MITSUBISHI ELECTRIC

Changes for the Better

Automating the World

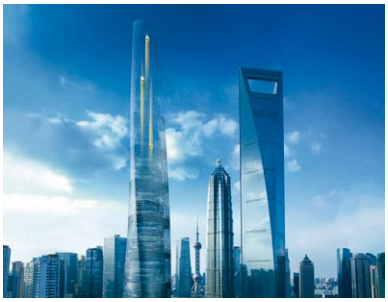
FACTORY AUTOMATION

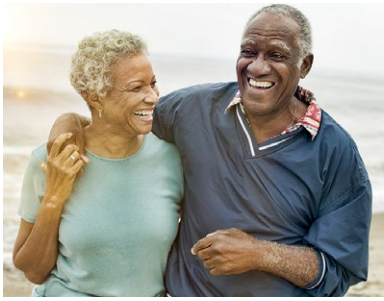
Ethernet-based Open Network CC-Link IE Product Catalog

Seamless connectivity within all levels of automation

CC-Link IE

Ethernet-based integrated network





Our Factory Automation business is focused on "Automating the World" to make it a better, more sustainable environment supporting manufacturing and society, celebrating diversity and contributing towards an active and fulfilling role.

Mitsubishi Electric is involved in many areas including the following:

Energy and Electric Systems
A wide range of power and electrical products from generators to large-scale displays.

Electronic Devices
A wide portfolio of cutting-edge semiconductor devices for systems and products.

Home Appliance
Dependable consumer products like air conditioners and home entertainment systems.

Information and Communication Systems
Commercial and consumer-centric equipment, products and systems.

Industrial Automation Systems
Maximizing productivity and efficiency with cutting-edge automation technology.

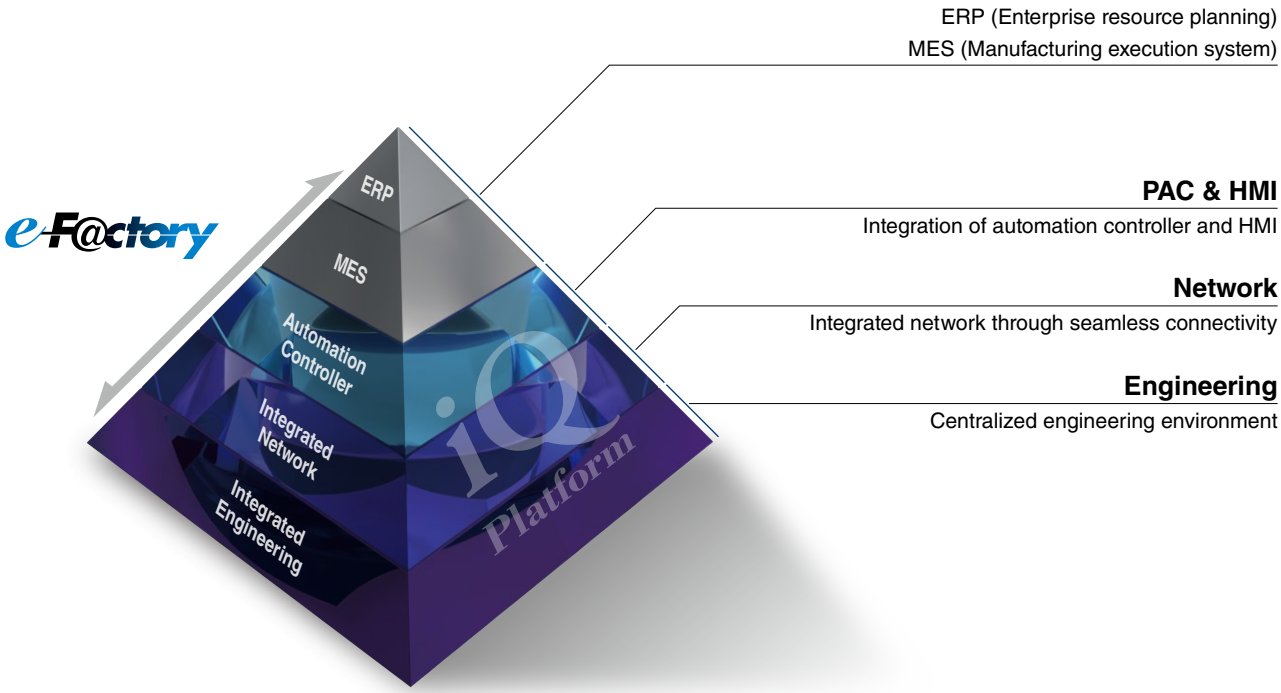
SUSTAINABLE DEVELOPMENT GOALS

The Mitsubishi Electric Group is actively solving social issues, such as decarbonization and labor shortages, by providing production sites with energy-saving equipment and solutions that utilize automation systems, thereby helping towards a sustainable society.

FA Integrated Platform
"iQ Platform" Movie

iQ Platform for maximum return on investment

Minimize TCO, Seamless integration, Maximize productivity, Transparent communications: these are common items that highlight the benefits of the iQ Platform and e-F@ctory. The iQ Platform minimizes TCO at all phases of the automation life cycle by improving development times, enhancing productivity, reducing maintenance costs, and making information more easily accessible across the plant. Together with e-F@ctory, offering various best-in-class solutions through its e-F@ctory alliance program, the capabilities of the manufacturing enterprise is enhanced even further realizing the next level for future intelligent manufacturing plants.



Further reduce TCO while securing your manufacturing assets

Automation Controller

Improve productivity and product quality

1. High-speed system bus realizing improved system performance
2. On-screen multi-touch control enabling smooth GOT (HMI) operations

Integrated Network

Best-in-class integrated network optimizing production capabilities

1. CC-Link IE supporting 1 Gbps high-speed communication
2. Seamless connectivity within all levels of manufacturing with SLMP

Centralized Engineering

Integrated engineering environment with system level features

1. Automatic generation of system configuration
2. Share parameters across multiple engineering software via MELSOFT Navigator
3. Changes to system labels are reflected between PAC and HMI

Extensive visualization with advanced data connectivity

Big Data analytics requires deterministic data collection, which can be realized by incorporating two key features: SLMP*1 that enables seamless connectivity between devices in the IT layer and on the shop floor; and a high-speed, large-capacity 1 Gbps communications network that enables the handling of large-data, such as production, quality and control data between different production processes.

General, motion and safety control integrated into one network

CC-Link IE incorporates general distributed control, synchronous motion control, and safety control enabling safety communications across multiple safety devices, all on the same network. The topology is quite versatile, based on twisted-pair cables, which enables flexibility in system configuration while helping to keep installation cost low.

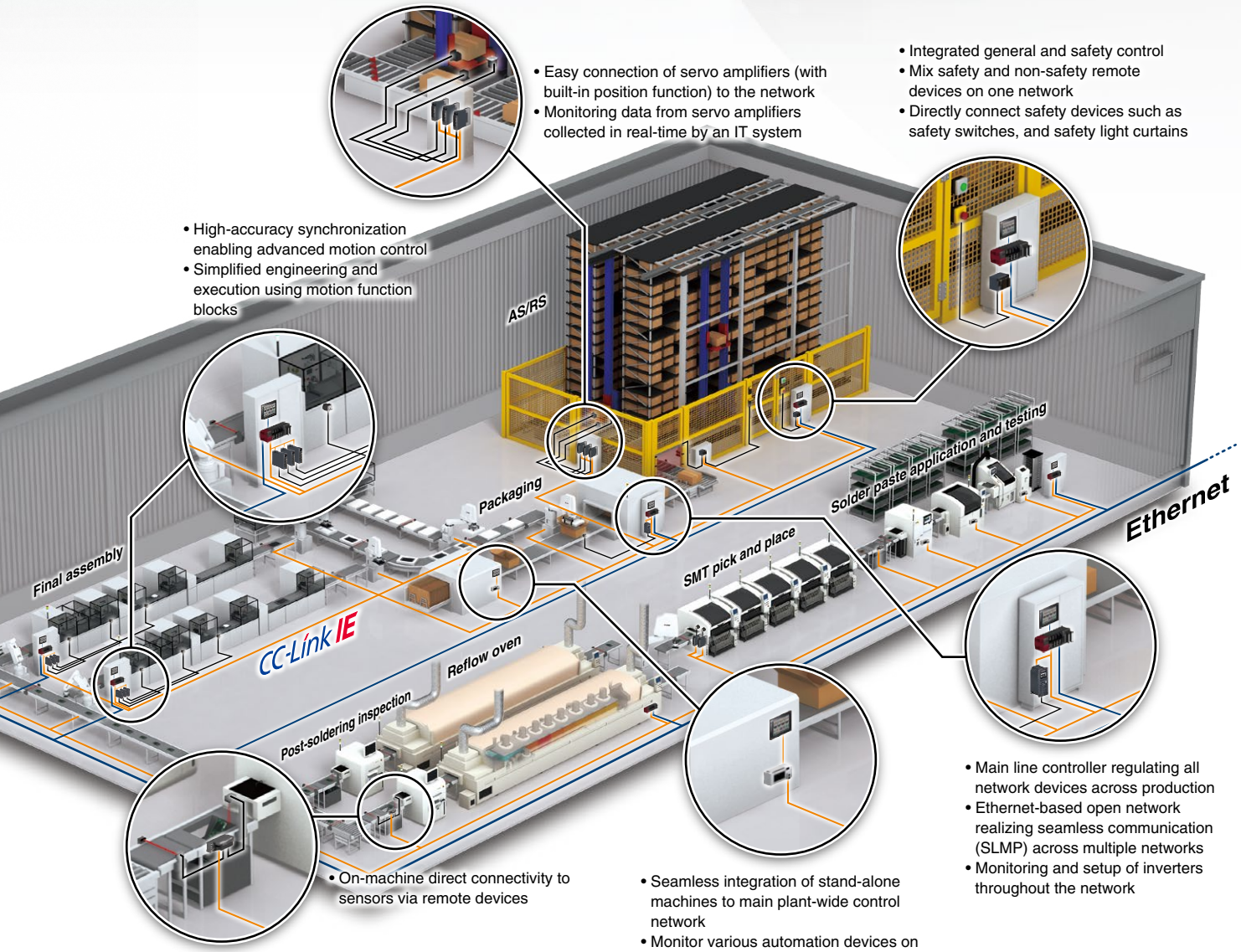
Comprehensive diagnosis realizing higher reliability

Disruptions to the control system are kept to a minimum via comprehensive diagnostics functions, high communications integrity owing to the noise-resistant characteristics of the optical cable, and communication re-routing capabilities made possible as the result of using a ring topology. Also, network errors can be rectified quickly by visualizing the network system image using the engineering software*2, and remotely from a GOT (HMI) directly on the machine or production line.

*1. SLMP (Seamless Message Protocol) is a client/server protocol that enables communications between Ethernet-ready and CC-Link IE compatible devices.
*2. MELSEC iQ-R Series is supported by GX Works3. MELSEC-Q Series and MELSEC-L Series are supported by GX Works2.

Seamless connectivity within all levels of automation

The backbone of e-F@ctory, leveraging connectivity between the shop floor and IT



High-speed communications realizes shorter and more stable operating cycle, enabling higher productivity

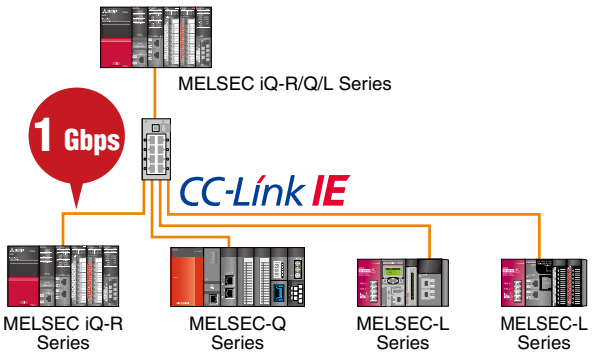
- Shorten the operating cycle
- Improve productivity
- Extensive traceability

High-speed 1 Gbps communication

High-speed communication enabling shorter operating cycle

The transfer rate of 1 Gbps results in high-speed communications (controller-to-controller and controller-to-field device), thereby reducing operating cycle time. The network, which accommodates general high-speed I/O control, can also accommodate control of distributed controllers in multiple fields, enabling simple network configuration. This network is fully capable of transmitting large volume of data, which can be handled by high-function field devices. With the ability to transfer large amounts of traceability data, a system capable of highly-detailed diagnostics can also be realized.

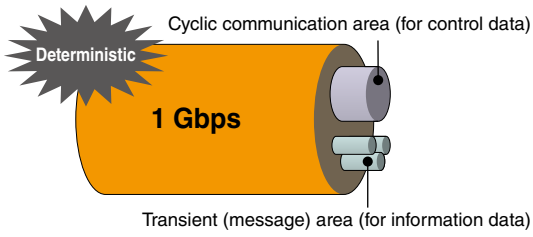
▶Example based on CC-Link IE Field Network



Stable cyclic communication

Improve productivity

The 1 Gbps bandwidth is divided between deterministic (cyclic) and transient (message) communications. Cyclic communications, which is used for I/O control is deterministic and its performance will not degrade even when large volumes of traceability and diagnostic data are transferred via transient communication.



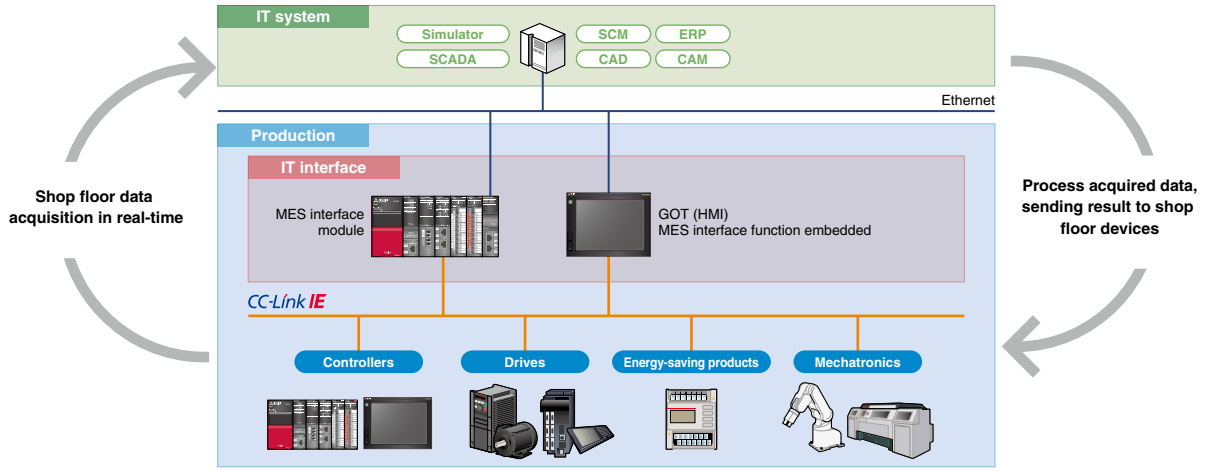
Real-time collection of shop floor data

- Integrate PLM*1 tools
- Identify shop floor activities speedily, accurately, and efficiently

Integrated network

Backbone of e-F@ctory, connecting shop floor and IT

All the systems related to factory production, quality, and safety are integrated into one network, helping to visualize and process factory floor (shop floor) data. Data obtained on the factory floor is transmitted to the IT system for analysis or further processing, and then the result can be sent back, realizing a bidirectional communications flow optimizing operations management.



*1. Product Lifecycle Management

Reduce installation cost with widely-available Ethernet components

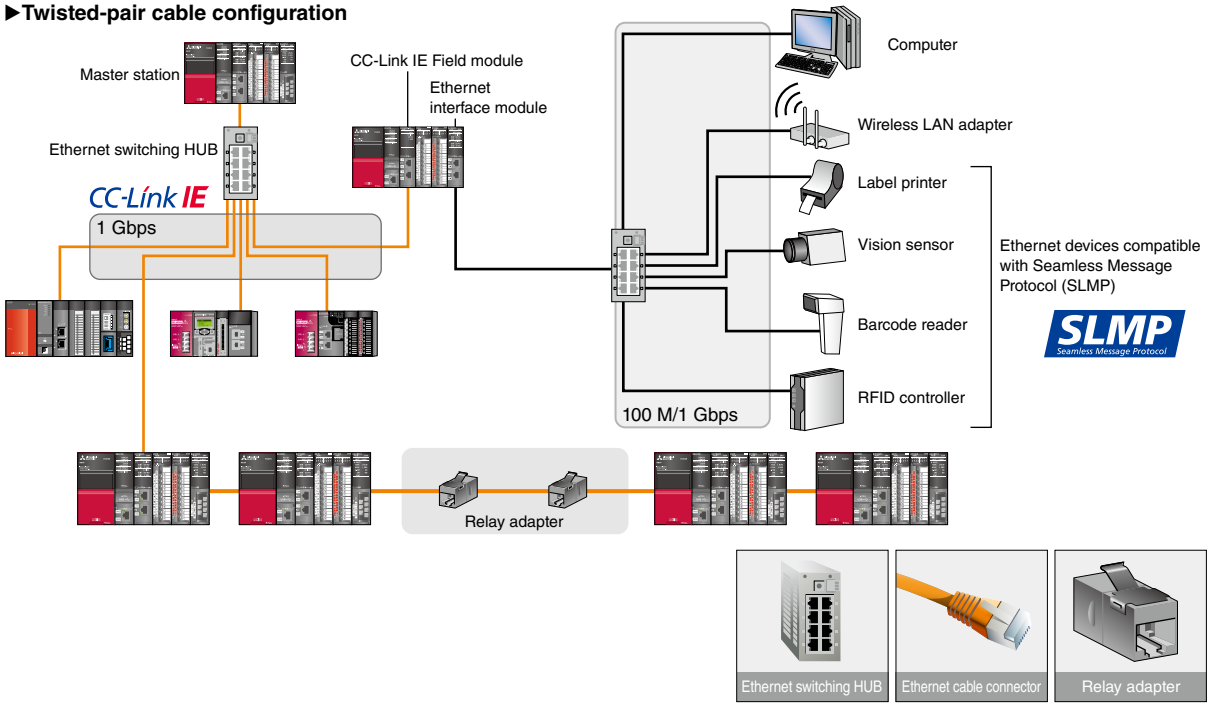
- Use widely-available components for overseas production sites
- Procure system components for less

Ethernet-based network

Built on global standards

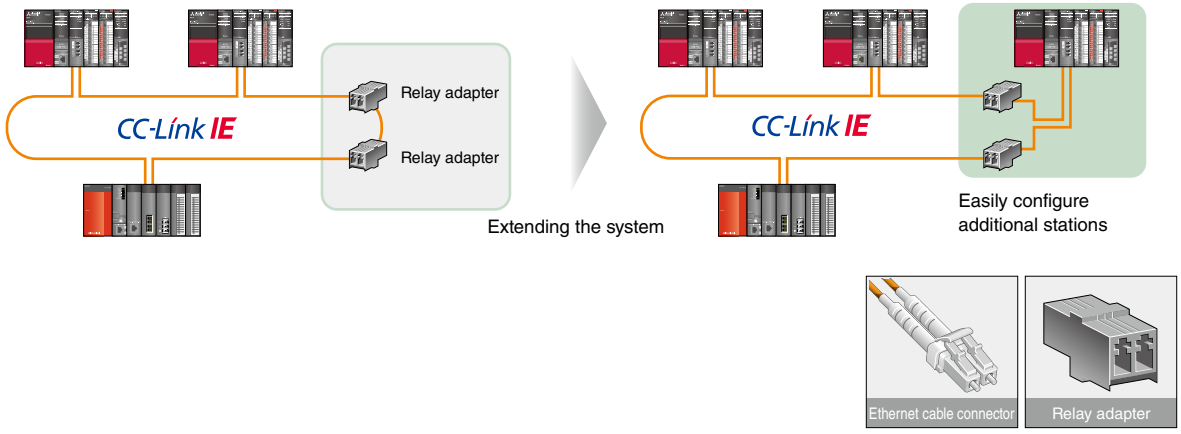
CC-Link IE has been designed to make use of widely-available Ethernet components including cables, connectors, and adapters. Thanks to the common availability of these components, network configuration cost can be saved.

▶Twisted-pair cable configuration



The Ethernet interface module realizes connection of SLMP-compatible Ethernet devices to the CC-Link IE Field Network. Various devices can be connected such as vision sensors and RFID controllers.

▶Optical cable configuration



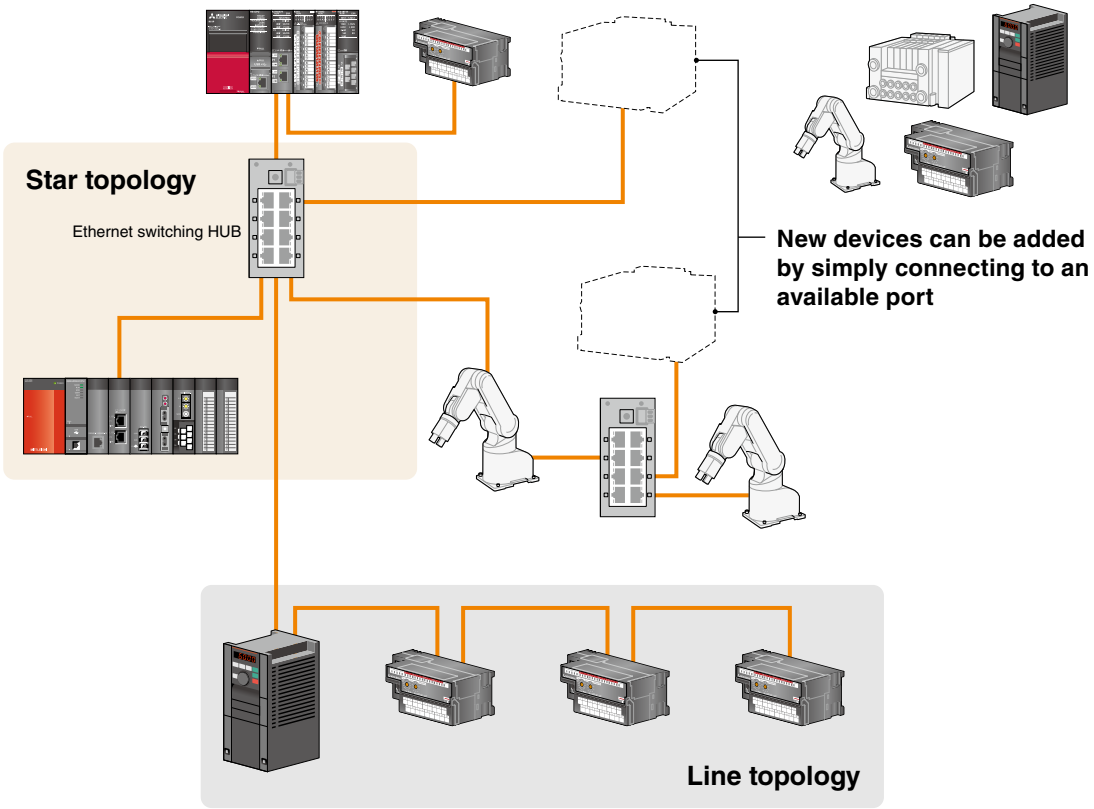
Easily modify existing control system configurations

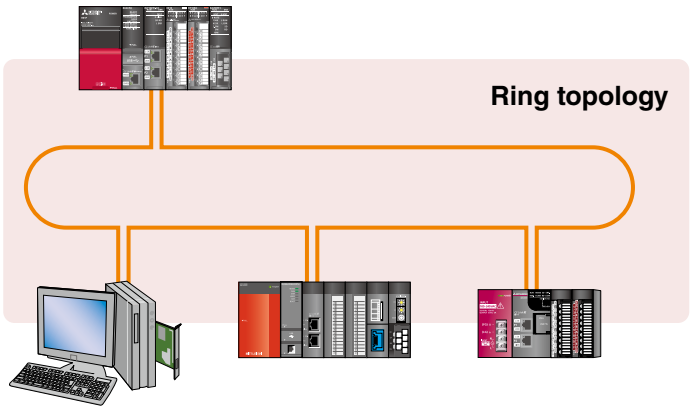
- Supporting frequent modifications of the production line
- Configure equipment more flexibly

Flexible network topology

Reconfigure existing systems to match production changes

Multiple network topologies are supported including star, line, ring*1, star and line combinations. This flexibility allows additional equipment to be simply connected to any available port, with little concern for restrictions.





*1. Cannot be mixed with star or line topology.

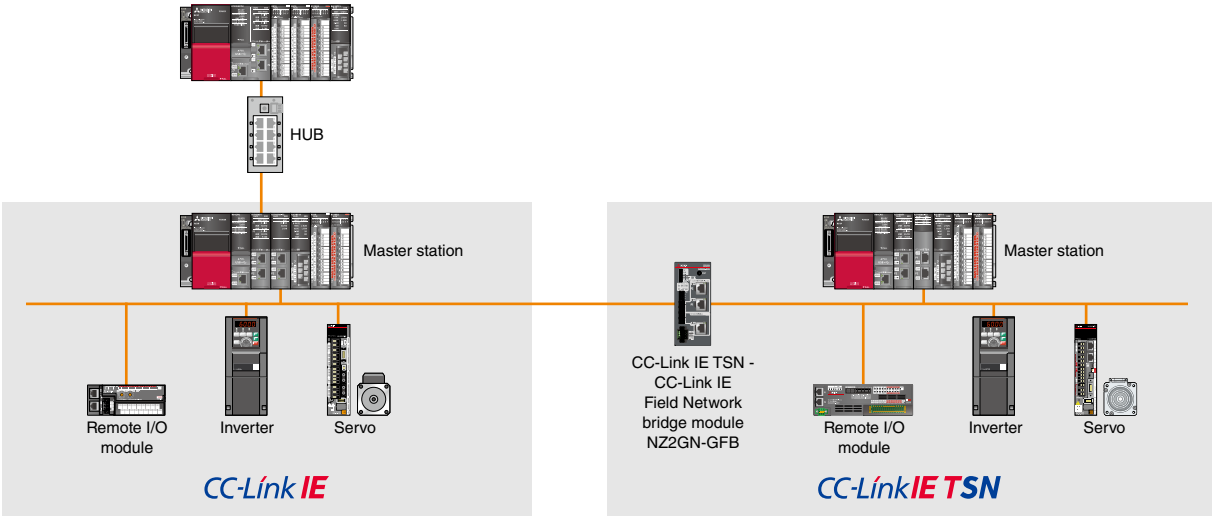
Seamless access to CC-Link IE TSN from CC-Link IE Field Network

- Can be easily connected
- Space for storing only the bridge module is required in the control panel, if any

Access via NZ2GN-GFB

The bridge module helps connect CC-Link IE Field Network to CC-Link IE TSN easily

Access from CC-Link IE to each station and device on CC-Link IE TSN is made possible via NZ2GN-GFB using the engineering software.



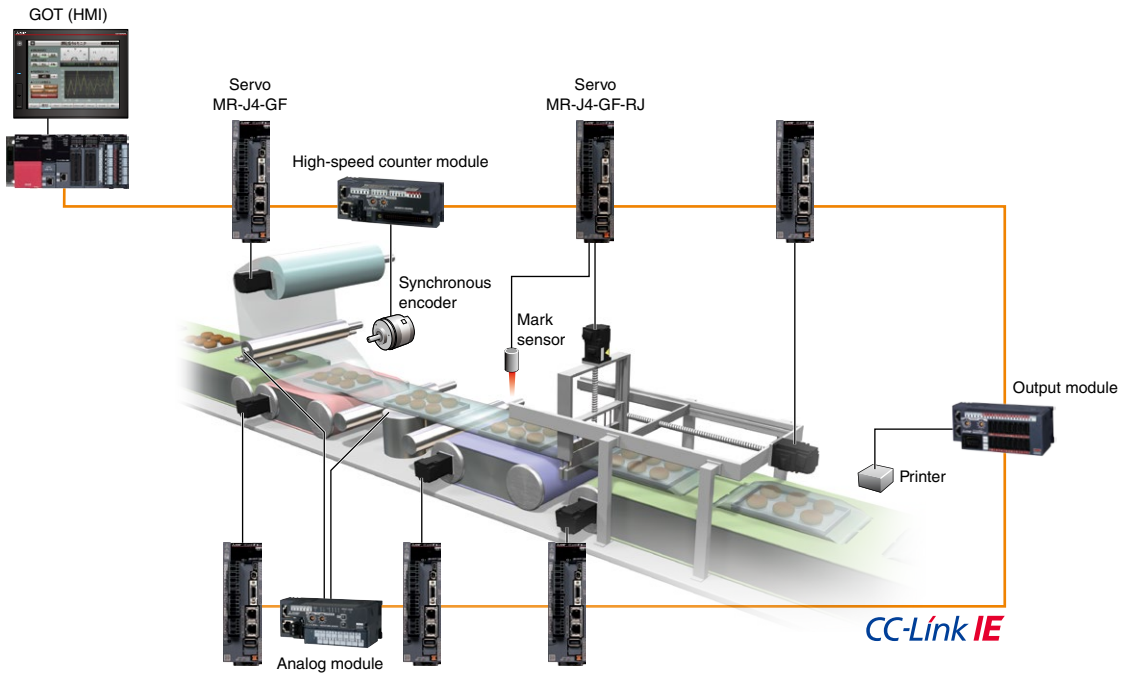
Synchronization performance for advanced motion control

- Integrate networks of a motion control system in one network
- Support advanced machines and systems

High-accuracy synchronization performance

High-accuracy synchronization performance for advanced motion control

CC-Link IE Field Network, which supports high-accuracy synchronization, enables advanced motion control as well as I/O control in one network. I/O control synchronized with the motion control can increase the productivity of the machine and the entire system.



