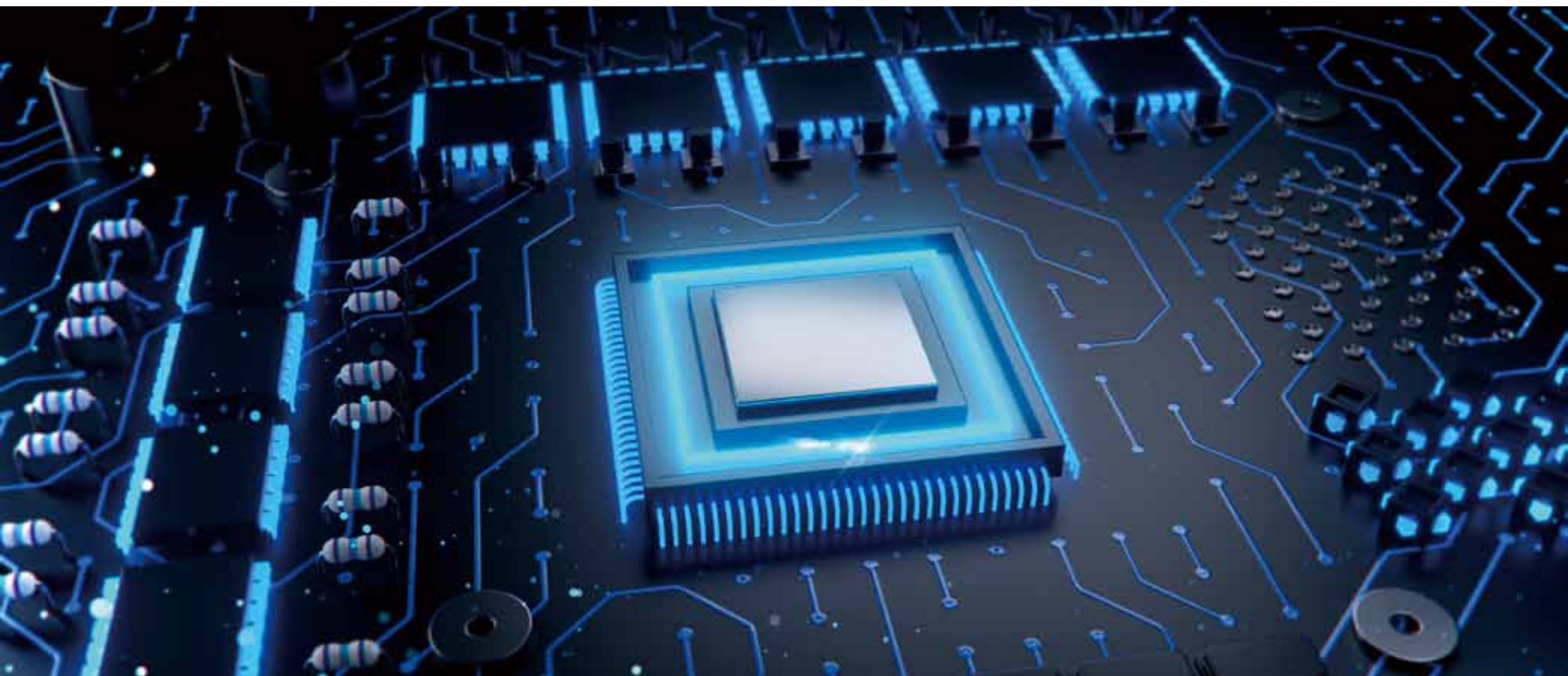




**森特奈**

**SENTINEL ELECTRONICS**



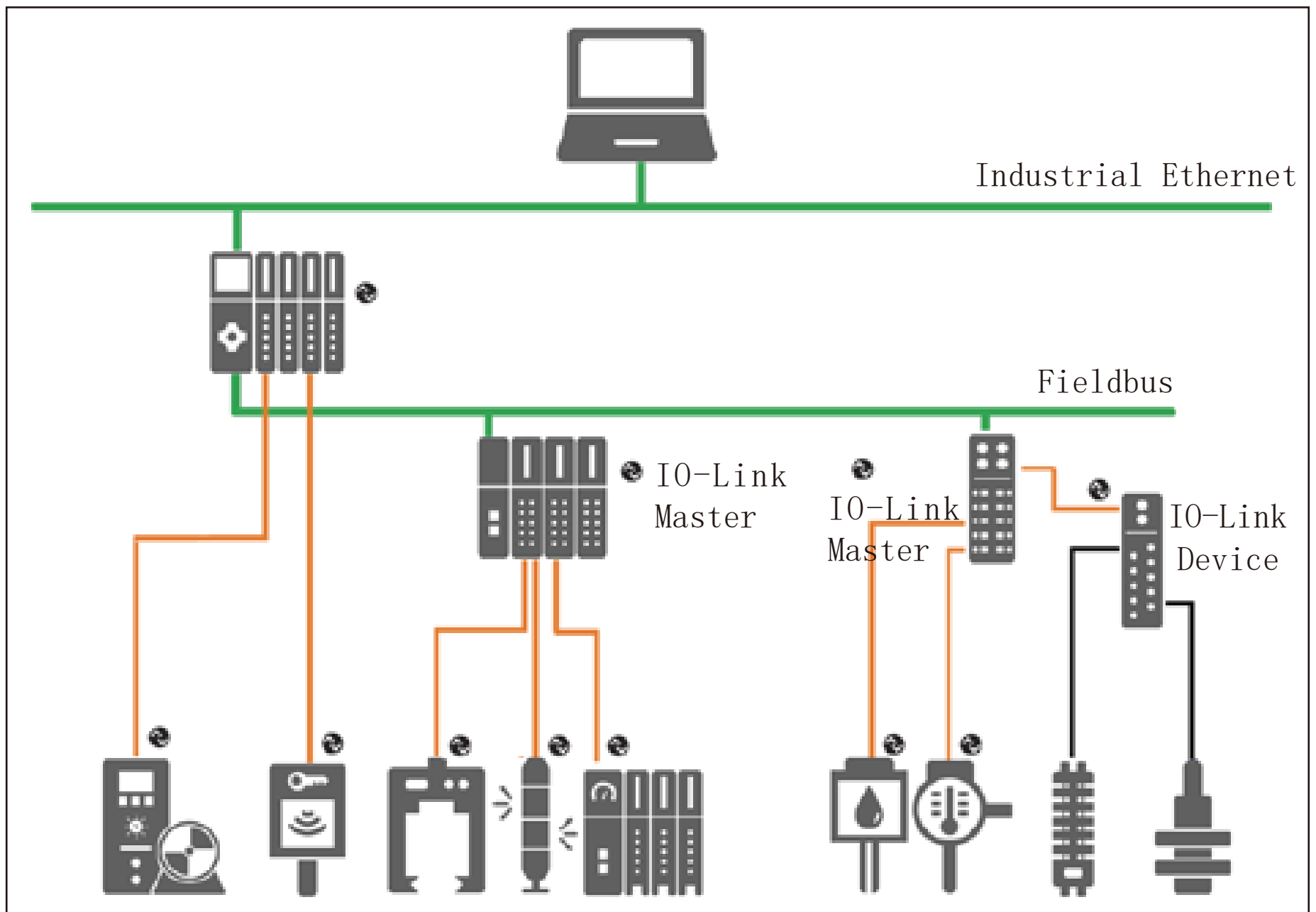
 **IO-Link**

创新驱动智造，用心服务客户  
*SENSING YOUR MIND!*

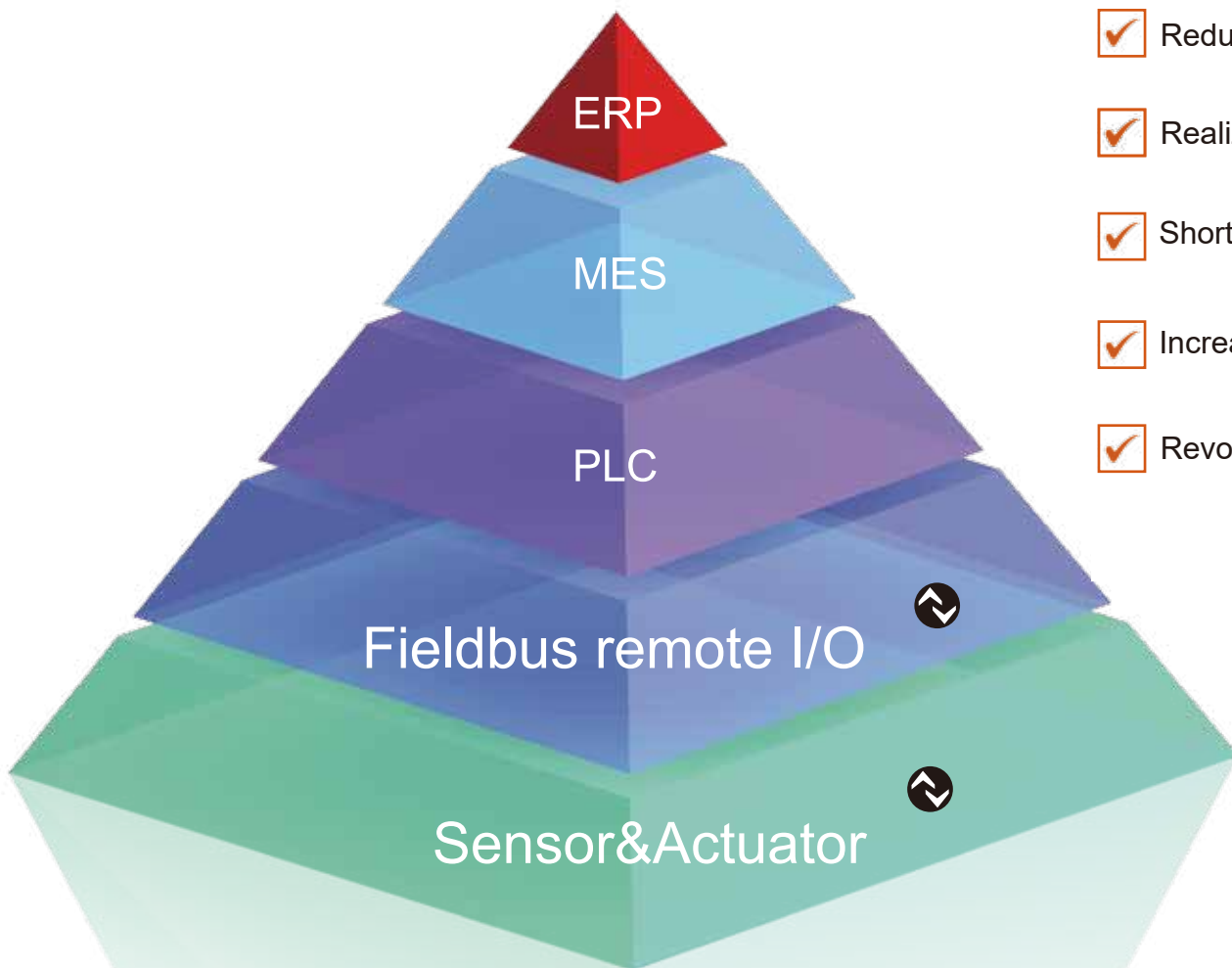
# IO-Link Overview

IO-Link is the first standardised IO technology worldwide (IEC 61131-9) for the communication with sensors and also actuators. The powerful point-to-point communication is based on the long established 3-wire sensor and actuator connection without additional requirements regarding the cable material. So, IO-Link is no fieldbus but the further development of the existing, tried-and-tested connection technology for sensors and actuators.

The system architecture could look as follows:



*Use*  **IO-Link**  
Universal · Smart · Easy



- ✓ IO-Link is fieldbus independent and can be intergrated into all fieldbus systems worldwied
- ✓ Reduce your costs
- ✓ Realize innovative machine concepts
- ✓ Shorten commissioning times
- ✓ Increase the productivity of your machinery
- ✓ Revolutionize your maintenance and repairs

