MITSUBISHI ELECTRIC ENGINEERING

MELSEC iQ-R Series Upgrade Tool

—New upgrade tools for replacing non-Mitsubishi PLCs with MELSEC iQ-R series programmable controllers—

Upgrade Tool

Expanding the upgrade tools for MELSEC iQ-R series programmable controllers!

MELSEC iQ-R series

MELSEC-AnS series

OMRON SYSMAC C series

Sharp New Satellite JW series

YASKAWA MEMOCON GL series

Non-Mitsubishi PLCs

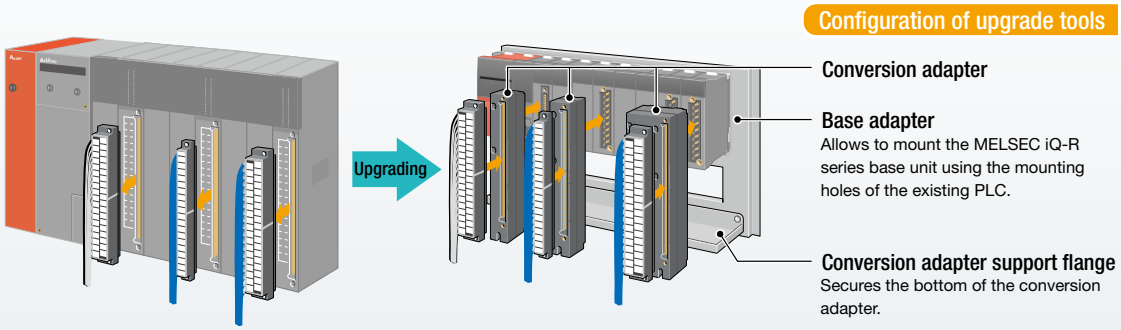
MITSUBISHI ELECTRIC ENGINEERING COMPANY LIMITED

Overview of upgrade tools for programmable controller

The upgrade tool makes it easy to replace existing PLCs with the Mitsubishi Electric MELSEC series programmable controllers.
The upgrade tool reduces transition work time, minimizing factory downtime during replacement!
<Features>

- The wiring of an existing PLC can be used as is, significantly shortening wiring work time and reducing wiring errors.
- The wiring work time can be shortened, minimizing production line downtime.
- A program conversion support tool is provided, significantly shortening program conversion time.
- Space saving can be achieved by directly mounting a conversion adapter to a MELSEC series module.

Configuration of upgrade tool for programmable controller



* A program conversion support tool (program converter) can be used depending on the series.

Upgrading existing systems

Providing total solution from the installation of facilities and systems and their maintenance to the system upgrade in the future!

Investigation and analysis	Planning proposal	Design and assembling	Production start-up and system adjustment	Maintenance service
Our expert engineers assist your investigation and analysis for a more optimal factory planning and process improvement.	Propose tailored systems to meet the needs of each customer. Give advice on your issues at the planning stage.	Design and assemble your systems using the latest technology. • Hardware design • Software design • Document creation	Support the system installation on site and perform the system adjustment for test operation. Provide the trainings on system operation, troubleshooting and system maintenance to operators.	Provide technical support for the modification of existing facilities, the preventive maintenance of aging facilities, the planning of system upgrade, and the troubleshooting.

Proposal Replacement of a non-Mitsubishi PLC with a Mitsubishi Electric MELSEC series programmable controller using the upgrade tools

Reading of a program for a non-Mitsubishi PLC → Formulation of program specifications → Adjustment for control ladder diagram creation and system start-up

Point **Benefits of using the upgrade tools**

- Significantly reduce the cost spent for program conversion by using a program converter!
- Significantly shorten the time required for wiring and reduce wiring errors because the wiring of existing PLCs can be used as is even after replacement.

Notes

- Items such as the “number of points per common” and the “working voltage” may differ between before and after replacement, so please check the specifications of the module to be connected at the time of its selection.
- Module width and depth will change after replacement so please check the wiring area in advance.

MELSEC-AnS series

MELSEC iQ-R series

MELSEC-AnS Series → MELSEC iQ-R Series Upgrade Tool

Upgrading the
MELSEC-AnS series to the MELSEC iQ-R series

- Simplifies replacement with the MELSEC iQ-R series
- Significantly shortens the time required for input, output, analog, and high-speed counter module wiring, and significantly reduces wiring errors
- Permits reuse of sequence programs

AnS iQ-R series

OMRON SYSMAC C series

SYSMAC C Series → MELSEC iQ-R Series Upgrade Tool

Upgrading the
SYSMAC C series to the MELSEC iQ-R series

- Simplifies replacement with the MELSEC iQ-R series
- Significantly shortens the time required for input/output module wiring, and significantly reduces wiring errors
- Permits reuse of sequence programs using a program converter

Large type | Small type | Sequence program

SYSMAC C iQ-R series

Sharp New Satellite JW series

New Satellite JW Series → MELSEC iQ-R Series Upgrade Tool

Upgrading the
New Satellite JW series to the MELSEC iQ-R series

- Simplifies replacement with the MELSEC iQ-R series
- Significantly shortens the time required for input/output module wiring, and significantly reduces wiring errors

Large type | Small type

New Satellite JW iQ-R series

YASKAWA MEMOCON GL series

MEMOCON GL Series → MELSEC iQ-R Series

Upgrading the
MEMOCON GL series to the MELSEC iQ-R series

- Simplifies replacement with the MELSEC iQ-R series
- Significantly shortens the time required for input/output module wiring, and significantly reduces wiring errors

Large type | Small type

MEMOCON GL iQ-R series

Non-Mitsubishi PLC

Non-Mitsubishi PLC → MELSEC iQ-R Series Upgrade Tool "Universal Conversion Adapter"

Upgrading the
non-Mitsubishi PLC to the MELSEC iQ-R series

- Universal conversion adapter
  (No need to change solderless terminal size and newly fabricate connectors when rewiring.)

Large type | Small type

Non-Mitsubishi iQ-R series

MELSEC-AnS series ..... ▶ MELSEC iQ-R series

Product Overview

This upgrade tool consists of a “conversion adapter” and “base adapter” that are used to replace the existing wiring of the terminal blocks and connectors connected to the input/output/analog/high-speed counter/temperature input/temperature control modules of the Mitsubishi programmable controller MELSEC-AnS series with the wiring of the input/output/analog/high-speed counter/temperature input/temperature control modules of the Mitsubishi programmable controller MELSEC iQ-R series.

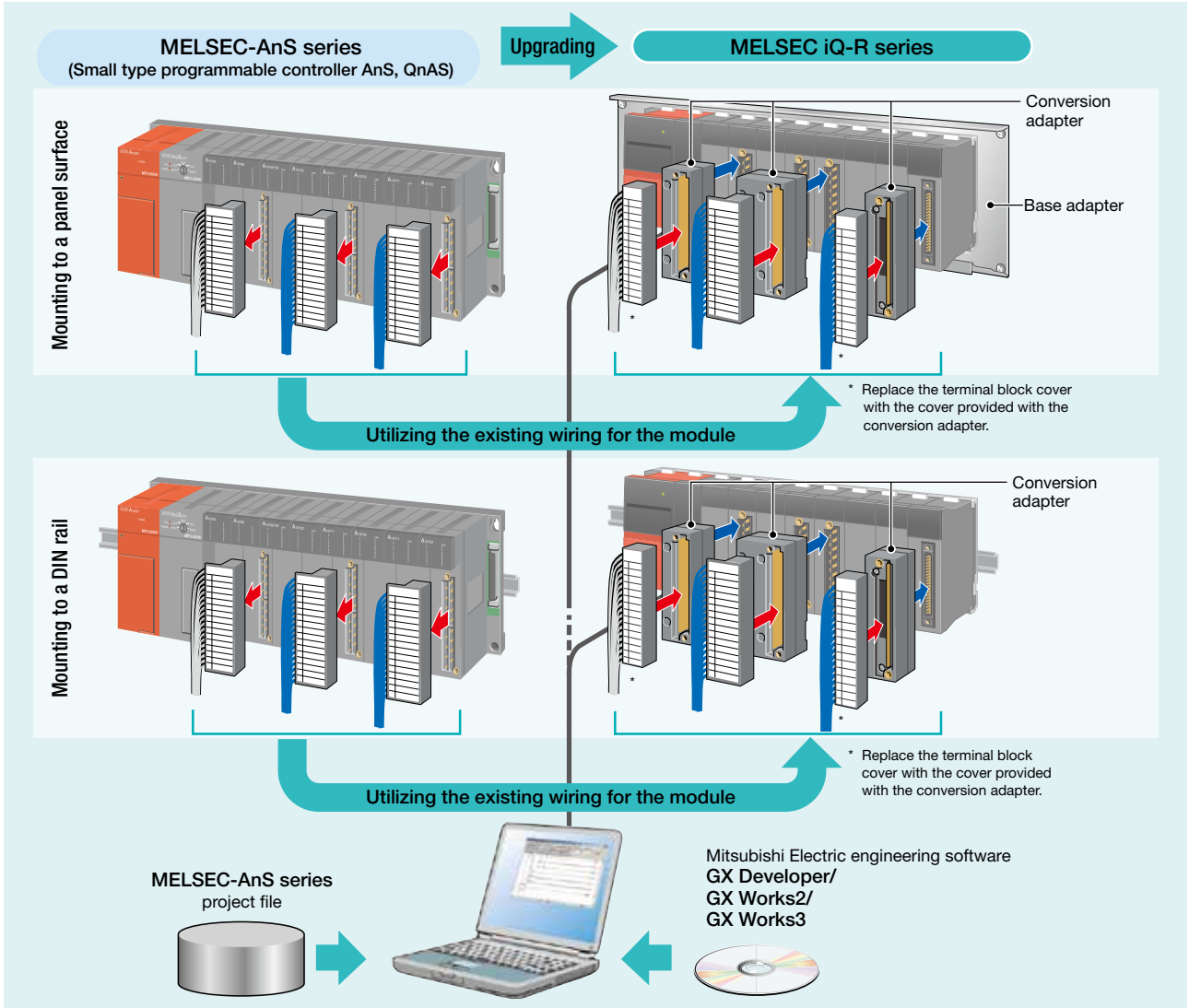
Features

Significant reduction in man-hours

- The wiring of the terminal blocks and connectors connected to the input/output/analog/high-speed counter/temperature input/temperature control modules of the existing PLC can be used as is even after replacement.
- Man-hours for checking the wiring after replacement can be reduced.

