

FACTORY AUTOMATION

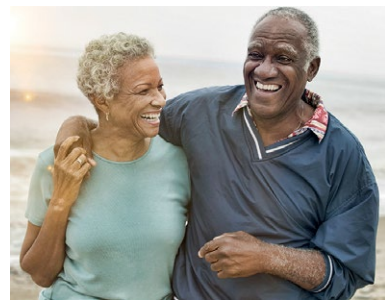
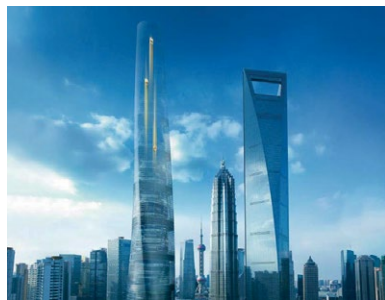
# Open Field Network CC-Link Compatible Product Catalog



**CC-Link**



## Automating the World



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.



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.

# Strategic Network, CC-Link

Strong Manufacturers

Stay One Step Ahead of Others with

CC-Link



Connect with reliable networks  
for powerful factory automation

## INDEX

Concept ——— 04

### Products

#### <CC-Link>

Master/local modules — 20

Bridge modules ——— 21

Remote I/O modules — 22

Safety relay modules — 27

Analog modules ——— 28

Others ————— 29

#### <Embedded Modules>

Embedded modules — 32

#### <Other>

Specifications ——— 33

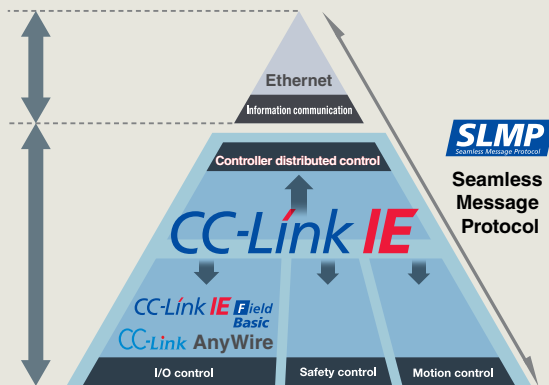
Support ————— 36

Product List ——— 39

# Shaping the future of factory automation networks with the

Mitsubishi Electric provides total support in creating seamless networks in all scenes, from offices to production sites, under a consistent design philosophy. "CC-Link," a SEMI-certified world standard field network originated in Japan, contributes to optimization of production control. Mitsubishi Electric proposes a network-based automation environment best fits the application utilizing "CC-Link" and upper level networks such as "Ethernet" and Ethernet based "CC-Link IE."

## Seamless integration of the network over all layers

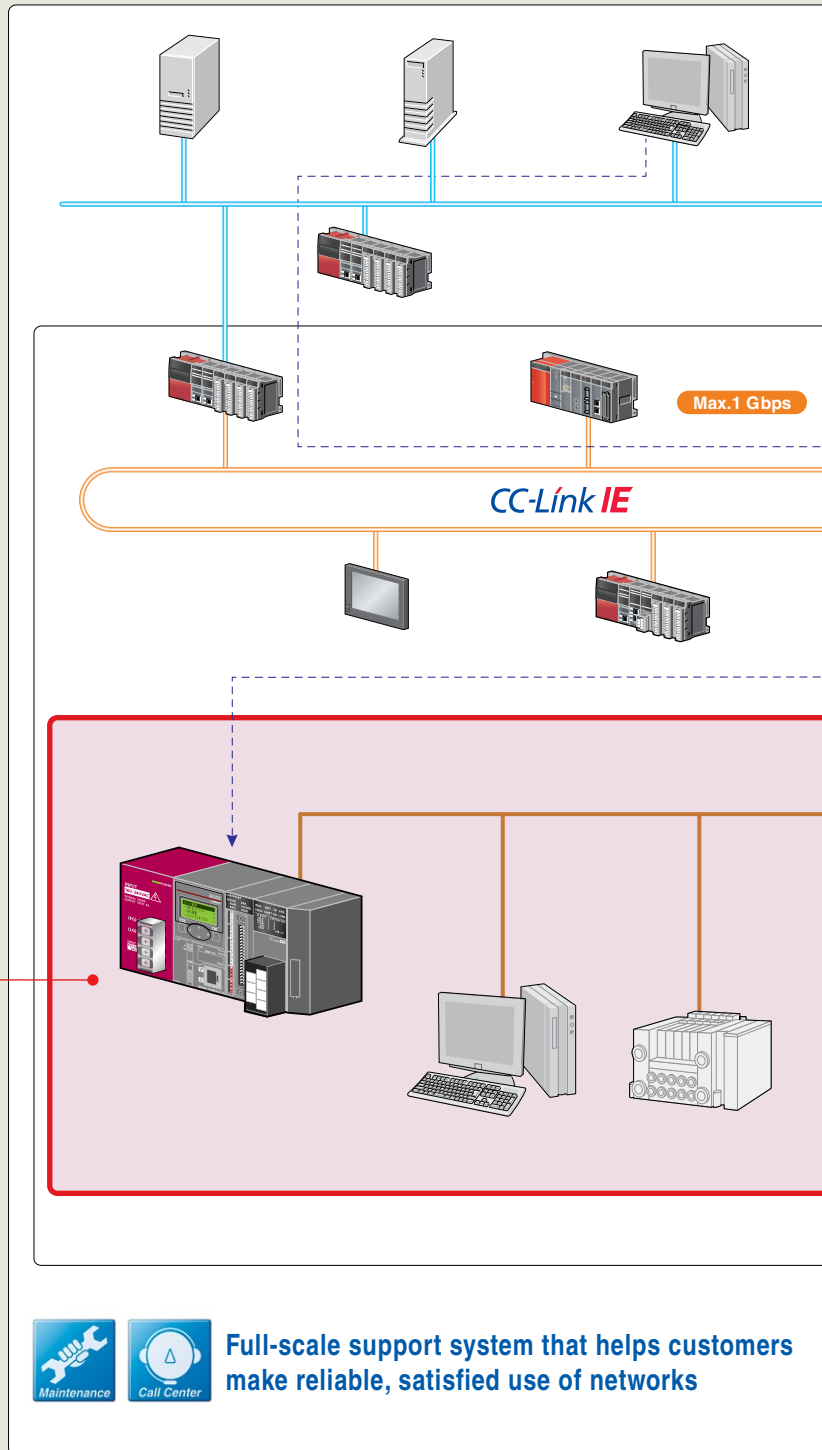


[Within line]  
Device level network

# CC-Link

CC-Link is a high-speed and high-reliable deterministic I/O control network which realizes reduced wiring whilst offering multi-vendor compatible products. This open field network is a global standard originating from Japan and Asia.

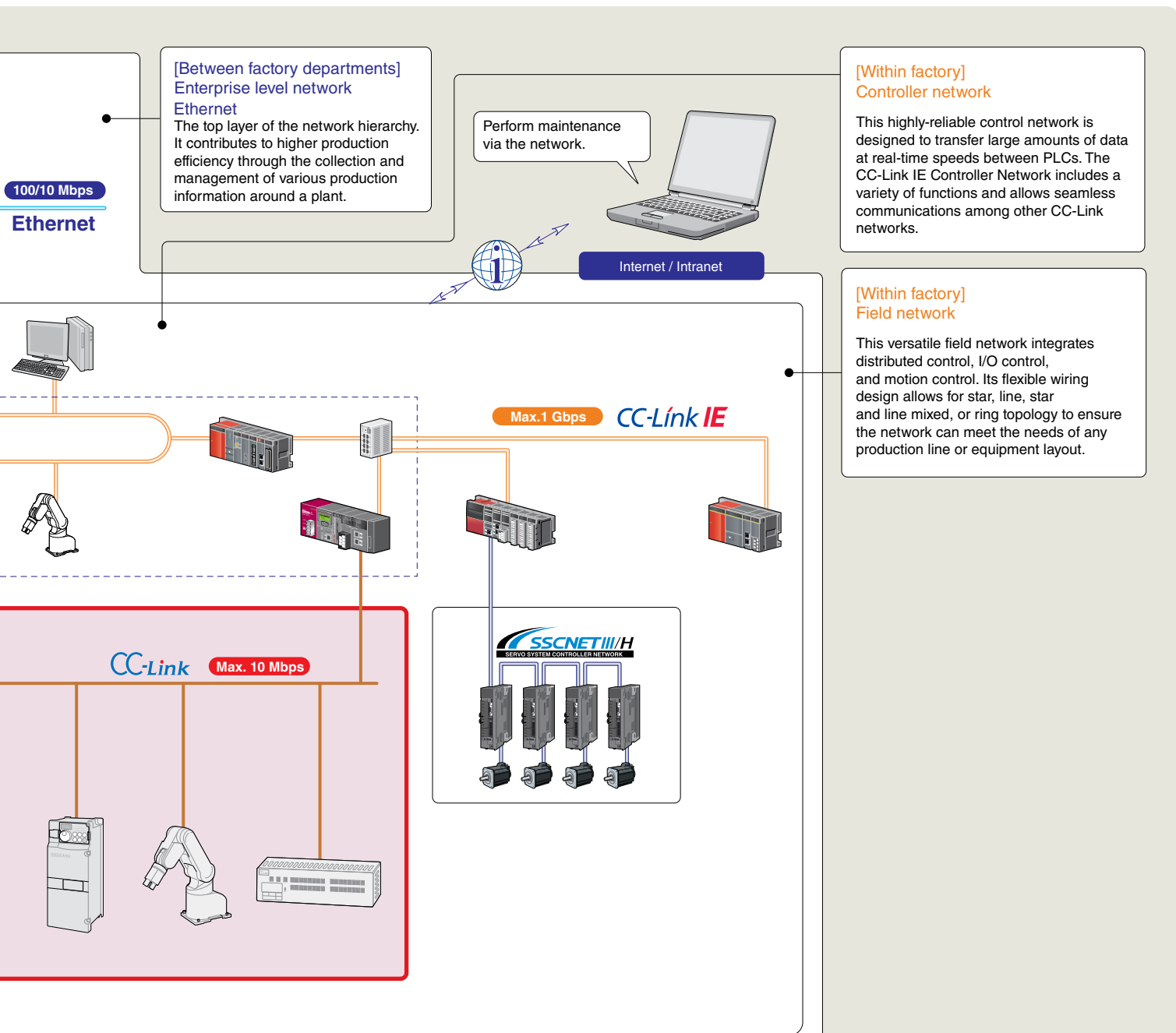
- High-speed communication at a maximum baud rate of 10 Mbps
- Remote input/output (RX, RY) : 8,192 points each  
Remote register (RWw) : 2,048 words  
(RWr) : 2,048 words  
(when CC-Link Ver. 2.0 is used)
- Integration with 3rd party manufacture products



Full-scale support system that helps customers make reliable, satisfied use of networks

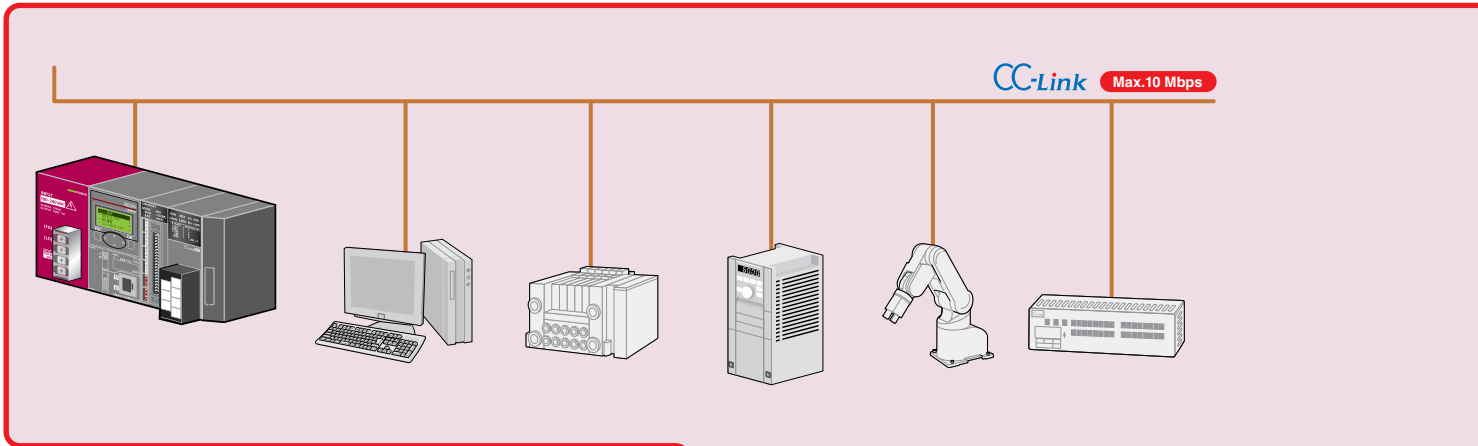


# seamless connectivity

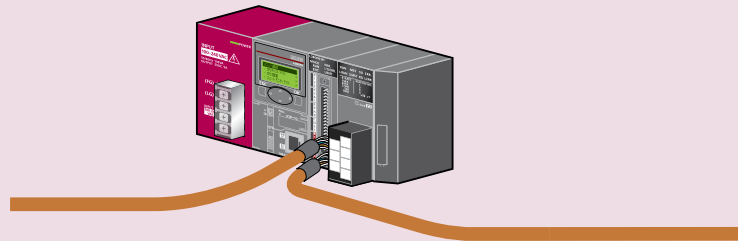


Mitsubishi Electric Global FA centers have been established in various countries around the world. FA centers support the effective operation of factory automation networks including CC-Link.

# CC-Link - As the world standard network

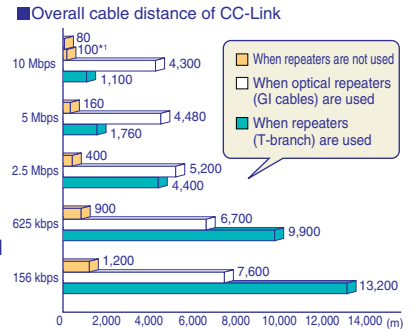


	CC-Link
Control methods	I/O control + intelligent distribution
Cable	Dedicated fixed cable, dedicated flexible cable, built-in power cable
Maximum number of link points	RX, RY: 8192 points each, RWw: 2048 words, RWw: 2048 words (Ver2.0)
I/O module lineup	Screw terminal block, spring terminal block, e-CON, push-in connector, waterproof connector, 40-pin connector
Max. cable distance	1200 m (at 156 kbps) Extendable up to 13.2 km when repeater is used
Parameter setup	GX Works3, GX Works2
Number of link points per station	<Ver1.0> RX, RY: 32 points each, RWw: 4 words, RWw: 4 words <Ver2.0> RX, RY: 128 points each, RWw: 32 words, RWw: 32 words
Network topology	Bus topology T-branch topology Star topology



## Large-scale applications from Factory Automation through building management [Max. cable length of 13.2 km]

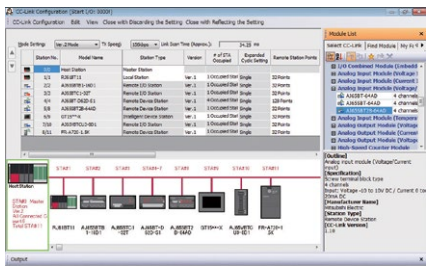
The total distance covered by the CC-Link network can be increased up to 1.2 km (at 156 kbps). Additionally, the transmission distance can be further extended through the use of T-branch repeater modules. Optical repeaters can also be used so that CC-Link deal with various large-scale facilities.



\*1: When the transmission speed is 10 Mbps and the total cable length exceeds 80 m, configure the system so that the total length of station-to-station cables connecting 10 consecutive stations is 10 m or longer. When the total number of connected stations including a master station is 10 or less, there is no restriction on the total length of station-to-station cables.

**For improved setup efficiency**  
**[Simple parameter setup]**

CC-Link settings can be made using the MELSOFT engineering software GX Works3 or GX Works2. The engineering software is also useful in reducing the program size while improving efficiency.



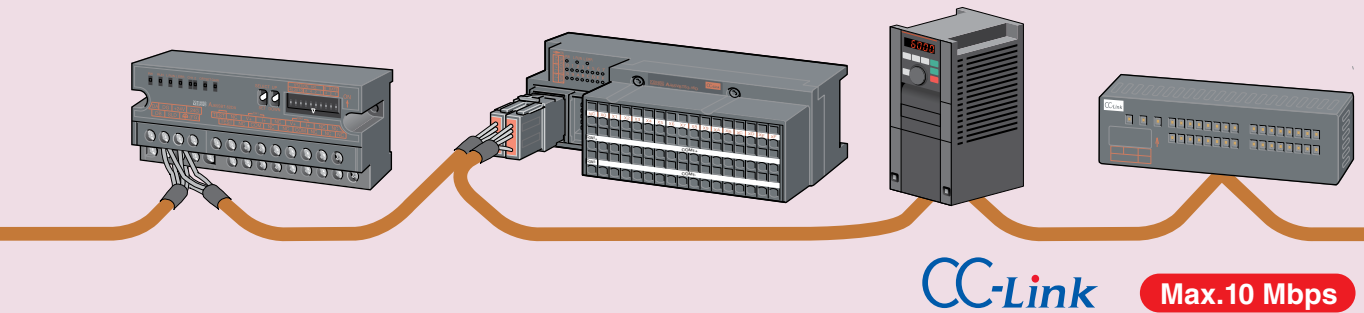
GX Works3

**For achieving complex control, high-mix low-volume production**  
**[High-speed, high-capacity transmission]**

CC-Link is a high-performance network that utilizes high-speed communications (10 Mbps -top level in the industry-), in order to allow transmission of bit data and word data at high-speed and maximum capacity.

**For a simple and cost effective network**  
**[Reduced-wiring network]**

CC-Link realizes simple and cost-effective network, and it is designed to relieve production lines from complicated wiring.



**A diverse range of products from partner manufacturers**  
**[Multi-vendor system]**

More than 1300 types of products are supplied from more than 2000 companies worldwide.

**For non-stop operation [RAS functions]**

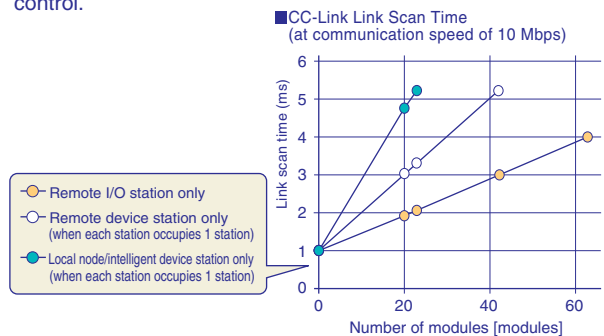
CC-Link equips full RAS functionality by functions like Standby Master, Automatic Return, Device Station Isolation and Diagnostics/Link Status Confirmation.

\* RAS: Reliability, Availability, Serviceability



**For improved network reliability**  
**[Consistent network communication time]**

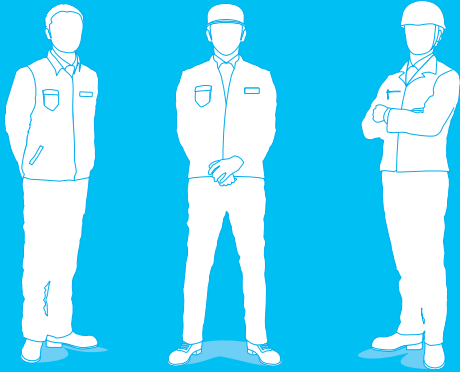
CC-Link guarantees the fixed cyclic transmission time and the cyclic transmission time is not affected by irregular message transmission. It is therefore possible to achieve highly stable control.



For those in design, production and maintenance

# CC-Link provides solutions

CC-Link provides solutions  
for each subject in the field.



Each person in charge of engineering, production and maintenance has his/her own subjects.