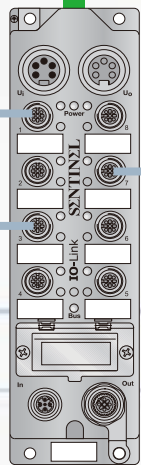
*Less is More!*





## Master and Device I/O modules

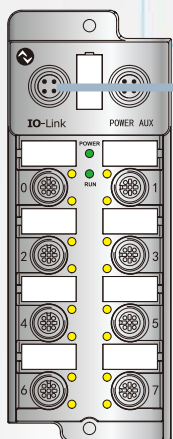




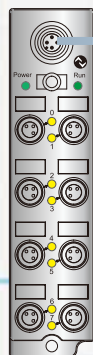
**IO-Link Master**



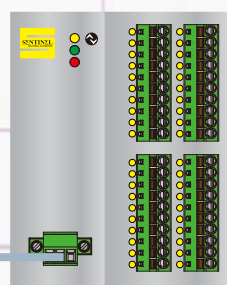
support different protocols



**IO-Link M12 Device**

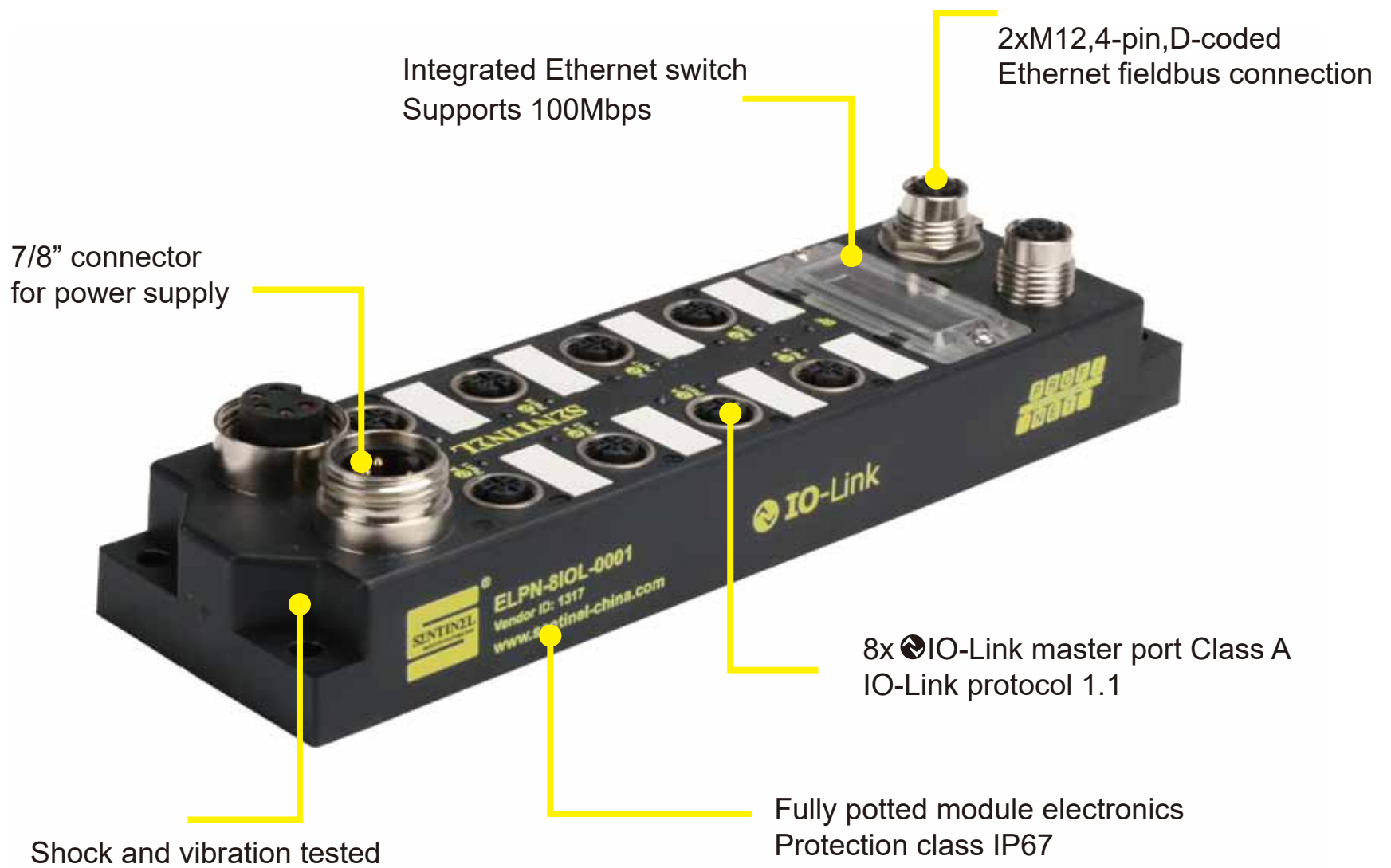


**IO-Link M8 Device**



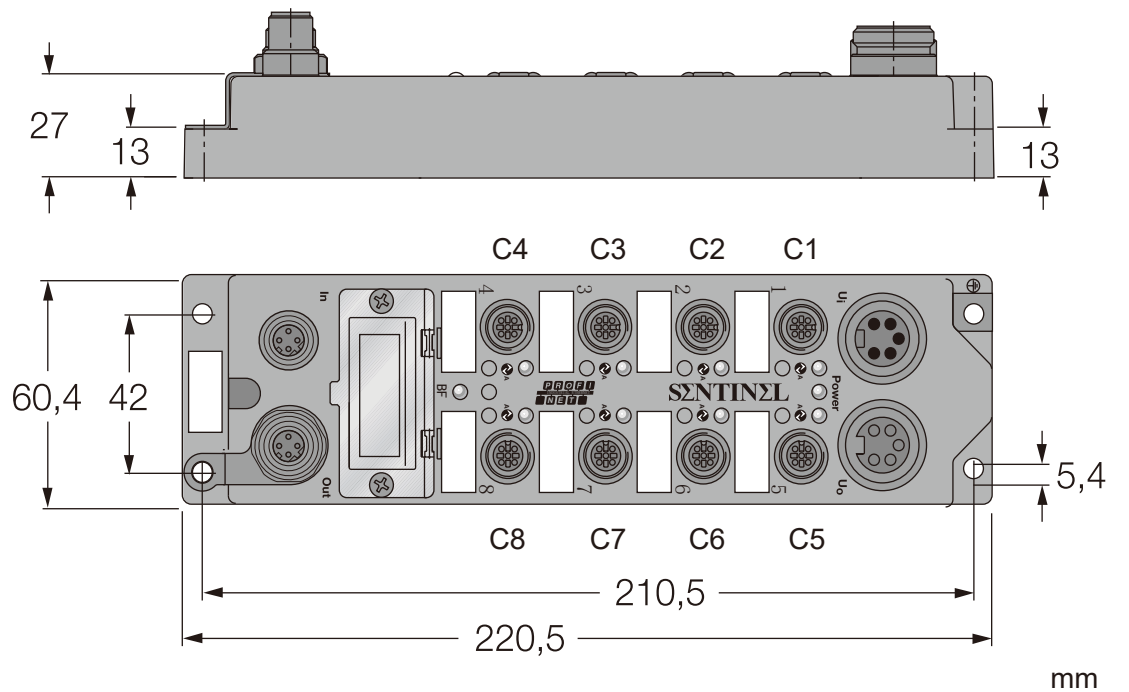
**IO-Link Terminal Device**

# IO-Link Master I/O Module for Ethernet





## Dimensions



### Type

**ELPN-8IOL-0001**

Supply voltage

24VDC  $\pm$  10%

Operating Current

< 200mA

Supply current

recommend > 8A

### IO-Linkparameter

number of ports

8 (C1...C8)

connectivity inputs

M12,5-pin,A code

Supply current per port

max.2A,

SIO mode

nonsupport

IO-Link

pin 4 in IOL mode

IO-Link port type

Class A

IO-Link specification

Version 1.1

Frame type

supports all specified frame types

Supported devices

max. 32Bytes Input / 32Bytes Output

Transmission rate

4.8kbps(COM1)/38.4kbps(COM2)/230.4kbps(COM3)

