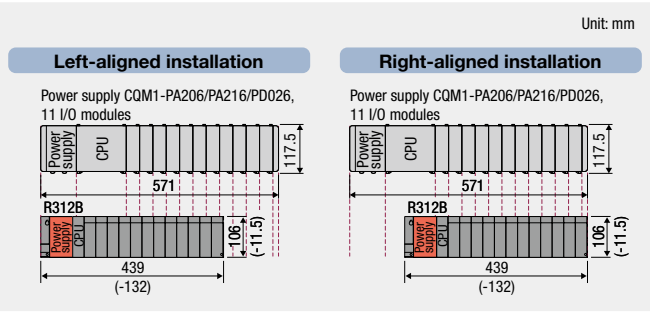
(1) CQM1-PA206/PA216/PD026 + 11 I/O modules, controller link module → R312B

Unit: mm



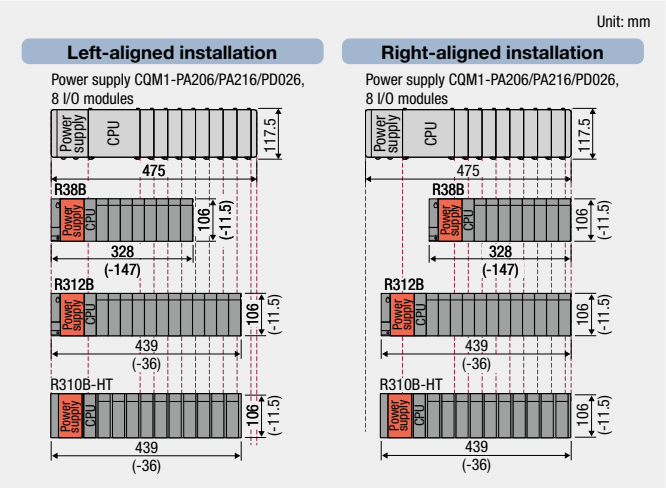
(2) CQM1-PA206/PA216/PD026 + 11 I/O modules → R312B

Unit: mm



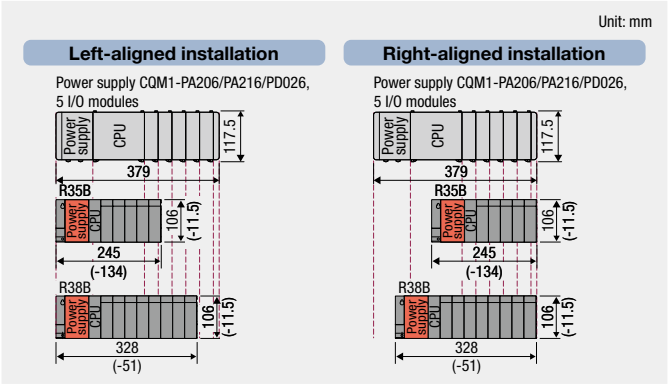
(3) CQM1-PA206/PA216/PD026 + 8 I/O modules → R38B, R312B, R310B-HT

Unit: mm



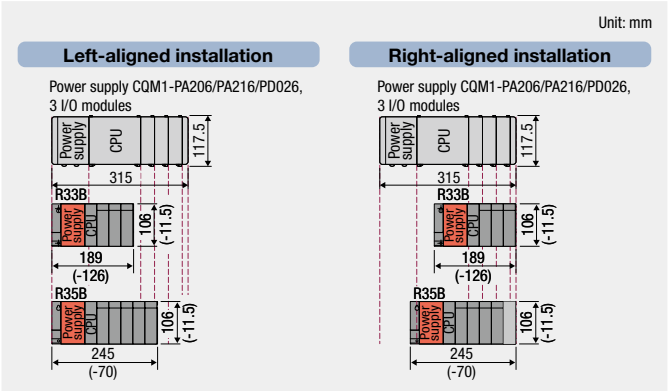
(4) CQM1-PA206/PA216/PD026 + 5 I/O modules → R35B, R38B

Unit: mm



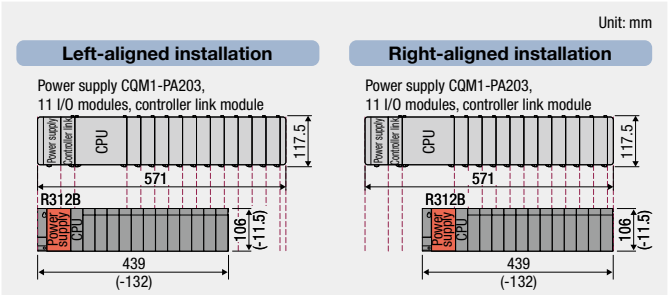
(5) CQM1-PA206/PA216/PD026 + 3 I/O modules → R33B, R35B

Unit: mm



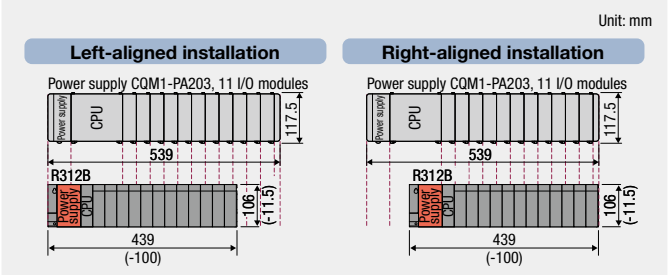
(6) CQM1-PA203 + 11 I/O modules, controller link module → R312B

Unit: mm



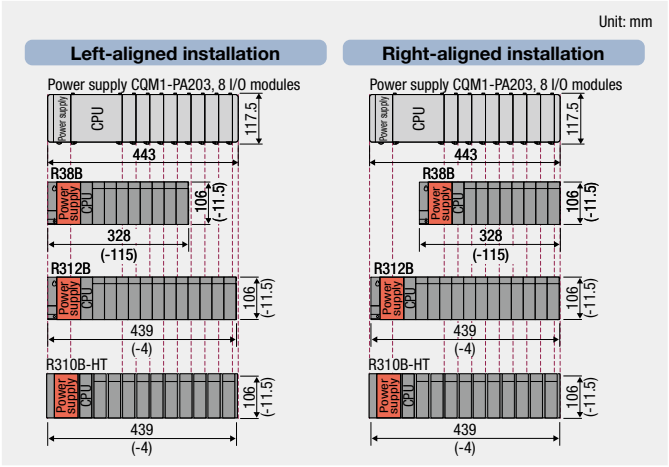
(7) CQM1-PA203 + 11 I/O modules → R312B

Unit: mm



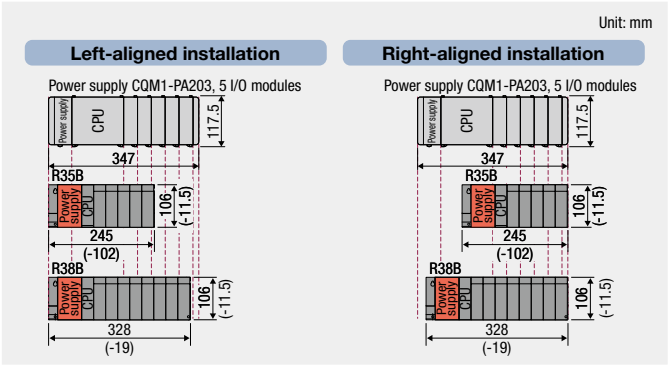
(8) CQM1-PA203 + 8 I/O modules → R38B, R312B, R310B-HT

Unit: mm



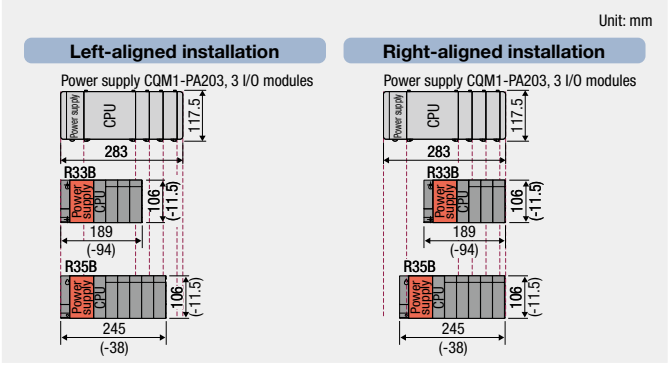
(9) CQM1-PA203 + 5 I/O modules → R35B, R38B

Unit: mm



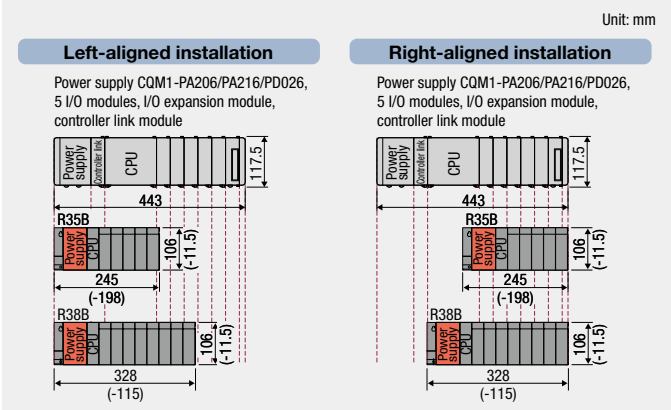
(10) CQM1-PA203 + 3 I/O modules → R33B, R35B

Unit: mm



(11) CQM1-PA206/PA216/PD026 + 5 I/O modules, I/O expansion module, controller link module → R35B, R38B

Unit: mm

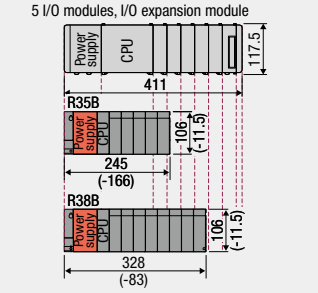


(12) CQM1-PA206/PA216/PD026 + 5 I/O modules, I/O expansion module → R35B, R38B

Unit: mm

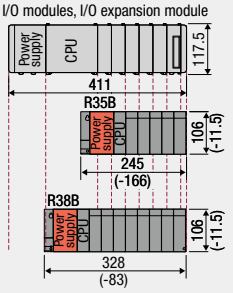
Left-aligned installation

Power supply CQM1-PA206/PA216/PD026, 5 I/O modules, I/O expansion module



Right-aligned installation

Power supply CQM1-PA206/PA216/PD026, 5 I/O modules, I/O expansion module

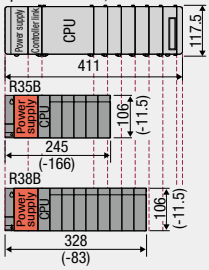


(13) CQM1-PA203 + 5 I/O modules, I/O expansion module, controller link module → R35B, R38B

Unit: mm

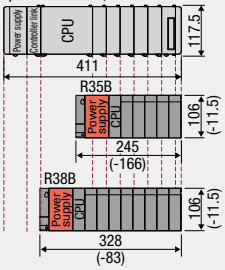
Left-aligned installation

Power supply CQM1-PA203, 5 I/O modules, I/O expansion module, controller link module



Right-aligned installation

Power supply CQM1-PA203, 5 I/O modules, I/O expansion module, controller link module

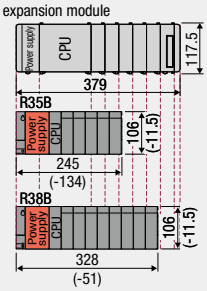


(14) CQM1-PA203 + 5 I/O modules, I/O expansion module → R35B, R38B

Unit: mm

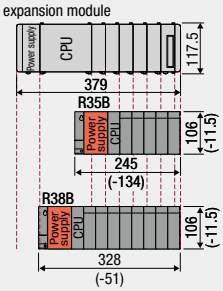
Left-aligned installation

Power supply CQM1-PA203, 5 I/O modules, I/O expansion module



Right-aligned installation

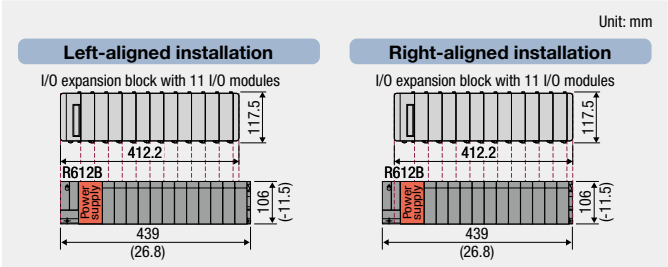
Power supply CQM1-PA203, 5 I/O modules, I/O expansion module



When an extension base unit is replaced

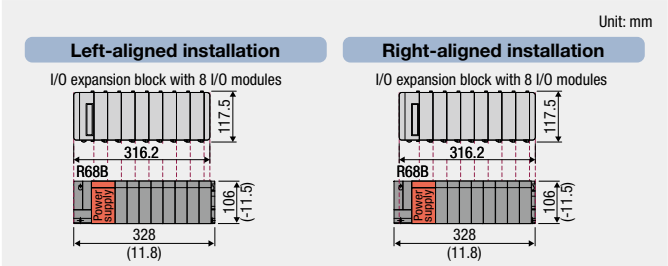
(1) I/O expansion block with 11 I/O modules → R612B

Unit: mm



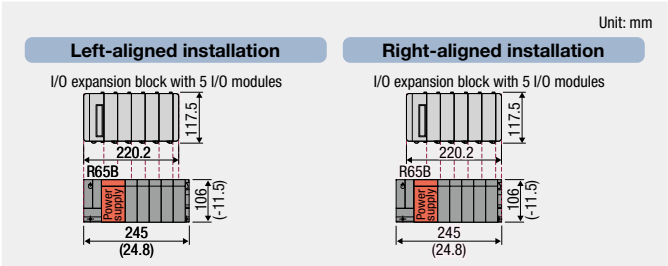
(2) I/O expansion block with 8 I/O modules → R68B

Unit: mm



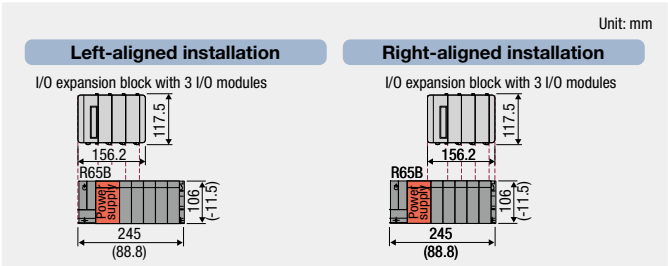
(3) I/O expansion block with 5 I/O modules → R65B

Unit: mm



(4) I/O expansion block with 3 I/O modules → R65B

Unit: mm

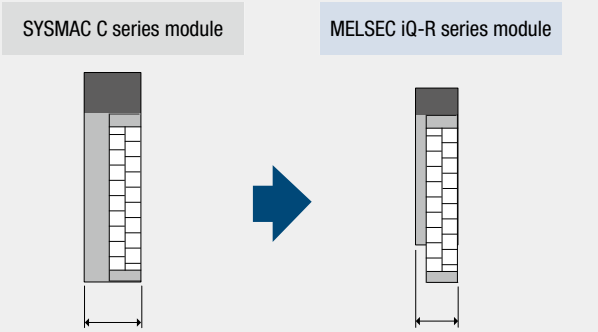


Precautions

Module width

Since the width of MELSEC iQ-R series modules is smaller, the wiring area becomes smaller as well. Check the wiring area when mounting a conversion adapter.
If the wiring causes interference with adjacent modules, lift the cables forward or leave the next slot open to secure a space for wiring.

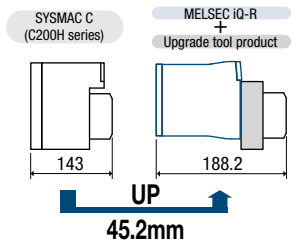
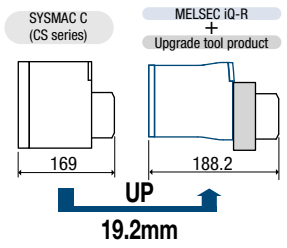
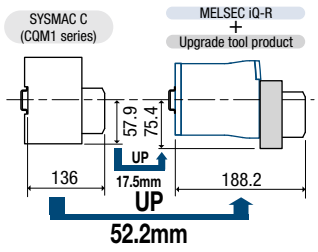
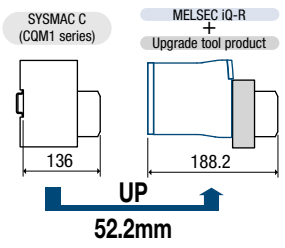
Unit: mm



Depth / Height

The dimensions increase as shown below after replacement. Check the depth and height of the control panel before installation.

SYSMAC C : SYSMAC C series MELSEC iQ-R : MELSEC iQ-R series

Conversion adapter	ERNT-2CR216X218X ERNT-2CR218Y			
Applicable module	C200H series	CS series	CQM1 series	
			DIN rail installation	DIN rail installation → Panel surface installation
Depth	45.2mm UP	19.2mm UP	52.2mm UP	52.2mm UP
Height	0mm UP	0mm UP	17.5mm UP	0mm UP
Mounting diagram				

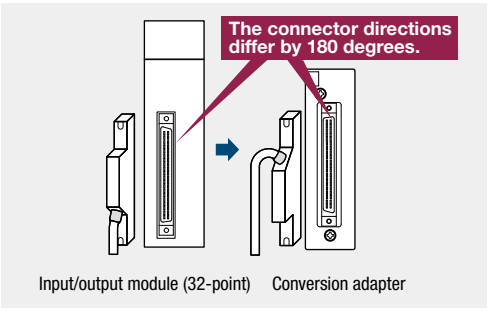
Note about the connector direction

32-point modules

The connector direction of the following 32-point modules differs from that of the conversion adapter by 180 degrees. Check that the connector can be connected to the conversion adapter in advance. If the existing FCN connector is a type whose cable comes down as shown in the right figure, the cable length is insufficient and the connector may not be connected.

<Target modules (32-point)>

- CS1W-ID231
- CS1W-OD231
- CS1W-OD232

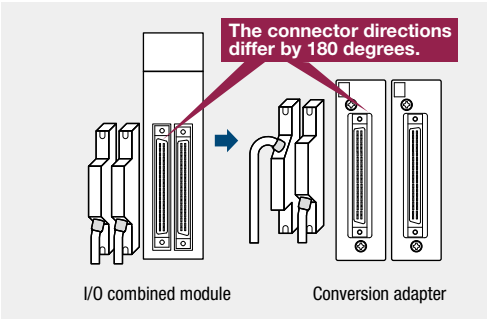


Output part (32-point) of I/O combined modules

The connector direction of the following I/O combined modules (output part) differs from that of the conversion adapter by 180 degrees. Check that the connector can be connected to the conversion adapter in advance. If the existing FCN connector is a type whose cable comes down as shown in the right figure, the cable length is insufficient and the connector may not be connected.

<Target modules (32-point)>

- CS1W-MD261
- CS1W-MD262

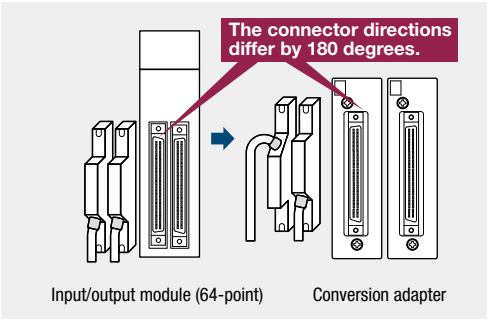


64-point modules

The following 64-point modules have two connectors and two conversion adapters (same type) are required. The connector direction differs from that of the conversion adapter by 180 degrees (for both connectors). Check that the connectors can be connected to the conversion adapters in advance. If the existing FCN connector is a type whose cable comes down as shown in the right figure, the cable length is insufficient and the connector may not be connected.

<Target modules (64-point)>

- CS1W-ID261
- CS1W-OD261
- CS1W-OD262
- C200H-ID217
- C200H-ID219
- C200H-OD219



SYSMAC C series → MELSEC-Q series

Large type ▶ C500, C1000H, C2000H

Model list

Conversion adapters

For the specifications of conversion adapters and modules before and after replacement, refer to user's manuals. (User's manuals can be downloaded from our website.)
Also, check that the modules satisfy the specifications of the devices currently connected.

1-slot type

Input/ Output	SYSMAC C series module before replacement	MELSEC-Q series module after replacement	Note	Conversion adapter			
				Model	Shape		No. of input/ output points
					SYSMAC C series	MELSEC-Q series	
Input	C500-IA121	QX10	-	ERNT-CQTX121	Terminal block (20 points) ▶	Terminal block (18 points)	16
	C500-ID112	QX70		ERNT-CQTX112213			
	C500-ID213	QX40, QX40-S1					
	C500-ID215	QX41		ERNT-CQTX215218	Terminal block (38 points) ▶	Connector (40P)	32
	C500-ID218	QX41, QX41-S1					
	C500-ID218CN	QX41, QX41-S1		ERNT-CQCX218501	Connector (24P) × 2 + Terminal block (4 points) ▶	Connector (40P)	
	C500-ID501CN	QX71					
	C500-ID114	QX72		ERNT-CQCX114219	Connector (40P) × 2 ▶	Connector (40P) × 2	64
	C500-ID219	QX42, QX42-S1, QX82					
Output	C500-OC221	QY10	-	ERNT-CQTY221	Terminal block (20 points) ▶	Terminal block (18 points)	16
	C500-OA121	QY22		ERNT-CQTY226			
	C500-OA222	QY22					
	C500-OA226	QY22					
	C500-OD219	QY40P, QY50		ERNT-CQTY219217			
	C500-OD217	QY40P, QY50					
	C500-OD411	QY40P, QY50		ERNT-CQTY411			
	C500-OD412	QY41P		ERNT-CQTY412			
	C500-OD414	QY41P	*1	ERNT-CQTY414218	Terminal block (38 points) ▶	Connector (40P)	32
	C500-OD218	QY41P					
	C500-OD415CN	QY41P	-	ERNT-CQCY415	Connector (24P) × 2 + Terminal block (4 points) ▶	Connector (40P)	
	C500-OD501CN	QY71		ERNT-CQCY501			
	C500-OD213	QY42P		ERNT-CQCY213	Connector (40P) × 2 ▶	Connector (40P) × 2	64

2-slot type (Not applicable to Q series large type base units (Q□□BL))

Input/ Output	SYSMAC C series module before replacement	MELSEC-Q series module after replacement		Note	Conversion adapter			
					Model	Shape		No. of input/ output points
						SYSMAC C series	MELSEC-Q series	
Input	C500-IA122	QX10	× 2	-	ERNT-CQTX122	Terminal block (38 points) ▶	Terminal block (18 points) × 2	32
Output	C500-OC224	QY10	× 2	-	ERNT-CQTY224			
	C500-OA225	QY22	× 2		ERNT-CQTY225			
	C500-OD218	QY50	× 2	*1	ERNT-CQTY218			
	C500-OD414							

*1: If the switching capacity (load current) cannot be satisfied with a 1-slot type module (QY41P), use a 2-slot type module (QY50 × 2 modules).

Point To replace modules not listed above (C500-IA222/IA223/OC223/OD215/OD212/OA223), use a universal conversion adapter. (Refer to P.305.)

Base adapters

Type	SYSMAC C series module before replacement	MELSEC-Q series module after replacement	Base adapter model	Installable conversion adapter support flange model
Main	C500-BC081/082/091 C2000-BC061	Q312B	ERNT-CQB081N	ERNT-QF12/QF8
		Q38B		ERNT-QF8
Extension	C500-BI081 C2000-BI083	Q612B		ERNT-QF12/QF8
		Q68B		ERNT-QF8
Main	C500-BC051/052/061	Q38B	ERNT-CQB051N	ERNT-QF8/QF5
		Q35B		ERNT-QF5
Extension	C500-BI051	Q68B		ERNT-QF8/QF5
		Q65B, Q55B		ERNT-QF5
Main	C500-BC031	Q35B, Q33B	ERNT-CQB031N	ERNT-QF5

Conversion adapter support flanges

Conversion adapter support flange model	Description	Remarks
ERNT-QF12	12-slot conversion adapter support flange	A conversion adapter support flange is always required when a conversion adapter is used.
ERNT-QF8	8-slot conversion adapter support flange	
ERNT-QF5	5-slot conversion adapter support flange	

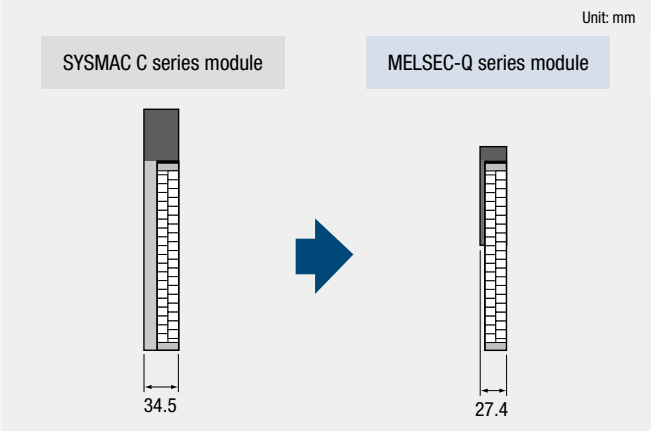
Program converter ▶ P.162

Model	Remarks
ERNT-CQ1W2C	This software converts OMRON SYSMAC C series programs into MELSEC-Q series project files for GX Developer.

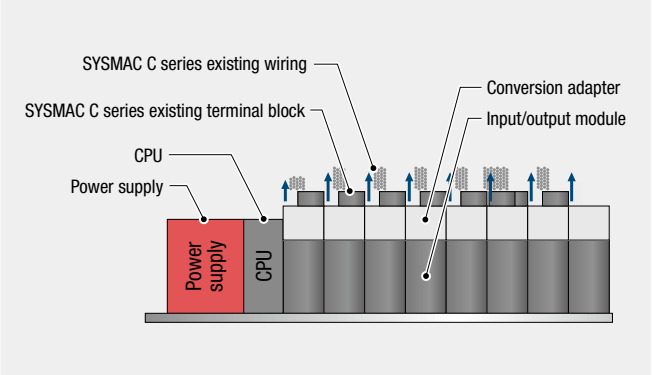
Precautions

Module width

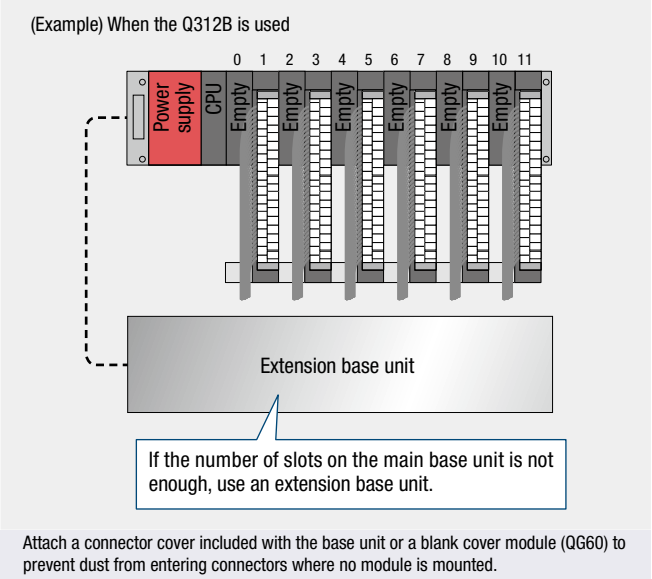
(1) Since the width of MELSEC-Q series modules is smaller (SYSMAC C series: 34.5mm → MELSEC-Q series: 27.4mm), the wiring area becomes smaller as well. Check the wiring area when mounting a conversion adapter.



(2) If the wiring causes interference with adjacent modules, lift the cables forward to prevent interference.



(3) If interference still occurs, leave the next slot open to secure a space for wiring.



Attach a connector cover included with the base unit or a blank cover module (QG60) to prevent dust from entering connectors where no module is mounted.

(4) If modules cannot be replaced in accordance with (2) and (3), consider the use of the Q series large type base unit manufactured by Mitsubishi Electric (wiring area: 37.5mm).
→ P.20
Note) 2-slot type conversion adapters cannot be used.

Depth

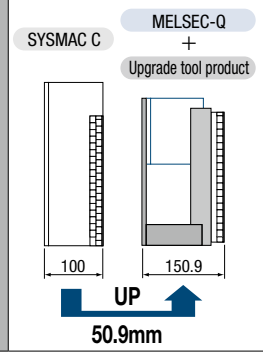
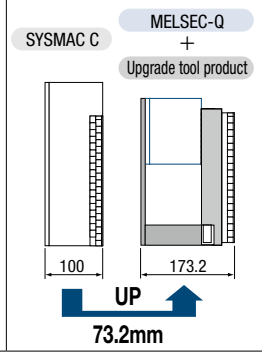
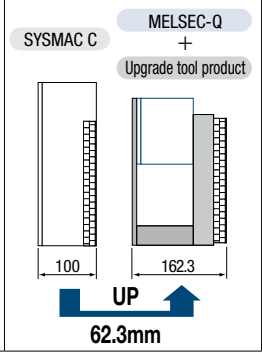
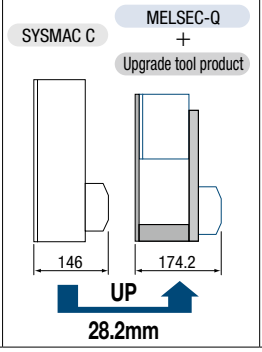
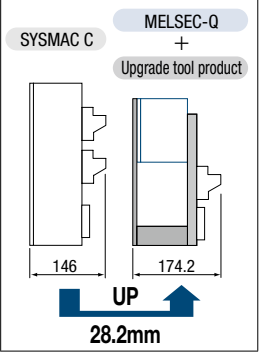
The depth from the panel surface increases. Check the depth when mounting a conversion adapter.

SYSMAC C series: Base unit + Input/output module + Terminal block

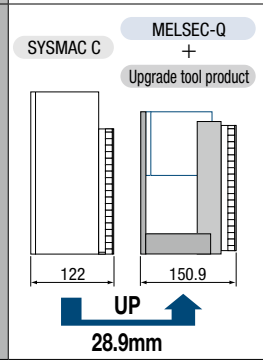
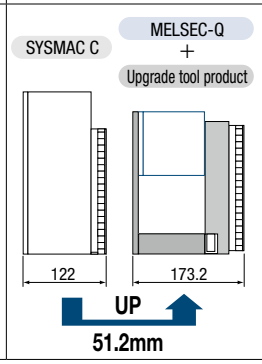
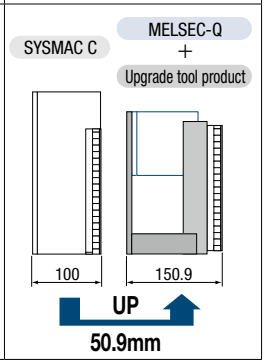
MELSEC-Q series + Upgrade tool product: Base adapter + Base unit + Input/output module + Conversion adapter + Terminal block

SYSMAC C : SYSMAC C series MELSEC-Q : MELSEC-Q series

1-slot type

Conversion adapter	ERNT-CQTX121 ERNT-CQTX112213 ERNT-CQTY411 ERNT-CQTY219217 ERNT-CQTY221	ERNT-CQTY226	ERNT-CQTX215218 ERNT-CQTY412 ERNT-CQTY414218	ERNT-CQCX114219 ERNT-CQCY213	ERNT-CQCX218501 ERNT-CQCY415 ERNT-CQCY501
Depth	150.9mm	173.2mm	162.3mm	174.2mm	174.2mm
Mounting diagram					

2-slot type

Conversion adapter	ERNT-CQTX122 ERNT-CQTY224	ERNT-CQTY225	ERNT-CQTY218
Depth	150.9mm	173.2mm	150.9mm
Mounting diagram			

Conversion adapter support flange, base adapter

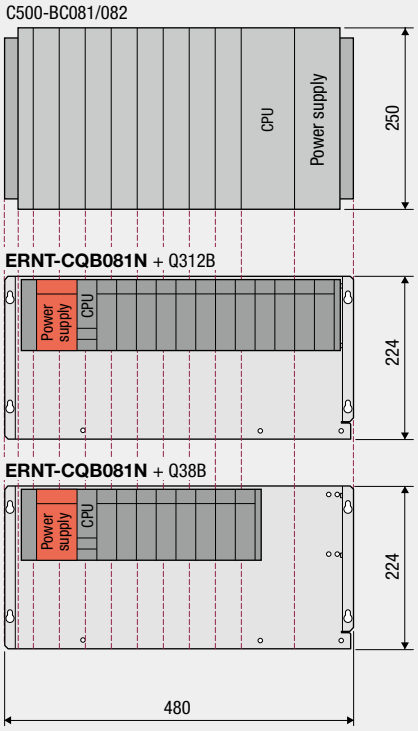
A conversion adapter support flange is always required when a conversion adapter is used. The use of a base adapter is recommended because the MELSEC-Q series can be installed using the SYSMAC C series base unit installation holes. (Drilling of additional holes is not required.)

Slot positions

The slot positions differ between the SYSMAC C series modules before replacement and the MELSEC-Q series modules after replacement. Change the slot positions of modules and adjust wiring lengths prior to use.

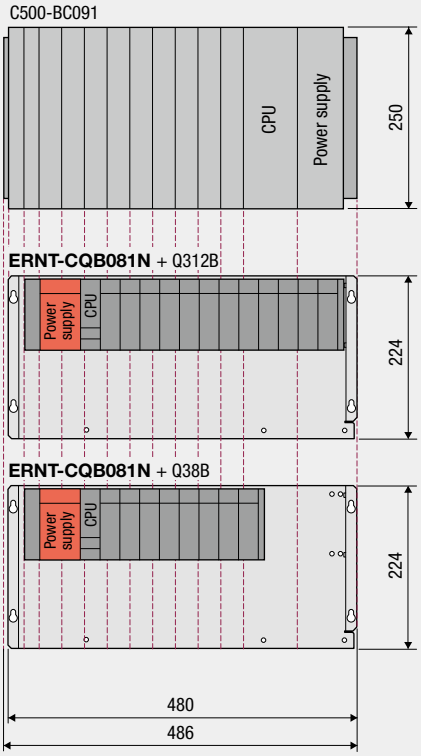
(1) C500-BC081/082 → Q312B/Q38B

Unit: mm



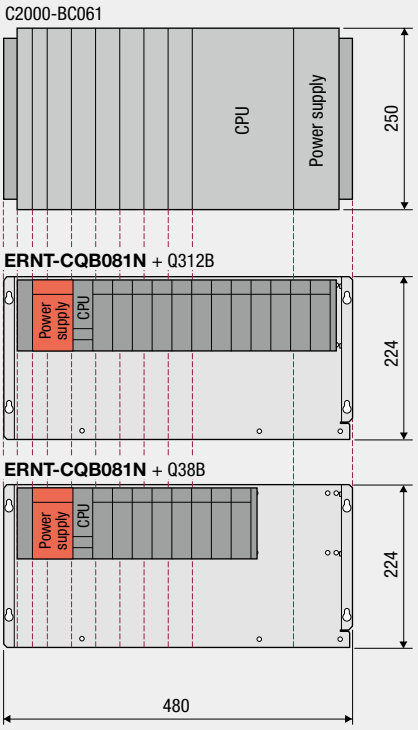
(2) C500-BC091 → Q312B/Q38B

Unit: mm



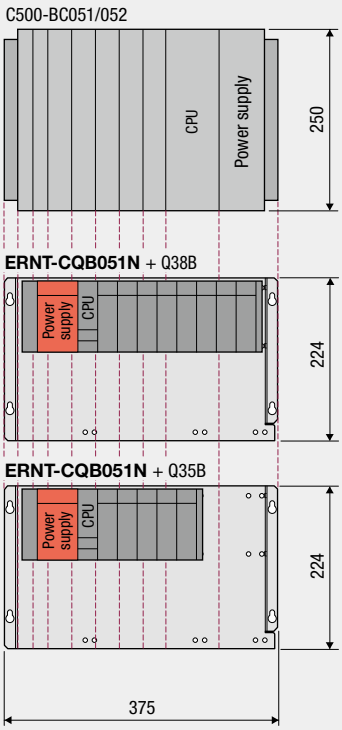
(3) C2000-BC061 → Q312B/Q38B

Unit: mm



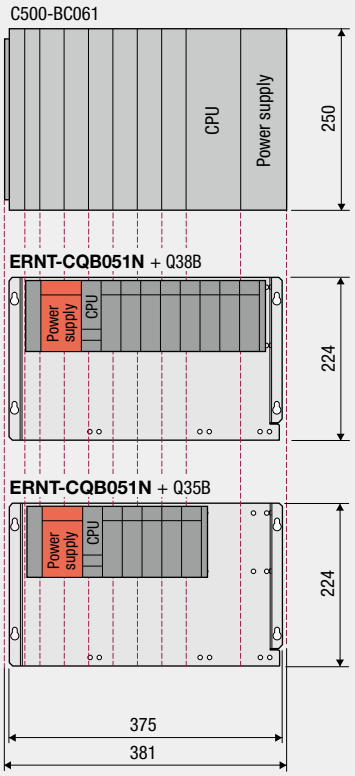
(4) C500-BC051/052 → Q38B/Q35B

Unit: mm



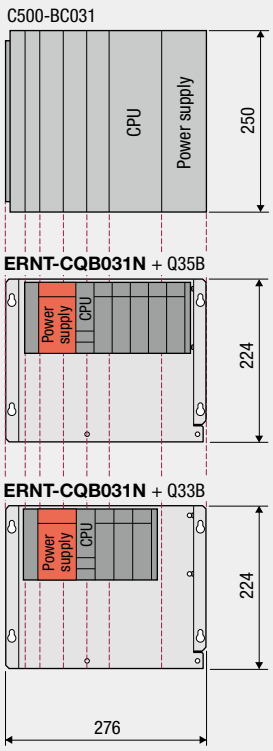
(5) C500-BC061 → Q38B/Q35B

Unit: mm



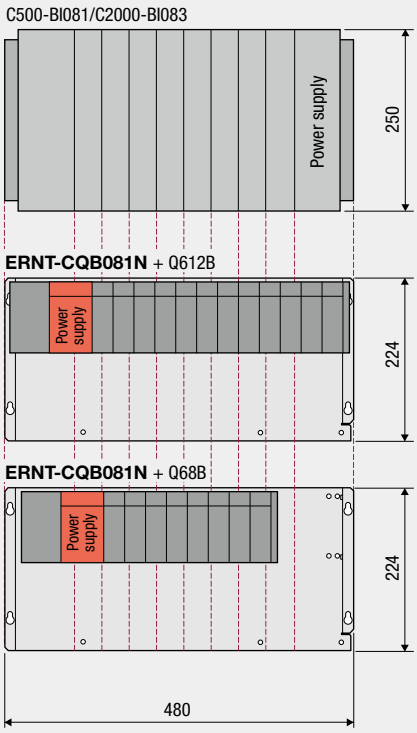
(6) C500-BC031 → Q35B/Q33B

Unit: mm



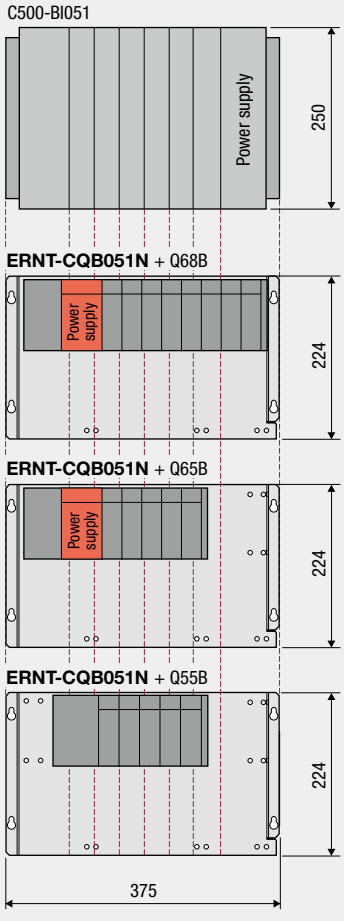
(7) C500-BI081/C2000-BI083 → Q612B/Q68B

Unit: mm



(8) C500-BI051 → Q68B/Q65B/Q55B

Unit: mm



Small type ▶ C200H series, CS series, CQM1 series

Model list

Conversion adapters

For the specifications of conversion adapters and modules before and after replacement, refer to user's manuals. (User's manuals can be downloaded from our website.)
Also, check that the modules satisfy the specifications of the devices currently connected.

For input/output modules

1-slot type

C200H series

Input/ Output	SYSMAC C series module before replacement	MELSEC-Q series module after replacement	Note		Conversion adapter			
					Model	Shape		No. of input/ output points
						SYSMAC C series	MELSEC-Q series	
Input	C200H-ID216	QX41, QX41-S1, QX41-S2	*1	*2	ERNT-2CQ216X218X	Connector (40P) ▶	Connector (40P)	32
	C200H-ID218							
	C200H-ID217	QX41 × 2, QX41-S1 × 2, QX41-S2 × 2		*3	ERNT-2CQ216X218X × 2	Connector (40P) × 2 ▶	Connector (40P) × 2	64
	C200H-ID219			*4				
	C200H-ID111	QX71 × 2		*3				
Output	C200H-OD218	QY41P, QY71		-	ERNT-2CQ218Y	Connector (40P) ▶	Connector (40P)	32
	C200H-OD219	QY41P × 2, QY71 × 2		*3	ERNT-2CQ218Y × 2	Connector (40P) × 2 ▶	Connector (40P) × 2	64

*1: SYSMAC C series modules with "-N" at the end of their model name are not listed because only the difference is whether a connector is included or not.
*2: If the existing module uses 24VDC negative common, consider rewiring to the QX81 or QX81-S2.
*3: For replacement, two MELSEC-Q series modules and two conversion adapters are required.
*4: If the existing module uses 24VDC negative common, consider rewiring to the QX82 or QX82-S2.

CS series

Input/ Output	SYSMAC C series module before replacement		MELSEC-Q series module after replacement	Note		Conversion adapter			
						Model	Shape		No. of input/ output points
							SYSMAC C series	MELSEC-Q series	
Input	CS1W-ID231		QX41, QX41-S1, QX41-S2	*5	*6	ERNT-2CQ216X218X	Connector (40P) ▶	Connector (40P)	32
	CS1W-ID261		QX41 × 2, QX41-S1 × 2, QX41-S2 × 2		*7	ERNT-2CQ216X218X × 2	Connector (40P) × 2 ▶	Connector (40P) × 2	64
Output	CS1W-OD231		QY41P, QY71		*8	ERNT-2CQ218Y	Connector (40P) ▶	Connector (40P)	32
	CS1W-OD261		QY41P × 2, QY71 × 2		*9	ERNT-2CQ218Y × 2	Connector (40P) × 2 ▶	Connector (40P) × 2	64
I/O combined	CS1W-MD261	Input	QX41, QX41-S1, QX41-S2		*6	ERNT-2CQ216X218X	Connector (40P) ▶	Connector (40P)	32
		Output	QY41P, QY71		*8	ERNT-2CQ218Y			
	CS1W-MD561	Input	QX71		*10	ERNT-2CQ216X218X			
		Output	QY71		-	ERNT-2CQ218Y			
	CS1W-MD262	Input	QX41, QX41-S1, QX41-S2		*6	ERNT-2CQ216X218X			
		Output	QY81P		-	- (Rewiring is required.)	-	-	-

*5: Since the number of points per common changes (16 points/common → 32 points/common), check the common terminal connection of the module before replacement.
*6: If the existing module uses a different power supply for each 16-point group, consider rewiring to two QX40s or two QX80s.
If the existing module uses negative common, consider rewiring to the QX81 or QX81-S2.
*7: For replacement, two MELSEC-Q series modules and two conversion adapters are required.
If the existing module uses a different power supply for each 16-point group, consider rewiring to four QX40s or four QX80s.
If the existing module uses negative common, consider rewiring to the QX82 or QX82-S1.
*8: If the existing module uses a different power supply for each 16-point group, consider rewiring to two QY40Ps or two QY70s.
*9: For replacement, two MELSEC-Q series modules and two conversion adapters are required.
If the existing module uses a different power supply for each 16-point group, consider rewiring to four QY40Ps or four QY70s.
*10: If the existing module uses a different power supply for each 16-point group, consider rewiring to two QX70s.

CQM1 series

Input/ Output	SYSMAC C series module before replacement	MELSEC-Q series module after replacement	Note	Conversion adapter			
				Model	Shape		No. of input/ output points
					SYSMAC C series	MELSEC-Q series	
Input	CQM1-ID213 CQM1-ID214	QX41, QX41-S1, QX41-S2	*11	ERNT-2CQ216X218X	Connector (40P) ▶	Connector (40P)	32
	CQM1-ID112	QX71	-				
Output	CQM1-OD213	QY41P, QY71	-	ERNT-2CQ218Y			

*11: If the existing module uses negative common, consider rewiring to the QX81 or QX81-S2.

Replacement using a universal conversion adapter ▶P.300

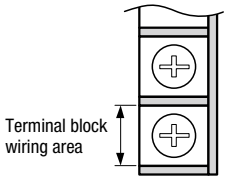
For input/output modules

Input/ Output	SYSMAC C series module before replacement			MELSEC-Q series module after replacement				Note	Universal conversion adapter
	Model	Specifications	No. of points	Model	Specifications	No. of points	No. of required modules		
Input	C200H-IA121	100 to 120VAC	8	QX10	100 to 200VAC	16	1	-	Supported*16
	C200H-IA122		16						
	C200H-IA122V								
	C200H-IA221	200 to 240VAC	8	QX28	100 to 240VAC	8	1		
	C200H-IA222		16				2		
	C200H-IA222V								
	C200H-ID001	No-voltage input (No-contact input), for NPN output	8	QX40, QX40-S1, QX40H	24VDC, positive common	16	1	*12 *13	
	C200H-ID002	No-voltage input (No-contact input), for PNP output		QX80, QX80H	24VDC, negative common	16	1		
	C200H-ID211	12 to 24VDC, positive/negative common shared type	8	QX40, QX40-S1, QX40H	24VDC, positive common	16	1	*14	
				QX80, QX80H	24VDC, negative common	16	1		
				QX70	5/12VDC, positive/negative common shared type	16	1		
	C200H-ID212	24VDC, positive/negative common shared type	16	QX40, QX40-S1, QX40H	24VDC, positive common	16	1	-	
				QX80, QX80H	24VDC, negative common	16	1		
	C200H-IM211	12 to 24VAC/DC	8	QX40, QX40-S1, QX40H	24VDC, positive common	16	1	*14	
				QX80, QX80H	24VDC, negative common	16	1		
				QX70	5/12VDC, positive/negative common shared type	16	1		
	C200H-IM212	24VAC/DC	16	QX40, QX40-S1, QX40H	24VDC, positive common	16	1	-	
				QX80, QX80H	24VDC, negative common	16	1		
	CS1W-IA111	100 to 120VAC/DC	16	QX10	100 to 120VAC	16	1		
	CS1W-IA211	200 to 240VAC	16	QX28	100 to 240VAC	8	2		
	CS1W-ID211	24VDC, positive/negative common shared type	16	QX40, QX40-S1, QX40H	24VDC, positive common	16	1		
				QX80, QX80H	24VDC, negative common	16	1		
Output	C200H-OA221	250VAC maximum, 1A	8	QY22	100 to 240VAC	16	1	-	
	C200H-OA222	250VAC maximum, 0.5A	12						
	C200H-OA222V	250VAC maximum, 0.3A	12						
	C200H-OA223	250VAC maximum, 1.2A	8						
	C200H-OA224	250VAC maximum, 0.5A	12						
	C200H-OC221	250VAC/24VDC maximum, 2A	8	QY10	240VAC, 24VDC	16	1	*14	
	C200H-OC222		12					-	
	C200H-OC222N								
	C200H-OC222V								
	C200H-OC225		16						
	C200H-OC226								
	C200H-OC226N								
	C200H-OC223	250VAC/24VDC maximum, 2A, independent contact	5	QY18A	240VAC, 24VDC, independent	8	1	-	
	C200H-OC224		8						
	C200H-OC224N								
	C200H-OC224V								
	C200H-OD411	12 to 48VDC, 1A, sink type	8	QY40P	12 to 24VDC, sink type	16	1	*14	
	C200H-OD211	24VDC, 0.3A, sink type	12					-	
	C200H-OD212		16						
	C200H-OD213	24VDC, 2.1A, sink type	8					*14	
	C200H-OD214	24VDC, 0.8A, source type	8	QY80	12 to 24VDC, source type	16	1	-	
	C200H-OD216	5 to 24VDC, 0.3A, source type	8					*15	
	C200H-OD217		12						
	C200H-OD21A	24VDC, 1A, source type	16					-	
	CS1W-OC201	250VAC/24VDC, 2A, 120VDC, 0.1A, independent contact	8	QY18A	240VAC, 24VDC, independent	8	1	-	
	CS1W-OC211	250VAC/24VDC, 2A, 120VDC, 0.1A	16	QY10	240VAC, 24VDC	16	1		
	CS1W-OA201	250VAC, 1.2A	8	QY22	100 to 240VAC	16	1		
	CS1W-OA211	250VAC, 0.5A	16						
	CS1W-OD211	12 to 24VDC, 0.5A, sink type	16	QY40P	12 to 24VDC, sink type	16	1		
	CS1W-OD212	24VDC, 0.5A, source type	16	QY80	12 to 24VDC, source type	16	1		

*12: When the input module (24VDC, 8 points, positive common) and the output module (12 to 24VDC, 8 points, sink type) are used, consider replacing the modules with the I/O combined module, QX48Y57 (8 input points, 7 output points). Note that the output points will be 7 after replacement.
*13: Additional power supply input is required at the wiring side.
*14: When 5VDC or 12VDC is used, consider replacing the module with the QX70 (positive/negative common shared type).
*15: When a rated input voltage of 12 to 24VDC is not used, the power supply voltage needs to be changed.
*16: Use a universal conversion adapter. (Refer to P.305.)

Reference: Solderless terminal and wire specifications

Item	SYSMAC C series module before replacement	MELSEC-Q series module after replacement	Universal conversion adapter
Solderless terminal size	M3.5	M3	M3.5
Terminal block wiring area	7mm	6mm	7.3mm



Replacement of modules that do not support the use of a conversion adapter

Input/output modules in the table below do not support the use of a conversion adapter. Consider rewiring.

For input/output modules

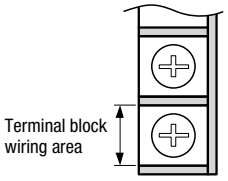
Input/Output	SYSMAC C series module before replacement			MELSEC-Q series module after replacement				Note
	Model	Specifications	No. of points	Model	Specifications	No. of points	No. of required modules	
Input	CQM1H-CPU61 CQM1H-CPU51 CQM1H-CPU21 CQM1H-CPU11	24VDC, positive/negative common shared type	16	QX40, QX40-S1, QX40H	24VDC, positive common	16	1	*17
				QX80, QX80H	24VDC, negative common	16	1	
	CQM1-ID211	12 to 24VDC, independent common	8	None				-
	CQM1-ID111	12VDC, positive/negative common shared type	16	QX70	5/12VDC, positive/negative common shared type	16	1	
	CQM1-ID212	24VDC, positive/negative common shared type	16	QX40, QX40-S1, QX40H	24VDC, positive common	16	1	
				QX80, QX80H	24VDC, negative common	16	1	
	CQM1-IA121	100 to 120VAC	8	QX10	100 to 120VAC	16	1	
	CQM1-IA221	200 to 240VAC	8	QX28	100 to 240VAC	8	1	
Output	CQM1-OC221 CQM1-OC224	250VAC/24VDC, 2A, independent common	8	QY18A	240VAC, 24VDC, independent	8	1	-
	CQM1-OC222	250VAC/24VDC, 2A	16	QY10	240VAC, 24VDC	16	1	
	CQM1-OD211	24VDC, 2A, sink type	8	QY40P	12 to 24VDC, sink type	16	1	
	CQM1-OD212	4.5 to 26.4VDC, sink type	16	QY40P	12 to 24VDC, sink type	16	1	
				QY70	5 to 12VDC, sink type	16	1	
	CQM1-OD214	4.5 to 26.4VDC, source type	16	QY80	12 to 24VDC, source type	16	1	*18
	CQM1-OD215	24VDC, 1.0A, source type	8					-
	CQM1-OA221 CQM1-OA222	100 to 240VAC, 0.4A	8	QY22	100 to 240VAC	16	1	

*17: The module after replacement is an input module. A CPU module needs to be replaced as well.
*18: When a rated input voltage of 12 to 24VDC is not used, the power supply voltage needs to be changed.

Reference: Solderless terminal and wire specifications

Item	SYSMAC C series module before replacement	MELSEC-Q series module after replacement
Solderless terminal size	M3	M3
Terminal block wiring area	6.2mm	6mm

*: The width of solderless terminals before replacement must be 6.2mm or less. Note that there may be a case that the terminals cannot be wired to the terminal block of the MELSEC-Q series.



Program converter ▶P.162

Model	Remarks
ERNT-CQ1W2C	This software converts OMRON SYSMAC C series programs into MELSEC-Q series project files for GX Developer.

Base units manufactured by Mitsubishi Electric

Note

The base unit installation hole positions (four holes) differ between the SYSMAC C series (C200H, CS, CQM1) base units and the MELSEC-Q series base units. Drilling of additional holes to the control panel is required.

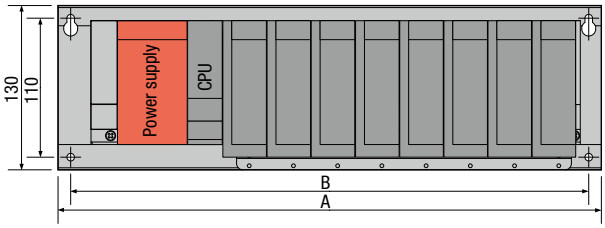
C200H series

Installation dimensions

The slot positions differ between the SYSMAC C200H series modules before replacement and the MELSEC-Q series modules after replacement. Adjust wiring lengths prior to use.

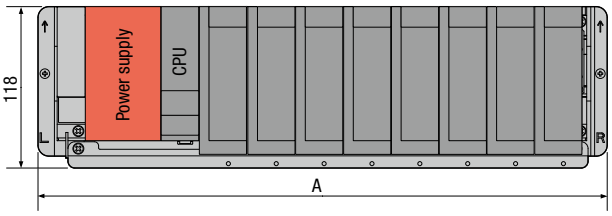
Unit: mm

◎ Q series large type base unit (AnS series size) Panel surface installation type



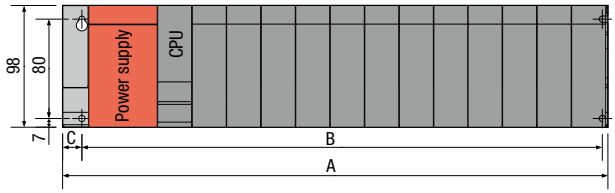
Q series large type base unit (AnS series size) model	Description	A	B	Installation hole screw size
Q38BLS	Main base unit	430	410	M5
Q35BLS		325	305	
Q68BLS	Extension base unit (type requiring a power supply module)	420	400	
Q65BLS		315	295	
Q55BLS	Extension base unit (type requiring no power supply module)	260	240	

◎ Q series large type base unit (AnS series size) DIN rail installation type



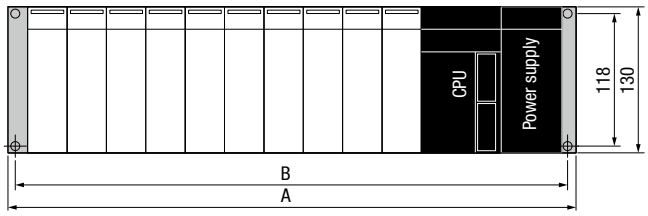
Q series large type base unit (AnS series size) model	Description	A
Q38BLS-D	Main base unit	416
Q35BLS-D		311
Q68BLS-D	Extension base unit (type requiring a power supply module)	409
Q65BLS-D		304
Q55BLS-D	Extension base unit (type requiring no power supply module)	248

◎ MELSEC-Q series base unit



MELSEC-Q series base unit model	Description	A	B	C	Installation hole screw size
Q312B	Main base unit	439	419	15.5	M4
Q38B		328	308	15.5	
Q35B		245	224.4	15.5	
Q33B		189	169	15.5	
Q612B	Extension base unit (type requiring a power supply module)	439	417	15.5	
Q68B		328	306	15.5	
Q65B		245	222.4	15.5	
Q63B		189	167	15.5	
Q55B	Extension base unit (type requiring no power supply module)	189	167	15.5	
Q52B		106	83.5	15.5	

◎ (Reference) C200H series base unit



CS series base unit model	Description	A	B	Installation hole screw size
C200HW-BC101-V1	CPU base unit	505	491	M4
C200HW-BC081-V1		435	421	
C200HW-BC051		330	316	
C200HW-BC031		260	246	
C200HW-BI101-V1	I/O base unit	434	420	
C200HW-BI081-V1		364	350	
C200HW-BI051		259	245	
C200HW-BI031		189	175	

Comparison of external dimensions and installation hole pitches

Use the following tables to check the differences of external dimensions and installation hole pitches before and after replacement.

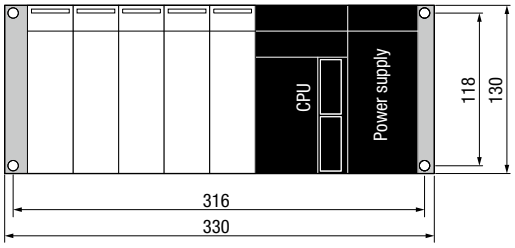
Note

"▲" in the tables indicates an increase of the external dimensions after replacement as shown in the example below. The installation position needs to be reconsidered.
If the number of slots on the main base unit is not enough, use an extension base unit.

(Example) When the C200H series base unit (C200HW-BC051) is replaced with the Q series large type base unit (AnS series size) (Q38BLS)

Unit: mm

C200HW-BC051



Q38BLS



Installation dimensions: 94mm UP

External dimensions: 100mm UP

Replacing with the Q series large type base unit (AnS series size) or MELSEC-Q series base unit

1) Main base units

◎: Same dimensions, ○: C200H series is larger, ▲: C200H series is smaller

C200H series base unit			Q series large type base unit (AnS series size)							MELSEC-Q series base unit							Remarks
Model	Power supply	Maximum No. of slots	Model	Power supply	Maximum No. of slots	Comparison*1 ([Q series large type (AnS series size)] - [C200H series])				Model	Power supply	Maximum No. of slots	Comparison*1 ([MELSEC-Q series] - [C200H series])				
						External dimensions		Installation dimensions*2					External dimensions		Installation dimensions*2		
						Width	Height	Width	Height				Width	Height	Width	Height	
C200HW-BC101-V1	Required	10	Q38BLS	Required	8	○ (-75)	◎	○ (-81)	○ (-8)	Q312B	Required	12	○ (-66)	○ (-32)	○ (-72)	○ (-38)	• Reconsider the base unit position in the control panel in accordance with the external dimensions and installation hole pitches after replacement.
C200HW-BC081-V1	Required	8	Q38BLS	Required	8	○ (-5)	◎	○ (-11)	○ (-8)	Q312B	Required	12	▲ (4)	○ (-32)	○ (-2)	○ (-38)	
										Q38B	Required	8	○ (-107)	○ (-32)	○ (-113)	○ (-38)	
C200HW-BC051	Required	5	Q38BLS	Required	8	▲ (100)	◎	▲ (94)	○ (-8)	Q312B	Required	12	▲ (109)	○ (-32)	▲ (103)	○ (-38)	
										Q38B	Required	8	○ (-2)	○ (-32)	○ (-8)	○ (-38)	
			Q35BLS	Required	5	○ (-5)	◎	○ (-11)	○ (-8)	Q35B	Required	5	○ (-85)	○ (-32)	○ (-91.6)	○ (-38)	
C200HW-BC031	Required	3	Q35BLS	Required	5	▲ (65)	◎	▲ (59)	○ (-8)	Q38B	Required	8	▲ (68)	○ (-32)	▲ (62)	○ (-38)	
										Q35B	Required	5	○ (-15)	○ (-32)	○ (-21.6)	○ (-38)	
										Q33B	Required	3	○ (-71)	○ (-32)	○ (-77)	○ (-38)	

*1: Values in parentheses are differences in dimensions between the MELSEC-Q series base units and the C200H series base units. (Unit: mm)
*2: Be careful when drilling new holes as the difference value becomes closer to zero.

2) Extension base units

◎: Same dimensions, ○: C200H series is larger, ▲: C200H series is smaller

C200H series base unit			Q series large type base unit (AnS series size)							MELSEC-Q series base unit								Remarks
Model	Power supply	Maximum No. of slots	Model	Power supply	Maximum No. of slots	Comparison*1 ([Q series large type (AnS series size)] - [C200H series])				Model	Power supply	Maximum No. of slots	Comparison*1 ([MELSEC-Q series] - [C200H series])				
						External dimensions		Installation dimensions*2					External dimensions		Installation dimensions*2		
						Width	Height	Width	Height				Width	Height	Width	Height	
C200HW-BI101-V1	Required	10	Q68BLS	Required	8	○ (-14)	◎	○ (-20)	○ (-8)	Q612B	Required	12	▲ (5)	○ (-32)	○ (-3)	○ (-38)	• Reconsider the base unit position in the control panel in accordance with the external dimensions and installation hole pitches after replacement.
C200HW-BI081-V1	Required	8	Q68BLS	Required	8	▲ (56)	◎	▲ (50)	○ (-8)	Q612B	Required	12	▲ (75)	○ (-32)	▲ (67)	○ (-38)	
										Q68B	Required	8	○ (-36)	○ (-32)	○ (-44)	○ (-38)	
C200HW-BI051	Required	5	Q68BLS	Required	8	▲ (161)	◎	▲ (155)	○ (-8)	Q612B	Required	12	▲ (180)	○ (-32)	▲ (172)	○ (-38)	
			Q65BLS	Required	5	▲ (56)	◎	▲ (50)	○ (-8)	Q68B	Required	8	▲ (69)	○ (-32)	▲ (61)	○ (-38)	
										Q65B	Required	5	○ (-14)	○ (-32)	○ (-22.6)	○ (-38)	
			Q55BLS	Not required	5	▲ (1)	◎	○ (-5)	○ (-8)	Q55B	Not required	5	○ (-70)	○ (-32)	○ (-78)	○ (-38)	
C200HW-BI031	Required	3	Q65BLS	Required	5	▲ (126)	◎	▲ (120)	○ (-8)	Q68B	Required	8	▲ (139)	○ (-32)	▲ (131)	○ (-38)	
										Q65B	Required	5	▲ (56)	○ (-32)	▲ (47.4)	○ (-38)	
			Q55BLS	Not required	5	▲ (71)	◎	▲ (65)	○ (-8)	Q63B	Required	3	◎	○ (-32)	○ (-8)	○ (-38)	
										Q55B	Not required	5	◎	○ (-32)	○ (-8)	○ (-38)	

*1: Values in parentheses are differences in dimensions between the MELSEC-Q series base units and the C200H series base units. (Unit: mm)
*2: Be careful when drilling new holes as the difference value becomes closer to zero.

Slot positions

The slot positions differ between the SYSMAC C200H series modules before replacement and the MELSEC-Q series modules after replacement. Change the slot positions of modules and adjust wiring lengths prior to use.

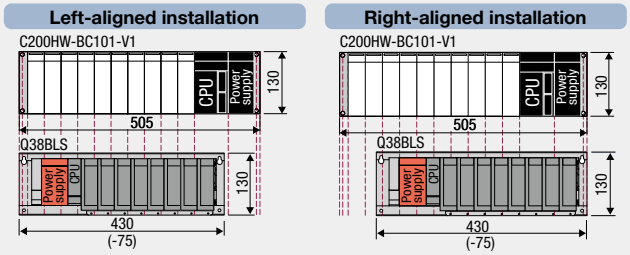
Note

The installation hole size of the Q series large type base unit (AnS series size) differs from that of the SYSMAC C200H series base unit. Therefore, the edge of the base unit is used as the reference for left-aligned and right-aligned installations. The installation hole size of the MELSEC-Q series base unit is the same as that of the SYSMAC C200H series base unit. Therefore, the installation holes are used as the reference for left-aligned and right-aligned installations. Values in parentheses are differences in dimensions between the MELSEC-Q series base unit and the C200H series base unit.

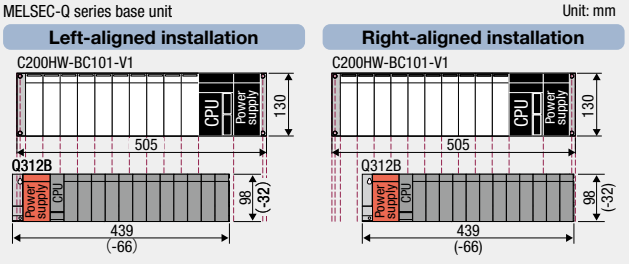
When a main base unit is replaced

(1) C200HW-BC101-V1 → Q38BLS / Q312B

Q series large type base unit (AnS series size) Unit: mm

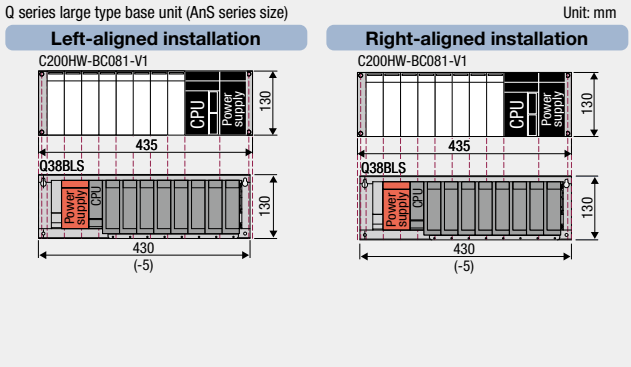


MELSEC-Q series base unit Unit: mm

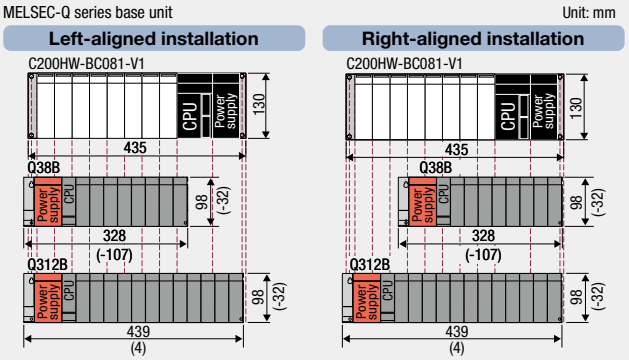


(2) C200HW-BC081-V1 → Q38BLS / Q38B, Q312B

Q series large type base unit (AnS series size) Unit: mm

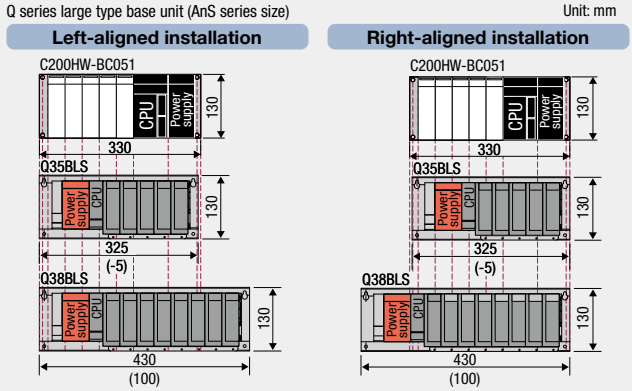


MELSEC-Q series base unit Unit: mm

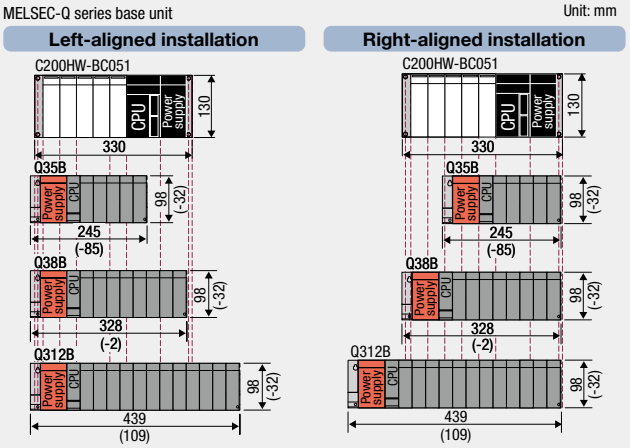


(3) C200HW-BC051 → Q35BLS, Q38BLS / Q35B, Q38B, Q312B

Q series large type base unit (AnS series size) Unit: mm



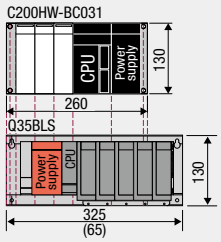
MELSEC-Q series base unit Unit: mm



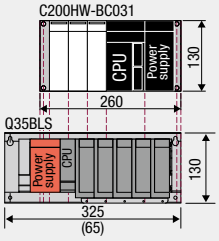
(4) C200HW-BC031 → Q35BLS / Q33B, Q35B, Q38B

Q series large type base unit (AnS series size) Unit: mm

Left-aligned installation

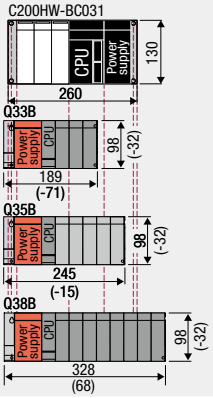


Right-aligned installation

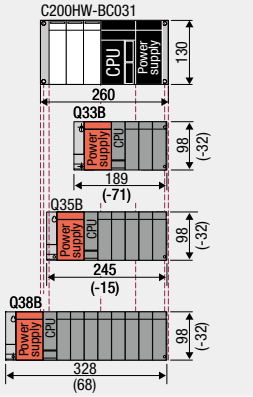


MELSEC-Q series base unit Unit: mm

Left-aligned installation



Right-aligned installation

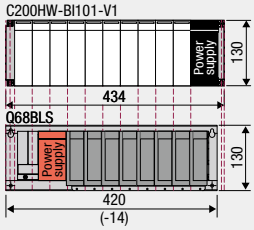


When an extension base unit is replaced

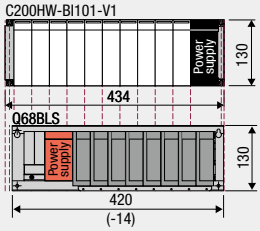
(1) C200HW-BI101-V1 → Q68BLS / Q612B

Q series large type base unit (AnS series size) Unit: mm

Left-aligned installation

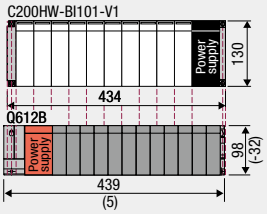


Right-aligned installation

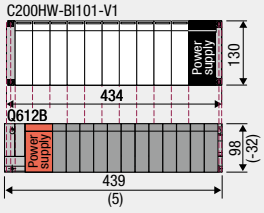


MELSEC-Q series base unit Unit: mm

Left-aligned installation



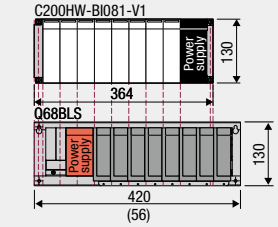
Right-aligned installation



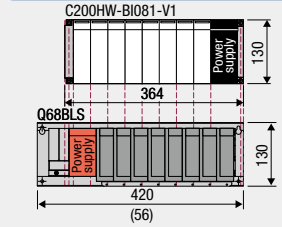
(2) C200HW-BI081-V1 → Q68BLS / Q68B, Q612B

Q series large type base unit (AnS series size) Unit: mm

Left-aligned installation

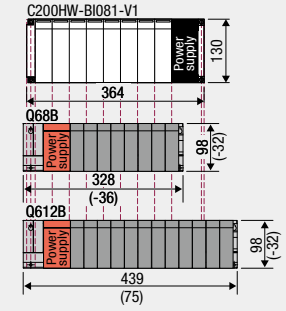


Right-aligned installation

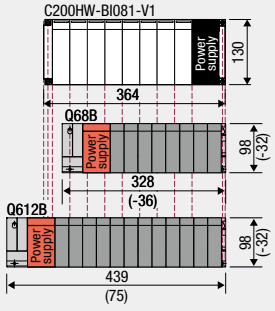


MELSEC-Q series base unit Unit: mm

Left-aligned installation



Right-aligned installation

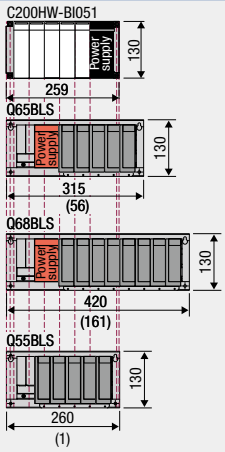


(3) C200HW-BI051 → Q65BLS, Q68BLS, Q55BLS / Q65B, Q68B, Q612B, Q55B

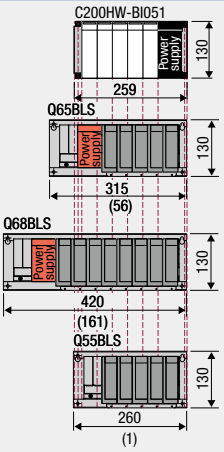
Q series large type base unit (AnS series size)

Unit: mm

Left-aligned installation



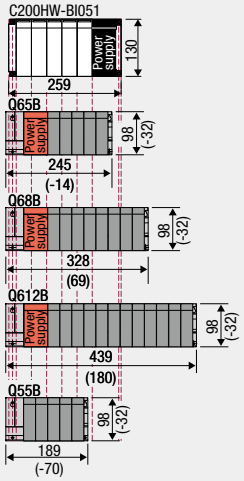
Right-aligned installation



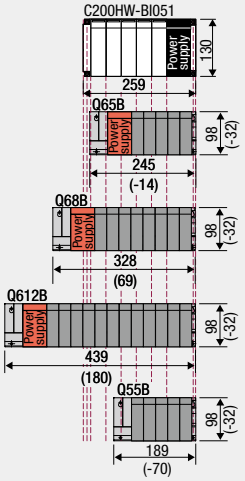
MELSEC-Q series base unit

Unit: mm

Left-aligned installation



Right-aligned installation

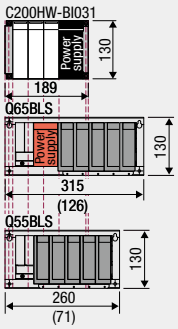


(4) C200HW-BI031 → Q65BLS, Q55BLS / Q63B, Q65B, Q68B, Q55B

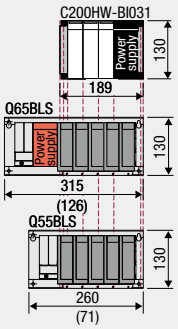
Q series large type base unit (AnS series size)

Unit: mm

Left-aligned installation



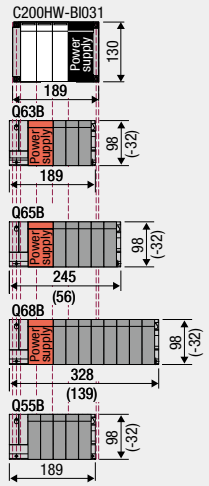
Right-aligned installation



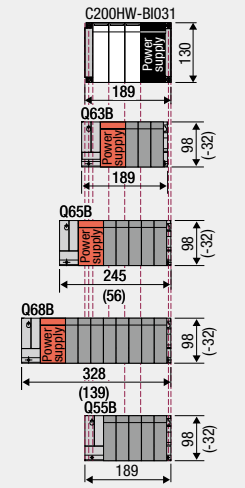
MELSEC-Q series base unit

Unit: mm

Left-aligned installation



Right-aligned installation



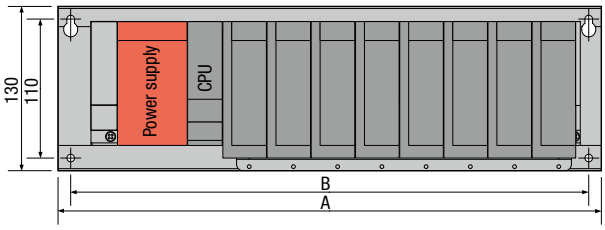
CS series

Installation dimensions

The slot positions differ between the SYSMAC CS series modules before replacement and the MELSEC-Q series modules after replacement. Adjust wiring lengths prior to use.

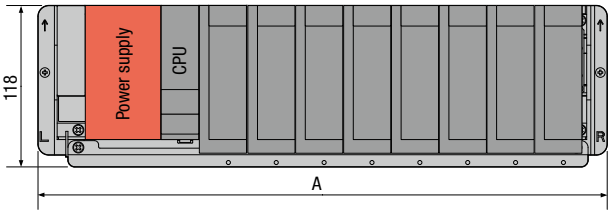
Unit: mm

◎ Q series large type base unit (AnS series size) Panel surface installation type



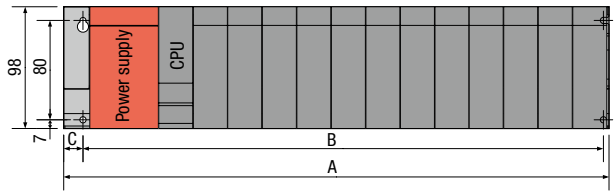
Q series large type base unit (AnS series size) model	Description	A	B	Installation hole screw size
Q38BLS	Main base unit	430	410	M5
Q35BLS		325	305	
Q68BLS	Extension base unit (type requiring a power supply module)	420	400	
Q65BLS		315	295	
Q55BLS	Extension base unit (type requiring no power supply module)	260	240	

◎ Q series large type base unit (AnS series size) DIN rail installation type



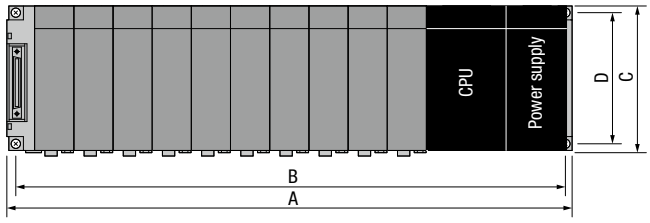
Q series large type base unit (AnS series size) model	Description	A
Q38BLS-D	Main base unit	416
Q35BLS-D		311
Q68BLS-D	Extension base unit (type requiring a power supply module)	409
Q65BLS-D		304
Q55BLS-D	Extension base unit (type requiring no power supply module)	248

◎ MELSEC-Q series base unit



MELSEC-Q series base unit model	Description	A	B	C	Installation hole screw size
Q312B	Main base unit	439	419	15.5	M4
Q38B		328	308	15.5	
Q35B		245	224.4	15.5	
Q33B		189	169	15.5	
Q612B	Extension base unit (type requiring a power supply module)	439	417	15.5	
Q68B		328	306	15.5	
Q65B		245	222.4	15.5	
Q63B		189	167	15.5	
Q55B	Extension base unit (type requiring no power supply module)	189	167	15.5	
Q52B		106	83.5	15.5	

◎ (Reference) CS series base unit



CS series base unit model	Description	A	B	C	D	Installation hole screw size
CS1W-BC102, CS1W-BC103	CPU base unit	505	491	132	118	M4
CS1W-BC082, CS1W-BC083		435	421			
CS1W-BC052, CS1W-BC053		330	316			
CS1W-BC032, CS1W-BC033		260	246			
CS1W-BC022, CS1W-BC023		198.5	172.3	157	145	
CS1W-BI102, CS1W-BI103	Extension base unit	505	491	130	118	
CS1W-BI082, CS1W-BI083		435	421			
CS1W-BI052, CS1W-BI053		330	316			
CS1W-BI032, CS1W-BI033		260	246			

Comparison of external dimensions and installation hole pitches

Use the following tables to check the differences of external dimensions and installation hole pitches before and after replacement.

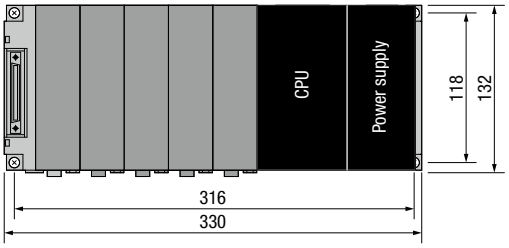
Note

"▲" in the tables indicates an increase of the external dimensions after replacement as shown in the example below. The installation position needs to be reconsidered.
If the number of slots on the main base unit is not enough, use an extension base unit.

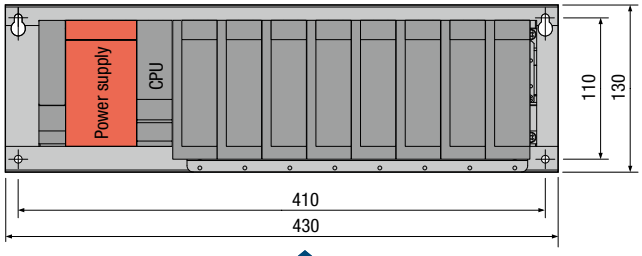
(Example) When the CS series base unit (CS1W-BC102, CS1W-BC103) is replaced with the Q series large type base unit (AnS series size) (Q38BLS)

Unit: mm

CS1W-BC052/CS1W-BC053



Q38BLS



Installation dimensions: 94mm UP

External dimensions: 100mm UP

Replacing with the Q series large type base unit (AnS series size) or MELSEC-Q series base unit

1) Main base units

◎: Same dimensions, ○: CS series is larger, ▲: CS series is smaller

CS series base unit			Q series large type base unit (AnS series size)							MELSEC-Q series base unit							Remarks
Model	Power supply	Maximum No. of slots	Model	Power supply	Maximum No. of slots	Comparison*1 ([Q series large type (AnS series size)] - [CS series])				Model	Power supply	Maximum No. of slots	Comparison*1 ([MELSEC-Q series] - [CS series])				
						External dimensions		Installation dimensions*2					External dimensions		Installation dimensions*2		
						Width	Height	Width	Height				Width	Height	Width	Height	
CS1W-BC102, CS1W-BC103	Required	10	Q38BLS	Required	8	○ (-75)	○ (-2)	○ (-81)	○ (-8)	Q312B	Required	12	○ (-66)	○ (-34)	○ (-72)	○ (-38)	• Reconsider the base unit position in the control panel in accordance with the external dimensions and installation hole pitches after replacement.
CS1W-BC082, CS1W-BC083	Required	8	Q38BLS	Required	8	○ (-5)	○ (-2)	○ (-11)	○ (-8)	Q312B	Required	12	▲ (4)	○ (-34)	○ (-2)	○ (-38)	
										Q38B	Required	8	○ (-107)	○ (-34)	○ (-113)	○ (-38)	
CS1W-BC052, CS1W-BC053	Required	5	Q38BLS	Required	8	▲ (100)	○ (-2)	▲ (94)	○ (-8)	Q312B	Required	12	▲ (109)	○ (-34)	▲ (103)	○ (-38)	
										Q38B	Required	8	○ (-2)	○ (-34)	○ (-8)	○ (-38)	
			Q35BLS	Required	5	○ (-5)	○ (-2)	○ (-11)	○ (-8)	Q35B	Required	5	○ (-85)	○ (-34)	○ (-91.6)	○ (-38)	
CS1W-BC032, CS1W-BC033	Required	3	Q38BLS	Required	8	▲ (170)	○ (-2)	▲ (164)	○ (-8)	Q38B	Required	8	▲ (68)	○ (-34)	▲ (62)	○ (-38)	
										Q35B	Required	5	○ (-15)	○ (-34)	○ (-21.6)	○ (-38)	
			Q35BLS	Required	5	▲ (65)	○ (-2)	▲ (59)	○ (-8)	Q33B	Required	3	○ (-71)	○ (-34)	○ (-77)	○ (-38)	
CS1W-BC022, CS1W-BC023	Required	2	Q35BLS	Required	5	▲ (126.5)	○ (-27)	▲ (132.7)	○ (-35)	Q35B	Required	5	▲ (46.5)	○ (-59)	▲ (52.1)	○ (-65)	
										Q33B	Required	3	○ (-9.5)	○ (-59)	○ (-3.3)	○ (-65)	

*1: Values in parentheses are differences in dimensions between the MELSEC-Q series base units and the CS series base units. (Unit: mm)
*2: Be careful when drilling new holes as the difference value becomes closer to zero.

2) Extension base units

◎: Same dimensions, ○: CS series is larger, ▲: CS series is smaller

CS series base unit			Q series large type base unit (AnS series size)							MELSEC-Q series base unit								Remarks
Model	Power supply	Maximum No. of slots	Model	Power supply	Maximum No. of slots	Comparison*1 ([Q series large type (AnS series size)] - [CS series])				Model	Power supply	Maximum No. of slots	Comparison*1 ([MELSEC-Q series] - [CS series])					
						External dimensions		Installation dimensions*2					External dimensions		Installation dimensions*2			
						Width	Height	Width	Height				Width	Height	Width	Height		
CS1W-BI102, CS1W-BI103	Required	10	Q68BLS	Required	8	○ (-85)	◎	○ (-91)	○ (-8)	Q612B	Required	12	○ (-66)	○ (-32)	○ (-74)	○ (-38)		
CS1W-BI082, CS1W-BI083	Required	8	Q68BLS	Required	8	○ (-15)	◎	○ (-21)	○ (-8)	Q612B	Required	12	▲ (4)	○ (-32)	○ (-4)	○ (-38)		
										Q68B	Required	8	○ (-107)	○ (-32)	○ (-115)	○ (-38)		• Reconsider the base unit position in the control panel in accordance with the external dimensions and installation hole pitches after replacement.
CS1W-BI052, CS1W-BI053	Required	5	Q68BLS	Required	8	▲ (90)	◎	▲ (84)	○ (-8)	Q612B	Required	12	▲ (109)	○ (-32)	▲ (101)	○ (-38)		
			Q65BLS	Required	5	○ (-15)	◎	○ (-21)	○ (-8)	Q68B	Required	8	○ (-2)	○ (-32)	○ (-10)	○ (-38)		
										Q65B	Required	5	○ (-85)	○ (-32)	○ (-93.6)	○ (-38)		
			Q55BLS	Not required	5	○ (-70)	◎	○ (-76)	○ (-8)	Q55B	Not required	5	○ (-141)	○ (-32)	○ (-149)	○ (-38)		
CS1W-BI032, CS1W-BI033	Required	3	Q68BLS	Required	8	▲ (160)	◎	▲ (154)	○ (-8)	Q68B	Required	8	▲ (68)	○ (-32)	▲ (60)	○ (-38)		
			Q65BLS	Required	5	▲ (55)	◎	▲ (49)	○ (-8)	Q65B	Required	5	○ (-15)	○ (-32)	○ (-23.6)	○ (-38)		
										Q63B	Required	3	○ (-71)	○ (-32)	○ (-79)	○ (-38)		
			Q55BLS	Not required	5	◎	◎	○ (-6)	○ (-8)	Q55B	Not required	5	○ (-71)	○ (-32)	○ (-79)	○ (-38)		

*1: Values in parentheses are differences in dimensions between the MELSEC-Q series base units and the CS series base units. (Unit: mm)
*2: Be careful when drilling new holes as the difference value becomes closer to zero.

Slot positions

The slot positions differ between the SYSMAC CS series modules before replacement and the MELSEC-Q series modules after replacement. Change the slot positions of modules and adjust wiring lengths prior to use.

Note

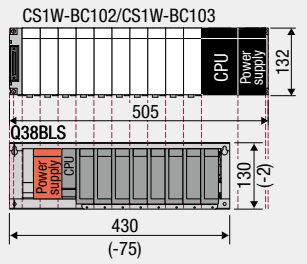
The installation hole size of the Q series large type base unit (AnS series size) differs from that of the SYSMAC CS series base unit. Therefore, the edge of the base unit is used as the reference for left-aligned and right-aligned installations. The installation hole size of the MELSEC-Q series base unit is the same as that of the SYSMAC CS series base unit. Therefore, the installation holes are used as the reference for left-aligned and right-aligned installations. Values in parentheses are differences in dimensions between the MELSEC-Q series base unit and the CS series base unit.