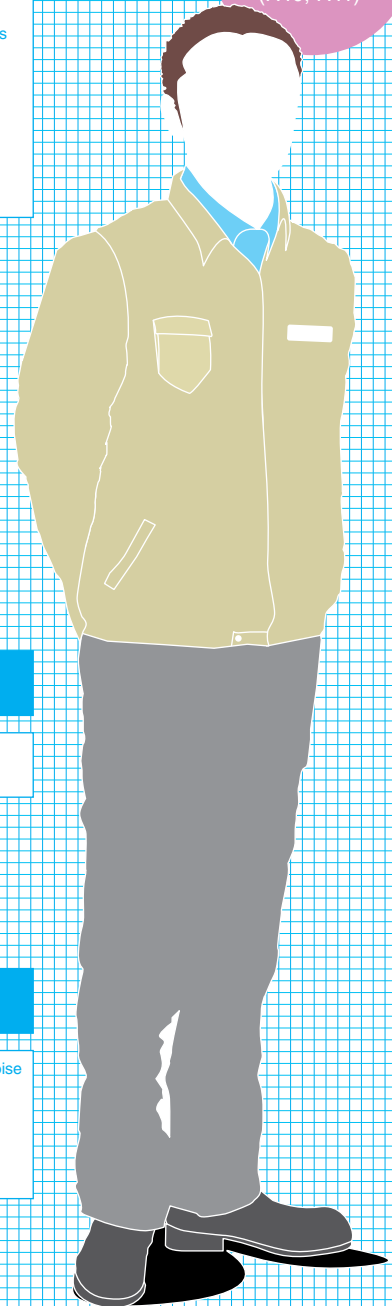
CC-Link responds to each subject with a solution. CC-Link is an established open field network originated from Japan.

CC-Link provides a function for each subject on the network.

## More functions

- Flexible production system
- Complex system controls
- Connect with lots of analog devices
- Distributed control system
- Connect between manufacturing processes
- Network configuration for building management
- Connect with HMIs and ANDONs
- Use inverters and servos

Engineering section  
(P.10, P.11)



## More simple

- Use various devices
- Easy network configuration

## More secure

- Network configuration with high-noise resistance
- Use various devices in a single network
- Export factory facilities and machineries overseas



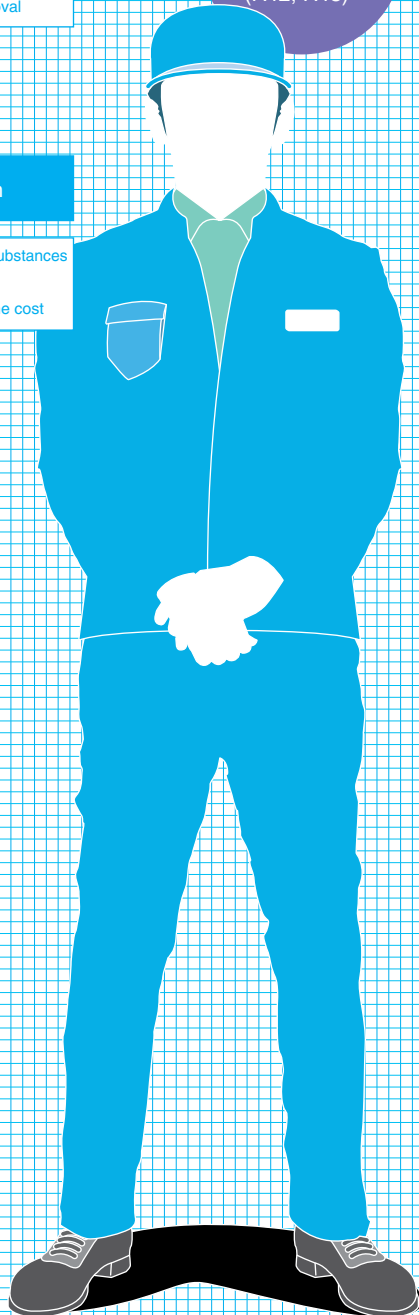
### Device layout

- Arrange devices as we need
- Simple attachment and removal

## Production section (P.12, P.13)

### Test / Operation

- Prevent troubles by foreign substances
- Quick check-up for wiring
- Save wiring man-hour and the cost



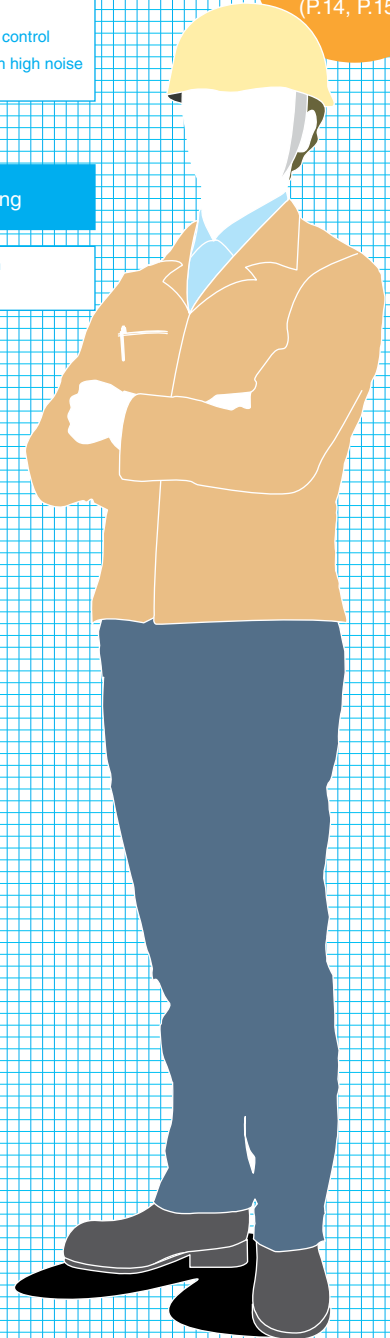
### Preventive maintenance

- Prevent troubles by network communication test
- Maintain PLCs by remote control
- Network configuration with high noise resistance

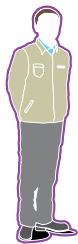
## Maintenance section (P.14, P.15)

### Troubleshooting

- Prevent system shutdown
- Easy troubleshooting



The solutions



# CC-Link supports the facility improvement

## Flexible production system

▶ CC-Link is a high-speed and high-capacity network.

CC-Link is a high speed field network that can handle both control and information together.

### ■ High-speed/High-capacity data transmission



<High-capacity Cyclic Transmission Data>

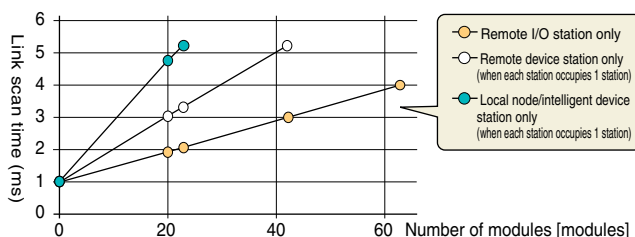
**Data capacity** Remote I/O (RX, RY)=8192 points each  
 Remote register (RWw)=2048 words  
 (RWr)=2048 words (when Ver2.0 is used)

## Complex system controls

▶ CC-Link guarantees consistent communication time.

The cyclic transmission time is not affected by irregular message transmission to the HMI products. It is possible to achieve highly stable control.

### ■ CC-Link link scan time (at communication speed of 10 Mbps)



## Connect with lots of analog devices

▶ CC-Link **V2** supports an extra broader range of needs.

CC-Link Ver.2 can control maximum eight times the data capacity compared with earlier CC-Link compatible products. CC-Link Ver.2 compatible analog modules are applicable to process control.

### ■ CC-Link Ver.2.0-compatible analog module

**CC-Link Ver 1.0**

Up to 21 modules can be connected.

CC-Link V2 has doubled the module connection capacity

**CC-Link V2**

Up to 42 modules\* can be connected.



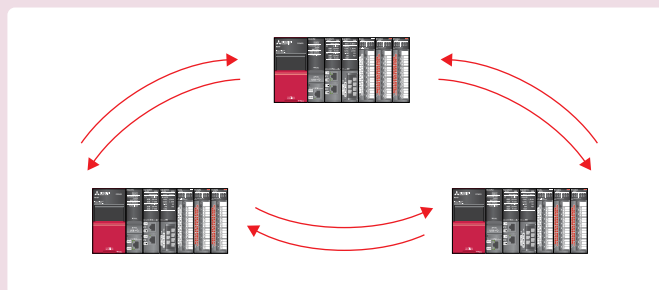
\* Max. 64 modules when using the MELSEC iQ-R Series (RJ61BT11)'s remote device net Ver.1 mode or the remote device net Ver.2 mode.

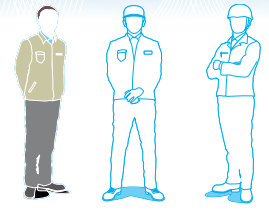
## Distributed control system

▶ CC-Link realizes simple distributed control.

CC-Link provides highly stable cyclic transmission, which enables N:N communication between controller masters or local stations. This N:N communication method between controllers realizes a distributed control system for each system.

### ■ Simple controller communication





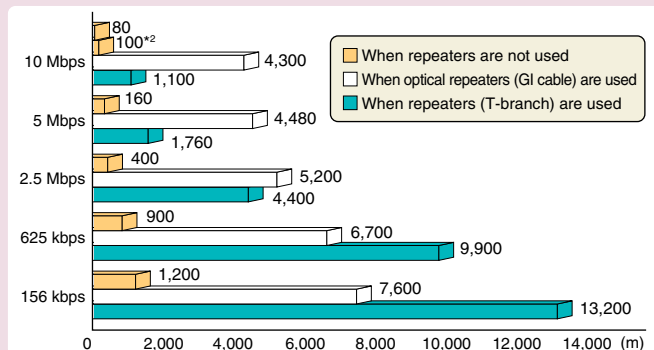
- Connect between manufacturing processes
- Network configuration for building management

The total extended distance of the CC-Link cable is 1,200 m, and can be extended up to 13.2 km when repeaters are used.

CC-Link total extended distance can be as long as 1.2 km\*. The transmission distance can be extended up to 13.2 km\* when T-branch repeaters are used.

\*1: Maximum transmission distance when transmission speed is set to 156 kbps.

Overall cable distance of CC-Link



\*2: When the transmission speed is 10 Mbps and the total cable length exceeds 80 m, configure the system so that the total length of station-to-station cables connecting 10 consecutive stations is 10 m or longer. When the total number of connected stations including a master station is 10 or less, there is no restriction on the total length of station-to-station cables.

### Use various devices

CC-Link V2 can control up to 8192 points and 4096 words.

CC-Link Ver.2.0 can transmit and receive data approx. 8 times larger than the earlier Ver.1.10/Ver.1.00.

Comparison of communication data

<b>CC-Link Ver 1.0</b>	Remote I/O ..... (RX, RY) = 2048 points each Remote register ..... (RWw) = 256 words (RWr) = 256 words
<b>CC-Link V2</b>	Remote I/O ..... (RX, RY) = 8192 points each Remote register ..... (RWw) = 2048 words (RWr) = 2048 words

### Connect with HMIs and ANDONs

CC-Link can connect HMIs and ANDONs by transient transmission.

CC-Link simplifies data transfer to HMIs and ANDONs with transient transmission (up to 960 bytes) and cyclic transmission.

### Easy network configuration

CC-Link parameters are easily set with the engineering software.

The integrated engineering software “GX Works3” and “GX Works2” with improved operability makes full use of the advantages of Windows® and enables you to set CC-Link parameters without a program.

### Reliable network

CC-Link achieves high reliability with dedicated cables.

CC-Link uses dedicated cables that support high-speed transmission up to 10 Mbps. These cables are also highly noise-resistant.

CC-Link dedicated cable



### Also supports ...

Using various devices in a single network

- Diverse range of products supplied from many partner manufacturers.

Exporting factory facilities and machineries overseas

- CC-Link complies with various safety standards including UL standards.

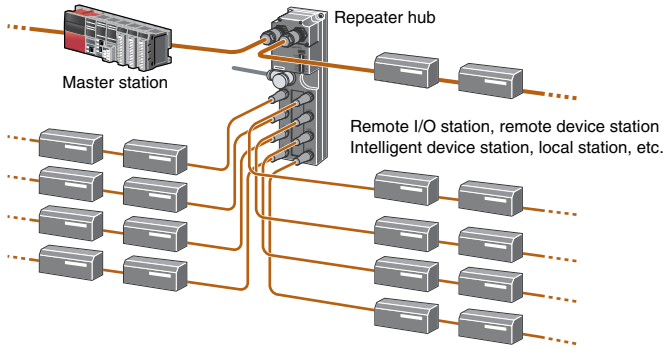


# CC-Link provides various useful functions

## Device layout as we need

### ▶ CC-Link allows flexible installation.

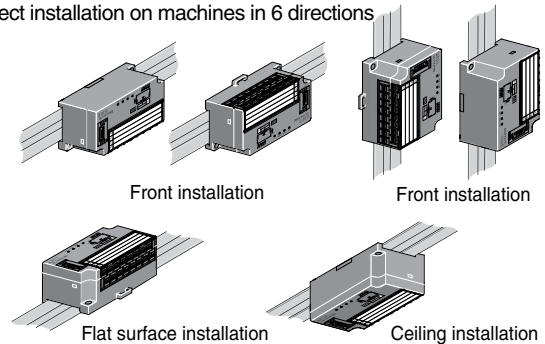
T-branch repeaters, wireless optical repeaters, optical repeaters, and repeater hubs are available with CC-Link. They enhance the freedom of application even at 10 Mbps.



### ▶ CC-Link family remote I/O modules occupy a small footprint.

Compact type remote I/O modules with 32, 16, 8, 4, and 2 I/O points are available. They can be installed in six different directions, including ceiling installation, front installation, and flat surface installation, and selected according to the installation environment and the application.

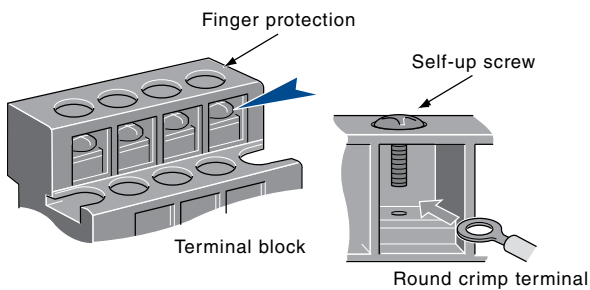
#### ■ Direct installation on machines in 6 directions



## Save wiring man-hour and the cost

Dedicated connectors of CC-Link family are designed to reduce wiring works, cost and wiring mistakes.

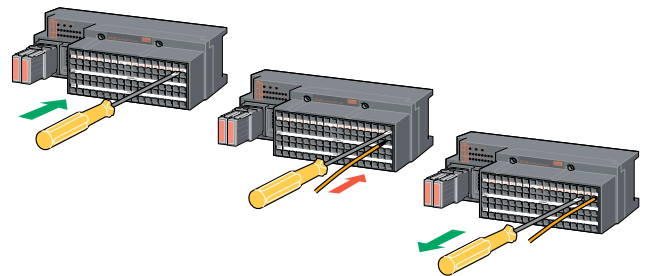
### Screw terminal block type



The round crimp terminal can be directly connected with the self-up screw by simply unfastening the terminal block screw.

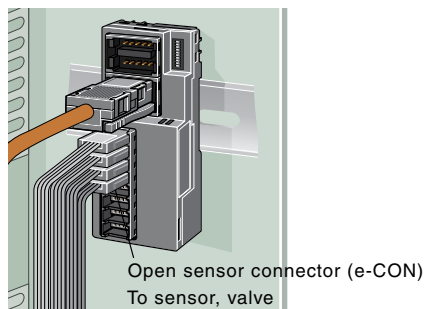
\* The specifications depend upon a product.

### Spring clamp terminal block type



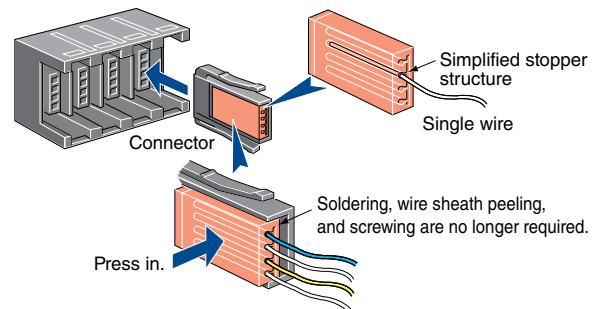
Spring clamps allow quick and easy connectivity.

### Sensor connector (e-CON) type



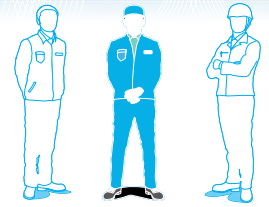
Utilizing the industry-standard e-CON, sensors can be replaced individually.

### Push-in connector type



This connector adopts a lock mechanism that is easy to lock and unlock. You can connect single wires by simply pushing in the connector.



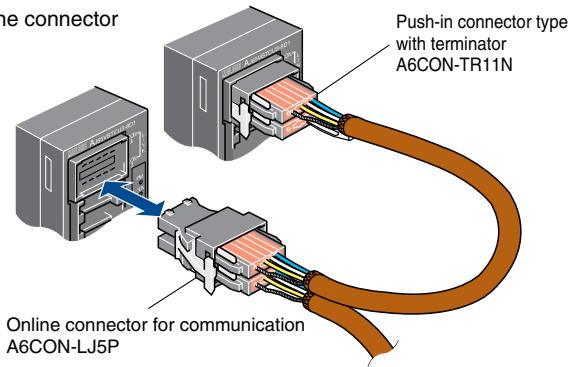


## Simple attachment and removal

### ▶ CC-Link family products allow easy connection.

By using online connectors for communication and power supply, it is possible to replace modules without stopping the communication.

#### ■ Online connector



## Prevent troubles from foreign substances

### ▶ CC-Link protective cover protects I/O terminals.

The protective cover can be easily attached and removed. The transparent material allows you to check the LEDs and wiring conditions.

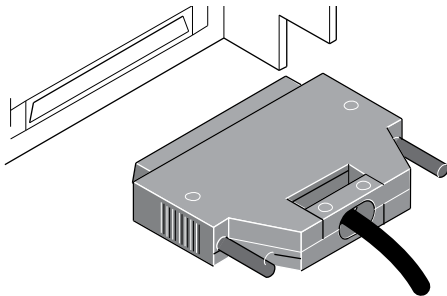
## Quick checkup and startup

### ▶ CC-Link ensures easy setup and startup.

CC-Link's auto-startup function allows you to start up the network without the need to set network parameters.

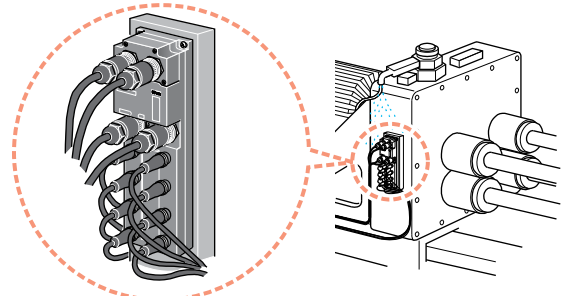
## ▶ Specific connection to application requirements

### 40-pin connector type



This type provides an easy and economical way of wiring.

### Waterproof connector type (M12)



The waterproof type remote I/O module is housed in a protective structure conforming IP67. Therefore, it can be used without worry in an environment where water is present.