Integrating safety communication on one network

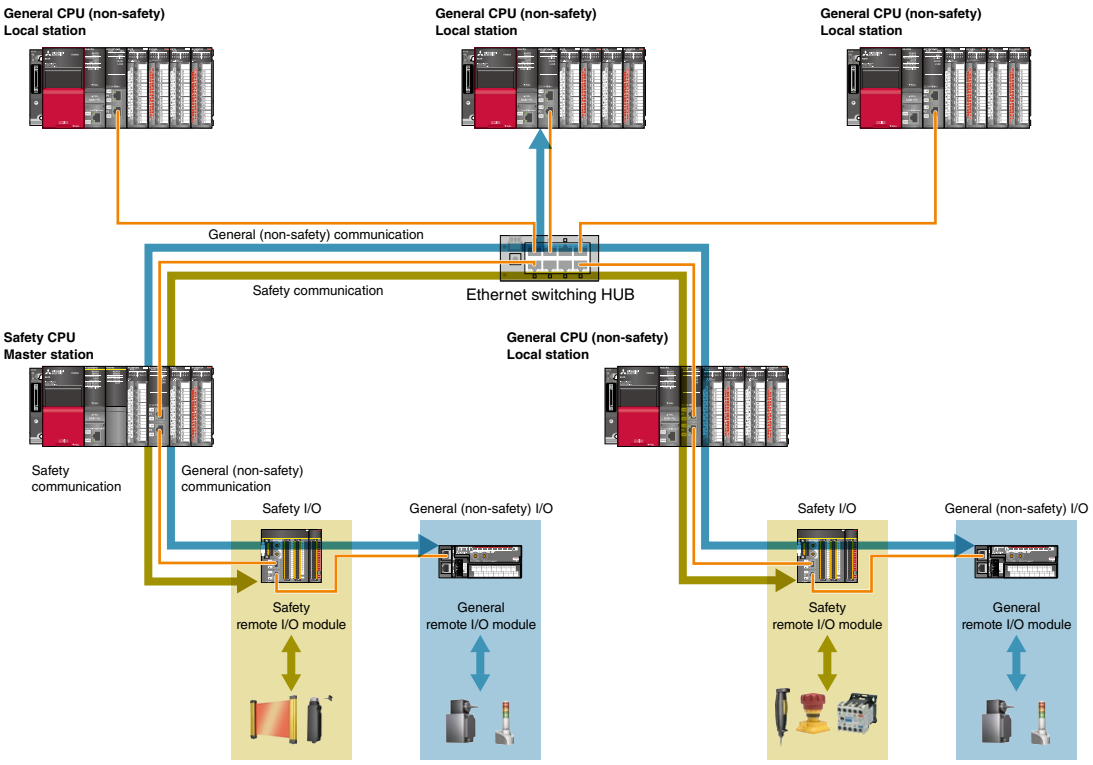
- Enable network communication between safety CPUs
- Manage general and safety CPUs under one network

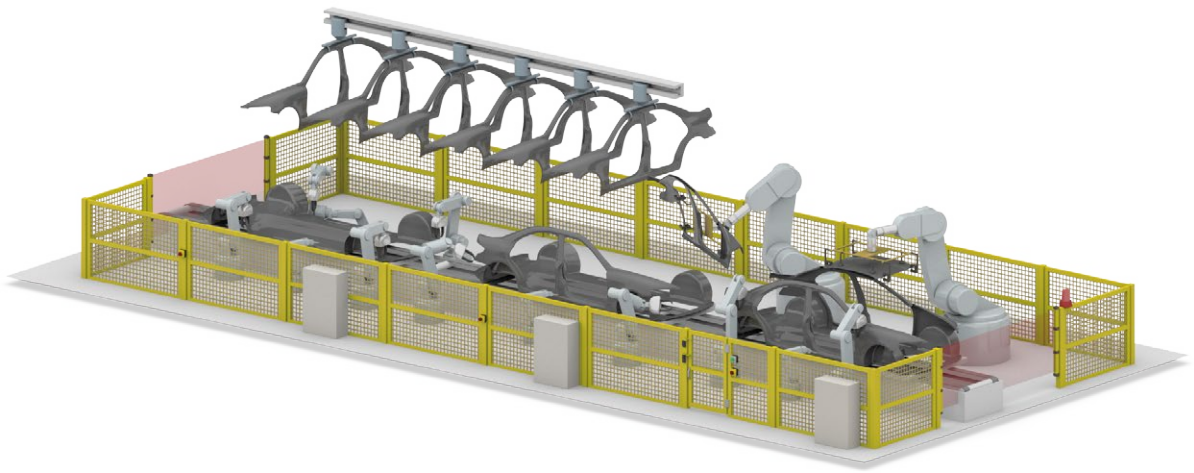
Safety communication

Safety and non-safety communications on the same network

The MELSEC iQ-R Series safety CPU enables both safety and non-safety communications on the same CC-Link IE Field Network.*1 Connectivity to general and safety control systems can be done without requiring a dedicated safety network which can increase system hardware cost.

*1. The safety communication function and submaster function cannot be used together. Safety communication between a MELSEC iQ-R Series safety station and a MELSEC-QS Series safety station is not supported.





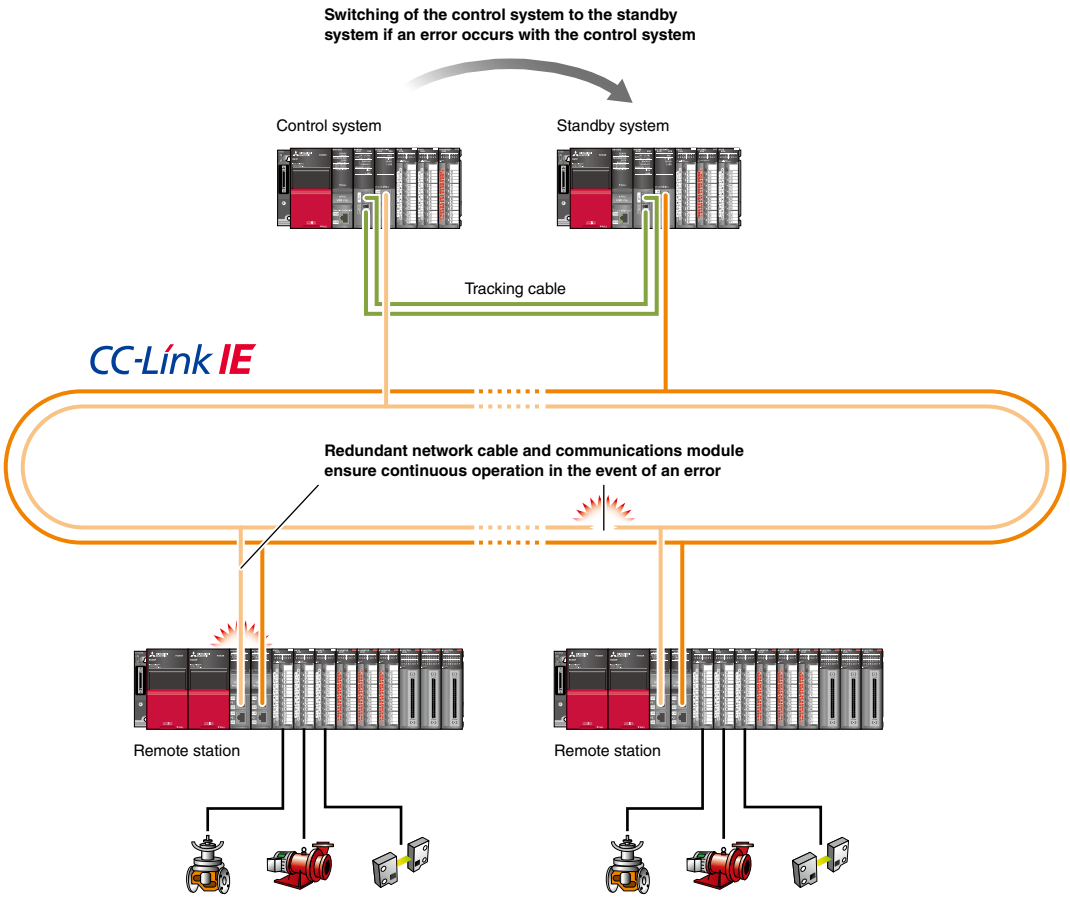
Improve reliability with reduced single-point failure

- Maintain communications during an error

High availability system

Improve reliability with redundant system

A multi-level redundant system can be realized by installing dual control systems consisting of the control (primary) and standby CPUs combined with a dual cable topology for the network cabling of the CC-Link IE Field Networks, and dual remote stations minimizing the risk of singe-point failure.

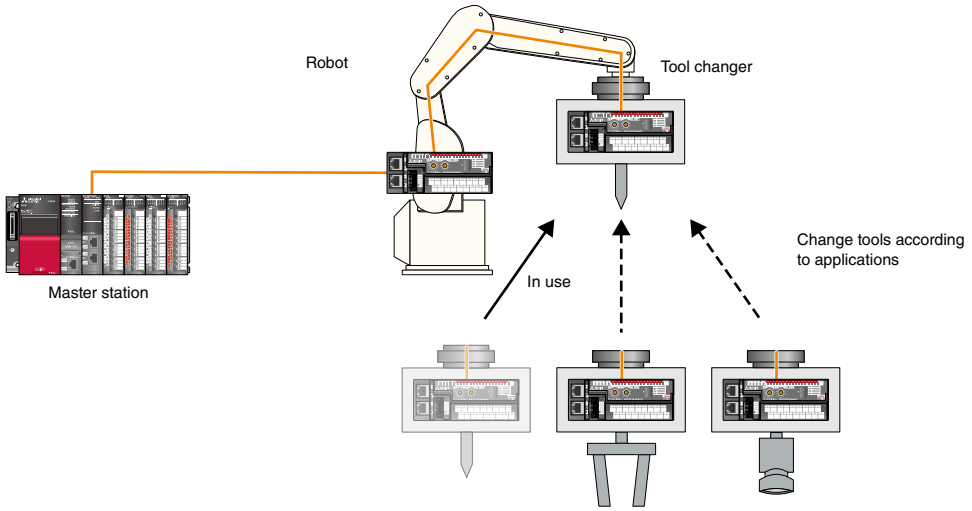


Reduced starting time shortens production cycle

Fast link-up function

Reduce starting time with fast link-up function

A remote module supporting fast link-up function*1 enables the disconnected station to return quickly when reconnected with the CC-Link IE Field Network after disconnection. In the system where a tool change mechanism (such as a tool changer) is used, reducing the starting time shortens production cycle time.



*1. For applicable modules, please refer to CC-Link IE Field Network Block type remote modules on page 25.

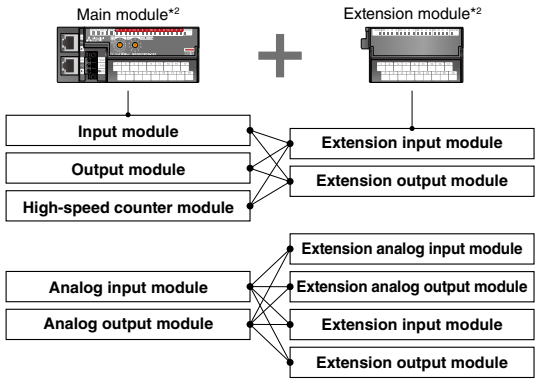
Flexible I/O point extension

Extension function

Easily increase I/O points by adding extension modules

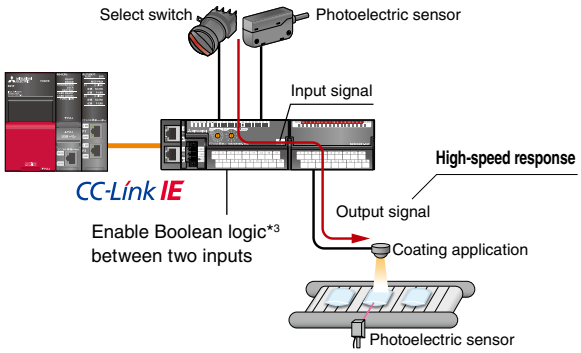
Extension function

Extension modules are used to increase the number of available I/O points by simply attaching it to the main I/O module, such as digital I/O, analog I/O, and high-speed counter modules.



Fast logic function

Output control in accordance with the input status is possible in I/O module without going through the master station.



*2. Extension modules which can connect multiple extension modules are available. For applicable modules, please refer to CC-Link IE Field Network block type remote modules on page 25.
*3. Both AND logic and OR logic are supported as an output state.

Simple network commissioning

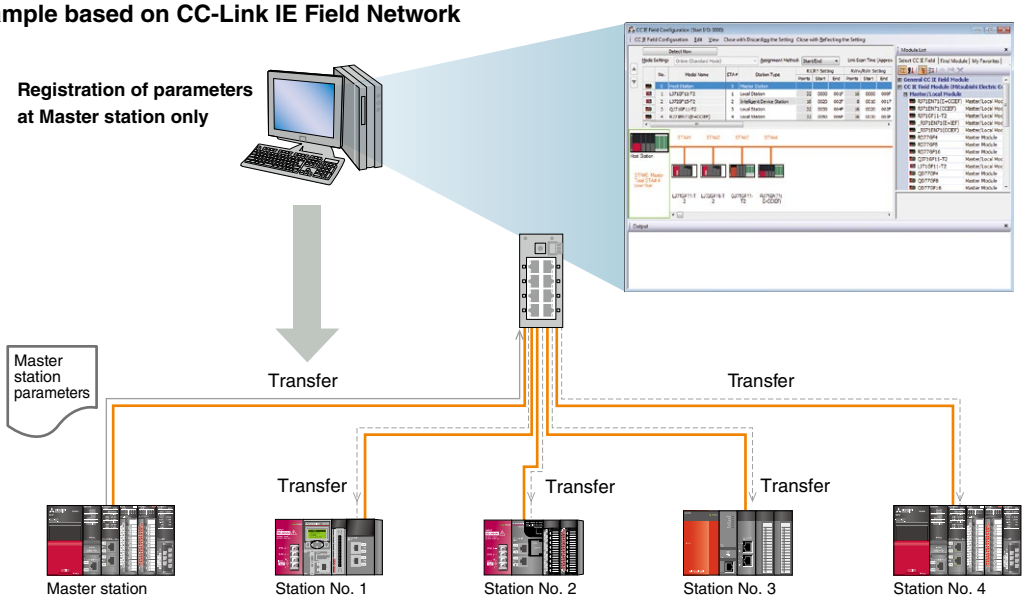
- Set up network parameters from one place
- Create the desired operation by following easy-to-follow configuration steps

Easy setup

Network commissioning by parameter setup only

Setting of parameters via the engineering software is quite easy with the master station (for CC-Link IE Field Network) or control station (for CC-Link IE Controller Network) requiring registration of parameters only. Both these head stations hold the necessary network parameters to enable network communication with other nodes.

▶Example based on CC-Link IE Field Network



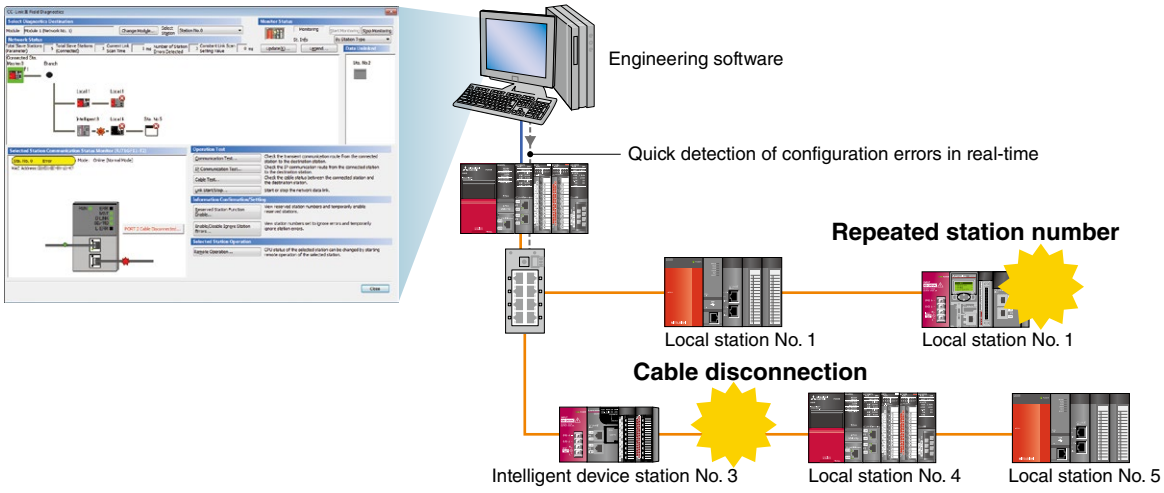
Quickly identify wiring and module errors

- Easily identify the location of errors
- Remotely identify error details

Easy diagnosis function

Diagnose and troubleshoot even with limited knowhow of CC-Link IE

The engineering software enables the easy identification of network errors. Route-cause analysis can be done quickly enabling minimum disruption to the control system. Graphical representation of the network is automatically created on the engineering software, making wiring and programmable controller errors clearly visible. Monitoring is also available on other stations via the network, enabling detection of overlapping station numbers and miswiring at the time that changes are made.



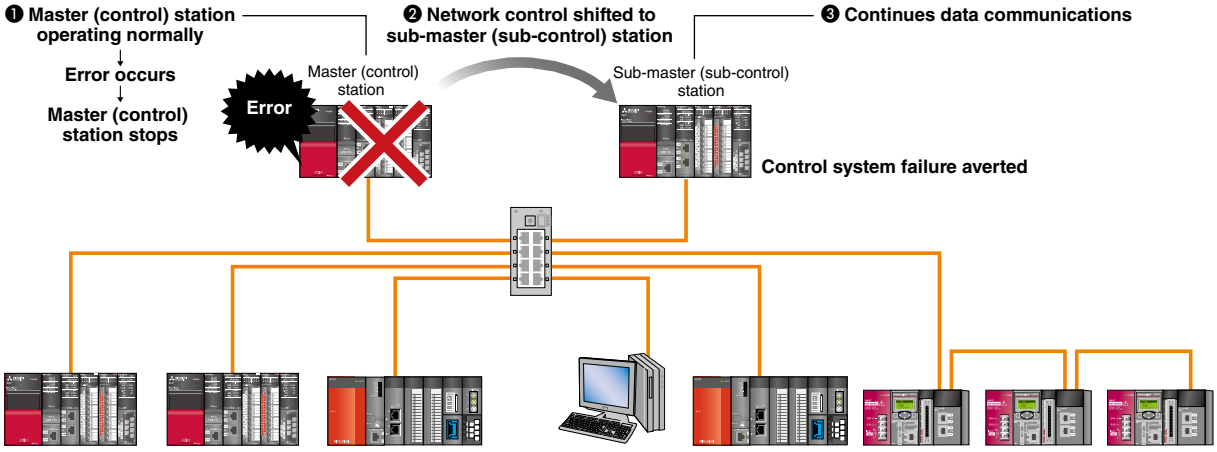
Avoiding entire network outage

- Avoid disruption to control system
- Maintain communications during an error

Submaster control, control station switching

Maintain data communications even if master (control) station stops

In the event that the “master or control station”*1 develops an error, the “sub-master or sub-control”*2 station takes over control of the network, ensuring continued network communications even when these nodes are lost.



*1. Referred to as the “Master station” for CC-Link IE Field network, and “Control station” for CC-Link IE Controller network.
*2. Referred to as the “Sub-master station” for CC-Link IE Field network, and “Sub-control station” for CC-Link IE Controller network.

Exceptionally fault-tolerant dual-loop optical cable

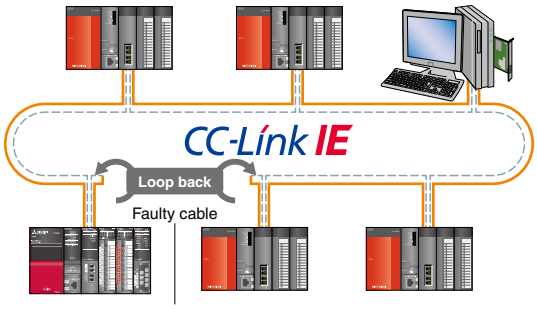
- Reduce the noise influence
- Maintain communications during an error

Highly-reliable loop topology

Fault-tolerant network

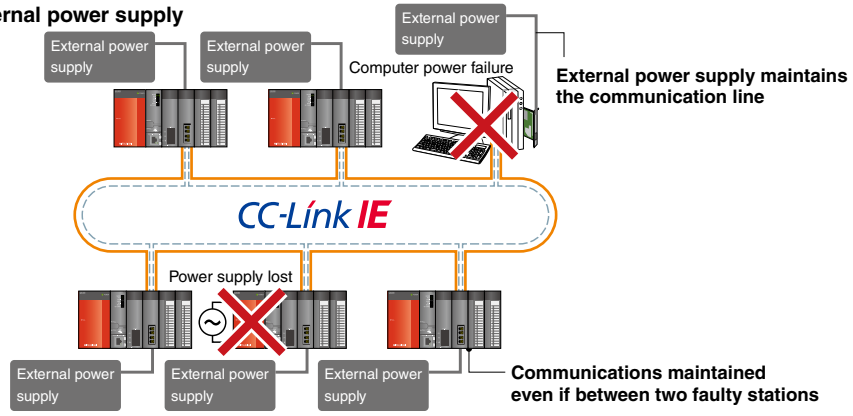
Dual-loop optical cables that provide noise-immunity to Electromagnetic Interference (EMI) and Radio Frequency Interference (RFI) are used. These robust cables include a loop-back function which ensures data communication even when there is a cable disconnection or the power supply is lost. In addition, an external power supply can be connected to modules supporting this feature, ensuring communications even if connection to the controller or computer is lost.

Loop-back function*1



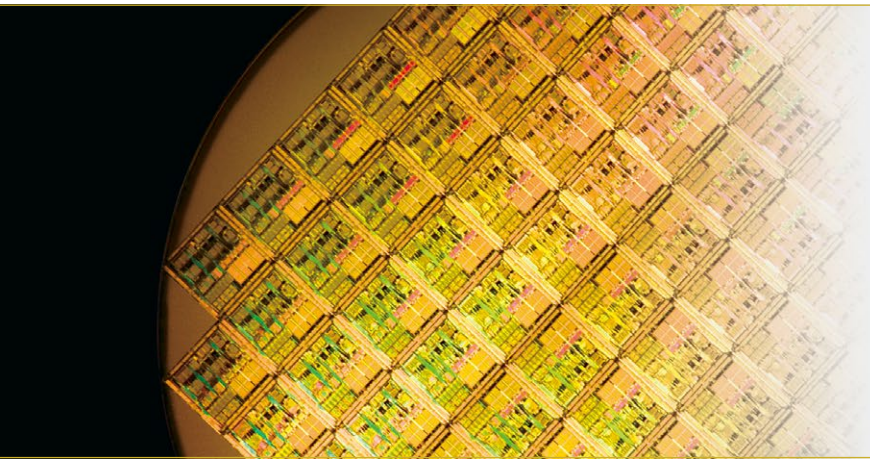
Loop-back function maintains communication

Using an external power supply



*1. Loop-back function is supported when using ring topology with twisted-pair cable (both CC-Link IE Field and Controller network).

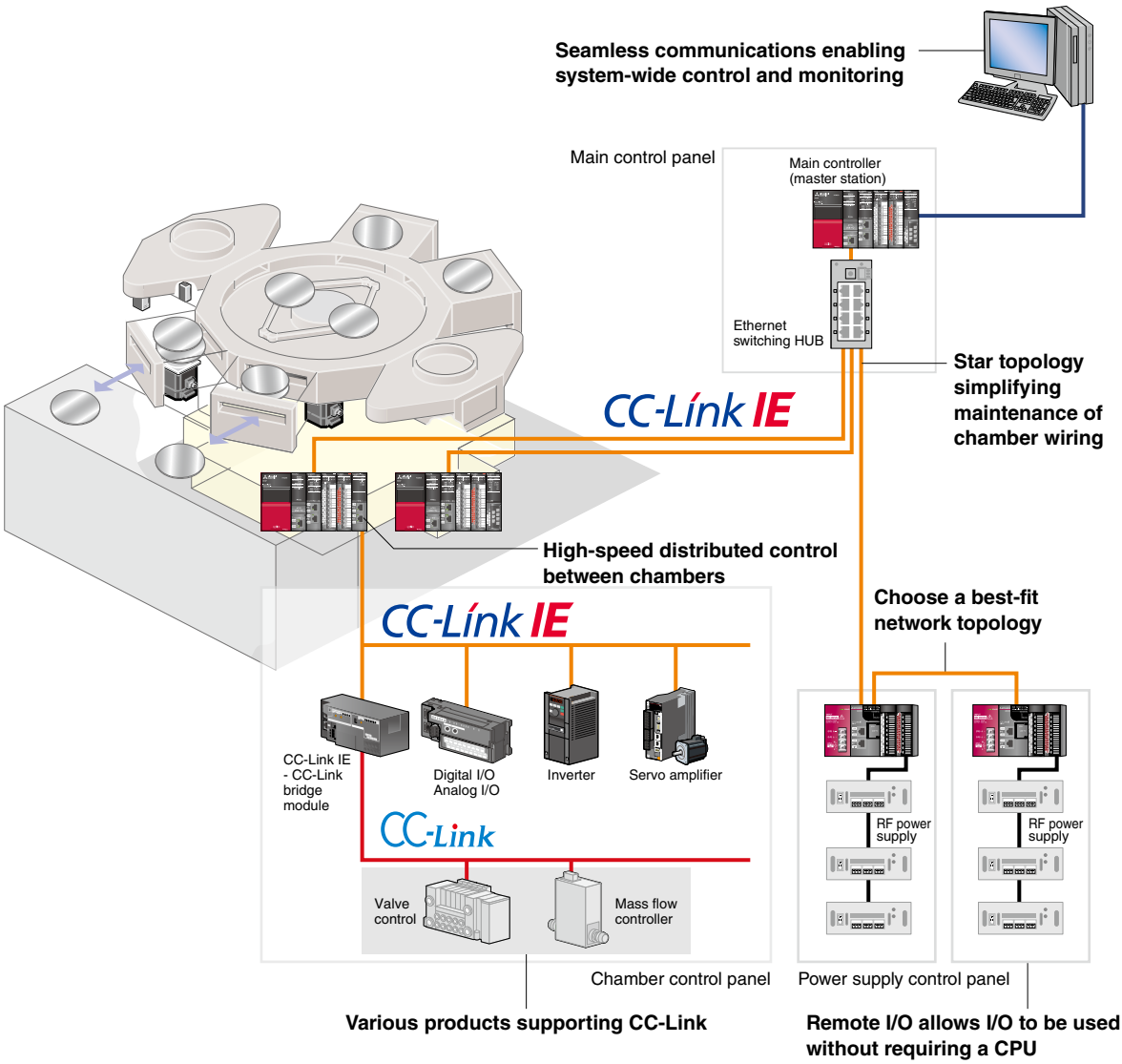
Semiconductor production system



Seamless communication
Centralized system operation and monitoring

Flexible wiring
Various equipment layouts by a combination of star and bus topologies

CC-Link integration
Connectable with various products supporting CC-Link



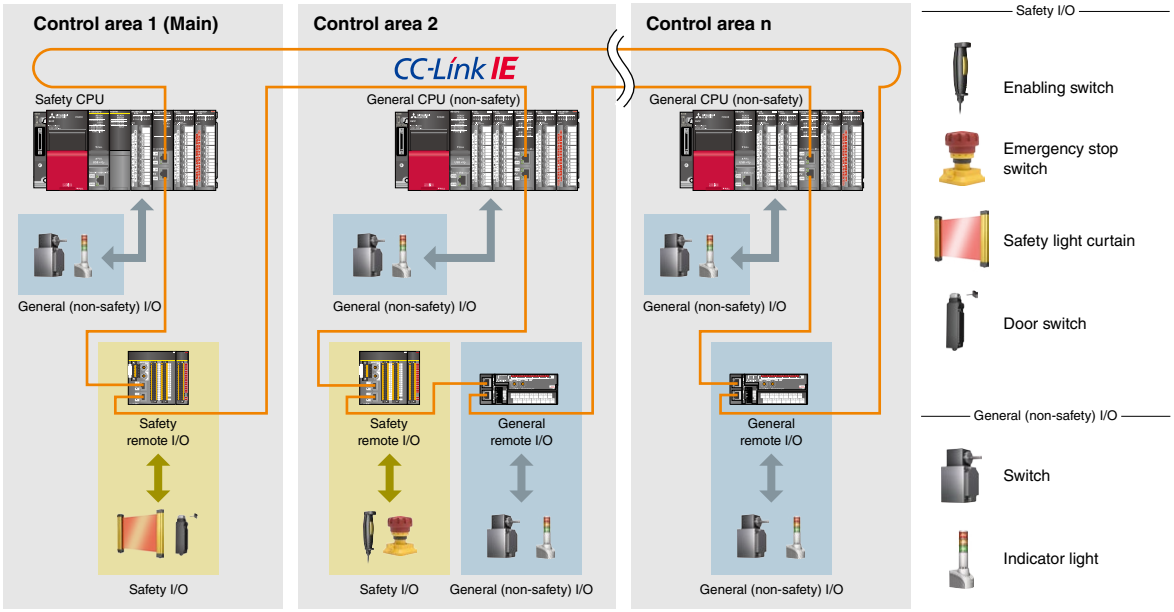
Automotive paint shop (Safety system)

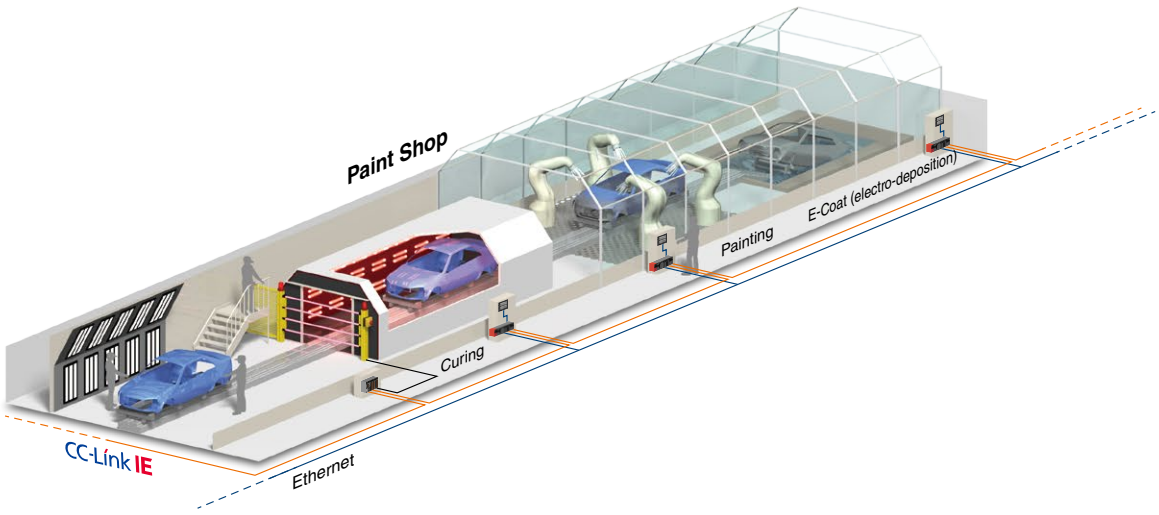
Safety communication between different processes

