

Production Discontinuation of the MELSEC-QS Series Safety Relay Modules

■Date of Issue

May 2023

■Relevant Models

QS90SR2SN-Q, QS90SR2SN-EX, QS90SR2SN-CC, QS90SR2SP-Q, QS90SR2SP-EX, QS90SR2SP-CC, QS90CBL-SE01, QS90CBL-SE15

Thank you for your continued support of Mitsubishi Electric safety programmable controllers, MELSEC-QS series. This technical bulletin informs you that production of the following MELSEC-QS series safety relay models will be discontinued.

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1 LIST OF MODELS TO BE DISCONTINUED

Product	Model
Q series safety relay module	QS90SR2SN-Q, QS90SR2SP-Q
CC-Link safety relay module	QS90SR2SN-CC, QS90SR2SP-CC
Extension safety relay module	QS90SR2SN-EX, QS90SR2SP-EX
Safety circuit part extension cable	QS90CBL-SE01, QS90CBL-SE15

2 SCHEDULE

Transition to made-to-order: March 29, 2024

Order acceptance: Until February 28, 2025

Production discontinuation: March 31, 2025

3 REASON FOR DISCONTINUATION

Some parts of the above products are now obsolete, and we will have difficulty to maintain our production system.

4 REPAIR SUPPORT

Repair support: Until March 31, 2032 (for seven years after the discontinuation of production)

5 LIST OF ALTERNATIVE MODELS

Please replace the models to be discontinued as follows.

Model to be discontinued		Alternative models		Remarks
Product	Model	MELSEC-WS series	MELSEC iQ-R series	
Q series safety relay module	QS90SR2SN-Q	<ul style="list-style-type: none"> • CPU module • CC-Link interface module • Safety I/O combined module (Or safety relay output module) 	<ul style="list-style-type: none"> • Base unit • Power supply module • Safety CPU (set product) • CC-Link IE TSN master/local module • CC-Link IE TSN remote I/O module 	The required modules differ depending on the series used. For the replacement examples, refer to the following. <ul style="list-style-type: none"> • Page 3 Replacement Overview • Page 7 Replacement Overview For the alternative models, refer to the following. <ul style="list-style-type: none"> • Page 4 Comparison of Configuration Before And After Replacement • Page 7 Comparison of Configuration Before And After Replacement
	QS90SR2SP-Q			
CC-Link safety relay module	QS90SR2SN-CC			
	QS90SR2SP-CC			
Extension safety relay module	QS90SR2SN-EX			
	QS90SR2SP-EX			
Safety circuit part extension cable	QS90CBL-SE01	None		These models are dedicated cables for safety relay modules, so there is no alternative model.
	QS90CBL-SE15			

