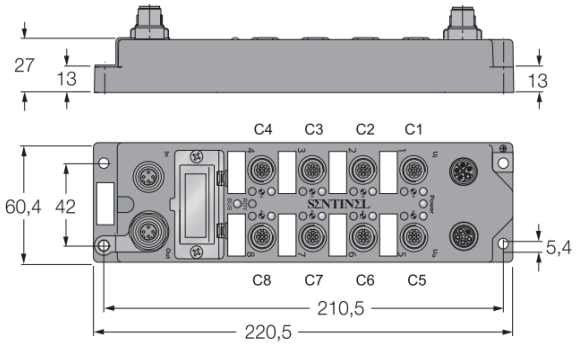
Compact I/O Module for EtherCAT

8 IO-Link Master Channels

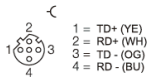
ELCT-8IOL-0001



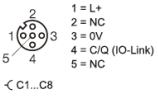
- EtherCAT remote I/O module
- Integrated Ethernet Switch
- Support 100Base-TX
- 2XM12,D-code,Ethernet Fieldbus connection
- 8 IO-Link Master Channels
- IO-Link Protocol 1.1
- IO-Link master port class A
- M12 ports for IO-Link master,A-code
- Impact and vibration resistance
- Fully potted module electronics
- Copper-plated nickel connector
- Protection class IP67

Model	ELCT-8IOL-0001
Supply voltage	24VDC ± 10%
Operating current	< 200mA
Supply current	>8A
IO-LINK port parameters	
Number of ports	8(C1...C8)
Connectivity inputs	M12 A-coded,5-pin female
Common IO	Not supported,Pin 2 needs to be empty
Current supply per port	Maximum 2A C1...C4 Total current max 4A C5...C8 Total current max 4A
IO-LINK port parameters	
SIO model	Not supported (Pin 4 cannot be used as a standard I/O)
IO-Link Pin definition	Pin 4 in IOL mode
IO-Link Port type	Class A
IO-Link specification	Version 1.1
Frame type	Supports all specified frame types
Support Device	Maximum 32Bytes Input / 32Bytes Output
Transmission rate	4.8kbps(COM1) / 38.4kbps(COM2) / 230.4kbps(COM3)
EtherCAT	
Number of communication interface	2
Transmission standed	100Base-TX
Auto-negotiation	YES
Auto-MDVMDIX	YES
Maximum transmission rate	100Mbit/s
Autoscan	The EtherCAT scanning function can automatically scan the IO-link Device connected to the port
interface	M12,D-coded,Femal
Operating temperature	-20...+55℃

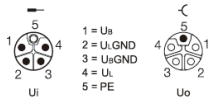
Bus Connector M12



IO-LINK Port Connector M12

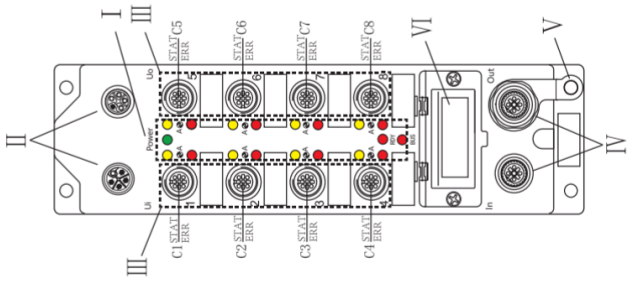


Power Supply Connector L-coded



Note: UB is the module power supply, and UL is the load power supply

Note: UL is not used inside the module, so it is unnecessary to connect it. Ui to Uo is directly connected