Safety control is coordinated between different processes

Integration of non-safety communications

General and safety control is performed on one network



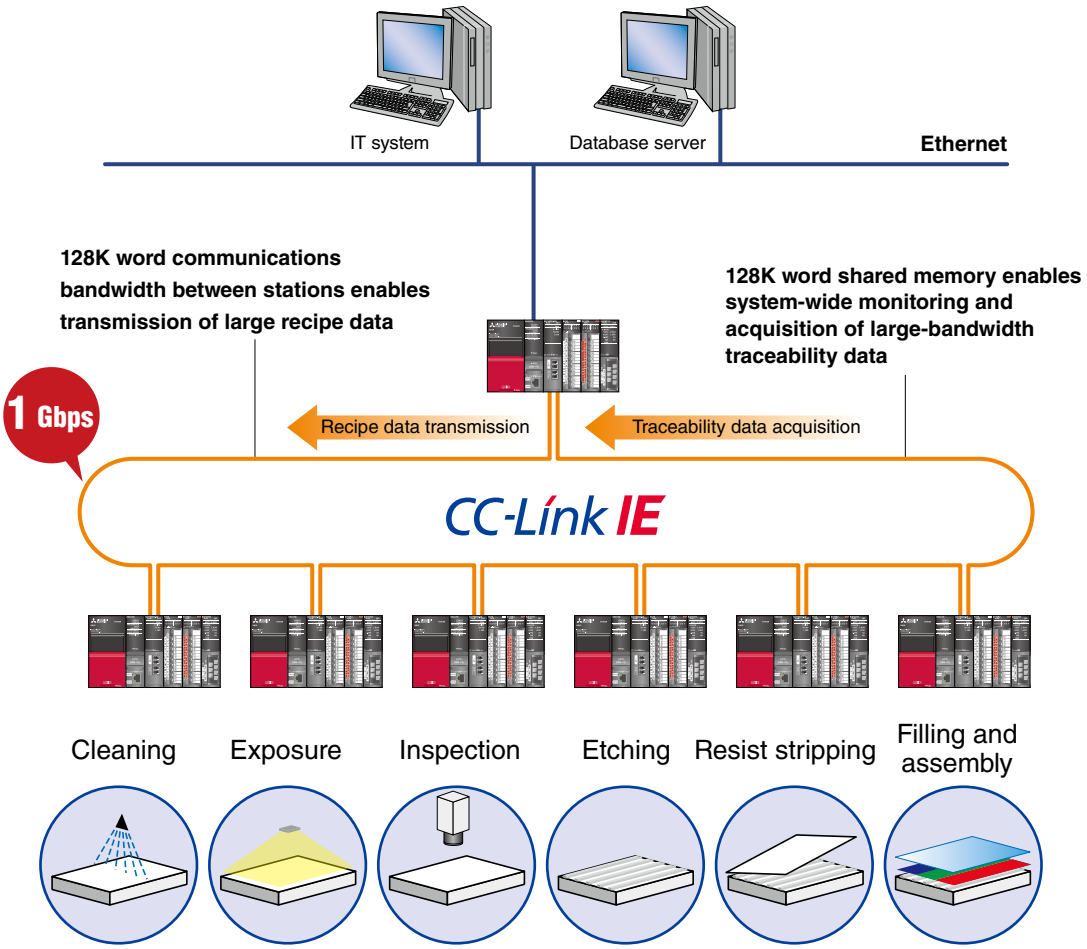


Flat panel display (FPD) production process

Super high speed
1 Gbps communication speed enables high-speed data transfer

Large capacity
Large volume of recipe and traceability data is transmitted together with cyclic communication

Cyclic communication
Cyclic communication bandwidth is fixed realizing deterministic control even when transient communications are varied

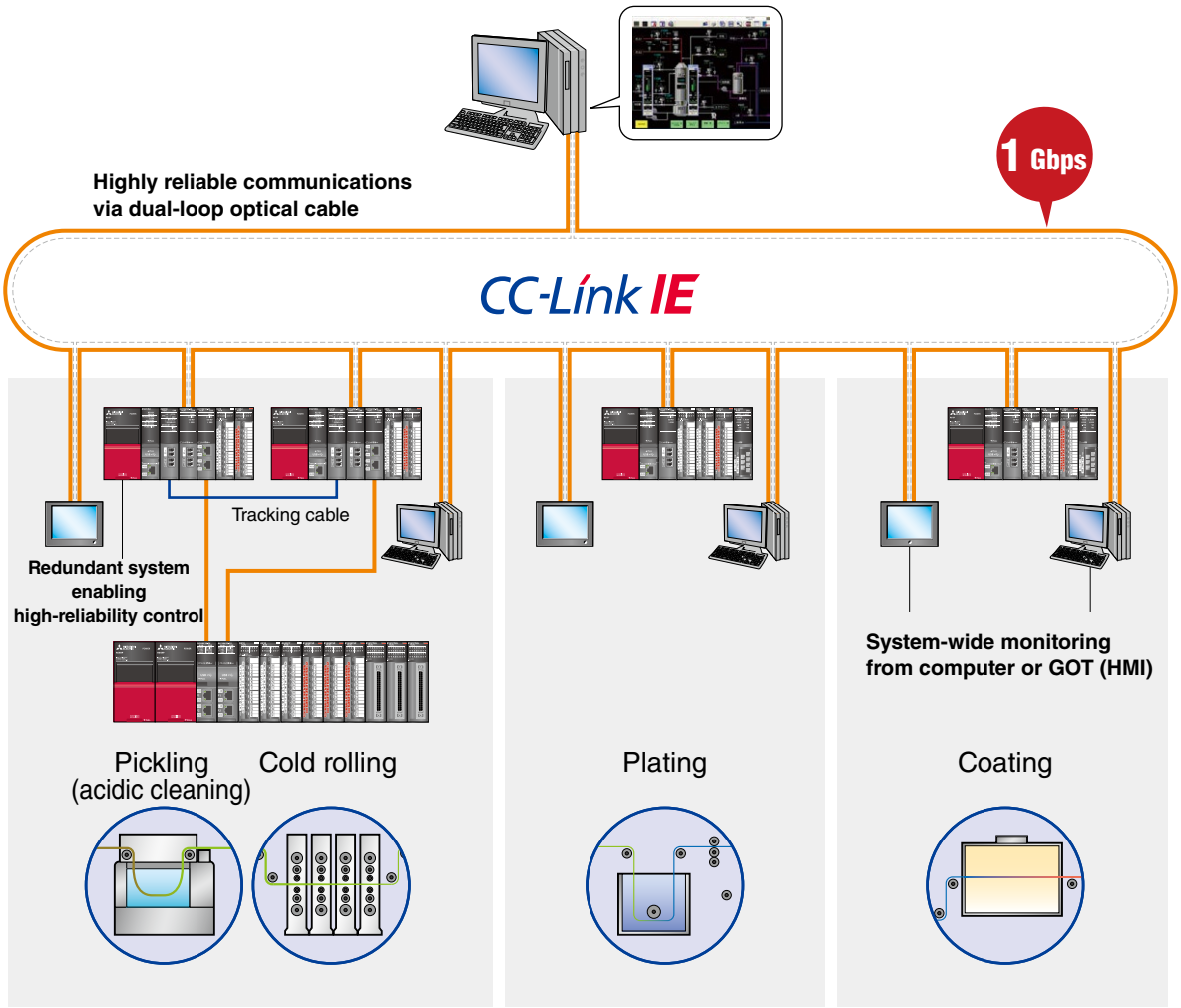


Steel production process

Large capacity
Large volume of recipe and traceability data is transmitted together with cyclic communication (1 Gbps)

Distributed control
Data is distributed between multiple controllers, realizing high traceability

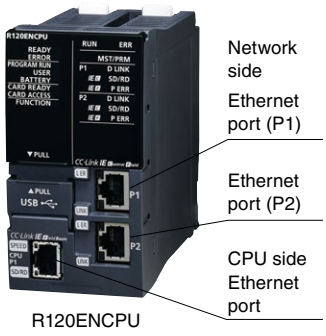
Highly-reliable
Realize highly-reliable system using redundant CPUs, dual-loop optical network, and external power supply



CC-Link IE embedded CPU module

R04ENCPU R08ENCPU R16ENCPU
R32ENCPU R120ENCPU

- CPU module with CC-Link IE embedded
- Dual Ethernet ports on the network side enable the module to operate as an Ethernet or CC-Link IE Field Network master/local station, or as a CC-Link IE Controller Network control/normal station
- The Ethernet port on the CPU side is used as an Ethernet communications port
- Dual Ethernet ports on the network side can be used as a gateway



R120ENCPU

■ Network combination*1

P1	C	F	E	E
P2			C	F

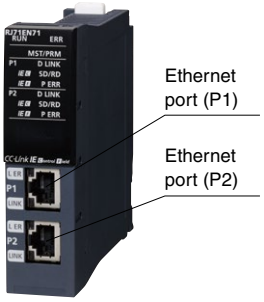
C : CC-Link IE Controller Network
F : CC-Link IE Field Network
E : Ethernet

*1. The CC-Link IE Field and CC-Link IE Controller networks cannot be used together.

Multi-network supporting Ethernet interface module

RJ71EN71*2

- Dual Ethernet ports enable the module to operate as an Ethernet or CC-Link IE Field Network master/local station, or a CC-Link IE Controller Network control/normal station



■ Network combination*3

P1	C	F	E	E	E
P2			C	F	E

C : CC-Link IE Controller Network
F : CC-Link IE Field Network
E : Ethernet

*2. Safety communication functions are not supported.
*3. The CC-Link IE Field and CC-Link IE Controller networks cannot be used together.

CC-Link IE Field Network master/local module

RJ71GF11-T2 QJ71GF11-T2 LJ71GF11-T2

- These modules can be used either as a CC-Link IE Field Network master or local station
- The station-based block data assurance feature ensures data integrity between stations (Output delay can be shortened by synchronization with END processing)
- In combination with a MELSEC iQ-R Series Safety CPU, RJ71GF11-T2 can be used as a safety master/local station


QJ71GF11-T2
RJ71GF11-T2 LJ71GF11-T2

CC-Link IE Controller Network module
RJ71GP21-SX RJ71GP21S-SX QJ71GP21-SX QJ71GP21S-SX

- These modules can be used either as a CC-Link IE Controller Network control or normal station
- Enables connection of an external power supply (QJ71GP21S-SX), which ensures communication even if the controller power is lost
- The station-based block data assurance feature ensures data integrity between stations

RJ71GP21-SX RJ71GP21S-SX QJ71GP21-SX

Module with external power supply I/P terminal

CC-Link IE Field Network simple motion module
RD77GF4 RD77GF8 RD77GF16 RD77GF32 QD77GF4 QD77GF8 QD77GF16

- Perform control of high-speed I/O and motion in one network, and provide a suitable system layout with highly flexible wiring
- Perform advanced motion control such as synchronous, cam, and positioning control including trajectory control
- Can be used as a CC-Link IE Field Network master station*1

*1. RD77GF does not support the sub-master function.
QD77GF does not support the local, sub-master, and safety communication functions.

RD77GF32 QD77GF16

CC-Link IE Field Network remote head module*2
RJ72GF15-T2

- A remote station can be realized through a combination of MELSEC iQ-R Series I/O and intelligent function modules used together with this module
- Through its flexibility in system design, a remote station can be created based on the application size
- Can access other stations on the network via USB port and perform parameter setting and monitoring, saving on system configuration time

*2. For details of applicable modules, please refer to the relevant product manual.

Supports up to 64 MELSEC iQ-R Series I/O modules and intelligent function modules per station.

CC-Link IE Field Network head module*1 LJ72GF15-T2

- A remote station can be realized through a combination of MELSEC-L Series I/O and intelligent function modules used together with this module
- Through its flexibility in system design, a remote station can be created based on the application size
- Can access other stations on the network via USB port and perform parameter setting and monitoring, saving on system configuration time

*1. For details of applicable modules, please refer to the relevant product manual.

Supports up to 10 MELSEC-L Series I/O modules and intelligent function modules per station.

CC-Link IE Field Network intelligent device station module FX5-CCLIEF

- Enables connection of MELSEC iQ-F Series to CC-Link IE Field Network as an intelligent device station
- Connectable to high-speed and high-capacity CC-Link IE Field Network, which also supports distributed controls, realizing shorter operating cycle time and improved traceability
- Supports seamless communication, which enables setup and maintenance from any network-connected point including a computer and shop floor device

■ AC Servo MELSERVO-J4 Series

▶CC-Link IE Field Network compatible servo amplifier
MR-J4-GF(-RJ)

- CC-Link IE Field Network function embedded
- With a master module, the servo amplifier can perform positioning operations just as easy as I/O operations, by using the point table method (positioning operations are performed based on the point table No. and start signal, without using a positioning module)
- Combined with the Simple Motion module, the servo amplifier can perform synchronous and interpolation control, in addition to speed and torque control

Model*1	Voltage class	Rated output	Fully closed loop control	Compatible servo motor		
				Rotary	Linear	Direct drive
MR-J4-□GF	200 V	0.1…22 kW	●	●	●	●
MR-J4-□GF4	400 V	0.6…22 kW	●	●	●	-
MR-J4-□GF1	100 V	0.1…0.4 kW	●	●	●	●
MR-J4-□GF-RJ	200 V	0.1…22 kW	●	●	●	●
MR-J4-□GF4-RJ	400 V	0.6…22 kW	●	●	●	-
MR-J4-□GF1-RJ	100 V	0.1…0.4 kW	●	●	●	●

*1. "□" in the model name denotes rated output. For further details about model name, please refer to the "MELSERVO-J4 catalog (L(NA)03058ENG)".

■ Inverter FREQROL-A800 Series

▶CC-Link IE Field Network compatible inverter
FR-A800-GF

- CC-Link IE Field Network function embedded*2
- High-speed communication of CC-Link IE Field Network realizes various inverter operations to be monitored at a fast rate (multiple monitoring and parameter reading/writing can also be executed simultaneously improving maintainability)
- Seamless network environment enables monitoring and setup of inverters from the IT system

Model*3	Voltage class	Capacity	Structure/functionality
FR-A820-□K-GF	200 V	0.4…90 kW	Standard model
FR-A840-□K-GF	400 V	0.4…280 kW	Standard model
FR-A842-□K-GF	400 V	315…500 kW	Separated converter type

*2. The CC-Link IE Field Network communication option (FR-A8NCE) is also available (applicable models: FR-A800 and FR-F800 Series inverters). For details, please refer to the "Inverter option catalog (L(NA)06054ENG)".

*3. "□" in the model name denotes rated output. For further details about model name, please refer to the "FR-A800 catalog (L(NA)06075ENG)".

HMI GOT2000 Series

CC-Link IE Field Network communication unit set
GT27□□-□□□□-GF GT25□□-□□□□-GF

- This product-set includes a GOT2000 Series GOT (GT27 or GT25*1) and a CC-Link IE Field Network communication unit*2
- Integrates the GOT (HMI) into a system as a CC-Link IE Field Network intelligent device station

*1. Not supported by GT2505, GT2512-WX, GT2510-WX, GT2507-W, GT2507T, GT2506HS, and GT2505HS.
*2. The CC-Link IE Field Network communication unit (GT15-J71GF13-T2) is also available separately. Applicable models are the same with the communication unit set.
For details, please refer to the "GOT 2000 Series catalog (L(NA)08270ENG)."

Model*3	Screen size	Panel color	Power supply	Multi-touch gesture functions
GT27				
GT2715-XTBA-GF	15"XGA	Black	100…240 V AC	●
GT2715-XTBD-GF	15"XGA	Black	24 V DC	●
GT2712-ST□A-GF	12.1"SVGA	Black/white	100…240 V AC	●
GT2712-ST□D-GF	12.1"SVGA	Black/white	24 V DC	●
GT2710-STBA-GF	10.4"SVGA	Black	100…240 V AC	●
GT2710-STBD-GF	10.4"SVGA	Black	24 V DC	●
GT2710-VT□A-GF	10.4"VGA	Black/white	100…240 V AC	●
GT2710-VT□D-GF	10.4"VGA	Black/white	24 V DC	●
GT2708-STBA-GF	8.4"SVGA	Black	100…240 V AC	●
GT2708-STBD-GF	8.4"SVGA	Black	24 V DC	●
GT2708-VTBA-GF	8.4"VGA	Black	100…240 V AC	●
GT2708-VTBD-GF	8.4"VGA	Black	24 V DC	●
GT2705-VTBD-GF	5.7"VGA	Black	24 V DC	●
GT25				
GT2512-STBA-GF	12.1"SVGA	Black	100…240 V AC	-
GT2512-STBD-GF	12.1"SVGA	Black	24 V DC	-
GT2510-VT□A-GF	10.4"VGA	Black/white	100…240 V AC	-
GT2510-VT□D-GF	10.4"VGA	Black/white	24 V DC	-
GT2508-VT□A-GF	8.4"VGA	Black/white	100…240 V AC	-
GT2508-VT□D-GF	8.4"VGA	Black/white	24 V DC	-

*3. "□" in the model name denotes panel color (B (black)/W (white)). For further details about model name, please refer to the "GOT 2000 Series catalog (L(NA)08270ENG)."

CC-Link IE Controller Network communication unit
GT15-J71GP23-SX

- GOT (HMI) communication unit for CC-Link IE Controller Network
- Integrates a GOT (HMI) as a normal station of CC-Link IE Controller Network

Supported by: GT27, GT25*4

*4. Not supported by GT2505, GT2512-WX, GT2510-WX, GT2507-W, GT2507T, GT2506HS, and GT2505HS.

CC-Link IE Field Network Block type remote modules

- Remote device station or intelligent device station of CC-Link IE Field Network. These modules are useful when installation positions close to I/O devices are required
- Supports CC-Link IE Field Network synchronized communication (By synchronizing with the master station*1*2, which supports synchronized communication, these modules perform highly-accurate synchronous operations as device stations.)
- Modules supporting extension function increases the number of I/O points by adding extension modules
- Modules*3 supporting fast link-up function quickly return when reconnected with the CC-Link IE Field Network after disconnection
- Modules*3 supporting automatic I/O parameter setting function can be operated without setting parameters, thereby reducing the start-up timing

*1. MELSEC iQ-R Series and simple motion module master stations support this feature.
*2. When using QD77GF16, this function cannot be used depending on the combination of the I/O module and software package used. For further details, please refer to the block type remote module manual.
*3. For applicable modules, please refer to function list on page 33.

Modules with CC-Link IE TSN are recognized as CC-Link IE TSN device station by changing the switch on the module front. Please refer to page 43 for details of CC-Link IE TSN network.

Main input modules

- Response time can be set at 0 ms, 0.2 ms, 0.5 ms, 1 ms, 1.5 ms, 5 ms, 10 ms, 20 ms and 70 ms

Spring-clamp terminal block type

NZ2GN2S1-16D
NZ2GN2S1-32D

NZ2GN2S1-32D

Model	Input type DC input	Input points	Rated input voltage/current	Wiring type	Max. extension modules
NZ2GN2S1-16D	Positive common, Negative common	16 points	24 V DC (6.6 mA)	1-wire	-
NZ2GN2S1-32D	Positive common, Negative common	32 points	24 V DC (6 mA)	1-wire	-

NZ2GF2S1-16D

Model	Input type DC input	Input points	Rated input voltage/current	Wiring type	Max. extension modules
NZ2GF2S1-16D	Positive common, Negative common	16 points	24 V DC (6 mA)	1-wire	1

Screw terminal block type

NZ2GN2B1-16D
NZ2GN2B1-32D

NZ2GN2B1-32D

Model	Input type DC input	Input points	Rated input voltage/current	Wiring type	Max. extension modules
NZ2GN2B1-16D	Positive common, Negative common	16 points	24 V DC (6.6 mA)	1-wire	-
NZ2GN2B1-32D	Positive common, Negative common	32 points	24 V DC (6 mA)	1-wire	-

NZ2GF2B1N1-16D
NZ2GF2B1-32D

NZ2GF2B1-32D

Model	Input type DC input	Input points	Rated input voltage/current	Wiring type	Max. extension modules
NZ2GF2B1N1-16D	Positive common, Negative common	16 points	24 V DC (6 mA)	1-wire	3
NZ2GF2B1-32D	Positive common, Negative common	32 points	24 V DC (6 mA)	1-wire	-

NZ2GF2B2-16A

Model	Input type	Input points	Rated input voltage, frequency	Rated input current	Wiring type	Max. extension modules
NZ2GF2B2-16A	AC input	16 points	100…120 V AC, 50/60 Hz	8.2 mA (100 V AC, 60 Hz) 6.8 mA (100 V AC, 50 Hz)	2-wire	1

Sensor connector (e-CON) type

NZ2GNCE3-32D

Model	Input type DC input	Input points	Rated input voltage/current	Wiring type	Max. extension modules
NZ2GNCE3-32D	Positive common	32 points	24 V DC (6.6 mA)	3-wire	-

Sensor connector (e-CON) type

NZ2GFCE3-16D
NZ2GFCE3-16DE
NZ2GFCE3N-32D

NZ2GFCE3N-32D

Model	Input type DC input	Input points	Rated input voltage/current	Wiring type	Max. extension modules
NZ2GFCE3-16D	Positive common	16 points	24 V DC (4 mA)	3-wire	1
NZ2GFCE3-16DE	Negative common	16 points	24 V DC (4 mA)	3-wire	1
NZ2GFCE3N-32D	Positive common	32 points	24 V DC (4 mA)	3-wire	1

40-pin connector type

NZ2GNCF1-32D

Model	Input type DC input	Input points	Rated input voltage/current	Wiring type	Max. extension modules
NZ2GNCF1-32D	Positive common, Negative common	32 points	24 V DC (6.6 mA)	1-wire	-

NZ2GFCF1-32D

Model	Input type DC input	Input points	Rated input voltage/current	Wiring type	Max. extension modules
NZ2GFCF1-32D	Positive common, Negative common	32 points	24 V DC (4 mA)	1-wire	1

Main output modules

- With output HOLD/CLEAR setting function, the equipment can be stopped when the output module is disconnected from network or when the CPU module stops, supporting the system flexibly
- ON/OFF status of the external power supply can be monitored with external power supply monitoring function

Spring-clamp terminal block type

NZ2GN2S1-16T
NZ2GN2S1-16TE
NZ2GN2S1-32T
NZ2GN2S1-32TE

NZ2GN2S1-32T

Model	Output type Transistor output	Output points	Rated load voltage/ Max. load current	Wiring type	Max. extension modules
NZ2GN2S1-16T	Sink	16 points	12/24 V DC (0.5 A/point, 4 A/common)	1-wire	-
NZ2GN2S1-16TE	Source	16 points	12/24 V DC (0.5 A/point, 4 A/common)	1-wire	-
NZ2GN2S1-32T	Sink	32 points	12/24 V DC (0.5 A/point, 5 A/common)	1-wire	-
NZ2GN2S1-32TE	Source	32 points	12/24 V DC (0.5 A/point, 5 A/common)	1-wire	-

NZ2GF2S1-16T
NZ2GF2S1-16TE

NZ2GF2S1-16T

Model	Output type Transistor output	Output points	Rated load voltage/ Max. load current	Wiring type	Max. extension modules
NZ2GF2S1-16T	Sink	16 points	12/24 V DC (0.5 A/point, 4 A/common)	1-wire	1
NZ2GF2S1-16TE	Source	16 points	12/24 V DC (0.5 A/point, 4 A/common)	1-wire	1

NZ2GF2S2-16R

Model	Output type	Output points	Rated switching voltage/current	Wiring type	Max. extension modules
NZ2GF2S2-16R	Contact output	16 points	24 V DC (2 A), 240 V AC (2 A)	2-wire	1

NZ2GF2S2-16S

Model	Output type	Output points	Rated load voltage, frequency/ Max. load current	Wiring type	Max. extension modules
NZ2GF2S2-16S	Triac output	16 points	100…240 V AC, 50/60 Hz (0.6 A/point, 4.8 A/common)	2-wire	1

Screw terminal block type

NZ2GN2B1-16T
NZ2GN2B1-16TE
NZ2GN2B1-32T
NZ2GN2B1-32TE

NZ2GN2B1-32T

Model	Output type Transistor output	Output points	Rated load voltage/ Max. load current	Wiring type	Max. extension modules
NZ2GN2B1-16T	Sink	16 points	12/24 V DC (0.5 A/point, 4 A/common)	1-wire	-
NZ2GN2B1-16TE	Source	16 points	12/24 V DC (0.5 A/point, 4 A/common)	1-wire	-
NZ2GN2B1-32T	Sink	32 points	12/24 V DC (0.5 A/point, 5 A/common)	1-wire	-
NZ2GN2B1-32TE	Source	32 points	12/24 V DC (0.5 A/point, 5 A/common)	1-wire	-

NZ2GF2B1N1-16T
NZ2GF2B1N1-16TE
NZ2GF2B1-32T
NZ2GF2B1-32TE

NZ2GF2B1-32T

Model	Output type Transistor output	Output points	Rated load voltage/ Max. load current	Wiring type	Max. extension modules
NZ2GF2B1N1-16T	Sink	16 points	12/24 V DC (0.5 A/point, 4 A/common)	1-wire	3
NZ2GF2B1N1-16TE	Source	16 points	12/24 V DC (0.5 A/point, 4 A/common)	1-wire	3
NZ2GF2B1-32T	Sink	32 points	12/24 V DC (0.5 A/point, 5 A/common)	1-wire	-
NZ2GF2B1-32TE	Source	32 points	12/24 V DC (0.5 A/point, 5 A/common)	1-wire	-

NZ2GF2B2-16R

Model	Output type	Output points	Rated switching voltage/current	Wiring type	Max. extension modules
NZ2GF2B2-16R	Contact output	16 points	24 V DC (2 A), 240 V AC (2 A)	2-wire	1

NZ2GF2B2-16S

Model	Output type	Output points	Rated load voltage, frequency/ Max. load current	Wiring type	Max. extension modules
NZ2GF2B2-16S	Triac output	16 points	100…240 V AC, 50/60 Hz (0.6 A/point, 4.8 A/common)	2-wire	1

Sensor connector (e-CON) type

NZ2GFCE3-16T
NZ2GFCE3-16TE
NZ2GFCE3N-32T

NZ2GFCE3N-32T

Model	Output type Transistor output	Output points	Rated load voltage/ Max. load current	Wiring type	Max. extension modules
NZ2GFCE3-16T	Sink	16 points	12/24 V DC (0.5 A/point, 4 A/common)	3-wire	1
NZ2GFCE3-16TE	Source	16 points	12/24 V DC (0.5 A/point, 4 A/common)	3-wire	1
NZ2GFCE3N-32T	Sink	32 points	12/24 V DC (0.5 A/point, 6 A/common)	3-wire	1

40-pin connector type

NZ2GNCF1-32T

Model	Output type Transistor output	Output points	Rated load voltage/ Max. load current	Wiring type	Max. extension modules
NZ2GNCF1-32T	Sink	32 points	12/24 V DC (0.1 A/point, 3.2 A/common)	1-wire	-

NZ2GFCF1-32T

Model	Output type Transistor output	Output points	Rated load voltage/ Max. load current	Wiring type	Max. extension modules
NZ2GFCF1-32T	Sink	32 points	12/24 V DC (0.1 A/point, 3.2 A/common)	1-wire	1

Main I/O combined modules

- Response time can be set at 0 ms, 0.2 ms, 0.5 ms, 1 ms, 1.5 ms, 5 ms, 10 ms, 20 ms and 70 ms
- With output HOLD/CLEAR setting function, the equipment can be stopped when the output module is disconnected from network or when the CPU module stops, supporting the system flexibly
- ON/OFF status of the external power supply can be monitored with external power supply monitoring function

Spring-clamp terminal block type

NZ2GN2S1-32DT
NZ2GN2S1-32DTE

NZ2GN2S1-32DTE

Model	Input type DC input	Input points	Rated input voltage/ current	Output type Transistor output	Output points	Rated load voltage/ Max. load current	Wiring type	Max. extension modules
NZ2GN2S1-32DT	Positive common	16 points	24 V DC (6 mA)	Sink	16 points	24 V DC (0.5 A/point, 4 A/common)	1-wire	-
NZ2GN2S1-32DTE	Negative common	16 points	24 V DC (6 mA)	Source	16 points	24 V DC (0.5 A/point, 4 A/common)	1-wire	-

Screw terminal block type

NZ2GN2B1-32DT
NZ2GN2B1-32DTE

NZ2GN2B1-32DT

Model	Input type DC input	Input points	Rated input voltage/ current	Output type Transistor output	Output points	Rated load voltage/ Max. load current	Wiring type	Max. extension modules
NZ2GN2B1-32DT	Positive common	16 points	24 V DC (6 mA)	Sink	16 points	24 V DC (0.5 A/point, 4 A/common)	1-wire	-
NZ2GN2B1-32DTE	Negative common	16 points	24 V DC (6 mA)	Source	16 points	24 V DC (0.5 A/point, 4 A/common)	1-wire	-

NZ2GF2B1-32DT
NZ2GF2B1-32DTE

NZ2GF2B1-32DT

Model	Input type DC input	Input points	Rated input voltage/ current	Output type Transistor output	Output points	Rated load voltage/ Max. load current	Wiring type	Max. extension modules
NZ2GF2B1-32DT	Positive common	16 points	24 V DC (6 mA)	Sink	16 points	24 V DC (0.5 A/point, 4 A/common)	1-wire	-
NZ2GF2B1-32DTE	Negative common	16 points	24 V DC (6 mA)	Source	16 points	24 V DC (0.5 A/point, 4 A/common)	1-wire	-

Sensor connector (e-CON) type

NZ2GNCE3-32DT

Model	Input type DC input	Input points	Rated input voltage/ current	Output type Transistor output	Output points	Rated load voltage/ Max. load current	Wiring type	Max. extension modules
NZ2GNCE3-32DT	Positive common	16 points	24 V DC (6.6 mA)	Sink	16 points	24 V DC (0.5 A/point, 4 A/common)	3-wire	-

NZ2GFCE3N-32DT

Model	Input type DC input	Input points	Rated input voltage/ current	Output type Transistor output	Output points	Rated load voltage/ Max. load current	Wiring type	Max. extension modules
NZ2GFCE3N-32DT	Positive common	16 points	24 V DC (4 mA)	Sink	16 points	24 V DC (0.5 A/point, 4 A/common)	3-wire	1

40-pin connector type

NZ2GFCF1-32DT

Model	Input type DC input	Input points	Rated input voltage/ current	Output type Transistor output	Output points	Rated load voltage/ Max. load current	Wiring type	Max. extension modules
NZ2GFCF1-32DT	Positive common Negative common	16 points	24 V DC (4 mA)	Sink	16 points	12/24 V DC (0.1 A/point, 1.6 A/common)	1-wire	1

CC-Link IE Field Network Block type remote modules function list*1

Type	Model	Synchronized communication	Data backup/restoration	Fast link-up	I/O parameter automatic setting
DC input	NZ2GN2S1-16D	●	-	●*2	-*3
	NZ2GN2S1-32D	●	-	●*2	-*3
	NZ2GF2S1-16D	●	-	-	-
	NZ2GN2B1-16D	●	-	●*2	-*3
	NZ2GN2B1-32D	●	-	●*2	-*3
	NZ2GF2B1N1-16D	●	●	●	●
	NZ2GF2B1-32D	●	●	●	●
	NZ2GNCE3-32D	●	-	●*2	-*3
	NZ2GFCE3-16D	●	●	-	-
	NZ2GFCE3-16DE	●	●	-	-
	NZ2GFCE3N-32D	●	●	●	●
	NZ2GNCF1-32D	●	-	●*2	-*3
	NZ2GFCF1-32D	●	●	-	●
AC input	NZ2GF2B2-16A	●	●	●	●
Transistor output	NZ2GN2S1-16T	●	-	●*2	-*3
	NZ2GN2S1-16TE	●	-	●*2	-*3
	NZ2GN2S1-32T	●	-	●*2	-*3
	NZ2GN2S1-32TE	●	-	●*2	-*3
	NZ2GF2S1-16T	●	-	-	-
	NZ2GF2S1-16TE	●	-	-	-
	NZ2GN2B1-16T	●	-	●*2	-*3
	NZ2GN2B1-16TE	●	-	●*2	-*3
	NZ2GN2B1-32T	●	-	●*2	-*3
	NZ2GN2B1-32TE	●	-	●*2	-*3
	NZ2GF2B1N1-16T	●	●	●	●
	NZ2GF2B1N1-16TE	●	●	●	●
	NZ2GF2B1-32T	●	●	●	●
	NZ2GF2B1-32TE	●	●	●	●
	NZ2GFCE3-16T	●	●	-	-
	NZ2GFCE3-16TE	●	●	-	-
	NZ2GFCE3N-32T	●	●	●	●
	NZ2GNCF1-32T	●	-	●*2	-*3
	NZ2GFCF1-32T	●	●	-	●
Contact output	NZ2GF2S2-16R	●	●	●	●
	NZ2GF2B2-16R	●	●	●	●
Triac output	NZ2GF2S2-16S	●	●	●	●
	NZ2GF2B2-16S	●	●	●	●
I/O combined	NZ2GN2S1-32DT	●	-	●*2	-*3
	NZ2GN2S1-32DTE	●	-	●*2	-*3
	NZ2GN2B1-32DT	●	-	●*2	-*3
	NZ2GN2B1-32DTE	●	-	●*2	-*3
	NZ2GF2B1-32DT	●	●	●	-
	NZ2GF2B1-32DTE	●	●	●	●
	NZ2GNCE3-32DT	●	-	●*2	-*3
	NZ2GFCE3N-32DT	●	●	●	●
	NZ2GFCF1-32DT	●	●	-	●

*1. For more information about modules and functions not stated in this list, please refer to the relevant module page.
*2. Supported only when CC-Link IE Field Network is used.
*3. This function is not included since it is set by default.