### Profinet

Number of channels

2

Transmission standard

100Base-TX

Auto-negotiation

supported

Auto-MDI/MDIX

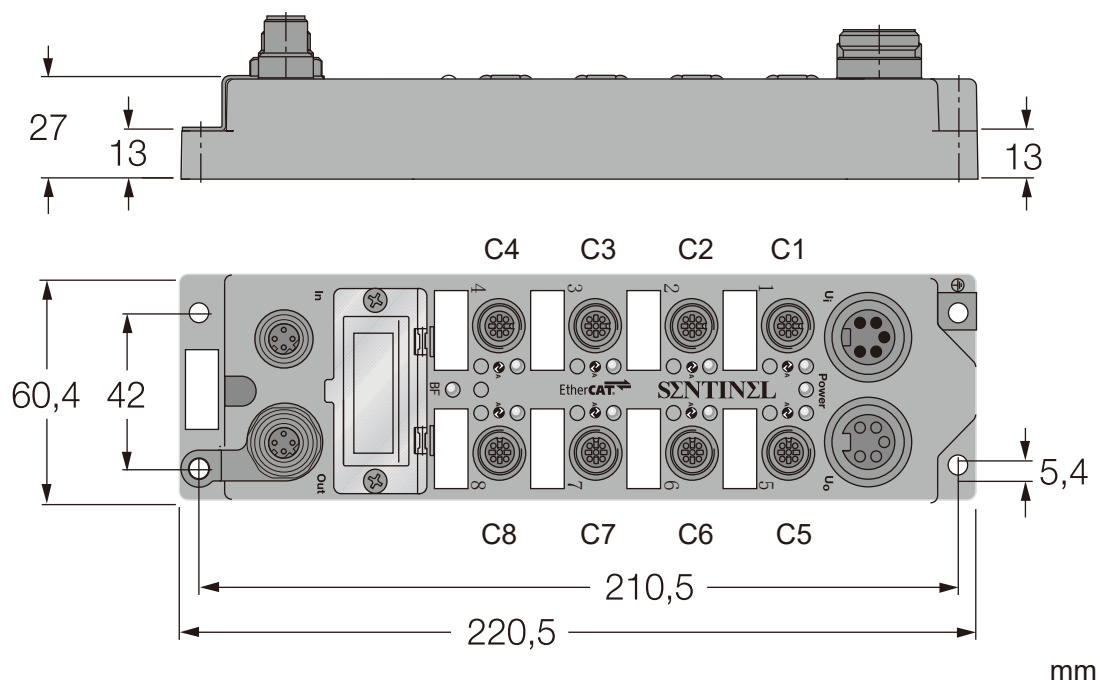
supported

Fieldbus transmission rate

100Mbit/s



## Dimensions



### Type

**ELCT-8IOL-0001**

Supply voltage

24VDC  $\pm$  10%

Operating Current

< 200mA

Supply current

recommend > 8A

### IO-Linkparameter

number of ports

8 (C1...C8)

connectivity inputs

M12,5-pin,A code

Supply current per port

max.2A

SIO mode

nonsupport

IO-Link

pin 4 in IOL mode

IO-Link port type

Class A

IO-Link specification

Version 1.1

Frame type

supports all specified frame types

Supported devices

max. 32Bytes Input / 32Bytes Output

Transmission rate

4.8kbps(COM1)/38.4kbps(COM2)/230.4kbps(COM3)

### EtherCAT

Number of channels

2

Transmission standard

100Base-TX

Auto-negotiation

supported

Auto-MDI/MDIX

supported

Fieldbus transmission rate

100Mbit/s

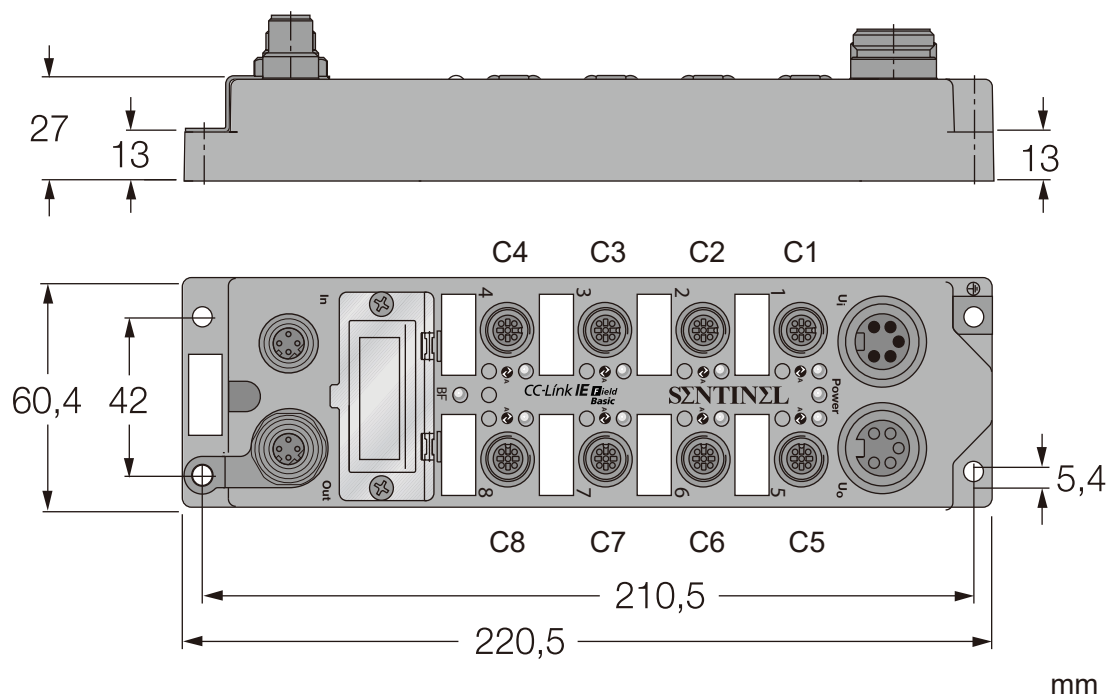
Auto-scan

automatically detect the iolink device connected to the port





## Dimensions



### Type

**ELBC-8IOL-0001**

Supply voltage

24VDC  $\pm$  10%

Operating Current

< 200mA

Supply current

recommend > 8A

### IO-Link parameter

number of ports

8 (C1...C8)

connectivity inputs

M12,5-pin,A code

Supply current per port

max.2A,

SIO mode

nonsupport

IO-Link

pin 4 in IOL mode

IO-Link port type

Class A

IO-Link specification

Version 1.1

Frame type

supports all specified frame types

Supported devices

max. 32Bytes Input / 32Bytes Output

Transmission rate

4.8kbps(COM1)/38.4kbps(COM2)/230.4kbps(COM3)