Space saving

Since the conversion adapter is directly mounted to the MELSEC iQ-R series module, installation space can be reduced.



Model List

(1) Conversion adapter

For input/output modules <1-slot type>

Input/Output	Module model		Note	Conversion adapter	
	Before replacement	After replacement		Model	No. of input/output points
Input	A1SX10	RX10	-	ERNT-ASQTXY10	16 points
	A1SX10EU				
Output	A1SY10	RY10R2			
	A1SY10EU				
Input	A1SX30	RX40C7, RX70C4		ERNT-ASQTX40	
	A1SX40				
	A1SX80				
	A1SI61				
	A1SX40-S1	RX40C7			
	A1SX40-S2				
	A1SX80-S1				
	A1SX80-S2				
Output	A1SY22	RY20S6		ERNT-ASQTY22	
	A1SY40	RY40NT5P		ERNT-ASQTY40	
	A1SY40P				
	A1SY50	RY40NT5P		ERNT-ASQTY50	
	A1SY80	RY40PT5P		ERNT-ASQTY80	
Input	A1SX81	RX41C4, RX41C6HS, RX71C4		ERNT-ASLCXY81	32 points
	A1SX81-S2	RX41C4, RX41C6HS			
Output	A1SY81	RY41PT1P			
	A1SY81EP				

For input/output modules <2-slot type>

Input/Output	Module model		Note	Conversion adapter	
	Before replacement	After replacement		Model	No. of input/output points
Input	A1SX20	RX28 × 2 modules	-	ERNT-2AR20X NEW	16 points
	A1SX20EU				

For analog modules <1-slot type>

Input/Output	Module model		Note	Conversion adapter	
	Before replacement	After replacement		Model	No. of channels
Input	A1S64AD	R60AD4	-	ERNT-ASQT64AD	4CH
	A1S68AD (Voltage input)	R60ADV8		ERNT-ASQT68AD	8CH
	A1S68AD (Current input)	R60ADI8			
	A1S68AD (Voltage/Current mixed input)	R60AD8-G		ERNT-2AR68AG NEW	
Output	A1S62DA	R60DA4		ERNT-ASQT62DA	2CH
	A1S68DAV	R60DAV8		ERNT-ASQT68DA	8CH
	A1S68DAI	R60DAI8			

For high-speed counter modules <1-slot type>

Module model		Note	Conversion adapter	
Before replacement	After replacement		Model	No. of channels
A1SD61	RD62P2	-	ERNT-ASLTD61	1CH
A1SD62	RD62P2		ERNT-ASLTD62	2CH
A1SD62E	RD62P2E			
A1SD62D	RD62D2		ERNT-2AR62DD NEW	

For temperature input modules <1-slot type>

Module model		Note	Conversion adapter	
Before replacement	After replacement		Model	No. of channels
A1S68TD	R60TD8-G	-	ERNT-2AR68TD NEW	8CH
A1S62RD3(N)	R60RD8-G		ERNT-2AR62RD NEW	2CH

For temperature control modules <1-slot type>

Module model		Note	Conversion adapter	
Before replacement	After replacement		Model	No. of channels
A1S64TCTT-S1	R60TCTRT2TT2	-	ERNT-2AR64TT NEW	4CH
A1S64TCTRT (Standard control, thermocouple)				
A1S62TCTT-S2			ERNT-2AR62TT NEW	2CH
A1S64TCTRT (Heating-cooling control, thermocouple)				
A1S64TCRT-S1	R60TCRT4		ERNT-2AR64TR NEW	4CH
A1S64TCTRT (Standard control, platinum resistance thermometer)				
A1S62TCRT-S2			ERNT-2AR62TR NEW	2CH
A1S64TCTRT (Heating-cooling control, platinum resistance thermometer)				

For temperature control modules <1-slot type + disconnection detector connector conversion cable>

Module model		Note	Conversion adapter	
Before replacement	After replacement		Model	No. of channels
A1S64TCTTBW-S1	R60TCTRT2TT2BW	-	ERNT-2AR64TT1BW NEW	4CH
A1S64TCTRTBW (Standard control, thermocouple)				
A1S62TCTTBW-S2			ERNT-2AR62TT1BW NEW	2CH
A1S64TCTRTBW (Heating-cooling control, thermocouple)				
A1S64TCRTBW-S1	R60TCRT4BW		ERNT-2AR64TR1BW NEW	4CH
A1S64TCTRTBW (Standard control, platinum resistance thermometer)				
A1S62TCRTBW-S2			ERNT-2AR62TR1BW NEW	2CH
A1S64TCTRTBW (Heating-cooling control, platinum resistance thermometer)				

(2) Base adapter

Type	Base unit model		Note	Base adapter model
	Before replacement	After replacement		
Main base unit	A1S38B	R38B	-	**ERNT-ASQB38N**
	A1S38HB			
	A1S38HBEU			
	A1S35B	R35B		**ERNT-ASQB35N**
	A1S33B	N/A		-
	A1S32B	N/A		-
	A1SJCPU	R35B		**ERNT-ASQB00JN**
	A1SJCPU-S3			
	A1SJHCPU			
Extension base unit	A1S68B	R68B		**ERNT-ASQB68N**
	A1S65B	R65B		**ERNT-ASQB65N**
	A1S58B	R68B	*1	**ERNT-ASQB58N**
	A1S55B	N/A	-	-
	A1S52B	N/A	-	-

* 1: Since base units without a power supply do not exist in the MELSEC iQ-R series, the base unit model after replacement is the extension base unit with power supply.

Product Overview

This upgrade tool consists of a “conversion adapter”, “base adapter”, and “conversion adapter support flange” that are used to replace the existing wiring of the terminal blocks and connectors connected to the input/output modules of the OMRON SYSMAC C series (large type) with the wiring of the input/output modules of the Mitsubishi programmable controller MELSEC iQ-R series. Replacement is made easy through the use of a “program converter”.

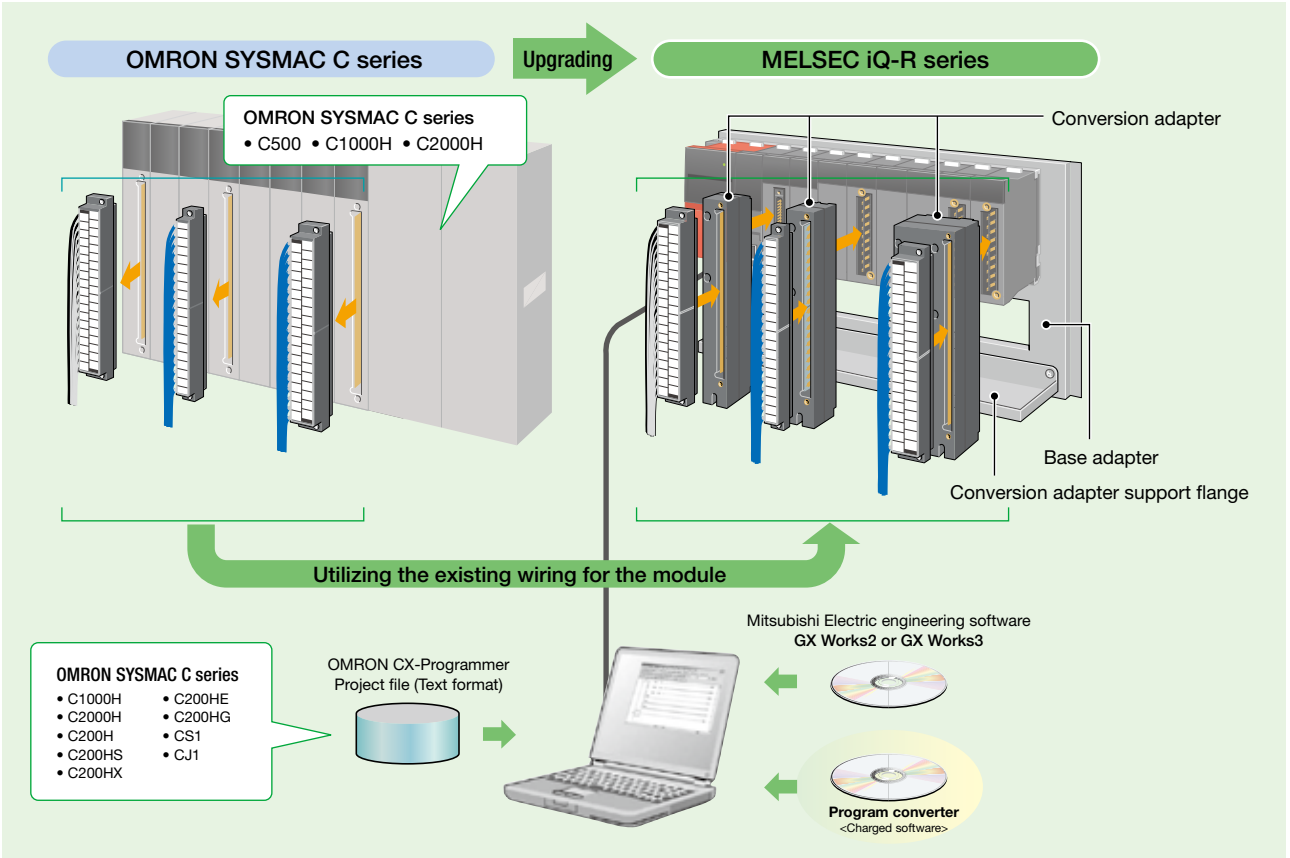
Features

Significant reduction in man-hours

- The wiring of the terminal blocks and connectors connected to the existing input/output modules can be used as is even after replacement.
- Man-hours for checking the wiring after replacement can be reduced.