Multiple input (voltage/current/temperature) module

- Galvanic channel isolation and conversion speed is 40 ms/4 channels
- Spring-clamp terminal block does not require screw tightening, reducing wiring tasks
- Supports variety of temperature sensors (12 types of thermocouple, 10 types of RDT)

Spring-clamp terminal block type

NZ2GF2S-60MD4

Model	Input type	Number of channels	Max. extension modules	Synchronized communication
NZ2GF2S-60MD4	Analog voltage/current/temperature input	4 ch	-	-

Analog modules

- The module setup is done only using function setting switches*1 on the module front. Setup with engineering software is unnecessary, reducing engineering time and setup time.

*1. Modules supporting CC-Link IE Field Network only do not have setting switches.

▶Input module

Spring-clamp terminal block type

NZ2GN2S-60AD4

Model	Input type	Number of channels	Max. extension modules	Synchronized communication
NZ2GN2S-60AD4	Analog voltage/current input	4 ch	-	-*2

Screw terminal block type

NZ2GN2B-60AD4

Model	Input type	Number of channels	Max. extension modules	Synchronized communication
NZ2GN2B-60AD4	Analog voltage/current input	4 ch	-	-*2

NZ2GF2BN-60AD4

Model	Input type	Number of channels	Max. extension modules	Synchronized communication
NZ2GF2BN-60AD4	Analog voltage/current input	4 ch	1	●

*2. Supported only when CC-Link IE TSN communication is used.

Sensor connector (e-CON) type

NZ2GFCE-60ADV8
NZ2GFCE-60ADI8

NZ2GFCE-60ADV8

Model	Input type	Number of channels	Max. extension modules	Synchronized communication
NZ2GFCE-60ADV8	Analog voltage input	8 ch	-	-
NZ2GFCE-60ADI8	Analog current input	8 ch	-	-

▶Output module

Spring-clamp terminal block type

NZ2GN2S-60DA4

Model	Output type	Number of channels	Max. extension modules	Synchronized communication
NZ2GN2S-60DA4	Analog voltage/current output	4 ch	-	-*1

Screw terminal block type

NZ2GN2B-60DA4

Model	Output type	Number of channels	Max. extension modules	Synchronized communication
NZ2GN2B-60DA4	Analog voltage/current output	4 ch	-	-*1

NZ2GF2BN-60DA4

Model	Output type	Number of channels	Max. extension modules	Synchronized communication
NZ2GF2BN-60DA4	Analog voltage/current output	4 ch	1	●

*1. Supported only when CC-Link IE TSN communication is used.

Sensor connector (e-CON) type

NZ2GFCE-60DAV8
NZ2GFCE-60DAI8

NZ2GFCE-60DAV8

Model	Output type	Number of channels	Max. extension modules	Synchronized communication
NZ2GFCE-60DAV8	Analog voltage output	8 ch	-	-
NZ2GFCE-60DAI8	Analog current output	8 ch	-	-

Temperature control modules

- Operates at a sampling cycle of 250 ms/4 channels, with standard control (heating or cooling) or mixed-mode (heating and cooling combined) supported
- The Simultaneous temperature rise, Peak current suppression, and Self-tuning functions included
- Input channel-isolation

Screw terminal block

NZ2GF2B-60TCTT4
NZ2GF2B-60TCRT4

NZ2GF2B-60TCTT4

Model	Input type	Output type Transistor output	Number of channels	Max. extension modules	Synchronized communication
NZ2GF2B-60TCTT4	Thermocouple input	Sink	4 ch	-	-
NZ2GF2B-60TCRT4	RTD input	Sink	4 ch	-	-

High-speed counter module

- Counting speed of 8 Mpps max (Duty ratio of the PWM output function can be set in 0.1 µs increments enabling precise output control)
- The pulse measurement function with 100 ns measurement resolution enables highly-accurate pulse width measurement

40-pin connector type

NZ2GFCF-D62PD2

Model	Input type	Output type Transistor output	Number of channels	Max. extension modules	Synchronized communication
NZ2GFCF-D62PD2	Differential input, DC input	Sink	2 ch	1	●

Extension modules

▶Input/output module

- Increases the number of available I/O points for the remote I/O, analog I/O, and high-speed counter modules
- Combined with an analog input module, the extension module receives external signals for A-D conversion sampling timing control (sampling trigger adjustment)
- Combined with a high-speed counter module, the extension module enables the Cam switch function to provide ON/OFF control at an accurate cycle
- When a main input module, main output module or I/O combined module supporting CC-Link IE Field Network synchronous communication function is connected, synchronous communication function can be used
- When an extension output module is connected to a main input module, main output module or I/O combined module, ON times integration function can be used

Spring-clamp terminal block type

NZ2EX2S1-16D
NZ2EX2S1-16T
NZ2EX2S1-16TE

NZ2EX2S1-16D

Model	Input type DC input	Input points	Rated input voltage/current	Wiring type	Multiple modules connectable
NZ2EX2S1-16D	Positive common, Negative common	16 points	24 V DC (6 mA)	1-wire	-

Model	Output type Transistor output	Output points	Rated load voltage/ Max. load current	Wiring type	Multiple modules connectable
NZ2EX2S1-16T	Sink	16 points	12/24 V DC (0.5 A/point, 4 A/common)	1-wire	-
NZ2EX2S1-16TE	Source	16 points	12/24 V DC (0.5 A/point, 4 A/common)	1-wire	-

Screw terminal block

NZ2EX2B1N-16D
NZ2EX2B1N-16T
NZ2EX2B1N-16TE

NZ2EX2B1N-16D

Model	Input type DC input	Input points	Rated input voltage/current	Wiring type	Multiple modules connectable
NZ2EX2B1N-16D	Positive common, Negative common	16 points	24 V DC (6 mA)	1-wire	●

Model	Output type Transistor output	Output points	Rated load voltage/ Max. load current	Wiring type	Multiple modules connectable
NZ2EX2B1N-16T	Sink	16 points	12/24 V DC (0.5 A/point, 4 A/common)	1-wire	●
NZ2EX2B1N-16TE	Source	16 points	12/24 V DC (0.5 A/point, 4 A/common)	1-wire	●

▶Analog input/output module

- Extends the number of analog points without any changes required to the network configuration
- Conversion speed can be selected from 100 µs/channel, 400 µs/channel, and 1 ms/channel for the analog input module (Conversion speed switch function)
- Conversion speed is 100 µs/channel for analog output module
- Enables connection with analog I/O modules

Screw terminal block

NZ2EX2B-60AD4
NZ2EX2B-60DA4

NZ2EX2B-60AD4

Model	Input/output type	Number of channels	Multiple modules connectable
NZ2EX2B-60AD4	Analog voltage/current input	4 ch	-
NZ2EX2B-60DA4	Analog voltage/current output	4 ch	-

CC-Link IE Field Network
Waterproof/dustproof type (IP67) remote modules

- Complies with IP67 rating. A control panel is no longer necessary, saving on hardware cost and space
- Supporting the maximum load current of 4 A/point, a large load can be directly driven

NZ2GN12A42-16DT

▶Input modules

Waterproof connector (screw lock)

NZ2GN12A4-16D
NZ2GN12A4-16DE

Model	Input type DC input	Input points	Rated input voltage/current	Wiring type
NZ2GN12A4-16D	Positive common	16 points	24 V DC (7.3 mA)	2- to 4-wire
NZ2GN12A4-16DE	Negative common	16 points	24 V DC (7.3 mA)	2- to 4-wire

▶Output modules

Waterproof connector (screw lock)

NZ2GN12A2-16T
NZ2GN12A2-16TE

Model	Output type Transistor output	Output points	Rated load voltage/ Max. load current	Wiring type
NZ2GN12A2-16T	Sink	16 points	12/24 V DC (2 A/point, 4 A/point, 12 A/common)*1	2-wire
NZ2GN12A2-16TE	Source	16 points	12/24 V DC (2 A/point, 4 A/point, 12 A/common)*1	2-wire

▶I/O combined modules

Waterproof connector (screw lock)

NZ2GN12A42-16DT
NZ2GN12A42-16DTE

Model	Input type DC input	Input points	Rated input voltage/ current	Output type Transistor output	Output points	Rated load voltage/ Max. load current	Wiring type
NZ2GN12A42-16DT	Positive common	8 points	24 V DC (7.3 mA)	Sink	8 points	12/24 V DC (2 A/point, 4 A/point, 12 A/common)*1	2- to 4-wire (input) 2-wire (output)
NZ2GN12A42-16DTE	Negative common	8 points	24 V DC (7.3 mA)	Source	8 points	12/24 V DC (2 A/point, 4 A/point, 12 A/common)*1	2- to 4-wire (input) 2-wire (output)

*1. Maximum load current specifications may vary depending on the type of output terminal. For details, please refer to the relevant product manual.

CC-Link IE Field Network safety remote I/O modules

- Remote I/O modules that support safety functions of CC-Link IE Field Network
- Performs safety control when used together with the MELSEC iQ-R Series safety CPU

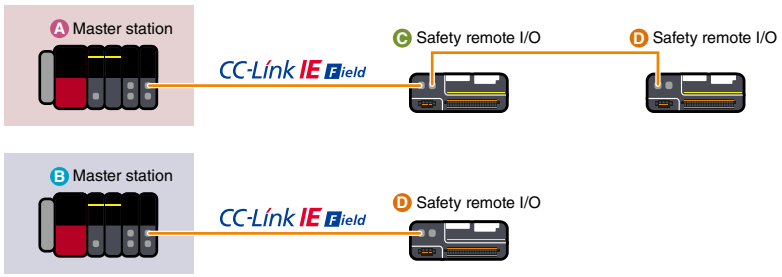
■Safety protocol versions and safety communication standards

Safety communication of the CC-Link IE Field Network complies with safety communication standards (IEC61784-3). Please note that said standards of different publication year applies to each safety protocol version.

Safety protocol version	Safety communication standards publication year
1	IEC 61784-3: 2010
2	IEC 61784-3: 2021

Safety protocol versions vary depending on the product types and firmware versions.
Please refer to the connectability of the master stations and safety remote I/Os below.
For how to check firmware versions, please refer to the relevant product manuals.

▶ Connectability of the master stations and safety remote I/Os



A Safety protocol versions: 1 and 2 Master station (safety CPU module): firmware version 29 or later
(master module RJ71GF11-T2): firmware version 70 or later

B Safety protocol version: 1 Master station (safety CPU module): firmware versions 01 to 28
(master module RJ71GF11-T2): firmware versions 06 to 69

C Safety protocol version: 2 Safety remote I/O: Model name ends with “-S1”

D Safety protocol version: 1 Safety remote I/O: Model name does not end with “-S1”

●: System configuration is possible; ○: possible with constraints*1; -: not possible

Connected device (master station)	Safety remote I/O		
Firmware version of connected device	C	C + D	D
A	●	○*1	○*1
B	-	-	○*1

*1. Although a system can be configured, it is not possible to newly acquire a certification from a third-party certification body. As compliance with the latest standard is required to acquire a certification, it is recommended that only products that support safety protocol version 2 be used when acquiring a certification.

Safety protocol version: 2

▶Safety input modules

Spring-clamp terminal block type

NZ2GFSS2-8D-S1 NEW
NZ2GFSS2-32D-S1 NEW

NZ2GFSS2-8D-S1

NZ2GFSS2-32D-S1

Model	Input type DC input	Input points	Rated input voltage/ current	Wiring type	Extension module connectability	Connectable device	
						A	B
NZ2GFSS2-8D-S1	Negative common	Single wiring: 8 points Double wiring: 4 points	24 V DC (7 mA)	2-wire	●	●	-
NZ2GFSS2-32D-S1	Negative common	Single wiring: 32 points Double wiring: 16 points	24 V DC (6 mA)	2-wire	●	●	-

Safety protocol version: 2

▶Safety output module

Spring-clamp terminal block type

NZ2GFSS2-8TE-S1 NEW

Model	Output type Transistor output	Output points	Rated load voltage/ Max. load current	Wiring type	Extension module connectability	Connectable device	
						A	B
NZ2GFSS2-8TE-S1	Source + source	Single wiring: 8 points Double wiring: 4 points	24 V DC (0.5 A/point)	2-wire	●	●	-

Safety protocol version: 2

▶Safety I/O combined module

Spring-clamp terminal block type

NZ2GFSS2-16DTE-S1 NEW

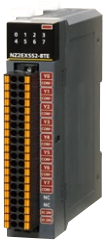
Model	Input type DC input	Input points	Rated input voltage/current	Output type Transistor output	Output points	Rated load voltage/ Max. load current	Wiring type	Extension module connectability	Connectable device	
									A	B
NZ2GFSS2-16DTE-S1	Negative common	Single wiring: 8 points Double wiring: 4 points	24 V DC (7 mA)	Source + source	Single wiring: 8 points Double wiring: 4 points	24 V DC (0.5 A/point)	2-wire	●	●	-

For details on A, B, C, and D, please refer to page 39.

▶Extension safety output module

Spring-clamp terminal block type

NZ2EXSS2-8TE



Model	Output type Transistor output	Output points	Rated load voltage/ Max. load current	Wiring type
NZ2EXSS2-8TE*1	Source + source	Single wiring: 8 points Double wiring: 4 points	24 V DC (0.5 A/point)	2-wire

*1. This product is connectable with safety input modules (NZ2GFSS2-32D, NZ2GFSS2-32D-S1).

When using Ⓑ for the master station, please select the following products.

Ⓓ Safety protocol version: 1

▶ Safety input modules

Spring-clamp terminal block type

NZ2GFSS2-8D
NZ2GFSS2-32D

NZ2GFSS2-8D

NZ2GFSS2-32D

Model	Input type DC input	Input points	Rated input voltage/ current	Wiring type	Extension module connectability	Connectable device	
						Ⓐ	Ⓑ
NZ2GFSS2-8D	Negative common	Single wiring: 8 points Double wiring: 4 points	24 V DC (7 mA)	2-wire	●	●	●
NZ2GFSS2-32D	Negative common	Single wiring: 32 points Double wiring: 16 points	24 V DC (6 mA)	2-wire	●	●	●

Ⓓ Safety protocol version: 1

▶ Safety output module

Spring-clamp terminal block type

NZ2GFSS2-8TE

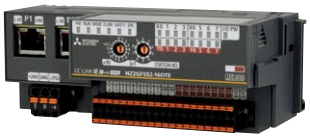
Model	Output type Transistor output	Output points	Rated load voltage/ Max. load current	Wiring type	Extension module connectability	Connectable device	
						Ⓐ	Ⓑ
NZ2GFSS2-8TE	Source + source	Single wiring: 8 points Double wiring: 4 points	24 V DC (0.5 A/point)	2-wire	●	●	●

Ⓓ Safety protocol version: 1

▶ Safety I/O combined module

Spring-clamp terminal block type

NZ2GFSS2-16DTE



Model	Input type DC input	Input points	Rated input voltage/ current	Output type Transistor output	Output points	Rated load voltage/ Max. load current	Wiring type	Extension module connectability	Connectable device	
									Ⓐ	Ⓑ
NZ2GFSS2-16DTE	Negative common	Single wiring: 8 points Double wiring: 4 points	24 V DC (7 mA)	Source + source	Single wiring: 8 points Double wiring: 4 points	24 V DC (0.5 A/point)	2-wire	●	●	●

For details on Ⓐ, Ⓑ, Ⓒ, and Ⓓ, please refer to page 39.

CC-Link IE Field Network remote IO-Link modules

- Support CC-Link IE Field Network
- Control IO-Link standard devices as the IO-Link master module
- Water proof types do not require a control panel, saving on hardware cost and space

Spring-clamp terminal block type

NZ2GF2S-60IOLD8

Model	Number of IO-Link channels	Rated load voltage/ Rated load current (L+)*1	Transmission speed*2	IO-Link compatible protocol	Waterproof (IP67)
NZ2GF2S-60IOLD8	8 ch	24 V DC (1.6 A)	4.8 kbaud (COM1) 38.4 kbaud (COM2) 230.4 kbaud (COM3)	V1.1.2	-

Waterproof connector

NZ2GF12A-60IOLH8

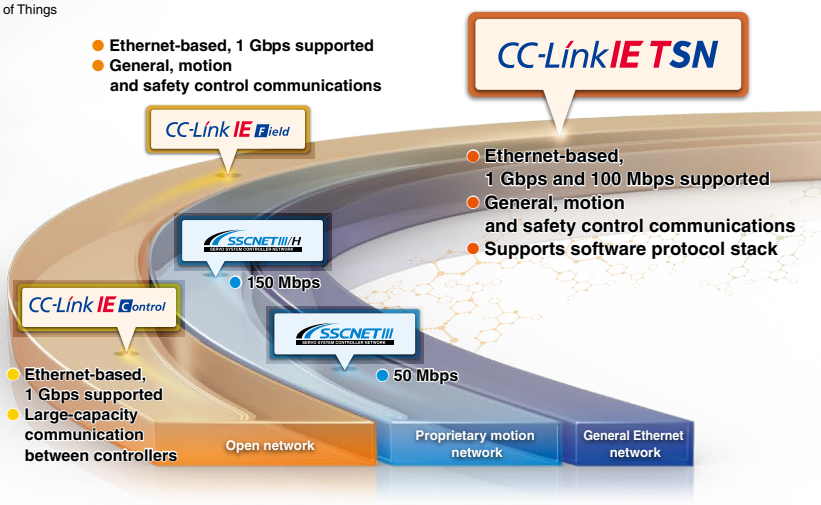
Model	Number of IO-Link channels	Rated load voltage/ Max. load current (L+)*1	Transmission speed*2	IO-Link compatible protocol	Waterproof (IP67)
NZ2GF12A-60IOLH8	8 ch	24 V DC (1.3 A/channel, 9 A/common)	4.8 kbaud (COM1) 38.4 kbaud (COM2) 230.4 kbaud (COM3)	V1.1.2	●

*1. Power supply line to IO-Link device.
*2. Transmission speed differs according to the connected IO-Link device.

Open integrated CC-Link IE TSN across manufacturing sites

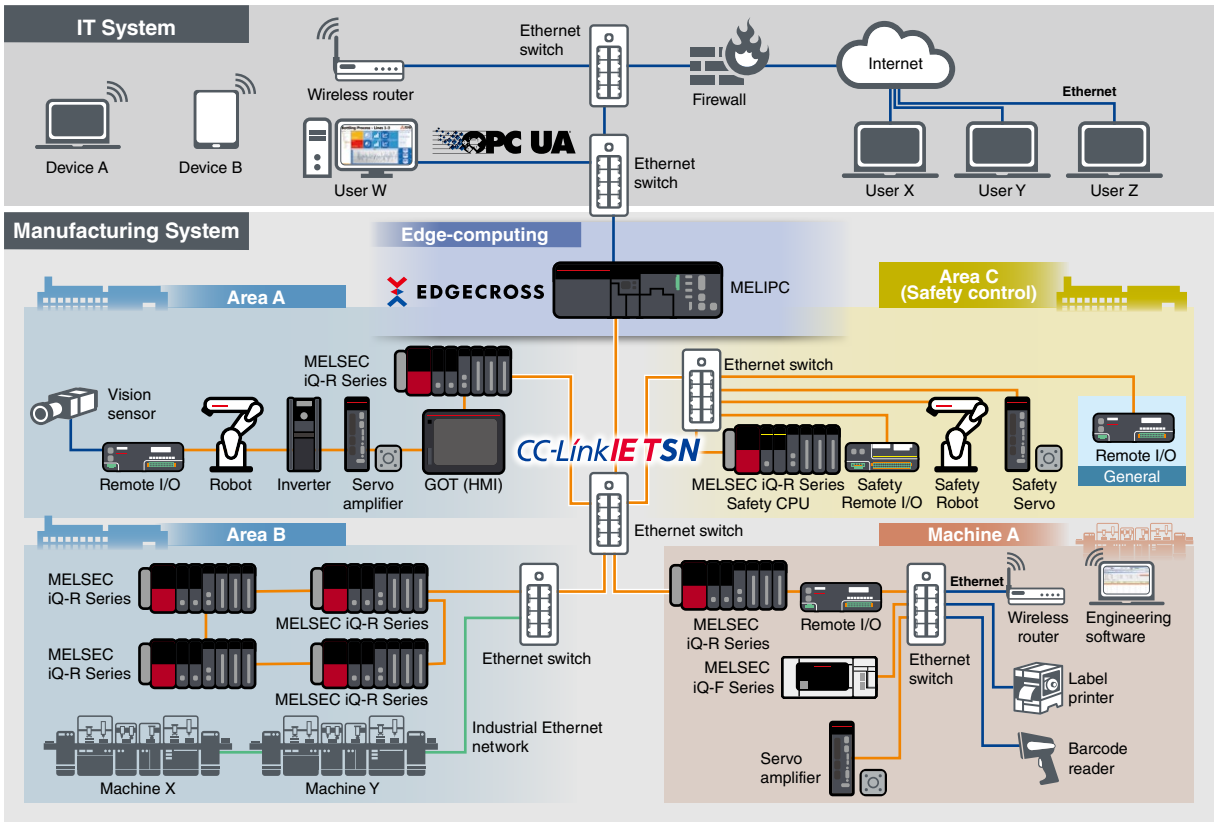
CC-Link IE TSN*1 supports TCP/IP communications and applies it to industrial architectures through its support of TSN enabling real-time communications. With its flexible system architecture and extensive setup and troubleshooting features make CC-Link IE TSN ideal for building an IIoT*2 infrastructure across the manufacturing enterprise.

*1. TSN: Time Sensitive Networking
*2. IIoT: Industrial Internet of Things



Smart factory integration combining IT systems such as OPC UA with networked devices supporting other communication protocols

Build fully connected factory networks with vertical and horizontal integration across many different layers, automation control zones and network nodes. Realize system optimization on the same network while reducing overall network hardware and software costs.



■ Network interface boards

▶ CC-Link IE Field Network interface boards

PCI Express® bus type

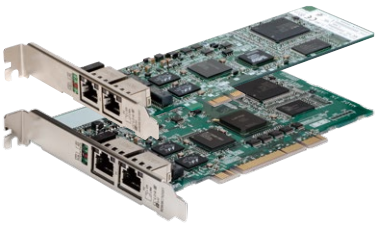
Q81BD-J71GF11-T2

PCI/PCI-X bus type

Q80BD-J71GF11-T2

- These interface boards connect computers or controllers supporting PCI Express®/PCI/PCI-X interface to CC-Link IE Field Network
- Can be used as either a CC-Link IE Field Network master or local station*1

*1. The sub-master function and motion function are not supported.



▶ CC-Link IE Controller Network interface boards

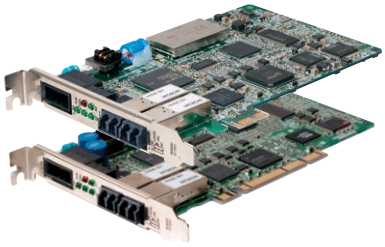
PCI Express® bus type

Q81BD-J71GP21-SX **Q81BD-J71GP21S-SX**

PCI/PCI-X bus type

Q80BD-J71GP21-SX **Q80BD-J71GP21S-SX**

- These interface boards connect computers or controllers supporting PCI Express®/PCI/PCI-X interface to CC-Link IE Controller Network
- Can be used as either a CC-Link IE Controller Network control or normal station
- An interface board including external power supply input terminals maintains communication in the event that the computer loses power



Q81BD-J71GP21S-SX/
Q80BD-J71GP21S-SX
External power supply I/P terminal type

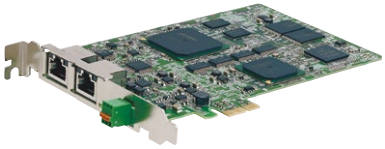
▶ CC-Link IE Field Network simple motion board

PCI Express® bus type

MR-EM340GF

- Performs control of high-speed I/O and motion in one network, and provides a suitable system layout with highly flexible wiring
- Can be used as a CC-Link IE Field Network master station*2
- Combined with a computer, the board performs advanced motion control such as positioning, synchronous, and cam control with C++ programming (event-driven programs with interrupts are also supported)

*2. The local, sub-master, and safety communication functions are not supported.



Network interface board operation environment

Item	Q81BD-J71GF11-T2	Q80BD-J71GF11-T2	Q81BD-J71GP21-SX/ Q81BD-J71GP21S-SX	Q80BD-J71GP21-SX/ Q80BD-J71GP21S-SX	MR-EM340GF
Personal computer					
Personal computer	Windows® supported personal computer				
CPU Required memory	System requirements of the operating system must be met				
Installation slot	PCI Express® x1, x4, x8, x16 slot (Standard/low profile, half size)	PCI bus slot or PCI-X slot (Half size)	PCI Express® x1, x2, x4, x8, x16 slot (Half size)	PCI bus slot or PCI-X slot (Half size)	PCI Express® x1, x2, x4, x8, x16 slot (Half size)
Bus specifications*1	Compliant with PCI Express® standard Rev.1.1	Compliant with PCI standard Rev.2.2	Compliant with PCI Express® standard Rev.1.1	Compliant with PCI standard Rev.2.2	Compliant with PCI Express® standard Rev.2.0
Operating system (English Version)*2					
Microsoft® Windows Server® 2012 Standard	●		●		-
Microsoft® Windows Server® 2012 R2 Standard	●		●		-
Microsoft®Windows Server® 2016 Standard	●		●		-
Microsoft®Windows Server® 2019 Standard	●		●		-
Microsoft® Windows® 8.1	●		●		-
Microsoft® Windows® 8.1 Pro	●		●		●
Microsoft® Windows® 8.1 Enterprise	●		●		●
Microsoft® Windows® 10 Home	●		●		-
Microsoft® Windows® 10 Pro	●		●		●
Microsoft® Windows® 10 Enterprise	●		●		●
Microsoft® Windows® 10 Education	●		●		-
Microsoft® Windows® 10 IoT LTSB 2016	●		●		-
Microsoft® Windows® 10 IoT LTSC 2019	●		●		-
Programming language (English Version)*2					
Microsoft® Visual Studio® 2012 Visual Basic®	●		●		-
Microsoft® Visual Studio® 2013 Visual Basic®	●		●		-
Microsoft® Visual Studio® 2015 Visual Basic®	●		●		-
Microsoft® Visual Studio® 2012 Visual C++®	●		●		●
Microsoft® Visual Studio® 2013 Visual C++®	●		●		●
Microsoft® Visual Studio® 2015 Visual C++®	●		●		●
Microsoft® Visual Studio® 2017 Visual C++®	●		●		-

*1. For the details on bus specifications, please refer to the relevant product manual.
*2. For a combination of the operation system and the programming language, please refer to Microsoft Docs to check the system requirement of Visual Studio®.

For further details on operating environment and latest information, please refer to the relevant product manuals.

CC-Link IE TSN - CC-Link IE Field Network bridge module NZ2GN-GFB NEW

- Enables access from the CC-Link IE Field Network to each station and device on CC-Link IE TSN
- Can be used as a master or local station on the CC-Link IE Field Network and as a remote station on CC-Link IE TSN
- Enables CC-Link IE TSN devices to be added to the existing equipment on the CC-Link IE Field Network

CC-Link IE TSN

CC-Link IE Field Network CC-Link bridge module NZ2GF-CCB

- Connects CC-Link Version 1 Remote I/O stations and Remote device stations to CC-Link IE Field Network
- Enables CC-Link parameters to be set with simple switch operations
- Link devices assigned to this bridge module are assigned as the CC-Link remote station's link devices in the same station order

CC-Link

CC-Link IE Field Network - AnyWireASLINK bridge module NZ2AW1GFAL

- Seamlessly connects AnyWireASLINK products to CC-Link IE Field Network
- Supports max. wiring distance of 200 m with AnyWireASLINK, realizing flexible wiring topology
- Supports iQSS (iQ Sensor Solution), which enables parameter setup and monitoring of remote units connected to AnyWireASLINK

AnyWireASLINK

CC-Link IE Field Network Basic

With recent trends of IIoT*1, network connection of devices and equipment for small-scale systems are becoming more mainstream. CC-Link IE Field Network Basic realizes easier network integration, as its cyclic communications stack is software-based, without requiring a dedicated ASIC helping to reduce implementation costs for device partners.
Mitsubishi Electric is launching CC-Link IE Field Network Basic compatible products to further leverage networking on the production floor.

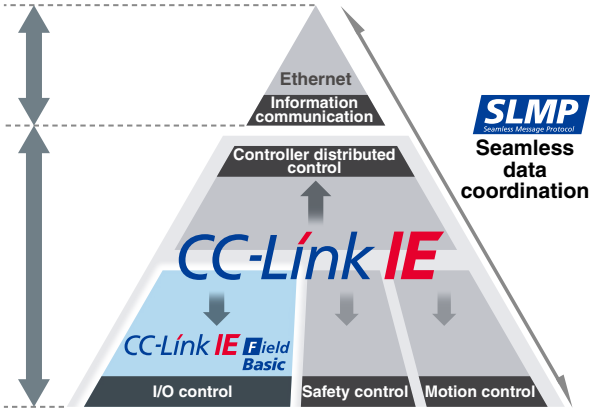
*1. Industrial Internet of Things

Plant-wide seamless communication

Utilizing standard Ethernet technology, TCP/IP protocol stack for communications (such as HTTP, FTP) is supported. Based on SLMP, data flows transparently between the sensor level and the enterprise level across multiple industry-standard automation networks.
Seamless communication can be easily realized with CC-Link IE Field Network Basic, further improving performance of the manufacturing enterprise.

