Mitsubishi Motion controller

Sales and Service

No. 12-14E

Discontinuation of Production of Motion Controller A Series (Small Type)

Thank you for your continued patronage of the Mitsubishi motion controllers and FA products.
We are grateful to our customers for using the above CPU modules in a wide range of production applications for a long time since their launch in 1997.
However, production of the A171SH/A172SH/A173UH series motion controllers will be discontinued because we have difficulty in constantly obtaining components for the above CPU modules. The same components are used for the MELSEC-AnS/QnAS (small type) series, and that series will also be discontinued.
For details of the discontinuation of MELSEC-A/QnA (small type) series and others, please refer to the technical bulletin for Mitsubishi programmable controllers "Production discontinuation of MELSEC-AnS/QnAS (small type) series and MELSEC-I/O LINK" (FA-D-0142).
We ask for your understanding in this matter.

1. Production Discontinuation Schedule

Order acceptance: Until August 31, 2014
Production: Until September 30, 2014

2. Models to be Discontinued

Production of all models (including specialty items) of the motion controller A series (small type) will be discontinued.
Tables 1 and 2 show the details of the models to be discontinued.

Table 1 Models to be discontinued (equipment)

Item	Model	Item	Model
CPU module	A171SHCPUN	Teaching unit	A30TU
	A172SHCPUN		A30TU-E
	A173UHCPU		A30TU-S1
	A173UHCPU-S1		A30TU-SV42
Basic base unit	A172B		A30TU-SV51
	A175B		A31TU
	A178B		A31TU-E
	A178B-S1		A31TU-KE
	A178B-S2		A31TU-R
	A178B-S3		A31TU-RE
Programmable controller extension base unit	A168B		A31TU-RT
			A31TU-RTE
Pulse generator and synchronous encoder interface unit	A171SENC		A31TU-D3KE51
	A172SENC		A31TU-D3RKE51
SSCNET I/F board cable	A270BDCBL□M	Teaching unit connection cable	A31TUCBL03M
SSCNET I/F card cable	A270CDCBL□M	A31TUCBL short-circuit connector	A31SHORTCON

Note. Production of specialty items related to the items in Table 1 will also be discontinued.

Date of issue	October 2012	Title	Discontinuation of Production of Motion Controller A Series (Small Type)	Mitsubishi Electric Corp., Nagoya Works 5-1-14 Yada-minami, Higashi-ku, Nagoya 461-8670 Tel.: +81 (52) 721-2111 Main line

Table 2 Models to be discontinued (software/license package)

Item	Model
Operating system software package	SW0NX-SV13D
	SW0NX-SV13G
	SW0NX-SV22C
	SW0NX-SV22F
	SW0NX-SV43C
	SW0NX-SV43F
	SW0NX-SV51D
	SW0NX-SV51G
	SW0SRX-SV13D
	SW0SRX-SV13G
	SW0SRX-SV22C
	SW0SRX-SV22F
	SW0SRX-SV43C
	SW0SRX-SV43F
	SW0SRX-SV51D
	SW0SRX-SV51G
	SW0SRX-SV52D
	SW2NX-SV13B
	SW2NX-SV22A
	SW2NX-SV43A
	SW2SRX-SV13B
	SW2SRX-SV22A
	SW2SRX-SV43A
	SW3RN-SV13B
	SW3RN-SV13D
	SW3RN-SV22A
	SW3RN-SV22C

Item	Model
Peripheral software package	SW0IX-CAMPE
	SW0NX-CAMP
	SW0SRX-CAMP
	SW2NX-GSV13P
	SW2NX-GSV22P
	SW2NX-GSV43P
	SW2NX-GSV51P
	SW2SRX-GSV13P
	SW2SRX-GSV13PE
	SW2SRX-GSV22P
	SW2SRX-GSV22PE
	SW2SRX-GSV43P
	SW2SRX-GSV43PE
	SW2SRX-GSV51P
	SW2SRX-GSV51PE
	SW3RNC-GSV
	SW3RNC-GSVE
	SW3RNC-GSVHELP
	SW3RNC-GSVHELPE
	SW3RNC-GSVPRO
	SW3RNC-GSVPROE
	SW3RNC-GSVSET
	SW3RNC-GSVSETE
Peripheral software license	SW3RNC-LIC1
	SW3RNC-LIC1E
	SW3RNC-LIC10
	SW3RNC-LIC10E
	SW3RNC-LIC30
	SW3RNC-LIC30E
	SW3RNC-LIC50
	SW3RNC-LIC50E

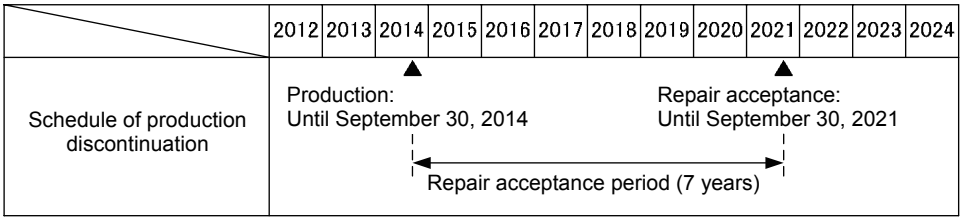
Note. Production of specialty items related to the items in Table 2 will also be discontinued.

