

4.2.5 Upgrading overall I/O

4.2.5.1 Upgrading RIO System components

- Upgrading I/O module nest

Existing Model			Upgraded Model		
Model	Description	Q'ty (*1)	Model	Description	Q'ty (*1)
AMN11	Nest for analog I/O modules	1	A2BA3D	Nest for I/O adaptor (for RIO System Upgrade, with I/O module)	1
AMN12	High-speed nest for analog I/O modules				
AMN21	Nest for relay I/O modules	1	Multi-channel I/O modules for upgrading are directly mounted to the backboard of the node interface unit. Communication modules are upgraded into communication module for FIO system and mounted to the A2FV70□ FCU or ANB10D/ANB11D node unit.		
AMN31	Nest for terminal-type I/O modules				
AMN32	Nest for connector-type I/O modules				
AMN33	Nest for communication modules				
AMN34	Nest for multipoint control analog I/O modules	1			
AMN51	Nest for communication cards and Ethernet communication modules	1			

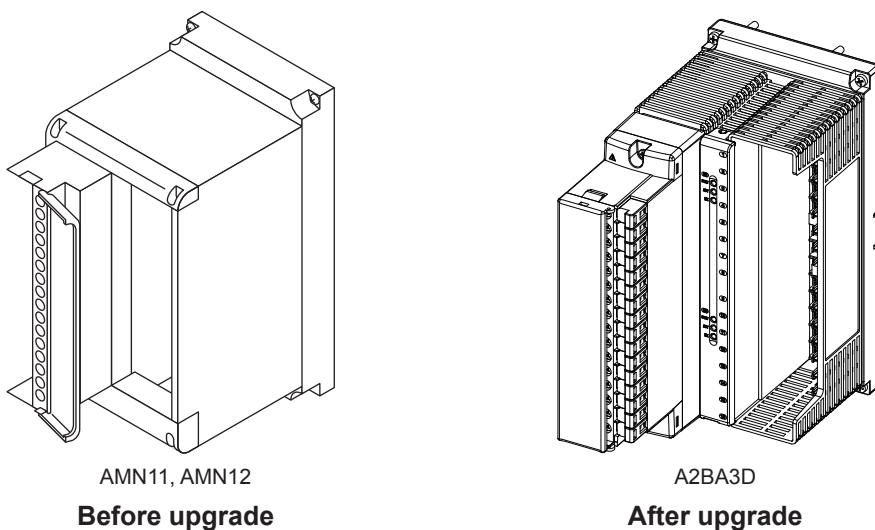
*1: Maximum number of units mountable per I/O unit area.

Upgrade items

The figure below shows an image how the existing I/O module nest is upgraded. The existing channel-based AMN11 or AMN12 nests for analog I/O modules are upgraded by A2BA3D I/O adaptor nest which has the same shape. For upgrading, the field wiring has to be removed and then connected with the M4 screw terminal (detachable) again. The position (XYZ coordinates) of the A2BA3D terminal base is almost the same as the existing AMN11 or AMN12 and the existing field wiring can be continually used.

SEE ALSO

For the details of the A2BA3D I/O adaptor nest after upgrading, refer to the GS of "N-IO node (for RIO System Upgrade)" (GS 33J64F10-01EN).



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Figure Upgrading I/O module nest

● Upgrading I/O module by the channel

Existing I/O module			Upgraded I/O module		
Model	Description	Q'ty (*1)	Model	Description	Q'ty (*1)
AAM10	Current/voltage input module (simplified type)	16	A2SAM105	Current input/voltage input adaptor	16
AAM11	Current/voltage input module				
AAM11B	Current/voltage input module (supports BRAIN)				
AAM21	mV, thermocouple, and RTD input module		A2SAT105	mV/TC/RTD Input adaptor	
AAM21J	mV, thermocouple, and RTD input module (conforms to IEC584-1995, IEC751-1995)				
APM11	Pulse input module		A2SAP105	Pulse input signal adaptor (0 -10 KHz)	
AAM50	Current output module		A2SAM505	Current output/voltage output adaptor	
AAM51	Current/voltage output module				

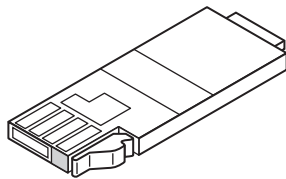
*1: Maximum number of units mountable per nest.

Upgrade items

The figure below shows an image how the existing I/O module is upgraded by the channel. Connection specifications of field wiring (wiring connection types of A, B, and C terminals assigned by the type of signals) are the same before and after upgrading. The A2SAM505 output adaptor for current/voltage output modules can be configured in dual redundant in the same way as AAM51. The short bar used for M4 screw terminal used for dual-redundant configuration, the same product as the existing system can be used.