Positioning within CC-Link IE Network

The Ethernet-based open network CC-Link IE is a high-speed and large-capacity network integrating distributed control, I/O control, safety control, and motion control.
CC-Link IE Field Network Basic, which is a part of CC-Link IE Network, realizes easier network connection of Ethernet devices.
Transparent communications are achieved by utilizing SLMP that enables seamless connectivity within all levels of manufacturing.

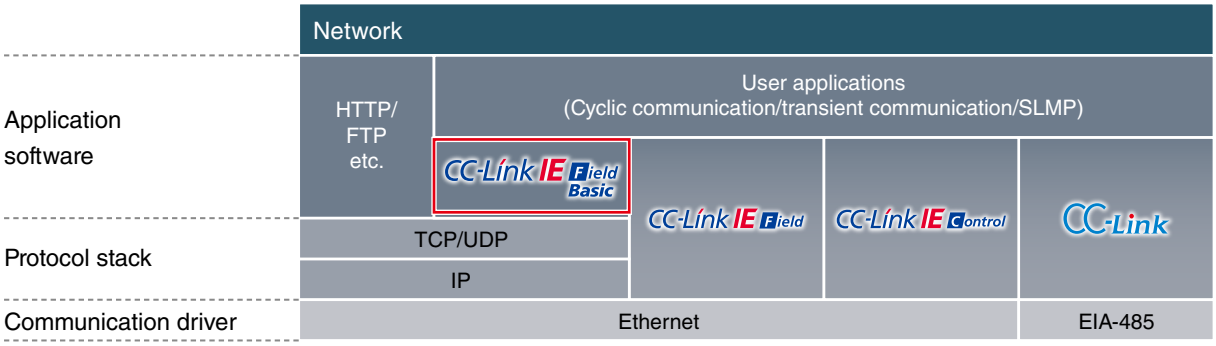


Combining with TCP/IP communications

- Configure more flexible system
- Setup/monitor from enterprise level computer or tablet computer

Highly flexible system can be configured combining with TCP/IP communications

The network operates on the standard Ethernet protocol stack, which can be used together with TCP/IP communications. This feature allows CC-Link IE Field Network Basic compatible products and Ethernet compatible products to be connected on the same Ethernet communications line, enabling a highly-flexible and low cost system. By enabling cyclic communication control on standard Ethernet, parameter setting and status monitoring can be done with peripheral devices (such as an enterprise level or tablet computer) connected via TCP/IP communications.

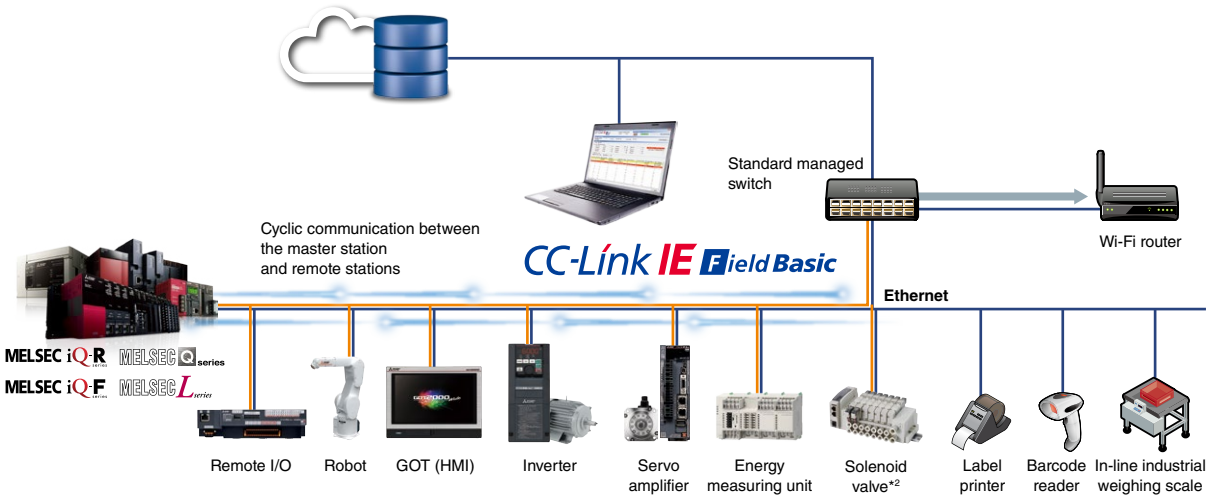


Wider range of connectable products

- Connect third-party partner products on the same network

A wider range of CC-Link IE Field Network Basic-supported devices*1

CC-Link IE Field Network Basic realizes cyclic communication with software implementation only. System can be easily configured using a standard managed switch and cables at a lower cost. Supported-products can be easily developed and a wider range of CC-Link IE Field Network Basic-supported devices can be readily available.



*1. Please refer to page 51 for compatible products.
*2. For further details regarding this product, please directly contact "CKD Corporation", details can be found on their website at http://www.ckd.co.jp/english/glblinfo/global/
Note: Some images are for illustrative purposes only.

Small-scale network system configuration

- Reduce the space for module installation
- Reduce hardware cost

Network module is no longer necessary, saving on space and hardware cost

MELSEC programmable controller CPUs with an embedded Ethernet port can be used as a master station, eliminating the need for an additional network module. The network can be configured with a minimum number of modules reducing space and hardware cost.

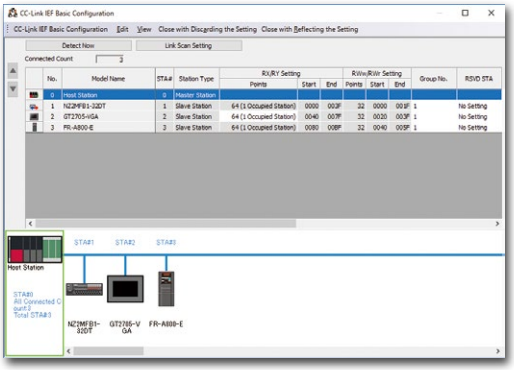
Network module is no longer necessary, saving on space and hardware costs

Simple setup and easy troubleshooting

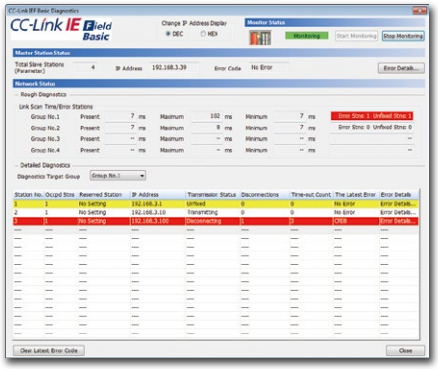
- Set up cyclic communication easily
- Shorten the operating cycle when an error occurs

Commissioning by parameter setup and monitoring of operating status

Cyclic communication can be easily done just with parameter setting without requiring dedicated programs. Settings such as IP address can be easily done by automatically detecting remote devices using either the GX Works3 or GX Works2 engineering software. Maintenance is easier by being able to monitor the operating and communication statuses of nodes connected on the network.



Parameter setting screen



Diagnosis screen

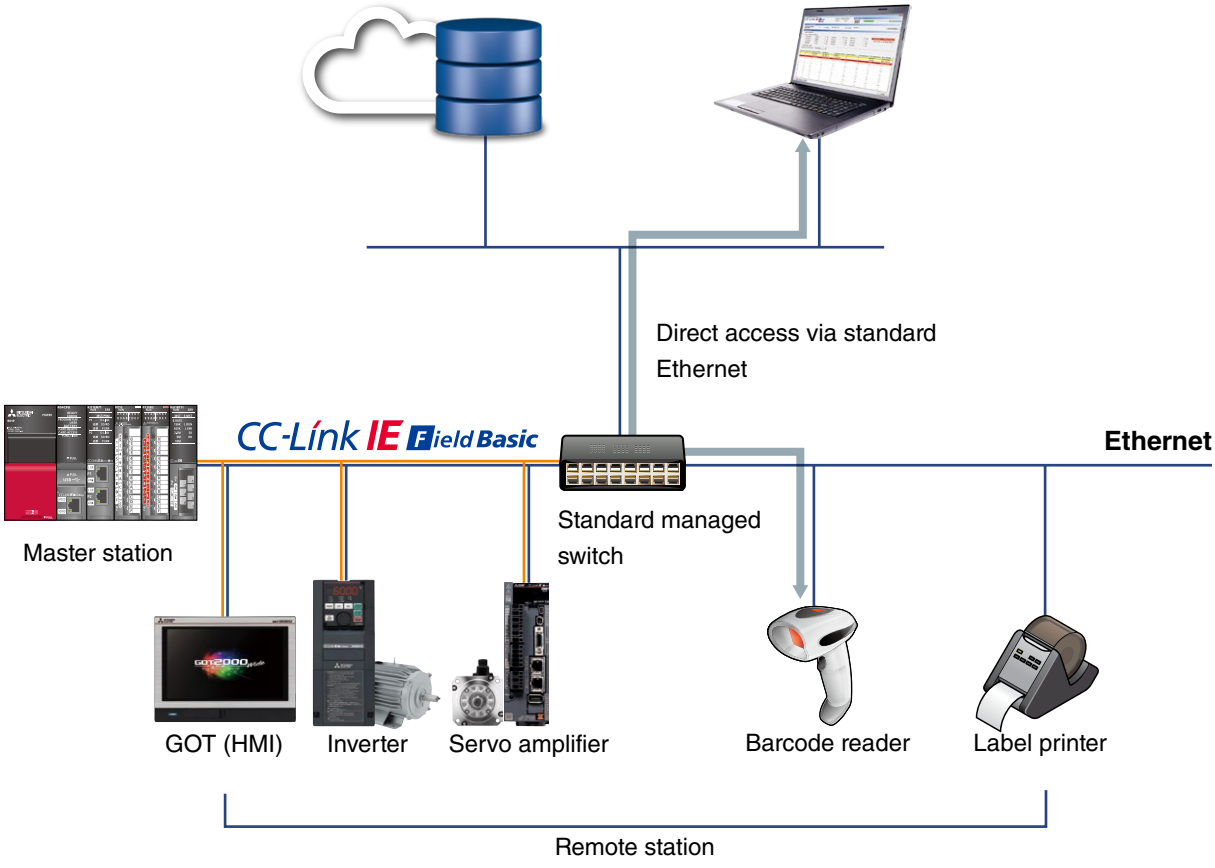
Solar panel production process

Easy data transmission to IT system

Traceability data can be sent to enterprise level devices directly from remote devices other than master station

Easy connection with IT system

Direct access to remote devices from enterprise level devices



■ CC-Link IE Field Network Basic master embedded products

- Products with CC-Link IE Field Network Basic embedded
- The Ethernet port enables the product to operate as a CC-Link IE Field Network master station

▶ MELSEC iQ-R Series

R□□CPU
R□□ENCPU
R12CCPU-V

- 64 remote stations can be connected per network

R32CPU

R12CCPU-V

▶ MELSEC iQ-F Series

FX5U-□□□□/□□□
FX5UC-□□□□/□□□
FX5UJ-□□M□/□

- 16 remote stations (8 stations in case of the FX5UJ) can be connected per network

FX5U-32MR

FX5UC-32MT/
DS-TS

FX5UJ-24MT/
ESS

▶ MELSEC iQ-F Series Ethernet module

FX5-ENET

- 32 remote stations can be connected per network

▶ MELSEC-Q Series

Q□□UDVCPU

- 64 remote stations can be connected per network

Q03UDVCPU

▶ MELSEC-L Series

L□□CPU(-P/-BT/-PBT)

- 16 remote stations can be connected per network

L02CPU

▶ MELIPC MI5000 Series

MI5122-VW

- 64 remote stations can be connected per network

■ CC-Link IE Field Network Basic compatible servo amplifier

▶ AC Servo MELSERVO-J5/MELSERVO-JET Series

MR-J5-G(-RJ)　MR-J5D1-G4　MR-JET-G

- CC-Link IE Field Network Basic-compatible master stations can control MR-J5-G/MR-J5D1-G4/MR-JET-G servo amplifiers
- The servo amplifier can be operated as a CANopen® device via a link device
- The profile mode (position/velocity/torque) and the positioning mode (point table) are supported
- The servo amplifier newly supports the line topology*1

*1. When a device which does not support the line topology is used, the line/star mixed topology is applicable.

MR-J5-G　MR-J5D1-G4　MR-JET-G

Model*2	Voltage class	Rated output	Fully closed loop	Compatible servo motor		
				Rotary	Linear	Direct drive
MR-J5-□G	200 V	0.1…7.0 kW	●	●	●	●
MR-J5-□G-RJ	200 V	0.1…7.0 kW	●	●	●	●
MR-J5-□G4	400 V	0.6…3.5 kW	●	●	Future support	-
MR-J5-□G4-RJ	400 V	0.6…3.5 kW	●	●	Future support	-
MR-J5D1-□G4	400 V	1.0…7.0 kW	●	●	-	-
MR-JET-□G	200 V	0.1…3.0 kW	-	●	●	-

*2. "□" in the model name denotes rated output. For more information, please refer to "MELSERVO-J5 catalog (L(NA)03179ENG)" or "MELSERVO-JET catalog (L(NA)03187ENG)" .

▶ AC Servo MELSERVO-J4/MELSERVO-JE Series

MR-J4-GF(-RJ)　MR-JE-□C

- CC-Link IE Field Network Basic function embedded
- With the drive system supporting CiA 402 drive profile, positioning systems are configured easily without a Positioning module

MR-J4-□GF　MR-JE-□C

Model*3	Voltage class	Rated output	Fully closed loop	Compatible servo motor		
				Rotary	Linear	Direct drive
MR-J4-□GF	200 V	0.1…22 kW	●	●	●	●
MR-J4-□GF4	400 V	0.6…22 kW	●	●	●	-
MR-J4-□GF1	100 V	0.1…0.4 kW	●	●	●	●
MR-J4-□GF-RJ	200 V	0.1…22 kW	●	●	●	●
MR-J4-□GF4-RJ	400 V	0.6…22 kW	●	●	●	●
MR-J4-□GF1-RJ	100 V	0.1…0.4 kW	●	●	●	-
MR-JE-□C	200 V	0.1…3 kW	-	●	-	-

*3. "□" in the model donates rated output. For further details about model name, please refer to the "MELSERVO-J4 catalog (L(NA)03058ENG)" or "MELSERVO-JE catalog (L(NA)03086ENG)".

■ CC-Link IE Field Network Basic compatible inverter

▶Inverter FREQROL-A800/A800 Plus/F800/E800 Series

FR-A800-E FR-A800-E-CRN FR-F800-E FR-E800-(SC)E

- CC-Link IE Field Network Basic function embedded
- CC-Link IE Field Network Basic realizes various inverter operations to be monitored at a fast rate (multiple monitoring and parameter reading/writing can also be executed simultaneously improving maintainability)
- Seamless network environment enables monitoring and setup of inverters from the IT system
- Standard Ethernet is supported without installing a plug-in option, realizing a low cost system easily

FR-A800-E

FR-E800-(SC)E

Model*1	Voltage class	Capacity	Structure/functionality
FR-A820-□K-E	Three-phase 200 V	0.4…90 kW	Standard model
FR-A840-□K-E	Three-phase 400 V	0.4…280 kW	Standard model
FR-A842-□K-E	Three-phase 400 V	315…500 kW	Separated converter type
FR-A846-□K-E	Three-phase 400 V	0.4…132 kW	IP55 compatible model
FR-F820-□K-E	Three-phase 200 V	0.75…110 kW	Standard model
FR-F840-□K-E	Three-phase 400 V	0.75…315 kW	Standard model
FR-F842-□K-E	Three-phase 400 V	355…560 kW	Separated converter type
FR-F846-□K-E	Three-phase 400 V	0.75…160 kW	IP55 compatible model
FR-E820-□KE	Three-phase 200 V	0.1…22 kW	Ethernet specifications model
FR-E840-□KE	Three-phase 400 V	0.4…22 kW	Ethernet specifications model
FR-E820S-□KE	Single-phase 200 V	0.1…2.2 kW	Ethernet specifications model
FR-E820-□KSCE	Three-phase 200 V	0.1…22 kW	Safety communication model
FR-E840-□KSCE	Three-phase 400 V	0.4…22 kW	Safety communication model
FR-E820S-□KSCE	Single-phase 200 V	0.1…2.2 kW	Safety communication model

*1. "□" in the model name denotes rated output. For further details about model name, please refer to the "FR-A800 catalog (L(NA)06075ENG)," "FR-F800 catalog (L(NA)06085ENG)," and "FR-E800 catalog (L(NA)-06131ENG)."

■ CC-Link IE Field Network Basic compatible robot

▶ Industrial Robot MELFA FR Series
RV-□□FR　RH-□□FRH

▶ Industrial Robot MELFA CR Series
RV-8CRL　RH-□CRH

RV-7FRL

- Cyclic communication is possible with CC-Link IE Field Network Basic compatible devices via Ethernet interface embedded as standard
- Communication of I/O signals and device registers between a robot controller and a programmable controller is possible without adding a communication option unit to the robot controller. Hardware cost reduction in system configuration is realized.

Type	Environmental specifications	Installation	Maximum load capacity	Maximum reach radius
Vertical 6 axes				
RV-2/4/7/13/20FR	Standard/oil mist/clean room*1	Floor type, ceiling type, wall-mounted type*2	2…20 kg	504…1503 mm
RV-8CRL	Oil mist	Floor type, ceiling type, wall-mounted type*2	8 kg	931 mm
Horizontal 4 axes				
RH-3/6/12/20FRH	Standard/oil mist/clean room*3	Floor type	3…20 kg	350…1000 mm
RH-3FRHR	Standard/clean room/waterproof	Ceiling type	3 kg	350 mm
RH-□CRH	Standard	Floor type	3…6 kg	400…700 mm

*1. RV-2FR supports standard only.
*2. Note that J1 axis has operation range limit.
*3. RH-3FRH supports standard and clean only.

■ CC-Link IE Field Network Basic compatible GOT (HMI)

▶ HMI GOT2000 Series
GT27□□-□□□□　GT25□□□□-□□□□
GT210□-□□□D

- Cyclic communication is possible with CC-Link IE Field Network Basic compatible devices via Ethernet interface of GOT (HMI)
- TCP/IP communications are supported, enabling a highly-flexible system

Type*4	Screen size	Panel color	Power supply	Multi-touch gesture functions
GT27				
GT2715-XTB□	15”XGA	Black	100…240 V AC/24 V DC	●
GT2712-ST□□	12.1”SVGA	Black/white	100…240 V AC/24 V DC	●
GT2710-STB□	10.4”SVGA	Black	100…240 V AC/24 V DC	●
GT2710-VT□□	10.4”VGA	Black/white	100…240 V AC/24 V DC	●
GT2708-STB□	8.4”SVGA	Black	100…240 V AC/24 V DC	●
GT2708-VTB□	8.4”VGA	Black	100…240 V AC/24 V DC	●
GT2705-VTBD	5.7”VGA	Black	24 V DC	●
GT25				
GT2512-STB□	12.1”SVGA	Black	100…240 V AC/24 V DC	-
GT2512F-STN□	12.1”SVGA	-	100…240 V AC/24 V DC	-
GT2510-VT□□	10.4”VGA	Black/white	100…240 V AC/24 V DC	-
GT2510F-VTN□	10.4”VGA	-	100…240 V AC/24 V DC	-
GT2508-VT□□	8.4”VGA	Black/white	100…240 V AC/24 V DC	-
GT2508F-VTN□	8.4”VGA	-	24 V DC	-
GT2505-VTBD	5.7”VGA	Black	24 V DC	-
GT2512-WXT□D	12.1”WXGA	Black/silver*5	24 V DC	-
GT2510-WXT□D	10.1”WXGA	Black/silver*5	24 V DC	-
GT2507-WT□D	7”WVGA	Black/silver*5	24 V DC	-
GT2507T-WTSD	7”WVGA	Silver	24 V DC	-
GT2506HS-VTBD	6.5”VGA	Black	24 V DC	-
GT2505HS-VTBD	5.7”VGA	Black	24 V DC	-
GT21				
GT2107-WT□D	7”WVGA	Black/silver*5	24 V DC	-
GT2104-RTBD	4.3” [480 x 272 dots]	Black	24 V DC	-
GT2104-PMBD	4.5” [384 x 128 dots]	Black	24 V DC	-
GT2103-PMBD	3.8” [320 x 128 dots]	Black	24 V DC	-

*4. For further details about model name, please refer to the “GOT 2000 Series consolidated catalog (L(NA)08270ENG)”.
*5. The bottom part of the panel including the USB environmental protection cover is black.

■ CC-Link IE Field Network Basic compatible FA sensor MELSENSOR

▶ Vision sensor VS80/VS70/VS20

VS80M-□□□ VS70M-□□□ VS20□-□□F□□□

- Connectable to the programmable controller without a network interface module via CC-Link IE Field Network Basic interface function
- Measurement data/inspection result output can be acquired via network. Recognition parameters of vision sensors can be also changed

Item	VS80	VS70	VS20
Imagery	Monochrome/color	Monochrome/color	Monochrome/color
Lighting/filter	–	Integrated	Integrated
Protective structure	IP40	IP67	IP65
Autofocus	–	●	–
PoE	●	–	–
Presence/absence	●	●	●
Location*1	●	●	–
OCR/OCV*2	●	●	–
Code reading	●	●	–
Measurement	●	●	–
Geometry	●	●	●*3

*1. Function to output position information of the detected work.
*2. Alphabet and numeral reading
*3. Excluding some models

▶ Code reader CF26/CF37

CF26-□ CF37-□

- Auto-tuning function enables optimum setup automatically according to the environment, contributing to setup time reduction
- Powerful algorithm can decode even challenging codes and realize highest read rates, improving yield rate
- Setting/control of the code reader and retrieving data read from codes can be done via network. Read setup function enables set-up change to different symbol easily through network

Item	CF26-SR	CF26-LR	CF37-SR	CF37-LR
Supported codes				
1-D code	Code 128, Code 25, Code 93, Code 39, PharmaCode, Codabar, Interleaved 2 of 5, UPC/EAN/JAN, MSI		Code 128, Code 25, Code 93, Code 39, Codabar, Interleaved 2 of 5, UPC/EAN, MSI	
2-D code	Data Matrix (ECC 0, 50, 80, 100, 140, 200), QR Code, Micro QR Code, MaxiCode, Aztec Code, VeriCode*4		Data Matrix (ECC 0, 50, 80, 100, 140, 200), QR Code, Micro QR Code, MaxiCode, Aztec Code	
Stacked code	PDF 417, EAN.UCC Composite, Micro PDF 417, DataBar		PDF 417, Micro PDF 417	
Optical characteristic				
Image sensor	1/3 inch CMOS, 4.8 mm × 3.6 mm (W × H), 3.75 µm sq.pixels, global shutter		1/1.8 inch CMOS, 7.2 mm × 5.4 mm (W × H), 3.45 µm sq.pixels	
Lens	S-mount/6.2 mm F: 5, liquid lens	S-mount/16 mm F: 7, liquid lens	S-mount/10.3 mm F: 5, liquid lens	C-mount/24 mm F: 10, liquid lens
Image resolution (pixels)	1280 × 960		2048 × 1536	
Processing speed				
Maximum image acquisition speed*5 (frame/s)	45		55	
Maximum decode rate (code/s)	45			

*4. A license needs to be purchased from Veritec Iconix Ventures Inc.
*5. Maximum frame rate at minimum exposure

■ CC-Link IE Field Network Basic Energy Measuring Unit

▶ Energy Measuring Unit EcoMonitorLight

EMU4-□D1-MB

- EcoMonitorLight enables CC-Link IE Field Network Basic communication when combined with the dedicated option unit
- Single circuit measuring device with an integrated display enabling setting and measuring of current, voltage, and power. Measured data can be utilized for energy-saving for individual equipment

EMU4-HD1-MB

▶ Energy Measuring Unit EcoMonitorPlus

EMU4-□□1-MB (basic unit)　EMU4-□□□ (extension unit)

- EcoMonitorPlus enables CC-Link IE Field Network Basic communication when combined with the dedicated option unit
- Combination of basic unit and extension units according to measurement items support leakage current measurement and analog/pulse input in addition to current, voltage, and power measurement of multiple circuits
- Automatic control of facility is possible with measured data utilizing the control module

EMU4-□□1-MB　EMU4-□□□

▶ CC-Link IE Field Network Basic Communication Unit

EMU4-CM-CIFB

- Measured energy data can be transmitted via CC-Link IE Field Network Basic communication when connected with EcoMonitorPlus and EcoMonitorLight

■ CC-Link IE Field Network Basic Block type remote module

- CC-Link IE Field Network Basic remote stations. These modules are useful when installation positions close to I/O devices are required
- Supports CC-Link IE Field Network Basic diagnostic function. Network error and I/O module fault can be checked using the engineering software. Enables CC-Link parameters to be set with simple switch operations

Input modules

Spring-clamp terminal block

NZ2MF2S1-32D

Model	Input type DC input	Input points	Rated input voltage/current	Wiring type
NZ2MF2S1-32D	Positive common, Negative common	32 points	24 V DC (6 mA)	1-wire

NZ2MF2S2-16A

Model	Input type	Input points	Rated input voltage, frequency	Rated input current	Wiring type
NZ2MF2S2-16A	AC input	16 points	100…120 V AC, 50/60 Hz	8.2 mA (100 V AC, 60 Hz) 6.8 mA (100 V AC, 50 Hz)	2-wire

Screw terminal block

NZ2MFB1-32D

Model	Input type DC input	Input points	Rated input voltage/current	Wiring type
NZ2MFB1-32D	Positive common, Negative common	32 points	24 V DC (6 mA)	1-wire

NZ2MFB2-16A

Model	Input type	Input points	Rated input voltage, frequency	Rated input current	Wiring type
NZ2MFB2-16A	AC input	16 points	100…120 V AC	8.2 mA (100 V AC, 60 Hz) 6.8 mA (100 V AC, 50 Hz)	2-wire

Output modules

Spring-clamp terminal block

NZ2MF2S1-32T
NZ2MF2S1-32TE1

NZ2MF2S1-32T

Model	Output type Transistor output	Output points	Rated load voltage/ Max. load current	Wiring type
NZ2MF2S1-32T	Sink	32 points	12/24 V DC (0.5 A/point, 5 A/common)	1-wire
NZ2MF2S1-32TE1	Source	32 points	12/24 V DC (0.1 A/point, 2 A/common)	1-wire

NZ2MF2S2-16R

Model	Output type	Output points	Rated switching voltage/current	Wiring type
NZ2MF2S2-16R	Contact output	16 points	24 V DC (2 A), 240 V AC (2 A)	2-wire

Screw terminal block

NZ2MFB1-32T
NZ2MFB1-32TE1

NZ2MFB1-32T

Model	Output type Transistor output	Output points	Rated load voltage/ Max. load current	Wiring type
NZ2MFB1-32T	Sink	32 points	12/24 V DC (0.5 A/point, 5 A/common)	1-wire
NZ2MFB1-32TE1	Source	32 points	12/24 V DC (0.1 A/point, 2 A/common)	1-wire

NZ2MFB2-16R

Model	Output type	Output points	Rated switching voltage/current	Wiring type
NZ2MFB2-16R	Contact output	16 points	24 V DC (2 A), 240 V AC (2 A)	2-wire

I/O combined modules

Spring-clamp terminal block

NZ2MF2S1-32DT
NZ2MF2S1-32DTE1

NZ2MF2S1-32DT

Model	Input type DC input	Input points	Rated input voltage/ current	Output type Transistor output	Output points	Rated load voltage/ Max. load current	Wiring type
NZ2MF2S1-32DT	Positive common	16 points	24 V DC (6 mA)	Sink	16 points	24 V DC (0.5 A/point, 4 A/common)	1-wire
NZ2MF2S1-32DTE1	Negative common	16 points	24 V DC (6 mA)	Source	16 points	24 V DC (0.1 A/point, 1.6 A/common)	1-wire

Screw terminal block

NZ2MFB1-32DT
NZ2MFB1-32DTE1

NZ2MFB1-32DT

Model	Input type DC input	Input points	Rated input voltage/ current	Output type Transistor output	Output points	Rated load voltage/ Max. load current	Wiring type
NZ2MFB1-32DT	Positive common	16 points	24 V DC (6 mA)	Sink	16 points	24 V DC (0.5 A/point, 4 A/common)	1-wire
NZ2MFB1-32DTE1	Negative common	16 points	24 V DC (6 mA)	Source	16 points	24 V DC (0.1 A/point, 1.6 A/common)	1-wire

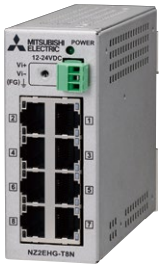
Options

Industrial switching hub

NZ2EHG-T8N*1

Powered by CONTEC

- Supports the transmission speed of 10 Mbps/100 Mbps/1 Gbps
- Equipped with Auto MDI/MDI-X and auto-negotiation functions
- Saves up to 60% power consumption*2 by using the automatic power adjustment function
- Operates in ambient temperatures of 0 to 50°C, with the fan-less configuration
- Compatible with DIN rail installation, enabling the hub to be installed in various orientations



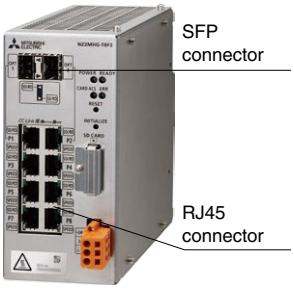
*1. The rated input voltage is 12 to 24 V DC.
*2. For comparison, power consumption was measured when all 8 ports were used and not used.

This product was developed and manufactured by Contec Co. Ltd. Please note that the specifications and conditions of guarantee differ from MELSEC Series products.

Managed CC-Link IE switch

NZ2MHG-T8F2*3

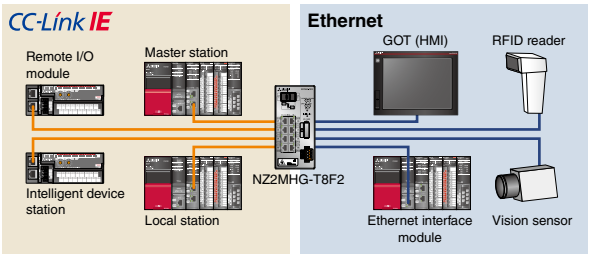
- Supports the transmission speed of 10 Mbps/100 Mbps/1 Gbps
- Connectable to CC-Link IE and Ethernet devices simultaneously
- ERP- and LA- style redundant topologies between switches continue communication at network failure including cable disconnection, by switching network paths
- With an SFP transceiver*4, long-distance optical cable, which is ideal for systems requiring facility-to-facility landline communication is available
- Supports VLAN and can manage multiple networks by one switch
- Supports SNMP, which enables monitoring of the entire network and easy identification of faulty areas (system maintainability is improved with this feature)



*3. The rated input voltage is 24 V DC.
*4. Either the optical port (OPT1/OPT2) or RJ45 port (P1/P2) can be used at a time.

