

IO-Link Hub~~LKHA-xxxx-M12 (16-bit)

----Installation Manual

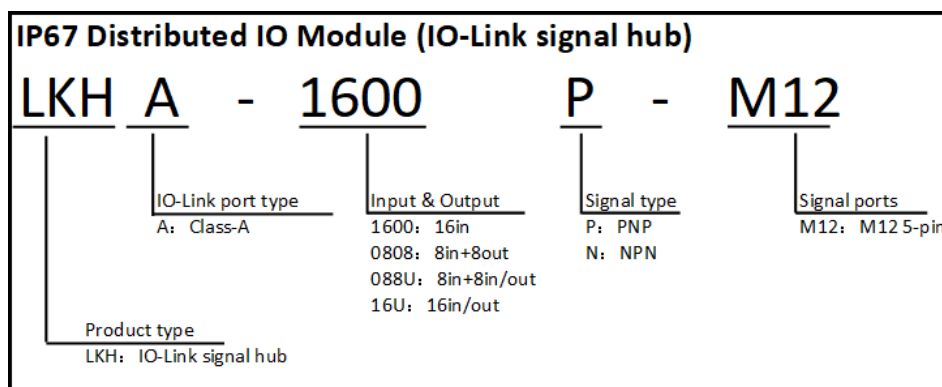


ELCO (Tianjin) Electronics Co., Ltd.
11/2023
Version 1.3

1.1 Scope of this manual:

This manual applies to the ELCO IO-Link signal Hub (16-bit M12, 7 types): LKHA-1600P-M12, LKHA-0808P-M12, LKHA-088UP-M12, LKHA-16UP-M12, LKHA-1600N-M12, LKHA-088UN-M12, LKHA-16UN-M12.

These 7 types of IO-Link hub use identical housings, with identical overall dimensions and connector types. There are differences in the signal types supported by different types of products. The coding rules are as follows:



Product overview:

1) LKHA-1600P-M12, LKHA-1600N-M12

Supply Voltage 24VDC, self-consumption max.100mA;

8 x Port module for

16 x Digital Input (Input Supply 8 x 24VDC/200mA)

2) LKHA-0808P-M12

Supply Voltage 24VDC, self-consumption max.100mA;

8 x Port module for

8 x Digital Input (Input Supply 8 x 24VDC/200mA)

and

8 x Digital Output (8 x 24VDC/500mA, max. in total 2A)

3) LKHA-088UP-M12, LKHA-088UN-M12

Supply Voltage 24VDC, self-consumption max.100mA;

8 x Port module for

16 x Digital Input (Input Supply 8 x 24VDC/200mA)

or

8 x Digital Output (8 x 24VDC/500mA, max. in total 2A)

4) LKHA-16UP-M12, LKHA-16UN-M12

Supply Voltage 24VDC, self-consumption max.100mA;

8 x Port module for

16 x Digital Input (Input Supply 8 x 24VDC/200mA)

or

16 x Digital Output (8 x 24VDC/500mA, max. in total 2A)

You can see the datasheet of 7 types in Section 2.1.

This product is specifically designed for industrial use and needs to be applied under specific conditions. This product serves as an IO-Link device and needs to be connected to the IO-Link master for use.

1.2 Basic knowledge requirements

Operators need to have basic knowledge in the fields of electrical and automation engineering. Any improper operation may cause harm to the equipment or human body.

This manual describes each component based on valid data at the time of release, and new components and parameter adjustments will be updated in the new version of the manual.

1.3 Guide:

This manual describes the hardware of IO-Link signal Hub.

Covered topics are:

- Installation and wiring
- Commissioning and diagnostics
- Components
- Article numbers
- Technical specifications

1.4 Technical support:

Please contact your local ELCO representative or call hotline if you have any questions about the products described in this manual.

Additional information about ELCO products is available:

Corporate name: Tianjin Elco Automation Co., Ltd

Company address: No. 12, 4th XEDA Branch Road, Xiqing Economic-Technological Development Area ,Tianjin China

Website: <http://www.elco-holding.com.cn/>

TEL: +86 22 23888288

1.5 Electrical installation:



WARNING

Danger due to electrical voltage!

