QS Safety Network Modules

The QS Safety PLC can be used with the CC-Link Safety Master, MELSECNET/H, CC-Link IE Field and Ethernet intelligent function module.

MELSEC QS CC-Link Safety Network Master Specifications

Model Number		QS0J61BT12				
Stocked Item		S				
Transmission Rate		Select from 156kbps/625kbps/2.5Mbps/5Mbps/10Mbps				
Maximum Overall Cable Distance (Maximum Transmission Distance)		1200 meters at 156kpp, 100 meters at 10Mbps				
Maximum No. of Connectable Modules		64 modules				
Maximum No. of Link Points Per System		Remote I/O (RX, RY) : 2048 points • Remote register (RWr) : 256 points (remote device stationmaster station) Remote register (RWw): 256 points (master remote device station)				
Link Points Per Remote Station	Station Type	Safety remote station	Standard remote station			
	Number of Occupied Stations	1 Station	1 Station	2 Stations	3 Stations	4 Stations
	RX	32 points	32 points	64 points	96 points	128 points
	RY	32 points	32 points	64 points	96 points	128 points
	RWr	0 points	4 points	8 points	12 points	16 points
	RWw	0 points	4 points	8 points	12 points	16 points
Recommended Connection Cable		Version 1.10 compatible CC-Link dedicated cable (*1)				
I/O Device Points Occupied		32 points				
5VDC Internal Current Consumption		0.46A				
Weight (kg)		0.12				
Base Unit Slots Occupied		1				

Note:

1. Use BA1SJ61-S or -P certified CC-Link cable and appropriate terminating resistors.

CC-Link IE Field Safety Interface

Model Number		QS0J71GF11-T2
Stocked Item		S
Number of Connectable Stations per Network	Master Station (Safety Station)	1 station (Up to 120 slave stations can be connected to the master station (safety station))
	Local Station (Standard Station)	120 stations
Number of Connectable Safety Stations per Network		32 stations
Maximum Number of Networks		239
Maximum Number of Safety Connections per Station	Asynchronous Mode	31 connections
	Synchronous Mode	8 connections
Number of Safety Inputs/Outputs per Safety Connection	Input	8 words
	Output	8 words
Ethernet	Communication Speed (*1)	1Gbps
	Network Topology	Line topology, star topology (Coexistence of line topology and star topology is possible), and ring topology
	Connection Cable	An Ethernet cable that meets the 1000BASE-T standard: Category 5e or higher (double shielded, STP), straight cable
	Maximum Station-to-Station Distance	100m max. (Compliant with ANSI/TIA/EIA-568-B (Category 5e))
	Overall Cable Distance	• Line topology: 12000m (when cables are connected to 1 master station and 120 slave stations) • Star topology: Depends on the system configuration. • Ring topology: 12100m (when cables are connected to 1 master station and 120 slave stations)
	Number of Cascade Connections	Up to 20
Number of Occupied I/O Points		32 points (I/O assignment: Intelligent 32 points)
Internal Current Consumption (5VDC)		0.85A
External Dimensions (W x H x D) mm		27.4 x 98 x 115
Weight (kg)		0.18

QS CC-Link Safety Remote I/O Module Specifications

Model Number		QS0J65BTB2-12DT			
Stocked Item		S			
Input Specifications			Output Specifications		
No. of Input Points		8 points (Input terminals: 16 points) (*2)	No. of Output Points		4 points (source + sink) or 2 points (source + source)
Rated Input Voltage		24VDC	Rated Load Voltage		24VDC
Rated Input Current		Approx. 4.6mA	Operating Load Voltage Range		19.2V to 28.8VDC (Ripple ratio: 5% or less)
Operating Voltage Range		19.2V to 28.8VDC (Ripple ratio: 5% or less)	Max. Load Current		0.5A/point
ON Voltage / ON Current		15VDC/2mA or more	Leakage Current at OFF		0.5mA or less
OFF Voltage / OFF Current		5VDC/0.5mA or less	Max. Voltage Drop at ON		1.0VDC or less
Input Type		Negative common (source)	Output Type		Source + sink type; Source + source type
Response Time	OFF – ON	0.4ms or less (at 24VDC)	Response Time	OFF – ON	0.4ms or less (at 24VDC)
	ON – OFF	0.4ms or less (at 24VDC)		ON – OFF	0.4ms or less (at 24VDC)
Safety Remote Station Input Response Time		32ms or less + filtering time (1ms, 5ms, 10ms, 20ms, 50ms)	Safety Remote Station Output Response Time		32ms or less
External Power Supply	Voltage	19.2V to 28.8VDC (Ripple ratio: 5% or less)			
	Current	60mA (24VDC, with all points ON, excepting for external load current)			
Points / Common		16 input points/common, 4 output points/common (Terminal block 2-wire type)			
Common Current		Max. 4A (Total of inputs and outputs)			
No. of Stations Occupied		1 station			
Safety Refresh Response Processing Time		38ms			
Module Power (*1)	Voltage	19.2V to 28.8VDC (Ripple ratio: 5% or less)			
	Current	140mA or less (24VDC, with all points ON)			
	Momentary Power Failure Period	10ms or less			
Level of Protection		IP2X			
Connection Type		Screw Terminal			
Weight (kg)		0.67			
Dimensions (W x H x D) mm		197 x 65 x 74.5			