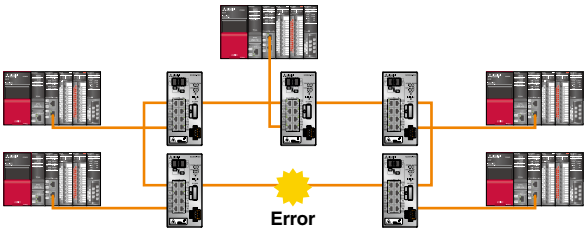
▶ Using along Ethernet network

One managed CC-Link IE switch is connectable to CC-Link IE and Ethernet networks simultaneously without requiring special network configuration



▶ ERP redundant topology

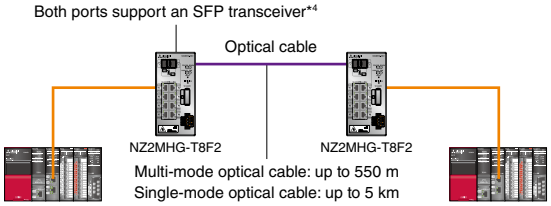
Redundant network paths between switches enable a system to be continuously operated in case of failure



When an error occurs, communications are re-established via an alternative network line (within 10 ms)

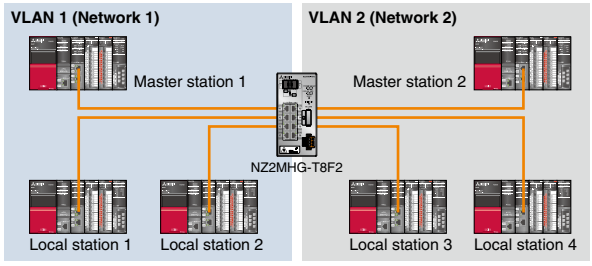
▶ SFP for long-distance communication

With its long-distance data transmission feature, optical cables are ideal for facility-to-facility long-distance communications



▶ Multiple networks with VLAN

One switch can connect to multiple CC-Link IE networks



Mitsubishi Electric System & Service | For details of Mitsubishi Electric System & Service Co., Ltd. products, please contact us via email.
<Sales office> FA PRODUCT DIVISION mail:osb.webmaster@melsc.jp

■Industrial switching hub

DT135TXA

*1

- Compatible with 10 Mbps/100 Mbps/1 Gbps transmission speed
- Compact size unit with 5 ports
- Supports 12 V DC up to 48 V DC wide voltage-range. Two power supply inputs (redundant power supply) are possible
- Supports the line, star, line and star combination network topologies
- Complies with UL/CE/FCC standards enabling export to Europe and North America

*1. Class A device

DT12□TXA

Only CC-Link IE Field Network Basic

DT125TXA DT128TXA

- Supports CC-Link IE Field Network Basic
- Compatible with 10 Mbps/100 Mbps transmission speed
- Compact size unit with 5 ports and 8 ports
- Supports 12 V DC up to 48 V DC wide voltage-range
- Complies with UL/CE/FCC standards enabling export to Europe and North America

DT125TXB

Only CC-Link IE Field Network Basic

- Supports CC-Link IE Field Network Basic
- Compatible with 10 Mbps/100 Mbps transmission speed
- Compact size unit with 5 ports
- Supports 10 V DC up to 30 V DC wide voltage-range. Two power supply inputs (redundant power supply) are possible
- Complies with UL/CE/FCC standards enabling export to Europe and North America

■Ethernet cable

SC-E5EW Series

- 1000BASE-T Standard compliant. This Ethernet cable with double shield has an outstanding shield performance
- Available in lengths from 1 m to 100 m (in 1 m increments). For using in indoor movable area, available lengths are from 1 m to 45 m. Available in lengths less than 1 m also

Item	SC-E5EW-S□M*2	SC-E5EW-S□M-MV*3	SC-E5EW-S□M-L*4
Cable type	Category 5e or higher, (double shielded/STP) Straight cable		
Number of core wires	8 wires (4 twisted pairs)		
Double shield	Aluminum/polyester tape, Tin-plated annealed copper wire braid		
Installation environment	Indoor	Indoor movable	Indoor/outdoor
Finished outside diameter	Flame retardant PVC, 6.8 mm	Flame retardant PVC, 6.5 mm	LAP sheath, 10 mm
Connector	RJ-45 connector with shield, straight connection		
Conforming standards	IEEE802.3 1000BASE-T ANSI/TIA/EIA-568-B (Category 5e) ISO/IEC 11801		

*2. "□" in the model name denotes a cable length (0.5 m, from 1 m up to 100 m in 1 m increments).
*3. "□" in the model name denotes a cable length (0.1 m, 0.2 m, 0.3 m, 0.5 m, from 1 m up to 45 m in 1 m increments).
*4. "□" in the model name denotes a cable length (from 1 m up to 100 m in 1 m increments).

Mitsubishi Electric System & Service

Inline coupler

SPAD-RJ45S-E5E

- 8 conductor RJ-45 female to female, shielded, fits standard type Keystone Wall Plate
- Can be used in patch panels, wall jacks, or to extend cable lengths

Item	Specifications
Adaptable connector	RJ-45 connector with shield
Operable temperature	–10…60°C
Conforming standards	IEEE 802.3 1000BASE-T ANSI/TIA/EIA-568-B (Category 5e) ISO/IEC 11801

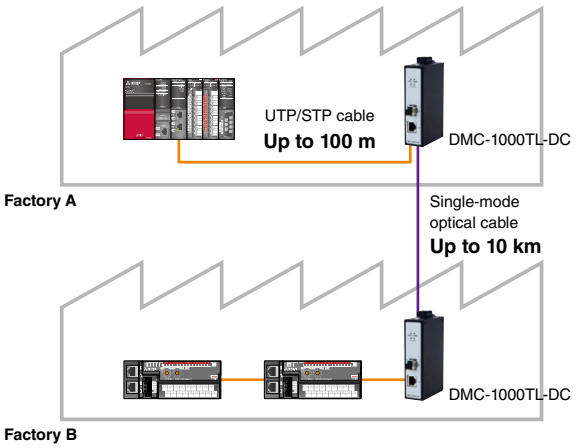
Industrial media converter

DMC-1000TL-DC DMC-1000TS-DC

- Converting 1000BASE-T/100BASE-TX to 1000BASE-LX/SX and vice versa can extend the station to station distance (DMC-1000TL-DC: maximum 10 km, DMC-1000TS-DC: maximum 550 m)
- Noise immunity performance ideal for FA environments ensures use as noise/lightening measures to protect communication line
- Complies with UL/CE/FCC standards enabling export to Europe and North America

DMC-1000TL-DC DMC-1000TS-DC

Application example (DMC-1000TL-DC)



Specification*1

Item		DMC-1000TL-DC	DMC-1000TS-DC
Conforming standard		IEEE802.3z (1000BASE-LX)	IEEE802.3z (1000BASE-SX)
Compatible cable	Type	1000BASE-LX compatible single mode optical cable	1000BASE-SX compatible Multi-mode optical cable (core/clad: 50/125 µm Band: 500 MHz·km or higher λ = 850 nm)
	Connector	Double LC connector (IEC 61754-20)	
	Method for connection	Crossing (A to B, B to A)	
Transmission distance		Max. 10 km	Max. 550 m

*1. Specifications described is about the configuration using optical cables only. For further details, please refer to the relevant product manuals.

Optical cable

QP-AW QG-AW QG-B QG-BU QG-C QG-DL QG-VCT

- QP-AW is made of plastic material having break-proof*1 and superior bending characteristics*2
- A wide range of lineup supports versatile environments. CC-Link Partner Association recommended products
- The indoor and outdoor use cables are free of tension members, and have an allowable tension equivalent to the reinforced type for outdoor use that allows them to be pulled directly
- QG-BU for indoor use supports the high flame resistant UL Listed (UL Type OFNR) compatible cable that has passed the UL1666 Riser Flame Test
- Reinforced type outdoor use cables are waterproof, and can be used even in flooded or temporarily submerged areas
- A connector boot with improved bending characteristics reduces the possibility of fiber breakage at the connector base

LCF connector
Duplex LC connector (IEC 61754-20)

Model			QP-AW*3	QG-AW	QG-B	QG-BU	QG-VCT	QG-C	QG-DL	
Operating environment/ application			In the control panel	In the control panel	Indoor	Indoor, UL approved	Indoor, movable	Outdoor	Outdoor, reinforced (water shielding)	
Max. cable length			10 m	550 m						
Optical fiber types			Multi-mode optical fiber (GI)							
Material/ outer diameter	Core		Plastic/ 55 ± 5 µm	Fused quartz/50 ± 3 µm						
	Clad		Plastic/ 490 ± 5 µm	Fused quartz/125 ± 2 µm						
	Code jacket	Material	PVC (blue)	PVC (orange)						
		Outer diameter	ø2.0 mm × 2	ø2.0 mm × 2	ø2.0 mm × 2	ø1.8 mm × 2	ø2.0 mm × 2		ø2.0 mm × 2, 4, 6, 8	
	Cable jacket	Material	-	-	Flame retardant PE (orange)	Flame retardant PVC (blue)	Elastic PVC (orange)	Flame retardant PE (black)	LAP sheath (black)	
		Outer diameter	-	-	ø6.0 mm	ø5.0 mm	ø6.0 mm		2, 4 cores	10.0 mm
									6 cores	11.0 mm
									8 cores	12.0 mm
Operable temperature range			–20…60°C							
Adaptable connector			LCF connector*4, SC connector*3, FC connector*3							

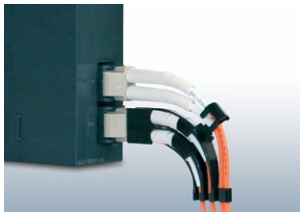
*1. The allowable tension is about twice the QG-AW.
*2. The allowable bending radius is about 1/2 times the QG-AW.
*3. The QP-AW does not support the following.
•SC, FC connector
•Processing of connectors at the site, fusion splice
•Splice connection of connectors
•Media converter and connection terminal
*4. Use LCF connector for connection to the CC-Link IE Controller Network products. (LCF connector: two LC connectors are connected) When installing CC-Link IE Controller Network-compatible optical cable, please refer to the installation manual of the CC-Link Partner Association.

Standard accessories: Protective holder*5 (One protective holder is enclosed per cable.)

▶Features

- Protects the cable connector base prevents breakage
- Maintains minimum bending radius
- Saves space in control panel (60 mm or less from the front of programmable controller to end of protective holder)

*5. The protective holder is dedicated to the Mitsubishi Electric System & Service Co., Ltd. A protective holder is not available as a single unit. It cannot be used with other LCF connector brands.



Connector insertion tool

SCT-SLM

- Insert or remove connectors easily, even in tight spaces such as crowded control panels

▶**Applicable connector**····· **LCF/LC/SC/MU connector**

Mitsubishi Electric System & Service

Splice adapter

SPAD-LCF-G50 SPAD-SCF-G50 SPAD-FC-G50

- Extends optical cable (Splice connection)
- Temporary connection for stations which may be extended later

SPAD-LCF-G50

Applicable connector

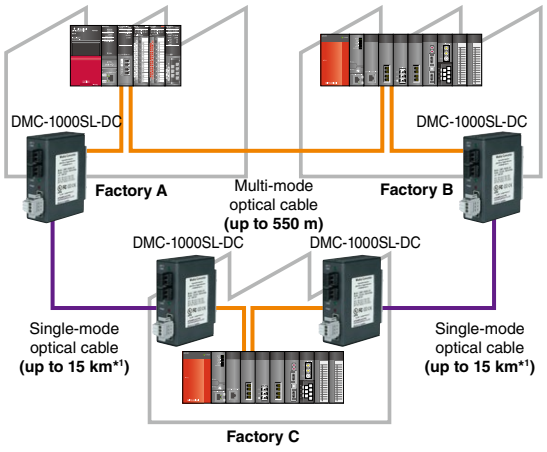
Type	Model	Specifications
Splice adapter for LCF Connector	SPAD-LCF-G50	Splice adapter for LCF connector, multimode 2 cores Connection loss: 0.3 dB (with master fiber)
Splice adapter for SC Connector	SPAD-SCF-G50	Splice adapter for SC connector, multimode 2 cores Connection loss: 0.3 dB (with master fiber)
Splice adapter for FC Connector	SPAD-FC-G50	Splice adapter for FC connector, multimode 1 core Connection loss: 0.3 dB (with master fiber)

Industrial media converter

DMC-1000SL-DC

- When the station-to-station distance is greater than 550 m, two of these units with optical cable can extend the total station-to-station distance up to 15 km
- Equipped with the link pass through function, this converter supports the network loop-back function in case of a cable disconnection

Application example



Specifications

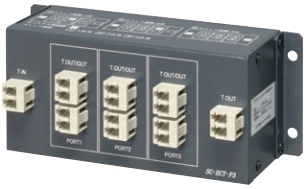
Item		DMC-1000SL-DC	
		OPT1 port	OPT2 port
Conforming standard		IEEE802.3z Gigabit Ethernet (1000BASE-LX)	IEEE802.3z Gigabit Ethernet (1000BASE-SX)
Transmission format		Full duplex system	
Compatible cable	Optical fiber	1000BASE-LX compatible single-mode optical cable	1000BASE-SX compatible multi-mode optical cable*2 (core/clad 50/125 μm area 500 MHz·km or higher λ = 850 nm)
	Connector	Duplex LC connector (IEC 61754-20 compliant)	
	Method for connection	Crossing (A to B, B to A)	
Power supply specification		20.4…26.4 V DC (Power supply terminal block)	
Standards		UL, CE, FCC Part15 Class B, Vccl Class B	
Max. number of connectable devices between stations		4	

*1. Multi-mode optical cable can be also used for connection. The transmission distance is up to 550 m.
*2. To connect to the CC-link IE Controller Network product, use the Mitsubishi Electric System & Service QG Series optical cable.

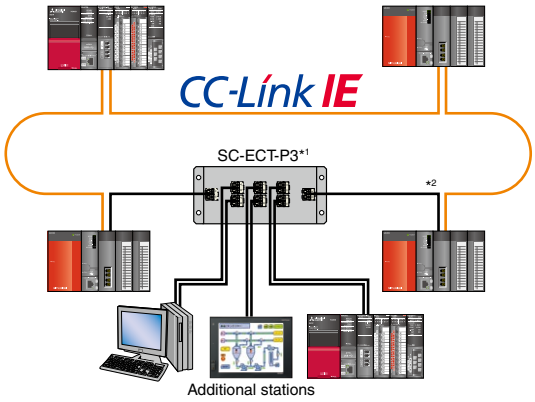
Mitsubishi Electric System & Service

Connection terminal
SC-ECT-P3

- Enables up to 3 stations to be added between existing stations
- With stations that can easily be added or removed, the maintainability is improved
- Allows for expansion of the network without having to change the existing cabling
- Installable on the DIN rail or with screw brackets



▶ Communication configuration example



▶ Specifications

Item		Specifications
Applicable optical cable		1000 BASE-SX (MMF)-compatible optical cable
	Standard	IEC 60793-2-10 Types A1a.1 (50/125 µm multimode)
	Transmission loss (max.)	≤ 3.5 dB/km (λ = 850 nm)
	Transmission band (min.)	≥ 500 MHz·km (λ = 850 nm)
	Model	QG Series*3
Applicable optical connector		Duplex LC connector
	Standard	IEC 61754-20: Type LC connector
	Connection loss	≤ 0.3 dB
	Polished face	PC polish
	Model	DLCF-G50-D2*3
Number of possible connections		Max. 3 units*1
Connection distance		Max. 150 m*4

*1. At least one unit should be connected to the connection terminal.
*2. The solid black lines represent cables with a maximum distance of 150 m. If any station goes down, the loop back function will still be operational.
*3. Parts provided by Mitsubishi Electric System & Service.
*4. Cable length from SC-ECT-P3 to any other connection point.

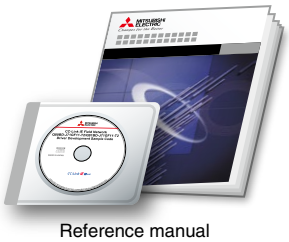
The products listed here are manufactured by Mitsubishi Electric System & Service Co., Ltd. Please note that the specifications and guarantee conditions of the products are different from the MELSEC Series products.

Development tool

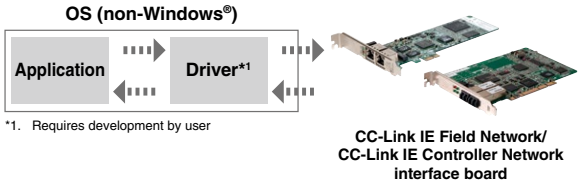
For further details, please refer to the "Open Field Network CC-Link Family Compatible Product Development Guidebook (L(NA)08052E)."

Network interface board driver development

- The reference manual (for developing a driver for the various operating systems) is provided to customers who wish to use the network interface board with an operating system other than Windows®
- This reference manual contains sample C programs, aiming to save the developer's programming time and cost



Reference manual



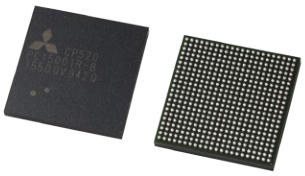
*1. Requires development by user

CC-Link IE Field Network/ CC-Link IE Controller Network interface board

Manual name	Manual number
CC-Link IE Field Network Q80BD-J71GF11-T2/Q81BD-J71GF11-T2 Driver Development Reference Manual	SH(NA)-081155ENG
CC-Link IE Controller Network Q80BD-J71GP21-SX Driver Development Reference Manual	SH(NA)-080819ENG

Communication LSI embedded with GbE-PHY CP520

- CP520 supports development of CC-Link IE Field Network intelligent device station and remote device station, without requiring in-depth knowledge of the protocol
- CP520 is integrated communication LSI embedded with CC-Link IE Field Network communication ASIC, MPU, and GbE-PHY
- The integrated communication LSI saves the developer's programming time and cost related to MPU and GbE-PHY



Communication LSI embedded with GbE-PHY

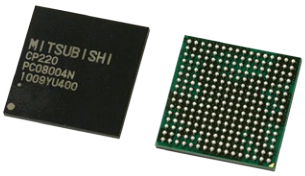
Reference manual (CD-ROM)

Type	Model	Packaging unit
Communication LSI embedded with GbE-PHY CP520	NZ2GACP520-60	60 pieces

Type	Manual number	Manual name
Reference manual	SH(NA)-081570ENG	CC-Link IE Field Network Intelligent Device Station Communication LSI Embedded with GbE-PHY CP520 Reference Manual

Dedicated communication LSI, CP220

- CP220 supports development of CC-Link IE Field Network intelligent device station and remote device station, without requiring in-depth knowledge of the protocol
- The reference manual CD-ROM contains C program sample codes and circuit examples (PDF), aiming to save the developer's programming time and cost



Dedicated communication LSI

Reference manual (CD-ROM)

Type	Model	Packaging unit
Dedicated communication LSI CP220	NZ2GACP220-60	60 pieces

Type	Manual number	Manual name
Reference manual	SH(NA)-082461ENG	CC-Link IE Field Network Intelligent Device Station and Remote Device Station Communication LSI CP220 Reference Manual

For price and other details, please contact your local Mitsubishi Electric office or sales representative.
Membership (regular, executive, or board membership) to CC-Link Partner Association (CLPA) is required for purchasing the development incorporating the communication LSI embedded with GbE-PHY, CP520 and dedicated communication LSI, CP220.
CC-Link Partner Association URL: https://www.cc-link.org

CC-Link IE Field Network/CC-Link IE Field Network Basic remote module

General specifications

Below are the environmental specifications where CC-Link IE Field Network/CC-Link IE Field Network Basic Block type remote modules are to be used. For the general specifications of other products, please refer to the catalog or manual of the product. For the general specifications of double-branded products and the products manufactured by other companies, please contact the manufacturer of the product.

Item	Block type remote module		Block type safety remote I/O module		
Operating ambient temperature	0…55°C				
Storage ambient temperature	–25…75°C		–40…75°C		
Operating ambient humidity	5…95%RH, non-condensing				
Storage ambient humidity					
Vibration resistance	Compliant with JIS B 3502, IEC 61131-2				
		Frequency	Acceleration	Half amplitude	Sweep count
	Under intermittent vibration	5…8.4 Hz	-	3.5 mm	10 times each in X, Y, Z directions
		8.4…150 Hz	9.8 m/s^2	-	
	Under continuous vibration	5…8.4 Hz	-	1.75 mm	-
		8.4…150 Hz	4.9 m/s^2	-	
Shock resistance	Compliant with JIS B 3502, IEC 61131-2 (147 m/s^2, 3 times in each of 3 directions X, Y, Z)		Compliant with JIS B 3502, IEC 61131-2 (147 m/s^2, Operation time: 11 ms, 3 times in each of 3 directions X, Y, Z)		
Operating ambient (humidity/temperature)	No corrosive gases		No corrosive gases*1, no flammable gases, no excessive conductive dust		
Operating altitude*2	0…2000 m*3				
Installation location	Inside a control panel				
Overvoltage category*4	≤ Ⅱ				
Pollution level*5	≤ 2				

Item	Waterproof/dustproof type remote module	Waterproof/dustproof type safety remote I/O module		Waterproof/dustproof type remote IO-Link module	
Operating ambient temperature	0…55°C			0…55°C (0…40°C for UL listed)	
Storage ambient temperature	–25…75°C				
Operating ambient humidity	Complies with IP67*6				
Storage ambient humidity	5…95%RH, non-condensing				
Vibration resistance	Compliant with JIS B 3502, IEC 61131-2				
		Frequency	Acceleration	Half amplitude	Sweep count
	Under intermittent vibration	5…8.4 Hz	-	3.5 mm	10 times each in X, Y, Z directions
		8.4…150 Hz	9.8 m/s^2	-	
	Under continuous vibration	5…8.4 Hz	-	1.75 mm	-
		8.4…150 Hz	4.9 m/s^2	-	
Shock resistance	Compliant with JIS B 3502, IEC 61131-2 (147 m/s^2, 3 times in each of 3 directions X, Y, Z)				
Operating ambient (humidity/temperature)	No corrosive gases				
Operating altitude*2	0…2000 m*3				
Installation location	Inside a control panel, outside a control panel				
Overvoltage category*4	≤ Ⅱ				
Pollution level*5	≤ 2				

*1. Use the special coated products which comply with the IEC 60721-3-3:1994 3C2 in the environment with the corrosive gases.
For details on the special coated products, please contact your sales representative.

*2. Do not use or store the programmable controller under pressure higher than the atmospheric pressure of altitude 0 m. Doing so may cause malfunction.
When using the programmable controller under pressure, please consult your local Mitsubishi Electric representative.

*3. When the programmable controller is used at altitude above 2000 m, the withstand voltage performance and the upper limit of the operating ambient temperature decrease. When using the programmable controller under pressure, please contact your sales representative.

*4. This indicates the section of the power supply to which the equipment is assumed to be connected between the public electrical power distribution network and the machinery within premises. Category II applies to equipment for which electrical power is supplied from fixed facilities.
The surge voltage withstand level for up to the rated voltage of 300 V is 2500 V.

*5. This index indicates the degree to which conductive material is generated in terms of the environment in which the equipment is used.
Pollution level 2 is when only non-conductive pollution occurs. A temporary conductivity caused by condensing must be expected occasionally.

*6. Only when all necessary waterproof connectors and caps have been installed and the station number setting switch cover has been properly tightened with a screw, the module conforms to IP67. For the tightening torque range of the screw for the station number setting switch cover, refer to the relevant product manual.

CC-Link IE Field Network performance specifications

Item		MELSEC iQ-R Series R04ENCPU R08ENCPU R16ENCPU R32ENCPU R120ENCPU RJ71EN71	MELSEC iQ-R Series master/local module RJ71GF11-T2	MELSEC-Q Series master/local module QJ71GF11-T2	MELSEC-L Series master/local module LJ71GF11-T2	Network interface board Q80BD-J71GF11-T2, Q81BD-J71GF11-T2	MELSEC iQ-R Series simple motion module RD77GF4 RD77GF8 RD77GF16 RD77GF32	MELSEC-Q Series simple motion module QD77GF4 QD77GF8 QD77GF16
Communication speed		1 Gbps						
Maximum stations per network		121 stations (1 master station. 120 device stations)						
Connection cable		Ethernet cable (Category 5e or higher, double shielded/STP), straight cable						
Overall cable distance		Line type: 12,000 m (When 1 master station and 120 device stations are connected) Star type: Depends on system configuration*1 Ring type: 12,100 m (When 1 master station and 120 device stations are connected)					Line type: 12,000 m (When 1 master station and 120 device stations are connected) Star type: Depends on system configuration*1	
Maximum station-to-station distance		100 m						
Maximum number of networks		239						
Network topology		Line type, star type*2, ring type					Line type, star type*2	
Communication method		Token-passing						
Maximum link points per network*3								
RX		16384 points, 2KB						8192 points 1KB
RY		16384 points, 2KB						8192 points 1KB
RWr		8192 points, 16KB						1024 points 2KB
RWw		8192 points, 16KB						1024 points 2KB
Maximum link points per station*3								
Master station	RX	16384 points, 2KB						8192 points 1KB
	RY	16384 points, 2KB						8192 points 1KB
	RWr	8192 points, 16KB						1024 points 2KB
	RWw	8192 points, 16KB						1024 points 2KB
Local station*4	RX	2048 points, 256B						-
	RY	2048 points, 256B						-
	RWr	1024 points, 2048B				256 points, 512B		-
	RWw	1024 points, 2048B				256 points, 512B		-
Intelligent device station	RX	2048 points, 256B						
	RY	2048 points, 256B						
	RWr	1024 points, 2048B				256 points, 512B		1024 points 2048B
	RWw	1024 points, 2048B				256 points, 512B		1024 points 2048B
Remote device station	RX	128 points, 16B						
	RY	128 points, 16B						
	RWr	64 points, 128B						
	RWw	64 points, 128B						
Safety communications								
Maximum number of safety connections per network		-	1814 connections	-				
Maximum number of safety connections per station		-	120 connections	-				
Maximum number of link points per safety connection		-	8 words (input: 8 words output: 8 words)	-				
Transient transmission capacity								
Transient transmission capacity		1920B maximum						

*1. An Ethernet switch is required for a star connection. Up to 20 Ethernet switches can be connected.
*2. Line and star types can also be mixed.
*3. Remote input RX: Bit data input from a device station to the master station
Remote output RY: Bit data output from the master station to a device station
Remote register RWr: 16-bit (word) unit data output from the master station to a device station
Remote register RWw: 16-bit (word) unit data output from the master station to a device station
May partially differ for local stations.
*4. Number of link points allocated by the master station. A local station can also use other link points to receive data from other stations.

For further details, please refer to the relevant product manuals.

CC-Link IE Controller Network performance specifications

Item	MELSEC iQ-R Series R04ENCPU R08ENCPU R16ENCPU R32ENCPU R120ENCPU RJ71EN71	MELSEC iQ-R Series RJ71GP21-SX	MELSEC-Q Series QJ71GP21-SX QJ71GP21S-SX	Network interface board Q80BD-J71GP21-SX Q80BD-J71GP21S-SX Q81BD-J71GP21-SX Q81BD-J71GP21S-SX
Communication speed	1 Gbps			
Maximum stations per network	120 (1 control station, 119 normal stations)*1			
Connection cable	Ethernet cable (Category 5e or higher, double shielded/STP), straight cable	Multi-mode optical cable		
Laser class (JIS C 6802, IEC 60825-1)	-	Class 1 laser product		
Overall cable distance	Line type: 11,900 m*2 Star type: Depends on system configuration Ring type: 12,000 m*2	66,000 m*2		
Maximum station-to-station distance	100 m	550 m		
Maximum number of networks	239			
Maximum number of groups	32			
Network topology	Line type, star type*3, ring type	Duplex loop ring		
Communication method	Token-pass	Token-ring		
Maximum link points per network*4				
LB	32768 points, 4KB	32768 points, 4KB For extended points: 65536 points, 8KB	32768 points, 4KB*5	32768 points, 4KB
LW	131072 points, 256KB	131072 points, 256KB For extended points: 262144 points, 512KB	131072 points, 256KB*6	131072 points, 256KB
LX	8192 points, 1KB			
LY	8192 points, 1KB			
Communication speed*4 (Regular mode)				
LB	16384 points, 2KB			
LW	16384 points, 32KB			
LX	8192 points, 1KB			
LY	8192 points, 1KB			
Communication speed*4 (Extended mode*7)				
LB	32768 points, 4KB			
LW	131072 points, 256KB			
LX	8192 points, 1KB			
LY	8192 points, 1KB			
Transient transmission capacity				
Transient transmission capacity	1920B maximum			

*1. Under CC-Link IE Controller Network, the number of connectable normal stations per network differs by the CPU module used in the control station.
For the details, please refer to the manual of the module used in the control station.
*2. When 120 stations are connected.
*3. Line and star types can also be mixed.
*4. Link relay LB: Bit data transmitted from stations in the network
Link register LW: 16-bit (word) unit data transmitted from stations in the network
Link input LX: Data input from a station to the I/O master in the same block
Link output LY: Data output from the I/O master station to another station in the same block
*5. 16384 points and 2K bytes for the basic model QCPU and the MELSEC-QS Series Safety CPU.
*6. 16384 points and 32K bytes for the basic model QCPU and the MELSEC-QS Series Safety CPU.
*7. To use the extended mode, all the stations must be compatible with the extended mode.

For further details, please refer to the relevant product manuals.

CC-Link IE Field Network Basic performance specifications

Item		Programmable controller CPU module					Network module	MELIPC
		R□CPU R□ENCPU	Q□UDVCPU	L□CPU	FX5U FX5UC	FX5UJ	FX5-ENET	MI5122-VW
Communication speed		100 Mbps						
Maximum stations per network*1		64 stations (16 stations × 4 groups)		16 stations	16 stations*2	8 stations	32 stations (16 stations × 2 groups)	64 stations (16 stations × 4 groups)
Connection cable		Ethernet standard compatible cable, Category 5e or higher (STP cable)						
Maximum station-to-station distance		100 m (between a hub and node)*3						
Network topology		Line type, Star type*4						
Communication method		UDP						
Maximum link points per network*5								
RX		4096 points		1024 points	1024 points*2	512 points	2048 points	4096 points
RY		4096 points		1024 points	1024 points*2	512 points	2048 points	4096 points
RWr		2048 points		512 points	512 points*2	256 points	1024 points	2048 points
RWw		2048 points		512 points	512 points*2	256 points	1024 points	2048 points
Maximum link points per station*5								
Master station	RX	4096 points		1024 points	1024 points*2	512 points	2048 points	4096 points
	RY	4096 points		1024 points	1024 points*2	512 points	2048 points	4096 points
	RWr	2048 points		512 points	512 points*2	256 points	1024 points	2048 points
	RWw	2048 points		512 points	512 points*2	256 points	1024 points	2048 points
Remote station*6	RX	64 points; up to 256 points can be allocated according to the number of stations						
	RY	64 points; up to 256 points can be allocated according to the number of stations						
	RWr	32 points; up to 128 points can be allocated according to the number of stations						
	RWw	32 points; up to 128 points can be allocated according to the number of stations						

*1. Maximum number of remote stations controlled by the master station, depending on the number of allocated remote stations. The total number of allocated stations should not exceed the maximum number of remote stations.
*2. Supported in the CPU module firmware version of "1.110" or later.
*3. The maximum distance between stations depends on the actual hub used. Please refer to the hub manufacturer's specifications.
*4. Line topology and star topology can be mixed.
*5. Remote input RX: Bit data input from a remote station to the master station
Remote output RY: Bit data output from the master station to a remote station
Remote register RWr: 16-bit (word) unit data output from the master station to a remote station
Remote register RWw: 16-bit (word) unit data output from the master station to a remote station
*6. Number of link points allocated by the master station.