An unqualified installation can affect the use of the equipment or lead to equipment damage!

- Only qualified electrical engineering personnel may install the modules.
- Only operate on 24 V DC voltage.
- Must be connected to limited power source (LPS).
- Use Copper Conductors Only. Use min. 22 AWG for IO-Link port connector and min. 26 AWG for Signal I/O connector.

ATTENTION

La tension pose un danger!

Une installation non conforme peut affecter l'utilisation de l'appareil ou causer des dommages à l'appareil!

- Seuls les ingénieurs électriciens qualifiés peuvent installer les modules.
- Fonctionne uniquement à 24 V DC.
- Doit être connecté à une alimentation électrique limitée (LPS).
- Utilisez uniquement des conducteurs en cuivre. Le connecteur de port io - LINK utilise un minimum de 22 AWG et le connecteur d'E / s de signal un minimum de 26 AWG.



ATTENTION

Damages due to open plugs and sockets!

Enclosure rating Type 1 is only guaranteed if all connections are tightly sealed.

- Seal unused plugs and sockets with screw plugs or caps.

1.6 Disclaimer of liability:



- Only qualified personnel may perform installation, commissioning, modification, inspection and retrofitting activities.
- Follow the applicable regulations and standards in the operating instructions and manual.
- Follow the safety regulations of the Employers' Liability Insurance Association and electrical engineering.

If the equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired. We assume no liability for product damage or subsequent damage arising from non-observance of the regulations or improper handling of the products.

2.1 Datasheet

Ordering data	1			
Product type	LKHA-1600P-M12	LKHA-0808P-M12	LKHA-088UP-M12	LKHA-16UP-M12
Description	16 DI	8DI + 8DO	8DI + 8DI/DO	16 DI/DO
	Class-A, 8*M12, PNP			
Power supply				
Supply voltage	24 VDC (18...30 VDC)			
Supply requirement	Limited power source			
Self consumption	Max. 100mA			
System & Input supply	Us, Max. 2A			
Output supply	-	Ua, Max. 2A		
Connections				
IO-Link	Class-A: 1 x M12 A-code 4pin, Male			
Power supply	Included in IO-Link interface			
Signals	8 x M12 A-code 5pin, Female			
Interface				
Input channels	16	8	Max 16 *)	Max 16 *)
Input supply current	Max. 200mA per channel			
Input type	PNP sensors, mechanical switches, dry contacts, etc..			
Input delay	1.6 ms			
Output channels	-	8	Max 8 *)	Max 16 *)
Output current	Max. 500mA per channel, 2A in total			
Output type	Resistive, Pilot Duty			
Output frequency	Max. 100Hz			
Diagnostics				
Communication indication	LED indication, Communication message			
Voltage detection	Support, Low voltage alarm			
Short-circuit & Overload	Support, LED indication			
General data				
Enclosure rating	Type 1			
Relative humidity	0~95 %			
Altitude	Max. 3000m			
Environment	Indoor use			

Ambient temperature	-25~70 °C
Dimensions (W*H*D)	55x145x28 mm
Weight	176g
Overvoltage Category	II
Pollution degree	2
Type	Enclosed type

*) : Port type can be set to INPUT/OUTPUT by PLC software.

