



## Fieldbus High performance IP67 I/O

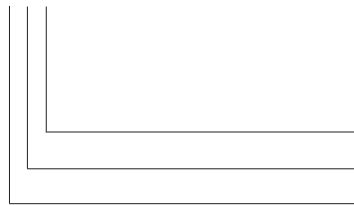


- Supports multiple mainstream fieldbus protocols
- Flexible and suitable for multiple applications and work environments
- IP67/IP65 high protection structure
- Rich models and I/O types
- Extended Bus Technology (DH Bus) fully isolated, high-speed
- A single fieldbus node can scale up to 512DI/512DO/128AI/128AO

### degree of protection description

Degree of protection as follows :

IP67



Second bit(waterproof degree)

First bit(Prevention of hazardous and hard object degree)

Abbreviation

# Product Catalog

## IO-Link Master

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## IO-Link Master PROFINET-RT protocol

### Product Features

- Designed according to IO-Link v1.1 specifications
- IO-Link master supports COM1/COM2/COM3
- IO-Link Interface supports Class-A or Class-B type
- Support DH BUS extension



### Products Specification

Ordering data			
Order No	DFH67-PN-IOL2A4B-DHB2-V1	DFH67-PN-IOL6A-DHB2-V1	DFH67-PN-IOL8A-V1
Description	PROFINET-RT slave & IO-Link master 2* Class A + 4*Class B 2*DH BUS interface	PROFINET-RT slave & IO-Link master 6* Class A 2*DH BUS interface	PROFINET-RT slave & IO-Link master 8* Class A
Fieldbus			
Protocol	PROFINET-RT		
Operation mode	Automatic negotiation ; Auto MDI/MDIX		
Transmission speed	10/100 Mbps		
IP allocation	Programming software configuration, or allocation by master		
Topology	Yes		
MRP	Yes		
Power supply			
Working voltage	24 VDC (18...30 VDC)		
Current consumption	Max. 200mA		
System and Input	Us, Max. 8A		
Actuators	Ua, Max. 8A		
Electrical isolation	Us/Ua: 24V isolated, 0V isolation		
Interface type			
Power supply	2 * L-code 5pin, Plug(input) + Socket(output)		
Fieldbus	2 * M12 D-code 4pin, Socket		
Signal	6 * M12 A-code 5pin, Socket	8 * M12 A-code 5pin, Socket	
DH BUS	2 * M12 B-code 5pin, Socket	--	
Number of extension modules	Max. 32 (16 × 2)		--
Extension distance	Single chain path : Max. 70m		--
Electrical parameters			
IO-Link channels	6	6	8
Interface type	2*Class-A + 4*Class-B	6*Class-A	8*Class-A
IO-Link version	IO-Link V1.1		
Transmission speed	COM1 (4.8kbps) 、COM2 (38.4kbps) 、COM3 (230.4kbps)		

## Products Specification

Ordering data			
Order No	DFH67-PN-IOL2A4B-DHB2-V1	DFH67-PN-IOL6A-DHB2-V1	DFH67-PN-IOL8A-V1
Electrical parameters			
Signal type	DI/DO/IO-Link Configurable by software		
Number of inputs	Max. 8	Max. 12	Max. 16
Us current (Pin1&Pin3)	IO-Link interface : Max. 1.6A ; Signal interface: Max. 200mA		
Ua current (Pin2&Pin5)	Per channel : Max. 2A	--	
Input signal type	PNP type		
Input filter time	Max. 1.6ms		
Number of outputs	Max. 6	Max. 6	Max. 8
Output current	Per channel : Max. 2A		
Output signal type	PNP/NPN type(configurable)		
Output switch frequency	Resistive load : 100Hz ; Inductive load : 5Hz		
Diagnostic			
Communication Status	LED indication, Communication message		
Power supply	Yes, Low voltage alarm		
Short circuit/Overload	Yes, LED indication		
General data	--		
Degree of protection	IP67		
Temperature range	Operation temperature : -20~60 °C ; Storage temperature : -40~85 °C		

## IO-Link Master EtherCAT protocol

### Product Features

- Designed according to IO-Link v1.1 specifications
- IO-Link master supports COM1/COM2/COM3
- IO-Link Interface supports Class-A or Class-B type
- Support DH BUS extension



### Products Specification

Ordering data			
Order No	DFH67-EC-IOL2A4B-DHB2-V1	DFH67-EC-IOL6A-DHB2-V1	DFH67-EC-IOL8A-V1
Description	EtherCAT slave & IO-Link master 2* Class A + 4*Class B 2*DH BUS interface	EtherCAT slave & IO-Link master 6* Class A 2*DH BUS interface	EtherCAT slave & IO-Link master 8* Class A
Fieldbus			
Protocol	EtherCAT		
Operation mode	Automatic negotiation ; Auto MDI/MDIX		
Transmission speed	10/100 Mbps		
IP allocation	System automatic allocation or DIP switch setting		
Topology	Yes		
MRP	Yes		
Power supply			
Working voltage	24 VDC (18...30 VDC)		
Current consumption	Max. 200mA		
System and Input	Us, Max. 8A		
Actuators	Ua, Max. 8A		
Electrical isolation	Us/Ua: 24V isolated, 0V isolation		
Interface type			
Power supply	2 * L-code 5pin, Plug(input) + Socket(output)		
Fieldbus	2 * M12 D-code 4pin, Socket		
Signal	6 * M12 A-code 5pin, Socket	8 * M12 A-code 5pin, Socket	
DH BUS	2 * M12 B-code 5pin, Socket	--	
Number of extension modules	Max. 32 (16 × 2)		--
Extension distance	Single chain path : Max. 70m		--
Electrical parameters			
IO-Link channels	6	6	8
Interface type	2*Class-A + 4*Class-B	6*Class-A	8*Class-A
IO-Link version	IO-Link V1.1		
Transmission speed	COM1 (4.8kbps) 、 COM2 (38.4kbps) 、 COM3 (230.4kbps)		

## Products

Ordering data			
Order No	DFH67-EC-IOL2A4B-DHB2-V1	DFH67-EC-IOL6A-DHB2-V1	DFH67-EC-IOL8A-V1
Electrical parameters			
Signal type	DI/DO/IO-Link Configurable by software		
Number of inputs	Max. 8	Max. 12	Max. 16
Us current (Pin1&Pin3)	IO-Link interface : Max. 1.6A ; Signal interface: Max. 200mA		
Ua current (Pin2&Pin5)	Per channel : Max. 2A	--	
Input signal type	PNP type		
Input filter time	Max. 1.6ms		
Number of outputs	Max. 6	Max. 6	Max. 8
Output current	Per channel : Max. 2A		
Output signal type	PNP/NPN type(configurable)		
Output switch frequency	Resistive load : 100Hz ; Inductive load : 5Hz		
Diagnostic			
Communication Status	LED indication, Communication message		
Power supply	Yes, Low voltage alarm		
Short circuit/Overload	Yes, LED indication		
General data	--		
Degree of protection	IP67		
Temperature range	Operation temperature : -20~60 °C ; Storage temperature : -40~85 °C		

