MITSUBISHI ELECTRIC

Changes for the Better

for a greener tomorrow eco Changes

Open Field Network CC-Link Compatible Product Catalog

e-F@ctory

CC-Link

GLOBAL IMPACT OF MITSUBISHI ELECTRIC

Through Mitsubishi Electric's vision, "Changes for the Better" are possible for a brighter future.

Changes for the Better

We bring together the best minds to create the best technologies. At Mitsubishi Electric, we understand that technology is the driving force of change in our lives. By bringing greater comfort to daily life, maximizing the efficiency of businesses and keeping things running across society, we integrate technology and innovation to bring changes for the better.

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.

Strategic Network, CC-Link, CC-Link/LT & CC-Link Safety

Strong Manufacturers
Stay One Step Ahead of Others with
CC-Link, CC-Link/LT & CC-Link Safety

CC-Link
CC-Link/LT
CC-Link Safety

Connect with reliable networks for powerful factory automation

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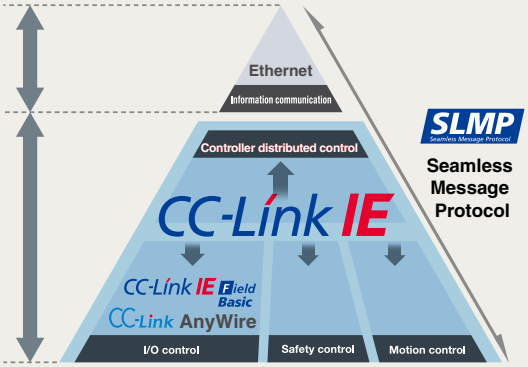
Shaping the future of factory automation networks with the

We provide total support in creating seamless networks in all scenes, from offices to production sites, under a consistent design philosophy. With flexible approaches backed by "Ethernet," "MELSECNET/H" and "CC-Link", a SEMI-certified, world standard field network originated in Japan, and "CC-Link/LT", a sensor level network adhering to the design concept of CC-Link, we propose a network-based automation environment, fit for your needs.

Seamless integration of the network over all layers



[Within line] Device level network CC-Link

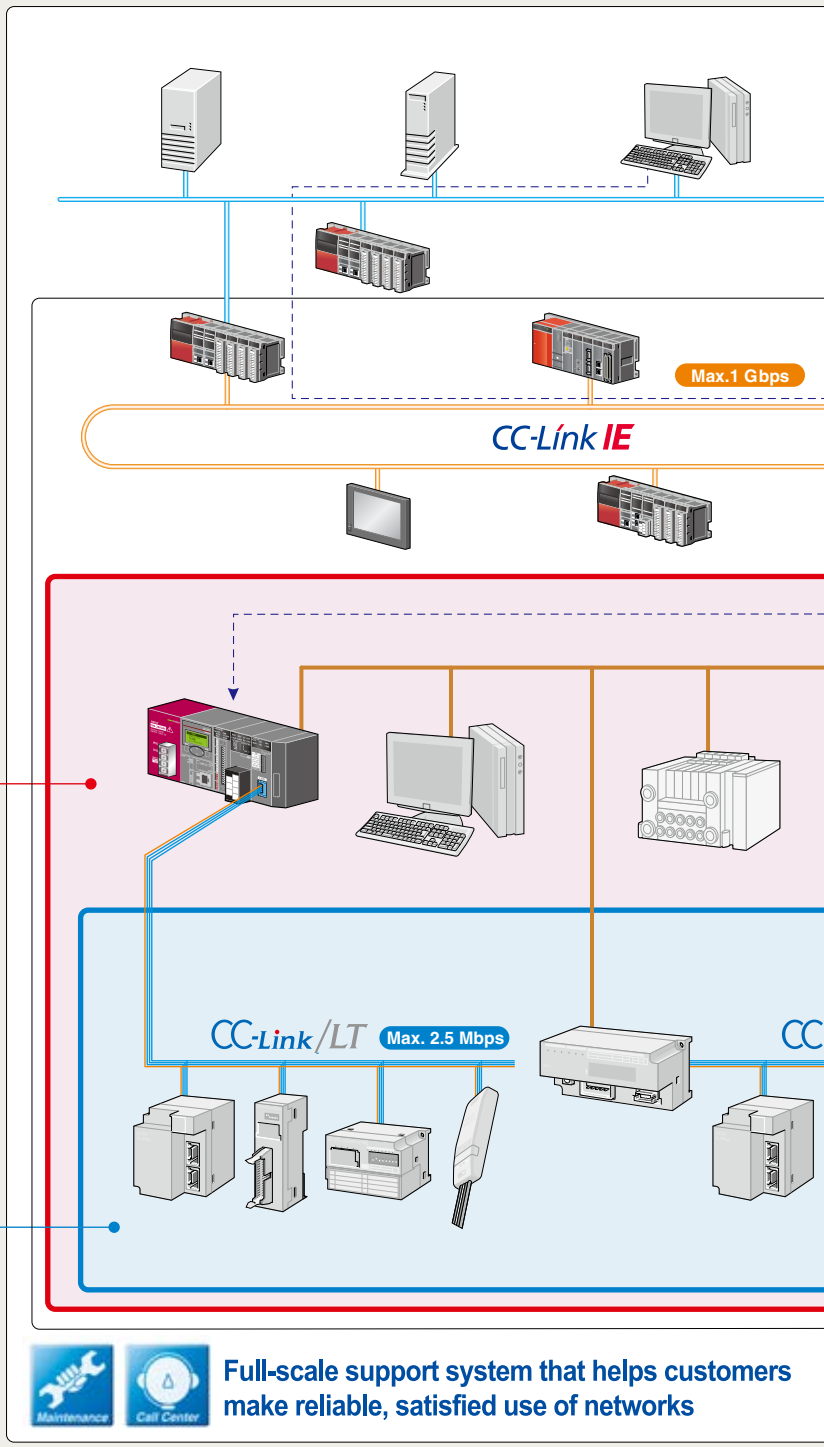
CC-Link is a high-speed and high-reliable deterministic I/O control network which realizes reduced wiring whilst offering multi-vendor compatible products. This open field network is a global standard originating from Japan and Asia.

- 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

[Within panel and devices] Sensor level network CC-Link/LT

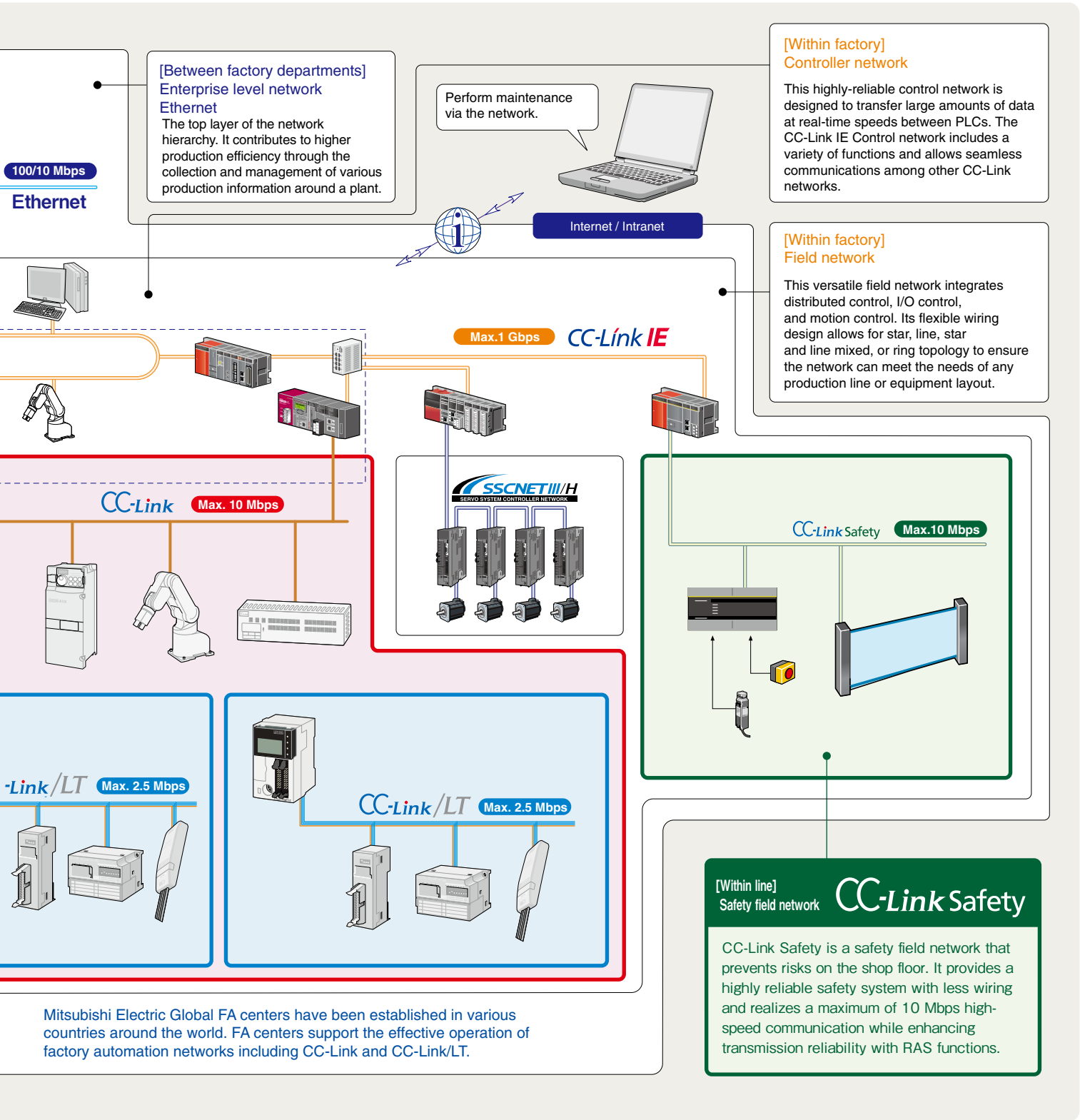
CC-Link/LT is a wire-saving sensor level network which is designed for use in panels between simple discrete devices. Its wiring system is based on reducing incorrect wiring and is based on CC-Link realizing high-speed and robust noise resistance features.

- Easy installation using dedicated connectors
- The point mode setting (4-, 8-, or 16-point mode) enables effective use of I/O points.
- The maximum link points is 1024 points in the 16-point mode.



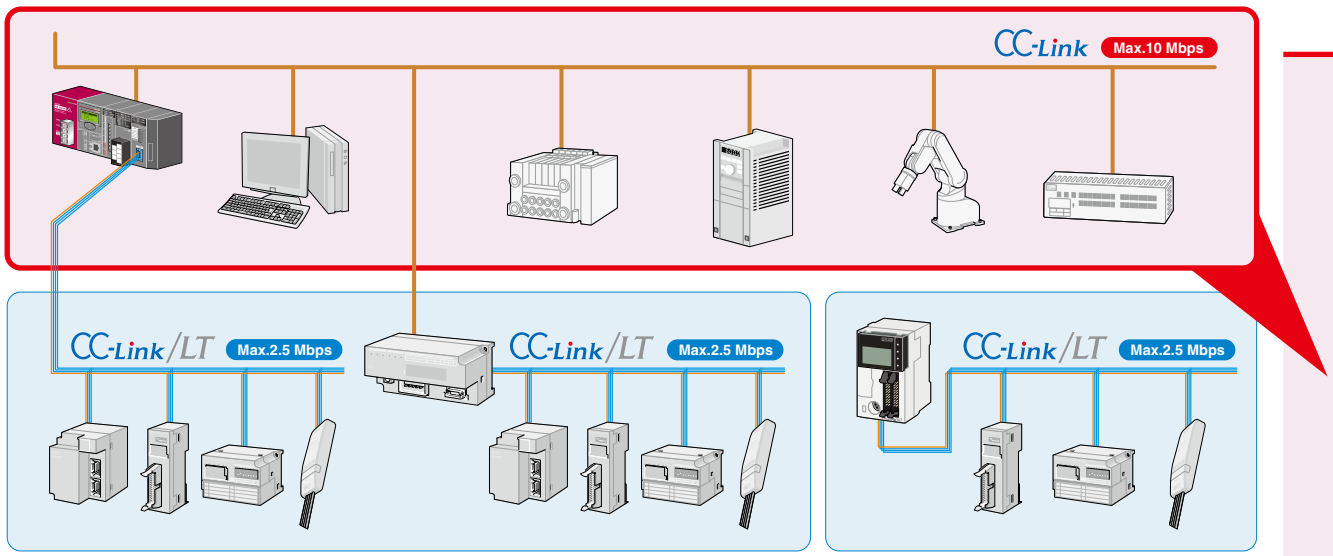
Full-scale support system that helps customers make reliable, satisfied use of networks

seamless connectivity

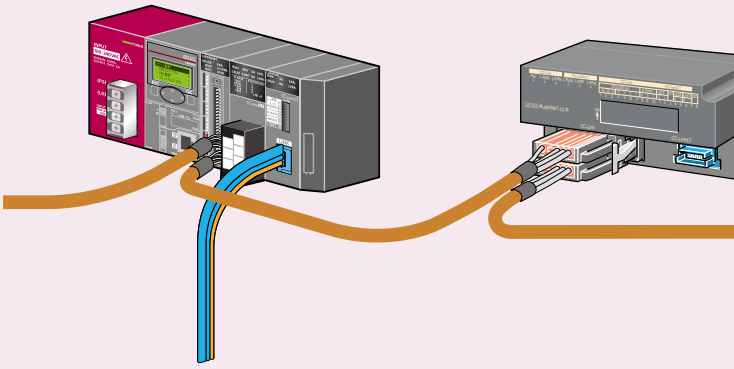


Mitsubishi Electric Global FA centers have been established in various countries around the world. FA centers support the effective operation of factory automation networks including CC-Link and CC-Link/LT.

CC-Link - As the world standard network

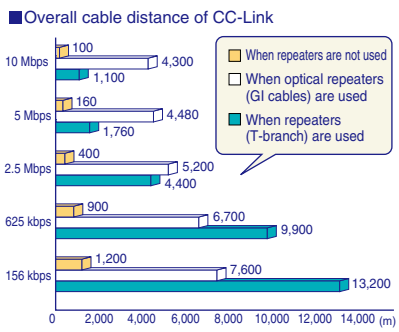


	CC-Link	CC-Link/LT
Control methods	I/O control + intelligent distribution	I/O control
Cable	Dedicated fixed cable, dedicated flexible cable, built-in power cable	Dedicated flat cable, VCTF (Vinyl Cabtire Code), dedicated flexible cable
Maximum number of link points	RX, RY: 8192 points each, RWr: 2048 words, RWw: 2048 words (Ver2.0)	RX, RY: 1024 points each
I/O module lineup	Screw terminal block, spring terminal block, e-CON, push-in connector, waterproof connector, 40-pin connector	Screw terminal block, spring terminal block, e-CON, MIL connector, cable connector
Max. cable distance	1200 m (at 156 kbps) Extendable up to 13.2 km when repeater is used	Trunk: 500 m Branch: 200 m (at 156 kbps)
Parameter setup	GX Works3, GX Works2, GX Developer	Not required
Number of link points per station	<Ver1.0> RX, RY: 32 points each, RWr: 4 words, RWw: 4 words <Ver2.0> RX, RY: 128 points each, RWr: 32 words, RWw: 32 words	Max. 16 points (in 16-point mode)
Network topology	Bus topology T-branch topology Star topology	T-branch 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.



For improved setup efficiency [Simple parameter setup]

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

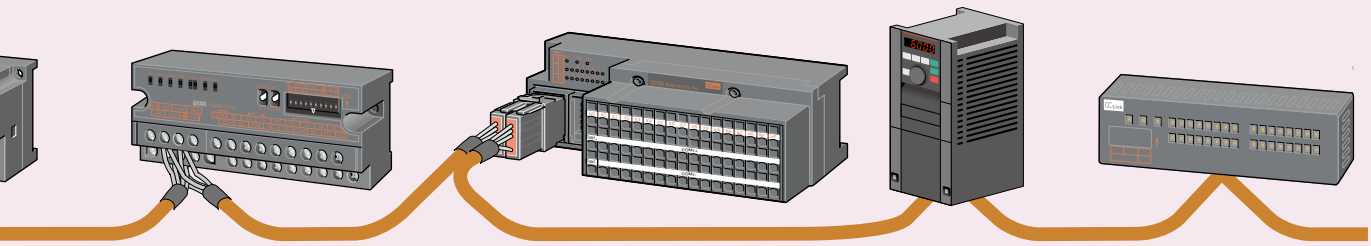
GX Works3

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.



CC-Link Max.10 Mbps

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.

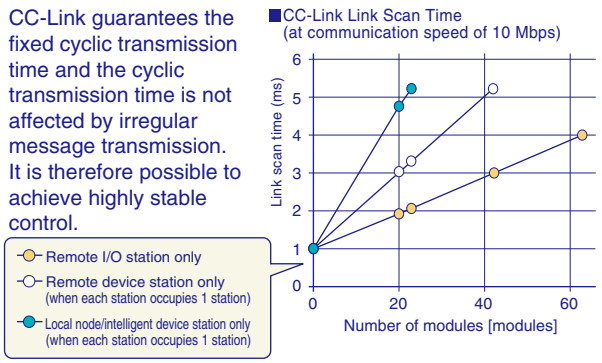
For non-stop operation [RAS functions]

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

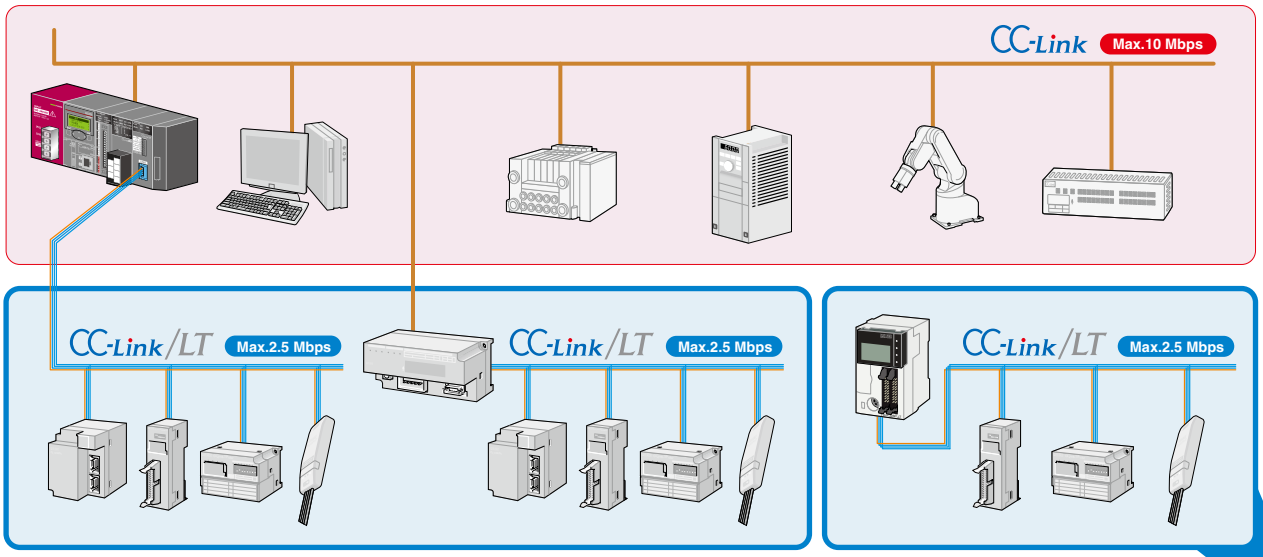
* RAS: Reliability, Availability, Serviceability

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.