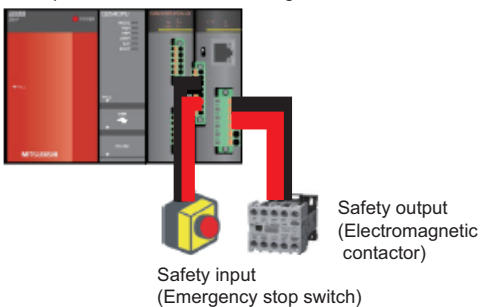
6 REPLACEMENT WITH THE MELSEC-WS SERIES

6.1 Replacement Overview

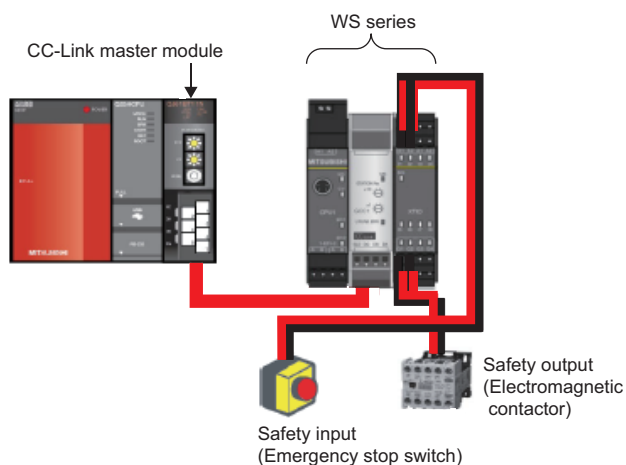
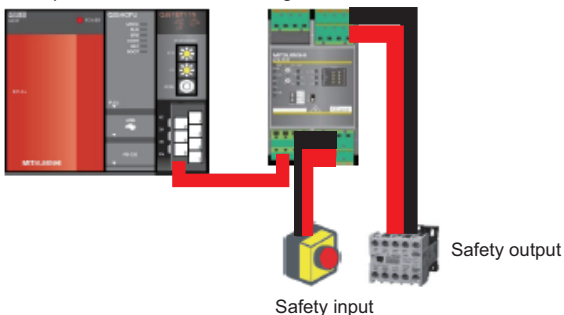
When replacing your modules with the MELSEC-WS series modules, follow the procedure below.

- (1) Add a Q series CC-Link master module (e.g. QJ61BT11N).
- (2) Add WS series modules (CPU module, CC-Link interface module, and safety I/O combined module).

Example of Q series module configuration



Example of CC-Link module configuration



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6.2 Replacement Procedure

When replacing your modules with the MELSEC-WS series modules, it is necessary to add some modules and to configure settings as follows.

For details, refer to the manuals listed in Chapter 8.

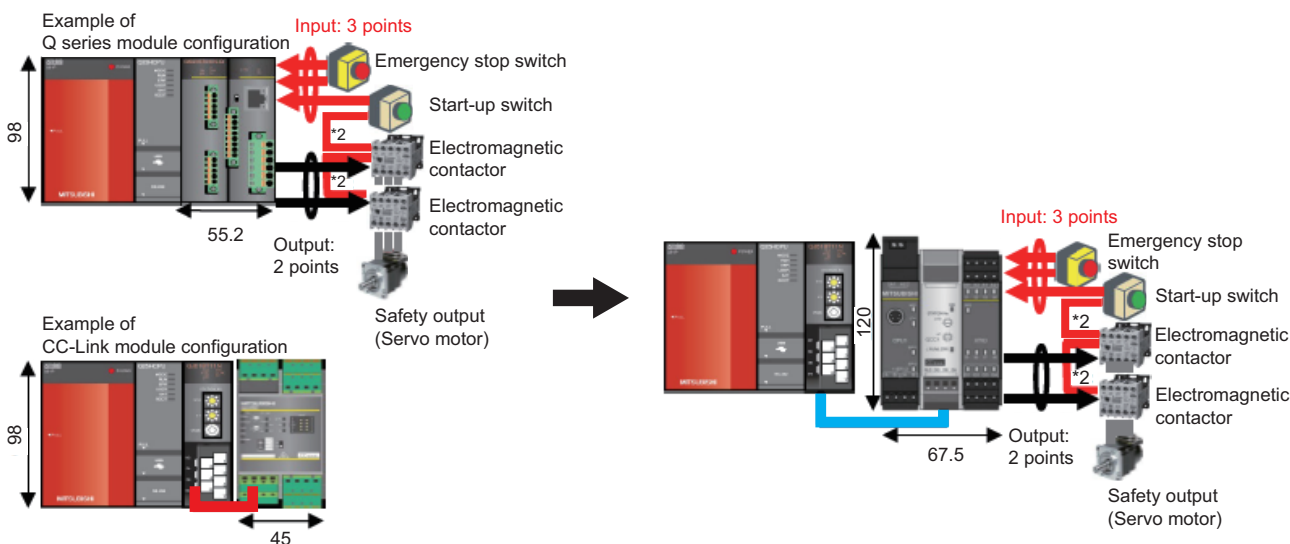
- (1) Add a Q series CC-Link master module (e.g. QJ61BT11N).^{*1}
- (2) Configure settings for the CC-Link master module using GX Works2.
- (3) Add MELSEC-WS series modules (CPU module, CC-Link interface module, and safety I/O combined module).
- (4) Create programs and configure settings using Setting and Monitoring Tool for the MELSEC-WS series.
- (5) Configure settings for the WS0-GCC100202.
- (6) Modify the ladder diagram in GX Work2 to monitor MELSEC-WS series modules.