Space saving

Since the conversion adapter is directly mounted to the MELSEC iQ-R series module, installation space can be reduced.



Model List

(1) Conversion adapter

For input/output modules <1-slot type>

Input/ Output	Module model		Note	Conversion adapter	
	Before replacement	After replacement		Model	No. of input/output points
Input	C500-IA121	RX10	-	ERNT-1CR121X221Y NEW	16 points
	C500-ID213	RX40C7, RX70C4			
	C500-IM211				
	C500-ID112	RX70C4			
Output	C500-OC221	RY10R2			
	C500-OA121	RY20S6			
	C500-OA222				
	C500-OA226				
	C500-OD219	RY40NT5P	*1	ERNT-1CR219Y411Y NEW	
	C500-OD217				
	C500-OD411				
Input	C500-ID215	RX41C4, RX41C6HS, RX71C4	-	ERNT-1CR215X218X NEW	32 points
	C500-ID218				
	C500-IM212				
Output	C500-OD412	RY41NT2P, RY41NT2H	*2	ERNT-1CR412Y414Y NEW	
	C500-OD414				
	C500-OD218		-		
Input	C500-ID219	RX41C4 × 2 modules, RX41C6HS × 2 modules	*3	ERNT-2CR216X218X × 2 modules NEW	64 points
	C500-ID114	RX71C4 × 2 modules			
Output	C500-OD213	RY41NT2P × 2 modules	*3, 4	ERNT-2CR218Y × 2 modules NEW	

* 1: 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). However, since this replacement will slow down the response speed, check the specifications of the existing module.
* 2: If the specifications of the current of the existing module is not satisfied when the module is replaced with the RY41NT2P/RY41NT2H, consider replacing the module with two transistor output modules (RY40NT5P) and the conversion adapter (ERNT-1CR218Y). However, in that case, it is necessary to supply power to terminal number A18.
* 3: When replacing the existing module with two MELSEC iQ-R series modules using two conversion adapters, the mounting height of the existing wiring changes, so check the existing wiring length.
* 4: 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).

For input/output modules <2-slot type>

Input/ Output	Module model		Note	Conversion adapter	
	Before replacement	After replacement		Model	No. of input/output points
Input	C500-IA122	RX10 × 2 modules	-	ERNT-1CR122X224Y NEW	32 points
Output	C500-OC224	RY10R2 × 2 modules			
	C500-OA223	RY20S6 × 2 modules			
	C500-OA225				
	C500-OD412	RY40NT5P × 2 modules	*5	ERNT-1CR218Y NEW	
	C500-OD414		-		
	C500-OD218				

* 5: When replacing the C500-OD412, it is necessary to supply power to terminal number A18.

(2) Base adapter

Type	Base unit model		Note	Base adapter model	Conversion adapter support flange model
	Before replacement	After replacement			
Main base unit	C500-BC081/082/091 C2000-BC061	R312B	-	ERNT-CQB081N NEW	ERNT-1CR12F/1CR8F
		R38B			ERNT-1CR8F
Extension base unit	C500-BI081 C2000-BI083	R612B			ERNT-1CR12F/1CR8F
		R68B			ERNT-1CR8F
Main base unit	C500-BC051/052/061	R38B		ERNT-CQB051N NEW	ERNT-1CR8F/1AR5F
		R35B			ERNT-1AR5F
Extension base unit	C500-BI051	R68B			ERNT-1CR8F/1AR5F
		R65B	*6		ERNT-1AR5F
Main base unit	C500-BC031	R35B	-	ERNT-CQB031N NEW	ERNT-1AR5F

* 6: Since base units without a power supply do not exist in the MELSEC iQ-R series, the model here is the extension base unit with a power supply after replacement.

(3) Conversion adapter support flange

Model	Note	Description	Remarks
ERNT-1CR12F NEW	-	For 12 slots	When using a conversion adapter, the conversion adapter support flange is required.
ERNT-1CR8F NEW		For 8 slots	
ERNT-1AR5F		For 5 slots	

Product Overview

This upgrade tool is a “conversion adapter” that is used to replace the existing wiring of the connectors connected to the input/output modules of the OMRON SYSMAC C series (small type) with the wiring of the input/output modules of the Mitsubishi programmable controller MELSEC iQ-R series.
Replacement is made easy through the use of a “program converter”.

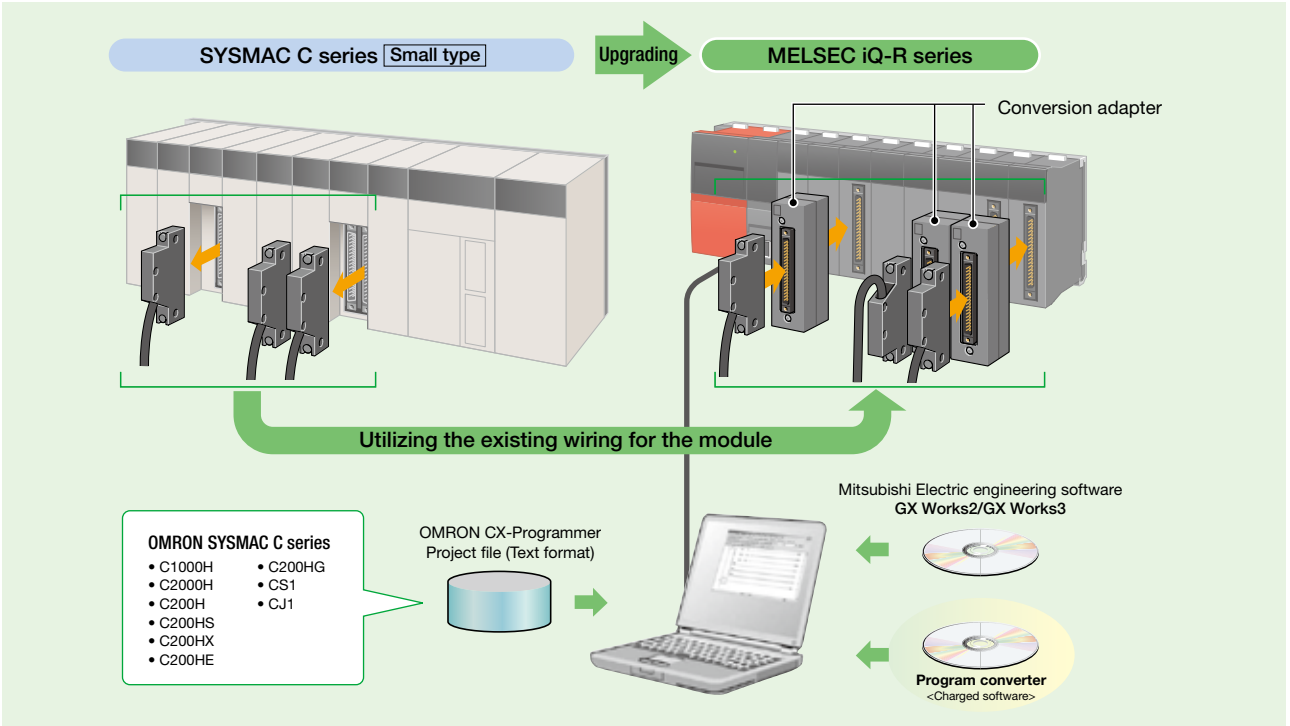
Features

Significant reduction in man-hours

- The wiring of the connectors connected to the existing input/output modules can be used as is even after replacement.
- Man-hours for checking the wiring after replacement can be reduced.

Space saving

Since the conversion adapter is directly connected to the MELSEC iQ-R series module, installation space can be reduced.



Model List

(1) Conversion adapter

For input/output modules Replacement of C200H series <1-slot type>

Input/ Output	Module model		Note	Conversion adapter	
	Before replacement	After replacement		Model	No. of input/output points
Input	C200H-ID216	RX41C4, RX41C6HS	-	**ERNT-2CR216X218X** NEW	32 points
	C200H-ID218				
	C200H-ID217	RX41C4 × 2 modules, RX41C6HS × 2 modules		**ERNT-2CR216X218X × 2 modules** NEW	64 points
	C200H-ID219				
	C200H-ID111	RX71C4 × 2 modules			
Output	C200H-OD218	RY41NT2P		**ERNT-2CR218Y** NEW	32 points
	C200H-OD21B	RY41PT1P			
	C200H-OD219	RY41NT2P × 2 modules		**ERNT-2CR218Y × 2 modules** NEW	64 points

For input/output modules Replacement of CS series <1-slot type>

Input/ Output	Module model		Note	Conversion adapter	
	Before replacement	After replacement		Model	No. of input/output points
Input	CS1W-ID231	RX41C4, RX41C6HS	-	**ERNT-2CR216X218X** NEW	32 points
	CS1W-MD261 (Input side)				
	CS1W-MD262 (Input side)				
	CS1W-MD561 (Input side)	RX61C6HS RX71C4			
	CS1W-ID261	RX41C4 × 2 modules, RX41C6HS × 2 modules		**ERNT-2CR216X218X × 2 modules** NEW	64 points
Output	CS1W-OD231	RY41NT2P		**ERNT-2CR218Y** NEW	32 points
	CS1W-MD261 (Output side)				
	CS1W-OD232	RY41PT1P	*1		
	CS1W-MD262 (Output side)		-		
	CS1W-OD261	RY41NT2P × 2 modules		**ERNT-2CR218Y × 2 modules** NEW	64 points
	CS1W-OD262	RY41PT1P × 2 modules			

* 1: 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).