When a main base unit is replaced

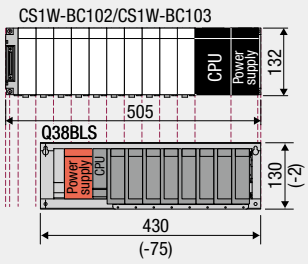
(1) CS1W-BC102, CS1W-BC103 → Q38BLS / Q312B

Q series large type base unit (AnS series size) — Unit: mm

Left-aligned installation

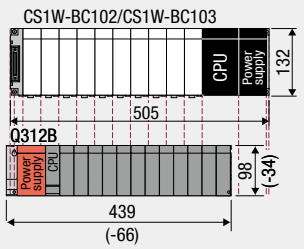


Right-aligned installation

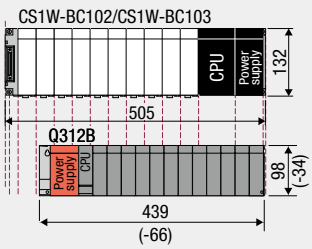


MELSEC-Q series base unit — Unit: mm

Left-aligned installation



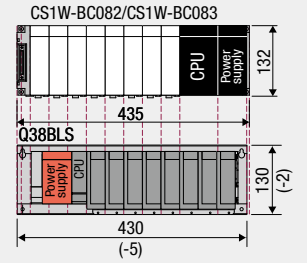
Right-aligned installation



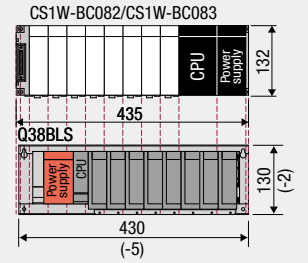
(2) CS1W-BC082, CS1W-BC083 → Q38BLS / Q38B, Q312B

Q series large type base unit (AnS series size) — Unit: mm

Left-aligned installation

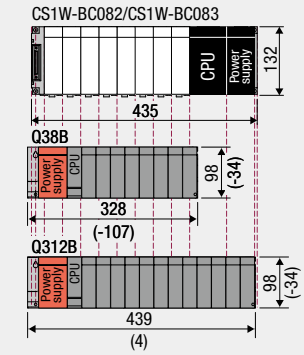


Right-aligned installation

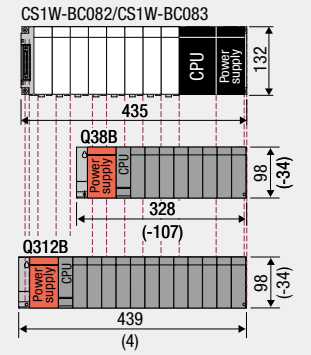


MELSEC-Q series base unit — Unit: mm

Left-aligned installation



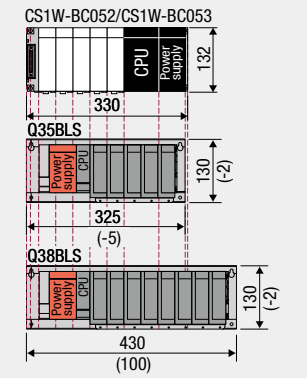
Right-aligned installation



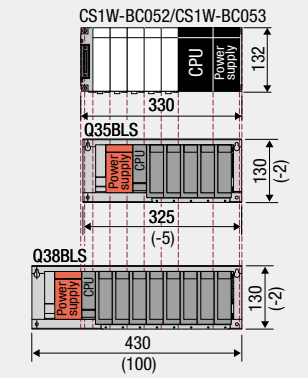
(3) CS1W-BC052, CS1W-BC053 → Q35BLS, Q38BLS / Q35B, Q38B, Q312B

Q series large type base unit (AnS series size) — Unit: mm

Left-aligned installation

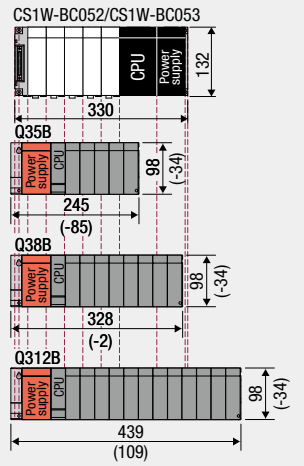


Right-aligned installation

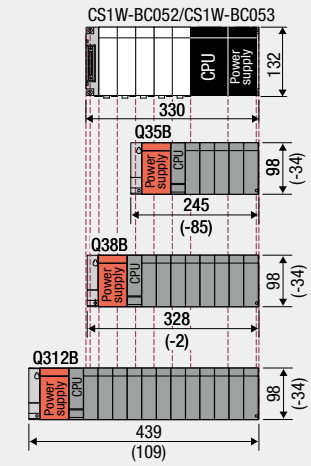


MELSEC-Q series base unit — Unit: mm

Left-aligned installation



Right-aligned installation



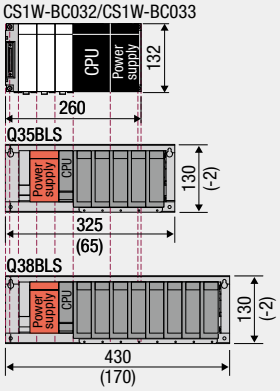
(4) CS1W-BC032, CS1W-BC033 → Q35BLS, Q38BLS / Q33B, Q35B, Q38B

Q series large type base unit (AnS series size)

Unit: mm

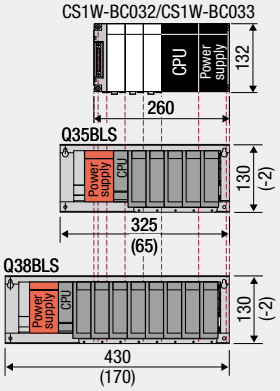
Left-aligned installation

CS1W-BC032/CS1W-BC033



Right-aligned installation

CS1W-BC032/CS1W-BC033

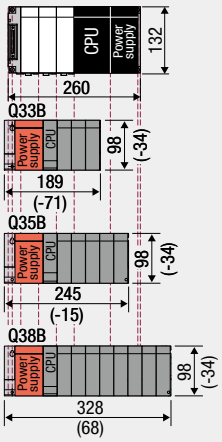


MELSEC-Q series base unit

Unit: mm

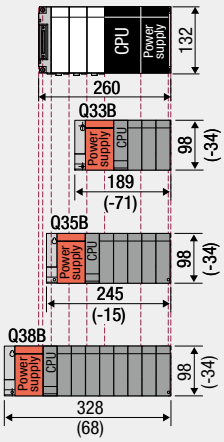
Left-aligned installation

CS1W-BC032/CS1W-BC033



Right-aligned installation

CS1W-BC032/CS1W-BC033



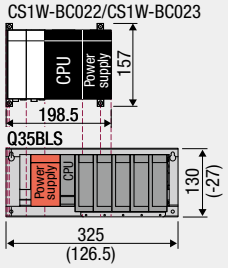
(5) CS1W-BC022, CS1W-BC023 → Q35BLS / Q33B, Q35B

Q series large type base unit (AnS series size)

Unit: mm

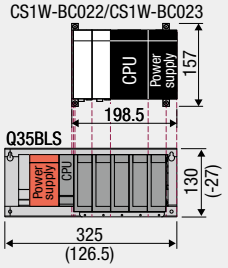
Left-aligned installation

CS1W-BC022/CS1W-BC023



Right-aligned installation

CS1W-BC022/CS1W-BC023

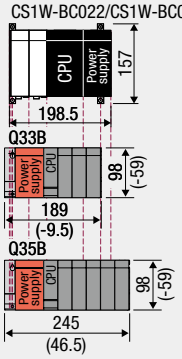


MELSEC-Q series base unit

Unit: mm

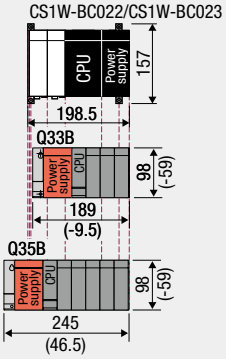
Left-aligned installation

CS1W-BC022/CS1W-BC023



Right-aligned installation

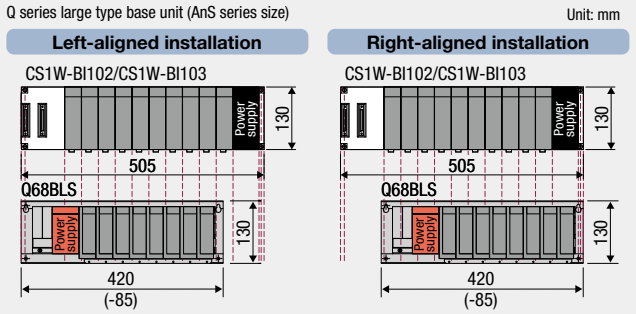
CS1W-BC022/CS1W-BC023



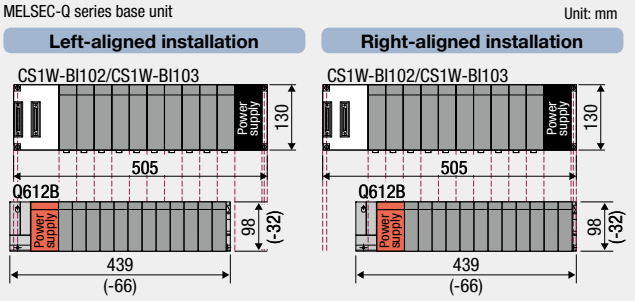
When an extension base unit is replaced

(1) CS1W-BI102, CS1W-BI103 → Q68BLS / Q612B

Q series large type base unit (AnS series size) — Unit: mm

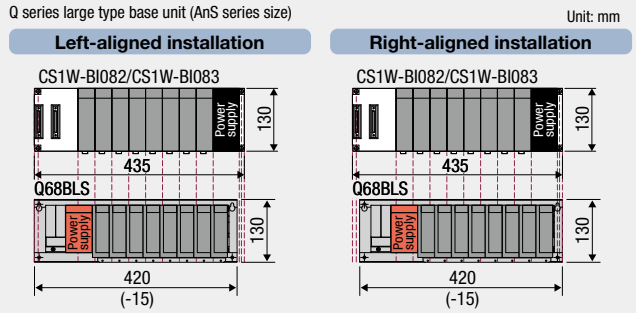


MELSEC-Q series base unit — Unit: mm

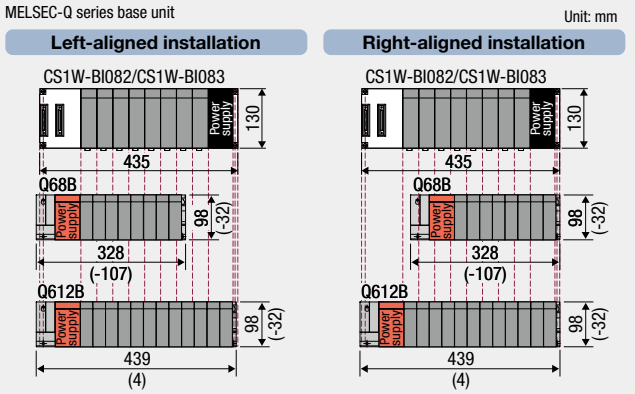


(2) CS1W-BI082, CS1W-BI083 → Q68BLS / Q68B, Q612B

Q series large type base unit (AnS series size) — Unit: mm

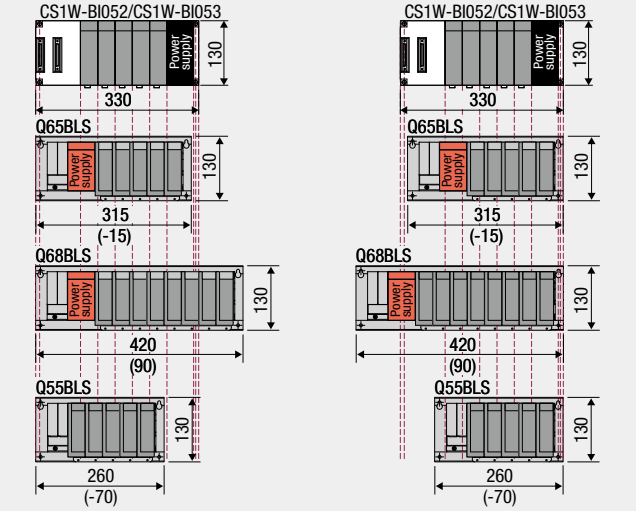


MELSEC-Q series base unit — Unit: mm

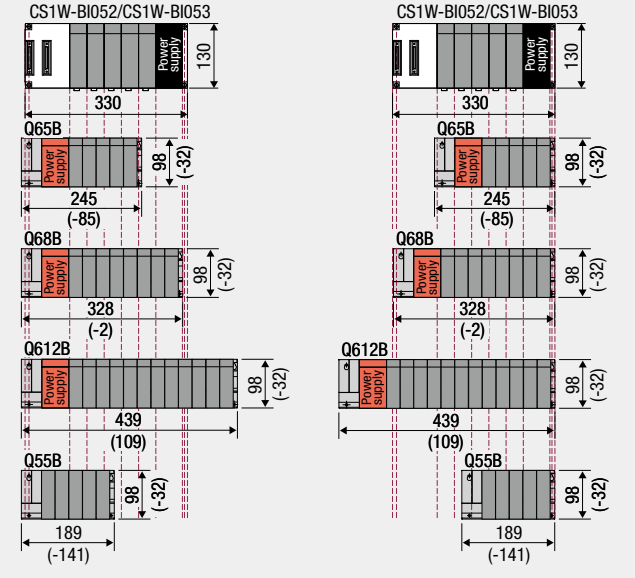


(3) CS1W-BI052, CS1W-BI053 → Q65BLS, Q68BLS, Q55BLS / Q65B, Q68B, Q612B, Q55B

Q series large type base unit (AnS series size) — Unit: mm



MELSEC-Q series base unit — Unit: mm

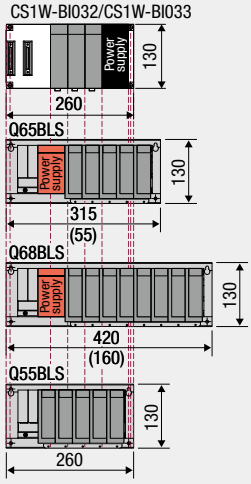


(4) CS1W-BI032, CS1W-BI033 → Q65BLS, Q68BLS, Q55BLS / Q63B, Q65B, Q68B, Q55B

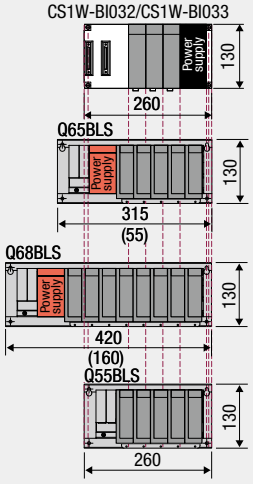
Q series large type base unit (AnS series size)

Unit: mm

Left-aligned installation



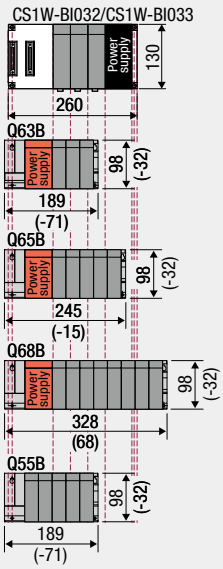
Right-aligned installation



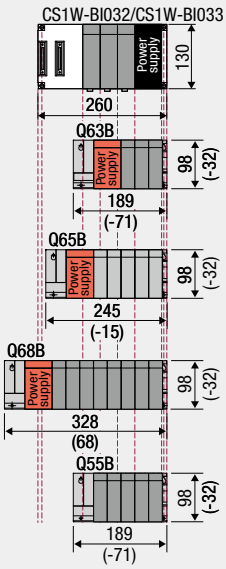
MELSEC-Q series base unit

Unit: mm

Left-aligned installation



Right-aligned installation

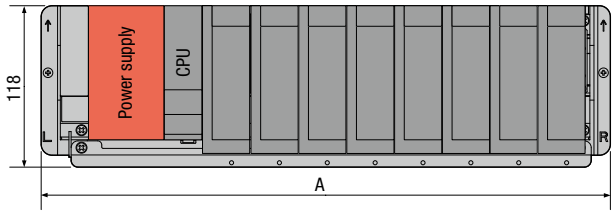


Installation dimensions

The slot positions differ between the SYSMAC CQM1 series modules before replacement and the MELSEC-Q series modules after replacement. Adjust wiring lengths prior to use.

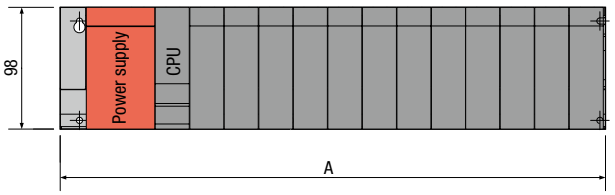
Unit: mm

◎ Q series large type base unit (AnS series size)
DIN rail installation type



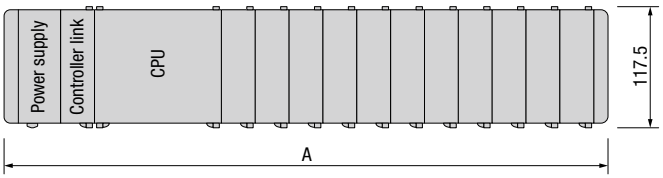
Q series large type base unit (AnS series size) model	Description	A
Q38BLS-D	Main base unit	416
Q35BLS-D		311
Q68BLS-D	Extension base unit (type requiring a power supply module)	409
Q65BLS-D		304
Q55BLS-D	Extension base unit (type requiring no power supply module)	248

◎ MELSEC-Q series base unit



MELSEC-Q series base unit model	Description	A
Q312B	Main base unit	439
Q38B		328
Q35B		245
Q33B		189
Q612B	Extension base unit (type requiring a power supply module)	439
Q68B		328
Q65B		245
Q63B		189
Q55B	Extension base unit (type requiring no power supply module)	189
Q52B		106

◎ (Reference) CQM1 series base unit



CQM1 series base unit model	Description	A
CQM1-PA203 + 11 I/O modules, controller link module	Power supply module: CQM1-PA203	571
CQM1-PA203 + 11 I/O modules		539
CQM1-PA203 + 8 I/O modules		443
CQM1-PA203 + 5 I/O modules		347
CQM1-PA203 + 3 I/O modules		283
CQM1-PA206/PA216/PD026 + 11 I/O modules, controller link module	Power supply module: CQM1-PA206/PA216/PD026	603
CQM1-PA206/PA216/PD026 + 11 I/O modules		571
CQM1-PA206/PA216/PD026 + 8 I/O modules		475
CQM1-PA206/PA216/PD026 + 5 I/O modules		379
CQM1-PA206/PA216/PD026 + 3 I/O modules		315
CQM1-PA203 + 5 I/O modules, I/O expansion module, controller link module	Power supply module: CQM1-PA203, I/O expansion module	411
CQM1-PA203 + 5 I/O modules, I/O expansion module		379
CQM1-PA206/PA216/PD026 + 5 I/O modules, I/O expansion module, controller link module	Power supply module: CQM1-PA206/PA216/PD026, I/O expansion module	443
CQM1-PA206/PA216/PD026 + 5 I/O modules, I/O expansion module		411
I/O expansion block with 11 I/O modules	I/O expansion block	412.2
I/O expansion block with 8 I/O modules		316.2
I/O expansion block with 5 I/O modules		220.2
I/O expansion block with 3 I/O modules		156.2

Comparison of external dimensions

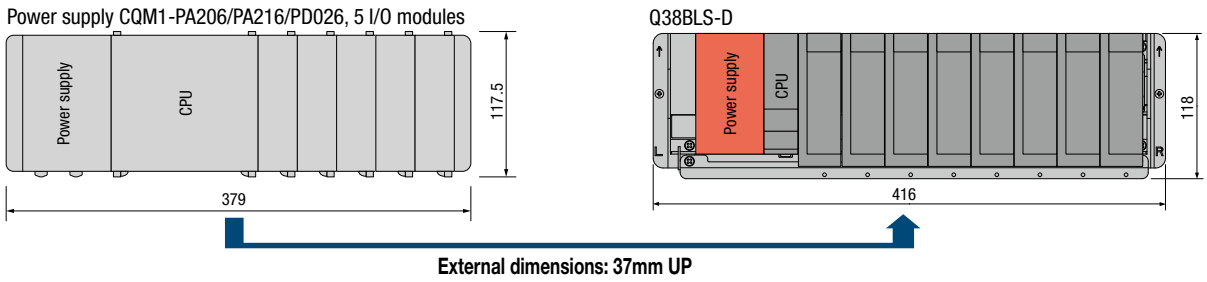
Use the following tables to check the differences of external dimensions before and after replacement.

Note

"▲" in the tables indicates an increase of the external dimensions after replacement as shown in the example below. The installation position needs to be reconsidered.
If the number of slots on the main base unit is not enough, use an extension base unit.

(Example) When the CQM1 series base unit (power supply module: CQM1-PA206/PA216/PD026 and five I/O modules) is replaced with the Q series large type base unit (AnS series size) (Q38BLS-D)

Unit: mm



Replacing with the Q series large type base unit (AnS series size) or MELSEC-Q series base unit

1) Main base units

◎: Same dimensions, ○: CQM1 series is larger, ▲: CQM1 series is smaller

CQM1 series base unit			Q series large type base unit (AnS series size)					MELSEC-Q series base unit					Remarks
Configuration example	Power supply	Maximum No. of slots	Model	Power supply	Maximum No. of slots	Comparison*1 ([Q series large type (AnS series size)] - [CQM1 series]) Width	Comparison*1 ([Q series large type (AnS series size)] - [CQM1 series]) Height	Model	Power supply	Maximum No. of slots	Comparison*1 ([MELSEC-Q series] - [CQM1 series]) Width	Comparison*1 ([MELSEC-Q series] - [CQM1 series]) Height	
CQM1-PA206/PA216/PD026 + 11 I/O modules, controller link module	Required	12	Q38BLS-D	Required	8	○ (-187)	▲ (0.5)	Q312B	Required	12	○ (-164)	○ (-19.5)	• Reconsider the base unit position in the control panel in accordance with the external dimensions after replacement.
CQM1-PA206/PA216/PD026 + 11 I/O modules	Required	11	Q38BLS-D	Required	8	○ (-155)	▲ (0.5)	Q312B	Required	12	○ (-132)	○ (-19.5)	
CQM1-PA206/PA216/PD026 + 8 I/O modules	Required	8	Q38BLS-D	Required	8	○ (-59)	▲ (0.5)	Q312B	Required	12	○ (-36)	○ (-19.5)	
								Q38B	Required	8	○ (-147)	○ (-19.5)	
CQM1-PA206/PA216/PD026 + 5 I/O modules	Required	5	Q38BLS-D	Required	8	▲ (37)	▲ (0.5)	Q38B	Required	8	○ (-51)	○ (-19.5)	
			Q35BLS-D	Required	5	○ (-68)	▲ (0.5)	Q35B	Required	5	○ (-134)	○ (-19.5)	
CQM1-PA206/PA216/PD026 + 3 I/O modules	Required	3	Q35BLS-D	Required	5	○ (-4)	▲ (0.5)	Q35B	Required	5	○ (-70)	○ (-19.5)	
								Q33B	Required	3	○ (-126)	○ (-19.5)	
CQM1-PA203 + 11 I/O modules, controller link module	Required	12	Q38BLS-D	Required	8	○ (-155)	▲ (0.5)	Q312B	Required	12	○ (-132)	○ (-19.5)	
CQM1-PA203 + 11 I/O modules	Required	11	Q38BLS-D	Required	8	○ (-123)	▲ (0.5)	Q312B	Required	12	○ (-100)	○ (-19.5)	
CQM1-PA203 + 8 I/O modules	Required	8	Q38BLS-D	Required	8	○ (-27)	▲ (0.5)	Q312B	Required	12	○ (-4)	○ (-19.5)	
								Q38B	Required	8	○ (-115)	○ (-19.5)	
CQM1-PA203 + 5 I/O modules	Required	5	Q38BLS-D	Required	8	▲ (69)	▲ (0.5)	Q38B	Required	8	○ (-19)	○ (-19.5)	
			Q35BLS-D	Required	5	○ (-36)	▲ (0.5)	Q35B	Required	5	○ (-102)	○ (-19.5)	
CQM1-PA203 + 3 I/O modules	Required	3	Q35BLS-D	Required	5	▲ (28)	▲ (0.5)	Q35B	Required	5	○ (-38)	○ (-19.5)	
								Q33B	Required	3	○ (-94)	○ (-19.5)	
CQM1-PA206/PA216/PD026 + 5 I/O modules, I/O expansion module, controller link module	Required	5	Q38BLS-D	Required	8	○ (-27)	▲ (0.5)	Q38B	Required	8	○ (-115)	○ (-19.5)	
			Q35BLS-D	Required	5	○ (-132)	▲ (0.5)	Q35B	Required	5	○ (-198)	○ (-19.5)	
CQM1-PA206/PA216/PD026 + 5 I/O modules, I/O expansion module	Required	5	Q38BLS-D	Required	8	▲ (5)	▲ (0.5)	Q38B	Required	8	○ (-83)	○ (-19.5)	
			Q35BLS-D	Required	5	○ (-100)	▲ (0.5)	Q35B	Required	5	○ (-166)	○ (-19.5)	
CQM1-PA203 + 5 I/O modules, /O expansion module, controller link module	Required	5	Q38BLS-D	Required	8	▲ (5)	▲ (0.5)	Q38B	Required	8	○ (-83)	○ (-19.5)	
			Q35BLS-D	Required	5	○ (-100)	▲ (0.5)	Q35B	Required	5	○ (-166)	○ (-19.5)	
CQM1-PA203 + 5 I/O modules, I/O expansion module	Required	5	Q38BLS-D	Required	8	▲ (37)	▲ (0.5)	Q38B	Required	8	○ (-51)	○ (-19.5)	
			Q35BLS-D	Required	5	○ (-68)	▲ (0.5)	Q35B	Required	5	○ (-134)	○ (-19.5)	

*1: Values in parentheses are differences in dimensions between the MELSEC-Q series base units and the CQM1 series base units. (Unit: mm)
*2: These are the configuration examples. If your system configuration is not listed here, check the system to select the optimum base unit.

2) Extension base units

◎: Same dimensions, ○: CQM1 series is larger, ▲: CQM1 series is smaller

CQM1 series base unit			Q series large type base unit (AnS series size)					MELSEC-Q series base unit					Remarks
Configuration example	Power supply	Maximum No. of slots	Model	Power supply	Maximum No. of slots	Comparison*1 ([Q series large type (AnS series size)] - [CQM1 series]) Width	Comparison*1 ([Q series large type (AnS series size)] - [CQM1 series]) Height	Model	Power supply	Maximum No. of slots	Comparison*1 ([MELSEC-Q series] - [CQM1 series]) Width	Comparison*1 ([MELSEC-Q series] - [CQM1 series]) Height	
I/O expansion block with 11 I/O modules	Required	11	Q68BLS-D	Required	8	○ (-3.2)	▲ (0.5)	Q612B	Required	12	▲ (26.8)	○ (-19.5)	• Reconsider the base unit position in the control panel in accordance with the external dimensions after replacement.
I/O expansion block with 8 I/O modules	Required	8	Q68BLS-D	Required	8	▲ (92.8)	▲ (0.5)	Q68B	Required	8	▲ (11.8)	○ (-19.5)	
I/O expansion block with 5 I/O modules	Required	5	Q65BLS-D	Required	5	▲ (83.8)	▲ (0.5)	Q65B	Required	5	▲ (24.8)	○ (-19.5)	
			Q55BLS-D	Not required	5	▲ (27.8)	▲ (0.5)	Q55B	Not required	5	○ (-31.2)	○ (-19.5)	
I/O expansion block with 3 I/O modules	Required	3	Q65BLS-D	Required	5	▲ (147.8)	▲ (0.5)	Q63B	Required	3	▲ (32.8)	○ (-19.5)	
			Q55BLS-D	Not required	5	▲ (91.8)	▲ (0.5)	Q55B	Not required	5	▲ (32.8)	○ (-19.5)	

*1: Values in parentheses are differences in dimensions between the MELSEC-Q series base units and the CQM1 series base units. (Unit: mm)
*2: These are the configuration examples. If your system configuration is not listed here, check the system to select the optimum base unit.

Slot positions

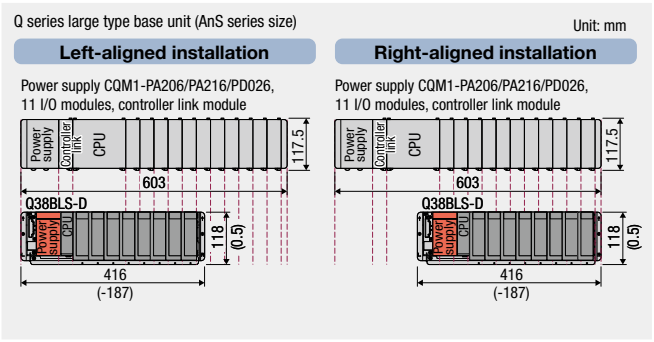
The slot positions differ between the SYSMAC CQM1 series modules before replacement and the MELSEC-Q series modules after replacement. Change the slot positions of modules and adjust wiring lengths prior to use.

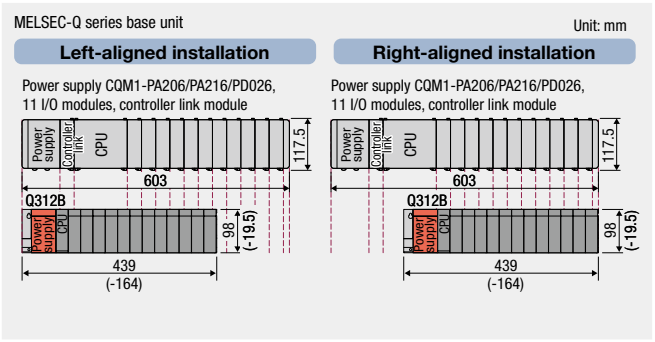
Note

The edge of the SYSMAC CQM1 series base unit is used as the reference for left-aligned and right-aligned installations. Values in parentheses are differences in dimensions between the MELSEC-Q series base unit and the CQM1 series base unit.

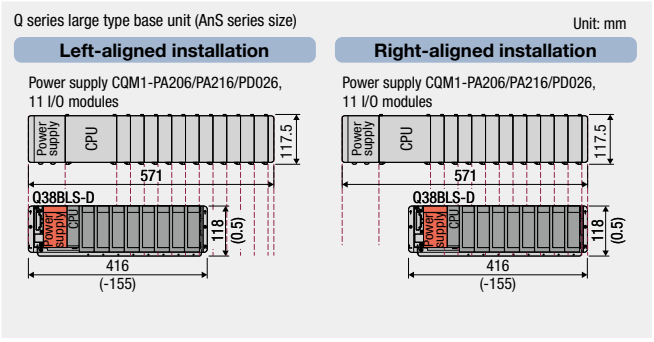
When a main base unit is replaced

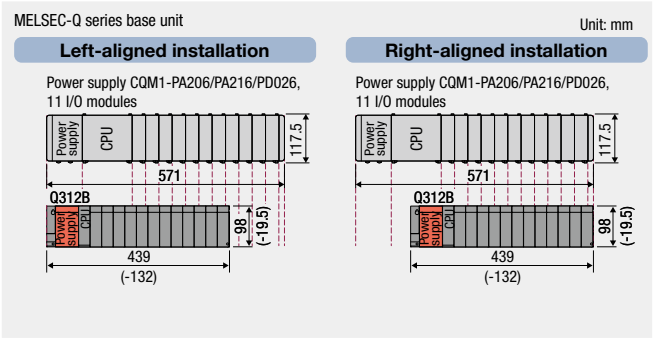
(1) CQM1-PA206/PA216/PD026 + 11 I/O modules, controller link module → Q38BLS-D / Q312B





(2) CQM1-PA206/PA216/PD026 + 11 I/O modules → Q38BLS-D / Q312B





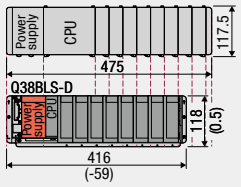
(3) CQM1-PA206/PA216/PD026 + 8 I/O modules → Q38BLS-D / Q38B, Q312B

Q series large type base unit (AnS series size)

Unit: mm

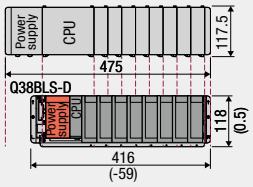
Left-aligned installation

Power supply CQM1-PA206/PA216/PD026, 8 I/O modules



Right-aligned installation

Power supply CQM1-PA206/PA216/PD026, 8 I/O modules

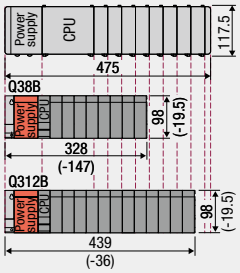


MELSEC-Q series base unit

Unit: mm

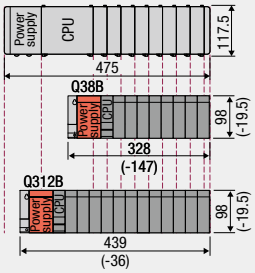
Left-aligned installation

Power supply CQM1-PA206/PA216/PD026, 8 I/O modules



Right-aligned installation

Power supply CQM1-PA206/PA216/PD026, 8 I/O modules



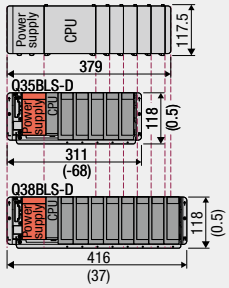
(4) CQM1-PA206/PA216/PD026 + 5 I/O modules → Q35BLS-D, Q38BLS-D / Q35B, Q38B

Q series large type base unit (AnS series size)

Unit: mm

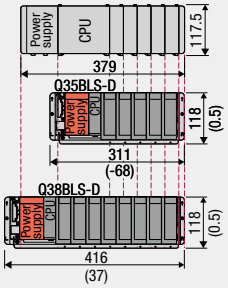
Left-aligned installation

Power supply CQM1-PA206/PA216/PD026, 5 I/O modules



Right-aligned installation

Power supply CQM1-PA206/PA216/PD026, 5 I/O modules

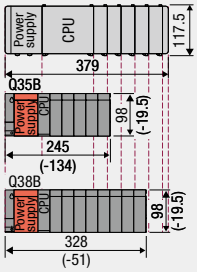


MELSEC-Q series base unit

Unit: mm

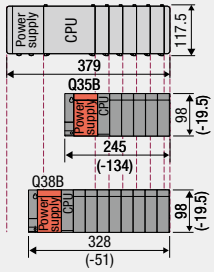
Left-aligned installation

Power supply CQM1-PA206/PA216/PD026, 5 I/O modules



Right-aligned installation

Power supply CQM1-PA206/PA216/PD026, 5 I/O modules



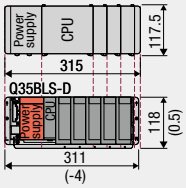
(5) CQM1-PA206/PA216/PD026 + 3 I/O modules → Q35BLS-D / Q33B, Q35B

Q series large type base unit (AnS series size)

Unit: mm

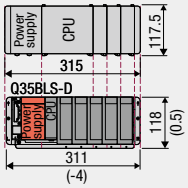
Left-aligned installation

Power supply CQM1-PA206/PA216/PD026, 3 I/O modules



Right-aligned installation

Power supply CQM1-PA206/PA216/PD026, 3 I/O modules

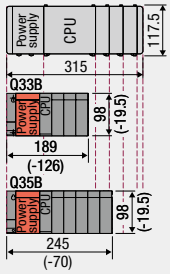


MELSEC-Q series base unit

Unit: mm

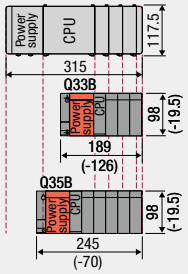
Left-aligned installation

Power supply CQM1-PA206/PA216/PD026, 3 I/O modules



Right-aligned installation

Power supply CQM1-PA206/PA216/PD026, 3 I/O modules



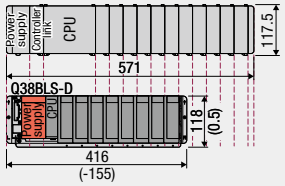
(6) CQM1-PA203 + 11 I/O modules, controller link module → Q38BLS-D / Q312B

Q series large type base unit (AnS series size)

Unit: mm

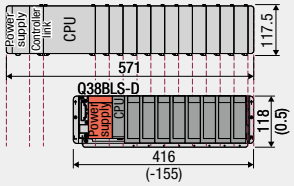
Left-aligned installation

Power supply CQM1-PA203, 11 I/O modules, controller link module



Right-aligned installation

Power supply CQM1-PA203, 11 I/O modules, controller link module

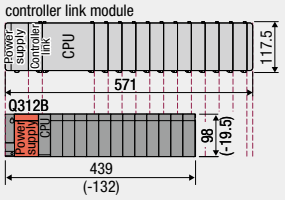


MELSEC-Q series base unit

Unit: mm

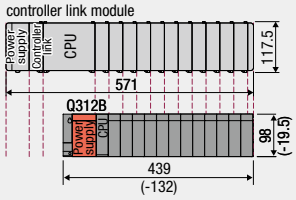
Left-aligned installation

Power supply CQM1-PA203, 11 I/O modules, controller link module



Right-aligned installation

Power supply CQM1-PA203, 11 I/O modules, controller link module



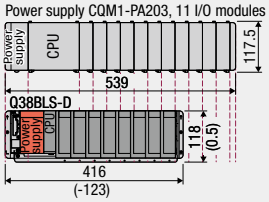
(7) CQM1-PA203 + 11 I/O modules → Q38BLS-D / Q312B

Q series large type base unit (AnS series size)

Unit: mm

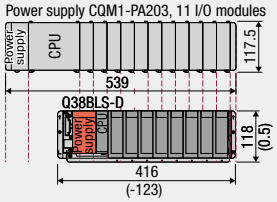
Left-aligned installation

Power supply CQM1-PA203, 11 I/O modules



Right-aligned installation

Power supply CQM1-PA203, 11 I/O modules

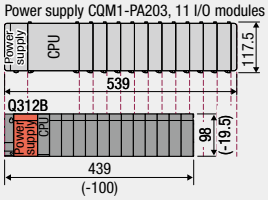


MELSEC-Q series base unit

Unit: mm

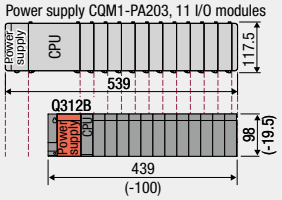
Left-aligned installation

Power supply CQM1-PA203, 11 I/O modules



Right-aligned installation

Power supply CQM1-PA203, 11 I/O modules



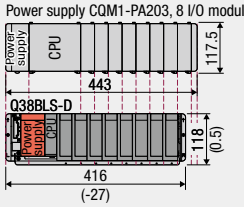
(8) CQM1-PA203 + 8 I/O modules → Q38BLS-D / Q38B, Q312B

Q series large type base unit (AnS series size)

Unit: mm

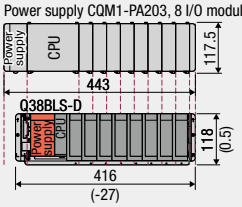
Left-aligned installation

Power supply CQM1-PA203, 8 I/O modules



Right-aligned installation

Power supply CQM1-PA203, 8 I/O modules

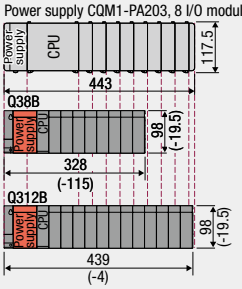


MELSEC-Q series base unit

Unit: mm

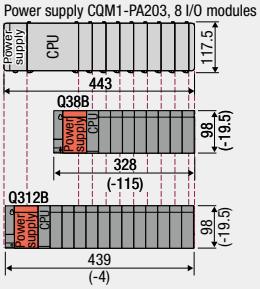
Left-aligned installation

Power supply CQM1-PA203, 8 I/O modules



Right-aligned installation

Power supply CQM1-PA203, 8 I/O modules



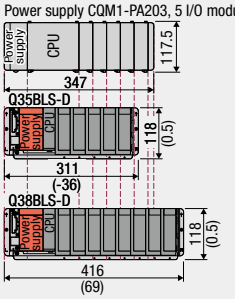
(9) CQM1-PA203 + 5 I/O modules → Q35BLS-D, Q38BLS-D / Q35B, Q38B

Q series large type base unit (AnS series size)

Unit: mm

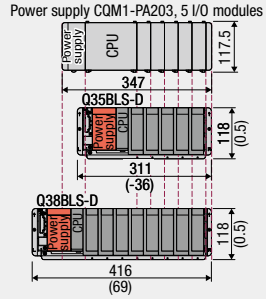
Left-aligned installation

Power supply CQM1-PA203, 5 I/O modules



Right-aligned installation

Power supply CQM1-PA203, 5 I/O modules

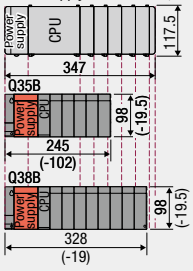


MELSEC-Q series base unit

Unit: mm

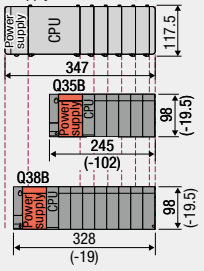
Left-aligned installation

Power supply CQM1-PA203, 5 I/O modules



Right-aligned installation

Power supply CQM1-PA203, 5 I/O modules

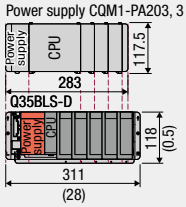


(10) CQM1-PA203 + 3 I/O modules → Q35BLS-D / Q33B, Q35B

Q series large type base unit (AnS series size) Unit: mm

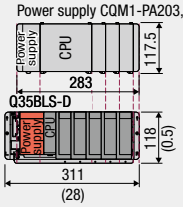
Left-aligned installation

Power supply CQM1-PA203, 3 I/O modules



Right-aligned installation

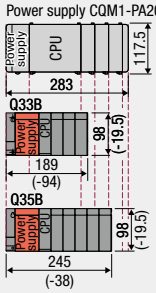
Power supply CQM1-PA203, 3 I/O modules



MELSEC-Q series base unit Unit: mm

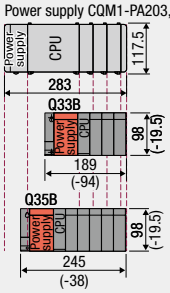
Left-aligned installation

Power supply CQM1-PA203, 3 I/O modules



Right-aligned installation

Power supply CQM1-PA203, 3 I/O modules

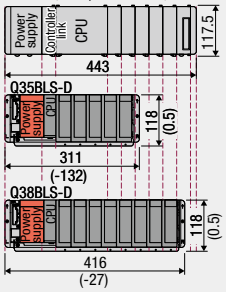


(11) CQM1-PA206/PA216/PD026 + 5 I/O modules, I/O expansion module, controller link module → Q35BLS-D, Q38BLS-D / Q35B, Q38B

Q series large type base unit (AnS series size) Unit: mm

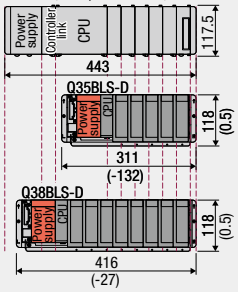
Left-aligned installation

Power supply CQM1-PA206/PA216/PD026, 5 I/O modules, I/O expansion module, controller link module



Right-aligned installation

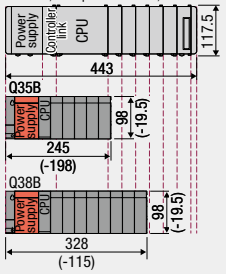
Power supply CQM1-PA206/PA216/PD026, 5 I/O modules, I/O expansion module, controller link module



MELSEC-Q series base unit Unit: mm

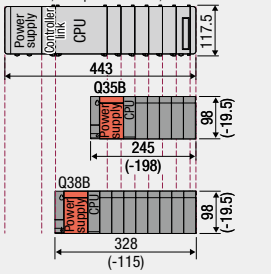
Left-aligned installation

Power supply CQM1-PA206/PA216/PD026, 5 I/O modules, I/O expansion module, controller link module



Right-aligned installation

Power supply CQM1-PA206/PA216/PD026, 5 I/O modules, I/O expansion module, controller link module

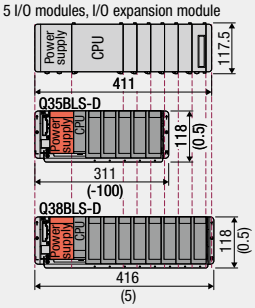


(12) CQM1-PA206/PA216/PD026 + 5 I/O modules, I/O expansion module → Q35BLS-D, Q38BLS-D / Q35B, Q38B

Q series large type base unit (AnS series size) Unit: mm

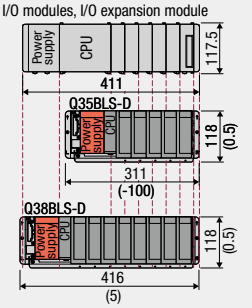
Left-aligned installation

Power supply CQM1-PA206/PA216/PD026, 5 I/O modules, I/O expansion module



Right-aligned installation

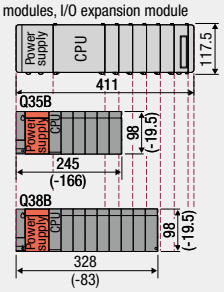
Power supply CQM1-PA206/PA216/PD026, 5 I/O modules, I/O expansion module



MELSEC-Q series base unit Unit: mm

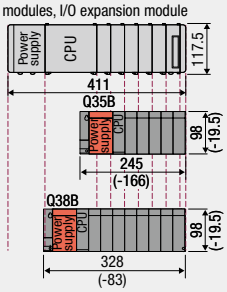
Left-aligned installation

Power supply CQM1-PA206/PA216/PD026, 5 I/O modules, I/O expansion module



Right-aligned installation

Power supply CQM1-PA206/PA216/PD026, 5 I/O modules, I/O expansion module

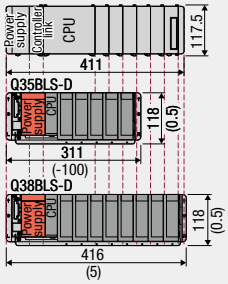


(13) CQM1-PA203 + 5 I/O modules, I/O expansion module, controller link module → Q35BLS-D, Q38BLS-D / Q35B, Q38B

Q series large type base unit (AnS series size) — Unit: mm

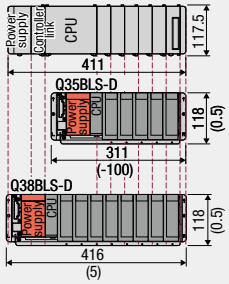
Left-aligned installation

Power supply CQM1-PA203, 5 I/O modules, I/O expansion module, controller link module



Right-aligned installation

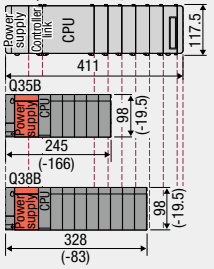
Power supply CQM1-PA203, 5 I/O modules, I/O expansion module, controller link module



MELSEC-Q series base unit — Unit: mm

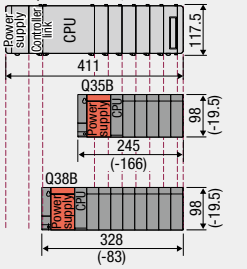
Left-aligned installation

Power supply CQM1-PA203, 5 I/O modules, I/O expansion module, controller link module



Right-aligned installation

Power supply CQM1-PA203, 5 I/O modules, I/O expansion module, controller link module

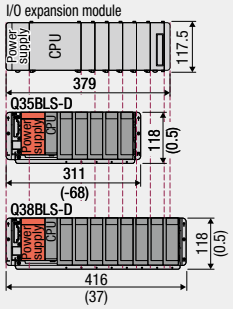


(14) CQM1-PA203 + 5 I/O modules, I/O expansion module → Q35BLS-D, Q38BLS-D / Q35B, Q38B

Q series large type base unit (AnS series size) — Unit: mm

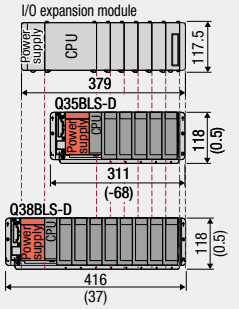
Left-aligned installation

Power supply CQM1-PA203, 5 I/O modules, I/O expansion module



Right-aligned installation

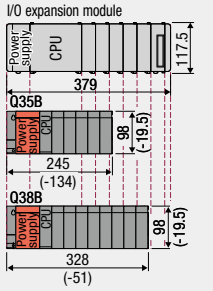
Power supply CQM1-PA203, 5 I/O modules, I/O expansion module



MELSEC-Q series base unit — Unit: mm

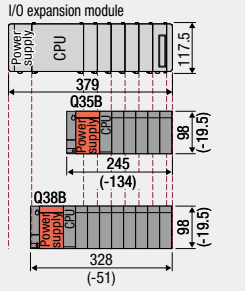
Left-aligned installation

Power supply CQM1-PA203, 5 I/O modules, I/O expansion module



Right-aligned installation

Power supply CQM1-PA203, 5 I/O modules, I/O expansion module



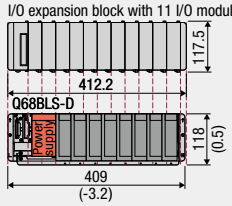
When an extension base unit is replaced

(1) I/O expansion block with 11 I/O modules → Q68BLS-D / Q612B

Q series large type base unit (AnS series size) — Unit: mm

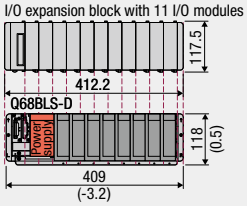
Left-aligned installation

I/O expansion block with 11 I/O modules



Right-aligned installation

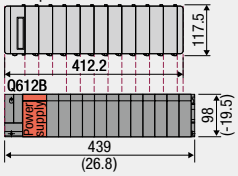
I/O expansion block with 11 I/O modules



MELSEC-Q series base unit — Unit: mm

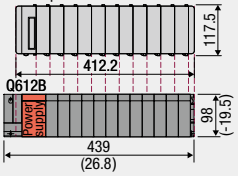
Left-aligned installation

I/O expansion block with 11 I/O modules



Right-aligned installation

I/O expansion block with 11 I/O modules

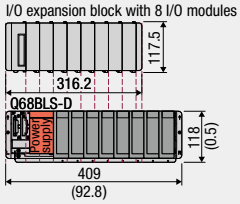


(2) I/O expansion block with 8 I/O modules → Q68BLS-D / Q68B

Q series large type base unit (AnS series size) Unit: mm

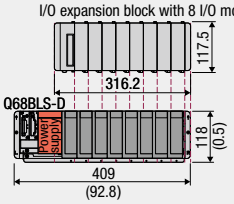
Left-aligned installation

I/O expansion block with 8 I/O modules



Right-aligned installation

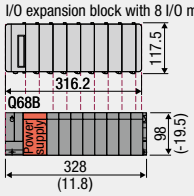
I/O expansion block with 8 I/O modules



MELSEC-Q series base unit Unit: mm

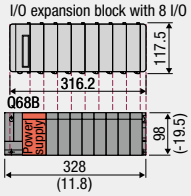
Left-aligned installation

I/O expansion block with 8 I/O modules



Right-aligned installation

I/O expansion block with 8 I/O modules

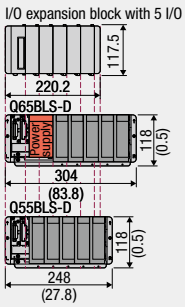


(3) I/O expansion block with 5 I/O modules → Q65BLS-D, Q55BLS-D / Q65B, Q55B

Q series large type base unit (AnS series size) Unit: mm

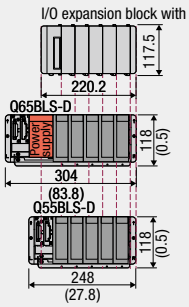
Left-aligned installation

I/O expansion block with 5 I/O modules



Right-aligned installation

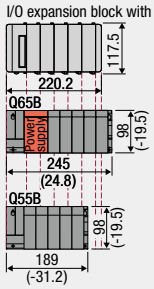
I/O expansion block with 5 I/O modules



MELSEC-Q series base unit Unit: mm

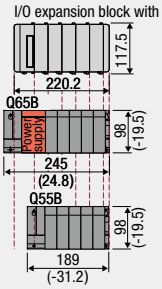
Left-aligned installation

I/O expansion block with 5 I/O modules



Right-aligned installation

I/O expansion block with 5 I/O modules

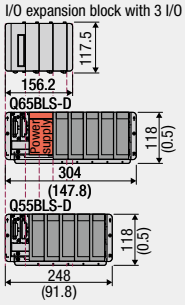


(4) I/O expansion block with 3 I/O modules → Q65BLS-D, Q55BLS-D / Q63B, Q55B

Q series large type base unit (AnS series size) Unit: mm

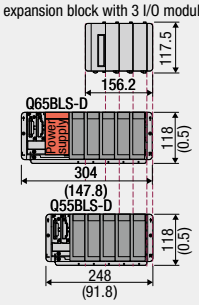
Left-aligned installation

I/O expansion block with 3 I/O modules



Right-aligned installation

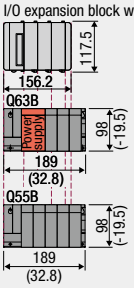
I/O expansion block with 3 I/O modules



MELSEC-Q series base unit Unit: mm

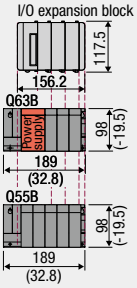
Left-aligned installation

I/O expansion block with 3 I/O modules



Right-aligned installation

I/O expansion block with 3 I/O modules

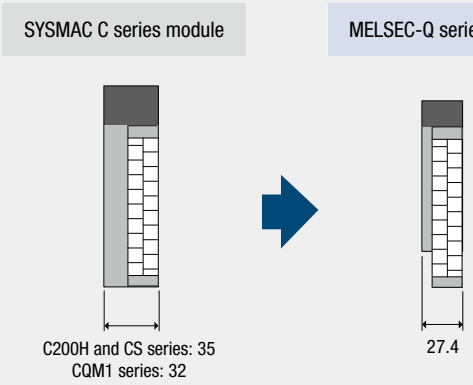


Precautions

Module width

Since the width of MELSEC-Q series modules is smaller, the wiring area becomes smaller as well. Check the wiring area when mounting a conversion adapter.
If the wiring causes interference with adjacent modules, lift the cables forward or leave the next slot open to secure a space for wiring.

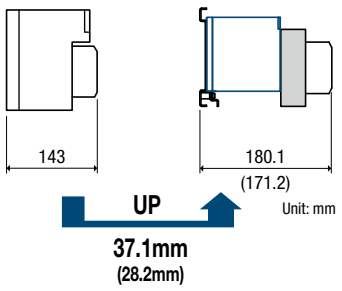
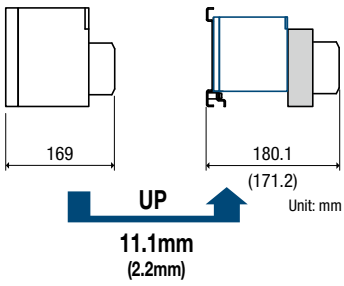
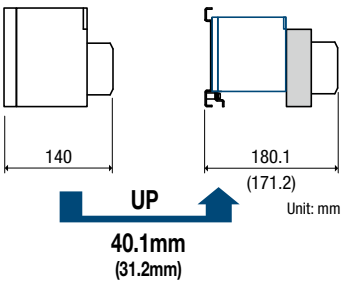
Unit: mm



Depth

The dimensions increase as shown below after replacement. Check the depth of the control panel before installation.
Values in parentheses (shorter by 8.9mm) are the dimensions when the Q series large type base unit (AnS series size), manufactured by Mitsubishi Electric, is not used.

MELSEC-Q : MELSEC-Q series

Conversion adapter	ERNT-2CQ216X218X ERNT-2CQ218Y		
Depth	37.1mm (28.2mm)	11.1mm (2.2mm)	40.1mm (31.2mm)
Mounting diagram	C200H series module MELSEC-Q + Upgrade tool product  37.1mm (28.2mm)	CS series module MELSEC-Q + Upgrade tool product  11.1mm (2.2mm)	CQM1 series module MELSEC-Q + Upgrade tool product  40.1mm (31.2mm)

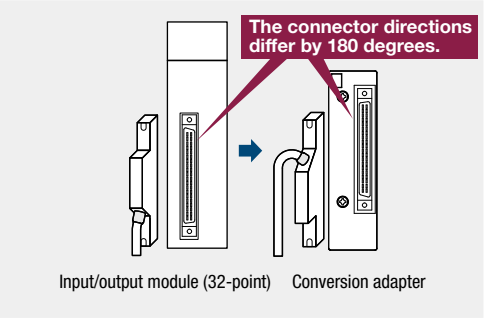
Note about the connector direction

32-point modules

The connector direction of the following 32-point modules differs from that of the conversion adapter by 180 degrees. Check that the connector can be connected to the conversion adapter in advance. If the existing FCN connector is a type whose cable comes down as shown in the right figure, the cable length is insufficient and the connector may not be connected.

<Target modules (32-point)>

- CS1W-ID231
- CS1W-OD231

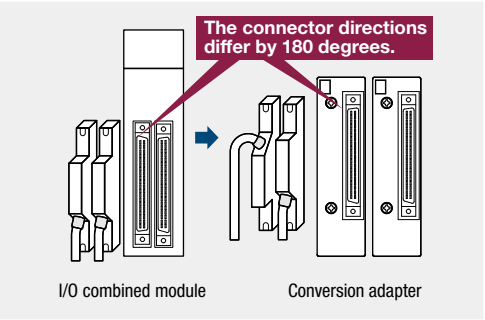


Output part (32-point) of I/O combined modules

The connector direction of the following I/O combined modules (output part) differs from that of the conversion adapter by 180 degrees. Check that the connector can be connected to the conversion adapter in advance. If the existing FCN connector is a type whose cable comes down as shown in the right figure, the cable length is insufficient and the connector may not be connected.

<Target module (32-point)>

- CS1W-MD261/561

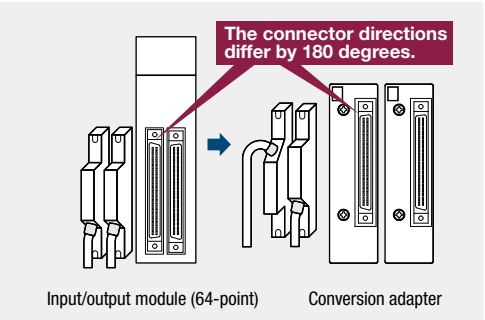


64-point modules

The following 64-point modules have two connectors and two conversion adapters (same type) are required. The connector direction differs from that of the conversion adapter by 180 degrees (for both connectors). Check that the connectors can be connected to the conversion adapters in advance. If the existing FCN connector is a type whose cable comes down as shown in the right figure, the cable length is insufficient and the connector may not be connected.

<Target modules (64-point)>

- CS1W-ID261
- CS1W-OD261
- C200H-ID217/219/111
- C200H-OD219

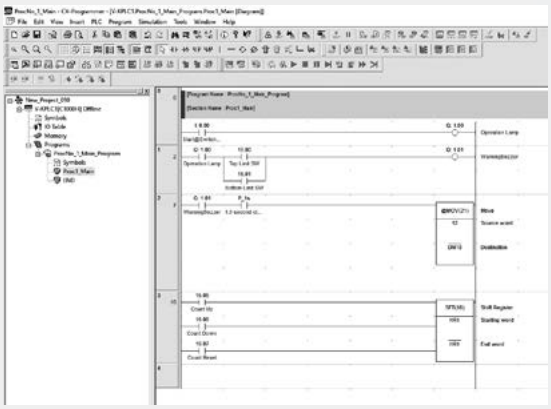


SYSMAC C series → MELSEC series program converter (ERNT-CQ1W2C)

Overview

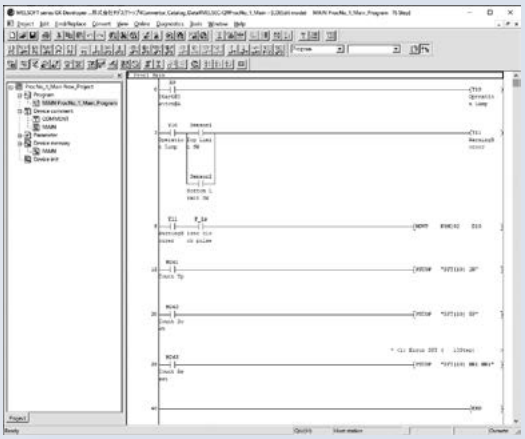
The program converter (ERNT-CQ1W2C) is the software that converts OMRON SYSMAC C series programs into MELSEC-Q series (Basic model QCPU and High Performance model QCPU) project files for GX Developer.
To use SYSMAC C series programs in MELSEC iQ-R series modules, convert the programs using the program converter first, and then convert them into the project files for GX Works3, the engineering software for the MELSEC iQ-R series.

◎ **Program before conversion (CX-Programmer)**



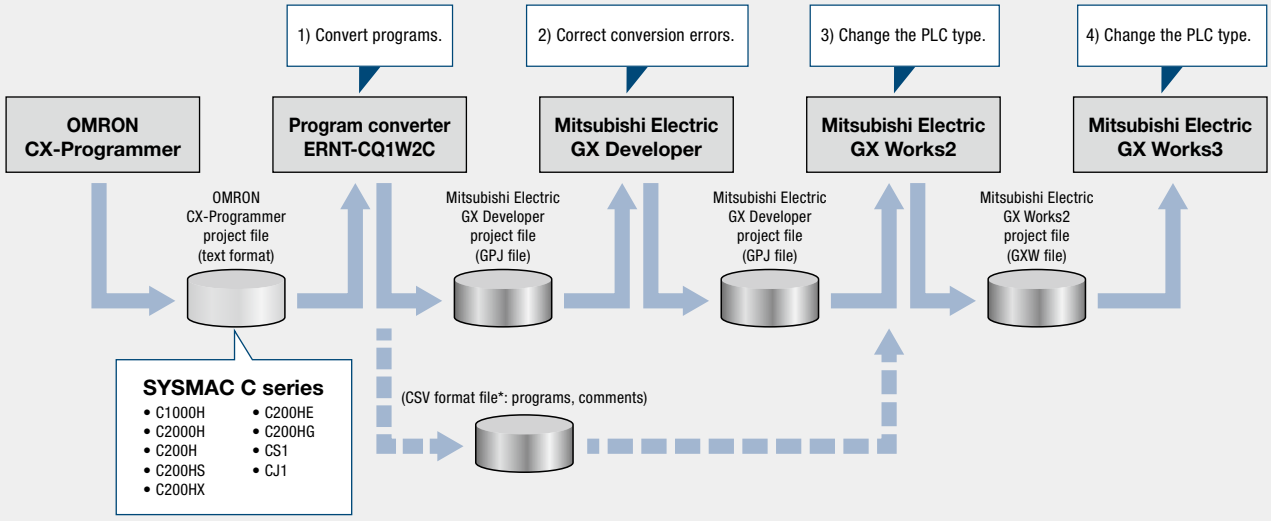
Conversion

◎ **Program after conversion (GX Developer)**



■ How to covert a program into a project file for GX Works3

1) Convert a program using the program converter. (The converted program is saved as a GX Developer project file (*.gpj).)
2) Correct the conversion errors with GX Developer. (Save the corrected GX Developer project file (*.gpj).)
3) Read the project file saved in Step 2) with GX Works2, and change the PLC type to "Universal model". (Save the file as a GX Works2 project file (*.gxw).)
4) Read the project file saved in Step 3) with GX Works3, and change the PLC type to the one actually used. (Save the file as a GX Works3 project file (*.gx3).)



*: The file can be saved as data that can be loaded onto the ladder edit window and the comment edit window of GX Works2.

Specifications

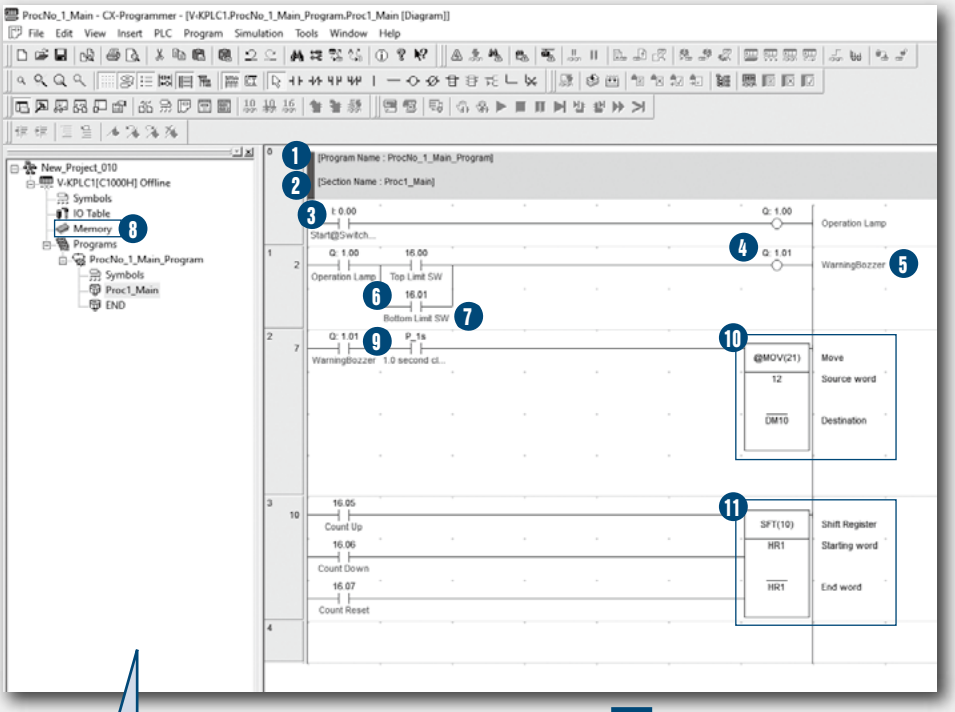
Item			Description
CPU module	SYSMAC C series CPU module (source)		The CPU module of the SYSMAC C1000H/C2000H/C200H/CJ1/CS1 series is automatically determined from the project file saved in CX-Programmer.
	MELSEC-Q series CPU module (destination)		The CPU module for the replaced system can be selected freely among the MELSEC-Q series (Q mode) CPU modules (Q00J/Q00/Q01/Q02CPU/Q02H/Q06H/Q12H/Q25H/Q12PH/Q25PH).
Program conversion	Sequence instruction		The sequence instructions of the SYSMAC C series are automatically converted into the corresponding instructions of the MELSEC-Q series. If the MELSEC-Q series has no corresponding instruction, the instructions of the SYSMAC C series are automatically converted in accordance with the processing method set in parameters.
	Relay		The relays of the SYSMAC C series are automatically converted into the corresponding devices of the MELSEC-Q series. If the MELSEC-Q series has no corresponding device, the relays of the SYSMAC C series are automatically converted into the alternative devices set in parameters.
	Variable	Global variable	The global variables of the SYSMAC C series are converted into the devices in the common device comment of the MELSEC-Q series. [Maximum number of convertible characters: 8]
		Local variable	The local variables of the SYSMAC C series are converted into the devices in the device comment by program of the MELSEC-Q series. [Maximum number of convertible characters: 8]
	Comment	Global variable I/O comment	The global variable I/O comments of the SYSMAC C series are converted into the common device comments of the MELSEC-Q series. [Maximum number of convertible characters: 32]
		Local variable I/O comment	The local variable I/O comments of the SYSMAC C series are converted into the device comments by program of the MELSEC-Q series. [Maximum number of convertible characters: 32]
		Program comment	These comments of the SYSMAC C series are converted into the peripheral statements of the MELSEC-Q series. The program comments are inserted to the start of the program. The section comments are inserted to the front of the first ladder of each section. The maximum number of convertible characters is 64 per line. If exceeded, the comment is split into multiple lines.
		Section comment	
		Line comment	
	PLC memory		Data that is read from the PLC memory of the SYSMAC C series CPU module is set to the device memory of the MELSEC-Q series CPU module. Only three relays and devices can be set: DM → D, TIM → T, CNT → C.
Parameter	Special I/O module setting		This parameter is used to distinguish the special I/O modules of the SYSMAC C series (when used) from the I/O modules. In addition, the I/O assignment of all the slots can be checked.
	Error processing setting		This parameter is used to specify the processing method when a conversion error of the sequence instructions and relays occurs during the automatic conversion.
	Alternative relay setting		This parameter is used to set an alternative device for the relay of the SYSMAC C series when the MELSEC-Q series has no corresponding device.
	Saving/reading the parameter settings		The parameter settings above can be saved. The saved parameter settings can be read and used whenever the conversion is performed under the same conditions.
Project file creation			The converted program is saved as a GX Developer project file.
CSV format file creation			The converted sequence programs and comments are saved as a CSV format file. The CSV format file can be loaded directly onto the ladder edit window and the comment edit window of GX Works2.
Conversion status file creation			The conversion status information (errors, warnings, number of steps in the program, device ranges, notes after conversion) is saved as a log format file. The saved file can be read any time to check the errors and warnings.
Help link			The online help window opens by double-clicking an error or warning displayed in the "Conversion status" field, and the detailed information of the error or warning described in the Conversion Manual is displayed.
Online help	Operation Manual		This manual describes how to convert the SYSMAC C series sequence programs into the MELSEC-Q series sequence programs and how to operate the program converter.
	Conversion Manual		This manual describes the MELSEC-Q series sequence instructions that correspond to each SYSMAC C series sequence instruction, together with notes, precautions, and sample programs.
	Sample program copy		Sample programs for the MELSEC-Q series described in the Conversion Manual can be copied to the ladder edit window of GX Developer.
Relay → device conversion tool			This function displays the corresponding device number of the MELSEC-Q series when the relay number of the SYSMAC C series is entered. The function can be used to correct the program manually.
Version information			The version of the program converter used is displayed.

Procedure from program conversion to conversion error correction

The procedure for converting a sequence program of the SYSMAC C1000H/C2000H/C200H/CJ1/CS1 series into a project file of the MELSEC-Q series is shown below.

*: Programs of the earlier series (such as C500) can also be converted into project files of the MELSEC-Q series using the program converter. First, convert them into programs of the C1000H/C2000H/C200H series using the file conversion utility included with CX-Programmer.

◎ Program before conversion (CX-Programmer)



SYSMAC C

1. Program comment
2. Section comment
3. Relay/channel
4. Global variable
5. Global variable comment
6. Local variable
7. Local variable comment
8. PLC memory
9. Special auxiliary relay
10. Sequence instruction
11. Sequence instruction

The program is saved as a text-format project file (.cxt) with CX-Programmer.

Items to be checked before conversion

1) Program

Compile the program and check that there is no error.

Even though there is a program error, the program converter cannot detect the error.

2) I/O table setting

In the SYSMAC series, the input, output, and internal relay are described in the same way. The difference of these devices must be set in the I/O table in advance so that the program converter can distinguish them.

3) Module configuration

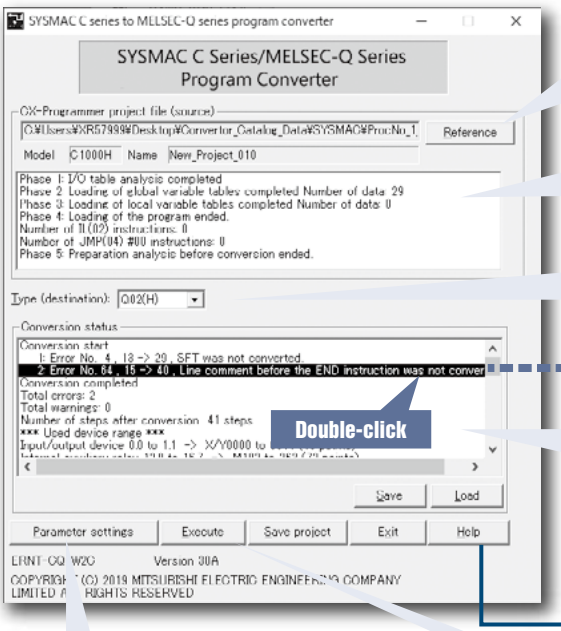
The control methods of the special modules and network modules differ between the SYSMAC series and the MELSEC series. These modules may not operate correctly with the converted program.

4) Ladder block division processing

If the following are included in the program, the ladder block division processing is required before conversion.

- Ladder block that has 25 or more lines
- Wraparound circuit

◎ Starting up the program converter



1) Select a conversion source project file (.cxt).

2) Details of the selected project file are displayed.

3) Select the MELSEC-Q series CPU module type.

6) Measures, actions, and troubleshooting examples are displayed as online help information when a conversion error or a warning is double-clicked.

4) Alternative relays, instructions, and devices to be used temporarily at the time of a conversion error can be set. Also, I/O assignment can be checked and parameters for special modules can be set.

5) Convert the program.

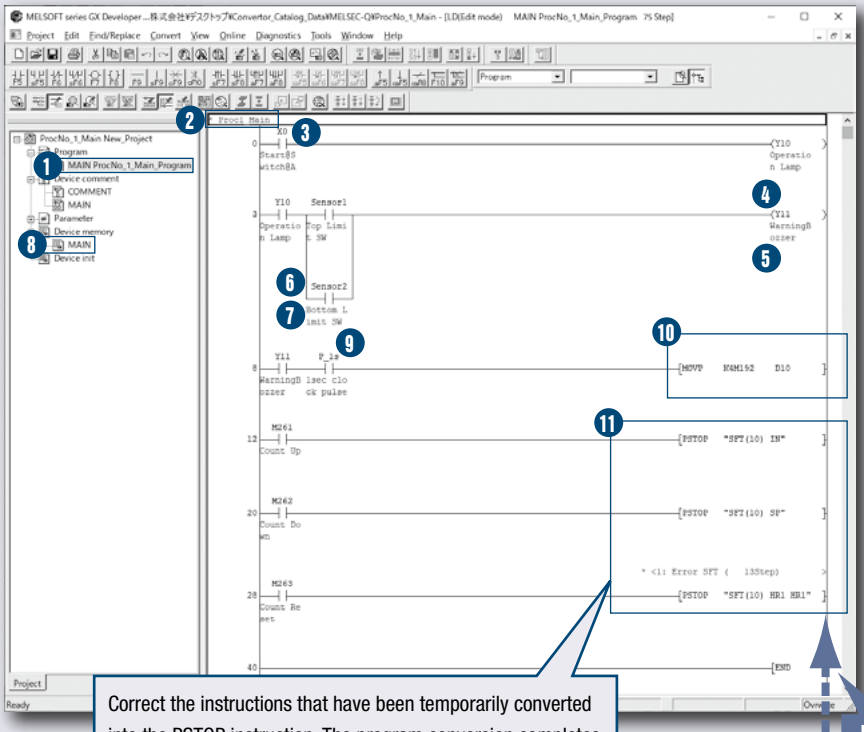
The program converted using the program converter is saved as a GX Developer project file. Open the saved project with GX Developer, and correct errors and warnings referring to the online help. Programs and comments can be saved as a CSV format file, which can be read by GX Works2.

MELSEC-Q

- **Title** 1
- **Line statement** 2
- **Relay/register** 3
  (Converted to input (X), output (Y), and internal relay (M))
- **Common device** 4
- **Common device comment** 5
- **Device in the device comment by program** 6
- **Device comment by program** 7
- **Device memory** 8
- **Special relay** 9
- **Sequence instruction** (automatic conversion supported) 10
- **Sequence instruction** (automatic conversion not supported) 11

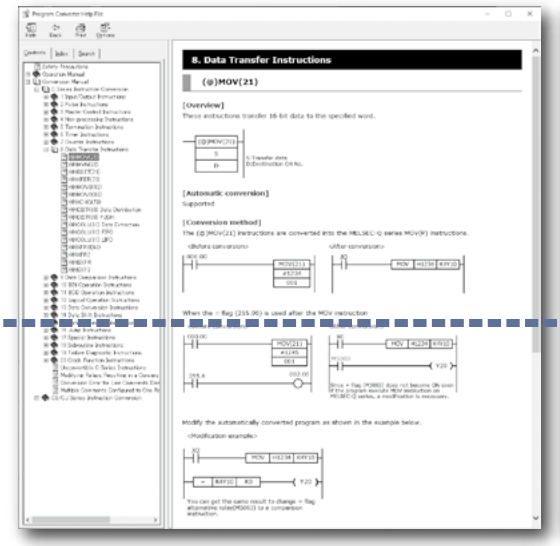
The instruction is converted to the PSTOP instruction and the instruction before conversion is displayed as a file name.

◎ Program after conversion (GX Developer)



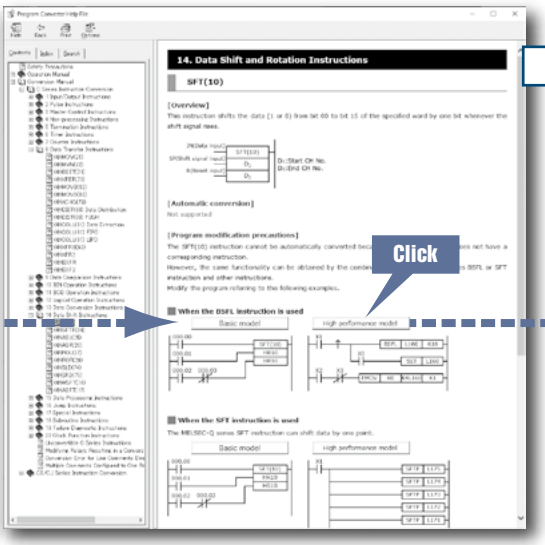
◎ Online help

You can check the conversion method of each instruction.



◎ Sample program

When the instruction is not converted automatically, you can copy the sample program from the online help screen and paste it onto the GX Developer screen.



◎ Relay → device conversion

You can check the MELSEC-Q series devices (input (X), output (Y), and internal relay (M)) that correspond to the SYSMAC C series relays.



Operating environment

Item		Description
Personal computer		Personal computer on which Windows® runs
	CPU	Intel® Core™2 Duo processor 1.06GHz or higher (Recommended)
	Memory	1GB or more (Recommended)
HDD free space	At installation (HD)	3MB or more
	When running (virtual memory)	10MB or more
CD-ROM drive		Required during installation
Display		Resolution 800 × 600 pixels or higher
Installable software (OS)		Microsoft® Windows® 7 Home
		Microsoft® Windows® 7 Professional
		Microsoft® Windows® 8.1 Home
		Microsoft® Windows® 8.1 Professional
		Microsoft® Windows® 10 Home
		Microsoft® Windows® 10 Professional
		Microsoft® Windows® 10 Enterprise
		Microsoft® Windows® 10 Education

To convert programs, the following are required.
(1) Programming software for OMRON programmable controllers, CX-Programmer (Ver.3.1 or later)
(2) Mitsubishi Electric programming software, GX Developer, GX Works2, and/or GX Works3

Conversion rate

The instruction usage ratio is the percentage of the sequence instructions and data instructions used in all programs.

● C1000H/2000H/200H series

			Simple comparison			Instruction usage ratio	Program conversion ratio
			No. of instructions	No. of convertible instructions	Conversion ratio		
Sequence instructions	Basic instructions		17	17	100%	51%	51%
	Timer/counter		4	3	75%	3%	2%
Data instructions	Transfer instructions		9	7	78%	25%	19%
	Arithmetic and function instructions		17	15	88%	8%	7%
	Comparison logical instructions		10	7	70%	6%	4%
	Others	Special module step ladder block instructions	22	0	29%	7%	2%
		Other than the above	46	20			
Total			125	69	55%	100%	Approx. 80%

● C200HS series

			Simple comparison			Instruction usage ratio	Program conversion ratio
			No. of instructions	No. of convertible instructions	Conversion ratio		
Sequence instructions	Basic instructions		20	20	100%	51%	51%
	Timer/counter		5	5	100%	3%	3%
Data instructions	Transfer instructions		10	7	70%	25%	18%
	Arithmetic and function instructions		50	33	66%	8%	5%
	Comparison logical instructions		16	10	63%	6%	4%
	Others	Special module step ladder block instructions	9	0	27%	7%	2%
		Other than the above	28	10			
Total			138	85	62%	100%	Approx. 80%

● C200HX/HG/HE series

			Simple comparison			Instruction usage ratio	Program conversion ratio
			No. of instructions	No. of convertible instructions	Conversion ratio		
Sequence instructions	Basic instructions		22	22	100%	51%	51%
	Timer/counter		5	5	100%	3%	3%
Data instructions	Transfer instructions		13	9	69%	25%	17%
	Arithmetic and function instructions		78	49	63%	8%	5%
	Comparison logical instructions		40	22	55%	6%	3%
	Others	Special module step ladder block instructions	13	0	23%	7%	2%
		Other than the above	31	10			
Total			202	117	58%	100%	Approx. 80%

● CS1/CJ1 series

			Simple comparison			Instruction usage ratio	Program conversion ratio
			No. of instructions	No. of convertible instructions	Conversion ratio		
Sequence instructions	Basic instructions		55	54	98%	51%	50%
	Timer/counter		22	18	82%	3%	2%
Data instructions	Transfer instructions		15	11	73%	25%	18%
	Arithmetic and function instructions		193	124	64%	8%	5%
	Comparison logical instructions		54	27	50%	6%	3%
	Others	Special module step ladder block instructions	97	7	15%	7%	1%
		Other than the above	54	15			
Total			490	256	52%	100%	Approx. 80%

Precautions for use

Use the following versions of the programming software GX Developer and GX Works2.

GX Developer	Ver.8.45X or earlier or Ver.8.68W or later
GX Works2	Ver.1.73B or later

When the version of GX Developer used is between 8.48A and 8.65T, update to the latest version.
When the version of GX Works2 used is 1.70Y or earlier, update to the latest version.

MEMO

New satellite JW series → MELSEC iQ-R series

Large type ▶ JW50H/70H/100H

Model list

Conversion adapters

For the specifications of conversion adapters and modules before and after replacement, refer to user's manuals. (User's manuals can be downloaded from our website.)
Also, check that the modules satisfy the specifications of the devices currently connected.

For input/output modules

1-slot type

Input/ Output	New satellite JW series module before replacement	MELSEC iQ-R series module after replacement	Note	Conversion adapter			
				Model	Shape		No. of input/ output points
					New satellite JW series	MELSEC iQ-R series	
Input	JW-11N	RX10	-	ERNT-1JR11N13S	Terminal block (20 points) ▶	Terminal block (18 points)	16
	JW-12N	RX40C7, RX70C4	*1				
Output	JW-13S	RY20S6	*2				
Input	JW-32N	RX41C4, RX41C6HS, RX71C4	*3	ERNT-1JR32N34N	Terminal block (38 points) ▶	Connector (40P)	32
	JW-34N		-				
	JW-34NC	RX41C4, RX41C6HS, RX71C4	-	ERNT-2JR234N264N	Connector (40P) ▶	Connector (40P)	32
	JW-64NC	RX41C4 × 2, RX41C6HS × 2, RX71C4 × 2	*4	ERNT-2JR234N264N × 2	Connector (40P) × 2 ▶	Connector (40P) × 2	64
Output	JW-12S	RY40NT5P	*4	ERNT-1JR12S	Terminal block (20 points) ▶	Terminal block (20 points)	16
	JW-32S	RY41NT2P	*5	ERNT-1JR32S	Terminal block (38 points) ▶	Connector (40P)	32
		RY41NT2H	-				
	JW-32SC	RY41NT2H	-	ERNT-2JR232S262S	Connector (40P) ▶	Connector (40P)	32
	JW-62SC	RY41NT2H × 2	*4	ERNT-2JR232S262S × 2	Connector (40P) × 2 ▶	Connector (40P) × 2	64

*1: When 24VAC is used, the voltage needs to be changed to 5, 12, or 24VDC. When 24VDC and 8 points/common are used, consider replacing the module with the RX40PC6H or the RX40NC6H using a universal conversion adapter (refer to P.285).
*2: If the current capacity of the RY20S6 does not satisfy the specifications of the existing module, consider replacing the module with the contact output module (RY10R2). Note that this replacement will slow down the response speed. Check the specifications of the existing module.
*3: When 24VAC is used, the voltage needs to be changed to 5, 12, or 24VDC.
*4: The mounting height of the existing wiring changes. Check the existing wiring length.
*5: When 5VDC is used, the voltage needs to be changed to 12 or 24VDC.

2-slot type (Not applicable to extended temperature range base units (R310B-HT, R610B-HT))

Input/ Output	New satellite JW series module before replacement	MELSEC iQ-R series module after replacement	Note	Conversion adapter			
				Model	Shape		No. of input/ output points
					New satellite JW series	MELSEC iQ-R series	
Input	JW-31N	RX10 × 2	-	ERNT-1JR31N34S	Terminal block (38 points) ▶	Terminal block (18 points) × 2	32
Output	JW-34S	RY10R2 × 2					
	JW-33S	RY20S6 × 2	-	ERNT-1JR33S			

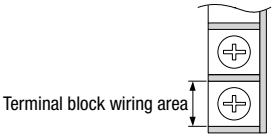
Replacement using a universal conversion adapter ▶ P.279

Input/output modules in the table below do not support the use of a conversion adapter. However, these modules can be replaced using a universal conversion adapter even though rewiring is required.

Input/Output	New satellite JW series module model			MELSEC iQ-R series module model				Universal conversion adapter
	Model	Specifications	No. of points	Model	Specifications	No. of points	No. of required modules	
Input	JW-13N	200 to 240VAC	16	RX28	100 to 240VAC	8	2	Supported
Output	JW-35S	12/24VDC, source type	32	RY40PT5P	12/24VDC, source type	16	2	
				RY41PT1P	12/24VDC, source type	32	1	

Reference: Terminal block specifications

Item	New satellite JW series [large type] module before replacement	MELSEC iQ-R series module after replacement	Universal conversion adapter (large type)
Terminal block screw size	M3.5	M3	M3
Terminal block wiring area	7.3mm	6mm	7.2mm



Base adapters

The same base adapters used to replace the MELSEC-A series with the MELSEC iQ-R series are used.
By using a base adapter, the MELSEC iQ-R series base unit and the conversion adapter support flange can be installed at the same time without drilling any additional installation holes.

Note

Two additional installation holes* (M5 screw size) and four M5 screws need to be prepared by the user to install the base adapter to the control panel.
*: The installation hole pitch (vertical direction) of the base adapter is the same as that of the new satellite JW series base unit. There may be a case that drilling of additional installation holes is not required if the installation hole pitches (vertical and horizontal directions) are the same before and after replacement. (Refer to P.174 and P.175.)

The base units (*1 to *3) can be installed to different types of base adapters. Select the optimum base adapter.

Base adapter model	Installable product						Dimensions
	MELSEC iQ-R series base unit					Conversion adapter support flange	Width × Height (mm)
	12-slot	10-slot	8-slot	5-slot	3-slot		
ERNT-AQB38N	R312B					ERNT-1AR12F	480 × 240
		R310B-HT				ERNT-1AR10F3	
			R38B*1			ERNT-1AR8F	
ERNT-AQB35N			R38B*1			ERNT-1AR8F	382 × 240
				R35B		ERNT-1AR5F	
ERNT-AQB32N					R33B	ERNT-1AR5F	247 × 240
ERNT-1JR613B	R612B					ERNT-1AR12F	480 × 240
		R610B-HT				ERNT-1AR10F6	
ERNT-AQB68N	R612B					ERNT-1AR12F	466 × 240
		R610B-HT				ERNT-1AR10F6	
			R68B*2			ERNT-1AR8F	
ERNT-AQB65N			R68B*2			ERNT-1AR8F	352 × 240
				R65B*3		ERNT-1AR5F	
ERNT-AQB58N			R68B*2			ERNT-1AR8F	411 × 240
ERNT-AQB55N				R65B*3		ERNT-1AR5F	297 × 240

Conversion adapter support flanges (required)

The same conversion adapter support flanges used to replace the MELSEC-A series with the MELSEC iQ-R series.
A conversion adapter support flange secures the lower part of a conversion adapter. One support flange is required per base unit when a conversion adapter is used.

Note

Three additional installation holes (M4 screw size) are required to install the conversion adapter support flange to the control panel.
When a base adapter is used, drilling of additional installation holes is not required.

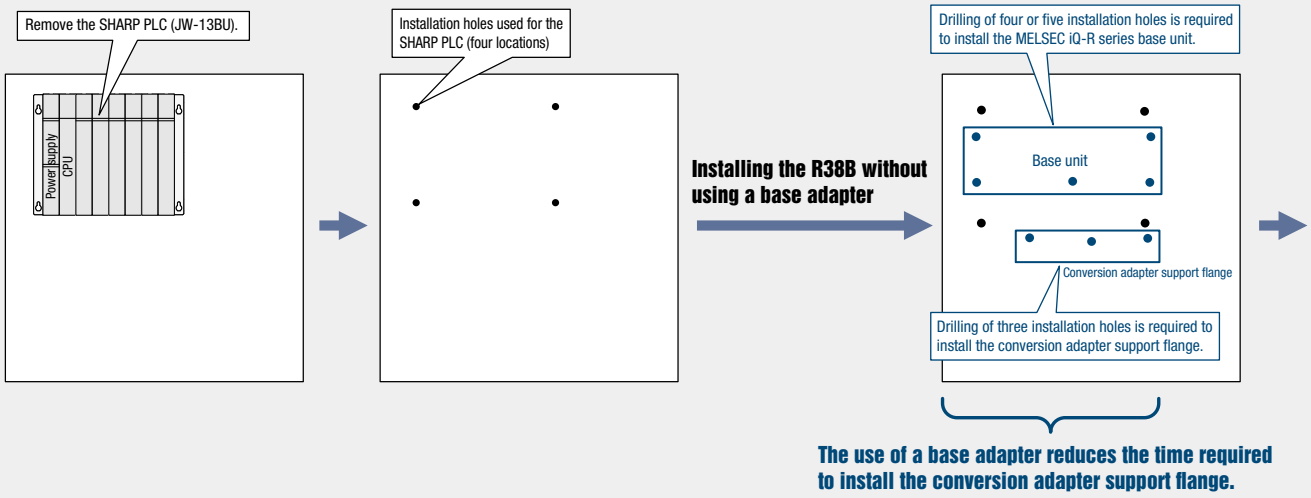
Conversion adapter support flange model	Specifications	
ERNT-1AR12F	12-slot conversion adapter support flange	For main/extension base units
ERNT-1AR8F	8-slot conversion adapter support flange	
ERNT-1AR5F	5-slot conversion adapter support flange	
ERNT-1AR10F3	10-slot conversion adapter support flange	For the extended temperature range main base unit (R310B-HT)
ERNT-1AR10F6	10-slot conversion adapter support flange	For the extended temperature range extension base unit (R610B-HT)

Replacement using a base adapter

The use of a base adapter reduces the time required for drilling installation holes and eliminates the need for determining the installation position of the support flange.

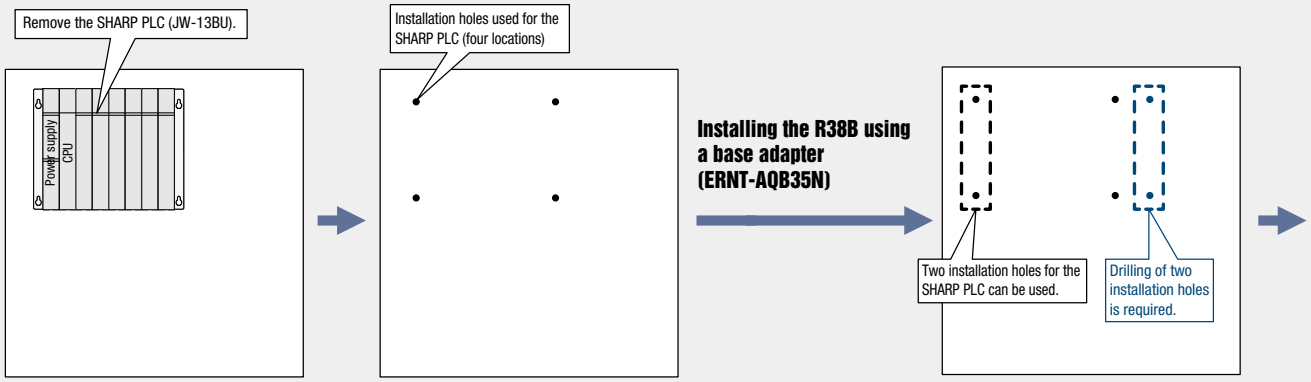
When a base adapter is not used

Seven or eight new installation holes are required. Also, the installation positions of the MELSEC iQ-R series base unit and the conversion adapter support flange need to be determined.

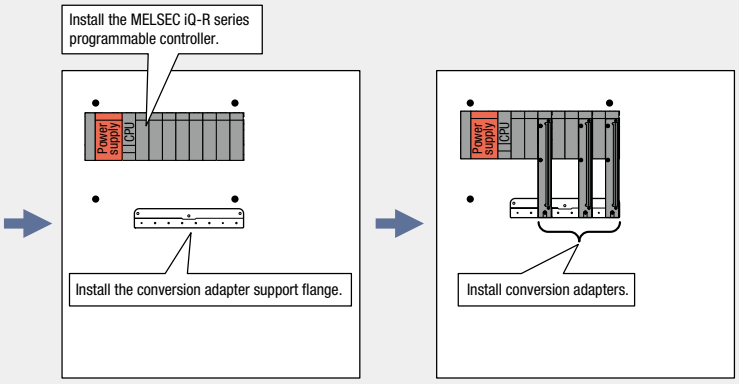


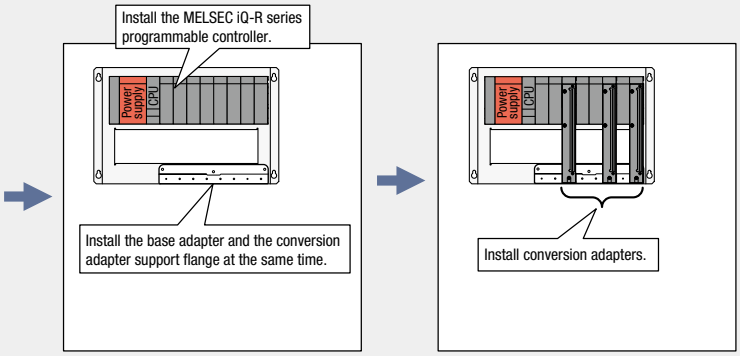
When a base adapter is used

The installation hole pitch (vertical direction) of the base adapter is the same as that of the new satellite JW series base unit. Therefore, the number of additional installation holes to be drilled is two or less.
(There may be a case that drilling of additional installation holes is not required if the installation dimensions of all the four holes are the same before and after replacement.)
The following figure shows the installation when two existing installation holes on the left side are used for the base adapter.



For details, refer to "Installation dimensions" (P.173), "Comparison of external dimensions and installation hole pitches" (P.174), and "Slot positions" (P.176).


Install the MELSEC iQ-R series programmable controller.
Power supply
CPU
Install the conversion adapter support flange.
Power supply
CPU
Install conversion adapters.


Install the MELSEC iQ-R series programmable controller.
Power supply
CPU
Install the base adapter and the conversion adapter support flange at the same time.
Power supply
CPU
Install conversion adapters.

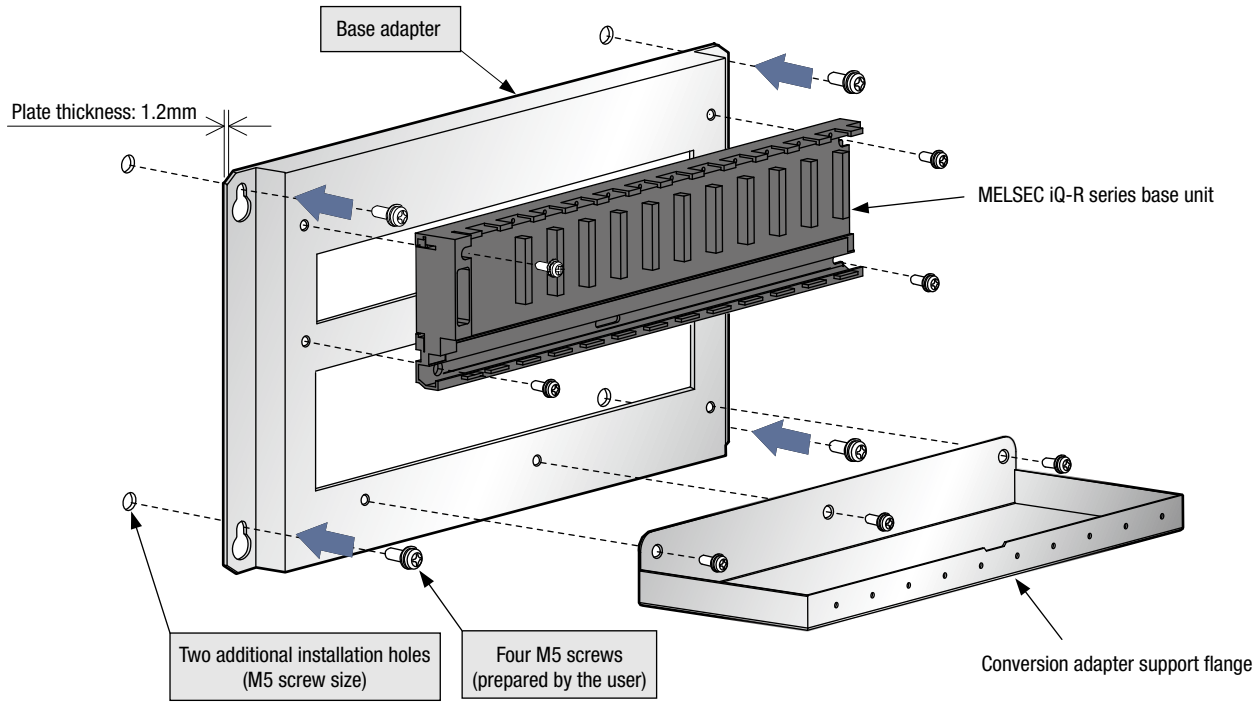
Base adapters

Specifications

By using a base adapter, the MELSEC iQ-R series base unit and the conversion adapter support flange can be installed at the same time without drilling any additional installation holes.
The same base adapters used to replace the MELSEC-A series with the MELSEC iQ-R series are used.

Note

- Two additional installation holes (M5 screw size) and four M5 screws need to be prepared by the user to install the base adapter to the control panel.
  (There may be a case that drilling of additional installation holes is not required if the installation dimensions of all the four holes are the same before and after replacement.)



The base units (*1 to *3) can be installed to different types of base adapters. Select the optimum base adapter.

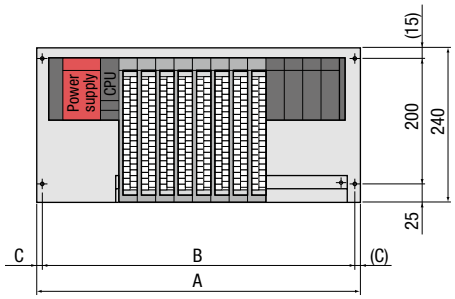
Base adapter model	Installable product						Dimensions
	MELSEC iQ-R series base unit					Conversion adapter support flange	Width × Height (mm)
	12-slot	10-slot	8-slot	5-slot	3-slot		
ERNT-AQB38N	R312B					ERNT-1AR12F	480 × 240
		R310B-HT				ERNT-1AR10F3	
			R38B*1			ERNT-1AR8F	
ERNT-AQB35N			R38B*1			ERNT-1AR8F	382 × 240
				R35B		ERNT-1AR5F	
ERNT-AQB32N					R33B	ERNT-1AR5F	247 × 240
ERNT-1JR613B	R612B					ERNT-1AR12F	480 × 240
		R610B-HT				ERNT-1AR10F6	
ERNT-AQB68N	R612B					ERNT-1AR12F	466 × 240
		R610B-HT				ERNT-1AR10F6	
			R68B*2			ERNT-1AR8F	
ERNT-AQB65N			R68B*2			ERNT-1AR8F	352 × 240
				R65B*3		ERNT-1AR5F	
ERNT-AQB58N			R68B*2			ERNT-1AR8F	411 × 240
ERNT-AQB55N				R65B*3		ERNT-1AR5F	297 × 240

Installation dimensions

- The slot positions differ between the new satellite JW series modules before replacement and the MELSEC iQ-R series modules after replacement. Adjust wiring lengths prior to use.
- Compared to the new satellite JW series, the height is shorter after replacement.
  (For details on the width and depth of the module, refer to "Precautions" (P.181).)
- The existing two installation holes (out of four) of the new satellite JW series base unit can be used for the base adapter. Drilling of two additional installation holes is required.
  (There may be a case that drilling of additional installation holes is not required if the installation dimensions of all the four holes are the same before and after replacement.)