### CC-Link IE Field Basic

Number of channels

2

Transmission standard

100Base-TX

Auto-negotiation

supported

Auto-MDI/MDIX

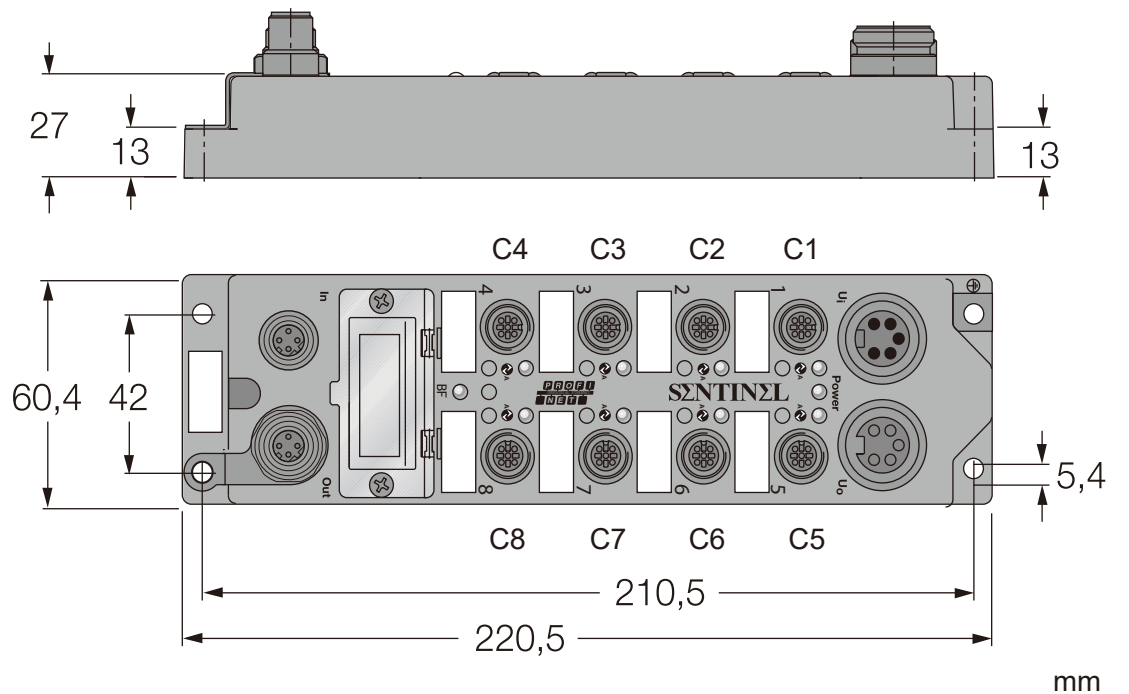
supported

Fieldbus transmission rate

100Mbit/s



## Dimensions



### Type

**ELPN-8IOL-004B**

Supply voltage

24VDC  $\pm$  10%

Operating Current

< 200mA

Module/Load power

$\leq$ 8A

### IO-Linkparameter

number of ports

8 (C1...C8)

connectivity inputs

M12,5-pin,A code

Supply current per port

max.2A,

SIO mode

nonsupport

IO-Link

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

Supported devices

max. 32Bytes Input / 32Bytes Output

Transmission rate

4.8kbps(COM1)/38.4kbps(COM2)/230.4kbps(COM3)