For input/output modules Replacement of CQM1 series <1-slot type>

Input/ Output	Module model		Note	Conversion adapter	
	Before replacement	After replacement		Model	No. of input/output points
Input	CQM1-ID213	RX41C4, RX41C6HS	-	**ERNT-2CR216X218X** NEW	32 points
	CQM1-ID214				
	CQM1-ID112	RX71C4			
Output	CQM1-OD213	RY41NT2P	*2	**ERNT-2CR218Y** NEW	
	CQM1-OD216	RY41PT1P	-		

* 2: When using the power supply of the existing module at 5V, consider replacing the module with the high-speed output module (RY41NT2H).

Product Overview

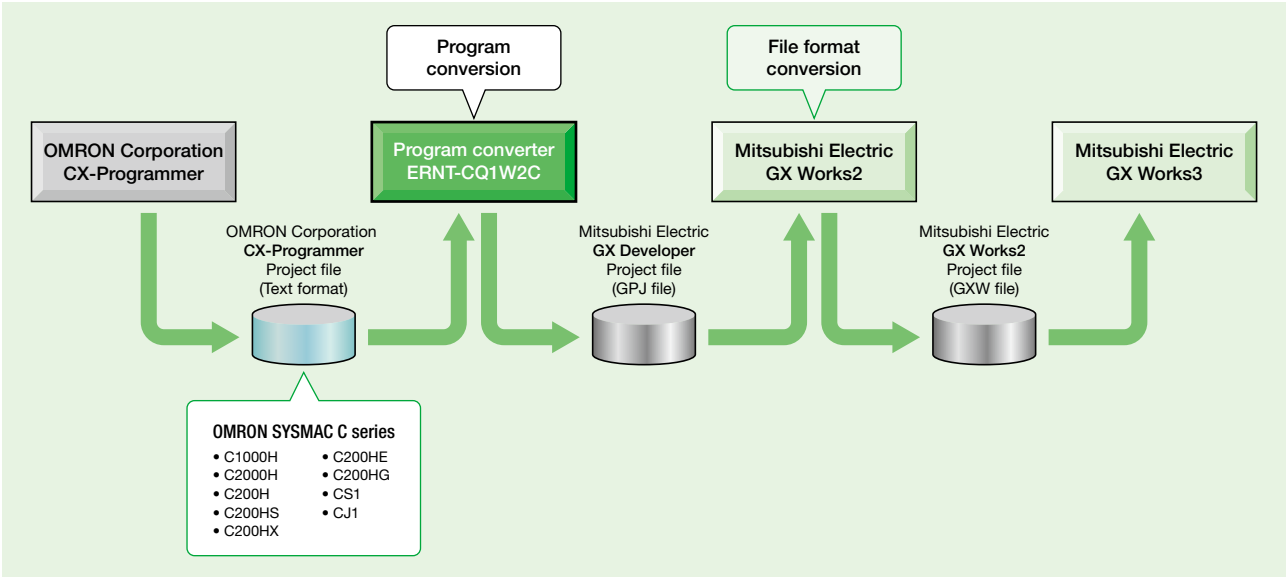
This upgrade tool is a “program converter” that is used to convert a sequence program of the OMRON SYSMAC C series into a sequence program of the Mitsubishi programmable controller MELSEC iQ-R series.

Features

Significant reduction in man-hours for creating sequence programs

- Most of the sequence programs of the existing PLCs can be converted into sequence programs of the MELSEC iQ-R series.
- Errors occur for instructions that cannot be converted, making it easy to find the places that need to be modified.

Conversion Flow



Program converter (ERNT-CQ1W2C)

Specifications

<Conversion ratio>

- C1000H/2000H/200H series conversion ratios

Sequence program instruction classification			Conversion ratio				
			Simple comparison			Instruction usage ratio*1	Program conversion ratio
			No. of instructions	No. of convertible instructions	Conversion ratio		
Sequence instruction	Basic instruction		17	17	100%	51%	51%
	Timer/counter		4	3	75%	3%	2%
Data instruction	Transfer instruction		9	7	78%	25%	19%
	Arithmetic and function instructions		17	15	88%	8%	7%
	Comparison logical instructions		10	7	70%	6%	4%
	Other	Special module step ladder block instruction	22	0	29%	7%	2%
		Other than the above	46	20			
Total			125	69	55%	100%	86%

- C200HS series conversion ratio

Sequence program instruction classification			Conversion ratio				
			Simple comparison			Instruction usage ratio*1	Program conversion ratio
			No. of instructions	No. of convertible instructions	Conversion ratio		
Sequence instruction	Basic instruction		20	20	100%	51%	51%
	Timer/counter		5	5	100%	3%	3%
Data instruction	Transfer instruction		10	7	70%	25%	18%
	Arithmetic and function instructions		50	33	66%	8%	5%
	Comparison logical instructions		16	10	63%	6%	4%
	Other	Special module step ladder block instruction	9	0	27%	7%	2%
		Other than the above	28	10			
Total			138	85	62%	100%	82%

- C200HX/HG/HE series conversion ratio

Sequence program instruction classification			Conversion ratio				
			Simple comparison			Instruction usage ratio*1	Program conversion ratio
			No. of instructions	No. of convertible instructions	Conversion ratio		
Sequence instruction	Basic instruction		22	22	100%	51%	51%
	Timer/counter		5	5	100%	3%	3%
Data instruction	Transfer instruction		13	9	69%	25%	17%
	Arithmetic and function instructions		78	49	63%	8%	5%
	Comparison logical instructions		40	22	55%	6%	3%
	Other	Special module step ladder block instruction	13	0	23%	7%	2%
		Other than the above	31	10			
Total			202	117	58%	100%	81%

- C200HX/HG/HE series conversion ratio

Sequence program instruction classification			Conversion ratio				
			Simple comparison			Instruction usage ratio*1	Program conversion ratio
			No. of instructions	No. of convertible instructions	Conversion ratio		
Sequence instruction	Basic instruction		55	54	98%	51%	50%
	Timer/counter		22	18	82%	3%	2%
Data instruction	Transfer instruction		15	11	73%	25%	18%
	Arithmetic and function instructions		193	124	64%	8%	5%
	Comparison logical instructions		54	27	50%	6%	3%
	Other	Special module step ladder block instruction	97	7	15%	7%	1%
		Other than the above	54	15			
Total			490	256	52%	100%	80%

* 1: The instruction usage ratio is the percentage (ratio) of use of sequence instructions and data instructions in all programs.

<Usage Precautions>

Use version 1.73B or later of the Mitsubishi Electric engineering software, GX Works2.
When the version of GX Works2 used is 1.70Y or earlier, update to the latest version.

<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 x 600 pixels or higher
Installable basic software (OS)		Microsoft® Windows® 7 Home (Japanese) Microsoft® Windows® 7 Professional (Japanese) Microsoft® Windows® 8.1 Home (Japanese) Microsoft® Windows® 8.1 Professional Microsoft® Windows® 10 Home Microsoft® Windows® 10 Professional Microsoft® Windows® 10 Enterprise Microsoft® Windows® 10 Education

The following tools are required to execute program conversion.
(1) OMRON support software for PLC: CX-Programmer version 3.1 or later
(2) Mitsubishi Electric engineering software: GX Works2 or GX Works3

Memo

Sharp New Satellite JW series Large type

MELSEC iQ-R series

Product Overview

This upgrade tool consists of a “conversion adapter” and “conversion adapter support flange” that are used to replace the existing wiring of the terminal blocks and connectors connected to the input/output modules of the Sharp New Satellite JW series (large type) with the wiring of the input/output modules of the Mitsubishi programmable controller MELSEC iQ-R series.