^{*1} The module must be added when the Q series safety relay module is replaced.

6.3 Comparison of Configuration Before And After Replacement

The following shows the configuration comparison between the MELSEC-Q series and MELSEC-WS series.

Example for the MELSEC-Q series			⇒	Example for the MELSEC-WS series		
Module type		Model	⇒	Module type		Model
CPU module		Q25HCPU	⇒	CPU module		Q25HCPU
Power supply module		Q61P		Power supply module		Q61P
Base unit		Q33B		Base unit		Q33B
Q series	Safety relay module	QS90SR2SN-Q		CC-Link master module		QJ61BT11N ^{*1}
CC-Link	Safety relay module	QS90SR2SN-CC		WS0 CPU		WS0-CPU130202
	CC-Link master module	QJ61BT11N		WS0 CC-Link module		WS0-GCC100202
Electromagnetic contactor		SD-Q11		WS0 safety I/O combined module		WS0-XTIO84202
Engineering tool		GX Works2		Electromagnetic contactor		SD-Q11
				Engineering tool		Setting and Monitoring Tool








^{*1} The module must be added when the Q series safety relay module is replaced.

^{*2} Interlock for the start switch

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6.4 Comparison By Number of Modules Used Before And After Replacement

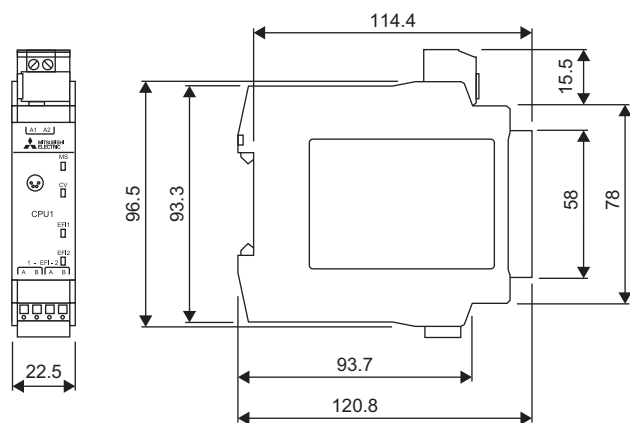
The following shows the configuration comparison between the MELSEC-Q series and MELSEC-WS series by the number of modules used.

Example for the MELSEC-Q series			⇒	Example for the MELSEC-WS series		
Configuration of safety relay module	QS90SR2SN-Q (Input: 2 points, Output: 2 points, Start-up switch: 1 point, Feedback: 1 point)	QS90SR2SN-EX (Input: 2 points, Output: 2 points, Start-up switch: 1 point, Feedback: 1 point)		WS0-CPU130202	WS0-GCC100202	WS0-XTIO (Input: 8 points, Output: 4 points)
Configuration with 1 module (No extension module)		—	⇒			
Configuration with 2 modules (Added 1 extension module)						
Configuration with 3 modules (Added 2 extension modules)						
Configuration with 4 modules (Added 3 extension modules)						

6.5 External Dimensions

Note that the MELSEC-WS series modules have different shapes from the MELSEC-Q series modules.