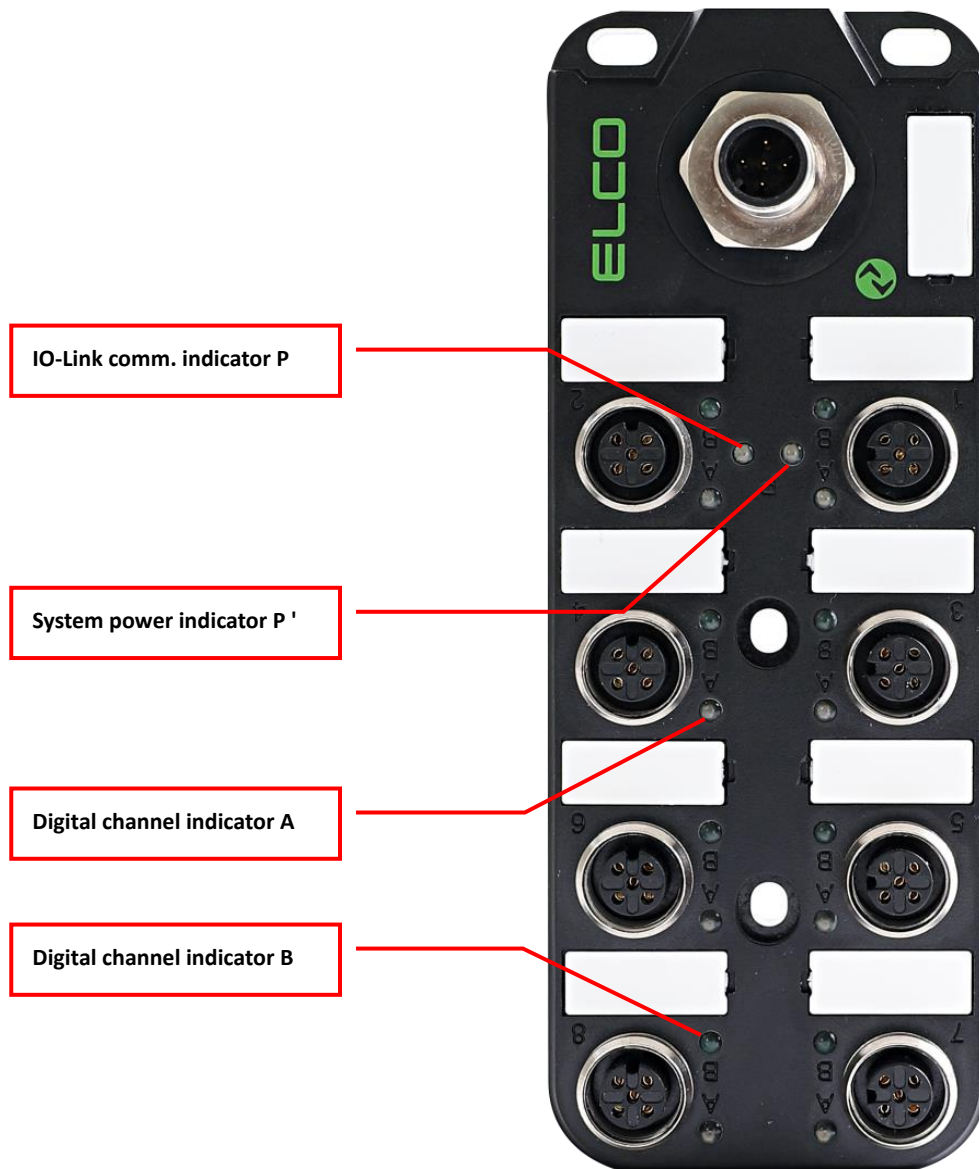
Ordering data	2		
Product type	LKHA-1600N-M12	LKHA-088UN-M12	LKHA-16UN-M12
Description	16 DI	8DI + 8DI/DO	16 DI/DO
	Class-A, 8*M12, NPN		
Power supply			
Supply voltage	24 VDC (18...30 VDC)		
Supply requirement	Limited power source		
Self consumption	Max. 100mA		
System & Input supply	Us, Max. 2A		
Output supply	-	Ua, Max. 2A	
Connections			
IO-Link	Class-A: 1 x M12 A-code 4pin, Male		
Power supply	Included in IO-Link interface		
Signals	8 x M12 A-code 5pin, Female		
Interface			
Input channels	16	Max 16 *)	Max 16 *)
Input supply current	Max. 200mA per channel		
Input type	NPN sensors, mechanical switches, dry contacts, etc..		
Input delay	1.6 ms		
Output channels	-	Max 8 *)	Max 16 *)
Output current	Max. 500mA per channel, 2A in total		
Output type	Resistive, Pilot Duty		
Output frequency	Max. 100Hz		

