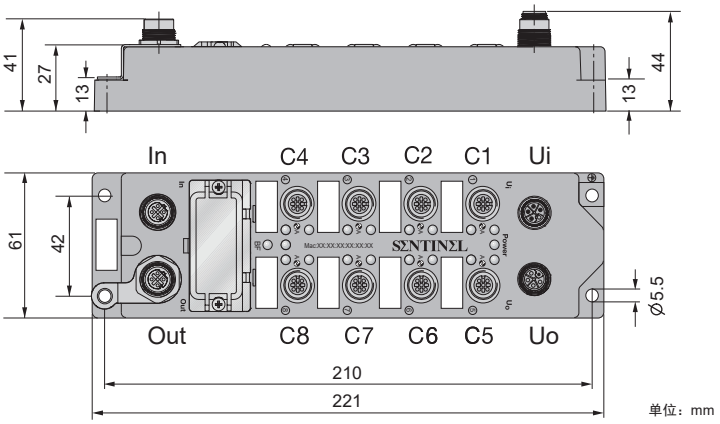
IO-Link PROFINET

8 IO-Link Master Channels
ELPN-8IOL-L001



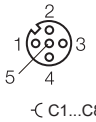
- Profinet remote I/O module
- Integrated Ethernet Switch
- Support 100Base-TX
- 2XM12, 4-pin, D-code, Ethernet Fieldbus connection
- 8 IO-Link Master Channels
- IO-Link V1.1
- IO-Link master port class A
- IO-Link master port M12 A-coded
- Metal connector with high-strength plastic housing
- Impact and vibration resistance
- Fully potted module electronics
- Protection class IP67

Model	ELPN-8IOL-L001
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, Female
Common IO	Not supported, Pin 2 needs to be empty
Current supply per port	Maximum 2A (Pin 1 provides current to the device) Among: C1...C4 Total current max 4 A C5...C8 Total current max 4 A
IO-Link parameters	
SIO model	Not Supported (Pin 4 cannot be used as common IO)
IO-Link Pin definition	Pin 4 in IOL mode
IO-Link Port type	Class A (Pin 2 need to be vacant)
IO-Link specification	V1.1
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)
Profinet	
Number of communication interface	2
Transmission standard	100Base-TX
Auto-negotiation	Supported
Auto-MDI/MDIX	Supported
Maximum transmission rate	100Mbit/s
Connector	M12, D-coded, Female
Operating temperature	-20-55 ˚C

Bus Connector M12

1 = TD+ (YE)
2 = RD+ (WH)
3 = TD - (OG)
4 = RD - (BU)

IO-Link Port Connector M12



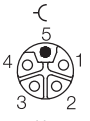
1 = L+
2 = NC
3 = 0V
4 = C/Q (IO-Link)
5 = NC

C1...C8

Power Supply Connector L-coded

Ui

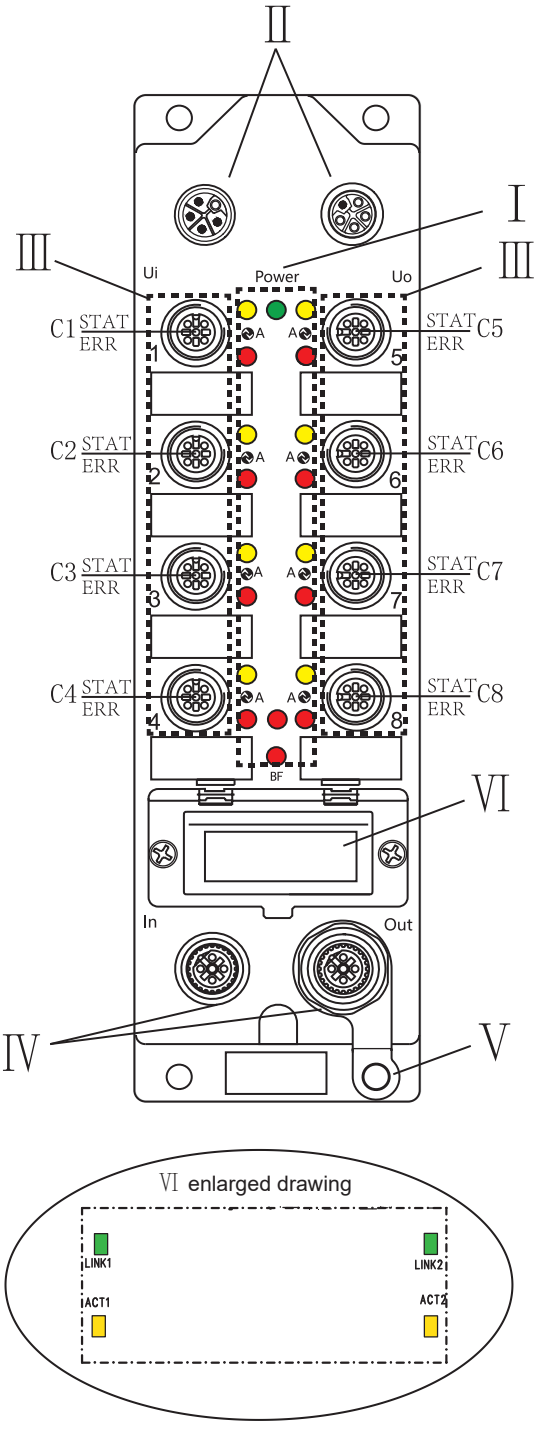
1 = U_B
2 = U_LGND
3 = U_BGND
4 = U_L
5 = PE