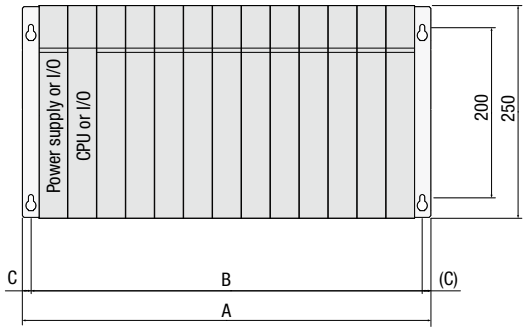
Unit: mm

◎ Base adapter + MELSEC iQ-R series base unit



Base adapter model	Description	A	B	C	Installation hole screw size
ERNT-AQB38N	For main base units	480	460	10	M5
ERNT-AQB35N		382	362	10	
ERNT-AQB32N		247	227	10	
ERNT-1JR613B	For extension base units	480	460	10	
ERNT-AQB68N		466	446	10	
ERNT-AQB65N		352	332	10	
ERNT-AQB58N		411	391	10	
ERNT-AQB55N		297	277	10	

◎ (Reference) New satellite JW series base unit



New satellite JW series base unit model	Description	A	B	C	Installation hole screw size
JW-13BU	For both main/extension base units	480	460	10	M5
JW-8BU		310	290	10	
JW-6BU		242	222	10	
JW-4BU		174	154	10	

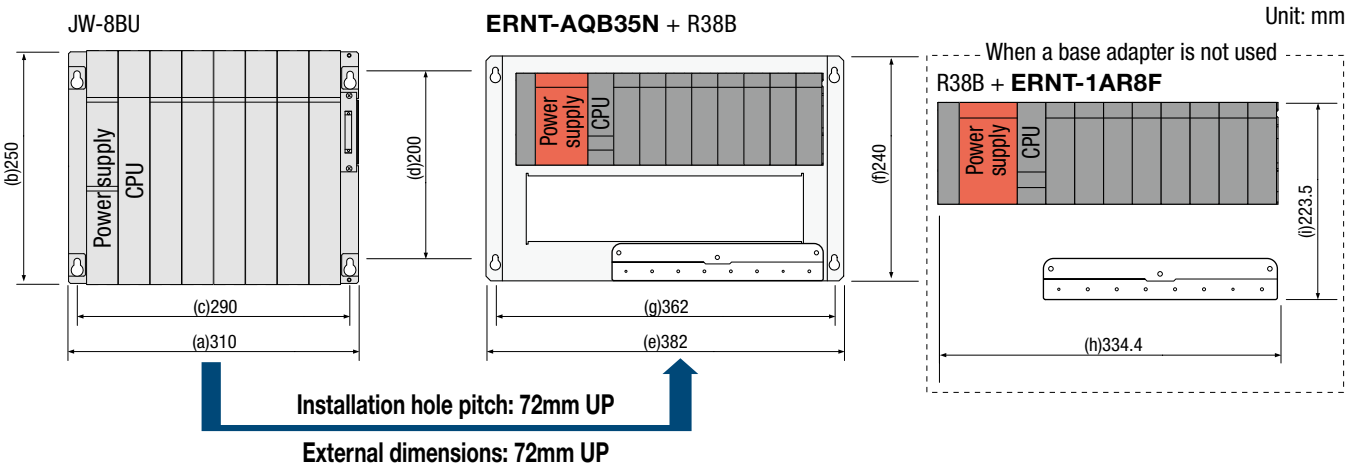
Comparison of external dimensions and installation hole pitches

Use the following tables to check the differences of external dimensions and installation hole pitches before and after replacement.

Note

- "▲" in the tables indicates an increase of the external dimensions after replacement as shown in the example below. The installation position needs to be reconsidered.
- If the number of slots on the main base unit is not enough, use an extension base unit.
- The JW□□BU of the new satellite JW series can be used as a main base unit and an extension base unit. Note that the number of slots varies depending on the mounting status of the power supply module and CPU module.
- If the new satellite JW series model being used is not listed here, check the number of slots, external dimensions, installation hole pitches, and other specifications. Then, select the optimum base adapter.

(Example) When the new satellite JW series (JW-8BU) is replaced with the MELSEC iQ-R series using a base adapter (ERNT-AQB35N) or not using a base adapter



Main base units

◎: Same dimensions, ○: JW series is larger, ▲: JW series is smaller

	JW series base unit			MELSEC iQ-R series base unit + Conversion adapter support flange (when a base adapter is not used)					When a base adapter is used					Conversion adapter support flange	Remarks
							Comparison*1			Comparison*1					
							External dimensions			External dimensions		Installation hole pitch*2			
	Model	Power supply	Maximum No. of slots	Model	Power supply	Maximum No. of slots	Width (h) - (a)	Height (i) - (b)	Model	Width (e) - (a)	Height (f) - (b)	Width (g) - (c)	Height (d)		
(1)	JW-13BU	Required	11	R312B	Required	12	○ (-32.8)	○ (-26.5)	ERNT-AQB38N	◎	○ (-10)	◎	◎	ERNT-1AR12F	When a base adapter is used, drilling of additional holes is not required.
				R310B-HT	Required	10	○ (-32.8)	○ (-26.5)	ERNT-AQB38N	◎	○ (-10)	◎	◎	ERNT-1AR10F3	
				R38B	Required	8	○ (-145.6)	○ (-26.5)	ERNT-AQB38N	◎	○ (-10)	◎	◎	ERNT-1AR8F	
(2)	JW-8BU	Required	6	R312B	Required	12	▲ (137.2)	○ (-26.5)	ERNT-AQB38N	▲ (170)	○ (-10)	▲ (170)	◎	ERNT-1AR12F	When a base adapter is used, two existing installation holes (vertical direction) can be used.
				R310B-HT	Required	10	▲ (137.2)	○ (-26.5)	ERNT-AQB38N	▲ (170)	○ (-10)	▲ (170)	◎	ERNT-1AR10F3	
				R38B	Required	8	▲ (24.4)	○ (-26.5)	ERNT-AQB35N	▲ (72)	○ (-10)	▲ (72)	◎	ERNT-1AR8F	
				R35B	Required	5	○ (-60.2)	○ (-26.5)	ERNT-AQB35N	▲ (72)	○ (-10)	▲ (72)	◎	ERNT-1AR5F	
(3)	JW-6BU	Required	4	R312B	Required	12	▲ (205.2)	○ (-26.5)	ERNT-AQB38N	▲ (238)	○ (-10)	▲ (238)	◎	ERNT-1AR12F	
				R310B-HT	Required	10	▲ (205.2)	○ (-26.5)	ERNT-AQB38N	▲ (238)	○ (-10)	▲ (238)	◎	ERNT-1AR10F3	
				R38B	Required	8	▲ (92.4)	○ (-26.5)	ERNT-AQB35N	▲ (140)	○ (-10)	▲ (140)	◎	ERNT-1AR8F	
				R35B	Required	5	▲ (7.8)	○ (-26.5)	ERNT-AQB35N	▲ (140)	○ (-10)	▲ (140)	◎	ERNT-1AR5F	
				R33B	Required	3	▲ (7.8)	○ (-26.5)	ERNT-AQB32N	▲ (5)	○ (-10)	▲ (5)	◎	ERNT-1AR5F	
(4)	JW-4BU	Required	2	R35B	Required	5	▲ (75.8)	○ (-26.5)	ERNT-AQB35N	▲ (208)	○ (-10)	▲ (208)	◎	ERNT-1AR5F	
				R33B	Required	3	▲ (75.8)	○ (-26.5)	ERNT-AQB32N	▲ (73)	○ (-10)	▲ (73)	◎	ERNT-1AR5F	

*1: Values in parentheses are differences in dimensions between the MELSEC iQ-R series base unit and the JW series base unit. (Unit: mm)
*2: The difference in dimension equals to the distance between installation holes. When installing the MELSEC iQ-R series base unit using the existing installation hole(s) (at least one) of the JW series base unit, it is difficult or impossible to drill new holes as the difference value becomes closer to zero.

Extension base units

◎: Same dimensions, ○: JW series is larger, ▲: JW series is smaller

	JW series base unit			MELSEC iQ-R series base unit + Conversion adapter support flange (when a base adapter is not used)					When a base adapter is used					Conversion adapter support flange	Remarks
	Model	Power supply	Maximum No. of slots	Model	Power supply	Maximum No. of slots	Comparison*1 External dimensions Width (h) - (a)	Comparison*1 External dimensions Height (i) - (b)	Model	Comparison*1 External dimensions Width (e) - (a)	Comparison*1 External dimensions Height (f) - (b)	Comparison*1 Installation hole pitch*2 Width (g) - (c)	Comparison*1 Installation hole pitch*2 Height (d)		
(1)	JW-13BU	Required	12	R612B	Required	12	○ (-32.8)	○ (-26.5)	ERNT-1JR613B	◎	○ (-10)	◎	◎	ERNT-1AR12F	
				R610B-HT	Required	10	○ (-32.8)	○ (-26.5)	ERNT-1JR613B	◎	○ (-10)	◎	◎	ERNT-1AR10F6	
				R68B	Required	8	○ (-145.6)	○ (-26.5)	ERNT-AQB65N	○ (-128)	○ (-10)	○ (-128)	◎	ERNT-1AR8F	
		Not required	13	R612B	Required	12	○ (-32.8)	○ (-26.5)	ERNT-1JR613B	◎	○ (-10)	◎	◎	ERNT-1AR12F	
				R610B-HT	Required	10	○ (-32.8)	○ (-26.5)	ERNT-1JR613B	◎	○ (-10)	◎	◎	ERNT-1AR10F6	
(2)	JW-8BU	Required	7	R612B	Required	12	▲ (137.2)	○ (-26.5)	ERNT-AQB68N	▲ (156)	○ (-10)	▲ (156)	◎	ERNT-1AR12F	
				R610B-HT	Required	10	▲ (137.2)	○ (-26.5)	ERNT-AQB68N	▲ (156)	○ (-10)	▲ (156)	◎	ERNT-1AR10F6	
				R68B	Required	8	▲ (24.4)	○ (-26.5)	ERNT-AQB65N	▲ (42)	○ (-10)	▲ (42)	◎	ERNT-1AR8F	
		Not required	8	R612B	Required	12	▲ (137.2)	○ (-26.5)	ERNT-AQB68N	▲ (156)	○ (-10)	▲ (156)	◎	ERNT-1AR12F	
				R610B-HT	Required	10	▲ (137.2)	○ (-26.5)	ERNT-AQB68N	▲ (156)	○ (-10)	▲ (156)	◎	ERNT-1AR10F6	
				R68B	Required	8	▲ (24.4)	○ (-26.5)	ERNT-AQB65N	▲ (42)	○ (-10)	▲ (42)	◎	ERNT-1AR8F	
(3)	JW-6BU	Required	5	R612B	Required	12	▲ (205.2)	○ (-26.5)	ERNT-AQB68N	▲ (224)	○ (-10)	▲ (224)	◎	ERNT-1AR12F	When a base adapter is used, two existing installation holes (vertical direction) can be used.
				R610B-HT	Required	10	▲ (205.2)	○ (-26.5)	ERNT-AQB68N	▲ (224)	○ (-10)	▲ (224)	◎	ERNT-1AR10F6	
				R68B	Required	8	▲ (92.4)	○ (-26.5)	ERNT-AQB65N	▲ (110)	○ (-10)	▲ (110)	◎	ERNT-1AR8F	
				R65B	Required	5	▲ (7.8)	○ (-26.5)	ERNT-AQB55N	▲ (55)	○ (-10)	▲ (55)	◎	ERNT-1AR5F	
		Not required	6	R612B	Required	12	▲ (205.2)	○ (-26.5)	ERNT-AQB68N	▲ (224)	○ (-10)	▲ (224)	◎	ERNT-1AR12F	
				R610B-HT	Required	10	▲ (205.2)	○ (-26.5)	ERNT-AQB68N	▲ (224)	○ (-10)	▲ (224)	◎	ERNT-1AR10F6	
				R68B	Required	8	▲ (92.4)	○ (-26.5)	ERNT-AQB65N	▲ (110)	○ (-10)	▲ (110)	◎	ERNT-1AR8F	
				R65B	Required	5	▲ (7.8)	○ (-26.5)	ERNT-AQB55N	▲ (55)	○ (-10)	▲ (55)	◎	ERNT-1AR5F	
(4)	JW-4BU	Required	3	R68B	Required	8	▲ (160.4)	○ (-26.5)	ERNT-AQB65N	▲ (178)	○ (-10)	▲ (178)	◎	ERNT-1AR8F	
				R65B	Required	5	▲ (75.8)	○ (-26.5)	ERNT-AQB55N	▲ (123)	○ (-10)	▲ (123)	◎	ERNT-1AR5F	
		Not required	4	R612B	Required	12	▲ (273.2)	○ (-26.5)	ERNT-AQB68N	▲ (292)	○ (-10)	▲ (292)	◎	ERNT-1AR12F	
				R610B-HT	Required	10	▲ (273.2)	○ (-26.5)	ERNT-AQB68N	▲ (292)	○ (-10)	▲ (292)	◎	ERNT-1AR10F6	
				R68B	Required	8	▲ (160.4)	○ (-26.5)	ERNT-AQB65N	▲ (178)	○ (-10)	▲ (178)	◎	ERNT-1AR8F	
				R65B	Required	5	▲ (75.8)	○ (-26.5)	ERNT-AQB55N	▲ (123)	○ (-10)	▲ (123)	◎	ERNT-1AR5F	

*1: Values in parentheses are differences in dimensions between the MELSEC iQ-R series base unit and the JW series base unit. (Unit: mm)
*2: The difference in dimension equals to the distance between installation holes. When installing the MELSEC iQ-R series base unit using the existing installation hole(s) (at least one) of the JW series base unit, it is difficult or impossible to drill new holes as the difference value becomes closer to zero.

Slot positions

The slot positions differ between the new satellite JW series modules before replacement and the MELSEC iQ-R series modules after replacement. Change the slot positions of modules and adjust wiring lengths prior to use.

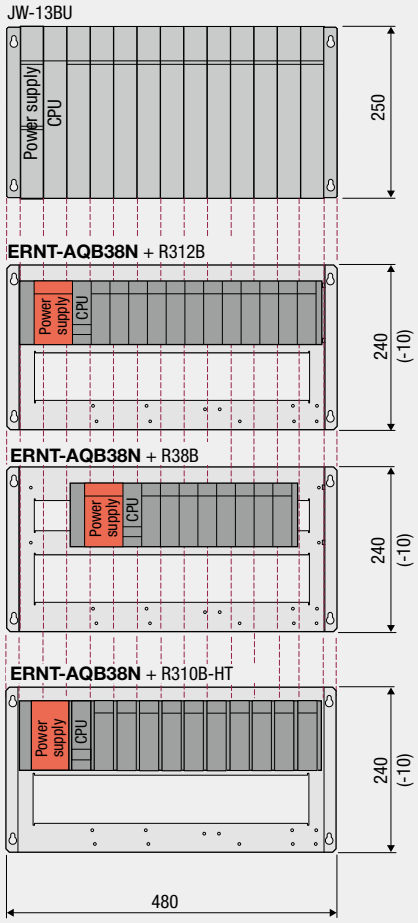
Note

Values in parentheses are differences in dimensions between the MELSEC iQ-R series base unit and the new satellite JW series base unit.

When a main base unit is replaced

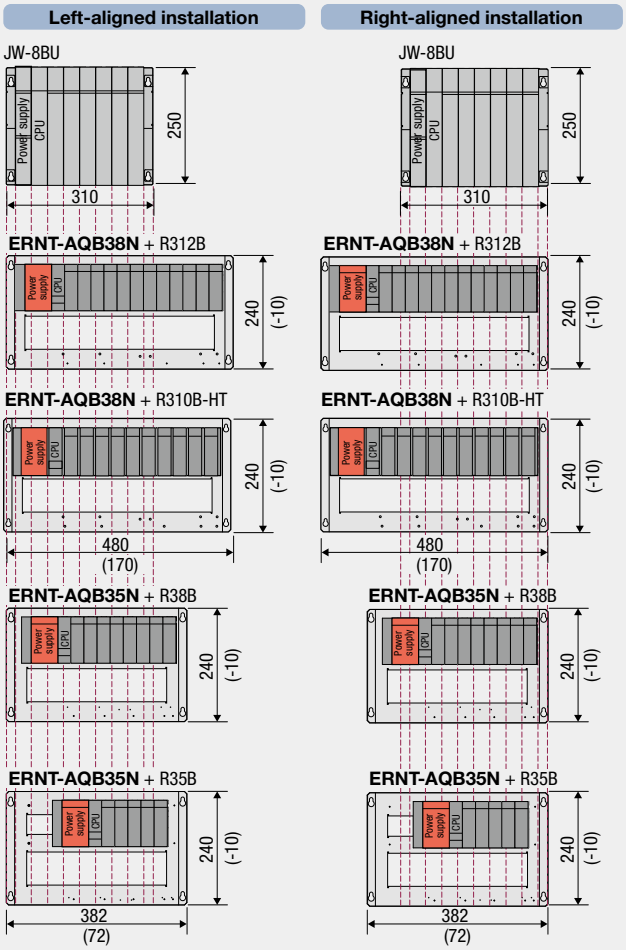
(1) JW-13BU → ERNT-AQB38N + R312B / ERNT-AQB38N + R38B / ERNT-AQB38N + R310B-HT

Unit: mm



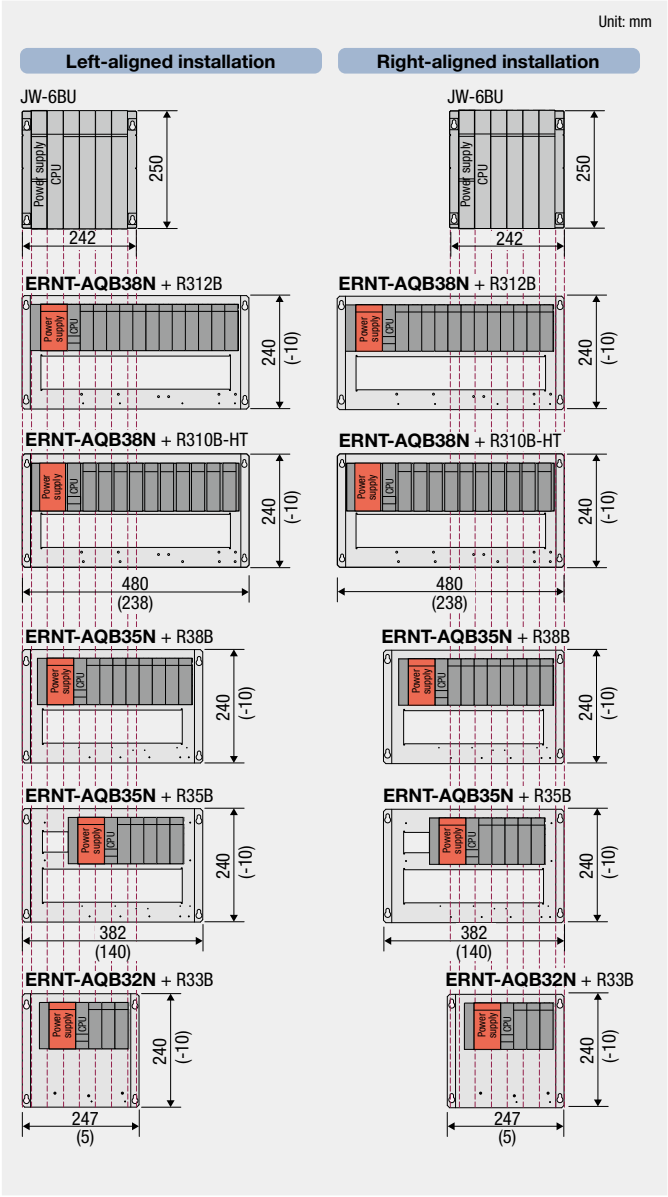
(2) JW-8BU → ERNT-AQB38N + R312B / ERNT-AQB38N + R310B-HT / ERNT-AQB35N + R38B / ERNT-AQB35N + R35B

Unit: mm



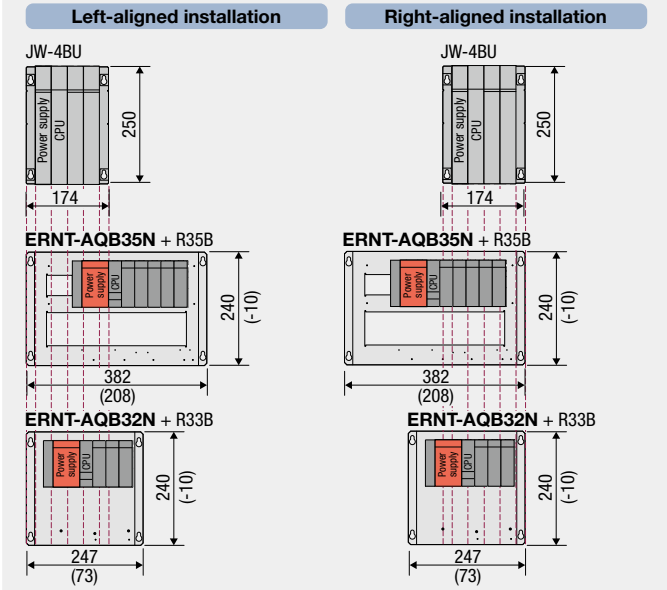
(3) JW-6BU → ERNT-AQB38N + R312B / ERNT-AQB38N + R310B-HT / ERNT-AQB35N + R38B / ERNT-AQB35N + R35B / ERNT-AQB32N + R33B

Unit: mm



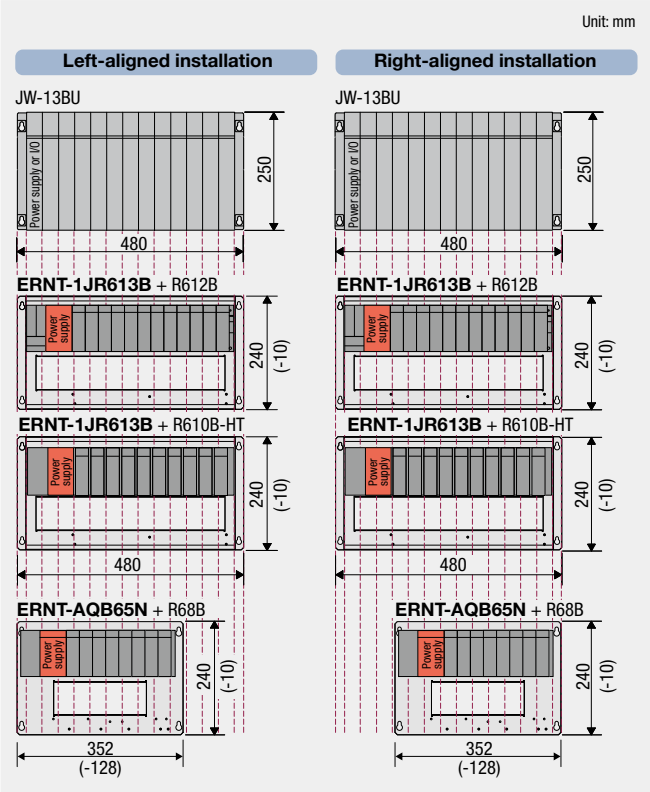
(4) JW-4BU → ERNT-AQB35N + R35B / ERNT-AQB32N + R33B

Unit: mm

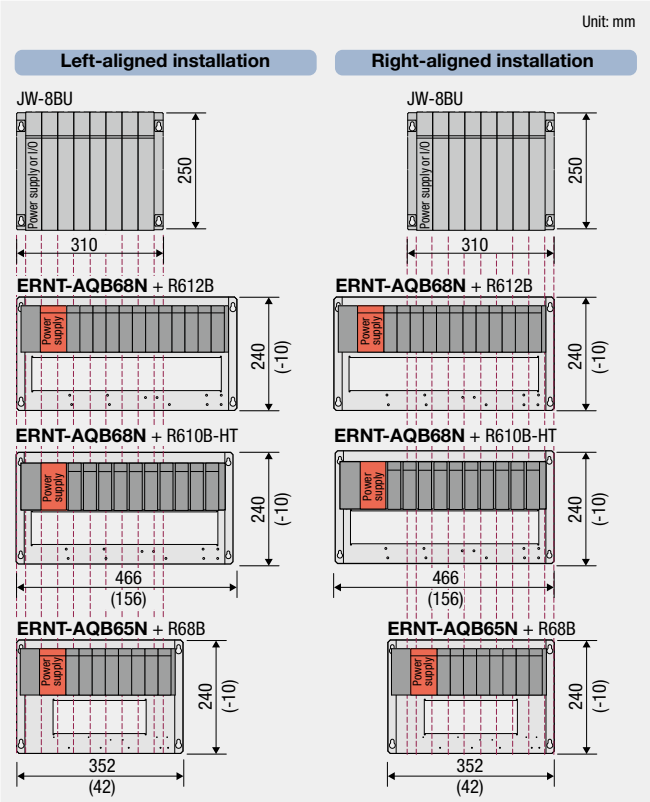


When an extension base unit is replaced

(1) JW-13BU → ERNT-1JR613B + R612B / ERNT-1JR613B + R610B-HT / ERNT-AQB65N + R68B

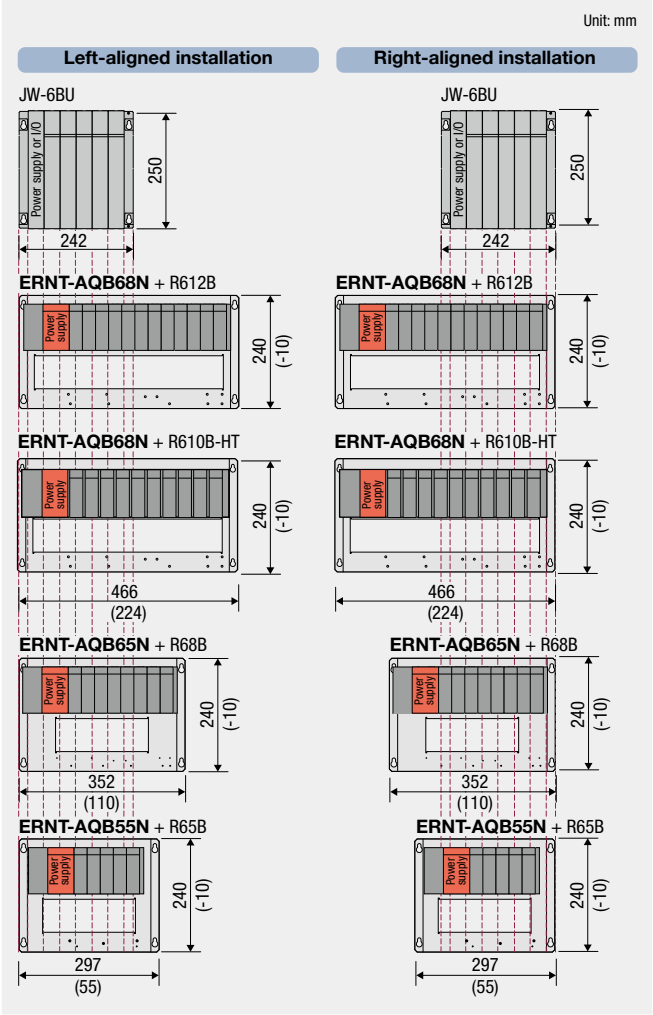


(2) JW-8BU → ERNT-AQB68N + R612B / ERNT-AQB68N + R610B-HT / ERNT-AQB65N + R68B

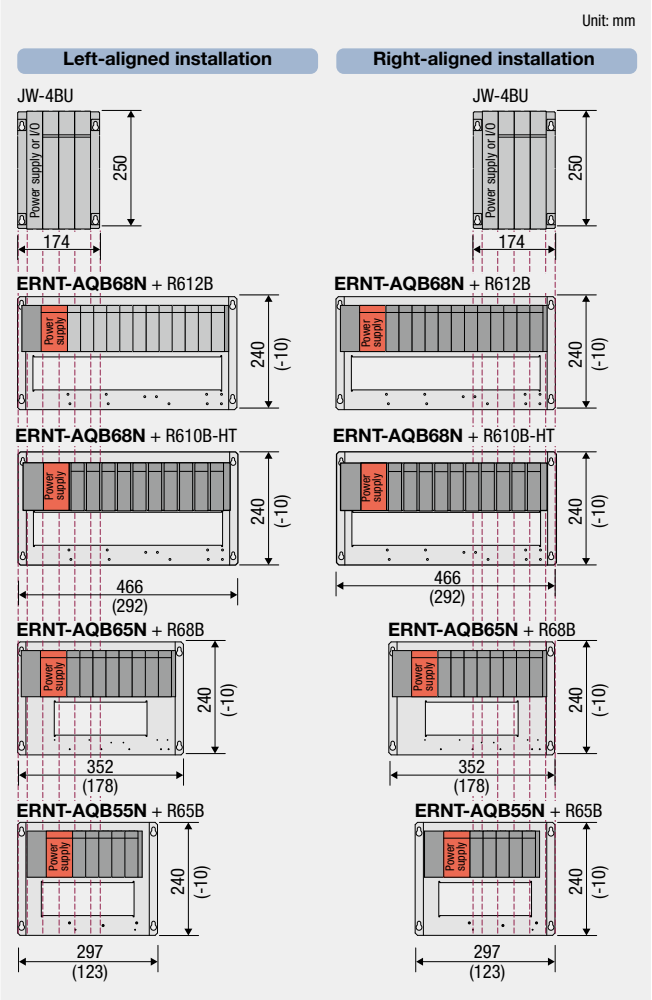


(3) JW-6BU → ERNT-AQB68N + R612B / ERNT-AQB68N + R610B-HT / ERNT-AQB65N + R68B / ERNT-AQB55N + R65B

Unit: mm



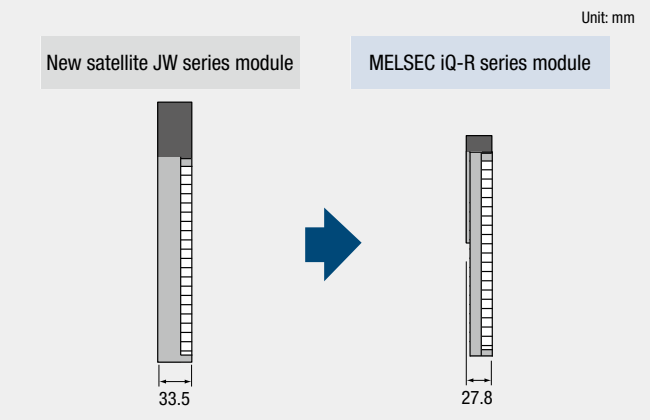
(4) JW-4BU → ERNT-AQB68N + R612B / ERNT-AQB68N + R610B-HT / ERNT-AQB65N + R68B / ERNT-AQB55N + R65B



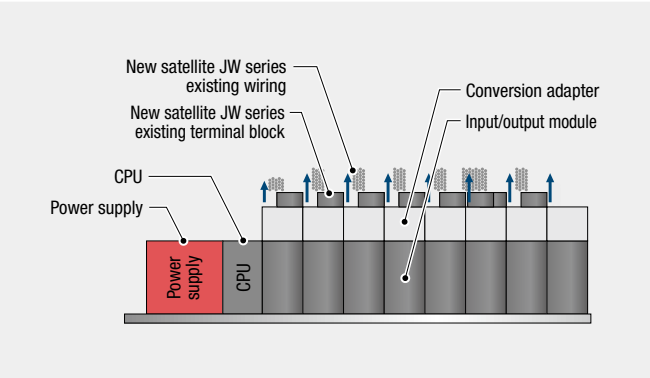
Precautions

Module width

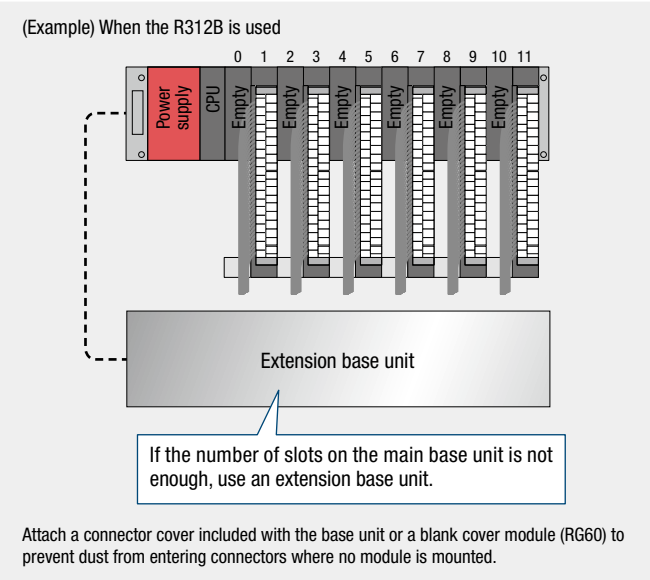
(1) Since the width of MELSEC iQ-R series is smaller (new satellite JW series: 33.5mm → MELSEC iQ-R series: 27.8mm), the wiring area becomes smaller as well. Check the wiring area when mounting a conversion adapter.



(2) If the wiring causes interference with adjacent modules, lift the cables forward to prevent interference.



(3) If interference still occurs, leave the next slot open to secure a space for wiring.



Attach a connector cover included with the base unit or a blank cover module (RG60) to prevent dust from entering connectors where no module is mounted.

(4) If modules cannot be replaced in accordance with (2) and (3), consider the use of the extended temperature range base unit manufactured by Mitsubishi Electric. → P.19
Note) 2-slot type conversion adapters cannot be used.

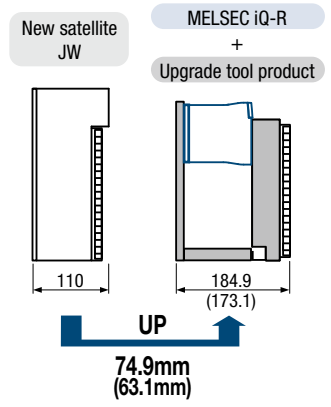
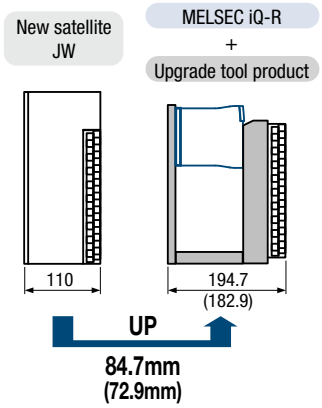
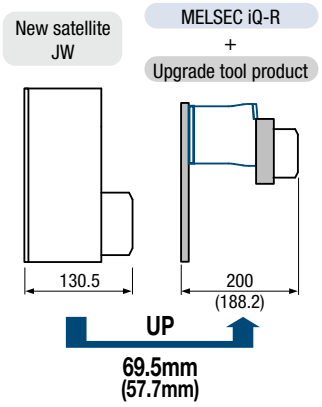
Depth

The depth from the panel surface after replacement is shown below. The depth from the panel surface increases. Check the depth when mounting a conversion adapter.
Values in parentheses (shorter by 11.8mm) are the dimensions when a base adapter is not used.

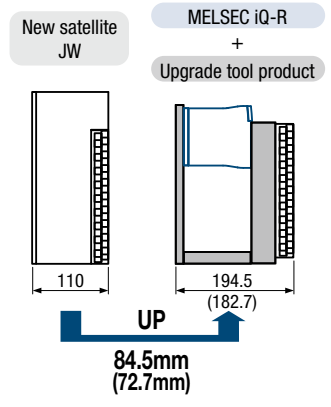
New satellite JW series: Base unit + Input/output module + Terminal block/connector
MELSEC iQ-R series + Upgrade tool product: Base adapter + Input/output module + Conversion adapter + Terminal block/connector

1-slot type

New satellite JW : New satellite JW series MELSEC iQ-R : MELSEC iQ-R series

Conversion adapter	ERNT-1JR11N13S ERNT-1JR12S	ERNT-1JR32S ERNT-1JR32N34N	ERNT-2JR232S262S ERNT-2JR234N264N
Depth	74.9mm UP (63.1mm UP)	84.7mm UP (72.9mm UP)	69.5mm UP (57.7mm UP)
Mounting diagram			

2-slot type

Conversion adapter	ERNT-1JR31N34S ERNT-1JR33S
Depth	84.5mm UP (72.7mm UP)
Mounting diagram	

Conversion adapter support flange, base adapter

A conversion adapter support flange is always required when a conversion adapter is used. The use of a base adapter is recommended because the MELSEC iQ-R series can be installed using the new satellite JW series base unit installation holes. (Drilling of additional holes is not required.)

Small type ▶ JW300/30H/20H

Model list

Conversion adapters

For the specifications of conversion adapters and modules before and after replacement, refer to user's manuals. (User's manuals can be downloaded from our website.)
Also, check that the modules satisfy the specifications of the devices currently connected.

For input/output modules

1-slot type

Input/ Output	New satellite JW series module before replacement	MELSEC iQ-R series module after replacement	Note	Conversion adapter			
				Model	Shape		No. of input/ output points
					New satellite JW series	MELSEC iQ-R series	
Input	JW-211N JW-211NA	RX10	*1	ERNT-2JQ210NS	Terminal block (18 points)	Terminal block (18 points)	16
Output	JW-213S JW-213SA	RY20S6					
	JW-214S JW-214SA	RY10R2					
Input	JW-212N JW-212NA JW-214N JW-214NA	RX40C7 RX70C4	*1, *2				
Output	JW-212S JW-212SA	RY40NT5P	*1, *3	ERNT-2JQ212S			
Input	JW-234N	RX41C4 RX41C6HS RX71C4	*4	ERNT-2JR234N264N	Connector (40P)	Connector (40P)	32
	JW-264N	RX41C4 × 2 RX41C6HS × 2	*5	ERNT-2JR234N264N × 2	Connector (40P) × 2	Connector (40P) × 2	64
Output	JW-232S	RY41NT2H	-	ERNT-2JR232S262S	Connector (40P)	Connector (40P)	32
	JW-262S	RY41NT2H × 2	*5	ERNT-2JR232S262S × 2	Connector (40P) × 2	Connector (40P) × 2	64

*1: A conversion adapter for replacing the new satellite JW series (small type) with the MELSEC-Q series is used.
*2: If the existing module uses a different power supply for each 8-point group, consider rewiring to the RX40PC6H (24VDC, positive) or the RX40NC6H (24VDC, negative common). When rewiring, consider using the ERNT-ASQTB20.
*3: The RY40NT5P requires the additional power supply, which has the same voltage as the load voltage.
*4: If the existing module uses a different power supply for each 16-point group, consider rewiring to two RX40C7s (24VDC) or two RX70C4s (5/12VDC). When rewiring, consider using the ERNT-ASQTB20.
*5: For replacement, two conversion adapters are required.

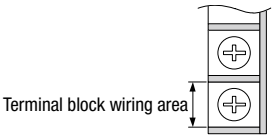
Replacement using a universal conversion adapter ▶P.279

Input/output modules in the table below do not support the use of a conversion adapter. However, these modules can be replaced using a universal conversion adapter even though rewiring is required.

Input/Output	New satellite JW series module before replacement				MELSEC iQ-R series module after replacement				Universal conversion adapter
	Model		Specifications	No. of points	Model	Specifications	No. of points	No. of required modules	
Input	JW-203N		200/240VAC	8	RX28	100 to 240VAC	8	1	Supported
	JW-201N		100/120VAC	8	RX28	100 to 240VAC	8	1	
	JW-202N		12/24VDC	8	RX40C7	24VDC, positive/negative common	16	1	
					RX70C4	5/12VDC, positive/negative common			
Output	JW-203S		100/200VAC	8	RY20S6	100 to 240VAC	16	1	
	JW-204S JW-204SA		250VAC/30VDC, 2A, independent	8	RY18R2A	240VAC/24VDC, 2A, independent	8	1	
	JW-215SA		5/12/24VDC, source type	16	RY40PT5P	12/24VDC, source type	16	1	
	JW-202S		5/12/24VDC, sink type	8	RY40NT5P	12/24VDC	16	1	-
I/O combined	JW-232M	Input	12/24VDC	16	There is no applicable MELSEC iQ-R series module.				
		Output	5/12/24VDC, sink type	16					

Reference: Terminal block specifications

Item	New satellite JW series [small type] module before replacement	MELSEC iQ-R series module after replacement	Universal conversion adapter (small type)
Terminal block screw size	M3.5	M3	M3.5
Terminal block wiring area	7.2mm	6mm	7.3mm



Base adapters

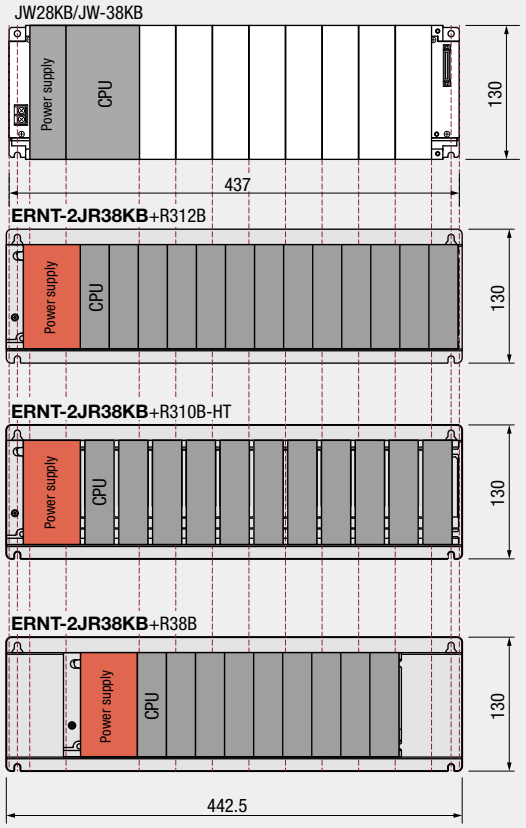
Type	New satellite JW series base unit before replacement	MELSEC iQ-R series base unit after replacement	Note	Base adapter model
Main	JW-28KB/JW-38KB	R312B/R310B-HT/R38B	-	ERNT-2JR38KB
Main	JW-26KB/JW-36KB	R38B	-	ERNT-2JR36KB38ZB
Extension	JW-28ZB/JW-38ZB	R68B	-	
Main	JW-24KB/JW-34KB	R35B	-	ERNT-2JR34KB
Main	JW-318KB	R38B	-	ERNT-2JR318KB
Main	JW-316KB	R38B	-	ERNT-2JR316KB36ZB
Extension	JW-26ZB/JW-36ZB	R68B	-	
Main	JW-314KB	R35B	-	ERNT-2JR314KB
Extension	JW-24ZB/JW-34ZB	R65B	-	ERNT-2JR34ZB

Slot positions

The slot positions differ between the new satellite JW series base units before replacement and the MELSEC iQ-R series base units after replacement. Change the slot positions of modules and adjust wiring lengths prior to use.

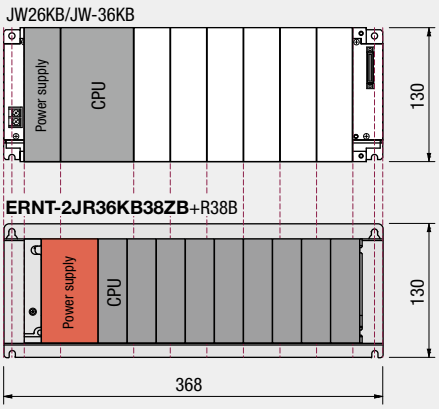
(1) JW-28KB/JW-38KB → ERNT-2JR38KB + R312B/R310B-HT/R38B

Unit: mm



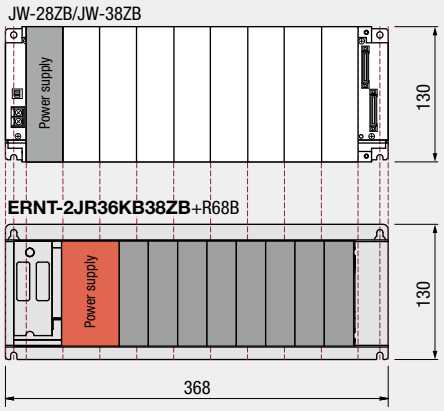
(2) JW-26KB/JW-36KB → ERNT-2JR36KB38ZB + R38B

Unit: mm



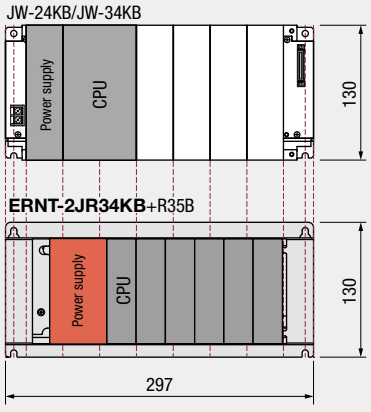
(3) JW-28ZB/JW-38ZB → ERNT-2JR36KB38ZB + R68B

Unit: mm



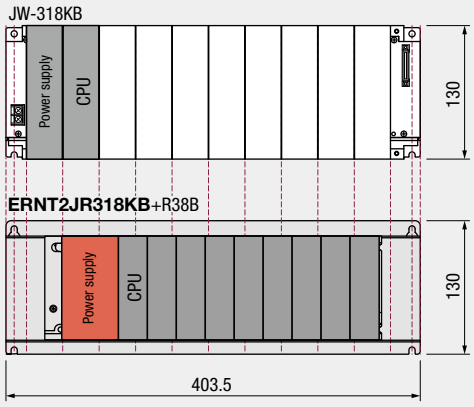
(4) JW-24KB/JW-34KB → ERNT-2JR34KB + R35B

Unit: mm



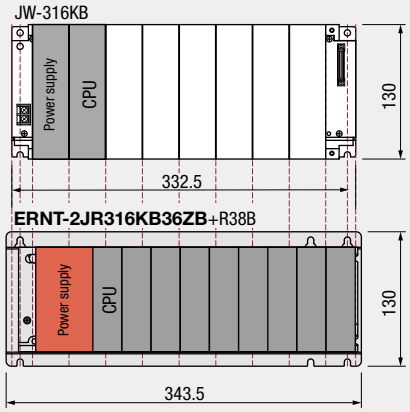
(5) JW-318KB → ERNT-2JR318KB + R38B

Unit: mm



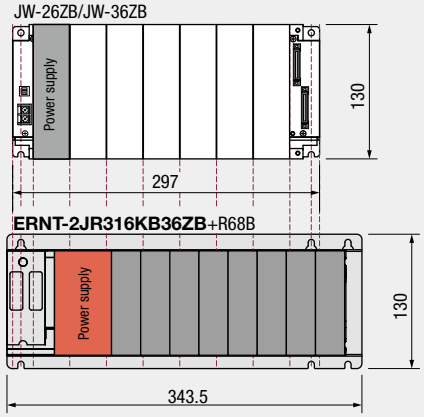
(6) JW-316KB → ERNT-2JR316KB36ZB + R38B

Unit: mm



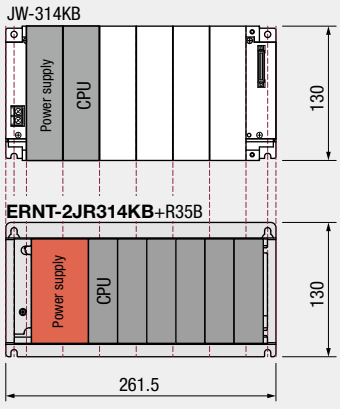
(7) JW-26ZB/JW-36ZB → ERNT-2JR316KB36ZB + R68B

Unit: mm



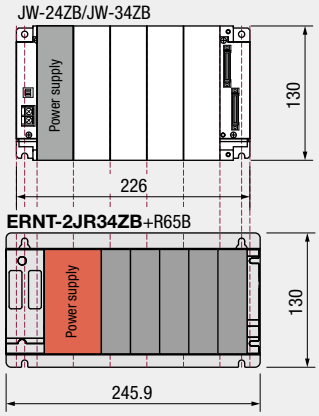
(8) JW-314KB → ERNT-2JR314KB + R35B

Unit: mm



(9) JW-24ZB/JW-34ZB → ERNT-2JR34ZB + R65B

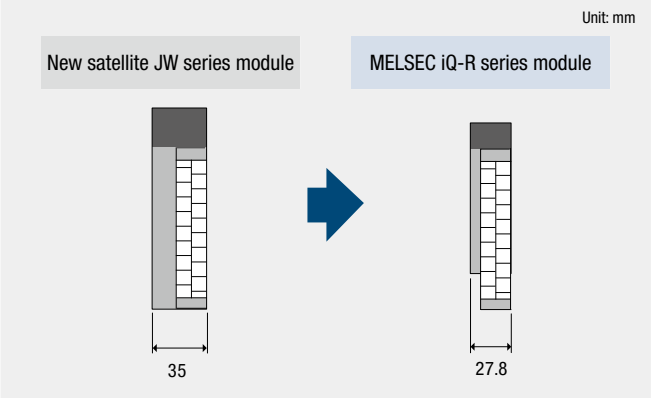
Unit: mm



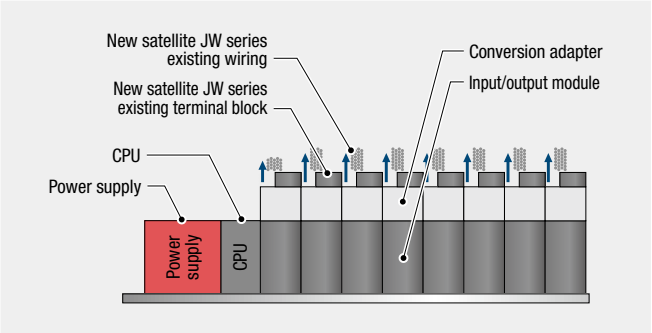
Precautions

Module width

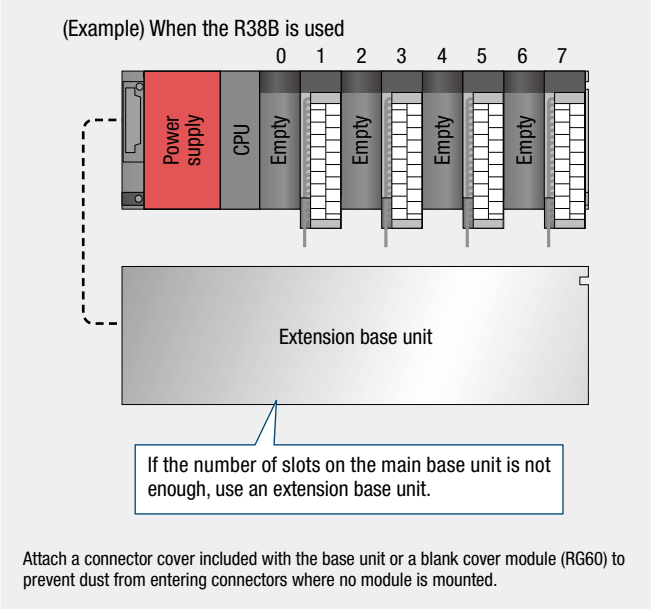
(1) Since the width of MELSEC iQ-R series is smaller (new satellite JW series: 35mm → MELSEC iQ-R series: 27.8mm), the wiring area becomes smaller as well. Check the wiring area when mounting a conversion adapter.



(2) If the wiring causes interference with adjacent modules, lift the cables forward to prevent interference.



(3) If interference still occurs, leave the next slot open to secure a space for wiring.



Attach a connector cover included with the base unit or a blank cover module (RG60) to prevent dust from entering connectors where no module is mounted.

(4) If modules cannot be replaced in accordance with (2) and (3), consider the use of the extended temperature range base unit manufactured by Mitsubishi Electric. → P.19

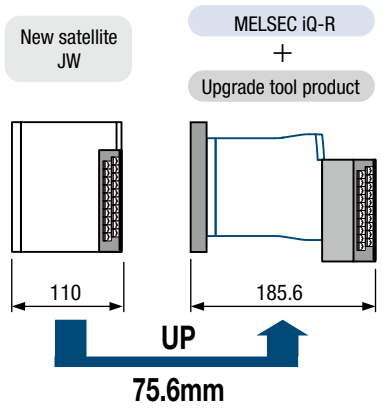
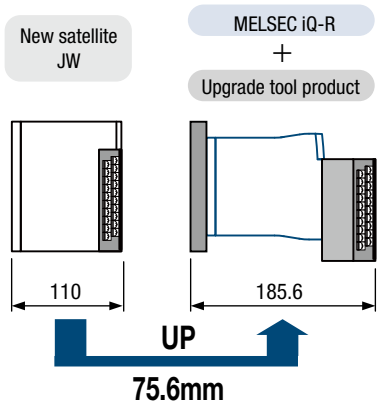
Depth

The depth from the panel surface after replacement is shown below. The depth from the panel surface increases. Check the depth when mounting a conversion adapter.

New satellite JW series: Base unit + Input/output module + Terminal block/connector

MELSEC iQ-R series + Upgrade tool product: Base adapter + Base unit + Input/output module + Conversion adapter + Terminal block/connector

New satellite JW : New satellite JW series MELSEC iQ-R : MELSEC iQ-R series

Conversion adapter	ERNT-2JQ210NS ERNT-2JQ212S	ERNT-2JR232S262S ERNT-2JR234N264N
Depth	75.6mm UP	57.2mm UP
Mounting diagram		

New satellite JW series → MELSEC-Q series

Large type ▶ JW50H/70H/100H

Model list

Conversion adapters

For the specifications of conversion adapters and modules before and after replacement, refer to user's manuals. (User's manuals can be downloaded from our website.)
Also, check that the modules satisfy the specifications of the devices currently connected.

For input/output modules

1-slot type (Applicable to MELSEC-Q series large type base units (Q□□BL) as well)

Input/ Output	New satellite JW series module before replacement	MELSEC-Q series module after replacement	Note	Conversion adapter			
				Model	Shape		No. of input/ output points
					New satellite JW series	MELSEC-Q series	
Input	JW-11N	QX10	-	ERNT-1JQ11N12N	Terminal block (20 points)	Terminal block (18 points)	16
	JW-12N	QX40, QX40-S1, QX70	*1, *2				
	JW-32N	QX41, QX41-S2, QX71	*3, *4	ERNT-1JQ32N34N	Terminal block (38 points)	Connector (40P)	32
	JW-34N	QX41, QX41-S1, QX41-S2, QX71					
	JW-64NC	QX42, QX42-S1, QX72, QX82, QX82-S1	-	ERNT-1JQ64NC	Connector (40P) × 2	Connector (40P) × 2	64
	JW-34NC		*5				
		QX41, QX41-S1, QX41-S2, QX71	-	ERNT-2JQ234N264N	Connector (40P)	Connector (40P)	32
Output	JW-13S	QY22	-	ERNT-1JQ13S	Terminal block (20 points)	Terminal block (18 points)	16
	JW-12S	QY40P, QY50, QY70		ERNT-1JQ12S			
	JW-32S	QY41H	*6	ERNT-1JQ32S	Terminal block (38 points)	Connector (40P)	32
	JW-32SC	QY41H	-	ERNT-1JQ32SC62SC	Connector (40P)	Connector (40P)	32
	JW-62SC	QY41H × 2	*7	ERNT-1JQ32SC62SC × 2	Connector (40P) × 2	Connector (40P) × 2	32 × 2

*1: If the existing module uses 24VDC negative common, consider rewiring to the QX80 or QX80H. When rewiring, consider using the ERNT-AQTB20.
*2: If the existing module uses a different power supply for each 8-point group, consider rewiring to the QX40H or QX80H. When rewiring, consider using the ERNT-AQTB20.
*3: If the existing module uses 24VDC negative common, consider rewiring to the QX81 or QX81-S2. When rewiring, consider using the ERNT-AQTB38-E.
*4: If the existing module uses a different power supply for each 8-point group, consider rewiring to two QX40Hs or two QX80Hs. When rewiring, consider using the ERNT-AQTB20.
*5: The JW-32NC is a 32-point input module. When the JW-34NC is replaced with a MELSEC-Q series module, only 32 points are used. (32 points will be left open.)
*6: If the current capacity is not enough, consider rewiring to the QY50 (0.5A, 16 points) or QY68A (2A, 8 points). When rewiring, consider using the ERNT-AQTB20.
*7: For replacement, two conversion adapters are required.

2-slot type (Not applicable to MELSEC-Q series large type base units (Q□□BL))

Input/ Output	New satellite JW series module before replacement	MELSEC-Q series module after replacement	Conversion adapter			
			Model	Shape		No. of input/ output points
				New satellite JW series	MELSEC-Q series	
Input	JW-31N	QX10 × 2	ERNT-1JQ31N34S	Terminal block (38 points)	Terminal block (18 points) × 2	32
Output	JW-34S	QY10 × 2				
	JW-33S	QY22 × 2	ERNT-1JQ33S			

Replacement using a universal conversion adapter ▶P.301

Input/output modules and analog/high-speed counter modules in the table below do not support the use of a conversion adapter. However, these modules can be replaced using a universal conversion adapter even though rewiring is required.

For input/output modules

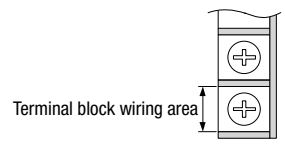
Input/Output	New satellite JW series module model			MELSEC-Q series module model				Universal conversion adapter
	Model	Specifications	No. of points	Model	Specifications	No. of points	No. of required modules	
Input	JW-13N	200 to 240VAC	16	QX28	100 to 240VAC	8	2	Supported
Output	JW-35S	12/24VDC, source type	32	QY81P	12/24VDC, source type	32	1	Supported

For analog/high-speed counter modules

Input/Output	New satellite JW series module model			MELSEC-Q series module model				Universal conversion adapter
	Model	Specifications	No. of channels	Model	Specifications	No. of channels	No. of required modules	
Analog output	JW-2DA	0 to ±10VDC, 0 to ±20mADC, 11-bit signed binary	2	Q62DAN	-10 to +10VDC, 0 to 20mADC, 16-bit signed binary	2	1	Supported
High-speed counter input	JW-2HC	50/20/15/8kpps, 24-bit binary	2	QD62	200/100/10kpps, 32-bit binary	2	1	Supported

Reference: Terminal block specifications

Item	New satellite JW series [large type] module before replacement	MELSEC iQ-R series module after replacement	Universal conversion adapter (large type)
Terminal block screw size	M3.5	M3	M3
Terminal block wiring area	7.3mm	6mm	7.2mm



Base adapters

The same base adapters used to replace the MELSEC-A series with the MELSEC-Q series are used.
By using a base adapter, the MELSEC-Q series base unit and the conversion adapter support flange can be installed at the same time without drilling any additional installation holes.

Note

Two additional installation holes (M5 screw size) and four M5 screws need to be prepared by the user to install the base adapter to the control panel.
(There may be a case that drilling of additional installation holes is not required if the installation dimensions of all the four holes are the same before and after replacement.)

The base units (*1 to *5) can be installed to different types of base adapters. Select the optimum base adapter.

Base adapter model	Installable product						Dimensions
	MELSEC-Q series base unit					Conversion adapter support flange	Width × Height (mm)
	12-slot	8-slot	5-slot	3-slot	2-slot		
ERNT-AQB38N	Q312B					ERNT-AQF12, ERNT-AQF8	480 × 240
		Q38B*1				ERNT-AQF8	
ERNT-AQB35N		Q38B*1				ERNT-AQF8, ERNT-AQF5	382 × 240
			Q35B			ERNT-AQF5	
ERNT-AQB32N				Q33B		ERNT-AQF3	247 × 240
ERNT-1JR613B	Q612B					ERNT-AQF12	480 × 240
ERNT-AQB68N	Q612B					ERNT-AQF12, ERNT-AQF8	466 × 240
		Q68B*2				ERNT-AQF8	
ERNT-AQB65N		Q68B*2				ERNT-AQF8, ERNT-AQF5	352 × 240
			Q65B*3 Q55B*4			ERNT-AQF5	
ERNT-AQB62				Q63B	Q52B*5	ERNT-AQF3	238 × 240
ERNT-AQB58N		Q68B*2				ERNT-AQF8	411 × 240
ERNT-AQB55N			Q65B*3 Q55B*4			ERNT-AQF5	297 × 240
ERNT-AQB52					Q52B*5	ERNT-AQF3	183 × 240

Conversion adapter support flanges (required)

The same conversion adapter support flanges used to replace the MELSEC-A series with the MELSEC-Q series are used.
A conversion adapter support flange secures the lower part of a conversion adapter. One support flange is required per base unit when a conversion adapter is used.

Note

Two additional installation holes (M4 screw size) are required to install the conversion adapter support flange to the control panel.
When a base adapter is used, drilling of additional installation holes is not required.

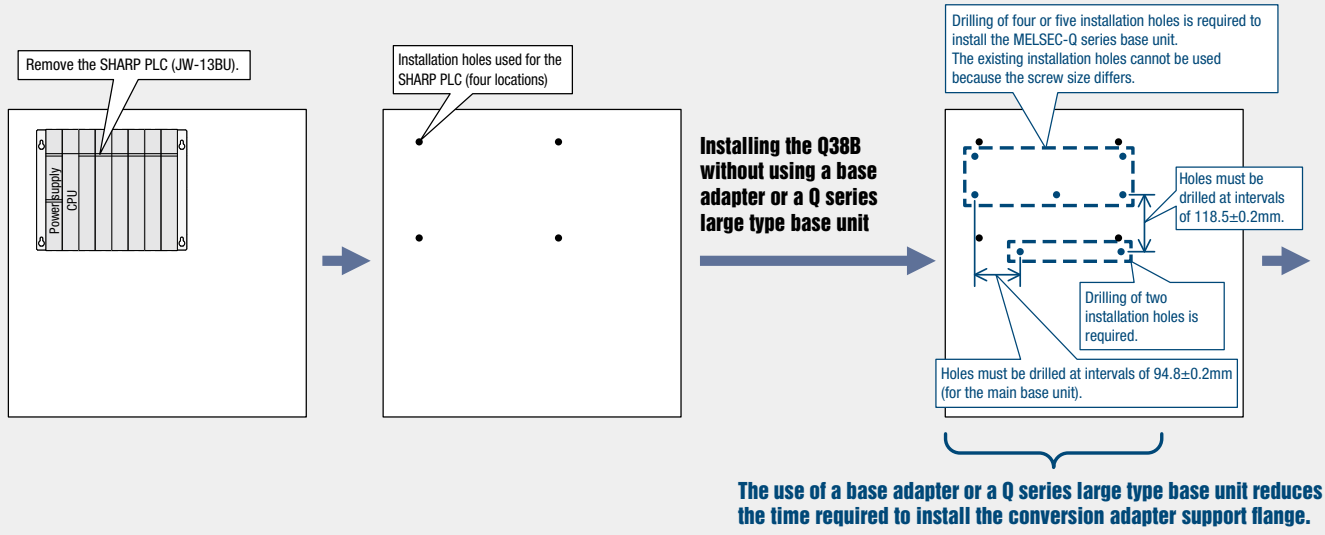
Conversion adapter support flange model	Specifications
ERNT-AQF12	12-slot conversion adapter support flange
ERNT-AQF8	8-slot conversion adapter support flange
ERNT-AQF5	5-slot conversion adapter support flange
ERNT-AQF3	3-slot conversion adapter support flange

Replacement using a base adapter or a Q series large type base unit manufactured by Mitsubishi Electric

The use of a base adapter or a Q series large type base unit reduces the time required for drilling installation holes and eliminates the need for determining the installation position of the support flange.

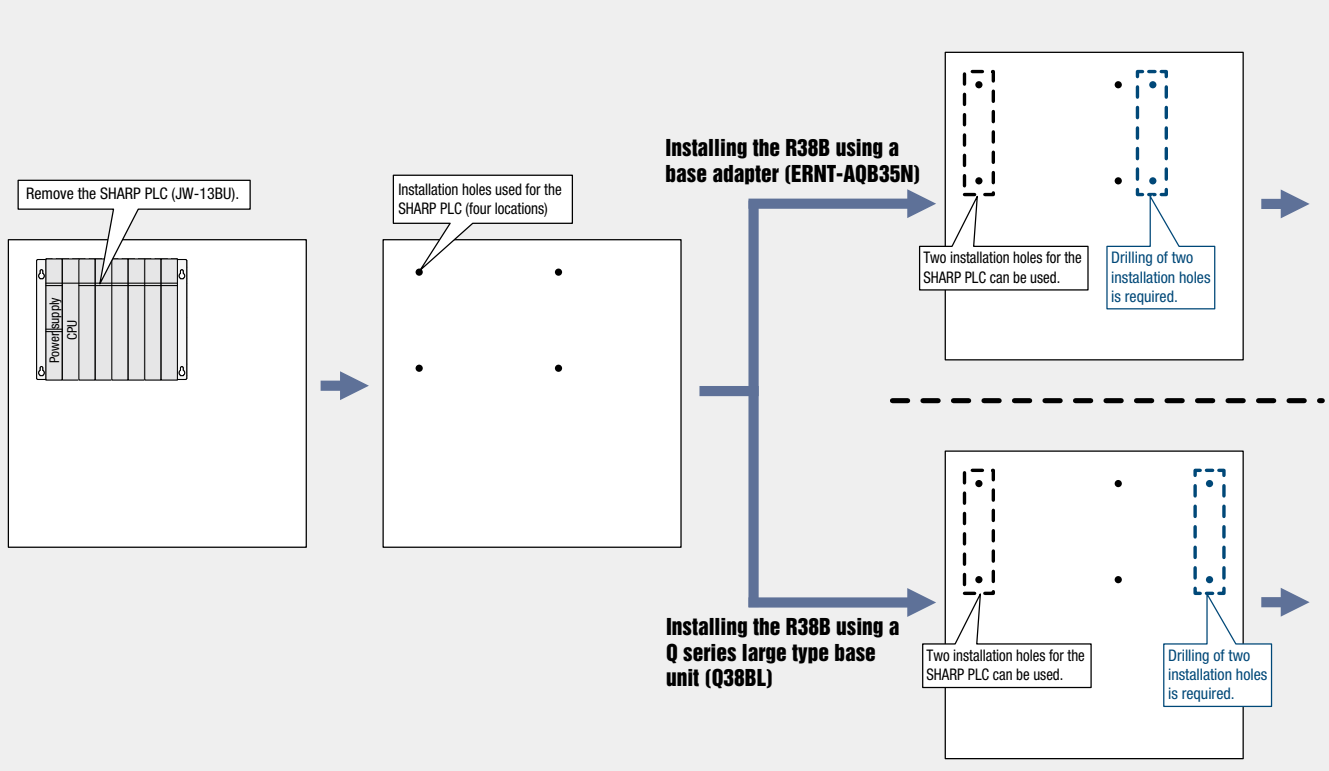
When a base adapter or a Q series large type base unit is not used

Six or seven new installation holes are required. Also, the installation positions of the MELSEC-Q series base unit and the conversion adapter support flange need to be determined.

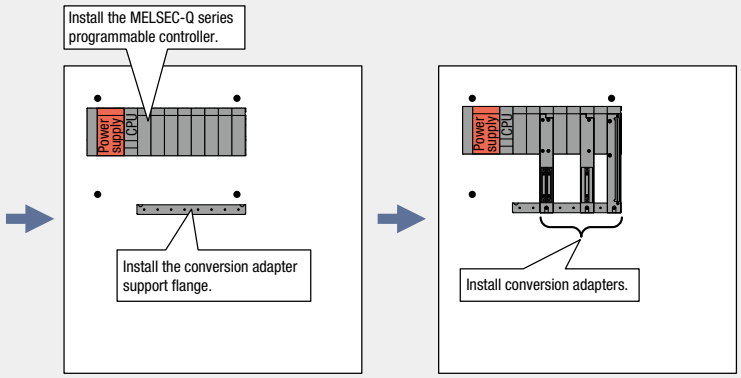


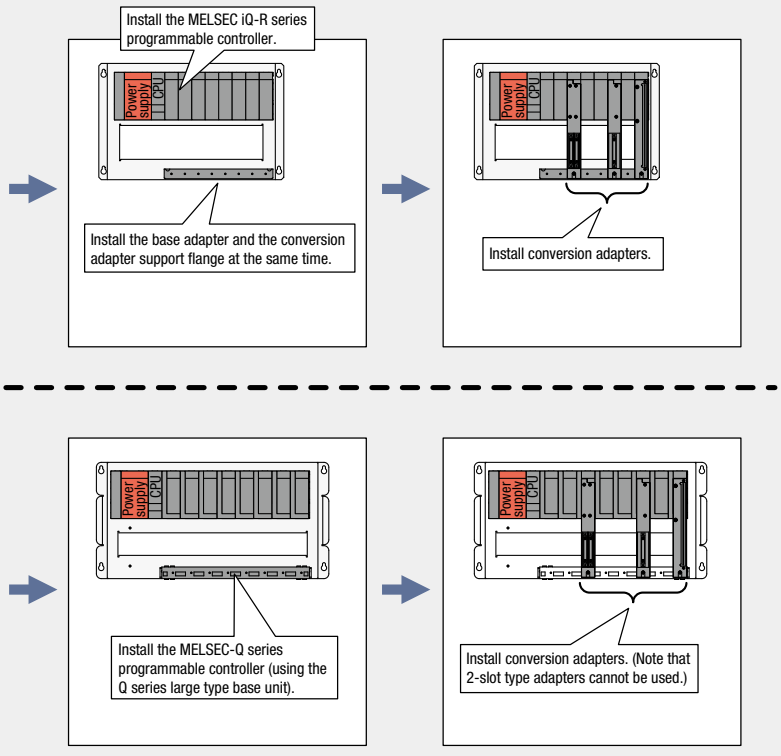
When a base adapter or a Q series large type base unit (for replacing the MELSEC-A series Large type with the MELSEC-Q series) is used

The installation hole pitch (vertical direction) of the base adapter and the Q series large type base unit is the same as that of the new satellite JW series base unit. Therefore, the number of additional installation holes to be drilled is two or less.
(There may be a case that drilling of additional installation holes is not required if the installation dimensions of all the four holes are the same before and after replacement.)
The following figure shows the installation when two existing installation holes on the left side are used for the base adapter.



For details, refer to "Installation dimensions" (P.197), "Comparison of external dimensions and installation hole pitches" (P.198), and "Slot positions" (P.201).


Install the MELSEC-Q series programmable controller.
Power supply
CPU
Install the conversion adapter support flange.
Power supply
CPU
Install conversion adapters.


Install the MELSEC iQ-R series programmable controller.
Power supply
CPU
Install the base adapter and the conversion adapter support flange at the same time.
Power supply
CPU
Install conversion adapters.
Power supply
CPU
Install the MELSEC-Q series programmable controller (using the Q series large type base unit).
Power supply
CPU
Install conversion adapters. (Note that 2-slot type adapters cannot be used.)

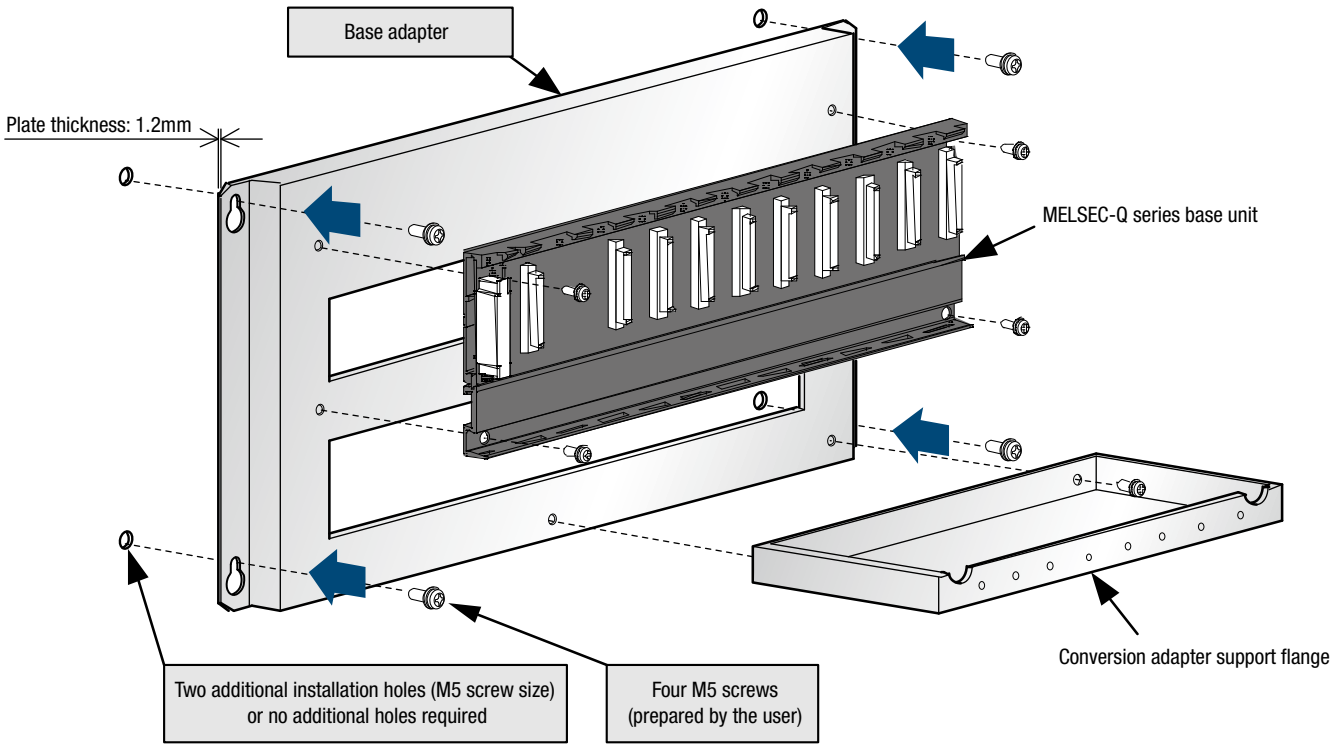
Base adapters

Specifications

By using a base adapter, the MELSEC-Q series base unit and the conversion adapter support flange can be installed at the same time without drilling any additional installation holes. The same base adapters used to replace the MELSEC-A series with the MELSEC-Q series are used.

Note

- Two additional installation holes (M5 screw size) and four M5 screws need to be prepared by the user to install the base adapter to the control panel.
  (There may be a case that drilling of additional installation holes is not required if the installation dimensions of all the four holes are the same before and after replacement.)



The base units (*1 to *5) can be installed to different types of base adapters. Select the optimum base adapter.

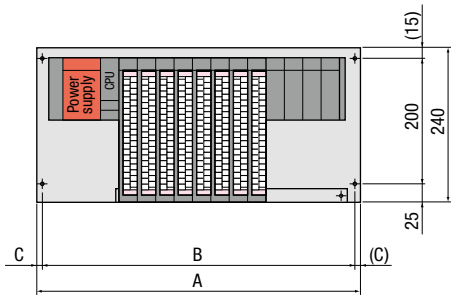
Base adapter model	Installable product						Dimensions
	MELSEC-Q series base unit					Conversion adapter support flange	Width × Height (mm)
	12-slot	8-slot	5-slot	3-slot	2-slot		
ERNT-AQB38N	Q312B					ERNT-AQF12, ERNT-AQF8	480 × 240
		Q38B*1				ERNT-AQF8	
ERNT-AQB35N		Q38B*1				ERNT-AQF8, ERNT-AQF5	382 × 240
			Q35B			ERNT-AQF5	
ERNT-AQB32N				Q33B		ERNT-AQF3	247 × 240
ERNT-1JR613B	Q612B					ERNT-AQF12	480 × 240
ERNT-AQB68N	Q612B					ERNT-AQF12, ERNT-AQF8	466 × 240
		Q68B*2				ERNT-AQF8	
ERNT-AQB65N		Q68B*2				ERNT-AQF8, ERNT-AQF5	352 × 240
			Q65B*3 Q55B*4			ERNT-AQF5	
ERNT-AQB62				Q63B	Q52B*5	ERNT-AQF3	238 × 240
ERNT-AQB58N		Q68B*2				ERNT-AQF8	411 × 240
ERNT-AQB55N			Q65B*3 Q55B*4			ERNT-AQF5	297 × 240
ERNT-AQB52					Q52B*5	ERNT-AQF3	183 × 240

Installation dimensions

- The slot positions differ between the new satellite JW series modules before replacement and the MELSEC-Q series modules after replacement. Adjust wiring lengths prior to use.
- Compared to the new satellite JW series, the height is shorter after replacement.
  (For details on the width and depth of the module, refer to "Precautions" (P.206).)
- The existing two installation holes (out of four) of the new satellite JW series base unit can be used for the base adapter and the Q series large type base unit. Drilling of two additional installation holes is required.
  (There may be a case that drilling of additional installation holes is not required if the installation dimensions of all the four holes are the same before and after replacement.)

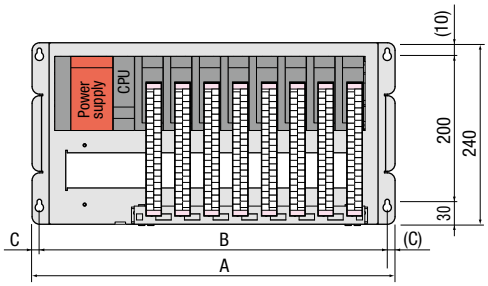
Unit: mm

◎ Base adapter + MELSEC-Q series base unit



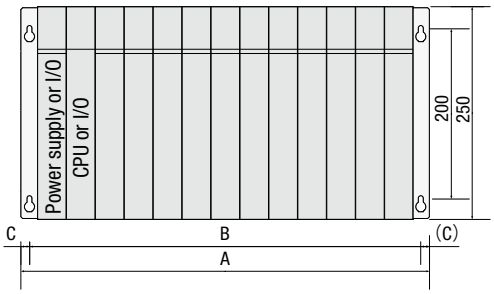
Base adapter model	Description	A	B	C	Installation hole screw size
ERNT-AQB38N	For main base units	480	460	10	M5
ERNT-AQB35N		382	362	10	
ERNT-AQB32N		247	227	10	
ERNT-1JR613B	For extension base units (type requiring a power supply module)	480	460	10	
ERNT-AQB68N		466	446	10	
ERNT-AQB65N		352	332	10	
ERNT-AQB62		238	218	10	
ERNT-AQB55N	For extension base units (type requiring no power supply module)	297	277	10	
ERNT-AQB52		183	163	10	

◎ MELSEC-Q series large type base unit



Q series large type base unit model	Description	A	B	C	Installation hole screw size
Q38BL	Main base unit	480	460	10	M5
Q35BL		382	362	10	
Q68BL	Extension base unit (type requiring a power supply module)	466	446	10	
Q65BL		352	332	10	
Q55BL	Extension base unit (type requiring no power supply module)	297	277	10	

◎ (Reference) New satellite JW series base unit



New satellite JW series base unit model	Description	A	B	C	Installation hole screw size
JW-13BU	For both main/extension base units	480	460	10	M5
JW-8BU		310	290	10	
JW-6BU		242	222	10	
JW-4BU		174	154	10	

Comparison of external dimensions and installation hole pitches

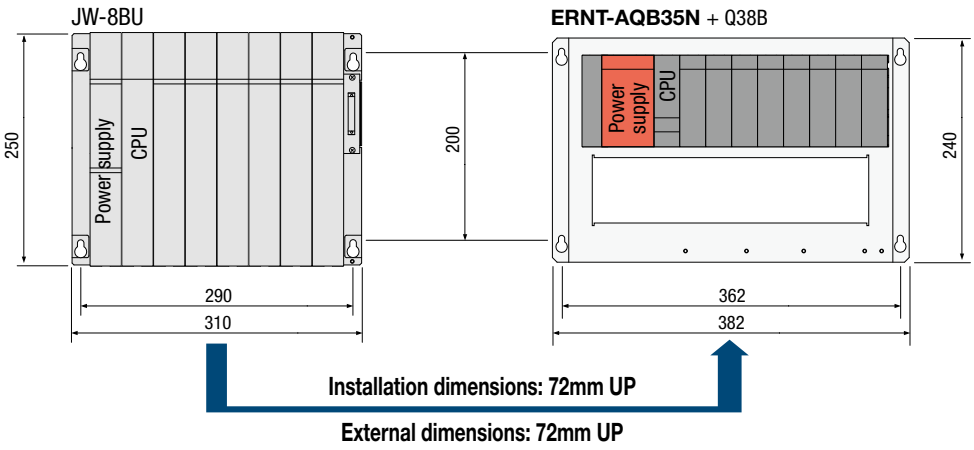
Use the following tables to check the differences of external dimensions and installation hole pitches before and after replacement.

Note

- "▲" in the tables indicates an increase of the external dimensions after replacement as shown in the example below. The installation position needs to be reconsidered.
- If the number of slots on the main base unit is not enough, use an extension base unit.
- The JW□□BU of the new satellite JW series can be used as a main base unit and an extension base unit. Note that the number of slots varies depending on the mounting status of the power supply module and CPU module.
- If the new satellite JW series model being used is not listed here, check the number of slots, external dimensions, installation dimensions, and other specifications. Then, select the optimum base adapter or MELSEC-Q series large type base unit.

(Example) When the new satellite JW series (JW-8BU) is replaced with the base adapter (ERNT-AQB35N) + MELSEC-Q series base unit (Q38B)

Unit: mm



When a main base unit is replaced

1) MELSEC-Q series base unit or MELSEC-Q series base unit + base adapter

◎: Same dimensions, ○: JW series is larger, ▲: JW series is smaller

JW series base unit			MELSEC-Q series base unit							Base adapter					Conversion adapter support flange	Remarks
Model	Power supply	Maximum No. of slots	Model	Power supply	Maximum No. of slots	Comparison*1 ([MELSEC-Q series] - [JW series]) External dimensions Width	External dimensions Height	Installation dimensions Width	Installation dimensions Height	Model	Comparison*2 ([Base adapter] - [JW series]) External dimensions Width	External dimensions Height	Installation dimensions Width	Installation dimensions Height		
JW-13BU	Required	11	Q312B	Required	12	○ (-41)	○ (-152)	○ (-41)	○ (-120)	ERNT-AQB38N	◎	○ (-10)	◎	◎	ERNT-AQF12	• When a base adapter is used, drilling of additional holes is not required.
			Q38B	Required	8	○ (-152)	○ (-152)	○ (-152)	○ (-120)	ERNT-AQB38N	◎	○ (-10)	◎	◎	ERNT-AQF8	
JW-8BU	Required	6	Q312B	Required	12	▲ (129)	○ (-152)	▲ (129)	○ (-120)	ERNT-AQB38N	▲ (170)	○ (-10)	▲ (170)	◎	ERNT-AQF12	• When a base adapter is used, two existing installation holes (vertical direction) can be used.
			Q38B	Required	8	▲ (18)	○ (-152)	▲ (18)	○ (-120)	ERNT-AQB35N	▲ (72)	○ (-10)	▲ (72)	◎	ERNT-AQF8	
			Q35B	Required	5	○ (-65)	○ (-152)	○ (-65.6)	○ (-120)	ERNT-AQB35N	▲ (72)	○ (-10)	▲ (72)	◎	ERNT-AQF5	
JW-6BU	Required	4	Q312B	Required	12	▲ (197)	○ (-152)	▲ (197)	○ (-120)	ERNT-AQB38N	▲ (238)	○ (-10)	▲ (238)	◎	ERNT-AQF12	
			Q38B	Required	8	▲ (86)	○ (-152)	▲ (86)	○ (-120)	ERNT-AQB35N	▲ (140)	○ (-10)	▲ (140)	◎	ERNT-AQF8	
			Q35B	Required	5	▲ (3)	○ (-152)	▲ (2.4)	○ (-120)	ERNT-AQB35N	▲ (140)	○ (-10)	▲ (140)	◎	ERNT-AQF5	
			Q33B	Required	3	○ (-53)	○ (-152)	○ (-53)	○ (-120)	ERNT-AQB32N	▲ (5)	○ (-10)	▲ (5)	◎	ERNT-AQF3	
JW-4BU	Required	2	Q35B	Required	5	▲ (71)	○ (-152)	▲ (70.4)	○ (-120)	ERNT-AQB35N	▲ (208)	○ (-10)	▲ (208)	◎	ERNT-AQF5	
			Q33B	Required	3	▲ (15)	○ (-152)	▲ (15)	○ (-120)	ERNT-AQB32N	▲ (73)	○ (-10)	▲ (73)	◎	ERNT-AQF3	

*1: Values in parentheses are differences in dimensions between the MELSEC-Q series base unit and the JW series base unit. (Unit: mm)
*2: Values in parentheses are differences in dimensions between the base adapter and the JW series base unit. (Unit: mm)

2) MELSEC-Q series large type base units

◎: Same dimensions, ○: JW series is larger, ▲: JW series is smaller

JW series base unit			MELSEC-Q series large type base unit							Remarks
Model	Power supply	Maximum No. of slots	Model	Power supply	Maximum No. of slots	Comparison*1 ([MELSEC-Q series] - [JW series]) External dimensions Width	External dimensions Height	Installation dimensions Width	Installation dimensions Height	
JW-13BU	Required	11	Q38BL	Required	8	◎	○ (-10)	◎	◎	• No Q series large type base unit has nine or more slots. • The number of slots decreases from 11 to 8. • Drilling of additional holes is not required.
JW-8BU	Required	6	Q38BL	Required	8	▲ (170)	○ (-10)	▲ (170)	◎	• Two existing installation holes (vertical direction) can be used.
			Q35BL	Required	5	▲ (72)	○ (-10)	▲ (72)	◎	
JW-6BU	Required	4	Q35BL	Required	5	▲ (140)	○ (-10)	▲ (140)	◎	
JW-4BU	Required	2	Q35BL	Required	5	▲ (208)	○ (-10)	▲ (208)	◎	

*1: Values in parentheses are differences in dimensions between the MELSEC-Q series large type base unit and the JW series base unit. (Unit: mm)

When an extension base unit is replaced

1) MELSEC-Q series base unit or MELSEC-Q series base unit + base adapter

◎: Same dimensions, ○: JW series is larger, ▲: JW series is smaller

JW series base unit			MELSEC-Q series base unit							Base adapter					Conversion adapter support flange	Remarks
Model	Power supply	Maximum No. of slots	Model	Power supply	Maximum No. of slots	Comparison*1 ([MELSEC-Q series] - [JW series]) External dimensions Width	External dimensions Height	Installation dimensions Width	Installation dimensions Height	Model	Comparison*2 ([Base adapter] - [JW series]) External dimensions Width	External dimensions Height	Installation dimensions Width	Installation dimensions Height		
JW-13BU	Required	12	Q612B	Required	12	○ (-41)	○ (-152)	○ (-43)	○ (-120)	ERNT-1JR613B	◎	○ (-10)	◎	◎	ERNT-AQF12	
			Q68B	Required	8	○ (-152)	○ (-152)	○ (-154)	○ (-120)	ERNT-AQB65N	○ (-128)	○ (-10)	○ (-128)	◎	ERNT-AQF8	• No base unit (type requiring a power supply module) has six or more slots. • The number of slots decreases from 13 to 12.
	Not required	13	Q612B	Required	12	○ (-41)	○ (-152)	○ (-43)	○ (-120)	ERNT-1JR613B	◎	○ (-10)	◎	◎	ERNT-AQF12	
JW-8BU	Required	7	Q612B	Required	12	▲ (129)	○ (-152)	▲ (127)	○ (-120)	ERNT-AQB68N	▲ (156)	○ (-10)	▲ (156)	◎	ERNT-AQF12	
			Q68B	Required	8	▲ (18)	○ (-152)	▲ (16)	○ (-120)	ERNT-AQB65N	▲ (42)	○ (-10)	▲ (42)	◎	ERNT-AQF8	
	Not required	8	Q612B	Required	12	▲ (129)	○ (-152)	▲ (127)	○ (-120)	ERNT-AQB68N	▲ (156)	○ (-10)	▲ (156)	◎	ERNT-AQF12	• No base unit (type requiring a power supply module) has six or more slots.
			Q68B	Required	8	▲ (18)	○ (-152)	▲ (16)	○ (-120)	ERNT-AQB65N	▲ (42)	○ (-10)	▲ (42)	◎	ERNT-AQF8	
JW-6BU	Required	5	Q612B	Required	12	▲ (197)	○ (-152)	▲ (195)	○ (-120)	ERNT-AQB68N	▲ (224)	○ (-10)	▲ (224)	◎	ERNT-AQF12	
			Q68B	Required	8	▲ (86)	○ (-152)	▲ (84)	○ (-120)	ERNT-AQB65N	▲ (110)	○ (-10)	▲ (110)	◎	ERNT-AQF8	
			Q65B	Required	5	▲ (3)	○ (-152)	▲ (0.4)	○ (-120)	ERNT-AQB55N	▲ (55)	○ (-10)	▲ (55)	◎	ERNT-AQF5	
			Q55B	Not required	5	○ (-53)	○ (-152)	○ (-55)	○ (-120)	ERNT-AQB55N	▲ (55)	○ (-10)	▲ (55)	◎	ERNT-AQF5	
	Not required	6	Q612B	Required	12	▲ (197)	○ (-152)	▲ (195)	○ (-120)	ERNT-AQB68N	▲ (224)	○ (-10)	▲ (224)	◎	ERNT-AQF12	• No base unit (type requiring a power supply module) has six or more slots.
			Q68B	Required	8	▲ (86)	○ (-152)	▲ (84)	○ (-120)	ERNT-AQB65N	▲ (110)	○ (-10)	▲ (110)	◎	ERNT-AQF8	
			Q65B	Required	5	▲ (3)	○ (-152)	▲ (0.4)	○ (-120)	ERNT-AQB55N	▲ (55)	○ (-10)	▲ (55)	◎	ERNT-AQF5	• The number of slots decreases from 6 to 5.
			Q55B	Not required	5	○ (-53)	○ (-152)	○ (-55)	○ (-120)	ERNT-AQB55N	▲ (55)	○ (-10)	▲ (55)	◎	ERNT-AQF5	
JW-4BU	Required	3	Q68B	Required	8	▲ (154)	○ (-152)	▲ (152)	○ (-120)	ERNT-AQB65N	▲ (178)	○ (-10)	▲ (178)	◎	ERNT-AQF8	
			Q65B	Required	5	▲ (71)	○ (-152)	▲ (68.4)	○ (-120)	ERNT-AQB55N	▲ (123)	○ (-10)	▲ (123)	◎	ERNT-AQF5	
			Q63B	Required	3	▲ (15)	○ (-152)	▲ (13)	○ (-120)	ERNT-AQB62	▲ (64)	○ (-10)	▲ (64)	◎	ERNT-AQF3	
			Q55B	Not required	5	▲ (15)	○ (-152)	▲ (13)	○ (-120)	ERNT-AQB55N	▲ (123)	○ (-10)	▲ (123)	◎	ERNT-AQF5	
			Q52B	Not required	2	○ (-68)	○ (-152)	○ (-70.5)	○ (-120)	ERNT-AQB52	▲ (9)	○ (-10)	▲ (9)	◎	ERNT-AQF3	• The number of slots decreases from 3 to 2.
	Not required	4	Q612B	Required	12	▲ (265)	○ (-152)	▲ (263)	○ (-120)	ERNT-AQB68N	▲ (292)	○ (-10)	▲ (292)	◎	ERNT-AQF12	• No base unit (type requiring a power supply module) has six or more slots.
			Q68B	Required	8	▲ (154)	○ (-152)	▲ (152)	○ (-120)	ERNT-AQB65N	▲ (178)	○ (-10)	▲ (178)	◎	ERNT-AQF8	
			Q65B	Required	5	▲ (71)	○ (-152)	▲ (68.4)	○ (-120)	ERNT-AQB55N	▲ (123)	○ (-10)	▲ (123)	◎	ERNT-AQF5	
			Q63B	Required	3	▲ (15)	○ (-152)	▲ (13)	○ (-120)	ERNT-AQB62	▲ (64)	○ (-10)	▲ (64)	◎	ERNT-AQF3	• The number of slots decreases from 4 to 3.
			Q55B	Not required	5	▲ (15)	○ (-152)	▲ (13)	○ (-120)	ERNT-AQB55N	▲ (123)	○ (-10)	▲ (123)	◎	ERNT-AQF5	
			Q52B	Not required	2	○ (-68)	○ (-152)	○ (-70.5)	○ (-120)	ERNT-AQB52	▲ (9)	○ (-10)	▲ (9)	◎	ERNT-AQF3	• The number of slots decreases from 4 to 2.

*1: Values in parentheses are differences in dimensions between the MELSEC-Q series base unit and the JW series base unit. (Unit: mm)
*2: Values in parentheses are differences in dimensions between the base adapter and the JW series base unit. (Unit: mm)

2) MELSEC-Q series large type base units

◎: Same dimensions, ○: JW series is larger, ▲: JW series is smaller

JW series base unit			MELSEC-Q series large type base unit							Remarks
Model	Power supply	Maximum No. of slots	Model	Power supply	Maximum No. of slots	Comparison*1 ([MELSEC-Q series] - [JW series])				
						External dimensions		Installation dimensions		
						Width	Height	Width	Height	
JW-13BU	Required	12	Q68BL	Required	8	○ (-14)	○ (-10)	○ (-14)	◎	• No Q series large type base unit has nine or more slots. • The number of slots decreases from 12 to 8. • Two existing installation holes (vertical direction) can be used.
	Not required	13	Q68BL	Required	8	○ (-14)	○ (-10)	○ (-14)	◎	• No Q series large type base unit has nine or more slots. • The number of slots decreases from 13 to 8. • Two existing installation holes (vertical direction) can be used.
JW-8BU	Required	7	Q68BL	Required	8	▲ (156)	○ (-10)	▲ (156)	◎	• Two existing installation holes (vertical direction) can be used.
	Not required	8	Q68BL	Required	8	▲ (156)	○ (-10)	▲ (156)	◎	
JW-6BU	Required	5	Q65BL	Required	6	▲ (110)	○ (-10)	▲ (110)	◎	
			Q55BL	Not required	5	▲ (55)	○ (-10)	▲ (55)	◎	
	Not required	6	Q68BL	Required	8	▲ (224)	○ (-10)	▲ (224)	◎	
			Q65BL	Required	6	▲ (110)	○ (-10)	▲ (110)	◎	
			Q55BL	Not required	5	▲ (55)	○ (-10)	▲ (55)	◎	• Two existing installation holes (vertical direction) can be used. • The number of slots decreases from 6 to 5.
JW-4BU	Required	3	Q65BL	Required	6	▲ (178)	○ (-10)	▲ (178)	◎	• Two existing installation holes (vertical direction) can be used.
			Q55BL	Not required	5	▲ (123)	○ (-10)	▲ (123)	◎	
	Not required	4	Q65BL	Required	6	▲ (178)	○ (-10)	▲ (178)	◎	
			Q55BL	Not required	5	▲ (123)	○ (-10)	▲ (123)	◎	

*1: Values in parentheses are differences in dimensions between the MELSEC-Q series large type base unit and the JW series base unit. (Unit: mm)

Slot positions

The slot positions differ between the new satellite JW series modules before replacement and the MELSEC-Q series modules after replacement. Change the slot positions of modules and adjust wiring lengths prior to use.

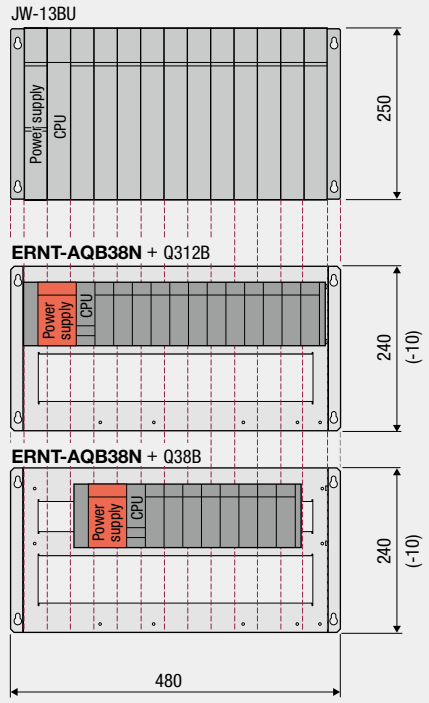
Note

Values in parentheses are differences in dimensions between the MELSEC-Q series base unit and the new satellite JW series base unit.