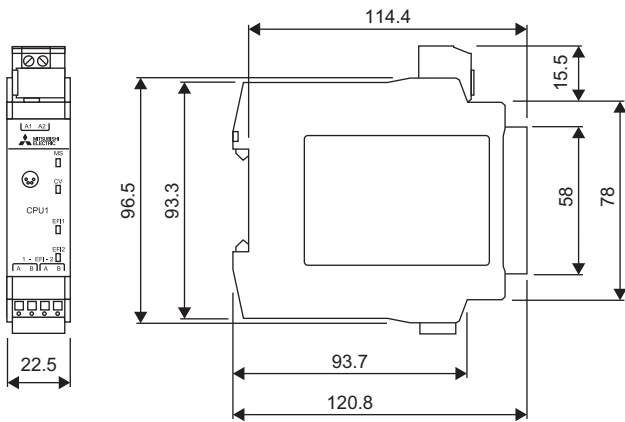
CPU module (WS0-CPU000200 or WS0-CPU130202)



(Unit: mm)

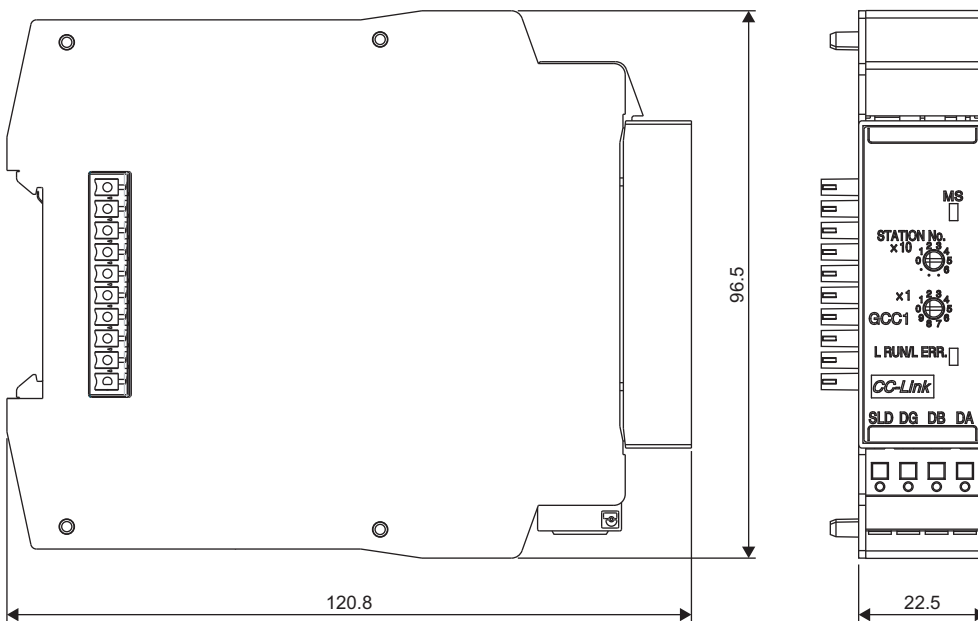
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CPU module (WS0-CPU320202)



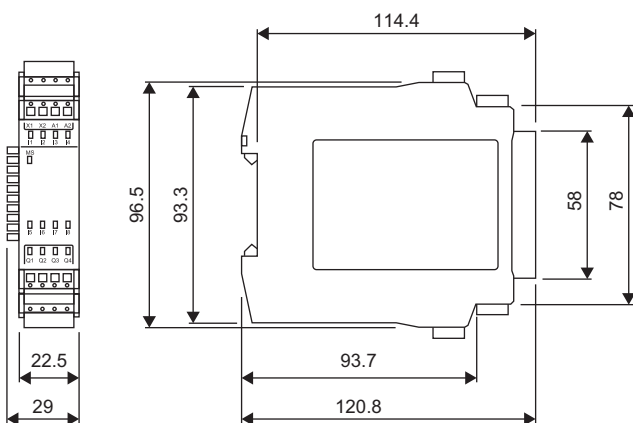
(Unit: mm)

CC-Link interface module (WS0-GCC100202)



(Unit: mm)

Safety I/O combined module (WS0-XTIO84202) or safety relay output module (WS0-4RO4002)



(Unit: mm)