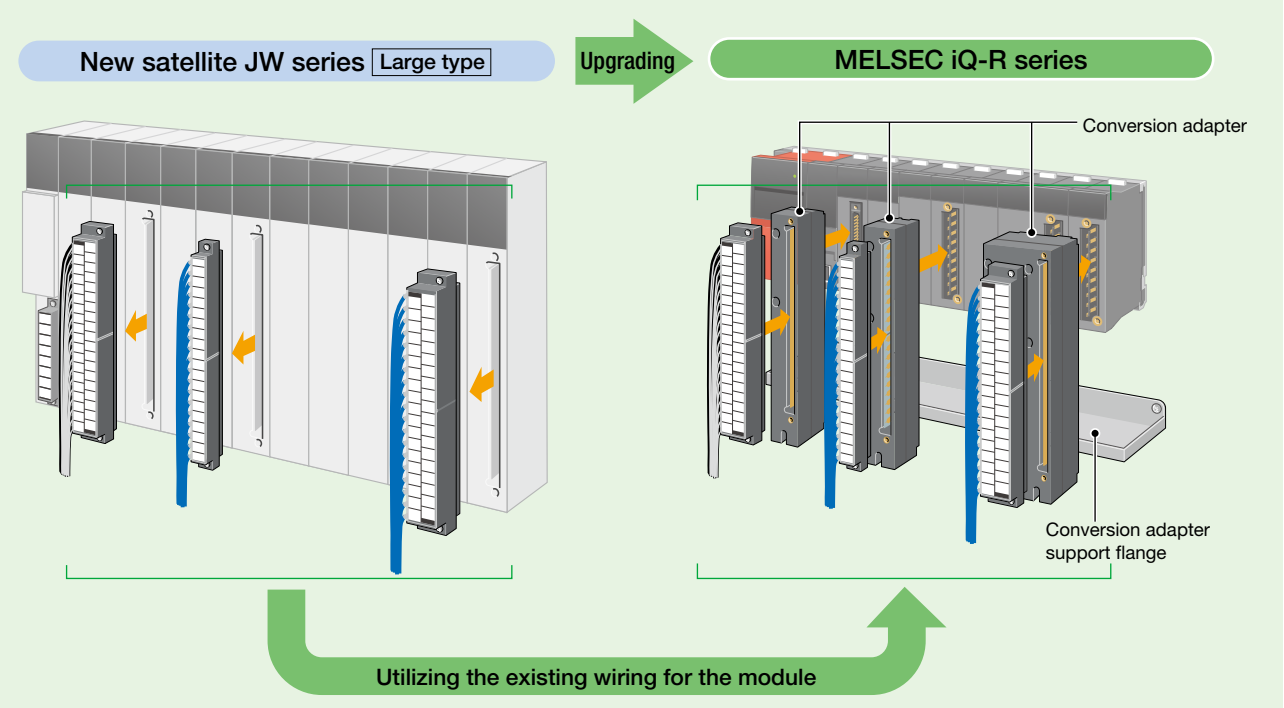
Features

Significant reduction in man-hours

- The wiring of the terminal blocks and connectors connected to the existing input/output modules can be used as is even after replacement.
- Man-hours for checking the wiring after replacement can be reduced.

Space saving

Since the conversion adapter is directly mounted to the MELSEC iQ-R series module, installation space can be reduced.



Model List

(1) Conversion adapter

For input/output modules <1-slot type>

Input/Output	Module model		Note	Conversion adapter	
	Before replacement	After replacement		Model	No. of input/output points
Input	JW-11N	RX10	-	**ERNT-1JR11N13S** NEW	16 points
	JW-12N	RX40C7, RX70C4			
Output	JW-13S	RY20S6	*1		
	JW-12S	RY40NT5P	-	**ERNT-1JR12S** NEW	
Input	JW-32N	RX41C4, RX41C6HS, RX71C4		**ERNT-1JR32N34N** NEW	32 points
	JW-34N				
	JW-34NC			**ERNT-2JR234N264N** NEW	
Output	JW-32S	RY41NT2P, RY41NT2H		**ERNT-1JR32S** NEW	
	JW-32SC	RY41NT2H		**ERNT-2JR232S262S** NEW	
Input	JW-64NC	RX41C4 × 2 modules, RX41C6HS × 2 modules, RX71C4 × 2 modules	*2	**ERNT-2JR234N264N × 2 modules** NEW	64 points
Output	JW-62SC	RY41NT2H × 2 modules		**ERNT-2JR232S262S × 2 modules** NEW	

* 1: 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).
However, since this replacement will slow down the response speed, check the specifications of the existing module.
* 2: When replacing the existing module with two MELSEC iQ-R series modules using two conversion adapters, the mounting height of the existing wiring changes, so check the existing wiring length.

For input/output modules <2-slot type>

Input/Output	Module model		Note	Conversion adapter	
	Before replacement	After replacement		Model	No. of input/output points
Input	JW-31N	RX10 × 2 modules	-	**ERNT-1JR31N34S** NEW	32 points
Output	JW-34S	RY10R2 × 2 modules			
	JW-33S	RY20S6 × 2 modules		**ERNT-1JR33S** NEW	

(2) Conversion adapter support flange

Model	Note	Description	Remarks
ERNT-1AR12F	-	For 12 slots	When using a conversion adapter, the conversion adapter support flange is always required.
ERNT-1AR8F		For 8 slots	
ERNT-1AR5F		For 5 slots	

Product Overview

This upgrade tool is a “conversion adapter” that is used to replace the existing wiring of the terminal blocks and connectors connected to the input/output modules of the Sharp New Satellite JW series (small type) with the wiring of the input/output modules of the Mitsubishi programmable controller MELSEC iQ-R series.

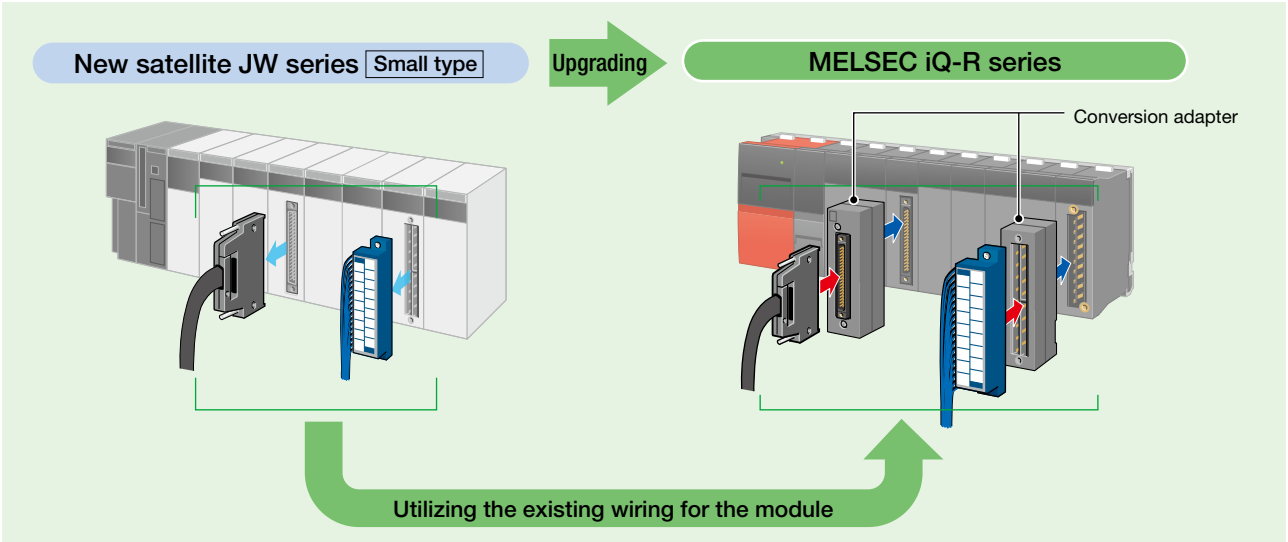
Features

Significant reduction in man-hours

- The wiring of the terminal blocks and connectors connected to the existing input/output modules can be used as is even after replacement.
- Man-hours for checking the wiring after replacement can be reduced.

Space saving

Since the conversion adapter is directly mounted to the MELSEC iQ-R series module, installation space can be reduced.



Model List

(1) Conversion adapter

For input/output modules <1-slot type>

Input/Output	Module model		Note	Conversion adapter	
	Before replacement	After replacement		Model	No. of input/output points
Input	JW-211N/211NA	RX10	-	**ERNT-2JQ210NS**	16 points
	JW-212N/212NA	RX40C7, RX70C4			
	JW-214N/214NA				
Output	JW-213S/213SA	RY20S6			
	JW-214S/214SA	RY10R2			
	JW-212S/212SA	RY40NT5P	*1	**ERNT-2JQ212S**	
Input	JW-234N	RX41C4, RX41C6HS, RX71C4	-	**ERNT-2JR234N264N** NEW	32 points
Output	JW-232S	RY41NT2H		**ERNT-2JR232S262S** NEW	
Input	JW-264N	RX41C4 × 2 modules, RX41C6HS × 2 modules		**ERNT-2JR234N264N × 2 modules** NEW	64 points
Output	JW-262S	RY41NT2H × 2 modules		**ERNT-2JR232S262S × 2 modules** NEW	

* 1: Additional 5/12/24VDC power supply to terminal numbers TB1 and TB2 of the external power supply connector is required.

YASKAWA MEMOCON GL series
Large type

MELSEC iQ-R series

Product Overview

This upgrade tool consists of a “conversion adapter” and “conversion adapter support flange” that are used to replace the existing wiring of the terminal blocks and connectors connected to the input/output modules of the YASKAWA MEMOCON GL series (large type) with the wiring of the input/output modules of the Mitsubishi programmable controller MELSEC iQ-R series.