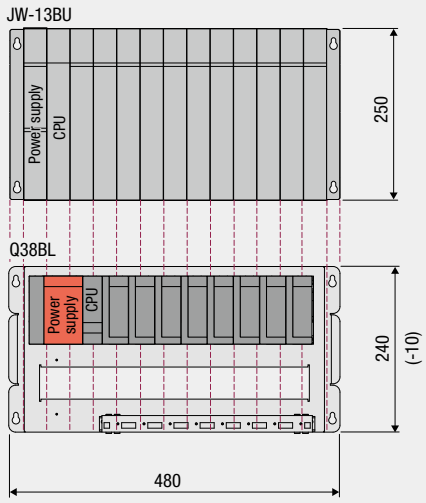
When a main base unit is replaced

(1) JW-13BU → ERNT-AQB38N + Q312B / ERNT-AQB38N + Q38B/Q38BL

Base adapter + MELSEC-Q series base unit — Unit: mm



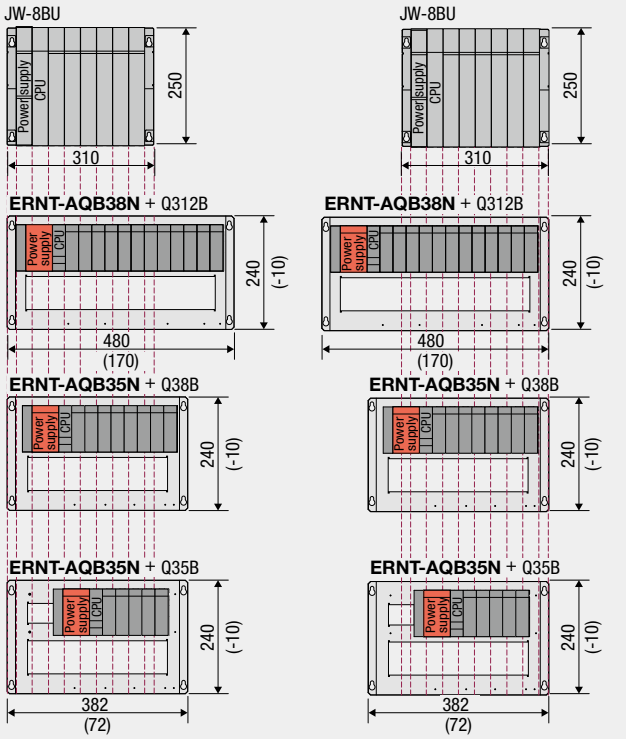
Q series large type base unit — Unit: mm



(2) JW-8BU → ERNT-AQB38N + Q312B / ERNT-AQB35N + Q38B / ERNT-AQB35N + Q35B / Q38BL / Q35BL

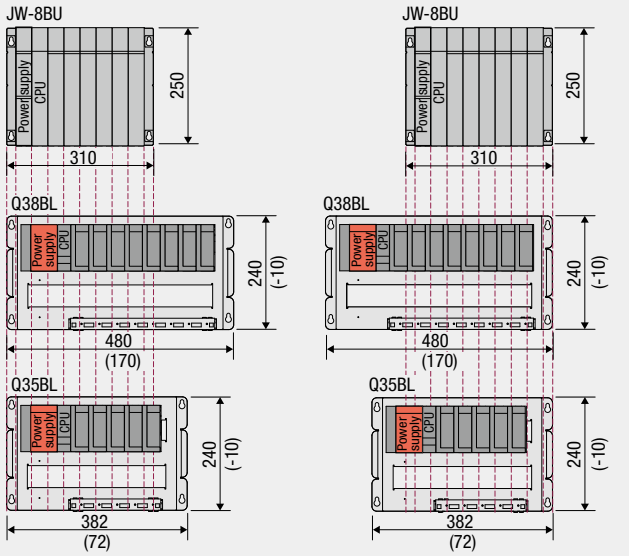
Base adapter + MELSEC-Q series base unit — Unit: mm

Left-aligned installation | **Right-aligned installation**



Q series large type base unit — Unit: mm

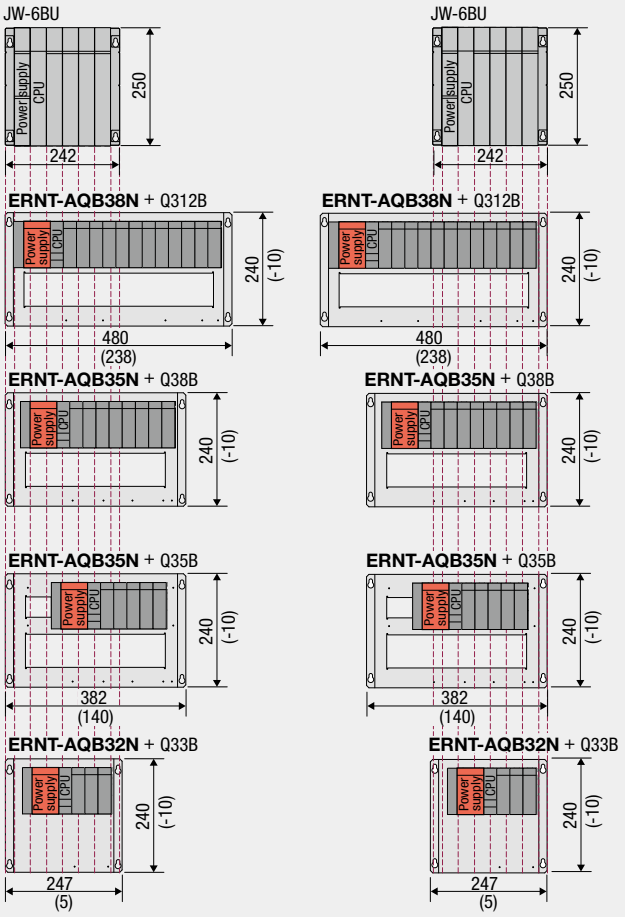
Left-aligned installation | **Right-aligned installation**



(3) JW-6BU → ERNT-AQB38N + Q312B / ERNT-AQB35N + Q38B / ERNT-AQB35N + Q35B / ERNT-AQB32N + Q33B / Q35BL

Base adapter + MELSEC-Q series base unit — Unit: mm

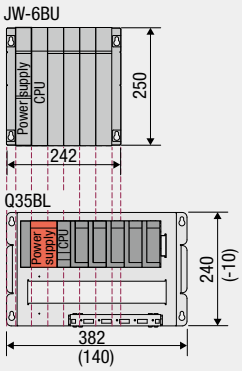
Left-aligned installation



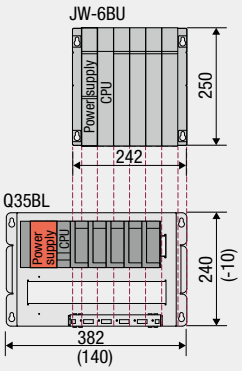
Right-aligned installation

Q series large type base unit — Unit: mm

Left-aligned installation



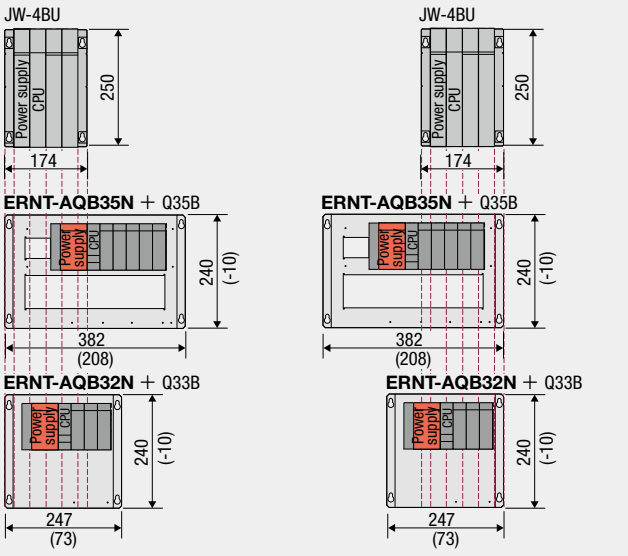
Right-aligned installation



(4) JW-4BU → ERNT-AQB35N + Q35B / ERNT-AQB32N + Q33B / Q35BL

Base adapter + MELSEC-Q series base unit — Unit: mm

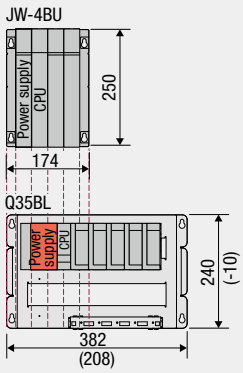
Left-aligned installation



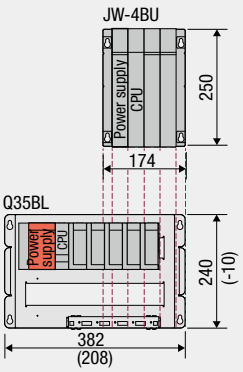
Right-aligned installation

Q series large type base unit — Unit: mm

Left-aligned installation



Right-aligned installation

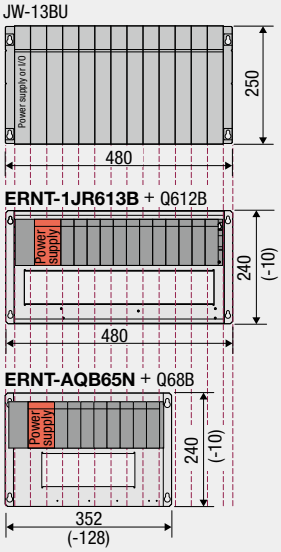


When an extension base unit is replaced

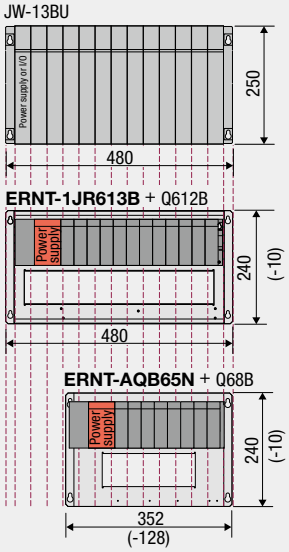
(1) JW-13BU → ERNT-1JR613B + Q612B / ERNT-AQB65N + Q68B / Q68BL

Base adapter + MELSEC-Q series base unit Unit: mm

Left-aligned installation

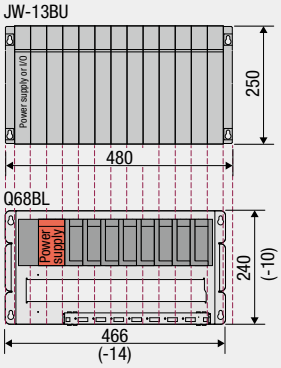


Right-aligned installation

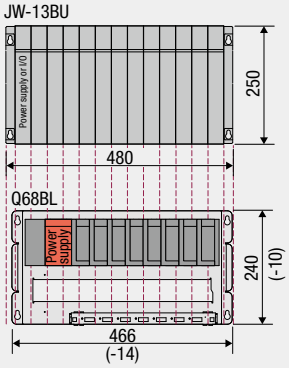


Q series large type base unit Unit: mm

Left-aligned installation



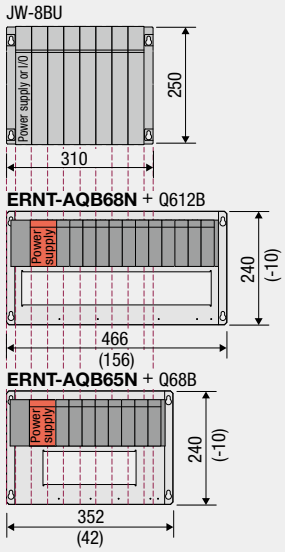
Right-aligned installation



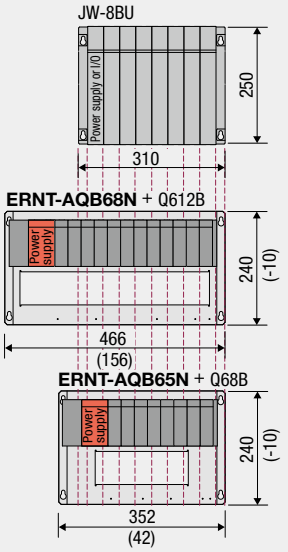
(2) JW-8BU → ERNT-AQB68N + Q612B / ERNT-AQB65N + Q68B / Q68BL

Base adapter + MELSEC-Q series base unit Unit: mm

Left-aligned installation

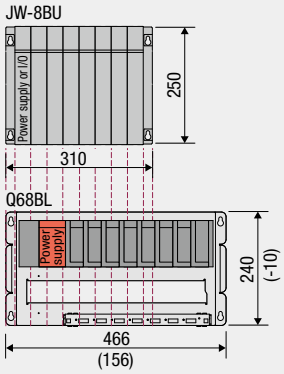


Right-aligned installation

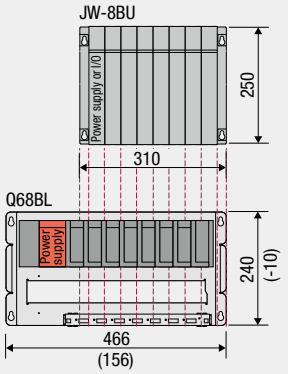


Q series large type base unit Unit: mm

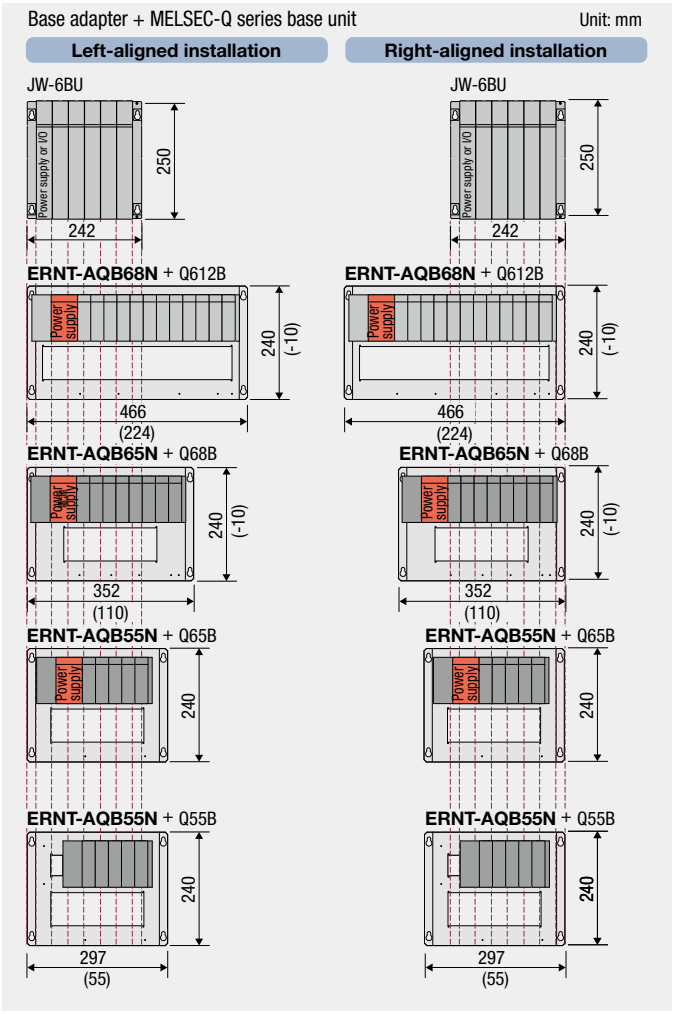
Left-aligned installation

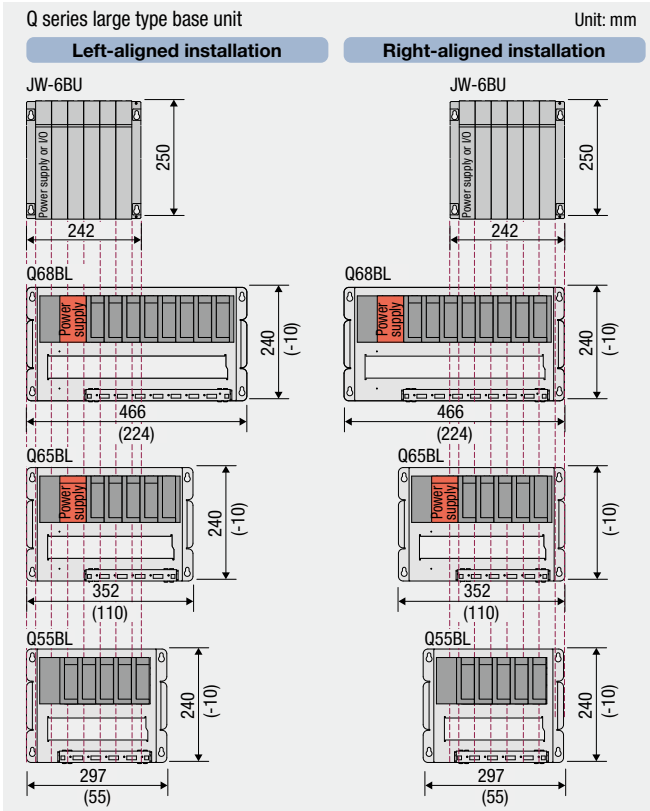


Right-aligned installation



(3) JW-6BU → ERNT-AQB68N + Q612B / ERNT-AQB65N + Q68B / ERNT-AQB55N + Q65B / ERNT-AQB55N + Q55B / Q68BL / Q65BL / Q55BL

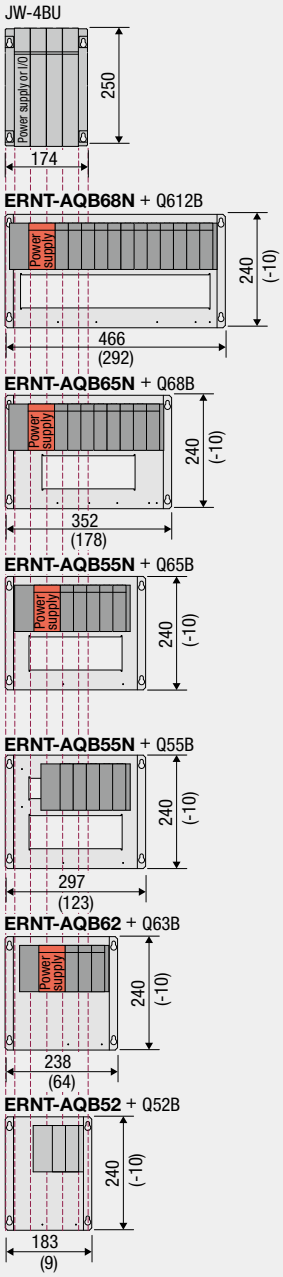




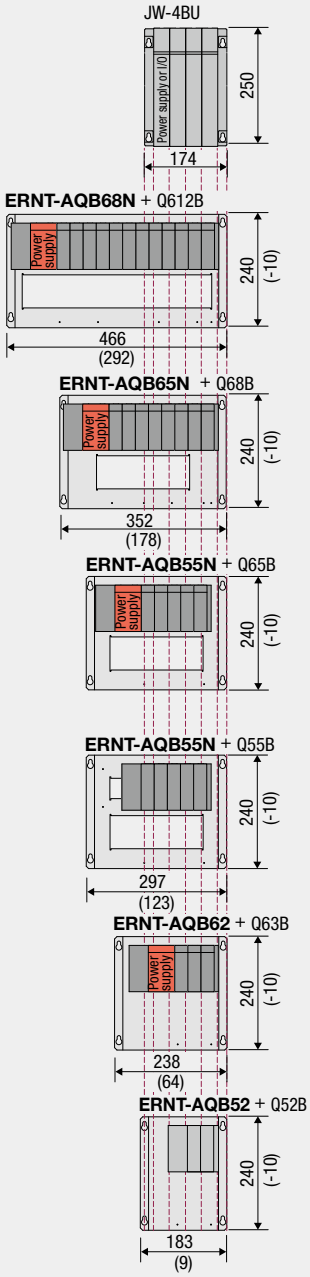
(4) JW-4BU → ERNT-AQB68N + Q612B / ERNT-AQB65N + Q68B / ERNT-AQB55N + Q65B / ERNT-AQB55N + Q55B / ERNT-AQB62 + Q63B / ERNT-AQB52 + Q52B / Q65BL / Q55BL

Base adapter + MELSEC-Q series base unit Unit: mm

Left-aligned installation

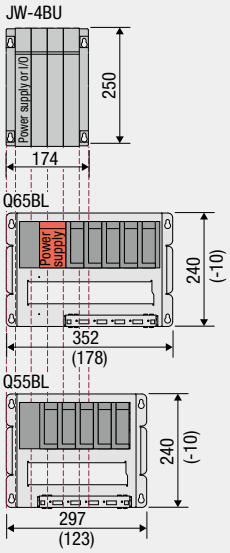


Right-aligned installation

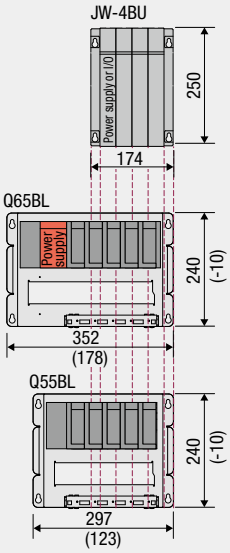


Q series large type base unit Unit: mm

Left-aligned installation



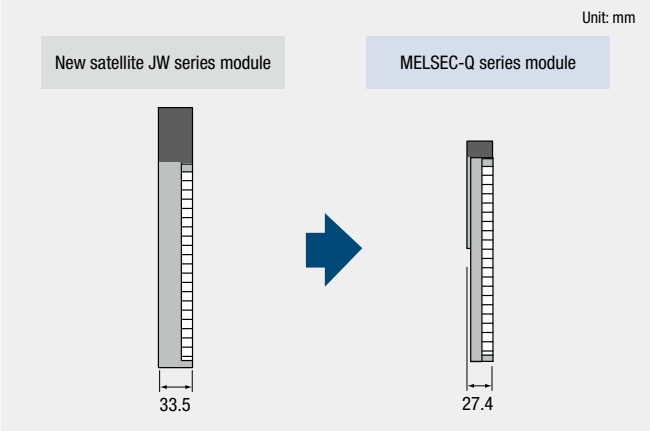
Right-aligned installation



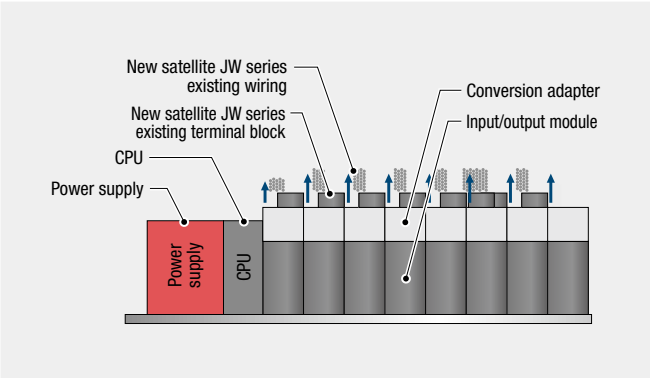
Precautions

Module width

(1) Since the width of MELSEC-Q series is smaller (new satellite JW series: 33.5mm → MELSEC-Q series: 27.4mm), the wiring area becomes smaller as well. Check the wiring area when mounting a conversion adapter.

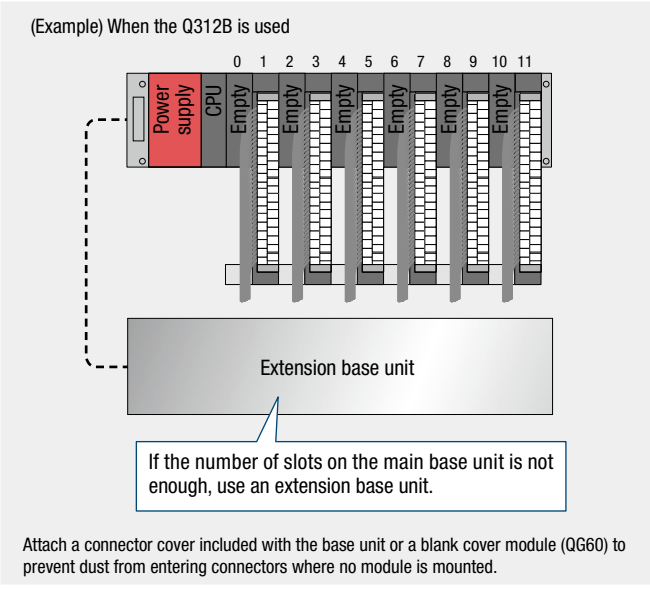


(2) If the wiring causes interference with adjacent modules, lift the cables forward to prevent interference.



(3) If interference still occurs, leave the next slot open to secure a space for wiring.

(Example) When the Q312B is used



Attach a connector cover included with the base unit or a blank cover module (QG60) to prevent dust from entering connectors where no module is mounted.

(4) If modules cannot be replaced in accordance with (2) and (3), consider the use of the Q series large type base unit manufactured by Mitsubishi Electric (wiring area: 37.5mm).
→ P.20
Note) 2-slot type conversion adapters cannot be used.

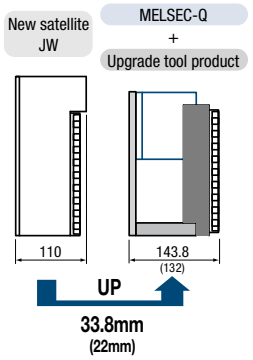
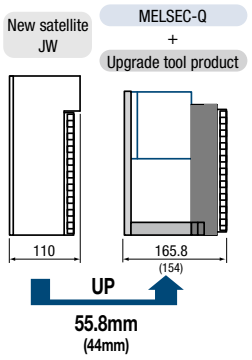
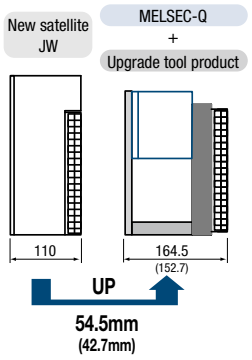
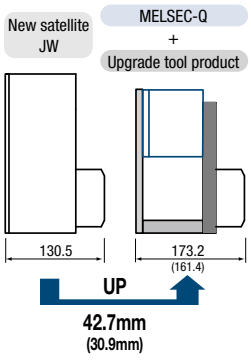
Depth

The depth from the panel surface after replacement is shown below. The depth from the panel surface increases. Check the depth when mounting a conversion adapter.
Values in parentheses (shorter by 11.8mm) are the dimensions when a base adapter is not used or when a standard base unit is used instead of a Q series large type base unit manufactured by Mitsubishi Electric.

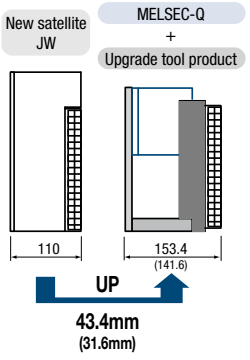
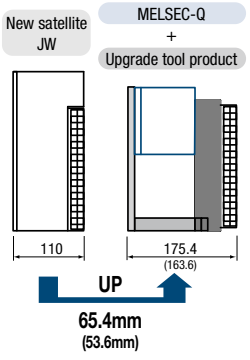
New satellite JW series: Base unit + Input/output module + Terminal block/connector
MELSEC-Q series + Upgrade tool product: Base adapter + Base unit + Input/output module + Conversion adapter + Terminal block/connector

1-slot type

New satellite JW : New Satellite JW series MELSEC-Q : MELSEC-Q series

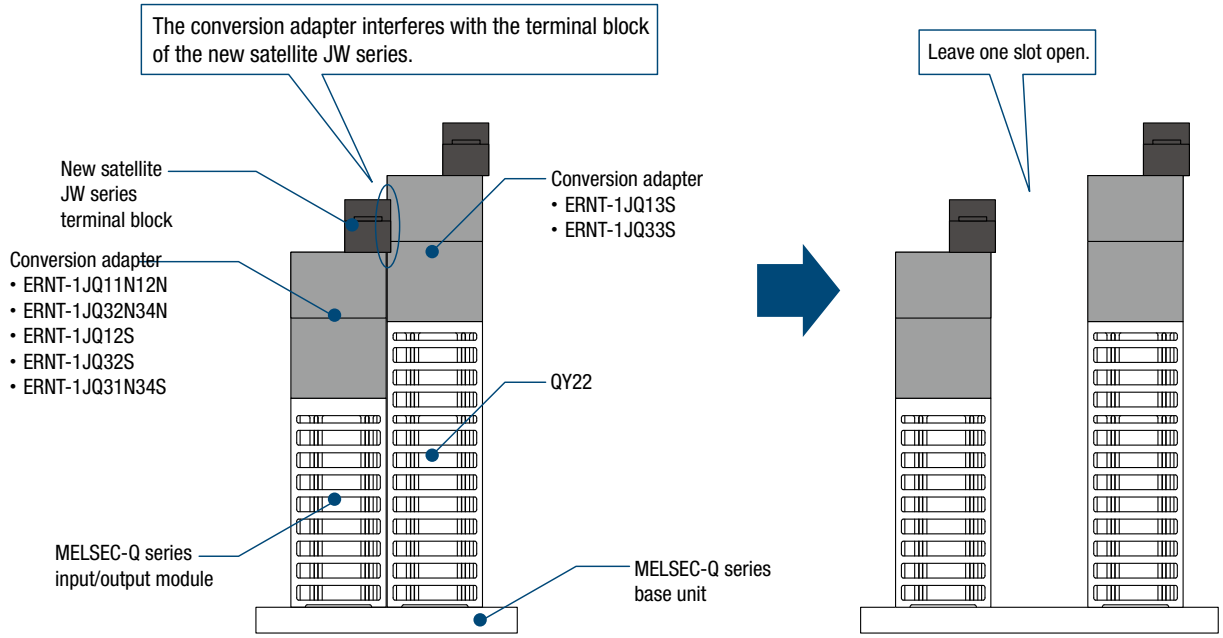
Conversion adapter	ERNT-1JQ11N12N ERNT-1JQ12S	ERNT-1JQ13S	ERNT-1JQ32N34N ERNT-1JQ32S	ERNT-1JQ64NC ERNT-1JQ32SC62SC
Depth	143.8mm (132mm)	165.8mm (154mm)	164.5mm (152.7mm)	173.2mm (161.4mm)
Mounting diagram				

2-slot type

Conversion adapter	ERNT-1JQ31N34S	ERNT-1JQ33S
Depth	153.4mm (141.6mm)	175.4mm (163.6mm)
Mounting diagram		

Check for interference with adjacent modules

If the wiring causes interference with adjacent modules as shown below, leave the next slot open to prevent interference.
Note that an open slot is not required when the MELSEC-Q series large type base unit is used because there is a gap between the modules.
*1: 2-slot type conversion adapters cannot be used.
*2: The following figure shows the replacement of the 1-slot type.



Conversion adapter support flange, base adapter

A conversion adapter support flange is always required when a conversion adapter is used. The use of a base adapter is recommended because the MELSEC-Q series can be installed using the new satellite JW series base unit installation holes. (Drilling of additional holes is minimized.)

Small type ▶ JW300/30H/20H

Model list

Conversion adapters

For the specifications of conversion adapters and modules before and after replacement, refer to user's manuals. (User's manuals can be downloaded from our website.)
Also, check that the modules satisfy the specifications of the devices currently connected.

For input/output modules

1-slot type (Applicable to MELSEC-Q series large type base units (MELSEC-AnS series size) (Q□□BLS, Q□□BLS-D) as well)

Input/ Output	New satellite JW series module before replacement	MELSEC-Q series module after replacement	Note	Conversion adapter			
				Model	Shape		No. of input/ output points
					New satellite JW series	MELSEC-Q series	
Input	JW-211N JW-211NA	QX10	-	ERNT-2JQ210NS	Terminal block (18 points)	Terminal block (18 points)	16
Output	JW-213S JW-213SA	QY22					
	JW-214S JW-214SA	QY10					
Input	JW-212N JW-212NA JW-214N JW-214NA	QX40, QX40-S1, QX70	*1				
		QX80	-	ERNT-2JQ212S			
Output	JW-212S JW-212SA	QY40P, QY50, QY70	*2				
Input	JW-234N	QX41, QX41-S1, QX41-S2, QX71	*3, *4	ERNT-2JQ234N264N	Connector (40P)	Connector (40P)	32
	JW-264N	QX41 × 2, QX41-S1 × 2, QX41-S2 × 2	*5, *6, *7	ERNT-2JQ234N264N × 2	Connector (40P) × 2	Connector (40P) × 2	32 × 2
Output	JW-232S	QY41H	-	ERNT-2JQ232S262S	Connector (40P)	Connector (40P)	32
	JW-262S	QY41H × 2	*7	ERNT-2JQ232S262S × 2	Connector (40P) × 2	Connector (40P) × 2	32 × 2

*1: If the existing module uses a different power supply for each 8-point group, consider rewiring to the QX40H or QX80H. When rewiring, consider using the ERNT-ASQTB20.
*2: For the QY40P and QY50, 12/24VDC is required additionally. For the QY70, 5/12VDC is required additionally.
*3: If the existing module uses 24VDC negative common, consider rewiring to the QX81 or QX81-S2.
*4: If the existing module uses a different power supply for each 16-point group, consider rewiring to two QX40s, two QX40-S1s, two QX70s, or two QX80s. When rewiring, consider using the ERNT-ASQTB20.
*5: Negative common input is not supported.
*6: If the existing module uses 24VDC negative common, consider rewiring to the QX82 or QX82-S1.
*7: For replacement, two conversion adapters are required.

Replacement using a universal conversion adapter ▶P.302

Input/output modules and analog/high-speed counter modules in the table below do not support the use of a conversion adapter. However, these modules can be replaced using a universal conversion adapter even though rewiring is required.

For input/output modules

Input/Output	New satellite JW series module before replacement				MELSEC-Q series module after replacement				Universal conversion adapter
	Model		Specifications	No. of points	Model	Specifications	No. of points	No. of required modules	
Input	JW-203N		200/240VAC	8	QX28	100 to 240VAC	8	1	Supported
	JW-201N		100/120VAC	8	QX28	100 to 240VAC	8	1	
	JW-202N		12/24VDC	8	QX40, QX40-S1	24VDC, positive common	16	1	
					QX70	5/12VDC, positive/negative common			
Output	JW-203S		100/200VAC	8	QY22	100 to 240VAC	16	1	
	JW-204S JW-204SA		250VAC/30VDC, 2A, independent	8	QY18A	240VAC/24VDC, 2A, independent	8	1	
	JW-202S		5/12/24VDC, sink type	8	QY68A	5 to 24VDC, 2A, independent, sink/source type	8	1	
	JW-215SA		5/12/24VDC, source type	16	QY80	12/24VDC, source type	16	1	
I/O combined	JW-232M	Input	12/24VDC	16	QH42P	24VDC, positive common	32	1	-
		Output	5/12/24VDC, sink type	16		12/24VDC, sink type	32		

For analog/high-speed counter modules

Input/Output	New satellite JW series module before replacement			MELSEC-Q series module after replacement				Universal conversion adapter
	Model	Specifications	No. of channels	Model	Specifications	No. of channels	No. of required modules	
Analog input	JW-24AD	0 to ±10VDC, 0 to ±20mADC, 13-bit signed binary	4	Q64AD	-10 to +10VDC, 0 to 20mADC, 16-bit signed binary	4	1	Supported
Analog output	JW-22DA	0 to ±10VDC, 0 to ±20mADC, 15-bit signed binary	2	Q62DAN	-10 to +10VDC, 0 to 20mADC, 16-bit signed binary	2	1	Supported
High-speed counter input	JW-21HC	60kpps, 32-bit binary	1	QD62	200/100/10kpps, 32-bit binary	2	1	-
	JW-22HC	240kpps, 32-bit binary	2	QD62	200/100/10kpps, 32-bit binary	2	1	

Base units manufactured by Mitsubishi Electric

Note

The base unit installation hole positions (four holes) differ between the new satellite JW series base units and the MELSEC -Q series base units. Drilling of additional holes to the control panel is required.

Base adapters

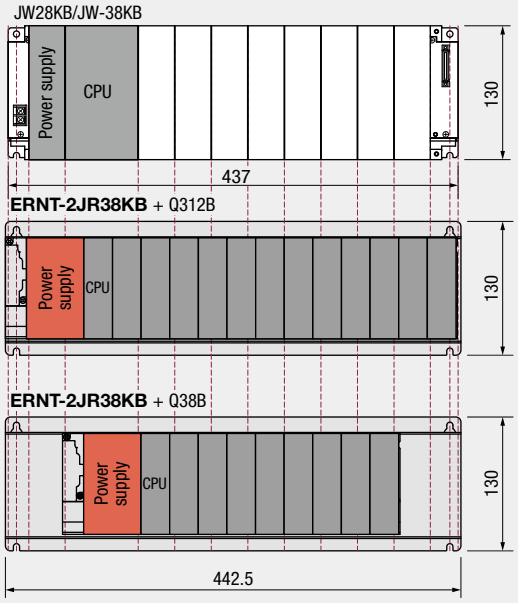
Type	New satellite JW series base unit before replacement	MELSEC-Q series base unit after replacement	Note	Base adapter model
Main	JW-28KB/JW-38KB	Q312B/Q38B	-	ERNT-2JR38KB
Main	JW-26KB/JW-36KB	Q38B	-	ERNT-2JR36KB38ZB
Extension	JW-28ZB/JW-38ZB	Q68B	-	
Main	JW-24KB/JW-34KB	Q35B	-	ERNT-2JR34KB
Main	JW-318KB	Q38B	-	ERNT-2JR318KB
Main	JW-316KB	Q38B	-	ERNT-2JR316KB36ZB
Extension	JW-26ZB/JW-36ZB	Q68B	-	
Main	JW-314KB	Q35B	-	ERNT-2JR314KB
Extension	JW-24ZB/JW-34ZB	Q65B/Q55B	-	ERNT-2JR34ZB

Slot positions

The slot positions differ between the new satellite JW series base units before replacement and the MELSEC-Q series base units after replacement. Change the slot positions of modules and adjust wiring lengths prior to use.

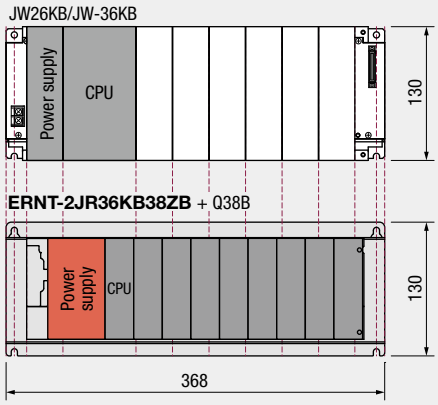
(1) JW-28KB/JW-38KB → ERNT-2JR38KB + Q312B/Q38B

Unit: mm



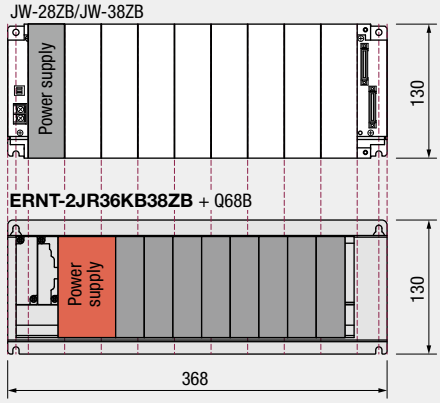
(2) JW-26KB/JW-36KB → ERNT-2JR36KB38ZB + Q38B

Unit: mm



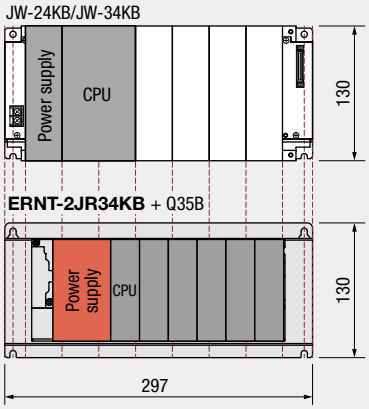
(3) JW-28ZB/JW-38ZB → ERNT-2JR36KB38ZB + Q68B

Unit: mm



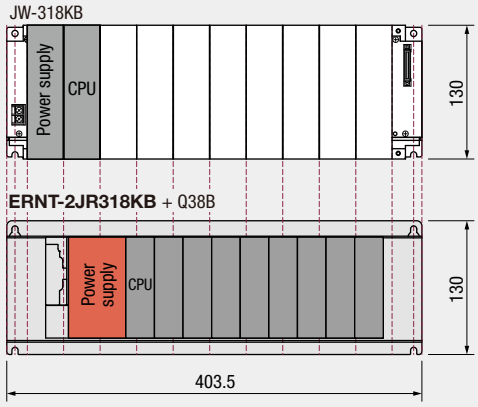
(4) JW-24KB/JW-34KB → ERNT-2JR34KB + Q35B

Unit: mm



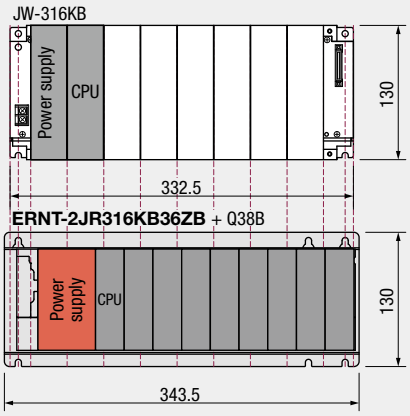
(5) JW-318KB → ERNT-2JR318KB + Q38B

Unit: mm



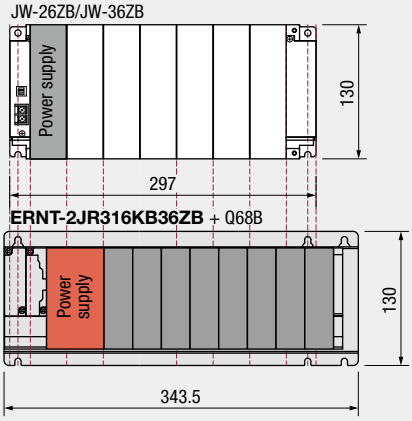
(6) JW-316KB → ERNT-2JR316KB36ZB + Q38B

Unit: mm



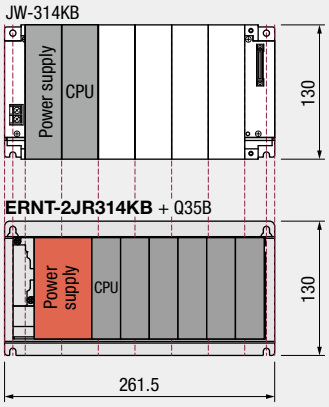
(7) JW-26ZB/JW-36ZB → ERNT-2JR316KB36ZB + Q68B

Unit: mm



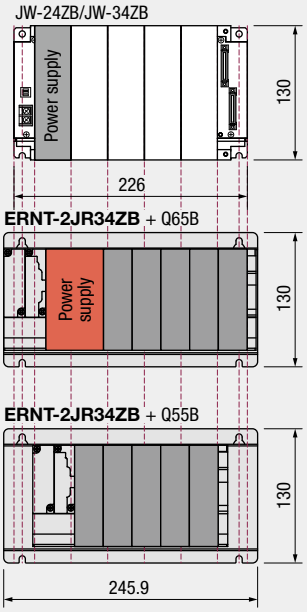
(8) JW-314KB → ERNT-2JR314KB + Q35B

Unit: mm



(9) JW-24ZB/JW-34ZB → ERNT-2JR34ZB + Q65B/Q55B

Unit: mm

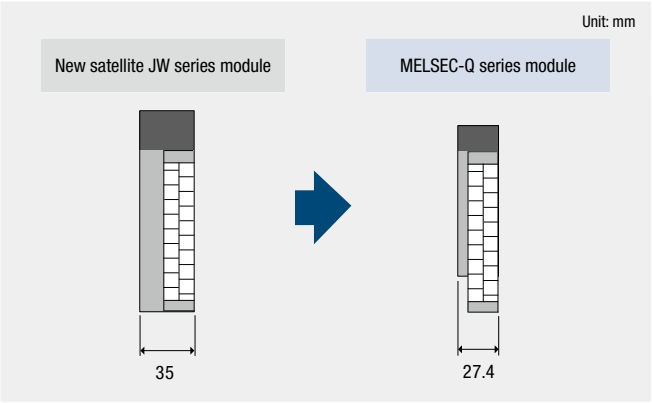


Precautions

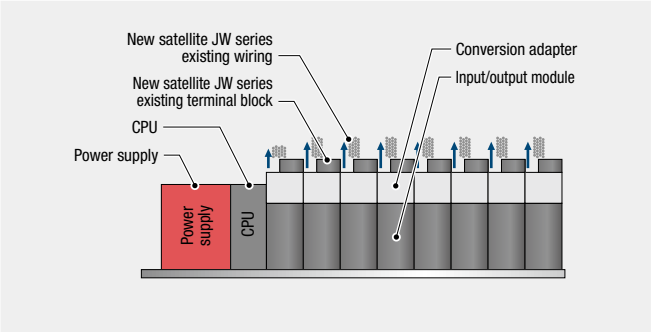
Module width

If the wiring causes interference with adjacent modules because of (1) below, the use of a Q series large type base unit (AnS series size) manufactured by Mitsubishi Electric (wiring area: 34.5mm) is recommended.

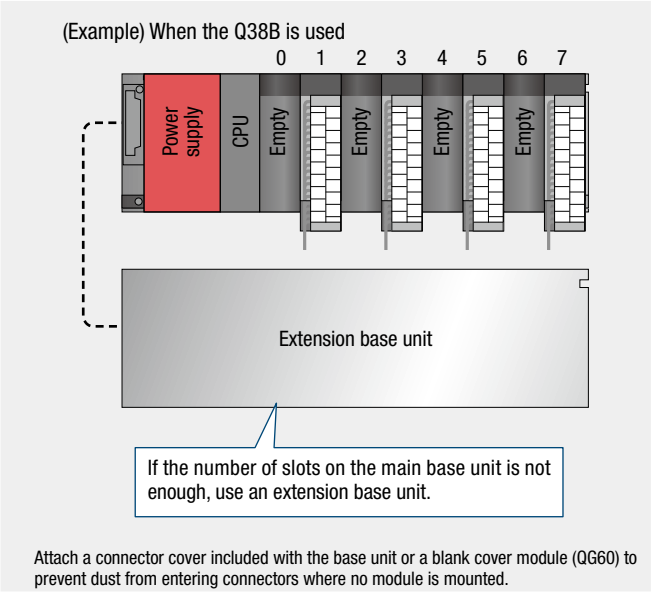
(1) Since the width of MELSEC-Q series is smaller (new satellite JW series: 35mm → MELSEC-Q series: 27.4mm), the wiring area becomes smaller as well. Check the wiring area when mounting a conversion adapter.



(2) If the wiring causes interference with adjacent modules, lift the cables forward to prevent interference.



(3) If interference still occurs, leave the next slot open to secure a space for wiring.



Attach a connector cover included with the base unit or a blank cover module (QG60) to prevent dust from entering connectors where no module is mounted.

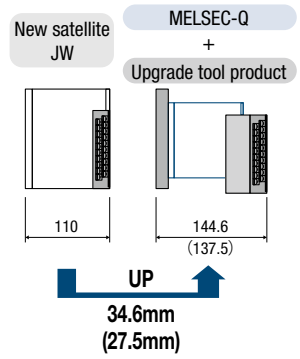
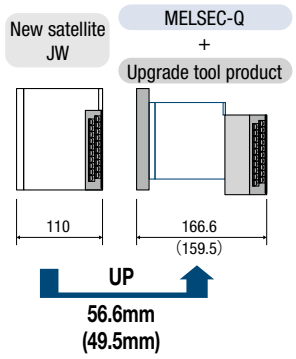
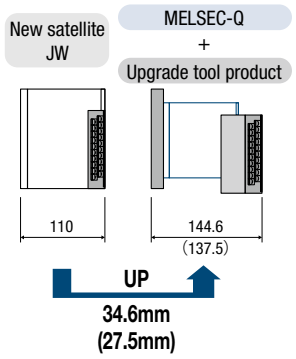
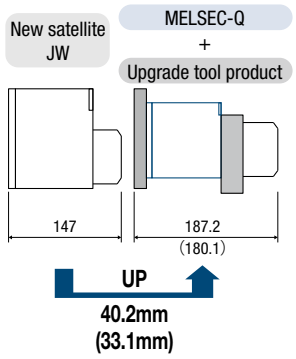
(4) If modules cannot be replaced in accordance with (2) and (3), consider the use of the extended temperature range base unit manufactured by Mitsubishi Electric. → P.19

Depth

The depth from the panel surface after replacement is shown below. The depth from the panel surface increases. Check the depth when mounting a conversion adapter.
Values in parentheses (shorter by 8.9mm) are the dimensions when a standard base unit is used instead of a Q series large type base unit (AnS series size) manufactured by Mitsubishi Electric.

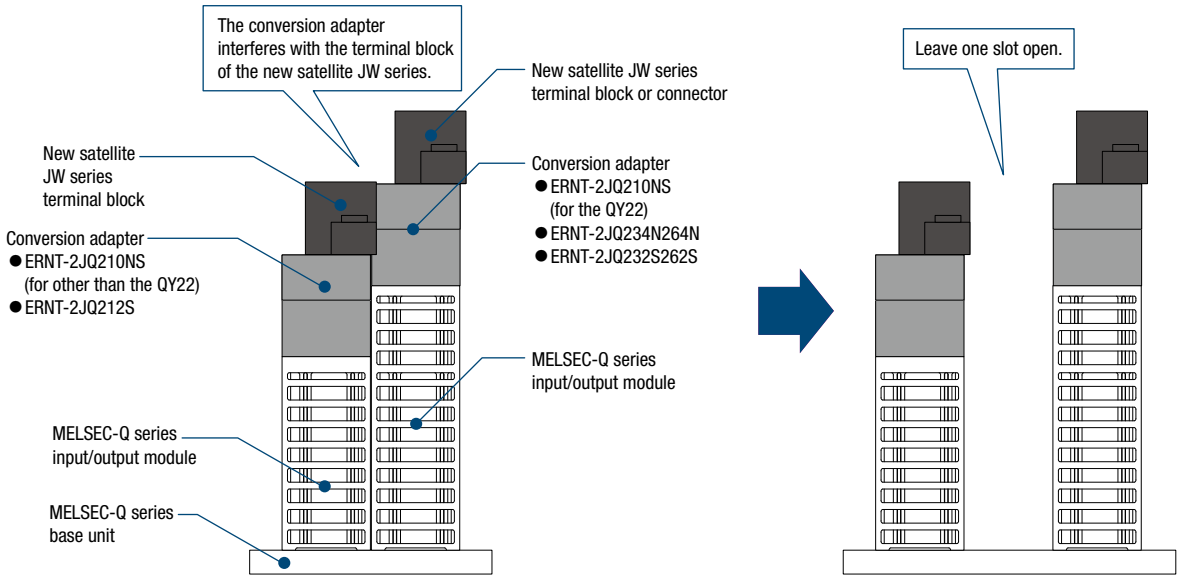
New satellite JW series: Base unit + Input/output module + Terminal block/connector
MELSEC-Q series + Upgrade tool product: Base adapter + Base unit + Input/output module + Conversion adapter + Terminal block/connector

New satellite JW : New Satellite JW series MELSEC-Q : MELSEC-Q series

Conversion adapter	ERNT-2JQ210NS		ERNT-2JQ212S	ERNT-2JQ234N264N ERNT-2JQ232S262S
MELSEC-Q series module	QX10/QX40/QX40-S1/ QX70/QY10	QY22	QY40P/QY50/QY70/QX80	QX41/QX41-S1/ QX41-S2/QX71/QY41H
Depth	144.6mm (137.5mm)	166.6mm (159.5mm)	144.6mm (137.5mm)	187.2mm (180.1mm)
Mounting diagram				

Check for interference with adjacent modules

The wiring may cause interference with adjacent modules. The use of a Q series large type base unit (AnS series size) is recommended.
If the MELSEC-Q series base unit is used and the wiring causes interference with adjacent modules as shown below, leave the next slot open to prevent interference.



MEMOCON-SC GL series → MELSEC iQ-R series

Large type ▶ 2000 series I/O

Model list

Conversion adapters

For the specifications of conversion adapters and modules before and after replacement, refer to user's manuals. (User's manuals can be downloaded from our website.)
Also, check that the modules satisfy the specifications of the devices currently connected.

For input/output modules

1-slot type

Input/Output	MEMOCON-SC GL series (2000 series I/O) module before replacement	MELSEC iQ-R series module after replacement	Note	Conversion adapter			
				Model	Shape		No. of input/output points
					MEMOCON-SC GL series (2000 series I/O)	MELSEC iQ-R series	
Input	JAMSC-B2501A	RX10	-	ERNT-1Y2R501500	Terminal block (20 points)	Terminal block (18 points)	16
	JAMSC-B2601	RX40C7, RX70C4	*1				
Output	JAMSC-B2500	RY20S6	-				
Input	JAMSC-B2603	RX41C4, RX41C6HS, RX71C4	*2, *3	ERNT-1JR32N34N	Terminal block (38 points)	Connector (40P)	32
	JAMSC-B2607	RX61C6HS, RX71C4	*2				
	JAMSC-B2605 JAMSC-B2615	RX41C4 × 2, RX41C6HS × 2, RX71C4 × 2	-	ERNT-2Y2R615625 × 2	Connector (40P) × 2	Connector (40P) × 2	64
	JAMSC-B2625	RX61C6HS × 2, RX71C4 × 2	-				
Output	JAMSC-B2600	RY40NT5P	-	ERNT-1Y2R600	Terminal block (20 points)	Terminal block (18 points)	16
	JAMSC-B2602A	RY41NT2P, RY41NT2H	*4	ERNT-1Y2R602606	Terminal block (38 points)	Connector (40P)	32
	JAMSC-B2606		-				
	JAMSC-B2604	RY41NT2P × 2	*5	ERNT-2CR218Y × 2	Connector (40P) × 2	Connector (40P) × 2	64

*1: If the existing module uses a different power supply for each 8-point group, consider rewiring to the RX40PC6H (24VDC, positive common) or the RX40NC6H (24VDC, negative common). When rewiring, consider using the ERNT-AQTB20-S1.
*2: A conversion adapter for replacing the SHARPJW series (large type) with the MELSEC iQ-R series is used.
*3: If the existing module uses a different power supply for each 8-point group, consider rewiring to two RX40PC6Hs (24VDC, positive common) or two RX40NC6Hs (24VDC, negative common). When rewiring, consider using the ERNT-AQTB20-S1.
*4: If the current capacity is not enough, consider rewiring to two RY40NT5Ps (12/24VDC, 0.5A/point, 16 points). When rewiring, consider using the ERNT-AQTB20-S1.
*5: A conversion adapter for replacing the OMRON SYSMAC C series with the MELSEC iQ-R series is used.

2-slot type (Not applicable to extended temperature range base units (R310B-HT, R610B-HT))

Input/Output	MEMOCON-SC GL series (2000 series I/O) module before replacement	MELSEC iQ-R series module after replacement	Note	Conversion adapter			
				Model	Shape		No. of input/output points
					2000 series I/O	MELSEC iQ-R series	
Input	JAMSC-B2505A	RX10 × 2	-	ERNT-1Y2R505	Terminal block (38 points)	Terminal block (18 points) × 2	32
Output	JAMSC-B2504	RY20S6 × 2	*6	ERNT-1JR33S			
	JAMSC-B2902	RY10R2 × 2	*6	ERNT-1JR31N34S			
	JAMSC-B2904	RY18R2A × 2	-	ERNT-1Y2R904914			16
	JAMSC-B2914						

*6: A conversion adapter for replacing the SHARPJW series (large type) with the MELSEC iQ-R series is used.

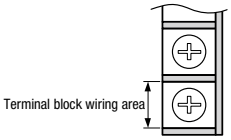
Replacement using a universal conversion adapter ▶P.280

Input/output modules in the table below do not support the use of a conversion adapter. However, these modules can be replaced using a universal conversion adapter even though rewiring is required.

Input/Output	MEMOCON-SC GL series (2000 series I/O) module model			MELSEC iQ-R series module model				Universal conversion adapter
	Model	Specifications	No. of points	Model	Specifications	No. of points	No. of required modules	
Input	JAMSC-B2503A	200VAC	16	RX28	100 to 240VAC	8	2	Supported
	JAMSC-B2507A	200VAC	32	RX28	100 to 240VAC	8	4	Supported
	JAMSC-B2611	48VDC	16	There is no applicable MELSEC iQ-R series module.				
Output	JAMSC-B2610	48VDC, sink type	16	There is no applicable MELSEC iQ-R series module.				
	JAMSC-B2630	12/24VDC, source type	16	RY40PT5P	12/24VDC, source type	16	1	Supported
	JAMSC-B2632	12/24VDC, source type	32	RY41PT1P	12/24VDC, source type	32	1	Supported

Reference: Terminal block specifications

Item	MEMOCON-SC GL series [large type] module before replacement	MELSEC iQ-R series module after replacement	Universal conversion adapter (large type)
Terminal block screw size	M3	M3	M3
Terminal block wiring area	7.2mm	6mm	7.2mm



Base adapters (recommended)

The same base adapters used to replace the MELSEC-A series with the MELSEC iQ-R series are used.
By using a base adapter, the MELSEC iQ-R series base unit and the conversion adapter support flange can be installed at the same time without drilling any additional installation holes.

Note

Two additional installation holes* (M5 screw size) and four M5 screws need to be prepared by the user to install the base adapter to the control panel.
(*: The installation hole pitch (vertical direction) of the base adapter is the same as that of the MEMOCON-SC GL series base unit. There may be a case that drilling of additional installation holes is not required if the installation hole pitches (vertical and horizontal directions) are the same before and after replacement. (Refer to P.202 and P.203.))

The base units (*1 to *3) can be installed to different types of base adapters. Select the optimum base adapter.

Model	Installable product						Dimensions
	MELSEC iQ-R series base unit					Conversion adapter support flange	Width × Height (mm)
	12-slot	10-slot	8-slot	5-slot	3-slot		
ERNT-AQB38N	R312B					ERNT-1AR12F	480 × 240
		R310B-HT				ERNT-1AR10F3	
			R38B*1			ERNT-1AR8F	
ERNT-AQB35N			R38B*1			ERNT-1AR8F	382 × 240
				R35B		ERNT-1AR5F	
ERNT-AQB32N					R33B	ERNT-1AR5F	247 × 240
ERNT-1JR613B	R612B					ERNT-1AR12F	480 × 240
		R610B-HT				ERNT-1AR10F6	
ERNT-AQB68N	R612B					ERNT-1AR12F	466 × 240
		R610B-HT				ERNT-1AR10F6	
			R68B*2			ERNT-1AR8F	
ERNT-AQB65N			R68B*2			ERNT-1AR8F	352 × 240
				R65B*3		ERNT-1AR5F	
ERNT-AQB58N			R68B*2			ERNT-1AR8F	411 × 240
ERNT-AQB55N				R65B*3		ERNT-1AR5F	297 × 240

Conversion adapter support flanges (required)

The same conversion adapter support flanges used to replace the MELSEC-A series with the MELSEC iQ-R series are used.
A conversion adapter support flange secures the lower part of a conversion adapter. One support flange is required per base unit when a conversion adapter is used.

Note

Three additional installation holes (M4 screw size) are required to install the conversion adapter support flange to the control panel.
When a base adapter is used, drilling of additional installation holes is not required.

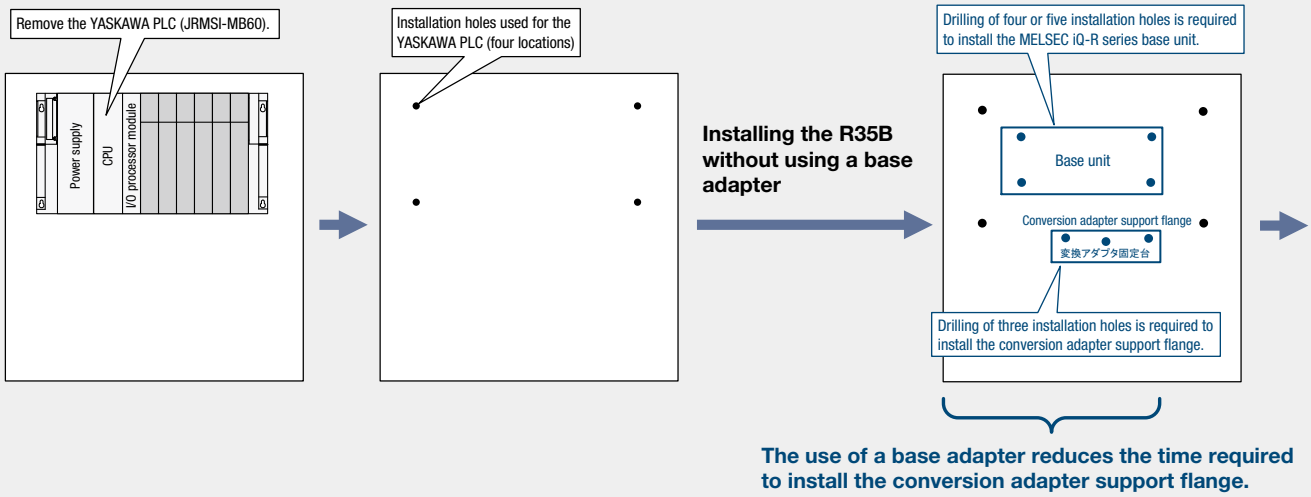
Model	Specifications	
ERNT-1AR12F	12-slot conversion adapter support flange	For main/extension base units
ERNT-1AR8F	8-slot conversion adapter support flange	
ERNT-1AR5F	5-slot conversion adapter support flange	
ERNT-1AR10F3	10-slot conversion adapter support flange	For the extended temperature range main base unit (R310B-HT)
ERNT-1AR10F6	10-slot conversion adapter support flange	For the extended temperature range extension base unit (R610B-HT)

Replacement using a base adapter

The use of a base adapter reduces the time required for drilling installation holes and eliminates the need for determining the installation position of the support flange.

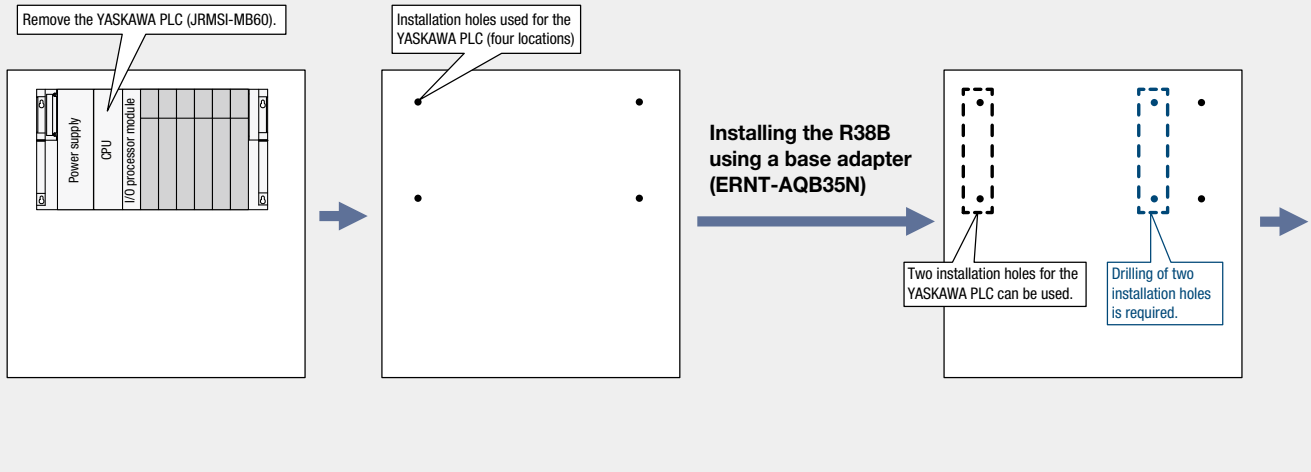
When a base adapter is not used

Seven or eight new installation holes are required. Also, the installation positions of the MELSEC iQ-R series base unit and the conversion adapter support flange need to be determined.

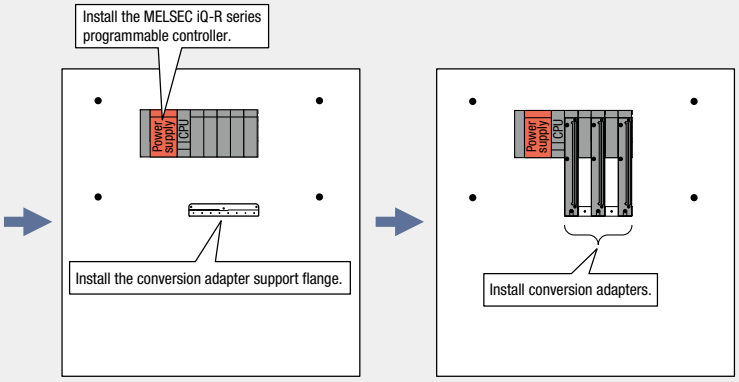


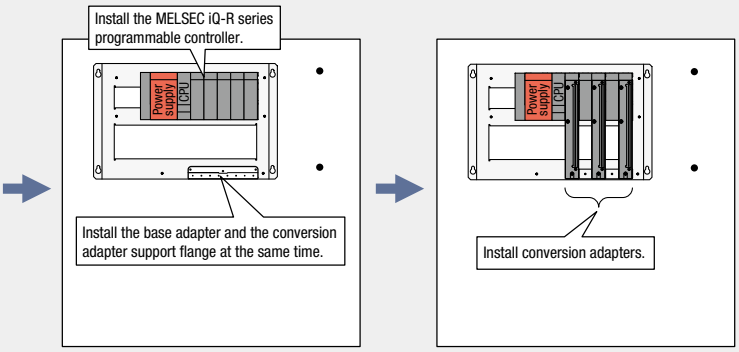
When a base adapter is used

The installation hole pitch (vertical direction) of the base adapter is the same as that of the MEMOCON-SC GL series base unit. Therefore, the number of additional installation holes to be drilled is two or less.
(There may be a case that drilling of additional installation holes is not required if the installation dimensions of all the four holes are the same before and after replacement.)
The following figure shows the installation when two existing installation holes on the left side are used for the base adapter.



For details, refer to "Installation dimensions" (P.221), "Comparison of external dimensions and installation hole pitches" (P.222), and "Slot positions" (P.224).


Install the MELSEC iQ-R series programmable controller.
Power supply
CPU
Install the conversion adapter support flange.
Power supply
CPU
Install conversion adapters.


Install the MELSEC iQ-R series programmable controller.
Power supply
CPU
Install the base adapter and the conversion adapter support flange at the same time.
Power supply
CPU
Install conversion adapters.

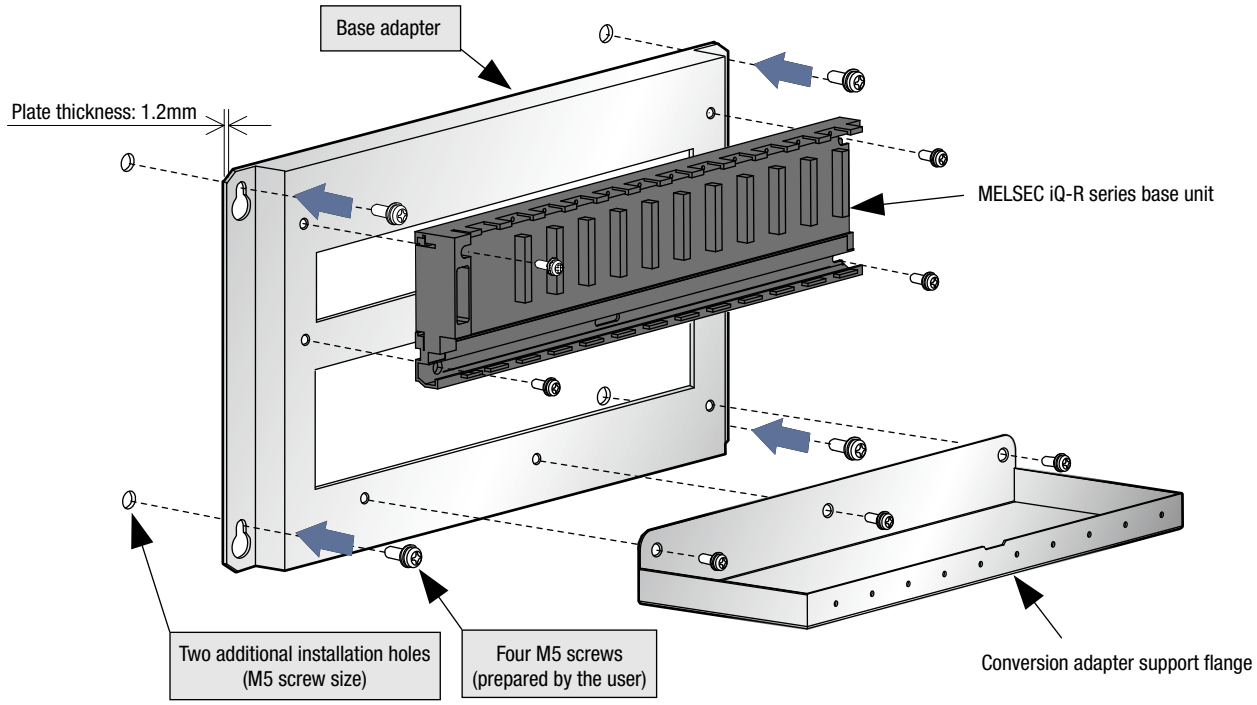
Base adapters (recommended)

Specifications

By using a base adapter, the MELSEC iQ-R series base unit and the conversion adapter support flange can be installed at the same time without drilling any additional installation holes.
The same base adapters used to replace the MELSEC-A series with the MELSEC iQ-R series are used.

Note

- Two additional installation holes (M5 screw size) and four M5 screws need to be prepared by the user to install the base adapter to the control panel.
  (There may be a case that drilling of additional installation holes is not required if the installation dimensions of all the four holes are the same before and after replacement.)



The base units (*1 to *3) can be installed to different types of base adapters. Select the optimum base adapter.

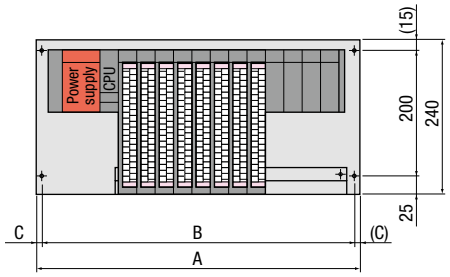
Base adapter model	Installable product						Dimensions
	MELSEC iQ-R series base unit					Conversion adapter support flange	Width × Height (mm)
	12-slot	10-slot	8-slot	5-slot	3-slot		
ERNT-AQB38N	R312B					ERNT-1AR12F	480 × 240
		R310B-HT				ERNT-1AR10F3	
			R38B*1			ERNT-1AR8F	
ERNT-AQB35N			R38B*1			ERNT-1AR8F	382 × 240
				R35B		ERNT-1AR5F	
ERNT-AQB32N					R33B	ERNT-1AR5F	247 × 240
ERNT-1JR613B	R612B					ERNT-1AR12F	480 × 240
		R610B-HT				ERNT-1AR10F6	
ERNT-AQB68N	R612B					ERNT-1AR12F	466 × 240
		R610B-HT				ERNT-1AR10F6	
			R68B*2			ERNT-1AR8F	
ERNT-AQB65N			R68B*2			ERNT-1AR8F	352 × 240
				R65B*3		ERNT-1AR5F	
ERNT-AQB58N			R68B*2			ERNT-1AR8F	411 × 240
ERNT-AQB55N				R65B*3		ERNT-1AR5F	297 × 240

Installation dimensions

- The slot positions differ between the MEMOCON-SC GL series modules (2000 series I/O) before replacement and the MELSEC iQ-R series modules after replacement. Adjust wiring lengths prior to use.
- Compared to the MEMOCON-SC GL series (2000 series I/O), the height is shorter after replacement.
  (For details on the width and depth of the module, refer to "Precautions" (P.230).)
- The existing two installation holes (out of four) of the MEMOCON-SC GL series (2000 series I/O) base unit can be used for the base adapter. Drilling of two additional installation holes is required.
  (There may be a case that drilling of additional installation holes is not required if the installation dimensions of all the four holes are the same before and after replacement.)

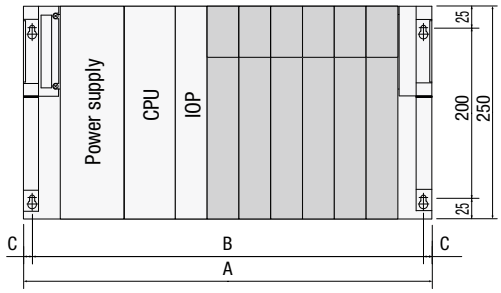
◎ Base adapter + MELSEC iQ-R series base unit

Unit: mm



Base adapter model	Description	A	B	C	Installation hole screw size
ERNT-AQB38N	Main base unit	480	460	10	M5
ERNT-AQB35N		382	362	10	
ERNT-AQB32N		247	227	10	
ERNT-1JR613B	Extension base unit	480	460	10	
ERNT-AQB68N		466	446	10	
ERNT-AQB65N		352	332	10	
ERNT-AQB58N		411	391	10	
ERNT-AQB55N		297	277	10	

◎ (Reference) MEMOCON-SC GL series (2000 series I/O) base unit



GL series base unit model	Description	A	B	C	Installation hole screw size
JRMSI-MB40	Main base unit	480	460	10	M5
JRMSI-MB60		480	460	10	
JRMSI-MB60S3		370	350	10	
JRMSI-MB70	Main base unit (for remote stations)	480	460	10	
JRMSI-MB70AS4		340	320	10	
JRMSI-MB70AS2		255	235	10	
JRMSI-MB22/JRMSI-MB22A	Extension base unit	480	460	10	
JRMSI-MB22AS6		370	350	10	
JRMSI-MB22S5		340	320	10	
JRMSI-MB22S3		255	235	10	

Comparison of external dimensions and installation hole pitches

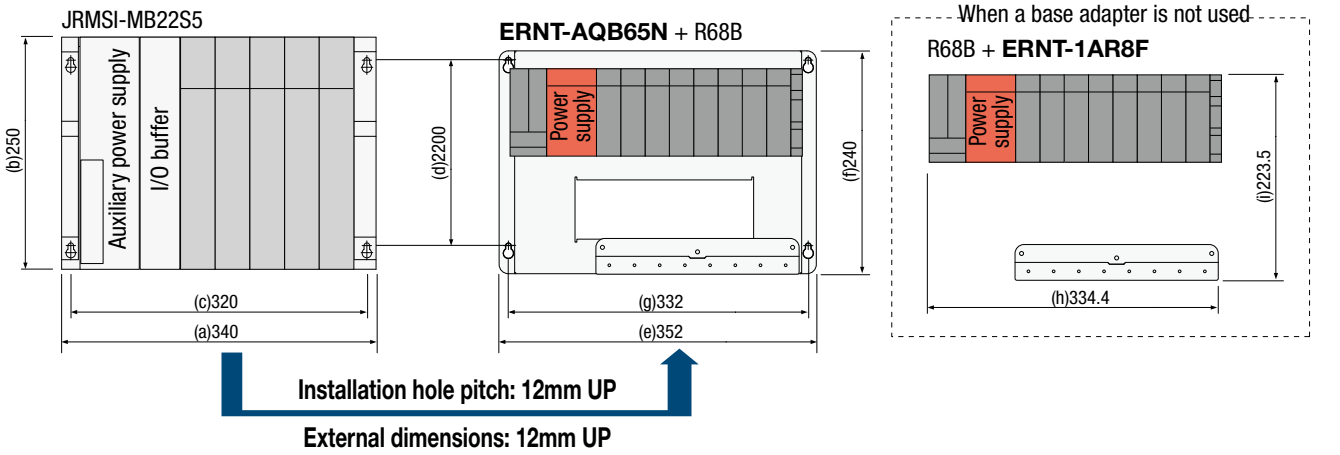
Use the following tables to check the differences of external dimensions and installation hole pitches before and after replacement.

Note

- "▲" in the tables indicates an increase of the external dimensions after replacement as shown in the example below. The installation position needs to be reconsidered.
- If the number of slots on the main base unit is not enough, use an extension base unit.
- If the MEMOCON-SC GL series (2000 series I/O) model being used is not listed here, check the number of slots, external dimensions, installation hole pitches, and other specifications. Then, select the optimum base adapter.

(Example) When the MEMOCON-SC GL series (2000 series I/O) (JRMSI-MB22S5) is replaced with the MELSEC iQ-R series using a base adapter (ERNT-AQB65N) or not using a base adapter

Unit: mm



Main base units

◎: Same dimensions, ○: GL series is larger, ▲: GL series is smaller

	GL series base unit			MELSEC iQ-R series base unit + Conversion adapter support flange (when a base adapter is not used)					When a base adapter is used					Conversion adapter support flange	Remarks
	Model	Power supply	Maximum No. of slots	Model	Power supply	Maximum No. of slots	Comparison*1 External dimensions Width (h) - (a)	Comparison*1 External dimensions Height (i) - (b)	Model	Comparison*1 External dimensions Width (e) - (a)	Comparison*1 External dimensions Height (f) - (b)	Installation hole pitch*2 Width (g) - (c)	Installation hole pitch*2 Height (d)		
(1)	JRMSI-MB40	Required	8	R312B	Required	12	○ (-32.8)	○ (-26.5)	ERNT-AQB38N	◎	○ (-10)	◎	◎	ERNT-1AR12F	When a base adapter is used, drilling of additional holes is not required.
				R310B-HT	Required	10	○ (-32.8)	○ (-26.5)	ERNT-AQB38N	◎	○ (-10)	◎	◎	ERNT-1AR10F3	
				R38B	Required	8	○ (-145.6)	○ (-26.5)	ERNT-AQB38N	◎	○ (-10)	◎	◎	ERNT-1AR8F	
				R35B	Required	5	○ (-230.2)	○ (-26.5)	ERNT-AQB35N	○ (-98)	○ (-10)	○ (-98)	◎	ERNT-1AR5F	When a base adapter is used, two existing installation holes (vertical direction) can be used.
				R33B	Required	3	○ (-230.2)	○ (-26.5)	ERNT-AQB32N	○ (-233)	○ (-10)	○ (-233)	◎	ERNT-1AR5F	
(2)	JRMSI-MB60	Required	6	R312B	Required	12	○ (-32.8)	○ (-26.5)	ERNT-AQB38N	◎	○ (-10)	◎	◎	ERNT-1AR12F	When a base adapter is used, drilling of additional holes is not required.
				R310B-HT	Required	10	○ (-32.8)	○ (-26.5)	ERNT-AQB38N	◎	○ (-10)	◎	◎	ERNT-1AR10F3	
				R38B	Required	8	○ (-145.6)	○ (-26.5)	ERNT-AQB38N	◎	○ (-10)	◎	◎	ERNT-1AR8F	
				R35B	Required	5	○ (-230.2)	○ (-26.5)	ERNT-AQB35N	○ (-98)	○ (-10)	○ (-98)	◎	ERNT-1AR5F	When a base adapter is used, two existing installation holes (vertical direction) can be used.
				R33B	Required	3	○ (-230.2)	○ (-26.5)	ERNT-AQB32N	○ (-233)	○ (-10)	○ (-233)	◎	ERNT-1AR5F	
(3)	JRMSI-MB60S3	Required	1	R33B	Required	3	○ (-120.2)	○ (-26.5)	ERNT-AQB32N	○ (-123)	○ (-10)	○ (-123)	◎	ERNT-1AR5F	

	GL series base unit			MELSEC iQ-R series base unit + Conversion adapter support flange (when a base adapter is not used)					When a base adapter is used					Conversion adapter support flange	Remarks
	Model	Power supply	Maximum No. of slots	Model	Power supply	Maximum No. of slots	Comparison*1 External dimensions Width (h) - (a)	Comparison*1 External dimensions Height (i) - (b)	Model	Comparison*1 External dimensions Width (e) - (a)	Comparison*1 External dimensions Height (f) - (b)	Comparison*1 Installation hole pitch*2 Width (g) - (c)	Comparison*1 Installation hole pitch*2 Height (d)		
(4)	JRMSI-MB70	Required	8	R312B	Required	12	○ (-32.8)	○ (-26.5)	ERNT-AQB38N	◎	○ (-10)	◎	◎	ERNT-1AR12F	When a base adapter is used, drilling of additional holes is not required.
				R310B-HT	Required	10	○ (-32.8)	○ (-26.5)	ERNT-AQB38N	◎	○ (-10)	◎	◎	ERNT-1AR10F3	
				R38B	Required	8	○ (-145.6)	○ (-26.5)	ERNT-AQB38N	◎	○ (-10)	◎	◎	ERNT-1AR8F	
				R35B	Required	5	○ (-230.2)	○ (-26.5)	ERNT-AQB35N	○ (-98)	○ (-10)	○ (-98)	◎	ERNT-1AR5F	When a base adapter is used, two existing installation holes (vertical direction) can be used.
				R33B	Required	3	○ (-230.2)	○ (-26.5)	ERNT-AQB32N	○ (-233)	○ (-10)	○ (-233)	◎	ERNT-1AR5F	
(5)	JRMSI-MB70AS4	Required	4	R312B	Required	12	▲ (107.2)	○ (-26.5)	ERNT-AQB38N	▲ (140)	○ (-10)	▲ (140)	◎	ERNT-1AR12F	
				R310B-HT	Required	10	▲ (107.2)	○ (-26.5)	ERNT-AQB38N	▲ (140)	○ (-10)	▲ (140)	◎	ERNT-1AR10F3	
				R38B	Required	8	○ (-5.6)	○ (-26.5)	ERNT-AQB38N	▲ (140)	○ (-10)	▲ (140)	◎	ERNT-1AR8F	
				R35B	Required	5	○ (-90.2)	○ (-26.5)	ERNT-AQB35N	▲ (42)	○ (-10)	▲ (42)	◎	ERNT-1AR5F	
				R33B	Required	3	○ (-90.2)	○ (-26.5)	ERNT-AQB32N	○ (-93)	○ (-10)	○ (-93)	◎	ERNT-1AR5F	
(6)	JRMSI-MB70AS2	Required	2	R35B	Required	5	○ (-5.2)	○ (-26.5)	ERNT-AQB35N	▲ (127)	○ (-10)	▲ (127)	◎	ERNT-1AR5F	
				R33B	Required	3	○ (-5.2)	○ (-26.5)	ERNT-AQB32N	○ (-8)	○ (-10)	○ (-8)	◎	ERNT-1AR5F	

*1: Values in parentheses are differences in dimensions between the MELSEC iQ-R series base unit and the GL series base unit. (Unit: mm)
*2: The difference in dimension equals to the distance between installation holes. When installing the MELSEC iQ-R series base unit using the existing installation hole(s) (at least one) of the GL series base unit, it is difficult or impossible to drill new holes as the difference value becomes closer to zero.

Extension base units

◎: Same dimensions, ○: GL series is larger, ▲: GL series is smaller

	GL series base unit			MELSEC iQ-R series base unit + Conversion adapter support flange(when a base adapter is not used)					When a base adapter is used					Conversion adapter support flange	Remarks
	Model	Power supply	Maximum No. of slots	Model	Power supply	Maximum No. of slots	Comparison*1 External dimensions Width (h) - (a)	Comparison*1 External dimensions Height (i) - (b)	Model	Comparison*1 External dimensions Width (e) - (a)	Comparison*1 External dimensions Height (f) - (b)	Comparison*1 Installation hole pitch*2 Width (g) - (c)	Comparison*1 Installation hole pitch*2 Height (d)		
(1)	JRMSI-MB22/ JRMSI-MB22A	Required	9	R612B	Required	12	○ (-32.8)	○ (-26.5)	ERNT-1JR613B	◎	○ (-10)	◎	◎	ERNT-1AR12F	When a base adapter is used, drilling of additional holes is not required.
				R610B-HT	Required	10	○ (-32.8)	○ (-26.5)	ERNT-1JR613B	◎	○ (-10)	◎	◎	ERNT-1AR10F6	
				R68B	Required	8	○ (-145.6)	○ (-26.5)	ERNT-AQB65N	○ (-128)	○ (-10)	○ (-128)	◎	ERNT-1AR8F	When a base adapter is used, two existing installation holes (vertical direction) can be used.
(2)	JRMSI-MB22AS6	Required	6	R612B	Required	12	▲ (77.2)	○ (-26.5)	ERNT-AQB68N	▲ (96)	○ (-10)	▲ (96)	◎	ERNT-1AR12F	
				R610B-HT	Required	10	▲ (77.2)	○ (-26.5)	ERNT-AQB68N	▲ (96)	○ (-10)	▲ (96)	◎	ERNT-1AR10F6	
				R68B	Required	8	○ (-35.6)	○ (-26.5)	ERNT-AQB65N	○ (-18)	○ (-10)	○ (-18)	◎	ERNT-1AR8F	
(3)	JRMSI-MB22S5	Required	5	R612B	Required	12	▲ (107.2)	○ (-26.5)	ERNT-AQB68N	▲ (126)	○ (-10)	▲ (126)	◎	ERNT-1AR12F	
				R610B-HT	Required	10	▲ (107.2)	○ (-26.5)	ERNT-AQB68N	▲ (126)	○ (-10)	▲ (126)	◎	ERNT-1AR10F6	
				R68B	Required	8	○ (-5.6)	○ (-26.5)	ERNT-AQB65N	▲ (12)	○ (-10)	▲ (12)	◎	ERNT-1AR8F	
				R65B	Required	5	○ (-90.2)	○ (-26.5)	ERNT-AQB55N	○ (-43)	○ (-10)	○ (-43)	◎	ERNT-1AR5F	
(4)	JRMSI-MB22S3	Required	3	R68B	Required	8	▲ (79.4)	○ (-26.5)	ERNT-AQB65N	▲ (97)	○ (-10)	▲ (97)	◎	ERNT-1AR8F	
				R65B	Required	5	○ (-5.2)	○ (-26.5)	ERNT-AQB55N	▲ (42)	○ (-10)	▲ (42)	◎	ERNT-1AR5F	

*1: Values in parentheses are differences in dimensions between the MELSEC iQ-R series base unit and the GL series base unit. (Unit: mm)
*2: The difference in dimension equals to the distance between installation holes. When installing the MELSEC iQ-R series base unit using the existing installation hole(s) (at least one) of the GL series base unit, it is difficult or impossible to drill new holes as the difference value becomes closer to zero.

Slot positions

The slot positions differ between the MEMOCON-SC GL series (2000 series I/O) modules before replacement and the MELSEC iQ-R series modules after replacement. Change the slot positions of modules and adjust wiring lengths prior to use.

Note

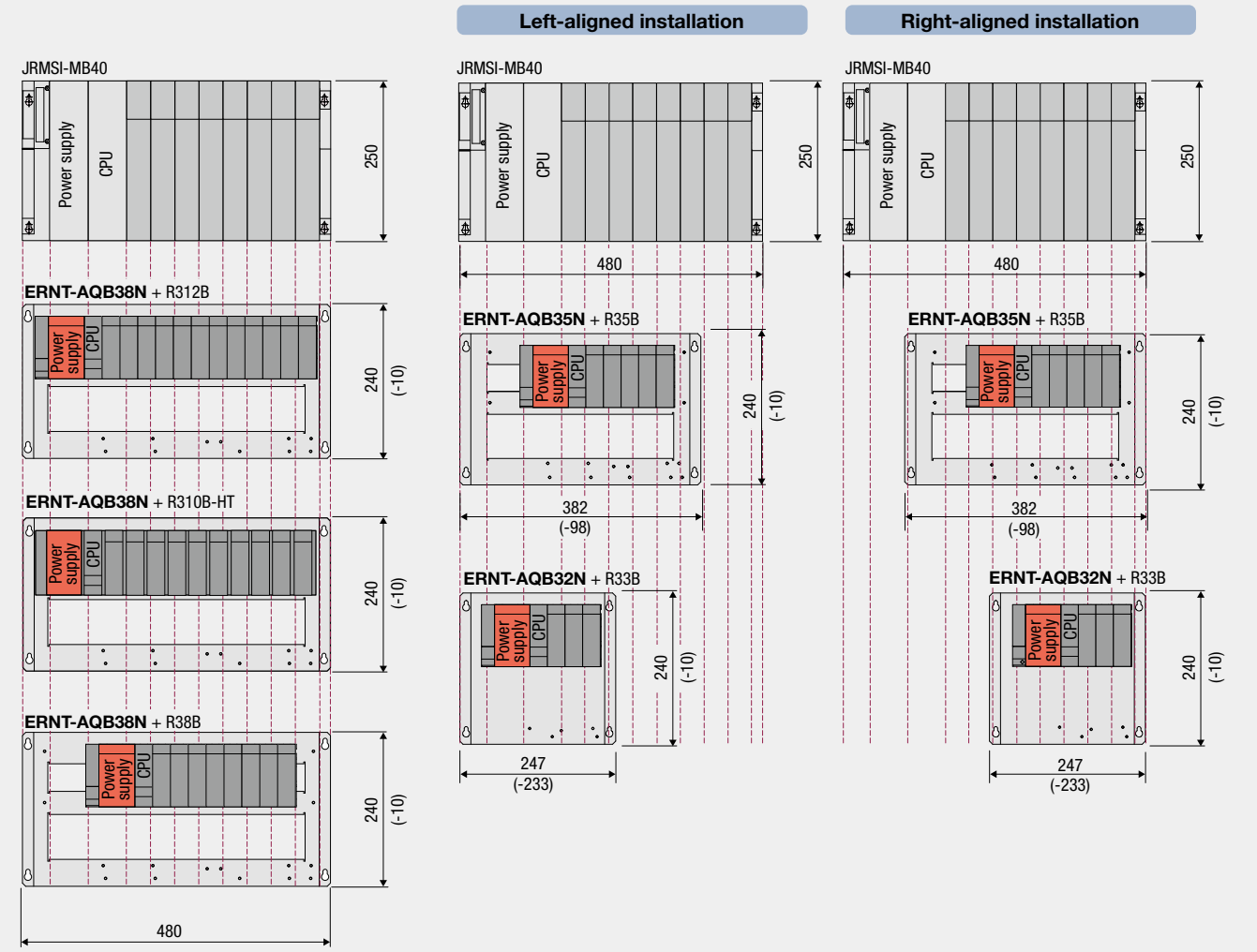
Values in parentheses are differences in dimensions between the MELSEC iQ-R series base unit and the MEMOCON-SC GL series (2000 series I/O) base unit.