3. Reasons for Discontinuation

The major electronics components of the motion controller A series (small type) are semiconductor parts (microcomputers, memories, ASICs) and most of the components are also used for the MELSEC-AnS/QnAS (small type) series. In recent years, due to refinement of manufacturing processes and further requirement to comply with regulatory standards such as environmental standards, we have difficulty in constantly obtaining the conventional parts.
Production of the motion controller A series (small type), as well as the MELSEC-AnS/QnAS (small type) series, has been continued by taking measures such as reserving the stocks of the discontinued parts. However, as the remaining stocks are getting scarce and it is getting more difficult to maintain the production and quality systems in future, we decided that we will discontinue the production.

4. Repair Acceptance

Repair acceptance: Until September 30, 2021 (7 years after the final production date)



5. Continuation of Production of External Battery (A6BAT)

Production for the external battery (A6BAT) will be continued.
For details, refer to the technical bulletin for Mitsubishi programmable controllers "Production discontinuation of MELSEC-AnS/QnAS (small type) series and MELSEC-I/O LINK" (FA-D-0142).

6. Request to Customers

(1) Upon discontinuation of the production of the motion controller A series (small type), consider to replace them with the Q series. Confirm the models corresponding to the current models using "9. List of Replacement Models".

(2) For the replacement with the MELSEC-AnS/QnAS (small type) series programmable controllers, refer to the replacement guide of the MELSEC-AnS/QnAS (small type) series programmable controllers.

7. Storage of Spare Parts

(1) The storage specification conditions for the items shown in Table 1 are as follows. Avoid storage under high temperature/humidity condition even within the guaranteed range.

Ambient storage temperature	-20 °C to 75 °C
Ambient storage humidity	10% to 90%, non-condensing

(2) Avoid direct sunlight for storage.

(3) Store the parts in the environment without dust or corrosive gas.

(4) The capacity of the battery (A6BAT) shipped together with the motion controller A171SH/A172SH/A173UH will be reduced due to self discharge even if the battery is not used. Replace the battery with new one approximately every 5 years.

(5) An aluminum electrolytic capacitor is used for the motion controller A171SH/A172SH/A173UH and the life degradation of the capacitor may affect the basic function of the motion controller. Therefore, prepare the spare parts.
Also, if the aluminum electrolytic capacitor is left unpowered for a long time, take the following measure to avoid degradation of the capacitor characteristics.

[Prevention of degradation of the aluminum electrolytic capacitor characteristics]

The characteristics of the aluminum electrolytic capacitor used for the motion controller A171SH/A172SH/A173UH will be degraded if the capacitor is left unpowered for a long time.
Change the capacitor in rotation at the periodic maintenance (every year or two years).
Another method to prevent degradation is to activate the capacitor every two to three years by taking 10 minutes or more to gradually raise the capacitor voltage from 0 V to the rated voltage and leaving the capacitor for several hours.

[Reference]

When an aluminum electrolytic capacitor is left unpowered, it will be degraded at approximately one-fourth speed as compared to that of the powered capacitor at room temperature. For example, when the capacitor is stored at room temperature for 10 years, the capacitor life will be reduced by 2.5 years.
Do not store the spare parts under high temperature/humidity condition because degradation is further accelerated in places under high temperature/humidity.

8. Replacement Guidelines

Follow the guidelines below when replacing a discontinued model with a replacement model.
For details, refer to the replacement guide.

(1) CPU module
- (a) Select a Q series motion CPU module. Recommended models are Q172DSCPU and Q173DSCPU.
- (b) Select the appropriate replacement Q series programmable controller CPU module based on the current sequence program capacity, sequence program memory capacity, number of inputs/outputs and number of devices.

(2) Base unit

Select a base unit appropriate for the number of slots used by the motion CPU and the programmable controller CPU.
Note the following points.
- Q series base unit is shared by the modules controlled by the motion CPU and the modules controlled by the programmable controller CPU. The modules controlled by the motion CPU and the modules controlled by the programmable controller CPU can be co-resident.
- New mounting holes are required for fixing the base unit to a control panel because positions and dimensions of the mounting holes are different.