CC-Link/LT - with the minimum wiring



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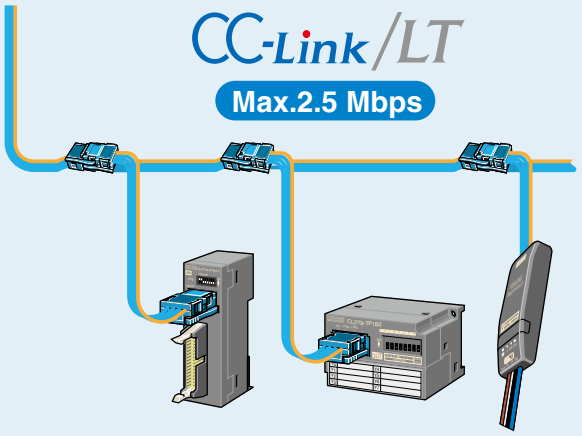
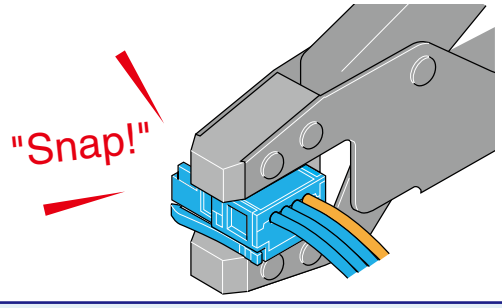


For rapid startup of systems [easy installation]

◎Using dedicated connectors and cables can reduce wiring works.
◎Communication connectors are a male/female integrated type and available for all trunk and branch lines.



For easy usage [No need of parameter settings]

Troublesome network parameter setting is unnecessary.
The communication speed setting is required for the master module only.

For high noise-resistance [Complying with EMC Directives]

CC-Link/LT also inherits the feature of CC-Link, complies with EMC directives for noise-resistance.

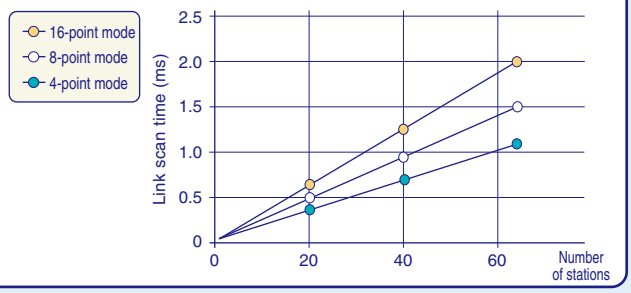
For efficient use of I/O points [Not wasting I/O points]

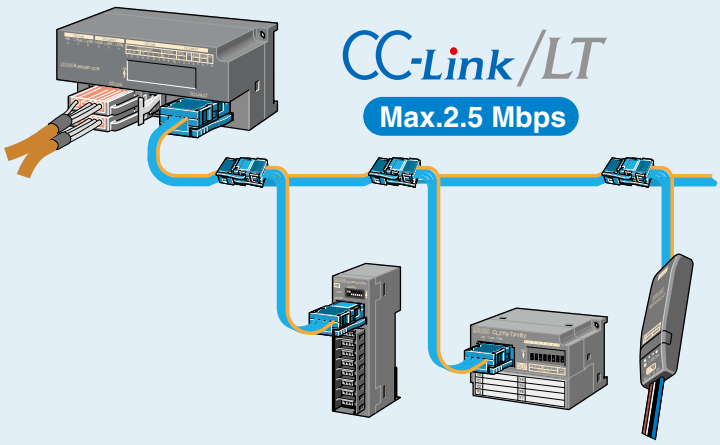
The adoption of the point mode (4, 8, 16 points) enables I/O assignment that makes full utilization of the available number of points.

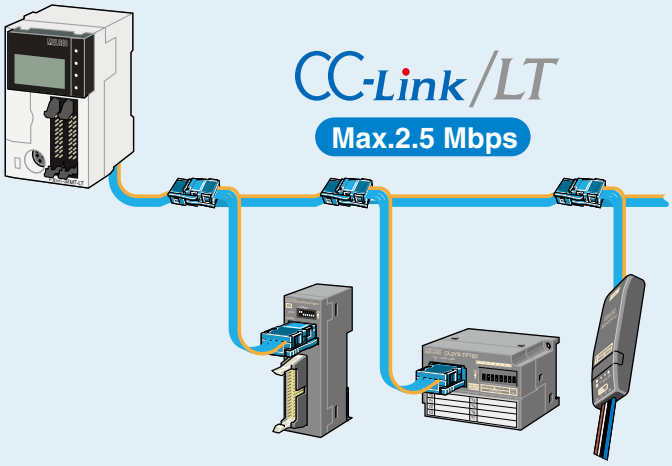
For high-speed control [Fast response]

When 64 stations are connected, link scan time is a maximum of 1.2 ms (at 2.5 Mbps), achieving excellent fast response performance.

■CC-Link/LT Link Scan Time (at communication speed of 2.5 Mbps)

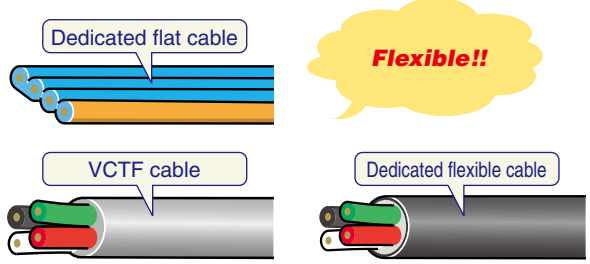






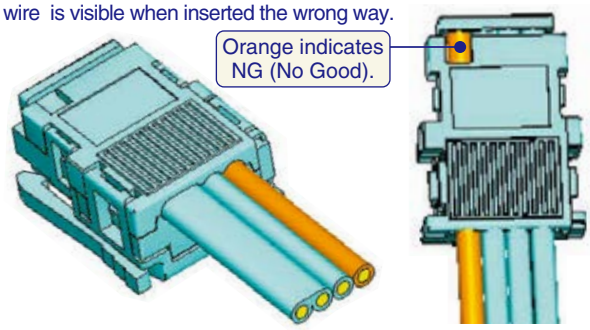
Cable specific to application requirements [Extensive lineup of cables]

Dedicated flat cable, VCTF cable and Dedicated flexible cable.



Improving reliability [Prevention of miswiring]

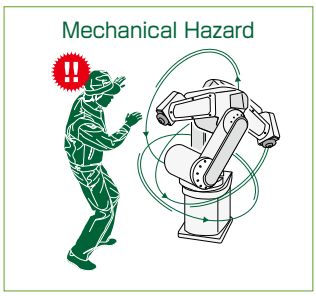
Dedicated cable shape is designed to prevent miswiring. The orange wire is visible when inserted the wrong way.

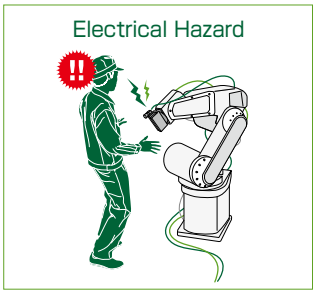


Innovation in shop floor safety, CC-Link Safety

A safety field network "CC-Link Safety" has been developed to reduce risks on the shop floor and to realize a safe work environment. By connecting "safety devices," which detect errors in the production line, and the "safety programmable controller," which stops the production line by signals from the safety devices, with simple wiring, accidents can be prevented during operation. In addition, CC-Link Safety can greatly reduce wiring for the safety system.

Hazards of production lines





Enclosing hazards in a safety guard is not good enough. Also, worker mistakes and machine failures are unpredictable. That is why configuring a system with a "safety solution" which always prevents accidents is necessary.

Safety solution example

World wide safety
[International safety standards compliant]

Conforms to the international safety standards IEC 61508 SIL3 and EN954-1/ISO 13849-1 Category 4 to meet safety needs at global production sites.

Safety assurance and wiring reduction
[Inherited CC-Link functions]

Transmission speed of 10 Mbps equivalent to CC-Link is realized, allowing use of the same CC-Link cables and connection of standard CC-Link stations.

Reliable safety control
[Enhanced RAS functions]

Detects communication errors such as communication delays and loss of messages and then stops the system completely.

Centralized error/failure information management
[Error/failure logs]

With the RAS functions, the safety master station logs error information of safety remote stations, enabling effective troubleshooting. The system is completely stopped upon communication error detection.

Provision for troubles
[Identifying the communication target station]

By setting the model name or product information of safety remote stations with the network parameters, the system can detect mismatch communication targets.

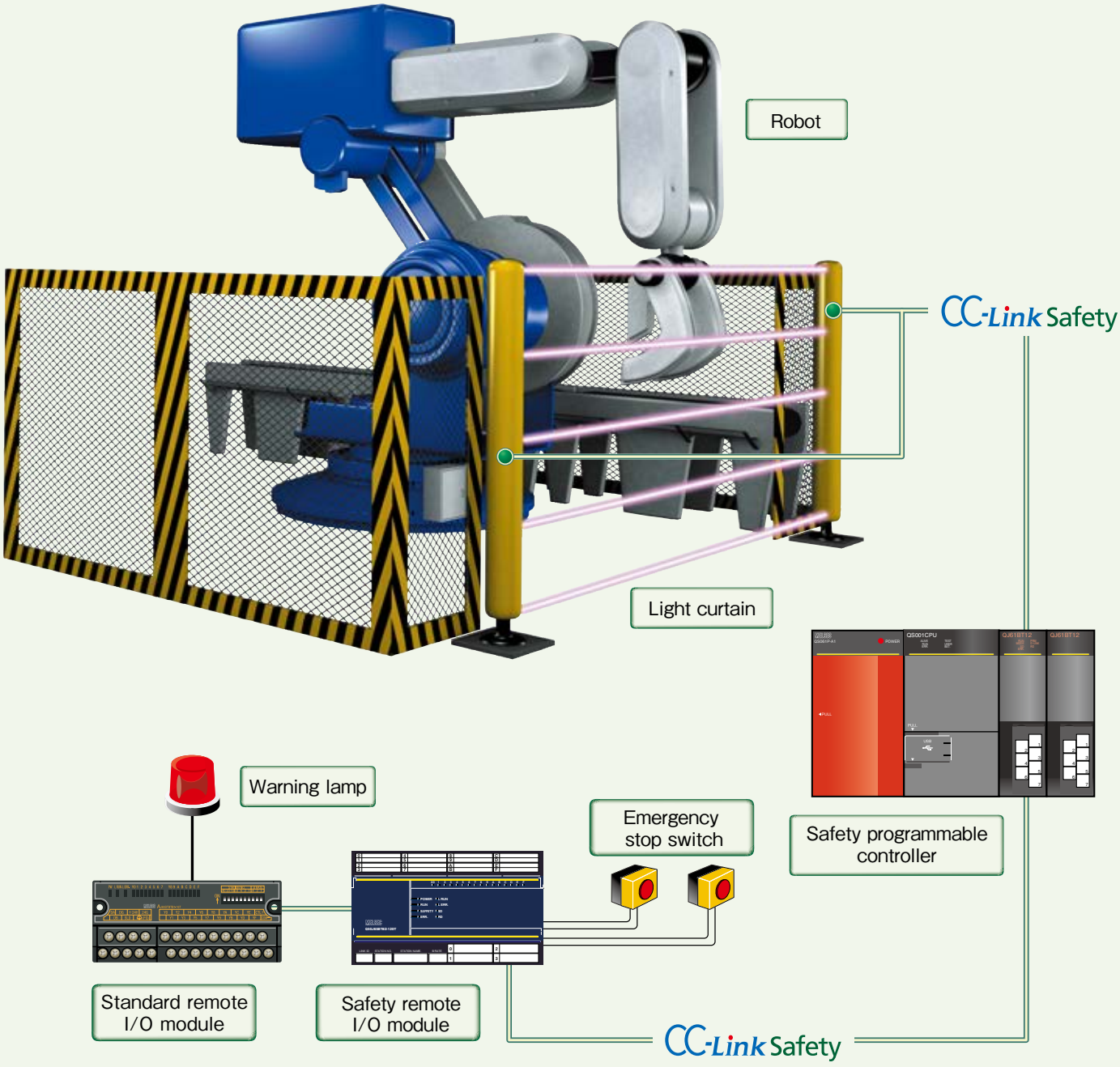
Flexible system configuration and wiring
[Distributed safety remote stations]

Safety remote I/O stations can be spread out, minimizing wiring for I/O. Expanding I/O is also easy.

A large choice of safety system configuration
[Various compatible products]

Mitsubishi Electric and many other CLPA partners provide a variety of compatible products including a programmable controller, light curtains, and warning lamps. Moreover, the same CC-Link cables and standard CC-Link stations can be used.

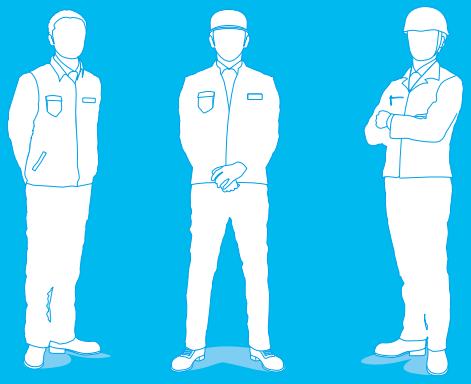
■CC-Link Safety system configuration example
(Automotive welding line)



For those in design, production and maintenance

CC-Link & CC-Link/LT provide

CC-Link & CC-Link/LT
provide solutions
for each subject in the field.



Each person in charge of engineering, production and maintenance has his/her own subjects.
CC-Link and CC-Link/LT respond to each subject with a solution.
CC-Link is an established open field network originated from Japan.
Fully inheriting the CC-Link concept, CC-Link/LT is specifically designed as a sensor level network.
CC-Link and CC-Link/LT provide a function for each subject on the network.

More functions

Subjects for CC-Link

- 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

Subject for CC-Link/LT

- Use high-speed sensors

More simple

Subjects for CC-Link

- Use various devices
- Easy network configuration

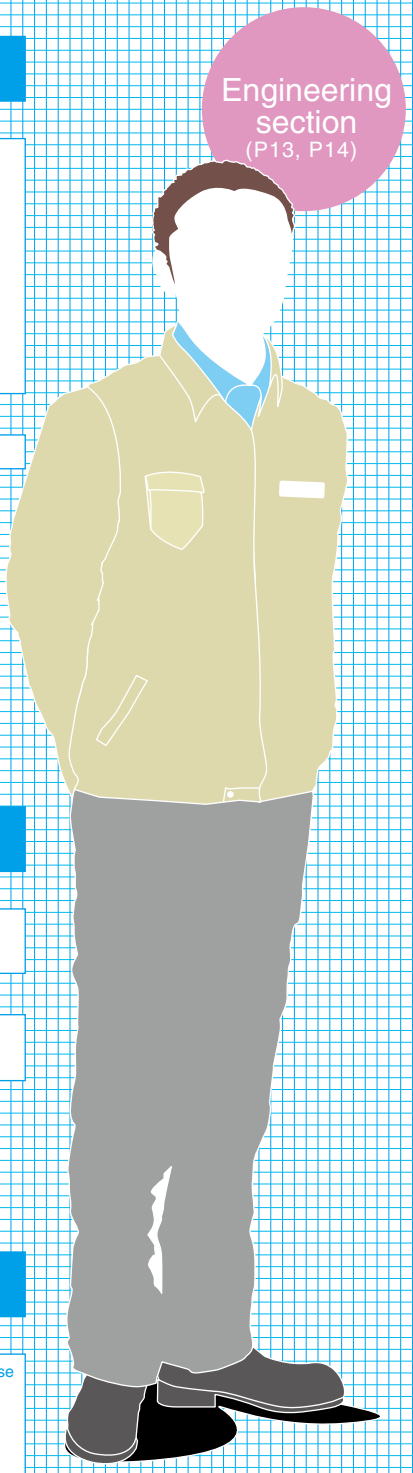
Subjects for CC-Link/LT

- Use remote I/O modules
- Apply widely used cables

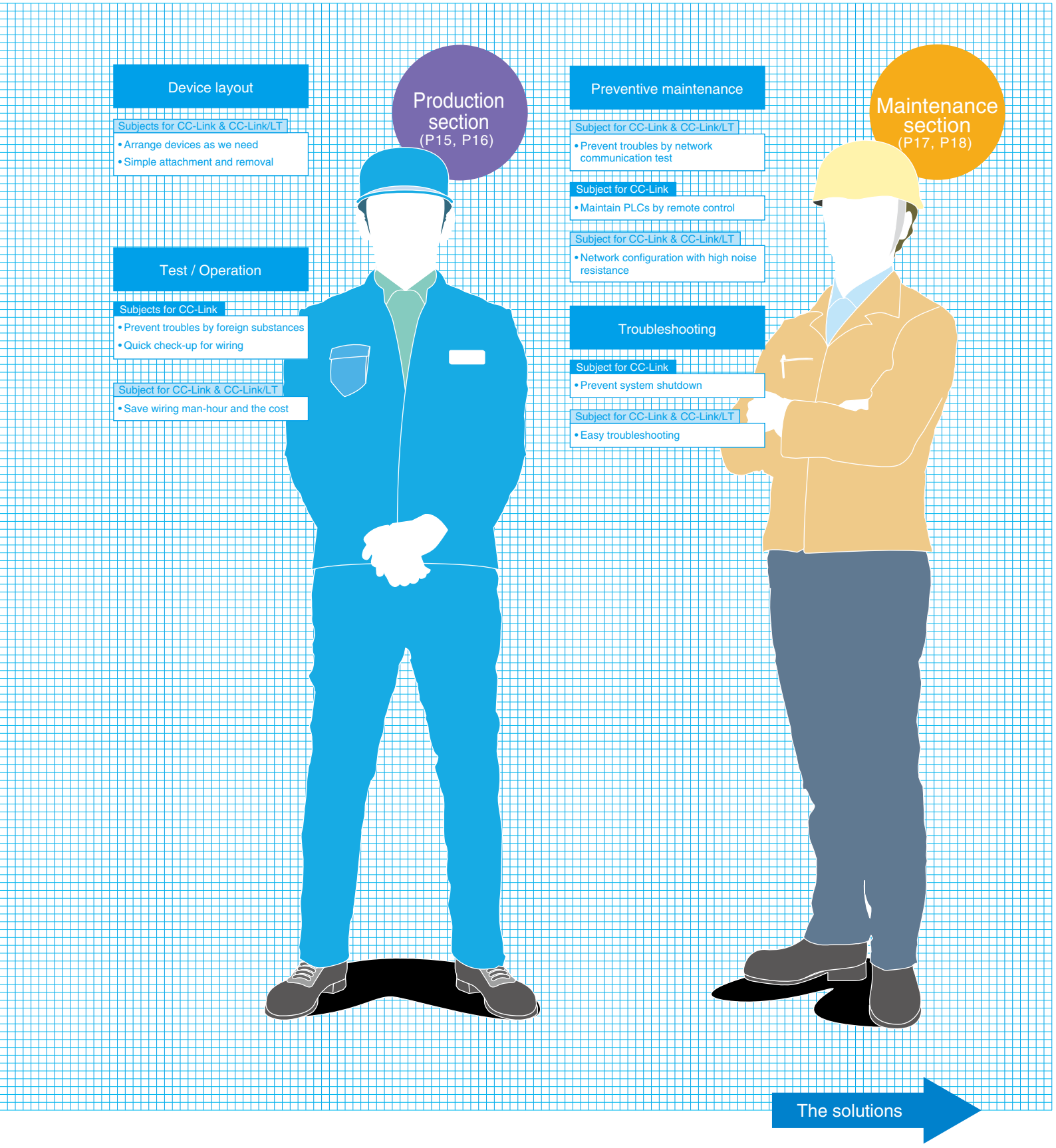
More secure

Subjects for CC-Link

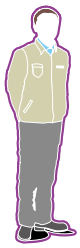
- Network configuration with high-noise resistance
- Use various devices in a single network
- Export factory facilities and machineries overseas



solutions



The solutions



CC-Link & CC-Link/LT support the facility improvement

CC-Link ensures

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

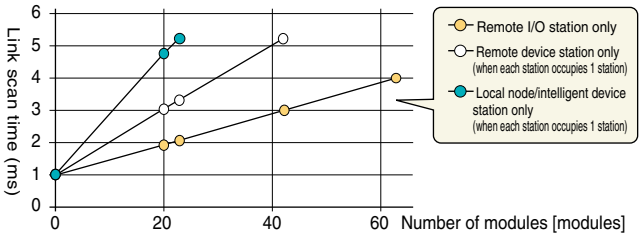
Remote I/O (RX, RY)=8192 points each
Remote register (RWw)=2048 words
(RWr)=2048 words (when Ver2.0 is used)

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 Ver2.0-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.