Notes:

1. The power supply connected to the QS0J65BTB2-12DT must satisfy the following conditions: (1) Reinforced insulation SELV (Safety Extra Low Voltage): Hazardous potential part (48V or more) (2) Compliance with the LVD (Low Voltage Directive) (3) Output voltage within 19.2V to 28.8VDC (Ripple ratio: 5% or less.)
2. Two inputs terminals are assigned for each input since redundant wiring is supported.

MELSEC QS CC-Link Safety Remote I/O Module Specifications

Model Number		QS0J65BTS2-8D	QS0J65BTS2-4T
Stocked Item		S	S
Number of I/O Points		Input: 8 points (input terminals: 16 points) (*2)	Output: 4 points (source + sink), or 2 points (source + source)
Rated Input Voltage		24VDC	-
Rated Input Current		Approx. 5.9 mA	-
Rated Load Voltage		-	24VDC
Operating Load Voltage Range		19.2 to 28.8VDC (ripple ratio: 5% or less)	
ON Voltage / ON Current		15VDC or more / 2mA or more	-
OFF Voltage / OFF Current		5VDC or less / 0.5 mA or less	-
Max. Load Current		-	0.5 A/point
Leakage Current at OFF		-	0.5 mA or less
Max. Voltage Drop at ON		-	1.0VDC or less
Input Type		Negative common (source type)	-
Output Type		-	Source + sink type, Source + source type
Response Time	OFF – ON	0.4 ms or less (at 24VDC)	
	ON – OFF	0.4 ms or less (at 24VDC)	
Safety Remote Station Input Response Time		11.2 ms or less + time of noise removal filter (1 ms, 5 ms, 10 ms, 20 ms, 50 ms)	10.4 ms or less (ON to OFF), 11.2 ms or less (OFF to ON)
External Power Supply	Voltage	19.2 to 28.8VDC (ripple ratio: 5% or less)	
	Current	40 mA (at 24VDC, all points ON, not including external load current)	45 mA (at 24VDC, all points ON, not including external load current)
Points / Common		16 input points/common (spring clamp terminal block 2-wire type)	4 output points/common (spring clamp terminal block 2-wire type)
Common Current		-	Max. 2 A
Number of Occupied Stations		1 station	
Safety Refresh Response Processing Time		9.6 ms	
Module Power (*1)	Voltage	19.2 to 28.8VDC (ripple ratio: 5% or less)	
	Current	120 mA or less (24VDC, all points ON)	95 mA or less (24VDC, all points ON)
	Momentary Power Failure Period	10 ms or less	
Degree of Protection		IP2X	
Connection Type		Screw Terminal	
Weight (kg)		0.46	0.45
Applicable DIN Rail		TH35-7.5Fe, TH35-7.5Al (JIS C 2812 compliant)	
Dimensions (W x H x D) mm		163 x 98 x 85	197 x 65 x 74.5

Notes:

1. The power supply connected to the QS0J65BTS2-8D and QS0J65BTS2-4T must satisfy the following conditions: (1) SELV (Safety Extra Low Voltage): Reinforced insulation from hazardous potential part (48 V or more) required. (2) Compliance with the LVD (Low Voltage Directive). (3) Output voltage must be 19.2 to 28.8 V DC (ripple ratio: 5% or less).
2. Two input terminals are assigned for each input since dual wiring is supported. Do not insert two or more wires into one terminal.