### Profinet

Number of channels

2

Transmission standard

100Base-TX

Auto-negotiation

supported

Auto-MDI/MDIX

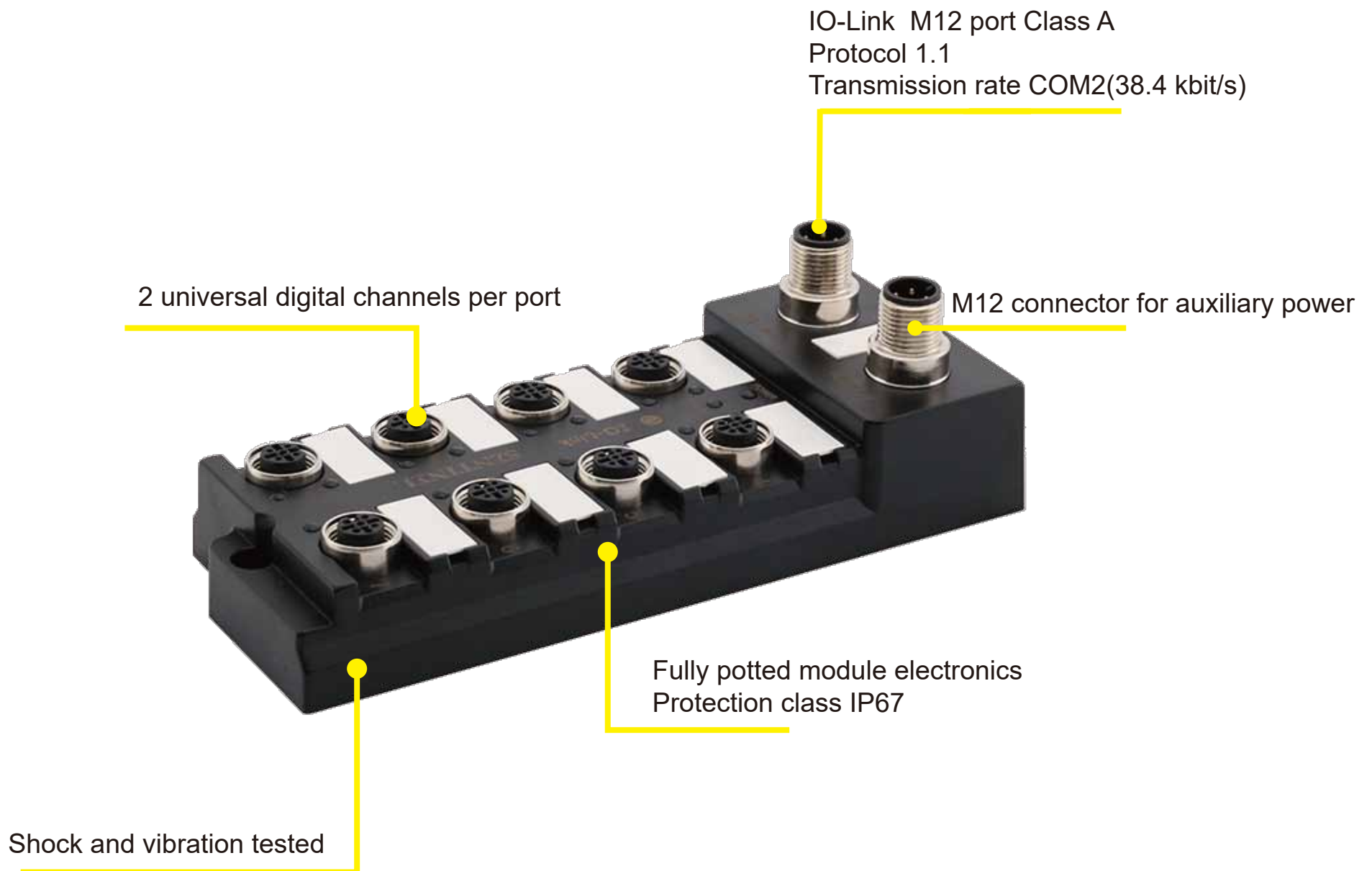
supported

Fieldbus transmission rate

100Mbit/s

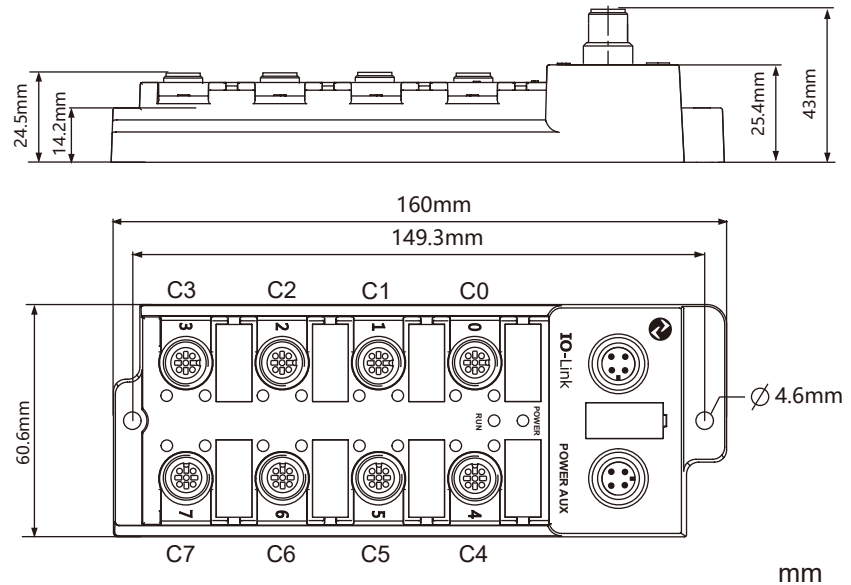
# IO-Link Device M12 I/O Module

I/O Hub for Connection of Digital Signals to IO-Link Master





### Dimensions

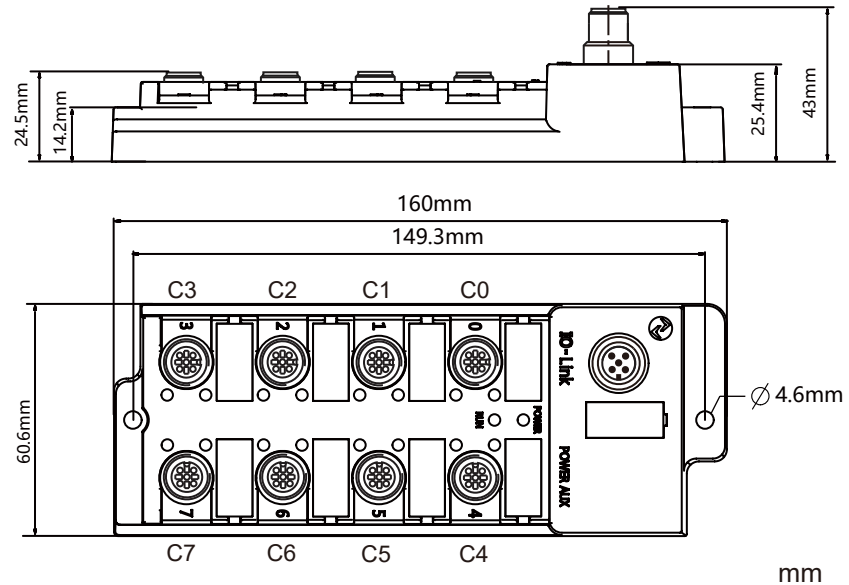


Type	SIOL-M12-16DIP	SIOL-M12-16DIN	SIOL-M12-8DIOP	SIOL-M12-8DION	SIOL-M12-16DO
Digital inputs	16xPNP	16xNPN	8xPNP	8xNPN	---
Digital outputs	---	---	8xPNP	8xPNP	16xPNP
Supply voltage	24VDC $\pm$ 10%				
Operating current	<100mA				
<b>Input</b>					
Input rated current	7mA				
Input delay	3ms				
Switch threshold	2mA/4mA, 7V/11V				
Sensor power supply	max.150mA;				
<b>Output</b>					
Output current	0.5A,max.1A; sum C0-C3<4A;sum C4-C7<4A				
Output mode	COM=0V				
Output protection	overload protection,overheating protection				
Protection delay time	20ms				
Switching Frequency	100Hz				
<b>IO-Link</b>					
IO-Link function	Device				
IO-Link Connection	M12x1-Male, 4-pin, A-Coded				
IO-Link port type	Class A				
IO-Link specification	Version 1.1				
Transmission rate	COM2 (38.4kbps)				
Frame type	TYPE_2_2	TYPE_2_4		TYPE_2_5	
Cycle time min.	2400us				
ISDU(Index service data units)	support				
Data Store	support				
Protection class	IP67,when threaded in				
Ambient temperature	-20...55°C				