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

* 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.

CC-Link/LT ensures

High-speed sensor inputs

▶CC-Link/LT provides fast response.

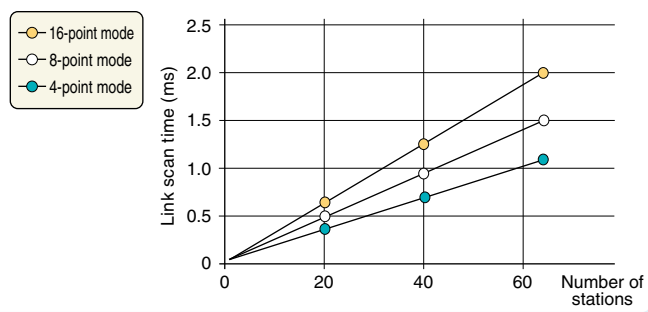
When 64 stations are connected, the link scan time is a maximum of 1.2 ms (at 2.5 Mbps). Select 2.5 Mbps, 625 kbps or 156 kbps depending on the transmission distance.

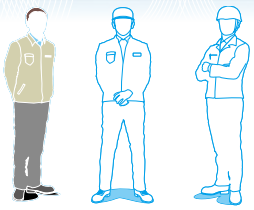
Use remote I/O modules

▶CC-Link/LT is not required to make parameter setting.

Troublesome network parameter setting is unnecessary. The communication speed setting is required for the master module only. There is no need to set the communication speed on the remote station.

■CC-Link/LT Link Scan Time (at communication speed of 2.5 Mbps)





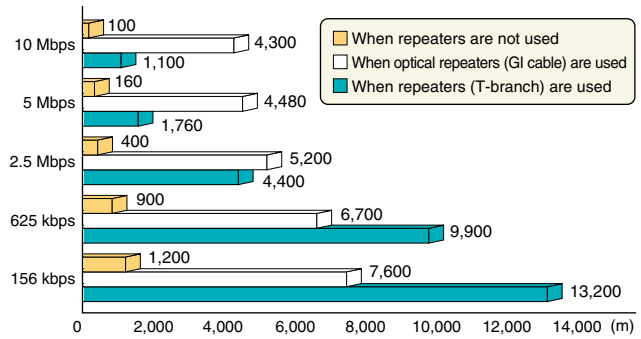
- Connect between manufacturing processes
- Network configuration for building management

▶ 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.

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

■Overall cable distance of CC-Link



Use various devices

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

CC-Link Ver2.0 can transmit and receive data approx. 8 times larger than the earlier Ver.1.10/Ver.1.00.

■Comparison of communication data

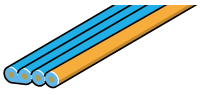
CC-Link Ver 1.0	Remote I/O ---------- (RX, RY) = 2048 points each Remote register ------ (RWw) = 256 words (RWr) = 256 words
CC-Link V2	Remote I/O ---------- (RX, RY) = 8192 points each Remote register ------ (RWw) = 2048 words (RWr) = 2048 words

Apply widely used cables

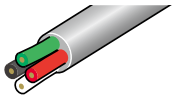
▶CC-Link/LT specifies cables to application requirements.

Dedicated flat cable, VCTF cable and dedicated flexible cable are available.

Dedicated flat cable



VCTF cable



Dedicated flexible cable

Connect with HMIs and ANDONs

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

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

Easy network configuration

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

The total programming tool "GX Works3", "GX Works2", and "GX Developer" 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

CC-Link also supports

Using various devices in a single network

▶Diverse range of products supplied from many partner manufacturers.

Exporting factory facilities and machineries overseas

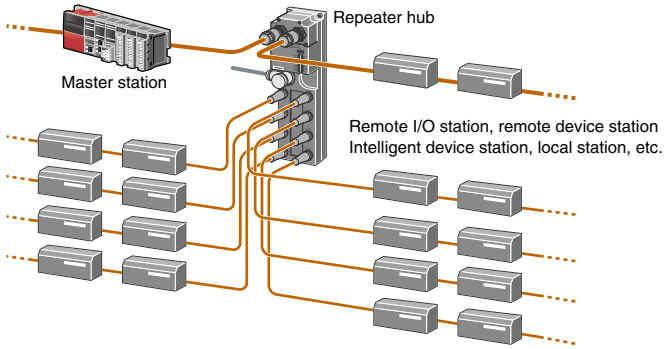
▶CC-Link complies with various safety standards including UL standards.

CC-Link & CC-Link/LT provide various useful functions

Device layout as we need

▶CC-Link allows flexible installation.

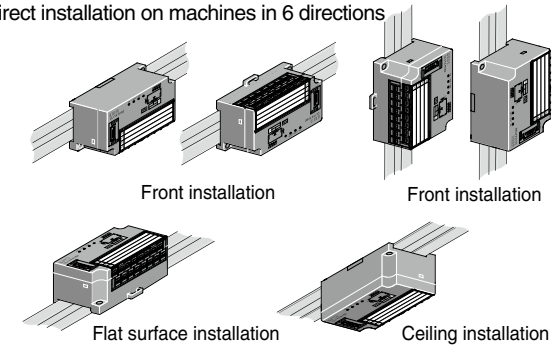
T-branch repeaters, wireless optical repeaters, optical repeaters, and repeater hubs are available with CC-Link. They enhance the freedom of application even at 10 Mbps.



▶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

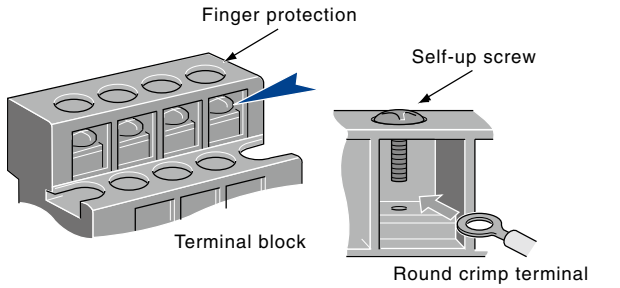


Save wiring man-hour and the cost

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

Screw terminal block type

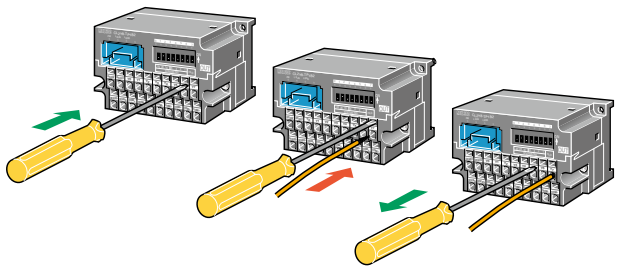
CC-Link CC-Link/LT



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

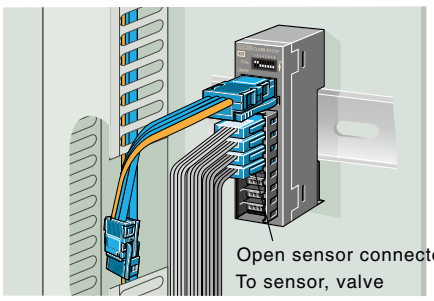
CC-Link CC-Link/LT



Spring clamps allow quick and easy connectivity.

Sensor connector (e-CON) type

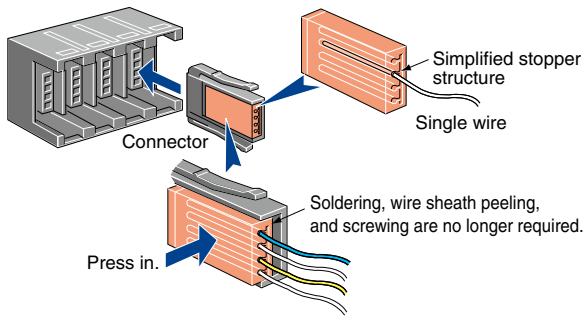
CC-Link CC-Link/LT



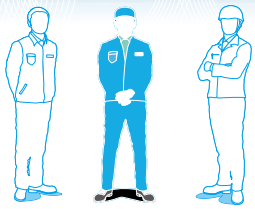
Utilizing the industry-standard e-CON, sensors can be replaced individually.

Push-in connector type

CC-Link



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

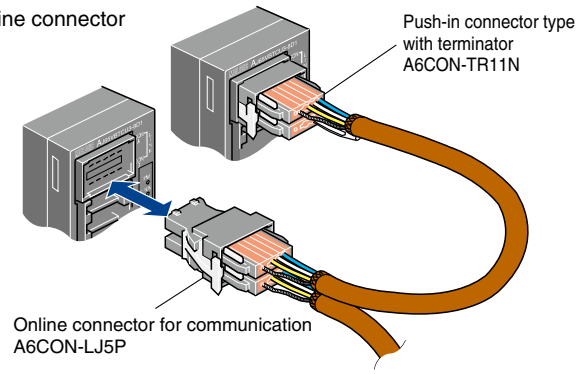


Simple attachment and removal

▶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.

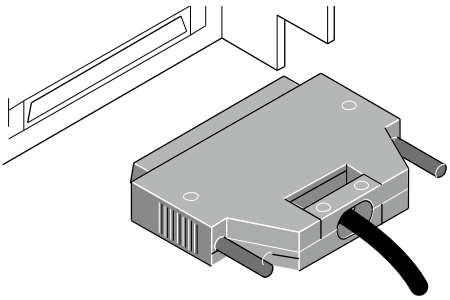
Quick checkup and startup

▶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.

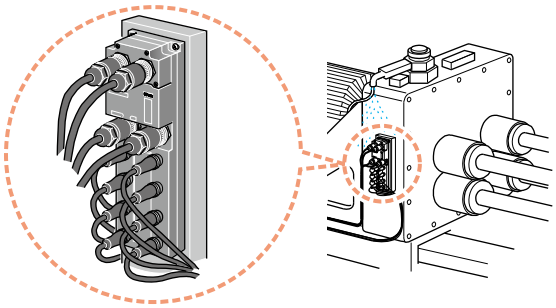
▶ Specific connection to application requirements

40-pin connector type



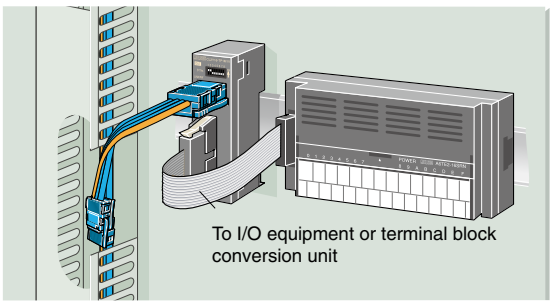
This type provides an easy and economical way of wiring.

Waterproof connector type (M12)



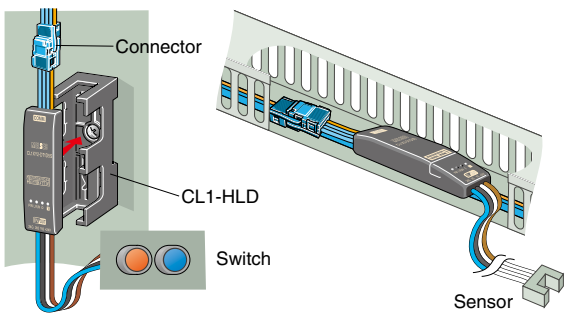
The waterproof type remote I/O module is housed in a protective structure conforming IP67. Therefore it can be used without worry in an environment where water is present.

MIL connector type



This is the industry's smallest connector in its class, and can be easily connected to a relay terminal or terminal block conversion module.

Cable type



This is the industry's smallest connector in its class. Suited to fit compactly into main trunking ducts.

CC-Link & CC-Link/LT support the maintenance work

Preventive maintenance

Prevent troubles by network communication test

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

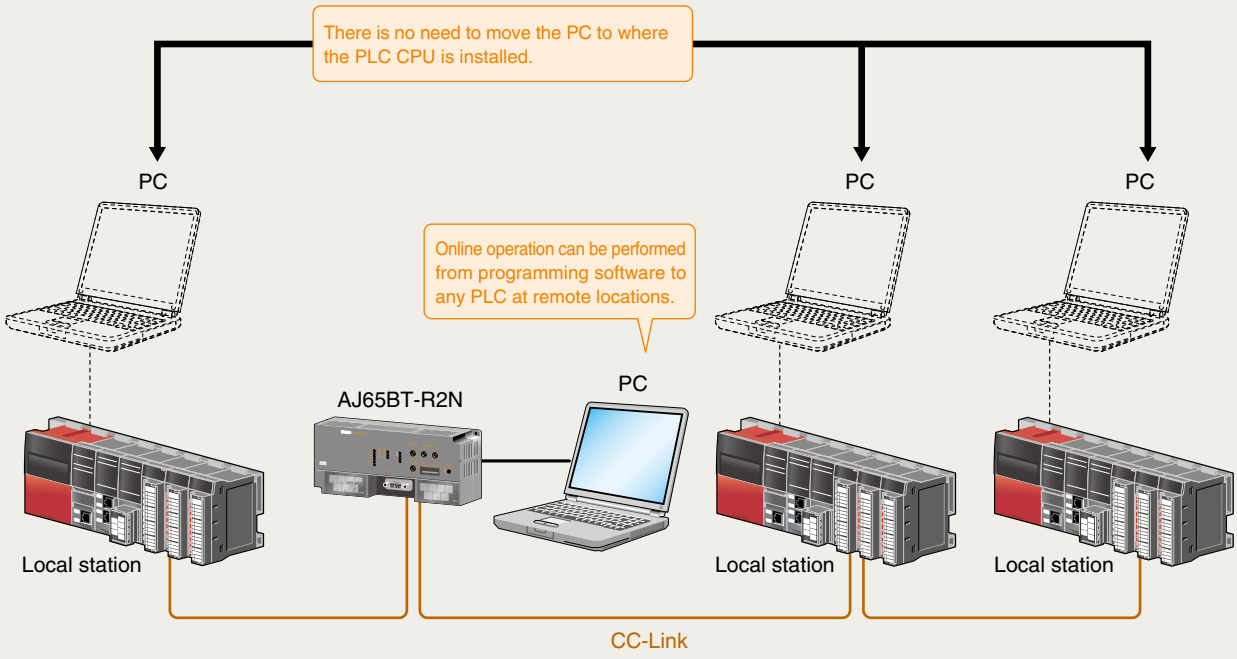
It is possible to check the data link status using special relays and registers. Hardware and line connection can be tested via offline tests.

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 maintenance from sites away from PLC master.

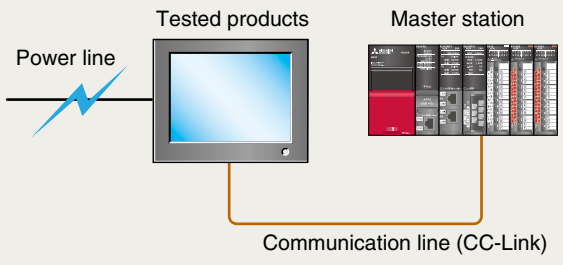


Network configuration with high noise resistance

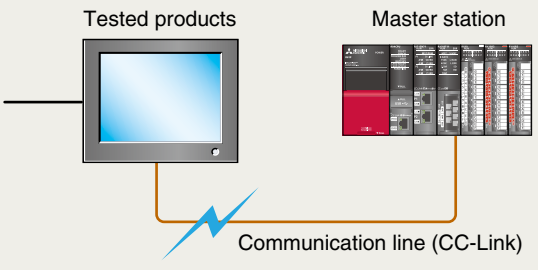
▶ CC-Link family compatible products are highly noise resistant guaranteed by conformance testing.

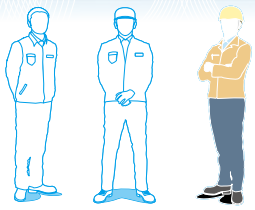
A conformance test is conducted for all products sold by CLPA partners. The test includes a power supply noise test and a bundle noise test.

■Power supply noise test (AC/DC)



■Bundle noise test





Troubleshooting

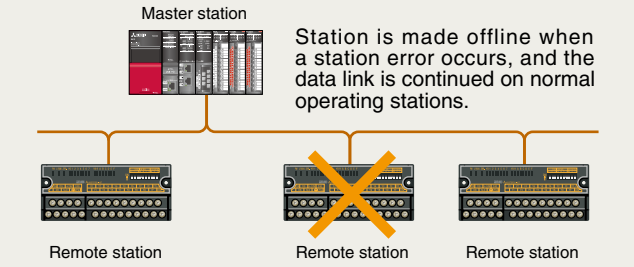
Prevent system shutdown

▶ CC-Link provides enhanced RAS functions.

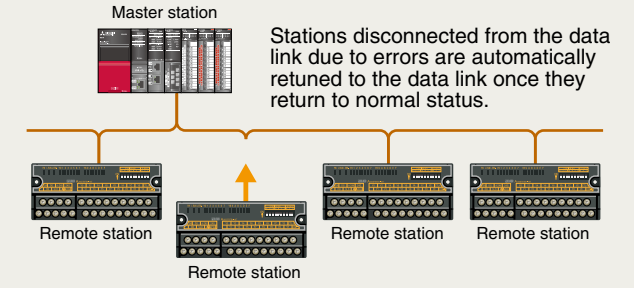
CC-Link realizes minimal system shutdowns by "error invalid station setting," "slave station isolation," "automatic return," "standby master station," and "2-piece terminal block".