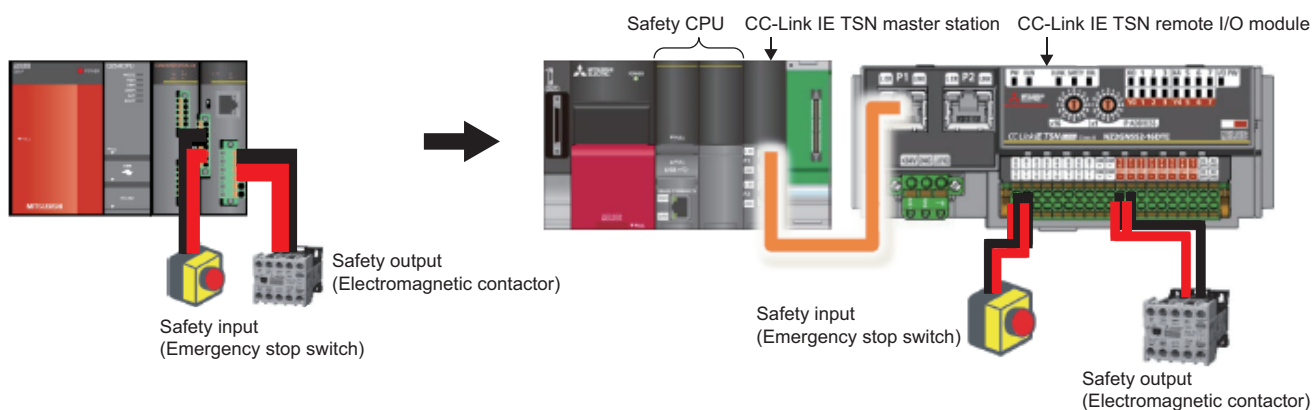
7 REPLACEMENT WITH THE MELSEC iQ-R SERIES

7.1 Replacement Overview

When replacing your modules with the MELSEC iQ-R series modules, follow the procedure below.

For details, refer to the manuals listed in Chapter 8.

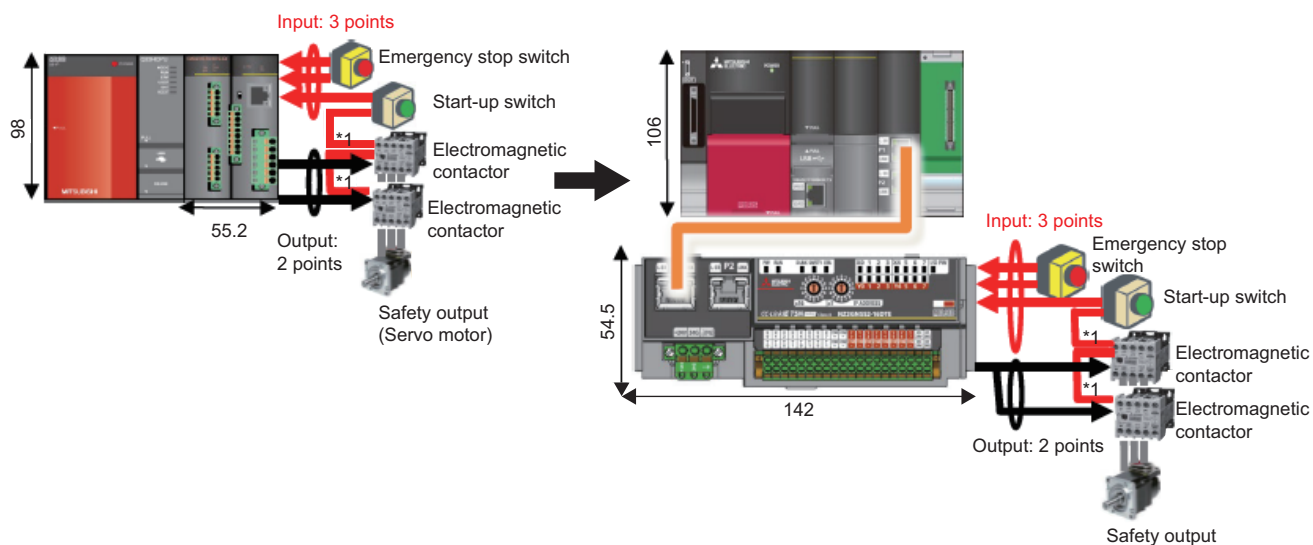
- (1) Change the entire system from the MELSEC-Q series to the MELSEC iQ-R series
- (2) Add a safety CPU module, CC-Link IE TSN master station, and CC-Link IE TSN remote I/O module.