For detailed information about performance specifications, please refer to the "CC-Link IE Field Network Basic Reference Manual (SH(NA)-081684ENG)".

Network specifications comparison

■ Control level

Item	CC-Link IE Controller Network		MELSECNET/H		
	Optical duplex loop	Twisted pair	Optical loop method	Coaxial bus method	Twisted bus method
Communication speed (bps)	1 G		25 M	10 M	10 M (max.)
Maximum stations per network	120*7		65	33	32
Maximum link points					
Per network	128K*8		16K*8		
Per station	128K*8		16K*8		
Distance					
Overall (km)	66	12*9	30	2.5*10	0.1 (10 Mbps)
Station-to-station (m)	550	100	1000	500	100 (10 Mbps)
Communication					
Network topology	Duplex loop ring	Star type, line type, ring type	Duplex loop ring	Bus type	Bus type
Connection cable	Ethernet cable (Multi-mode optical fiber)	Ethernet cable (Category 5e or higher, double shielded/STP)	Optical cable	Coaxial cable	Twisted pair cable

■ Field level

Item	CC-Link IE Field Network	CC-Link IE Field Network Basic	CC-Link
Communication speed (bps)	1 G	100 M	10 M (max.)
Maximum stations per network	121	65*11	65*11
Maximum link points			
Per network	16K*12	4K*12	4K*12
Per station	2K*12	256*12 (When 4 stations are occupied)	256*12 (When 4 stations are occupied)
Distance			
Overall (km)	12.1*9	Depends on system configuration	1.1*10 (10 Mbps)
Station-to-station (m)	100	100	100 (10 Mbps)
Communication			
Network topology	Star type, line type, ring type	Star type	Bus type, T-branch type, star type
Connection cable	Ethernet cable (Category 5e or higher, double shielded/STP)	Ethernet cable (Satisfies 100BASE-TX)	Twisted pair cable (CC-Link dedicated cable)

*7. Value when the extended mode is used.
*8. Value of link register LW (word).
*9. Value when ring connection is used.
*10. Value when a repeater is used.
*11. The maximum stations per network differ according to programmable controller Series.
*12. Value of remote register RWr + RWw (word).

Cable specifications

CC-Link IE compatible twisted-pair cable*1

Item		Specifications
Twisted-pair cable specifications		Category 5e or higher, (double shielded/STP) straight cable
	Standard	Cables that conform to the following standards. • IEEE802.3 (1000BASE-T) • ANSI/TIA/EIA-568-B (Category 5e)
Connector specifications	Standard	RJ-45 connector with shield

CC-Link IE compatible optical cable*1

Item		Specifications
Optical cable specifications		1000BASE-SX (MMF) optical cable
	Standard	IEC 60793-2-10 Types A1a.1 (50/125 µm multimode)
	Transmission loss (max.)	≤ 3.5 dB/km (λ = 850 nm)
	Transmission band (min.)	≥ 500 MHz·km (λ = 850 nm)
Connector specifications		Duplex LC connector
	Standard	IEC 61754-20: Type LC connector
	Connection loss	≤ 0.3 dB
	Polished face	PC (Physical Contact) polishing

*1. For recommended cables and other information, contact the CC-Link Partner Association.

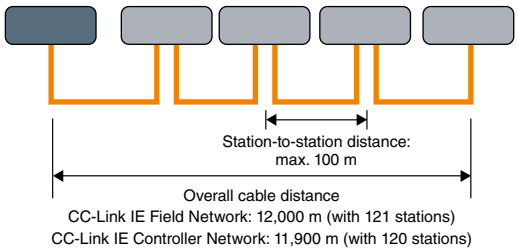
CC-Link IE Field Network Basic compatible twisted-pair cable

Item		Specifications
Twisted-pair specifications		Category 5e or higher, (STP) straight cable Category 5 or 5e, (STP) cross cable
	Standard	Cables that satisfy following standards • IEEE802.3 (100BASE-TX) • ANSI/TIA/EIA-568-B (Category 5)
Connector specifications	Standard	RJ45

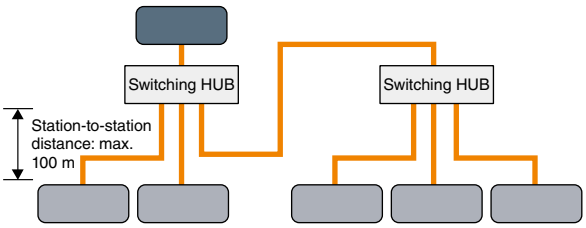
Network topologies*2

*2. CC-Link IE Field Network Basic supports star topology only.

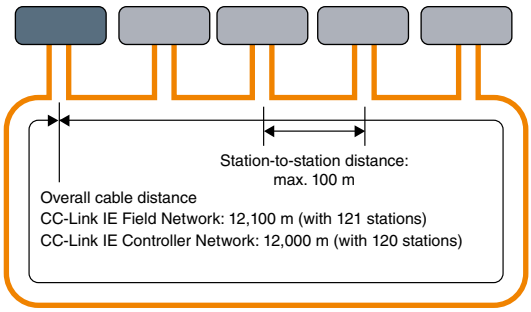
Line topology (Twisted-pair cable)



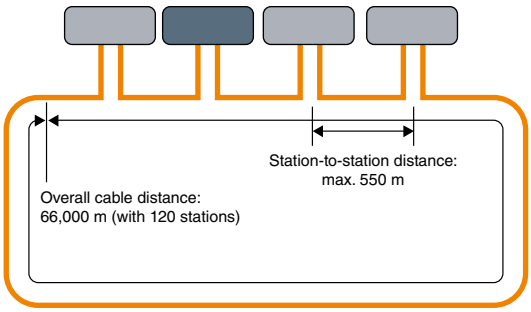
Star topology (Twisted-pair cable)



Ring topology (Twisted-pair cable)



Ring topology (Dual-loop optical fiber)



Master/Control station

Local/Device/Remote/Normal station

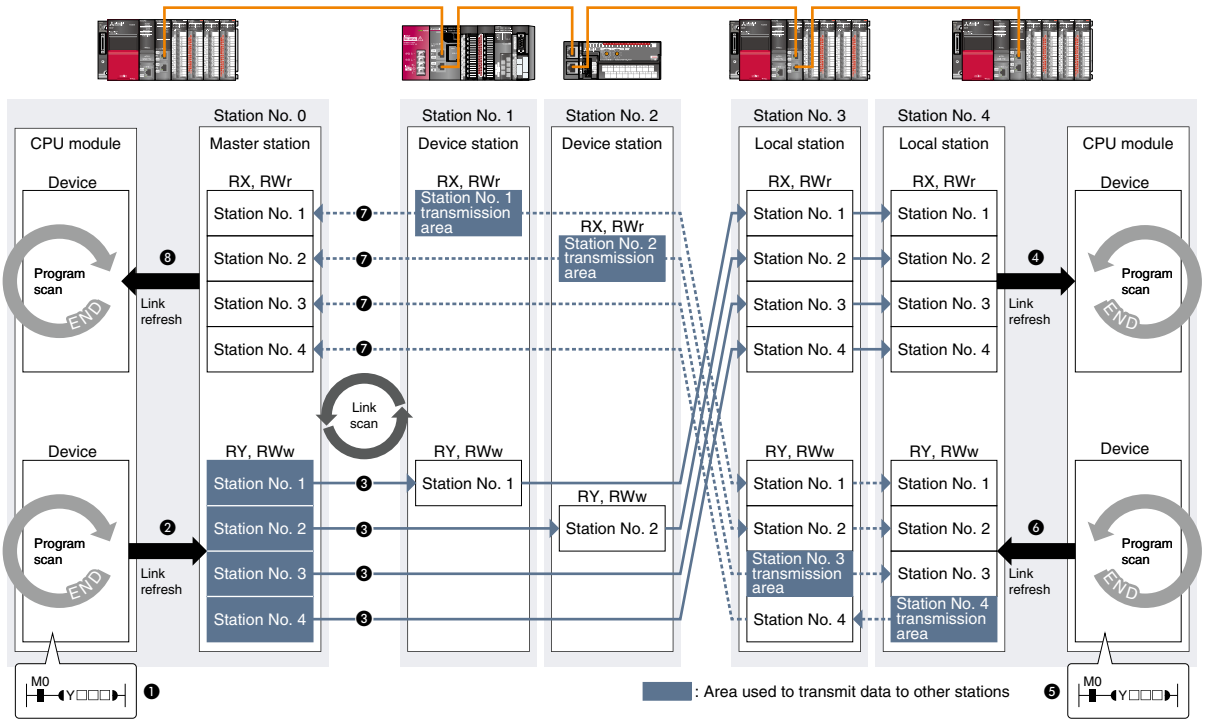
Cyclic transmission

In cyclic transmission, data is transmitted periodically using link devices. Under CC-Link IE Field and Controller networks, some differences exist as described in this section.

■ CC-Link IE Field Network*1

One-to-one communication is possible between the master and device stations. The status of link devices (RY, RWw) within the master station are transmitted to an external device connected to a device station. Likewise, the status of external devices is transmitted to the master station link devices (RX, RWr) via the device station.
In the case of local stations, the status of the master station link devices (RY, RWw) is relayed to all local station link devices (RX, RWr) on the network. When an input from a device or local station is executed, the device station link devices (RX, RWr) status and local station link devices (RY, RWw) status are stored in the master station link device (RX, RWr), along with other local station link devices (RY, RWw). As a result, all local stations possess the data of other device stations, similar to the master station.

*1. The data is transmitted in the same method on CC-Link IE Field Network Basic. Note that communication is made between the master station and the device stations only. No local stations are available on the CC-Link IE Field Basic.



Output from the master station

❶ In the master station, devices of the CPU module turn ON.
❷ In the master station, the status of the CPU module devices are stored in the link devices (RY, RWw) by link refresh.
❸ The status of the master station link devices (RY, RWw) are then stored in the device station link devices (RY, RWw), and in the local station link devices (RX, RWr) by link scan.
❹ The status of the local station link devices (RX, RWr) are stored in the CPU module devices.

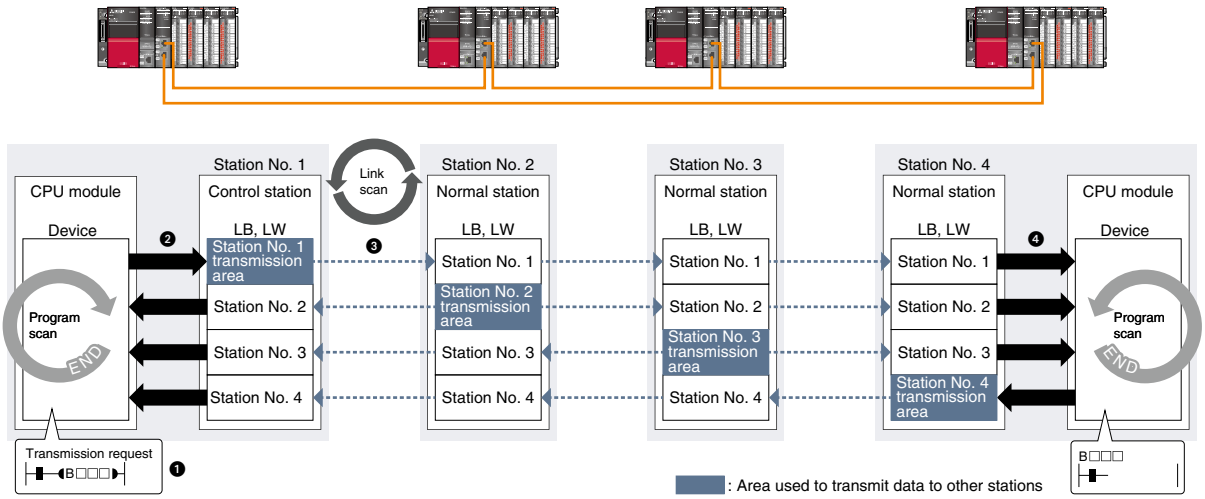
Input from the device or local station

❺ In the local station, devices of the CPU module turn ON.
❻ In the local station, the status of the CPU module devices are stored in its own station link devices (RY, RWw) transmission area.
❼ The status of the device station link devices (RX, RWr), and the local station link devices (RY, RWw) are stored in the master station link devices (RX, RWr) by link scan.
❽ The status of the master station link devices (RX, RWr) are stored in the CPU module devices by link refresh.

■ CC-Link IE Controller Network

▶ Communications using link relays (LB) and link registers (LW)

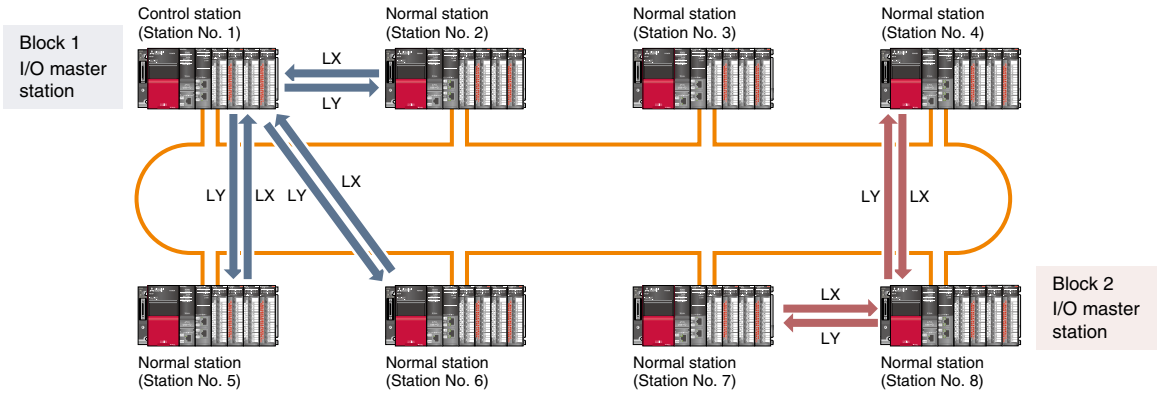
This function allows each station to write data to its own send range of a link device (LB, LW) to send them to all other stations on the network. The status data of the control station link devices (LB, LW) are stored in the link devices (LB, LW) of each normal station. Likewise, the status of the normal station link devices (LB, LW) is stored in link devices (LB, LW) of the control and other normal stations.



❶ In the transmitting station, the CPU module devices turn ON.
❷ In the transmitting station, the CPU module devices status are stored in the link devices (LB, LW) of the CC-Link IE Controller Network supporting module by link refresh.
❸ The status of the link devices (LB, LW) in the transmitting station are sent to the link devices (LB, LW) of the CC-Link IE Controller Network supporting module in the receiving station by link scan.
❹ In the receiving station, the status of the link devices (LB, LW) are stored in the CPU module devices.

▶ Transmissions using link inputs (LX) and link outputs (LY)

An I/O master station, which controls link inputs (LX) and link outputs (LY), and another station make one to one communication. LX is the input data transmitted between stations in a block, and LY is the output data transmitted from the I/O master station in a block. The control or normal station can be an I/O master station, and up to two I/O master stations (block 1 and block 2) can be used per network.



Transient transmission

This function allows communications with other stations when a request is made by a method such as a dedicated instruction and engineering software. Communications with different networks is also possible.

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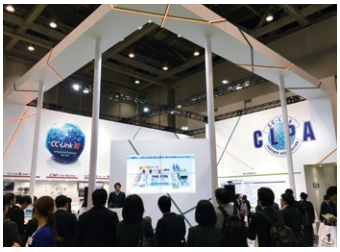
CC-Link Partner Association (CLPA) - Actively promoting worldwide adoption of CC-Link networks

Proactively supporting CC-Link, from promotion to specification development

The CC-Link Partner Association (CLPA) was established to promote the worldwide adoption of the CC-Link open-field network. By conducting promotional activities such as organizing trade shows and seminars, conducting conformance tests, and providing catalogs, brochures and website information, CLPA activities are successfully increasing the number of CC-Link partner manufacturers and CC-Link-compatible products. As such, CLPA is playing a major role in the globalization of CC-Link.

Seminar



Trade show

Conformance testing lab

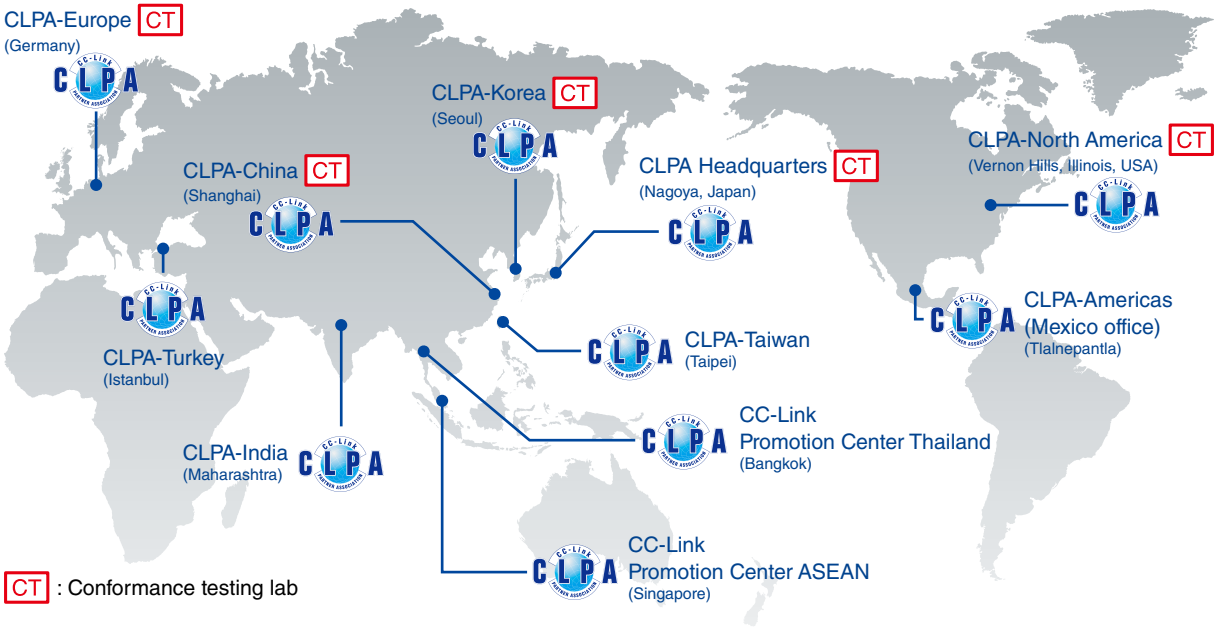
Visit the CLPA website for the latest CC-Link information.

CLPA website
www.cc-link.org/en

CLPA Headquarters
6F Ozone Front Bldg. 3-15-58 Ozone
Kita-ku, Nagoya 462-0825, JAPAN
TEL: +81-52-919-1588 FAX: +81-52-916-8655
e-mail: info@cc-link.org

Global influence of CC-Link continues to spread

CC-Link is supported globally by CLPA. With offices throughout the world, support for partner companies can be found locally. Each regional CLPA office undertakes various support and promotional activities to further the influence of CC-Link/CC-Link IE in that part of the world. For companies looking to increase their presence in their local area, CLPA is well placed to assist these efforts through offices in all major regions.



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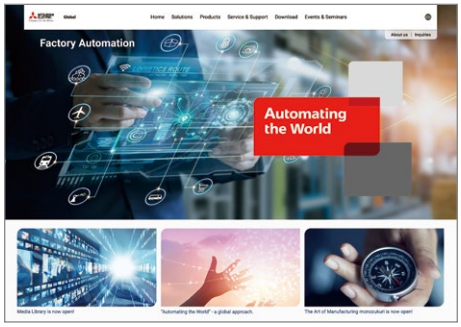

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…CC-Link IE TSN …CC-Link IE Field Network …CC-Link IE Controller Network twisted-pair cable …CC-Link IE Controller Network optical cable

Product list

Mitsubishi Electric Corporation

[Legend] DB: Double brand product*1

Type	Model	Outline	F	C	
CC-Link IE embedded CPU module					
R04ENCPU		MELSEC iQ-R Series CC-Link IE Field Network master/local station CC-Link IE Controller Network control/normal station	●	●	-
R08ENCPU		MELSEC iQ-R Series CC-Link IE Field Network master/local station CC-Link IE Controller Network control/normal station	●	●	-
R16ENCPU		MELSEC iQ-R Series CC-Link IE Field Network master/local station CC-Link IE Controller Network control/normal station	●	●	-
R32ENCPU		MELSEC iQ-R Series CC-Link IE Field Network master/local station CC-Link IE Controller Network control/normal station	●	●	-
R120ENCPU		MELSEC iQ-R Series CC-Link IE Field Network master/local station CC-Link IE Controller Network control/normal station	●	●	-
Multi-network supporting Ethernet interface module					
RJ71EN71		MELSEC iQ-R Series multi-network supported (Ethernet/CC-Link IE)	●	●	-
Master/local module					
RJ71GF11-T2		CC-Link IE Field Network master/local station for MELSEC iQ-R Series	●	-	-
QJ71GF11-T2		CC-Link IE Field Network master/local station for MELSEC-Q Series	●	-	-
LJ71GF11-T2		CC-Link IE Field Network master/local station for MELSEC-L Series	●	-	-
Control network module					
RJ71GP21-SX		CC-Link IE Controller Network control/normal station for MELSEC iQ-R Series	-	-	●
RJ71GP21S-SX		CC-Link IE Controller Network control/normal station (with the External power supply function) for MELSEC iQ-R Series	-	-	●
QJ71GP21-SX		CC-Link IE Controller Network control/normal station for MELSEC-Q Series	-	-	●
QJ71GP21S-SX		CC-Link IE Controller Network control/normal station (with the External power supply function) for MELSEC-Q Series	-	-	●
Simple motion module					
RD77GF4		CC-Link IE Field Network master station for MELSEC iQ-R Series Up to 4-axis control; Linear interpolation; 2-axis circular interpolation; Synchronous control; Speed-torque control	●	-	-
RD77GF8		CC-Link IE Field Network master station for MELSEC iQ-R Series Up to 8-axis control; Linear interpolation; 2-axis circular interpolation; Synchronous control; Speed-torque control	●	-	-
RD77GF16		CC-Link IE Field Network master station for MELSEC iQ-R Series Up to 16-axis control; Linear interpolation; 2-axis circular interpolation; Synchronous control; Speed-torque control	●	-	-
RD77GF32		CC-Link IE Field Network master station for MELSEC iQ-R Series Up to 32-axis control; Linear interpolation; 2-axis circular interpolation; Synchronous control; Speed-torque control	●	-	-
QD77GF4		CC-Link IE Field Network master station for MELSEC-Q Series Up to 4-axis control; Linear interpolation; 2-axis circular interpolation; Synchronous control; Speed-torque control	●	-	-
QD77GF8		CC-Link IE Field Network master station for MELSEC-Q Series Up to 8-axis control; Linear interpolation; 2-axis circular interpolation; Synchronous control; Speed-torque control	●	-	-
QD77GF16		CC-Link IE Field Network master station for MELSEC-Q Series Up to 16-axis control; Linear interpolation; 2-axis circular interpolation; Synchronous control; Speed-torque control	●	-	-
Head module					
RJ72GF15-T2		MELSEC iQ-R Series CC-Link IE Field Network compatible remote head module	●	-	-
LJ72GF15-T2		MELSEC-L Series CC-Link IE Field Network compatible head module (END cover enclosed)	●	-	-
Intelligent device station module					
FX5-CCLIEF		MELSEC iQ-F Series CC-Link IE Field Network intelligent device station module	●	-	-
AC Servo MELSERVO-J4 Series					
MR-J4-GF(-RJ)		CC-Link IE Field Network compatible servo amplifier	●	-	-
Inverter FREQROL-A800 Series					
FR-A800-GF		CC-Link IE Field Network compatible inverter	●	-	-
HMI GOT2000 Series					
GT27□□-□□□□-GF		Product package including a GOT (GT27□□-□□□□) and a CC-Link IE Field Network communication unit (GT15-J71GF13-T2).	●	-	-
GT25□□-□□□□-GF		Product package including a GOT (GT25□□-□□□□) and a CC-Link IE Field Network communication unit (GT15-J71GF13-T2)	●	-	-
GT15-J71GF13-T2		CC-Link IE Field Network communication unit; Supported by GT27 and GT25	●	-	-
GT15-J71GP23-SX		CC-Link IE Controller Network communication unit; Supported by GT27 and GT25	-	-	●
Network bridge module					
NZ2GN-GFB NEW		CC-Link IE TSN - CC-Link IE Field Network bridge module	●	-	-
NZ2GF-CCB		CC-Link IE Field Network - CC-Link bridge module	●	-	-
NZ2AW1GFAL DB		CC-Link IE Field Network - AnyWireASLINK bridge module	●	-	-

*1. General specifications and product guarantee conditions of jointly developed products are different from those of MELSEC products. For further details, please refer to the product manuals, or contact your local Mitsubishi Electric sales representative.

Mitsubishi Electric Corporation

Type	Model	Outline	TSN	F	C	
Block type remote module						
DC input	NZ2GN2S1-16D	16 points; 24 V DC; Response time 0…70 ms; Positive/negative common shared; Spring-clamp terminal block; 1-wire	●	●	-	-
	NZ2GN2S1-32D	32 points; 24 V DC; Response time 0…70 ms; Positive/negative common shared; Spring-clamp terminal block; 1-wire	●	●	-	-
	NZ2GF2S1-16D	16 points; 24 V DC; Response time 0…70 ms; Positive/negative common shared; Spring-clamp terminal block; 1-wire	-	●	-	-
	NZ2GN2B1-16D	16 points; 24 V DC; Response time 0…70 ms; Positive/negative common shared; Screw terminal block; 1-wire	●	●	-	-
	NZ2GN2B1-32D	32 points; 24 V DC; Response time 0…70 ms; Positive/negative common shared; Screw terminal block; 1-wire	●	●	-	-
	NZ2GF2B1N1-16D	16 points; 24 V DC; Response time 0…70 ms; Positive/negative common shared; Screw terminal block; 1-wire Max. extension modules: 3	-	●	-	-
	NZ2GF2B1-32D	32 points; 24 V DC; Response time 0…70 ms; Positive/negative common shared; Screw terminal block; 1-wire	-	●	-	-
	NZ2GNCE3-32D*1*2	32 points; 24 V DC; Response time 0…70 ms; Positive common; Sensor connector (e-CON); 3-wire	●	●	-	-
	NZ2GFCE3-16D*1*2	16 points; 24 V DC; Response time 0…70 ms; Positive common (sink); Sensor connector (e-CON); 3-wire	-	●	-	-
	NZ2GFCE3-16DE*1*2	16 points; 24 V DC; Response time 0…70 ms; Negative common (source); Sensor connector (e-CON); 3-wire	-	●	-	-
	NZ2GFCE3N-32D*1*2	32 points; 24 V DC; Response time 0…70 ms; Positive common (sink); Sensor connector (e-CON); 3-wire	-	●	-	-
	NZ2GNCF1-32D	32 points; 24 V DC; Response time 0…70 ms; Positive/negative common shared; 40-pin connector; 1-wire	●	●	-	-
	NZ2GFCF1-32D	32 points; 24 V DC; Response time 0…70 ms; Positive/negative common shared; 40-pin connector; 1-wire	-	●	-	-
AC input	NZ2GF2B2-16A	16 points; 100…120 V AC; 50/60 Hz; Screw terminal block; 2-wire	-	●	-	-
Transistor output	NZ2GN2S1-16T	16 points; 12/24 V DC; Sink; Spring-clamp terminal block; 1-wire	●	●	-	-
	NZ2GN2S1-16TE	16 points; 12/24 V DC; Source; Spring-clamp terminal block; 1-wire	●	●	-	-
	NZ2GN2S1-32T	32 points; 12/24 V DC; Sink; Spring-clamp terminal block; 1-wire	●	●	-	-
	NZ2GN2S1-32TE	32 points; 12/24 V DC; Source; Spring-clamp terminal block; 1-wire	●	●	-	-
	NZ2GF2S1-16T	16 points; 12/24 V DC; Sink; Spring-clamp terminal block; 1-wire	-	●	-	-
	NZ2GF2S1-16TE	16 points; 12/24 V DC; Source; Spring-clamp terminal block; 1-wire	-	●	-	-
	NZ2GN2B1-16T	16 points; 12/24 V DC; Sink; Screw terminal block; 1-wire	●	●	-	-
	NZ2GN2B1-16TE	16 points; 12/24 V DC; Source; Screw terminal block; 1-wire	●	●	-	-
	NZ2GN2B1-32T	32 points; 12/24 V DC; Sink; Screw terminal block; 1-wire	●	●	-	-
	NZ2GN2B1-32TE	32 points; 12/24 V DC; Source; Screw terminal block; 1-wire	●	●	-	-
	NZ2GF2B1N1-16T	16 points; 12/24 V DC; Sink; Screw terminal block; 1-wire; Max. extension modules: 3	-	●	-	-
	NZ2GF2B1N1-16TE	16 points; 12/24 V DC; Source; Screw terminal block; 1-wire; Max. extension modules: 3	-	●	-	-
	NZ2GF2B1-32T	32 points; 12/24 V DC; Sink; Screw terminal block; 1-wire	-	●	-	-
	NZ2GF2B1-32TE	32 points; 12/24 V DC; Source; Screw terminal block; 1-wire	-	●	-	-
	NZ2GFCE3-16T*1*2	16 points; 12/24 V DC; Sink; Sensor connector (e-CON); 3-wire	-	●	-	-
	NZ2GFCE3-16TE*1*2	16 points; 12/24 V DC; Source; Sensor connector (e-CON); 3-wire	-	●	-	-
	NZ2GFCE3N-32T*1*2	32 points; 12/24 V DC; Sink; Sensor connector (e-CON); 3-wire	-	●	-	-
	NZ2GNCF1-32T	32 points; 12/24 V DC; Sink; 40-pin connector; 1-wire	●	●	-	-
	NZ2GFCF1-32T	32 points; 12/24 V DC; Sink; 40-pin connector; 1-wire	-	●	-	-
Contact output	NZ2GF2S2-16R	16 points; 24 V DC/240 V AC; Spring-clamp terminal block; 2-wire	-	●	-	-
	NZ2GF2B2-16R	16 points; 24 V DC/240 V AC; Screw terminal block; 2-wire	-	●	-	-
Triac output	NZ2GF2S2-16S	16 points; 100…240 V AC; 50/60 Hz; Spring-clamp terminal block; 2-wire	-	●	-	-
	NZ2GF2B2-16S	16 points; 100…240 V AC; 50/60 Hz; Screw terminal block; 2-wire	-	●	-	-

*1. A connector for the power supply and FG is required for e-CON and MIL connector type remote I/O module. Please refer to the option list on page 81 to check the type and model name.

