

PRODUCT

USE INSTRUCTIONS

Ordering code: 00BS12

Part number: FNI IOL-310-S01-K20

Type: 16xDI/DO

Contents

Security.....	3
■ Expected use	3
■ Installation and start-up.....	3
■ Corrosion resistance	3
■ Dangerous voltage	3
■ General security.....	4
1. Component function description	5
1.1 Module overview.....	5
2. Interface definition	6
2.1 IO-Link Interface (M12 A-coded).....	6
2.2 Signal port (screwless spring terminal).....	6
2.3 Status LED meter.....	7
2.4 Mechanical dimensions	8
3. IO-Link data	8
3.1 Communication parameters.....	8
3.2 Process data	8
3.2.1 Process data/input data.....	9
3.2.2 Process data/output data	9
3.3 Service data	10
3.4 Error code.....	11
3.5 Event.....	11

Security

■ Expected use

This manual describes as decentralized input and output modules for connecting to an industrial network.

■ Installation and start-up

Precautions!

Installation and start-up may only be performed by trained personnel. A qualified individual is one who is familiar with the installation and operation of the product and has the necessary qualifications to perform such operations. Any damage caused by unauthorized operation or illegal and improper use is not covered by the manufacturer's warranty. The equipment operator is responsible for ensuring that appropriate safety and accident prevention regulations are observed.

■ Corrosion resistance

Precautions!

FNI modules generally have good chemical and oil resistance. When used in corrosive media (e.g. high concentrations of chemicals, oils, lubricants, coolants and other material media (i.e. very low water content), these media must be checked before the corresponding application material compatibility. If a module fails or is damaged due to this corrosive medium, a defect claim cannot be made.

■ Dangerous voltage

Precautions!

Disconnect all power before using the device!

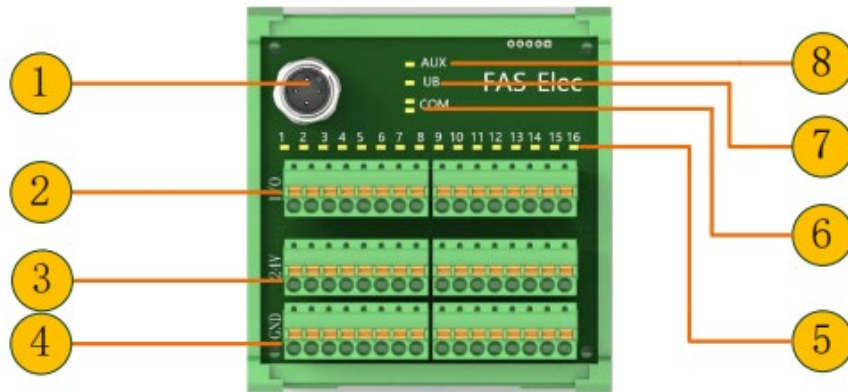
■ General security

Debugging and inspection	Trouble	Owner/operator obligations	Expected use
--------------------------	---------	----------------------------	--------------

Before debugging, read the user manual carefully.	If the defect or equipment failure cannot be corrected, the operation of the equipment must be stopped to avoid damage that may be caused by unauthorized use.	This equipment is an EMC Class A compliant product. This device produces RF noise.	The warranty and limited liability statement provided by the manufacturer does not cover damage caused by: ·Unauthorized tampering ·Improper use operation ·The instructions provided in the user manual explain the use, installation and handling of discrepancies
This system cannot be used in an environment where the safety of personnel depends on the functionality of the equipment.	Only after the housing is fully installed can the intended use be assured.	The owner/operator must take appropriate precautions to use this equipment.	
		This device can only use the power supply that matches this device, and can only connect cables approved for application.	

1.Component function description

1.1 Overall introduction to the module

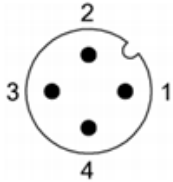


1	2	3	4
IO-Link interface	Digital I/O terminal blocks	24V terminal block	GND terminal block
5	6	7	8
Status LED: Digital I/O Point 16	Status LED: IO-Link	Status LED: Power	Status LED: Actuator