7.2 Comparison of Configuration Before And After Replacement

The following shows the configuration comparison between the MELSEC-Q series and MELSEC iQ-R series.







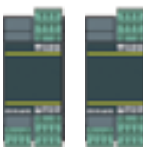


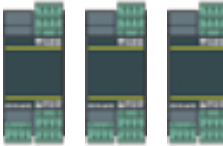

Example for the MELSEC-Q series		⇒	Example for the MELSEC iQ-R series	
Module type	Model	⇒	Module type	Model
CPU module	Q25HCPU	⇒	CPU module	R08SFCPU-SET
Power supply module	Q61P		Power supply module	R61P
Base unit	Q33B		Base unit	R35B
Safety relay module	QS90SR2SN-Q		CC-Link IE TSN master/local module	RJ71GN11-T2
Electromagnetic contactor	SD-Q11		CC-Link IE TSN remote I/O module	NZ2GNSS2-16DTE
Engineering tool	GX Works2		Electromagnetic contactor	SD-Q11
			Engineering tool	GX Works3



*1 Interlock for the start switch

7.3 Comparison By Number of Modules Used Before And After Replacement

The following shows the configuration comparison between the MELSEC-Q series and MELSEC iQ-R series according to the number of modules used.

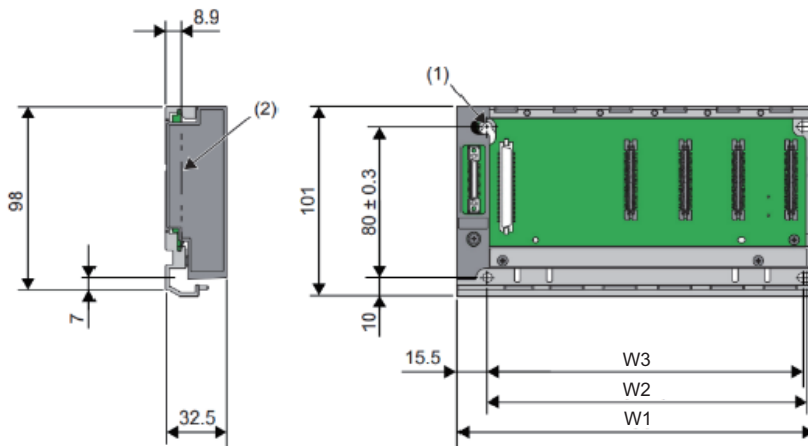
Example for the MELSEC-Q series			⇒	Example for the MELSEC iQ-R series
Configuration of safety relay module	QS90SR2SN-Q (Input: 2 points, Output: 2 points, Start-up switch: 1 point, Feedback: 1 point)	QS90SR2SN-EX (Input: 2 points, Output: 2 points, Start-up switch: 1 point, Feedback: 1 point)		NZ2GNSS2-16DTE (Input: 8 points, Output: 8 points)
Configuration with 1 module (No extension module)		—	⇒	
Configuration with 2 modules (Added 1 extension modules)				
Configuration with 3 modules (Added 2 extension modules)				
Configuration with 4 modules (Added 3 extension modules)				

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7.4 External Dimensions

Note that the MELSEC iQ-R series modules have different shapes from the MELSEC-Q series modules.