# CC-Link supports the maintenance work

## Preventive maintenance

### Prevent troubles by network communication test

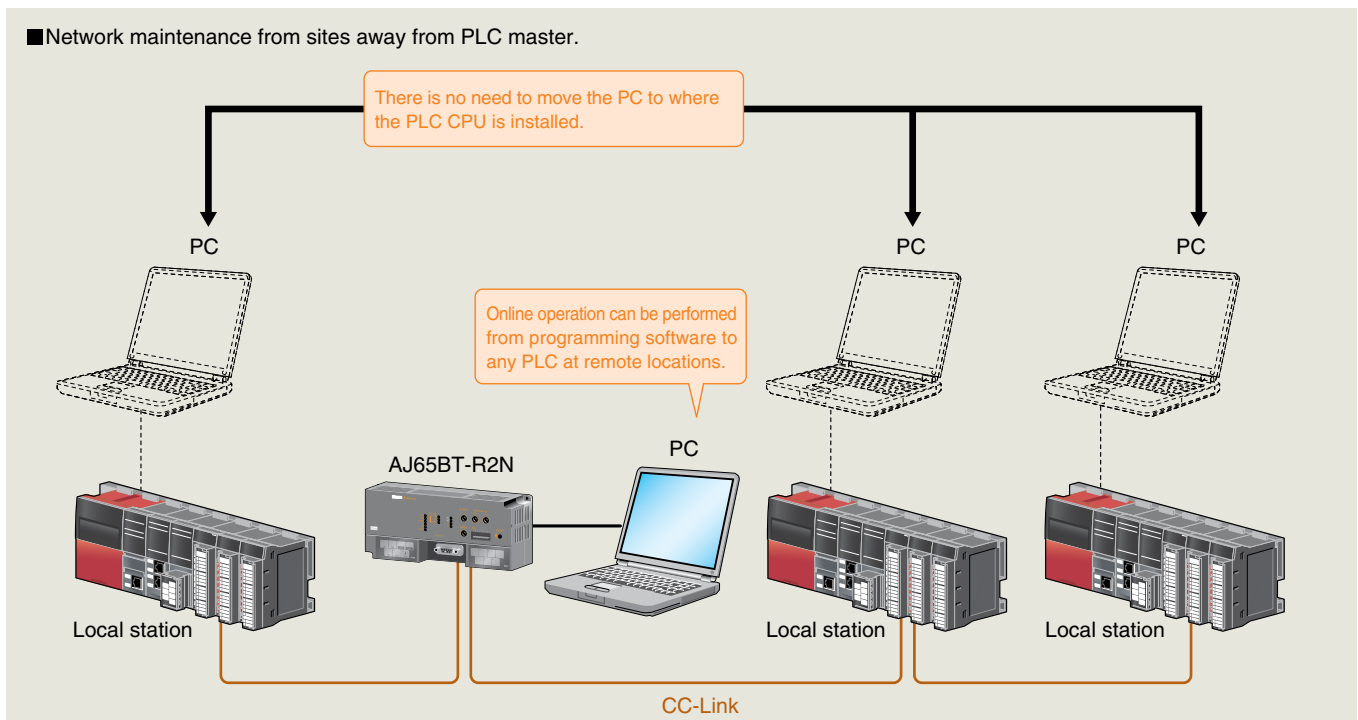
#### ▶ CC-Link family products provides one-step-ahead preventive maintenance.

It is possible to check the data link status using special relays and registers. Hardware and line connection can be tested via offline tests.

### Maintain PLCs by remote control

#### ▶ CC-Link provides remote operation functions.

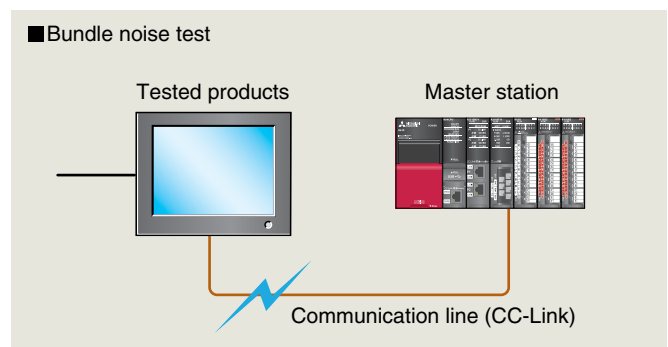
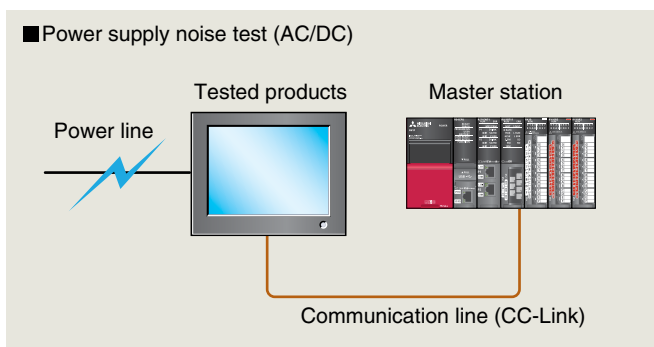
By using the RS-232 interface module (AJ65BT-R2N) into the CC-Link system, it is possible to do network maintenance from sites away from PLC master station.

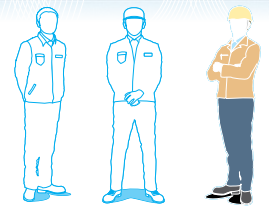


### Network configuration with high noise resistance

#### ▶ CC-Link family compatible products are highly noise resistant guaranteed by conformance testing.

A conformance test is conducted for all products sold by CLPA partners. The test includes a power supply noise test and a bundle noise test.





## Troubleshooting

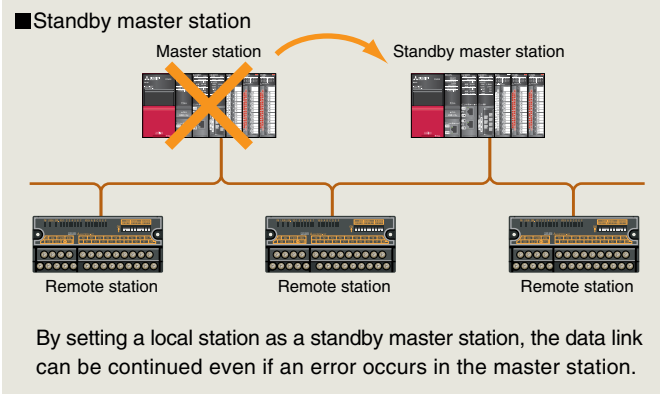
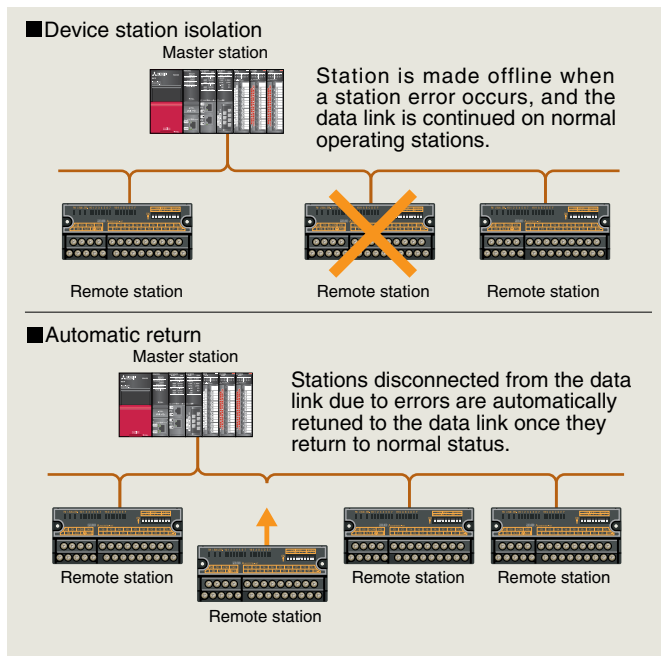
### Prevent system shutdown

#### ▶ CC-Link provides enhanced RAS functions.

CC-Link realizes minimal system shutdowns by “error invalid station setting,” “device station isolation,” “automatic return,” “standby master station,” and “2-piece terminal block”.

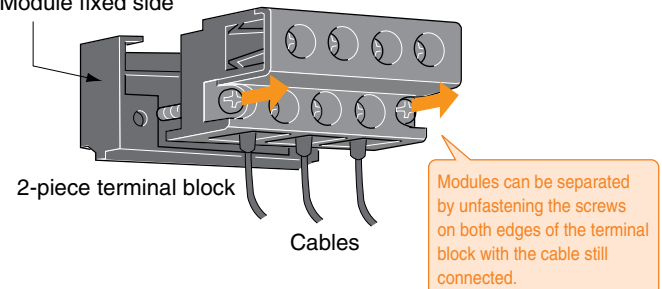
<Error invalid station setting>

In the online mode, this setting temporarily prevents modules specified on GX Works3 from being treated as data link faulty stations.



■ The “2-piece terminal block” allows modules to be replaced without stopping the CC-Link system.

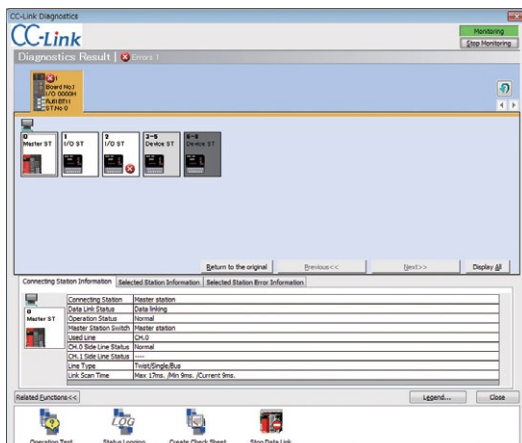
Module fixed side



### Easy troubleshooting

#### ▶ Diagnose CC-Link family networks with GX Works3 or GX Works2.

The status of the CC-Link network can be monitored using GX Works3 or GX Works2.



#### Handy Line Tester

Directly connect the unit to a CC-Link system to easily monitor the communication status and the remote station input/output and perform an output ON/OFF test. Even if the network does not have a master station connected, an I/O check can be performed by directly connecting the Handy Line Tester.

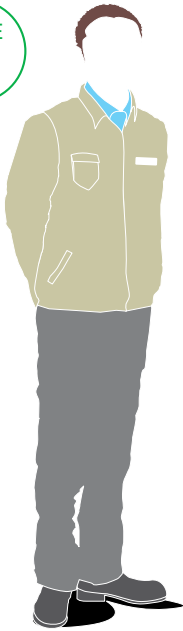


Mitsubishi Electric Engineering Corporation product

Case Study

# “CC-Link is superior to existing networks” Realize the advantages of CC-Link.

CASE  
1



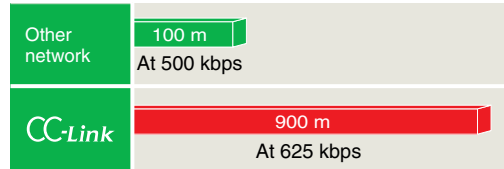
Mr. A from the engineering section

“The current network distance of our factory is limited to 100 m, and the transmission speed is unstable.”

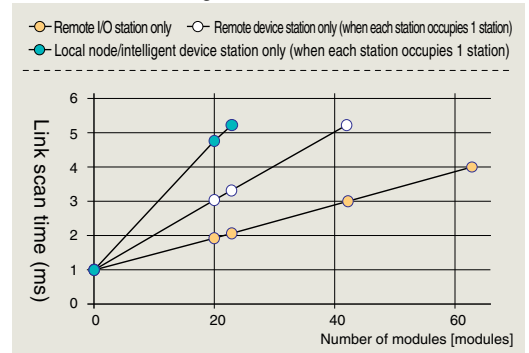
Mr. A is planning to expand his factory. His first challenge is total cable distance and communication stability. What interested him is that the network distance covered by the CC-Link network can be increased up to 900 m at 625 kbps, and transmission time is stable as well.

- Feature 1 CC-Link is high-speed network with a long total cable distance.
- Feature 2 CC-Link is a consistent network.

Transmission speeds and overall network distance of other companies' networks



CC-Link scan time guide (at communication speed 10 Mbps)



“Our factory's networks are complex because they use various protocols. How about CC-Link?”

CC-Link eliminates the need to use different protocols.

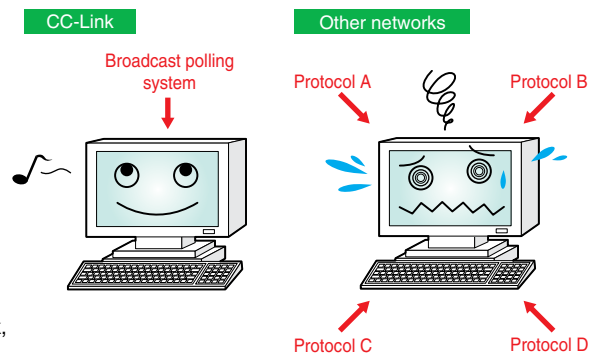
- Feature 3 CC-Link has a single protocol.

“It takes too long to reconnect network stations.”

Regarding this issue, Mr. A learned that CC-Link compatible products quickly return to the network, and began to feel more attraction to CC-Link.

- Feature 4 CC-Link offers quick return to the network system.

Protocol comparison

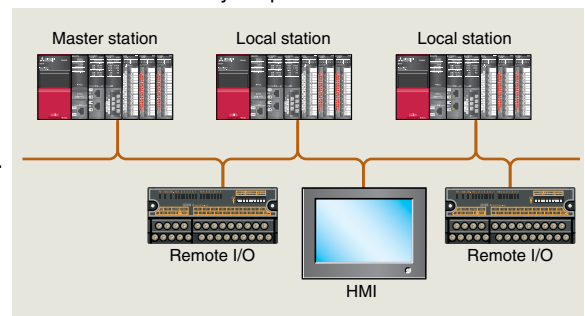


“We also need distributed controls.”

Also, using CC-Link, he easily realized “distributed control by establishing communication between controllers”.

- Feature 5 CC-Link is simple control level network.

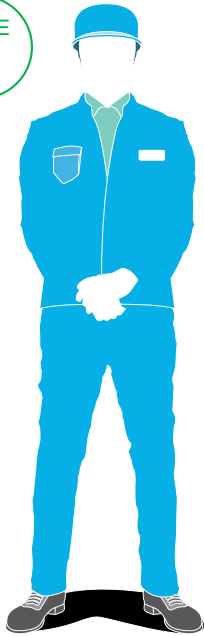
Distributed control by simple inter-controller network



“That's why we



CASE  
2



Mr. B from the production section

“Trunk cables and branch cables in the current network are different. Furthermore, trunk cables are expensive.”

Mr. B is in charge of production engineering. He has been worried about utilization and high cost of the existing network. Therefore, he collected CC-Link information and compared it with other networks.

**Feature 1** CC-Link is flexible to install.

**Feature 2** CC-Link is reasonably priced.

■ Cable comparison

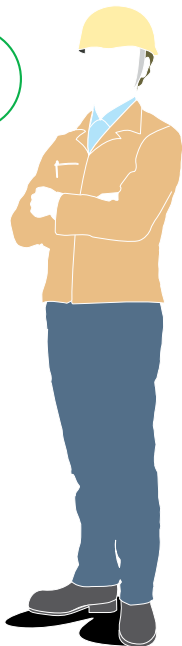
Item	CC-Link	Other networks	
Cable diameter	7 mm	Thick cable: 12 mm	Thin cable: 7 mm
Trunk/ Branch	Trunk and branch	Trunk	Branch
Total cable length (no repeater)	Max. 1200 m (156 kbps)	Max. 500 m (125 kbps)	Max. 100 m (125 kbps) (250 kbps) (500 kbps)

“It is stressful to design the necessary power supply capacity of a network.”

He used to be bothered by complicated calculations for the required power capacity. He soon learned that such bothersome calculation was not necessary.

**Feature 3** The calculation of the power supply capacity is not required for CC-Link.

CASE  
3

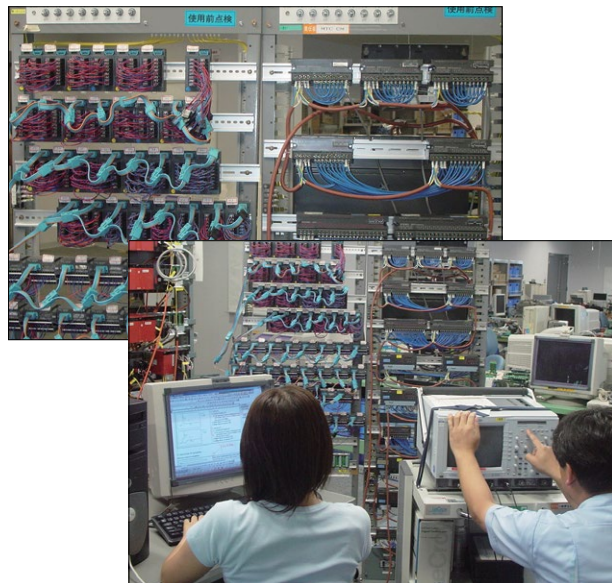


Mr. C from the maintenance section

“Conformance testing is not mandatory for the current factory network.”

Reliability is the most important for him. What interested him is that CC-Link products are guaranteed by the conformance test of the high noise resistance.

**Feature 1** CC-Link is reliable because the conformance test is mandatory.



chose CC-Link!”

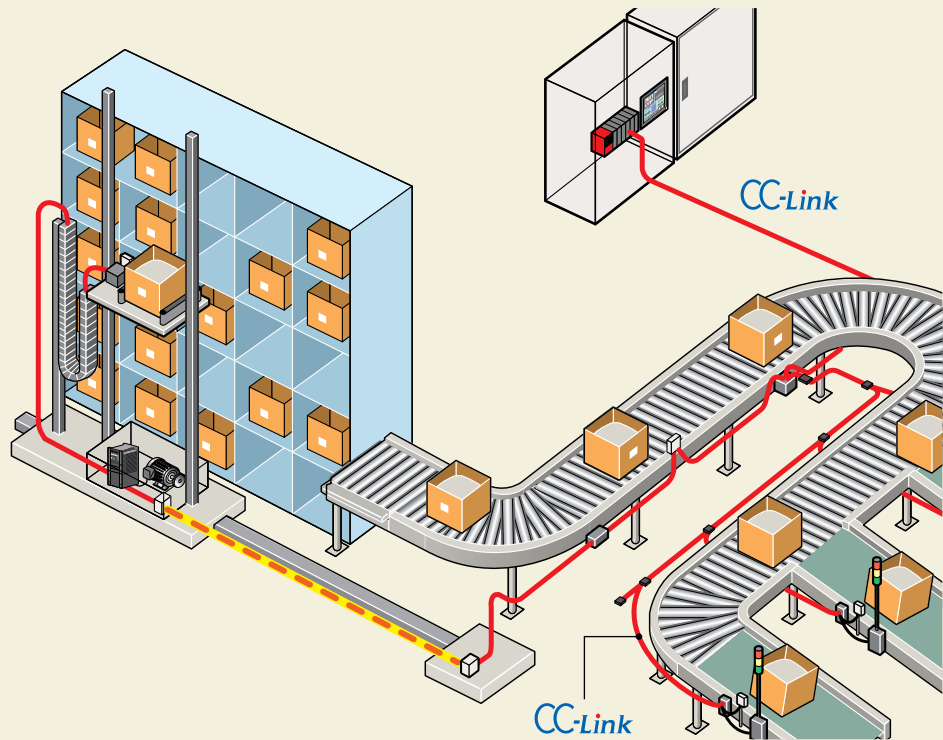
# Networks is a key factor in various business applications.

