Compact I/O Module for PROFINET

8 IO-Link Master Channels   4 A+4 B
ELPN-8IOL-004B
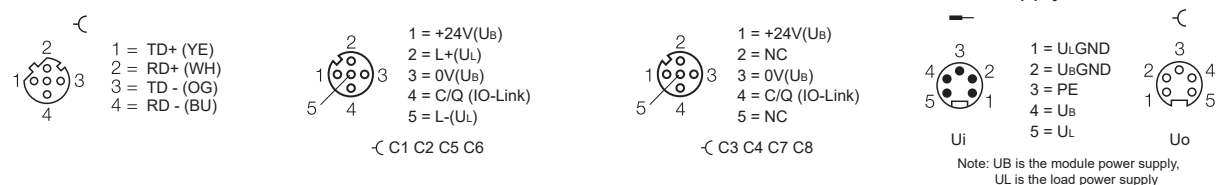
SENTINEL INDUSTRIAL AUTOMATION

- 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 Protocol 1.1
- IO-Link master port 4 class A+4 class B
- M12 ports for IO-Link master, 5-pin
- Impact and vibration resistance
- Fully potted module electronics
- Copper-plated nickel connector
- Protection classes IP67

Model	ELPN-8IOL-004B
Supply voltage	24VDC ± 10%
Operating current	< 200mA
Module power (U_B)	≤8A
Load power (U_L)	≤8A

IO-LINK port parameters

Number of ports	8 (C1...C8)
Connectivity inputs	M12 , A-code , 5-pin
Port supply current	Rated 1A, max 2A: UB from pins 1,3; C1...C4, C5...C8 ≤ 4A each. Max 2A: UL from pins 2,5; C1,C2, C5,C6 ≤ 4A each.

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 (C3 C4 C7 C8)+Class B(C1 C2 C5 C6)
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)

PROFINET

Number of communication interface	2
Transmission standed	100Base-TX
Auto-negotiation	Supported
Auto-MDI/MDIX	Supported
Maximum transmission rate	100Mbit/s
Fieldbus connection technology	2x M12, 4-pin, D-coded
Operating temperature	-20...+55 ℃

Bus Connector M12

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

IO-LINK Port Connector M12

1 = +24V(U_B)
2 = L+(U_L)
3 = 0V(U_B)
4 = C/Q (IO-Link)
5 = L-(U_L)

C1 C2 C5 C6

IO-LINK Port Connector M12

1 = +24V(U_B)
2 = NC
3 = 0V(U_B)
4 = C/Q (IO-Link)
5 = NC

C3 C4 C7 C8

Power Supply Connector 7/8''

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

Ui   Uo

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

		Description	
	LED name	Detailed introduction	
I	Module LEDS	Power	Green LED lights: ON:The module power supply (Ub) 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 , 7/8'', 5-pin , male Uo (right) : Power suppy output , 7/8'', 5-pin , female
III	IO-Link PORT		● 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 STAT/ERR represents that the port is PORT1, The LED above the right of the port is STAT and the LED below is ERR. ● A total of 8 IO-Link ports, 4 each for Class A and Class B, each port has independent STAT and ERR; 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-Code , 4-pin , female Out (right) : Profinet Bus out , M12 , D-Code , 4-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 : Do not detect 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 use ：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

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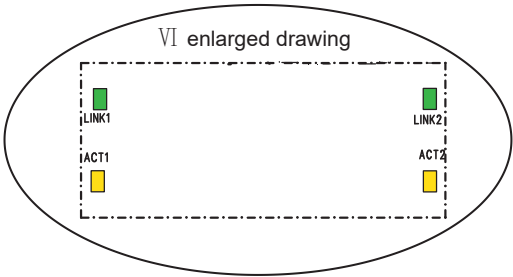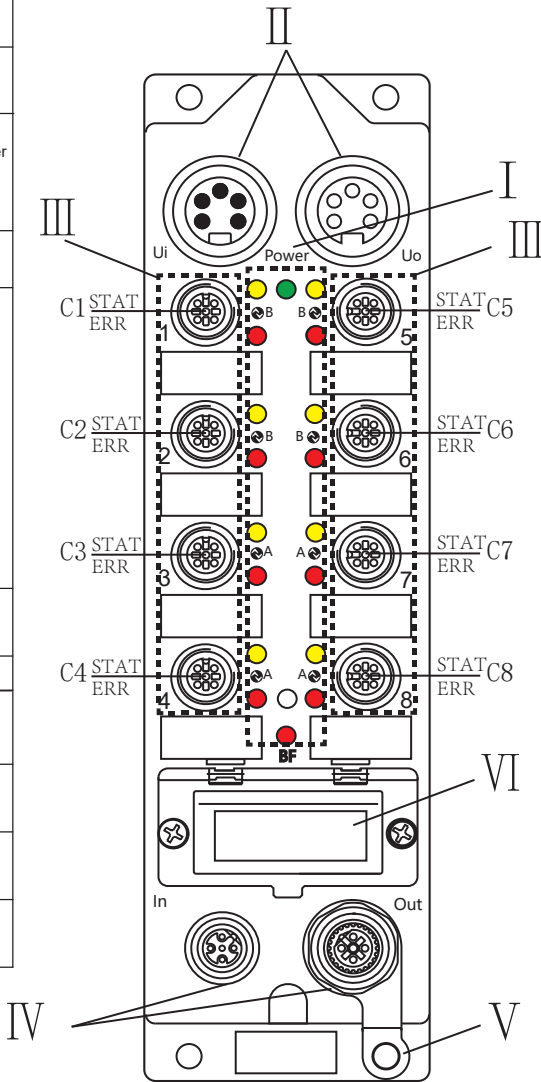
Cycle time

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.