## IO-Link Master

### CC-Link IE Field Basic protocol

#### Product Features

- Designed according to IO-Link v1.1 specifications
- IO-Link master supports COM1/COM2/COM3
- IO-Link Interface supports Class-A or Class-B type
- Support DH BUS extension



#### Products Specification

Ordering data			
Order No	DFH67-CLI-IOL2A4B-DHB2-V1	DFH67-CLI-IOL6A-DHB2-V1	DFH67-CLI-IOL8A-V1
Description	CC-Link IE FB slave & IO-Link master 2* Class A + 4*Class B 2*DH BUS interface	CC-Link IE FB slave & IO-Link master 6* Class A 2*DH BUS interface	CC-Link IE FB slave & IO-Link master 8* Class A
Fieldbus			
Protocol	CC-Link IE Field Basic		
Operation mode	Remote device station		
Transmission speed	10/100Mbps		
IP allocation	Web server configuration or DIP switch setting		
Topology	Yes		
MRP	Yes		
Power supply			
Working voltage	24 VDC (18...30 VDC)		
Current consumption	Max. 200mA		
System and Input	Us, Max. 8A		
Actuators	Ua, Max. 8A		
Electrical isolation	Us/Ua: 24V isolated, 0V isolation		
Interface type			
Power supply	2 * L-code 5pin, Plug(input) + Socket(output)		
Fieldbus	2 * M12 D-code 4pin, Socket		
Signal	6 * M12 A-code 5pin, Socket	8 * M12 A-code 5pin, Socket	
DH BUS	2 * M12 B-code 5pin, Socket	--	
Number of extension modules	Max. 32 (16 × 2)		--
Extension distance	Single chain path : Max. 70m		--
Electrical parameters			
IO-Link channels	6	6	8
Interface type	2*Class-A + 4*Class-B	6*Class-A	8*Class-A
IO-Link version	IO-Link V1.1		
Transmission speed	COM1 (4.8kbps) 、COM2 (38.4kbps) 、COM3 (230.4kbps)		

## Products Specification

Ordering data			
Order No	DFH67-CLI-IOL2A4B-DHB2-V1	DFH67-CLI-IOL6A-DHB2-V1	DFH67-CLI-IOL8A-V1
Electrical parameters			
Signal type	DI/DO/IO-Link Configurable by software		
Number of inputs	Max. 8	Max. 12	Max. 16
Us current (Pin1&Pin3)	IO-Link interface : Max. 1.6A ; Signal interface: Max. 200mA		
Ua current (Pin2&Pin5)	Per channel : Max. 2A	--	
Input signal type	PNP type		
Input filter time	Max. 1.6ms		
Number of outputs	Max. 6	Max. 6	Max. 8
Output current	Per channel : Max. 2A		
Output signal type	PNP/NPN type(configurable)		
Output switch frequency	Resistive load : 100Hz ; Inductive load : 5Hz		
Diagnostic			
Communication Status	LED indication, Communication message		
Power supply	Yes, Low voltage alarm		
Short circuit/Overload	Yes, LED indication		
General data	--		
Degree of protection	IP67		
Temperature range	Operation temperature : -20~60 °C ; Storage temperature : -40~85 °C		

## IO-Link Master EtherNet/IP protocol

### Product Features

- Designed according to IO-Link v1.1 specifications
- IO-Link master supports COM1/COM2/COM3
- IO-Link Interface supports Class-A or Class-B type
- Support DH BUS extension



### Products Specification

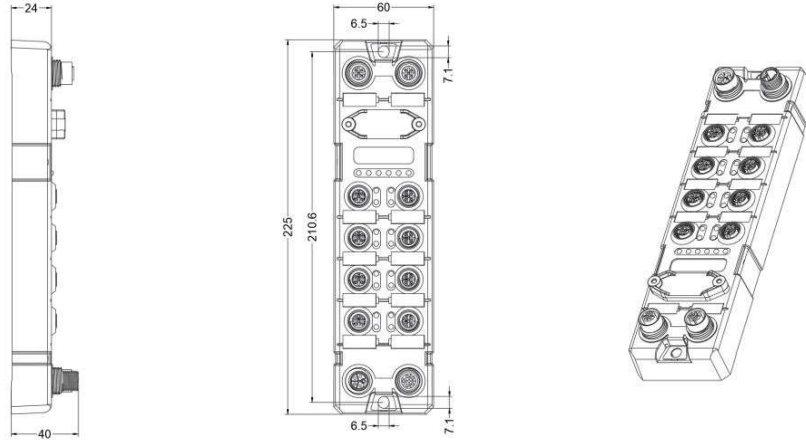
Ordering data			
Order No	DFH67-EIP-IOL2A4B-DHB2-V1	DFH67-EIP-IOL6A-DHB2-V1	DFH67-EIP-IOL8A-V1
Description	EtherNet/IP slave & IO-Link master 2*Class A + 4*Class B 2*DH BUS interface	EtherNet/IP slave & IO-Link master 6* Class A 2*DH BUS interface	EtherNet/IP slave & IO-Link master 8* Class A
Fieldbus			
Protocol	EtherNet/IP		
Operation mode	Automatic negotiation ; Auto MDI/MDIX		
Transmission speed	10/100 Mbps		
IP allocation	Web server configuration or DIP switch setting		
Topology	Yes		
MRP	Yes		
Power supply			
Working voltage	24 VDC (18...30 VDC)		
Current consumption	Max. 200mA		
System and Input	Us, Max. 8A		
Actuators	Ua, Max. 8A		
Electrical isolation	Us/Ua: 24V isolated, 0V isolation		
Interface type			
Power supply	2 * L-code 5pin, Plug(input) + Socket(output)		
Fieldbus	2 * M12 D-code 4pin, Socket		
Signal	6 * M12 A-code 5pin, Socket	8 * M12 A-code 5pin, Socket	
DH BUS	2 * M12 B-code 5pin, Socket	--	
Number of extension modules	Max. 32 (16 × 2)	--	
Extension distance	Single chain path : Max. 70m		--
Electrical parameters			
IO-Link channels	6	6	8
Interface type	2*Class-A + 4*Class-B	6*Class-A	8*Class-A
IO-Link version	IO-Link V1.1		
Transmission speed	COM1 (4.8kbps) 、 COM2 (38.4kbps) 、 COM3 (230.4kbps)		

