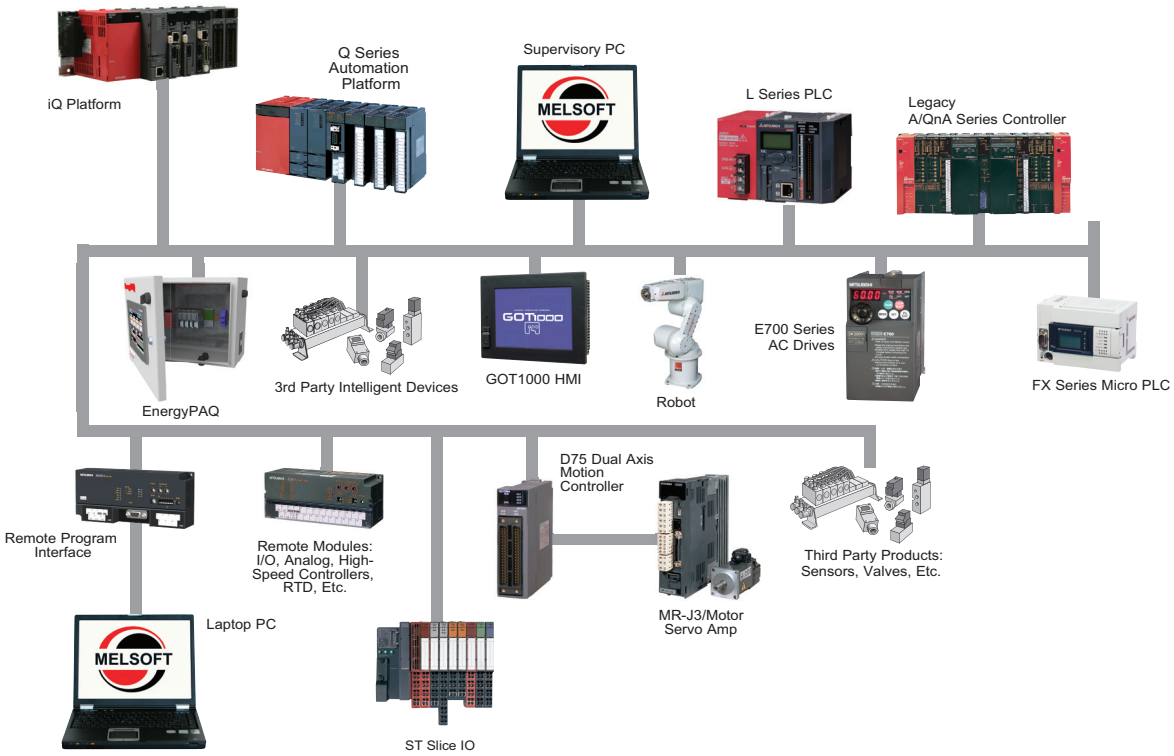
CC-Link



Control and Communication Link (CC-Link) is an open network administered as a fully open architecture by the CC-Link Partner Association (CLPA). Currently over 1000 products are CC-Link certified.

CC-Link guarantees a full 10Mbit/s performance across the whole network, regardless of device type, eliminating hidden bottle necks, common with other open systems. CC-Link offers you the freedom to integrate a wide variety of automation components into a single, seamless automation system, including any of the following items on the network:

- Master or local controllers (iQ-R, iQ-F, Q, L, FX)
- HMIs
- VFDs
- Discrete I/O (in a wide variety of types and configurations)
- Analog I/O
- High speed counters
- Motion controllers
- RTD/Thermocouple modules
- PC stations via PC-link cards
- Robots
- Energy Monitor

Guide to CC-Link Dedicated I/O Blocks and Special Function Modules

This section presents the current line-up of CC-Link dedicated I/O blocks and special function modules. For network master modules, please refer to the appropriate controller section. Before using this guide, please read the following guide to nomenclature:

Guide to CC-Link Dedicated I/O Block Nomenclature • Generic Model Number Format

AJ65□BT□□□-□□□□

Symbol	Module Type
F	Waterproof (IP67)
S	Compact type
V	Vertical format

Symbol	Connector Type
A	M12 waterproof (IP67) threaded connector
B	Screw terminal block
C	One touch connector f or I/O connections
CF	FCN connector
CU	One touch connector for I/O, power and network connections

Symbol	External Load Connection Method
1	1 wire type
2	2 wire type
3	3 wire type
4	4 wire type
32	3 wire type on inputs, 2 wire type on outputs
42	4 wire type on inputs, 2 wire type on outputs

Symbol	Points
None	1 Common
B	2 Commons

Symbol		Device Type
Inputs	A	120 VAC
	D	24 VDC
Outputs	R	Relay
	S	Triac / SSR
	T	Transistor
Combination	DT	Transistor input / transistor output

Symbol	Number of I/O Points
8	8 points
16	16 points
32	32 points

Symbol		Sink or Source
Inputs		Sink (no symbol)
	E	Source
Outputs		Sink (no symbol)
	E	Source
Combination		Sink (no symbol)
	E	Source

