

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	RX40C7	*7				
AI61-S1							
Output	AY10	RY10R2	*1	ERNT-1AR40Y	Terminal block (38 points)	Connector (40P)	32
	AY11, AY11-UL						
	AY11E						
	AY11EEU						
	AY22	RY20S6					
	AY40, AY40-UL	RY40NT5P	*1, *3				
	AY40P						
	AY50, AY50-UL						
	AY70, AY70-UL						
AY80	RY40PT5P	*1					
AY80EP							
Input	AX31	RX41C4, RX41C6HS, RX71C4	*1	ERNT-1AR41X	Terminal block (38 points)	Connector (40P)	32
	AX41, AX41-UL						
	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	D-Sub connector (37P) × 2	Connector (40P) × 2	64
	AY41P		*1, *3, *4				
	AY71	RY41PT1P	*1, *5, *6				
	AY81						
	AY81EP						
Input	AX82	RX41C4 × 2, RX41C6HS × 2, RX71C4 × 2	*8, *9	ERNT-ASLCXY81 × 2			
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	*10					
	AY10A, AY10A-UL							
	AY11A	RY18R2A × 2	*10					
	AY11AEU							
	AY40A							
	AY51, AY51-UL	RY40NT5P × 2	*10					
	AY51-S1							
	AY41, AY41-UL							
	AY41P							
	AY71							
	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	12/24VDC, sink type	64	RX42C4	24VDC, positive/negative common shared type	64	1
	AX42-S1			RX41C6HS	5/12VDC, positive/negative common shared type	32	2
				RX72C4	12/24VDC, sink type	64	1
Output	AY42			RY42NT2P	12/24VDC, sink type		
	AY42-S1				12/24VDC, sink type (An external power supply needs to be connected to the module.)		
	AY42-S3						
I/O combined	AY42-S4					32	2
	AY72	5/12VDC, sink type	32	RY41NT2H	5/12/24VDC, sink type		
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)	32	1
		Output: 12/24VDC, sink type			Output: 12/24VDC, sink type		

Replacement using a universal conversion adapter ▶ P.282

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	
	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	RY20S6	100 to 240VAC, triac	1			
	AY60	24VDC (12/48VDC), 2A/point, sink type	16	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	*22, *23	ERNT-AQB68N	ERNT-1AR12F
		R68B			ERNT-1AR8F
		R610B-HT			ERNT-1AR10F6
	A58B, A58B-UL	R68B		ERNT-AQB58N	ERNT-1AR8F
	A65B, A65B-UL	R68B		ERNT-AQB65N	ERNT-1AR5F
		R65B	*22		
	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	