2.Interface definition

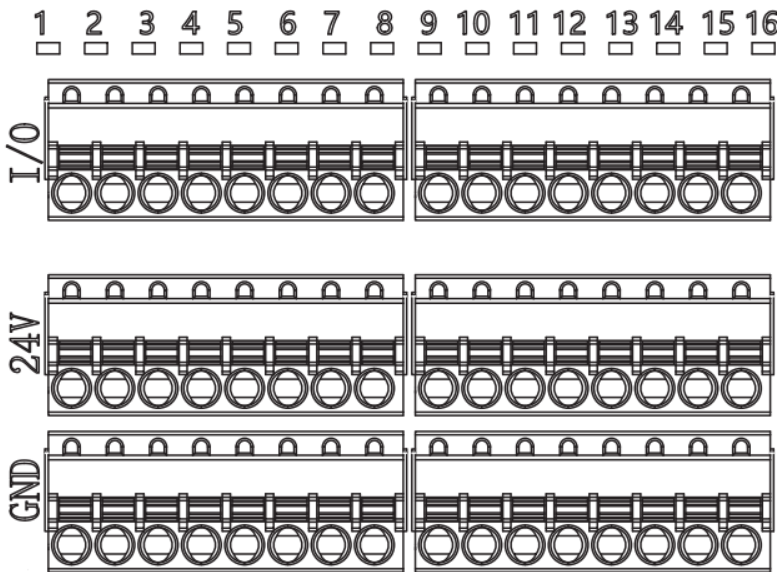
2.1 IO-Link interface (M12 A-coded)

M12,A-Coded, Male



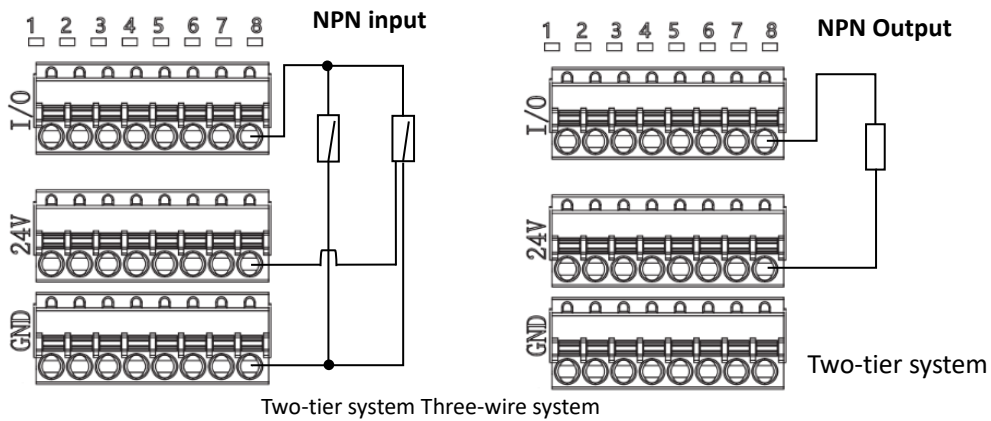
Pin	Illustrate
1	Power supply, +24V ($<1.1A$)
2	Actuator power supply, +24V ($<2A$)
3	GND
4	C/Q, IO-Link data transmission channel

2.2 Signal port (screwless spring terminal)



Illustrate:

1. Input and output signal types supported: three-wire NPN, two-wire NPN, dry contact;
2. The pin is +24V, the maximum load of a single input power supply is 100mA, and the maximum load of a single output power supply is 400mA;
3. The total current of each 8 channels (1-8, 9-16) is $<1A$;