<Error invalid station setting>
In the online mode, this setting temporarily prevents modules specified on GX Developer from being treated as data link faulty stations.

■Slave station isolation

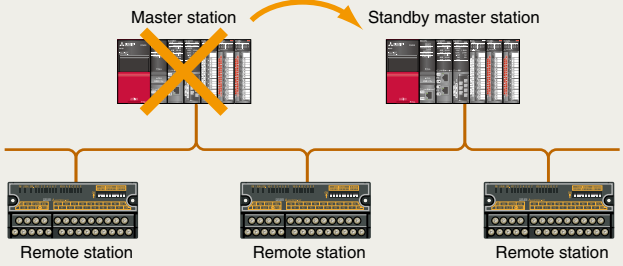


■Automatic return



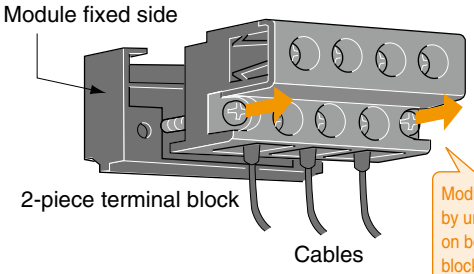
* When connecting offline stations on CC-Link/LT, make sure that the PLC CPU is in a STOP status.

■Standby master station



By setting a local station as a standby master station, the data link can be continued even if an error occurs in the master station.

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

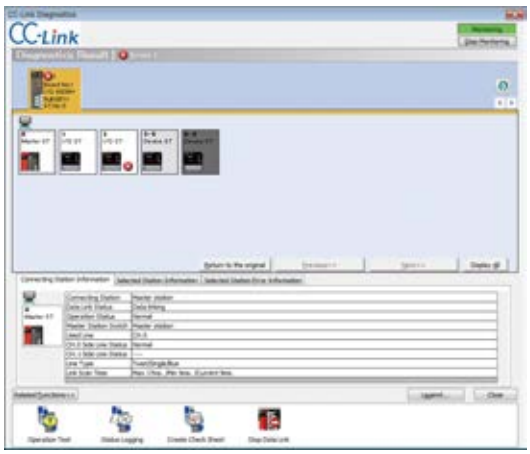


Modules can be separated by unfastening the screws on both edges of the terminal block with the cable still connected.

Easy troubleshooting

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

The status of the CC-Link and CC-Link/LT networks can be monitored using GX Works3, GX Works2, or GX Developer.



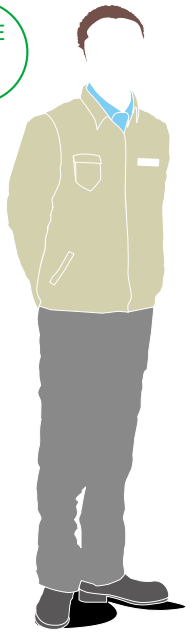
Handy Line Tester

Directly connect the unit to a CC-Link or CC-Link/LT 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.

Made by Mitsubishi Electric Engineering Co., Ltd.

Case Study "CC-Link is superior to existing networks" Realize the advantages of CC-Link.

CASE 1



Mr. A from the engineering section

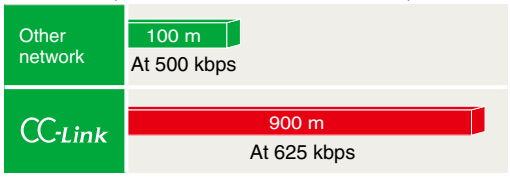
"The current network distance of our factory is limited to 100 m, and the transmission speed is unstable."

Mr. A's 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.

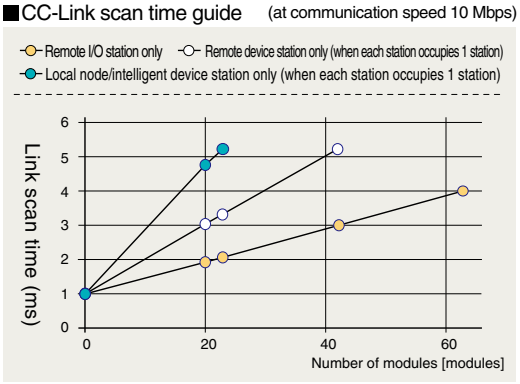
Feature 1 CC-Link is high-speed network with a long total cable distance.

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)

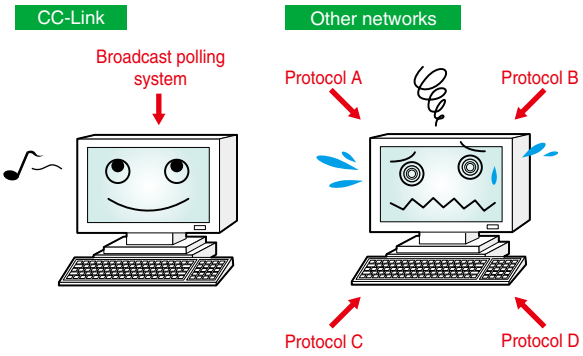


"Our factory's networks are complex because they use various protocols. How about CC-Link?"

CC-Link eliminates the need to use different protocols.

Feature 3 CC-Link has a single protocol.

■Protocol comparison



"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.

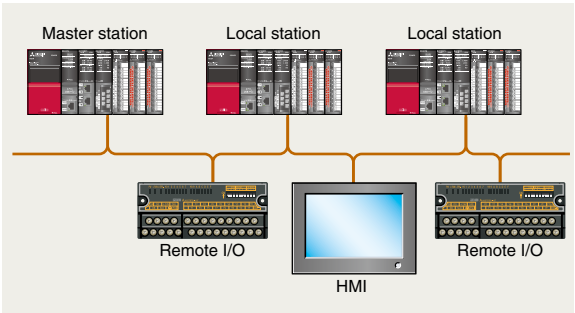
Feature 4 CC-Link offers quick return to the network system.

"We also need distributed controls."

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

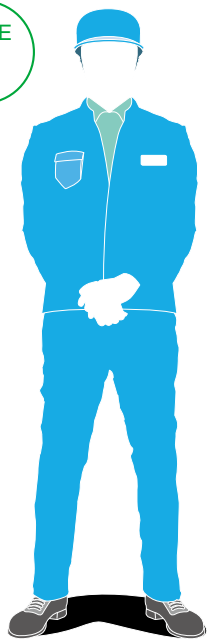
Feature 5 CC-Link is simple control level network.

■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

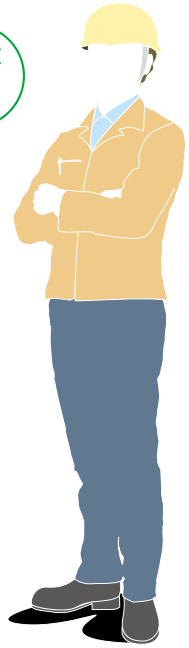
Item	CC-Link	Other network	
Cable diameter	7 mm	Thick cable: 12 mm	Thin cable: 7 mm
Trunk/ Branch	Trunk and branch	Trunk	Branch
Total cable length (no repeater)	Max. 1200 m (156 kbps)	Max. 500 m (125 kbps)	Max. 100 m (125 kbps) (250 kbps) (500 kbps)

"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

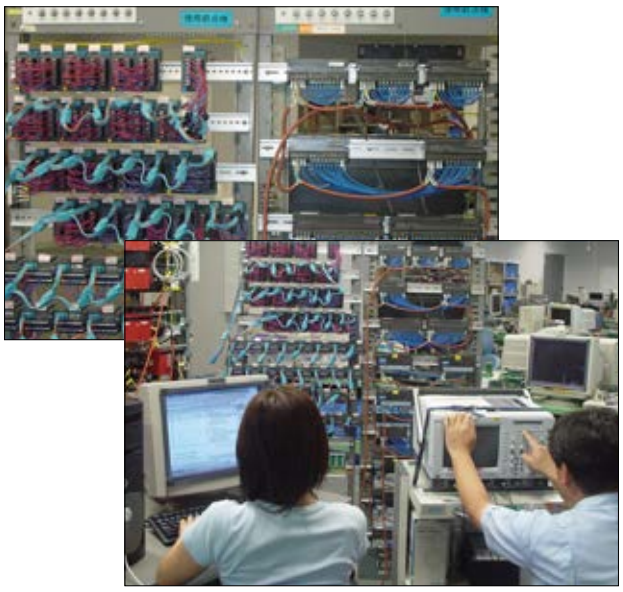


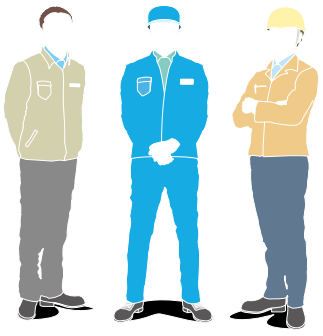
Mr. C from the maintenance section

"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.



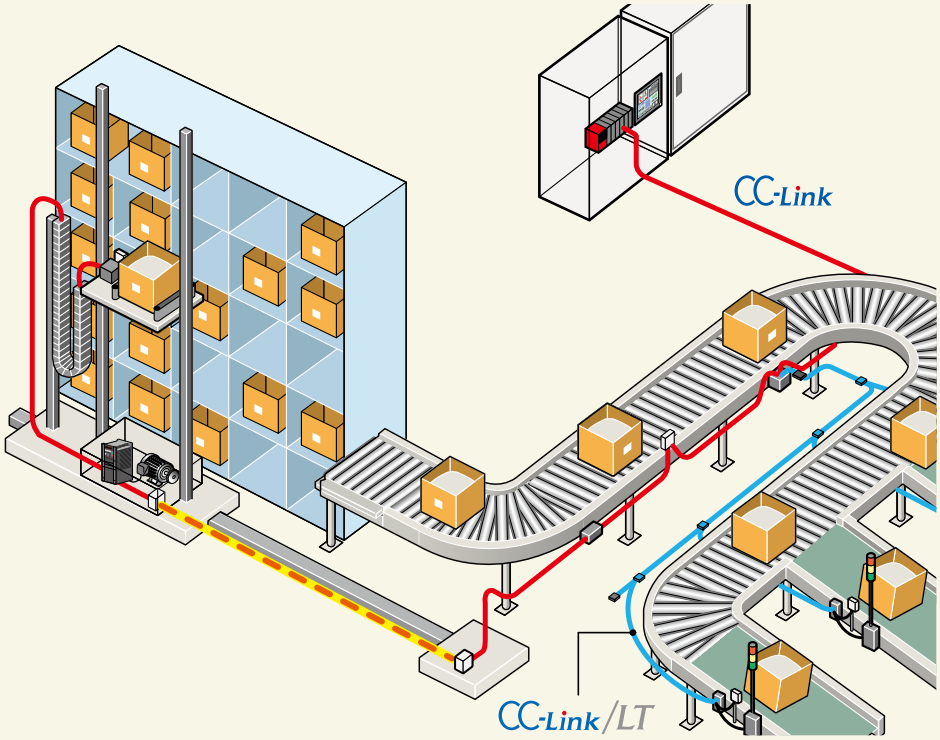


chose CC-Link!"

Networks is a key factor in various business applications.

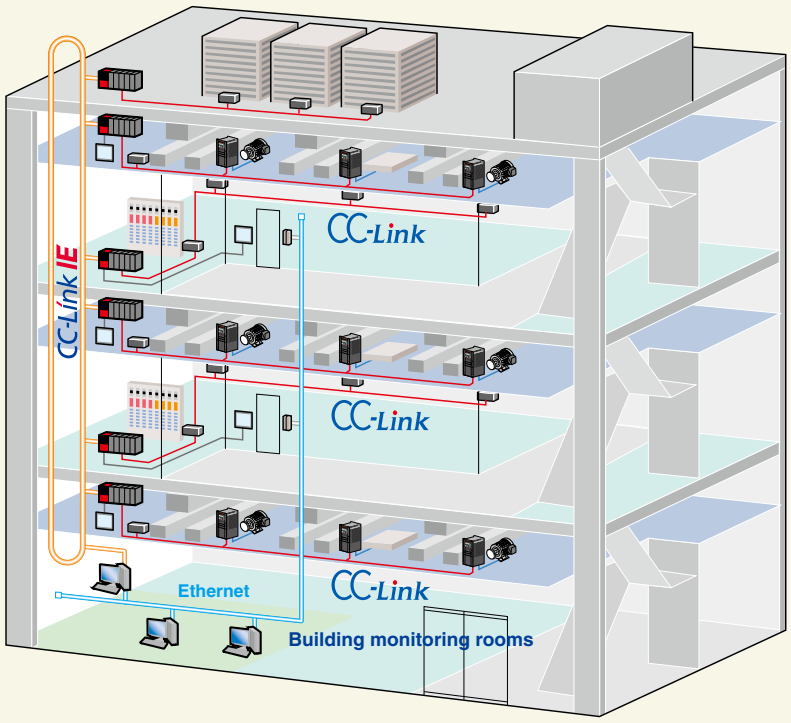
Material handling application

- Improved workability by repeaters — CC-Link
- Connection of various devices (Inverter, HMI) — CC-Link
- Cable specific to the application requirement. — CC-Link, CC-Link/LT
- Seamless communication using bridges — CC-Link/LT



Building management application

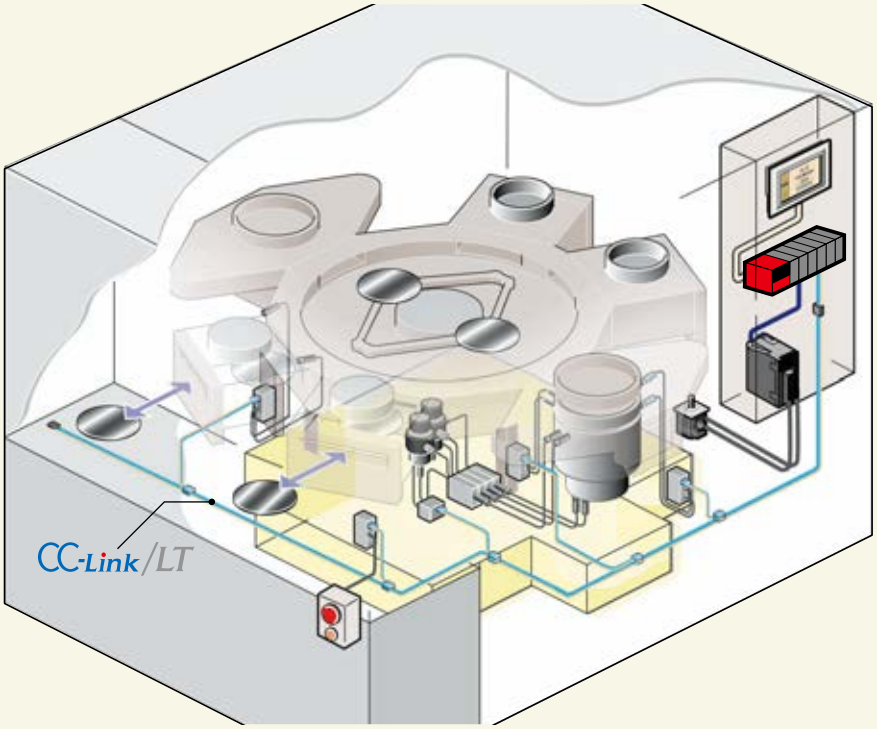
- The total cable distance up to 13.2 km by using repeaters — CC-Link
- Distributed control — CC-Link
- Seamless communication between Ethernet, CC-Link IE Control Network and CC-Link — CC-Link



The CC-Link family is the best solution.

Semiconductor production application

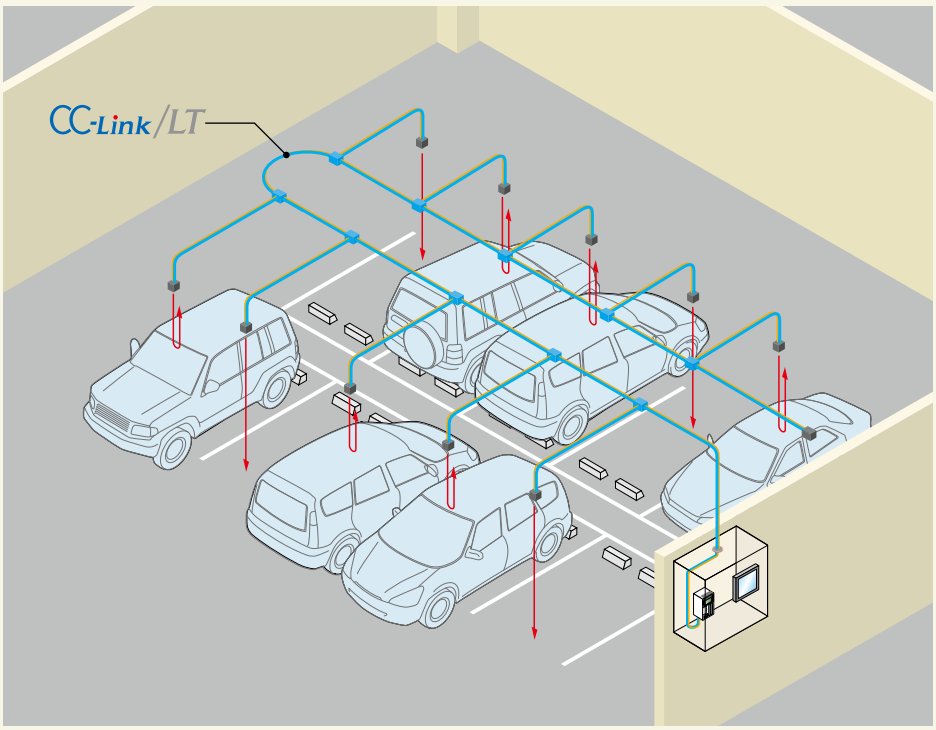
- High-speed transmission — CC-Link/LT
- High noise resistance — CC-Link
- Wire saving Small footprint — CC-Link/LT
- Compliant with EES. — CC-Link



Parking lot application

<FX3UC and CC-Link/LT combination>

- High speed transmission — CC-Link/LT
- Wire saving Small footprint — CC-Link/LT
- Parameter-free setup work — CC-Link/LT
- Easy installation and setting up — CC-Link/LT



CC-Link

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(Sink type output)
L26CPU-PBT(Source type output)

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, GX Works2 or GX Developer.
*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