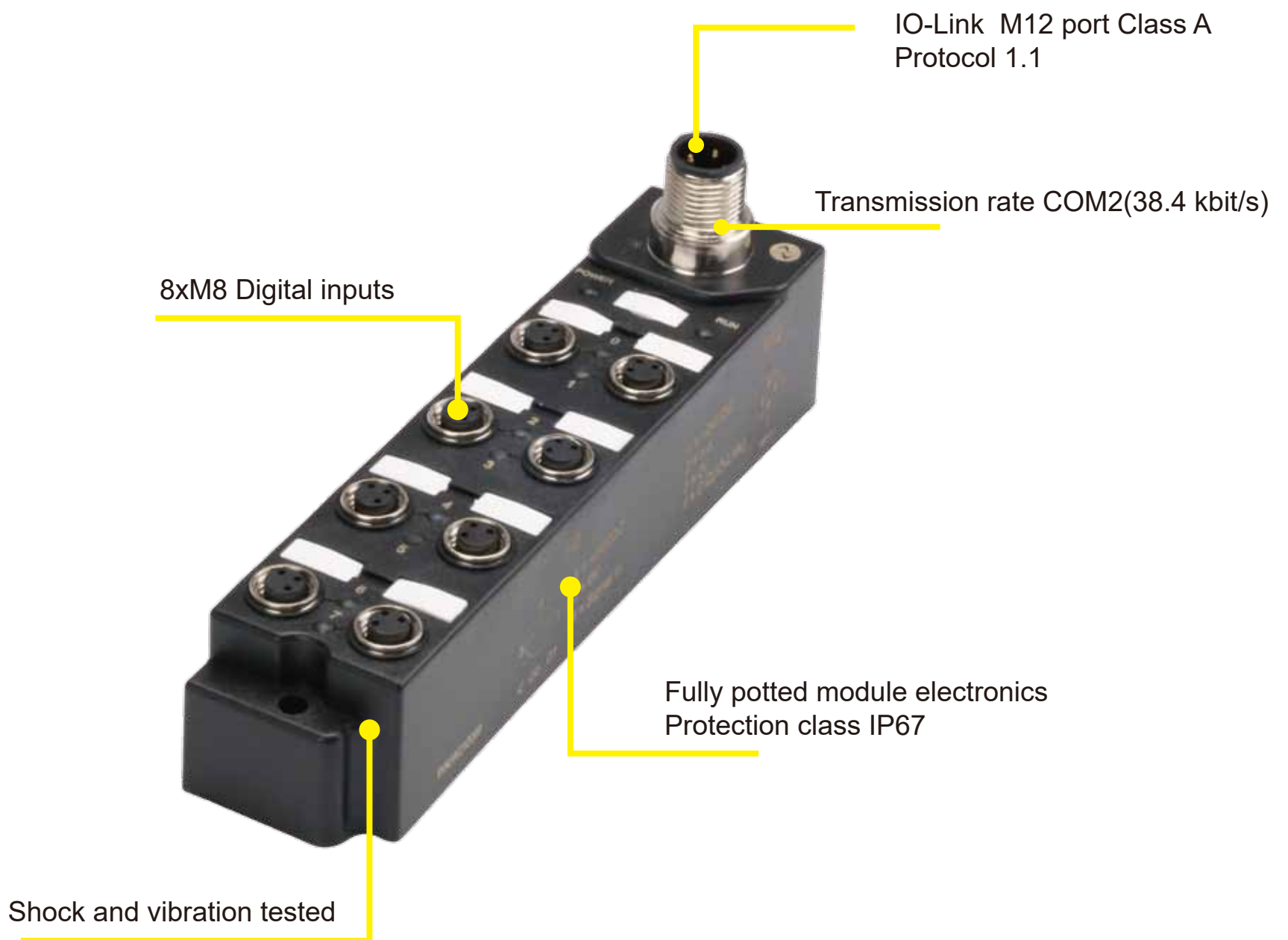
### Dimensions



Type	SIOL-M12-8AI	SIOL-M12B-8DIOP	SIOL-M12B-8DION	SIOL-M12B-16DO
Inputs	8 Analog (0-20/4-20 mA)	8xPNP	8xNPN	---
Outputs	---	8xPNP	8xPNP	16xPNP
Supply voltage	24VDC $\pm$ 10%			
Operating current	<100mA			
<b>Input</b>				
Input rated current	Input resolution: $\leq$ 14bits	7mA		
Input delay	Input type:4-20/0-20 mA	3ms		
Switch threshold	Input range:0-22mA	2mA/4mA, 7V/ 1V		
Sensor power supply	Maximum 300mA	max.150mA;		
<b>Output</b>				
Output current		0.1A,max.0.5A; Ui Total current $\leq$ 4 A		
Output mode		COM=0V		
Output protection		overload protection,overheating protection		
Protection delay time		20ms		
Switching Frequency		100Hz		
<b>IO-Link</b>				
IO-Link function	Device			
IO-Link Connection	M12x1-Male, 4-pin, A-Coded			
IO-Link port type	Class A	Class B		
IO-Link specification	Version 1.1			
Transmission rate	COM2 (38.4kbps)			
Frame type	TYPE_2_2	TYPE_2_5		TYPE_2_4
Cycle time min.	2400us			
ISDU(Index service data units)	support			
Data Store	support			
Protection class	IP67,when threaded in			
Ambient temperature	-20...55°C			

