

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							
	AX70, AX70-UL	QX40-S1							
	AX70, AX70-UL	QX70							
	AX50	QX50							
	AX50-S1								
	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								
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, AY11-UL								
	AY11E								
	AY11EEU								
	AY22	QY22		ERNT-AQTY22					
	AY40, AY40-UL	QY40P		ERNT-AQTY40					
	AY40P								
	AY70, AY70-UL	QY70		ERNT-AQTY50	Terminal block (38 points)		FCN connector (40P jack)	32	
	AY50, AY50-UL	QY50							
	AY80	QY80							ERNT-AQTY80
	AY41, AY41-UL	QY41P		ERNT-AQTY41	Terminal block (38 points)		FCN connector (40P jack)		32
	AY41P								
	AY71	QY71		ERNT-AQTY81	Terminal block (38 points)		D-Sub connector (37P)		
	AY81	QY81P							
	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								
	AY81FP									

*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		
	AX42-S1			QX41-S2	24VDC, positive common	32	2
	AX82	QX42-S1		24VDC, positive common	64	1	
		QX81-S2		24VDC, negative common	32	2	
Output	AY42	12/24VDC, sink type		QY42P	12/24VDC, sink type	64	1
	AY42-S1						
	AY42-S3				12/24VDC, sink type (An external power supply needs to be connected to the module.)		
	AY42-S4						
	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.304

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			QX80H	24VDC, source type			
	AX81		32	QX71	5/12VDC, sink/source type	32		
	AX81-S1	AX81-S3		QX82-S1	24VDC, source type	64		
	AX82	12/24VDC, source type	64	QX72	5/12VDC, sink/source type			64
				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	2	Supported
	AY40A	12/24VDC, 0.3A, independent		QY68A	5 to 24VDC, 2A, independent	8		
	AY60	24VDC (12/48VDC), 2A						
	AY60E	12/24VDC, 2A						
	AY60EP	24/48VDC (12VDC), 2A						
	AY60S(-UL)	240VAC, 2A	24	QY10	240VAC, 2A	16	1	
	AY82EP	12/24VDC, source type	64	QY82P	12 to 24VDC, source type	64		
	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	Model	Conversion adapter		No. of channels
					Shape		
Input	A68AD	(Voltage input)	Q68ADV	ERNT-AQT68AD	Terminal block (38 points)	 <	

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 Q38B	-	ERNT-AQB38N	ERNT-AQF12, ERNT-AQF8 ERNT-AQF8
A68B, A68B-UL	Q612B Q68B		ERNT-AQB68N	ERNT-AQF12, ERNT-AQF8 ERNT-AQF8
A58B, A58B-UL	Q68B		ERNT-AQB58N	ERNT-AQF8
A35B, A35B-UL, A35B-E	Q38B Q35B		ERNT-AQB35N	ERNT-AQF8, ERNT-AQF5 ERNT-AQF5
A65B, A65B-UL	Q68B Q65B, Q55B	-	ERNT-AQB65N	ERNT-AQF8, ERNT-AQF5 ERNT-AQF5
A55B, A55B-UL	Q65B, Q55B		ERNT-AQB55N	ERNT-AQF5
A32B, A32B-UL, A32B-E	Q33B		ERNT-AQB32N	ERNT-AQF3
A62B	Q63B, Q52B		ERNT-AQB62	ERNT-AQF3
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	