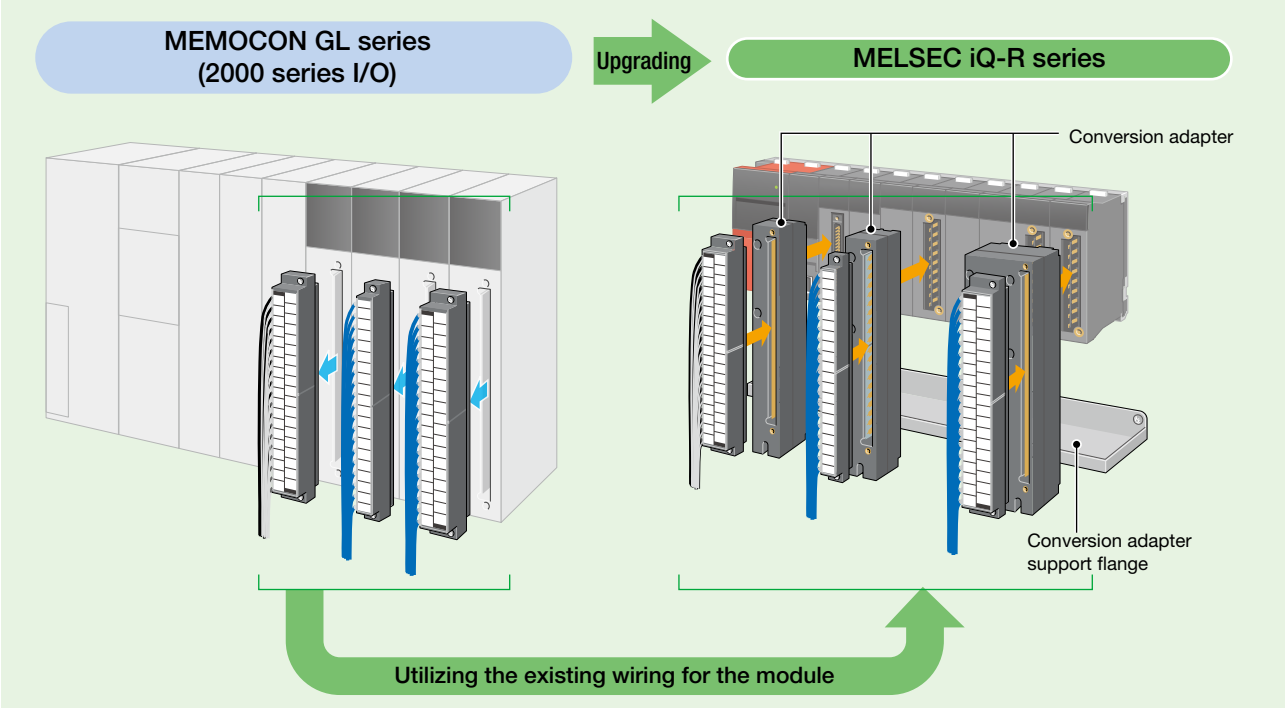
Features

Significant reduction in man-hours

- The wiring of the terminal blocks and connectors connected to the existing input/output modules can be used as is even after replacement.
- Man-hours for checking the wiring after replacement can be reduced.

Space saving

Since the conversion adapter is directly mounted to the MELSEC iQ-R series module, installation space can be reduced.



Model List

(1) Conversion adapter

For input/output modules <1-slot type>

Input/Output	Module model		Note	Conversion adapter	
	Before replacement	After replacement		Model	No. of input/output points
Input	JAMSC-B2501A	RX10	-	ERNT-1Y2R501500 NEW	16 points
	JAMSC-B2601	RX40C7, RX70C4			
Output	JAMSC-B2500	RY20S6			
	JAMSC-B2600	RY40NT5P		ERNT-1Y2R600 NEW	
Input	JAMSC-B2603	RX41C4, RX41C6HS, RX71C4		ERNT-1JR32N34N NEW	32 points
	JAMSC-B2607	RX61C6HS, RX71C4			
Output	JAMSC-B2602A	RY41NT2P, RY41NT2H		ERNT-1Y2R602606 NEW	
	JAMSC-B2606				
Input	JAMSC-B2605	RX41C4 × 2 modules, RX41C6HS × 2 modules, RX71C4 × 2 modules		ERNT-2Y2R615625 × 2 modules NEW	64 points
	JAMSC-B2615				
	JAMSC-B2625	RX61C6HS × 2 modules, RX71C4 × 2 modules			
Output	JAMSC-B2604	RY41NT2P × 2 modules		ERNT-2CR218Y × 2 modules NEW	

For input/output modules <2-slot type>

Input/Output	Module model		Note	Conversion adapter	
	Before replacement	After replacement		Model	No. of input/output points
Input	JAMSC-B2505A	RX10 × 2 modules	-	ERNT-1Y2R505 NEW	32 points
Output	JAMSC-B2504	RY20S6 × 2 modules		ERNT-1JR33S NEW	
	JAMSC-B2902	RY10R2 × 2 modules		ERNT-1JR31N34S NEW	
	JAMSC-B2904	RY18R2A × 2 modules		ERNT-1Y2R904914 NEW	16 points
	JAMSC-B2914				

(2) Conversion adapter support flange

Model	Note	Description	Remarks
ERNT-1AR12F	-	For 12 slots	When using a conversion adapter, the conversion adapter support flange is always required.
ERNT-1AR8F		For 8 slots	
ERNT-1AR5F		For 5 slots	

Product Overview

This upgrade tool is a “conversion adapter” that is used to replace the existing wiring of the connectors connected to the input/output modules of the YASKAWA MEMOCON GL series (small type) with the wiring of the input/output modules of the Mitsubishi programmable controller MELSEC iQ-R series.

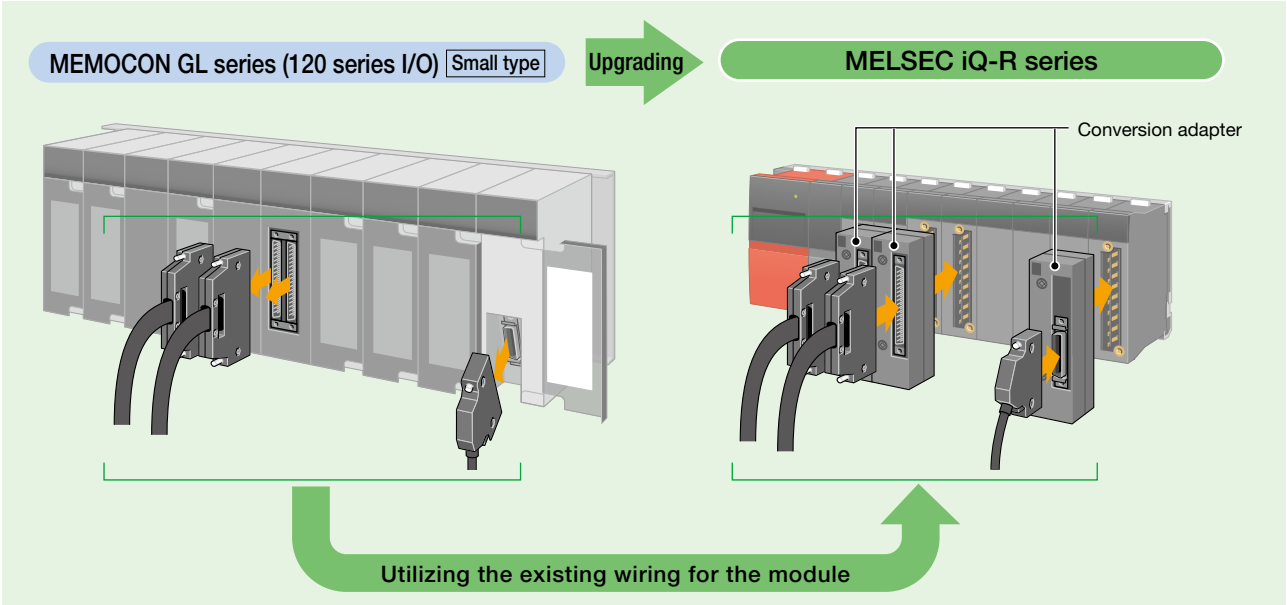
Features

Significant reduction in man-hours

- The wiring of the connectors connected to the existing input/output modules can be used as is even after replacement.
- Man-hours for checking the wiring after replacement can be reduced.

Space saving

Since the conversion adapter is directly mounted to the MELSEC iQ-R series module, installation space can be reduced.

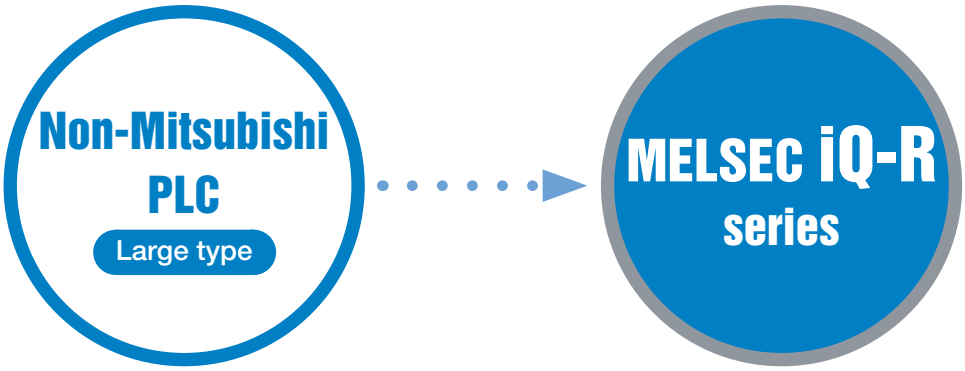


Model List

(1) Conversion adapter

For input/output modules <1-slot type>

Input/Output	Module model		Note	Conversion adapter	
	Before replacement	After replacement		Model	No. of input/output points
Input	JAMSC-120DDI35400	RX41C4 RX41C6HS RX71C4	-	**ERNT-2YR35400** NEW	32 points
	JAMSC-120DDI36400	RX41C4 × 2 modules RX41C6HS × 2 modules RX71C4 × 2 modules		**ERNT-2YR36400 × 2 modules** NEW	64 points
Output	JAMSC-120DDO35410	RY41NT2P		**ERNT-2YR35410** NEW	32 points
	JAMSC-120DDO36410	RY41NT2P × 2 modules		**ERNT-2YR36410 × 2 modules** NEW	64 points



Product Overview

This upgrade tool is a “universal conversion adapter” that is used as an alternative to the “dedicated conversion adapter” when replacing the input/output modules of a non-Mitsubishi PLC (large type) with the input/output modules of the Mitsubishi programmable controller MELSEC iQ-R series.