Diagnostics	
Communication indication	LED indication, Communication message
Voltage detection	Support, Low voltage alarm
Short-circuit & Overload	Support, LED indication
General data	
Enclosure rating	Type 1
Relative humidity	0~95 %
Altitude	Max. 3000m
Environment	Indoor use
Ambient temperature	-25~70 °C
Dimensions (W*H*D)	55x145x28 mm
Weight	185g
Overvoltage Category	II
Pollution degree	2
Type	Enclosed type

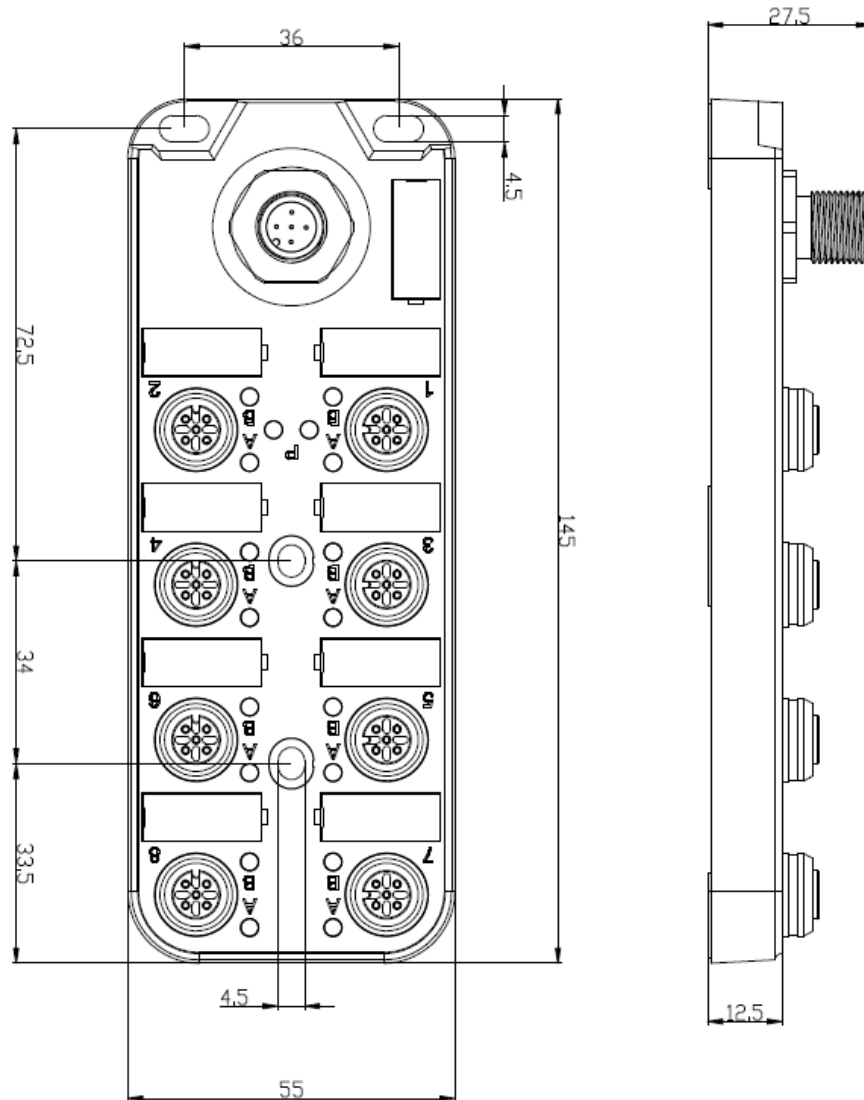
*): Port type can be set to INPUT/OUTPUT by PLC software.