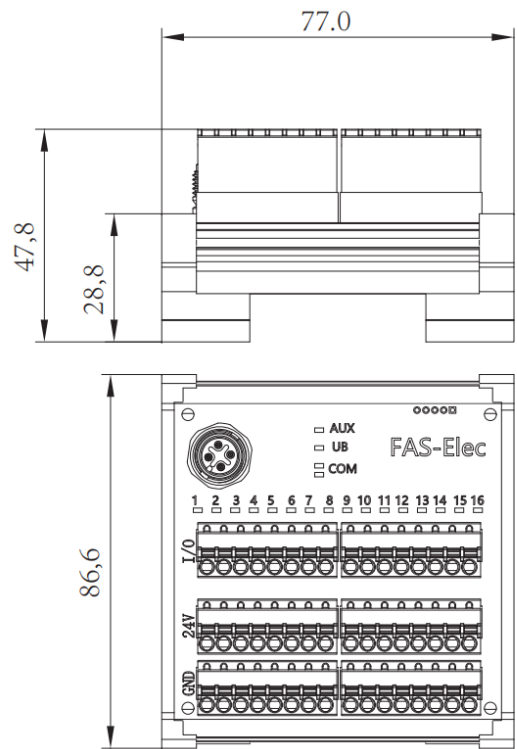


2.3 Status LED meter

Status LED	Status	Description
UA	Steady green	Auxiliary power supply is normal
	Destroy	Auxiliary power supply abnormality
US	Steady green	Module power supply is normal
	Destroy	Module is not powered
COM (Up)	Red light always on	The module is configured with an output point and the UA power supply is not connected.
	Red light flashes quickly	UA power supply voltage is too high (>DC 30V)
	Red light flashes slowly	UA power supply voltage is too low (<DC 18V)
COM (Down)	Green intermittent slow flash	Communication abnormality
	Green flashes intermittently quickly	Communication is normal
	Destroy	No communication
1~16 signal	Yellow light always on	Digital signal input/output is valid
	Destroy	Digital signal input/output is invalid

2.4 Mechanical dimensions

Project	Specification
Dimensions (Width x Height x Depth)	77MMx86.6MMx47.8MM



3.IO-Link data

3.1 Communication parameters

Data transmission baud rate	COM2 (38.4kbit/s)
Minimum cycle time	3ms
Process data cycle time	3ms, corresponds to the minimum cycle time
Process data length	2 bytes input, 2 bytes output

3.2 Process data

3.2.1 Process data/input data

Byte	0								1							
Bit	7	6	5	4	3	2	1	0	7	6	5	4	3	2	1	0
Pin	Port 8	Port 7	Port 6	Port 5	Port 4	Port 3	Port 2	Port 1	Port 16	Port 15	Port 14	Port 13	Port 12	Port 11	Port 10	Port 9

3.2.2 Process data/output data

Byte	0								1							
Bit	7	6	5	4	3	2	1	0	7	6	5	4	3	2	1	0
Pin	Port 8	Port 7	Port 6	Port 5	Port 4	Port 3	Port 2	Port 1	Port 16	Port 15	Port 14	Port 13	Port 12	Port 11	Port 10	Port 9

3.3 Service data

	DPP	SPDU		Object name	length	Scope	Defaults
	Index	Index	Subindex				
Identification data				Supplier ID	2		0x0454
				Device ID	3		0x099CE5
		0x10	0	Supplier name	19	Read only	FAS(Fujian)Co.,LTD
		0x11	0	Supplier text	16		www.fas-elec.com
		0x12	0	Product name	13		FNI IOL-310-S01-K20
		0x13	0	Product ID	5		00BS12
		0x14	0	Product text	44		IO-Link IP20 NPN 16DI/DO
		0x16	0	Hardware version	3		20201028
		0x17	0	Firmware version	3		2.0
Parameter		0x40	0	Bit inversion	2	0000-FFFF	0x0000
		0x41	0	Direction	2	0000-FFFF	0x0000

Note:

0x40 sets the bit reverse: 0-bit is not reversed, 1-bit is reversed. For example, the external input is 0x0000, when 0x40 When it is 0x0000, the value is 0x0000 (not reversed), when 0x40 is 0xFFFF, the value is 0xFFFF (reverse).

0x41 Set direction: 0-input, 1-output.

3.4 Error code

Error code	Additional code
Device application error 0x80	Index not available 0x11
	Subindex not available 0x12
	Value out of range 0x30

3.5 Event

Class/qualifier			Code (high + low)			
Model	Type	Example				
Appear	Mistake	AL	Device hardware	Powered by	Power supply low voltage	U2=Power supply +24V
0xC0	0x30	0x03	0x5000	0x0100	0x0010	0x0002
0xF3			0x5112			
Disappear	Mistake	AL	Device hardware	Powered by	Power supply low voltage	U2=Power supply +24V
0x80	0x30	0x03	0x5000	0x0100	0x0010	0x0002
0xB3			0x5112			
Appear	Mistake	AL	Device hardware	Powered by	Power supply for peripherals	
0xC0	0x30	0x03	0x5000	0x0100	0x0060	
0xF3			0x5160			
Disappear	Mistake	AL	Device hardware	Powered by	Power supply for peripherals	
0x80	0x30	0x03	0x5000	0x0100	0x0060	
0xB3			0x5160			

■ High Quality Product / Sincere Service



경기도 성남시 중원구 사기막골로 124

SKn 테크노파크 메가동 303 호

E-mail: sales@creken.com www.creken.com



FAS / Factory Automation Solution
No. 33 Liuqiao Road, Shangjie Town,
Minhou County, Fujian Province
www.faselec.com