Features

No need to change solderless terminal size

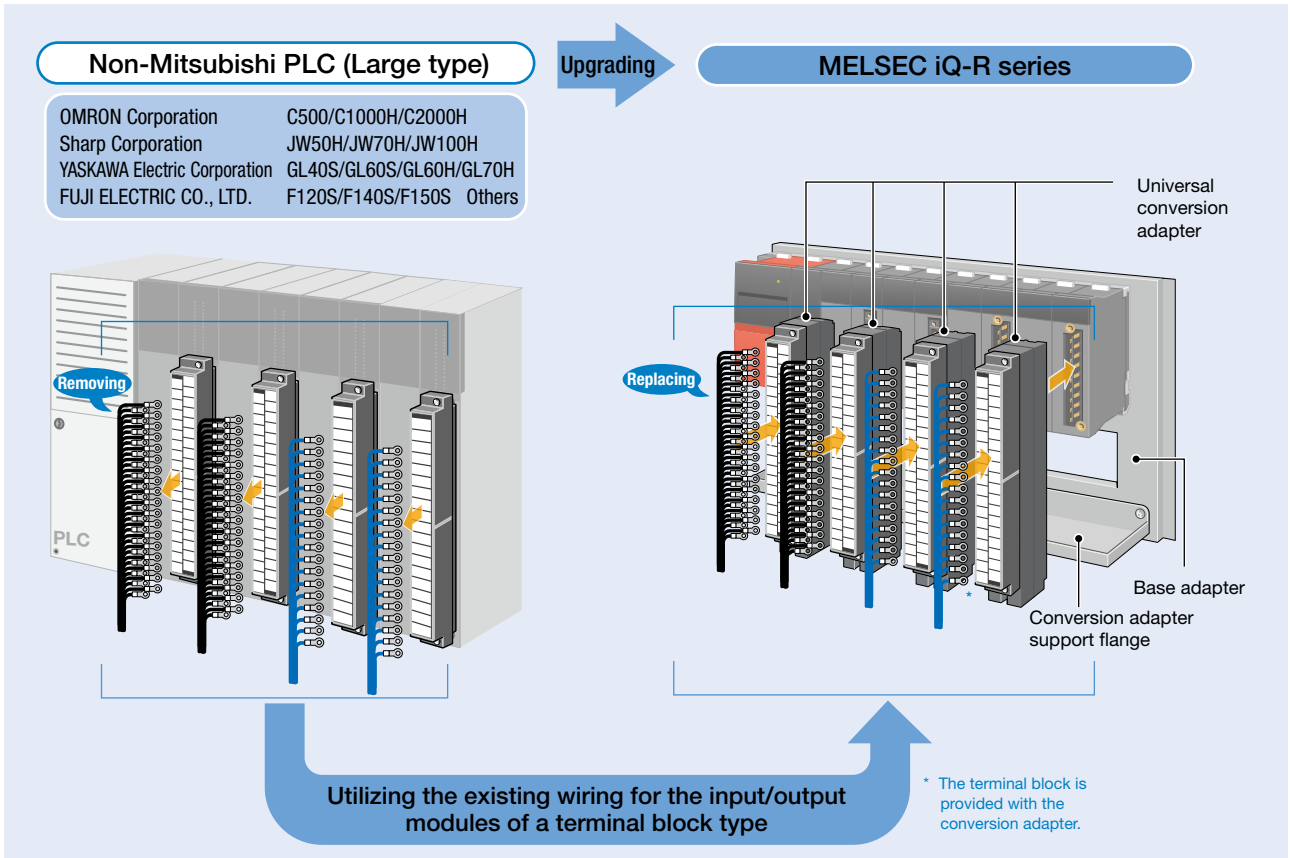
Even if the size of the solderless terminals connected to the terminal block of the input/output modules of the existing PLC does not match the terminal block of the MELSEC iQ-R series, rewiring can be completed without changing the size of the solderless terminals when the terminal block to be used is an accessory of the universal conversion adapter.

No need to newly fabricate connectors

Using the universal conversion adapter for conversion from the terminal block to the connector eliminates the need to newly fabricate connectors.

Space saving

Since the universal conversion adapter is directly mounted to the MELSEC iQ-R series module, installation space can be reduced.



Model List

(1) Universal conversion adapter (large type)

For input/output modules <1-slot type>

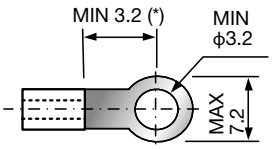
Input/Output	MELSEC iQ-R series module model	Note	Universal conversion adapter		
			Model	Shape	
				Terminal block provided as an accessory	MELSEC iQ-R series
Input	RX10	*1, 2	ERNT-AQTB20-S1	Terminal block (38 points)	Terminal block (18 points)
	RX28				
	RX40C7				
	RX40PC6H				
	RX40NC6H				
	RX70C4				
Output	RY10R2				
	RY18R2A				
	RY40NT5P				
	RY40PT5P				
	RY20S6				
Input	RX41C4	*2	ERNT-1AR38TB NEW	Terminal block (38 points)	FCN connector (40P)
	RX41C6HS				
	RX61C6HS				
	RX71C4				
Output	RY41NT2P				
	RY41PT1P				
	RY41NT2H				
	RY41PT2H				

* 1: The terminal block provided as an accessory is a 38-point terminal block, but only 18 points are used.
* 2: Check that the solderless terminal size satisfies the following conditions.

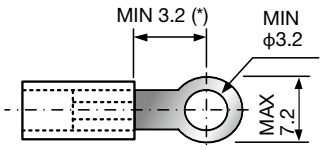
• Applicable solderless terminal

Unit: mm

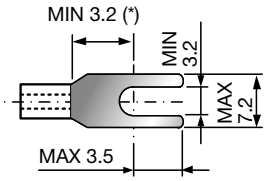
Non-insulated terminal (R type)



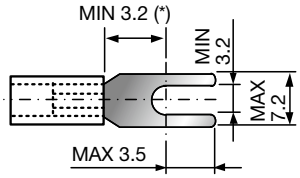
Insulated terminal (R type)



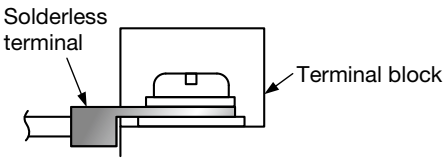
Non-insulated terminal (Y type)



Insulated terminal (Y type)

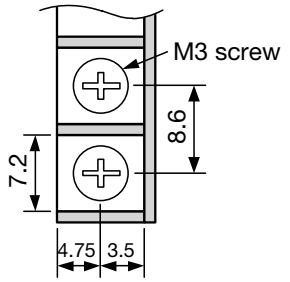


* Minimum dimension becomes “MIN 4.75” when a solderless terminal is installed upside down as shown in the right figure.



• Shape of terminal block

Unit: mm

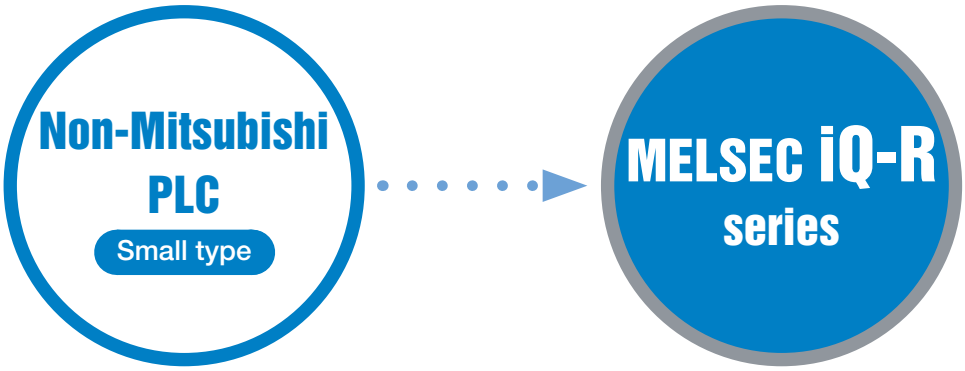


(2) Conversion adapter support flange (required)

Model	Note	Description	Remarks
ERNT-1AR12F	-	For 12 slots	When a universal conversion adapter (large type) is used, the conversion adapter support flange is always required.
ERNT-1AR8F		For 8 slots	
ERNT-1AR5F		For 5 slots	

(3) Base adapter (recommended)

The base adapter used is the same as the upgrade tool for the MELSEC-A series/MELSEC iQ-R series.
By using the base adapter, both the MELSEC iQ-R series base unit and the conversion adapter support flange can be installed at the same time without having to drill screw holes.



Product Overview

This upgrade tool is a “universal conversion adapter” that is used as an alternative to the “dedicated conversion adapter” when replacing the input/output modules of a non-Mitsubishi PLC (small type) with the input/output modules of the Mitsubishi programmable controller MELSEC iQ-R series.