Symbol		Special Features
Inputs	1	Fast switching inputs
Outputs	1	Low leakage output current
Combination	1	Fast switching inputs
	2	Low leakage output current
	3	Fast switching inputs & low leakage output current

Note on "1-wire", "2-wire", "3-wire" and "4-wire" terminology

Throughout the CC-Link blocks, we reference these terms. These are concise definitions for the following ways to connect I/O devices:

- 1 wire: One side of the load is connected to the I/O module terminal block. The other side is connected to a common terminal shared by all devices.
- 2 wire: One side of the load is connected to the I/O module terminal block. The other side is connected to a dedicated common terminal for that load on the terminal block. Note that in some cases, the common terminals may be connected internally.
- 3 wire: The I/O block is configured to accept loads with three connections (such as various types of sensor, etc)
- 4 wire: As three wire, but configured for four connection devices.

Note on connector types

Various different types of connector styles are available on the CC-Link blocks, as follows:

NOTE: IN GENERAL, BLOCKS ARE NOT SUPPLIED WITH CONNECTORS AND ACCESSORIES (IF REQUIRED).
PLEASE ENSURE YOU HAVE ALL NECESSARY CONNECTORS BEFORE BEGINNING AN INSTALLATION.

- **Screw terminals:** These are conventional screw terminals. Note that all wiring will require cutting, stripping, and terminating with a crimped spade or ring type lug to insure a reliable connection.
- **FCN connector:** These are 40 pin connectors that allow fast connection and disconnection of a whole group of I/O in one action. The following types of FCN connector are available:

Model Number	Certification	Number of Pins	Wiring Type	Connector Type	Stocked Item
A6CON1	UL • cUL	40	Solder	FCN	S
A6CON2	UL • cUL	40	Crimp	FCN	S
A6CON3	UL • cUL	40	IDC	FCN	S

Water resistant M12 connectors: Selected I/O blocks are available in an IP67 water resistant format. These use connectors that use an M12 metric threaded connector to make all connections. Benefits include:

- Water tight connections for installations where exposure to liquids is required
- In some installations, these blocks may be mounted directly on a machine without the need for an enclosure, reducing system cost.

Miscellaneous accessories: The following accessories are also available: Note the quantity per box and calculate the correct order quantity accordingly.

One Touch Connector (OTC): OTCs offer significant installation and maintenance benefits as follows:

- IDC (insulation displacement connector) type connection avoids need for stripping or terminating wiring with lugs. Simply cut wiring to length, insert into connector and snap shut to make a reliable connection. These are available for I/O, network and power connections.
- Easily connected and disconnected individually or in groups to assist maintenance
- Compact design minimizes I/O block size

Model Number	Gauge Size (AWG)	Color	Qty. Per Box	Comments	Stocked Item
A6CON-P214	26-24	Transparent	20	For I/O	S
A6CON-P220	26-24	Yellow	20	For I/O	-
A6CON-P514	22-20	Red	20	For I/O	-
A6CON-P520	22-20	Blue	20	For I/O	-

Model Number	Quantity Per Box	Description	Stocked Item
BA1SJ61-S	N/A	Three conductor, CLPA certified, signal only CC-Link cable. Sold by the meter.	S
BA1SJ61-P	N/A	Five conductor, CLPA certified, signal and power CC-Link cable. Sold by the meter.	S
A6CON-L5P	10	OTC network connector	S
A6CON-PW5P	10	OTC power connector	S
A6CON-LJ5P	5	OTC Network on-line connector (*1)	S
A6CON-PWJ5P	5	OTC Power on-line connector (*2)	S
A6CON-TR11	1	Terminating resistor (*3)	S
A6CAP-DC1	20	Dust cap to protect unused connectors on IP67 modules (*4)	-
A6CAP-WP1	20	Metal waterproof cap to protect unused connectors on IP67 modules (*4)	-
A6CAP-WP2	20	Plastic waterproof cap to protect unused connectors on IP67 modules (*4)	-
A6PLT-J65V1	1	DIN rail mount for vertical format blocks (single width)	-
A6PLT-J65V2	1	DIN rail mount for vertical format blocks (double width)	-
BKO-C8834H12	2 x 110 ohm, 2 x 130 ohm	CC-Link terminating resistors with insulating lugs	S
BKO-C10798H02	1	QJ61BT11 network terminal block assembly	S

Notes:

1. This connector accepts two A6CON-L5P and plugs into a CC-Link module. Its function is to allow a network connection to be connected/disconnected via a single operation, and maintains the network connection. Note these are only used with "VBT" type modules.
2. Accepts two A6CON-PW5P and performs the same function as A6CON-LJ5P for power. Use only with "VBT" modules.
3. Required at the end of a network segment for reliable communication for "VBT" modules.
4. AJ65FBT and AJ65SBTW4 type modules.