## Products Specification

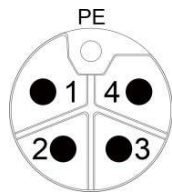
Ordering data			
Order No	DFH67-EIP-IOL2A4B-DHB2-V1	DFH67-EIP-IOL6A-DHB2-V1	DFH67-EIP-IOL8A-V1
Electrical parameters			
Signal type	DI/DO/IO-Link Configurable by software		
Number of inputs	Max. 8	Max. 12	Max. 16
Us current (Pin1&Pin3)	IO-Link interface : Max. 1.6A ; Signal interface: Max. 200mA		
Ua current (Pin2&Pin5)	Per channel : Max. 2A	--	
Input signal type	PNP type		
Input filter time	Max. 1.6ms		
Number of outputs	Max. 6	Max. 6	Max. 8
Output current	Per channel : Max. 2A		
Output signal type	PNP/NPN type(configurable)		
Output switch frequency	Resistive load : 100Hz ; Inductive load : 5Hz		
Diagnostic			
Communication Status	LED indication, Communication message		
Power supply	Yes, Low voltage alarm		
Short circuit/Overload	Yes, LED indication		
General data	--		
Degree of protection	IP67		
Temperature range	Operation temperature : -20~60 °C ; Storage temperature : -40~85 °C		

Dimension

M12-MASTER



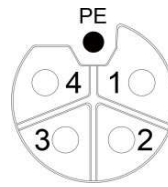
Power supply interface



Power supply L-Code plug (Metal)

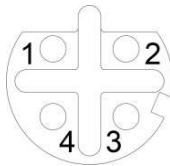
- 1 System and signal power supply Us+
- 2 Actuator Power supply Ua-
- 3 System and signal power supply Us-
- 4 Actuator Power supply Ua+

PE-Protective grounding PE



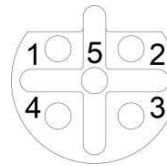
Power supply L-Code socket (Metal)

Fieldbus & DH BUS interface



Fieldbus D-Code socket (Metal)

- 1 Transmitter Tx+
- 2 Receiver Rx+
- 3 Transmitter Tx-
- 4 Receiver Rx-

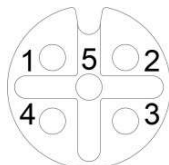


DH BUS B-Code socket (Black)

- 1-Power supply 24V+
- 2-Signal A
- 3-Signal B
- 4-Power supply GND
- 5 Data 1

I/O signal interface

Signal A-Code socket (Green)



Class - A Socket (Green)

- 1 Power supply 24V+
- 2 Signal Input/Output B
- 3 Power supply GND
- 4 Signal Input/Output A
- 5 Protective grounding PE

Class - B Socket (Green)

- 1-Power supply 24V+
- 2-Actuator power supply P24
- 3-Power supply GND
- 4-IO-Link/Input/Output A
- 5-Actuator power supply N24

## IO-Link digital device

### Product Features

- Input/Output photoelectric isolation
- Input or Output configurable
- Overvoltage and short circuit protection function
- Designed according to IO-Link v1.1 specifications, Communication rate : COM2



### Products Specification

Ordering data		
Order No	DFH67-IOLB-DIO16P-M12-V1	DFH67-IOLB-DIO16N-M12-V1
Description	16 DI/DO, PNP, 8*M12	16 DI/DO, NPN, 8*M12
Interface type		
Extension(IN)	1 * M12 A-code 4pin Plug	
Extension(OUT)	1 * M12 B-code 5pin Socket	
Power	IO Link interface power supply : 24V, 1.6A	
Signal	8 * M12 A-code 5pin	
Electrical parameters		
Supply Voltage	24 VDC (18...30V)	
Current consumption	Max. 50mA	
Number of inputs	Max. 16, PNP type	Max. 16, NPN type
Input signal type	Sensor, Limit switch, Contact, etc	
Input filter time	Max. 2ms	
Number of outputs	Max. 16, PNP type	Max. 16, NPN type
Output signal type	Actuators, Indicator lights, Mini electromagnetic valves, etc	
Output current	Per channel : Max. 0.3A , Total : Max. 1.5A	
Output switch frequency	Resistive load : 100Hz ; Inductive load : 5Hz	
Extending capability	Up to 3 DH BUS extension modules (up to 1 analog or temperature module)	
IO-Link parameters		
Interface type	CLASS A	
IO-Link version	IO-Link V1.1	
Transmission speed	COM2 (38.4kbps)	
Process data	2 input bytes, 2 output bytes	
Diagnostic		
Communication Status	LED indication, Communication message	
Power supply	Yes, Low voltage alarm	
Short circuit/Overload	Yes, LED indication	
General data		
Degree of protection	IP67	
Temperature range	Operation temperature : -20~60 °C ; Storage temperature : -40~85 °C	
Installation	2-hole fixing	

## IO-Link digital device

### Product Features

- Input/Output photoelectric isolation
- Input or Output configurable
- Overvoltage and short circuit protection function
- Designed according to IO-Link v1.1 specifications, Communication rate : COM2



### Products Specification

Ordering data		
Order No	DFH67-IOLA-DIO16P-M12-V1	DFH67-IOLA-DIO16N-M12-V1
Description	16 DI/DO, PNP, 8*M12	16 DI/DO, NPN, 8*M12
Interface type		
Extension	1 * M12 A-code 4pin Plug	
Power	1 * M12 L-code 5pin Plug : 24V, 8A	
Signal	8 * M12 A-code 5pin	
Electrical parameters		
Supply Voltage	24 VDC (18...30V)	
Current consumption	Max. 50mA	
Number of inputs	Max. 16, PNP type	Max. 16, NPN type
Input signal type	Sensor, Limit switch, Contact, etc	
Input filter time	Max. 2ms	
Number of outputs	Max. 16, PNP type	Max. 16, NPN type
Output signal type	Actuators, Indicator lights, Mini electromagnetic valves, etc	
Output current	Per channel : Max. 0.5A , Total : Max. 8A	
Output switch frequency	Resistive load : 100Hz ; Inductive load : 5Hz	
Extending capability	No	
IO-Link parameters		
Interface type	CLASS A	
IO-Link version	IO-Link V1.1	
Transmission speed	COM2 (38.4kbps)	
Process data	2 input bytes, 2 output bytes	
Diagnostic		
Communication Status	LED indication, Communication message	
Power supply	Yes, Low voltage alarm	
Short circuit/Overload	Yes, LED indication	
General data		
Degree of protection	IP67	
Temperature range	Operation temperature : -20~60 °C ; Storage temperature : -40~85 °C	
Installation	2-hole fixing	