2.2 LED indicator

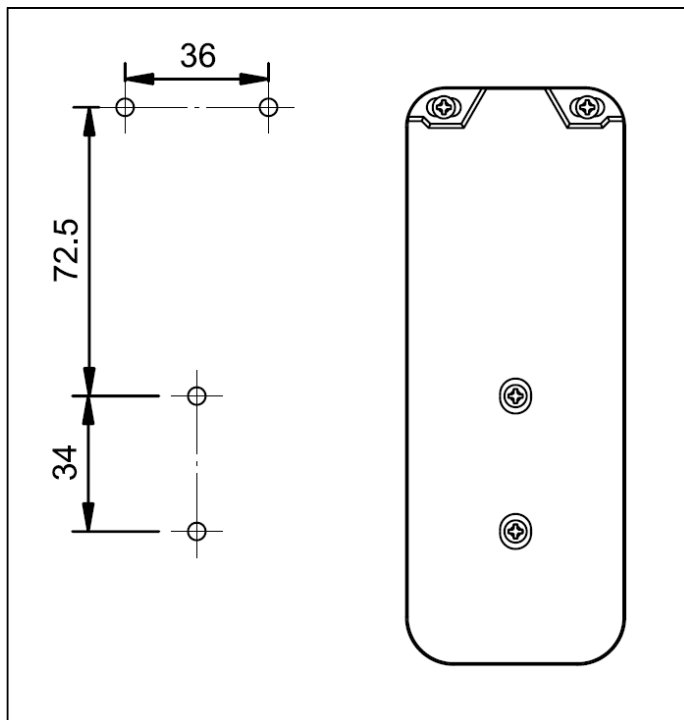
IO-Link signal hub indicator



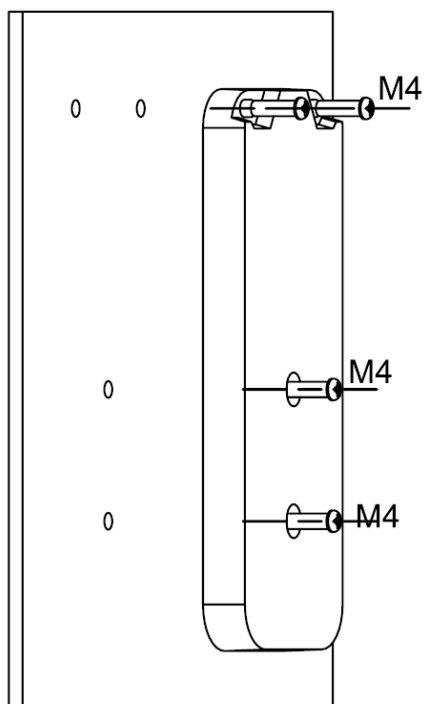
2.3 IO-Link signal hub dimensions



2.4 Mounting the module



Dimensions in mm

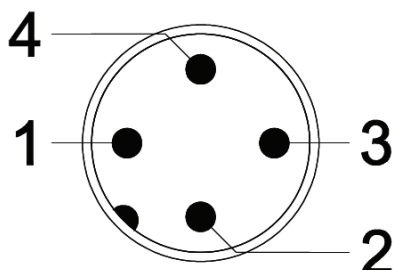


Use screws that are suitable for the mounting surface structure.

2.5 Wiring

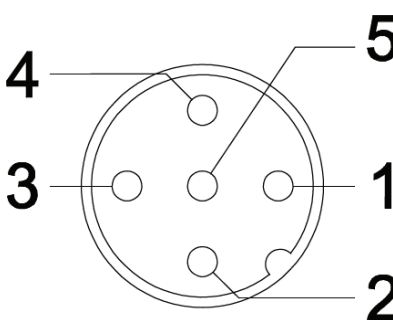
Please make sure to cut off power supply when wiring to ensure safety.

1) IO-Link port connector (M12 A-Code 4-pin, Male)



Terminal	Class-A
1	Power supply 24V+ (Us)
2	Power supply P24 (Ua)
3	Power supply GND
4	IO-Link C/Q

