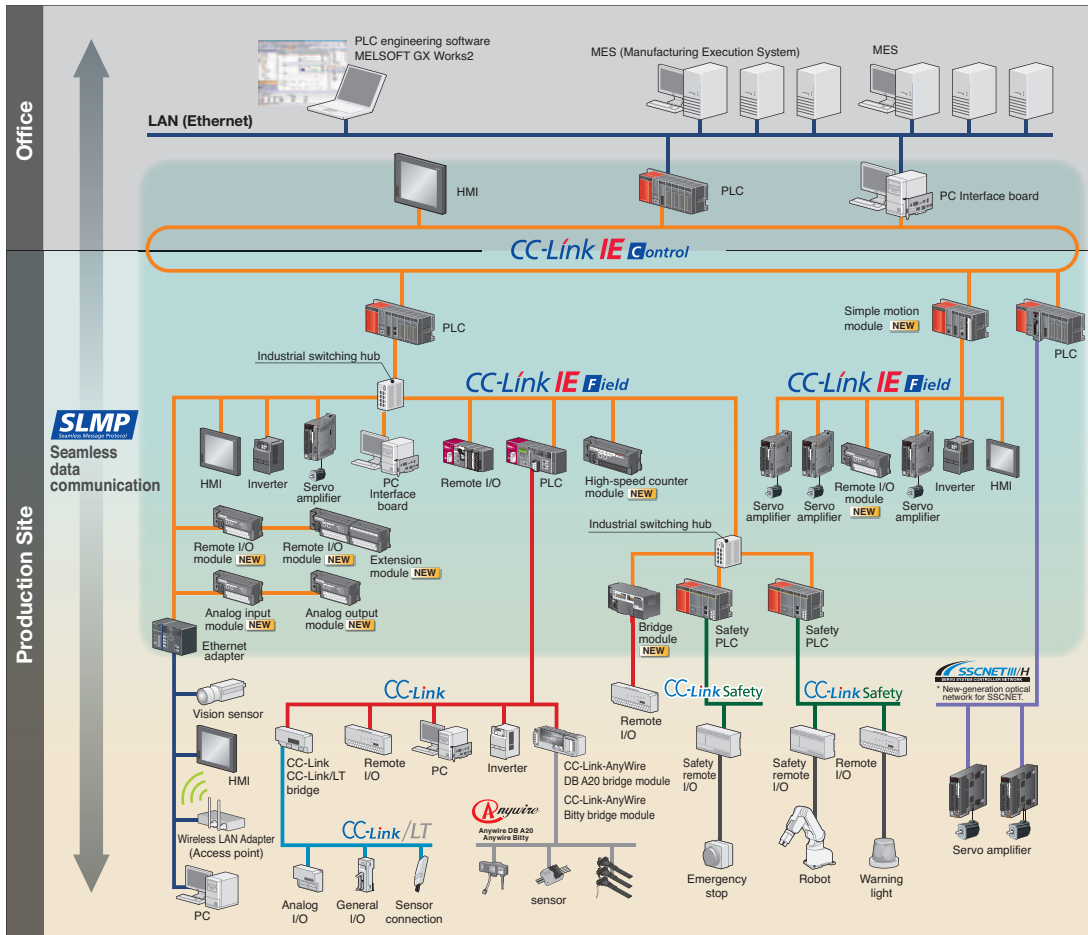


CC-Link IE



CC-Link IE is an open 1Gbit Industrial Ethernet automation network consisting of ; CC-Link IE Control, CC-Link IE Field. CC-Link IE Control communicates over dual-loop fiber between PLCs, HMIs, and PCs with an extremely large cyclical data-sharing capacity. CC-Link IE Field has a smaller cyclical data-sharing capacity, but communicates with both PLCs and Remote I/O stations over shielded Cat5e cables with standard RJ45 connectors in a star, line, or combination topology. CC Link IE Field Basic realizes easier network integration, as its cyclic communications stack is software-based, without requiring a dedicated hardware and also utilizes RJ45 connectors. It is used for small-scale systems.

CC-Link IE Products

Product		Model Number	Description	Stocked Item
CC-Link IE Field/ Control/Basic	CPU	R04ENCPU, R08ENCPU, R16ENCPU, R32ENCPU, R120ENCPU	CPU	S
	Master/Slave	RJ71GP21-SX	Interface for iQ-R Platform (R CPU)	S
RJ71GP21S-SX		Interface for iQ-R Platform (R CPU), with redundant power	S	
QJ71GP21-SX		Interface for iQ Platform (QnU CPU)	S	
QJ71GP21S-SX		Interface for iQ Platform (QnU CPU), with redundant power	-	
Q80BD-J71GP21-SX		PCI interface card	-	
Q80BD-J71GP21S-SX		PCI interface card, with redundant power	-	
CC-Link IE Control Interface		GT15-J71GP23-SX	Interface for GOT1000 HMI (GT16/GT15)	S
Fiber Optic Cordset (Cable with Connectors)	QG-_M-B-LL	Pre-made cordset. _ = 1m, 2m, 3m, 5m, 10m, 15m, 20m, 25m, 30m, 35m, 40m, 50m length	S	