## IO-Link analog device

### Product Features

- Resolution : 16 bit
- Interface type : Class-A
- Designed according to IO-Link v1.1 specifications, Communication rate : COM2



### Products Specification

Ordering data		
Order No	DFH67-IOLA-AI4I-AO4I-M12-V1	DFH67-IOLA-AI4U-AO4U-M12-V1
Description	4 AI/AO, 8*M12	4 AI/AO, 8*M12
Interface type		
Extension(IN)	1 * M12 A-code 4pin Plug	
Extension(OUT)	1 * M12 B-code 5pin Socket	
Power	IO Link interface power supply : 24V, 1.6A	
Signal	8 * M12 A-code 5pin	
Electrical parameters		
Supply Voltage	24 VDC (18...30V)	
Current consumption	Max. 50mA	
Number of inputs	4	
Input signal type	4AI (0~20mA, First 4 channels) 4AO (0~20mA, Last 4 channels)	4AI ( $\pm 10V$ , First 4 channels) 4AO ( $\pm 10V$ , Last 4 channels)
Input impedance	< 450 $\Omega$	> 1k $\Omega$
Number of outputs	4	
Output signal type	4AI (0~20mA, First 4 channels) 4AO (0~20mA, Last 4 channels)	4AI ( $\pm 10V$ , First 4 channels) 4AO ( $\pm 10V$ , Last 4 channels)
Resolution	16 bit	
Conversion time	Max. 300us	
Precision	$\pm 0.3\%$	
Extending capability	Up to 3 DH BUS extension modules (up to 1 analog or temperature module)	
IO-Link parameters		
Interface type	CLASS A	
IO-Link version	IO-Link V1.1	
Transmission speed	COM2 (38.4kbps)	
Process data	8 input bytes, 8 output bytes	
Diagnostic		
Communication Status	LED indication, Communication message	
Power supply	Yes, Low voltage alarm	
Short circuit/Overload	Yes, LED indication	
General data		
Degree of protection	IP67	
Temperature range	Operation temperature : -20~60 $^{\circ}C$ ; Storage temperature : -40~85 $^{\circ}C$	
Installation	2-hole fixing	

## IO-Link analog device

### Product Features

- Designed according to IO-Link v1.1 specifications, Communication rate : COM2
- Interface type : Class-A



### Products Specification

Ordering data				
Order No	DFH67-IOLA-AI4I-M12-V1	DFH67-IOLA-AI4U-M12-V1	DFH67-IOLA-AI8I-M12-V1	DFH67-IOLA-AI8U-M12-V1
Description	4 AI, 8*M12	4 AI, 8*M12	8 AI, 8*M12	8 AI, 8*M12
Interface type				
Extension(IN)	1 * M12 A-code 4pin Plug			
Extension(OUT)	1 * M12 B-code 5pin Socket			
Power	IO Link interface power supply : 24V, 1.6A			
Signal	8 * M12 A-code 5pin			
Electrical parameters				
Supply Voltage	24 VDC (18...30V)			
Current consumption	Max. 50mA			
Number of inputs	4 (First 4 channels)		8	
Input signal type	0~20mA	±10V	0~20mA	±10V
Input impedance	Current input : 250Ω ; Voltage input : 1MΩ			
Resolution	16 bit			
Conversion time	Max. 300us			
Precision	± 0.3%			
Extending capability	Up to 3 DH BUS extension modules (up to 1 analog or temperature module)			
IO-Link parameters				
Interface type	CLASS A			
IO-Link version	IO-Link V1.1			
Transmission speed	COM2 (38.4kbps)			
Process data	8 input bytes		16 input bytes	
Diagnostic				
Communication Status	LED indication, Communication message			
Power supply	Yes, Low voltage alarm			
Short circuit/Overload	Yes, LED indication			
General data				
Degree of protection	IP67			
Temperature range	Operation temperature : -20~60 °C ; Storage temperature : -40~85 °C			
Installation	2-hole fixing			

## Fieldbus interface module PROFINET-RT protocol

### Product Features

- Advanced diagnostic function
- Fieldbus and Power adopt isolation technology and are reliable
- Supports 2 chain path; Max. 32 modules(16 × 2)
- Standalone configuration file
- Support DH BUS extension



### Products Specification

Ordering data		
Order No	DFH67-PN-DI12P-DHB2-V1	DFH67-PN-DI12N-DHB2-V1
Description	PROFINET-RT protocol 6*A-Code 12DI, PNP type 2*B-Code DH BUS interface	PROFINET-RT protocol 6*A-Code 12DI, NPN type 2*B-Code DH BUS interface
Fieldbus		
Protocol	PROFINET-RT	
Operation mode	Automatic negotiation ; Auto MDI/MDIX	
Transmission speed	10/100 Mbps	
IP allocation	Programming software configuration, or allocation by master	
Power supply		
Working voltage	24 VDC (18...30V)	
Current consumption	Max. 200 mA	
System and Input	Us, Max. 8A	
Actuators	Ua, Max. 8A	
Extension	Current of single chain path : Max. 4A	
Electrical isolation	Module/Input power supply Ui and Output power supply Uo : 24V isolated, 0V connected	
Interface type		
Power supply	2 * M12 L-code 5pinPlug(input) + Socket(output)	
Fieldbus	2 * M12 D-code 4pin	
DH BUS	2 * M12 B-code 5pin	
Signal	6 * M12 A-code 5pin	
Number of extension modules	Max. 32 (16 × 2)	
Extension distance	Single chain path : Max. 70m	

## Products Specification

Ordering data		
Order No	DFH67-PN-DI12P-DHB2-V1	DFH67-PN-DI12N-DHB2-V1
Electrical parameters		
Number and type of I/O	12DI PNP	12DI NPN
Input power supply current	Per channel : Max. 200mA	
Input filter time	Max. 10ms	
Diagnostic		
Communication Status	LED indication, Communication message	
Power supply	Yes, Low voltage alarm	
Short circuit/Overload	Yes, LED indication	
Extension	LED indication	
General data		
Degree of protection	IP67	
Temperature range	Operation temperature : -20~60 °C ; Storage temperature : -40~85 °C	
Installation	2-hole fixing	

## Fieldbus interface module EtherCAT protocol

### Product Features

- Advanced diagnostic function
- Fieldbus and Power adopt isolation technology and are reliable
- Supports 2 chain path; Max. 32 modules(16 × 2)
- Standalone configuration file
- Support DH BUS extension