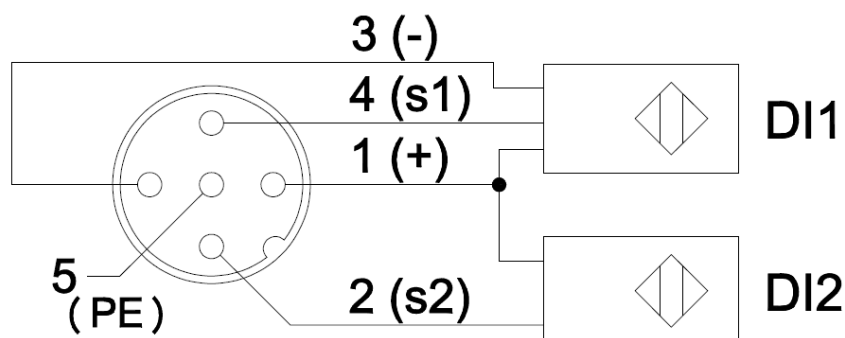
2) Signal I/O connector (M12 A-Code 5-pin, Female)



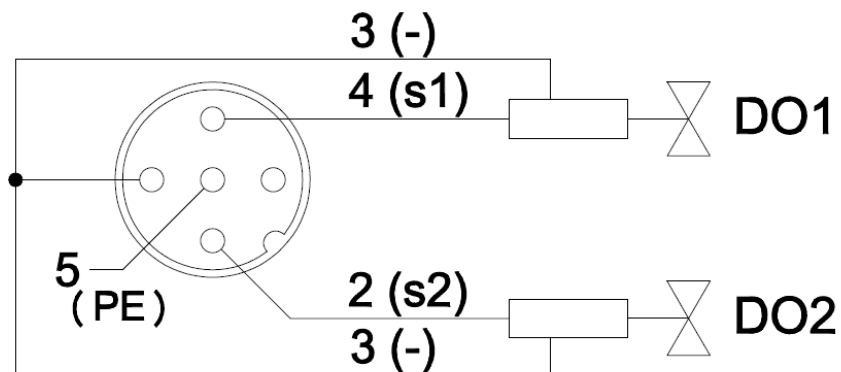
Terminal	M12 connector	
1	Power supply 24V+	
2	Signal input/output B	2 nd signal
3	Power supply GND	
4	Signal input/output A	1 st signal
5	Function grounding FE	

3) Wiring example

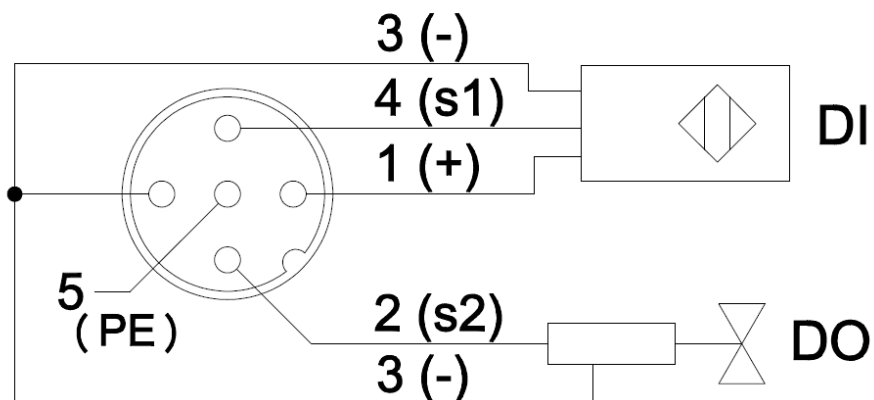
a) Double PNP input signal – 1 connector connects 2 DI, LKHA-1600P-M12, LKHA-0808P-M12, LKHA-088UP-M12, LKHA-16UP-M12 support this connection.



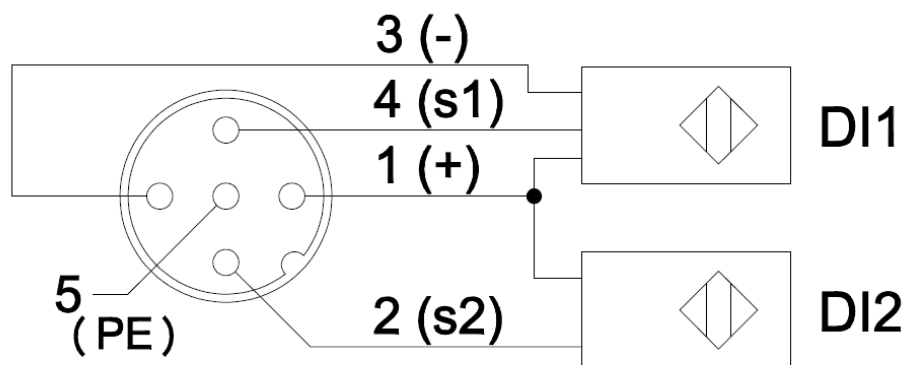
b) Double PNP output signal – 1 connector connects 2 DO, LKHA-0808P-M12, LKHA-088UP-M12, LKHA-16UP-M12 support this connection.