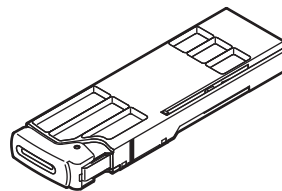
SEE ALSO

For the details of the I/O adaptor after upgrading, refer to the GS of "N-IO node (for RIO System Upgrade)" (GS 33J64F10-01EN).



AAM10, AAM11, AAM11B, AAM21, AAM21J, APM11, AAM50, and AAM51

Before upgrade



A2SAM105, A2SAT105, A2SAP105, and A2SAM505

After upgrade

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Figure Upgrading channel I/O module

● Upgrading Multi-channel I/O module

Existing module			Upgraded module		
Model	Description	Q'ty (*1)	Model	Description	Q'ty (*2)
Analog I/O module					
AMC80	Multipoint analog I/O module	2	AAB841-SK□	Analog I/O module (1 to 5 V input, 4 to 20 mA output, 8-channel input/8-channel output, non-isolated) RIO System Upgrade for AMC80 (KS cable connection type)	2
Relay I/O module					
ADM15R	Relay input module	1	ADV159-PY□	Digital input module for compatible ST3 (32-channel, isolated channels) RIO System Upgrade for ADM15R (Relay terminal connection type)	1
ADM55R	Relay output module	1	ADV559-PY□	Digital output module for compatible ST4 (32-channel output, isolated channels) RIO System Upgrade for ADM55R (Relay terminal connection type)	1
Multiplexer module (16 points, Terminal type)					
AMM12T (*3)	Voltage input multiplexer module	2	AAV144-SM□	Analog input module (-10 to +10 V, 16-channel, isolated) RIO System Upgrade for AMM12T (M4 screw terminal connection type)	2
AMM22M (*4)	mV input multiplexer module		AAT145-SM□	TC/mV input module (16-channel, isolated channels) RIO System Upgrade for AMM22M/AMM22T/AMM22TJ (M4 screw terminal connection type)	
AMM22T (*5)	Thermocouple input multiplexer module				
AMM22TJ	Thermocouple input multiplexer module (supports IEC584-1995)				
AMM32T (*6)	RTD input multiplexer module	1	AAR145-SM□	RTD/POT input module (16-channel, isolated channels) RIO System Upgrade for AMM32T/AMM32TJ (M4 screw terminal connection type) (*7)	1
AMM32TJ	RTD input multiplexer module (supports IEC751-1995)	1			1
AMM42T	2-wire transmitter input multiplexer module	1	AAI143-HM□	Analog input module (4 to 20 mA, 16-channel, isolated) RIO System Upgrade for AMM42T (M4 screw terminal connection type)	1
AMM52T	Output multiplexer module	1	AAI543-HM□	Analog output module (4 to 20 mA, 16-channel, isolated) RIO System Upgrade for AMM52T (M4 screw terminal connection type)	1

*1: Maximum number of units mountable per nest.

*2: Maximum number of units mountable per I/O unit area.

*3: Including model AMM11T.

*4: Including model AMM21M.

*5: Including model AMM21T.

*6: Including model AMM31T.

*7: For RIO System Upgrade, this module is not applicable for potentiometer (POT) input.