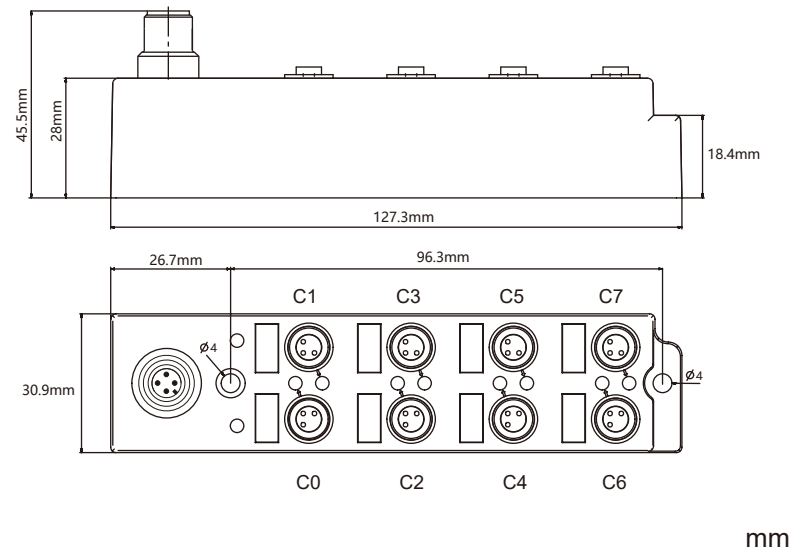
# IO-Link Device M8 I/O Module

I/O Hub for Connection of Digital Signals to IO-Link Master





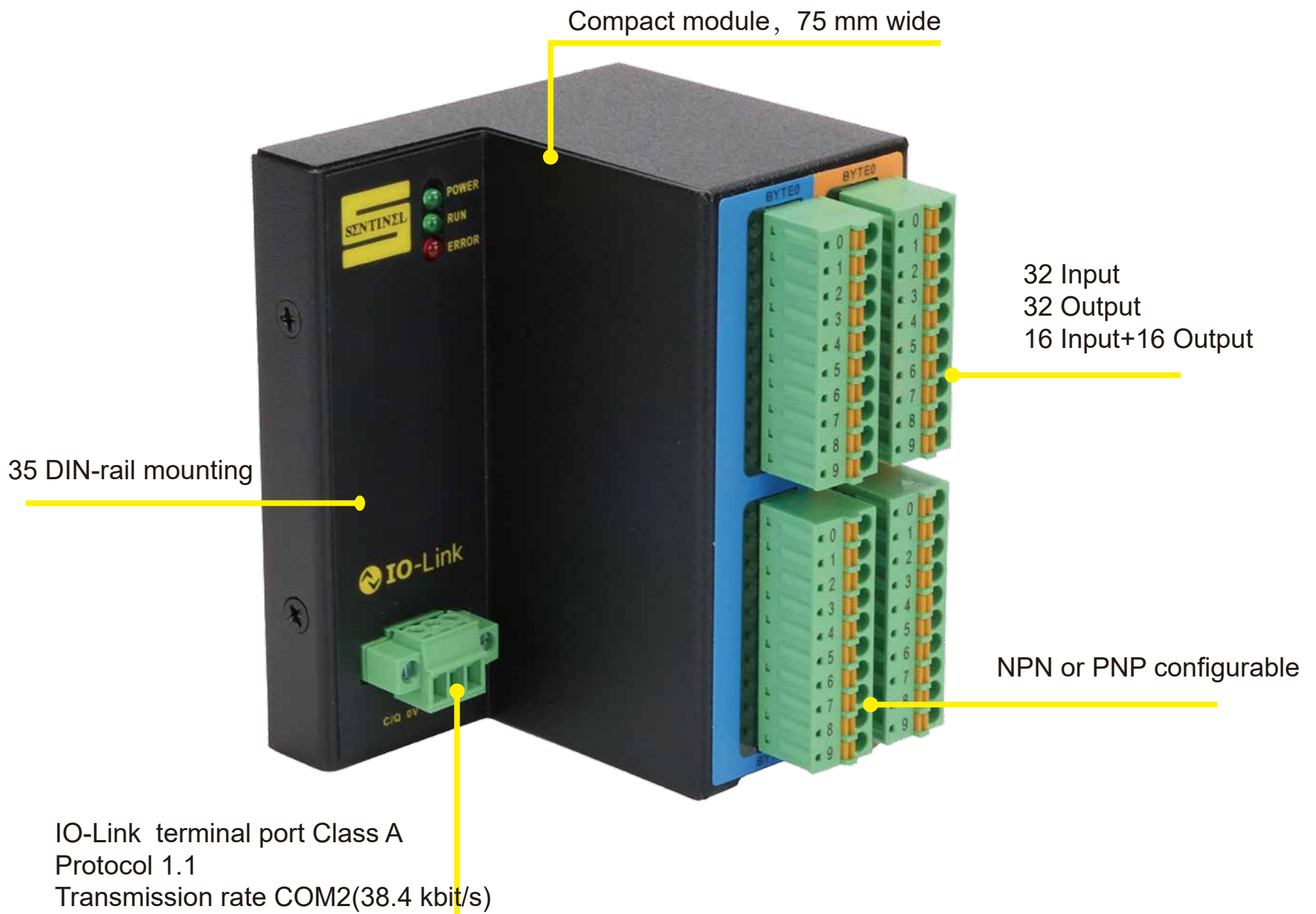
## Dimensions



Type	SIOL-M8-8DIP	SIOL-M8-8DIN
Digital inputs	8xPNP	8xNPN
Connection	8xM8	
Supply voltage	24VDC $\pm$ 10%	
Operating current	< 100mA	
Supply current	max. 1.4A	
<b>Input</b>		
Input rated current	7mA	
Input delay	3ms	
Switch threshold	2mA/4mA, 7V/11V	
Sensor power supply	max. 150mA	
Electrical isolation	Opto-coupler isolation	
<b>IO-Link</b>		
IO-Link function	Device	
IO-Link Connection	M12x1-Male, 4-pin, A-Coded	
IO-Link port type	Class A	
IO-Link specification	Version 1.1	
Transmission rate	COM2 (38.4kbps)	
Frame type	TYPE_2_1	
Cycle time min.	4000us	
ISDU(Index service data units)	support	
Data Store	support	
Protection class	IP67, when threaded in	
Ambient temperature	-20...55°C	

# IO-Link Device Compact I/O Module

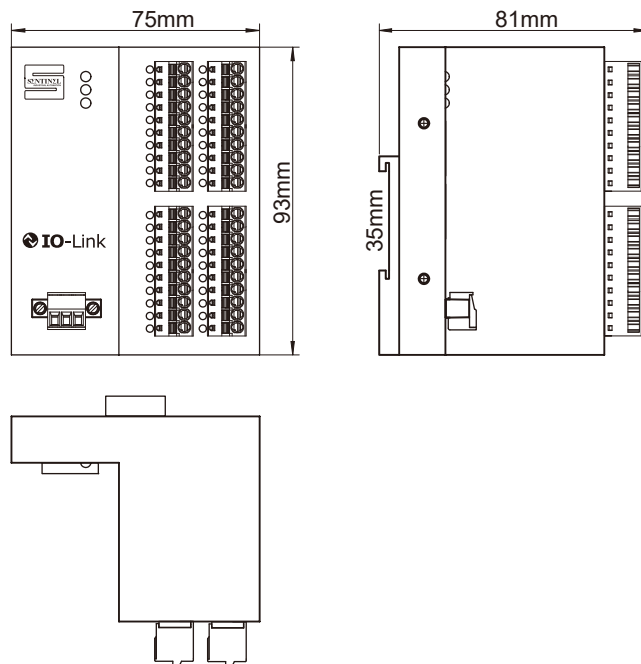
I/O Hub for Connection of Digital Signals to IO-Link Master







## Dimensions



Type	SIOL-TL-32DI	SIOL-TL-16DIO	SIOL-TL-32DO
Digital inputs	32	16	---
Digital outputs	---	16	32
Supply voltage	24VDC $\pm$ 10%		
Operating current	< 200mA		
Module and load power supply	UB and UL are internally isolated and need to be power supply separately		
Load power supply	4 groups, power supply separately		
<b>Input</b>			
Input rated current	7mA		
Input delay	5ms		
Switch threshold	2mA/4mA, 7V/14V		
Digital inputs	Configurable PNP/NPN		
<b>Output</b>			
Output current	0.2A		
Output mode	COM=0V		
Output protection	overload protection,overheating protection		
Output voltage drop	0.6V		
Switching Frequency	100Hz		
<b>IO-Link</b>			
IO-Link function	Device		
IO-Link Connection	Terminal		
IO-Link port type	Class A		
IO-Link specification	Version 1.1		
Transmission rate	COM2 (38.4kbps)		
Frame type	TYPE_2_V		
Cycle time min.	4000us		
ISDU(Index service data units)	support		
Data Store	support		
Protection class	IP20		
Ambient temperature	-20...55°C		

# Application

- Automobile welding line
- Automobile assemble production line
- Electric Vehicle Charging Station



- Lithium battery manufacturing
- Logistics sorting
- Non-standard equipments



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***SENSING YOUR MIND!***