CC-Link V2

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

CC-Link-AnyWire Bitty Bridge module

NZ2AW1C1BY

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

CC-Link-AnyWire DB A20 Bridge module

NZ2AW1C2D2

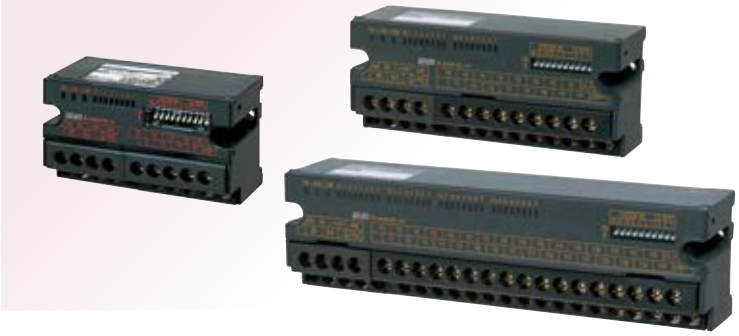
CC-Link V2

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 V AC/7 mA	2-wire type
AJ65SBTB2N-16A	AC	-	16	≤ 20 ms	100 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
AJ65SBTB3-16D5	DC	Positive/Negative common	16	≤ 1.5 ms	5 V DC/4 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/current	External connection
AJ65SBTB1-8T	Transistor	Sink type	8	≤ 0.25 mA	Yes	12/24 V DC 0.5 A	1-wire type
AJ65SBTB1-8T1	Transistor	Sink type	8	≤ 0.1 mA	No	12/24 V DC 0.5 A	1-wire type
AJ65SBTB2-8T	Transistor	Sink type	8	≤ 0.25 mA	Yes	12/24 V DC 0.5 A	2-wire type
AJ65SBTB2-8T1	Transistor	Sink type	8	≤ 0.1 mA	No	12/24 V DC 0.5 A	2-wire type
AJ65SBTB1-16T	Transistor	Sink type	16	≤ 0.25 mA	Yes	12/24 V DC 0.5 A	1-wire type
AJ65SBTB1-16T1	Transistor	Sink type	16	≤ 0.1 mA	No	12/24 V DC 0.5 A	1-wire type
AJ65SBTB2-16T	Transistor	Sink type	16	≤ 0.25 mA	Yes	12/24 V DC 0.5 A	2-wire type
AJ65SBTB2-16T1	Transistor	Sink type	16	≤ 0.1 mA	No	12/24 V DC 0.5 A	2-wire type
AJ65SBTB1-32T	Transistor	Sink type	32	≤ 0.25 mA	Yes	12/24 V DC 0.5 A	1-wire type
AJ65SBTB1-32T1	Transistor	Sink type	32	≤ 0.1 mA	No	12/24 V DC 0.5 A	1-wire type
AJ65SBTB1-8TE	Transistor	Source type	8	≤ 0.1 mA	Yes	12/24 V DC 0.1 A	1-wire type
AJ65SBTB1-16TE	Transistor	Source type	16	≤ 0.1 mA	Yes	12/24 V DC 0.1 A	1-wire type
AJ65SBTB1B-16TE1	Transistor	Source type	16	≤ 0.1 mA	No	12/24 V DC 0.5 A	1-wire type
AJ65SBTB1-32TE1	Transistor	Source type	32	≤ 0.1 mA	No	12/24 V DC 0.5 A	1-wire type
AJ65SBTB2N-8R	Relay	-	8	-	No	24 V DC, 240 V AC 2 A	2-wire type
AJ65SBTB2N-16R	Relay	-	16	-	No	24 V DC, 240 V AC 2 A	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	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	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/current	External connection
AJ65SBTB32-8DT	DC	Positive common	4	≤ 1.5 ms	24 V DC/7 mA	Transistor	Sink type	4	≤ 0.25 mA	Yes	24 V DC 0.5 A	3-wire type/2-wire type
AJ65SBTB32-8DT2	DC	Positive common	4	≤ 1.5 ms	24 V DC/7 mA	Transistor	Sink type	4	≤ 0.1 mA	No	24 V DC 0.5 A	3-wire type/2-wire type
AJ65SBTB1-16DT	DC	Positive common	8	≤ 1.5 ms	24 V DC/7 mA	Transistor	Sink type	8	≤ 0.25 mA	Yes	24 V DC 0.5 A	1-wire type/1-wire type
AJ65SBTB1-16DT1	DC	Positive common	8	≤ 0.2 ms	24 V DC/5 mA	Transistor	Sink type	8	≤ 0.25 mA	Yes	24 V DC 0.5 A	1-wire type/1-wire type
AJ65SBTB1-16DT2	DC	Positive common	8	≤ 1.5 ms	24 V DC/7 mA	Transistor	Sink type	8	≤ 0.1 mA	No	24 V DC 0.5 A	1-wire type/1-wire type
AJ65SBTB1-16DT3	DC	Positive common	8	≤ 0.2 ms	24 V DC/5 mA	Transistor	Sink type	8	≤ 0.1 mA	No	24 V DC 0.5 A	1-wire type/1-wire type
AJ65SBTB32-16DT	DC	Positive common	8	≤ 1.5 ms	24 V DC/7 mA	Transistor	Sink type	8	≤ 0.25 mA	Yes	24 V DC 0.5 A	3-wire type/2-wire type
AJ65SBTB32-16DT2	DC	Positive common	8	≤ 1.5 ms	24 V DC/7 mA	Transistor	Sink type	8	≤ 0.1 mA	No	24 V DC 0.5 A	3-wire type/2-wire type
AJ65SBTB1-32DT	DC	Positive common	16	≤ 1.5 ms	24 V DC/7 mA	Transistor	Sink type	16	≤ 0.25 mA	Yes	24 V DC 0.5 A	1-wire type/1-wire type
AJ65SBTB1-32DT1	DC	Positive common	16	≤ 0.2 ms	24 V DC/5 mA	Transistor	Sink type	16	≤ 0.25 mA	Yes	24 V DC 0.5 A	1-wire type/1-wire type
AJ65SBTB1-32DT2	DC	Positive common	16	≤ 1.5 ms	24 V DC/7 mA	Transistor	Sink type	16	≤ 0.1 mA	No	24 V DC 0.5 A	1-wire type/1-wire type
AJ65SBTB1-32DT3	DC	Positive common	16	≤ 0.2 ms	24 V DC/5 mA	Transistor	Sink type	16	≤ 0.1 mA	No	24 V DC 0.5 A	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 type	16	≤ 0.1 mA	No	24 V DC 0.5 A	1-wire type/1-wire type
AJ65SBTB1-32DTE1	DC	Negative common	16	≤ 1.5 ms	24 V DC/7 mA	Transistor	Source type	16	≤ 0.1 mA	No	24 V DC 0.5 A	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	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	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

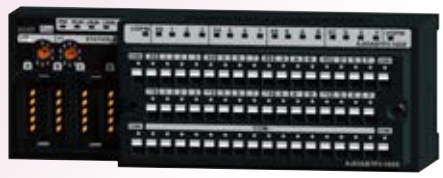
Model	Output format		Number of output points	Leakage current at OFF	Output protection function	Rated load voltage/current	External connection
AJ65DBTB1-32T1	Transistor	Sink type	32	≤ 0.1 mA	No	12/24 V DC 0.5 A	1-wire type
AJ65DBTB1-32R	Relay	-	32	-	No	24 V DC/240 V AC 2 A	1-wire type

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/current	External connection
AJ65DBTB1-32DT1	DC	Positive common	16	≤ 10 ms	24 V DC/5 mA	Transistor	Sink type	16	≤ 0.1 mA	No	12/24 V DC 0.5 A	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	1-wire type/1-wire type

Spring clamp terminal block push-in type

AJ65ABTP3-16D 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
AJ65ABTP3-16D	DC	Positive common	16	≤ 1.5 ms	24 V DC/6 mA	3-wire type
AJ65ABTP3-16DE	DC	Negative common	16	≤ 1.5 ms	24 V DC/6 mA	3-wire type

Spring clamp terminal block type

AJ65VBTS□-□

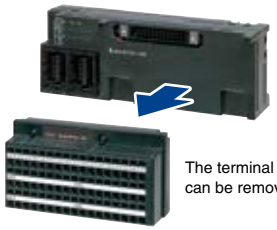
Features

◎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.



The terminal block can be removed.

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/current	External connection
AJ65VBTS2-16T	Transistor	Sink type	16	≤ 0.1 mA	No	12/24 V DC 0.5 A	2-wire type
AJ65VBTS2-32T	Transistor	Sink type	32	≤ 0.1 mA	No	12/24 V DC 0.5 A	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/current	External connection
AJ65VBTS32-16DT	DC	Positive common	8	≤ 1.5 ms	24 V DC/5 mA	Transistor	Sink type	8	≤ 0.1 mA	No	24 V DC 0.5 A	3-wire type/2-wire type
AJ65VBTS32-32DT	DC	Positive common	16	≤ 1.5 ms	24 V DC/5 mA	Transistor	Sink type	16	≤ 0.1 mA	No	12/24 V DC 0.5 A	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/current	External connection
AJ65VBTCE2-8T	Transistor	Sink type	8	≤ 0.1 mA	Yes	12/24 V DC 0.1 A	2-wire type
AJ65VBTCE2-16T	Transistor	Sink type	16	≤ 0.1 mA	Yes	12/24 V DC 0.1 A	2-wire type
AJ65VBTCE3-16TE	Transistor	Source type	16	≤ 0.1 mA	Yes	12/24 V DC 0.1 A	3-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/current	External connection
AJ65VBTCE32-16DT	DC	Positive common	8	≤ 1.5 ms	24 V DC/5 mA	Transistor	Sink type	8	≤ 0.1 mA	Yes	24 V DC 0.1 A	3-wire type/2-wire type
AJ65VBTCE3-16DTE	DC	Negative common	8	≤ 1.5 ms	24 V DC/5 mA	Transistor	Source type	8	≤ 0.1 mA	Yes	24 V DC 0.1 A	3-wire type/3-wire type
AJ65VBTCE32-32DT	DC	Positive common	16	≤ 1.5 ms	24 V DC/5 mA	Transistor	Sink type	16	≤ 0.1 mA	Yes	24 V DC 0.1 A	3-wire type/2-wire type
AJ65VBTCE3-32DTE	DC	Negative common	16	≤ 1.5 ms	24 V DC/5 mA	Transistor	Source type	16	≤ 0.1 mA	Yes	24 V DC 0.1 A	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
AJ65VBTCU3-8D1	DC	Positive common	8	≤ 0.2 ms	24 V DC/5 mA	3-wire type
AJ65VBTCU3-16D1	DC	Positive common	16	≤ 0.2 ms	24 V DC/5 mA	3-wire type
AJ65SBTC4-16DN	DC	Positive common	16	≤ 1.5 ms	24 V DC/5 mA	4-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/current	External connection
AJ65VBTCU2-8T	Transistor	Sink type	8	≤ 0.1 mA	Yes	12/24 V DC 0.1 A	2-wire type
AJ65VBTCU2-16T	Transistor	Sink type	16	≤ 0.1 mA	Yes	12/24 V DC 0.1 A	2-wire type
AJ65SBTC1-32T	Transistor	Sink type	32	≤ 0.25 mA	Yes	12/24 V DC 0.1 A	1-wire type
AJ65SBTC1-32T1	Transistor	Sink type	32	≤ 0.1 mA	No	12/24 V DC 0.1 A	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/current	External connection
AJ65SBTC4-16DT	DC	Positive common	8	≤ 1.5 ms	24 V DC/5 mA	Transistor	Sink type	8	≤ 0.25 mA	Yes	24 V DC 0.5 A	4-wire type
AJ65SBTC4-16DT2	DC	Positive common	8	≤ 1.5 ms	24 V DC/5 mA	Transistor	Sink type	8	≤ 0.1 mA	No	24 V DC 0.5 A	4-wire type
AJ65SBTC1-32DT	DC	Positive common	16	≤ 1.5 ms	24 V DC/5 mA	Transistor	Sink type	16	≤ 0.25 mA	Yes	24 V DC 0.1 A	1-wire type/1-wire type
AJ65SBTC1-32DT1	DC	Positive common	16	≤ 0.2 ms	24 V DC/5 mA	Transistor	Sink type	16	≤ 0.25 mA	Yes	24 V DC 0.1 A	1-wire type/1-wire type
AJ65SBTC1-32DT2	DC	Positive common	16	≤ 1.5 ms	24 V DC/5 mA	Transistor	Sink type	16	≤ 0.1 mA	No	24 V DC 0.1 A	1-wire type/1-wire type
AJ65SBTC1-32DT3	DC	Positive common	16	≤ 0.2 ms	24 V DC/5 mA	Transistor	Sink type	16	≤ 0.1 mA	No	24 V DC 0.1 A	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/current	External connection
AJ65SBTCF1-32T	Transistor	Sink type	32	≤ 0.1 mA	Yes	12/24 V DC 0.1 A	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/current	External connection
AJ65SBTCF1-32DT	DC	Positive/Negative common	16	≤ 1.5 ms	24 V DC/5 mA	Transistor	Sink type	16	≤ 0.1 mA	Yes	12/24 V DC 0.1 A	1-wire type /1-wire type
AJ65VBTCF1-32DT1	DC	Positive/Negative common	16	≤ 0.2 ms	24 V DC/5 mA	Transistor	Sink type	16	≤ 0.1 mA	Yes	12/24 V DC 0.1 A	1-wire type /1-wire type
AJ65VBTCFJ1-32DT1	DC	Positive common	16	≤ 0.2 ms	24 V DC/5 mA	Transistor	Sink type	16	≤ 0.1 mA	Yes	24 V DC 0.1 A	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

Output modules

Model	Output format		Number of output points	Leakage current at OFF	Output protection function	Rated load voltage/current	External connection
AJ65FBTA2-16T	Transistor	Sink type	16	≤ 0.25 mA	Yes	12/24 V DC 0.5 A	2-wire type
AJ65FBTA2-16TE	Transistor	Source type	16	≤ 0.30 mA	Yes	12/24 V DC 1.0 A	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 /current	External connection
AJ65FBTA42-16DT	DC	Positive common	8	≤ 1.5 ms	24 V DC/7 mA	Transistor	Sink type	8	≤ 0.25 mA	Yes	24 V DC 0.5 A	2 to 4-wire type /2-wire type
AJ65FBTA42-16DTE	DC	Negative common	8	≤ 1.5 ms	24 V DC/7 mA	Transistor	Source type	8	≤ 0.30 mA	Yes	24 V DC 1.0 A	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 EN954-1 , 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 EN954-1, 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　Category 3: 5.0 A/point (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-68ADVN
AJ65VBTCU-68ADIN

Voltage input module

Model	Number of channels	Number of occupied points	Station type
AJ65VBTCU-68ADVN	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-68DAVN

Voltage output module

Model	Number of channels	Number of occupied points	Station type
AJ65VBTCU-68DAVN	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

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

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

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)

FX2N-32CCL

Features

◎Interface block for connecting Mitsubishi micro-programmable controllers FX3G, FX3U, FX3GC, FX3UC Series as CC-Link remote device stations

Item	FX2N-32CCL
Description	FX series interface block
Number of occupied stations	1...4
Station type	Remote 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.
(Windows®8.1, Windows®8, Windows 7®, Windows Vista®(32 bits), Windows® XP(32 bits), Windows Server® 2012 Standard, Windows Server® 2008, Windows Server® 2003 R2)

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

Repeater modules

Repeater module

AJ65FBTA-RPH
AJ65SBT-RPS/RPG
AJ65BTS-RPH
AJ65BT-RPI-10A/10B
AJ65SBT-RPT

AJ65BT-RPI-10A
AJ65BT-RPI-10B

AJ65BTS-RPH

AJ65SBT-RPT

AJ65SBT-RPS
AJ65SBT-RPG

AJ65FBTA-RPH

Features

◎The following 5 types are available for various applications.

◎Low profile waterproof type repeater hub module:
Star topology, trunk line extension, waterproof structure

◎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

◎Space optical repeater module:
Communications on linear mobile systems

Type	Model	Description	Number of occupied points	Station type
Low profile waterproof type repeater hub module	AJ65FBTA-RPH	Start wiring of up to 8 branches. Wiring of max. length matched to transmission speed is possible for each branch. Waterproof (IP67) structure	-	-
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	-	-
Space optical repeater modules	AJ65BT-RPI-10A	Use AJ65BT-RPI-10A and AJ65BT-RPT-10B as a set. Transmission speeds of 156kbps, 625kbps and 2.5Mbps are supported.	-/1	Remote I/O station when occupying one station
	AJ65BT-RPI-10B	Wireless transmission distances from 0 to 100 m via infrared light. Optical communication status monitor function	-/1	Remote I/O station when occupying one station

Optional parts for I/O modules

One-touch connector plug

A6CON-P214 (20pcs)
A6CON-P220 (20pcs)
A6CON-P514 (20pcs)
A6CON-P520 (20pcs)

◎Applicable models
AJ65SBTC□-□ remote I/O module
AJ65VBTCU□-□ remote I/O module
AJ65VBTCU-□ analog module

One-touch connector plug for communication

A6CON-L5P (10pcs)

◎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 (10pcs)
A6CON-PW5P-SOD (10pcs)

◎Applicable models *2

One-touch connector plug with terminating resister

A6CON-TR11N (1pc)

◎Applicable models *1

Online connector for communication

A6CON-LJ5P (5pcs)

◎Applicable models *1

Online connector for power supply

A6CON-PWJ5P (5pcs)

◎Applicable models *2

Protective cover

A6CVR-8 (10pcs)
A6CVR-16 (10pcs)
A6CVR-32 (10pcs)

◎Applicable models
AJ65SBTB□-□ remote I/O module
AJ65SBTC□-□ remote I/O module

Protective cover for spring clamp terminal block type module

A6CVR-VS16 (10pcs)

◎Applicable models
AJ65VBTS□-16□remote I/O module

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

A6CVR-VCE8 (10pcs)
A6CVR-VCE16 (10pcs)

◎Applicable models
AJ65VBTCE□-8□ remote I/O module
AJ65VBTCE□-16□ remote I/O module

40-pin connector

A6CON1 (1pc)
A6CON2 (1pc)
A6CON3 (1pc)
A6CON4 (1pc)

◎Applicable models
AJ65SBTC□-□ remote I/O module
AJ65VBTCF-□ remote I/O module

Protective cap for unused connector

A6CAP-WP2 (20pcs)

◎Applicable models
AJ65FBTA□-□ remote I/O module

Handy line tester

EHLT02

Mitsubishi Electric Engineering Co.,Ltd.

*1: AJ65VBTS□-□ remote I/O module, AJ65VBTCE□-□ remote I/O module, AJ65VBTCU□-□ remote I/O module, AJ65ABTP□-□ remote I/O module, AJ65VBTCU-□ analog module, AJ65SBT-CLB CC-Link to CC-Link/LT bridge module
*2: AJ65VBTS□-□ remote I/O module, AJ65VBTCE□-□ remote I/O module, AJ65VBTCU□-□ remote I/O module, AJ65ABTP□-□ remote I/O module, AJ65VBTCU-□ analog module

CC-Link Safety

Master module

MELSEC-QS Series

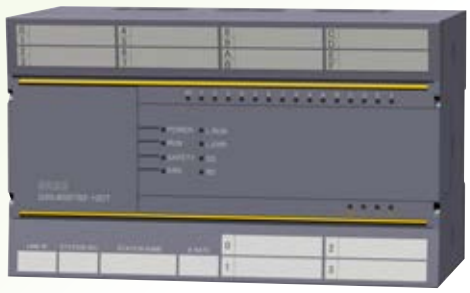
QS0J61BT12

Occupied I/O points: 32 points
Can be used only as a master station

Remote I/O modules

▶Terminal block type

Screw terminal block type　QS0J65BTB2-12DT



Features

◎The system complying with Category 3 or Category 4 of EN954-1 can be configured by the combination of wiring and parameters.