### Products Specification

Ordering data		
Order No	DFH67-EC-DI12P-DHB2-V1	DFH67-EC-DI12N-DHB2-V1
Description	EtherCAT protocol 6*A-Code 12DI, PNP type 2*B-Code DH BUS interface	EtherCAT protocol 6*A-Code 12DI, NPN type 2*B-Code DH BUS interface
Fieldbus		
Protocol	EtherCAT	
Operation mode	Automatic negotiation ; Auto MDI/MDIX	
Transmission speed	10/100 Mbps	
IP allocation	System automatic allocation or DIP switch setting	
Power supply		
Working voltage	24 VDC (18...30V)	
Current consumption	Max. 200 mA	
System and Input	Us, Max. 8A	
Actuators	Ua, Max. 8A	
Extension	Current of single chain path : Max. 4A	
Electrical isolation	Module/Input power supply Ui and Output power supply Uo : 24V isolated, 0V connected	
Interface type		
Power supply	2 * M12 L-code 5pinPlug(input) + Socket(output)	
Fieldbus	2 * M12 D-code 4pin	
DH BUS	2 * M12 B-code 5pin	
Signal	6 * M12 A-code 5pin	
Number of extension modules	Max. 32 (16 × 2)	
Extension distance	Single chain path : Max. 70m	

## Products Specification

Ordering data		
Order No	DFH67-EC-DI12P-DHB2-V1	DFH67-EC-DI12N-DHB2-V1
Electrical parameters		
Number and type of I/O	12DI PNP	12DI NPN
Input power supply current	Per channel : Max. 200mA	
Input filter time	Max. 1.6ms	
Diagnostic		
Communication Status	LED indication, Communication message	
Power supply	Yes, Low voltage alarm	
Short circuit/Overload	Yes, LED indication	
Extension	LED indication	
General data		
Degree of protection	IP67	
Temperature range	Operation temperature : -20~60 °C ; Storage temperature : -40~85 °C	
Installation	2-hole fixing	

## Fieldbus interface module CC-Link IE Field Basic protocol

### Product Features

- Advanced diagnostic function
- Fieldbus and Power adopt isolation technology and are reliable
- Supports 2 chain path; Max. 32 modules(16 × 2)
- Support DH BUS extension
- Input or Output configurable



### Products Specification

Ordering data		
Order No	DFH67-CLI-DIO12P-DHB2-V1	DFH67-CLI-DIO12N-DHB2-V1
Description	CC-Link IE Field Basic protocol 6*A-Code 12DI/DO(configurable), PNP type 2*B-Code DH BUS interface	CC-Link IE Field Basic protocol 6*A-Code 12DI/DO(configurable), NPN type 2*B-Code DH BUS interface
Fieldbus		
Protocol	CC-Link IE Field Basic	
Operation mode	Automatic negotiation ; Auto MDI/MDIX	
Transmission speed	10/100 Mbps	
IP allocation	Web server configuration or DIP switch setting	
Power supply		
Working voltage	24 VDC (18...30V)	
Current consumption	Max. 200 mA	
System and Input	Us, Max. 8A	
Actuators	Ua, Max. 8A	
Extension	Current of single chain path : Max. 4A	
Electrical isolation	Module/Input power supply Ui and Output power supply Uo : 24V isolated, 0V connected	
Interface type		
Power supply	2 * M12 L-code 5pinPlug(input) + Socket(output)	
Fieldbus	2 * M12 D-code 4pin	
DH BUS	2 * M12 B-code 5pin	
Signal	6 * M12 A-code 5pin	
Number of extension modules	Max. 32 (16 × 2)	
Extension distance	Single chain path : Max. 70m	

## Products

Ordering data		
Order No	DFH67-CLI-DIO12P-DHB2-V1	DFH67-CLI-DIO12N-DHB2-V1
Electrical parameters		
Number and type of I/O	12DI/DO(configurable), PNP type	12DI/DO(configurable), NPN type
Input power supply current	Per channel : Max. 200mA	
Input filter time	Max. 10ms	
Diagnostic		
Communication Status	LED indication, Communication message	
Power supply	Yes, Low voltage alarm	
Short circuit/Overload	Yes, LED indication	
Extension	LED indication	
General data		
Degree of protection	IP67	
Temperature range	Operation temperature : -20~60 °C ; Storage temperature : -40~85 °C	
Installation	2-hole fixing	

## Fieldbus interface module EtherNet/IP protocol

### Product Features

- Advanced diagnostic function
- Fieldbus and Power adopt isolation technology and are reliable
- Supports 2 chain path; Max. 32 modules(16 × 2)
- Standalone configuration file
- Support DH BUS extension
- Input or Output configurable



### Products Specification

Ordering data		
Order No	DFH67-EIP-DIO12P-DHB2-V1	DFH67-EIP-DIO12N-DHB2-V1
Description	EtherNet/IP protocol 6*A-Code 12DI/DO(configurable), PNP type 2*B-Code DH BUS interface	EtherNet/IP protocol 6*A-Code 12DI/DO(configurable), NPN type 2*B-Code DH BUS interface
Fieldbus		
Protocol	EtherNet/IP	
Operation mode	Automatic negotiation ; Auto MDI/MDIX	
Transmission speed	10/100 Mbps	
IP allocation	Web server configuration or DIP switch setting	
Power supply		
Working voltage	24 VDC (18...30V)	
Current consumption	Max. 200 mA	
System and Input	Us, Max. 8A	
Actuators	Ua, Max. 8A	
Extension	Current of single chain path : Max. 4A	
Electrical isolation	Module/Input power supply Ui and Output power supply Uo : 24V isolated, 0V connected	
Interface type		
Power supply	2 * M12 L-code 5pinPlug(input) + Socket(output)	
Fieldbus	2 * M12 D-code 4pin	
DH BUS	2 * M12 B-code 5pin	
Signal	6 * M12 A-code 5pin	
Number of extension modules	Max. 32 (16 × 2)	
Extension distance	Single chain path : Max. 70m	

## Products Specification

Ordering data		
Order No	DFH67-EIP-DIO12P-DHB2-V1	DFH67-EIP-DIO12N-DHB2-V1
Electrical parameters		
Number and type of I/O	12DI/DO(configurable), PNP type	12DI/DO(configurable), NPN type
Input power supply current	Per channel : Max. 200mA	
Input filter time	Max. 20ms	
Diagnostic		
Communication Status	LED indication, Communication message	
Power supply	Yes, Low voltage alarm	
Short circuit/Overload	Yes, LED indication	
Extension	LED indication	
General data		
Degree of protection	IP67	
Temperature range	Operation temperature : -20~60 °C ; Storage temperature : -40~85 °C	
Installation	2-hole fixing	

## Fieldbus interface module Modbus-TCP protocol

### Product Features

- Advanced diagnostic function
- Fieldbus and Power adopt isolation technology and are reliable
- Supports 2 chain path; Max. 32 modules(16 × 2)
- Standalone configuration file
- Support DH BUS extension
- Input or Output configurable