*2. A sensor connector is required for e-CON connector type remote I/O module. Please refer to the option list of Mitsubishi Electric System & Service Co., Ltd. products on page 81 to check the type and model name.

…CC-Link IE TSN …CC-Link IE Field Network …CC-Link IE Controller Network twisted-pair cable …CC-Link IE Controller Network optical cable

Mitsubishi Electric Corporation

Type	Model	Outline	TSN	F	C	
Block type remote module						
I/O combined	NZ2GN2S1-32DT	[Input] 16 points; 24 V DC; Response time: 0…70 ms; Positive common [Output] 16 points; 24 V DC; Sink Spring-clamp terminal block; 1-wire	●	●	-	-
	NZ2GN2S1-32DTE	[Input] 16 points, 24 V DC; Response time: 0…70 ms; Negative common [Output] 16 points, 24 V DC; Source Spring-clamp terminal block; 1-wire	●	●	-	-
	NZ2GN2B1-32DT	[Input] 16 points; 24 V DC; Response time: 0…70 ms; Positive common [Output] 16 points; 24 V DC; Sink Screw terminal block; 1-wire	●	●	-	-
	NZ2GN2B1-32DTE	[Input] 16 points; 24 V DC; Response time: 0…70 ms; Negative common [Output] 16 points; 24 V DC; Source Screw terminal block; 1-wire	●	●	-	-
	NZ2GF2B1-32DT	[Input] 16 points, 24 V DC; Response time: 0…70 ms; Positive common [Output] 16 points, 24 V DC; Sink Screw terminal block, 1-wire	-	●	-	-
	NZ2GF2B1-32DTE	[Input] 16 points, 24 V DC; Response time: 0…70 ms; Negative common [Output] 16 points, 24 V DC; Source Screw terminal block, 1-wire	-	●	-	-
	NZ2GNCE3-32DT*1*2	[Input] 16 points; 24 V DC; Response time: 0…70 ms; Positive common [Output] 16 points; 24 V DC; Sink Sensor connector (e-CON); 3-wire	●	●	-	-
	NZ2GFCE3N-32DT*1*2	[Input] 16 points; 24 V DC; Response time: 0…70 ms; Positive common [Output] 16 points; 24 V DC; Sink Sensor connector (e-CON); 3-wire	-	●	-	-
	NZ2GFCF1-32DT	[Input] 16 points; 24 V DC; Response time: 0…70 ms; Positive/negative common shared [Output] 16 points; 12/24 V DC; Sink 40-pin connector; 1-wire	-	●	-	-
Multiple input	NZ2GF2S-60MD4	4 channels; Analog voltage/current/temperature input; Spring-clamp terminal block	-	●	-	-
Analog input	NZ2GN2S-60AD4	4 channels; –10…10 V DC, 0…20 mA DC; Conversion speed: 200 µs/CH; Spring-clamp terminal block	●	●	-	-
	NZ2GN2B-60AD4	4 channels; –10…10 V DC, 0…20 mA DC; Conversion speed: 200 µs/CH; Screw terminal block	●	●	-	-
	NZ2GF2BN-60AD4	4 channels; –10…10 V DC, 0…20 mA DC; Conversion speed: 100 µs/CH; Screw terminal block	-	●	-	-
	NZ2GFCE-60ADV8*1*2	8 channels; –10…10 V DC; Conversion speed: 1 ms/CH; Sensor connector (e-CON)	-	●	-	-
	NZ2GFCE-60ADI8*1*2	8 channels; 0…20 mA DC; Conversion speed: 1 ms/CH; Sensor connector (e-CON)	-	●	-	-
Analog output	NZ2GN2S-60DA4	4 channels; –10…10 V DC; 0…20 mA DC; Conversion speed: 200 µs/CH; Spring-clamp terminal block	●	●	-	-
	NZ2GN2B-60DA4	4 channels; –10…10 V DC; 0…20 mA DC; Conversion speed: 200 µs/CH; Screw terminal block	●	●	-	-
	NZ2GF2BN-60DA4	4 channels; –10…10 V DC; 0…20 mA DC; Conversion speed: 100 µs/CH; Screw terminal block	-	●	-	-
	NZ2GFCE-60DAV8*1*2	8 channels; –10…10 V DC; Conversion speed: 1 ms/CH; Sensor connector (e-CON)	-	●	-	-
	NZ2GFCE-60DAI8*1*2	8 channels; 0…20 mA DC; Conversion speed: 1 ms/CH; Sensor connector (e-CON)	-	●	-	-
Temperature control	NZ2GF2B-60TCTT4	4 channels; Thermocouple input; Transistor output; Screw terminal block	-	●	-	-
	NZ2GF2B-60TCRT4	4 channels; RTD input; Transistor output; Screw terminal block	-	●	-	-
High-speed counter	NZ2GFCF-D62PD2	2 channels [Differential input] Counting speed: 10 kpps/100 kpps/200 kpps/500 kpps/1 Mpps/2 Mpps/4 Mpps/8 Mpps; Count input signal: EIA Standard RS-422-A (Differential line driver) [DC input] Counting speed: 10 kpps/100 kpps/200 kpps; Count input signal: 5/24 V DC 4…8 mA Coincidence output: Transistor (sink); 5…24 V DC; 40-pin connector	-	●	-	-
Extension module for Block type remote module						
DC input	NZ2EX2S1-16D	16 points; 24 V DC; Response time: 0…70 ms; Positive/negative common shared; Spring-clamp terminal block; 1-wire	-	●	-	-
	NZ2EX2B1N-16D	16 points; 24 V DC; Response time: 0…70 ms; Positive/negative common shared; Screw terminal block; 1-wire; Multiple modules connectable	-	●	-	-
Transistor output	NZ2EX2S1-16T	16 points; 12/24 V DC; Sink; Spring-clamp terminal block; 1-wire	-	●	-	-
	NZ2EX2S1-16TE	16 points; 12/24 V DC, Source; Spring-clamp terminal block; 1-wire	-	●	-	-
	NZ2EX2B1N-16T	16 points; 12/24 V DC; Sink; Screw terminal block; 1-wire; Multiple modules connectable	-	●	-	-
	NZ2EX2B1N-16TE	16 points; 12/24 V DC; Source; Screw terminal block; 1-wire; Multiple modules connectable	-	●	-	-
Analog input	NZ2EX2B-60AD4	4 channels; –10…10 V DC; 0…20 mA DC; Conversion speed: 100 µs/CH; Screw terminal block	-	●	-	-
Analog output	NZ2EX2B-60DA4	4 channels; –10…10 V DC; 0…20 mA DC; Conversion speed: 100 µs/CH; Screw terminal block	-	●	-	-

*1. A connector for the power supply and FG is required with e-CON type remote I/O module. Please refer to the option list on page 81 to check the type and model name.

*2. A sensor connector is required with e-CON connector type remote I/O module. Please refer to the option list of Mitsubishi Electric System & Service Co., Ltd. products on page 81 to check the type and model name.

Mitsubishi Electric Corporation

Type	Model	Outline	CC-Link IE TSN	CC-Link IE Field	CC-Link	CC-Link IE Controller
Waterproof/dustproof type (IP67) remote module						
DC input	NZ2GN12A4-16D	16 points; 24 V DC; Response time: 0…70 ms; Positive common; Waterproof connector; 2- to 4-wire	●	●	-	-
	NZ2GN12A4-16DE	16 points; 24 V DC; Response time: 0…70 ms; Negative common; Waterproof connector; 2- to 4-wire	●	●	-	-
Transistor output	NZ2GN12A2-16T	16 points; 12/24 V DC; Sink; Waterproof connector; 2-wire	●	●	-	-
	NZ2GN12A2-16TE	16 points; 12/24 V DC; Source; Waterproof connector; 2-wire	●	●	-	-
I/O combined	NZ2GN12A42-16DT	[Input] 8 points; 24 V DC; Response time: 0…70 ms; Positive common; 2- to 4-wire [Output] 8 points; 12/24 V DC; Sink; 2-wire Waterproof connector	●	●	-	-
	NZ2GN12A42-16DTE	[Input] 8 points; 24 V DC; Response time: 0…70 ms; Negative common; 2- to 4-wire [Output] 8 points; 12/24 V DC; Source; 2-wire Waterproof connector	●	●	-	-

Mitsubishi Electric Corporation

Type	Model	Outline	Connectable device*1 A	Connectable device*1 B
Block-type safety remote CC-Link IE Field Network-compatible modules C				
Safety input	NZ2GFSS2-8D-S1*2 NEW	Single wiring: 8 points; Double wiring: 4 points; 24 V DC; Response time: 1…70 ms; Negative common; Spring-clamp terminal block; 2-wire	●	-
	NZ2GFSS2-32D-S1*2 NEW	Single wiring: 32 points; Double wiring: 16 points; 24 V DC; Response time: 1…50 ms; Negative common; Spring-clamp terminal block; 2-wire	●	-
Safety output	NZ2GFSS2-8TE-S1*2 NEW	Single wiring: 8 points; Double wiring: 4 points; 24 V DC (0.5 A); Source + source; Spring-clamp terminal block; 2-wire	●	-
Safety I/O combined	NZ2GFSS2-16DTE-S1*2 NEW	[Input] Single wiring: 8 points; Double wiring: 4 points; 24 V DC; Response time: 1…70 ms; Negative common [Output] Single wiring: 8 points; Double wiring: 4 points; 24 V DC (0.5 A); Source + source Spring-clamp terminal block; 2-wire	●	-

*1. MELSEC iQ-R Series safety CPU modules and master modules RJ71GF11-T2 that can be connected.
Please select products according to the firmware versions of the MELSEC iQ-R Series safety CPU modules and the master modules RJ71GF11-T2 to be used.
For details and A, B, C, and D, please refer to page 39.

*2. Models with "-S1" at the end of their names support safety protocol version 2.

Mitsubishi Electric Corporation

Type	Model	Outline	Connectable device*3 A	Connectable device*3 B
Block-type safety remote CC-Link IE Field Network-compatible modules D				
Safety input	NZ2GFSS2-8D	Single wiring: 8 points; Double wiring: 4 points; 24 V DC; Response time: 1…70 ms; Negative common; Spring-clamp terminal block; 2-wire	●	●
	NZ2GFSS2-32D	Single wiring: 32 points; Double wiring: 16 points; 24 V DC; Response time: 1…50 ms; Negative common; Spring-clamp terminal block; 2-wire	●	●
Safety output	NZ2GFSS2-8TE	Single wiring: 8 points; Double wiring: 4 points; 24 V DC (0.5 A); Source + source; Spring-clamp terminal block; 2-wire	●	●
Safety I/O combined	NZ2GFSS2-16DTE	[Input] Single wiring: 8 points; Double wiring: 4 points; 24 V DC; Response time: 1…70 ms; Negative common [Output] Single wiring: 8 points; Double wiring: 4 points; 24 V DC; Source + source Spring-clamp terminal block; 2-wire	●	●

*3. MELSEC iQ-R Series safety CPU modules and master modules RJ71GF11-T2 that can be connected.
Please select products according to the firmware versions of the MELSEC iQ-R Series safety CPU modules and the master modules RJ71GF11-T2 to be used.
For details and A, B, C, and D, please refer to page 39.

Mitsubishi Electric Corporation

[Legend] DB: Double brand product*4

Type	Model	Outline	CC-Link IE TSN	CC-Link IE Field	CC-Link	CC-Link IE Controller
Safety remote I/O module						
Extension output	NZ2EXSS2-8TE	Single wiring: 8 points; Double wiring: 4 points; 24 V DC; Source + source; Spring-clamp terminal block; 2-wire	-	●	-	-
Remote IO-Link module						
NZ2GF2S-60IOLD8		Number of IO-Link channels: 8 ch; 24 V DC; Spring-clamp terminal block	-	●	-	-
NZ2GF12A-60IOLH8 DB		Number of IO-Link channels: 8 ch; 24 V DC; Waterproof connector	-	●	-	-
Network interface board						
Q81BD-J71GF11-T2		CC-Link IE Field Network master/local station; Compatible with PCI Express® bus	-	●	-	-
Q80BD-J71GF11-T2		CC-Link IE Field Network master/local station; Compatible with PCI/PCI-X bus	-	●	-	-
Q81BD-J71GP21-SX		CC-Link IE Controller Network control/normal station; Compatible with PCI Express® bus	-	-	-	●
Q81BD-J71GP21S-SX		CC-Link IE Controller Network control/normal station (with the External power supply function); Compatible with PCI Express® bus	-	-	-	●
Q80BD-J71GP21-SX		CC-Link IE Controller Network control/normal station; Compatible with PCI/PCI-X bus	-	-	-	●
Q80BD-J71GP21S-SX		CC-Link IE Controller Network control/normal station (with the External power supply function); Compatible with PCI/PCI-X bus	-	-	-	●
MR-EM340GF		PCI Express® bus type CC-Link IE Field Network simple motion board; Max. control axis:16 linear interpolation; 2-axis circular interpolation; Synchronous control; Speed-torque control	-	●	-	-

*4. General specifications and product guarantee conditions of jointly developed products are different from those of MELSEC products. For further details, please refer to the product manuals, or contact your local Mitsubishi Electric sales representative.


…CC-Link IE TSN

…CC-Link IE Field Network

…CC-Link IE Controller Network twisted-pair cable

…CC-Link IE Controller Network optical cable

Mitsubishi Electric Corporation CC-Link IE Field Network Basic compatible products

Type	Model	Outline
CC-Link IE Field Network Basic embedded CPU module		
R□□CPU		MELSEC iQ-R Series CPU module master station
R□□ENCPU		MELSEC iQ-R Series CC-Link IE embedded CPU module master station
R12CCPU-V		MELSEC iQ-R Series C Controller module master station
FX5U-□□□□/□□□		MELSEC iQ-F Series FX5U CPU module master station
FX5UC-□□□□/□□□		MELSEC iQ-F Series FX5UC CPU module master station
FX5UJ-□□M□/□		MELSEC iQ-F Series FX5UJ CPU module master station
FX5-ENET		MELSEC iQ-F Series Ethernet module master station
Q□□UDVCPU		MELSEC-Q Series High-speed Universal model QCPU module master station
L□□CPU (-P/-BT/-PBT)		MELSEC-L Series CPU module master station
MI5122-VW		MELIPC MI5000 Series master station
AC servo		
MR-J5-G(-RJ)		MELSERVO-J5 Series Servo remote station
MR-J5D1-G4		MELSERVO-J5 Series Servo remote station
MR-JET-G		MELSERVO-JET Series Servo remote station
MR-J4-GF(-RJ)		MELSERVO-J4 Series Servo amplifier remote station
MR-JE-□C		MELSERVO-JE Series Servo remote station
Inverter		
FR-A800-E		FREQROL-A800 Series Inverter remote station
FR-A800-E-CRN		FREQROL-A800 Plus for CRANES Inverter remote station
FR-F800-E		FREQROL-F800 Series Inverter remote station
FR-E800-(SC)E		FREQROL-E800 Series Inverter remote station
Industrial robot		
RV-□□FR		MELFA FR Series Robot vertical, multiple-joint type remote station
RH-□□FRH		MELFA FR Series Robot horizontal, multiple-joint type remote station
RV-8CRL		MELFA CR Series Robot vertical, multiple-joint type remote station
RH-□CRH		MELFA CR Series Robot horizontal, multiple-joint type remote station
HMI GOT2000 Series		
GT27□□-□□□□		GT27 model remote station
GT25□□□□-□□□□		GT25 model remote station
GT210□-□□□D		GT21 model remote station
FA sensor MELSENSOR		
VS80M-□□□		Vision sensor VS80 remote station
VS70M-□□□		Vision sensor VS70 remote station
VS20□-□□F□□□		Vision sensor VS20 remote station
CF26-□		Code reader CF26 remote station
CF37-□		Code reader CF37 remote station
Energy measuring unit		
EMU4-□D1-MB		EcoMonitorLight remote station
EMU4-□□1-MB		EcoMonitorPlus remote station
EMU4-□□□		EcoMonitorPlus extension unit
EMU4-CM-CIFB		CC-Link IE Field Network Basic Communication Unit (EcoMonitorLight/Plus)
Block type remote module		
DC input	NZ2MF2S1-32D	32 points; 24 V DC; Response time 0…70 ms; Positive/negative common shared; Spring-clamp terminal block; 1-wire
	NZ2MFB1-32D	32 points; 24 V DC; Response time 0…70 ms; Positive/negative common shared; Screw terminal block; 1-wire
AC input	NZ2MF2S2-16A	16 points; 100…120 V AC; 50/60 Hz; Spring-clamp terminal block; 2-wire
	NZ2MFB2-16A	16 points; 100…120 V AC; 50/60 Hz; Screw terminal block; 2-wire
Transistor output	NZ2MF2S1-32T	32 points; 12/24 V DC; Sink, Spring-clamp terminal block; 1-wire
	NZ2MF2S1-32TE1	32 points; 12/24 V DC; Source, Spring-clamp terminal block; 1-wire
	NZ2MFB1-32T	32 points; 12/24 V DC; Sink; Screw terminal block; 1-wire
	NZ2MFB1-32TE1	32 points; 12/24 V DC; Source; Screw terminal block; 1-wire
Contact output	NZ2MF2S2-16R	16 points; 24 V DC/240 V AC; Spring-clamp terminal block; 2-wire
	NZ2MFB2-16R	16 points; 24 V DC/240 V AC; Screw terminal block; 2-wire
I/O combined	NZ2MF2S1-32DT	[Input] 16 points; 24 V DC; Response time 0…70 ms; Positive common [Output] 16 points; 24 V DC; Sink Spring-clamp terminal block; 1-wire
	NZ2MF2S1-32DTE1	[Input] 16 points; 24 V DC; Response time 0…70 ms; Negative common [Output] 16 points; 24 V DC; Source Spring-clamp terminal block; 1-wire
	NZ2MFB1-32DT	[Input] 16 points; 24 V DC, response time 0…70 ms; Positive common [Output] 16 points; 24 V DC; Sink Screw terminal block; 1-wire
	NZ2MFB1-32DTE1	[Input] 16 points; 24 V DC; Response time 0…70 ms; Negative common [Output] 16 points; 24 V DC; Source Screw terminal block; 1-wire

Option list

Mitsubishi Electric Corporation

[Legend] DB: Double brand product*1

Type	Model	Outline			
Industrial switching hub					
NZ2EHG-T8N DB		10 Mbps/100 Mbps/1 Gbps; Auto MDI/MDI-X; DIN rail; 8 ports	●	●	-
Managed CC-Link IE switch					
NZ2MHG-T8F2		10 Mbps/100 Mbps/1 Gbps; DIN rail; 8 ports (including 2 fiber-optic compatible ports); CC-Link IE and Ethernet mix, ERP, LA, VLAN, and SNMP functions supported	●	●	-
Block type remote module/push-to-lock connector plug for power supply and FG					
A6CON-PW5P (35505-6080-A00 GF*2)		Core wire size of applicable cable: 0.75 mm² (0.66…0.98 mm²) (18 AWG), 0.16 mm or larger for strand diameter, insulating coating material PVC (heat resistant vinyl); Outer diameter of applicable cable: ø2.2…3.0 mm; Maximum rated current 7 A*3; 10 pieces	●	-	-
A6CON-PW5P-SOD (35505-6180-A00 GF*2)		Core wire size of applicable cable: 0.75 mm² (0.66…0.98 mm²) (18 AWG), 0.16 mm or larger for strand diameter, insulating coating material PVC (heat resistant vinyl); Outer diameter of applicable cable: ø2.0…2.3 mm; Maximum rated current: 7 A*3; 10 pieces	●	-	-
Block type remote module/online connector plug for power supply and FG					
A6CON-PWJ5P(35720-L200-A00 AK*2)		Online connector plug for the power supply and FG; 5 pieces	●	-	-
40-pin connector					
A6CON1		Soldering connector (straight out type)	●	-	-
A6CON2		Crimp connector (straight out type)	●	-	-
A6CON3		Pressure-displacement connector (straight out type)	●	-	-
A6CON4		Soldering connector (both for straight out and 45-degree type)	●	-	-

*1. General specifications and product guarantee conditions of jointly developed products are different from those of MELSEC products. For further details, please refer to the product manuals, or contact your local Mitsubishi Electric sales representative.
*2. Model name by the plug manufacturer 3M.
*3. The allowable current value of the cable connected must be observed.

Mitsubishi Electric System & Service Co., Ltd.

Type	Model	Outline				
Industrial switching hub						
DT135TXA		10 Mbps/100 Mbps/1 Gbps; Auto MDI/MDI-X; DIN rail; 5 ports	●*4	●	●	-
DT12□TXA		10 Mbps/100 Mbps; Auto MDI/MDI-X DIN rail; DT125TXA: 5 ports; DT128TXA: 8 ports	-	●*5	-	-
DT125TXB		10 Mbps/100 Mbps; Auto MDI/MDI-X; DIN rail; 5 ports	-	●*5	-	-
Cable/accessory						
SC-E5EW-S□M		(Double shielded/STP) straight cable; Category 5e; for indoor use	●	●	●	-
SC-E5EW-S□M-MV		(Double shielded/STP) straight cable; Category 5e; for indoor movable part	●	●	●	-
SC-E5EW-S□M-L		(Double shielded/STP) straight cable; Category 5e; for indoor/outdoor use	●	●	●	-
SPAD-RJ45S-E5E		RJ-45 connector with shield	●	●	●	-
QP-AW		Optical cable compatible with CC-Link IE Controller Network (in the control panel)	-	-	-	●
QG-AW		Optical cable compatible with CC-Link IE Controller Network (in the control panel)	-	-	-	●
QG-B		Optical cable compatible with CC-Link IE Controller Network (indoor)	-	-	-	●
QG-BU		UL optical cable compatible with CC-Link IE Controller Network (indoor)	-	-	-	●
QG-C		Optical cable compatible with CC-Link IE Controller Network (outdoor)	-	-	-	●
QG-DL		Optical cable compatible with CC-Link IE Controller Network (outdoor, reinforced)	-	-	-	●
QG-VCT		Optical cable compatible with CC-Link IE Controller Network (indoor, movable use)	-	-	-	●
SCT-SLM		Connector insertion tool (applicable connector: LCF connector, LC connector, SC connector, MU connector)	-	-	-	●
SPAD-LCF-G50		Splice adapter for LCF connector; Multimode 2 cores; Connection loss 0.3 dB (with master fiber)	-	-	-	●
SPAD-SCF-G50		Splice adapter for SC connector; Multimode 2 cores; Connection loss 0.3 dB (with master fiber)	-	-	-	●
SPAD-FC-G50		Splice adapter for FC connector; Multimode 1 core; Connection loss 0.3 dB (with master fiber)	-	-	-	●
Industrial media converter						
DMC-1000TL-DC		Industrial media converter compatible with CC-Link IE Controller Network	-	●	●	-
DMC-1000TS-DC		Industrial media converter compatible with CC-Link IE Controller Network	-	●	●	-
DMC-1000SL-DC		Industrial media converter compatible with CC-Link IE Controller Network	-	-	-	●
Connection terminal						
SC-ECT-P3		Cable bundling device compatible with CC-Link IE Controller Network	-	-	-	●
Sensor connector (e-CON) for block type remote module						
ECN-M014R		Core wire size of applicable cable: 0.14…0.30 mm² (26…24 AWG); Outer diameter of applicable cable: ø0.8…1.0 mm; Maximum rated current: 2.0 A; 20 pieces	-	●	-	-
ECN-M024Y		Core wire size of applicable cable: 0.14…0.30 mm² (26…24 AWG); Outer diameter of applicable cable: ø1.0…1.2 mm; Maximum rated current: 2.0 A; 20 pieces	-	●	-	-
ECN-M034OR		Core wire size of applicable cable: 0.14…0.30 mm² (26…24 AWG); Outer diameter of applicable cable: ø1.2…1.6 mm; Maximum rated current: 2.0 A; 20 pieces	-	●	-	-
ECN-M044GN		Core wire size of applicable cable: 0.30…0.50 mm² (22…20 AWG); Outer diameter of applicable cable: ø1.0…1.2 mm; Maximum rated current: 2.0 A; 20 pieces	-	●	-	-
ECN-M054BL		Core wire size of applicable cable: 0.30…0.50 mm² (22…20 AWG); Outer diameter of applicable cable: ø1.2…1.6 mm; Maximum rated current: 2.0 A; 20 pieces	-	●	-	-
ECN-M064GY		Core wire size of applicable cable: 0.30…0.50 mm² (22…20 AWG); Outer diameter of applicable cable: ø1.6…2.0 mm; Maximum rated current: 2.0 A; 20 pieces	-	●	-	-

*4. Class A device
*5. Supports only CC-Link IE Field Network Basic.

Precautions before use

This publication explains the typical features and functions of the products herein and does not provide restrictions or other information related to usage and module combinations. Before using the products, always read the product user manuals. Mitsubishi Electric will not be held liable for damage caused by factors found not to be the cause of Mitsubishi Electric; opportunity loss or lost profits caused by faults in Mitsubishi Electric products; damage, secondary damage, or accident compensation, whether foreseeable or not, caused by special factors; damage to products other than Mitsubishi Electric products; or any other duties.

⚠ For safe use

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USA MITSUBISHI ELECTRIC AUTOMATION, INC. 500 Corporate Woods Parkway, Vernon Hills, IL 60061, U.S.A. Tel :+1-847-478-2100 Fax:+1-847-478-2253	Mexico MITSUBISHI ELECTRIC AUTOMATION, INC. Mexico Branch Boulevard Miguel de Cervantes Saavedra 301, Torre Norte Piso 5, Int. 502, Ampliacion Granada, Miguel Hidalgo, Ciudad de Mexico, Mexico, C.P.11520 Tel :+52-55-3067-7500	Brazil MITSUBISHI ELECTRIC DO BRASIL COMERCIO E SERVICOS LTDA. Avenida Adelino Cardana, 293, 21 andar, Bethaville, Barueri SP, Brasil Tel :+55-11-4689-3000 Fax:+55-11-4689-3016
Germany MITSUBISHI ELECTRIC EUROPE B.V. German Branch Mitsubishi-Electric-Platz 1, 40882 Ratingen, Germany Tel :+49-2102-486-0 Fax:+49-2102-486-7780	UK MITSUBISHI ELECTRIC EUROPE B.V. UK Branch Travellers Lane, UK-Hatfield, Hertfordshire, AL10 8XB, U.K. Tel :+44-1707-28-8780 Fax:+44-1707-27-8695	Ireland MITSUBISHI ELECTRIC EUROPE B.V. Irish Branch Westgate Business Park, Ballymount, Dublin 24, Ireland Tel :+353-1-4198800 Fax:+353-1-4198890
Italy MITSUBISHI ELECTRIC EUROPE B.V. Italian Branch Campus, Energy Park Via Energy Park 14, Vimercate 20871 (MB) Italy Tel :+39-039-60531 Fax:+39-039-6053-312	Spain MITSUBISHI ELECTRIC EUROPE, B.V. Spanish Branch Carretera de Rubi, 76-80-Apdo. 420, E-08190 Sant Cugat del Valles (Barcelona), Spain Tel :+34-935-65-3131 Fax:+34-935-89-1579	France MITSUBISHI ELECTRIC EUROPE B.V. French Branch 25, Boulevard des Bouvets, 92741 Nanterre Cedex, France Tel :+33-1-55-68-55-68 Fax:+33-1-55-68-57-57
Czech Republic MITSUBISHI ELECTRIC EUROPE B.V. Czech Branch Pekarska 621/7, 155 00 Praha 5, Czech Republic Tel :+420-734-402-587	Poland MITSUBISHI ELECTRIC EUROPE B.V. Polish Branch ul. Krakowska 48, 32-083 Balice, Poland Tel :+48-12-347-65-00	Sweden MITSUBISHI ELECTRIC EUROPE B.V. (Scandinavia) Hedvig Mollersgata 6, 223 55 Lund, Sweden Tel :+46-8-625-10-00 Fax:+46-46-39-70-18
Turkey MITSUBISHI ELECTRIC TURKEY ELEKTRIK URUNLERI A.S. Serifali Mahallesi Kale Sokak No:41 Umraniye / Istanbul Tel :+90-216-969-2500 Fax:+90-216-661-4447	UAE MITSUBISHI ELECTRIC EUROPE B.V. Dubai Branch Dubai Silicon Oasis, P.O.BOX 341241, Dubai, U.A.E. Tel :+971-4-3724716 Fax:+971-4-3724721	South Africa ADROIT TECHNOLOGIES 20 Waterford Office Park, 189 Witkoppen Road, Fourways, South Africa Tel :+27-11-658-8100 Fax:+27-11-658-8101
China MITSUBISHI ELECTRIC AUTOMATION (CHINA) LTD. Mitsubishi Electric Automation Center, No.1386 Hongqiao Road, Shanghai, China Tel :+86-21-2322-3030 Fax:+86-21-2322-3000	Taiwan SETSUYO ENTERPRISE CO., LTD. 6F, No.105, Wugong 3rd Road, Wugu District, New Taipei City 24889, Taiwan Tel :+886-2-2299-2499 Fax:+886-2-2299-2509	Korea MITSUBISHI ELECTRIC AUTOMATION KOREA CO., LTD. 7F to 9F, Gangseo Hangang Xi-tower A, 401, Yangcheon-ro, Gangseo-Gu, Seoul 07528, Korea Tel :+82-2-3660-9569 Fax:+82-2-3664-8372
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Indonesia PT. MITSUBISHI ELECTRIC INDONESIA Gedung Jaya 8th Floor, JL. MH. Thamrin No.12, Jakarta Pusat 10340, Indonesia Tel :+62-21-31926461 Fax:+62-21-31923942	India MITSUBISHI ELECTRIC INDIA PVT. LTD. Pune Branch Emerald House, EL-3, J Block, M.I.D.C., Bhosari, Pune-411026, Maharashtra, India Tel :+91-20-2710-2000 Fax:+91-20-2710-2100	Australia MITSUBISHI ELECTRIC AUSTRALIA PTY. LTD. 348 Victoria Road, P.O. Box 11, Rydalmere, N.S.W 2116, Australia Tel :+61-2-9684-7777 Fax:+61-2-9684-7245

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MITSUBISHI ELECTRIC CORPORATION

HEAD OFFICE: TOKYO BLDG., 2-7-3, MARUNOUCHI, CHIYODA-KU, TOKYO 100-8310, JAPAN

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