◎The fail-safe function is equipped. When a failure occurs inside the module, the self-diagnostics function detects the failure and turns OFF the output.

◎A dark test (contact stuck diagnostics) enables an error diagnostics including external safety devices.

I/O combined module

Model	Input format		Number of input points	Rated input voltage/current	Output format		Number of output points	Leakage current at OFF	Output protection function	Rated load voltage /current	External connection
QS0J65BTB2-12DT	DC	Negative common	8/16	24 V DC/4.6 mA	Transistor	Source + sink/ Source + source type	4/2	≤ 0.5 mA	Yes	24 V DC/0.5 A	2-wire type /2-wire type

Spring clamp terminal block type　QS0J65BTS2-8D　QS0J65BTS2-4T

Features

◎The remote I/O module which has obtained the highest safety level applicable to programmable controllers, and the safety-related system with high security can be configured.

◎The system complying with Category 3 or Category 4 of EN954-1 can be configured by the combination of wiring and parameters.

Input module

Model	Input format		Number of input points	Input response time	Rated input voltage/current	External connection
QS0J65BTS2-8D	DC	Negative common	8/16	≤ 11.2 ms	24 V DC/5.9 mA	2-wire type

Output module

Model	Output format		Number of output points	Leakage current at OFF	Output protection function	Rated load voltage/current	External connection
QS0J65BTS2-4T	Transistor	Source + sink/Source + source type	4/2	≤ 0.5 mA	Yes	24 V DC/0.5 A	2-wire type

CC-Link/LT

Master/bridge modules

MELSEC-Q Series

QJ61CL12

Current consumption : 130 mA (5 V DC, supplied from programmable controller),
28 mA (24 V DC, supplied from power adapter)
Current at start-up : 70 mA (24 V DC, supplied from power adapter)

MELSEC-L Series

LJ61CL12

Current consumption : 160 mA (5 V DC, supplied from programmable controller),
30 mA (24 V DC, supplied from power adapter)
Current at start-up : 70 mA (24 V DC, supplied from power adapter)

MELSEC-FX3UC Series

FX3UC-32MT-LT (-2)

Current consumption : 7 W (main module only)
Built-in power supply : 24 V DC 350 mA (for CC-Link/LT network)
* CC-Link/LT parameters for FX3UC-32MT-LT-2 can be configured with GX Works2, GX Developer or display modules.

MELSEC-FX Series

FX2N-64CL-M

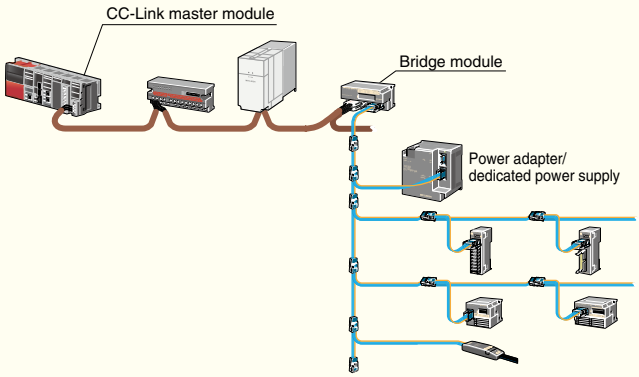
Current consumption : 190 mA (5 V DC, supplied from programmable controller),
25 mA (2 V DC, supplied from power adapter)
Current at start-up : 35 mA (24 V DC, supplied from power adapter)

CC-Link to CC-Link/LT bridge module

AJ65SBT-CLB

Current consumption : 75 mA (24 V DC, supplied from power adapter)
Current at start-up : 165 mA (24 V DC, supplied from power adapter)

■Configuration example of bridge module



Remote I/O modules

▶Terminal block type

Screw terminal block type

CL1X4-D1B2 CL2X8-D1B2 CL1Y4-T1B2 CL1Y4-R1B2
CL1Y4-R1B1 CL2Y8-TP1B2 CL1XY4-DT1B2 CL1XY4-DR1B2
CL1XY8-DT1B2 CL1XY8-DR1B2

Features

◎The industry's most compact size
◎Terminal block cover with nameplate showing connected devices
◎Input modules with positive/negative common shared
◎Terminal block structure enabling simple connection of 2-wire sensors or other loads
◎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
CL1X4-D1B2	DC	Positive/Negative common	4	≤ 0.5 ms/≤ 1.5 ms	24 V DC/4 mA	2-wire type
CL2X8-D1B2	DC	Positive/Negative common	8	≤ 0.5 ms/≤ 1.5 ms	24 V DC/4 mA	2-wire type

Output modules

Model	Output format		Number of output points	Leakage current at OFF	Output protection function	Rated load voltage/current	External connection
CL1Y4-T1B2	Transistor	Sink type	4	≤ 0.1 mA	No	12/24 V DC 0.1 A	2-wire type
CL2Y8-TP1B2	Transistor	Sink type	8	≤ 0.1 mA	Yes	12/24 V DC 0.1 A	2-wire type
CL1Y4-R1B2	Relay	-	4	-	No	30 V DC/250 V AC 2 A	2-wire type
CL1Y4-R1B1	Relay	-	4	-	No	30 V DC/250 V AC 2 A	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 /current	External connection
CL1XY4-DT1B2	DC	Positive/Negative common	2	≤ 1.5 ms	24 V DC/4 mA	Transistor	Sink type	2	≤ 0.1 mA	No	12/24 V DC 0.1 A	2-wire type /2-wire type
CL1XY8-DT1B2	DC	Positive/Negative common	4	≤ 1.5 ms	24 V DC/4 mA	Transistor	Sink type	4	≤ 0.1 mA	No	12/24 V DC 0.1 A	2-wire type /2-wire type
CL1XY4-DR1B2	DC	Positive/Negative common	2	≤ 1.5 ms	24 V DC/4 mA	Relay	-	2	-	No	30 V DC/250 V AC 2 A	2-wire type /2-wire type
CL1XY8-DR1B2	DC	Positive/Negative common	4	≤ 1.5 ms	24 V DC/4 mA	Relay	-	4	-	No	30 V DC/250 V AC 2 A	2-wire type /2-wire type

Spring clamp terminal block type

CL1X4-D1S2 CL1Y4-T1S2 CL2X8-D1S2
CL2Y8-TP1S2 CL2Y8-TPE1S2

Features

◎Retightening is not required. The applicable wire size is 0.3 to 1.5 mm² (22 to 16 AWG).
◎Two-piece structure (The terminal block section is removable.)
◎Input modules with positive/negative common shared
◎Source type output module (8 points) is available.
◎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
CL1X4-D1S2	DC	Positive/Negative common	4	≤ 0.5 ms/≤ 1.5 ms	24 V DC/4 mA	2-wire type
CL2X8-D1S2	DC	Positive/Negative common	8	≤ 0.5 ms/≤ 1.5 ms	24 V DC/4 mA	2-wire type

Output modules

Model	Output format		Number of output points	Leakage current at OFF	Output protection function	Rated load voltage/current	External connection
CL1Y4-T1S2	Transistor	Sink type	4	≤ 0.1 mA	No	12/24 V DC 0.1 A	2-wire type
CL2Y8-TP1S2	Transistor	Sink type	8	≤ 0.1 mA	Yes	12/24 V DC 0.1 A	2-wire type
CL2Y8-TPE1S2	Transistor	Source type	8	≤ 0.1 mA	Yes	12/24 V DC 0.1 A	2-wire type

▶Connector type

Sensor connector type (e-CON)

CL1X4-D1C3 CL1Y4-T1C2 CL2X8-D1C3V CL2Y8-TP1C2V CL2X16-D1C3V CL2Y16-TP1C2V CL2XY16-DTP1C5V

Features

◎The industry's most compact size
◎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
CL1X4-D1C3	DC	Positive common	4	≤ 0.5 ms/≤ 1.5 ms	24 V DC/4 mA	3-wire type
CL2X8-D1C3V	DC	Positive common	8	≤ 0.5 ms/≤ 1.5 ms	24 V DC/4 mA	3-wire type
CL2X16-D1C3V	DC	Positive common	16	≤ 0.5 ms/≤ 1.5 ms	24 V DC/4 mA	3-wire type

Output modules

Model	Output format		Number of output points	Leakage current at OFF	Output protection function	Rated load voltage/current	External connection
CL1Y4-T1C2	Transistor	Sink type	4	≤ 0.1 mA	No	24 V DC 0.1 A	2-wire type
CL2Y8-TP1C2V	Transistor	Sink type	8	≤ 0.1 mA	Yes	24 V DC 0.1 A	2-wire type
CL2Y16-TP1C2V	Transistor	Sink type	16	≤ 0.1 mA	Yes	24 V DC 0.1 A	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 /current	External connection
CL2XY16-DTP1C5V	DC	Positive common	8	≤ 0.5 ms/ ≤ 1.5 ms	24 V DC/4 mA	Transistor	Sink type	8	≤ 0.1 mA	Yes	24 V DC 0.1 A	3-wire type/ 2-wire type

MIL connector type

CL2X16-D1M1V CL2X16-D1MJ1V CL2Y16-TP1M1V CL2Y16-TPE1M1V CL2Y16-TP1MJ1V

Features

◎The industry's most compact size
◎MIL connector used for easy connection to relay terminals, terminal block conversion modules, solenoid valves, and others.
◎Simple module replacement by only removing the connector
◎Modules with a shared power supply for module and I/O parts are available. (CL2X16-D1MJ1V and CL2Y16-TP1MJ1V) No external power supply for I/O part saves cost and space.

Input modules

Model	Input format		Number of input points	Input response time	Rated input voltage/current	External connection
CL2X16-D1M1V	DC	Positive common	16	≤ 0.5 ms/≤ 1.5 ms	24 V DC/4 mA	1-wire type
CL2X16-D1MJ1V	DC	Positive common	16	≤ 0.5 ms/≤ 1.5 ms	24 V DC/4 mA	1-wire type

Output modules

Model	Output format		Number of output points	Leakage current at OFF	Output protection function	Rated load voltage/current	External connection
CL2Y16-TP1M1V	Transistor	Sink type	16	≤ 0.1 mA	Yes	12/24 V DC 0.1 A	1-wire type
CL2Y16-TP1MJ1V	Transistor	Sink type	16	≤ 0.1 mA	Yes	24 V DC 0.1 A	1-wire type
CL2Y16-TPE1M1V	Transistor	Source type	16	≤ 0.1 mA	Yes	12/24 V DC 0.1 A	1-wire type

▶Cable type

Cable type　CL1X2-D1D3S　CL1Y2-T1D2S　CL1XY2-DT1D5S

Features

◎The industry's most compact size

◎The remote I/O module can be stored in a duct with cables.

◎Integration of communication cables and external device connection cables for easy wiring

◎Cables (50 cm) provided to both communication and I/O sides

Input modules

Model	Input format		Number of input points	Input response time	Rated input voltage/current	External connection
CL1X2-D1D3S	DC	Positive common	2	≤ 0.5 ms/≤ 1.5 ms	24 V DC/4 mA	3-wire type

Output modules

Model	Output format		Number of output points	Leakage current at OFF	Output protection function	Rated load voltage/current	External connection
CL1Y2-T1D2S	Transistor	Sink type	2	≤ 0.1 mA	No	24 V DC 0.1 A	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 /current	External connection
CL1XY2-DT1D5S	DC	Positive common	1	≤ 1.5 ms	24 V DC/4 mA	Transistor	Sink type	1	≤ 0.1 mA	No	24 V DC 0.1 A	3-wire type/ 2-wire type

Analog modules

▶Terminal block type

Analog input module

Screw terminal block type　CL2AD4-B

Features

◎Efficient usage of I/O points (number of occupied stations) is available because the points can be changed by the preset conversion-enabled channel.

(The number of occupied stations changes depending on the setting of the channel for which conversion is enabled.)

◎The dedicated flat cable (50 cm) is directly connected to a module.

Voltage/current input module

Model	Number of channels	Number of occupied stations
CL2AD4-B	4	16-point mode 4 stations occupied

Analog output module

Screw terminal block type　CL2DA2-B

Features

◎Efficient usage of I/O points (number of occupied stations) is available because the points can be changed by the preset conversion-enabled channel.

(The number of occupied stations changes depending on the setting of the channel for which conversion is enabled.)

◎The dedicated flat cable (50 cm) is directly connected to a module.

Voltage/current output module

Model	Number of channels	Number of occupied stations
CL2DA2-B	2	16-point mode 2 stations occupied

Dedicated power supply

Dedicated power supply CL1PSU-2A

Features

◎Power supply dedicated to the CC-Link/LT system with built-in 2A power supply

Item		CL1PSU-2A
Input	Rated voltage	100/120/200/230/240 V AC
	Allowable voltage range	85...264 V AC
	Rated frequency	50/60 Hz
	Power fuse	3.15 A
	Inrush current	Max. 60 A/200 V AC
Output	Output voltage	24 V DC +10 %/-5 %
	Output current	0.01 A to 2 A derating according to ambient temperature and line voltage [Use so that the current consumption does not exceed 2 A when power is supplied (excluding immediately after power ON).]
	Ripple noise	≤ 500 mVp-p
External connection method		Module power supply: terminal block 3 pins (M3 screws) Power supply for supplying power to communication line/module: CC-Link/LT dedicated connector (4-pin) x 2

Power adapter

Power adapter CL1PAD1

Features

◎Ensuring a stable power supply from the external power source (optional) to the CC-Link/LT system

Item	CL1PAD1
Voltage input range	Depending on connected model. Max. 28.8 V DC
Max. rated current	5.0 A *5
Isolation resistance	Across all external terminals and ground terminal 500 V DC, 10 MΩ by insulation resistance tester
External connection method	Module power supply: terminal block 3 pins (M3 screws) Power supply for supplying power to communication line/module: CC-Link/LT dedicated connector (4-pin) x 2

*5: In regular operation, use the adapter so that the max. rated current is not exceeded.

Optional parts

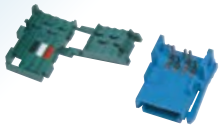
Connector for dedicated flat cable

CL9-CNF-18

Mitsubishi Electric System & Service Co.,Ltd.

Connector for VCTF cable

CL9-CNR-23



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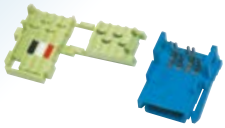
Connector for flexible cable

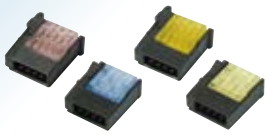
CL9-CNR-20



Mitsubishi Electric System & Service Co.,Ltd.

Open sensor connector (e-CON)

ECN-****



Mitsubishi Electric System & Service Co.,Ltd.

Joint shield/Dust shield

ECN-CVR4**

Mitsubishi Electric System & Service Co.,Ltd.

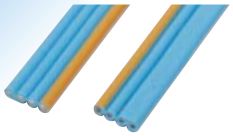
Terminating resistor

CL9-TERM

Mitsubishi Electric System & Service Co.,Ltd.

Dedicated flat cable

CL9-FL4-18



Mitsubishi Electric System & Service Co.,Ltd.

Dedicated flexible cable

CL9-MV4-075

Mitsubishi Electric System & Service Co.,Ltd.

Tool for spring clamp terminal block

KD-5339

Mitsubishi Electric System & Service Co.,Ltd.

IDC tool for communication connector

L-TOOL-N

Mitsubishi Electric System & Service Co.,Ltd.

IDC tool for open sensor connector

e-TOOL-N

Mitsubishi Electric System & Service Co.,Ltd.

Screw terminal block Common terminal block

CL2TE-5

Mitsubishi Electric Corporation

Spring clamp terminal block Common terminal block

CL2TE-10S

Mitsubishi Electric Corporation

Holder

CL1-HLD

Mitsubishi Electric Corporation

Handy line tester

EHLT01

Mitsubishi Electric Engineering Co.,Ltd.

Embedded modules

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

CC-Link Ver.2 embedded interface board

Q50BD-CCV2 CC-Link V2

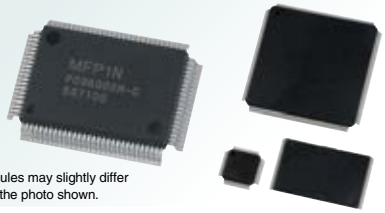
Features

◎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 CC-Link V2



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-NPC2OG51
Package unit	40 pcs
Application	Network circuit

MFP: Mitsubishi Field-network Processor

Dedicated communication LSI

MFP2N MFP2AN 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	MFP2AN		MFP2N		MFP3N	
Ordering model name	A6GA-CCMFP2ANN 60F	A6GA-CCMFP2ANN 300F	A6GA-CCMFP2NN 60F	A6GA-CCMFP2NN 300F	A6GA-CCMFP3NN 60F	A6GA-CCMFP3NN 300F
Package unit	60 pcs	300 pcs	60 pcs	300 pcs	60 pcs	300 pcs
Application	Remote I/O station		Remote I/O station		Remote device station	

MFP: Mitsubishi Field-network Processor

Dedicated communication LSI

CLC13 CLC21 CLC31

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

Features

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

Model	CLC13	CLC21		CLC31
Ordering model name	CL2GA13-60	CL2GA21-60	CL2GA21-300	CL2GA31-60
Package unit	60 pcs	60 pcs	300 pcs	60 pcs
Application	Master station	Remote I/O station		Remote device station

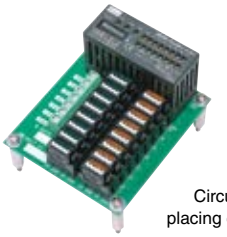
CLC:CC-Link/LT Controller

Embedded I/O module

AJ65MBTL1N-16D AJ65MBTL1N-32D AJ65MBTL1N-16T AJ65MBTL1N-32T AJ65MBTL1N-16DT

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/current
AJ65MBTL1N-16T	Transistor	Sink type	16	≤ 0.1 mA	Yes	12/24 V DC 0.1 A
AJ65MBTL1N-32T	Transistor	Sink type	32	≤ 0.1 mA	Yes	12/24 V DC 0.1 A

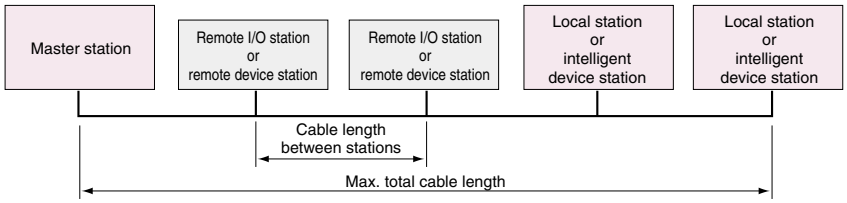
I/O combined module

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/current
AJ65MBTL1N-16DT	DC	Positive common	8	≤ 1.5 ms	24 V DC/7 mA	Transistor	Sink type	8	≤ 0.1 mA	Yes	24 V DC 0.1 A

*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.
E-mail: OSC@rj.MitsubishiElectric.co.jp

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	Remote input/output (RX, RY): 2048 points Remote register (RWw): 256 points Remote register (RWr): 256 points
		CC-Link Ver.2	Remote input/output (RX, RY): 8192 points Remote register (RWw): 2048 points Remote register (RWr): 2048 points
	Number of link points per station		See the number of link points for each number of occupied stations on page 43.
Communication specifications	Transmission rate		10M/5M/2.5M/625k/156kbps
	Communication method		Broadcast polling method
	Synchronization method		Flag synchronization method
	Encoding method		NRZI method
	Transmission path type		Bus type (conforming to EIA RS485)
	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		
	Connection cables		CC-Link dedicated cables compatible with ver.1.10 * Use the dedicated cable certified by the CC-Link Partner Association. * If other cables are used, the operation will not be guaranteed. * Cables of different manufacturers can be used together if the cables are compatible with ver.1.10. * 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, http://www.cc-link.org. * The CC-Link dedicated cables, CC-Link dedicated high-performance cables and CC-Link ver.1.10 dedicated cables cannot be used together.