## Material handling application

Improved workability by repeaters

Connection of various devices (Inverter, HMI)

Cable specific to the application requirement

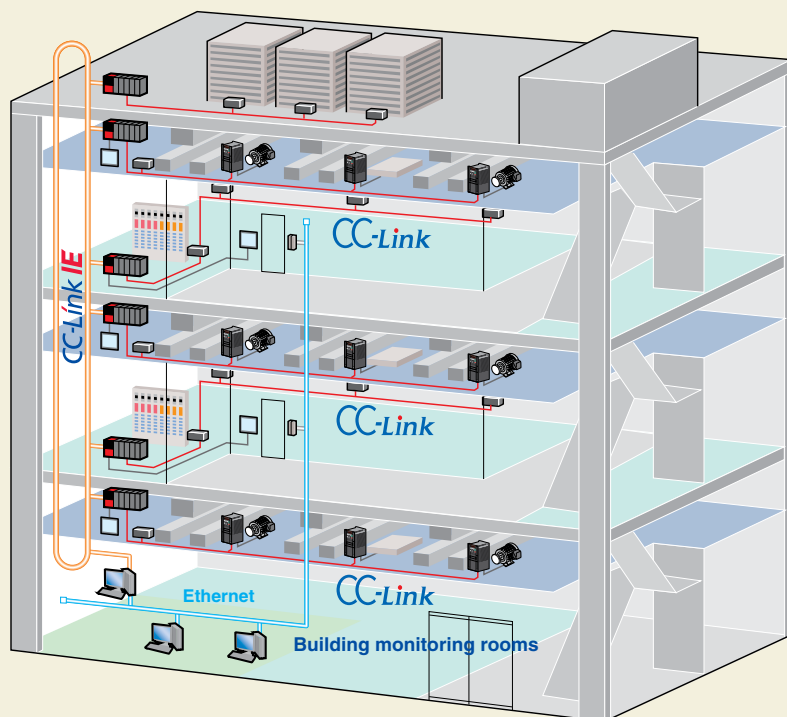


## Building management application

The total cable distance up to 13.2 km by using repeaters

Distributed control

Seamless communication between Ethernet, CC-Link IE Controller Network and CC-Link

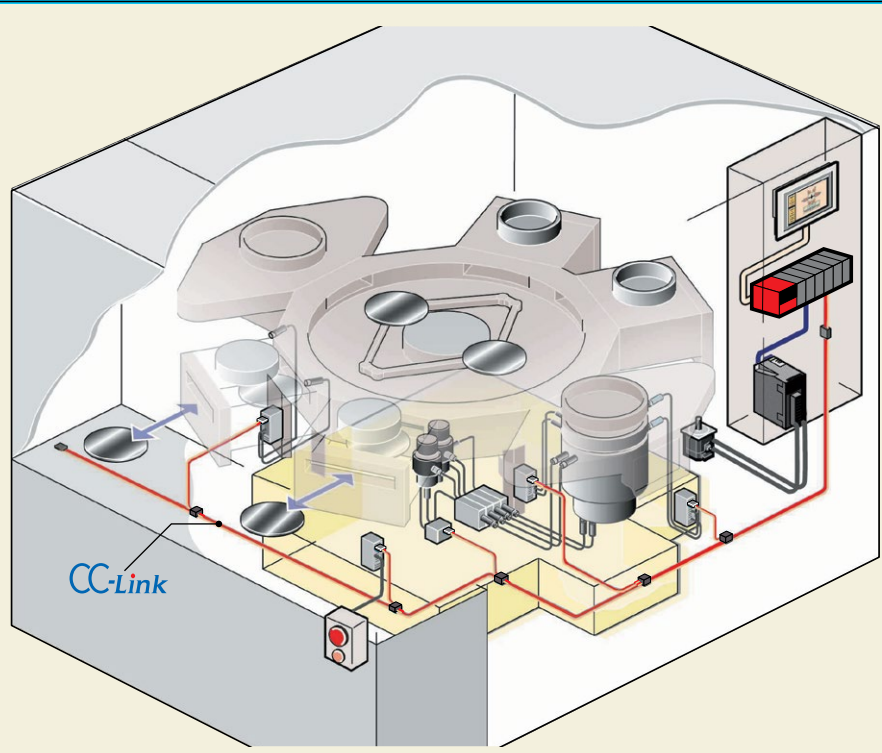


# The CC-Link family is the best solution.

## Semiconductor production application

High noise resistance

Compliant with EES



## Master/local modules

### MELSEC iQ-R Series

#### RJ61BT11

CC-Link V2



Occupied I/O points: 32 points  
Occupied stations (as local stations): 1 to 4\*1 (selectable)

### MELSEC iQ-F Series

#### FX5-CCL-MS

CC-Link V2



Occupied I/O points: 8 points\*2  
Occupied stations (as intelligent device stations): 1 to 4 (selectable)

### MELSEC-Q Series

#### QJ61BT11N

CC-Link V2



Occupied I/O points: 32 points  
Occupied stations (as local stations): 1 to 4\*1 (selectable)

### MELSEC-L Series CPU (with master/local station function)

#### L26CPU-BT Output (sink type) L26CPU-PBT Output (source type)

CC-Link V2



Occupied I/O points: 32 points  
Occupied stations (as local stations): 1 to 4\*1 (selectable)

### MELSEC-L Series

#### LJ61BT11

CC-Link V2



Occupied I/O points: 32 points  
Occupied stations (as local stations): 1 to 4\*1 (selectable)

### MELSEC-FX Series

#### FX3U-16CCL-M

CC-Link V2



Occupied I/O points: 8 points  
Can be used only as a master station

\*1 The number of occupied stations at a local station is set by a parameter in GX Works3 or GX Works2.

\*2 The number of remote I/O points are added when using with the master station.



# Bridge modules

## CC-Link IE Field Network - CC-Link Bridge module

### NZ2GF-CCB



CC-Link IE Field Network intelligent device station with CC-Link master station function\*1

\*1 Compatible with CC-Link Ver.1.10 Remote I/O and remote device stations.

## CC-Link-AnyWireASLINK Bridge module

### NZ2AW1C2AL



Remote device station  
Occupied stations: 1 to 4  
with AnyWireASLINK master station function

## CC-Link-AnyWire DB A20 Bridge module

### NZ2AW1C2D2



Remote device station (for CC-Link Ver.2)  
Occupied stations: 4  
with AnyWire DB A20 master station function

# Remote I/O modules

## Terminal block type

### Screw terminal block type

### AJ65SBTB□-□



### Features

- From the lineup including a variety of products, you can select the most suitable type to match the connection method and I/O specifications of external devices.
- The protector covering the terminal block prevents the user from touching charged parts, allowing direct installation to a target machine.

### Input modules

Model	Input format	Number of input points	Input response time	Rated input voltage/current	External connection
AJ65SBTB2N-8A	AC -	8	≤ 20 ms	100...120 V AC/7 mA	2-wire type
AJ65SBTB2N-16A	AC -	16	≤ 20 ms	100...120 V AC/7 mA	2-wire type
AJ65SBTB1-8D	DC Positive/Negative common	8	≤ 1.5 ms	24 V DC/7 mA	1-wire type
AJ65SBTB3-8D	DC Positive/Negative common	8	≤ 1.5 ms	24 V DC/7 mA	3-wire type
AJ65SBTB1-16D	DC Positive/Negative common	16	≤ 1.5 ms	24 V DC/7 mA	1-wire type
AJ65SBTB1-16D1	DC Positive/Negative common	16	≤ 0.2 ms	24 V DC/5 mA	1-wire type
AJ65SBTB3-16D	DC Positive/Negative common	16	≤ 1.5 ms	24 V DC/7 mA	3-wire type
AJ65SBTB3-16KD	DC Positive/Negative common	16	≤ 0.2 ms, ≤ 1.5 ms, ≤ 5 ms, ≤ 10 ms	24 V DC/7 mA	3-wire type
AJ65SBTB1-32D	DC Positive/Negative common	32	≤ 1.5 ms	24 V DC/7 mA	1-wire type
AJ65SBTB1-32D1	DC Positive/Negative common	32	≤ 0.2 ms	24 V DC/5 mA	1-wire type
AJ65SBTB1-32D5	DC Positive/Negative common	32	≤ 1.5 ms	5 V DC/4 mA	1-wire type
AJ65SBTB1-32KD	DC Positive/Negative common	32	≤ 0.2 ms, ≤ 1.5 ms, ≤ 5 ms, ≤ 10 ms	24 V DC/7 mA	1-wire type

### Output modules

Model	Output format	Number of output points	Leakage current at OFF	Output protection function	Rated load voltage /Max. load current	External connection
AJ65SBTB1-8T	Transistor Sink	8	≤ 0.25 mA	Yes	12/24 V DC (0.5 A/point)	1-wire type
AJ65SBTB1-8T1	Transistor Sink	8	≤ 0.1 mA	No	12/24 V DC (0.5 A/point)	1-wire type
AJ65SBTB2-8T	Transistor Sink	8	≤ 0.25 mA	Yes	12/24 V DC (0.5 A/point)	2-wire type
AJ65SBTB2-8T1	Transistor Sink	8	≤ 0.1 mA	No	12/24 V DC (0.5 A/point)	2-wire type
AJ65SBTB1-16T	Transistor Sink	16	≤ 0.25 mA	Yes	12/24 V DC (0.5 A/point)	1-wire type
AJ65SBTB1-16T1	Transistor Sink	16	≤ 0.1 mA	No	12/24 V DC (0.5 A/point)	1-wire type
AJ65SBTB2-16T	Transistor Sink	16	≤ 0.25 mA	Yes	12/24 V DC (0.5 A/point)	2-wire type
AJ65SBTB2-16T1	Transistor Sink	16	≤ 0.1 mA	No	12/24 V DC (0.5 A/point)	2-wire type
AJ65SBTB1-32T	Transistor Sink	32	≤ 0.25 mA	Yes	12/24 V DC (0.5 A/point)	1-wire type
AJ65SBTB1-32T1	Transistor Sink	32	≤ 0.1 mA	No	12/24 V DC (0.5 A/point)	1-wire type
AJ65SBTB1-8TE	Transistor Source	8	≤ 0.1 mA	Yes	12/24 V DC (0.1 A/point)	1-wire type
AJ65SBTB1-16TE	Transistor Source	16	≤ 0.1 mA	Yes	12/24 V DC (0.1 A/point)	1-wire type
AJ65SBTB1B-16TE1	Transistor Source	16	≤ 0.1 mA	No	12/24 V DC (0.5 A/point)	1-wire type
AJ65SBTB1-32TE1	Transistor Source	32	≤ 0.1 mA	No	12/24 V DC (0.5 A/point)	1-wire type
AJ65SBTB2N-8R	Relay -	8	-	No	24 V DC, 240 V AC (2 A/point)	2-wire type
AJ65SBTB2N-16R	Relay -	16	-	No	24 V DC, 240 V AC (2 A/point)	2-wire type
AJ65SBTB2N-8S	Triac -	8	≤ 1.5 mA (100 V AC) / ≤ 3 mA (200 V AC)	No	100 to 240 V AC (0.6 A/point)	2-wire type
AJ65SBTB2N-16S	Triac -	16	≤ 1.5 mA (100 V AC) / ≤ 3 mA (200 V AC)	No	100 to 240 V AC (0.6 A/point)	2-wire type

### I/O combined modules

Model	Input format	Number of input points	Input response time	Rated input voltage /current	Output type	Number of output points	Leakage current at OFF	Output protection function	Rated load voltage /Max. load current	External connection
AJ65SBTB32-8DT	DC Positive common	4	≤ 1.5 ms	24 V DC/7 mA	Transistor Sink	4	≤ 0.25 mA	Yes	24 V DC (0.5 A/point)	3-wire type/2-wire type
AJ65SBTB32-8DT2	DC Positive common	4	≤ 1.5 ms	24 V DC/7 mA	Transistor Sink	4	≤ 0.1 mA	No	24 V DC (0.5 A/point)	3-wire type/2-wire type
AJ65SBTB1-16DT	DC Positive common	8	≤ 1.5 ms	24 V DC/7 mA	Transistor Sink	8	≤ 0.25 mA	Yes	24 V DC (0.5 A/point)	1-wire type/1-wire type
AJ65SBTB1-16DT1	DC Positive common	8	≤ 0.2 ms	24 V DC/5 mA	Transistor Sink	8	≤ 0.25 mA	Yes	24 V DC (0.5 A/point)	1-wire type/1-wire type
AJ65SBTB1-16DT2	DC Positive common	8	≤ 1.5 ms	24 V DC/7 mA	Transistor Sink	8	≤ 0.1 mA	No	24 V DC (0.5 A/point)	1-wire type/1-wire type
AJ65SBTB1-16DT3	DC Positive common	8	≤ 0.2 ms	24 V DC/5 mA	Transistor Sink	8	≤ 0.1 mA	No	24 V DC (0.5 A/point)	1-wire type/1-wire type
AJ65SBTB32-16DT	DC Positive common	8	≤ 1.5 ms	24 V DC/7 mA	Transistor Sink	8	≤ 0.25 mA	Yes	24 V DC (0.5 A/point)	3-wire type/2-wire type
AJ65SBTB32-16DT2	DC Positive common	8	≤ 1.5 ms	24 V DC/7 mA	Transistor Sink	8	≤ 0.1 mA	No	24 V DC (0.5 A/point)	3-wire type/2-wire type
AJ65SBTB1-32DT	DC Positive common	16	≤ 1.5 ms	24 V DC/7 mA	Transistor Sink	16	≤ 0.25 mA	Yes	24 V DC (0.5 A/point)	1-wire type/1-wire type
AJ65SBTB1-32DT1	DC Positive common	16	≤ 0.2 ms	24 V DC/5 mA	Transistor Sink	16	≤ 0.25 mA	Yes	24 V DC (0.5 A/point)	1-wire type/1-wire type
AJ65SBTB1-32DT2	DC Positive common	16	≤ 1.5 ms	24 V DC/7 mA	Transistor Sink	16	≤ 0.1 mA	No	24 V DC (0.5 A/point)	1-wire type/1-wire type
AJ65SBTB1-32DT3	DC Positive common	16	≤ 0.2 ms	24 V DC/5 mA	Transistor Sink	16	≤ 0.1 mA	No	24 V DC (0.5 A/point)	1-wire type/1-wire type
AJ65SBTB1-32KDT2	DC Positive common	16	≤ 0.2 ms, ≤ 1.5 ms, ≤ 5 ms, ≤ 10 ms	24 V DC/7 mA	Transistor Sink	16	≤ 0.1 mA	No	24 V DC (0.5 A/point)	1-wire type/1-wire type
AJ65SBTB1-32DTE1	DC Negative common	16	≤ 1.5 ms	24 V DC/7 mA	Transistor Source	16	≤ 0.1 mA	No	24 V DC (0.5 A/point)	1-wire type/1-wire type
AJ65SBTB32-16DR	DC Positive/Negative common	8	≤ 1.5 ms	24 V DC/7 mA	Relay -	8	-	No	24 V DC/240 V AC (2 A/point)	3-wire type/2-wire type
AJ65SBTB32-16KDR	DC Positive/Negative common	8	≤ 0.2 ms, ≤ 1.5 ms, ≤ 5 ms, ≤ 10 ms	24 V DC/7 mA	Relay -	8	-	No	24 V DC/240 V AC (2 A/point)	3-wire type/2-wire type

## A2C form terminal block type

## AJ65DBTB□-32□



### Features

- The I/O terminal block is removable.
- The modules can be installed to the same position of A2C form I/O modules.  
New installation holes are unnecessary.

### Input modules

Model	Input format	Number of input points	Input response time	Rated input voltage/current	External connection
AJ65DBTB1-32D	DC Positive/Negative common	32	≤ 10 ms	24 V DC/5 mA	1-wire type

### Output modules

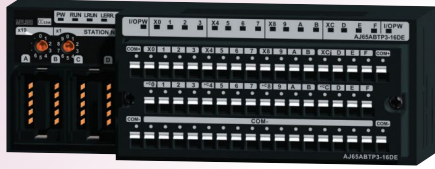
Model	Output format	Number of output points	Leakage current at OFF	Output protection function	Rated load voltage /Max. load current	External connection
AJ65DBTB1-32T1	Transistor Sink	32	≤ 0.1 mA	No	12/24 V DC (0.5 A/point)	1-wire type
AJ65DBTB1-32R	Relay -	32	-	No	24 V DC/240 V AC (2 A/point)	1-wire type

### I/O combined modules

Model	Input format	Number of input points	Input response time	Rated input voltage/current	Output format	Number of output points	Leakage current at OFF	Output protection function	Rated load voltage /Max. load current	External connection
AJ65DBTB1-32DT1	DC Positive common	16	≤ 10 ms	24 V DC/5 mA	Transistor Sink	16	≤ 0.1 mA	No	12/24 V DC (0.5 A/point) 24 V DC	1-wire type/1-wire type
AJ65DBTB1-32DR	DC Positive/Negative common	16	≤ 10 ms	24 V DC/5 mA	Relay -	16	-	No	24 V DC /240 V AC (2 A/point)	1-wire type/1-wire type

## Spring clamp terminal block push-in type

## AJ65ABTP3-16DE



### Features

- Wiring time can be reduced using push-in type terminal blocks.
- Wire disconnections or short-circuits can be checked.
- Wiring errors from external power supply can be checked.
- The 2-piece structure allows easy servicing as the module can be replaced without rewiring.

\* These modules are used as remote device stations.

### Input modules with diagnostic functions

Model	Input format	Number of input points	Input response time	Rated input voltage/current	External connection
AJ65ABTP3-16DE	DC Negative common	16	≤ 1.5 ms	24 V DC/6 mA	3-wire type

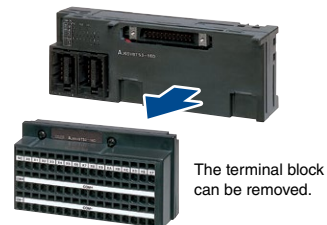
## Spring clamp terminal block type

## AJ65VBTS□-□



### Features

- Wiring time can be reduced because no screw tightening and retightening are required.
- The 2-piece structure allows easy servicing as the module can be replaced without rewiring.
- DIN rail or screw installation is selectable.
- The 3-wire sensor can be connected.



### Input modules

Model	Input format	Number of input points	Input response time	Rated input voltage/current	External connection
AJ65VBTS3-16D	DC Positive common	16	≤ 1.5 ms	24 V DC/5 mA	3-wire type
AJ65VBTS3-32D	DC Positive common	32	≤ 1.5 ms	24 V DC/5 mA	3-wire type

### Output modules

Model	Output format	Number of output points	Leakage current at OFF	Output protection function	Rated load voltage /Max. load current	External connection
AJ65VBTS2-16T	Transistor Sink	16	≤ 0.1 mA	No	12/24 V DC (0.5 A/point)	2-wire type
AJ65VBTS2-32T	Transistor Sink	32	≤ 0.1 mA	No	12/24 V DC (0.5 A/point)	2-wire type

### I/O combined modules

Model	Input format	Number of input points	Input response time	Rated input voltage/current	Output format	Number of output points	Leakage current at OFF	Output protection function	Rated load voltage /Max. load current	External connection
AJ65VBTS32-16DT	DC Positive common	8	≤ 1.5 ms	24 V DC/5 mA	Transistor Sink	8	≤ 0.1 mA	No	24 V DC (0.5 A/point)	3-wire type/2-wire type
AJ65VBTS32-32DT	DC Positive common	16	≤ 1.5 ms	24 V DC/5 mA	Transistor Sink	16	≤ 0.1 mA	No	12/24 V DC (0.5 A/point)	3-wire type/2-wire type

## ▶ Sensor connector type

### e-CON type

### AJ65VBTCE□-□



#### Features

- Industry-standard e-CON has been adopted.
- Easy wiring with sensor connectors
- DIN rail or screw installation is selectable.
- The 3-wire sensor can be connected.

#### Input modules

Model	Input format		Number of input points	Input response time	Rated input voltage/current	External connection
AJ65VBTCE3-8D	DC	Positive common	8	≤ 1.5 ms	24 V DC/5 mA	3-wire type
AJ65VBTCE3-16D	DC	Positive common	16	≤ 1.5 ms	24 V DC/5 mA	3-wire type
AJ65VBTCE3-32D	DC	Positive common	32	≤ 1.5 ms	24 V DC/5 mA	3-wire type
AJ65VBTCE3-16DE	DC	Negative common	16	≤ 1.5 ms	24 V DC/5 mA	3-wire type
AJ65VBTCE3-32DE	DC	Negative common	32	≤ 1.5 ms	24 V DC/5 mA	3-wire type

#### Output modules

Model	Output format		Number of output points	Leakage current at OFF	Output protection function	Rated load voltage /Max. load current	External connection
AJ65VBTCE2-8T	Transistor	Sink	8	≤ 0.1 mA	Yes	12/24 V DC (0.1 A/point)	2-wire type
AJ65VBTCE2-16T	Transistor	Sink	16	≤ 0.1 mA	Yes	12/24 V DC (0.1 A/point)	2-wire type

#### I/O combined modules

Model	Input format		Number of input points	Input response time	Rated input voltage/current	Output format		Number of output points	Leakage current at OFF	Output protection function	Rated load voltage /Max. load current	External connection
AJ65VBTCE32-16DT	DC	Positive common	8	≤ 1.5 ms	24 V DC/5 mA	Transistor	Sink	8	≤ 0.1 mA	Yes	24 V DC (0.1 A/point)	3-wire type/2-wire type
AJ65VBTCE32-32DT	DC	Positive common	16	≤ 1.5 ms	24 V DC/5 mA	Transistor	Sink	16	≤ 0.1 mA	Yes	24 V DC (0.1 A/point)	3-wire type/2-wire type
AJ65VBTCE32-32DTE	DC	Negative common	16	≤ 1.5 ms	24 V DC/5 mA	Transistor	Source	16	≤ 0.1 mA	Yes	24 V DC (0.1 A/point)	3-wire type/3-wire type

### One-touch connector type

### AJ65SBTC□-□ AJ65VBTCU□-□



#### Features

- Easy wiring with sensor connectors
- The modules can be installed in six orientations.

