

MELSEC Q-Series

Date: November 2008

The ease of safety, the Safety Relay Unit

Contact: Stefan Knauf
+49/(0)2102/486-5840
stefan.knauf@mee.meg.com

Product introduction of Safety Relay Modules

THE EASE OF SAFETY



The new Mitsubishi Electric Safety Relay Unit

The Mitsubishi Electric System Q and CC-Link Safety Relay Unit.

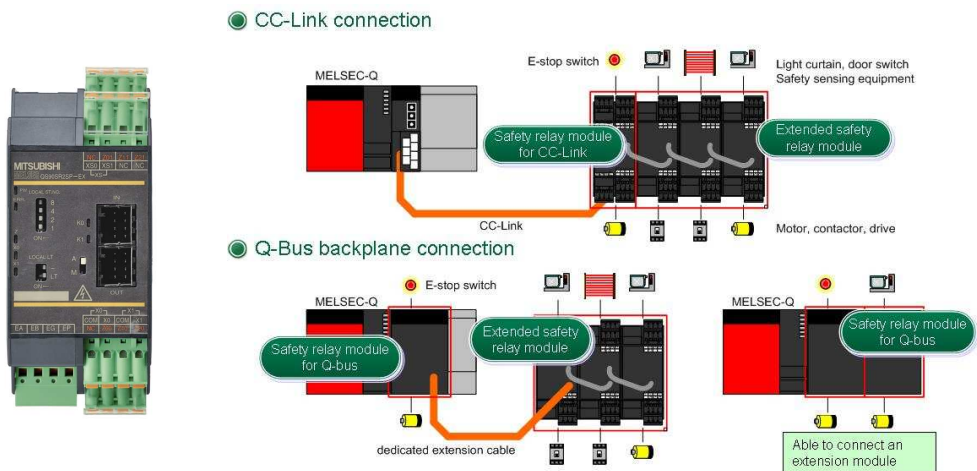
System Q Rack Solution



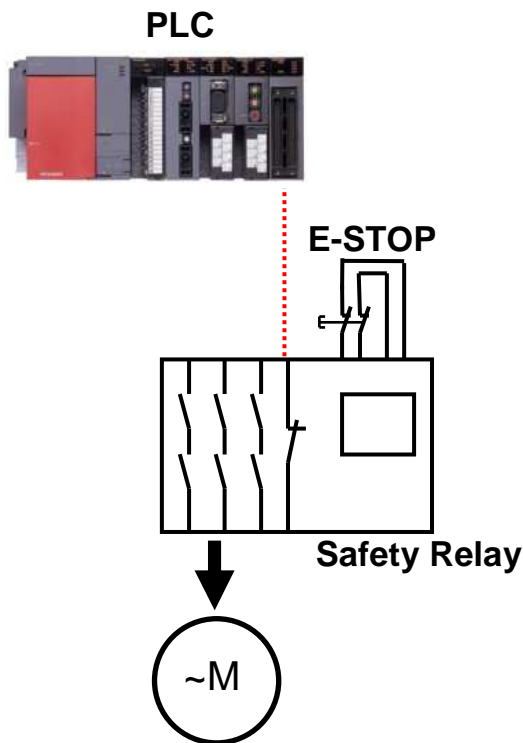
CC-Link Network Solution



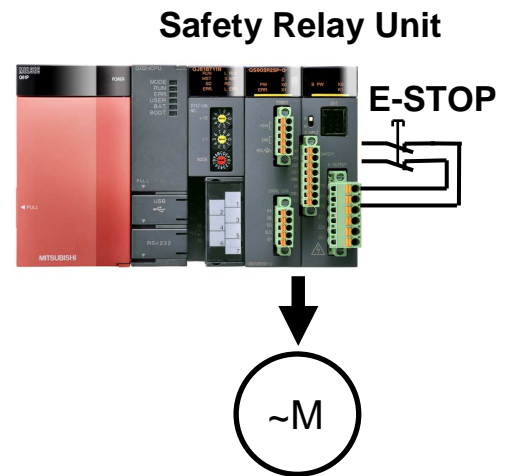
Both are possible to extend to build up safety zones



Conventional Safety Relay Solution



Mitsubishi Electric Solution



Features:

- Suitable for low scale I/O points
 - Covers small-scale safety control system where a safety programmable controller is over specified
 - Providing basic emergency stop functionality
- Easy configuration without programming
 - Building a safety circuit only by wiring, without programming and parameters
- Adding a safety circuit to an existing System Q application
 - Supports addition of a safety circuit to Q-Bus backplane or CC-Link of an existing MELSEC system
 - Enables to monitor the status of safety control from System Q
“Visualizing Safety” = User can quickly identify and recover from a safety system error
- Extensible safety circuit by a extended safety relay module
 - Able to increase safety outputs for drives by extended safety module
 - Enables to combine a partial stop and complete shut off