Existing module			Upgraded module				
Model	Description	Q'ty (*1)	Model	Description	Q'ty (*2)		
Multiplexer module (Connector type)							
AMM12C	Voltage input multiplexer module	4 (*3)	AAV144 -SK□	Analog input module (-10 to +10 V, 16-channel, isolated) RIO System Upgrade for AMM12C (KS cable connection type)	4		
AMM22C	mV input multiplexer module		AAT145 -SK□	TC/mV input module (16-channel, isolated channels) RIO System Upgrade for AMM22C/AMM25C (KS cable connection type)			
AMM25C	mV input multiplexer module with thermocouple interface (15 points, RJC input port added)						
AMM32C	RTD input multiplexer module (16 points)						
AMM32CJ	RTD input multiplexer module (16 points, conforms to IEC751-1995)					AAR145 -SK□	RTD/POT input module (16-channel, isolated channels) RIO System Upgrade for AMM32C/AMM32CJ (KS cable connection type) (*4)
Digital I/O module							
ADM11T	Contact input module (16 points, terminal type)	2	ADV159 -PM□	Digital input module for compatible ST3 (32-channel, isolated channels) RIO System Upgrade for ADM11T (M4 screw terminal connection type) (*5)	2		
ADM12T	Contact input module (32 points, terminal type)		ADV169 -PM□	Digital input module for compatible ST6 (64-channel, isolated, common minus side every 16-channel) RIO System Upgrade for ADM12T (M4 screw terminal connection type) (*6)			
ADM51T	Contact output module (16 points, terminal type)					ADV559 -PM□	Digital output module for compatible ST4 (32-channel output, isolated channels) RIO System Upgrade for ADM51T (M4 screw terminal connection type) (*5)
ADM52T	Contact output module (32 points, terminal type)						
ADM11C	Contact input module (16 points, connector type)	4	ADV159 -PK□	Digital input module for compatible ST3 (32-channel, isolated channels) RIO System Upgrade for ADM11C (KS cable connection type) (*5)	4		
ADM12C	Contact input module (32 points, connector type)		ADV169 -PK□	Digital input module for compatible ST6 (64-channel, isolated, common minus side every 16-channel) RIO System Upgrade for ADM12C (KS cable connection type) (*6)			
ADM51C	Contact output module (16 points, connector type)					ADV559 -PK□	Digital output module for compatible ST4 (32-channel output, isolated channels) RIO System Upgrade for ADM51C (KS cable connection type) (*5)
ADM52C	Contact output module (32 points, connector type)						

*1: Maximum number of units mountable per nest.

*2: Maximum number of units mountable per I/O unit area.

*3: Q'ty becomes 2 when mounted on AFS□□□ or AFG□□□.

*4: For RIO System Upgrade, this module is not applicable for potentiometer (POT) input.

*5: Up to 16 I/O points.

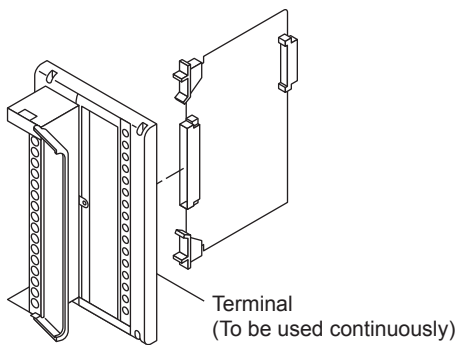
*6: Up to 32 I/O points.

Upgrade items for multi-channel I/O module (Terminal connection type)

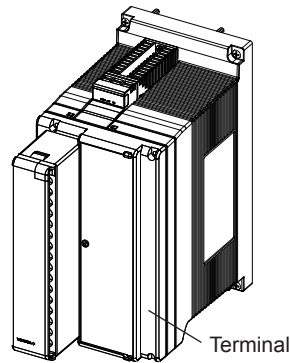
- The figures on the next page show images how the existing terminal connection type multi-channel I/O modules are upgraded. After upgrading, the multi-channel I/O module is directly mounted to the backboard of the node interface unit.
- Terminals of the existing RIO system can be continuously used without disconnecting the existing field wiring.
- The mounting position (XYZ coordinates in the cabinet) of the terminal after upgrading is the same as before.

SEE ALSO

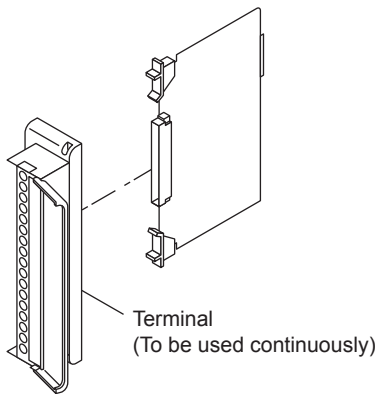
For the details of the terminal connection type multi-channel I/O modules after upgrading, refer to the GS of “N-IO node (for RIO System Upgrade)” (GS 33J64F10-01EN).



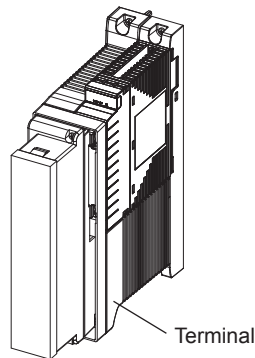
ADM15R and ADM55R



ADV159-PY□ and ADV559-PY□



AMM12, AMM11T, AMM22M, AMM21M, AMM22T, AMM21T, AMM22TJ, AMM42T, AMM52T, ADM11T, ADM12T, ADM51T, and ADM52T



AAV144-SM□, AAT145-SM□, AAI143-HM□, AAI543-HM□, ADV159-PM□, ADV169-PM□, ADV559-PM□, ADV569-PM□

Before upgrade

After upgrade

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Figure Upgrading multi-channel I/O module 1 (terminal connection type)