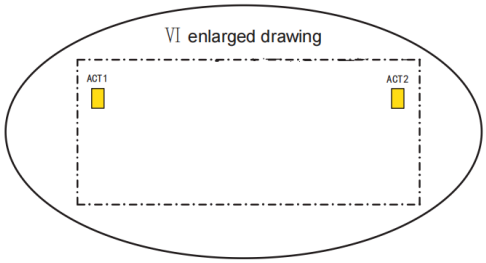


<table>
<tr><th></th><th></th><th>Description</th></tr>
<tr><td>I</td><td>Module LEDS</td><td>
<table>
<tr><th>LED name</th><th>Detailed introduction</th></tr>
<tr><td>POWER</td><td>Green LED lights:
ON: The module power supply (Ub) is normal
OFF: The module power supply is disconnected</td></tr>
<tr><td>BUS</td><td>Green LED lights:
OFF: The module is in the “INIT” state
Fast flash: The module is in the “Pre-operational” state
Slow flash: The module is in the “Safe-operational” state
ON: The module is in the “OP” state</td></tr>
<tr><td>RDY</td><td>Red LED lights:
Flash: IO-Link is not ready
OFF: IO-Link is ready
ON: There is an error in the IO-Link port, which is inconsistent with the configuration</td></tr>
<tr><td>STAT</td><td>Yellow LED lights: The IO-Link communication status of the port (C1-C8)
ON: The IO-Link communication is normal
OFF: The IO-Link communication is not established</td></tr>
<tr><td>ERR</td><td>Red LED light: Working state of the port
ON: The port is working abnormally; please check the IO-Link cable and parameter setting of IO-Link in configuration
OFF: no error in this port. IO-Link communication is normal OR this port is closed or deactivated in EtherCAT configuration</td></tr>
</table>
</td></tr>
<tr><td>II</td><td>Power supply</td><td>Ui (left): power supply input, L-code, 5-pin, male
Uo (right): power supply output, L-code, 5-pin, female</td></tr>
<tr><td>III</td><td>IO-Link PORT</td><td>

M12 A-code – 5-pin; Pin 4 is IO-Link; Pin 2 is empty, no external signals can be connected.
C* in the figure represents the “th port”; the STAT represents the communication status indicator lamp; the ERR represents the working status indicator lamp.
For example, C1 STATE/RR represents that the port is PORT 1. The LED above the right of the port is STAT and the LED below is ERR.
Totally there are 8 IO-Link ports. Every port is independent lamp for STAT & ERR.

External power supply is required for Class B Device.

Note : Please close the port in the EtherCAT configuration when not used; try not to let the module have a red light.
</td></tr>
<tr><td>IV</td><td>Bus</td><td>In (left): EtherCAT Bus in, M12, D-Code, 5-pin, female
Out (right): EtherCAT Bus out, M12, D-Code, 5-pin, female</td></tr>
<tr><td>V</td><td>PE</td><td>Ground connection</td></tr>
<tr><td>VI</td><td>Network status LEDS</td><td>
<table>
<tr><td>ACT1</td><td>Bus in, Green LED lights:
ON: Physical connections have been established
OFF: No connection
Flash: This port has data exchange</td></tr>
<tr><td>ACT2</td><td>Bus out, Green LED lights:
ON: Physical connections have been established
OFF: No connection
Flash: This port has data exchange</td></tr>
</table>
</td></tr>
</table>



IO-Link Device Status

Name	Data type	Description
8 Port IO-Link Current Status	USINT	Status of 8 IO-Link ports 0 : Communication is interrupted 1 : Normal communication Bit0 : PORT1 current state Bit4 : PORT5 current state Bit1 : PORT2 current state Bit5 : PORT6 current state Bit2 : PORT3 current state Bit6 : PORT7 current state Bit3 : PORT4 current state Bit7 : PORT8 current state
8 Port IO-Link Error Status	USINT	Error Status of 8 IO-Link ports 0 : There is no error 1 : Error occurred Bit0 : PORT1 Error status Bit4 : PORT5 Error status Bit1 : PORT2 Error status Bit5 : PORT6 Error status Bit2 : PORT3 Error status Bit6 : PORT7 Error status Bit3 : PORT4 Error status Bit7 : PORT8 Error status
Error Times_Port1 Error Times_Port2 Error Times_Port3 Error Times_Port4 Error Times_Port5 Error Times_Port6 Error Times_Port7 Error Times_Port8	USINT	Number of port errors. Starting from module power-on, accumulate the number of times the IO-LINK device is cut off. The module is powered on again, and the number of errors is cleared.

Automatic scanning function

After the module is powered on, it automatically detects and establishes communication with the IO-Link Device connected to the 8 ports.If the EtherCAT does not communicate properly at this time, you will scan the EtherCAT module and the IO-Link Device for each port.You can also manually make changes to the Slots in the EtherCAT module.

Note： If EtherCAT has normal communication with EtherCAT Master, the module will connect to eight IO-Link ports following the Slots parameter in the configuration.If you want to scan the 8-port connected Device, first remove the configuration of the EtherCAT module, disconnect it from the EtherCAT Master, and then repower on the EtherCAT module before performing automatic scanning.