(3) Pulse generator and synchronous encoder interface unit
- (a) If using a servo external signal module, select Q172DLX.
  Note the following points.
  - Select appropriate external devices such as switches to satisfy required specifications for different input voltage/current or response time.
  - Q172DLX does not support the electromagnetic brake command output. Use the electromagnetic brake interlock output provided for the servo amplifier.
- (b) If using a serial absolute synchronous encoder, select Q172DEX.
  Note the following points.
  - Q172DEX has a battery (A6BAT) for backing up the absolute value data of the serial absolute synchronous encoder.
- (c) If using a manual pulse generator or an incremental synchronous encoder, select Q173DPX.
  Note the following points.
  - The connector shape and the signal arrangement are different.

9. List of Replacement Models

Table 3 Replacement models of the Q series

A series (production discontinued)		Replacement with Q series		
Product	Model	Model		Remarks (specifications after the change, restrictions)
CPU module	A171SHCPUN	Power supply module	Q62P	Input: 100 to 240 V AC Output (5 V DC): 3 A, output (24 V DC): 0.6 A
		Programmable controller CPU	Q03UD(E)CPU	(1) Program capacity: 30 k steps (2) Program memory capacity: 192 k bytes (3) Sequence program change: Yes
		Motion CPU	Q172DSCPU	(1) Number of servo control axes: 16 axes (2) Motion program change: Yes (3) Corresponding servo amplifier: MR-J4 series (4) I/F to servo amplifier: SSCNET III/H
	A172SHCPUN	Power supply module	Q61P	Input: 100 V to 240 V AC Output (5 V DC): 5 A
		Programmable controller CPU	Q03UD(E)CPU	(1) Program capacity: 30 k steps (2) Program memory capacity: 192 k bytes (3) Sequence program change: Yes
		Motion CPU	Q172DSCPU	(1) Number of servo control axes: 16 axes (2) Motion program change: Yes (3) Corresponding servo amplifier: MR-J4 series (4) I/F to servo amplifier: SSCNET III/H
	A173UHCPU	Power supply module	Q61P	Input: 100 to 240 V AC Output (5 V DC): 5 A
		Programmable controller CPU	Q06UD(E)HCPU	(1) Program capacity: 60 k steps (2) Program memory capacity: 768 k bytes (3) Sequence program change: Yes
		Motion CPU	Q173DSCPU	(1) Number of servo control axes: 32 axes (2) Motion program change: Yes (3) Corresponding servo amplifier: MR-J4 series (4) I/F to servo amplifier: SSCNET III/H
	A173UHCPU-S1	Power supply module	Q61P	Input: 100 to 240 V AC Output (5 V DC): 5 A
		Programmable controller CPU	Q06UD(E)HCPU	(1) Program capacity: 60 k steps (2) Program memory capacity: 768 k bytes (3) Sequence program change: Yes
		Motion CPU	Q173DSCPU	(1) Number of servo control axes: 32 axes (2) Motion program change: Yes (3) Corresponding servo amplifier: MR-J4 series (4) I/F to servo amplifier: SSCNET III/H
Basic base unit	A172B	Q35DB		(1) Number of I/O slots: 5 slots (2) I/O assignment: Programmable controller/Motion shared (3) Length: 245 mm × 98 mm
	A175B			
	A178B A178B-S1 A178B-S2 A178B-S3	Q38DB		(1) Number of I/O slots: 8 slots (2) I/O assignment: Programmable controller/Motion shared (3) Length: 328 mm × 98 mm
		Q312DB		(1) Number of I/O slots: 12 slots (2) I/O assignment: Programmable controller/Motion shared (3) Length: 439 mm × 98 mm
Programmable controller extension base unit	A1S65B	Q65B		(1) I/O assignment: Programmable controller/Motion shared (2) Length: 245 mm × 98 mm (3) Number of connection stages: 7 stages
	A1S68B	Q68B		(1) I/O assignment: Programmable controller/Motion shared (2) Length: 328 mm × 98 mm (3) Number of connection stages: 7 stages
	A168B			
Extension cable	A1SC01B	QC05B		Cable length: 0.5 m
	A1SC03B			
	A1SC07B	QC12B		Cable length: 1.2 m
	A1SC12B			
	A1SC30B	QC30B		Cable length: 3 m