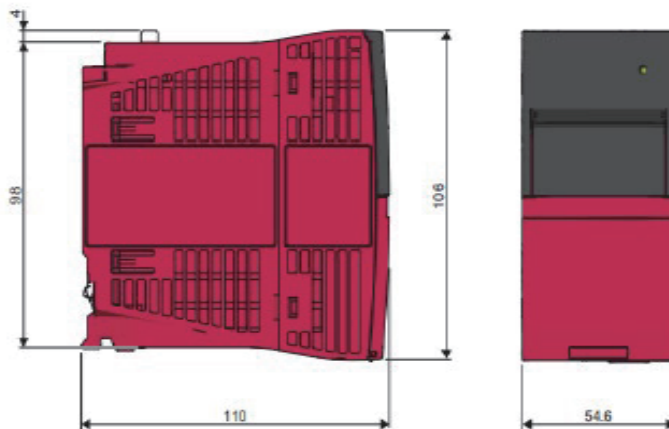
Base unit (R33B, R35B, R38B, R312B, or R310B-HT)



- (1) 4 installation screws (M4×14)
 - (2) Rear surface of module
- (Unit: mm)

Model	Product	W1	W2	W3
R33B	Main base unit	189	169	167±0.3
R35B		245	224.5	222.5±0.3
R38B		328	308	306±0.3
R312B		439	419	417±0.3
R310B-HT	Extended temperature range main base unit	439	419	417±0.3

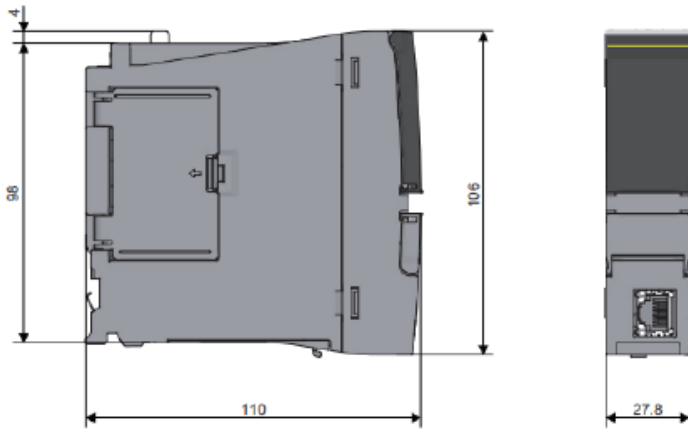
Power supply module (R61P, R62P, R63P, or R64P)



(Unit: mm)

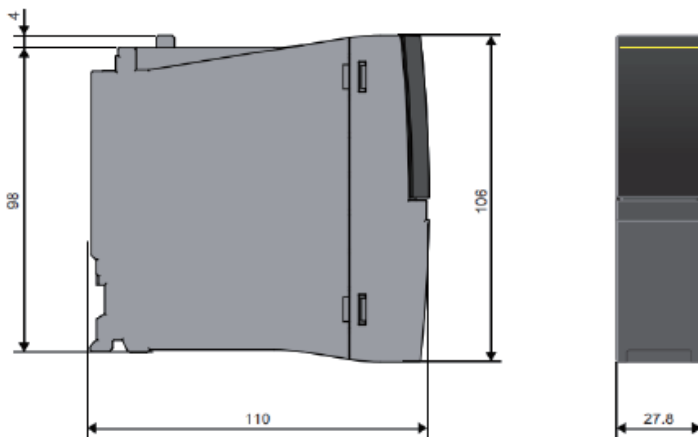
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Safety CPU module (R08SFCEPU, R16SFCEPU, R32SFCEPU, or R120SFCEPU) of the Safety CPU set product



