2 IO-Link Master Module

IP-EC-8IA EtherCAT Slave & 8 Channels IO-Link Master Module/Up to 16 Digital Input or Output Configurable

1 Module Features

- EtherCAT is seamlessly integrated, supports standard EtherCAT protocol, and has two network interfaces (M12, D-Code 4 Pin) for direct access to Industrial Ethernet for high-speed communication with PLC and other devices, ensuring real-time system performance and stability.
- Supports IO-Link V1.1.4 standard, 8 Class A ports, each port can independently configure Pin 2/Pin 4 input and output, up to 16 digital input or output channels can be configured.
- IP67 protection level: It has excellent dustproof and waterproof performance, and can operate stably in harsh industrial environments such as moisture, dust, and oil stains without additional protective measures.
- Module diagnosis: It has functions such as power supply undervoltage/overvoltage detection and communication status diagnosis.
- Temperature protection: built-in temperature sensor, real-time monitoring of the module's operating temperature, automatic alarm and protective measures for exceeding the threshold, extending the module's service life.
- Plug and play: Supports automatic device identification and parameter configuration, simplifying the installation and commissioning process and lowering the threshold for user use.
- Online upgrade: If firmware upgrade is required, online upgrade can be achieved without disassembly.

2 Technical Parameter

Power Port	
Us Power Supply Rated Voltage	24 V DC
Us Power Supply Current	Max.8A
Ua Power Supply Rated Voltage	24 V DC
Ua Power Supply Current	Max.8 A
Us/Ua Power Interface Type	2 M12: L-code 5 Pins, 1 pin end (input) and 1 hole end (output)
Pin Definition	M12 pin end (input) / hole end (output): Pin1: Us+, system power Pin2: Ua-, field power Pin3: Us-, system power Pin4: Ua+, field power Pin5: FG, functional grounding
Module Consumption	Max.200 mA@24 V DC
Network Port	
Number of Network	2 M12, D-code 4 Pin, hole end, 1 IN, 1 OUT
Pin Definition	Pin1: Sender Tx+ Pin2: Receiver Rx+ Pin3: Sender Tx- Pin4: Receiver Rx-
IO-Link Class-A Port	
Quantity	8 x M12, A-code 5 Pin, hole end
Port Definition	Pin1: 24VDC(Us+), power supply positive Pin2: I/Q, DI/DO configurable Pin3: GND(Us-), power supply negative Pin4: C/Q, IO-Link/DI/DO configurable Pin5: NC, not used
Pin2 Definition	Configurable: (1) DI: Digital input, PNP type: Input type: Type3 Turn-on Voltage: +15V DC~+30V DC Turn-off Voltage: -5V DC~+5V DC Input Delay: Max.500μs 2-Wire sensor: support Filter time: 10ms (Default value) (2) DO: Digital output, PNP type: Load capacity: Resistive load 0.5A, inductor load 12W, lamp load 5W; Turn-on time: Max.100μs Turn-off time: Max. 200μs (3) Power output, output voltage 24V DC;
Pin4 Definition	Configurable: (1) DI: Digital input, PNP type: Input type: Type3 Turn-on voltage: 15V DC~30V DC

	Turn-off voltage: -5V DC~+5V DC Input delay: Max.500μs 2-Wire sensor: support Filter time:10ms (Default) (2) DO: Digital output, PNP/NPN type: Load capacity: resistance load 0.5A, inductor load 12W, lamp load 5W; Turn-on time: Max.100μs Turn-off time: Max.200μs (3) IO-Link mode;
Output Current	(1) Pin1(Us+)/Pin3(Us-): Rated output current 1.6A (2) Pin2(Us+)/Pin3(Us-): Rated output current 2A
Communication Protocol	
Protocol	EtherCAT
Fieldbus Bytes	Input: Max.1024 Bytes Output: Max.1024 Bytes
Site Alias	DIP switch
Network Interface	2 x M12, D-Code 4 Pin, Hole End, 1 In 1 Out
IO-Link Protocol	
Protocol Standard	IO-Link v1.1 master protocol
Transfer Rate	COM1 (4.8kbps), COM2 (38.4kbps), COM3 (230.4kbps), supports adaptive transfer rates
IO-Link Maximum Line Length	Point-to-point 20 meters
Dimension	
Dimension	214 mm*60 mm *35.5 mm
Weight	425 g
Environmental Parameters	
Operating Temperature	-30 ℃~60 ℃
Protection Grade	IP67
Storage Temperature	-40℃~85℃
Installation Altitude	<2000m
Pollution Degree	II
ESD	Air discharge: ±15 kV, contact discharge: ±8 kV, performance class A; Executive standard: IEC 61000-4-2
EFT	Power Port: ±2 kV, Communication Port: ±2 kV, Performance Class A; Executive standard: IEC 61000-4-4
Surge	Communication & IO Ports: ±1 kV DM, Power Ports: ±0.5 kV DM, ±0.5 kV CM, Performance Class A; Implementation standard: IEC 61000-4-5
RS	Executive standard: IEC 61000-4-3
CS	Executive standard: IEC 61000-4-6
Product Certification	CE certification

3 Hardware Interfaces