CC-Link dedicated cable compatible with ver.1.10 (with use of 110-ohm termination resistance)

Transmission rate	Cable length between stations	Max. total cable length
156kbps	20 cm or more	1200m
625kbps		900m
2.5Mbps		400m
5Mbps		160m
10Mbps		100m

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		156kbps / 625kbps		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
		2 m or more		In the case of a system configuration including local stations and intelligent device stations
	Between remote I/O station and remote device station (shortest cable)	30 cm or more		–
Max. transmission distance		500m	100m	–
Distance between relay connectors		No limitation		–

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
Number of link points per number of occupied stations	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×a)+(2×b)+(3×c)+(4×d)} ≤ 64	a. Number of modules occupying 1 station b. Number of modules occupying 2 stations c. Number of modules occupying 3 stations d. Number of modules occupying 4 stations
Condition 2	{(16×A)+(54×B)+(88×C)} ≤ 2304	A. Number of remote I/O stations ≤ 64 B. Number of remote device stations ≤ 42 C. Number of local stations, standby master stations and intelligent device stations ≤ 26

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)×2 +(c+c2+c4+c8)×3 +(d+d2+d4+d8)×4} ≤ 64	a: Total number of Ver.1-compatible slave stations occupying 1 station and Ver.2-compatible slave stations occupying 1 station with the expanded cyclic setting of "Single" b: Total number of Ver.1-compatible slave stations occupying 2 stations and Ver.2-compatible slave stations occupying 2 stations with the expanded cyclic setting of "Single" c: Total number of Ver.1-compatible slave stations occupying 3 stations and Ver.2-compatible slave stations occupying 3 stations with the expanded cyclic setting of "Single" d: Total number of Ver.1-compatible slave stations occupying 4 stations and Ver.2-compatible slave stations occupying 4 stations with the expanded cyclic setting of "Single"
Condition 2	[{(a×32)+(a2×32)+(a4×64)+(a8×128)} +[(b×64)+(b2×96)+(b4×192)+(b8×384)} +[(c×96)+(c2×160)+(c4×320)+(c8×640)} +[(d×128)+(d2×224)+(d4×448)+(d8×896)}] ≤ 8192	a2: Number of Ver.2-compatible slave stations occupying 1 station with the expanded cyclic setting of "Double" b2: Number of Ver.2-compatible slave stations occupying 2 stations with the expanded cyclic setting of "Double" c2: Number of Ver.2-compatible slave stations occupying 3 stations with the expanded cyclic setting of "Double" d2: Number of Ver.2-compatible slave stations occupying 4 stations with the expanded cyclic setting of "Double"
Condition 3	[{(a×4)+(a2×8)+(a4×16)+(a8×32)} +[(b×8)+(b2×16)+(b4×32)+(b8×64)} +[(c×12)+(c2×24)+(c4×48)+(c8×96)} +[(d×16)+(d2×32)+(d4×64)+(d8×128)}] ≤ 2048	a4: Number of Ver.2-compatible slave stations occupying 1 station with the expanded cyclic setting of "Quadruple" b4: Number of Ver.2-compatible slave stations occupying 2 stations with the expanded cyclic setting of "Quadruple" c4: Number of Ver.2-compatible slave stations occupying 3 stations with the expanded cyclic setting of "Quadruple" d4: Number of Ver.2-compatible slave stations occupying 4 stations with the expanded cyclic setting of "Quadruple" a8: Number of Ver.2-compatible slave stations occupying 1 station with the expanded cyclic setting of "Octuple" b8: Number of Ver.2-compatible slave stations occupying 2 stations with the expanded cyclic setting of "Octuple" c8: Number of Ver.2-compatible slave stations occupying 3 stations with the expanded cyclic setting of "Octuple" d8: Number of Ver.2-compatible slave stations occupying 4 stations with the expanded cyclic setting of "Octuple"
Condition 4	{(16×A)+(54×B)+(88×C)} ≤ 2304	A: Number of remote I/O stations ≤ 64 B: Number of remote device stations ≤ 42 C: Number of local stations, standby master stations and intelligent device stations ≤ 26

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×a)+(2×b)+(3×c)+(4×d)} ≤ 64	a. Number of modules occupying 1 station b. Number of modules occupying 2 stations c. Number of modules occupying 3 stations d. Number of modules occupying 4 stations

Remote device net ver.2 mode

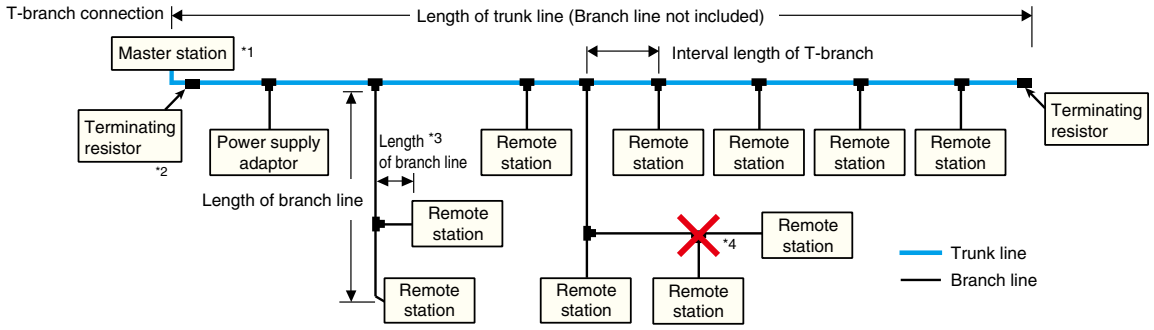
A total of 64 remote I/O stations and remote device stations can be connected to one master station. However, all the following conditions must be met.

Item		Number of modules
Condition 1	{(a+a2+a4+a8) +(b+b2+b4+b8)×2 +(c+c2+c4+c8)×3 +(d+d2+d4+d8)×4} ≤ 64	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) 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) 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) 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)
Condition 2	[{(a×32)+(a2×32)+(a4×64)+(a8×128)} +[(b×64)+(b2×96)+(b4×192)+(b8×384)} +[(c×96)+(c2×160)+(c4×320)+(c8×640)} +[(d×128)+(d2×224)+(d4×448)+(d8×896)}] ≤ 8192	a2: Number of Ver.2-compatible remote device stations occupying 1 station (extended cyclic setting: double) b2: Number of Ver.2-compatible remote device stations occupying 2 stations (extended cyclic setting: double) c2: Number of Ver.2-compatible remote device stations occupying 3 stations (extended cyclic setting: double) d2: Number of Ver.2-compatible remote device stations occupying 4 stations (extended cyclic setting: double)
Condition 3	[{(a×4)+(a2×8)+(a4×16)+(a8×32)} +[(b×8)+(b2×16)+(b4×32)+(b8×64)} +[(c×12)+(c2×24)+(c4×48)+(c8×96)} +[(d×16)+(d2×32)+(d4×64)+(d8×128)}] ≤ 2048	a4: Number of Ver.2-compatible remote device stations occupying 1 station (extended cyclic setting: quadruple) b4: Number of Ver.2-compatible remote device stations occupying 2 stations (extended cyclic setting: quadruple) c4: Number of Ver.2-compatible remote device stations occupying 3 stations (extended cyclic setting: quadruple) d4: Number of Ver.2-compatible remote device stations occupying 4 stations (extended cyclic setting: quadruple) a8: Number of Ver.2-compatible remote device stations occupying 1 station (extended cyclic setting: octuple) b8: Number of Ver.2-compatible remote device stations occupying 2 stations (extended cyclic setting: octuple) c8: Number of Ver.2-compatible remote device stations occupying 3 stations (extended cyclic setting: octuple) d8: Number of Ver.2-compatible remote device stations occupying 4 stations (extended cyclic setting: octuple)

CC-Link/LT specifications

Item				4-point mode	8-point mode	16-point mode
Control specifications	Maximum number of link points (When the same I/O address is used)			256 points (512 points)	512 points (1024 points)	1024 points (2048 points)
	Number of link points per station (When the same I/O address is used)			4 points (8 points)	8 points (16 points)	16 points (32 points)
	Link scan time	When 32 stations connected	Number of points	128 points	256 points	512 points
			2.5 Mbps	0.7 ms	0.8 ms	1.0 ms
			625 kbps	2.2 ms	2.7 ms	3.8 ms
			156 kbps	8.0 ms	10.0 ms	14.1 ms
		When 64 stations connected	Number of points	256 points	512 points	1024 points
			2.5 Mbps	1.2 ms	1.5 ms	2.0 ms
			625 kbps	4.3 ms	5.4 ms	7.4 ms
			156 kbps	15.6 ms	20.0 ms	27.8 ms
Communication specifications	Transmission speed			2.5 Mbps/625 kbps/156 kbps		
	Communication protocol			BITR (Broadcast polling + Interval Timed Response)		
	Transmission path			T-branch type		
	Error control system			CRC		
	Number of connectable modules			64		
	Remote station number			1...64		
	Maximum number of connectable stations per branch line			8		
	Distance between stations			No limit		
	T-branch interval			No limit		
	Master station position			End of trunk line		
	RAS function			Network diagnosis, Internal loopback diagnosis, Station detach function, Automatic return function		
	Connection cable			Dedicated flat cable (0.75 mm² x 4), VCTF cable, high flexible cable		

CC-Link/LT network wiring specifications



Item	Specifications			Remarks
Transmission speed	2.5 Mbps	625 kbps	156 kbps	-
Distance between stations	No limit			-
Maximum number of stations on a trunk line	8 modules			-
Length of trunk line	35 m	100 m	500 m	Cable length between 2 terminating resistors (Branch line length not included)
T-branch interval	No limit			-
Maximum length of branch line	4 m	16 m	60 m	Cable length per branch line
Overall length of branch lines	15 m	50 m	200 m	Total length of all trunk lines

*1 Always install the master module at one end of the trunk line.
*2 Install a terminating resistor near the master module (within 20 cm).
*3 The length of a line branched from a branch line is also included in the max. branch line length and overall branch line length.
*4 Cables cannot be connected between branch lines.

Precautions when mixed cables are used

1. *Different types of cables cannot be used together on the trunk line.*
2. *Dedicated flat cables, VCTF cables and flexible cables can be used together for branch lines.*
   * The wiring specifications do not change according to the used cables and mixed use of cables.
3. *Different types of cables cannot be used together on the same branch line.*
   * When the module with cable (e.g. CL1Y2-T1D2S) is used, it can be connected to a different type of cable by making sure the dedicated cables are within 20 cm.

General specifications

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

Item	Specifications					
	CC-Link					CC-Link/LT
Operating ambient temperature	0...55 ˚C *3					0...55 ˚C *4
Storage ambient temperature	-20...75 ˚C *3					-25...75 ˚C *4
Operating ambient humidity	10...90 %RH, non-condensing (The waterproof type remote I/O modules conform to the IP67. *5)					5...95 % RH, non-condensing (conforming to JIS B 3502, IEC 61131-2, level RH-2)
Storage ambient humidity	10...90 %RH, non-condensing *5					5...95 % RH, non-condensing (conforming to JIS B 3502, IEC 61131-2, level RH-2)
Vibration resistance	Conforming to JIS B 3502, IEC 61131-2		Frequency	Acceleration	Amplitude	Number of sweeps
		Under intermittent vibration	5...8.4 Hz	-	3.5 mm	10 times each in X, Y and Z directions (for 80 minutes)
			8.4...150 Hz	9.8 m/s^2	-	
		Under continuous vibration	5...8.4 Hz	-	1.75 mm	
			8.4...150 Hz	4.9 m/s^2	-	
Shock resistance	Conforming with JIS B 3502, IEC 61131-2 (147 m/s^2, 3 times in each of 3 directions X, Y and Z)					
Operating ambience	No corrosive gases					
Operating altitude	≤ 2000 m *6					
Installation location	Inside a control panel					
Overvoltage category *1	≤ II					
Pollution degree *2	≤ 2					

*1: 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.

*2: 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.

*3: The table below shows the operating ambient temperature and storage ambient temperature for the AJ65FBTA-RPH type waterproof remote I/O modules and MELSEC-Q Series master module.

Item		AJ65FBTA-RPH
Operating ambient temperature		0...45 ˚C
Storage ambient temperature	Not wired (standalone product)	-25...75 ˚C

*4: The ambient operating/storage temperatures satisfy requirements in excess of the JIS B 3502, IEC 61131-2 standards.

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

*6: 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.

Extensive global support coverage providing expert help whenever needed

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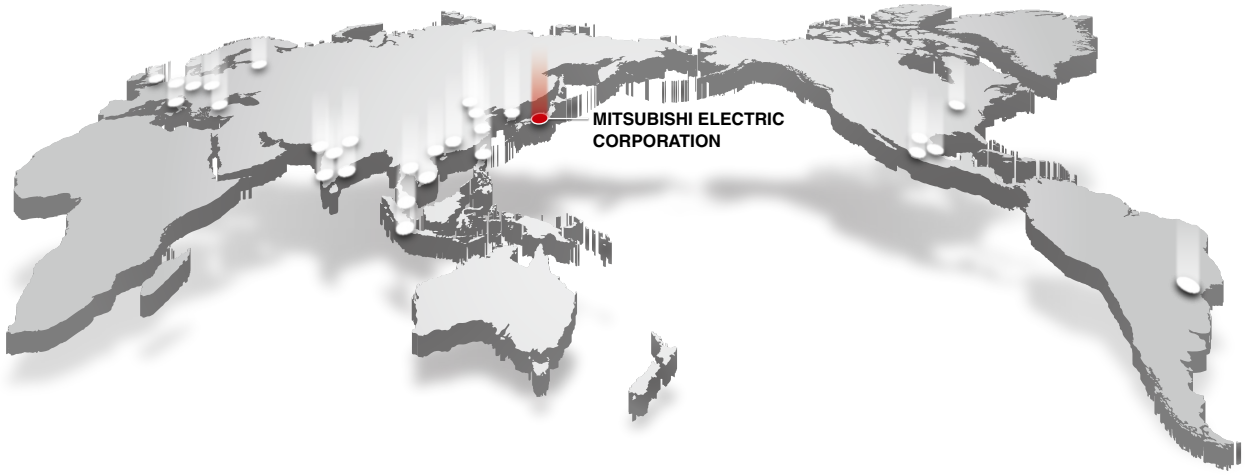
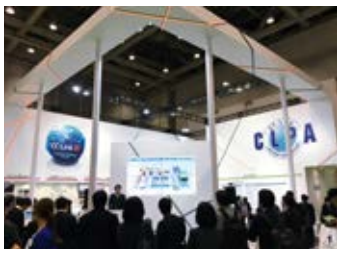


CC-Link Partner Association (CLPA) - Actively promoting worldwide adoption of CC-Link networks

Proactively supporting CC-Link, from promotion to specification development

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

Seminar



Trade show

Conformance testing lab

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

URL:www.cc-link.org

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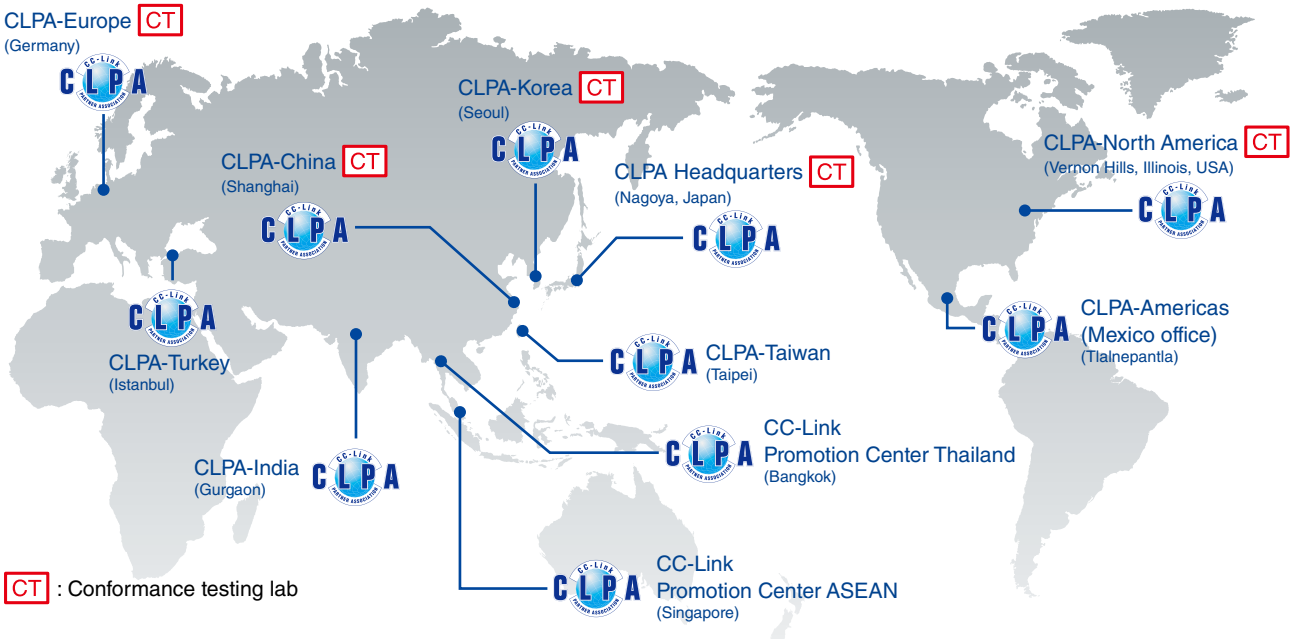
CC-Link Partner Association

Global influence of CC-Link continues to spread

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



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 Sink output type	-	2.00
		L26CPU-PBT	CPU with master/local function for MELSEC-L Series Source output type	-	2.00
		LJ61BT11	Master/local module for MELSEC-L Series	-	2.00
		FX3U-16CCL-M	Master block for MELSEC-FX Series (FX3G/FX3U/FX3GC/FX3UC)	-	2.00
Bridge module		NZ2GF-CCB	CC-Link IE Field Network-CC-Link bridge module	-	1.10
		NZ2AW1C1BY	CC-Link-AnyWire Bitty bridge module	-	1.10
		NZ2AW1C2D2	CC-Link-AnyWire DB A20 bridge module	-	2.00
		NZ2AW1C2AL	CC-Link-AnyWireASLINK bridge module	-	2.00
Remote I/O module	Screw terminal block type	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
		AJ65SBTB3-16D5	Input 16 points: 5 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 type) 1-wire type	IP2X	1.10
		AJ65SBTB1-8T1	Output 8 points: 12/24 V DC (0.5 A) Transistor output (sink type) 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 type) 2-wire type	IP2X	1.10
		AJ65SBTB2-8T1	Output 8 points: 12/24 V DC (0.5 A) Transistor output (sink type) 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 type) 1-wire type	IP2X	1.10
		AJ65SBTB1-16T1	Output 16 points: 12/24 V DC (0.5 A) Transistor output (sink type) 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 type) 2-wire type	IP2X	1.10
		AJ65SBTB2-16T1	Output 16 points: 12/24 V DC (0.5 A) Transistor output (sink type) 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 type) 1-wire type	IP2X	1.10
		AJ65SBTB1-32T1	Output 32 points: 12/24 V DC (0.5 A) Transistor output (sink type) 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 type) 1-wire type	IP2X	1.10
		AJ65SBTB1-16TE	Output 16 points: 12/24 V DC (0.1 A) Transistor output (source type) 1-wire type	IP2X	1.10
		AJ65SBTB1B-16TE1	Output 16 points: 12/24 V DC (0.5 A) Transistor output (source type) 1-wire type	IP2X	1.10
		AJ65SBTB1-32TE1	Output 32 points: 12/24 V DC (0.5 A) Transistor output (source type) 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 type) 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 type) 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 type) 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 type) 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 type) 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 type) 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 type) 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 type) 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 type) 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 type) 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 type) 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 type) 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 type) 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 type) 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.