#### Input modules

Model	Input format		Number of input points	Input response time	Rated input voltage/current	External connection
AJ65VBTCU3-16D1	DC	Positive common	16	≤ 0.2 ms	24 V DC/5 mA	3-wire type
AJ65SBTC4-16DE	DC	Negative common	16	≤ 1.5 ms	24 V DC/5 mA	4-wire type
AJ65SBTC1-32D	DC	Positive/Negative common	32	≤ 1.5 ms	24 V DC/5 mA	1-wire type
AJ65SBTC1-32D1	DC	Positive/Negative common	32	≤ 0.2 ms	24 V DC/5 mA	1-wire type

#### Output modules

Model	Output format		Number of output points	Leakage current at OFF	Output protection function	Rated load voltage /Max. load current	External connection
AJ65VBTCU2-16T	Transistor	Sink	16	≤ 0.1 mA	Yes	12/24 V DC (0.1 A/point)	2-wire type
AJ65SBTC1-32T1	Transistor	Sink	32	≤ 0.1 mA	No	12/24 V DC (0.1 A/point)	1-wire type

#### I/O combined modules

Model	Input format		Number of input points	Input response time	Rated input voltage/current	Output format		Number of output points	Leakage current at OFF	Output protection function	Rated load voltage /Max. load current	External connection
AJ65SBTC4-16DT2	DC	Positive common	8	≤ 1.5 ms	24 V DC/5 mA	Transistor	Sink	8	≤ 0.1 mA	No	24 V DC (0.5 A/point)	4-wire type
AJ65SBTC1-32DT3	DC	Positive common	16	≤ 0.2 ms	24 V DC/5 mA	Transistor	Sink	16	≤ 0.1 mA	No	24 V DC (0.1 A/point)	1-wire type/1-wire type



## 40-pin connector type

## AJ65SBTCF□-□ AJ65VBTCF□-□



### Features

- ⊙ The 40-pin connector allows connection of various devices.
- ⊙ The modules can be installed in six orientations.

### Input modules

Model	Input format	Number of input points	Input response time	Rated input voltage/current	External connection
AJ65SBTCF1-32D	DC Positive/Negative common	32	≤ 1.5 ms	24 V DC/5 mA	1-wire type

### Output modules

Model	Output format	Number of output points	Leakage current at OFF	Output protection function	Rated load voltage /Max. load current	External connection
AJ65SBTCF1-32T	Transistor Sink	32	≤ 0.1 mA	Yes	12/24 V DC (0.1 A/point)	1-wire type

### I/O combined modules

Model	Input format	Number of input points	Input response time	Rated input voltage/current	Output format	Number of output points	Leakage current at OFF	Output protection function	Rated load voltage /Max. load current	External connection
AJ65SBTCF1-32DT	DC Positive/Negative common	16	≤ 1.5 ms	24 V DC/5 mA	Transistor Sink	16	≤ 0.1 mA	Yes	12/24 V DC (0.1 A/point)	1-wire type /1-wire type
AJ65VBTCF1-32DT1	DC Positive/Negative common	16	≤ 0.2 ms	24 V DC/5 mA	Transistor Sink	16	≤ 0.1 mA	Yes	12/24 V DC (0.1 A/point)	1-wire type /1-wire type

## Waterproof connector type

## AJ65FBTA□-16□



### Features

- ⊙ Waterproof type modules are compliant with the IP67 standard for water resistance.
- ⊙ Modules can be replaced without stopping the system.
- ⊙ Easy connection without using any tool reduces wiring time.
- ⊙ Built-in terminating resistor (selected by 110Ω/130Ω switch)
- ⊙ The modules are mountable in six orientations.

### Input modules

Model	Input format	Number of input points	Input response time	Rated input voltage/current	External connection
AJ65FBTA4-16D	DC Positive common	16	≤ 1.5 ms	24 V DC/7 mA	2 to 4-wire type
AJ65FBTA4-16DE	DC Negative common	16	≤ 1.5 ms	24 V DC/7 mA	2 to 4-wire type

### I/O combined modules

Model	Input format	Number of input points	Input response time	Rated input voltage/current	Output format	Number of output points	Leakage current at OFF	Output protection function	Rated load voltage /Max. load current	External connection
AJ65FBTA42-16DTE	DC Negative common	8	≤ 1.5 ms	24 V DC/7 mA	Transistor Source	8	≤ 0.30 mA	Yes	24 V DC (1.0 A/point)	2 to 4-wire type /2-wire type

# Safety relay modules

## ▶ Terminal block type

### Spring clamp terminal block type

### QS90SR2SP-CC QS90SR2SN-CC



#### Features

- ◎ The safety system can be added easily.  
Independent safety functions (Category 4 of EN 954-1, PL e of ISO 13849-1) can be added by simply connecting the existing CC-Link cable.
- ◎ Reduced wiring with the CC-Link connection  
The special wiring to monitor the status of the safety relay module is not required.  
The cables are nicely organized inside/outside of the control panel.
- ◎ Safety status visibility  
The cause of the safety system activation can be easily investigated since the status of safety outputs/inputs and internal relays are monitored.

Item	QS90SR2SP-CC	QS90SR2SN-CC
Safety standard	Category 4 of EN 954-1, PL e of ISO 13849-1	
Number of safety input points	1 point (2 inputs)	
Number of start-up input points	1 point	
Input format	P type (positive common/positive common)	N type (positive common/negative common)
Number of safety output points	1 point (3 outputs)	
Rated load current	Category 4: 3.6 A/point or less	Category 3: 5.0 A/point or less (250 V AC/30 V DC)
Response time	Output OFF	≤ 20 ms (safety input OFF → safety output OFF)
	Output ON	≤ 50 ms (safety input ON → safety output ON)
Module power supply	20.4...26.4 V DC (ripple ratio: ≤ 5 %)	
Safety power supply	20.4...26.4 V DC (ripple ratio: ≤ 5 %)	
Number of extension modules	Up to three extension safety relay modules can be connected.	
External connection method	Two-piece spring clamp terminal block	
Relay life	Mechanical	Five million times or more
	Electrical	One hundred thousand times or more

# Analog modules

## ▶ Connector type

### Analog input modules

#### One-touch connector type



**AJ65VBTCU-68ADV N**  
**AJ65VBTCU-68ADIN**



#### Voltage input module

Model	Number of channels	Number of occupied points	Station type
AJ65VBTCU-68ADV N	8	1/3 *1	Remote device

#### Current input module

Model	Number of channels	Number of occupied points	Station type
AJ65VBTCU-68ADIN	8	1/3 *1	Remote device

\*1: Three stations are occupied in Ver.1 mode, or one station is occupied in Ver.2 mode.

### Analog output modules

#### One-touch connector type



**AJ65VBTCU-68DAV N**



#### Voltage output module

Model	Number of channels	Number of occupied points	Station type
AJ65VBTCU-68DAV N	8	1/3 *1	Remote device

## ▶ Terminal block type

### Analog input modules

#### Screw terminal block type

**AJ65SBT-64AD**  
**AJ65SBT2B-64AD**  
(High accuracy, high resolution,  
high speed, 2-piece terminal block type)



#### Voltage/current input module

Model	Number of channels	Number of occupied points	Station type
AJ65SBT-64AD	4	1	Remote device
AJ65SBT2B-64AD	4	1	Remote device

### Analog output modules

#### Screw terminal block type

**AJ65SBT-62DA**  
**AJ65SBT2B-64DA**  
(High resolution, high speed,  
2-piece terminal block type)



#### Voltage/current output module

Model	Number of channels	Number of occupied points	Station type
AJ65SBT-62DA	2	1	Remote device
AJ65SBT2B-64DA	4	1	Remote device

### Temperature input modules

#### Screw/2-piece terminal block type

**AJ65SBT2B-64TD**  
**AJ65SBT2B-64RD3**



#### Thermocouple temperature input module

Model	Number of channels	Number of occupied points	Station type
AJ65SBT2B-64TD	4	1	Remote device

#### RTD input module

Model	Number of channels	Number of occupied points	Station type
AJ65SBT2B-64RD3	4	1	Remote device

## High-speed counter modules

### AJ65BT-D62 AJ65BT-D62D



Item	AJ65BT-D62	AJ65BT-D62D
Pulse input	DC input	Differential input
Preset input	DC input	DC input
Counting range	0...16777215 (24-bit binary)	0...16777215 (24-bit binary)
Number of occupied stations	4	4
Station type	Remote device	Remote device

## RS-232 interface module

### AJ65BT-R2N



Item	AJ65BT-R2N
Description	RS-232 1 channel, DC input 2 points/transistor output 2 points
Number of occupied stations	1
Station type	Intelligent device

## WS Series interface module

### WS0-GCC100202



#### Features

© Interface module for connecting a safety controller as a CC-Link remote device station.

Item	WS0-GCC100202
Description	WS Series interface module
Number of occupied stations	1...4
Station type	Remote device station
Applicable programmable controller	Safety controller • WS Series

## FX Series interface block

### FX3u-64CCL



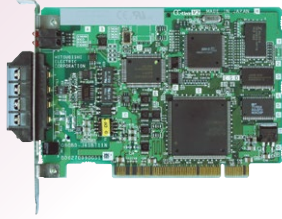
#### Features

© Interface block for connecting Mitsubishi micro-programmable controllers FX3G, FX3u, FX3GC, FX3UC Series as CC-Link intelligent device stations

Item	FX3u-64CCL
Description	FX Series interface block
Number of occupied stations	1...4
Station type	Intelligent device station
Applicable programmable controller	Mitsubishi micro-programmable controllers • FX3G, FX3U Series • FX3GC, FX3UC Series (FX2NC-CNV-IF or FX3UC-1PS-5V required)

# Network interface boards

**Q80BD-J61BT11N**  
**Q81BD-J61BT11**



**Features**

- ◎ Personal computers and other devices equipped with a PCI or PCI Express® bus can be incorporated into the CC-Link system.
- ◎ Can be used as a CC-Link Ver.2 compatible master station, standby master station or local station.
- ◎ Drivers compatible with each of the following OS are included.  
Such as Windows Server® 2019 (Standard), Windows Server® 2016 (Standard), and Windows® 10 (Home, Pro, Enterprise, Education, IoT Enterprise 2016 LTSB (64bit))

\* For details such as compatibility with the latest operating systems, please refer to the "Type Q80BD-J61BT11N/Q81BD-J61BT11 CC-Link System Master/Local Interface Board User's Manual (For SW1DNC-CCBD2-B) (SH-080527ENG)".

Item	Q80BD-J61BT11N	Q81BD-J61BT11
Description	PCI slot (half size)	PCI Express® X1, X2, X4, X8, X16 slot (half size)
Number of occupied stations	1...4*1	1...4*1
Station type	Master station, standby master station or local station	Master station, standby master station or local station

\*1: 1 to 4 stations when remote net Ver.2 mode or remote net additional mode is used. 1 or 4 stations when remote net Ver.1 mode is used.

# Repeater modules

**Repeater module**

**AJ65BTS-RPH AJ65SBT-RPT AJ65SBT-RPS/RPG**



AJ65BTS-RPH



AJ65SBT-RPT



AJ65SBT-RPS  
AJ65SBT-RPG

**Features**

- ◎ The following 3 types are available for various applications.
- ◎ Spring clamp terminal block type repeater hub module: Star topology, trunk line extension, spring clamp terminal block type
- ◎ Repeater module (T-branch): T-branch, trunk line extension
- ◎ Optical repeater module: Wiring in high noise environment, trunk line extension

Type	Model	Description
Spring clamp terminal block type repeater hub module	AJ65BTS-RPH	Start wiring of up to 8 branches. Wiring of max. length matched to transmission speed is possible for each branch. Spring clamp terminal block type
Repeater module (T-branch)	AJ65SBT-RPT	Maximum number of connected levels: 10, T-branch wiring is possible.
Optical repeater modules	AJ65SBT-RPS	For SI/QSI-type optical fiber cables (Use two modules as a set). Maximum number of connected levels: 3, maximum transmission distance: 500 m (SI)/1000 m (QSI)
	AJ65SBT-RPG	For GI-type optical fiber cables (Use two modules as a set). Maximum number of connected levels: 2, maximum transmission distance: 2000 m



# Optional parts for I/O modules

## One-touch connector plug

**A6CON-P214**

(20 pcs)

**A6CON-P220**

(20 pcs)

**A6CON-P514**

(20 pcs)

**A6CON-P520**

(20 pcs)

©Applicable models

AJ65SBTC□-□ remote I/O module  
AJ65VBTCU□-□ remote I/O module  
AJ65VBTCU-□ analog module



## One-touch connector plug for communication

**A6CON-L5P**

(10 pcs)

©Applicable models \*1

Only FANC-110SBH, CS-110, and FA-CBL200PBSH can be used.



## One-touch connector plug for power supply and FG

**A6CON-PW5P**

(10 pcs)

**A6CON-PW5P-SOD**

(10 pcs)

©Applicable models \*1



## One-touch connector plug with terminating resistor

**A6CON-TR11N**

(1 pc)

©Applicable models \*1



## Online connector for communication

**A6CON-LJ5P**

(5 pcs)

©Applicable models \*1



## Online connector for power supply

**A6CON-PWJ5P**

(5 pcs)

©Applicable models \*1



## Protective cover

**A6CVR-16**

(10 pcs)

**A6CVR-32**

(10 pcs)

©Applicable models

AJ65SBTB□-□ remote I/O module  
AJ65SBTC□-□ remote I/O module



## Protective cover for sensor connector type (e-CON) module

**A6CVR-VCE16**

(10 pcs)

©Applicable models

AJ65VBTC□-16□ remote I/O module



## 40-pin connector

**A6CON1**

(1 pc)

**A6CON2**

(1 pc)

**A6CON3**

(1 pc)

**A6CON4**

(1 pc)

©Applicable models

AJ65SBTC□-□ remote I/O module  
AJ65VBTC□-□ remote I/O module



## Protective cap for unused connector

**A6CAP-WP2**

(20 pcs)

©Applicable models

AJ65FBTA□-□ remote I/O module



## Handy line tester

**EHLT02**

Mitsubishi Electric Engineering Corporation product



\*1: AJ65VBTS□-□ remote I/O module, AJ65VBTC□-□ remote I/O module, AJ65VBTCU□-□ remote I/O module, AJ65ABTP□-□ remote I/O module, AJ65VBTCU-□ analog module

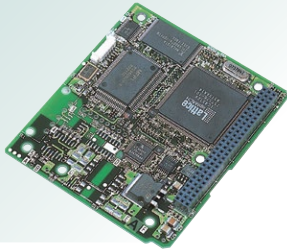
# Embedded modules

For details, see "Open Field Network CC-Link Family Compatible Product Development Guidebook."



## CC-Link Ver.2 embedded interface board

**Q50BD-CCV2**



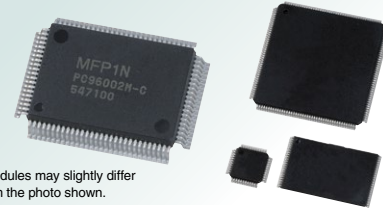
### Features

- Sub-circuit board compatible with CC-Link Ver.2. Adding on this to a main circuit board enables development of master, local and intelligent device stations.

Model	Description
Q50BD-CCV2	CC-Link Ver.2 embedded interface board

## Object development

**MFP1N Device kit**



The actual modules may slightly differ in shapes from the photo shown.

### Features

- The MFP1N device kit enables development of master, local and intelligent device stations.

Model	Device kit
Ordering model name	Q6KT-NPC20G51
Package unit	40 pcs
Application	Network circuit

MFP: Mitsubishi Field-network Processor

## Dedicated communication LSI

**MFP2N MFP3N**



The actual modules may slightly differ in shapes from the photo shown.



### Features

- CC-Link compatible devices can be developed easily without worrying about the communication protocol.

Model	MFP2N	MFP3N	
Ordering model name	A6GA-CCMFP2NN 300F	A6GA-CCMFP3NN 60F	A6GA-CCMFP3NN 300F
Package unit	300 pcs	60 pcs	300 pcs
Application	Remote I/O station	Remote device station	

MFP: Mitsubishi Field-network Processor

## Embedded I/O module

**AJ65MBTL1N-16D**  
**AJ65MBTL1N-32T**

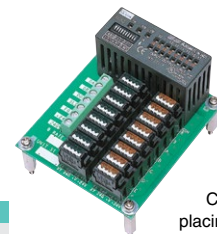
**AJ65MBTL1N-32D**  
**AJ65MBTL1N-16DT**

**AJ65MBTL1N-16T**



### Features

- Placing this product to your circuit board allows easy development of remote I/O stations.



Circuit board placing example

### Input modules

Model	Input format	Number of input points	Input response time	Rated input voltage/current
AJ65MBTL1N-16D	DC Positive common	16	≤ 1.5 ms	24 V DC/4 mA
AJ65MBTL1N-32D	DC Positive common	32	≤ 1.5 ms	24 V DC/4 mA

### Output modules

Model	Output format	Number of output points	Leakage current at OFF	Output protection function	Rated load voltage /Max. load current
AJ65MBTL1N-16T	Transistor Sink	16	≤ 0.1 mA	Yes	12/24 V DC (0.1 A/point)
AJ65MBTL1N-32T	Transistor Sink	32	≤ 0.1 mA	Yes	12/24 V DC (0.1 A/point)

### I/O combined module

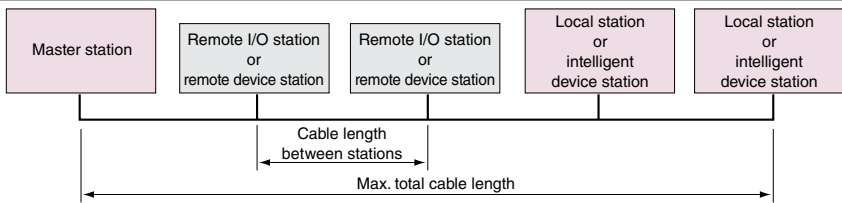
Model	Input format	Number of input points	Input response time	Rated input voltage/current	Output format	Number of output points	Leakage current at OFF	Output protection function	Rated load voltage /Max. load current
AJ65MBTL1N-16DT	DC Positive common	8	≤ 1.5 ms	24 V DC/7 mA	Transistor Sink	8	≤ 0.1 mA	Yes	24 V DC (0.1 A/point)

\*For the development of CC-Link products that use MFP, "Open Field Network CC-Link Family Compatible Product Development Guidebook (L(NA)-08052E)" is available.

\*For details or lead-free/RoHS compatible products, contact the Open System Center.