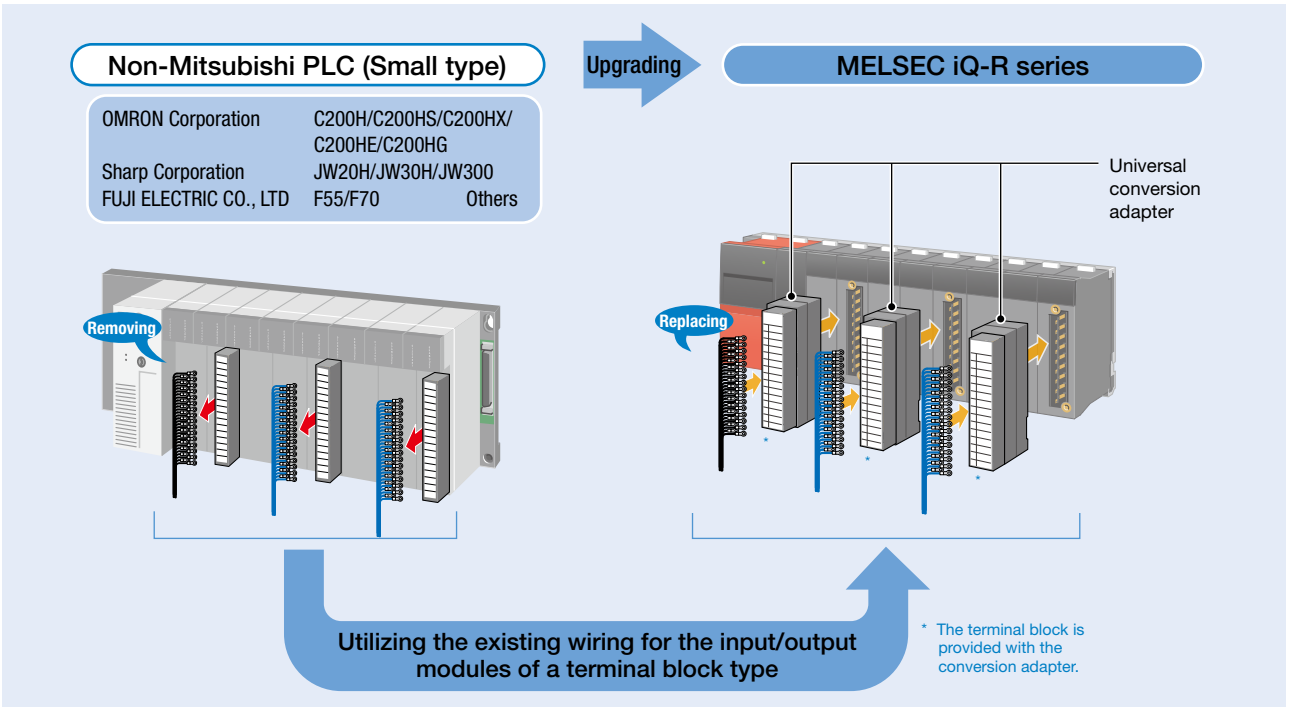
Features

No need to change solderless terminal size

Even if the size of the solderless terminals connected to the terminal block of the input/output modules of the existing PLC does not match the terminal block of the MELSEC iQ-R series, rewiring can be completed without changing the size of the solderless terminals when the terminal block to be used is an accessory of the universal conversion adapter.

Space saving

Since the universal conversion adapter is directly mounted to the MELSEC iQ-R series module, installation space can be reduced.



Model List

(1) Universal conversion adapter (small type)
For input/output modules <1-slot type>

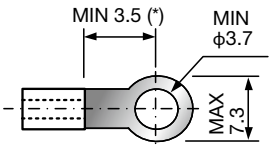
Input/Output	MELSEC iQ-R series module model	Note	Conversion adapter		
			Model	Shape	
				Terminal block provided as an accessory	MELSEC iQ-R series
Input	RX10	*1	ERNT-ASQTB20	Terminal block (20 points)	Terminal block (18 points)
	RX28				
	RX40C7				
	RX70C4				
	RX40PC6H				
	RX40NC6H				
Output	RY10R2				
	RY18R2A				
	RY20S6				
	RY40NT5P				
	RY40PT5P				

* 1: Check that the solderless terminal size satisfies the following conditions.

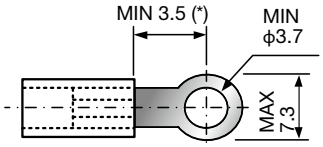
• Applicable solderless terminal

Unit: mm

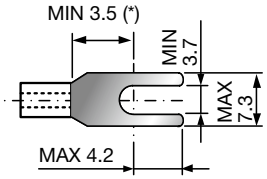
Non-insulated terminal (R type)



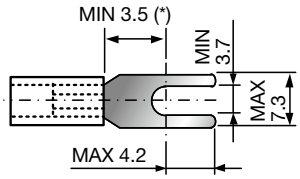
Insulated terminal (R type)



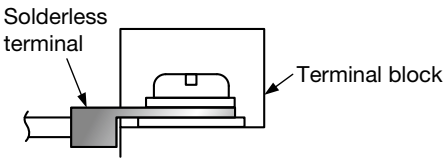
Non-insulated terminal (Y type)



Insulated terminal (Y type)

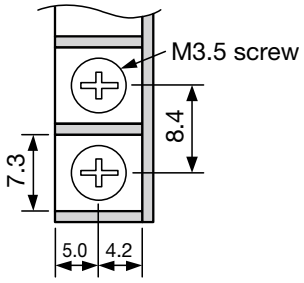


* Minimum dimension becomes “MIN 5.0” when a solderless terminal is installed upside down as shown in the right figure.



• Shape of terminal block

Unit: mm



■ Introduction of Listed Models

MELSEC-AnS Series/MELSEC iQ-R Series Upgrade Tool

Product name		Model	Overseas standard	
			UL	CE
Input/output module conversion adapter	1 slot	ERNT-ASQTXY10	Supported	Supported
		ERNT-ASQTX40	Supported	Supported
		ERNT-ASQTY22	Supported	Supported
		ERNT-ASQTY40	Supported	Supported
		ERNT-ASQTY50	Supported	Supported
		ERNT-ASQTY80	Supported	Supported
		ERNT-ASLCXY81	Supported	Supported
	2 slots	ERNT-2AR20X	Supported	Supported
Analog module conversion adapter	1 slot	ERNT-ASQT64AD	Supported	Supported
		ERNT-ASQT68AD	Supported	Supported
		ERNT-2AR68AG	Supported	Supported
		ERNT-ASQT62DA	Supported	Supported
		ERNT-ASQT68DA	Supported	Supported
High-speed counter module conversion adapter	1 slot	ERNT-2AR62DD	Supported	Supported
		ERNT-ASLTD61	Supported	Supported
		ERNT-ASLTD62	Supported	Supported
Temperature input conversion adapter	1 slot	ERNT-2AR68TD	Supported	Supported
		ERNT-2AR62RD	Supported	Supported
Temperature control module conversion adapter	1 slot	ERNT-2AR64TT	Supported	Supported
		ERNT-2AR64TR	Supported	Supported
		ERNT-2AR62TT	Supported	Supported
		ERNT-2AR62TR	Supported	Supported
Temperature control module conversion adapter (with disconnection detector connector conversion cable)	1 slot	ERNT-2AR64TT1BW	-	Supported
		ERNT-2AR64TR1BW	-	Supported
		ERNT-2AR62TT1BW	-	Supported
		ERNT-2AR62TR1BW	-	Supported
Base adapter		ERNT-ASQB38N	-	-
		ERNT-ASQB35N	-	-
		ERNT-ASQB00JN	-	-
		ERNT-ASQB68N	-	-
		ERNT-ASQB65N	-	-
		ERNT-ASQB58N	-	-

SYSMAC C Series/MELSEC iQ-R Series Upgrade Tool

Product name		Model	Overseas standard	
			UL	CE
Input/output module conversion adapter	1 slot	ERNT-1CR121X221Y	Supported	Supported
		ERNT-1CR219Y411Y	Supported	Supported
		ERNT-1CR215X218X	Supported	Supported
		ERNT-1CR412Y414Y	Supported	Supported
		ERNT-2CR216X218X	Supported	Supported
		ERNT-2CR218Y	Supported	Supported
	2 slots	ERNT-1CR122X224Y	Supported	Supported
		ERNT-1CR218Y	Supported	Supported
Base adapter		ERNT-CQB081N	Supported	Supported
		ERNT-CQB051N	Supported	Supported
		ERNT-CQB031N	Supported	Supported
Conversion adapter support flange		ERNT-1CR12F	-	-
		ERNT-1CR8F	-	-
		ERNT-1AR5F	-	-
Program converter		ERNT-CQ1W2C	-	-

Sharp JW Series/MELSEC iQ-R Series Upgrade Tool

Product name		Model	Overseas standard	
			UL	CE
Input/output module conversion adapter	1 slot	ERNT-1JR11N13S	-	Supported
		ERNT-1JR12S	-	Supported
		ERNT-1JR32N34N	-	Supported
		ERNT-1JR32S	-	Supported
		ERNT-2JQ210NS	-	Supported
		ERNT-2JQ212S	-	Supported
		ERNT-2JR234N264N	-	Supported
		ERNT-2JR232S262S	-	Supported
	2 slots	ERNT-1JR31N34S	-	Supported
		ERNT-1JR33S	-	Supported

YASKAWA MEMOCON GL Series/MELSEC iQ-R Series Upgrade Tool

Product name		Model	Overseas standard	
			UL	CE
Input/output module conversion adapter	1 slot	ERNT-1Y2R501500	-	Supported
		ERNT-1Y2R600	-	Supported
		ERNT-1Y2R602606	-	Supported
		ERNT-2Y2R615625	-	Supported
		ERNT-2YR36400	-	Supported
		ERNT-2YR36410	-	Supported
		ERNT-2YR35400	-	Supported
		ERNT-2YR35410	-	Supported
	2 slots	ERNT-1Y2R505	-	Supported
		ERNT-1Y2R904914	-	Supported

Non-Mitsubishi programmable controller/MELSEC iQ-R Series Upgrade Tool (Universal Conversion Adapter)

Product name		Model	Overseas standard	
			UL	CE
Input/output module conversion adapter	1 slot	ERNT-AQTB20-S1	-	Supported
		ERNT-1AR38TB	-	Supported
		ERNT-ASQTB20	-	Supported

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⚠ Before using this product, ensure the safety in case of failure.
We shall not bear any responsibility for consequential damages caused by failure of the product.

MEI C160E-191 (1905) MEE

New publication, effective May. 2019
Specifications are subject to change without notice.