When a main base unit is replaced

(1) JRMSI-MB40 → ERNT-AQB38N+R312B / ERNT-AQB38N+R310B-HT / ERNT-AQB38N+R38B / ERNT-AQB35N+R35B / ERNT-AQB32N+R33B

Base adapter + MELSEC iQ-R series base unit

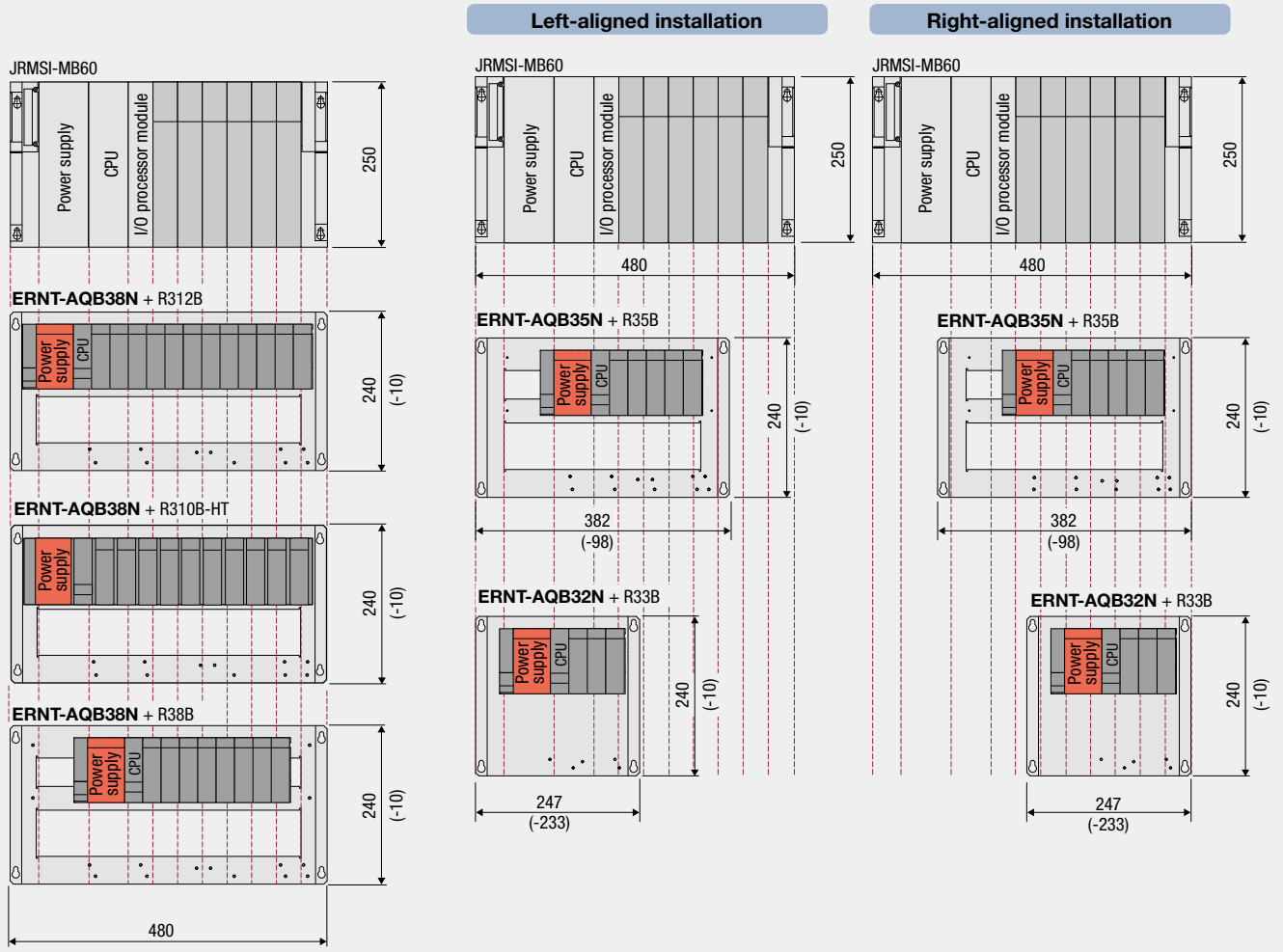
Unit: mm



(2) JRMSI-MB60 → ERNT-AQB38N+R312B / ERNT-AQB38N+R310B-HT / ERNT-AQB38N+R38B / ERNT-AQB35N+R35B / ERNT-AQB32N+R33B

Base adapter + MELSEC iQ-R series base unit

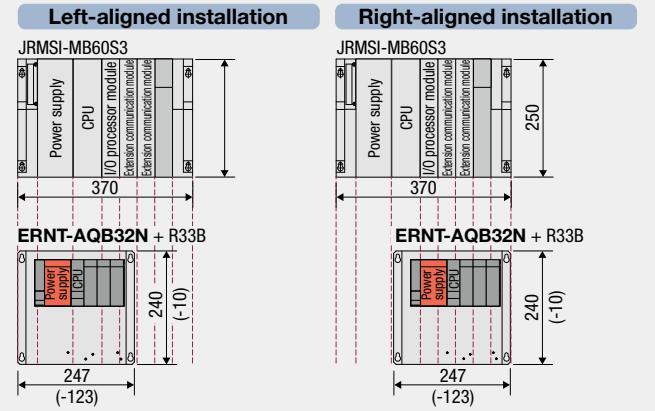
Unit: mm



(3) JRMSI-MB60S3 → ERNT-AQB32N+R33B

Base adapter + MELSEC iQ-R series base unit

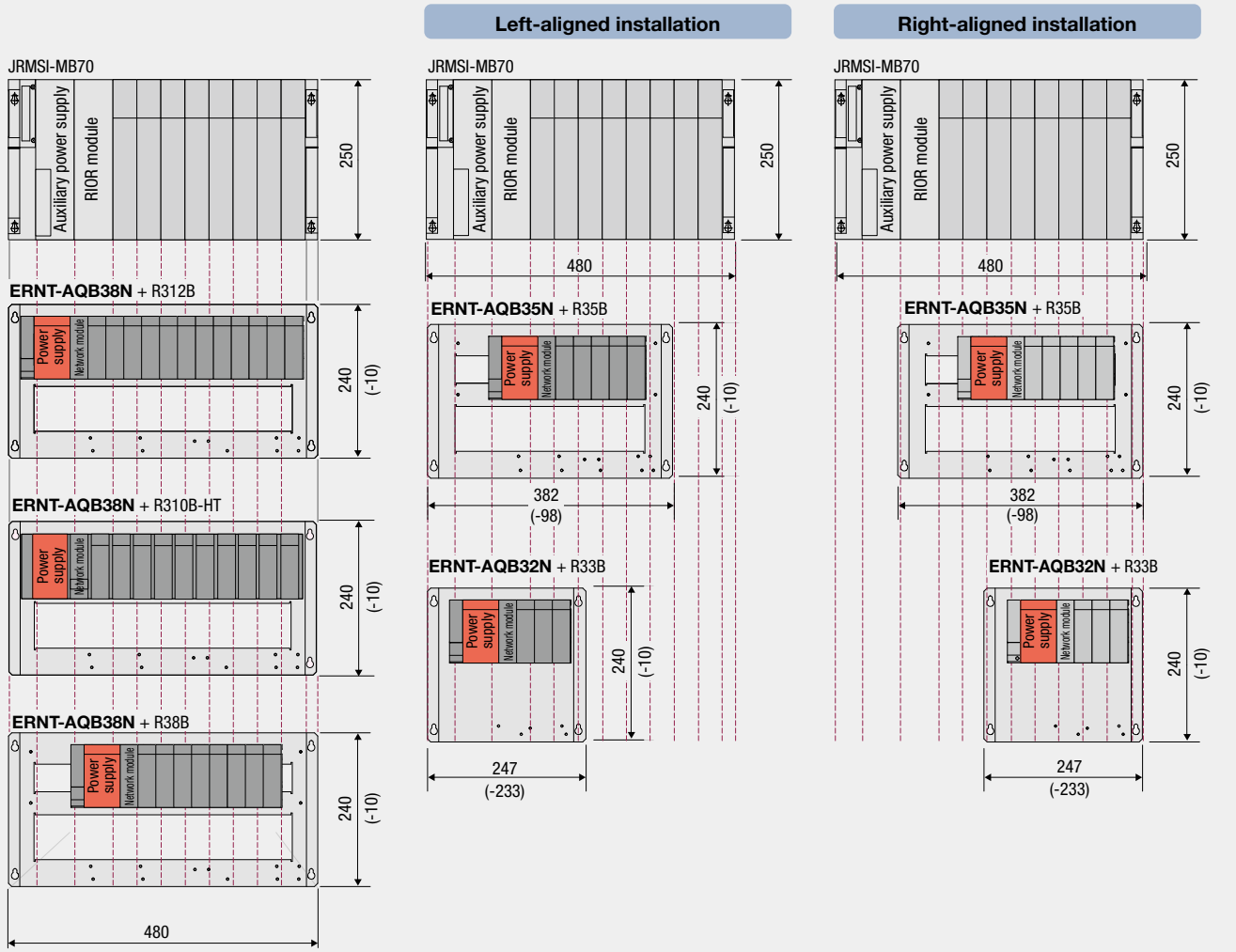
Unit: mm



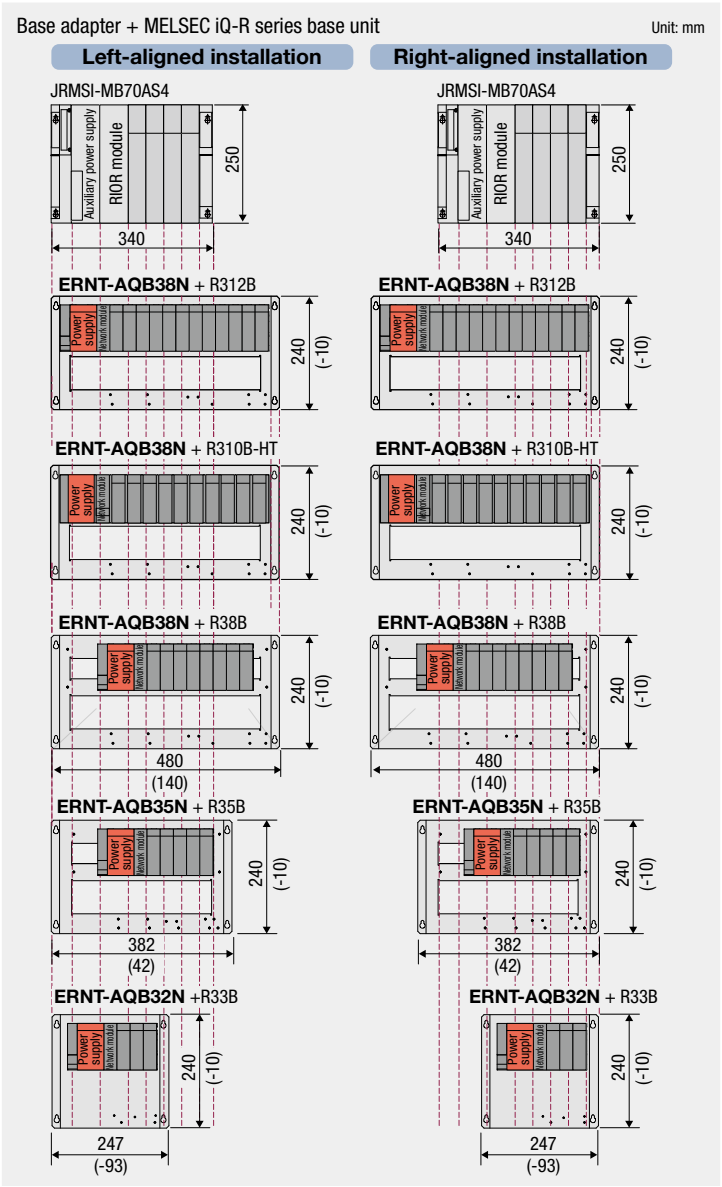
(4) JRMSI-MB70 → ERNT-AQB38N+R312B / ERNT-AQB38N+R310B-HT / ERNT-AQB38N+R38B / ERNT-AQB35N+R35B / ERNT-AQB32N+R33B

Base adapter + MELSEC iQ-R series base unit

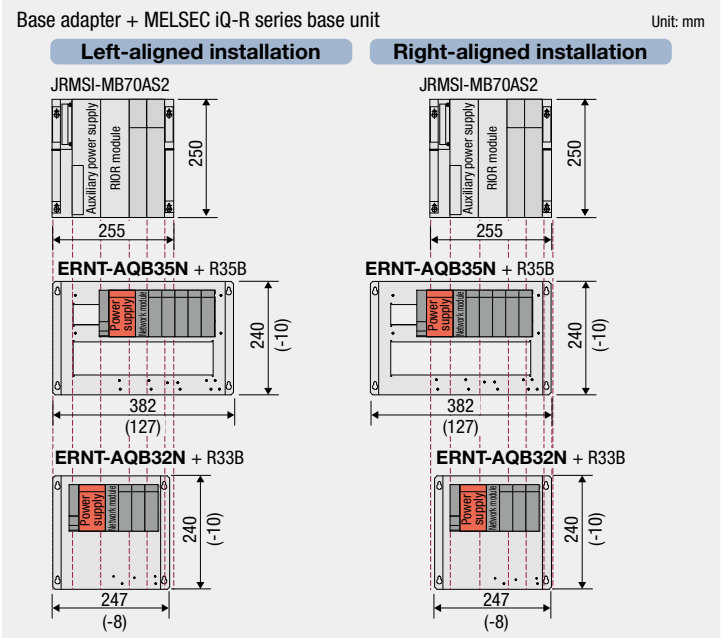
Unit: mm



(5) JRMSI-MB70AS4 → ERNT-AQB38N+R312B / ERNT-AQB38N+R310B-HT / ERNT-AQB38N+R38B / ERNT-AQB35N+R35B / ERNT-AQB32N+R33B

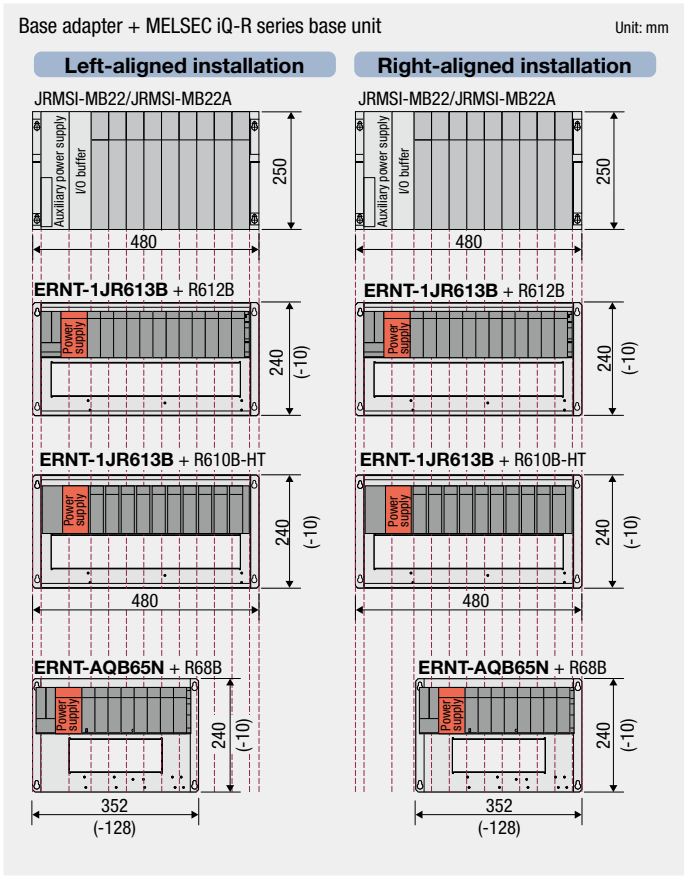


(6) JRMSI-MB70AS2 → ERNT-AQB35N+R35B / ERNT-AQB32N+R33B

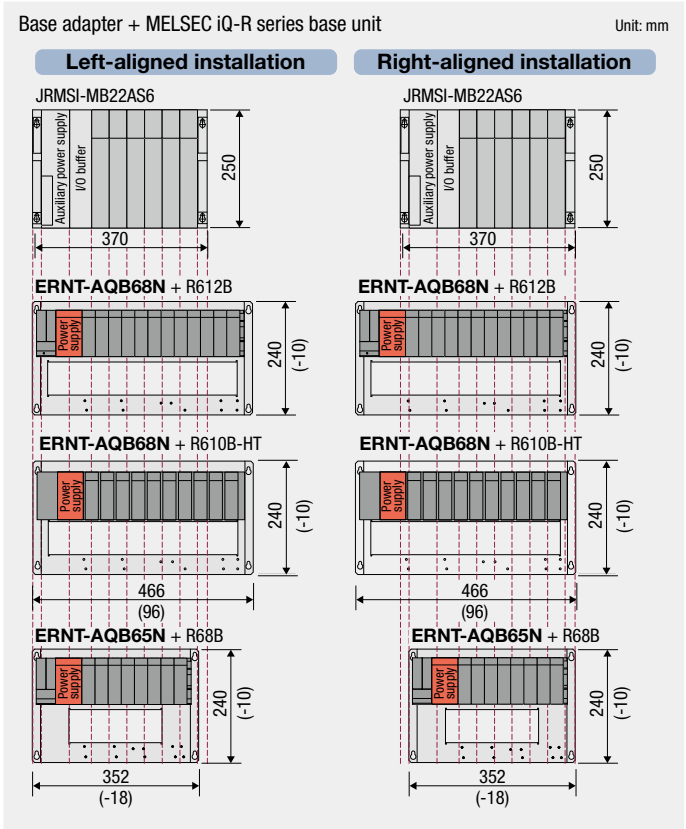


When an extension base unit is replaced

(1) JRMSI-MB22 / JRMSI-MB22A → ERNT-1JR613B+R612B / ERNT-1JR613B+R610B-HT / ERNT-AQB65N+R68B

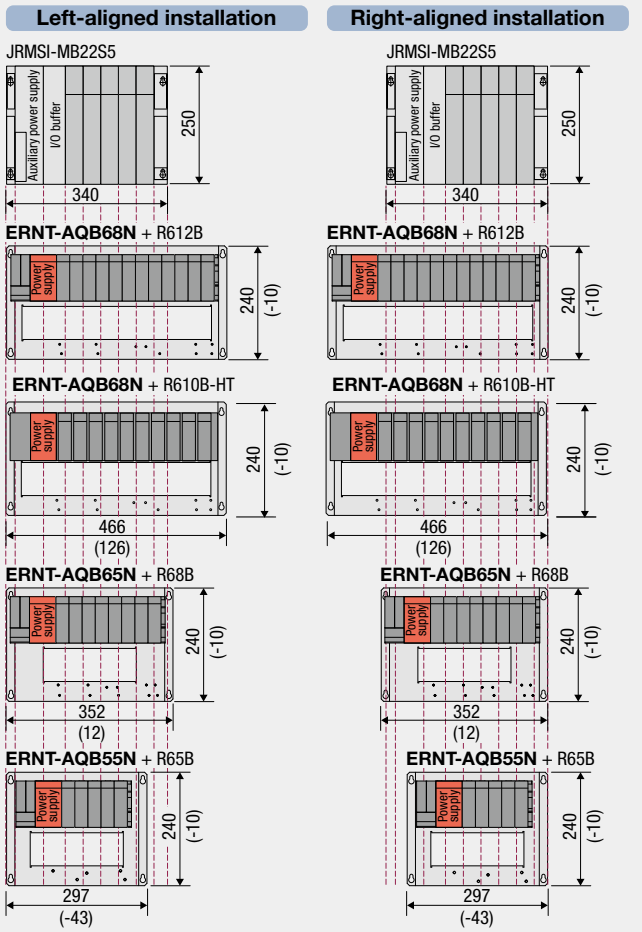


(2) JRMSI-MB22AS6 → ERNT-AQB68N+R612B / ERNT-AQB68N+R610B-HT / ERNT-AQB65N+R68B



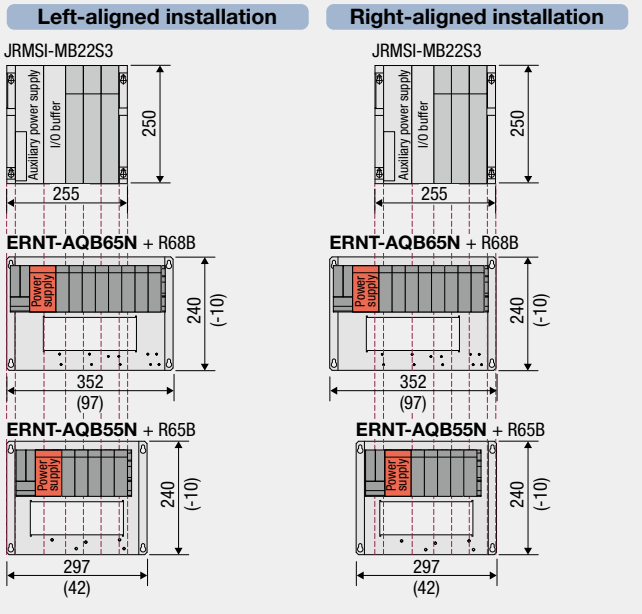
(3) JRMSI-MB22S5 → ERNT-AQB68N+R612B / ERNT-AQB68N+R610B-HT / ERNT-AQB65N+R68B / ERNT-AQB55N+R65B

Base adapter + MELSEC iQ-R series base unit Unit: mm



(4) JRMSI-MB22S3 → ERNT-AQB65N+R68B / ERNT-AQB55N+R65B

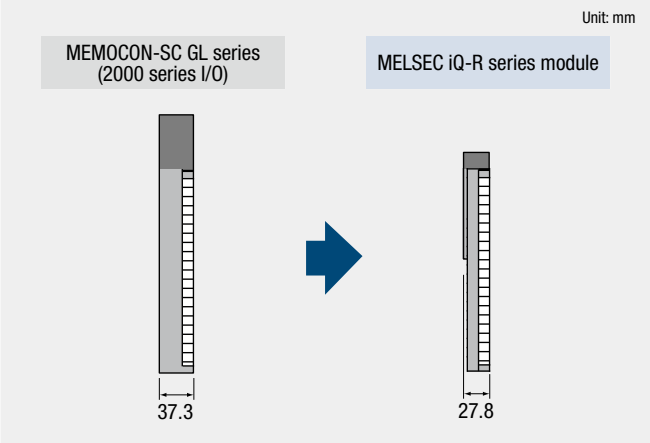
Base adapter + MELSEC iQ-R series base unit Unit: mm



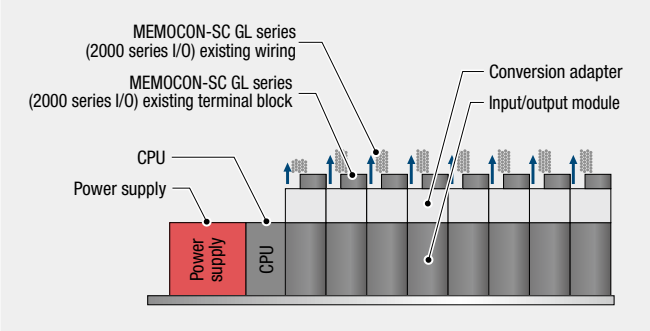
Precautions

Module width

(1) Since the width of MELSEC iQ-R series modules is smaller (MEMOCON-SC GL series (2000 series I/O): 37.3mm → MELSEC iQ-R series: 27.8mm), the wiring area becomes smaller as well. Check the wiring area when mounting a conversion adapter.

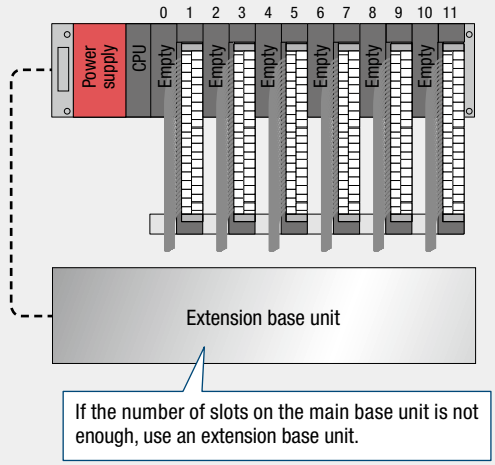


(2) If the wiring causes interference with adjacent modules, lift the cables forward to prevent interference.



(3) If interference still occurs, leave the next slot open to secure a space for wiring.

(Example) When the R312B is used



Attach a connector cover included with the base unit or a blank cover module (RG60) to prevent dust from entering connectors where no module is mounted.

(4) If modules cannot be replaced in accordance with (2) and (3), consider the use of the extended temperature range base unit manufactured by Mitsubishi Electric. → P.19
Note) 2-slot type conversion adapters cannot be used.

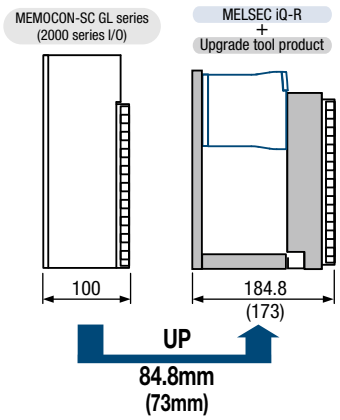
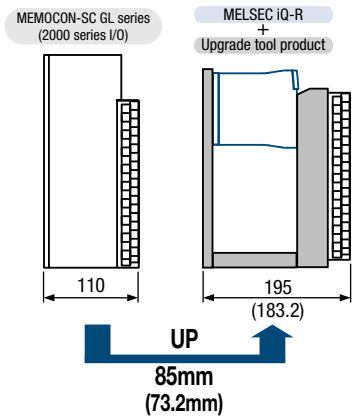
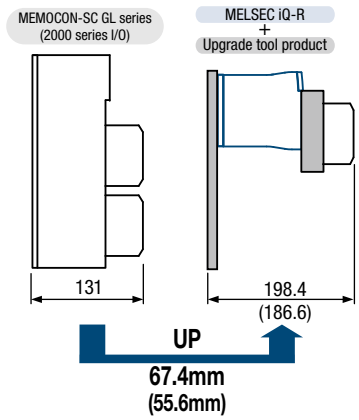
Depth

The depth from the panel surface after replacement is shown below. The depth from the panel surface increases. Check the depth when mounting a conversion adapter.
Values in parentheses (shorter by 11.8mm) are the dimensions when a base adapter is not used.

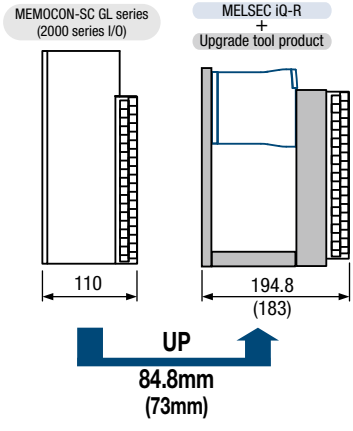
MEMOCON-SC GL series (2000 series I/O): Base unit + Input/output module + Terminal block/connector
MELSEC iQ-R series + Upgrade tool product: Base adapter + Base unit + Input/output module + Conversion adapter + Terminal block/connector

MEMOCON-SC GL series (2000 series I/O) : MEMOCON-SC GL series (2000 series I/O)
MELSEC iQ-R : MELSEC iQ-R series

1-slot type

Conversion adapter	ERNT-1Y2R501500 ERNT-1Y2R600	ERNT-1JR32N34N ERNT-1Y2R602606	ERNT-2CR218Y ERNT-2Y2R615625
Depth	84.8mm UP (73mm UP)	85mm UP (73.2mm UP)	67.4mm UP (55.6mm UP)
Mounting diagram			

2-slot type

Conversion adapter	ERNT-1JR31N34S ERNT-1JR33S ERNT-1Y2R505 ERNT-1Y2R904914
Depth	84.8mm UP (73mm UP)
Mounting diagram	

Conversion adapter support flange, base adapter

A conversion adapter support flange is always required when a conversion adapter is used. The use of a base adapter is recommended because the MELSEC iQ-R series can be installed using the MEMOCON-SC GL series (2000 series I/O) base unit installation holes.

Small type ▶ 120 series I/O

Model list

Conversion adapters

For the specifications of conversion adapters and modules before and after replacement, refer to user's manuals. (User's manuals can be downloaded from our website.)
Also, check that the modules satisfy the specifications of the devices currently connected.

For input/output modules

1-slot type

Input/Output	MEMOCON GL series (120 series I/O) module before replacement	MELSEC iQ-R series module after replacement	Note		Conversion adapter: Model	Conversion adapter: Shape: MEMOCON GL series (120 series I/O)	Conversion adapter: Shape: MELSEC iQ-R series	Conversion adapter: No. of input/output points
Input	JAMSC-120DDI35400	RX41C4 RX41C6HS RX71C4	*1	*2	ERNT-2YR35400	MDR connector (40P)	Connector (40P)	32
	JAMSC-120DDI36400	RX41C4 × 2 RX41C6HS × 2 RX71C4 × 2		*3	ERNT-2YR36400 × 2	Connector (40P) × 2	Connector (40P) × 2	64
Output	JAMSC-120DDO35410	RY41NT2P		*4	ERNT-2YR35410	MDR connector (40P)	Connector (40P)	32
	JAMSC-120DDO36410	RY41NT2P × 2		*5	ERNT-2YR36410 × 2	Connector (40P) × 2	Connector (40P) × 2	64

*1: Since the number of points per common changes (16 points/common → 32 points/common), check the common terminal connection of the module before replacement.
*2: If the existing module is the common separation type, consider rewiring to two RX40C7s (24VDC) or two RX70C4s (5/12VDC).
*3: For replacement, two MELSEC iQ-R series modules and two conversion adapters are required. If the existing module is the common separation type, consider rewiring to four RX40C7s (24VDC) or four RX70C4s (5/12VDC).
*4: If the existing module is the common separation type, consider rewiring to two RY40NT5Ps.
*5: For replacement, two MELSEC iQ-R series modules and two conversion adapters are required. If the existing module is the common separation type, consider rewiring to four RY40NT5Ps.

Replacement of modules that do not support the use of a conversion adapter

Input/output modules in the table below do not support the use of a conversion adapter. Consider rewiring.

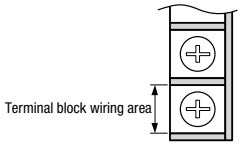
Input/Output	MEMOCON GL series (120 series I/O) module before replacement: Model	Specifications	No. of points	MELSEC iQ-R series module after replacement: Model	Specifications	No. of points	No. of required modules	Note
Input	JAMSC-120DAI54300	100VAC	16	RX10	100 to 120VAC	16	1	-
	JAMSC-120DAI74300	200VAC	16	RX28	100 to 240VAC	8	2	
	JAMSC-120DDI34300	12/24VDC, positive/negative common shared type	16	RX40C7	24VDC, positive/negative common shared type	16	1	
				RX70C4	5/12VDC, positive/negative common shared type	16	1	
Output	JAMSC-120DAO83000	100/200VAC, independent	8	RY18R2A	240VAC, 24VDC, independent	8	1	*6
	JAMSC-120DAO84300	100/200VAC	16	RY20S6	100 to 240VAC	16	1	-
	JAMSC-120DDO33000	12/24VDC, independent, sink/source shared type	8	RY18R2A	5 to 24VDC, independent,sink/source shared type	8	1	
	JAMSC-120DDO34310	12/24VDC, sink type	16	RY40NT5P	12 to 24VDC, sink type	16	1	
	JAMSC-120DDO34320	12/24VDC, source type	16	RY40PT5P	12 to 24VDC, source type	16	1	
	JAMSC-120DRA84300	200VAC, 24VDC, relay contact	16	RY10R2	240VAC, 24VDC, relay contact	16	1	

*6: The output type changes from triac output to contact output.

Reference: Solderless terminal and wire specifications

Item	MEMOCON GL series (120 series I/O) module before replacement	MELSEC iQ-R series module after replacement
Solderless terminal size	M3	M3
Terminal block wiring area	7mm	6mm

*: The size of solderless terminals before and after replacement is the same (M3 screw size).
Note, however, that there may be a case that the terminals cannot be wired to the terminal block of the MELSEC iQ-R series because the wiring area is smaller.



Base units manufactured by Mitsubishi Electric

Note

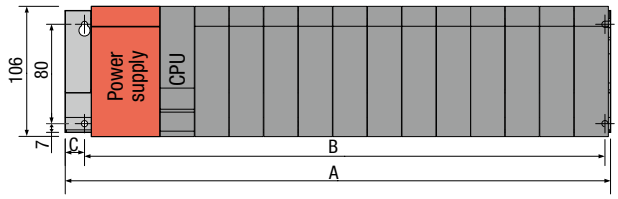
The base unit installation hole positions (four holes) and size differ between the MEMOCON GL series base units and the MELSEC-iQ-R series base units. Drilling of additional holes to the control panel is required.

Installation dimensions

● The slot positions differ between the MEMOCON GL series modules before replacement and the MELSEC iQ-R series modules after replacement. Adjust wiring lengths prior to use.

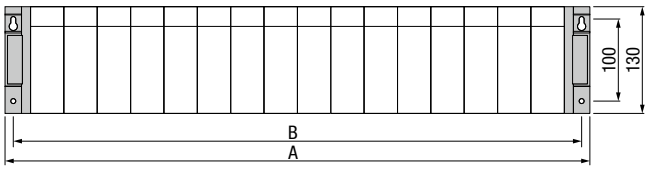
Unit: mm

◎ MELSEC iQ-R series



MELSEC iQ-R series base unit model	Description	A	B	C	Installation hole screw size
R312B	Main base unit	439	417 to 419	15.5	M4
R38B		328	306 to 308	15.5	
R35B		245	222.5 to 224.5	15.5	
R33B		189	167 to 169	15.5	
R612B	Extension base unit (type requiring a power supply module)	439	417 to 419	15.5	
R68B		328	306 to 308	15.5	
R65B		245	222.5 to 224.5	15.5	
R310B-HT	Extended temperature range main base unit	439	417 to 419	15.5	
R610B-HT	Extended temperature range extension base unit	439	417 to 419	15.5	

◎ (Reference) MEMOCON GL series base unit



GL series base unit model	Description	A	B	Installation hole screw size
JRMSI-120XBP01600	Base unit	710	690	M5
JRMSI-120XBP01200		540	520	
JRMSI-120XBP01000		460	440	
JRMSI-120XBP00800		380	360	
JRMSI-120XBP00600		300	280	

Comparison of external dimensions and installation hole pitches

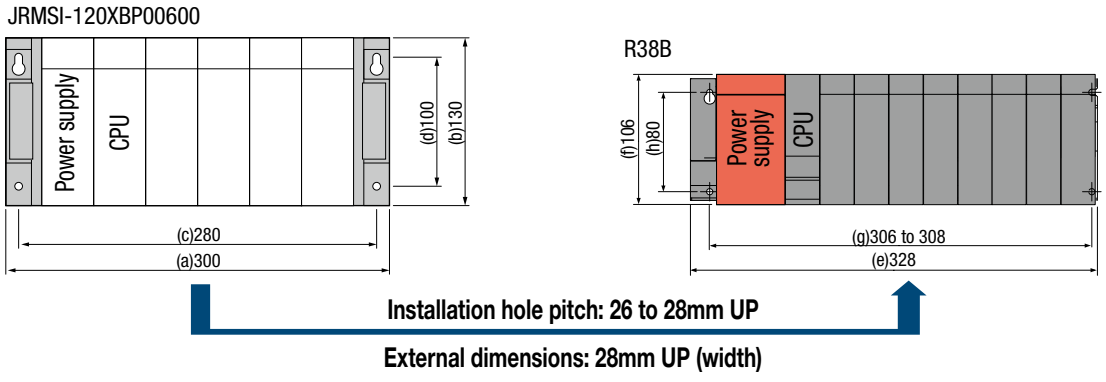
Use the following tables to check the differences of external dimensions and installation hole pitches before and after replacement.

Note

"▲" in the tables indicates an increase of the external dimensions after replacement as shown in the example below. The installation position needs to be reconsidered.
If the number of slots on the main base unit is not enough, use an extension base unit.

(Example) When the MEMOCON GL series base unit (JRMSI-120XBP00600) is replaced with the MELSEC iQ-R series base unit (R38B)

Unit: mm



1) Main base units

◎: Same dimensions, ○: GL series is larger, ▲: GL series is smaller

	GL series base unit			MELSEC iQ-R series base unit									Remarks
							Comparison*2						
							External dimensions		Installation hole pitch*3				
	Model	Power supply	Maximum No. of slots*1	Model	Power supply	Maximum No. of slots	Width (e) - (a)	Height (f) - (b)	Width (g) - (c)			Height (h) - (d)	
(1)	JRMSI-120XBP01600	Required	14	R312B	Required	12	○ (-271)	○ (-24)	○ (-273)	to	○ (-271)	○ (-20)	• The installation holes (M5 screw size) of the MEMOCON GL series base unit cannot be used after replacement because the installation hole size of the MELSEC iQ-R series base unit is different (M4 screw size). • Reconsider the installation position of the MELSEC iQ-R series base unit based on the external dimensions and installation hole pitches.
				R310B-HT	Required	10	○ (-271)	○ (-24)	○ (-273)	to	○ (-271)	○ (-20)	
(2)	JRMSI-120XBP01200	Required	10	R312B	Required	12	○ (-101)	○ (-24)	○ (-103)	to	○ (-101)	○ (-20)	
				R310B-HT	Required	10	○ (-101)	○ (-24)	○ (-103)	to	○ (-101)	○ (-20)	
				R38B	Required	8	○ (-212)	○ (-24)	○ (-214)	to	○ (-212)	○ (-20)	
(3)	JRMSI-120XBP01000	Required	8	R312B	Required	12	○ (-21)	○ (-24)	○ (-23)	to	○ (-21)	○ (-20)	
				R310B-HT	Required	10	○ (-21)	○ (-24)	○ (-23)	to	○ (-21)	○ (-20)	
				R38B	Required	8	○ (-132)	○ (-24)	○ (-134)	to	○ (-132)	○ (-20)	
(4)	JRMSI-120XBP00800	Required	6	R312B	Required	12	▲ (59)	○ (-24)	▲ (57)	to	▲ (59)	○ (-20)	
				R310B-HT	Required	10	▲ (59)	○ (-24)	▲ (57)	to	▲ (59)	○ (-20)	
				R38B	Required	8	○ (-52)	○ (-24)	○ (-54)	to	○ (-52)	○ (-20)	
				R35B	Required	5	○ (-135)	○ (-24)	○ (-137.5)	to	○ (-135.5)	○ (-20)	
(5)	JRMSI-120XBP00600	Required	4	R312B	Required	12	▲ (139)	○ (-24)	▲ (137)	to	▲ (139)	○ (-20)	
				R310B-HT	Required	10	▲ (139)	○ (-24)	▲ (137)	to	▲ (139)	○ (-20)	
				R38B	Required	8	▲ (28)	○ (-24)	▲ (26)	to	▲ (28)	○ (-20)	
				R35B	Required	5	○ (-55)	○ (-24)	○ (-57.5)	to	○ (-55.5)	○ (-20)	

*1: Maximum number of slots when a 1-slot type CPU module and a 1-slot type power supply module are used (no expander module is used)
*2: Values in parentheses are differences in dimensions between the MELSEC iQ-R series base unit and the GL series base unit. (Unit: mm)
*3: The difference in dimension equals to the distance between installation holes. When installing the MELSEC iQ-R series base unit, it is difficult or impossible to drill new holes as the difference value becomes closer to zero.

2) Extension base units

◎: Same dimensions, ○: GL series is larger, ▲: GL series is smaller

	GL series base unit			MELSEC iQ-R series base unit									Remarks
	Model	Power supply	Maximum No. of slots[*1]	Model	Power supply	Maximum No. of slots	Comparison[*2]						
							External dimensions		Installation hole pitch[*3]				
							Width (e) - (a)	Height (f) - (b)	Width (g) - (c)			Height (h) - (d)	
(1)	JRMSI-120XBP01600	Required	14	R612B	Required	12	○ (-271)	○ (-24)	○ (-273)	to	○ (-271)	○ (-20)	• The installation holes (M5 screw size) of the MEMOCON GL series base unit cannot be used after replacement because the installation hole size of the MELSEC iQ-R series base unit is different (M4 screw size). • Reconsider the installation position of the MELSEC iQ-R series base unit based on the external dimensions and installation hole pitches.
				R610B-HT	Required	10	○ (-271)	○ (-24)	○ (-273)	to	○ (-271)	○ (-20)	
(2)	JRMSI-120XBP01200	Required	10	R612B	Required	12	○ (-101)	○ (-24)	○ (-103)	to	○ (-101)	○ (-20)	
				R610B-HT	Required	10	○ (-101)	○ (-24)	○ (-103)	to	○ (-101)	○ (-20)	
				R68B	Required	8	○ (-212)	○ (-24)	○ (-214)	to	○ (-212)	○ (-20)	
(3)	JRMSI-120XBP01000	Required	8	R612B	Required	12	○ (-21)	○ (-24)	○ (-23)	to	○ (-21)	○ (-20)	
				R610B-HT	Required	10	○ (-21)	○ (-24)	○ (-23)	to	○ (-21)	○ (-20)	
				R68B	Required	8	○ (-132)	○ (-24)	○ (-134)	to	○ (-132)	○ (-20)	
(4)	JRMSI-120XBP00800	Required	6	R612B	Required	12	▲ (59)	○ (-24)	▲ (57)	to	▲ (59)	○ (-20)	
				R610B-HT	Required	10	▲ (59)	○ (-24)	▲ (57)	to	▲ (59)	○ (-20)	
				R68B	Required	8	○ (-52)	○ (-24)	○ (-54)	to	○ (-52)	○ (-20)	
				R65B	Required	5	○ (-135)	○ (-24)	○ (-137.5)	to	○ (-135.5)	○ (-20)	
(5)	JRMSI-120XBP00600	Required	4	R612B	Required	12	▲ (139)	○ (-24)	▲ (137)	to	▲ (139)	○ (-20)	
				R610B-HT	Required	10	▲ (139)	○ (-24)	▲ (137)	to	▲ (139)	○ (-20)	
				R68B	Required	8	▲ (28)	○ (-24)	▲ (26)	to	▲ (28)	○ (-20)	
				R65B	Required	5	○ (-55)	○ (-24)	○ (-57.5)	to	○ (-55.5)	○ (-20)	

*1: Maximum number of slots when a 1-slot type power supply module and an expander module are used
*2: Values in parentheses are differences in dimensions between the MELSEC iQ-R series base unit and the GL series base unit. (Unit: mm)
*3: The difference in dimension equals to the distance between installation holes. When installing the MELSEC iQ-R series base unit, it is difficult or impossible to drill new holes as the difference value becomes closer to zero.

Slot positions

The slot positions differ between the MEMOCON GL series modules before replacement and the MELSEC iQ-R series modules after replacement. Change the slot positions of modules and adjust wiring lengths prior to use.

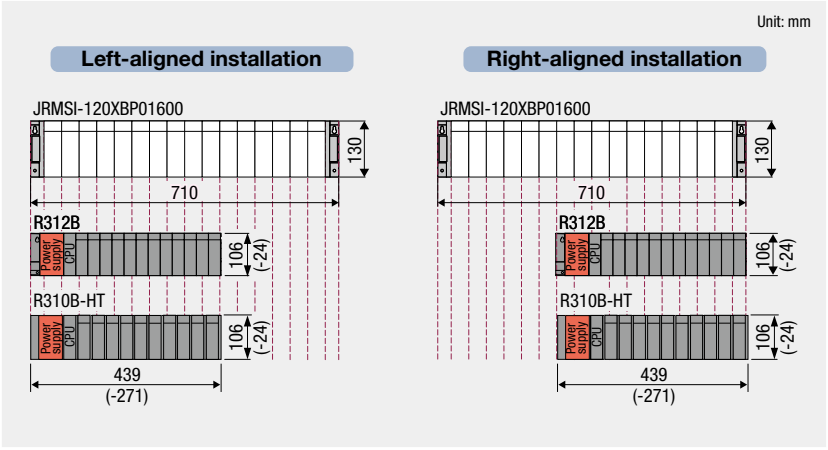
Note

The installation hole size of the MELSEC iQ-R series base unit differs from that of the MEMOCON GL series base unit. Therefore, the edge of the base unit is used as the reference for left-aligned and right-aligned installations. Values in parentheses are differences in dimensions between the MELSEC iQ-R series base unit and the GL series base unit.

When a main base unit is replaced

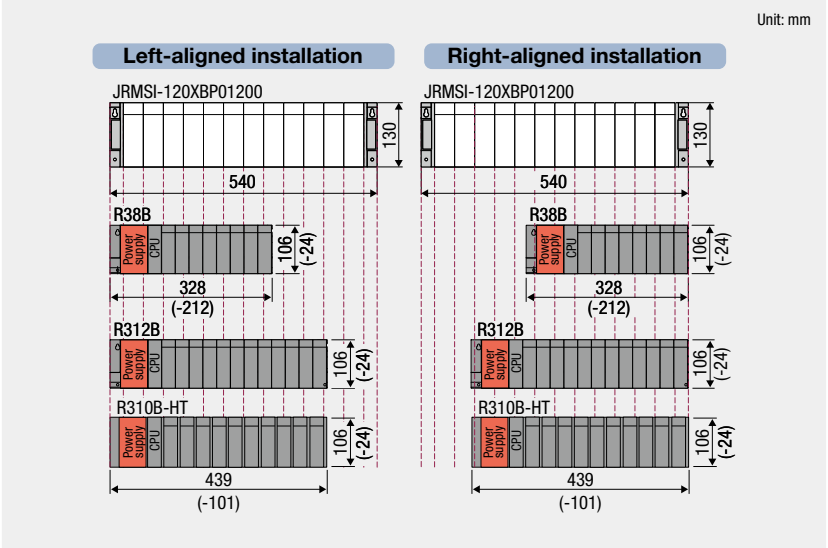
(1) JRMSI-120XBP01600 → R312B, R310B-HT

Unit: mm



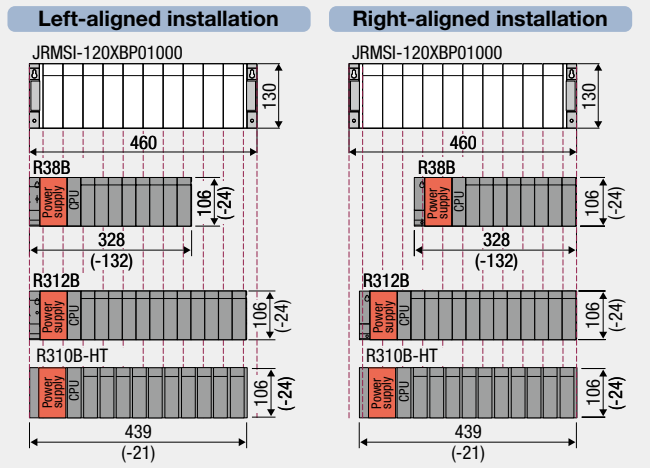
(2) JRMSI-120XBP01200 → R38B, R312B, R310B-HT

Unit: mm



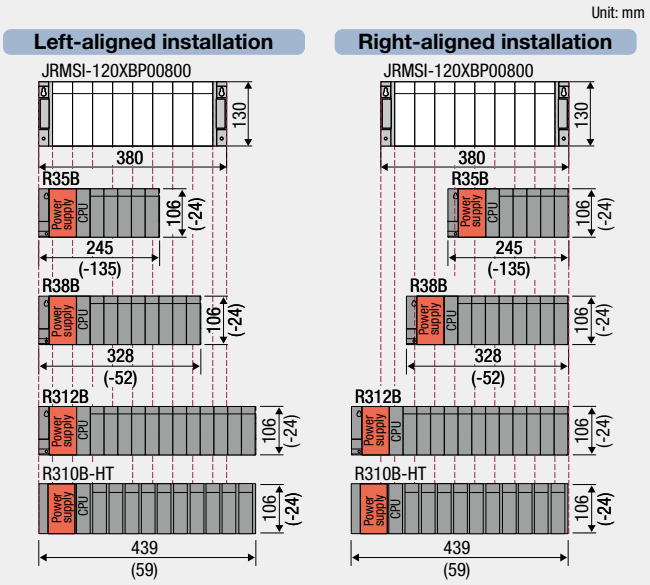
(3) JRMSI-120XBP01000 → R38B, R312B, R310B-HT

Unit: mm



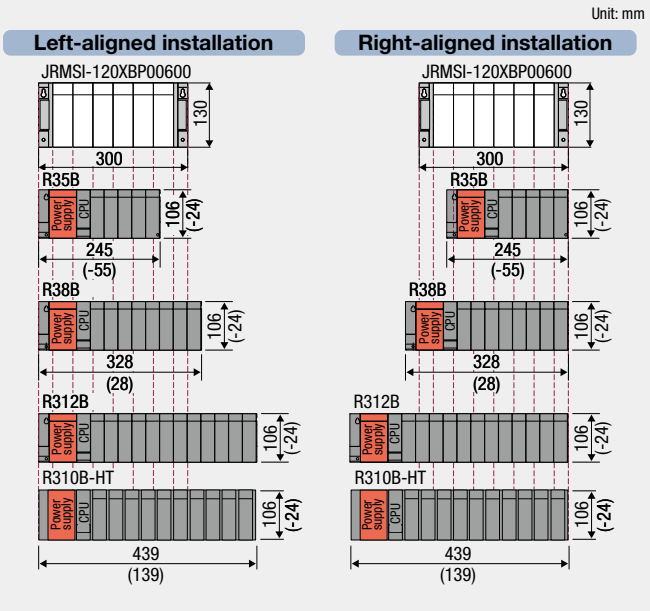
(4) JRMSI-120XBP00800 → R35B, R38B, R312B, R310B-HT

Unit: mm



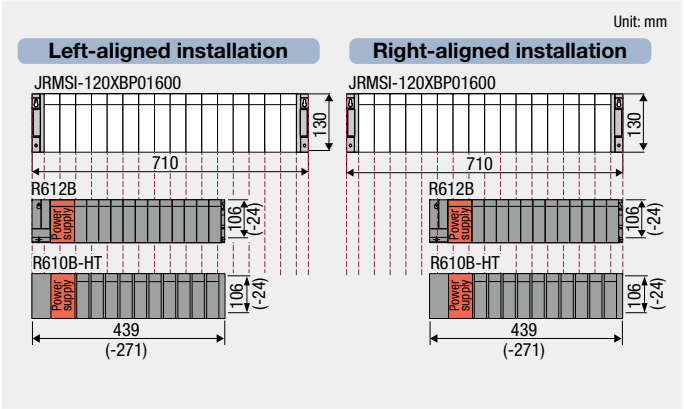
(5) JRMSI-120XBP00600 → R35B, R38B, R312B, R310B-HT

Unit: mm

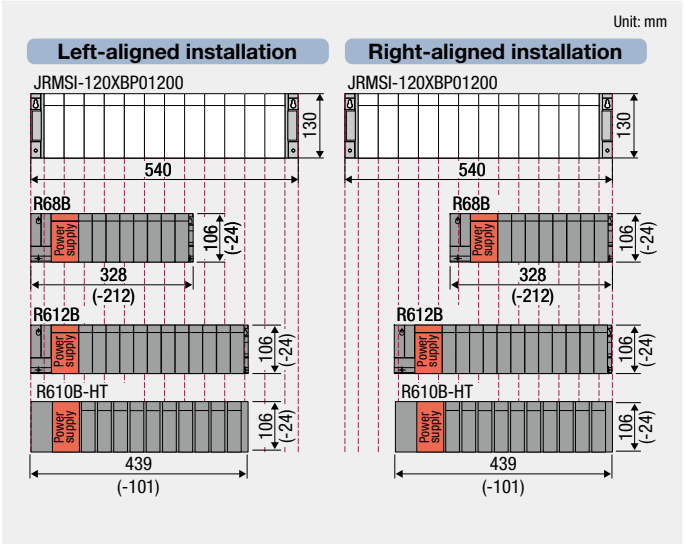


When an extension base unit is replaced

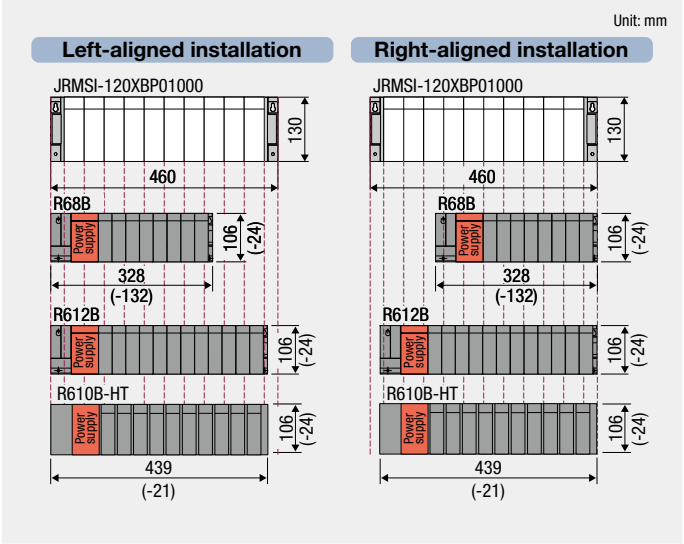
(1) JRMSI-120XBP01600 → R612B, R610B-HT



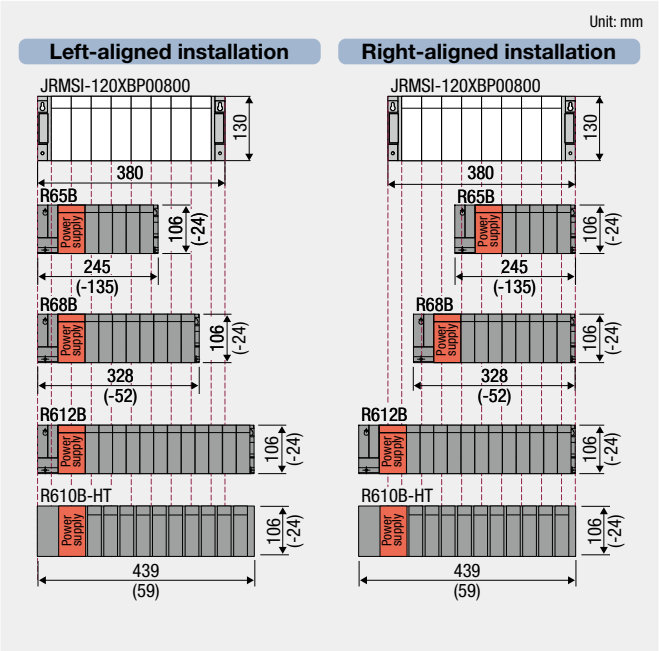
(2) JRMSI-120XBP01200 → R68B, R612B, R610B-HT



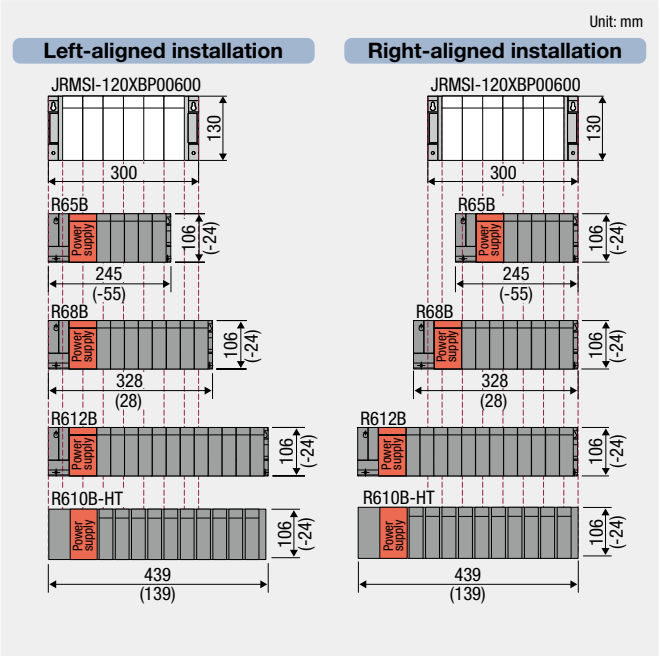
(3) JRMSI-120XBP01000 → R68B, R612B, R610B-HT



(4) JRMSI-120XBP00800 → R65B, R68B, R612B, R610B-HT



(5) JRMSI-120XBP00600 → R65B, R68B, R612B, R610B-HT

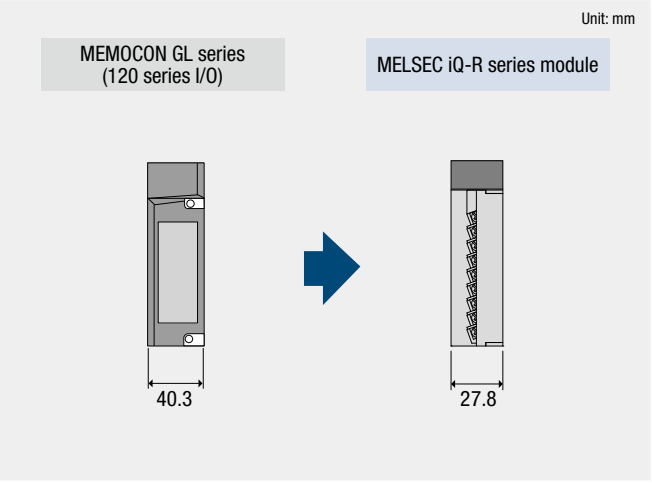


Precautions

Module width

Since the width of MELSEC iQ-R series modules is smaller (MEMOCON GL series (120 series I/O): 40.3mm → MELSEC iQ-R series: 27.8mm), the wiring area becomes smaller as well. Check the wiring area when mounting a conversion adapter.
If the wiring causes interference with adjacent modules, lift the cables forward or leave the next slot open to secure a space for wiring.

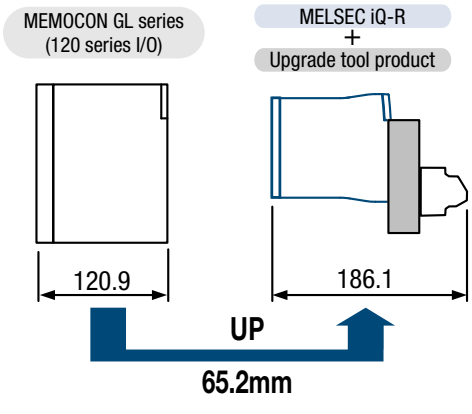
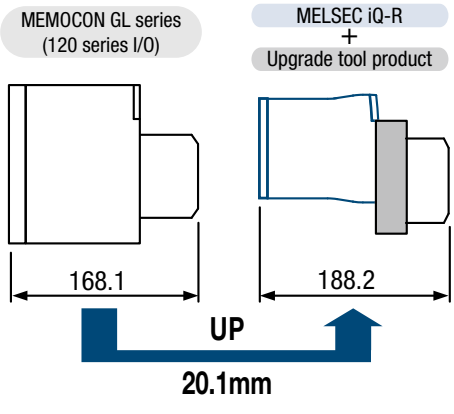
Unit: mm



Depth

The depth increases as shown below after replacement. Check the depth of the control panel before installation.
MEMOCON GL series (120 series I/O): Base unit + Input/output module + Connector (JAMSC-120DDI36400/12DDO36410)
MELSEC iQ-R series + Upgrade tool product: Base unit + Input/output module + Conversion adapter + Connector

MEMOCON GL series (120 series I/O) : MEMOCON-SC GL series (120 series I/O)
MELSEC iQ-R : MELSEC iQ-R series

Conversion adapter	ERNT-2YR35400 ERNT-2YR35410	ERNT-2YR36400 ERNT-2YR36410
Depth	65.2mm UP	20.1mm UP
Mounting diagram		

MEMOCON-SC GL series → MELSEC-Q series

Large type ▶ 2000 series I/O

Model list

Conversion adapters

For the specifications of conversion adapters and modules before and after replacement, refer to user's manuals. (User's manuals can be downloaded from our website.)
Also, check that the modules satisfy the specifications of the devices currently connected.

For input/output modules

1-slot type (Applicable to MELSEC-Q series large type base units (Q□□BL) as well)

Input/ Output	MEMOCON-SC GL series (2000 series I/O) module before replacement	MELSEC-Q series module after replacement	Note	Conversion adapter			
				Model	Shape		No. of input/ output points
					2000 series I/O	MELSEC-Q series	
Input	JAMSC-B2501A	QX10	-	ERNT-1Y2Q501	Terminal block (20 points)	Terminal block (18 points)	16
	JAMSC-B2601	QX40, QX40-S1, QX70	*1, *2	ERNT-1Y2Q601611			
	JAMSC-B2611	QX50	-				
	JAMSC-B2603	QX41, QX41-S2, QX70	*3, *4, *5	ERNT-1JQ32N34N	Terminal block (38 points)	Connector (40P)	32
	JAMSC-B2607	QX71	*3				
	JAMSC-B2605	QX42, QX42-S1, QX72, QX82, QX82-S1	-	ERNT-1Y2Q615625	Connector (40P) × 2	Connector (40P) × 2	64
	JAMSC-B2615						
	JAMSC-B2625	QX72	-				
Output	JAMSC-B2500	QY22	-	ERNT-1Y2Q500	Terminal block (20 points)	Terminal block (18 points)	16
	JAMSC-B2600	QY40P, QY50		ERNT-1Y2Q600			
	JAMSC-B2602A	QY41H	*6	ERNT-1Y2Q602606	Terminal block (38 points)	Connector (40P)	32
	JAMSC-B2606						
	JAMSC-B2604	QY42P	*7	ERNT-CQCY213	Connector (40P) × 2	Connector (40P) × 2	64

*1: If the existing module uses 24VDC negative common, consider rewiring to the QX80. When rewiring, consider using the ERNT-AQTB20.
*2: If the existing module uses a different power supply for each 8-point group, consider rewiring to the QX40H or QX80H. When rewiring, consider using the ERNT-AQTB20.
*3: A conversion adapter for replacing the SHARPJW series (large type) with the MELSEC-Q series is used.
*4: If the existing module uses 24VDC negative common, consider rewiring to the QX81 or QX81-S2. When rewiring, consider using the ERNT-AQTB38-E.
*5: If the existing module uses a different power supply for each 8-point group, consider rewiring to two QX40Hs or two QX80Hs. When rewiring, consider using the ERNT-AQTB20.
*6: If the current capacity is not enough, consider rewiring to the QY50 (0.5A, 16 points) or QY68A (2A, 8 points). When rewiring, consider using the ERNT-AQTB20.
*7: A conversion adapter for replacing the OMRON SYSMAC C series with the MELSEC-Q series is used.

2-slot type (Not applicable to MELSEC-Q series large type base units (Q□□BL))

Input/ Output	MEMOCON-SC GL series (2000 series I/O) module before replacement	MELSEC-Q series module after replacement	Note	Conversion adapter			
				Model	Shape		No. of input/ output points
					2000 series I/O	MELSEC-Q series	
Input	JAMSC-B2505A	QX10 × 2	-	ERNT-1Y2Q505	Terminal block (38 points)	Terminal block (18 points) × 2	32
Output	JAMSC-B2504	QY22 × 2	*8	ERNT-1JQ33S			
	JAMSC-B2902	QY10 × 2		ERNT-1JQ31N34S			
	JAMSC-B2904	QY18A × 2	-	ERNT-1Y2Q904914			16
	JAMSC-B2914						

*8: A conversion adapter for replacing the SHARPJW series (large type) with the MELSEC-Q series is used.

Replacement using a universal conversion adapter ▶P.303

Input/output modules in the table below do not support the use of a conversion adapter. However, these modules can be replaced using a universal conversion adapter even though rewiring is required.

For input/output modules

Input/Output	MEMOCON-SC GL series (2000 series I/O) module before replacement			MELSEC-Q series module after replacement				Universal conversion adapter
	Model	Specifications	No. of points	Model	Specifications	No. of points	No. of required modules	
Input	JAMSC-B2503A	200VAC	16	QX28	100 to 240VAC	8	2	Supported
	JAMSC-B2507A	200VAC	32	QX28	100 to 240VAC	8	4	Supported
Output	JAMSC-B2912	100/200VAC, 24VDC	32	QY10	100 to 200VAC, 24VDC	16	2	Supported
	JAMSC-B2610	48VDC, sink type	16	There is no applicable MELSEC-Q series module.				
	JAMSC-B2624	5VDC, sink type	64	QY41H	5/12/24VDC, sink type	32	2	Supported
	JAMSC-B2630	12/24VDC, source type	16	QY80	12/24VDC, source type	16	1	Supported
	JAMSC-B2632	12/24VDC, source type	32	QY81P	12/24VDC, source type	32	1	Supported

Base adapters

The same base adapters used to replace the MELSEC-A series with the MELSEC-Q series are used.
By using a base adapter, the MELSEC-Q series base unit and the conversion adapter support flange can be installed at the same time without drilling any additional installation holes.

Note
Two additional installation holes (M5 screw size) and four M5 screws need to be prepared by the user to install the base adapter to the control panel.
(There may be a case that drilling of additional installation holes is not required if the installation dimensions of all the four holes are the same before and after replacement.)

The base units (*1 to *5) can be installed to different types of base adapters. Select the optimum base adapter.

Base adapter model	Installable product						Dimensions
	MELSEC-Q series base unit					Conversion adapter support flange	Width × Height (mm)
	12-slot	8-slot	5-slot	3-slot	2-slot		
ERNT-AQB38N	Q312B					ERNT-AQF12, ERNT-AQF8	480 × 240
		Q38B*1				ERNT-AQF8	
ERNT-AQB35N		Q38B*1				ERNT-AQF8, ERNT-AQF5	382 × 240
			Q35B			ERNT-AQF5	
ERNT-AQB32N				Q33B		ERNT-AQF3	247 × 240
ERNT-1JR613B	Q612B					ERNT-AQF12	480 × 240
ERNT-AQB68N	Q612B					ERNT-AQF12, ERNT-AQF8	466 × 240
		Q68B*2				ERNT-AQF8	
ERNT-AQB65N		Q68B*2				ERNT-AQF8, ERNT-AQF5	352 × 240
			Q65B*3 Q55B*4			ERNT-AQF5	
ERNT-AQB62				Q63B	Q52B*5	ERNT-AQF3	238 × 240
ERNT-AQB58N		Q68B*2				ERNT-AQF8	411 × 240
ERNT-AQB55N			Q65B*3 Q55B*4			ERNT-AQF5	297 × 240
ERNT-AQB52					Q52B*5	ERNT-AQF3	183 × 240

Conversion adapter support flanges (required)

The same conversion adapter support flanges used to replace the MELSEC-A series with the MELSEC-Q series are used.
A conversion adapter support flange secures the lower part of a conversion adapter. One support flange is required per base unit when a conversion adapter is used.

Note
Two additional installation holes (M4 screw size) are required to install the conversion adapter support flange to the control panel.
When a base adapter is used, drilling of additional installation holes is not required.

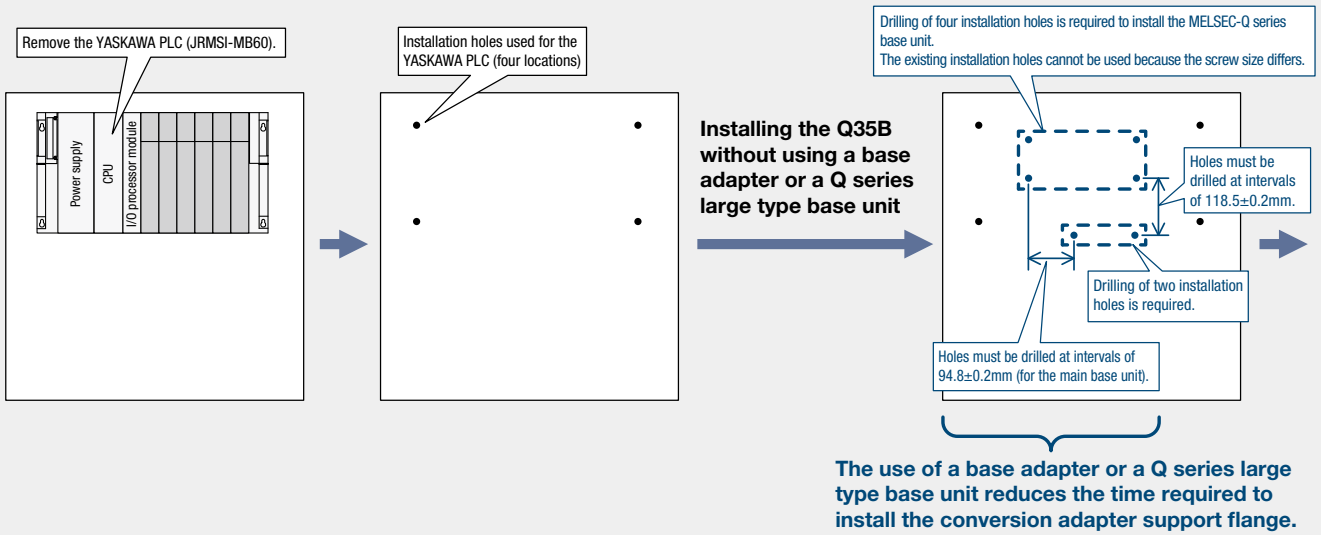
Conversion adapter support flange model	Specifications
ERNT-AQF12	12-slot conversion adapter support flange
ERNT-AQF8	8-slot conversion adapter support flange
ERNT-AQF5	5-slot conversion adapter support flange
ERNT-AQF3	3-slot conversion adapter support flange

Replacement using a base adapter or a Q series large type base unit manufactured by Mitsubishi Electric

The use of a base adapter or a Q series large type base unit reduces the time required for drilling installation holes and eliminates the need for determining the installation position of the support flange.

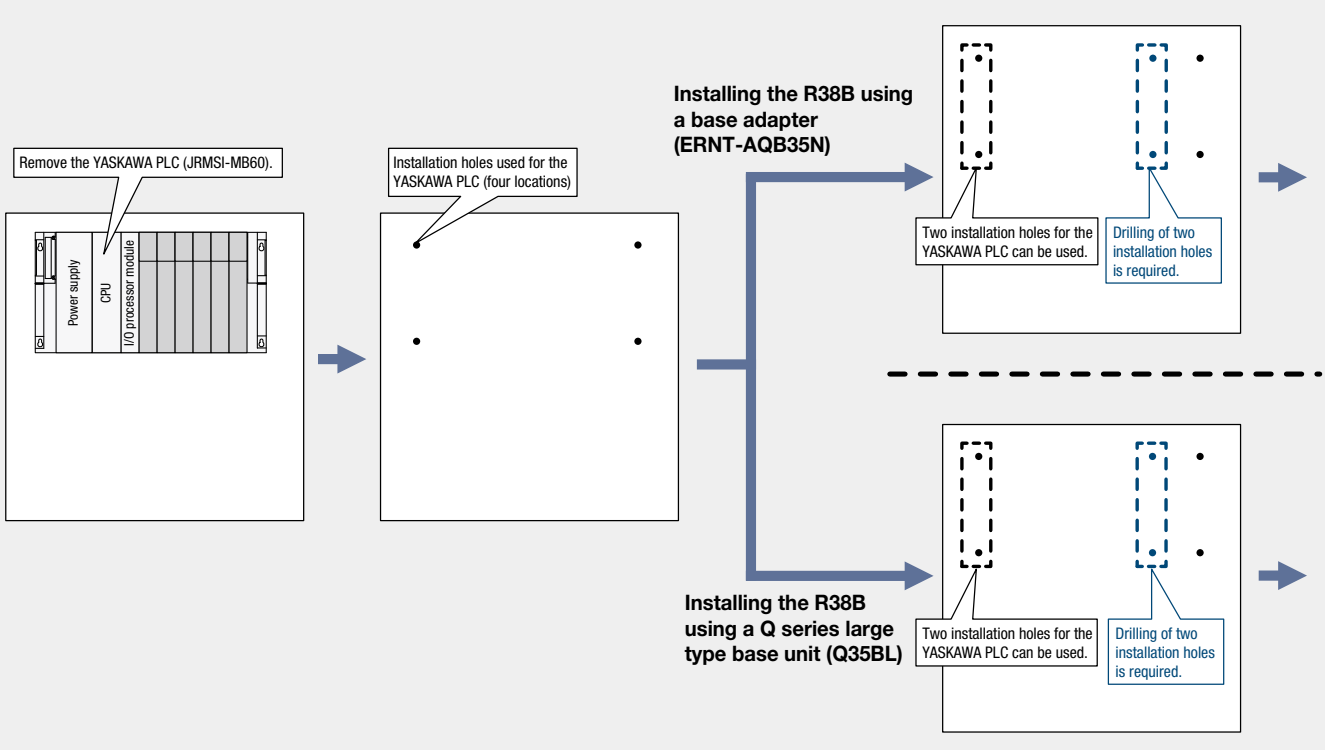
When a base adapter or a Q series large type base unit is not used

Six or seven new installation holes are required. Also, the installation positions of the MELSEC-Q series base unit and the conversion adapter support flange need to be determined.

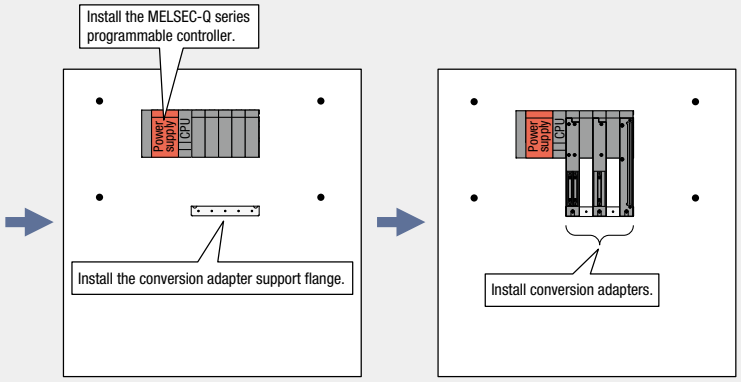


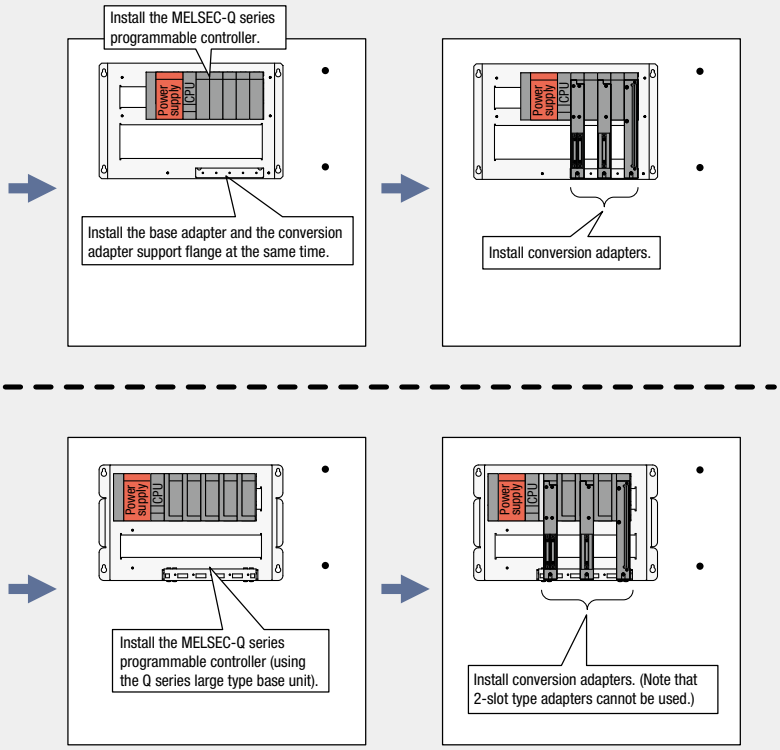
When a base adapter or a Q series large type base unit (for replacing the MELSEC-A series (large type) with the MELSEC-Q series) is used

The installation hole pitch (vertical direction) of the base adapter and the Q series large type base unit is the same as that of the MEMOCON-SC GL series base unit. Therefore, the number of additional installation holes to be drilled is two or less.
(There may be a case that drilling of additional installation holes is not required if the installation dimensions of all the four holes are the same before and after replacement.)
The following figure shows the installation when two existing installation holes on the left side are used for the base adapter.



For details, refer to "Installation dimensions" (P.247), "Comparison of external dimensions and installation hole pitches" (P.248), and "Slot positions" (P.251).


Install the MELSEC-Q series programmable controller.
Power supply
CPU
Install the conversion adapter support flange.
Power supply
CPU
Install conversion adapters.


Install the MELSEC-Q series programmable controller.
Power supply
CPU
Install the base adapter and the conversion adapter support flange at the same time.
Power supply
CPU
Install conversion adapters.
Power supply
CPU
Install the MELSEC-Q series programmable controller (using the Q series large type base unit).
Power supply
CPU
Install conversion adapters. (Note that 2-slot type adapters cannot be used.)

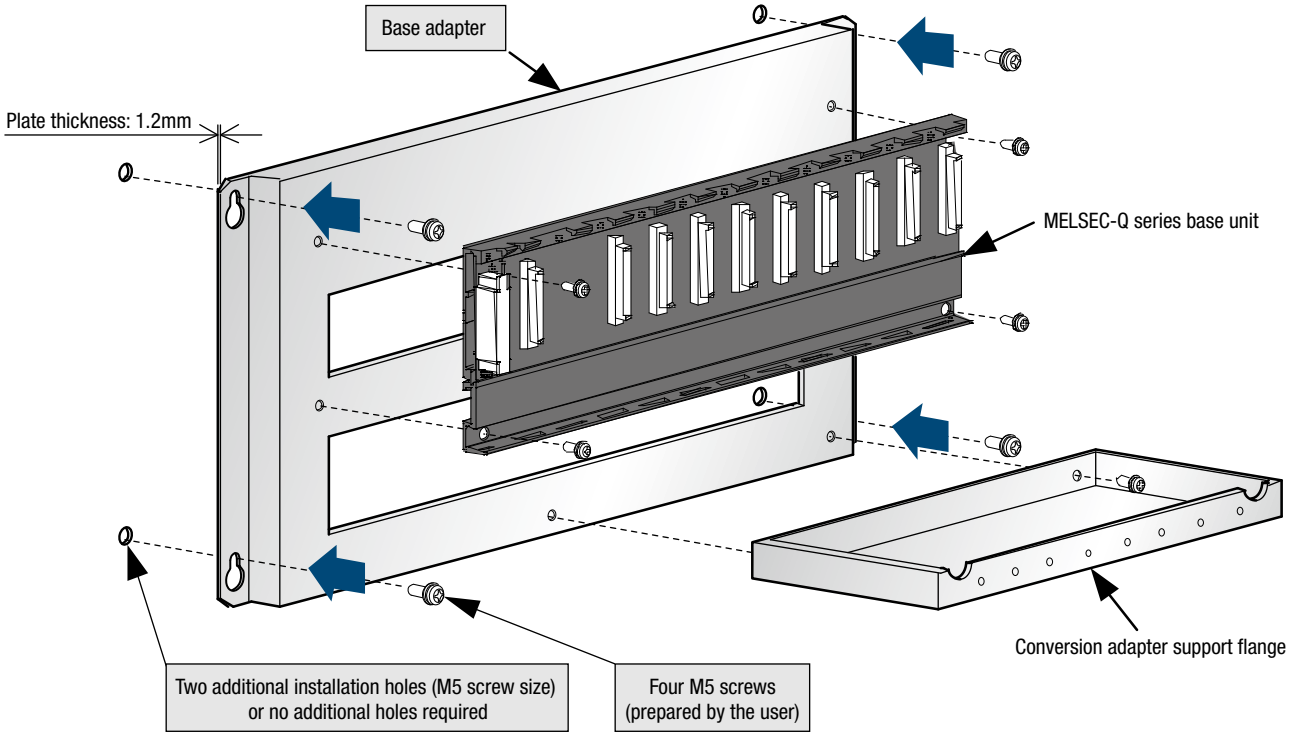
Base adapters

Specifications

By using a base adapter, the MELSEC-Q series base unit and the conversion adapter support flange can be installed at the same time without drilling any additional installation holes.
The same base adapters used to replace the MELSEC-A series with the MELSEC-Q series are used. (ERNT-1JR613B is excluded.)

Note

- Two additional installation holes (M5 screw size) and four M5 screws need to be prepared by the user to install the base adapter to the control panel.
  (There may be a case that drilling of additional installation holes is not required if the installation dimensions of all the four holes are the same before and after replacement.)



The base units (*1 to *5) can be installed to different types of base adapters. Select the optimum base adapter.

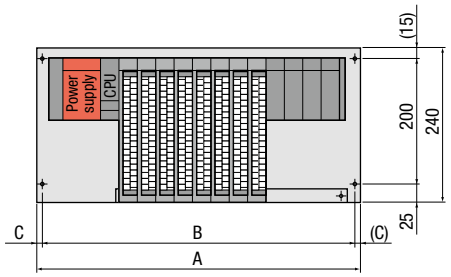
Base adapter model	Installable product						Dimensions
	MELSEC-Q series base unit					Conversion adapter support flange	Width × Height (mm)
	12-slot	8-slot	5-slot	3-slot	2-slot		
ERNT-AQB38N	Q312B					ERNT-AQF12, ERNT-AQF8	480 × 240
		Q38B*1				ERNT-AQF8	
ERNT-AQB35N		Q38B*1				ERNT-AQF8, ERNT-AQF5	382 × 240
			Q35B			ERNT-AQF5	
ERNT-AQB32N				Q33B		ERNT-AQF3	247 × 240
ERNT-1JR613B	Q612B					ERNT-AQF12	480 × 240
ERNT-AQB68N	Q612B					ERNT-AQF12, ERNT-AQF8	466 × 240
		Q68B*2				ERNT-AQF8	
ERNT-AQB65N		Q68B*2				ERNT-AQF8, ERNT-AQF5	352 × 240
			Q65B*3 Q55B*4			ERNT-AQF5	
ERNT-AQB62				Q63B	Q52B*5	ERNT-AQF3	238 × 240
ERNT-AQB58N		Q68B*2				ERNT-AQF8	411 × 240
ERNT-AQB55N			Q65B*3 Q55B*4			ERNT-AQF5	297 × 240
ERNT-AQB52					Q52B*5	ERNT-AQF3	183 × 240

Installation dimensions

- The slot positions differ between the MEMOCON-SC GL series modules (2000 series I/O) before replacement and the MELSEC-Q series modules after replacement. Adjust wiring lengths prior to use.
- Compared to the MEMOCON-SC GL series (2000 series I/O), the height is shorter after replacement.
  (For details on the width and depth of the module, refer to "Precautions" (P.258).)
- The existing two installation holes (out of four) of the MEMOCON-SC GL series (2000 series I/O) base unit can be used for the base adapter and the Q series large type base unit.
  Drilling of two additional installation holes is required.
  (There may be a case that drilling of additional installation holes is not required if the installation dimensions of all the four holes are the same before and after replacement.)

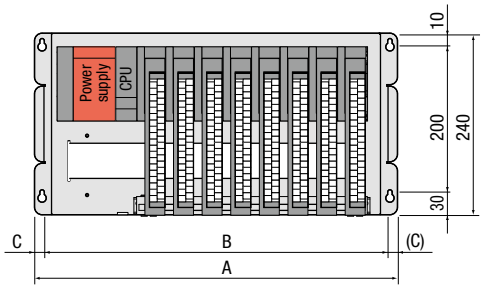
Unit: mm

◎ Base adapter + MELSEC-Q series base unit



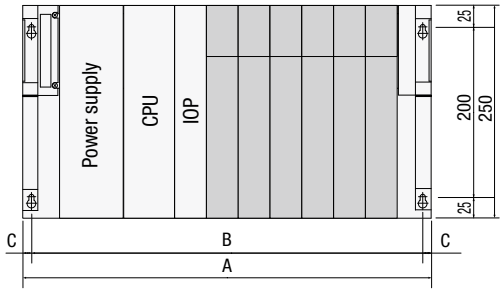
Base adapter model	Description	A	B	C	Installation hole screw size
ERNT-AQB38N	Main base unit	480	460	10	M5
ERNT-AQB35N		382	362	10	
ERNT-AQB32N		247	227	10	
ERNT-1JR613B	Extension base unit (type requiring a power supply module)	480	460	10	
ERNT-AQB68N		466	446	10	
ERNT-AQB65N		352	332	10	
ERNT-AQB62		238	218	10	
ERNT-AQB55N	Extension base unit (type requiring no power supply module)	297	277	10	
ERNT-AQB52		183	163	10	

◎ MELSEC-Q series large type base unit



Q series large type base unit model	Description	A	B	C	Installation hole screw size
Q38BL	Main base unit	480	460	10	M5
Q35BL		382	362	10	
Q68BL	Extension base unit (type requiring a power supply module)	466	446	10	
Q65BL		352	332	10	
Q55BL	Extension base unit (type requiring no power supply module)	297	277	10	

◎ (Reference) MEMOCON-SC GL series (2000 series I/O) base unit



GL series base unit model	Description	A	B	C	Installation hole screw size
JRMSI-MB40	Main base unit	480	460	10	M5
JRMSI-MB60		480	460	10	
JRMSI-MB60S3		370	350	10	
JRMSI-MB70	Main base unit (for remote stations)	480	460	10	
JRMSI-MB70AS4		340	320	10	
JRMSI-MB70AS2		255	235	10	
JRMSI-MB22/JRMSI-MB22A	Extension base unit	480	460	10	
JRMSI-MB22AS6		370	350	10	
JRMSI-MB22S5		340	320	10	
JRMSI-MB22S3		255	235	10	

Comparison of external dimensions and installation hole pitches

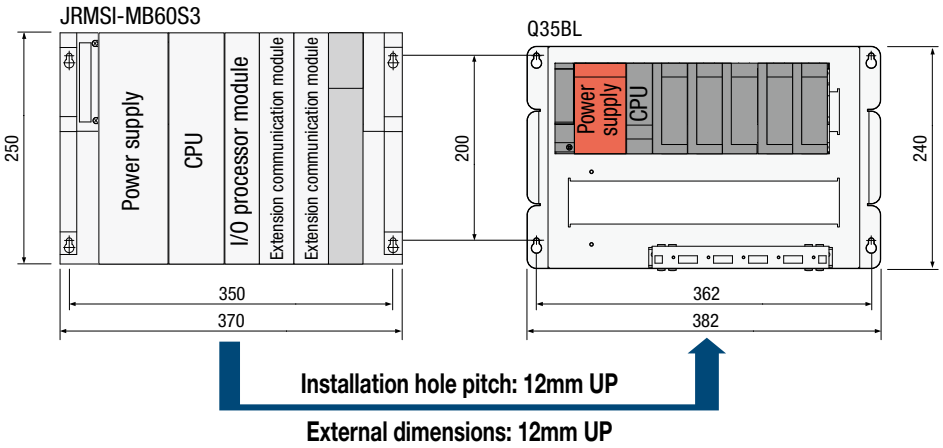
Use the following tables to check the differences of external dimensions and installation hole pitches before and after replacement.

Note

- "▲" in the tables indicates an increase of the external dimensions after replacement as shown in the example below. The installation position needs to be reconsidered.
- If the number of slots on the main base unit is not enough, use an extension base unit.
- If the MEMOCON-SC GL series (2000 series I/O) model being used is not listed here, check the number of slots, external dimensions, installation dimensions, and other specifications. Then, select the optimum base adapter or MELSEC-Q series large type base unit.

(Example) When the MEMOCON-SC GL series (2000 series I/O) (JRMSI-MB60S3) is replaced with the MELSEC-Q series large type base unit (Q35BL)

Unit: mm



When a main base unit is replaced

1) MELSEC-Q series base unit or MELSEC-Q series base unit + base adapter

◎: Same dimensions, ○: GL series is larger, ▲: GL series is smaller

	GL series base unit			MELSEC-Q series base unit							Base adapter						Conversion adapter support flange	Remarks
	Model	Power supply	Maximum No. of slots	Model	Power supply	Maximum No. of slots	Comparison*1 ([MELSEC-Q series] - [GL series]) External dimensions Width	External dimensions Height	Installation dimensions Width	Installation dimensions Height	Model	Comparison*2 ([Base adapter] - [GL series]) External dimensions Width	External dimensions Height	Installation dimensions Width	Installation dimensions Height		
(1)	JRMSI-MB40	Required	8	Q312B	Required	12	○ (-41)	○ (-152)	○ (-41)	○ (-120)	ERNT-AQB38N	◎	○ (-10)	◎	◎	ERNT-AQF12	When a base adapter is used, drilling of additional holes is not required.
				Q38B	Required	8	○ (-152)	○ (-152)	○ (-152)	○ (-120)	ERNT-AQB38N	◎	○ (-10)	◎	◎	ERNT-AQF8	
				Q35B	Required	5	○ (-235)	○ (-152)	○ (-235.6)	○ (-120)	ERNT-AQB35N	○ (-98)	○ (-10)	○ (-98)	◎	ERNT-AQF5	When a base adapter is used, two existing installation holes (vertical direction) can be used.
				Q33B	Required	3	○ (-291)	○ (-152)	○ (-291)	○ (-120)	ERNT-AQB32N	○ (-233)	○ (-10)	○ (-233)	◎	ERNT-AQF3	
(2)	JRMSI-MB60	Required	6	Q312B	Required	12	○ (-41)	○ (-152)	○ (-41)	○ (-120)	ERNT-AQB38N	◎	○ (-10)	◎	◎	ERNT-AQF12	When a base adapter is used, drilling of additional holes is not required.
				Q38B	Required	8	○ (-152)	○ (-152)	○ (-152)	○ (-120)	ERNT-AQB38N	◎	○ (-10)	◎	◎	ERNT-AQF8	
				Q35B	Required	5	○ (-235)	○ (-152)	○ (-235.6)	○ (-120)	ERNT-AQB35N	○ (-98)	○ (-10)	○ (-98)	◎	ERNT-AQF5	When a base adapter is used, two existing installation holes (vertical direction) can be used.
				Q33B	Required	3	○ (-291)	○ (-152)	○ (-291)	○ (-120)	ERNT-AQB32N	○ (-233)	○ (-10)	○ (-233)	◎	ERNT-AQF3	
(3)	JRMSI-MB60S3	Required	1	Q33B	Required	3	○ (-181)	○ (-152)	○ (-181)	○ (-120)	ERNT-AQB32N	○ (-123)	○ (-10)	○ (-123)	◎	ERNT-AQF3	
(4)	JRMSI-MB70	Required	8	Q312B	Required	12	○ (-41)	○ (-152)	○ (-41)	○ (-120)	ERNT-AQB38N	◎	○ (-10)	◎	◎	ERNT-AQF12	When a base adapter is used, drilling of additional holes is not required.
				Q38B	Required	8	○ (-152)	○ (-152)	○ (-152)	○ (-120)	ERNT-AQB38N	◎	○ (-10)	◎	◎	ERNT-AQF8	
				Q35B	Required	5	○ (-235)	○ (-152)	○ (-235.6)	○ (-120)	ERNT-AQB35N	○ (-98)	○ (-10)	○ (-98)	◎	ERNT-AQF5	When a base adapter is used, two existing installation holes (vertical direction) can be used.
				Q33B	Required	3	○ (-291)	○ (-152)	○ (-291)	○ (-120)	ERNT-AQB32N	○ (-233)	○ (-10)	○ (-233)	◎	ERNT-AQF3	
(5)	JRMSI-MB70AS4	Required	4	Q312B	Required	12	▲ (99)	○ (-152)	▲ (99)	○ (-120)	ERNT-AQB38N	▲ (140)	○ (-10)	▲ (140)	◎	ERNT-AQF12	
				Q38B	Required	8	○ (-12)	○ (-152)	○ (-12)	○ (-120)	ERNT-AQB38N	▲ (140)	○ (-10)	▲ (140)	◎	ERNT-AQF8	
				Q35B	Required	5	○ (-95)	○ (-152)	○ (-95.6)	○ (-120)	ERNT-AQB35N	▲ (42)	○ (-10)	▲ (42)	◎	ERNT-AQF5	
				Q33B	Required	3	○ (-151)	○ (-152)	○ (-151)	○ (-120)	ERNT-AQB32N	○ (-93)	○ (-10)	○ (-93)	◎	ERNT-AQF3	
(6)	JRMSI-MB70AS2	Required	2	Q35B	Required	5	○ (-10)	○ (-152)	○ (-10.6)	○ (-120)	ERNT-AQB35N	▲ (127)	○ (-10)	▲ (127)	◎	ERNT-AQF5	
				Q33B	Required	3	○ (-66)	○ (-152)	○ (-66)	○ (-120)	ERNT-AQB32N	○ (-8)	○ (-10)	○ (-8)	◎	ERNT-AQF3	

*1: Values in parentheses are differences in dimensions between the MELSEC-Q series base unit and the GL series base unit. (Unit: mm)
*2: Values in parentheses are differences in dimensions between the base adapter and the GL series base unit. (Unit: mm)

2) MELSEC-Q series large type base unit

◎: Same dimensions, ○: GL series is larger, ▲: GL series is smaller

	GL series base unit			MELSEC-Q series large type base unit							Remarks
	Model	Power supply	Maximum No. of slots	Model	Power supply	Maximum No. of slots	Comparison*1 ([MELSEC-Q series] - [GL series]) External dimensions Width	External dimensions Height	Installation dimensions Width	Installation dimensions Height	
(1)	JRMSI-MB40	Required	8	Q38BL	Required	8	◎	○ (-10)	◎	◎	Drilling of additional holes is not required.
				Q35BL	Required	5	○ (-98)	○ (-10)	○ (-98)	◎	Two existing installation holes (vertical direction) can be used.
(2)	JRMSI-MB60	Required	6	Q38BL	Required	8	◎	○ (-10)	◎	◎	Drilling of additional holes is not required.
				Q35BL	Required	5	○ (-98)	○ (-10)	○ (-98)	◎	Two existing installation holes (vertical direction) can be used.
(3)	JRMSI-MB60S3	Required	1	Q35BL	Required	5	▲ (12)	○ (-10)	▲ (12)	◎	
(4)	JRMSI-MB70	Required	8	Q38BL	Required	8	◎	○ (-10)	◎	◎	Drilling of additional holes is not required.
				Q35BL	Required	5	○ (-98)	○ (-10)	○ (-98)	◎	Two existing installation holes (vertical direction) can be used.
(5)	JRMSI-MB70AS4	Required	4	Q35BL	Required	5	▲ (42)	○ (-10)	▲ (42)	◎	
(6)	JRMSI-MB70AS2	Required	2	Q35BL	Required	5	▲ (127)	○ (-10)	▲ (127)	◎	

*1: Values in parentheses are differences in dimensions between the MELSEC-Q series large type base unit and the GL series base unit. (Unit: mm)

When an extension base unit is replaced

1) MELSEC-Q series base unit or MELSEC-Q series base unit + base adapter

◎: Same dimensions, ○: GL series is larger, ▲: GL series is smaller

	GL series base unit			MELSEC-Q series base unit							Base adapter					Conversion adapter support flange	Remarks
	Model	Power supply	Maximum No. of slots	Model	Power supply	Maximum No. of slots	Comparison*1 ([MELSEC-Q series] - [GL series]) External dimensions Width	External dimensions Height	Installation dimensions Width	Installation dimensions Height	Model	Comparison*2 ([Base adapter] - [GL series]) External dimensions Width	External dimensions Height	Installation dimensions Width	Installation dimensions Height		
(1)	JRMSI-MB22/ JRMSI-MB22A	Required	9	Q612B	Required	12	○ (-41)	○ (-152)	○ (-43)	○ (-120)	ERNT-1JR613B	◎	○ (-10)	◎	◎	ERNT-AQF12	When a base adapter is used, drilling of additional holes is not required.
				Q68B	Required	8	○ (-152)	○ (-152)	○ (-154)	○ (-120)	ERNT-AQB65N	○ (-128)	○ (-10)	○ (-128)	◎	ERNT-AQF8	When a base adapter is used, two existing installation holes (vertical direction) can be used.
(2)	JRMSI-MB22AS6	Required	6	Q612B	Required	12	▲ (69)	○ (-152)	▲ (67)	○ (-120)	ERNT-AQB68N	▲ (96)	○ (-10)	▲ (96)	◎	ERNT-AQF12	
				Q68B	Required	8	○ (-42)	○ (-152)	○ (-44)	○ (-120)	ERNT-AQB65N	○ (-18)	○ (-10)	○ (-18)	◎	ERNT-AQF8	
(3)	JRMSI-MB22S5	Required	5	Q612B	Required	12	▲ (99)	○ (-152)	▲ (97)	○ (-120)	ERNT-AQB68N	▲ (126)	○ (-10)	▲ (126)	◎	ERNT-AQF12	
				Q68B	Required	8	○ (-12)	○ (-152)	○ (-14)	○ (-120)	ERNT-AQB65N	▲ (12)	○ (-10)	▲ (12)	◎	ERNT-AQF8	
				Q65B	Required	5	○ (-95)	○ (-152)	○ (-97.6)	○ (-120)	ERNT-AQB55N	○ (-43)	○ (-10)	○ (-43)	◎	ERNT-AQF5	
				Q55B	Required	5	○ (-151)	○ (-152)	○ (-153)	○ (-120)	ERNT-AQB55N	○ (-43)	○ (-10)	○ (-43)	◎	ERNT-AQF5	
(4)	JRMSI-MB22S3	Required	3	Q68B	Required	8	▲ (73)	○ (-152)	▲ (71)	○ (-120)	ERNT-AQB65N	▲ (97)	○ (-10)	▲ (97)	◎	ERNT-AQF8	
				Q65B	Required	5	○ (-10)	○ (-152)	○ (-12.6)	○ (-120)	ERNT-AQB55N	▲ (42)	○ (-10)	▲ (42)	◎	ERNT-AQF5	
				Q63B	Required	3	○ (-66)	○ (-152)	○ (-68)	○ (-120)	ERNT-AQB62	○ (-17)	○ (-10)	○ (-17)	◎	ERNT-AQF3	
				Q55B	Required	5	○ (-66)	○ (-152)	○ (-68)	○ (-120)	ERNT-AQB55N	▲ (42)	○ (-10)	▲ (42)	◎	ERNT-AQF5	
				Q52B	Not required	2	○ (-149)	○ (-152)	○ (-151.5)	○ (-120)	ERNT-AQB52	○ (-72)	○ (-10)	○ (-72)	◎	ERNT-AQF3	• The number of slots decreases from 3 to 2. • When a base adapter is used, two existing installation holes (vertical direction) can be used.

*1: Values in parentheses are differences in dimensions between the MELSEC-Q series base unit and the GL series base unit. (Unit: mm)
*2: Values in parentheses are differences in dimensions between the base adapter and the GL series base unit. (Unit: mm)

2) MELSEC-Q series large type base unit

◎: Same dimensions, ○: GL series is larger, ▲: GL series is smaller

	GL series base unit			MELSEC-Q series large type base unit							Remarks
	Model	Power supply	Maximum No. of slots	Model	Power supply	Maximum No. of slots	Comparison*1 ([MELSEC-Q series] - [GL series])				
							External dimensions		Installation dimensions		
							Width	Height	Width	Height	
(1)	JRMSI-MB22/ JRMSI-MB22A	Required	9	Q68BL	Required	8	○ (-14)	○ (-10)	○ (-14)	◎	• No Q series large type base unit has nine or more slots. • The number of slots decreases from 9 to 8. • Two existing installation holes (vertical direction) can be used.
(2)	JRMSI-MB22AS6	Required	6	Q68BL	Required	8	▲ (96)	○ (-10)	▲ (96)	◎	Two existing installation holes (vertical direction) can be used.
(3)	JRMSI-MB22S5	Required	5	Q65BL	Required	5	▲ (12)	○ (-10)	▲ (12)	◎	
				Q55BL	Not required	5	○ (-43)	○ (-10)	○ (-43)	◎	
(4)	JRMSI-MB22S3	Required	3	Q65BL	Required	5	▲ (97)	○ (-10)	▲ (97)	◎	
				Q55BL	Not required	5	▲ (42)	○ (-10)	▲ (42)	◎	

*1: Values in parentheses are differences in dimensions between the MELSEC-Q series large type base unit and the GL series base units. (Unit: mm)

Slot positions

The slot positions differ between the MEMOCON-SC GL series (2000 series I/O) modules before replacement and the MELSEC-Q series modules after replacement. Change the slot positions of modules and adjust wiring lengths prior to use.