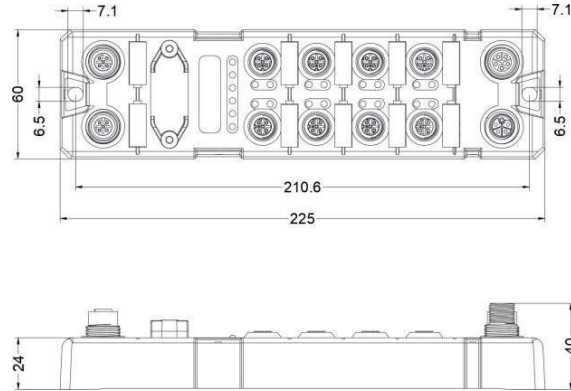
### Products Specification

Ordering data		
Order No	DFH67-MT-DIO12P-DHB2-V1	DFH67-MT-DIO12N-DHB2-V1
Description	Modbus-TCP protocol 6*A-Code 12DI/DO(configurable), PNP type 2*B-Code DH BUS interface	Modbus-TCP protocol 6*A-Code 12DI/DO(configurable), NPN type 2*B-Code DH BUS interface
Fieldbus		
Protocol	Modbus-TCP	
Operation mode	Automatic negotiation ; Auto MDI/MDIX	
Transmission speed	10/100 Mbps	
IP allocation	Web server configuration or DIP switch setting	
Power supply		
Working voltage	24 VDC (18...30V)	
Current consumption	Max. 200 mA	
System and Input	Us, Max. 8A	
Actuators	Ua, Max. 8A	
Extension	Current of single chain path : Max. 4A	
Electrical isolation	Module/Input power supply Ui and Output power supply Uo: 24V isolated, 0V connected	
Interface type		
Power supply	2 * M12 L-code 5pinPlug(input) + Socket(output)	
Fieldbus	2 * M12 D-code 4pin	
DH BUS	2 * M12 B-code 5pin	
Signal	6 * M12 A-code 5pin	
Number of extension modules	Max. 32 (16 × 2)	
Extension distance	Single chain path : Max. 70m	

## Products Specification

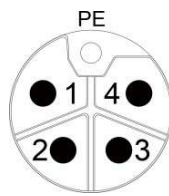
Ordering data		
Order No	DFH67-MT-DIO12P-DHB2-V1	DFH67-MT-DIO12N-DHB2-V1
Electrical parameters		
Number and type of I/O	12DI/DO(configurable), PNP type	12DI/DO(configurable), NPN type
Input power supply current	Per channel : Max. 200mA	
Input filter time	Max. 20ms	
Diagnostic		
Communication Status	LED indication, Communication message	
Power supply	Yes, Low voltage alarm	
Short circuit/Overload	Yes, LED indication	
Extension	LED indication	
General data		
Degree of protection	IP67	
Temperature range	Operation temperature : -20~60 °C ; Storage temperature : -40~85 °C	
Installation	2-hole fixing	

Dimension



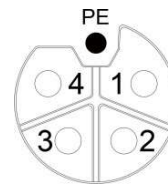
Power supply interface

Power supply L-Code plug (Metal)



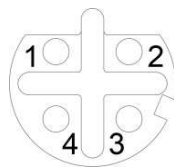
- 1 System and signal power supply Us+
- 2 Actuator power supply Ua-
- 3 System and signal power supply Us-
- 4 Actuator power supply Ua+
- PE-Protective grounding PE

Power supply L-Code socket (Metal)



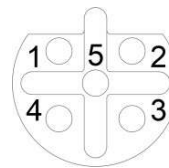
Fieldbus & DH BUS interface

Fieldbus D-Code socket (Metal)



- 1 Transmitter Tx+
- 2 Receiver Rx+
- 3 Transmitter Tx-
- 4 Receiver Rx-

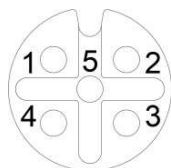
DH BUS B-Code socket (Black)



- 1-Power supply 24V+
- 2-Signal A
- 3-Signal B
- 4-Power supply GND
- 5 ADR 1

I/O signal interface

Signal A-Code socket (Green)



Class - A Socket (Green)

- 1 Power supply 24V+
- 2 Signal Input/OutputB
- 3 Power supply GND
- 4 Signal Input/Output A
- 5 Protective grounding PE

## DH BUS extension module 16 channel digital I/O module

### Product Features

- Input/Output photoelectric isolation
- Hardware filtering time 500us
- Output photoelectric isolation
- Overvoltage and short circuit protection function
- DH BUS and Channel adopt isolation technology and are reliable



### Products Specification

Ordering data						
Order No	DFH67-DHB-DI16P-M12-V1	DFH67-DHB-DO16P-M12-V1	DFH67-DHB-DI16N-M12-V1	DFH67-DHB-DO16N-M12-V1	DFH67-DHB-DI8P-DO8P-M12-V1	DFH67-DHB-DI8N-DO8N-M12-V1
Description	16DI, PNP, 8*M12	16DO,PNP,8*M12	16DI,NPN,8*M12	16DO,NPN,8*M12	8DI+8DO, PNP, 8*M12	8DI+8DO, NPN, 8*M12
Interface type						
Extension	2 * M12 B-code 5pin Plug(input) + Socket(output)					
Power	DH BUS interface includes Power supply					
Signal	8 * M12 A-code 5pin					
Electrical parameters						
Supply Voltage	24 VDC (18...30V)					
Current consumption	Max. 50mA					
Number of inputs	16	-	16	-	8	8
Input power supply current	Per channel : Max. 200mA					
Input signal type	PNP type Sensors, Limit switch, Contact, etc		NPN type Sensors, Limit switch, Contact, etc		PNP type Sensors, Limit switch, Contact, etc	NPN type Sensors, Limit switch, Contact, etc
Input filter time	Max. 2ms					
Number of outputs	-	16	-	16	8	8
Output current	-	Per channel:Max.0.5A	-	Per channel : Max. 0.5A		
Output signal type	-	PNP type actuator, Indicator, etc	-	NPN type actuator, Indicator , etc	PNP type actuator, Indicator, etc	NPN type actuator, Indicator, etc
Output switch frequency	-	Resistiveload:100Hz Inductiveload:5Hz	-	Resistive load : 100Hz Inductive load : 5Hz		
Diagnostic						
Communication Status	LED indication, Communication message					
Power supply	Yes, Low voltage alarm					
Short circuit/Overload	Yes, LED indication					
General data						
Degree of protection	IP67					
Temperature range	Operation temperature : -20~60 °C ; Storage temperature : -40~85 °C					
Installation	2-hole fixing					