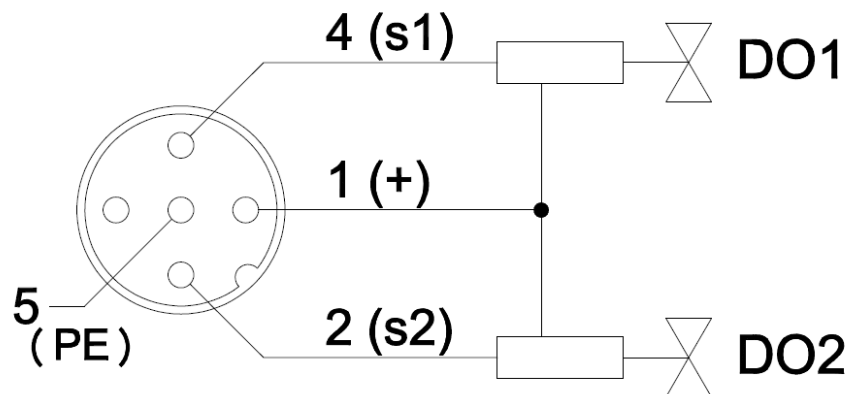
c) PNP Input and output signal – 1 connector connects 1 DI and 1 DO. LKHA-088UP-M12, LKHA-16UP-M12 support this connection.



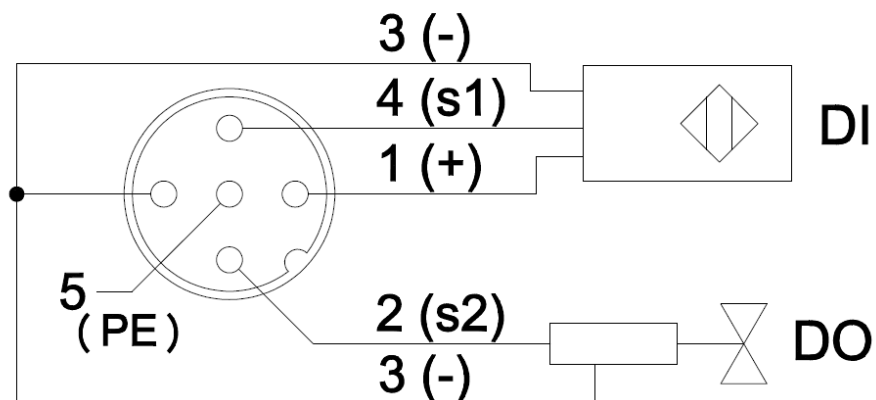
d) Double NPN input signal – 1 connector connects 2 DI, LKHA-1600N-M12, LKHA-088UN-M12, LKHA-16UN-M12 support this connection.



e) Double NPN output signal – 1 connector connects 2 DO. LKHA-088UN-M12, LKHA-16UN-M12 support this connection.



f) NPN Input and output signal – 1 connector connects 1 DI and 1 DO. LKHA-088UN-M12, LKHA-16UN-M12 support this connection.



2.6 IO-Link signal hub indicator

Name	Status	Meaning	Fault cause
Module communication Indicator P	Green flash	Receive IO-Link communication	–
	Off	No IO-Link signal received	1.Expansion cable failure 2.Master IO-Link port problem 3.Slave module is damaged
Signal / status Indicator	Red	Abnormal signal	1.Signal overload or short circuit 2.Slave module is damaged
	Green	Have signal	–
	Off	No signal	–