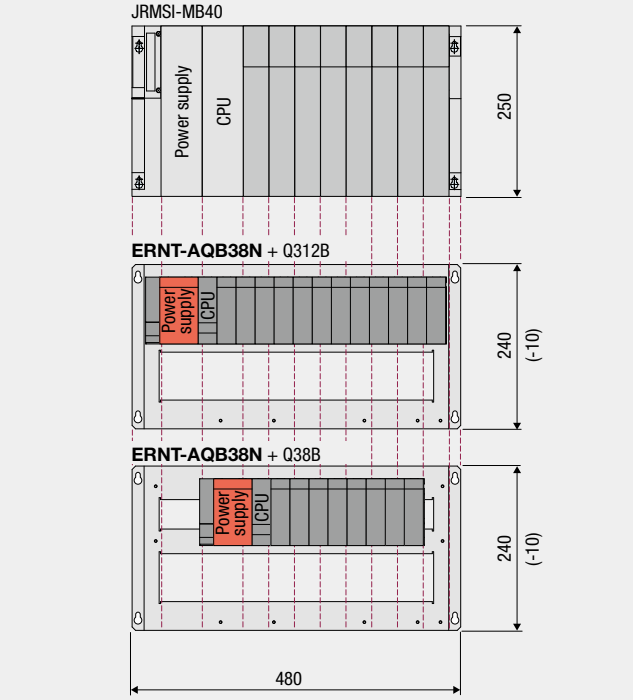
Note

Values in parentheses are differences in dimensions between the MELSEC-Q series base unit and the MEMOCON-SC GL series (2000 series I/O) base unit.

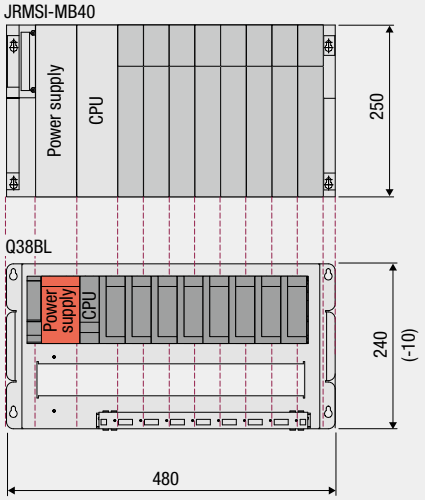
When a main base unit is replaced

(1) JRMSI-MB40 → ERNT-AQB38N+Q312B / ERNT-AQB38N+Q38B / ERNT-AQB35N+Q35B / ERNT-AQB32N+Q33B / Q38BL / Q35BL

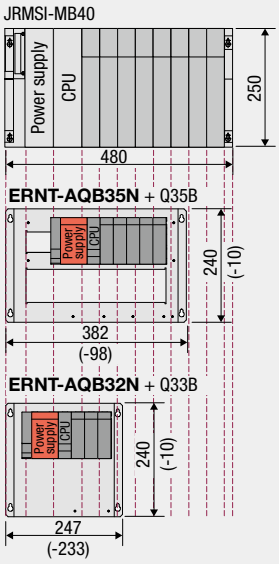
Base adapter + MELSEC-Q series base unit Unit: mm



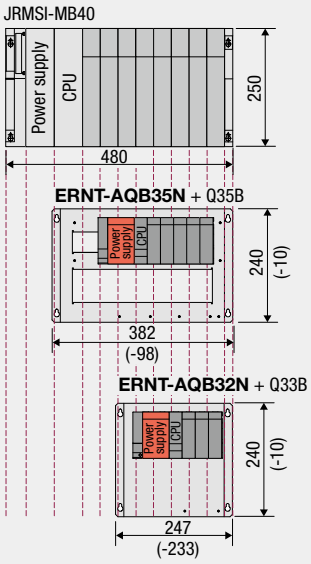
MELSEC-Q series large type base unit Unit: mm



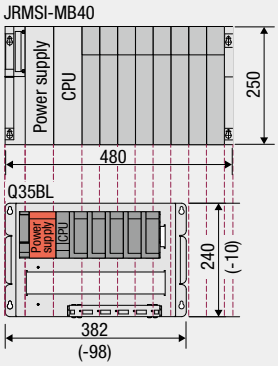
Left-aligned installation



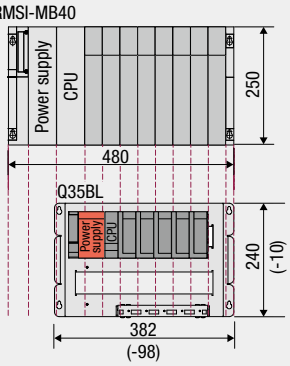
Right-aligned installation



Left-aligned installation



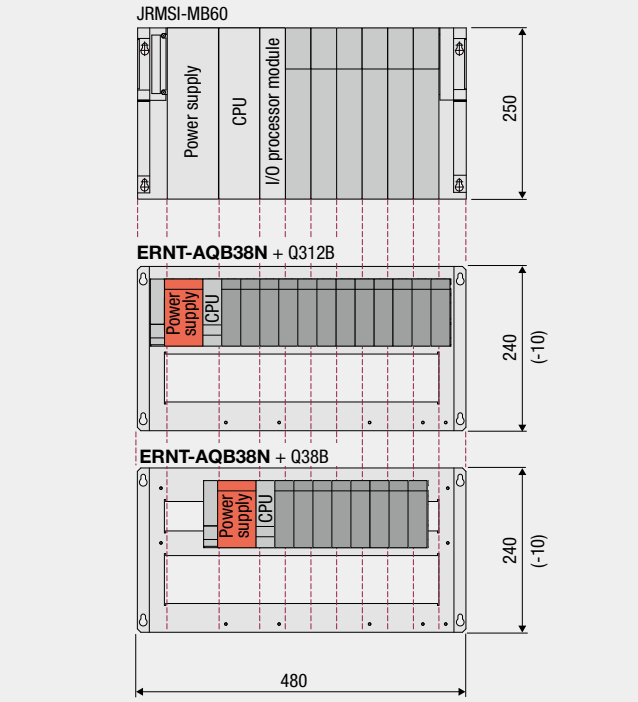
Right-aligned installation

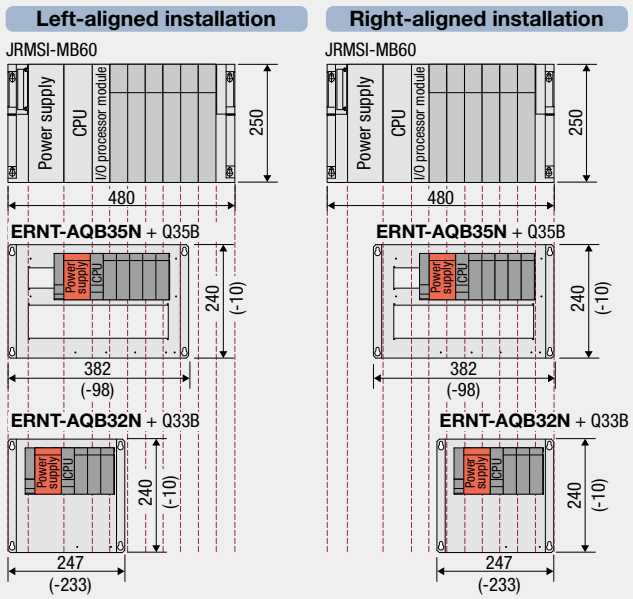


(2) JRMSI-MB60 → ERNT-AQB38N+Q312B / ERNT-AQB38N+Q38B / ERNT-AQB35N+Q35B / ERNT-AQB32N+Q33B / Q38BL / Q35BL

Base adapter + MELSEC-Q series base unit

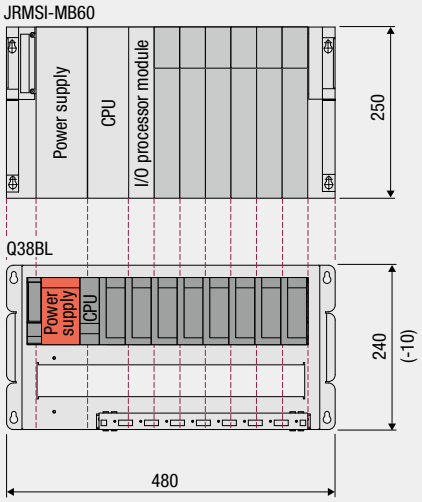
Unit: mm

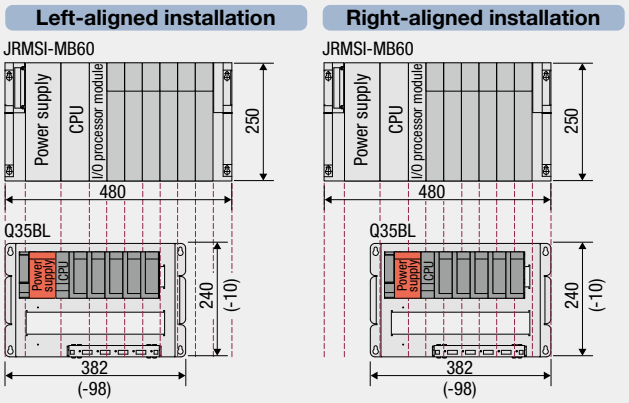




MELSEC-Q series large type base unit

Unit: mm

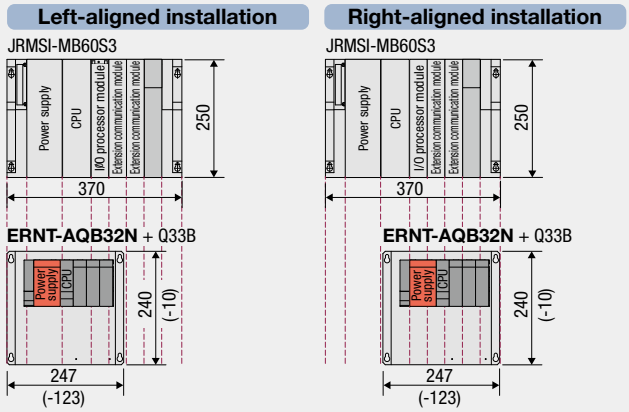




(3) JRMSI-MB60S3 → ERNT-AQB32N+Q33B / Q35BL

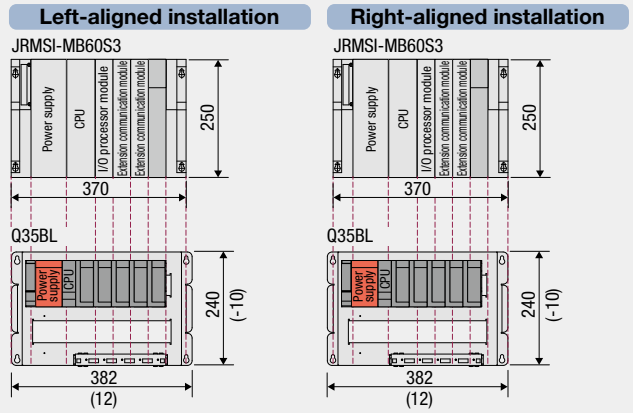
Base adapter + MELSEC-Q series base unit

Unit: mm



MELSEC-Q series large type base unit

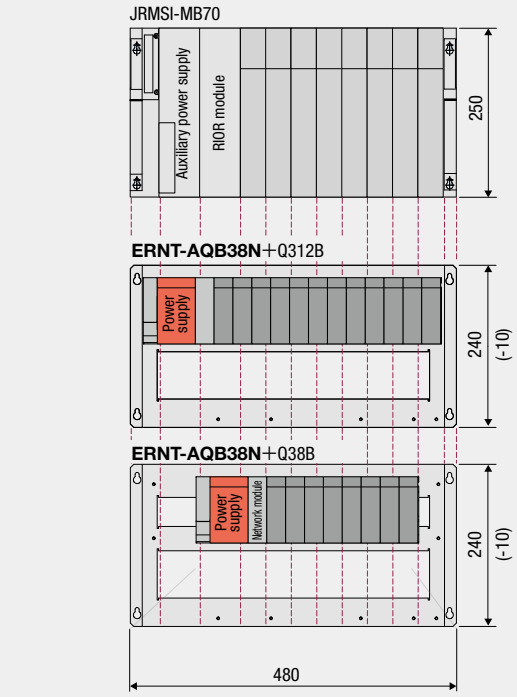
Unit: mm



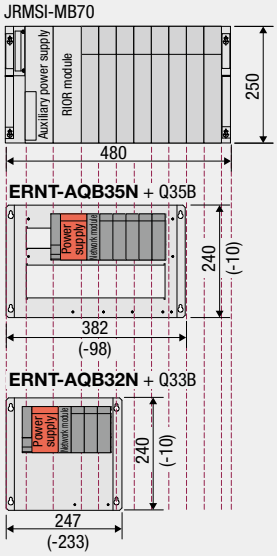
(4) JRMSI-MB70 → ERNT-AQB38N+Q312B / ERNT-AQB38N+Q38B / ERNT-AQB35N+Q35B / ERNT-AQB32N+Q33B / Q38BL / Q35BL

Base adapter + MELSEC-Q series base unit

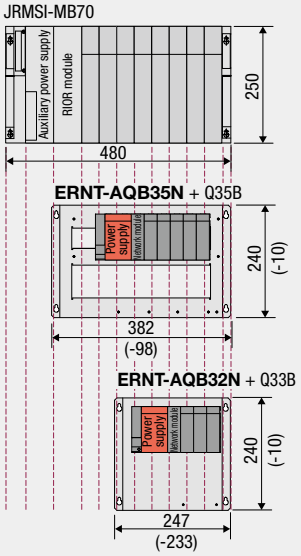
Unit: mm



Left-aligned installation

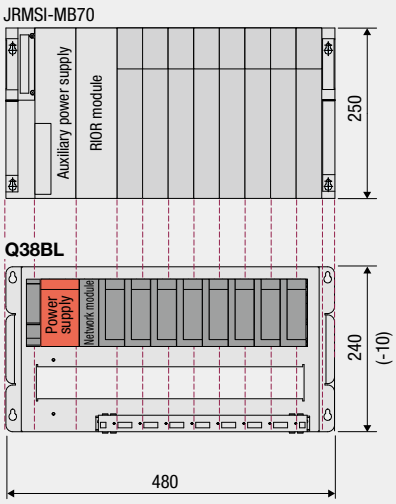


Right-aligned installation

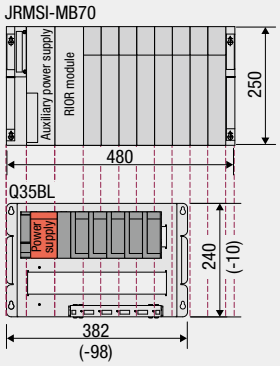


MELSEC-Q series large type base unit

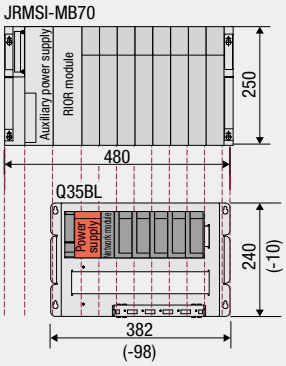
Unit: mm



Left-aligned installation



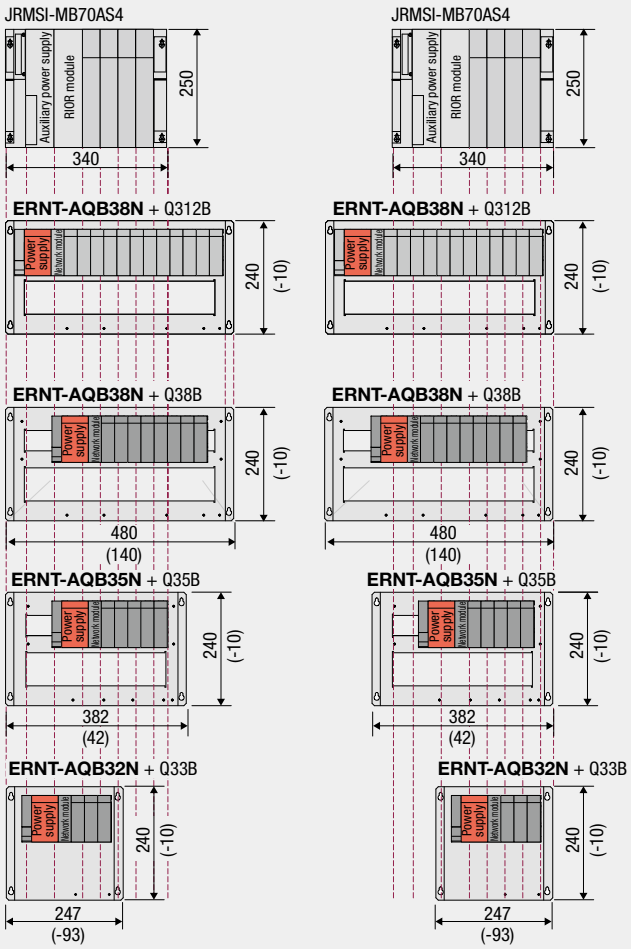
Right-aligned installation



(5) JRMSI-MB70AS4 → ERNT-AQB38N+Q312B / ERNT-AQB38N+Q38B / ERNT-AQB35N+Q35B / ERNT-AQB32N+Q33B / Q35BL

Base adapter + MELSEC-Q series base unit Unit: mm

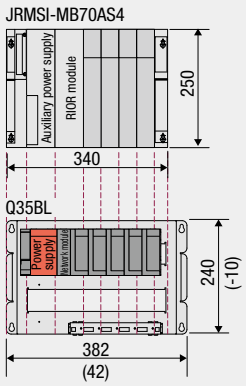
Left-aligned installation



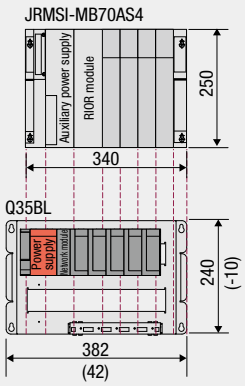
Right-aligned installation

MELSEC-Q series large type base unit Unit: mm

Left-aligned installation



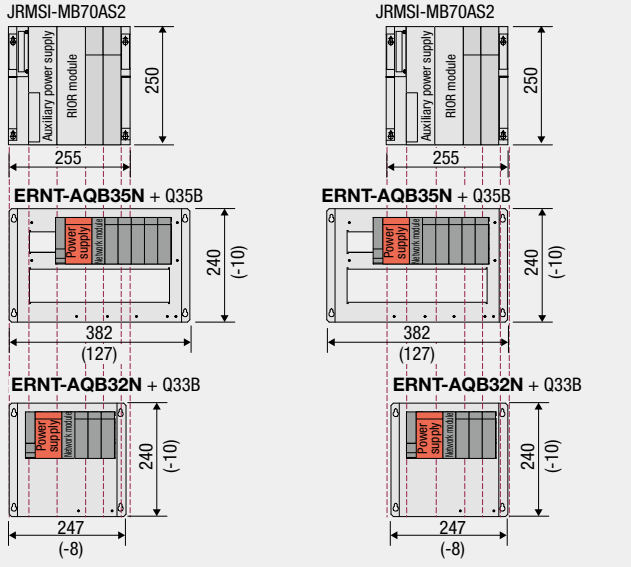
Right-aligned installation



(6) JRMSI-MB70AS2 → ERNT-AQB35N+Q35B / ERNT-AQB32N+Q33B / Q35BL

Base adapter + MELSEC-Q series base unit Unit: mm

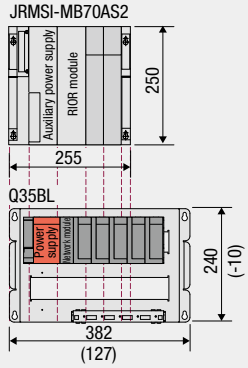
Left-aligned installation



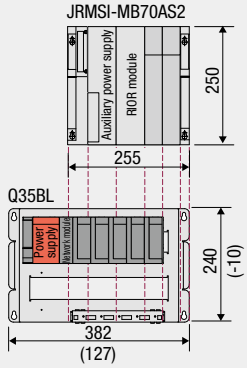
Right-aligned installation

MELSEC-Q series large type base unit Unit: mm

Left-aligned installation



Right-aligned installation

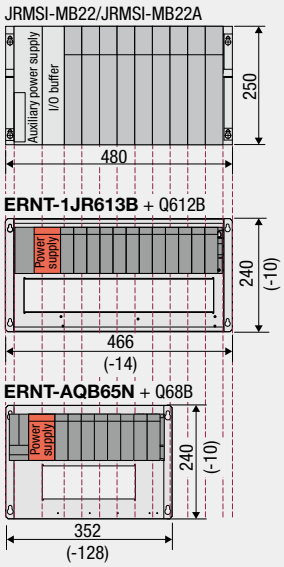


When an extension base unit is replaced

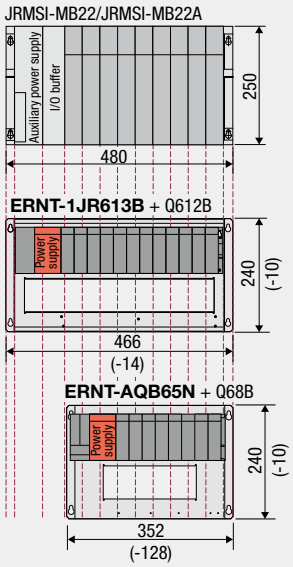
(1) JRMSI-MB22 / JRMSI-MB22A → ERNT-1JR613B+Q612B / ERNT-AQB65N+Q68B / Q68BL

Base adapter + MELSEC-Q series base unit Unit: mm

Left-aligned installation

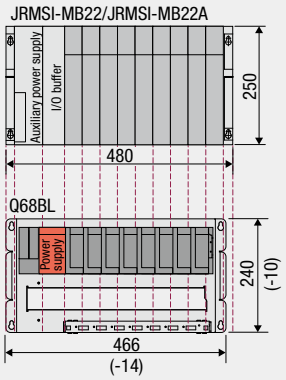


Right-aligned installation

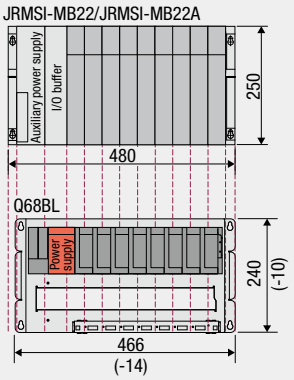


Q series large type base unit Unit: mm

Left-aligned installation



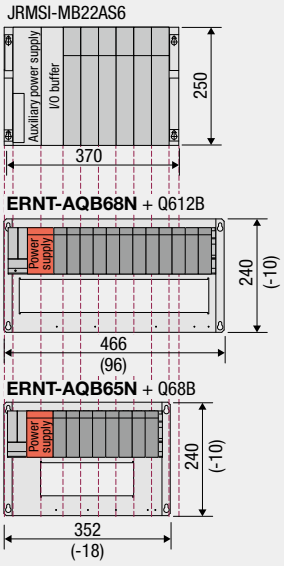
Right-aligned installation



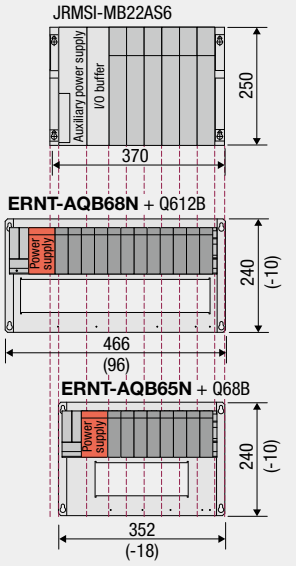
(2) JRMSI-MB22AS6 → ERNT-AQB68N+Q612B / ERNT-AQB65N+Q68B / Q68BL

Base adapter + MELSEC-Q series base unit Unit: mm

Left-aligned installation

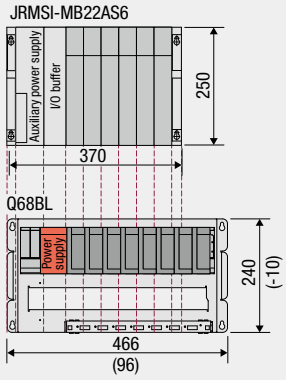


Right-aligned installation

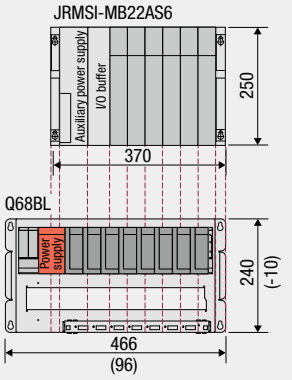


Q series large type base unit Unit: mm

Left-aligned installation



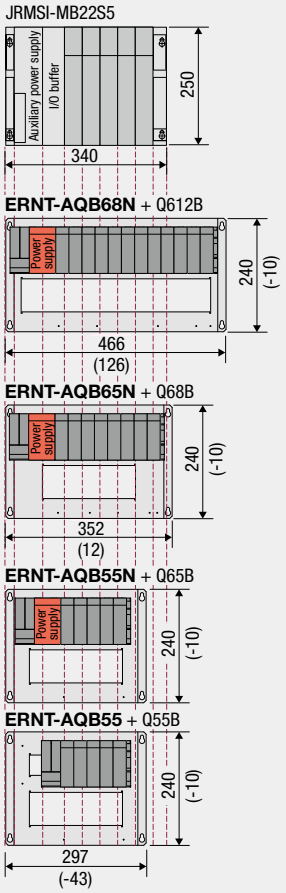
Right-aligned installation



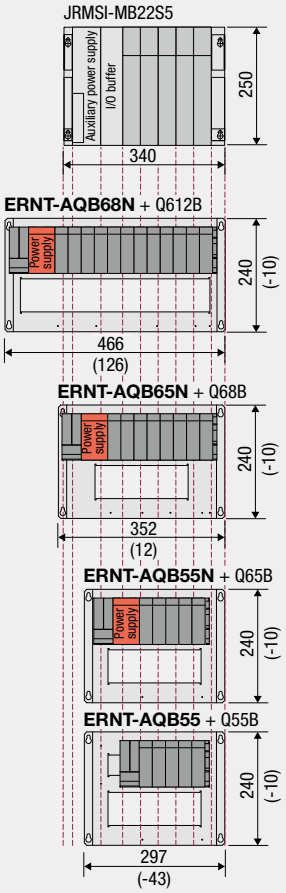
(3) JRMSI-MB22S5 → ERNT-AQB68N+Q612B / ERNT-AQB65N+Q68B / ERNT-AQB55N+Q65B / ERNT-AQB55N+Q55B / Q65BL / Q55BL

Base adapter + MELSEC-Q series base unit Unit: mm

Left-aligned installation

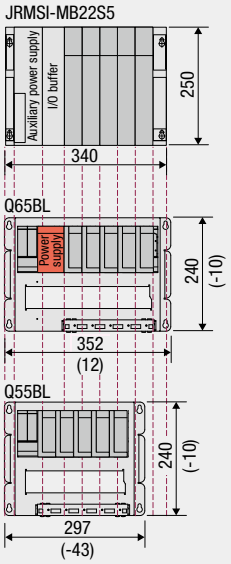


Right-aligned installation

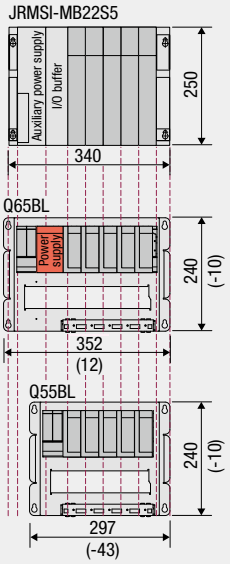


Q series large type base unit Unit: mm

Left-aligned installation



Right-aligned installation

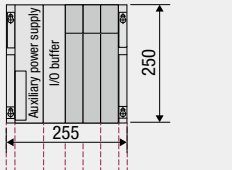


(4) JRMSI-MB22S3 → ERNT-AQB65N+Q68B / ERNT-AQB55N+Q65B / ERNT-AQB62+Q63B / ERNT-AQB55N+Q55B / ERNT-AQB52+Q52B / Q65BL / Q55BL

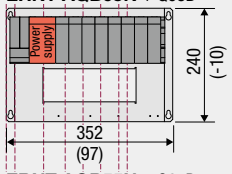
Base adapter + MELSEC-Q series base unit Unit: mm

Left-aligned installation

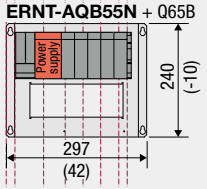
JRMSI-MB22S3



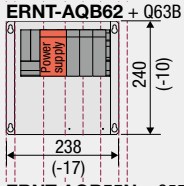
ERNT-AQB65N + Q68B



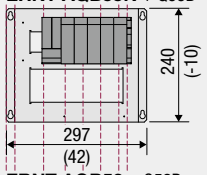
ERNT-AQB55N + Q65B



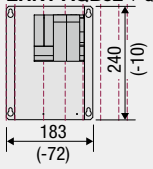
ERNT-AQB62 + Q63B



ERNT-AQB55N + Q55B

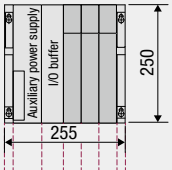


ERNT-AQB52 + Q52B

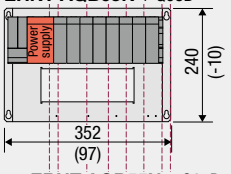


Right-aligned installation

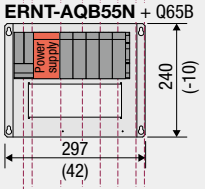
JRMSI-MB22S3



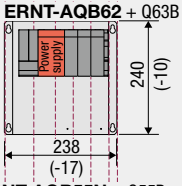
ERNT-AQB65N + Q68B



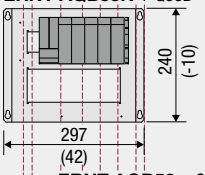
ERNT-AQB55N + Q65B



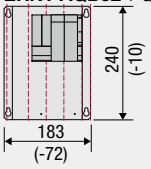
ERNT-AQB62 + Q63B



ERNT-AQB55N + Q55B



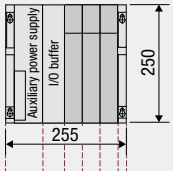
ERNT-AQB52 + Q52B



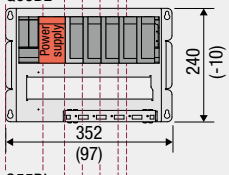
Q series large type base unit Unit: mm

Left-aligned installation

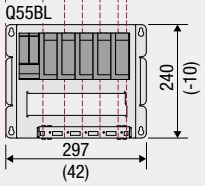
JRMSI-MB22S3



Q65BL

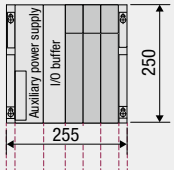


Q55BL

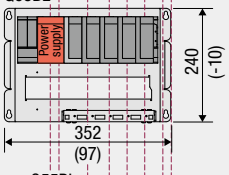


Right-aligned installation

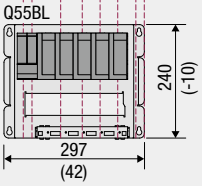
JRMSI-MB22S3



Q65BL



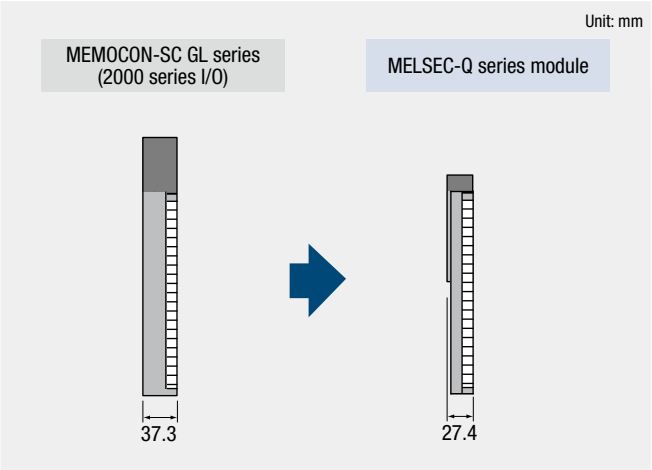
Q55BL



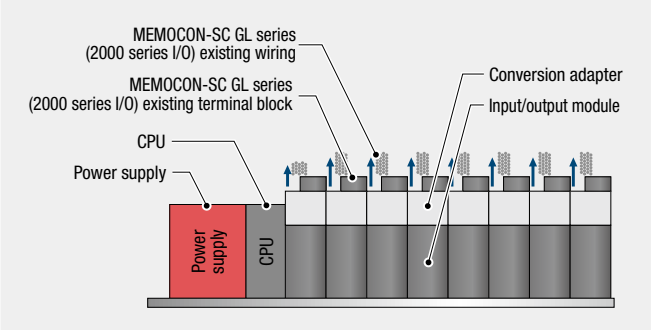
Precautions

Module width

(1) Since the width of MELSEC-Q series modules is smaller (MEMOCON-SC GL series (2000 series I/O): 37.3mm → MELSEC-Q series: 27.4mm), the wiring area becomes smaller as well. Check the wiring area when mounting a conversion adapter.

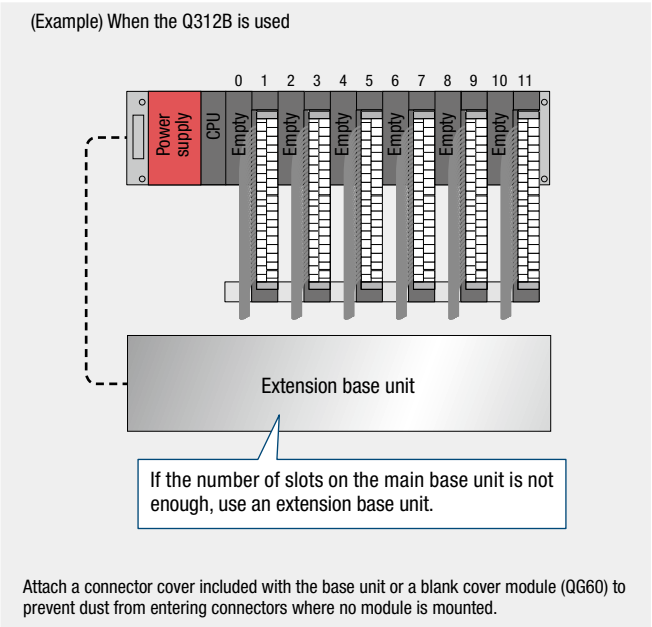


(2) If the wiring causes interference with adjacent modules, lift the cables forward to prevent interference.



(3) If interference still occurs, leave the next slot open to secure a space for wiring.

(Example) When the Q312B is used



Attach a connector cover included with the base unit or a blank cover module (QG60) to prevent dust from entering connectors where no module is mounted.

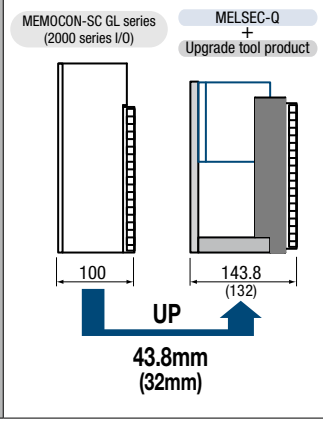
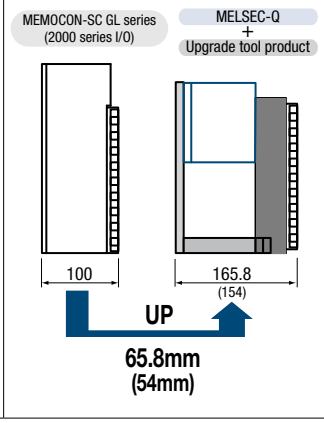
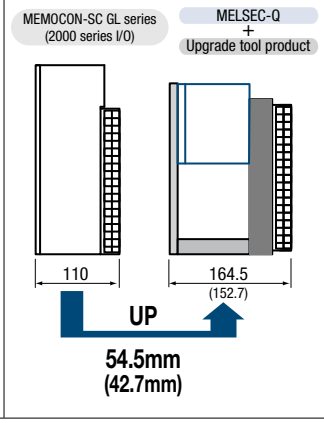
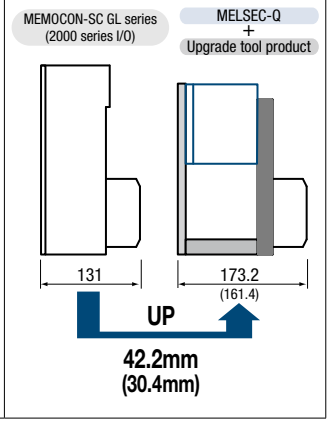
(4) If modules cannot be replaced in accordance with (2) and (3), consider the use of the Q series large type base unit manufactured by Mitsubishi Electric (wiring area: 37.5mm).
→ P.20
Note) 2-slot type conversion adapters cannot be used.

Depth

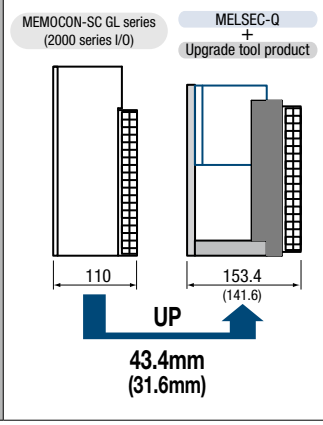
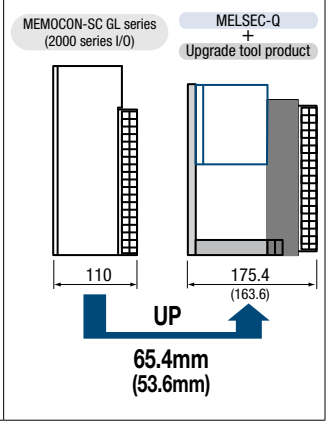
The depth from the panel surface after replacement is shown below. The depth from the panel surface increases. Check the depth when mounting a conversion adapter.
Values in parentheses (shorter by 11.8mm) are the dimensions when a base adapter is not used or when a standard base unit is used instead of a Q series large type base unit manufactured by Mitsubishi Electric.
MEMOCON-SC GL series (2000 series I/O): Base unit + Input/output module + Terminal block/connector
MELSEC-Q series + Upgrade tool product: Base adapter + Base unit + Input/output module + Conversion adapter + Terminal block/connector

MEMOCON-SC GL series (2000 series I/O) : MEMOCON-SC GL series (2000 series I/O)
MELSEC-Q : MELSEC-Q series

1-slot type

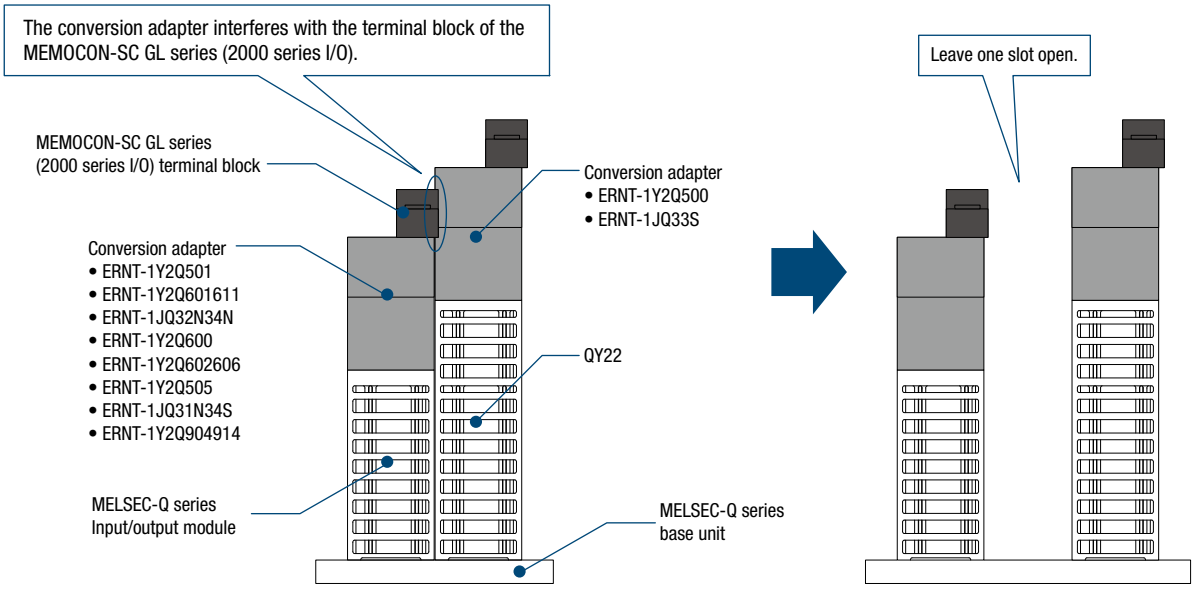
Conversion adapter	ERNT-1Y2Q501 ERNT-1Y2Q601611 ERNT-1Y2Q600	ERNT-1Y2Q500	ERNT-1JQ32N34N ERNT-1Y2Q602606	ERNT-1Y2Q615625 ERNT-CQCY213
Depth	143.8mm (132mm)	165.8mm (154mm)	164.5mm (152.7mm)	173.2mm (161.4mm)
Mounting diagram				

2-slot type

Conversion adapter	ERNT-1Y2Q505 ERNT-1JQ31N34S ERNT-1Y2Q904914	ERNT-1JQ33S
Depth	153.4mm (141.6mm)	175.4mm (163.6mm)
Mounting diagram		

Check for interference with adjacent modules

If the wiring causes interference with adjacent modules as shown below, leave the next slot open to prevent interference.
Note that an open slot is not required when the MELSEC-Q series large type base unit is used because there is a gap between the modules.
Note) 2-slot type conversion adapters cannot be used.



Conversion adapter support flange, base adapter

A conversion adapter support flange is always required when a conversion adapter is used. The use of a base adapter is recommended because the MELSEC-Q series can be installed using the MEMOCON-SC GL series (2000 series I/O) base unit installation holes.

Small type ▶ 120 series I/O

Model list

Conversion adapters

For the specifications of conversion adapters and modules before and after replacement, refer to user's manuals. (User's manuals can be downloaded from our website.)
Also, check that the modules satisfy the specifications of the devices currently connected.

For input/output modules

1-slot type

Input/ Output	MEMOCON GL series (120 series I/O) module before replacement	MELSEC-Q series module after replacement	Note		Conversion adapter			
					Model	Shape		No. of input/ output points
						MEMOCON GL series (120 series I/O)	MELSEC-Q series	
Input	JAMSC-120DDI35400	QX41, QX41-S1, QX41-S2, QX71	*1	*2	ERNT-2YQ35400	MDR connector (40P) ▶	Connector (40P)	32
	JAMSC-120DDI36400	QX41 × 2, QX41-S1 × 2, QX41-S2 × 2, QX71 × 2		*3	ERNT-2YQ36400 × 2	Connector (40P) × 2 ▶	Connector (40P) × 2	64
Output	JAMSC-120DDO35410	QY41P, QY71		*4	ERNT-2YQ35410	MDR connector (40P) ▶	Connector (40P)	32
	JAMSC-120DDO36410	QY41P × 2, QY71 × 2		*5	ERNT-2YQ36410 × 2	Connector (40P) × 2 ▶	Connector (40P) × 2	64

*1: Since the number of points per common changes (16 points/common → 32 points/common), check the common terminal connection of the module before replacement.
*2: If the existing module is the common separation type, consider rewiring to two QX40s or two QX80s. If the existing module uses 24VDC negative common, consider rewiring to the QX81 or QX81-S2.
*3: For replacement, two MELSEC-Q series modules and two conversion adapters are required. If the existing module is the common separation type, consider rewiring to four QX40s or four QX80s. If the existing module uses 24VDC negative common, consider rewiring to the QX82 or QX82-S1.
*4: If the existing module is the common separation type, consider rewiring to two QY40Ps or two QY70s. If the current capacity is not enough, consider rewiring to two QY50s (0.5A/point, 16 points).
*5: For replacement, two MELSEC-Q series modules and two conversion adapters are required. If the existing module is the common separation type, consider rewiring to four QY40Ps or four QY70s.

Replacement of modules that do not support the use of a conversion adapter

Input/output modules in the table below do not support the use of a conversion adapter. Consider rewiring.

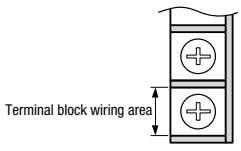
Input/ Output	MEMOCON GL series (120 series I/O) module before replacement			MELSEC-Q series module after replacement				Note
	Model	Specifications	No. of points	Model	Specifications	No. of points	No. of required modules	
Input	JAMSC-120DAI54300	100VAC	16	QX10	100 to 120VAC	16	1	-
	JAMSC-120DAI74300	200VAC	16	QX28	100 to 240VAC	8	2	
	JAMSC-120DDI34300	12/24VDC, positive/negative common shared type	16	QX40, QX40-S1, QX40H	24VDC, positive common	16	1	
				QX80, QX80H	24VDC, negative common	16	1	
				QX70	5/12VDC, positive/negative common shared type	16	1	
Output	JAMSC-120DAO83000	100/200VAC, independent	8	QY18A	240VAC, 24VDC, independent	8	1	*6
	JAMSC-120DAO84300	100/200VAC	16	QY22	100 to 240VAC	16	1	-
	JAMSC-120DDO33000	12/24VDC, independent, sink/source shared type	8	QY68A	5 to 24VDC, independent, sink/source shared type	8	1	
	JAMSC-120DDO34310	12/24VDC, sink type	16	QY40P	12 to 24VDC, sink type	16	1	
	JAMSC-120DDO34320	12/24VDC, source type	16	QY80	12 to 24VDC, source type	16	1	
	JAMSC-120DRA84300	200VAC, 24VDC, relay contact	16	QY10	240VAC, 24VDC, relay contact	16	1	

*6: The output type changes from triac output to contact output.

Reference: Solderless terminal and wire specifications

Item	MEMOCON GL series (120 series I/O) module before replacement	MELSEC-Q series module after replacement
Solderless terminal size	M3	M3
Terminal block wiring area	7mm	6mm

*: The size of solderless terminals before and after replacement is the same (M3 screw size). Note, however, that there may be a case that the terminals cannot be wired to the terminal block of the MELSEC-Q series because the wiring area is smaller.



Base units manufactured by Mitsubishi Electric

Note

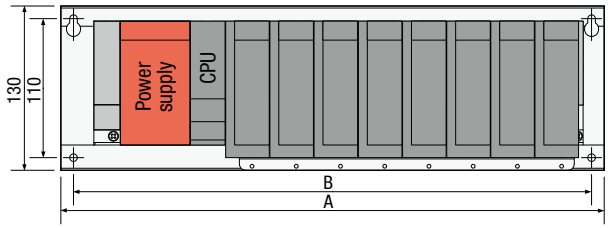
The base unit installation hole positions (four holes) differ between the MEMOCON GL series base units and the MELSEC-Q series base units. Drilling of additional holes to the control panel is required.

Installation dimensions

The slot positions differ between the MEMOCON GL series modules before replacement and the MELSEC-Q series modules after replacement. Adjust wiring lengths prior to use.

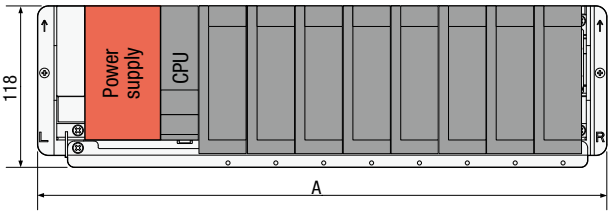
Unit: mm

◎ Q series large type base unit (AnS series size) Panel surface installation type



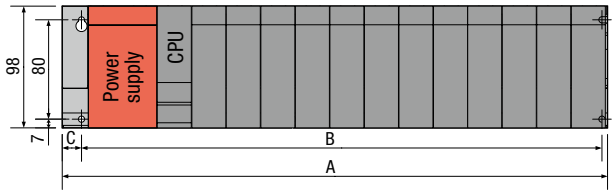
Q series large type base unit (AnS series size) model	Description	A	B	Installation hole screw size
Q38BLS	Main base unit	430	410	M5
Q35BLS		325	305	
Q68BLS	Extension base unit (type requiring a power supply module)	420	400	
Q65BLS		315	295	
Q55BLS	Extension base unit (type requiring no power supply module)	260	240	

◎ Q series large type base unit (AnS series size) DIN rail installation type



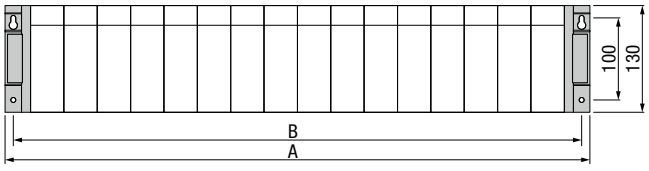
Q series large type base unit (AnS series size) model	Description	A
Q38BLS-D	Main base unit	416
Q35BLS-D		311
Q68BLS-D	Extension base unit (type requiring a power supply module)	409
Q65BLS-D		304
Q55BLS-D	Extension base unit (type requiring no power supply module)	248

◎ MELSEC-Q series base unit



MELSEC-Q series base unit model	Description	A	B	C	Installation hole screw size
Q312B	Main base unit	439	419	15.5	M4
Q38B		328	308	15.5	
Q35B		245	224.4	15.5	
Q33B		189	169	15.5	
Q612B	Extension base unit (type requiring a power supply module)	439	417	15.5	
Q68B		328	306	15.5	
Q65B		245	222.4	15.5	
Q63B		189	167	15.5	
Q55B	Extension base unit (type requiring no power supply module)	189	167	15.5	
Q52B		106	83.5	15.5	

◎ (Reference) MEMOCON GL series base unit



GL series base unit model	Description	A	B	Installation hole screw size
JRMSI-120XBP01600	Base unit	710	690	M5
JRMSI-120XBP01200		540	520	
JRMSI-120XBP01000		460	440	
JRMSI-120XBP00800		380	360	
JRMSI-120XBP00600		300	280	

Comparison of external dimensions and installation hole pitches

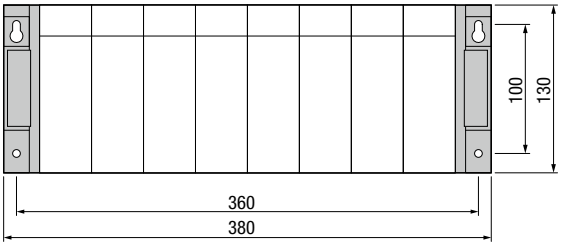
Use the following tables to check the differences of external dimensions and installation hole pitches before and after replacement.

Note

"▲" in the tables indicates an increase of the external dimensions after replacement as shown in the example below. The installation position needs to be reconsidered.
If the number of slots on the main base unit is not enough, use an extension base unit.

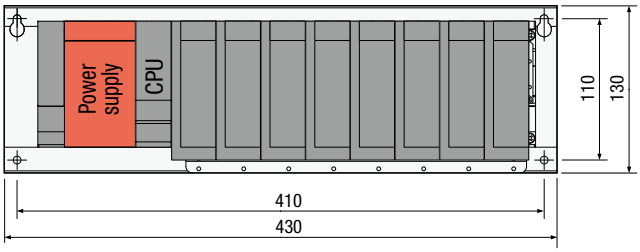
(Example) When the MEMOCON GL series base unit (JRMSI-120XBP00800) is replaced with the Q series large type base unit (AnS series size) (Q38BLS)

JRMSI-120XBP00800



Q38BLS

Unit: mm



Installation hole pitch: 50mm UP

External dimensions: 50mm UP

Main base units

◎: Same dimensions, ○: GL series is larger, ▲: GL series is smaller

GL series base unit			Q series large type base unit (AnS series size)							MELSEC-Q series base unit							Remarks
Model	Power supply	Maximum No. of slots	Model	Power supply	Maximum No. of slots	Comparison*1 ([Q series large type (AnS series size)] - [GL series])				Model	Power supply	Maximum No. of slots	Comparison*1 ([MELSEC-Q series] - [GL series])				
						External dimensions		Installation dimensions*2					External dimensions		Installation dimensions*2		
						Width	Height	Width	Height				Width	Height	Width	Height	
JRMSI-120XBP01600	Required	16	Q38BLS	Required	8	○ (-280)	◎	○ (-280)	▲ (10)	Q312B	Required	12	○ (-271)	○ (-32)	○ (-271)	○ (-20)	• Reconsider the base unit position in the control panel in accordance with the external dimensions and installation hole pitches after replacement.
JRMSI-120XBP01200	Required	12	Q38BLS	Required	8	○ (-110)	◎	○ (-110)	▲ (10)	Q312B	Required	12	○ (-101)	○ (-32)	○ (-101)	○ (-20)	
										Q38B	Required	8	○ (-212)	○ (-32)	○ (-212)	○ (-20)	
JRMSI-120XBP01000	Required	10	Q38BLS	Required	8	○ (-30)	◎	○ (-30)	▲ (10)	Q312B	Required	12	○ (-21)	○ (-32)	○ (-21)	○ (-20)	
										Q38B	Required	8	○ (-132)	○ (-32)	○ (-132)	○ (-20)	
JRMSI-120XBP00800	Required	8	Q38BLS	Required	8	▲ (50)	◎	▲ (50)	▲ (10)	Q312B	Required	12	▲ (59)	○ (-32)	▲ (59)	○ (-20)	
										Q38B	Required	8	○ (-52)	○ (-32)	○ (-52)	○ (-20)	
										Q35B	Required	5	○ (-135)	○ (-32)	○ (-135.6)	○ (-20)	
JRMSI-120XBP00600	Required	6	Q38BLS	Required	8	▲ (130)	◎	▲ (130)	▲ (10)	Q312B	Required	12	▲ (139)	○ (-32)	▲ (139)	○ (-20)	
										Q38B	Required	8	▲ (28)	○ (-32)	▲ (28)	○ (-20)	
			Q35BLS	Required	5	▲ (25)	◎	▲ (25)	▲ (10)	Q35B	Required	5	○ (-55)	○ (-32)	○ (-55.6)	○ (-20)	

*1: Values in parentheses are differences in dimensions between the MELSEC-Q series base units and the GL series base units. (Unit: mm)
*2: Be careful when drilling new holes as the difference value becomes closer to zero.

Extension base units

◎: Same dimensions, ○: GL series is larger, ▲: GL series is smaller

GL series base unit			Q series large type base unit (AnS series size)							MELSEC-Q series base unit							Remarks
Model	Power supply	Maximum No. of slots	Model	Power supply	Maximum No. of slots	Comparison*1 ([Q series large type (AnS series size)] - [GL series])				Model	Power supply	Maximum No. of slots	Comparison*1 ([MELSEC-Q series] - [GL series])				
						External dimensions		Installation dimensions*2					External dimensions		Installation dimensions*2		
						Width	Height	Width	Height				Width	Height	Width	Height	
JRMSI-120XBP01600	Required	16	Q68BLS	Required	8	○ (-290)	◎	○ (-290)	▲ (10)	Q612B	Required	12	○ (-271)	○ (-32)	○ (-273)	○ (-20)	• Reconsider the base unit position in the control panel in accordance with the external dimensions and installation hole pitches after replacement.
JRMSI-120XBP01200	Required	12	Q68BLS	Required	8	○ (-120)	◎	○ (-120)	▲ (10)	Q612B	Required	12	○ (-101)	○ (-32)	○ (-103)	○ (-20)	
										Q68B	Required	8	○ (-212)	○ (-32)	○ (-214)	○ (-20)	
JRMSI-120XBP01000	Required	10	Q68BLS	Required	8	○ (-40)	◎	○ (-40)	▲ (10)	Q612B	Required	12	○ (-21)	○ (-32)	○ (-23)	○ (-20)	
										Q68B	Required	8	○ (-132)	○ (-32)	○ (-134)	○ (-20)	
JRMSI-120XBP00800	Required	8	Q68BLS	Required	8	▲ (40)	◎	▲ (40)	▲ (10)	Q612B	Required	12	▲ (59)	○ (-32)	▲ (57)	○ (-20)	
										Q68B	Required	8	○ (-52)	○ (-32)	○ (-54)	○ (-20)	
										Q65B	Required	5	○ (-135)	○ (-32)	○ (-137.6)	○ (-20)	
										Q55B	Not required	5	○ (-191)	○ (-32)	○ (-193)	○ (-20)	
JRMSI-120XBP00600	Required	6	Q68BLS	Required	8	▲ (120)	◎	▲ (120)	▲ (10)	Q612B	Required	12	▲ (139)	○ (-32)	▲ (137)	○ (-20)	
			Q65BLS	Required	5	▲ (15)	◎	▲ (15)	▲ (10)	Q68B	Required	8	▲ (28)	○ (-32)	▲ (26)	○ (-20)	
										Q65B	Required	5	○ (-55)	○ (-32)	○ (-57.6)	○ (-20)	
			Q55BLS	Not required	5	○ (-40)	◎	○ (-40)	▲ (10)	Q55B	Not required	5	○ (-111)	○ (-32)	○ (-113)	○ (-20)	

*1: Values in parentheses are differences in dimensions between the MELSEC-Q series base units and the GL series base units. (Unit: mm)
*2: Be careful when drilling new holes as the difference value becomes closer to zero.

Slot positions

The slot positions differ between the MEMOCON GL series modules before replacement and the MELSEC-Q series modules after replacement. Change the slot positions of modules and adjust wiring lengths prior to use.

Note

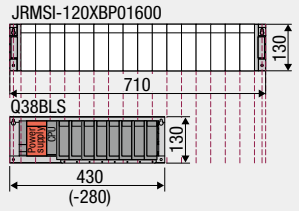
The installation hole size of the MELSEC-Q series large type base unit (AnS series size) is the same as that of the MEMOCON GL series base unit. Therefore, the installation holes are used as the reference for left-aligned and right-aligned installations. The installation hole size of the MELSEC-Q series base unit differs from that of the MEMOCON GL series base unit. Therefore, the edge of the base unit is used as the reference for left-aligned and right-aligned installations. Values in parentheses are differences in dimensions between the MELSEC-Q series base unit and the GL series base unit.

When a main base unit is replaced

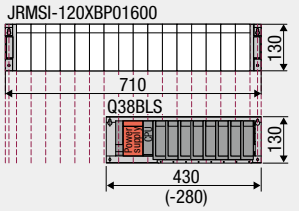
(1) JRMSI-120XBP01600 → Q38BLS / Q312B

Q series large type base unit (AnS series size) Unit: mm

Left-aligned installation

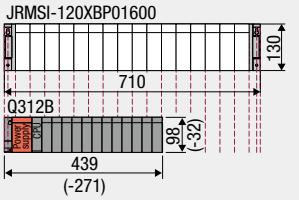


Right-aligned installation

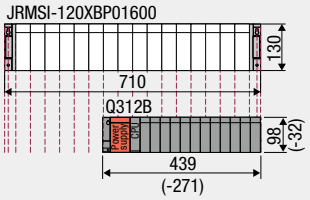


MELSEC-Q series base unit Unit: mm

Left-aligned installation



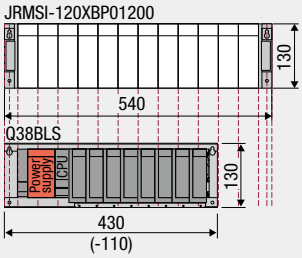
Right-aligned installation



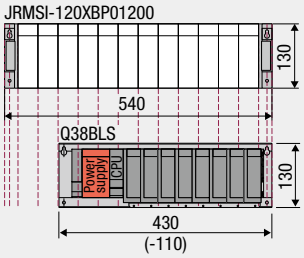
(2) JRMSI-120XBP01200 → Q38BLS / Q38B, Q312B

Q series large type base unit (AnS series size) Unit: mm

Left-aligned installation

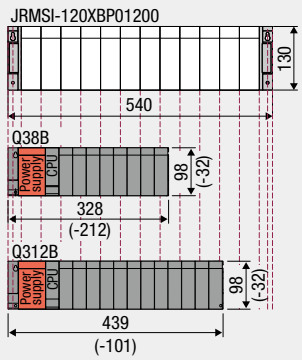


Right-aligned installation

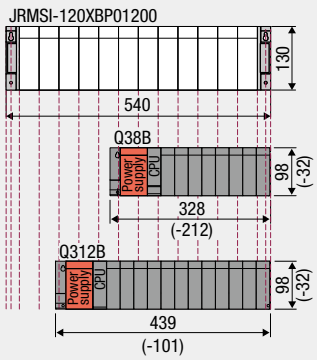


MELSEC-Q series base unit Unit: mm

Left-aligned installation



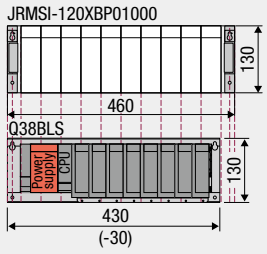
Right-aligned installation



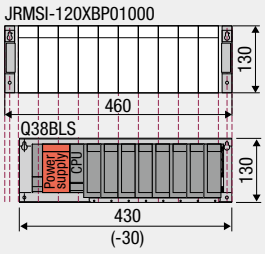
(3) JRMSI-120XBP01000 → Q38BLS / Q38B, Q312B

Q series large type base unit (AnS series size) Unit: mm

Left-aligned installation

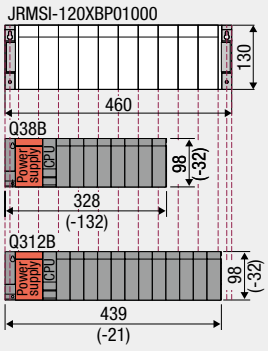


Right-aligned installation

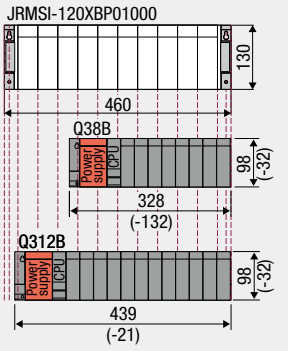


MELSEC-Q series base unit Unit: mm

Left-aligned installation



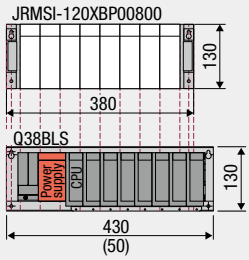
Right-aligned installation



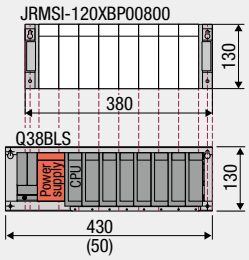
(4) JRMSI-120XBP00800 → Q38BLS / Q35B, Q38B, Q312B

Q series large type base unit (AnS series size) Unit: mm

Left-aligned installation

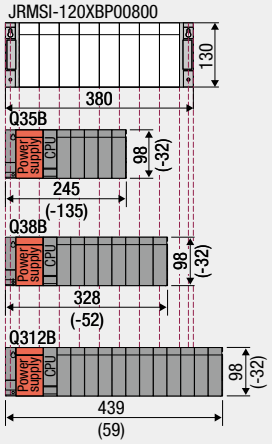


Right-aligned installation

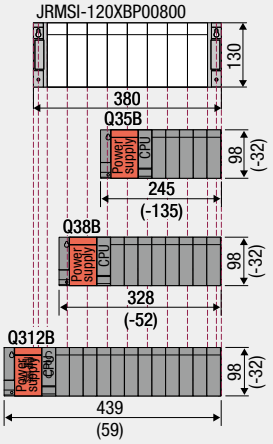


MELSEC-Q series base unit Unit: mm

Left-aligned installation



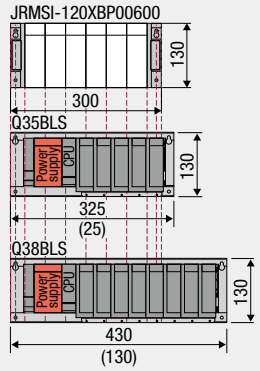
Right-aligned installation



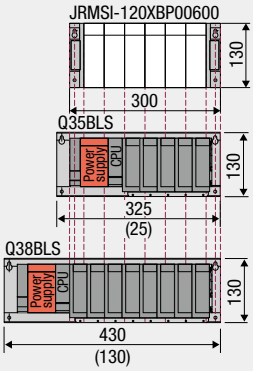
(5) JRMSI-120XBP00600 → Q35BLS, Q38BLS / Q35B, Q38B, Q312B

Q series large type base unit (AnS series size) Unit: mm

Left-aligned installation

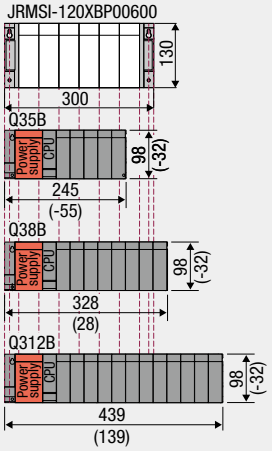


Right-aligned installation

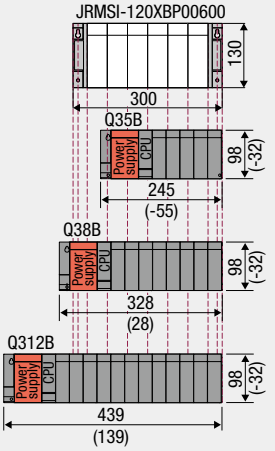


MELSEC-Q series base unit Unit: mm

Left-aligned installation



Right-aligned installation

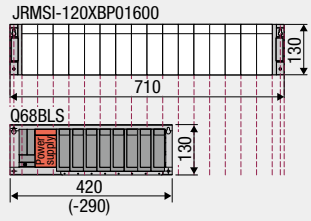


When an extension base unit is replaced

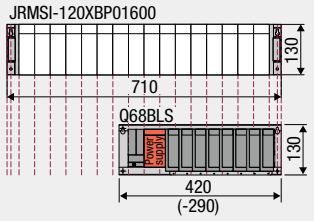
(1) JRMSI-120XBP01600 → Q68BLS / Q612B

Q series large type base unit (AnS series size) Unit: mm

Left-aligned installation

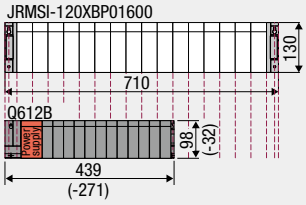


Right-aligned installation

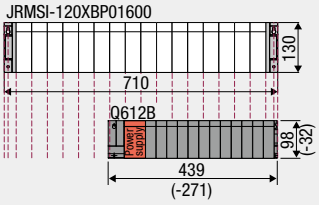


MELSEC-Q series base unit Unit: mm

Left-aligned installation



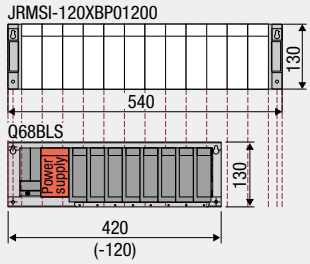
Right-aligned installation



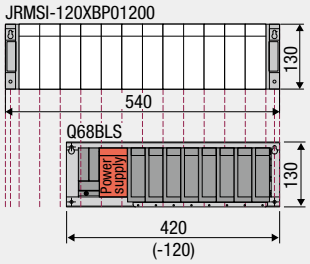
(2) JRMSI-120XBP01200 → Q68BLS / Q68B, Q612B

Q series large type base unit (AnS series size) Unit: mm

Left-aligned installation

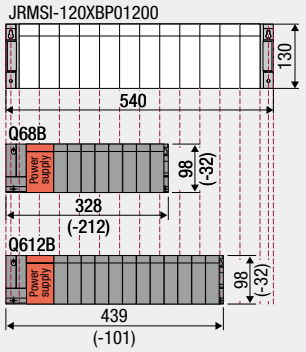


Right-aligned installation

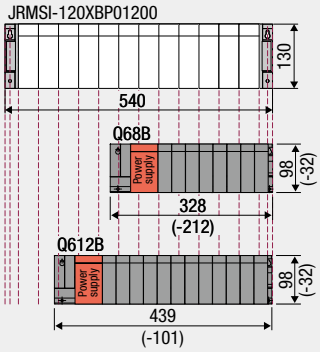


MELSEC-Q series base unit Unit: mm

Left-aligned installation



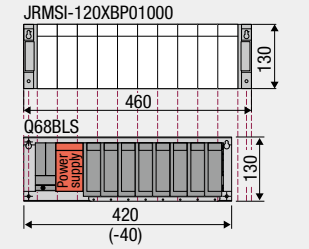
Right-aligned installation



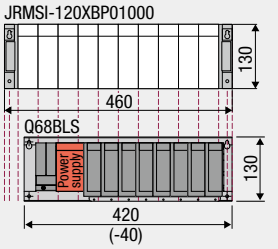
(3) JRMSI-120XBP01000 → Q68BLS / Q68B, Q612B

Q series large type base unit (AnS series size) Unit: mm

Left-aligned installation

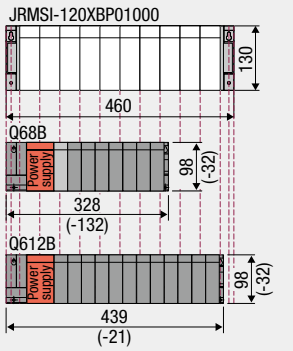


Right-aligned installation

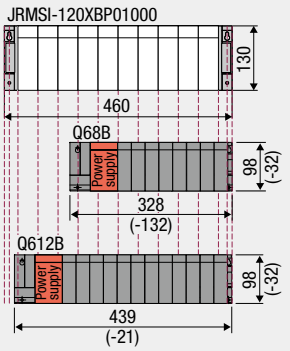


MELSEC-Q series base unit Unit: mm

Left-aligned installation



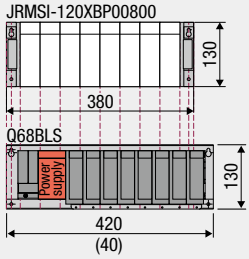
Right-aligned installation



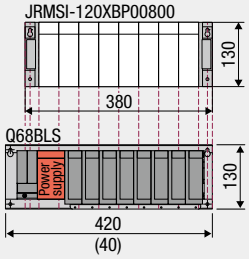
(4) JRMSI-120XBP00800 → Q68BLS / Q65B, Q68B, Q612B, Q55B

Q series large type base unit (AnS series size) Unit: mm

Left-aligned installation

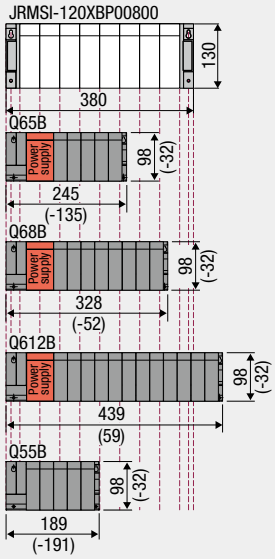


Right-aligned installation

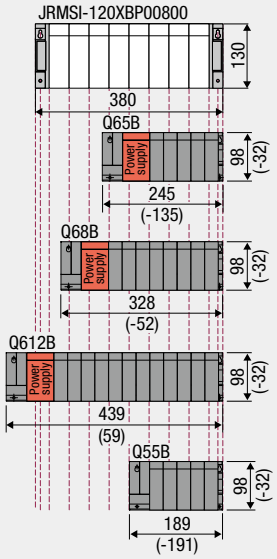


MELSEC-Q series base unit Unit: mm

Left-aligned installation



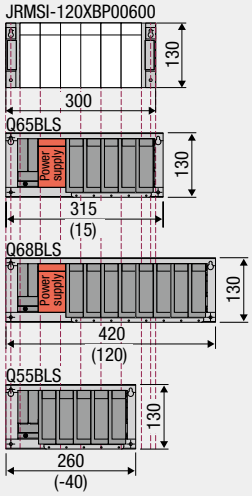
Right-aligned installation



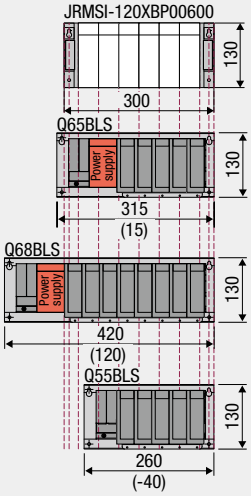
(5) JRMSI-120XBP00600 → Q65BLS, Q68BLS, Q55BLS / Q65B, Q68B, Q612B, Q55B

Q series large type base unit (AnS series size) Unit: mm

Left-aligned installation

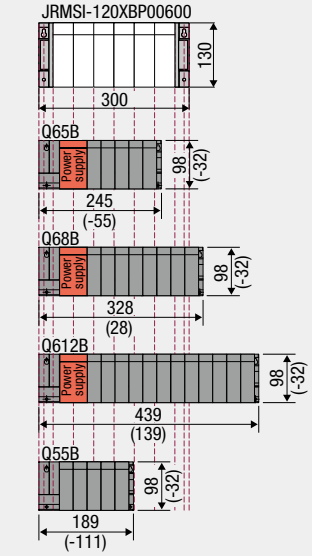


Right-aligned installation

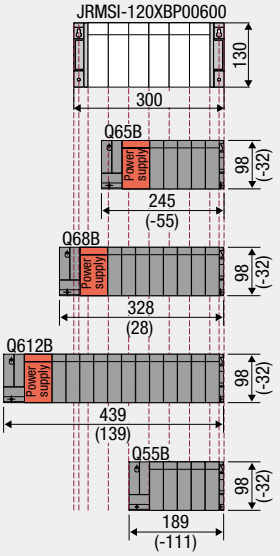


MELSEC-Q series base unit Unit: mm

Left-aligned installation



Right-aligned installation

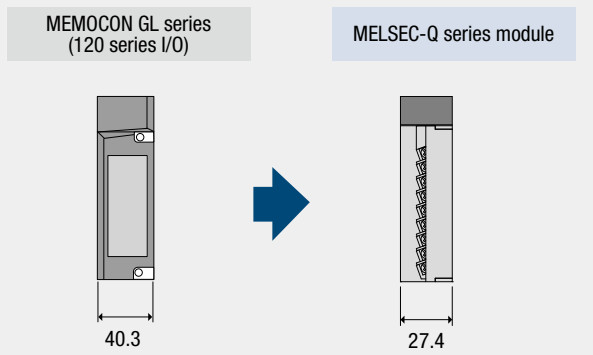


Precautions

Module width

Since the width of MELSEC-Q series modules is smaller (MEMOCON GL series (120 series I/O): 40.3mm → MELSEC-Q series: 27.4mm), the wiring area becomes smaller as well. Check the wiring area when mounting a conversion adapter.
If the wiring causes interference with adjacent modules, lift the cables forward or leave the next slot open to secure a space for wiring.

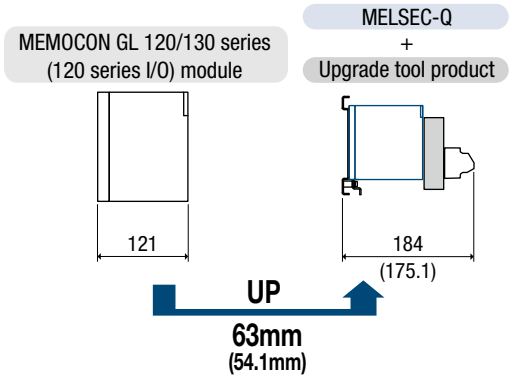
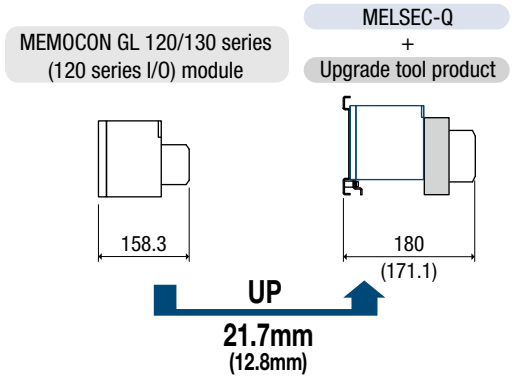
Unit: mm



Depth

The dimensions increase as shown below after replacement. Check the depth of the control panel before installation.
Values in parentheses (shorter by 8.9mm) are the dimensions when the Q series large type base unit (AnS series size) manufactured by Mitsubishi Electric is not used.

MELSEC-Q : MELSEC-Q series

Conversion adapter	ERNT-2YQ35400 ERNT-2YQ35410	ERNT-2YQ36400 ERNT-2YQ36410
Depth	184mm (175.1mm)	180mm (171.1mm)
Mounting diagram		

General-purpose PLC → MELSEC iQ-R series
Upgrade tool "Universal conversion adapter"

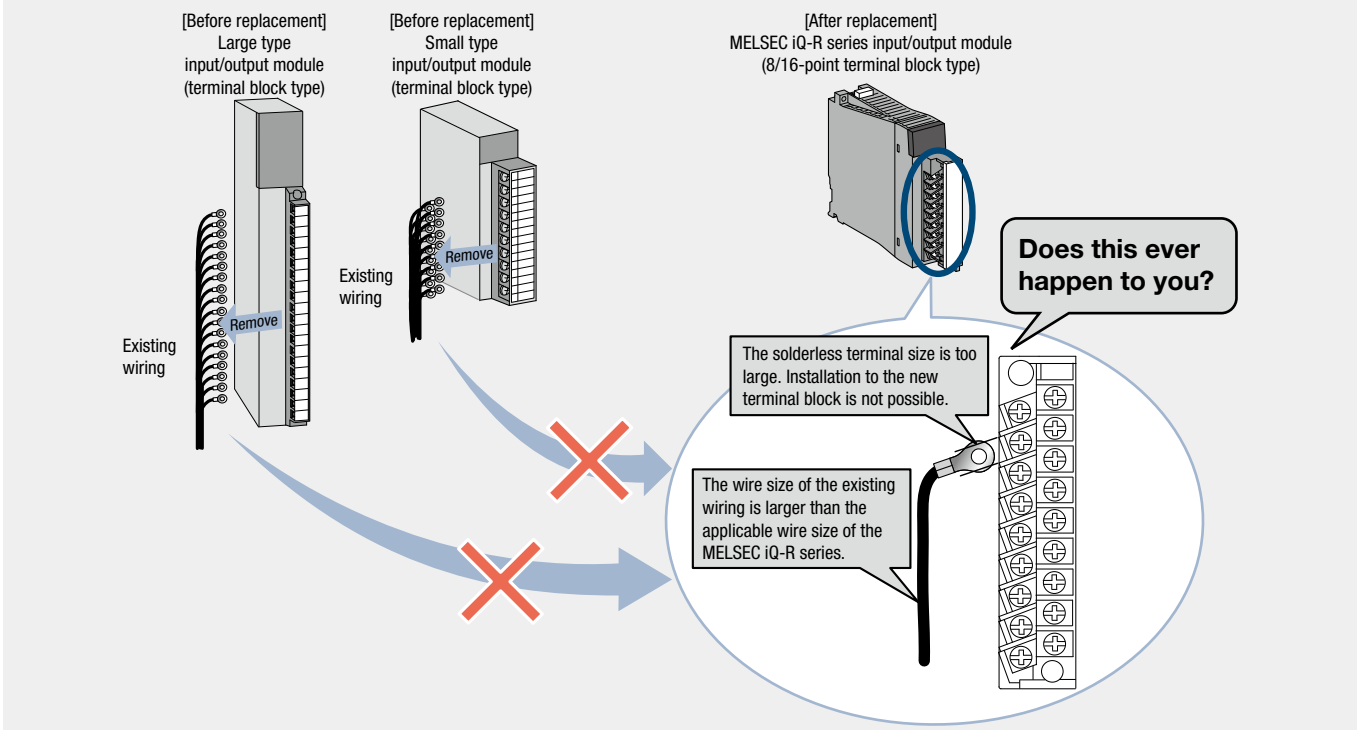
Replacing general-purpose PLC with the MELSEC iQ-R series

■ Universal conversion adapter

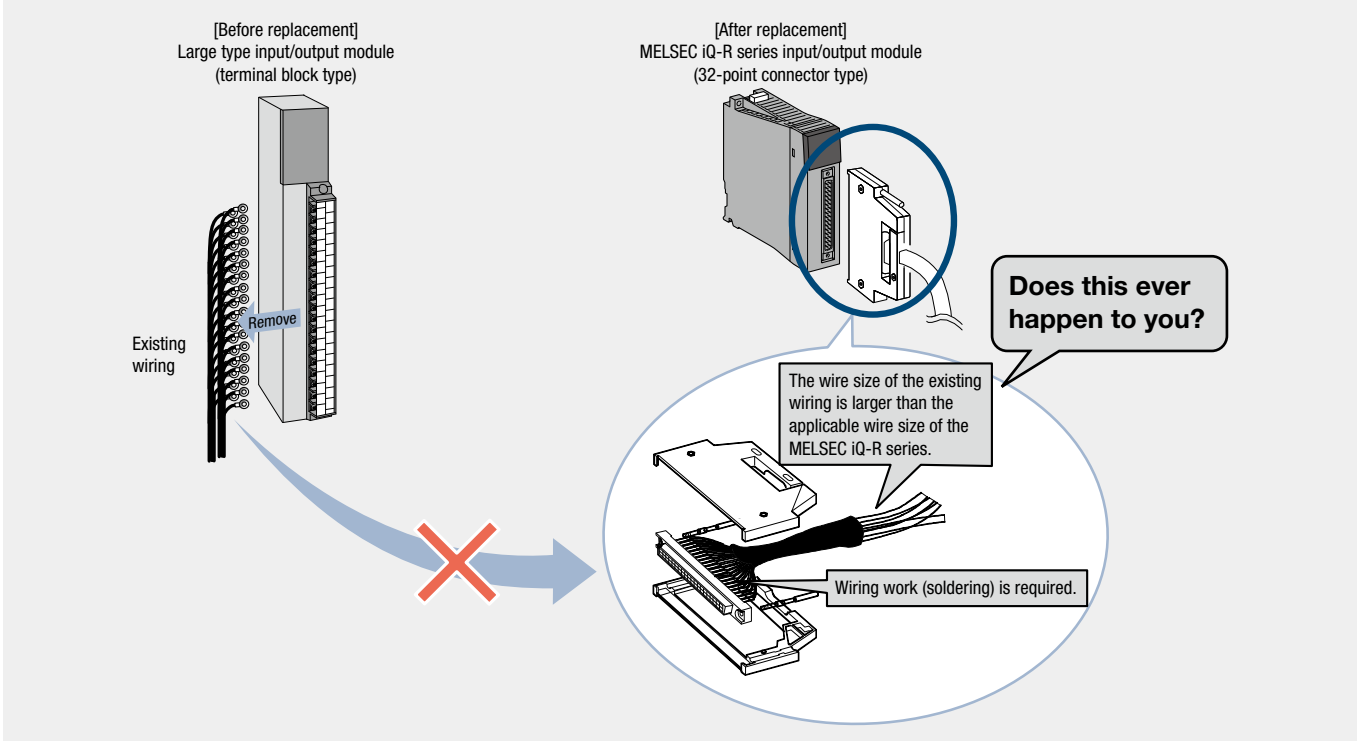
The universal conversion adapter reduces the time required for rewiring input/output modules (terminal block type) when replacing a general-purpose PLC with the MELSEC iQ-R series programmable controller manufactured by Mitsubishi Electric.

Product overview

- You want to replace input/output modules (terminal block type) of a general-purpose PLC with those (terminal block type) of the MELSEC iQ-R series, but there are some problems.



- You want to replace input/output modules (terminal block type) of a general-purpose PLC with those (connector type) of the MELSEC iQ-R series, but there are some problems.



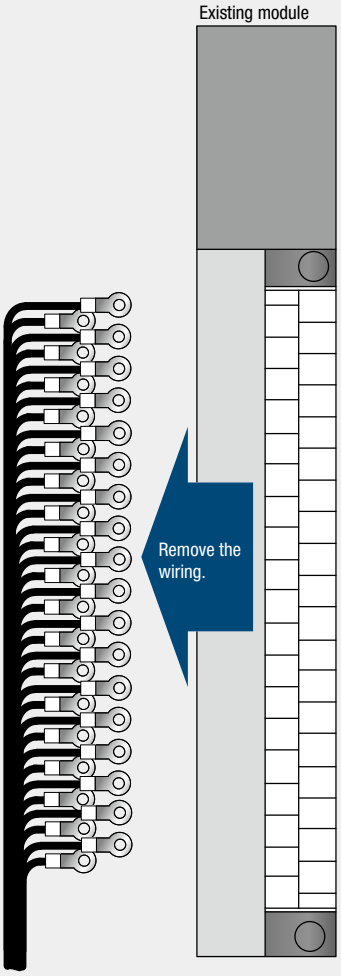
Consider the use of the universal conversion adapter as a solution.

If the specifications of the devices currently connected satisfy the specifications of the MELSEC iQ-R series input/output module, you can use a universal conversion adapter for replacement, regardless of the manufacturer of the existing PLC!

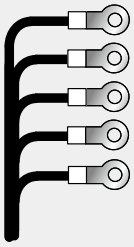
Note that this product is designed under the premises that rewiring (reinstallation of existing wiring to the terminal block) will be performed by the user.

Replacement procedure

1) Remove the wiring from the terminal block of the existing module.



2) Check the solderless terminals.

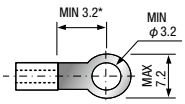


- Check the dimensions of solderless terminals.
- Change the terminals which are not applicable to the universal conversion adapter.

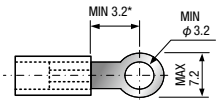
Universal conversion adapter (large type)

• Applicable solderless terminals — Unit: mm

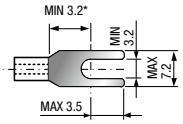
Round non-insulated



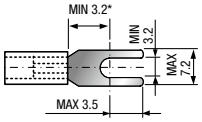
Round insulated



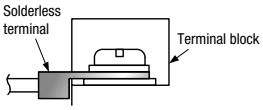
Y-shaped non-insulated



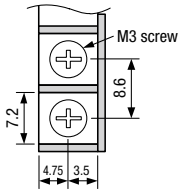
Y-shaped insulated



*: The minimum dimension will be 4.75mm when a solderless terminal is installed upside down as shown in the right figure.



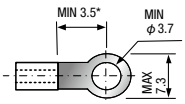
• Terminal block shape — Unit: mm



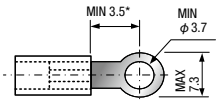
Universal conversion adapter (small type)

• Applicable solderless terminals — Unit: mm

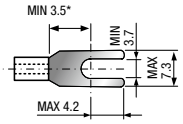
Round non-insulated



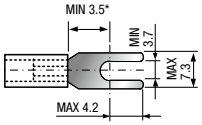
Round insulated



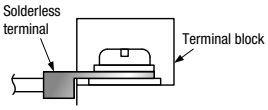
Y-shaped non-insulated



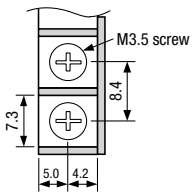
Y-shaped insulated



*: The minimum dimension will be 5.0mm when a solderless terminal is installed upside down as shown in the right figure.



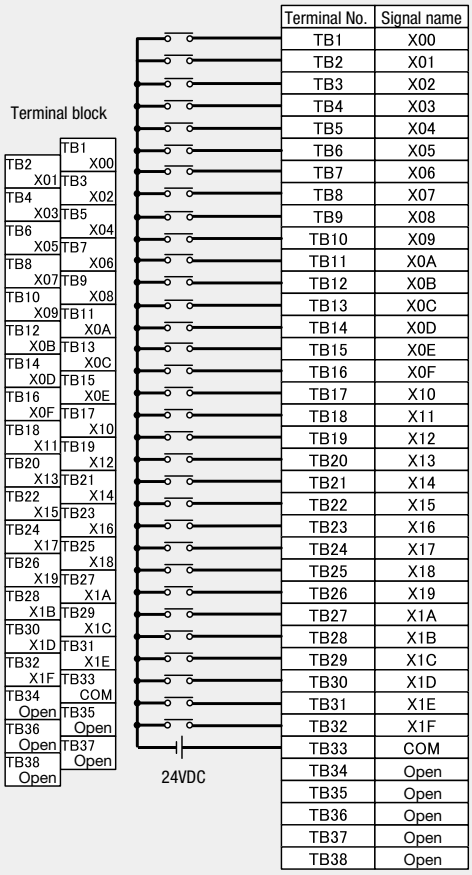
• Terminal block shape — Unit: mm



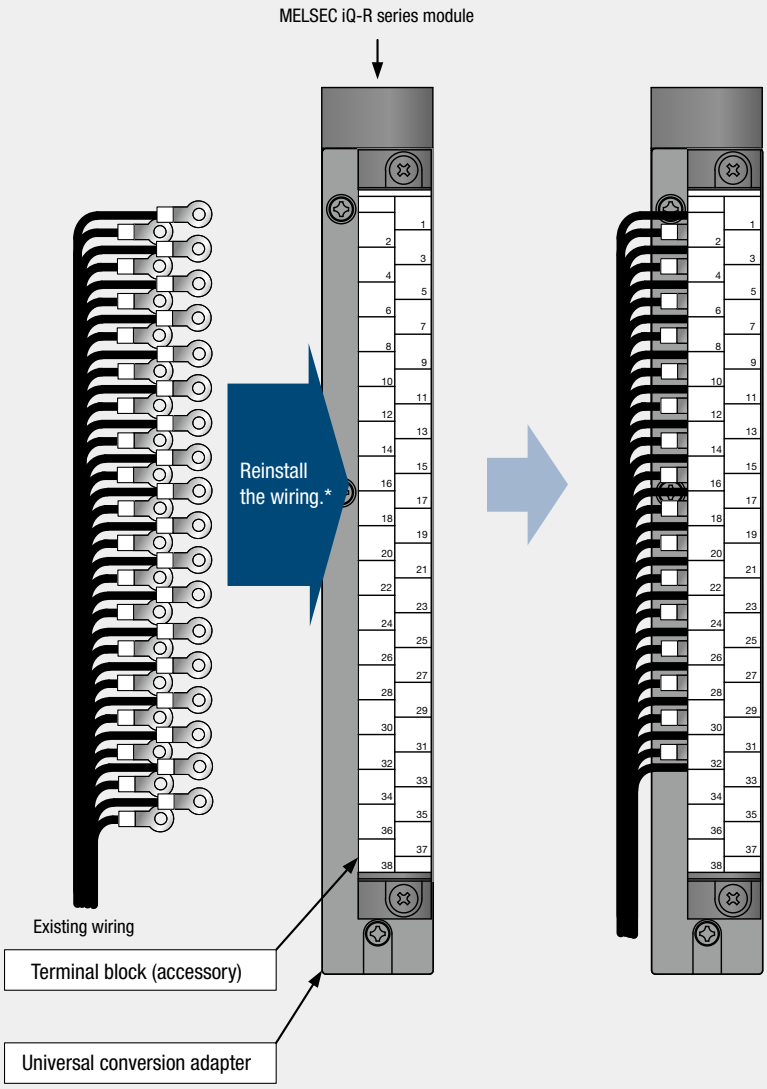
3) Reinstall the removed wiring to the terminal block of the universal conversion adapter.

Check the external connection diagram of each MELSEC iQ-R series module used, and reinstall the removed wiring to the terminal block of the universal conversion adapter.

External connection diagram (example)



Terminal No.	Signal name
TB1	X00
TB2	X01
TB3	X02
TB4	X03
TB5	X04
TB6	X05
TB7	X06
TB8	X07
TB9	X08
TB10	X09
TB11	X0A
TB12	X0B
TB13	X0C
TB14	X0D
TB15	X0E
TB16	X0F
TB17	X10
TB18	X11
TB19	X12
TB20	X13
TB21	X14
TB22	X15
TB23	X16
TB24	X17
TB25	X18
TB26	X19
TB27	X1A
TB28	X1B
TB29	X1C
TB30	X1D
TB31	X1E
TB32	X1F
TB33	COM
TB34	Open
TB35	Open
TB36	Open
TB37	Open
TB38	Open

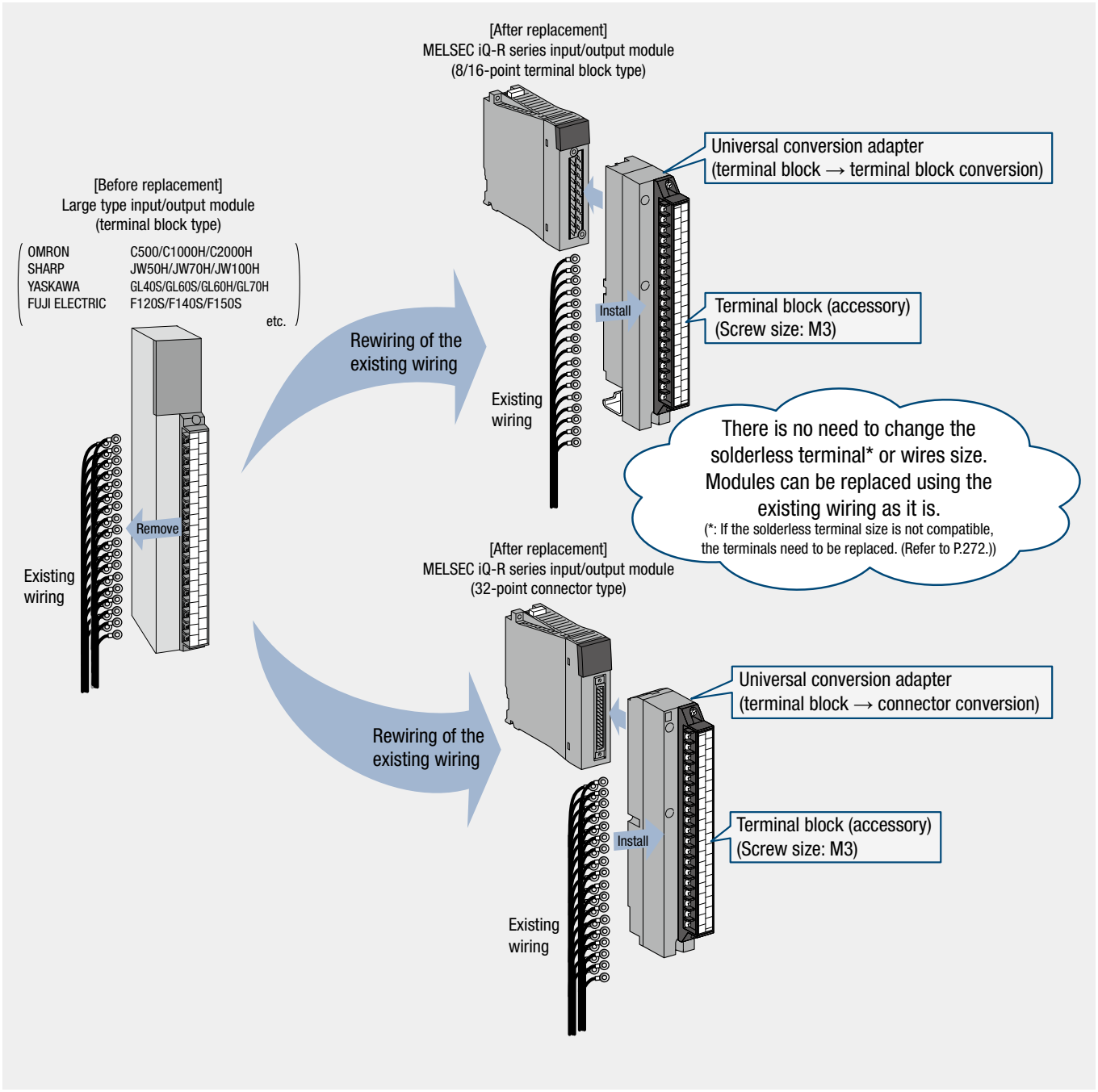


*: After replacement, connect wires in accordance with the terminal numbers and signal names of the universal conversion adapter.