## DH BUS extension module 8 channel digital I/O module

### Product Features

- Input photoelectric isolation
- Hardware filtering time 500us
- Overvoltage and short circuit protection function
- DH BUS and Channel adopt isolation technology and are reliable



### Products Specification

Ordering data						
Order No	DFH67-DHB-DI8P-M08-V1	DFH67-DHB-DI8N-M08-V1	DFH67-DHB-DO8P-M08-V1	DFH67-DHB-DO8N-M08-V1	DFH67-DHB-DI4P-DO4P-M08-V1	DFH67-DHB-DI4N-DO4N-M08-V1
Description	8DI, PNP, 8*M8	8DI, NPN, 8*M8	8DO, PNP, 8*M8	8DO, NPN, 8*M8	4DI+4DO, PNP, 8*M8	4DI+4DO, NPN, 8*M8
Interface type						
Extension	2 * M12 B-code 5pin Plug(input) + Socket(output)					
Power	DH BUS interface includes Power supply					
Signal	8 * M8 3pin					
Electrical parameters						
Supply Voltage	24 VDC (18...30V)					
Current consumption	Max. 50mA					
Number of inputs	8		-			4
Input power supply current	Per channel : Max. 200mA					
Input signal type	PNP type Sensors, Limit switch, Contact, etc	NPN type Sensors, Limit switch, Contact, etc	-	-	PNP type Sensors, Limit switch, Contact, etc	NPN type Sensors, Limit switch, Contact, etc
Input filter time	Max. 2ms					
Number of outputs	-		8			4
Output current	-		Per channel : Max. 0.5A , Total : Max. 4A			
Output signal type	-		NPN type actuator, Indicator, etc		PNP type actuator, Indicator, etc	NPN type actuator, Indicator, etc
Output switch frequency	-		Resistive load : 100Hz Inductive load : 5Hz			
Diagnostic						
Communication Status	LED indication, Communication message					
Power supply	Yes, Low voltage alarm					
Short circuit/Overload	Yes, LED indication					
General data						
Degree of protection	IP67					
Temperature range	Operation temperature : -20~60 °C ; Storage temperature : -40~85 °C					
Installation	2-hole fixing					

## DH BUS extension module Configurable digital I/O module

### Product Features

- Input/Output photoelectric isolation
- Hardware filtering time 500us
- Input or Output configurable
- Overvoltage and short circuit protection function
- DH BUS and Channel adopt isolation technology and are reliable



### Products Specification

Ordering data		
Order No	DFH67-DHB-DIO16P-M12-V1	DFH67-DHB-DIO16N-M12-V1
Description	16 DI/DO, PNP, 8*M12	16 DI/DO, NPN, 8*M12
Interface type		
Extension	2 * M12 B-code 5pin Plug(input) + Socket(output)	
Power	DH BUS interface includes Power supply	
Signal	8 * M12 5pin	8 * M12 5pin
Electrical parameters		
Supply Voltage	24 VDC (18...30V)	
Current consumption	Max. 50mA	
Number of inputs	Max. 16	
Input power supply current	Per channel : Max. 200mA	
Input signal type	PNP typeSensor, Limit switch, Contact, etc	NPN typeSensor, Limit switch, Contact, etc
Input filter time	Max. 2ms	
Number of outputs	Max. 16	
Output current	Per channel : Max. 0.5A , Total : Max. 4A	
Output signal type	PNP typeActuators, Indicator lights, Mini electromagnetic valves, etc	NPN typeActuators, Indicator lights, Mini electromagnetic valves, etc
Output switch frequency	Resistive load : 100Hz ; Inductive load : 5Hz	
Diagnostic		
Communication Status	LED indication, Communication message	
Power supply	Yes, Low voltage alarm	
Short circuit/Overload	Yes, LED indication	
General data		
Degree of protection	IP67	
Temperature range	Operation temperature : -20~60 °C ; Storage temperature : -40~85 °C	
Installation	2-hole fixing	

## DH BUS extension module Analog input module

### Product Features

- Rich variety and wide application range
- The measure range configured through XML file, more flexible
- DH BUS and Channel adopt isolation technology and are reliable



### Products Specification

Ordering data				
Order No	DFH67-DHB-AI4I-M12-V1	DFH67-DHB-AI8I-M12-V1	DFH67-DHB-AI4U-M12-V1	DFH67-DHB-AI8U-M12-V1
Description	4AI (E) , 16 bit, 4*M12	8AI (E) , 16 bit, 8*M12	4AI (C) , 16 bit, 4*M12	8AI (C) , 16 bit, 8*M12
Interface type				
Extension	2 * M12 B-code 5pin Plug(input) + Socket(output)			
Power	DH BUS interface includes Power supply			
Signal	4 * M12 A-code 5pin	8 * M12 A-code 5pin	4 * M12 A-code 5pin	8 * M12 A-code 5pin
Electrical parameters				
Supply Voltage	24 VDC (18...30V)			
Current consumption	Max. 50mA			
Number of inputs	4	8	4	8
Input power supply current	Per channel : Max. 200mA			
Input signal type	0...20mA, 4...20mA, ±20mA		0...10V, ±10V	
Input impedance	250Ω		1MΩ	
Resolution	16 bit			
Conversion time	Max. 300us			
Precision	± 0.3%			
Diagnostic				
Communication Status	LED indication, Communication message			
Power supply Short circuit/ Overload	Yes, Low voltage alarm			
	Yes, LED indication			
General data				
Degree of protection	IP67			
Temperature range	Operation temperature : -20~60 °C ; Storage temperature : -40~85 °C			
Installation	2-hole fixing			

## DH BUS extension module Analog output module

## Product Features

- Resolution : 16 bit
- The measure range configured through XML file, more flexible
- DH BUS and Channel adopt isolation technology and are reliable



## Products Specification

Ordering data					
Order No	DFH67-DHB-AO4I-AO4U-M12-V1	DFH67-DHB-AO8I-M12-V1	DFH67-DHB-AO8U-M12-V1	DFH67-DHB-AO4I-M12-V1	DFH67-DHB-AO4U-M12-V1
Description	4AO(E)+4AO(C), 16 bit, 8*M12	8AO(E), 16 bit, 8*M12	8AO(C), 16 bit, 8*M12	4AO(E), 16 bit, 4*M12	4AO(C), 16 bit, 4*M12
Interface type					
Extension	2 * M12 B-code 5pin Plug(input) + Socket(output)				
Power	DH BUS interface includes Power supply				
Signal	8 * M12 A-code 5pin			4 * M12 A-code 5pin	
Electrical parameters					
Supply Voltage	24 VDC (18...30V)				
Current consumption	Max. 50mA				
Number of outputs	8			4	
Output signal type	First 4 channels (0...20mA,4...20mA) Last 4 channels (0...10V,±10V)	0...20mA, 4...20mA	0...10V, ±10V	0...20mA, 4...20mA	0...10V, ±10V
Output impedance	Current type : < 500Ω,	< 450Ω	> 1kΩ	< 450Ω	> 1kΩ
Resolution	Voltage type : > 1kΩ	16 bit			
Conversion time	Max. 300us				
Precision	± 0.3%				
Diagnostic					
Communication Status	LED indication, Communication message				
Power supply	Yes, Low voltage alarm				
Short circuit/Overload	Yes, LED indication				
General data					
Degree of protection	IP67				
Temperature range	Operation temperature : -20~60 °C ; Storage temperature : -40~85 °C				
Installation	2-hole fixing				