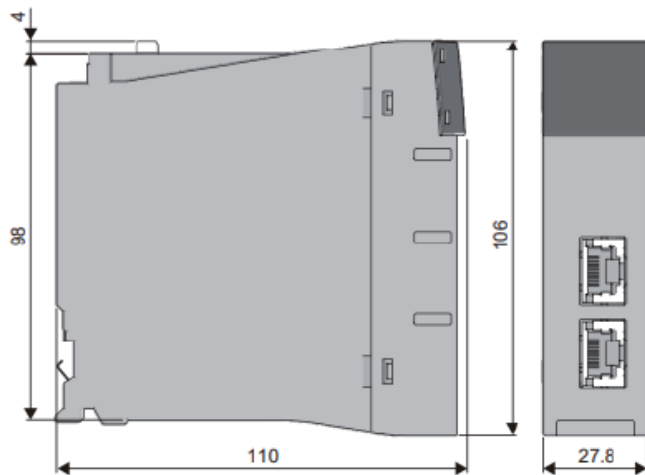
(Unit: mm)

Safety function module (R6SFM) of the Safety CPU set product



(Unit: mm)

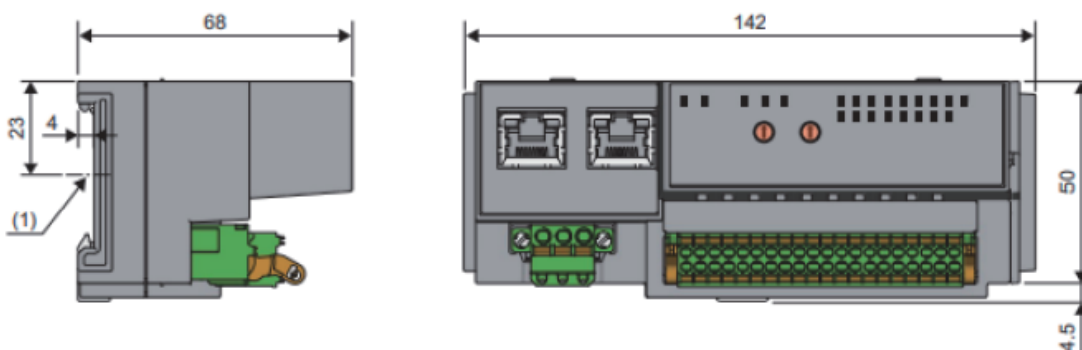
CC-Link IE TSN master/local module (RJ71GN11-T2)



(Unit: mm)

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CC-Link IE TSN remote I/O module (NZ2GNSS2-16DTE)



(1) Center of a DIN rail
(Unit: mm)

8 REFERENCE DOCUMENTS FOR REPLACEMENT

Refer to the following for replacement.

When using the MELSEC-WS series

Document name	Document number
Safety Controller User's Manual	SH-080855ENG
Safety Controller Setting and Monitoring Tool Operating Manual	SH-080856ENG
Safety Controller CC-Link Interface Module User's Manual	SH-080909ENG

When using the MELSEC iQ-R series

Document name	Document number
Safety Application Guide	SH-080613ENG
MELSEC iQ-R Module Configuration Manual	SH-081262ENG
MELSEC iQ-R CPU Module User's Manual (Startup)	SH-081263ENG
MELSEC iQ-R CPU Module User's Manual (Application)	SH-081264ENG
MELSEC iQ-R CC-Link IE TSN User's Manual (Startup)	SH-082127ENG
CC-Link IE TSN Remote I/O Module (With Safety Functions) User's Manual	SH-082227ENG

9 NOTES WHEN USING A MELSEC-QS SERIES SAFETY RELAY MODULE FOR THE FIRST TIME

MELSEC-QS series safety relay modules are certified by TUV SUD. The certificate is effective until March 31, 2025, which is the scheduled date of production discontinuation, and it will never be updated.

Please refer to the applicable standards by checking the latest TUV SUD certification in the following site for the safety of your equipment or system when obtaining third party certification.

URL: www.mitsubishielectric.co.jp/fa/products/cnt/plcqsws/pmerit/concept/safetyrelay.html

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REVISIONS

Version	Date of Issue	Revision
A	May 2023	First edition

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