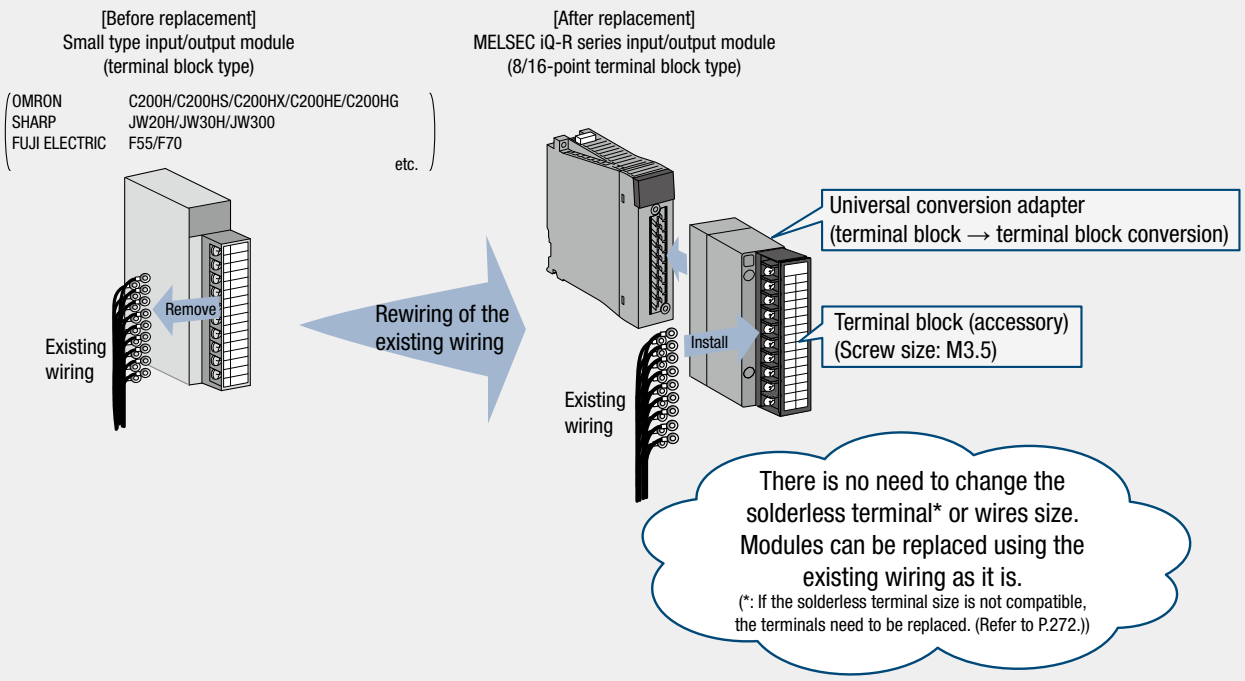
*: Depending on the change in the number of points per common (for example 8 points/common → 16 points/common), the connected devices (such as switches) may also need to be changed.

*: When any wires are left unconnected, connect them to open terminals or insulate them.

Replacing a general-purpose PLC (large type) with the MELSEC iQ-R series



Replacing a general-purpose PLC (small type) with the MELSEC iQ-R series



Modules that can be replaced using a universal conversion adapter

- The universal conversion adapter can be used to replace the MELSEC-A series, MELSEC-AnS series, SYSMAC C series, new satellite JW series, and MEMOCON-SC GL series modules that do not support the use of a conversion adapter with the MELSEC iQ-R series modules.
- The universal conversion adapter can also be used to replace the modules that share each common terminal by 8 points with the common separation modules (RX40PC6H, RX40NC6H).

POINT

Check that the specifications of MELSEC iQ-R series modules satisfy the specifications of the devices and equipment currently connected.

MELSEC-A series → MELSEC iQ-R series

Modules that do not support the use of a conversion adapter

Input/Output	MELSEC-A series module before replacement			MELSEC iQ-R series module after replacement			
	Model	Specifications	No. of points	Model	Specifications	No. of points	No. of required modules
Input	AX20, AX20-UL	200 to 240VAC	16	RX28	100 to 240VAC	8	2
	AX21, AX21EU	200 to 240VAC	32	RX28	100 to 240VAC	8	4
Output	AY15EU	240VAC/24VDC, 2A/point, contact	24	RY10R2	240VAC/24VDC, 2A/point, contact	16	2
	AY20EU	100 to 240VAC, triac	16	RY20S6	100 to 240VAC, triac	16	1
	AY40A	12/24VDC, 0.3A, independent	16	RY18R2A	240VAC/24VDC, 2A, independent contact	8	2
	AY60	24VDC (12/48VDC), 2A	16	RY18R2A	240VAC/24VDC, 2A, independent contact	8	2
	AY60E	24VDC (12/48VDC), 2A	16	RY18R2A	240VAC/24VDC, 2A, independent contact	8	2
	AY60EP	12/24VDC, 2A	16	RY18R2A	240VAC/24VDC, 2A, independent contact	8	2
	AY60S, AY60S-UL	24/48VDC (12VDC), 2A	16	RY18R2A	240VAC/24VDC, 2A, independent contact	8	2

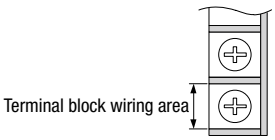
Modules that share each common terminal by 8 points

Input/Output	MELSEC-A series module before replacement			MELSEC iQ-R series module after replacement			
	Model	Specifications*	No. of points	Model	Specifications*	No. of points	No. of required modules
Input	AX40, AX40-UL	12/24VDC, sink type, 8 points/common	16	RX40PC6H	24VDC, positive common, 8 points/common	16	1
	AX80, AX80-UL	12/24VDC, source type, 8 points/common	16	RX40NC6H	24VDC, negative common, 8 points/common	16	1
	AX80E						

*: Input specifications: Sink type = Positive common, Source type = Negative common

Reference: Terminal block specifications

Item	MELSEC-A series module before replacement	MELSEC iQ-R series module after replacement	Universal conversion adapter (large type)
Terminal block screw size	M3	M3	M3
Terminal block wiring area	7.2mm	6mm	7.2mm



MELSEC-AnS series → MELSEC iQ-R series

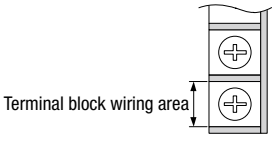
Modules that do not support the use of a conversion adapter

Input/Output	MELSEC-AnS series module before replacement			MELSEC iQ-R series module after replacement				Note
	Model	Specifications*	No. of points	Model	Specifications*	No. of points	No. of required modules	
Output	A1SY14EU	240VAC/24VDC, 2A/point, contact	12	RY10R2	240VAC/24VDC, 2A/point, contact	16	1	-
	A1SY18A A1SY18AEU	240VAC/24VDC, 2A/point, independent contact	8	RY18R2A	240VAC/24VDC, 2A/point, independent contact	8	1	
	A1SY28EU	100 to 240VAC, triac	8	RY20S6	100 to 240VAC, triac	16	1	
	A1SY60	24VDC, 2A/point, sink type	16	RY10R2	240VAC/24VDC, 2A/point, contact	16	1	*1
	A1SY60E	5/12/24VDC, 2A/point, source type	16	RY10R2	240VAC/24VDC, 2A/point, contact	16	1	
	A1SY68A	5/12/24/48VDC, 2A/point, sink/source type, all points independent	8	RY18R2A	240VAC/24VDC, 2A/point, independent contact	8	1	
I/O combined	A1SX48Y18	Input: 24VDC, sink type	Input: 8	RX40C7	24VDC, positive/negative common shared type	16	1	-
		Output: 240VAC/24VDC, 2A/point, contact	Output: 8	RY10R2	240VAC/24VDC, 2A/point, contact	16	1	
	A1SX48Y58	Input: 24VDC, sink type	Input: 8	RX40C7	24VDC, positive/negative common shared type	16	1	
		Output: 12/24VDC, 0.5A/point, sink type	Output: 8	RY40NT5P	12/24VDC, 0.5A/point, sink type	16	1	

*: Input specifications: Sink type = Positive common, Source type = Negative common
*1: The output type changes from transistor output to contact output.

Reference: Terminal block specifications

Item	MELSEC-AnS series module before replacement	MELSEC iQ-R series module after replacement	Universal conversion adapter (small type)
Terminal block screw size	M3.5	M3	M3.5
Terminal block wiring area	7.3mm	6mm	7.3mm



SYSMAC C series Large type → MELSEC iQ-R series

Modules that do not support the use of a conversion adapter

Input/Output	SYSMAC C series [Large type] module before replacement			MELSEC iQ-R series module after replacement				Note
	Model	Specifications	No. of points	Model	Specifications	No. of points	No. of required modules	
Input	C500-IA222	200 to 240VAC	16	RX28	100 to 240VAC	8	2	-
	C500-IA223	200 to 240VAC	32	RX28	100 to 240VAC	8	4	
Output	C500-OC223	24VDC/250VAC, independent contact	16	RY18R2A	240VAC/24VDC, 2A/point, contact	8	2	-
	C500-OD215	24VDC, 50mA/point, independent contact	16	RY18R2A	240VAC/24VDC, 2A/point, contact	8	2	*2
	C500-OD212	12 to 24VDC, 0.3A/point, source type	32	RY41PT1P	12/24VDC, 0.1A/point, source type	32	1	-
				RY41PT2H	5/12/24VDC, 0.2A/point, source type	32	1	
				RY40PT5P	12/24VDC, 0.5A/point, source type	16	2	

*2: The output type changes from transistor output to contact output.

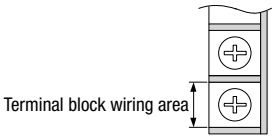
Modules that share each common terminal by 8 points

Input/Output	SYSMAC C series [Large type] module before replacement			MELSEC iQ-R series module after replacement				Note
	Model	Specifications*	No. of points	Model	Specifications*	No. of points	No. of required modules	
Input	C500-ID213	12/24VDC, sink type, 8 points/common	16	RX40PC6H	24VDC, positive common, 8 points/common	16	1	-

*: Input specifications: Sink type = Positive common

Reference: Terminal block specifications

Item	SYSMAC C series [Large type] module before replacement	MELSEC iQ-R series module after replacement	Universal conversion adapter (large type)
Terminal block screw size	M3.5	M3	M3
Terminal block wiring area	7.3mm	6mm	7.2mm



SYSMAC C series Small type (C200H, CS) → MELSEC iQ-R series

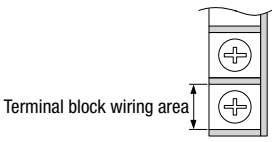
Modules that do not support the use of a conversion adapter

Input/ Output	SYSMAC C series [Small type] module before replacement			MELSEC iQ-R series module after replacement				Note
	Model	Specifications	No. of points	Model	Specifications	No. of points	No. of required modules	
Input	C200H-IA121	100 to 120VAC	8	RX10	100 to 120VAC	16	1	-
	C200H-IA122	100 to 120VAC	16					
	C200H-IA122V							
	C200H-IA221	200 to 240VAC	8	RX28	100 to 240VAC	8	1	
	C200H-IA222	200 to 240VAC	16	RX28	100 to 240VAC	8	2	
	C200H-IA222V							
	C200H-ID001	No-voltage input (No-contact input), for NPN output	8	RX40C7	24VDC, positive/negative common shared type	16	1	*1
	C200H-ID002	No-voltage input (No-contact input), for PNP output						
	C200H-ID211	12 to 24VDC, positive/negative common shared type	8	RX40C7	24VDC, positive/negative common shared type	16	1	-
				RX70C4	5/12VDC, positive/negative common shared type	16	1	
	C200H-ID212	24VDC, positive/negative common shared type	16	RX40C7	24VDC, positive/negative common shared type	16	1	
	C200H-IM211	12 to 24VAC/DC	8	RX40C7	24VDC, positive/negative common shared type	16	1	*2
				RX70C4	5/12VDC, positive/negative common shared type	16	1	
	C200H-IM212	24VAC/DC	16	RX40C7	24VDC, positive/negative common shared type	16	1	
	CS1W-IA111	100 to 120VAC/DC	16	RX10	100 to 120VAC	16	1	*3
	CS1W-IA211	200 to 240VAC	16	RX28	100 to 240VAC	8	2	-
	CS1W-ID211	24VDC, positive/negative common shared type	16	RX40C7	24VDC, positive/negative common shared type	16	1	
Output	C200H-OA221	250VAC maximum, 1A	8	RY20S6	100 to 240VAC, 0.6A	16	1	-
	C200H-OA222	250VAC maximum, 0.5A	12					
	C200H-OA222V	250VAC maximum, 0.3A	12					
	C200H-OA223	250VAC maximum, 1.2A	8					
	C200H-OA224	250VAC maximum, 0.5A	12					
	C200H-OC221	250VAC/24VDC maximum, 2A	8	RY10R2	240VAC/24VDC, 2A	16	1	
	C200H-OC222	250VAC/24VDC maximum, 2A	12					
	C200H-OC222N							
	C200H-OC222V							
	C200H-OC225	250VAC/24VDC maximum, 2A	16					
	C200H-OC226							
	C200H-OC226N							
	C200H-OC223	250VAC/24VDC maximum, 2A, independent contact	5	RY18R2A	240VAC/24VDC, 2A, independent contact	8	1	
	C200H-OC224	250VAC/24VDC maximum, 2A, independent contact	8					
	C200H-OC224N							
	C200H-OC224V							
	C200H-OD411	12 to 48VDC, 1A, sink type	8	RY40NT5P	12 to 24VDC, 0.5A, sink type	16	1	*4
	C200H-OD211	24VDC, 0.3A, sink type	12					-
	C200H-OD212		16					
	C200H-OD213	24VDC, 2.1A, sink type	8					
	C200H-OD214	24VDC, 0.8A, source type	8	RY40PT5P	12 to 24VDC, 0.5A, source type	16	1	-
	C200H-OD216	5 to 24VDC, 0.3A, source type	8					*5
	C200H-OD217	5 to 24VDC, 0.3A, source type	12					
	C200H-OD21A	24VDC, 1A, source type	16					-
	CS1W-OC201	250VAC/24VDC, 2A, 120VDC, 0.1A, independent contact	8	RY18R2	240VAC/24VDC, 2A, independent contact	8	1	*6
	CS1W-OC211	250VAC/24VDC, 2A, 120VDC, 0.1A	16	RY10R2	240VAC/24VDC, 2A	16	1	
	CS1W-OA201	250VAC, 1.2A	8	RY20S6	100 to 240VAC, 0.6A	16	1	-
	CS1W-OA211	250VAC, 0.5A	16					
	CS1W-OD211	12 to 24VDC, 0.5A, sink type	16	RY40NT5P	12 to 24VDC, 0.5A, sink type	16	1	
	CS1W-OD212	24VDC, 0.5A, source type	16	RY40PT5P	12 to 24VDC, 0.5A, source type	16	1	

*1: Additional power supply input is required at the wiring side.
*2: When a rated input voltage of 12VAC or 24VAC is used, the power supply voltage needs to be changed.
*3: When a rated input voltage of 100 to 120VDC is used, the module cannot be replaced.
*4: When a rated load voltage of 48VDC is used, the power supply voltage needs to be changed.
*5: When a rated load voltage of 5VDC is used, the power supply voltage needs to be changed.
*6: When a rated load voltage of 120VDC is used, the module cannot be replaced.

Reference: Terminal block specifications

Item	SYSMAC C series [Small type] module before replacement	MELSEC iQ-R series module after replacement	Universal conversion adapter
Terminal block screw size	M3.5	M3	M3.5
Terminal block wiring area	7.3mm	6mm	7.3mm



New satellite JW series Large type → MELSEC iQ-R series

Modules that do not support the use of a conversion adapter

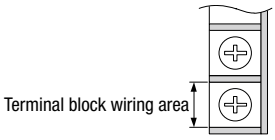
Input/Output	New satellite JW series [Large type] module before replacement			MELSEC iQ-R series module after replacement			
	Model	Specifications	No. of points	Model	Specifications	No. of points	No. of required modules
Input	JW-13N	200 to 240VAC	16	RX28	100 to 240VAC	8	2
Output	JW-35S	12 to 24VDC, 1A, source type	32	RY40PT5P	12/24VDC, 0.5A, source type	16	2
				RY41PT1P	12/24VDC, 0.1A, source type	32	1

Modules that share each common terminal by 8 points

Input/Output	New satellite JW series [Large type] module before replacement			MELSEC iQ-R series module after replacement			
	Model	Specifications	No. of points	Model	Specifications	No. of points	No. of required modules
Input	JW-12N	24VAC, 12/24VDC, positive/negative common shared type, 8 points/common	16	RX40PC6H	24VDC, positive common, 8 points/common	16	1
				RX40NC6H	24VDC, negative common, 8 points/common	16	1

Reference: Terminal block specifications

Item	New satellite JW series [Large type] module before replacement	MELSEC iQ-R series module after replacement	Universal conversion adapter (large type)
Terminal block screw size	M3.5	M3	M3
Terminal block wiring area	7.3mm	6mm	7.2mm



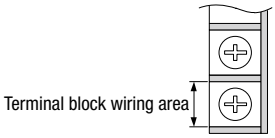
New satellite JW series Small type → MELSEC iQ-R series

Modules that do not support the use of a conversion adapter

Input/Output	New satellite JW series [Small type] module before replacement			MELSEC iQ-R series module after replacement			
	Model	Specifications	No. of points	Model	Specifications	No. of points	No. of required modules
Input	JW-203N	200/240VAC	8	RX28	100 to 240VAC	8	1
	JW-201N	100/120VAC	8	RX28	100 to 240VAC	8	1
	JW-202N	12/24VDC, positive/negative common shared type	8	RX40C7	24VDC, positive/negative common shared type	16	1
				RX70C4	5/12VDC, positive/negative common shared type	16	1
Output	JW-203S	100 to 240VAC, 1A	8	RY20S6	100 to 240VAC, 0.6A	16	1
	JW-204S JW-204SA	250VAC/30VDC, 2A, independent contact	8	RY18R2A	240VAC/24VDC, 2A, independent	8	1
	JW-215SA	5/12/24VDC, 0.5A, source type	16	RY40PT5P	12/24VDC, 0.5A, source type	16	1

Reference: Terminal block specifications

Item	New satellite JW series [Small type] module before replacement	MELSEC iQ-R series module after replacement	Universal conversion adapter (small type)
Terminal block screw size	M3.5	M3	M3.5
Terminal block wiring area	7.2mm	6mm	7.3mm



MEMOCON-SC GL series Large type → MELSEC iQ-R series

Modules that do not support the use of a conversion adapter

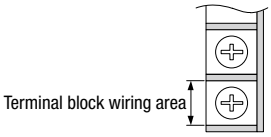
Input/Output	MEMOCON-SC GL series [Large type] module before replacement			MELSEC iQ-R series module after replacement			
	Model	Specifications	No. of points	Model	Specifications	No. of points	No. of required modules
Input	JAMSC-B2503A	200VAC	16	RX28	100 to 240VAC	8	2
	JAMSC-B2507A	200VAC	32	RX28	100 to 240VAC	8	4
Output	JAMSC-B2630	12/24VDC, 2A, source type	16	RY40PT5P	12/24VDC, 0.5A, source type	16	1
	JAMSC-B2632	12/24VDC, 0.3A, source type	32	RY41PT1P	12/24VDC, 0.1A, source type	32	1

Modules that share each common terminal by 8 points

Input/Output	MEMOCON-SC GL series [Large type] module before replacement			MELSEC iQ-R series module after replacement			
	Model	Specifications	No. of points	Model	Specifications	No. of points	No. of required modules
Input	JAMSC-B2601	12/24VDC, positive/negative common shared type, 8 points/common	16	RX40PC6H	24VDC, positive common, 8 points/common	16	1
				RX40NC6H	24VDC, negative common, 8 points/common	16	1

Reference: Terminal block specifications

Item	MEMOCON-SC GL series [Large type] module before replacement	MELSEC iQ-R series module after replacement	Universal conversion adapter (large type)
Terminal block screw size	M3	M3	M3
Terminal block wiring area	7.3mm	6mm	7.2mm

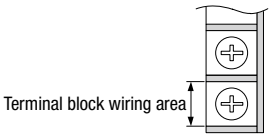


Remarks

The universal conversion adapter (small type) cannot be used to replace the SYSMAC C series Small type (CQM1) or the MEMOCON GL series Small type with the MELSEC iQ-R series because the terminal block screw size of the universal conversion adapter (small type) is bigger than those of the series before and after replacement.

Reference: Terminal block specifications

Item	Before replacement		MELSEC iQ-R series module after replacement	Universal conversion adapter (small type)
	SYSMAC C series [Small type] (CQM1) module	MEMOCON GL series [Small type] module		
Terminal block screw size	M3	M3	M3	M3.5
Terminal block wiring area	6.4mm	7mm	6mm	7.3mm



Large type

Model list

Universal conversion adapters (large type)

Check that the electrical specifications of MELSEC iQ-R series modules satisfy the specifications of devices currently connected.

For input/output modules

1-slot type

Input/Output	MELSEC iQ-R series module after replacement	Conversion adapter		
		Model	Shape	
			Terminal block (accessory)	MELSEC iQ-R series
Input	RX10	ERNT-AQTB20-S1	Terminal block* (38 points) ▶	Terminal block (18 points)
	RX28			
	RX40C7			
	RX70C4			
	RX40PC6H			
	RX40NC6H			
Output	RY10R2			
	RY18R2A			
	RY20S6			
	RY40NT5P			
	RY40PT5P			
Input	RX41C4	ERNT-1AR38TB	Terminal block (38 points) ▶	FCN connector (40P)
	RX41C6HS			
	RX61C6HS			
	RX71C4			
Output	RY41NT2P			
	RY41PT1P			
	RY41NT2H			
	RY41PT2H			

*: The terminal block included with the product is a 38-point terminal block.

POINT

The universal conversion adapter (large type) can be used in the following system replacement.
- MELSEC-A series → MELSEC iQ-R series
- SYSMAC C series (large type) → MELSEC iQ-R series
- New satellite JW series (large type) → MELSEC iQ-R series
- MEMOCON-SC GL series (large type) → MELSEC iQ-R series

Base adapters

The same base adapters used to replace the MELSEC-A series with the MELSEC iQ-R series are used.
By using a base adapter, the MELSEC iQ-R series base unit and the conversion adapter support flange can be installed at the same time without drilling any additional installation holes.

Note

Four additional installation holes (M5 screw size) and four M5 screws need to be prepared by the user to install the base adapter to the control panel.
(There may be a case that drilling of additional installation holes is not required if the installation dimensions of all the four holes are the same before and after replacement.)

The base units (*1 to *3) can be installed to different types of base adapters. Select the optimum base adapter.

Base adapter model	Installable product					Conversion adapter support flange	Dimensions
	MELSEC iQ-R series base unit						
	12-slot	10-slot	8-slot	5-slot	3-slot		Width × Height (mm)
ERNT-AQB38N	R312B					ERNT-1AR12F	480 × 240
		R310B-HT				ERNT-1AR10F3	
			R38B*1			ERNT-1AR8F	
ERNT-AQB35N			R38B*1			ERNT-1AR8F	382 × 240
				R35B		ERNT-1AR5F	
ERNT-AQB32N					R33B	ERNT-1AR5F	247 × 240
ERNT-AQB68N	R612B					ERNT-1AR12F	466 × 240
		R610B-HT				ERNT-1AR10F6	
			R68B*2			ERNT-1AR8F	
ERNT-AQB65N			R68B*2			ERNT-1AR8F	352 × 240
				R65B*3		ERNT-1AR5F	
ERNT-AQB58N			R68B*2			ERNT-1AR8F	411 × 240
ERNT-AQB55N				R65B*3		ERNT-1AR5F	297 × 240

Conversion adapter support flanges (required)

The same conversion adapter support flanges used to replace the MELSEC-A series with the MELSEC iQ-R series are used.
A conversion adapter support flange secures the lower part of a conversion adapter. One support flange is required per base unit when a conversion adapter is used.

Note

Three additional installation holes (M4 screw size) are required to install the conversion adapter support flange to the control panel.
When a base adapter is used, drilling of additional installation holes is not required.

Conversion adapter support flange model	Specifications	
ERNT-1AR12F	12-slot conversion adapter support flange	For main/extension base units
ERNT-1AR8F	8-slot conversion adapter support flange	
ERNT-1AR5F	5-slot conversion adapter support flange	
ERNT-1AR10F3	10-slot conversion adapter support flange	For the extended temperature range main base unit (R310B-HT)
ERNT-1AR10F6	10-slot conversion adapter support flange	For the extended temperature range extension base unit (R610B-HT)

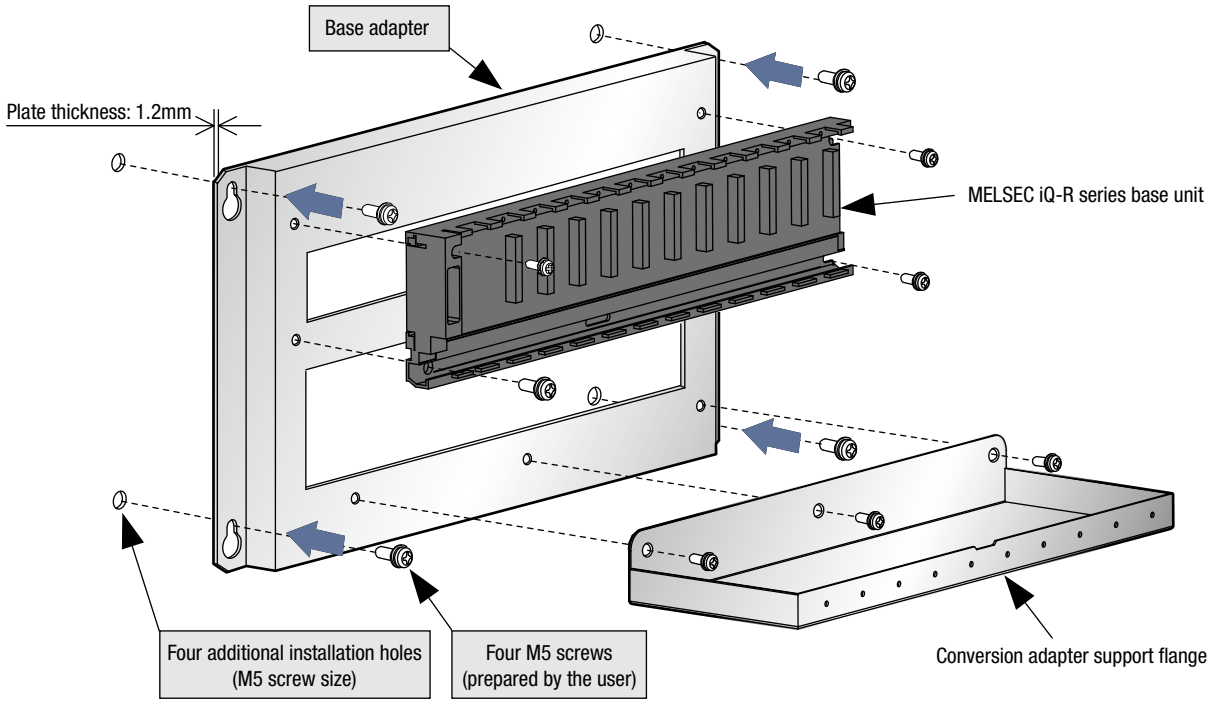
Base adapters

Specifications

By using a base adapter, the MELSEC iQ-R series base unit and the conversion adapter support flange can be installed at the same time without drilling any additional installation holes.
The same base adapters used to replace the MELSEC-A series with the MELSEC iQ-R series are used.

Note

- Four additional installation holes (M5 screw size) and four M5 screws need to be prepared by the user to install the base adapter to the control panel.
  (There may be a case that drilling of additional installation holes is not required if the installation dimensions of all the four holes are the same before and after replacement.)



The base units (*1 to *3) can be installed to different types of base adapters. Select the optimum base adapter.

Base adapter model	Installable product						Dimensions
	MELSEC iQ-R series base unit					Conversion adapter support flange	Width × Height (mm)
	12-slot	10-slot	8-slot	5-slot	3-slot		
ERNT-AQB38N	R312B					ERNT-1AR12F	480 × 240
		R310B-HT				ERNT-1AR10F3	
			R38B*1			ERNT-1AR8F	
ERNT-AQB35N			R38B*1			ERNT-1AR8F	382 × 240
				R35B		ERNT-1AR5F	
ERNT-AQB32N					R33B	ERNT-1AR5F	247 × 240
ERNT-AQB68N	R612B					ERNT-1AR12F	466 × 240
		R610B-HT				ERNT-1AR10F6	
			R68B*2			ERNT-1AR8F	
ERNT-AQB65N			R68B*2			ERNT-1AR8F	352 × 240
				R65B*3		ERNT-1AR5F	
ERNT-AQB58N			R68B*2			ERNT-1AR8F	411 × 240
ERNT-AQB55N				R65B*3		ERNT-1AR5F	297 × 240

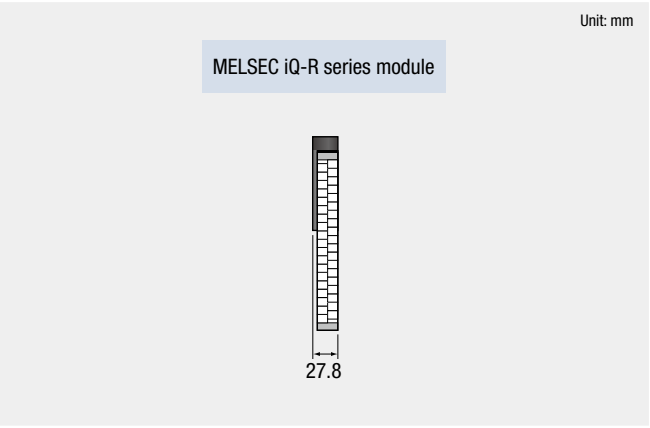
Precautions

Check that the specifications of MELSEC iQ-R series modules satisfy the specifications of the devices currently connected.
Refer to the user's manuals for the MELSEC iQ-R series module used prior to use.

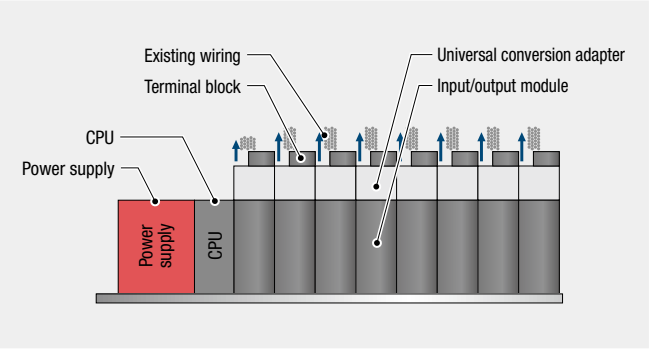
Module width

(1) The width of MELSEC iQ-R series modules is 27.8mm. The wiring area may become smaller. Check the wiring area when mounting a conversion adapter.

Unit: mm

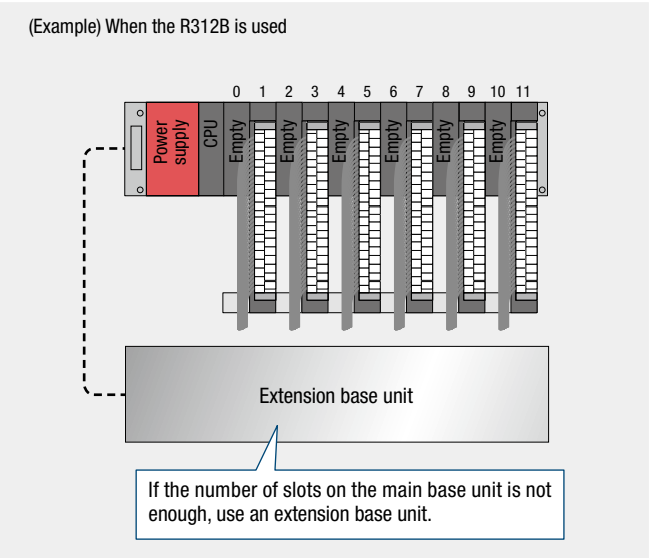


(2) If the wiring causes interference with adjacent modules, lift the cables forward to prevent interference.



(3) If interference still occurs, leave the next slot open to secure a space for wiring.

(Example) When the R312B is used



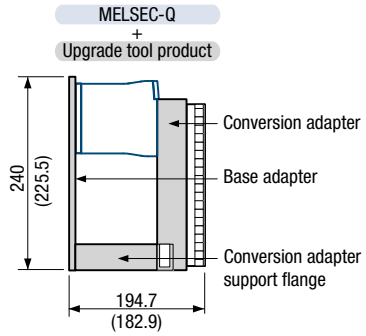
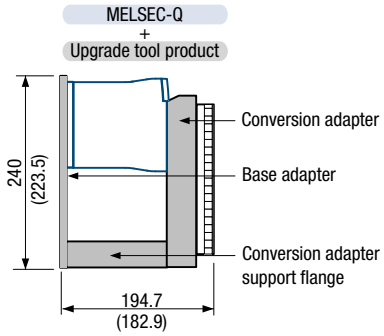
Attach a connector cover included with the base unit or a blank cover module (RG60) to prevent dust from entering connectors where no module is mounted.

(4) If modules cannot be replaced in accordance with (2) and (3), consider the use of the extended temperature range base unit manufactured by Mitsubishi Electric. → P.23

Depth

The depth after replacement is shown below. The depth from the panel surface may increase. Check the depth when mounting a conversion adapter.
Values in parentheses are the dimensions when a base adapter is not used.

MELSEC iQ-R : MELSEC iQ-R series

Universal conversion adapter	ERNT-AQTB20-S1	ERNT-1AR38TB
Depth	194.7mm (182.9mm)	194.7mm (182.9mm)
Height	240mm (225.5mm)	240mm (223.5mm)
Mounting diagram	Unit: mm 	Unit: mm 

Conversion adapter support flange, base adapter

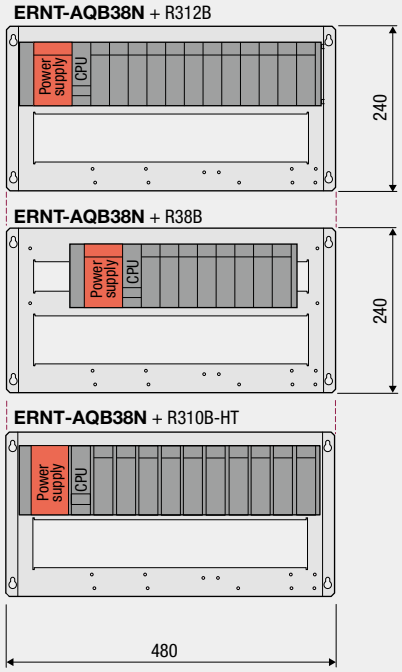
When a universal conversion adapter is used, the conversion adapter support flange is always required.
Also, it is recommended to use a base adapter that enables installation of the MELSEC iQ-R series base unit and the conversion adapter support flange at the same time without drilling any additional installation holes.

Slot positions

The slot positions will be as follows after replacement.
Change the slot positions of modules and adjust wiring lengths prior to use.

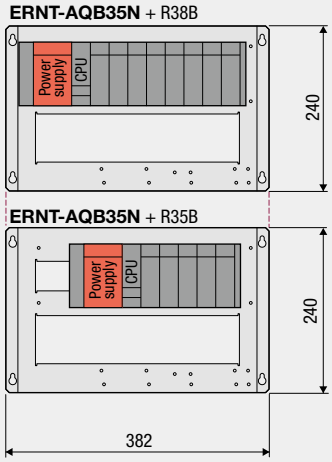
(1) ERNT-AQB38N

Unit: mm



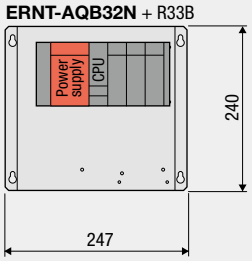
(2) ERNT-AQB35N

Unit: mm



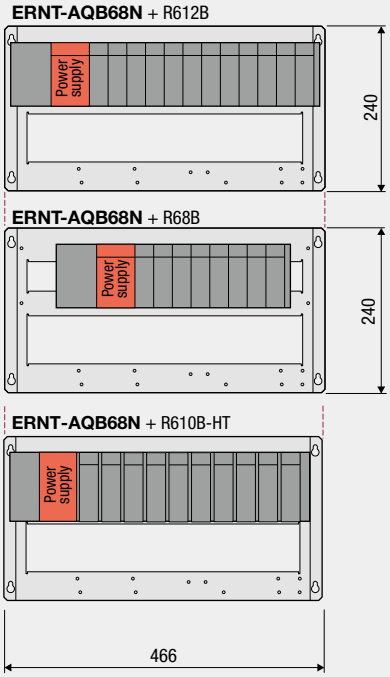
(3) ERNT-AQB32N

Unit: mm



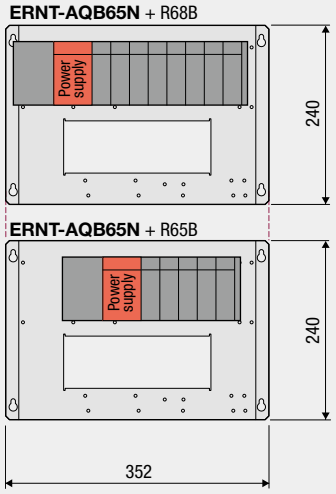
(4) ERNT-AQB68N

Unit: mm



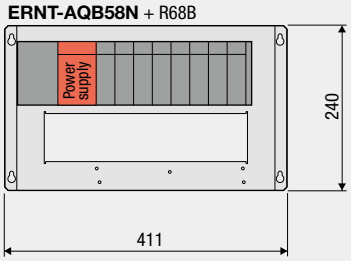
(5) ERNT-AQB65N

Unit: mm



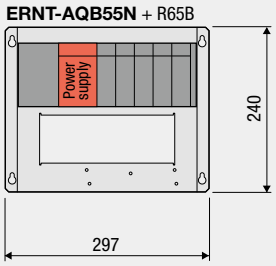
(6) ERNT-AQB58N

Unit: mm



(7) ERNT-AQB55N

Unit: mm



Small type

Model list

Universal conversion adapters (small type)

Check that the electrical specifications of MELSEC iQ-R series modules satisfy the specifications of devices currently connected.

For input/output modules

1-slot type

Input/Output	MELSEC iQ-R series module after replacement	Conversion adapter		
		Model	Shape	
			Terminal block (accessory)	MELSEC iQ-R series
Input	RX10	ERNT-ASQTB20	Terminal block (20 points) ▶	Terminal block (18 points)
	RX28			
	RX40C7			
	RX70C4			
	RX40PC6H			
	RX40NC6H			
Output	RY10R2			
	RY18R2A			
	RY20S6			
	RY40NT5P			
	RY40PT5P			

POINT

The universal conversion adapter (small type) can be used in the following system replacement.
- MELSEC-AnS series → MELSEC iQ-R series
- SYSMAC C series (C200H and CS series) → MELSEC iQ-R series
- New satellite JW series (small type) → MELSEC iQ-R series

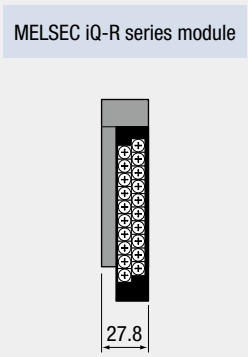
Precautions

Check that the specifications of MELSEC iQ-R series modules satisfy the specifications of the devices currently connected.
Refer to the user's manuals for the MELSEC iQ-R series module used prior to use.

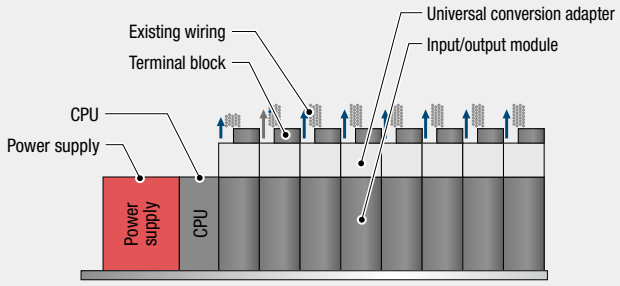
Module width

(1) The width of MELSEC iQ-R series modules is 27.8mm. The wiring area may become smaller. Check the wiring area when mounting a conversion adapter.

Unit: mm

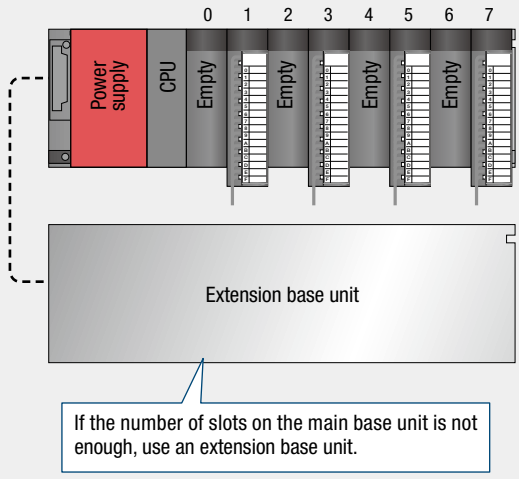


(2) If the wiring causes interference with adjacent modules, lift the cables forward to prevent interference.



(3) If interference still occurs, leave the next slot open to secure a space for wiring.

(Example) When the R38B is used

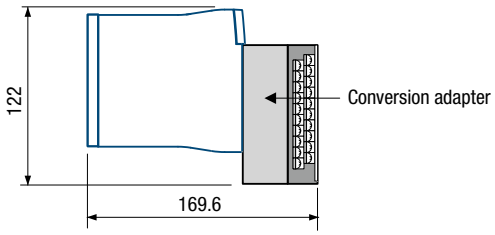
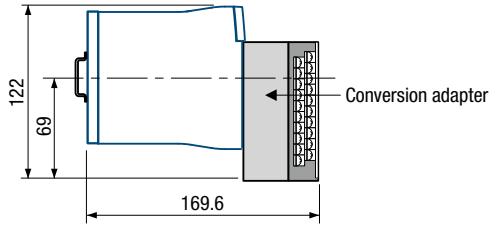


Attach a connector cover included with the base unit or a blank cover module (RG60) to prevent dust from entering connectors where no module is mounted.

(4) If modules cannot be replaced in accordance with (2) and (3), consider the use of the extended temperature range base unit manufactured by Mitsubishi Electric. → P.23

Depth / Height

MELSEC iQ-R : MELSEC iQ-R series

Depth		169.6mm
Height		122mm
Mounting diagram	Panel surface installation	Unit: mm MELSEC-Q + Upgrade tool product 
	DIN rail installation	Unit: mm MELSEC-Q + Upgrade tool product 

MEMO

General-purpose PLC → MELSEC-Q series
Upgrade tool "Universal conversion adapter"

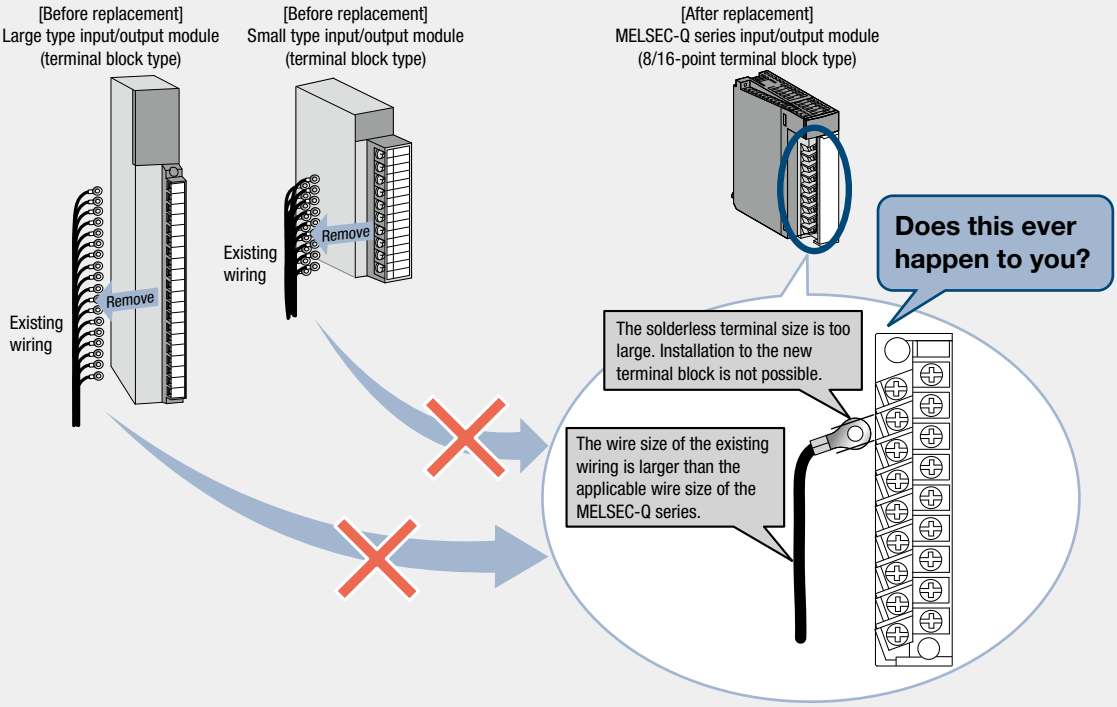
Replacing general-purpose PLC with the MELSEC-Q series

■ Universal conversion adapter

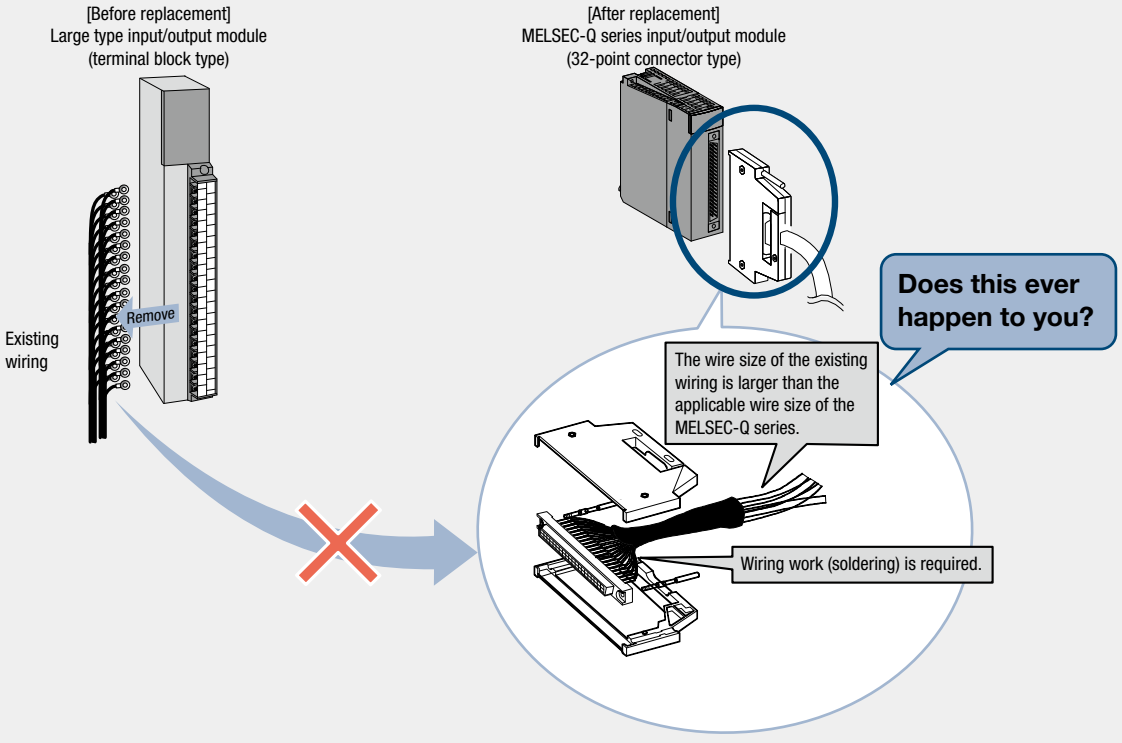
The universal conversion adapter reduces the time required for rewiring input/output modules (terminal block type) when replacing a general-purpose PLC with the MELSEC-Q series programmable controller manufactured by Mitsubishi Electric.

Product overview

- You want to replace input/output modules (terminal block type) of a general-purpose PLC with those (terminal block type) of the MELSEC-Q series, but there are some problems.



- You want to replace input/output modules (terminal block type) of a general-purpose PLC with those (connector type) of the MELSEC-Q series, but there are some problems.



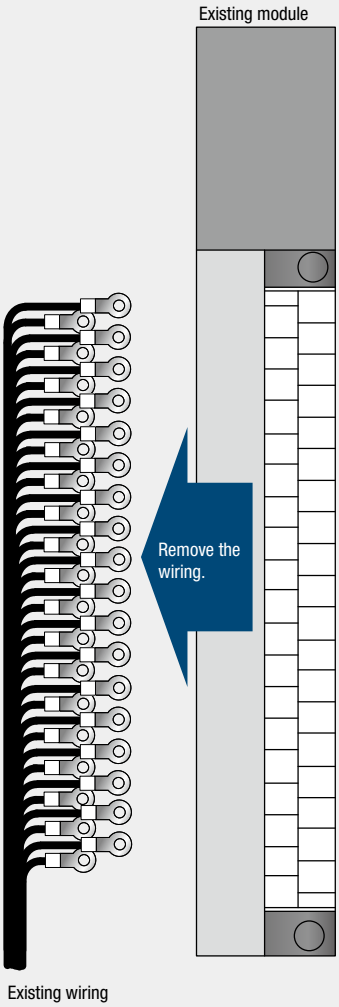
Consider the use of the universal conversion adapter as a solution.

If the specifications of the devices currently connected satisfy the specifications of the MELSEC-Q series input/output module, you can use the universal conversion adapter for replacement, regardless of the manufacturer of the PLC!

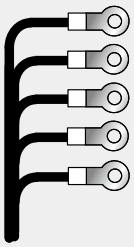
Note that this product is designed under the premises that rewiring (reinstallation of existing wiring to the terminal block) will be performed by the user.

Replacement procedure

1) Remove the wiring from the terminal block of the existing module.



2) Check the solderless terminals.

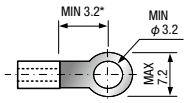


- Check the dimensions of solderless terminals.
- Change the terminals which are not applicable to the universal conversion adapter.

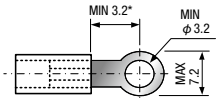
Universal conversion adapter (large type)

• Applicable solderless terminals — Unit: mm

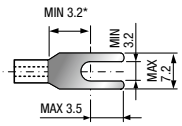
Round non-insulated



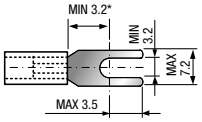
Round insulated



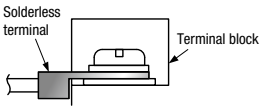
Y-shaped non-insulated



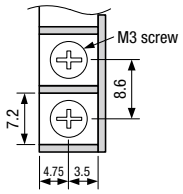
Y-shaped insulated



*: The minimum dimension will be 4.75mm when a solderless terminal is installed upside down as shown in the right figure.



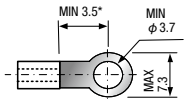
• Terminal block shape — Unit: mm



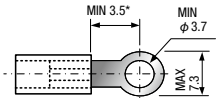
Universal conversion adapter (small type)

• Applicable solderless terminals — Unit: mm

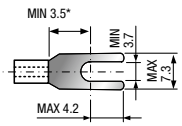
Round non-insulated



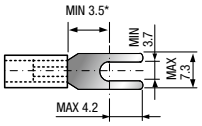
Round insulated



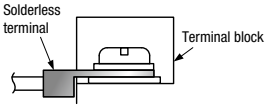
Y-shaped non-insulated



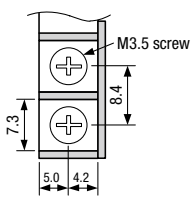
Y-shaped insulated



*: The minimum dimension will be 5.0mm when a solderless terminal is installed upside down as shown in the right figure.



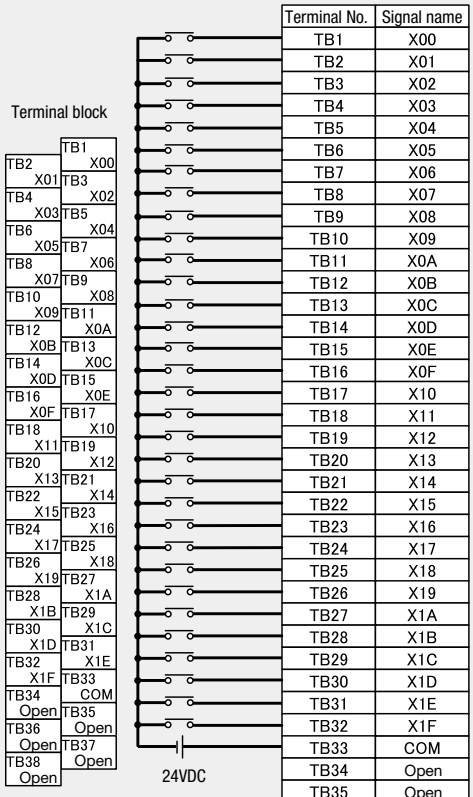
• Terminal block shape — Unit: mm



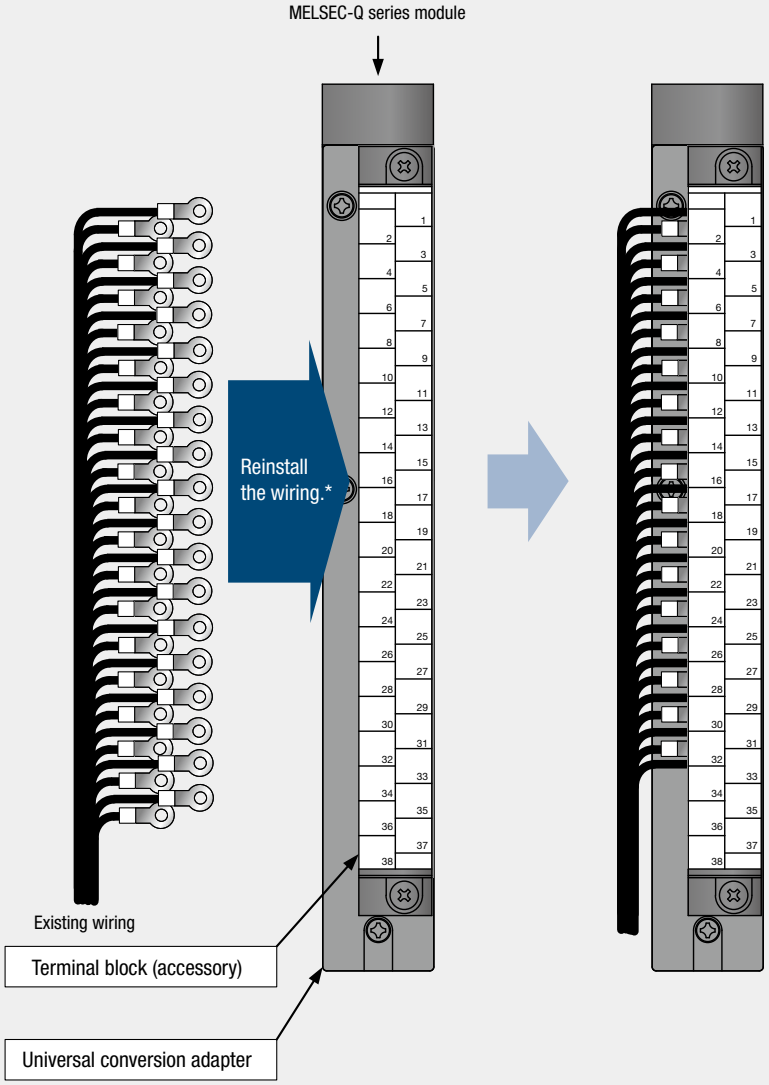
3) Reinstall the removed wiring to the terminal block of the universal conversion adapter.

Check the external connection diagram of each MELSEC-Q series module used, and reinstall the removed wiring to the terminal block of the universal conversion adapter.

External connection diagram (example)



Terminal No.	Signal name
TB1	X00
TB2	X01
TB3	X02
TB4	X03
TB5	X04
TB6	X05
TB7	X06
TB8	X07
TB9	X08
TB10	X09
TB11	X0A
TB12	X0B
TB13	X0C
TB14	X0D
TB15	X0E
TB16	X0F
TB17	X10
TB18	X11
TB19	X12
TB20	X13
TB21	X14
TB22	X15
TB23	X16
TB24	X17
TB25	X18
TB26	X19
TB27	X1A
TB28	X1B
TB29	X1C
TB30	X1D
TB31	X1E
TB32	X1F
TB33	COM
TB34	Open
TB35	Open
TB36	Open
TB37	Open
TB38	Open

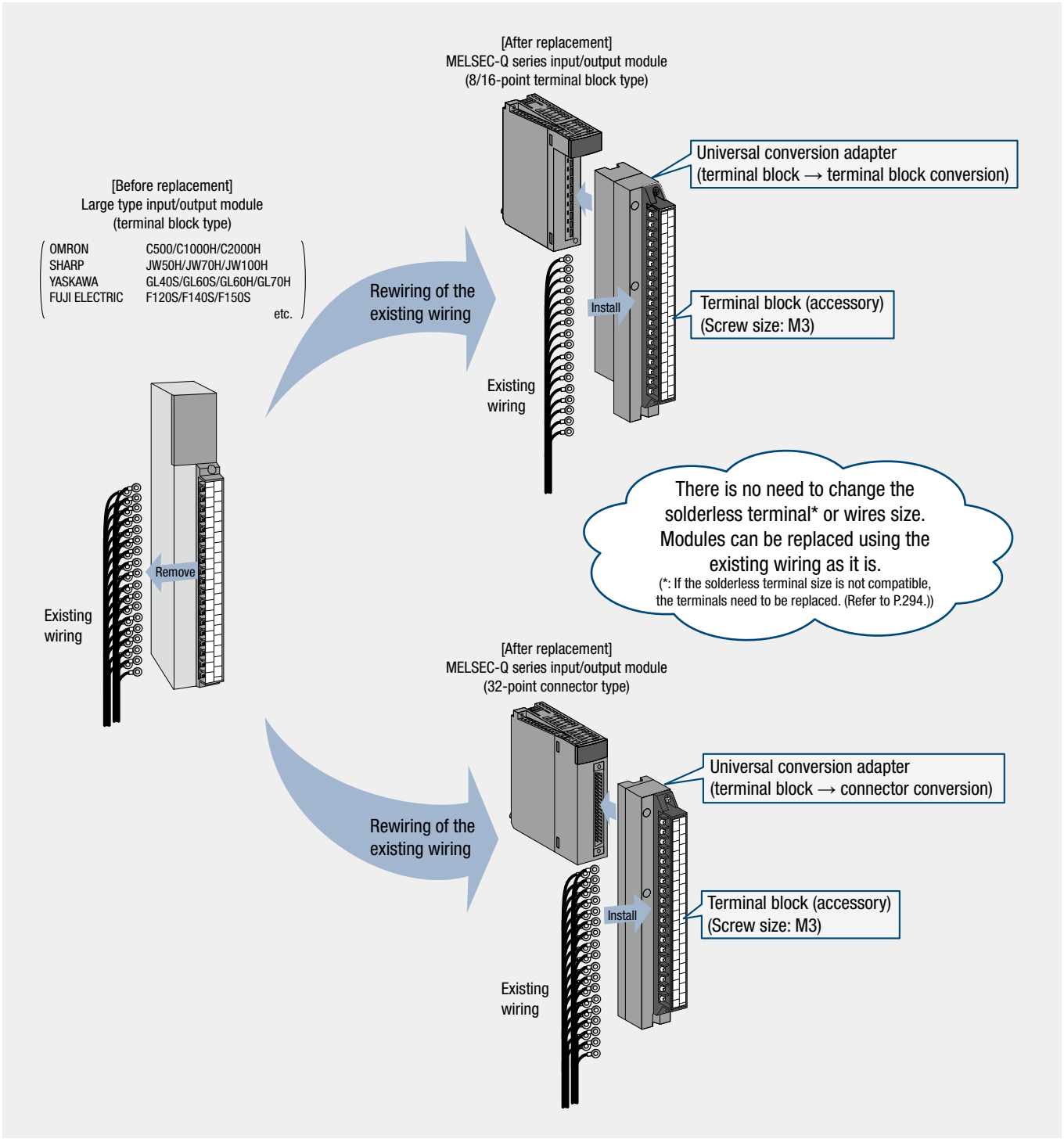


*: After replacement, connect wires in accordance with the terminal numbers and signal names of the universal conversion adapter.

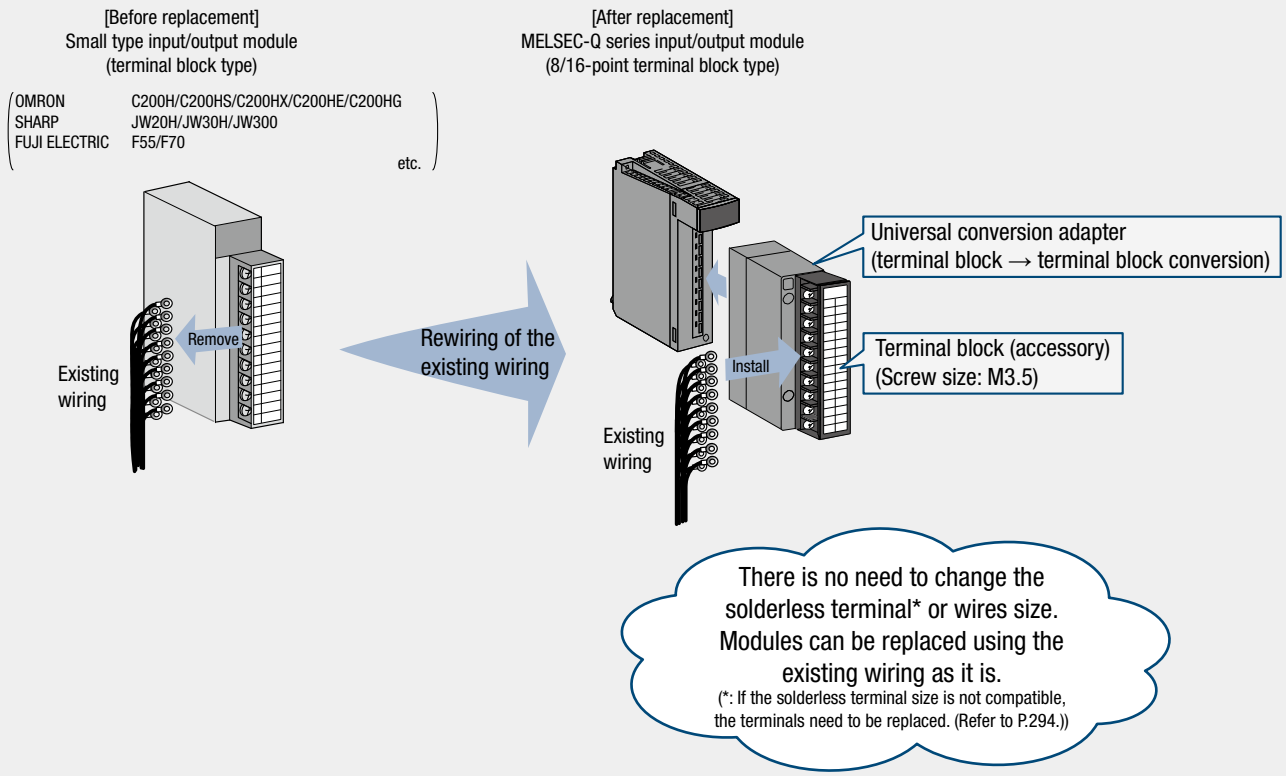
*: Depending on the change in the number of points per common (for example 8 points/common → 16 points/common), the connected devices (such as switches) may also need to be changed.

*: When any wires are left unconnected, connect them to open terminals or insulate them.

Replacing a general-purpose PLC (large type) with the MELSEC-Q series



Replacing a general-purpose PLC (small type) with the MELSEC-Q series



Modules that can be replaced using a universal conversion adapter

- The universal conversion adapter can be used to replace the MELSEC-A series, MELSEC-AnS series, and SYSMAC C series modules that do not support the use of a conversion adapter with the MELSEC-Q series modules.
- The universal conversion adapter can also be used to replace the modules that share each common terminal by 8 points with the common separation modules (QX40H/QX70H/QX80H/QX90H).

POINT

Check that the specifications of MELSEC-Q series modules satisfy the specifications of the devices and equipment currently connected.

MELSEC-A series → MELSEC-Q series

Modules that do not support the use of a conversion adapter

Input/Output	MELSEC-A series module before replacement			MELSEC-Q series module after replacement			
	Model	Specifications*	No. of points	Model	Specifications*	No. of points	No. of required modules
Input	AX20(-UL)	200 to 240VAC	16	QX28	100 to 240VAC	8	2
	AX21(EU)		32				4
	AX80	12/24VDC, source type	16	QX70	5/12VDC, positive/negative common shared type	16	1
	AX80E						
	AX81		32	QX71		32	
	AX81-S1	12/24VDC, sink/source type	32				
	AX31	12/24VDC, 12/24VAC	32	QX41	24VDC		
				QX71	12VDC		
Output	AY20EU	100 to 240VAC	16	QY22	100 to 240VAC	16	1
	AY40A	12/24VDC, 0.3A, independent		QY68A	5 to 24VDC, 2A, independent	8	2
	AY60	24VDC (12/48VDC), 2A					
	AY60E						
	AY60EP	12/24VDC, 2A					
	AY60S(-UL)	24/48VDC (12VDC), 2A					
	AY15EU	240VAC, 2A	24	QY10	240VAC, 2A	16	

*: Input specifications: Sink type = Positive common, Source type = Negative common

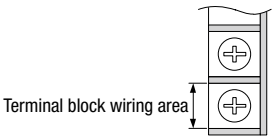
Modules that share each common terminal by 8 points

Input/Output	MELSEC-A series module before replacement			MELSEC-Q series module after replacement			
	Model	Specifications*	No. of points	Model	Specifications*	No. of points	No. of required modules
Input	AX40(-UL)	12/24VDC, sink type, 8 points/common	16	QX40H	24VDC, positive common, 8 points/common	16	1
	AX70(-UL)	5/12/24VDC, sink/source type, 8 points/common		QX70H	5VDC, positive common, 8 points/common		
				QX90H	5VDC, negative common, 8 points/common		
	AX80(-UL)	12/24VDC, source type, 8 points/common		QX80H	24VDC, negative common, 8 points/common		
	AX80E						

*: Input specifications: Sink type = Positive common, Source type = Negative common

Reference: Terminal block specifications

Item	MELSEC-A series module before replacement	MELSEC-Q series module after replacement	Universal conversion adapter (large type)
Terminal block screw size	M3	M3	M3
Terminal block wiring area	7.2mm	6mm	7.2mm



MELSEC-AnS series → MELSEC-Q series

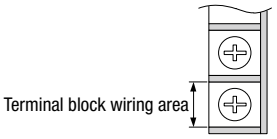
Modules that do not support the use of a conversion adapter

Input/Output	MELSEC-AnS series module before replacement			MELSEC-Q series module after replacement			
	Model	Specifications*1	No. of points	Model	Specifications*1	No. of points	No. of required modules
Input	A1SX30	12/24VDC, 12/24VAC	16	QX40	24VDC, positive common	16	1
Output	A1SY14EU	24VDC/240VAC	12	QY10	24VDC/240VAC	16	1
	A1SY18A(EU)*2		8	QY18A		8	
	A1SY68A*2	5/12/24/48VDC, sink/source type		QY68A	5 to 24VDC, sink/source type		
I/O combined	A1SX48Y58	Input: 24VDC, sink type Output: 12/24VDC, sink type	Input: 8 Output: 8	QX48Y57	Input: 24VDC, positive common Output: 12 to 24VDC, sink type	Input: 8 Output: 7	1
	A1SX48Y18	Input: 24VDC, sink type Output: 24VDC/240VAC		QX40+QY10	Input: 24VDC, positive common Output: 24VDC/240VAC	Input: 16 Output: 16	1 + 1

*1: Input specifications: Sink type = Positive common
*2: The existing terminal block can be mounted to the universal conversion adapter as it is. (Attach a cover included with the existing terminal block when a standard base unit is used.)

Reference: Terminal block specifications

Item	MELSEC-AnS series module before replacement	MELSEC-Q series module fter replacement	Universal conversion adapter (small type)
Terminal block screw size	M3.5	M3	M3.5
Terminal block wiring area	7.3mm	6mm	7.3mm



SYSMAC C series → MELSEC-Q series

Modules that do not support the use of a conversion adapter

Input/Output	SYSMAC C series module before replacement			MELSEC-Q series module after replacement			
	Model	Specifications*	No. of points	Model	Specifications*	No. of points	No. of required modules
Input	C500-IA222	200 to 240VAC	16	QX28	100 to 240VAC	8	2
	C500-IA223		32				4
Output	C500-OC223	24VDC/250VAC, independent	16	QY18A	24VDC/240VAC, independent	8	2
	C500-OD215	24VDC, sink type, independent		QY68A	5 to 24VDC, sink/source type, independent		
	C500-OD212	12 to 24VDC, source type	32	QY81P	12 to 24VDC, source type	32	1
	C500-OA223	250VAC	24	QY22	100 to 240VAC	16	2

*: Input specifications: Sink type = Positive common, Source type = Negative common

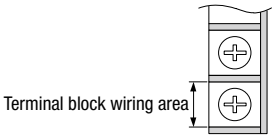
Modules that share each common terminal by 8 points

Input/Output	SYSMAC C series module before replacement			MELSEC-Q series module after replacement			
	Model	Specifications*	No. of points	Model	Specifications*	No. of points	No. of required modules
Input	C500-ID112	5 to 12VDC, sink type, 8 points/common	16	QX70H	5VDC, positive common, 8 points/common	16	1
	C500-ID213	12 to 24VDC, sink type, 8 points/common		QX40H	24VDC, positive common, 8 points/common		

*: Input specifications: Sink type = Positive common

Reference: Terminal block specifications

Item	SYSMAC C series [Large type] module before replacement	MELSEC-Q series module after replacement	Universal conversion adapter (large type)
Terminal block screw size	M3.5	M3	M3
Terminal block wiring area	7.3mm	6mm	7.2mm



SYSMAC C series (C200H series) → MELSEC-Q series

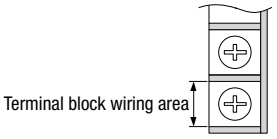
Modules that do not support the use of a conversion adapter

Input/ Output	SYSMAC C series module before replacement			MELSEC-Q series module after replacement				Note
	Model	Specifications	No. of points	Model	Specifications	No. of points	No. of required modules	
Input	C200H-IA121	100 to 120VAC	8	QX10	100 to 120VAC	16	1	-
	C200H-IA122		16					
	C200H-IA122V							
	C200H-IA221	200 to 240VAC	8	QX28	100 to 240VAC	8	1	
	C200H-IA222		16				2	
	C200H-IA222V							
	C200H-ID001	No-voltage input (No-contact input), for NPN output	8	QX40, QX40-S1, QX40H	24VDC, positive common	16	1	*1, *2
	C200H-ID002	No-voltage input (No-contact input), for PNP output		QX80, QX80H	24VDC, negative common			
	C200H-ID211	12 to 24VDC, positive/negative common shared type		QX40, QX40-S1, QX40H	24VDC, positive common			*3
				QX80, QX80H	24VDC, negative common			
				QX70	5/12VDC, positive/negative common shared type			
	C200H-ID212	24VDC, positive/negative common shared type	16	QX40, QX40-S1, QX40H	24VDC, positive common			-
				QX80, QX80H	24VDC, negative common			
	C200H-IM211	12 to 24VAC/DC	8	QX40, QX40-S1, QX40H	24VDC, positive common			*3
				QX80, QX80H	24VDC, negative common			
				QX70	5/12VDC, positive/negative common shared type			
	C200H-IM212	24VAC/DC	16	QX40, QX40-S1, QX40H	24VDC, positive common			-
				QX80, QX80H	24VDC, negative common			
Output	C200H-OA221	250VAC maximum, 1A	8	QY22	100 to 240VAC	16	1	-
	C200H-OA222	250VAC maximum, 0.5A	12					
	C200H-OA222V	250VAC maximum, 0.3A						
	C200H-OA223	250VAC maximum, 1.2A	8					
	C200H-OA224	250VAC maximum, 0.5A	12					
	C200H-OC221	250VAC/24VDC maximum, 2A	8	QY10	240VAC, 24VDC			*3
	C200H-OC222		12					-
	C200H-OC222N							
	C200H-OC222V							
	C200H-OC225		16					
	C200H-OC226							
	C200H-OC226N							
	C200H-OC223	250VAC/24VDC maximum, 2A, independent contact	5	QY18A	240VAC, 24VDC, independent	8		
	C200H-OC224		8					
	C200H-OC224N							
	C200H-OC224V							
	C200H-OD411	12 to 48VDC, 1A, sink type	8	QY40P	12 to 24VDC, sink type	16		*3
	C200H-OD211	24VDC, 0.3A, sink type	12					-
	C200H-OD212		16					
	C200H-OD213	24VDC, 2.1A, sink type	8					*3
	C200H-OD214	24VDC, 0.8A, source type	8	QY80	12 to 24VDC, source type			-
	C200H-OD216	5 to 24VDC, 0.3A, source type						
	C200H-OD217		12					
	C200H-OD21A	24VDC, 1A, source type	16					

*1: Additional power supply input (5V or 12V) is required at the wiring side.
*2: When 5VDC or 12VDC is used, consider replacing the module with the QX70 (positive/negative common shared type).
*3: When an input module (24VDC, 8 points, positive common) or an output module (12 to 24VDC, 8 points, sink type) are used, consider replacing the module with the QX48Y57.

Reference: Terminal block specifications

Item	SYSMAC C series [Small type] module before replacement	MELSEC-Q series module after replacement	Universal conversion adapter
Terminal block screw size	M3.5	M3	M3.5
Terminal block wiring area	7.3mm	6mm	7.3mm



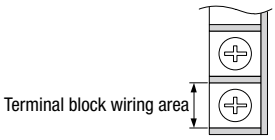
SYSMAC C series (CS series) → MELSEC-Q series

Modules that do not support the use of a conversion adapter

Input/Output	SYSMAC C series module before replacement			MELSEC-Q series module after replacement			
	Model	Specifications	No. of points	Model	Specifications	No. of points	No. of required modules
Input	CS1W-IA111	100 to 120VAC/DC	16	QX10	100 to 120VAC	16	1
	CS1W-IA211	200 to 240VAC		QX28	100 to 240VAC	8	2
	CS1W-ID211	24VDC, positive/negative common shared type		QX40, QX40-S1, QX40H	24VDC, positive common	16	1
				QX80, QX80H	24VDC, negative common		
Output	CS1W-OC201	250VAC/24VDC, 2A, 120VDC, 0.1A, independent contact	8	QY18A	240VAC, 24VDC, independent	8	1
	CS1W-OC211	250VAC/24VDC, 2A, 120VDC, 0.1A	16	QY10	240VAC, 24VDC	16	
	CS1W-OA201	250VAC, 1.2A	8	QY22	100 to 240VAC		
	CS1W-OA211	250VAC, 0.5A	16				
	CS1W-OD211	12 to 24VDC, 0.5A, sink type		QY40P	12 to 24VDC, sink type		
	CS1W-OD212	24VDC, 0.5A, source type		QY80	12 to 24VDC, source type		

Reference: Terminal block specifications

Item	SYSMAC C series [Small type] module before replacement	MELSEC-Q series module after replacement	Universal conversion adapter
Terminal block screw size	M3.5	M3	M3.5
Terminal block wiring area	7.3mm	6mm	7.3mm



New satellite JW series Large type → MELSEC-Q series

Modules that do not support the use of a conversion adapter

Input/Output	New satellite JW series [Large type] module before replacement			MELSEC-Q series module after replacement			
	Model	Specifications*	No. of points	Model	Specifications*	No. of points	No. of required modules
Input	JW-13N	200 to 240VAC	16	QX28	100 to 240VAC	8	2
Output	JW-35S	12/24VDC, source type	32	QY81P	12/24VDC, source type	32	1
Analog output	JW-2DA	0 to ±10VDC, 0 to ±20mADC, 11-bit signed binary	2	Q62DAN	-10 to +10VDC, 0 to ±20mADC, 16-bit signed binary	2	
High-speed counter input	JW-2HC	50/20/15/8kpps, 24-bit binary	2	QD62	200/100/10kpps, 32-bit binary	2	

*: Input specifications: Source type = Negative common

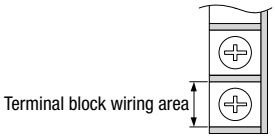
Modules that share each common terminal by 8 points

Input/Output	New satellite JW series [Large type] module before replacement			MELSEC-Q series module after replacement			
	Model	Specifications*	No. of points	Model	Specifications*	No. of points	No. of required modules
Input	JW-12N	12/24VDC, 24VAC, positive/negative common shared type	16	QX40H	24VDC, positive common, 8 points/common	16	1
				QX80H	24VDC, negative common, 8 points/common		
	JW-32N	12/24VDC, 24VAC, positive/negative common shared type	32	QX40H	24VDC, positive common, 8 points/common	16	2
				QX80H	24VDC, negative common, 8 points/common		
	JW-34N	12/24VDC, positive/negative common shared type	32	QX40H	24VDC, positive common, 8 points/common	16	2
				QX80H	24VDC, negative common, 8 points/common		

*: Input specifications: Sink type = Positive common, Source type = Negative common

Reference: Terminal block specifications

Item	New satellite JW series [Large type] module before replacement	MELSEC-Q series module after replacement	Universal conversion adapter (large type)
Terminal block screw size	M3.5	M3	M3
Terminal block wiring area	7.3mm	6mm	7.2mm



New satellite JW series Small type → MELSEC-Q series

Modules that do not support the use of a conversion adapter

Input/Output	New satellite JW series [Small type] module before replacement			MELSEC-Q series module after replacement			
	Model	Specifications*	No. of points	Model	Specifications*	No. of points	No. of required modules
Input	JW-203N	200/240VAC	8	QX28	100 to 240VAC	8	1
	JW-201N	100/120VAC					
	JW-202N	12/24VDC		QX40, QX40-S1	24VDC, positive common	16	
				QX70	12VDC, positive common		
Output	JW-203S	100/120VAC	8	QY22	100 to 240VAC	16	1
	JW-204S JW-204SA	250VAC/30VDC, 2A, independent		QY18A	240VAC/24VDC, 2A, independent	8	
	JW-202S	5/12/24VDC, sink type		QY68A	5 to 24VDC, 2A, independent		
	JW-215SA	5/12/24VDC, source type	16	QY80P	12/24VDC, source type	16	
Analog input	JW-24AD	0 to ±10VDC, 0 to ±20mADC, 13-bit signed binary	4	Q64AD	-10 to 0 to +10VDC, 0 to 20mADC, 16-bit signed binary	4	1
Analog output	JW-22DA	0 to ±10VDC, 0 to ±20mADC, 15-bit signed binary	2	Q62DAN	-10 to +10VDC, 0 to 20mADC, 16-bit signed binary	2	

*: Input specifications: Sink type = Positive common, Source type = Negative common

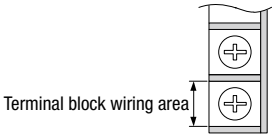
Modules that share each common terminal by 8 points

Input/Output	New satellite JW series [Small type] module before replacement			MELSEC-Q series module after replacement			
	Model	Specifications*	No. of points	Model	Specifications*	No. of points	No. of required modules
Input	JW-212N JW-212NA JW-214N JW-214NA	12/24VDC, positive/negative common shared type	16	QX40H	24VDC, positive common, 8 points/common	16	1
				QX80H	24VDC, negative common, 8 points/common		

*: Input specifications: Sink type = Positive common, Source type = Negative common

Reference: Terminal block specifications

Item	New satellite JW series [Small type] module before replacement	MELSEC-Q series module after replacement	Universal conversion adapter (small type)
Terminal block screw size	M3.5	M3	M3.5
Terminal block wiring area	7.2mm	6mm	7.3mm



MEMOCON-SC GL series Large type (2000 series I/O) → MELSEC-Q series

Modules that do not support the use of a conversion adapter

Input/Output	MEMOCON-SC GL series [Large type] (2000 series I/O) module before replacement			MELSEC-Q series module after replacement			
	Model	Specifications*	No. of points	Model	Specifications*	No. of points	No. of required modules
Input	JAMSC-B2503A	200VAC	16	QX28	100 to 240VAC	8	2
	JAMSC-B2507A	200VAC	32				4
Output	JAMSC-B2912	100/200VAC, 24VDC	32	QY10	100 to 200VAC, 24VDC	16	2
	JAMSC-B2624	5VDC, sink type	64	QY41H	5/12/24VDC, sink type	32	
	JAMSC-B2630	12/24VDC, source type	16	QY80	12/24VDC, source type	16	1
	JAMSC-B2632	12/24VDC, source type	32	QY81P		32	

*: Input specifications: Sink type = Positive common, Source type = Negative common

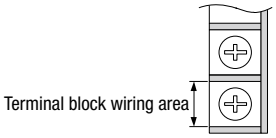
Modules that share each common terminal by 8 points

Input/Output	New satellite JW series [Large type] module before replacement			MELSEC-Q series module after replacement			
	Model	Specifications*	No. of points	Model	Specifications*	No. of points	No. of required modules
Input	JAMSC-B2601	12/24VDC, positive/negative common shared type	16	QX40H	24VDC, positive common, 8 points/common	16	1
				QX80H	24VDC, negative common, 8 points/common		
	JAMSC-B2603	12/24VDC, positive/negative common shared type	32	QX40H	24VDC, positive common, 8 points/common		2
				QX80H	24VDC, negative common, 8 points/common		

*: Input specifications: Sink type = Positive common, Source type = Negative common

Reference: Terminal block specifications

Item	MEMOCON-SC GL series [Large type] module before replacement	MELSEC-Q series module after replacement	Universal conversion adapter (large type)
Terminal block screw size	M3	M3	M3
Terminal block wiring area	7.3mm	6mm	7.2mm

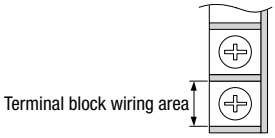


Remarks

The universal conversion adapter (small type) cannot be used to replace the SYSMAC C series Small type (CQM1) or the MEMOCON GL series Small type with the MELSEC-Q series because the terminal block screw size of the universal conversion adapter (small type) is bigger than those of the series before and after replacement.

Reference: Terminal block specifications

Item	Before replacement		MELSEC-Q series module after replacement	Universal conversion adapter (small type)
	SYSMAC C series [Small type] (CQM1) module	MEMOCON GL series [Small type] module		
Terminal block screw size	M3	M3	M3	M3.5
Terminal block wiring area	6.4mm	7mm	6mm	7.3mm



Large type

Model list

Universal conversion adapters (large type)

Check that the electrical specifications of MELSEC-Q series modules satisfy the specifications of devices currently connected.

For input/output modules

1-slot type (Applicable to MELSEC-Q series large type base units (Q□□BL) as well)

Input/Output	MELSEC-Q series module after replacement	Conversion adapter		
		Model	Shape	
			Terminal block (accessory)	MELSEC-Q series
Input	QX10	ERNT-AQTB20	Terminal block* (38 points) ▶	Terminal block (18 points)
	QX28			
	QX40			
	QX40-S1			
	QX40H			
	QX50			
	QX70			
	QX70H			
	QX80			
	QX80H			
	QX90H			
Output	QY10			
	QY18A			
	QY40P			
	QY50			
	QY68A			
	QY70			
	QY80			
I/O combined	QX48Y57			
Output	QY22	ERNT-AQTB20-S1	Terminal block* (38 points) ▶	Terminal block (18 points)
Input	QX41	ERNT-AQTB38	Terminal block (38 points) ▶	FCN connector (40P)
	QX41-S1			
	QX41-S2			
	QX71			
Output	QY41P			
	QY41H			
	QY71			
Input	QX81	ERNT-AQTB38-E	Terminal block (38 points) ▶	D-Sub connector (37P)
	QX81-S2			
Output	QY81P			

*: The terminal block included with the product is a 38-point terminal block.

POINT

The universal conversion adapter (large type) can be used in the following system replacement.
- MELSEC-A series → MELSEC-Q series
- SYSMAC C series (large type) → MELSEC-Q series
- New satellite JW series (large type) → MELSEC-Q series
- MEMOCON-SC GL series (large type) → MELSEC-Q series

Base adapters

The same base adapters used to replace the MELSEC-A series with the MELSEC-Q series are used.
By using a base adapter, the MELSEC-Q series base unit and the conversion adapter support flange can be installed at the same time without drilling any additional installation holes.

Note

- Four additional installation holes (M5 screw size) and four M5 screws need to be prepared by the user to install the base adapter to the control panel.

The base units (*1 to *5) can be installed to different types of base adapters. Select the optimum base adapter.

Base adapter model	Installable product						Dimensions
	MELSEC-Q series base unit					Conversion adapter support flange	Width × Height (mm)
	12-slot	8-slot	5-slot	3-slot	2-slot		
ERNT-AQB38N	Q312B					ERNT-AQF12, ERNT-AQF8	480 × 240
		Q38B*1				ERNT-AQF8	
ERNT-AQB35N		Q38B*1				ERNT-AQF8, ERNT-AQF5	382 × 240
			Q35B			ERNT-AQF5	
ERNT-AQB32N				Q33B		ERNT-AQF3	247 × 240
ERNT-AQB68N	Q612B					ERNT-AQF12, ERNT-AQF8	466 × 240
		Q68B*2				ERNT-AQF8	
ERNT-AQB65N		Q68B*2				ERNT-AQF8, ERNT-AQF5	352 × 240
			Q65B*3 Q55B*4			ERNT-AQF5	
ERNT-AQB62				Q63B	Q52B*5	ERNT-AQF3	238 × 240
ERNT-AQB58N		Q68B*2				ERNT-AQF8	411 × 240
ERNT-AQB55N			Q65B*3 Q55B*4			ERNT-AQF5	297 × 240
ERNT-AQB52					Q52B*5	ERNT-AQF3	183 × 240

Conversion adapter support flanges (required)

The same base adapters used to replace the MELSEC-A series with the MELSEC-Q series are used.
A conversion adapter support flange secures the lower part of a conversion adapter. One support flange is required per base unit when a conversion adapter is used.

Note

- Two additional installation holes (M4 screw size) are required to install the conversion adapter support flange to the control panel.
  When a base adapter is used, drilling of additional installation holes is not required.

Conversion adapter support flange model	Specifications
ERNT-AQF12	12-slot conversion adapter support flange
ERNT-AQF8	8-slot conversion adapter support flange
ERNT-AQF5	5-slot conversion adapter support flange
ERNT-AQF3	3-slot conversion adapter support flange

Conversion adapter support flanges (required)

Specifications

A conversion adapter support flange secures the bottom of a conversion adapter. One support flange is required per base unit when a conversion adapter is used.
The same base adapters used to replace the MELSEC-A series with the MELSEC-Q series are used.

Conversion adapter support flange model	Specifications
ERNT-AQF12	12-slot conversion adapter support flange
ERNT-AQF8	8-slot conversion adapter support flange
ERNT-AQF5	5-slot conversion adapter support flange
ERNT-AQF3	3-slot conversion adapter support flange

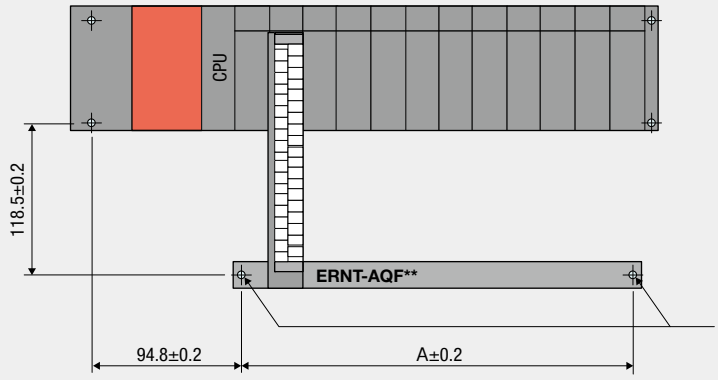
When a base adapter is not used

When a base adapter is not used, drilling of two installation holes (M4 screw size) is required as shown below.
The conversion adapter support flange must be installed.

When a main base unit is replaced

◎ **Q312B, Q38B, Q35B, Q33B**

Unit: mm



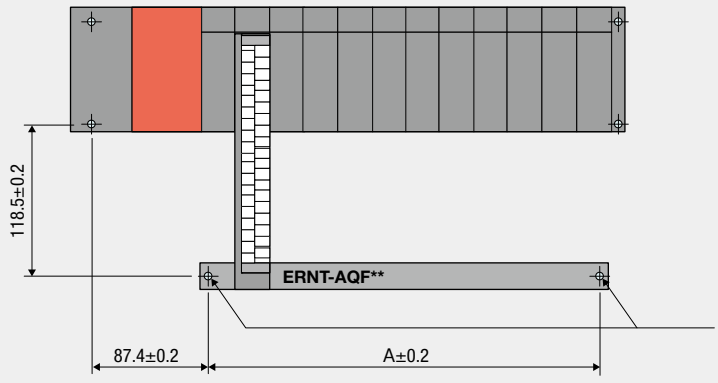
Conversion adapter support flange	A (mm)
ERNT-AQF12	321.2
ERNT-AQF8	210
ERNT-AQF5	126.6
ERNT-AQF3	71

Drill two installation holes (M4 screw size) here and install the conversion adapter support flange.

When an extension base unit is replaced

◎ **Q612B, Q68B, Q65B, Q63B**

Unit: mm

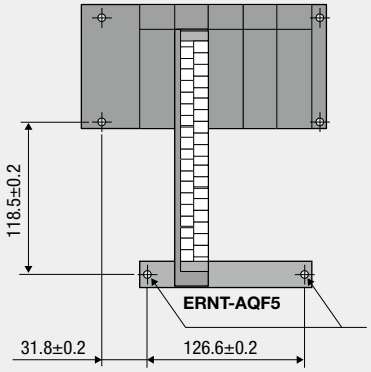


Conversion adapter support flange	A (mm)
ERNT-AQF12	321.2
ERNT-AQF8	210
ERNT-AQF5	126.6
ERNT-AQF3	71

Drill two installation holes (M4 screw size) here and install the conversion adapter support flange.

◎ Q55B

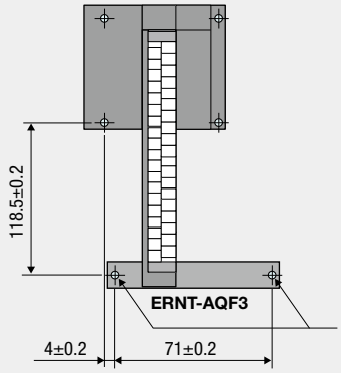
Unit: mm



Drill two installation holes (M4 screw size) here and install the conversion adapter support flange.

◎ Q52B

Unit: mm



Drill two installation holes (M4 screw size) here and install the conversion adapter support flange.

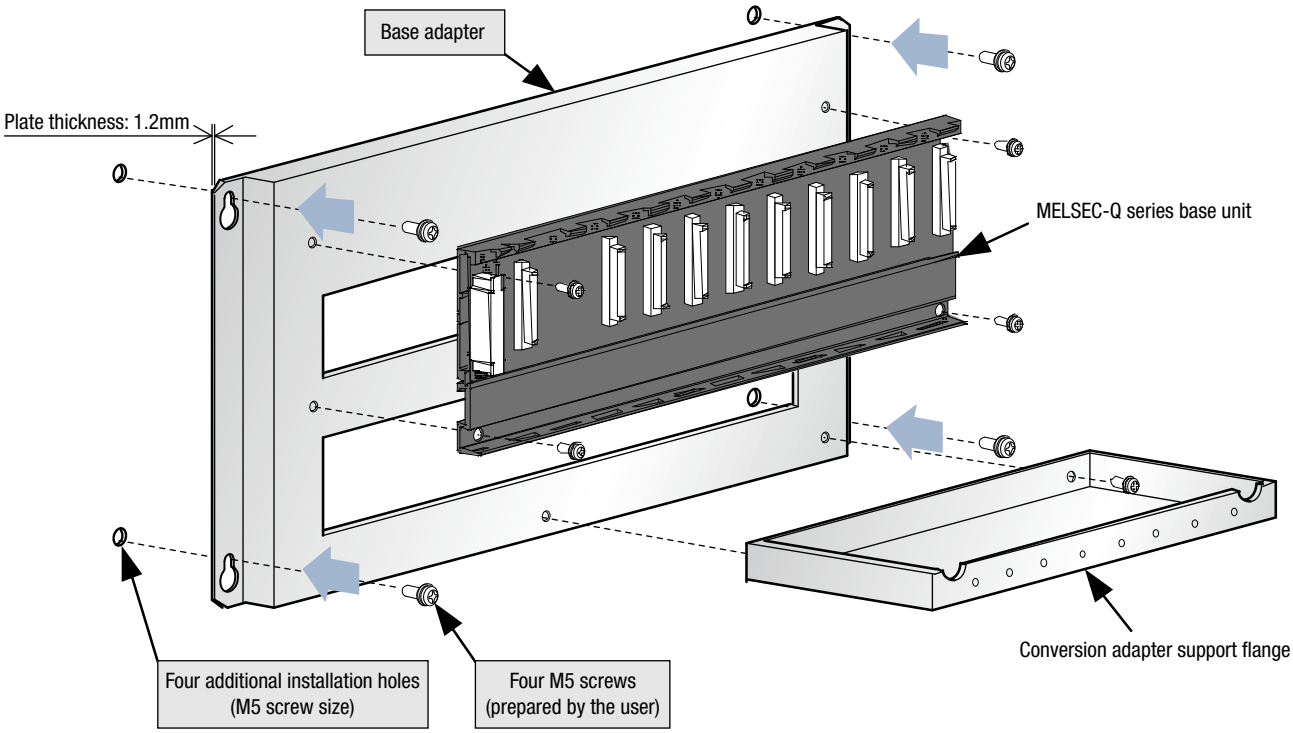
Base adapters

Specifications

By using a base adapter, the MELSEC-Q series base unit and the conversion adapter support flange can be installed at the same time without drilling any additional installation holes. The same base adapters used to replace the MELSEC-A series with the MELSEC-Q series are used.