Uo

Note: U_B is the module power supply, and U_L is the load power supply
Note: U_L is not used inside the module, so it is unnecessary to connect it.
Ui to Uo is directly connected

Area Code	Project	Description	
I	Module LEDS	LED name	Detail
		Power	Green LED lights: ON: The module power supply (U_B) is normal OFF: The module power supply is disconnected
		BF	Red LED lights: ON: BUS no connection Flashing: The connection is normal, but no communication was established with profinet I/O controller OFF: Communication has been established with profinet I/O controller
		STAT	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
		ERR	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 profinet configuration OFF: No error in this port; IO-Link Communication is normal OR this port is closed or deactivated in profinet configuration
II	Power supply	Ui (left): Power supply input, L-coded, 5-pin, male Uo (right): Power supply output, L-coded, 5-pin, female	
III	IO-Link PORT	• M12 A-coded, 5-pin, female; Pin 4 is IO-Link, Does not support SIO, i.e., Standard I/O mode; 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 STAT/ERR represents that the port is PORT1, The LED above the right of the port is STAT and the LED below is ERR; For detailed information on theindicator lights, please refer to Area Code I. • Totally is 8 IO-link port class A, every port is independent lamp for START & ERR. External power supply is required for class B device. Note: Please close the port in the profinet configuration when not used, try not to let the module have a red light.	
IV	Bus	In (left): Profinet Bus in, M12, D-Coded, 5-pin, female Out(right): Profinet Bus out, M12, D-Coded, 5-pin, female	
V	PE	Ground connection	
VI	Network status LEDS	LINK1	Bus in, Green LED lights: ON: This port establishes a physical connection OFF: No connection is established on this port
		ACT1	Bus in, Yellow LED lights: ON: This port has data exchange OFF: There is no data exchange for this port
		LINK2	Bus out, Green LED lights: ON: This port establishes a physical connection OFF: No connection is established on this port
		ACT2	Bus out, Yellow LED lights: ON: This port has data exchange OFF: There is no data exchange for this port



IO-Link Device Status

Name		Description
8 Port IO-Link Current Status	BYTE1	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	BYTE2	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	BYTE3 BYTE4 BYTE5 BYTE6 BYTE7 BYTE8 BYTE9 BYTE10	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.

Description of port general setting parameters

Operation mode selection

No Check ID: Communication is established whenever the port is connected to the Device.

Check ID: Both Vendor ID and Device ID were detected, if it does not match the actual equipment, normal communication will not be established.

Not used: This port remains unused; When this option is selected, this port is assigned an address in Profinet. Note: If you want the port to occupy no address, just leave the slot of the port empty.

Data storage mode

This version is not supported, the module won't operate.

Cycle time

Select the cyclic scanning time of the port Device; Better choose “automatic”, If the set cycle time is less than the minimum cycle time supported by Device, the communication may be abnormal.

Vendor ID and Device ID

If you choose Check ID, these two parameters should be filled in correctly according to the device manufacturer's instructions, otherwise the communication cannot be established.