CC-Link IE Control Modules

Model Number	RJ71GP21-SX	RJ71GP21S-SX	RJ71EN71 (When Configured as CC-Link IE Control)
Stocked Item	S	S	S
Certification	UL • cUL • CE		
Number of Occupied I/O Points	32	48 points 2 slots (I/O assignment: empty 16 points + intelligent 32 points)	32
Internal Current Consumption (A)	0.88	0.95	0.82
External Power Supply	Voltage	No external power supply function	20.4 to 31.2 VDC
	Current		0.28A
	Terminal Screw Size		M3 screw
	Applicable Solderless Terminal		R1.25-3
	Applicable Wire Size		0.3 to 1.25mm (22 to 16 AWG)
	Tightening Torque		0.42 to 0.58 N•m
	Allowable Momentary Power Failure Time		1ms (level PS1)
	Noise Immunity		Simulator noise 500Vp-p, noise width 1μs, noise frequency 25 to 60Hz (noise simulator condition)
Maximum Number of Link Points Per Network	LB	32K points (32768 points, 4K bytes)	
	LW	128K points (131072 points, 256K bytes)	
	LX	8K points (8192 points, 1K bytes)	
	LY	8K points (8192 points, 1K bytes)	
Maximum Number of Link Points Per Station	LB	16K points (16384 points, 2K bytes), extended mode: 32K points (32768 points, 4K bytes)	
	LW	16K points (16384 points, 32K bytes), extended mode: 128K points (131072 points, 256K bytes)	
	LX	8K points (8192 points, 1K bytes)	
	LY	8K points (8192 points, 1K bytes)	
Transient Transmission Capacity	1920 bytes maximum		
Communication Speed	1Gbps		
Network Topology	Duplex loop		Line topology, star topology (coexistence of line topology and star topology is also possible), and ring topology
Communication Cable	Optical fiber cable which satisfies 1000BASE-SX standard: Multi-mode optical fiber (G1)		Ethernet cable which satisfies 1000BASE-T standard: Category 5e or higher, straight cable (double shielded, STP)
Maximum Station-To-Station Distance	550m (when the outside diameter of the core is 50μm) 275m (when the outside diameter of the core is 62.5μm)	550m	100m (conforms to ANSI/TIA/EIA-568-B (Category 5e))
Overall Cable Distance	66000m (when 120 stations are connected and the outside diameter of the core is 50μm) 33000m (when 120 stations are connected and the outside diameter of the core is 62.5μm)	66000m (when 120 stations are connected)	Line topology: 11900m (when 120 stations are connected) Star topology: Depends on the system configuration Ring topology: 12000m (when 120 stations are connected)
Number of Cascade Connections	-		20 levels maximum
Maximum Number of Connectible Stations	120 stations (control station: 1, normal station: 119) (*1)		
Maximum Number of Networks	239		
Maximum Number of Groups	32		
Communication Method	Token ring		Token passing
Optical Fiber Specifications	Standard: IEEE802.3, IEC 60793-2-10 Types A1a.1 Outside diameter of the core/clad: 50μm, 62.5μm/125μm Transmission loss: 3.0dB/km or lower (λ=850nm) Transmission band: 500MHz•km or higher (λ=850nm)		-
Connector Specifications	Duplex LC connector: Standard: IEC 61754-20 Type LC connector; Connection loss: 0.3dB or lower; Polished surface: PC (Physical Contact) polishing		RJ45 connector
Laser Class (IEC60825-1)	Class 1 laser product		
Dimensions (H x W x D) mm (Base Mounting Side 98mm)	106 x 27.8 x 110	106 x 56 x 110	106 x 27.8 x 110
Weight (kg)	0.18	0.26	0.17

Note 1: When using a CC-Link IE Controller Network-equipped module in a normal station, maximum number of connectible stations differs depending on the CPU module used in a control station. For details, refer to User's Manual for the control station used.

CC-Link IE Control Level Master/Local Network Modules

CC-Link IE is an industry leading alternative for open control level networking. Originally introduced as MELSECNET/G, it introduces an unprecedented 1Gbit/s Ethernet physical layer fiber topology for system performance surpassing any other network technology. MELSECNET/G has been turned over to the open administration of the CC-Link Partner Association (CLPA), and is now known as CC-Link IE. Mitsubishi Electric offers full support for CC-Link IE via the Q Series Controller.

CC-Link IE Control Optical Fiber Cordsets

Model Number	Description	Stocked Item
QG- <u>M</u> -B-LL	CC-Link IE cordset, where <u> </u> represents length 1, 2, 3, 5, 10, 15, 20, 25, 30, 35, 40 or 50 meters	S
Belden	Belden part numbers. Ordered directly through Belden	-

Model Number	QJ71GP21-SX	QJ71GP21S-SX
Stocked Item	S	-
Certification	UL • cUL • CE	
Network Common Memory	256 kB	
Transient Transmission Capacity	960 bytes	
Communication Speed	1GB	
Number of Stations Per Network	When Universal model QCPU is used for control station: 120; (Control station: 1, Normal station: 119); When High Performance model QCPU is used for control station: 64 (Control station: 1, Normal station: 63)	
Connection Cable	Optical fiber cable (Multi-mode fiber)	
Overall Cable Distance	66000m (When 120 stations are connected)	
Max. Station-To-Station Distance	550m	
Max. Number of Networks	239	
Max. Number of Groups	32	
I/O Device Points Occupied	32	48 (I/O assignment: Empty first half: 16 points, Latter half: 32 points for intelli.)
External Power Supply	Voltage	20.4V to 31.2VDC
	Current	0.28A
	Terminal Screw Size	M3
	Applicable Solderless Terminal	R1.25-3
	Allowable Momentary Power Failure Time	1ms (Level PS1)
Internal Current Consumption (5VDC)	0.85A	0.90A
Weight (kg)	0.18	0.28
Base Unit Slots Occupied	1	2