A series (production discontinued)		Replacement with Q series		
Product	Model	Model		Remarks (specifications after the change, restrictions)
Pulse generator & synchronous encoder interface unit	A171SENC A172SENC	Servo external signal input module	Q172DLX	(1) External wiring change: Yes (2) Number of servo external signal input axes: 8
		Synchronous encoder input module	Q172DEX	(1) External wiring change: Yes (2) Number of connectable synchronous encoders: 2
		Manual pulse generator input module	Q173DPX	(1) External wiring change: Yes (2) Number of connectable manual pulse generators: 3
Limit output module	A1SY42P	QY42P		No particular restriction
Serial absolute synchronous encoder	MR-HENC (production continued)	Q171ENC-W8		(1) Resolution: 4194304 pls/rev (2) Protective structure: IP67 (except for shaft opening) (3) Permissible thrust load: 9.8 N (4) Permissible radial load: 19.6 N (5) Permissible rotation speed : 3600 r/min (6) Outer shape/dimension change: Yes
Serial absolute synchronous encoder cable	MR-HSCBL□M (continued)	Q170ENCCBL□M		For Q171ENC-W8
Manual pulse generator	MR-HDP01 (continued)	MR-HDP01		No particular restriction
Teaching unit	A30TU	None		Consider replacement with the GOTs.
	A30TU-E	None		
	A30TU-S1	None		
	A30TU-SV42	None		
	A30TU-SV51	None		
	A31TU	None		
	A31TU-E	None		
	A31TU-KE	None		
	A31TU-R	None		
	A31TU-RE	None		
	A31TU-RT	None		
	A31TU-RTE	None		
	A31TU-D3KE51	None		
	A31TU-D3RKE51	None		
Teaching unit connection cable	A31TUCBL03M	None		
A31TUCBL short-circuit connector	A31SHORTCON	None		
SSCNET I/F board	A30BD-PCF	None		Connectable using the following interfaces. • USB/RS-232/Ethernet (via the Programmable Controller CPU) • PERIPHERAL I/F (Motion CPU control)
SSCNET I/F card	A30CD-PCF	None		
SSCNET I/F board cable	A270BDCBL03M	None		
	A270BDCBL05M	None		
	A270BDCBL10M	None		
SSCNET I/F card cable	A270CDCBL03M	None		
	A270CDCBL05M	None		
	A270CDCBL10M	None		

A series (to be discontinued)			Replacement with Q series	
Product		Model	Model	Remarks (specifications after the change, restrictions)
Operating system software package	A171SH	SW0NX-SV13G	SW8DNC-SV13QL (for Q172DSCPU)	
		SW0SRX-SV13G		
	A172SH	SW0NX-SV13D		
		SW0SRX-SV13D		
		SW3RN-SV13D		
	A173UH	SW2NX-SV13B	SW8DNC-SV13QJ (for Q173DSCPU)	
		SW2SRX-SV13B		
		SW3RN-SV13B		
	A171SH	SW0NX-SV22F	SW8DNC-SV22QL (for Q172DSCPU)	
		SW0SRX-SV22F		
	A172SH	SW0NX-SV22C		
		SW0SRX-SV22C		
		SW3RN-SV22C		
	A173UH	SW2NX-SV22A	SW8DNC-SV22QJ (for Q173DSCPU)	
		SW2SRX-SV22A		
		SW3RN-SV22A		
	A171SH	SW0NX-SV43F	SW7DNC-SV43QC (for Q172DCPU)	As Q172DSCPU does not support SV43, consider replacement with Q172DCPU.
		SW0SRX-SV43F		
	A172SH	SW0NX-SV43C		
		SW0SRX-SV43C		
	A173UH	SW2NX-SV43A	SW7DNC-SV43QA (for Q173DCPU)	As Q173DSCPU does not support SV43, consider replacement with Q173DCPU.
		SW2SRX-SV43A		
	A171SH	SW0NX-SV51G	None	
		SW0SRX-SV51G	None	
	A172SH	SW0NX-SV51D	None	
		SW0SRX-SV51D	None	
		SW0SRX-SV52D	None	
Peripheral software package	SV13	SW2SRX-GSV13P	Motion controller package MELSOFT MT Works2 Model: SW1DNC-MTW2-☐	Also use the peripheral software package for the programmable controller and the servo setup software package. Programmable controller software package (1) MELSOFT GX Works2 Model: SW1DNC-GXW2-☐ or (2) GX Developer Model: SW8D5C-GPPW-☐ Servo setup software package MR Configurator2 Model: SW1DNC-MRC2-☐
		SW2SRX-GSV13PE		
		SW3RNC-GSV		
		SW3RNC-GSVE		
		SW2NX-GSV13P		
	SV22	SW2SRX-GSV22P		
		SW0SRX-CAMP		
		SW2SRX-GSV22PE		
		SW0IX-CAMPE		
		SW3RNC-GSV		
		SW3RNC-GSVE		
		SW2NX-GSV22P		
		SW0NX-CAMP		
	SV43	SW2SRX-GSV43P		
		SW2SRX-GSV43PE		
		SW3RNC-GSV		
		SW3RNC-GSVE		
		SW2NX-GSV43P		
	SV51	SW2SRX-GSV51P	None	
		SW2SRX-GSV51PE		
		SW3RNC-GSV		
		SW3RNC-GSVE		
		SW2NX-GSV51P		
	Others	SW3RNC-GSVPRO	None	
		SW3RNC-GSVSET		
		SW3RNC-GSVHELP		
		SW3RNC-GSVPROE		
		SW3RNC-GSVSETE		
		SW3RNC-GSVHELPE		