## DH BUS extension module Analog input&output module

### Product Features

- Resolution : 16 bit
- The measure range configured through XML file, more flexible
- DH BUS and Channel adopt isolation technology and are reliable



### Products Specification

Ordering data		
Order No	DFH67-DHB-AI4I-AO4I-M12-V1	DFH67-DHB-AI4U-AO4U-M12-V1
Description	4 Input & 4 Output,Current type	4 Input & 4 Output,Voltage type
Interface type		
Extension	2 * M12 B-code 5pin Plug(input) + Socket(output)	
Power	DH BUS interface includes Power supply	
Signal	8 * M12 A-code 5pin	
Electrical parameters		
Supply Voltage	24 VDC (18...30V)	
Current consumption	Max. 50mA	
Number of inputs	4	4
Input signal type	0...20mA, 4...20mA, $\pm 20$ mA	0...10V, $\pm 10$ V
Input impedance	250 $\Omega$	1M $\Omega$
Number of outputs	4	4
Output signal type	0...20mA, 4...20mA	0...10V, $\pm 10$ V
Output impedance	< 450 $\Omega$	> 1k $\Omega$
Resolution	16 bit	
Conversion time	Max. 300us	
Precision	$\pm 0.3\%$	
Diagnostic		
Communication Status	LED indication, Communication message	
Power supply	Yes, Low voltage alarm	
Short circuit/Overload	Yes, LED indication	
General data		
Degree of protection	IP67	
Temperature range	Operation temperature : -20~60 $^{\circ}$ C ; Storage temperature : -40~85 $^{\circ}$ C	
Installation	2-hole fixing	

## DH BUS extension module temperature measuring module

## Product Features

- Resolution : 16 bit
- The measure range configured through XML file, more flexible
- Advanced filtering algorithm for more stable sampling
- DH BUS and Channel adopt isolation technology and are reliable

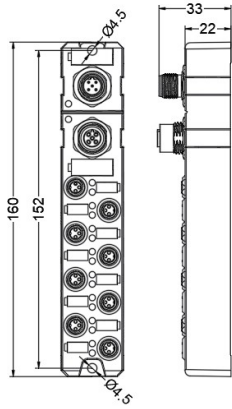


## Products Specification

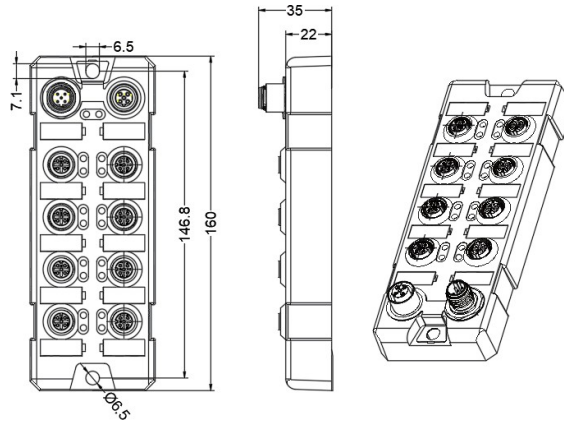
Ordering data				
Order No	DFH67-DHB-RTD4-M12-V1	DFH67-DHB-RTD8-M12-V1	DFH67-DHB-TC4-M12-V1 (Planned model)	DFH67-DHB-TC8-M12-V1 (Planned model)
Description	4RTD, Thermal resistance, 16 bit, 4*M12	8RTD, Thermal resistance, 16 bit, 8*M12	4TC, Thermocouple, 16 bit, 4*M12	8TC, Thermocouple, 16 bit, 8*M12
Interface type				
Extension	2 * M12 B-code 5pin Plug(input) + Socket(output)			
Power	DH BUS interface includes Power supply			
Signal	4 * M12 A-code 5pin	8 * M12 A-code 5pin	4 * M12 A-code 5pin	8 * M12 A-code 5pin
Electrical parameters				
Supply Voltage	24 VDC (18...30V)			
Current consumption	Max. 50mA			
Number of inputs	4	8	4	8
Input power supply current	Per channel : Max. 200mA			
Input signal type	Pt 100, Pt1000, Ni100, Ni1000, 0~150/300/600/3000 Ω		B, E, J, K, N, R, S, T型	
Resolution	16 bit			
Conversion time	Max. 300 ms			
Precision	0.1°C/0.1°F			
Diagnostic				
Communication Status	LED indication, Communication message			
Power supply	Yes, Low voltage alarm			
Short circuit/Overload	Yes, LED indication			
General data				
Degree of protection	IP67			
Temperature range	Operation temperature : -20~60 °C ; Storage temperature : -40~85 °C			
Installation	2-hole fixing			

Dimension

M8-HUB

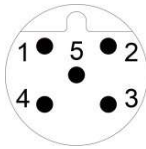


M12-HUB



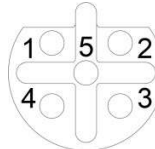
DH BUS interface

B-Code Plug (Metal)



- 1 Power supply 24V+
- 2 Signal A
- 3 Signal B
- 4 Power supply GND
- 5 Data 1

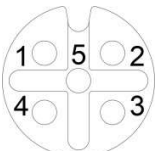
B-Code Socket (Metal)



- 1 Power supply 24V+
- 2 Signal A
- 3 Signal B
- 4 Power supply GND
- 5 Data 1

M12 Input/Output

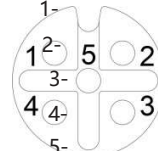
Signal A-Code socket (Green) Class - A Socket (Green)



Digital Input/Output interface

- 1 Power supply 24V+
- 2 Signal Input/OutputB
- 3 Power supply GND
- 4 Signal Input/Output A
- 5 Protective grounding PE

Signal A-Code socket (Green) Class - A Socket (Green)

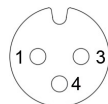


Analog Input/Output interface

- a-
- A-
- NC
- A+
- NC

M8 Input/Output

Signal A-Code socket (Green) M8Socket (Green)



- 1-Power supply 24V+
- 4-Signal Input/OutputB
- 3-Power supply GND