**You are requested to become a member of the CC-Link Partner Association (CLPA) to purchase these embedded modules.**

# CC-Link (Ver.1.10) specifications

Item		Specifications																
Control specifications	Max. number of link points	CC-Link Ver.1 <ul style="list-style-type: none"> <li>Remote input/output (RX, RY): 2048 points</li> <li>Remote register (RWw): 256 points</li> <li>Remote register (RWr): 256 points</li> </ul>																
		CC-Link Ver.2 <ul style="list-style-type: none"> <li>Remote input/output (RX, RY): 8192 points</li> <li>Remote register (RWw): 2048 points</li> <li>Remote register (RWr): 2048 points</li> </ul>																
	Number of link points per station	See the number of link points per number of occupied stations on page 33.																
Communication specifications	Transmission rate	10 M/5 M/2.5 M/625 k/156 kbps																
	Communication method	Broadcast polling method																
	Synchronization method	Frame synchronization method																
	Encoding method	NRZI method																
	Transmission path type	Bus type (conforming to EIA RS-485)																
	Transmission format	Conforming to HDLC																
	Error control system	CRC ( $X^{16} + X^{12} + X^5 + 1$ )																
	Max. number of connected units	64 units																
	Remote station numbers	1 to 64																
	Max. total cable length and cable length between stations	 <p>CC-Link dedicated cable compatible with ver.1.10 (with use of 110-ohm termination resistance)</p> <table border="1"> <thead> <tr> <th>Transmission rate</th> <th>Cable length between stations</th> <th>Max. total cable length</th> </tr> </thead> <tbody> <tr> <td>156 kbps</td> <td rowspan="5">20 cm or more</td> <td>1200 m</td> </tr> <tr> <td>625 kbps</td> <td>900 m</td> </tr> <tr> <td>2.5 Mbps</td> <td>400 m</td> </tr> <tr> <td>5 Mbps</td> <td>160 m</td> </tr> <tr> <td>10 Mbps</td> <td>100 m<sup>*1</sup></td> </tr> <tr> <td></td> <td></td> <td>80 m</td> </tr> </tbody> </table>	Transmission rate	Cable length between stations	Max. total cable length	156 kbps	20 cm or more	1200 m	625 kbps	900 m	2.5 Mbps	400 m	5 Mbps	160 m	10 Mbps	100 m <sup>*1</sup>		
Transmission rate	Cable length between stations	Max. total cable length																
156 kbps	20 cm or more	1200 m																
625 kbps		900 m																
2.5 Mbps		400 m																
5 Mbps		160 m																
10 Mbps		100 m <sup>*1</sup>																
		80 m																
Connection cables	<p>CC-Link dedicated cables compatible with ver.1.10</p> <ul style="list-style-type: none"> <li>Use the dedicated cable certified by the CC-Link Partner Association.</li> <li>If other cables are used, the operation will not be guaranteed.</li> <li>Cables of different manufacturers can be used together if the cables are compatible with ver.1.10.</li> <li>For the specifications for the CC-Link dedicated cables and the contact information, see the partner product catalogs issued by the CC-Link Partner Association, or visit the CC-Link Partner Association website, <a href="https://www.cc-link.org">https://www.cc-link.org</a>.</li> <li>The CC-Link dedicated cables, CC-Link dedicated high-performance cables and CC-Link ver.1.10 dedicated cables cannot be used together.</li> </ul>																	
Remarks	If the CC-Link cables are connected through relay terminal blocks or relay connectors, communication errors may occur on some systems. The cables should be connected directly to each CC-Link module, or CC-Link repeater modules should be used. For the recommended conditions for connecting relay connectors between CC-Link cables, see the following table.																	
	Communication speed	156 kbps   625 kbps	10, 5 and 2.5 Mbps are not allowed.															
	Cable length between stations	Between master/local station or intelligent device station and adjacent station	1 m or more	In the case of a system consisting of only remote I/O and remote device stations														
		Between remote I/O station and remote device station (shortest cable)	2 m or more	In the case of a system configuration including local stations and intelligent device stations														
	Max. transmission distance	500 m   100 m	-															
Distance between relay connectors	No limitation	-																

\*1: When the transmission speed is 10 Mbps and the total cable length exceeds 80 m, configure the system so that the total length of station-to-station cables connecting 10 consecutive stations is 10 m or longer. When the total number of connected stations including a master station is 10 or less, there is no restriction on the total length of station-to-station cables.

## Number of link points per number of occupied stations

The number of link points per number of occupied stations is shown below.

Item	CC-Link Ver.1	CC-Link Ver.2				
		Extended cyclic setting				
		Single	Double	Quadruple	Octuple	
1 station occupied	Remote I/O (RX, RY)	32 points (30 points for local station)	32 points (30 points for local station)	32 points (30 points for local station)	64 points (62 points for local station)	128 points (126 points for local station)
	Remote register (RWw)	4 points	4 points	8 points	16 points	32 points
	Remote register (RWr)	4 points	4 points	8 points	16 points	32 points
2 stations occupied	Remote I/O (RX, RY)	64 points (62 points for local station)	64 points (62 points for local station)	96 points (94 points for local station)	192 points (190 points for local station)	384 points (382 points for local station)
	Remote register (RWw)	8 points	8 points	16 points	32 points	64 points
	Remote register (RWr)	8 points	8 points	16 points	32 points	64 points
3 stations occupied	Remote I/O (RX, RY)	96 points (94 points for local station)	96 points (94 points for local station)	160 points (158 points for local station)	320 points (318 points for local station)	640 points (638 points for local station)
	Remote register (RWw)	12 points	12 points	24 points	48 points	96 points
	Remote register (RWr)	12 points	12 points	24 points	48 points	96 points
4 stations occupied	Remote I/O (RX, RY)	128 points (126 points for local station)	128 points (126 points for local station)	224 points (222 points for local station)	448 points (446 points for local station)	896 points (894 points for local station)
	Remote register (RWw)	16 points	16 points	32 points	64 points	128 points
	Remote register (RWr)	16 points	16 points	32 points	64 points	128 points

# Maximum number of connected units

## Remote net Ver.1 mode

A total of 64 remote I/O stations, remote device stations, local stations, standby master stations and intelligent device stations can be connected to one master station. However, all the following conditions must be met.

Item	Number of modules
Condition 1	$\{(1 \times a) + (2 \times b) + (3 \times c) + (4 \times d)\} \leq 64$ <ul style="list-style-type: none"> <li>a. Number of modules occupying 1 station</li> <li>b. Number of modules occupying 2 stations</li> <li>c. Number of modules occupying 3 stations</li> <li>d. Number of modules occupying 4 stations</li> </ul>
Condition 2	$\{(16 \times A) + (54 \times B) + (88 \times C)\} \leq 2304$ <ul style="list-style-type: none"> <li>A. Number of remote I/O stations <math>\leq 64</math></li> <li>B. Number of remote device stations <math>\leq 42</math></li> <li>C. Number of local stations, standby master stations and intelligent device stations <math>\leq 26</math></li> </ul>

## Remote net Ver.2 mode

A total of 64 remote I/O stations, remote device stations, local stations, standby master stations and intelligent device stations can be connected to one master station. However, all the following conditions must be met.

Item	Number of modules
Condition 1	$\{(a + a2 + a4 + a8) + (b + b2 + b4 + b8) \times 2 + (c + c2 + c4 + c8) \times 3 + (d + d2 + d4 + d8) \times 4\} \leq 64$ <ul style="list-style-type: none"> <li>a: Total number of Ver.1-compatible device stations occupying 1 station and Ver.2-compatible device stations occupying 1 station with the expanded cyclic setting of "Single"</li> <li>b: Total number of Ver.1-compatible device stations occupying 2 stations and Ver.2-compatible device stations occupying 2 stations with the expanded cyclic setting of "Single"</li> <li>c: Total number of Ver.1-compatible device stations occupying 3 stations and Ver.2-compatible device stations occupying 3 stations with the expanded cyclic setting of "Single"</li> <li>d: Total number of Ver.1-compatible device stations occupying 4 stations and Ver.2-compatible device stations occupying 4 stations with the expanded cyclic setting of "Single"</li> </ul>
Condition 2	$\{[(a \times 32) + (a2 \times 32) + (a4 \times 64) + (a8 \times 128)] + [(b \times 64) + (b2 \times 96) + (b4 \times 192) + (b8 \times 384)] + [(c \times 96) + (c2 \times 160) + (c4 \times 320) + (c8 \times 640)] + [(d \times 128) + (d2 \times 224) + (d4 \times 448) + (d8 \times 896)]\} \leq 8192$ <ul style="list-style-type: none"> <li>a2: Number of Ver.2-compatible device stations occupying 1 station with the expanded cyclic setting of "Double"</li> <li>b2: Number of Ver.2-compatible device stations occupying 2 stations with the expanded cyclic setting of "Double"</li> <li>c2: Number of Ver.2-compatible device stations occupying 3 stations with the expanded cyclic setting of "Double"</li> <li>d2: Number of Ver.2-compatible device stations occupying 4 stations with the expanded cyclic setting of "Double"</li> <li>a4: Number of Ver.2-compatible device stations occupying 1 station with the expanded cyclic setting of "Quadruple"</li> <li>b4: Number of Ver.2-compatible device stations occupying 2 stations with the expanded cyclic setting of "Quadruple"</li> <li>c4: Number of Ver.2-compatible device stations occupying 3 stations with the expanded cyclic setting of "Quadruple"</li> <li>d4: Number of Ver.2-compatible device stations occupying 4 stations with the expanded cyclic setting of "Quadruple"</li> <li>a8: Number of Ver.2-compatible device stations occupying 1 station with the expanded cyclic setting of "Octuple"</li> <li>b8: Number of Ver.2-compatible device stations occupying 2 stations with the expanded cyclic setting of "Octuple"</li> <li>c8: Number of Ver.2-compatible device stations occupying 3 stations with the expanded cyclic setting of "Octuple"</li> <li>d8: Number of Ver.2-compatible device stations occupying 4 stations with the expanded cyclic setting of "Octuple"</li> </ul>
Condition 3	$\{[(a \times 4) + (a2 \times 8) + (a4 \times 16) + (a8 \times 32)] + [(b \times 8) + (b2 \times 16) + (b4 \times 32) + (b8 \times 64)] + [(c \times 12) + (c2 \times 24) + (c4 \times 48) + (c8 \times 96)] + [(d \times 16) + (d2 \times 32) + (d4 \times 64) + (d8 \times 128)]\} \leq 2048$
Condition 4	$\{(16 \times A) + (54 \times B) + (88 \times C)\} \leq 2304$ <ul style="list-style-type: none"> <li>A: Number of remote I/O stations <math>\leq 64</math></li> <li>B: Number of remote device stations <math>\leq 42</math></li> <li>C: Number of local stations, standby master stations and intelligent device stations <math>\leq 26</math></li> </ul>

## Remote device net Ver.1 mode

A total of 64 remote I/O stations and remote device stations can be connected to one master station. However, all the following conditions must be met.

Item	Number of modules
Condition 1	$\{(1 \times a) + (2 \times b) + (3 \times c) + (4 \times d)\} \leq 64$ <ul style="list-style-type: none"> <li>a. Number of modules occupying 1 station</li> <li>b. Number of modules occupying 2 stations</li> <li>c. Number of modules occupying 3 stations</li> <li>d. Number of modules occupying 4 stations</li> </ul>

## Remote device net Ver.2 mode

A total of 64 remote I/O stations and remote device stations can be connected to one master station. However, all the following conditions must be met.

Item	Number of modules
Condition 1	$\{(a + a2 + a4 + a8) + (b + b2 + b4 + b8) \times 2 + (c + c2 + c4 + c8) \times 3 + (d + d2 + d4 + d8) \times 4\} \leq 64$ <ul style="list-style-type: none"> <li>a: Total number of Ver.1-compatible remote stations occupying 1 station and Ver.2-compatible remote device stations occupying 1 station (extended cyclic setting: single)</li> <li>b: Total number of Ver.1-compatible remote stations occupying 2 stations and Ver.2-compatible remote device stations occupying 2 stations (extended cyclic setting: single)</li> <li>c: Total number of Ver.1-compatible remote stations occupying 3 stations and Ver.2-compatible remote device stations occupying 3 stations (extended cyclic setting: single)</li> <li>d: Total number of Ver.1-compatible remote stations occupying 4 stations and Ver.2-compatible remote device stations occupying 4 stations (extended cyclic setting: single)</li> </ul>
Condition 2	$\{[(a \times 32) + (a2 \times 32) + (a4 \times 64) + (a8 \times 128)] + [(b \times 64) + (b2 \times 96) + (b4 \times 192) + (b8 \times 384)] + [(c \times 96) + (c2 \times 160) + (c4 \times 320) + (c8 \times 640)] + [(d \times 128) + (d2 \times 224) + (d4 \times 448) + (d8 \times 896)]\} \leq 8192$ <ul style="list-style-type: none"> <li>a2: Number of Ver.2-compatible remote device stations occupying 1 station (extended cyclic setting: double)</li> <li>b2: Number of Ver.2-compatible remote device stations occupying 2 stations (extended cyclic setting: double)</li> <li>c2: Number of Ver.2-compatible remote device stations occupying 3 stations (extended cyclic setting: double)</li> <li>d2: Number of Ver.2-compatible remote device stations occupying 4 stations (extended cyclic setting: double)</li> <li>a4: Number of Ver.2-compatible remote device stations occupying 1 station (extended cyclic setting: quadruple)</li> <li>b4: Number of Ver.2-compatible remote device stations occupying 2 stations (extended cyclic setting: quadruple)</li> <li>c4: Number of Ver.2-compatible remote device stations occupying 3 stations (extended cyclic setting: quadruple)</li> <li>d4: Number of Ver.2-compatible remote device stations occupying 4 stations (extended cyclic setting: quadruple)</li> <li>a8: Number of Ver.2-compatible remote device stations occupying 1 station (extended cyclic setting: octuple)</li> <li>b8: Number of Ver.2-compatible remote device stations occupying 2 stations (extended cyclic setting: octuple)</li> <li>c8: Number of Ver.2-compatible remote device stations occupying 3 stations (extended cyclic setting: octuple)</li> <li>d8: Number of Ver.2-compatible remote device stations occupying 4 stations (extended cyclic setting: octuple)</li> </ul>
Condition 3	$\{[(a \times 4) + (a2 \times 8) + (a4 \times 16) + (a8 \times 32)] + [(b \times 8) + (b2 \times 16) + (b4 \times 32) + (b8 \times 64)] + [(c \times 12) + (c2 \times 24) + (c4 \times 48) + (c8 \times 96)] + [(d \times 16) + (d2 \times 32) + (d4 \times 64) + (d8 \times 128)]\} \leq 2048$

# General specifications

\* The table below lists the general specifications of remote I/O modules.  
For the specifications of the master/local modules, please refer to each corresponding manual.

Item	Specifications					
Operating ambient temperature	CC-Link 0...55°C					
Storage ambient temperature	-20...75°C					
Operating ambient humidity	10...90 %RH, non-condensing (The waterproof type remote I/O modules conform to the IP67. *1)					
Storage ambient humidity	10...90 %RH, non-condensing					
Vibration resistance	Conforming to JIS B 3502, IEC 61131-2	Under intermittent vibration	Frequency	Acceleration	Amplitude	Number of sweeps
			5...8.4 Hz	-	3.5 mm	
		Under continuous vibration	8.4...150 Hz	9.8 m/s <sup>2</sup>	-	10 times each in X, Y and Z directions
			5...8.4 Hz	-	1.75 mm	
Shock resistance	Conforming with JIS B 3502, IEC 61131-2 (147 m/s <sup>2</sup> , 3 times in each of 3 directions X, Y and Z)					
Operating ambience	No corrosive gases					
Operating altitude	≤ 2000 m *2					
Installation location	Inside a control panel					
Overvoltage category *3	≤ II					
Pollution degree *4	≤ 2					

\*1: This is applicable to conditions where waterproof connectors are used for all modules or waterproof caps are placed in unused through-pipes.

\*2: Do not operate or store the programmable controller at altitude 0 m or more in a pressurized environment. It may malfunction if it is operated.  
Contact us when operating in a pressurized state.

\*3: It indicates the device is to be connected to which power distribution part, within the area from the public electricity network to machinery on the premises.  
Category II applies to devices to which power is supplied from fixed installations.  
The surge voltage withstand for devices rated up to 300 V is 2500 V.

\*4: This is an index showing the degree of the conductive pollution that can occur in the environment where the device is used.  
In Pollution degree 2, only nonconductive pollution occurs.  
Occasionally, however, temporary conductivity caused by condensation can be expected.



# Extensive global support coverage providing expert help whenever needed

## Global FA centers

### EMEA

#### Europe FA Center

**MITSUBISHI ELECTRIC EUROPE B.V. Polish Branch**

Tel: +48-12-347-65-00

#### Germany FA Center

**MITSUBISHI ELECTRIC EUROPE B.V. German Branch**

Tel: +49-2102-486-0 / Fax: +49-2102-486-7780

#### UK FA Center

**MITSUBISHI ELECTRIC EUROPE B.V. UK Branch**

Tel: +44-1707-27-8780 / Fax: +44-1707-27-8695

#### Czech Republic FA Center

**MITSUBISHI ELECTRIC EUROPE B.V. Czech Branch**

Tel: +420-734-402-587

#### Italy FA Center

**MITSUBISHI ELECTRIC EUROPE B.V. Italian Branch**

Tel: +39-039-60531 / Fax: +39-039-6053-312

#### Turkey FA Center

**MITSUBISHI ELECTRIC TURKEY ELEKTRIK URUNLERI A.S.**

Tel: +90-216-969-2500 / Fax: +90-216-661-4447

### Asia-Pacific

#### China

##### Beijing FA Center

**MITSUBISHI ELECTRIC AUTOMATION (CHINA) LTD. Beijing FA Center**

Tel: +86-10-6518-8830 / Fax: +86-10-6518-2938

##### Guangzhou FA Center

**MITSUBISHI ELECTRIC AUTOMATION (CHINA) LTD. Guangzhou FA Center**

Tel: +86-20-8923-6730 / Fax: +86-20-8923-6715

##### Shanghai FA Center

**MITSUBISHI ELECTRIC AUTOMATION (CHINA) LTD. Shanghai FA Center**

Tel: +86-21-2322-3030 / Fax: +86-21-2322-3000

##### Tianjin FA Center

**MITSUBISHI ELECTRIC AUTOMATION (CHINA) LTD. Tianjin FA Center**

Tel: +86-22-2813-1015 / Fax: +86-22-2813-1017

##### Taipei FA Center

**MITSUBISHI ELECTRIC AUTOMATION (TAIWAN) CO., LTD.**

Tel: +886-2-2299-9917 / Fax: +886-2-2299-9963

#### Korea

##### Korea FA Center

**MITSUBISHI ELECTRIC AUTOMATION KOREA CO., LTD.**

Tel: +82-2-3660-9632 / Fax: +82-2-3664-0475

#### Thailand

##### Thailand FA Center

**MITSUBISHI ELECTRIC FACTORY AUTOMATION (THAILAND) CO., LTD.**

Tel: +66-2682-6522-31 / Fax: +66-2682-6020

#### ASEAN

##### ASEAN FA Center

**MITSUBISHI ELECTRIC ASIA PTE. LTD.**

Tel: +65-6470-2480 / Fax: +65-6476-7439

#### Malaysia

##### Malaysia FA Center

**Malaysia FA Center**

Tel: +60-3-7626-5080 / Fax: +60-3-7658-3544

#### Indonesia

##### Indonesia FA Center

**PT. MITSUBISHI ELECTRIC INDONESIA Cikarang Office**

Tel: +62-21-2961-7797 / Fax: +62-21-2961-7794

#### Vietnam

##### Hanoi FA Center

**MITSUBISHI ELECTRIC VIETNAM COMPANY LIMITED Hanoi Branch Office**

Tel: +84-24-3937-8075 / Fax: +84-24-3937-8076

##### Ho Chi Minh FA Center

**MITSUBISHI ELECTRIC VIETNAM COMPANY LIMITED**

Tel: +84-28-3910-5945 / Fax: +84-28-3910-5947

#### Philippines

##### Philippines FA Center

**MELCO Factory Automation Philippines Inc.**

Tel: +63-(0)2-8256-8042

#### India

##### India Ahmedabad FA Center

**MITSUBISHI ELECTRIC INDIA PVT. LTD. Ahmedabad Branch**

Tel: +91-7965120063

##### India Bangalore FA Center

**MITSUBISHI ELECTRIC INDIA PVT. LTD. Bangalore Branch**

Tel: +91-80-4020-1600 / Fax: +91-80-4020-1699

##### India Chennai FA Center

**MITSUBISHI ELECTRIC INDIA PVT. LTD. Chennai Branch**

Tel: +91-4445548772 / Fax: +91-4445548773

##### India Coimbatore FA Center

**MITSUBISHI ELECTRIC INDIA PVT. LTD. Coimbatore Branch**

Tel: +91-422-438-5606

##### India Gurgaon FA Center

**MITSUBISHI ELECTRIC INDIA PVT. LTD. Gurgaon Head Office**

Tel: +91-124-463-0300 / Fax: +91-124-463-0399

##### India Pune FA Center

**MITSUBISHI ELECTRIC INDIA PVT. LTD. Pune Branch**

Tel: +91-20-2710-2000 / Fax: +91-20-2710-2100

### Americas

#### USA

##### North America FA Center

**MITSUBISHI ELECTRIC AUTOMATION, INC.**

Tel: +1-847-478-2469 / Fax: +1-847-478-2253

#### Mexico

##### Mexico City FA Center

**MITSUBISHI ELECTRIC AUTOMATION, INC. Mexico Branch**

Tel: +52-55-3067-7500

##### Mexico FA Center

**MITSUBISHI ELECTRIC AUTOMATION, INC. Queretaro Office**

Tel: +52-442-153-6014

##### Mexico Monterrey FA Center

**MITSUBISHI ELECTRIC AUTOMATION, INC. Monterrey Office**

Tel: +52-55-3067-7599

#### Brazil

##### Brazil FA Center

**MITSUBISHI ELECTRIC DO BRASIL COMERCIO E SERVICOS LTDA.**

Tel: +55-11-4689-3000 / Fax: +55-11-4689-3016

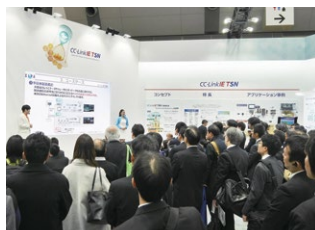
# CC-Link Partner Association (CLPA) - Actively promoting worldwide adoption of CC-Link Family

**Proactively supporting CC-Link Family, 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. In 2018, CLPA has developed CC-Link IE TSN, the world's first open industrial network utilizes Time-Sensitive Networking (TSN) technology, which is an extension of standard Ethernet, to accelerate the construction of smart factories utilizing Industrial IoT (IIoT). 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 Family-compatible products. CLPA will provide a variety of development methods and develop a truly open industrial network on a global scale.