Specification:

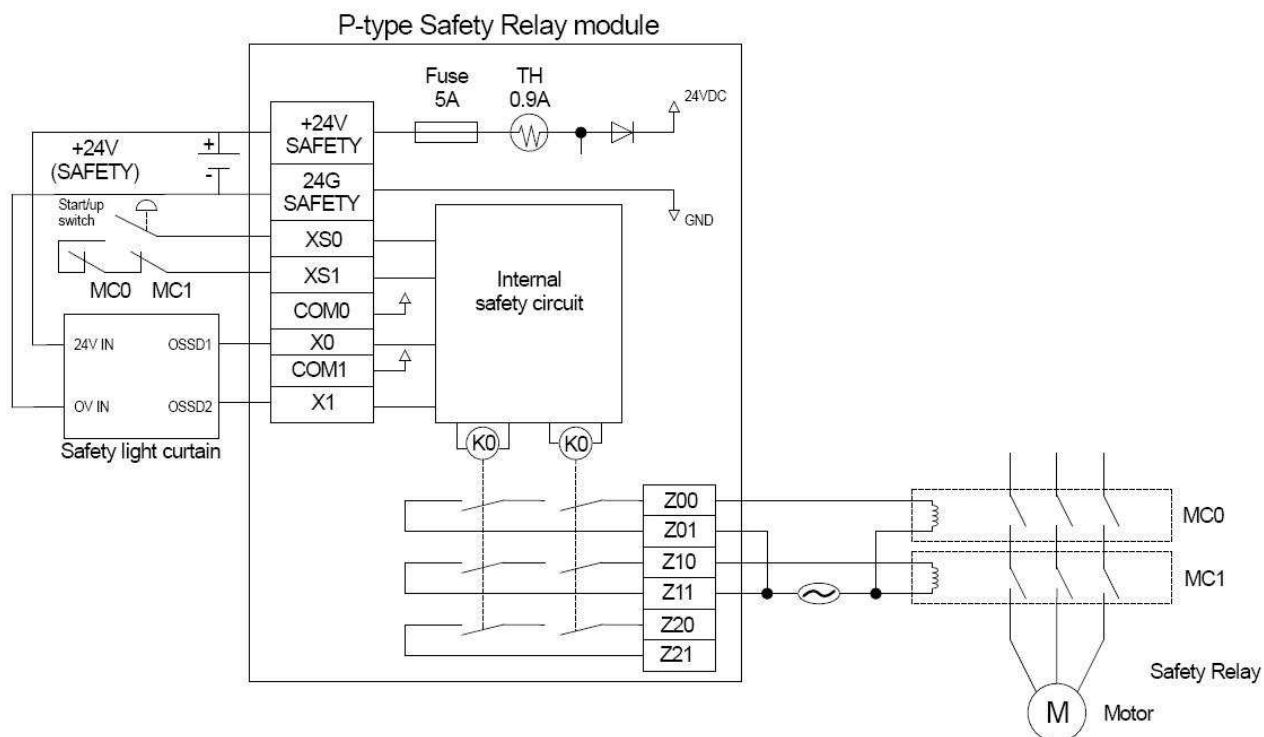
Items		Safety Relay Module		Extension Module
		CC-Link	Q-Bus	Extended
Safety Standard		EN954-1 Category 4	EN954-1 Category4	EN954-1 Category4
Safety Input		1 pt (dual wiring)	1 pt (dual wiring)	1 point (dual wiring)
Startup Input		1 point	1 point	1 point
Safety Output		1 point (dual/triple wiring)	1 point (dual/triple wiring)	1point (dual/triple wiring)
Rated load current		Category4 3.6A/point Up to Category3 5.0A/point AC250V/DC30V	Category4 3.6A/point Up to Category3 5.0A/point AC250V/DC30V	Category4 3.6A/point Up to Category3 5.0A/point AC250V/DC30V
Response time	Shutoff output	< 20ms	< 20ms	< 20ms
	Startup output	< 50ms	< 50ms	< 50ms
Module power supply		DC24V	DC24V	Supplied from an safety relay module
Output power supply		DC24V	DC24V	Supplied from an safety relay module
Extended modules		Up to 3 extended modules	Up to 3 extended modules	—
Terminal type		Spring clamp	Spring clamp	Spring clamp
Lifetime (Relay)	Mechanical	>5,000,000 times	>5,000,000 times	>5,000,000 times
	Electrical	>100,000 times	>100,000 times	>100,000 times
Dimensions (WxHxD)		45 x 111 x 111mm	55.2 x 98 x 112mm	45x111x111mm