Type		Model	Specifications	Protection level	CC-Link version*1
Remote I/O module	A2C form terminal block type	AJ65DBTB1-32D	IInput 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 type) 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 type) 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	AJ65ABTP3-16D	Input 16 points: 24 V DC/6 mA (positive common) 3-wire type Response time 1.5 ms, with Diagnostic Functions *2	IP1XB	1.10
		AJ65ABTP3-16DE	Input 16 points: 24 V DC/6 mA (negative common) 3-wire type Response time 1.5 ms, with Diagnostic Functions *2	IP1XB	1.10
	Spring clamp terminal block type	AJ65VBTS3-16D	Input 16 points: 24 V DC/5 mA (negative common) 3-wire type Response time 1.5 ms	IP1XB	1.10
		AJ65VBTS3-32D	Input 32 points: 24 V DC/5 mA (negative 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 type) 2-wire type	IP1XB	1.10
		AJ65VBTS2-32T	Output 32 points: 12/24 V DC (0.5 A) Transistor output (sink type) 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 type) 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 type) 2-wire type	IP1XB	1.10
	Sensor connector type	AJ65VBTCE3-8D	Input 8 points: 24 V DC/5 mA (positive common) 3-wire type Response time 1.5 ms	IP1XB	1.10
		AJ65VBTCE3-16D	Input 16 points: 24 V DC/5 mA (positive common) 3-wire type Response time 1.5 ms	IP1XB	1.10
		AJ65VBTCE3-32D	Input 32 points: 24 V DC/5 mA (positive common) 3-wire type Response time 1.5 ms	IP1XB	1.10
		AJ65VBTCE3-16DE	Input 16 points: 24 V DC/5 mA (negative common) 3-wire type Response time 1.5 ms	IP1XB	1.10
		AJ65VBTCE3-32DE	Input 32 points: 24 V DC/5 mA (negative common) 3-wire type Response time 1.5 ms	IP1XB	1.10
		AJ65VBTCE2-8T	Output 8 points: 12/24 V DC (0.1 A) Transistor output (sink type) 2-wire type	IP1XB	1.10
		AJ65VBTCE2-16T	Output 16 points: 12/24 V DC (0.1 A) Transistor output (sink type) 2-wire type	IP1XB	1.10
		AJ65VBTCE3-16TE	Output 16 points: 12/24 V DC (0.1 A) Transistor output (source type) 3-wire type	IP1XB	1.10
		AJ65VBTCE32-16DT	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 type) 2-wire type	IP1XB	1.10
		AJ65VBTCE3-16DTE	Input 8 points: 24 V DC/5 mA (negative common) 3-wire type Response time 1.5 ms Output 8 points: 24 V DC (0.1 A) Transistor output (source type) 3-wire type	IP1XB	1.10
		AJ65VBTCE32-32DT	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 type) 2-wire type	IP1XB	1.10
		AJ65VBTCE3-32DTE	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 type) 3-wire type	IP1XB	1.10
	One-touch connector type	AJ65VBTCU3-8D1	Input 8 points: 24 V DC (positive common) 3-wire type Response time 0.2 ms	IP1XB	1.10
		AJ65VBTCU3-16D1	Input 16 points: 24 V DC (positive common) 3-wire type Response time 0.2 ms	IP1XB	1.10
		AJ65SBTC4-16DN	Input 16 points: 24 V DC (positive common) 4-wire type Response time 1.5 ms	IP2X	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
		AJ65VBTCU2-8T	Output 8 points: 12/24 V DC (0.1 A) Transistor output (sink type) 2-wire type	IP1XB	1.10
		AJ65VBTCU2-16T	Output 16 points: 12/24 V DC (0.1 A) Transistor output (sink type) 2-wire type	IP1XB	1.10
		AJ65SBTC1-32T	Output 32 points: 12/24 V DC (0.1 A) Transistor output (sink type) 1-wire type	IP2X	1.10
		AJ65SBTC1-32T1	Output 32 points: 12/24 V DC (0.1 A) Transistor output (sink type) 1-wire type Low-leakage current type	IP2X	1.10
		AJ65SBTC4-16DT	Input 8 points: 24 V DC (positive common) 4-wire type (for 8 sensors) Response time 1.5 ms Output 8 points: 24 V DC (0.5 A) Transistor output (sink type) 4-wire 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 type) 4-wire type Low-leakage current type	IP2X	1.10
		AJ65SBTC1-32DT	Input 16 points: 24 V DC (positive common) 1-wire type Response time 1.5 ms Output 16 points: 24 V DC (0.1 A) Transistor output (sink type) 1-wire type	IP2X	1.10
		AJ65SBTC1-32DT1	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 type) 1-wire type	IP2X	1.10
		AJ65SBTC1-32DT2	Input 16 points: 24 V DC (positive common) 1-wire type Response time 1.5 ms Output 16 points: 24 V DC (0.1 A) Transistor output (sink type) 1-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 type) 1-wire type Low-leakage current type	IP2X	1.10
	40-pin connector type	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 type) 1-wire type	IP2X	1.10
		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 type) 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 type) 1-wire type	IP1XB	1.10
		AJ65VBTCFJ1-32DT1	Input 16 points: 24 V DC (positive common) 1-wire type Response time 0.2 ms Shared power supply for module and I/O parts Output 16 points: 24 V DC (0.1 A) Transistor output (sink type) 1-wire type	IP1XB	1.10

* Positive common: sink type, negative common: source type

*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.

CC-Link Related Product Model Names

Mitsubishi Electric Corporation

Type			Model	Specifications	Protection level	CC-Link version*1
Remote I/O module	Waterproof connector type		AJ65FBTA4-16D	Input 16 points: 24 V DC (positive common) 4-wire type Response time 1.5 ms	IP67	1.10
			AJ65FBTA4-16DE	Input 16 points: 24 V DC (negative common) 4-wire type Response time 1.5 ms	IP67	1.10
			AJ65FBTA2-16T	Output 16 points: 12/24 V DC (0.5 A) Transistor output (sink type) 2-wire type	IP67	1.10
			AJ65FBTA2-16TE	Output 16 points: 12/24 V DC (1.0 A) Transistor output (source type) 2-wire type	IP67	1.10
			AJ65FBTA42-16DT	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 type 2-wire type	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 type) 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
		Voltage/current output	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
	One-touch connector type	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
FX Series interface block			FX3U-64CCL	Interface block for FX3G, FX3U, FX3GC, FX3UC Series	-	2.00
			FX2N-32CCL	Interface block for FX3G, FX3U, FX3GC, FX3UC Series	-	1.00
WS Series interface module			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		AJ65FBTA-RPH	8-port star wiring hub module with repeater function, low profile waterproof type	IP67	1.10
			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
	Space optical repeater module		AJ65BT-RPI-10A	AJ65BT-RPI-10A and AJ65BT-RPI-10B used as a pair, 156 k/625 k/2.5 Mbps supported	IP2X	1.10
			AJ65BT-RPI-10B		IP2X	1.10

* Positive common: sink type, negative common: source type

*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.

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

Optional parts for I/O modules

■ One-touch connector plugs

Type	Model	Specifications			
		Cover color	Core wire size of applicable cable	Core wire size of applicable cable	Maximum rated curren
One-touch connector plug (20 pcs)	A6CON-P214 (33104-6000FL*1)	Transparent	0.14...0.2 mm^2 (26...24 AWG)	ϕ1.0...1.4 mm	2 A*2
	A6CON-P220 (33104-6100FL*1)	Yellow		ϕ1.4...2.0 mm	
	A6CON-P514 (33104-6200FL*1)	Red	0.3...0.5 mm^2 (22...20 AWG)	ϕ1.0...1.4 mm	3 A*2
	A6CON-P520 (33104-6300FL*1)	Blue		ϕ1.4...2.0 mm	
One-touch connector plug for communication (10 pcs)	A6CON-L5P (35505-6000-B0M GF*1)	Communication line: 0.5 mm^2, 20 AWG, Shielded cable:0.5 mm^2, 20 AWG Applicable cable size (diameter): ϕ2.2...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^2 (0.66...0.98 mm^2), 18 AWG, 0.16 mm or larger for strand diameter, Insulating coating material PVC (heat resistant vinyl), Outer diameter of applicable cable: ϕ2.2...3.0mm, Maximum rated current: 7 A*2			
	A6CON-PW5P-SOD (35505-6180-A00 GF*1)	Core wire size of applicable cable: 0.75 mm^2 (0.66...0.98 mm^2), 18 AWG, 0.16 mm or larger for strand diameter, Insulating coating material PVC (heat resistant vinyl), Outer diameter of applicable cable: ϕ2.0...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)			

*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.

■ 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)

■ Protective cover for remote I/O module

Type	Model	Applicable module
Protective cover for 8-point module (10 pcs)	A6CVR-8	AJ65SBTB1-8D, AJ65SBTB1-8T, AJ65SBTB1-8TE, AJ65SBT-RPT, AJ65SBTB1-8T1
	A6CVR-VCE8	AJ65VBTCE3-8D, AJ65VBTCE2-8T
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, AJ65SBTC1-32T, AJ65SBTB2-8T,AJ65SBTB1-16TE, AJ65SBTB2N-8R, AJ65SBTB2N-8S, AJ65SBTC1-32DT, AJ65SBTC1-32DT1, AJ65SBTC4-16DT,AJ65SBTB1-16DT, AJ65SBTB1-16DT1, AJ65SBTB32-8DT, AJ65SBT-RPG, AJ65SBT-RPS, AJ65SBTC4-16DN,AJ65SBTC4-16DE, AJ65SBTB2-8T1, AJ65SBTB1-16DT2, AJ65SBTC1-32DT2, AJ65SBTC1-32DT3, AJ65SBTC4-16DT2, AJ65SBTB1-16DT3, AJ65SBTB32-8DT2
	A6CVR-VS16	AJ65VBTS3-16D, AJ65VBTS2-16T, AJ65VBTS32-16DT
	A6CVR-VCE16	AJ65VBTCE3-16D, AJ65VBTCE2-16T, AJ65VBTCE32-16DT, AJ65VBTCE3-16DE, AJ65VBTCE3-16TE, AJ65VBTCE3-16DTE
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)

CC-Link Safety Related Product Model Names

Mitsubishi Electric Corporation

Type		Model	Specifications	Protection level
Master module		QS0J61BT12	Maximum number of stations: 64 stations (maximum of 42 safety stations) Safety station information management	IP2X
Remote I/O module	Screw/2-piece terminal block type	QS0J65BTB2-12DT	Safety input: 8 points (dual input), 16 points (single input) Safety output: 4 points (source + sink type), 2 points (source + source type)	IP2X
	Spring clamp terminal block type	QS0J65BTS2-8D	Safety input: 8 points (dual input), 16 points (single input)	IP2X
		QS0J65BTS2-4T	Safety output: 4 points (source + sink type), 2 points (source + source type)	IP2X

CC-Link/LT Related Product Model Names

Mitsubishi Electric Corporation

Type			Model	Specifications	Protection level
Master module			QJ61CL12	CC-Link/LT master module for MELSEC-Q Series	-
			LJ61CL12	CC-Link/LT master module for MELSEC-L Series	-
			FX2N-64CL-M	CC-Link/LT master module for MELSEC-FX3N and FX3NUC	-
			FX3UC-32MT-LT (-2)*1	MELSEC-FX3UC series CC-Link/LT programmable controller (built-in master function)	-
Bridge module			AJ65SBT-CLB	CC-Link - CC-Link/LT bridge module	IP2X
Remote I/O module	Screw terminal block type		CL1X4-D1B2	Input 4 points: 24 V DC (positive/negative common shared)	IP2X
			CL2X8-D1B2	Input 8 points: 24 V DC (positive/negative common shared)	IP2X
			CL1Y4-T1B2	Output 4 points: 12/24 V DC (sink type) 0.1 A Transistor output	IP2X
			CL2Y8-TP1B2	Output 8 points: 12/24 V DC (sink type) 0.1 A Transistor module (with output protection function)	IP2X
			CL1Y4-R1B2	Output 4 points: 30 V DC , ≤ 250 V AC 2 A Relay output	IP1X
			CL1Y4-R1B1	Output 4 points: 30 V DC , ≤ 250 V AC 2 A Relay output 1 point 1 common (independent)	IP1X
			CL1XY4-DT1B2	Input 2 points: 24 V DC (positive/negative common shared) Output 2 points: 12/24 V DC (sink type) 0.1 A Transistor output	IP2X
			CL1XY8-DT1B2	Input 4 points: 24 V DC (positive/negative common shared) Output 4 points: 12/24 V DC (sink type) 0.1 A Transistor output	IP2X
			CL1XY4-DR1B2	Input 2 points: 24 V DC (positive/negative common shared) Output 2 points: 30 V DC , ≤ 250 V AC (sink type) 2 A Relay output	IP1X
			CL1XY8-DR1B2	Input 4 points: 24 V DC (positive/negative common shared) Output 4 points: 30 V DC , ≤ 250 V AC 2 A Relay output	IP1X
	Spring clamp terminal block type		CL1X4-D1S2	Input 4 points: 24 V DC (positive/negative common shared)	IP2X
			CL2X8-D1S2	Input 8 points: 24 V DC (positive/negative common shared)	IP2X
			CL1Y4-T1S2	Output 4 points: 12/24 V DC (sink type) 0.1 A Transistor output	IP2X
			CL2Y8-TP1S2	Output 8 points: 12/24 V DC (sink type) 0.1 A Transistor output (output protection function)	IP2X
			CL2Y8-TPE1S2	Output 8 points: 12/24 V DC (source type) 0.1 A Transistor output (output protection function)	IP2X
	Sensor connector type (e-CON)		CL1X4-D1C3	Input 4 points: 24 V DC (positive common)	IP2X
			CL2X8-D1C3V	Input 8 points: 24 V DC (positive common)	IP2X
			CL2X16-D1C3V	Input 16 points: 24 V DC (positive common)	IP2X
			CL1Y4-T1C2	Output 4 points: 24 V DC (sink type) 0.1 A Transistor output	IP2X
			CL2Y8-TP1C2V	Output 8 points: 24 V DC (sink type) 0.1 A Transistor module (output protection function)	IP2X
			CL2Y16-TP1C2V	Output 16 points: 24 V DC (sink type) 0.1 A Transistor module (output protection function)	IP2X
			CL2XY16-DTP1C5V	Input 8 points: 24 V DC (positive common) Output 8 points: 24 V DC (sink type) 0.1 A Transistor module (output protection function)	IP2X
	MIL connector type		CL2X16-D1M1V	Input 16 points: 24 V DC (positive common)	IP2X
			CL2X16-D1MJ1V	Input 16 points: 24 V DC (positive common) Shared power supply for module and I/O parts	IP2X
			CL2Y16-TP1M1V	Output 16 points: 12/24 V DC (sink type) 0.1 A Transistor module (output protection function)	IP2X
			CL2Y16-TP1MJ1V	Output 16 points: 24 V DC (sink type) 0.1 A Transistor module (output protection function) Shared power supply for module and I/O parts	IP2X
			CL2Y16-TPE1M1V	Output 16 points: 12/24 V DC (source type) 0.1 A Transistor module (output protection function)	IP2X
	Cable type		CL1X2-D1D3S	Input 2 points: 24 V DC (positive common)	IP2X
			CL1Y2-T1D2S	Output 2 points: 24 V DC (sink type) 0.1 A Transistor output	IP2X
			CL1XY2-DT1D5S	Input 1 points: 24 V DC (positive common) Output 1 points: 24 V DC (sink type) 0.1 A Transistor output	IP2X
Analog module	Screw terminal block type	Voltage/current input	CL2AD4-B	4-channel voltage input: -10...10 V DC/-4000...4000 current input: 0...20 mA DC/0...4000	IP2X
		Voltage/current output	CL2DA2-B	2-channel voltage output: -4000...4000/-10...10 V DC current output: 0...4000/0...20 mA DC	IP2X
Dedicated power supply			CL1PSU-2A	CC-Link/LT dedicated power supply (2 A)	IP1X
Power adapter			CL1PAD1	Power adapter (5 A) for CL1PAD1 CC-Link/LT	-
Accessories	Common terminal block		CL2TE-5	Common terminal block for screw terminal block type modules (applicable model: CL2X8-D1B2, CL2Y8-TP1B2, CL2AD4-B)	-
			CL2TE-10S	Common terminal block for spring clamp terminal block type modules (applicable model : CL2X8-D1S2)	-
	Holder		CL1-HLD	Holder for cable type installation (5 pcs)	-

*1 CC-Link/LT parameters for FX3UC-32MT-LT-2 can be configured with GX Works2, GX Developer or display modules.

Mitsubishi Electric System & Service Co.,Ltd.

Type		Model	Specifications	Protection level
Accessories	Connector	CL9-CNF-18	Connector for CC-Link/LT dedicated flat cable	-
		CL9-CNR-23	Connector for CC-Link/LT dedicated VCTF cable	-
		CL9-CNR-20	Connector for CC-Link/LT dedicated flexible cable	-
	Cable	CL9-FL4-18	CC-Link/LT dedicated flat cable	-
		CL9-MV4-075	CC-Link/LT dedicated flexible cable	-
	Terminating resistor	CL9-TERM	Terminating resistor for dedicated flat, VCTF, and flexible cables	-
	Open sensor connector (e-CON)	ECN-******	I/O connector for sensor connector type modules *: The model name differs according to the color and wire diameter.	-
	Joint shield/Dust shield	ECN-CVR4****	Protection shields for relay part of open sensor connectors, sensor connectors, and empty slots of remote I/O module	-
	Tool	L-TOOL-N	IDC tool for connector	-
		e-TOOL-N	IDC tool for open sensor connector	-
		KD-5339	Tool for spring clamp terminal block	-

Mitsubishi Electric Engineering Co., Ltd.

Type	Model	Specifications	Protection level
Handy line tester	EHLT01	CC-Link/LT dedicated handy line tester	IP2X

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