Seminar



Trade show



Conformance testing lab

■ Visit the CLPA website for the latest CC-Link Family 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 Family continues to spread

Centered in Japan, the CLPA has established bases of operations in 10 regions around the world. We lead the way in further opening up CC-Link Family network technology to the world. From helping vendors develop compatible products to consultation concerning system construction for our users, we provide a wide range of support services.

<b>Japan</b>	● CLPA Headquarters <b>CT</b>
<b>Asia-Pacific</b>	● CLPA-China <b>CT</b> ● CLPA-India      ● CLPC-ASEAN ● CLPA-Korea <b>CT</b> ● CLPA-Taiwan      ● CLPC-Thailand
<b>EMEA</b>	● CLPA-Europe <b>CT</b> ● CLPA-Turkey
<b>Americas</b>	● CLPA-Americas ● CLPA-Mexico

**CT** : Conformance testing lab

Regional Offices ▶



# Discover the latest information in Factory Automation

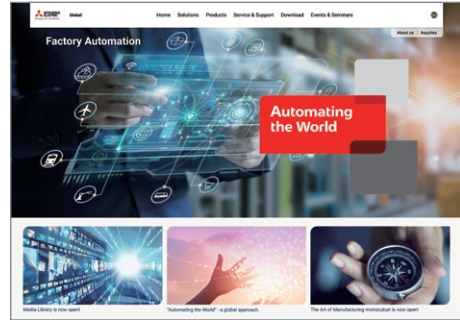
## Factory Automation Global website

Mitsubishi Electric Factory Automation provides a mix of services to support its customers worldwide. A consolidated global website is the main portal, offering a selection of support tools and a window to its local Mitsubishi Electric sales and support network.

### From here you can find:

- Overview of available factory automation products
- Library of downloadable literature
- Support tools such as online e-learning courses, terminology dictionary, etc.
- Global sales and service network portal
- Latest news related to Mitsubishi Electric factory automation

**Mitsubishi Electric Factory Automation Global website:**  
**[www.MitsubishiElectric.com/fa](http://www.MitsubishiElectric.com/fa)**



## Mitsubishi Electric FA e-Learning

An extensive library of e-learning courses covering the factory automation product range.

Courses from beginner to advanced levels of difficulty are available anytime anywhere.



### Beginner level

Designed for newcomers to Mitsubishi Electric Factory Automation products gaining a background of the fundamentals and an overview of various products related to the course.

### Basic to Advanced levels

Various different features are explained along with setup, programming, and network configuration.

## Innovative next-generation e-Manual

A next-generation digital manual that consolidates factory automation products manuals into an easy-to-use package with various useful features.

### e-Manual Viewer

Multiple manuals can be cross-searched at once. Multiple users can share the latest manuals and knowhow with document sharing function.



### e-Manual Create

Software for converting word files and chm files to e-Manual documents. User's customized machine manuals can be converted to e-Manual documents, allowing consolidated management of user's maintenance information and Mitsubishi Electric product information.

Find information on products, factory automation, e-F@ctory solutions and other topics

## Follow us on Social Media

### YouTube



Mitsubishi Electric FA Global

### LinkedIn



Mitsubishi Electric FA Global

### X



Mitsubishi Electric FA Global  
@Mitsubishi\_FA

# CC-Link Related Product Model Names

## Mitsubishi Electric Corporation

Type	Model	Specifications	Protection level	CC-Link version*1
Master/local module	RJ61BT11	Master/local module for MELSEC iQ-R Series	-	2.00
	FX5-CCL-MS	Master Intelligent Module for MELSEC iQ-F Series	-	2.00
	QJ61BT11N	Master/local module for MELSEC-Q Series	-	2.00
	L26CPU-BT	CPU with master/local function for MELSEC-L Series, Output (sink)	-	2.00
	L26CPU-PBT	CPU with master/local function for MELSEC-L Series, Output (source)	-	2.00
	LJ61BT11	Master/local module for MELSEC-L Series	-	2.00
Bridge module	FX3U-16CCL-M	Master block for MELSEC-FX Series (FX3G/FX3U/FX3GC/FX3UC)	-	2.00
	NZ2GF-CCB	CC-Link IE Field Network-CC-Link bridge module	-	1.10
	NZ2AW1C2D2	CC-Link-AnyWire DB A20 bridge module	-	2.00
Remote I/O module	NZ2AW1C2AL	CC-Link-AnyWireASLINK bridge module	-	2.00
	AJ65SBTB2N-8A	Input 8 points: 100...120 V AC 2-wire type Response time 20 ms	IP1X	1.10
	AJ65SBTB2N-16A	Input 16 points: 100...120 V AC 2-wire type Response time 20 ms	IP1X	1.10
	AJ65SBTB1-8D	Input 8 points: 24 V DC (positive/negative common shared) 1-wire type Response time 1.5 ms	IP2X	1.10
	AJ65SBTB3-8D	Input 8 points: 24 V DC (positive/negative common shared) 3-wire type Response time 1.5 ms	IP2X	1.10
	AJ65SBTB1-16D	Input 16 points: 24 V DC (positive/negative common shared) 1-wire type Response time 1.5 ms	IP2X	1.10
	AJ65SBTB1-16D1	Input 16 points: 24 V DC (positive/negative common shared) 1-wire type Response time 0.2 ms	IP2X	1.10
	AJ65SBTB3-16D	Input 16 points: 24 V DC (positive/negative common shared) 3-wire type Response time 1.5 ms	IP2X	1.10
	AJ65SBTB3-16KD	Input 16 points: 24 V DC (positive/negative common shared) 3-wire type Response time 0.2/1.5/5/10 ms switching type	IP2X	1.10
	AJ65SBTB1-32D	Input 32 points: 24 V DC (positive/negative common shared) 1-wire type Response time 1.5 ms	IP2X	1.10
	AJ65SBTB1-32D1	Input 32 points: 24 V DC (positive/negative common shared) 1-wire type Response time 0.2 ms	IP2X	1.10
	AJ65SBTB1-32D5	Input 32 points: 5 V DC (positive/negative common shared) 1-wire type Response time 1.5 ms	IP2X	1.10
	AJ65SBTB1-32KD	Input 32 points: 24 V DC (positive/negative common shared) 1-wire type Response time 0.2/1.5/5/10 ms switching type	IP2X	1.10
	AJ65SBTB1-8T	Output 8 points: 12/24 V DC (0.5 A) Transistor output (sink) 1-wire type	IP2X	1.10
	AJ65SBTB1-8T1	Output 8 points: 12/24 V DC (0.5 A) Transistor output (sink) 1-wire type Low-leakage current type	IP2X	1.10
	AJ65SBTB2-8T	Output 8 points: 12/24 V DC (0.5 A) Transistor output (sink) 2-wire type	IP2X	1.10
	AJ65SBTB2-8T1	Output 8 points: 12/24 V DC (0.5 A) Transistor output (sink) 2-wire type Low-leakage current type	IP2X	1.10
	AJ65SBTB1-16T	Output 16 points: 12/24 V DC (0.5 A) Transistor output (sink) 1-wire type	IP2X	1.10
	AJ65SBTB1-16T1	Output 16 points: 12/24 V DC (0.5 A) Transistor output (sink) 1-wire type Low-leakage current type	IP2X	1.10
	AJ65SBTB2-16T	Output 16 points: 12/24 V DC (0.5 A) Transistor output (sink) 2-wire type	IP2X	1.10
	AJ65SBTB2-16T1	Output 16 points: 12/24 V DC (0.5 A) Transistor output (sink) 2-wire type Low-leakage current type	IP2X	1.10
	AJ65SBTB1-32T	Output 32 points: 12/24 V DC (0.5 A) Transistor output (sink) 1-wire type	IP2X	1.10
	AJ65SBTB1-32T1	Output 32 points: 12/24 V DC (0.5 A) Transistor output (sink) 1-wire type Low-leakage current type	IP2X	1.10
	AJ65SBTB1-8TE	Output 8 points: 12/24 V DC (0.1 A) Transistor output (source) 1-wire type	IP2X	1.10
	AJ65SBTB1-16TE	Output 16 points: 12/24 V DC (0.1 A) Transistor output (source) 1-wire type	IP2X	1.10
	AJ65SBTB1B-16TE1	Output 16 points: 12/24 V DC (0.5 A) Transistor output (source) 1-wire type	IP2X	1.10
	AJ65SBTB1-32TE1	Output 32 points: 12/24 V DC (0.5 A) Transistor output (source) 1-wire type	IP2X	1.10
	AJ65SBTB2N-8R	Output 8 points: 24 V DC/240 V AC (2 A) Relay output 2-wire type	IP1X	1.10
	AJ65SBTB2N-16R	Output 16 points: 24 V DC/240 V AC (2 A) Relay output 2-wire type	IP1X	1.10
	AJ65SBTB2N-8S	Output 8 points: 100...240 V AC (0.6 A) Triac output 2-wire type	IP1X	1.10
	AJ65SBTB2N-16S	Output 16 points: 100...240 V AC (0.6 A) Triac output 2-wire type	IP1X	1.10
	AJ65SBTB32-8DT	Input 4 points: 24 V DC (positive common) 3-wire type Response time 1.5 ms Output 4 points: 24 V DC (0.5 A) Transistor output (sink) 2-wire type	IP2X	1.10
	AJ65SBTB32-8DT2	Input 4 points: 24 V DC (positive common) 3-wire type Response time 1.5 ms Output 4 points: 24 V DC (0.5 A) Transistor output (sink) 2-wire type Low-leakage current type	IP2X	1.10
	AJ65SBTB1-16DT	Input 8 points: 24 V DC (positive common) 1-wire type Response time 1.5 ms Output 8 points: 24 V DC (0.5 A) Transistor output (sink) 1-wire type	IP2X	1.10
	AJ65SBTB1-16DT1	Input 8 points: 24 V DC (positive common) 1-wire type Response time 0.2 ms Output 8 points: 24 V DC (0.5 A) Transistor output (sink) 1-wire type	IP2X	1.10
	AJ65SBTB1-16DT2	Input 8 points: 24 V DC (positive common) 1-wire type Response time 1.5 ms Output 8 points: 24 V DC (0.5 A) Transistor output (sink) 1-wire type Low-leakage current type	IP2X	1.10
	AJ65SBTB1-16DT3	Input 8 points: 24 V DC (positive common) 1-wire type Response time 0.2 ms Output 8 points: 24 V DC (0.5 A) Transistor output (sink) 1-wire type Low-leakage current type	IP2X	1.10
	AJ65SBTB32-16DT	Input 8 points: 24 V DC (positive common) 3-wire type Response time 1.5 ms Output 8 points: 24 V DC (0.5 A) Transistor output (sink) 2-wire type	IP2X	1.10
	AJ65SBTB32-16DT2	Input 8 points: 24 V DC (positive common) 3-wire type Response time 1.5 ms Output 8 points: 24 V DC (0.5 A) Transistor output (sink) 2-wire type Low-leakage current type	IP2X	1.10
	AJ65SBTB1-32DT	Input 16 points: 24 V DC (positive common) 1-wire type Response time 1.5 ms Output 16 points: 24 V DC (0.5 A) Transistor output (sink) 1-wire type	IP2X	1.10
	AJ65SBTB1-32DT1	Input 16 points: 24 V DC (positive common) 1-wire type Response time 0.2 ms Output 16 points: 24 V DC (0.5 A) Transistor output (sink) 1-wire type	IP2X	1.10
	AJ65SBTB1-32DT2	Input 16 points: 24 V DC (positive common) 1-wire type Response time 1.5 ms Output 16 points: 24 V DC (0.5 A) Transistor output (sink) 1-wire type Low-leakage current type	IP2X	1.10
	AJ65SBTB1-32DT3	Input 16 points: 24 V DC (positive common) 1-wire type Response time 0.2 ms Output 16 points: 24 V DC (0.5 A) Transistor output (sink) 1-wire type Low-leakage current type	IP2X	1.10
	AJ65SBTB1-32KDT2	Input 16 points: 24 V DC (positive common) 1-wire type Response time 0.2/1.5/5/10 ms switching type Output 16 points: 24 V DC (0.5 A) Transistor output (sink) 1-wire type Low-leakage current type	IP2X	1.10
	AJ65SBTB1-32DTE1	Input 16 points: 24 V DC (negative common) 1-wire type Response time 1.5 ms Output 16 points: 24 V DC (0.5 A) Transistor output (source) 1-wire type	IP2X	1.10
	AJ65SBTB32-16DR	Input 8 points: 24 V DC (positive/negative common shared) 3-wire type Response time 1.5 ms Output 8 points: 24 V DC/240 V AC (2 A) Relay output 2-wire type	IP1X	1.10
	AJ65SBTB32-16KDR	Input 8 points: 24 V DC (positive/negative common shared) 3-wire type Response time 0.2/1.5/5/10 ms switching type Output 8 points: 24 V DC/240 V AC (2 A) Relay output 2-wire type	IP1X	1.10

\*1: This is the CC-Link version supported by each module. For the CC-Link version supported by the system and its combinations, etc., please refer to the manual of the master station.