Note

- Four additional installation holes (M5 screw size) and four M5 screws need to be prepared by the user to install the base adapter to the control panel.



The base units (*1 to *5) can be installed to different types of base adapters. Select the optimum base adapter.

Base adapter model	Installable product						Dimensions
	MELSEC-Q series base unit					Conversion adapter support flange	Width × Height (mm)
	12-slot	8-slot	5-slot	3-slot	2-slot		
ERNT-AQB38N	Q312B					ERNT-AQF12, ERNT-AQF8	480 × 240
		Q38B*1				ERNT-AQF8	
ERNT-AQB35N		Q38B*1				ERNT-AQF8, ERNT-AQF5	382 × 240
			Q35B			ERNT-AQF5	
ERNT-AQB32N				Q33B		ERNT-AQF3	247 × 240
ERNT-AQB68N	Q612B					ERNT-AQF12, ERNT-AQF8	466 × 240
		Q68B*2				ERNT-AQF8	
ERNT-AQB65N		Q68B*2				ERNT-AQF8, ERNT-AQF5	352 × 240
			Q65B*3 Q55B*4			ERNT-AQF5	
ERNT-AQB62				Q63B	Q52B*5	ERNT-AQF3	238 × 240
ERNT-AQB58N		Q68B*2				ERNT-AQF8	411 × 240
ERNT-AQB55N			Q65B*3 Q55B*4			ERNT-AQF5	297 × 240
ERNT-AQB52					Q52B*5	ERNT-AQF3	183 × 240

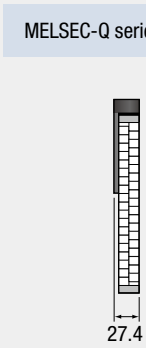
Precautions

Check that the specifications of MELSEC-Q series modules satisfy the specifications of the devices currently connected.
Refer to the user's manuals for the MELSEC-Q series module used prior to use.

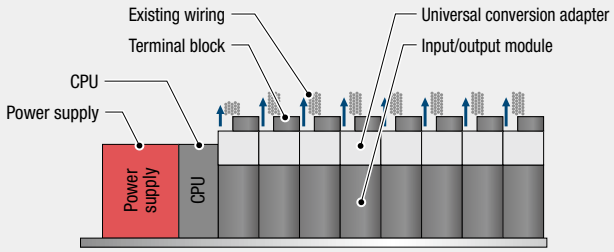
Module width

(1) The width of MELSEC-Q series modules is 27.4mm. The wiring area may become smaller. Check the wiring area when mounting a conversion adapter.

Unit: mm

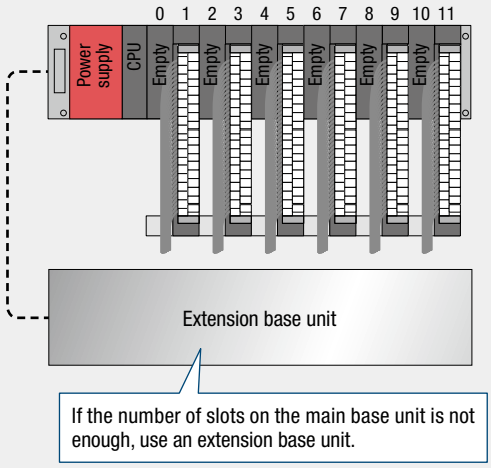


(2) If the wiring causes interference with adjacent modules, lift the cables forward to prevent interference.



(3) If interference still occurs, leave the next slot open to secure a space for wiring.

(Example) When the Q312B is used



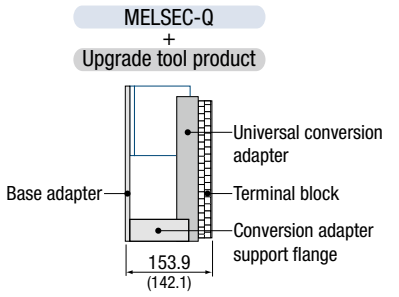
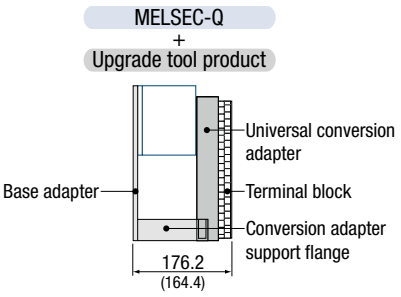
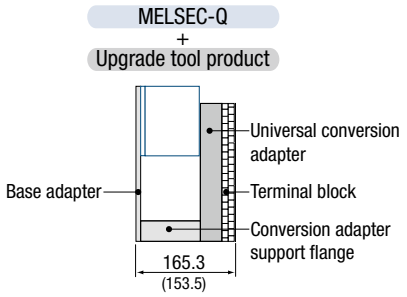
Attach a connector cover included with the base unit or a blank cover module (QG60) to prevent dust from entering connectors where no module is mounted.

(4) If modules cannot be replaced in accordance with (2) and (3), consider the use of the Q series large type base unit manufactured by Mitsubishi Electric. → P.24

Depth

The depth after replacement is shown below. The depth from the panel surface may increase. Check the depth when mounting a conversion adapter.
Values in parentheses (shorter by 11.8mm) are the dimensions when a base adapter is not used.

MELSEC-Q : MELSEC-Q series

Universal conversion adapter	ERNT-AQTB20	ERNT-AQTB20-S1	ERNT-AQTB38 ERNT-AQTB38-E
Depth	153.9mm (142.1mm)	176.2mm (164.4mm)	165.3mm (153.5mm)
Mounting diagram	Unit: mm 	Unit: mm 	Unit: mm 

Conversion adapter support flange, base adapter

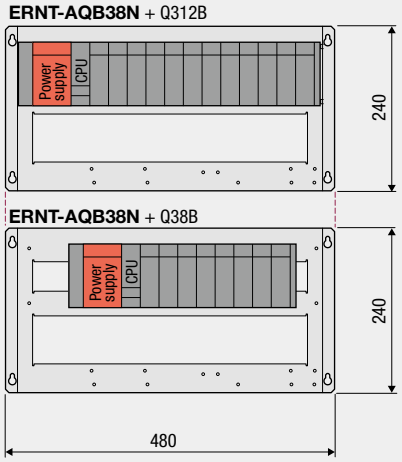
When a universal conversion adapter is used, the conversion adapter support flange is always required.
Also, it is recommended to use a base adapter that enables installation of the MELSEC-Q series base unit and the conversion adapter support flange at the same time without drilling any additional installation holes.

Slot positions

The slot positions will be as follows after replacement.
Change the slot positions of modules and adjust wiring lengths prior to use.

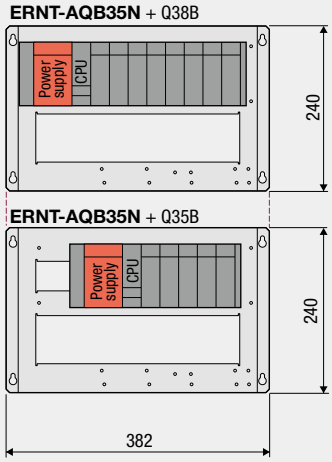
(1) ERNT-AQB38N

Unit: mm



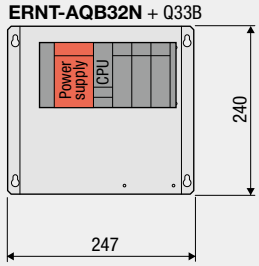
(2) ERNT-AQB35N

Unit: mm



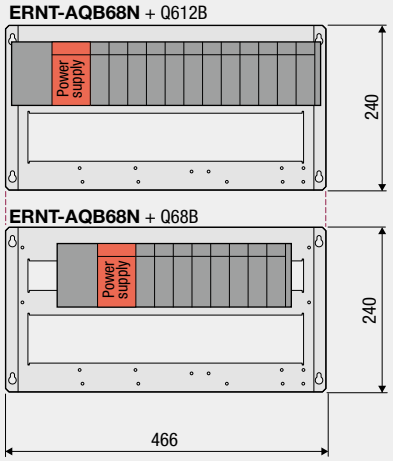
(3) ERNT-AQB32N

Unit: mm



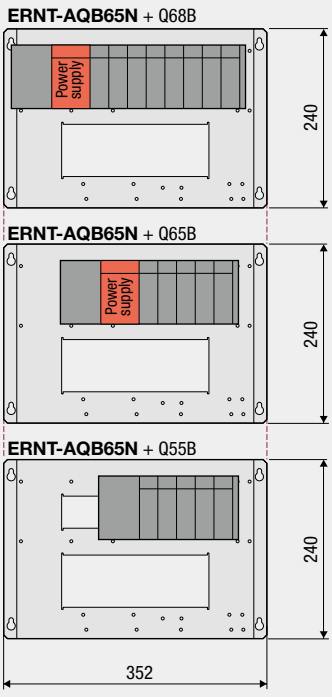
(4) ERNT-AQB68N

Unit: mm



(5) ERNT-AQB65N

Unit: mm



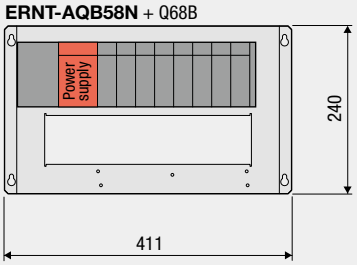
(6) ERNT-AQB62

Unit: mm



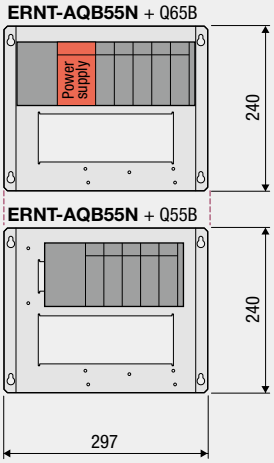
(7) ERNT-AQB58N

Unit: mm



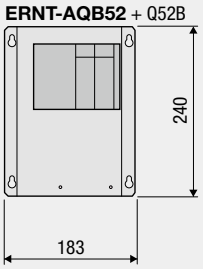
(8) ERNT-AQB55N

Unit: mm



(9) ERNT-AQB52

Unit: mm



Small type

Model list

Universal conversion adapters (small type)

Check that the electrical specifications of MELSEC-Q series modules satisfy the specifications of devices currently connected.

For input/output modules

1-slot type (Applicable to MELSEC-Q series large type base units (MELSEC-AnS series size) (Q□□BLS, Q□□BLS-D) as well)

Input/Output	MELSEC-Q series module after replacement	Conversion adapter		
		Model	Shape	
			Terminal block (accessory)	MELSEC-Q series
Input	QX10	ERNT-ASQTB20	Terminal block (20 points) ▶	Terminal block (18 points)
	QX28			
	QX40			
	QX40-S1			
	QX40H			
	QX50			
	QX70			
	QX70H			
	QX80			
	QX80H			
	QX90H			
Output	QY10			
	QY18A			
	QY22			
	QY40P			
	QY50			
	QY68A			
	QY70			
	QY80			
I/O combined	QX48Y57			

POINT

The universal conversion adapter (small type) can be used in the following system replacement.
- MELSEC-AnS series → MELSEC-Q series
- SYSMAC C series (C200H and CS series) → MELSEC-Q series
- New satellite JW series (small type) → MELSEC-Q series

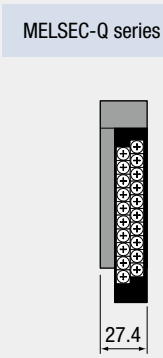
Precautions

Check that the specifications of MELSEC-Q series modules satisfy the specifications of the devices currently connected.
Refer to the user's manuals for the MELSEC-Q series module used prior to use.

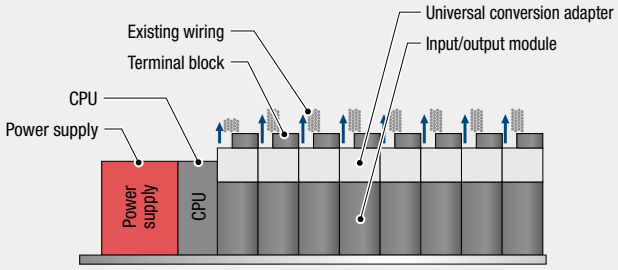
Module width

(1) The width of MELSEC-Q series modules is 27.4mm. The wiring area may become smaller. Check the wiring area when mounting a conversion adapter.

Unit: mm

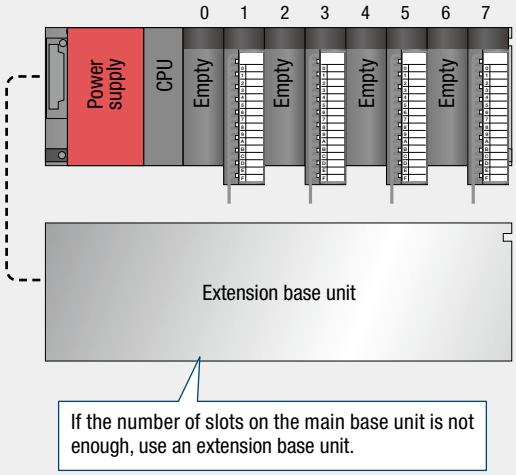


(2) If the wiring causes interference with adjacent modules, lift the cables forward to prevent interference.



(3) If interference still occurs, leave the next slot open to secure a space for wiring.

(Example) When the Q38B is used



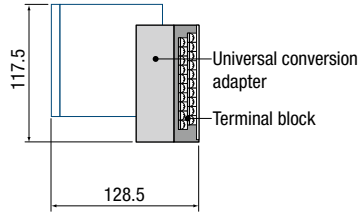
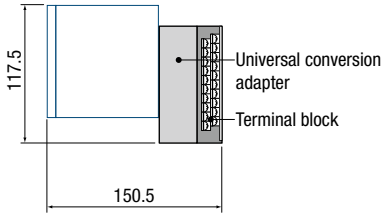
If the number of slots on the main base unit is not enough, use an extension base unit.

Attach a connector cover included with the base unit or a blank cover module (QG60) to prevent dust from entering connectors where no module is mounted.

(4) If modules cannot be replaced in accordance with (2) and (3), consider the use of the Q series large type base unit (MELSEC-AnS series size) manufactured by Mitsubishi Electric.
→ P.25

Depth / Height

MELSEC-Q : MELSEC-Q series

MELSEC-Q series module	Other than QY22	QY22
Depth	128.5mm	150.5mm
Height	117.5mm	117.5mm
Mounting diagram	Unit: mm MELSEC-Q + Upgrade tool product  	Unit: mm MELSEC-Q + Upgrade tool product 

Upgrade tool products

For servo systems

For servo systems

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Replacing the controller first P.320

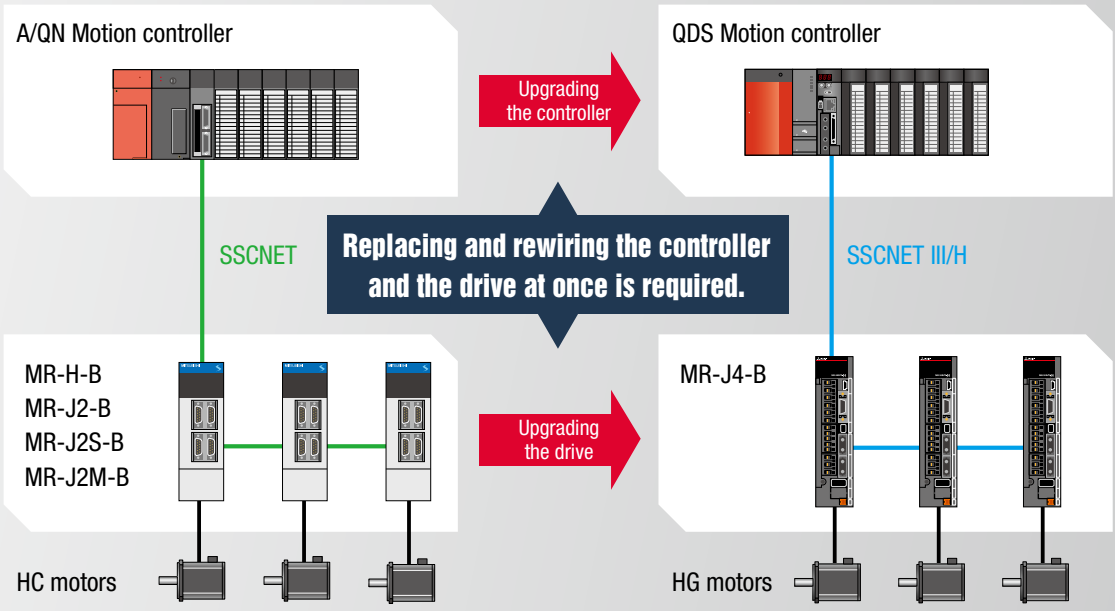
Replacing the drive section first P.326

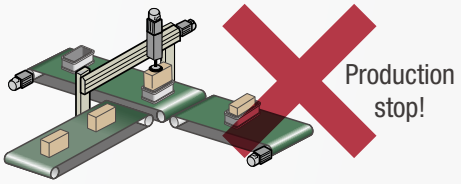
Upgrade tool products for servo systems

The controller and the drive section can be replaced separately by using the SSCNET conversion unit.
As a result, the production downtime is shortened.

Before

The controller and the drive section must be replaced all at once.





Longer downtime causes lower productivity.

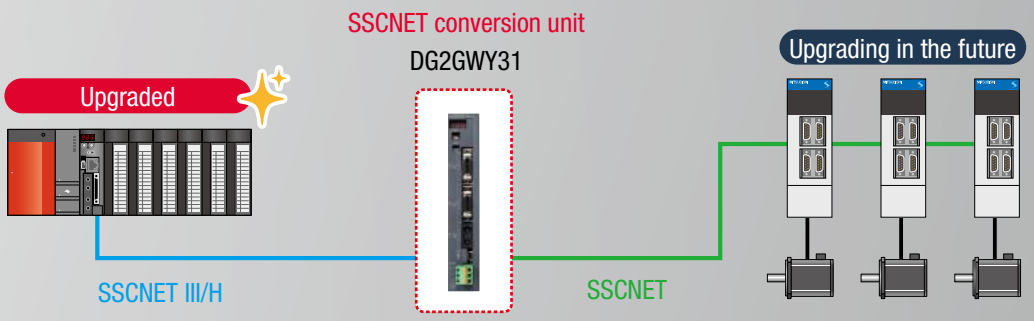


Upgrade cost is required at once.

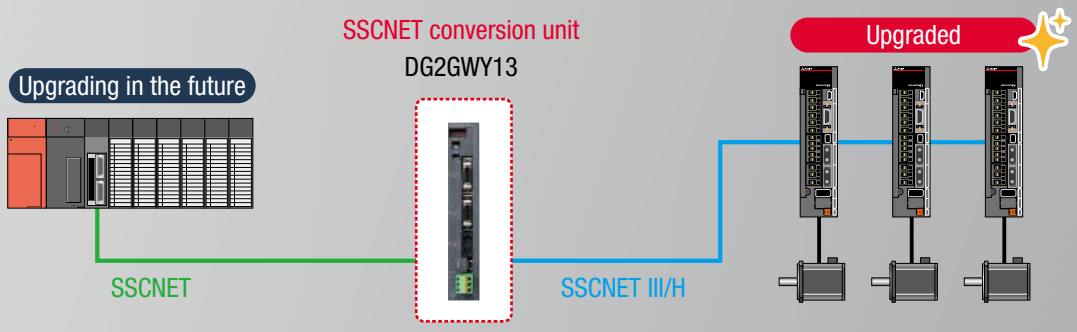
After

The controller and the drive section can be replaced separately by using the upgrade tool product. The production downtime is minimized.

Pattern 1 Replacing the controller first



Pattern 2 Replacing the drive section first

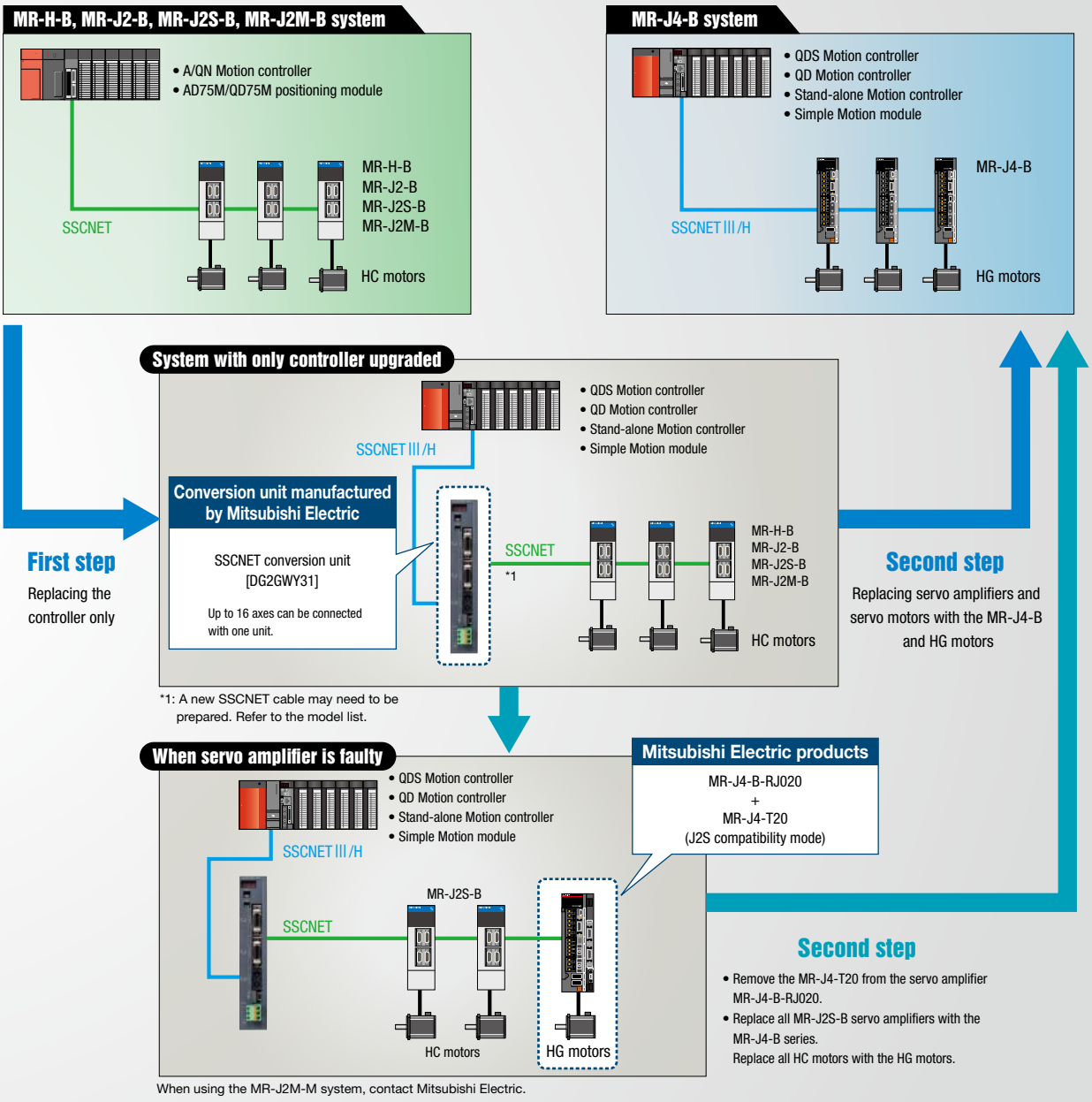


- The controller and the drive can be upgraded separately according to the situation of production sites.
- The downtime is minimized and work time can be reduced.
- Upgrade cost can be divided.

Replacing the controller first

By using the SSCNET conversion unit (DG2GWY31),

the components in the same line can be upgraded.



When using the MR-J2M-M system, contact Mitsubishi Electric.

Connectable controllers

QDS Motion controller	Q173DSCPU, Q172DSCPU
QD Motion controller	Q173DCPU(-S1), Q172DCPU(-S1)
Stand-alone Motion controller	Q170MSCPU(-S1), Q170MCPU
Simple Motion module	RD77MS, QD77MS

*: The compatible operating system for the Motion controller is SV13 and SV22 (standard) only.
*: When using the MELSEC-Q series simple Motion module, MELSOFT GX Works2 is required.
When using the MELSEC iQ-R series Simple Motion module, MELSOFT GX Works3 is required.

Connectable servo amplifiers

Servo amplifier	MR-H-B, MR-J2-B, MR-J2S-B, MR-J2M-B, MR-J4-B-RJ020 MR-J4-T20

Model list

SSCNET cables

Correspondence table (1)

Before system upgrade			After system upgrade			
Motion controller	Servo amplifier	SSCNET cable	SSCNET conversion unit	Servo amplifier	SSCNET cable	
A171SHCPU(N) A172SHCPU(N) A173UHCPU A273UHCPU(-S3)	MR-H-B	MR-HBUS_M	DG2GWY31	MR-H-B	MR-J2HBUS_M-A	New cable
	MR-J2S-B	MR-J2HBUS_M-A		MR-J2S-B	MR-J2HBUS_M	New cable
	MR-J2M-B			MR-J2M-B		
	MR-J-B			MR-J-B		
	MR-J4-B-RJ020+MR-J4-T20			MR-J4-B-RJ020+MR-J4-T20		
Q172CPU(N)	MR-H-B	Q172HBCBL_M(-B)		MR-H-B	MR-J2HBUS_M-A	New cable
	MR-J2S-B	Q172J2BCBL_M(-B)		MR-J2S-B	MR-J2HBUS_M	New cable
	MR-J2M-B			MR-J2M-B		
	MR-J-B			MR-J-B		
	MR-J4-B-RJ020+MR-J4-T20			MR-J4-B-RJ020+MR-J4-T20		
Q173CPU(N) [Q173DV not used]	MR-H-B	Q173HB_CBL_M		MR-H-B	MR-J2HBUS_M-A	New cable
	MR-J2S-B	Q173J2B_CBL_M		MR-J2S-B	MR-J2HBUS_M	New cable
	MR-J2M-B			MR-J2M-B		
	MR-J-B			MR-J-B		
	MR-J4-B-RJ020+MR-J4-T20			MR-J4-B-RJ020+MR-J4-T20		
Q173CPU(N) [Q173DV used]	MR-H-B	Q173DVCBL_M*1 MR-J2HBUS_M-A*2		MR-H-B	MR-J2HBUS_M-A	Existing cable
	MR-J2S-B	Q173DVCBL_M*1 MR-J2HBUS_M*3		MR-J2S-B	MR-J2HBUS_M	Existing cable
	MR-J2M-B			MR-J2M-B		
	MR-J-B			MR-J-B		
	MR-J4-B-RJ020+MR-J4-T20			MR-J4-B-RJ020+MR-J4-T20		

*1: Cable between the Q173CPU(N) and the Q173DV (dividing unit)
*2: Cable between the Q173DV (dividing unit) and the MR-H-B servo amplifier
*3: Cable between the Q173DV (dividing unit) and MR-J2S-B/MR-J2M-B/MR-J2-B/MR-J4-B-RJ020+MR-J4-T20 servo amplifier

Correspondence table (2)

Before system upgrade			After system upgrade			
Motion controller	Servo amplifier	SSCNET cable	SSCNET conversion unit	Servo amplifier	SSCNET cable	
QD75M1/ 2/ 4	MR-H-B	MR-J2HBUS_M-A	DG2GWY31	MR-H-B	MR-J2HBUS_M-A	Existing cable
	MR-J2S-B	MR-J2HBUS_M		MR-J2S-B	MR-J2HBUS_M	Existing cable
	MR-J2M-B			MR-J2M-B		
	MR-J-B			MR-J-B		
	MR-J4-B-RJ020+MR-J4-T20			MR-J4-B-RJ020+MR-J4-T20		
AD75M1/2/3 A1SD75M1/2/3	MR-H-B	MR-HBUS_M		MR-H-B	MR-J2HBUS_M-A	New cable
	MR-J2S-B	MR-J2HBUS_M-A		MR-J2S-B	MR-J2HBUS_M	New cable
	MR-J2M-B			MR-J2M-B		
	MR-J-B			MR-J-B		
	MR-J4-B-RJ020+MR-J4-T20			MR-J4-B-RJ020+MR-J4-T20		

SSCNET conversion unit

Item	Description	Model
SSCNET conversion unit	• SSCNET III/H 1 line (max. 16 axes) → SSCNET 2 lines (max. 8 axes × 2) • 24VDC power supply connector is enclosed in the same package.	DG2GWY31

Mitsubishi Electric related products

Item	Description	Model
SSCNET III cable	• SSCNET conversion unit ⇔ QDS Motion controller, QD Motion controller, stand-alone Motion controller, Simple Motion module	MR-J3BUS□M
		MR-J3BUS□M-A
		MR-J3BUS□M-B
SSCNET cable	• SSCNET conversion unit ⇔ MR-J2S/MR-J2M/MR-J2-B/MR-J4-B-RJ020+MR-J4-T20 servo amplifier	MR-J2HBUS□M
	• SSCNET conversion unit ⇔ MR-H-B servo amplifier	MR-J2HBUS□M-A
	• MR-J2S-B/MR-J2M-B/MR-J2-B/MR-J4-B-RJ020+MR-J4-T20 servo amplifier ⇔ MR-J2S-B/MR-J2M-B/MR-J2-B/MR-J4-B-RJ020+MR-J4-T20 servo amplifier	MR-J2HBUS□M
	• MR-J2S-B/MR-J2M-B/MR-J2-B/MR-J4-B-RJ020+MR-J4-T20 servo amplifier ⇔ MR-H-B servo amplifier	MR-J2HBUS□M-A
	• MR-H-B servo amplifier ⇔ MR-H-B servo amplifier	MR-HBUS□M
USB cable	• SSCNET conversion unit ⇔ Personal computer connection cable 3m	MR-J3USBCBL3M
Parameter conversion tool software	• For setting parameters in the SSCNET conversion unit	MELSOFT MT Works2
Programmable controller engineering software	• For setting the Simple Motion module and creating a sequence program	MELSOFT GX Works2
		MELSOFT GX Works3

Specifications

General specifications

Item	Specifications
Operating ambient temperature	0 to 55°C
Storage ambient temperature	-25 to 75°C
Operating ambient humidity	5 to 95%RH, non-condensing
Storage ambient humidity	5 to 95%RH, non-condensing
Vibration resistance	Compliant with JIS B 3502 and IEC 61131-2
Shock resistance	Compliant with JIS B 3502 and IEC 61131-2 (147m/s^2, 3 times each in X, Y, and Z bidirections)
Operating atmosphere	No corrosive gases
Operating altitude	2000m or less
Installation location	Inside a control panel
Overvoltage category*1	II or less
Pollution degree*2	2 or less

Vibration resistance:

	Frequency	Constant acceleration	Half amplitude	Sweep count
Under intermittent vibration	5 to 9Hz	-	3.5mm	10 times each in X, Y, and Z directions (for 80 minutes)
	9 to 150Hz	9.8m/s^2	-	
Under continuous vibration	5 to 9Hz	-	1.75mm	-
	9 to 150Hz	4.9m/s^2	-	

*1: This indicates the section of the power supply to which the equipment is assumed to be connected between the public electrical power distribution network and the machinery within premises.
Category II applies to equipment for which electrical power is supplied from fixed facilities. The surge voltage withstand level for up to the rated voltage of 50V is 500V.
*2: This index indicates the degree to which conductive material is generated in terms of the environment in which the equipment is used.
Pollution degree 2 is when only non-conductive pollution occurs. A temporary conductivity caused by condensing must be expected occasionally.

Performance specifications

Item		Performance specifications
		SSCNET conversion unit <DG2GWY31>
Number of controlled axes		MR-H-B, MR-J2-B, MR-J2S-B, MR-J2M-B × 16 axes (8 axes per line × 2 lines)
Communication cycle	Input	SSCNET III/H 3.555ms*
	Output	SSCNET 3.555ms (A/QN Motion controller compatible)
Power supply		20.4 to 26.4VDC (ripple ratio within 5%)
Current consumption		24VDC, 0.2A
Recommended 24VDC power supply		PS5R-SB24 manufactured by IDEC CORPORATION
Communication function		USB: For communications with a personal computer
Compliance to global standards		CE, UL/cUL
Structure		Natural cooling, open (IP20)
Mounting	Screw fixing	M5 × 10mm or more, tightening torque: 78 to 118N•cm
	DIN rail	Applicable DIN rail: TH35-7.5Fe, TH35-7.5Al (IEC 60715 compliant)
External dimensions (mm)		168 (H) × 30 (W) × 100 (D)
Mass (g)		260

*: The communication cycle is 1.777ms for only the simple Motion module QD77MS.

Restrictions and precautions for use

1) The following shows the communication cycles as defined by the specifications of the conversion unit.

SSCNET III/H (input side)	Conversion	SSCNET (output side)
3.555ms*	→	3.555ms (A/QN Motion controller compatible)

*: The communication cycle is 1.777ms for only the simple Motion module QD77MS.

2) Transmittable commands: Position command, speed commands, and torque commands

3) Motion controller operating system: Only SV13/SV22 (standard) is supported
because the applicable engineering environment (MELSOFT MT Works2) is incompatible. Custom operating system is not supported either.

4) For the replacement with the simple Motion module, the simple Motion module setting and creating a new sequence program are required.

5) Peripheral connection interface: Only USB is supported
because MELSOFT MT Works2 is used as the engineering environment.

6) With the SSCNET conversion unit, the SSCNET transmission to the servo amplifier in response to the data received from the controller is delayed by one communication cycle (3.555ms).
For the interpolation control axis and the synchronous control axis, a communication cycle delay could affect the machine accuracy, so the specifications are designed for a batch upgrade.

7) The servo amplifier stops communications after the power is turned off. (Same specifications as MR-J4-B)

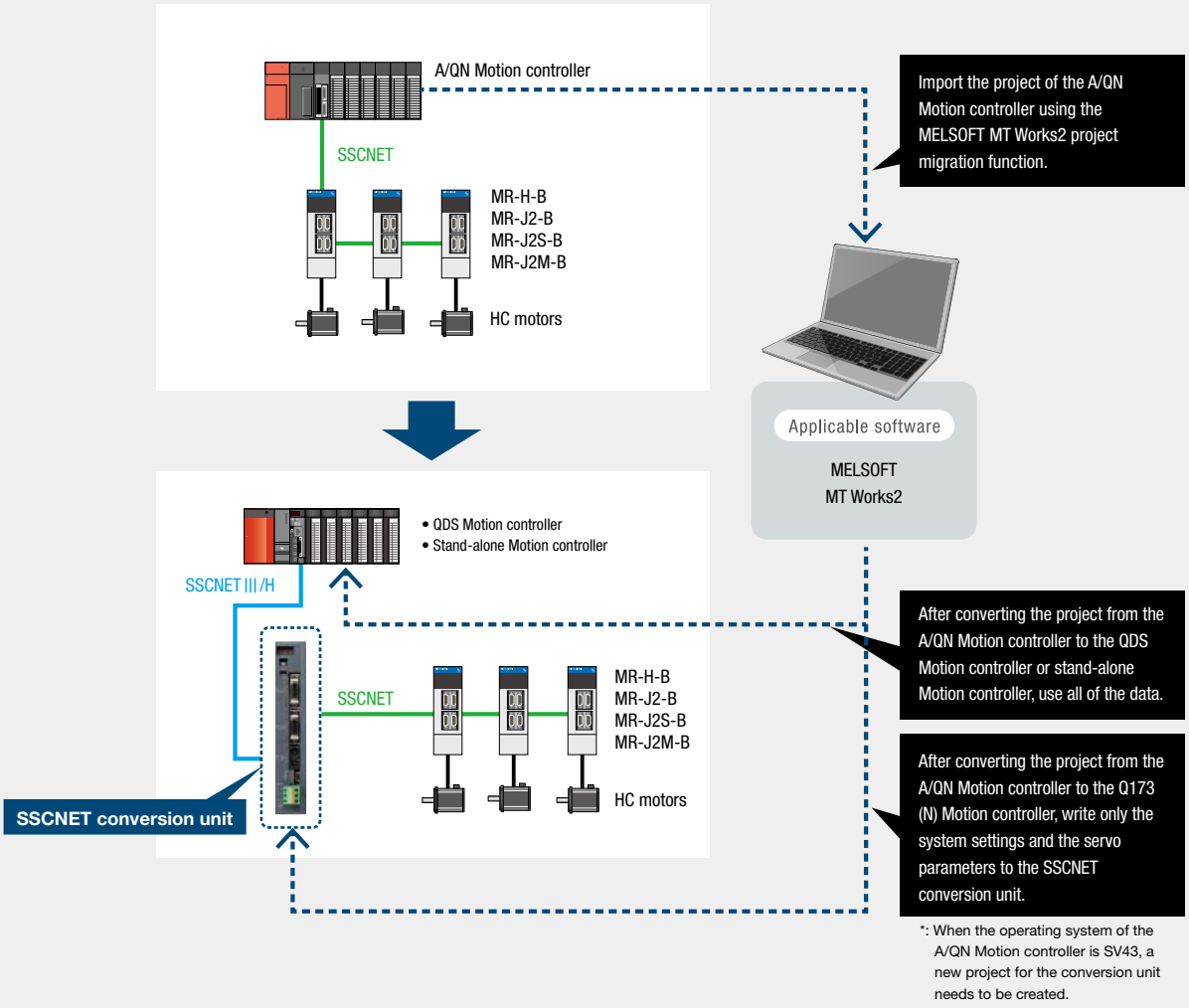
*: For other restrictions, refer to the "SSCNET Conversion Unit DG2GWY31 User's Manual (Detailed)" (50GR-041197).

Procedures for converting parameters for the upgrade

Replacing the A/QN Motion controller with the QDS Motion controller

- **Applicable motion controllers**
  A171SHCPU(N)/A172SHCPU(N)/A173UHCPU/A273UHCPU(-S3)/Q172CPU(N)/Q173CPU(N)
- **Applicable operating system**
  Only SV13/SV22/SV43 (standard)

Setting the parameters (migrating the data)



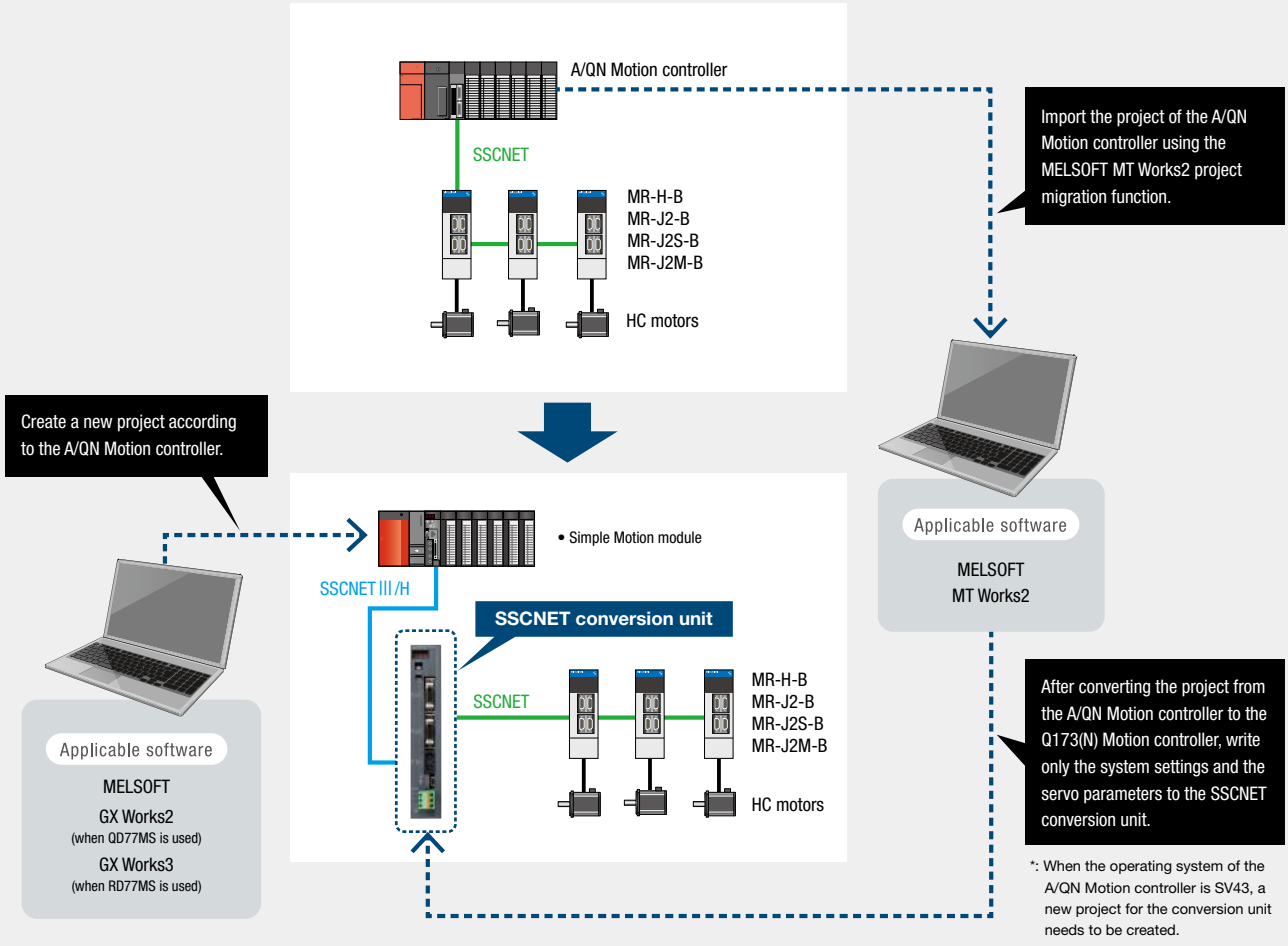
*: When the operating system of the A/QN Motion controller is SV43, a new project for the conversion unit needs to be created.

*: For details, refer to the User's Manual (Detailed) (50GR-041197).

Replacing the A/QN Motion controller with the Simple Motion module

- **Applicable motion controllers**
  A171SHCPU(N)/A172SHCPU(N)/A173UHCPU/A273UHCPU(-S3)/Q172CPU(N)/Q173CPU(N)
- **Applicable operating system**
  Only SV13/SV22/SV43 (standard)

Setting the parameters (migrating the data)



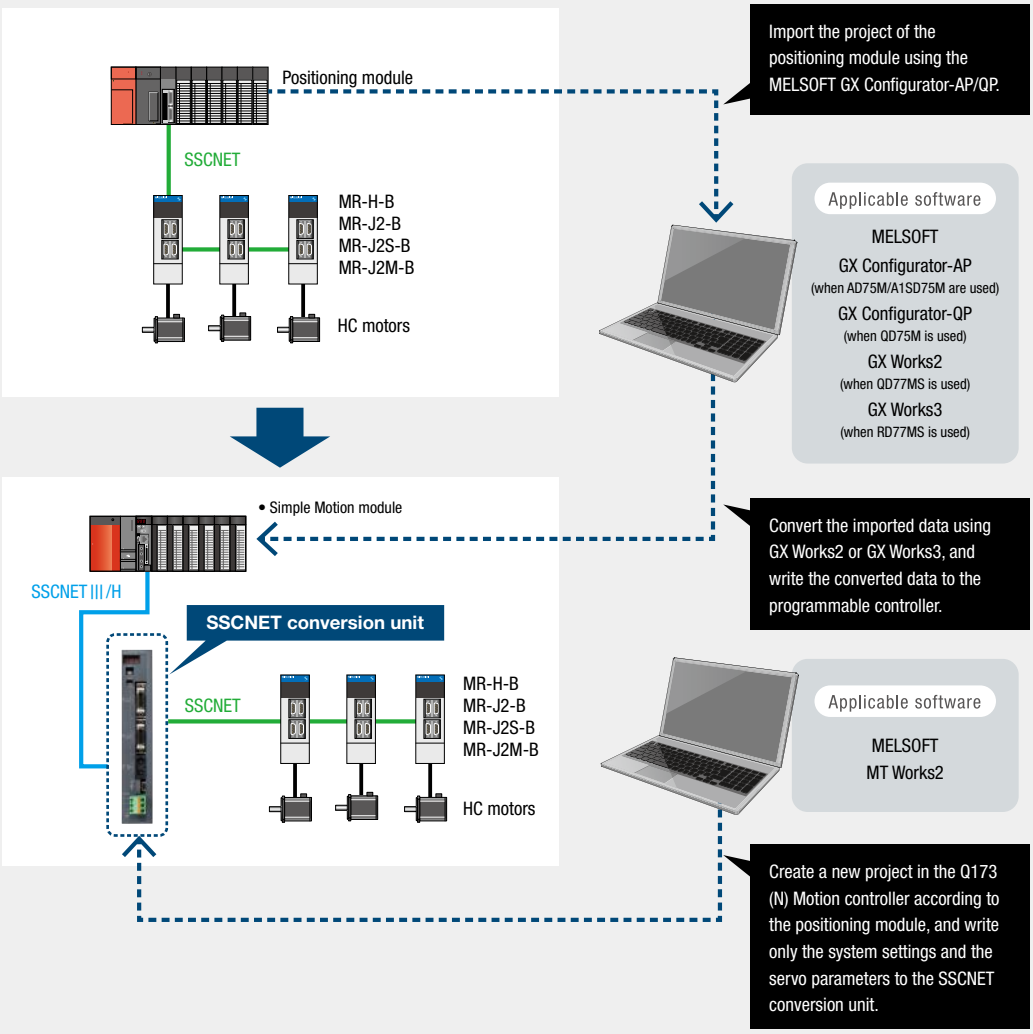
*: When the operating system of the A/QN Motion controller is SV43, a new project for the conversion unit needs to be created.

*: For details, refer to the User's Manual (Detailed) (50GR-041197).

Replacing the positioning module with the Simple Motion module

- **Applicable positioning modules**
  AD75M/A1SD75M/QD75M

Setting the parameters (migrating the data)

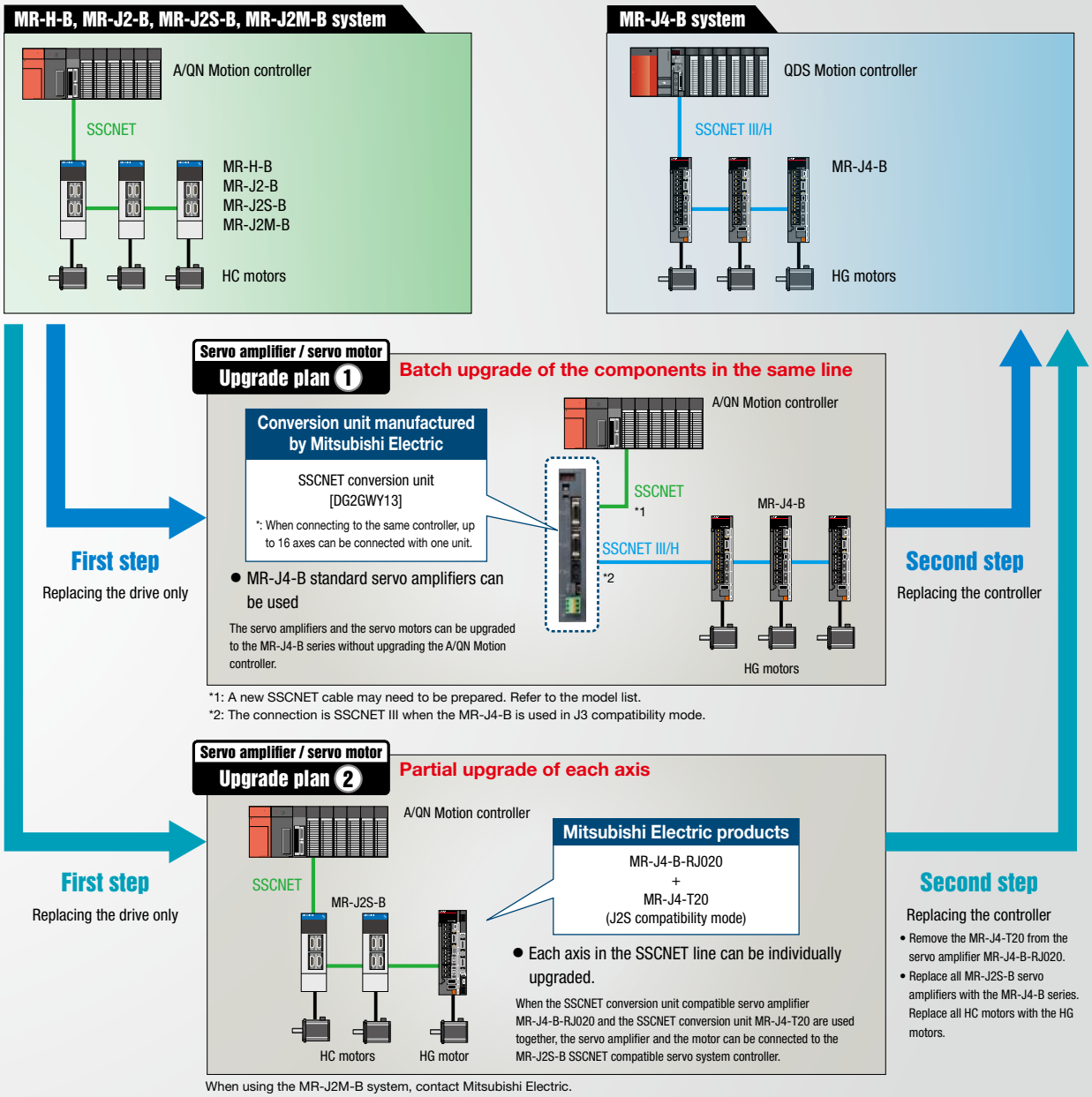


*: For details, refer to the User's Manual (Detailed) (50GR-041197).

Replacing the drive section first

By using the SSCNET conversion unit (DG2GWY13),

the components in the same line can be upgraded.



When using the MR-J2M-B system, contact Mitsubishi Electric.

Connectable controllers

Motion controller	A171SHCPU(N), A172SHCPU(N), A173UHCPU, A273UHCPU(-S3), Q172CPU(N), Q173CPU(N)

*1: Only position commands and speed commands can be used. Torque commands are not supported.
*2: The compatible operating system for the Motion controller is SV13, SV22, and SV43 (standard).

Connectable servo amplifiers

SSCNET III/H compatible	MR-J4-B, MR-J4W2-B, MR-J4W3-B
SSCNET III compatible*	MR-J4-B (J3 compatibility mode) MR-J4W2-B (J3 compatibility mode) MR-J4W3-B (J3 compatibility mode) MR-J3-B, MR-J3W-B

*: Compatible when the communication type is set to "SSCNET III".

Model list

SSCNET cables

Before system upgrade			After system upgrade			
Motion controller	Servo amplifier	SSCNET cable (between Motion controller and servo amplifier)	Motion controller	SSCNET conversion unit	SSCNET cable (between Motion controller and servo amplifier)	
A171SHCPU(N) A172SHCPU(N) A173UHCPU A273UHCPU(-S3)	MR-H-B	MR-HBUS_M	A171SHCPU(N) A172SHCPU(N) A173UHCPU A273UHCPU(-S3)	DG2GWY13	MR-J2HBUS_M-A	New cable
	MR-J2S-B MR-J2M-B MR-J2-B MR-J4-B-RJ020+MR-J4-T20	MR-J2HBUS_M-A			MR-J2HBUS_M-A	Existing cable
Q172CPU(N)	MR-H-B	Q172HBCBL_M(-B)	Q172CPU(N)		Q172J2BCBL_M(-B)	New cable
	MR-J2S-B MR-J2M-B MR-J2-B MR-J4-B-RJ020+MR-J4-T20	Q172J2BCBL_M(-B)			Q172J2BCBL_M(-B)	Existing cable
Q173CPU(N) [Q173DV not used]	MR-H-B	Q173HB_CBL_M	Q173CPU(N) [Q173DV not used]		Q173J2B_CBL_M	New cable
	MR-J2S-B MR-J2M-B MR-J2-B MR-J4-B-RJ020+MR-J4-T20	Q173J2B_CBL_M			Q173J2B_CBL_M	Existing cable
Q173CPU(N) [Q173DV used]	MR-H-B	Q173DVCBL_M*1 MR-J2HBUS_M-A*2	Q173CPU(N) [Q173DV used]		Q173DVCBL_M*1	Existing cable
					MR-J2HBUS_M*3	New cable
	MR-J2S-B MR-J2M-B MR-J2-B MR-J4-B-RJ020+MR-J4-T20	Q173DVCBL_M*1 MR-J2HBUS_M*4			Q173DVCBL_M*1 MR-J2HBUS_M*3	Existing cable

*1: Cable between the Q173CPU(N) and the Q173DV (dividing unit)
*2: Cable between the Q173DV (dividing unit) and the MR-H-B servo amplifier
*3: Cable between the Q173DV (dividing unit) and the conversion unit
*4: Cable between the Q173DV (dividing unit) and MR-J2S-B/MR-J2M-B/MR-J2-B/MR-J4-B-RJ020+MR-J4-T20 servo amplifier

SSCNET conversion unit

Item	Description	Model
SSCNET conversion unit	• SSCNET 2 lines (max. 8 axes × 2) → SSCNET III/H or SSCNET III 1 line (max. 16 axes) Note) Only two SSCNET lines from the same controller unit • 24VDC power supply connector is enclosed in the same package.	DG2GWY13

Mitsubishi Electric related products

Item	Description	Model
SSCNET III/H cable SSCNET III cablew	• SSCNET conversion unit ⇔ MR-J4-B servo amplifier, MR-J3-B servo amplifier	MR-J3BUS□M
		MR-J3BUS□M-A
		MR-J3BUS□M-B
SSCNET cable	• SSCNET conversion unit ⇔ A/QN Motion controller	MR-J2HBUS□M-A
		Q172J2BCBL□M-B
		Q173J2B□CBL□M
		MR-J2HBUS□M
USB cable	• SSCNET conversion unit ⇔ Personal computer connection cable 3m	MR-J3USBCBL3M
Parameter conversion tool software	• For setting parameters in the SSCNET conversion unit	MELSOFT MT Works2

Specifications

General specifications

Item	Specifications
Operating ambient temperature	0 to 55°C
Storage ambient temperature	-25 to 75°C
Operating ambient humidity	5 to 95%RH, non-condensing
Storage ambient humidity	5 to 95%RH, non-condensing
Vibration resistance	Compliant with JIS B 3502 and IEC 61131-2
Shock resistance	Compliant with JIS B 3502 and IEC 61131-2 (147m/s^2, 3 times each in X, Y, and Z bidirections)
Operating atmosphere	No corrosive gases
Operating altitude	2000m or less
Installation location	Inside a control panel
Overvoltage category*1	II or less
Pollution degree*2	2 or less

	Frequency	Constant acceleration	Half amplitude	Sweep count
Under intermittent vibration	5 to 9Hz	-	3.5mm	10 times each in X, Y, and Z directions (for 80 minutes)
	9 to 150Hz	9.8m/s^2	-	
Under continuous vibration	5 to 9Hz	-	1.75mm	-
	9 to 150Hz	4.9m/s^2	-	

*1: This indicates the section of the power supply to which the equipment is assumed to be connected between the public electrical power distribution network and the machinery within premises.
Category II applies to equipment for which electrical power is supplied from fixed facilities. The surge voltage withstand level for up to the rated voltage of 50V is 500V.
*2: This index indicates the degree to which conductive material is generated in terms of the environment in which the equipment is used.
Pollution degree 2 is when only non-conductive pollution occurs. A temporary conductivity caused by condensing must be expected occasionally.

Performance specifications

Item		Performance specifications
		SSCNET conversion unit <DG2GWY13>
Number of controlled axes		MR-J4 × 16 axes (16 axes per line × 1 line)
Communication cycle	Input	SSCNET 3.555ms to 14.222ms (A/QN Motion controller compatible)
	Output	SSCNET III/H (SSCNET III) 3.555ms (A/QN Motion controller compatible)
Power supply		20.4 to 26.4VDC (ripple ratio within 5%)
Current consumption		24VDC, 0.2A
Recommended 24VDC power supply		PS5R-SB24 manufactured by IDEC CORPORATION
Communication function		USB: For communications with a personal computer
Compliance to global standards		CE, UL/cUL
Structure		Natural cooling, open (IP20)
Mounting	Screw fixing	M5 × 10mm or more, tightening torque: 78 to 118N•cm
	DIN rail	Applicable DIN rail: TH35-7.5Fe, TH35-7.5Al (IEC 60715 compliant)
External dimensions (mm)		168 (H) × 30 (W) × 100 (D)
Mass (g)		260

Restrictions and precautions for use

1) The following shows the communication cycles as defined by the specifications of the conversion unit.

SSCNET (input side)	Conversion	SSCNET III/H (SSCNET III) (output side)
3.555 to 14.222ms (A/QN Motion controller compatible)	→	3.555ms (A/QN Motion controller compatible)

2) Transmittable commands: Only position commands and speed commands (Torque commands are not supported.)
Since SSCNET does not support torque commands, the conversion unit does not support them either.

3) Motion controller operating system: Only SV13/SV22/SV43 (standard)* supported (SV51 is not supported.)
*: For SV43, projects are created referring to the motion project migration source.
Custom operating system that supports individual users is not supported.

4) Peripheral connection interface: Only USB is supported
because MELSOFT MT Works2 is used as the engineering environment.

5) With the SSCNET conversion unit, the SSCNET transmission to the servo amplifier in response to the data received from the controller is delayed by one communication cycle (3.555ms).
For the interpolation control axis and the synchronous control axis, a communication cycle delay could affect the machine accuracy, so the specifications are designed for all servo amplifiers in the line to be upgraded in a batch.

6) For restrictions related to the servo amplifier and servo motor installation, wiring, and functions, refer to the Guide for Upgrading MELSERVO-J2-Super/J2M Series to J4 Series (L(NA)03093) published by Mitsubishi Electric.

7) The servo amplifier stops communications after the power is turned off. (MR-J4-B/MR-J3-B specifications)

8) When replacing an existing SSCNET compatible servo amplifier, the replacement may be restricted due to the difference in the encoder resolution. If it is restricted, review the replacement. For details. refer to the "SSCNET Conversion Unit DG2GWY13 User's Manual (Detailed)" (50GR-041197) or "TECHNICAL BULLETIN" (No.FAB5-007).

9) Turn off all the auxiliary axis number setting switches for MR-J4-B, MR-J4W2-B, and MR-J4W3-B.

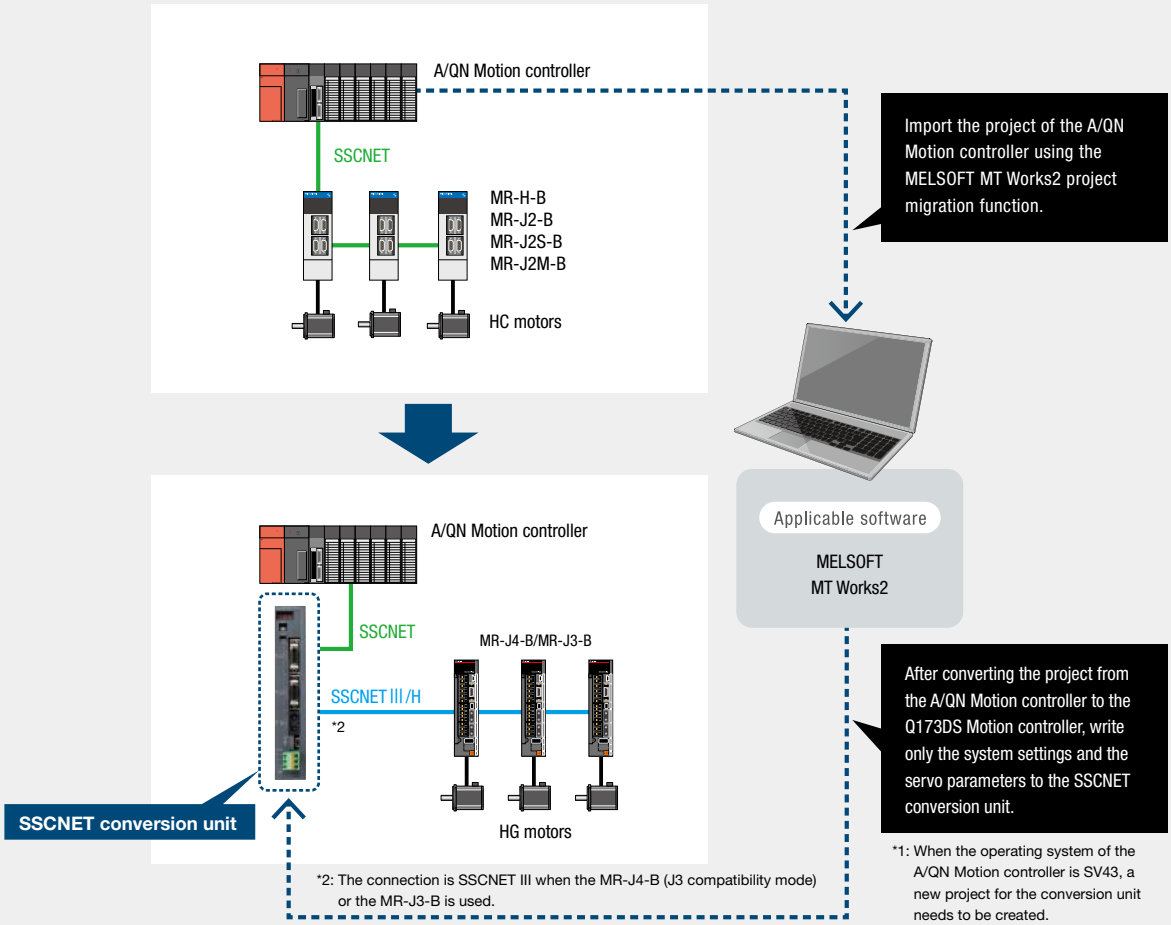
*: For other restrictions, refer to the "SSCNET Conversion Unit DG2GWY13 User's Manual (Detailed)" (50GR-041197).

Procedures for converting parameters for the upgrade

Replacing MR-H-B, MR-J2-B, MR-J2S-B, and MR-J2M-B series servo amplifiers with MR-J4-B and MR-J3-B series servo amplifiers

- **Applicable motion controllers**
  A171SHCPU(N)/A172SHCPU(N)/A173UHCPU/A273UHCPU(-S3)/Q172CPU(N)/Q173CPU(N)
- **Applicable operating system**
  Only SV13/SV22/SV43 (standard)

Setting the parameters (migrating the data)



Upgrade tool products

Common elements

Common elements

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<Standard> ○: Compliant, ×: Not compliant, -: N/A

For programmable controllers

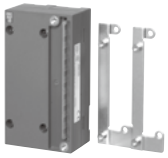
MELSEC-A/QnA series → MELSEC iQ-R series upgrade tool products

Product			Model	Standard		
				UL	cUL	CE
Conversion adapter for input/output modules	1-slot type		ERNT-1AR10XY	○	○	○
			ERNT-1AR40Y	○	○	○
			ERNT-1AR41X	○	○	○
			ERNT-1AR41Y	○	○	○
			ERNT-ASLCXY81	○	○	○
	2-slot type		ERNT-1AR10AY	○	○	○
			ERNT-1AR11X13Y	○	○	○
			ERNT-1AR51Y	○	○	○
Conversion adapter for analog modules	1-slot type		ERNT-1AR68AD	○	○	○
			ERNT-1AR68AN	○	○	○
			ERNT-AQT62DA	○	○	○
			ERNT-AQT68DA	○	○	○
	2-slot type		ERNT-1AR616AD	○	○	○
			ERNT-1AR616DA	○	○	○
Conversion adapter for high-speed counter modules	1-slot type		ERNT-1AR61D	○	○	○
Conversion adapter support flange			ERNT-1AR12F	-	-	-
			ERNT-1AR8F	-	-	-
			ERNT-1AR5F	-	-	-
			ERNT-1AR10F3	-	-	-
			ERNT-1AR10F6	-	-	-
Base adapter			ERNT-AQB38N	-	-	-
			ERNT-AQB35N	-	-	-
			ERNT-AQB32N	-	-	-
			ERNT-AQB68N	-	-	-
			ERNT-AQB65N	-	-	-
			ERNT-AQB58N	-	-	-
			ERNT-AQB55N	-	-	-

Photos are an example of the product.

<Standard> ○: Compliant, ×: Not compliant, -: N/A

MELSEC-AnS/QnAS series → MELSEC iQ-R series upgrade tool products

Product			Model	Standard		
				UL	cUL	CE
Conversion adapter for input/output modules	1-slot type		ERNT-ASQTXY10	○	○	○
			ERNT-ASQTX40	○	○	○
			ERNT-ASQTY22	○	○	○
			ERNT-ASQTY40	○	○	○
			ERNT-ASQTY50	○	○	○
			ERNT-ASQTY80	○	○	○
			ERNT-ASLCXY81	○	○	○
	2-slot type		ERNT-2AR20X	○	○	○
Conversion adapter for analog modules	1-slot type		ERNT-ASQT64AD	○	○	○
			ERNT-ASQT68AD	○	○	○
			ERNT-2AR68AG	○	○	○
			ERNT-ASQT62DA	○	○	○
			ERNT-ASQT68DA	○	○	○
Conversion adapter for high-speed counter modules	1-slot type		ERNT-2AR62DD	○	○	○
			ERNT-ASLTD61	○	○	○
			ERNT-ASLTD62	○	○	○
Conversion adapter for temperature input modules	1-slot type		ERNT-2AR68TD	○	○	○
			ERNT-2AR62RD	○	○	○
Conversion adapter for temperature control modules	1-slot type		ERNT-2AR64TT	○	○	○
			ERNT-2AR64TR	○	○	○
			ERNT-2AR62TT	○	○	○
			ERNT-2AR62TR	○	○	○
Conversion adapter for temperature control modules (with a disconnection detector connector conversion cable)	1-slot type		ERNT-2AR64TT1BW	*1	-	*2
			ERNT-2AR64TR1BW	*1	-	*2
			ERNT-2AR62TT1BW	*1	-	*2
			ERNT-2AR62TR1BW	*1	-	*2
Base adapter			ERNT-ASQB38N	-	-	-
			ERNT-ASQB35N	-	-	-
			ERNT-ASQB33N	-	-	-
			ERNT-ASQB32N	-	-	-
			ERNT-ASQB00JN	-	-	-
			ERNT-ASQB68N	-	-	-
			ERNT-ASQB65N	-	-	-
			ERNT-ASQB58N	-	-	-

*1: Only the conversion adapter is a CE/UKCA marked product. For the disconnection detection connector conversion cable, a material certificate is provided.
*2: Only the conversion adapter is a UL marked product. The disconnection detection connector conversion cable is a non-standard product.

Photos are an example of the product.

<Standard> ○: Compliant, ×: Not compliant, -: N/A

OMRON SYSMAC C series → MELSEC iQ-R series upgrade tool products

Product			Model	Standard		
				UL	cUL	CE
Conversion adapter for input/output modules	1-slot type		ERNT-1CR121X221Y	○	○	○
			ERNT-1CR219Y411Y	○	○	○
			ERNT-1CR215X218X	○	○	○
			ERNT-1CR412Y414Y	○	○	○
			ERNT-2CR216X218X	○	○	○
			ERNT-2CR218Y	○	○	○
	2-slot type		ERNT-1CR122X224Y	○	○	○
			ERNT-1CR218Y	○	○	○
Conversion adapter support flange			ERNT-1CR12F	-	-	-
			ERNT-1CR10F	-	-	-
			ERNT-1CR8F	-	-	-
Base adapter			ERNT-CQB081N	○	○	○
			ERNT-CQB051N	○	○	○
			ERNT-CQB031N	○	○	○
Program converter			ERNT-CQ1W2C	-	-	-

Photos are an example of the product.

<Standard> ○: Compliant, ×: Not compliant, -: N/A

SHARP JW series → MELSEC iQ-R series upgrade tool products

Product			Model	Standard		
				UL	cUL	CE
Conversion adapter for input/output modules	1-slot type		ERNT-1JR11N13S	-	-	○
			ERNT-1JR12S	-	-	○
			ERNT-1JR32N34N	-	-	○
			ERNT-1JR32S	-	-	○
			ERNT-2JQ210NS	-	-	○
			ERNT-2JQ212S	-	-	○
			ERNT-2JR234N264N	-	-	○
			ERNT-2JR232S262S	-	-	○
	2-slot type		ERNT-1JR31N34S	-	-	○
			ERNT-1JR33S	-	-	○

Photos are an example of the product.

YASKAWA MEMOCON GL series → MELSEC iQ-R series upgrade tool products

Product			Model	Standard		
				UL	cUL	CE
Conversion adapter for input/output modules	1-slot type		ERNT-1Y2R501500	-	-	○
			ERNT-1Y2R600	-	-	○
			ERNT-1Y2R602606	-	-	○
			ERNT-1JR32N34N	-	-	○
			ERNT-2Y2R615625	-	-	○
			ERNT-2YR36400	-	-	○
			ERNT-2YR36410	-	-	○
			ERNT-2YR35400	-	-	○
			ERNT-2YR35410	-	-	○
			ERNT-2CR218Y	-	-	○
	2-slot type		ERNT-1Y2R505	-	-	○
			ERNT-1Y2R904914	-	-	○
			ERNT-1JR31N34S	-	-	○
			ERNT-1JR33S	-	-	○

Photos are an example of the product.

<Standard> ○: Compliant, ×: Not compliant, -: N/A

Non-Mitsubishi PLC → MELSEC iQ-R series upgrade tool products (Universal conversion adapter)

Product			Model	Standard		
				UL	cUL	CE
Conversion adapter for input/output modules	1-slot type		ERNT-AQTB20-S1	-	-	○
			ERNT-1AR38TB	-	-	○
			ERNT-ASQTB20	-	-	◯

Photos are an example of the product.

<Standard> ○: Compliant, ×: Not compliant, -: N/A

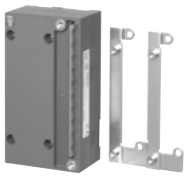
MELSEC-A/QnA series → MELSEC-Q series upgrade tool products

Product			Model	Standard		
				UL	cUL	CE
Conversion adapter for input/output modules	1-slot type		ERNT-AQTX10	○	○	○
			ERNT-AQTX40	○	○	○
			ERNT-AQTX80	○	○	○
			ERNT-AQTX41	○	○	○
			ERNT-AQTX81	○	○	○
			ERNT-AQTY10	○	○	○
			ERNT-AQTY22	○	○	○
			ERNT-AQTY40	○	○	○
			ERNT-AQTY50	○	○	○
			ERNT-AQTY80	○	○	○
			ERNT-AQTY41	○	○	○
			ERNT-AQTY81	○	○	○
	2-slot type		ERNT-AQTX11	○	○	○
			ERNT-AQTY10A	○	○	○
			ERNT-AQTY13	○	○	○
			ERNT-AQTY23	○	○	○
			ERNT-AQTY51	○	○	○
Conversion adapter for analog modules	1-slot type		ERNT-AQT68AD	○	○	○
			ERNT-AQT68ADN	○	○	○
			ERNT-AQT62DA	○	○	○
			ERNT-AQT68DA	○	○	○
	2-slot type		ERNT-AQT68AD-GH	○	○	○
			ERNT-AQT616AD	○	○	○
			ERNT-AQT616DA	○	○	○
Conversion adapter for high-speed counter modules	1-slot type		ERNT-AQTD61	○	○	○
Conversion adapter support flange			ERNT-AQF12	-	-	-
			ERNT-AQF8	-	-	-
			ERNT-AQF5	-	-	-
			ERNT-AQF3	-	-	-
Base adapter			ERNT-AQB38N	-	-	-
			ERNT-AQB68N	-	-	-
			ERNT-AQB58N	-	-	-
			ERNT-AQB35N	-	-	-
			ERNT-AQB65N	-	-	-
			ERNT-AQB55N	-	-	-
			ERNT-AQB32N	-	-	-
			ERNT-AQB62	-	-	-
			ERNT-AQB52	-	-	-

Photos are an example of the product.

<Standard> ○: Compliant, ×: Not compliant, -: N/A

MELSEC-AnS/QnAS series → MELSEC-Q series upgrade tool products

Product			Model	Standard		
				UL	cUL	CE
Conversion adapter for input/output modules	1-slot type		ERNT-ASQTXY10	○	○	○
			ERNT-ASQTX40	○	○	○
			ERNT-ASQTX80	○	○	○
			ERNT-ASQTY22	○	○	○
			ERNT-ASQTY40	○	○	○
			ERNT-ASQTY50	○	○	○
			ERNT-ASQTY80	○	○	○
	2-slot type		ERNT-ASQTX20	○	○	○
			ERNT-ASQTY60	○	○	○
			ERNT-ASQTY60E	○	○	○
Conversion adapter for analog modules	1-slot type		ERNT-ASQT64AD	○	○	○
			ERNT-ASQT68AD	○	○	○
			ERNT-ASQT68AD-G	○	○	○
			ERNT-ASQT62DA	○	○	○
			ERNT-ASQT68DA	○	○	○
			ERNT-ASQT63ADA	○	○	○
Conversion adapter for high-speed counter modules	1-slot type		ERNT-ASQTD61	○	○	○
			ERNT-ASQTD62	○	○	○
			ERNT-ASQTD62D	○	○	○
Conversion adapter for temperature input modules	1-slot type		ERNT-ASQT68TD-H01	○	○	○
			ERNT-ASQT68TD-H02	○	○	○
			ERNT-ASQT62RD	○	○	○
Conversion adapter for temperature control modules	1-slot type		ERNT-ASQT64TCTT	○	○	○
			ERNT-ASQT64TCRT	○	○	○
			ERNT-ASQT62TCTT	○	○	○
			ERNT-ASQT62TCRT	○	○	○
Conversion adapter for temperature control modules (with a disconnection detector connector conversion cable)	1-slot type + Conversion cable		ERNT-ASQT64TCTTBW	*1	-	*2
			ERNT-ASQT64TCRTBW	*1	-	*2
			ERNT-ASQT62TCTTBW	*1	-	*2
			ERNT-ASQT62TCRTBW	*1	-	*2
Base adapter			ERNT-ASQB38N	-	-	-
			ERNT-ASQB35N	-	-	-
			ERNT-ASQB33N	-	-	-
			ERNT-ASQB32N	-	-	-
			ERNT-ASQB00JN	-	-	-
			ERNT-ASQB68N	-	-	-
			ERNT-ASQB65N	-	-	-
			ERNT-ASQB58N	-	-	-
			ERNT-ASQB55N	-	-	-
			ERNT-ASQB52N	-	-	-
			ERNT-ASQB38N-S1	-	-	-
			ERNT-ASQB35N-S1	-	-	-
			ERNT-ASQB33N-S1	-	-	-
Conversion adapter DIN rail mounting bracket			ERNT-ASQDIN3868	-	-	-
			ERNT-ASQDIN356500J	-	-	-
			ERNT-ASQDIN3355	-	-	-
			ERNT-ASQDIN52	-	-	-

*1: Only the conversion adapter is a CE/UKCA marked product. For the disconnection detection connector conversion cable, a material certificate is provided.
*2: Only the conversion adapter is a UL marked product. The disconnection detection connector conversion cable is a non-standard product.

Photos are an example of the product.

<Standard> ○: Compliant, ×: Not compliant, -: N/A

MELSEC-AnS/QnAS series → MELSEC-L series upgrade tool products

Product			Model	Standard		
				UL	cUL	CE
Conversion adapter for input/output modules	1-module type		ERNT-ASLTXY10	○	○	○
			ERNT-ASLTX40	○	○	○
			ERNT-ASLTX80	○	○	○
			ERNT-ASLTY22	○	○	○
			ERNT-ASLTY40	○	○	○
			ERNT-ASLTY50	○	○	○
			ERNT-ASLTY80	○	○	○
			ERNT-ASLCXY81	○	○	○
Conversion adapter for analog modules	1-module type		ERNT-ASLT64AD	○	○	○
			ERNT-ASLT62DA	○	○	○
Conversion adapter for high-speed counter modules	1-module type		ERNT-ASLTD61	○	○	○
			ERNT-ASLTD62	○	○	○
Base adapter			ERNT-ASLB38	-	-	-
			ERNT-ASLB35	-	-	-
			ERNT-ASLB33	-	-	-
			ERNT-ASLB32	-	-	-
			ERNT-ASLBJ	-	-	-
			ERNT-ASLB68	-	-	-
			ERNT-ASLB65	-	-	-
			ERNT-ASLB58	-	-	-
			ERNT-ASLB55	-	-	-
			ERNT-ASLB52	-	-	-

Photos are an example of the product.

<Standard> ○: Compliant, ×: Not compliant, -: N/A

OMRON SYSMAC C series → MELSEC-Q series upgrade tool products

Product			Model	Standard		
				UL	cUL	CE
Conversion adapter for input/output modules	1-slot type		ERNT-CQTX121	○	○	○
			ERNT-CQTX112213	○	○	○
			ERNT-CQTX215218	○	○	○
			ERNT-CQCX218501	○	○	○
			ERNT-CQCX114219	○	○	○
			ERNT-CQTY221	○	○	○
			ERNT-CQTY226	○	○	○
			ERNT-CQTY219217	○	○	○
			ERNT-CQTY411	○	○	○
			ERNT-CQTY412	○	○	○
			ERNT-CQTY414218	○	○	○
			ERNT-CQCY415	○	○	○
			ERNT-CQCY501	○	○	○
			ERNT-CQCY213	○	○	○
			ERNT-2CQ216X218X	○	○	○
			ERNT-2CQ218Y	○	○	○
	2-slot type		ERNT-CQTX122	○	○	○
			ERNT-CQTY224	○	○	○
			ERNT-CQTY225	○	○	○
			ERNT-CQTY218	○	○	○
Conversion adapter support flange			ERNT-QF12	-	-	-
			ERNT-QF8	-	-	-
			ERNT-QF5	-	-	-
Base adapter			ERNT-CQB081N	-	-	-
			ERNT-CQB051N	-	-	-
			ERNT-CQB031N	-	-	-
Program converter			ERNT-CQ1W2C	-	-	-

Photos are an example of the product.

<Standard> ○: Compliant, ×: Not compliant, -: N/A

SHARP JW series → MELSEC-Q series upgrade tool products

Product			Model	Standard		
				UL	cUL	CE
Conversion adapter for input/output modules	1-slot type		ERNT-1JQ11N12N	×	×	○
			ERNT-1JQ32N34N	×	×	○
			ERNT-1JQ64NC	×	×	○
			ERNT-1JQ13S	×	×	○
			ERNT-1JQ12S	×	×	○
			ERNT-1JQ32S	×	×	○
			ERNT-1JQ32SC62SC	×	×	○
			ERNT-2JQ210NS	×	×	○
			ERNT-2JQ212S	×	×	○
			ERNT-2JQ234N264N	×	×	○
			ERNT-2JQ232S262S	×	×	○
	2-slot type		ERNT-1JQ31N34S	×	×	○
			ERNT-1JQ33S	×	×	○

Photos are an example of the product.

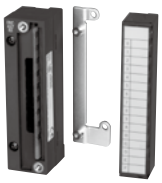
YASKAWA MEMOCON-SC GL series → MELSEC-Q series upgrade tool products

Product			Model	Standard		
				UL	cUL	CE
Conversion adapter for input/output modules	1-slot type		ERNT-1Y2Q501	×	×	○
			ERNT-1Y2Q601611	×	×	○
			ERNT-1JQ32N34N	×	×	○
			ERNT-1Y2Q615625	×	×	○
			ERNT-1Y2Q500	×	×	○
			ERNT-1Y2Q600	×	×	○
			ERNT-1Y2Q602606	×	×	○
			ERNT-CQCY213	○	○	○
			ERNT-2YQ35400	×	×	○
			ERNT-2YQ35410	×	×	○
			ERNT-2YQ36400	×	×	○
			ERNT-2YQ36410	×	×	○
	2-slot type		ERNT-1Y2Q505	×	×	○
			ERNT-1JQ33S	×	×	○
			ERNT-1JQ31N34S	×	×	○
			ERNT-1Y2Q904914	×	×	○

Photos are an example of the product.

<Standard> ○: Compliant, ×: Not compliant, -: N/A

Non-Mitsubishi PLC → MELSEC-Q series upgrade tool products

Product			Model	Standard		
				UL	cUL	CE
Universal conversion adapter for input/output modules	1-slot type		ERNT-AQTB20	×	×	○
			ERNT-AQTB20-S1	×	×	○
			ERNT-AQTB38	×	×	○
			ERNT-AQTB38-E	×	×	○
			ERNT-ASQTB20	×	×	○

Photos are an example of the product.

For servo systems

For servo systems

Product			Model	Standard			
				UL	cUL	CE	KC
SSCNET conversion unit	Replacing the drive section first		DG2GWY13	○	○	○	○
	Replacing the controller first		DG2GWY31	○	○	○	○

Photos are an example of the product.

Please confirm the following product warranty details prior to product use.

Gratis Warranty Terms and Gratis Warranty Range

If any fault or defect (hereinafter referred to as "Failure") attributable to Mitsubishi Electric Engineering should occur within the gratis warranty period, Mitsubishi Electric Engineering shall repair the product free of charge via the distributor from whom you made your purchase.
Should the repair require a business trip, a charge will be incurred for the expense required for the dispatch of an engineer (domestic support only).
Further, onsite readjustments and testing associated with failed module replacement shall be outside the scope of responsibility of Mitsubishi Electric Engineering.

■ Gratis Warranty Period

The gratis warranty period of this product shall be one (1) year from the date of purchase or delivery to the designated place.
Note that after manufacture and shipment from Mitsubishi Electric Engineering, the maximum distribution period shall be six (6) months, and the gratis warranty period after manufacturing shall be limited to eighteen (18) months.
Further, the gratis warranty period for repaired products shall not exceed the gratis warranty period of the product prior to repair.

■ Gratis Warranty Range

(1) The gratis warranty range shall be limited to normal use based on the usage conditions, methods and environment, etc., defined by the terms and precautions, etc., given in the instruction manual, user's manual, and caution labels on the product.

(2) In the following cases, a repair fee shall be applied even if within the gratis warranty period.

1) Failure resulting from inappropriate storage or handling, carelessness or negligence by the user, or Failure caused by the user's hardware or software design.

2) Failure caused by unapproved modifications, etc., to the product by the user.

3) Failure that could have been avoided if, when the Mitsubishi Electric Engineering product was assembled into the user's device, safeguards defined by legal regulations applicable to the user's device or functions or structures considered standard by the industry had been provided.

4) Failure recognized as preventable if the consumed products specified in instruction manuals, etc., were normally maintained or replaced.

5) Failure caused by external factors beyond anyone's control such as fires or abnormal voltage, and Failure caused by Force Majeure such as earthquakes, lightning, or wind and water damage.

6) Failure caused by reasons unpredictable by scientific technology standards at the time of shipment from Mitsubishi Electric Engineering.

7) Any other failure not attributable to Mitsubishi Electric Engineering or found by the user to not be attributable to Mitsubishi Electric Engineering.

Onerous repair term after discontinuation of production

(1) The period in which product repair (fee applied) is available is seven (7) years after product discontinuation.
Discontinuation of production shall be reported by Mitsubishi Electric Engineering sales services.

(2) Product supply (including spare parts) is not possible after production has been discontinued.

Overseas Services

Please consult your dealer where you purchased Mitsubishi Electric Engineering products.

Exclusion of opportunity loss and secondary loss from warranty liability

Regardless of the gratis warranty period, Mitsubishi Electric Engineering shall not be liable for compensation for damages arising from causes not attributable to Mitsubishi Electric Engineering, opportunity losses or lost profits incurred by the user due to Failures of Mitsubishi Electric Engineering products, damages or secondary damages arising from special circumstances, whether foreseen or unforeseen by Mitsubishi Electric Engineering, compensation for accidents, compensation for damages to products other than Mitsubishi Electric Engineering products, or compensation for replacement work, readjustment of onsite machinery and equipment, startup test runs or other duties carried out by the user.

Changes in product specifications

The specifications given in the catalogs, manuals, and technical documents are subject to change without notice.

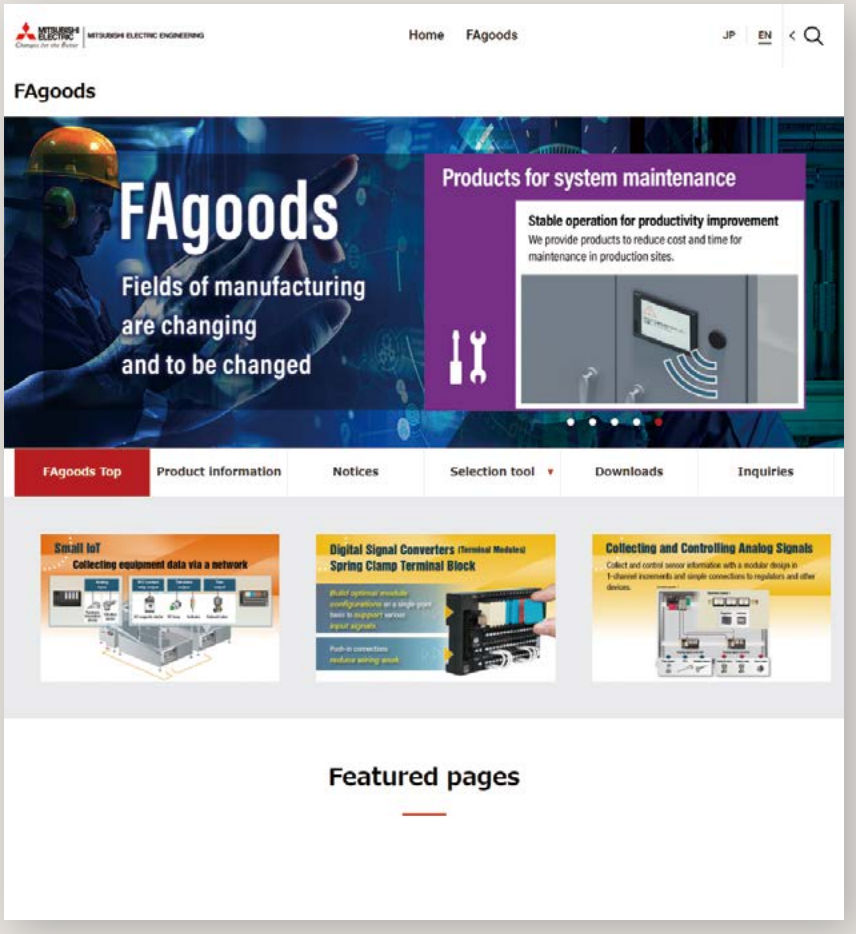
Product application

(1) This product shall be used in applications that will not lead to a major accident even in the unlikely event any failure or defect should occur in the product in which the product is incorporated, and shall be systematically provided with external backup and fail-safe functions that operate in the event of any failure or defect.

(2) This product has been designed and manufactured as a general-purpose product for general industry applications, etc. The product shall be excluded from use in applications in which the public could be greatly affected such as the applications of the nuclear and other power plants operated by the respective power companies, and applications in which a special quality assurance system is required, such as the applications of railway companies or government or other public offices. The product shall also be excluded from use in aircraft, medical applications, incineration and fuel devices, manned transport devices, equipment for recreation and amusement, and safety devices, in which human life or assets could be greatly affected.
Notwithstanding the above, restrictions Mitsubishi Electric Engineering may in its sole discretion, authorize use of the product in one or more of the Prohibited Applications, provided that the usage of the product is limited only for the specific applications agreed to by Mitsubishi Electric Engineering and provided further that no special quality assurance or fail-safe, redundant or other safety features which exceed the general specifications of the products are required.
For details, please contact the Mitsubishi Electric Engineering representative in your region.

MEEFAN (FAgoods)

MEEFAN is the information web portal on which product information and technical information of our FAgoods products are provided and catalogs can be downloaded.
Selection tool which helps select the products from a wide lineup is also provided.



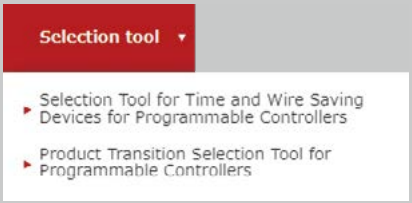
Home page of MEEFAN

Our products are introduced at the top of the homepage.
As FA related products, for example, information on solutions to issues with devices and situations are provided.

Access

www.mitsubishielectricengineering.com/sales/fa/meefan/

contents

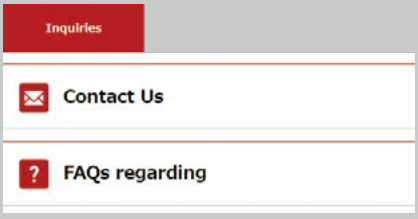


Selection Tool for Time and Wire Saving Devices for Programmable Controllers

The connectable models are displayed by entering/selecting the model name of the programmable controller or HMI without login.

Product Transition Selection Tool for Programmable Controllers

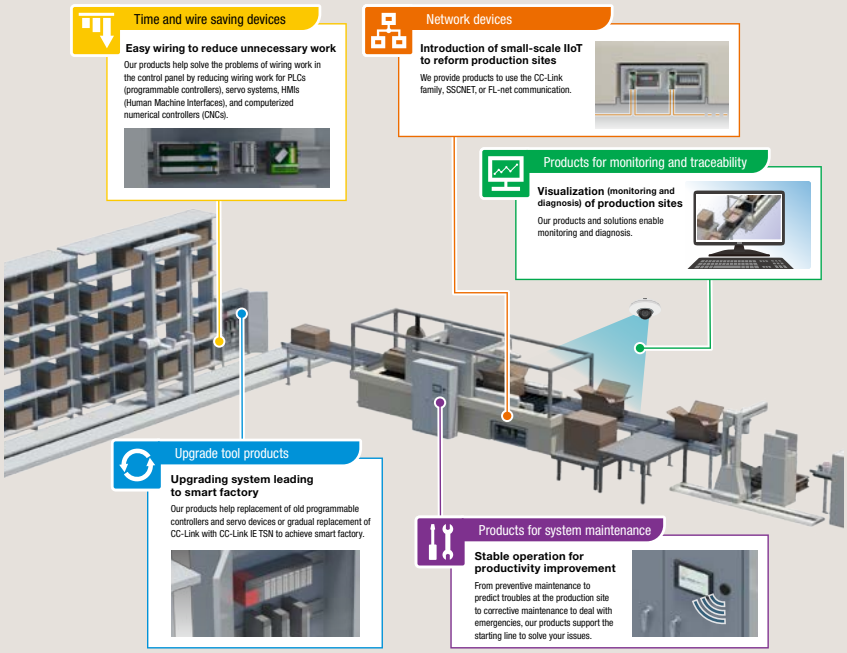
Required products are displayed by selecting the model name of the existing programmable controller without login.



Inquiries

You can contact us for inquiries about "Product purchase", "Products and services", and "Technical contents".
Frequently asked questions are found in FAQs regarding.

Five methods for smart factory



Five categories

Products are categorized into five groups. You can select a category and access product pages.
Product pages are also accessed from the model name search or the product list.

Personal computer

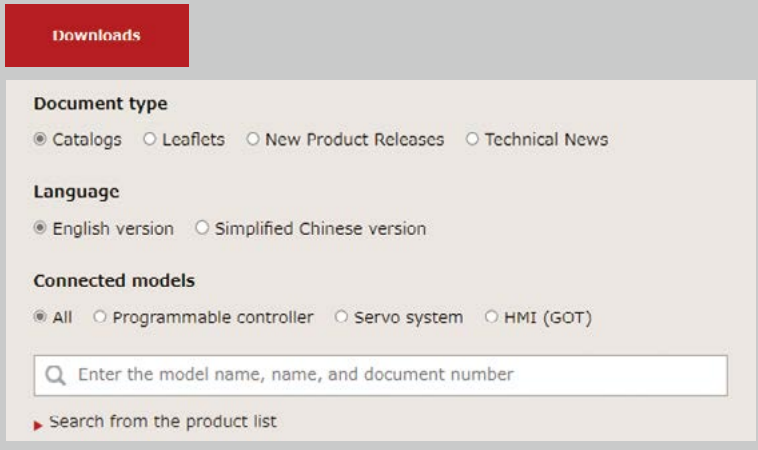
Tablet



Display suitable for device

The website display size is automatically adjusted in accordance with the device such as a personal computer and a tablet including a smartphone.

contents



Downloads

The search can be narrowed down by selecting the document type, language, and connected models.
The search by entering a keyword is also available.

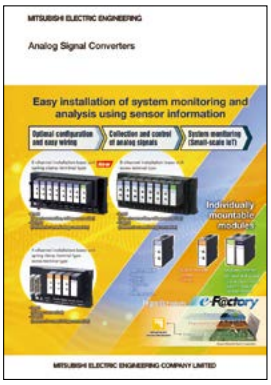
Related products

New Product Releases

Cable with spring clamp terminal block



Analog signal converter



Digital signal converter (Terminal Module)



Network interface module



Leaflets

Spring clamp junction terminal block for Mitsubishi Electric AC servo system



SSCNET-compatible hydraulic control unit



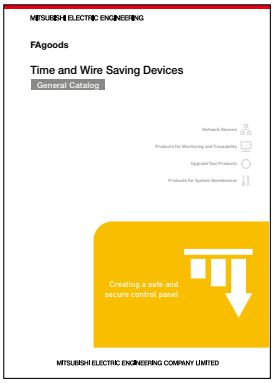
MEMO

Catalogs

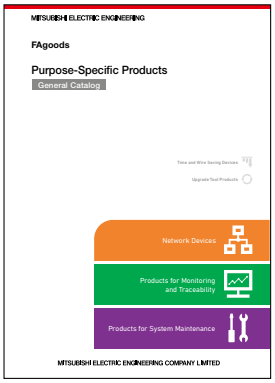
Digest edition



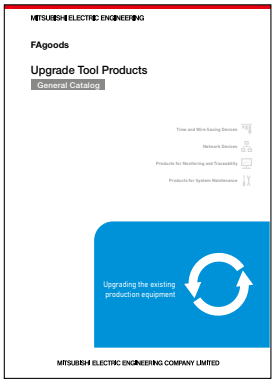
Time and Wire Saving Devices



Network Devices



Upgrade Tool Products



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www.mitsubishielectricengineering.com/sales/fa/meefan/ ►

Precautions for Choosing the Products

Mitsubishi Electric Engineering will not be held liable for damage caused by factors found not to be the cause of Mitsubishi Electric Engineering; opportunity losses or lost profits caused by faults in the Mitsubishi Electric Engineering products; damage, secondary damage, accident compensation caused by special factors unpredictable by Mitsubishi Electric Engineering; damages to products other than Mitsubishi Electric Engineering products; and to other duties.

For safe use

- To use the products given in this publication properly, always read the relevant manuals before beginning operation.
- The products have been manufactured as general-purpose parts for general industries, and are not designed or manufactured to be incorporated in a device or system used in purposes related to human life.
- Before using the products for special purposes such as nuclear power, electric power, aerospace, medicine or passenger-carrying vehicles, consult with Mitsubishi Electric Engineering.
- The products have been manufactured under strict quality control. However, when installing the products where major accidents or losses could occur if the products fail, install appropriate backup or fail-safe functions in the system.

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Specifications are subject to change without notice.