Order Information:

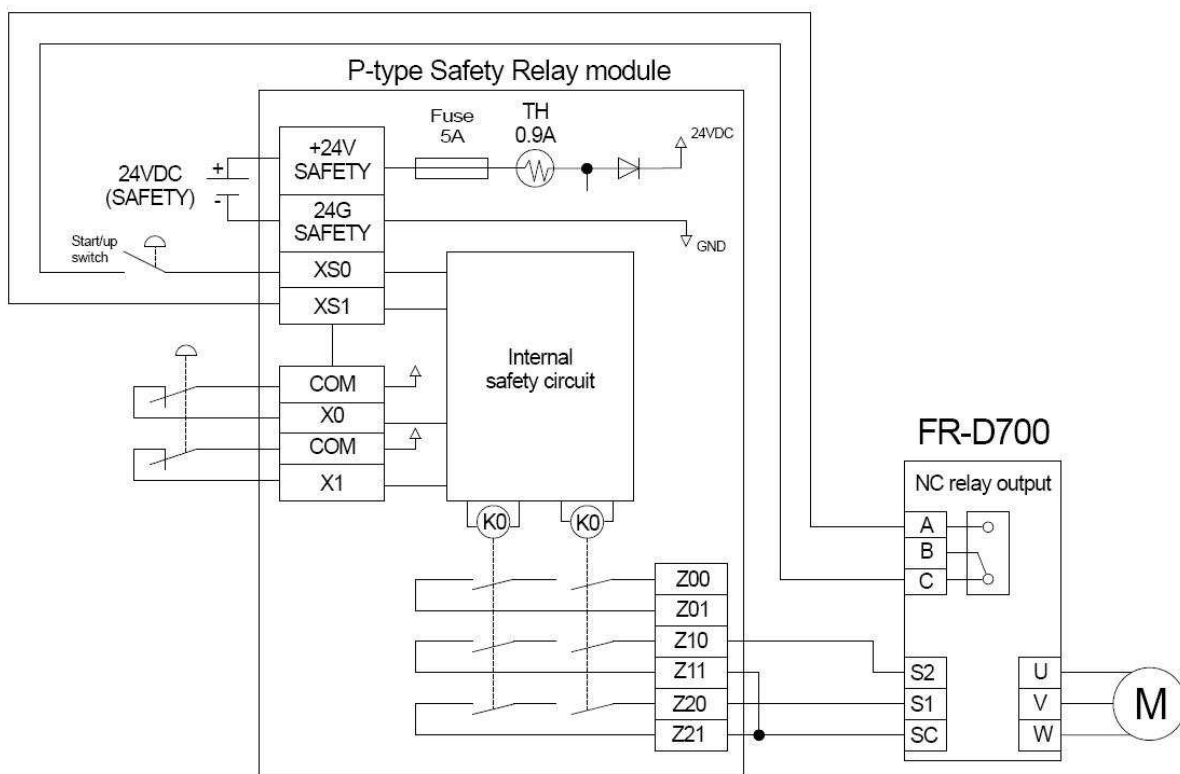
Article	Article No.	
QS90SR2SP-Q	215799	Safety Relay Module SystemQ , 1 Safety Input(dual), 1 Safety Output, Cat4, P Typ
QS90SR2SN-Q	215800	Safety Relay Module SystemQ , 1 Safety Input(dual), 1 Safety Output, Cat4, N Typ
QS90SR2SP-CC	215801	Safety Relay Module CC-Link , 1 Safety Input(dual), 1 Safety Output, Cat4, P Typ
QS90SR2SN-CC	215803	Safety Relay Module CC-Link , 1 Safety Input(dual), 1 Safety Output, Cat4, N Typ
QS90SR2SP-EX	215804	Safety Relay Extension Unit , 1 Safety Input(dual), 1 Safety Output, Cat4, P Typ
QS90SR2SN-EX	215805	Safety Relay Extension Unit , 1 Safety Input(dual), 1 Safety Output, Cat4, N Typ
QS90CBL-SE01	215806	Safety Relay cable for Extension Unit, 10cm
QS90CBL-SE15	215807	Safety Relay cable for Extension Unit, 1,5m

Wiring example:

P-type relay module with Light Curtain and Motor



P-type relay module with E-Stop and Inverter



N-type relay module with Safety Door and Motor