# CC-Link Related Product Model Names

## Mitsubishi Electric Corporation

Type		Model	Specifications	Protection level	CC-Link version*1	
Remote I/O module	A2C form terminal block type	AJ65DBTB1-32D	Input 32 points: 24 V DC (positive/negative common shared) 1-wire type Response time 10 ms	IP2X	1.10	
		AJ65DBTB1-32T1	Output 32 points: 12/24 V DC (0.5 A) Transistor output (sink) 1-wire type Low-leakage current type	IP2X	1.10	
		AJ65DBTB1-32R	Output 32 points: 24 V DC/240 V AC (2 A) Relay output 1-wire type	IP1X	1.10	
		AJ65DBTB1-32DT1	Input 16 points: 24 V DC (positive common) Response time 10 ms Output 16 points: 12/24 V DC (0.5 A) Transistor output (sink) 1-wire type	IP2X	1.10	
		AJ65DBTB1-32DR	Input 16 points: 24 V DC (positive/negative common shared) Response time 10 ms Output 16 points: 24 V DC/240 V AC (2 A) Relay output 1-wire type	IP1X	1.10	
	Spring clamp terminal block push-in type	AJ65ABTP3-16DE	Input 16 points: 24 V DC/6 mA (negative common) 3-wire type Response time 1.5 ms, with Diagnostic Functions **	IP1XB	1.10	
	Spring clamp terminal block type	AJ65VBTS3-16D	Input 16 points: 24 V DC/5 mA (positive common) 3-wire type Response time 1.5 ms	IP1XB	1.10	
		AJ65VBTS3-32D	Input 32 points: 24 V DC/5 mA (positive common) 3-wire type Response time 1.5 ms	IP1XB	1.10	
		AJ65VBTS2-16T	Output 16 points: 12/24 V DC (0.5 A) Transistor output (sink) 2-wire type	IP1XB	1.10	
		AJ65VBTS2-32T	Output 32 points: 12/24 V DC (0.5 A) Transistor output (sink) 2-wire type	IP1XB	1.10	
AJ65VBTS32-16DT		Input 8 points: 24 V DC/5 mA (positive common) 3-wire type Response time 1.5 ms Output 8 points: 24 V DC (0.5 A) Transistor output (sink) 2-wire type	IP1XB	1.10		
AJ65VBTS32-32DT		Input 16 points: 24 V DC/5 mA (positive common) 3-wire type Response time 1.5 ms Output 16 points: 12/24 V DC (0.5 A) Transistor output (sink) 2-wire type	IP1XB	1.10		
Sensor connector type	AJ65VBTC3-8D	Input 8 points: 24 V DC/5 mA (positive common) 3-wire type Response time 1.5 ms	IP1XB	1.10		
	AJ65VBTC3-16D	Input 16 points: 24 V DC/5 mA (positive common) 3-wire type Response time 1.5 ms	IP1XB	1.10		
	AJ65VBTC3-32D	Input 32 points: 24 V DC/5 mA (positive common) 3-wire type Response time 1.5 ms	IP1XB	1.10		
	AJ65VBTC3-16DE	Input 16 points: 24 V DC/5 mA (negative common) 3-wire type Response time 1.5 ms	IP1XB	1.10		
	AJ65VBTC3-32DE	Input 32 points: 24 V DC/5 mA (negative common) 3-wire type Response time 1.5 ms	IP1XB	1.10		
	AJ65VBTC2-8T	Output 8 points: 12/24 V DC (0.1 A) Transistor output (sink) 2-wire type	IP1XB	1.10		
	AJ65VBTC2-16T	Output 16 points: 12/24 V DC (0.1 A) Transistor output (sink) 2-wire type	IP1XB	1.10		
	AJ65VBTC32-16DT	Input 8 points: 24 V DC/5 mA (positive common) 3-wire type Response time 1.5 ms Output 8 points: 24 V DC (0.1 A) Transistor output (sink) 2-wire type	IP1XB	1.10		
	AJ65VBTC32-32DT	Input 16 points: 24 V DC/5 mA (positive common) 3-wire type Response time 1.5 ms Output 16 points: 24 V DC (0.1 A) Transistor output (sink) 2-wire type	IP1XB	1.10		
	AJ65VBTC32-32DTE	Input 16 points: 24 V DC/5 mA (negative common) 3-wire type Response time 1.5 ms Output 16 points: 24 V DC (0.1 A) Transistor output (source) 3-wire type	IP1XB	1.10		
One-touch connector type	AJ65VBTCU3-16D1	Input 16 points: 24 V DC (positive common) 3-wire type Response time 0.2 ms	IP1XB	1.10		
	AJ65SBTC4-16DE	Input 16 points: 24 V DC (negative common) 4-wire type Response time 1.5 ms	IP2X	1.10		
	AJ65SBTC1-32D	Input 32 points: 24 V DC (positive/negative common shared) 1-wire type Response time 1.5 ms	IP2X	1.10		
	AJ65SBTC1-32D1	Input 32 points: 24 V DC (positive/negative common shared) 1-wire type Response time 0.2 ms	IP2X	1.10		
	AJ65VBTCU2-16T	Output 16 points: 12/24 V DC (0.1 A) Transistor output (sink) 2-wire type	IP1XB	1.10		
	AJ65SBTC1-32T1	Output 32 points: 12/24 V DC (0.1 A) Transistor output (sink) 1-wire type Low-leakage current type	IP2X	1.10		
	AJ65SBTC4-16DT2	Input 8 points: 24 V DC (positive common) 4-wire type Response time 1.5 ms Output 8 points: 24 V DC (0.5 A) Transistor output (sink) 4-wire type Low-leakage current type	IP2X	1.10		
	AJ65SBTC1-32DT3	Input 16 points: 24 V DC (positive common) 1-wire type Response time 0.2 ms Output 16 points: 24 V DC (0.1 A) Transistor output (sink) 1-wire type Low-leakage current type	IP2X	1.10		
	AJ65SBTCF1-32D	Input 32 points: 24 V DC (positive/negative common shared) 1-wire type Response time 1.5 ms	IP2X	1.10		
	AJ65SBTCF1-32T	Output 32 points: 12/24 V DC (0.1 A) Transistor output (sink) 1-wire type	IP2X	1.10		
40-pin connector type	AJ65SBTCF1-32DT	Input 16 points: 24 V DC (positive/negative common shared) 1-wire type Response time 1.5 ms Output 16 points: 12/24 V DC (0.1 A) Transistor output (sink) 1-wire type	IP2X	1.10		
	AJ65VBTCF1-32DT1	Input 16 points: 24 V DC (positive/negative common shared) 1-wire type Response time 0.2 ms Output 16 points: 12/24 V DC (0.1 A) Transistor output (sink) 1-wire type	IP1XB	1.10		
	AJ65FBTA4-16D	Input 16 points: 24 V DC (positive common) 4-wire type Response time 1.5 ms	IP67	1.10		
Waterproof connector type	AJ65FBTA4-16DE	Input 16 points: 24 V DC (negative common) 4-wire type Response time 1.5 ms	IP67	1.10		
	AJ65FBTA42-16DTE	Input 8 points: 24 V DC (negative common) 4-wire type Response time 1.5 ms Output 8 points: 24 V DC (1.0 A) Transistor output (source) 2-wire type	IP67	1.10		
	Safety relay module	Spring clamp terminal block type	QS90SR2SP-CC	For CC-Link Safety input: 1 point (2 inputs) P type (positive common/positive common input) Safety output: 1 point (3 outputs)	IP1X	1.10
QS90SR2SN-CC			For CC-Link Safety input: 1 point (2 inputs) N type (positive common/negative common input) Safety output: 1 point (3 outputs)	IP1X	1.10	
Analog module	Screw terminal block type	Voltage/current input	AJ65SBT-64AD	4-channel, voltage input: -10...10 V DC/-4000...4000 current input: 0...20 mA DC/0...4000	IP2X	1.10
		AJ65SBT2B-64AD	4-channel, voltage input: -10...10 V DC/-16000...16000 current input: 0...20 mA DC/0...16000	IP2X	1.10	
		Temperature input	AJ65SBT2B-64TD	4-channel, Thermocouple (B, R, S, K, E, J, T, N) input	IP2X	1.10
		AJ65SBT2B-64RD3	4-channel, 3-wire type RTD (Pt100, JPt100, Ni100) input	IP2X	1.10	
	One-touch connector type	Voltage/current input	AJ65SBT-62DA	2-channel, voltage output: -4000...4000/-10...10 V DC current output: 0...4000/0...20 mA DC	IP2X	1.10
		AJ65SBT2B-64DA	4-channel, voltage output: -16000...16000/-10...10 V DC current output: 0...12000/0...20 mA DC	IP2X	1.10	
		Voltage input	AJ65VBTCU-68ADVN	8-channel, voltage input: -10...10 V DC/-4000...4000	IP1XB	2.00
Current input	AJ65VBTCU-68ADIN	8-channel, current input: 0...20 mA DC/0...4000	IP1XB	2.00		
Voltage output	AJ65VBTCU-68DAVN	8-channel, voltage output: -4000...4000/-10...10 V DC	IP1XB	2.00		
High-speed counter module		AJ65BT-D62	2-channel, count input: 5/12/24 V DC, preset input: 5/12/24 V DC	IP2X	1.10	
		AJ65BT-D62D	2-channel, count input: differential type line driver, preset input: 5/12/24 V DC	IP2X	1.10	
RS-232 interface module		AJ65BT-R2N	RS-232 1-channel, with/ DC input 2 points, Transistor output 2 points	IP2X	1.10	
WS Series interface module		FX3U-64CCL	Interface block for FX3G, FX3U, FX3GC, FX3UC Series	-	2.00	
FX Series interface block		WS0-GCC100202	Interface module for Safety controller	-	1.10	
Network interface board		Q80BD-J61BT11N	For PCI bus slot: master station, standby master station or local station	-	2.00	
		Q81BD-J61BT11	For PCI Express® bus slot: master station, standby master station or local station	-	2.00	
Repeater module	Repeater hub module	AJ65BTS-RPH	8-port star wiring hub module with repeater function, spring clamp terminal block type	IP2X	1.10	
	Repeater module (T-branch)	AJ65SBT-RPT	T-branch module with repeater function	IP2X	1.10	
	Optical repeater module	AJ65SBT-RPS	For SI/QSI type fiber cable (Use 2 modules as a set)	IP2X	1.10	
		AJ65SBT-RPG	For GI type fiber cable (Use 2 modules as a set)	IP2X	1.10	

\* Positive common: sink, negative common: source

\*1: This is the CC-Link version supported by each module. For the CC-Link version supported by the system and its combinations, etc., please refer to the manual of the master station.

\*2: These modules are used as remote device stations.



**Mitsubishi Electric Engineering Co., Ltd.**

Type	Model	Specifications	Protection level	CC-Link version*1
Handy line tester	EHLT02	Handy line tester for CC-Link	IP2X	2.00

\*1: This is the CC-Link version supported by each module. For the CC-Link version supported by the system and its combinations, etc., please refer to the manual of the master station.

## CC-Link Related Product Model Names

### Optional parts for I/O modules

#### ■ One-touch connector plugs

Type	Model	Specifications			
		Cover color	Core wire size of applicable cable	Outer diameter of applicable cable	Maximum rated current
One-touch connector plug (20 pcs)	A6CON-P214 (33104-6000FL*1)	Transparent	0.14...0.2 mm <sup>2</sup> (26...24 AWG)	ø1.0...1.4 mm	2 A*2
	A6CON-P220 (33104-6100FL*1)	Yellow		ø1.4...2.0 mm	
	A6CON-P514 (33104-6200FL*1)	Red	0.3...0.5 mm <sup>2</sup> (22...20 AWG)	ø1.0...1.4 mm	3 A*2
	A6CON-P520 (33104-6300FL*1)	Blue		ø1.4...2.0 mm	
One-touch connector plug for communication (10 pcs)	A6CON-L5P (35505-6000-B0M GF*1)	Communication line: 0.5 mm <sup>2</sup> , 20 AWG, Shielded cable: 0.5 mm <sup>2</sup> , 20 AWG Applicable cable size (diameter): ø2.2...3.0 mm			
One-touch connector plug for power supply and FG (10 pcs)	A6CON-PW5P (35505-6080-A00 GF*1)	Core wire size of applicable cable: 0.75 mm <sup>2</sup> (0.66...0.98 mm <sup>2</sup> ), 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*2			
	A6CON-PW5P-SOD (35505-6180-A00 GF*1)	Core wire size of applicable cable: 0.75 mm <sup>2</sup> (0.66...0.98 mm <sup>2</sup> ), 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*2			
One-touch connector plug with terminating resistor (1 pc)*3	A6CON-TR11N	One-touch connector plug for communication with terminating resistor (110 Ω) (built-in type)			

#### ■ Online connector

Type	Model	Specifications
Online connector for communication (5 pcs)	A6CON-LJ5P (35720-L200-B00 AK*1)	Online connector for communication, 5-pole (10-pin)
Online connector for power supply and FG (5 pcs)	A6CON-PWJ5P (35720-L200-A00 AK*1)	Online connector for power supply, FG 5-pole (10-pin)

\*1: Part model name (manufactured by 3M)

\*2: Keep the current within the allowable of the connected cable.

\*3: When the connector type remote I/O is used for the end station, be sure to use this.

#### ■ Protective cover for remote I/O module

Type	Model	Applicable module
Protective cover for 16-point module (10 pcs)	A6CVR-16	AJ65SBTB1-16D, AJ65SBTB1-16D1, AJ65SBTC1-32D, AJ65SBTC1-32D1, AJ65SBTB3-8D, AJ65SBTB2N-8A, AJ65SBTB1-16T, AJ65SBTB1-16T1, AJ65SBTB2-8T, AJ65SBTB1-16TE, AJ65SBTB2N-8R, AJ65SBTB2N-8S, AJ65SBTB1-16DT, AJ65SBTB1-16DT1, AJ65SBTB32-8DT, AJ65SBT-RPG, AJ65SBT-RPS, AJ65SBTC4-16DE, AJ65SBTB2-8T1, AJ65SBTB1-16DT2, AJ65SBTC1-32DT3, AJ65SBTC4-16DT2, AJ65SBTB1-16DT3, AJ65SBTB32-8DT2
	A6CVR-VCE16	AJ65VBTC3-16D, AJ65VBTC2-16T, AJ65VBTC32-16DT, AJ65VBTC3-16DE
Protective cover for 32-point module (10 pcs)	A6CVR-32	AJ65SBTB1-32D, AJ65SBTB1-32D1, AJ65SBTB3-16D, AJ65SBTB2N-16A, AJ65SBTB1-32T, AJ65SBTB1-32T1, AJ65SBTB2-16T, AJ65SBTB2N-16R, AJ65SBTB2N-16S, AJ65SBTB1-32DT, AJ65SBTB1-32DT1, AJ65SBTB32-16DT, AJ65SBTB2N-16R, AJ65SBTB2-16T1, AJ65SBTB1-32DT3, AJ65SBTB32-16DT2, AJ65SBTB1-32DT2

#### ■ Protective cap for unused connector

Type	Model	Specifications
Waterproof cap (20 pcs)	A6CAP-WP2	For protective cover for unused connector, waterproof protective structure: IP67-compatible, applicable for AJ65FBTA□□□ I/O module

#### ■ 40-pin connector

Type	Model	Specifications
40-pin connector (1 pc)	A6CON1	Solder type (straight-out type)
	A6CON2	Crimp type (straight-out type)
	A6CON3	IDC type (flat cable type)
	A6CON4	Solder type (straight-out/diagonal-out type)

Microsoft, Windows, and Windows Server are trademarks of the Microsoft group of companies.  
PCI Express is a registered trademark of PCI-SIG.  
QR Code is a trademark or a registered trademark of DENSO WAVE INCORPORATED in JAPAN, the United States and/or other countries.  
All other company names and product names used in this document are trademarks or registered trademarks of their respective companies.  
Trademark symbols such as "™" and "®" might be omitted in this document.

#### 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

- To use the products given in this publication properly, always read the relevant manuals before beginning operation.
- The products have been manufactured as general-purpose parts for general industries, and are not designed or manufactured to be incorporated in a device or system used in purposes related to human life.
- Before using the products for special purposes such as nuclear power, electric power, aerospace, medicine or passenger-carrying vehicles, consult with Mitsubishi Electric.
- The products have been manufactured under strict quality control. However, when installing the products where major accidents or losses could occur if the products fail, install appropriate backup or fail-safe functions in the system.

## Creating Solutions Together.



Low-voltage Power Distribution Products



Transformers, Med-voltage Distribution Products



Power Monitoring and Energy Saving Products



Power (UPS) and Environmental Products



Compact and Modular Controllers



Servos, Motors and Inverters



Visualization: HMIs



Edge Computing Products



Numerical Control (NC)



Collaborative and Industrial Robots



Processing machines: EDM, Lasers



SCADA, analytics and simulation software


Mitsubishi Electric's product lineup, from various controllers and drives to energy-saving devices and processing machines, all help you to automate your world. They are underpinned by software, innovative data monitoring, and modelling systems supported by advanced industrial networking and Edgecross IT/OT connectivity. Together with a worldwide partner ecosystem, Mitsubishi Electric factory automation (FA) has everything to make IoT and Digital Manufacturing a reality.

With a complete portfolio and comprehensive capabilities that combine synergies with diverse business units, Mitsubishi Electric provides a one-stop approach to how companies can tackle the shift to clean energy and energy conservation, carbon neutrality and sustainability, which are now a universal requirement of factories, buildings, and social infrastructure.


We at Mitsubishi Electric FA are your solution partners waiting to work with you as you take a step toward the realization of sustainable manufacturing and society through the application of automation. Let's automate the world together!

Country/Region, Sales office, Tel/Fax

<p><b>USA</b>  <b>mitsubishi electric automation, inc.</b>                      500 Corporate Woods Parkway, Vernon Hills, IL 60061, U.S.A.                      Tel :+1-847-478-2100                      Fax:+1-847-478-2253</p>	<p><b>Mexico</b>  <b>MITSUBISHI ELECTRIC AUTOMATION, INC. Mexico Branch</b>                      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</p>	<p><b>Brazil</b>  <b>MITSUBISHI ELECTRIC DO BRASIL COMERCIO E                      SERVICOS LTDA.</b>                      Avenida Adelino Cardana, 293, 21 andar, Bethaville,                      Barueri SP, Brasil                      Tel :+55-11-4689-3000                      Fax:+55-11-4689-3016</p>
<p><b>Germany</b>  <b>MITSUBISHI ELECTRIC EUROPE B.V. German Branch</b>                      Mitsubishi-Electric-Platz 1, 40882 Ratingen, Germany                      Tel :+49-2102-486-0                      Fax:+49-2102-486-7780</p>	<p><b>UK</b>  <b>MITSUBISHI ELECTRIC EUROPE B.V. UK Branch</b>                      Travellers Lane, UK-Hatfield, Hertfordshire, AL10 8XB, U.K.                      Tel :+44-1707-28-8780                      Fax:+44-1707-27-8695</p>	<p><b>Ireland</b>  <b>MITSUBISHI ELECTRIC EUROPE B.V. Irish Branch</b>                      Westgate Business Park, Ballymount, Dublin 24, Ireland                      Tel :+353-1-4198800                      Fax:+353-1-4198890</p>
<p><b>Italy</b>  <b>MITSUBISHI ELECTRIC EUROPE B.V. Italian Branch</b>                      Campus, Energy Park Via Energy Park 14, Vimercate                      20871 (MB) Italy                      Tel :+39-039-60531                      Fax:+39-039-6053-312</p>	<p><b>Spain</b>  <b>MITSUBISHI ELECTRIC EUROPE, B.V. Spanish Branch</b>                      Carretera de Rubi, 76-80-Appdo. 420, E-08190 Sant Cugat del                      Valles (Barcelona), Spain                      Tel :+34-935-65-3131                      Fax:+34-935-89-1579</p>	<p><b>France</b>  <b>MITSUBISHI ELECTRIC EUROPE B.V. French Branch</b>                      25, Boulevard des Bouvets, 92741 Nanterre Cedex, France                      Tel :+33-1-55-68-55-68                      Fax:+33-1-55-68-57-57</p>
<p><b>Czech Republic</b>  <b>MITSUBISHI ELECTRIC EUROPE B.V. Czech Branch</b>                      Pekarska 621/7, 155 00 Praha 5, Czech Republic                      Tel :+420-734-402-587</p>	<p><b>Poland</b>  <b>MITSUBISHI ELECTRIC EUROPE B.V. Polish Branch</b>                      ul. Krakowska 48, 32-083 Balice, Poland                      Tel :+48-12-347-65-00</p>	<p><b>Sweden</b>  <b>MITSUBISHI ELECTRIC EUROPE B.V. (Scandinavia)</b>                      Hedvig Mollersgata 6, 223 55 Lund, Sweden                      Tel :+46-8-625-10-00                      Fax:+46-46-39-70-18</p>
<p><b>Turkey</b>  <b>MITSUBISHI ELECTRIC TURKEY ELEKTRIK URUNLERI A.S.</b>                      Serifali Mahallesi Kale Sokak No:41 Umraniye / Istanbul                      Tel :+90-216-969-2500                      Fax:+90-216-661-4447</p>	<p><b>UAE</b>  <b>MITSUBISHI ELECTRIC EUROPE B.V. Dubai Branch</b>                      Dubai Silicon Oasis, P.O.BOX 341241, Dubai, U.A.E.                      Tel :+971-4-3724716                      Fax:+971-4-3724721</p>	<p><b>South Africa</b>  <b>ADROIT TECHNOLOGIES</b>                      20 Waterford Office Park, 189 Witkoppen Road, Fourways,                      South Africa                      Tel :+27-11-658-8100                      Fax:+27-11-658-8101</p>
<p><b>China</b>  <b>MITSUBISHI ELECTRIC AUTOMATION (CHINA) LTD.</b>                      Mitsubishi Electric Automation Center,                      No.1386 Hongqiao Road, Shanghai, China                      Tel :+86-21-2322-3030                      Fax:+86-21-2322-3000</p>	<p><b>Taiwan</b>  <b>MITSUBISHI ELECTRIC AUTOMATION (TAIWAN) CO., LTD.</b>                      6F, No.105, Wugong 3rd Road, Wugu District,                      New Taipei City 248019, Taiwan                      Tel :+886-2-2299-2499                      Fax:+886-2-2299-2509</p>	<p><b>Korea</b>  <b>MITSUBISHI ELECTRIC AUTOMATION KOREA CO., LTD.</b>                      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</p>
<p><b>Singapore</b>  <b>MITSUBISHI ELECTRIC ASIA PTE. LTD.</b>                      307 Alexandra Road, Mitsubishi Electric Building,                      Singapore 159943                      Tel :+65-6473-2308                      Fax:+65-6476-7439</p>	<p><b>Thailand</b>  <b>MITSUBISHI ELECTRIC FACTORY AUTOMATION                      (THAILAND) CO., LTD.</b>                      101, True Digital Park Office, 5th Floor, Sukhumvit Road,                      Bang Chak, Prakanong, Bangkok, Thailand                      Tel :+66-2682-6522-31                      Fax:+66-2682-6020</p>	<p><b>Vietnam</b>  <b>MITSUBISHI ELECTRIC VIETNAM COMPANY LIMITED</b>                      11th &amp; 12th Floor, Viettel Tower B, 285 Cach Mang Thang 8                      Street, Ward 12, District 10, Ho Chi Minh City, Vietnam.                      Tel :+84-28-3910-5945                      Fax:+84-28-3910-5947</p>
<p><b>Indonesia</b>  <b>PT. MITSUBISHI ELECTRIC INDONESIA</b>                      Gedung Jaya 8th Floor, JL. MH. Thamrin No.12,                      Jakarta Pusat 10340, Indonesia                      Tel :+62-21-31926461                      Fax:+62-21-31923942</p>	<p><b>India</b>  <b>MITSUBISHI ELECTRIC INDIA PVT. LTD. Pune Branch</b>                      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</p>	<p><b>Australia</b>  <b>MITSUBISHI ELECTRIC AUSTRALIA PTY. LTD.</b>                      348 Victoria Road, P.O. Box 11, Rydalmere, N.S.W 2116,                      Australia                      Tel :+61-2-9684-7777                      Fax:+61-2-9684-7245</p>



Mitsubishi Electric's e-F@ctory concept utilizes both FA and IT technologies, to reduce the total cost of development, production and maintenance, with the aim of achieving manufacturing that is a "step ahead of the times". It is supported by the e-F@ctory Alliance Partners covering software, devices, and system integration, creating the optimal e-F@ctory architecture to meet the end users needs and investment plans.



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