

MB6 Series Plug-in Bus I/O User Manual R3.0

Company Profile

MT Drive & Control (Shenzhen) Co., Ltd. is a national high-tech enterprise focusing on industrial servo drive systems, control systems, and integrated drive-control systems. The company is located on the 5th floor, Building D, Suojia Science and Technology Park, Sanwei Community, Hangcheng Street, Bao'an District. As a pioneer and leader in multi-axis transmission, the company adheres to the principle of "deep cultivation of the industry, focused innovation, empowerment of multi-axis motion control scenarios, and growth together with partners." It has built a product line covering multi-axis modular servos, controllers, and sensing products, and is committed to creating highly competitive industry solutions for industrial control.

The company adheres to independent innovation and has launched a series of original products. Its main product, the M800 Series Modular Bus Multi-axis Servo, features excellent system performance, reliable product quality, and an innovative product form. It has changed the traditional usage habits of many users in the multi-axis servo industry. Its unique multi-axis drive structure has gradually been recognized by the market. MT Drive's open EtherCAT terminal platform has attracted many industry partners. At present, MT Drive multi-axis servo products are widely used in industrial robots (SCARA, Delta, six-axis, and four-axis robots), truss manipulators, CNC equipment (aluminum alloy, ceramics, glass, and woodworking), wire forming, metal cutting, packaging, engraving, semiconductor, and 3C equipment (grinding, testing, and other equipment). The company has established close cooperation with benchmark enterprises in many industries.

As another modular product, the bus I/O module is part of the bus system and is designed to enable unlimited bus connectivity. It continues to deliver high performance, reliable connection, and dependable quality to earn the trust of partners.

The company will continue to follow a long-term value-oriented philosophy and gradually develop into a provider of system solutions. With an increasingly rich product line, we believe that more industry partners will join the MT Drive ecosystem.

Disclaimer

Purchasing MT Drive products entitles you to standard after-sales service during the warranty period, mainly through repair or replacement. For details, please consult the purchasing personnel. MT Drive & Control (Shenzhen) Co., Ltd. reserves the right to make the final decision on the handling method. Please note that the warranty service is limited to the main body of the MT Drive product and

the accompanying accessories. We do not assume any derivative liability (direct or indirect) for the customer's equipment/system.

This document is intended only to assist readers in using the product. The company is not responsible for any loss or error caused by the use of the information in this document. The products and text described in this document are continuously developed and improved. MT Drive & Control (Shenzhen) Co., Ltd. reserves the right to modify this document without prior notice.

Directory

1 Product Features	9
1.1 Product overview	9
1.2 Product features	9
1.3 Application configuration	10
1.4 Indicator Light	10
1.5 Wiring	11
1.6 Installation and removal	11
1.7 Dimensional drawings	12
1.8 Internal power system	14
2 Naming Rules	15
2.1 Naming Rules	15
2.1.1 Coupler naming rules	15
2.1.2 I/O module naming rules	15
2.2 Selection list	16
2.2.1 Coupler module	16
2.2.2 Digital input module	20
2.2.3 Digital output module	22
2.2.4 Digital input/output module	24
2.2.5 Analog input module	25
2.2.6 Analog input module(Voltage and current)	27
2.2.7 Analog output module	28
2.2.8 Relay output module	29
2.2.9 Temperature module	30
2.2.10 Pulse Input Module	32
2.2.11 Pulse Output Module	33
2.2.12 Relay power module	34
2.2.13 Communication module	35
2.2.14 Common Terminal Module	36
2.3 Product parameters	37
2.3.1 General Parameters	37
2.3.2 Power parameters	37
2.3.3 Interface Parameters	37
2.3.4 Digital Parameters	38
2.3.5 Analog Parameters	39
3 Module Description	40
3.1 MB6-EC2002	40
3.1.1 Module Features	40
3.1.2 Technical parameters	40
3.1.3 Hardware interface	41
3.1.4 Wiring Diagram	42
3.2 MB6-PN2002	42
3.2.1 Module features	42
3.2.2 Technical Parameters	43
3.2.3 Hardware interface	44
3.2.4 Wiring Diagram	45

3.3 MB6-EI2002	46
3.3.1 Module Features	46
3.3.2 Technical Parameters	46
3.3.3 Hardware interface	47
3.3.4 Wiring Diagram	48
3.4 MB6-MT2002	49
3.4.1 Module Features	49
3.4.2 Technical parameters	49
3.4.3 Hardware interface	50
3.4.4 Wiring Diagram	51
3.5 MB6-CF2002	52
3.5.1 Module Features	52
3.5.2 Technical parameters	52
3.5.3 Hardware interface	53
3.5.4 Wiring Diagram	54
3.6 MB6-CL2002	55
3.6.1 Module Features	55
3.6.2 Technical parameters	55
3.6.3 Hardware interface	56
3.6.4 Wiring Diagram	57
3.7 MB6-DN2002	57
3.7.1 Module Features	58
3.7.2 Technical Parameters	58
3.7.3 Hardware interface	59
3.7.4 Wiring Diagram	60
3.8 MB6-CP2002	61
3.8.1 Module Features	61
3.8.2 Technical parameters	61
3.8.3 Hardware interface	62
3.8.4 Wiring Diagram	63
3.9 MB6-1600N/PT	64
3.9.1 Module Features	64
3.9.2 Technical parameters	64
3.9.3 Hardware interface	65
3.9.4 Wiring Diagram	66
3.10 MB6-1600NT	67
3.10.1 Module Features	67
3.10.2 Technical parameters	67
3.10.3 Hardware interface	68
3.10.4 Wiring Diagram	69
3.11 MB6-1600PT	70
3.11.1 Module Features	70
3.11.2 Technical parameters	70
3.11.3 Hardware interface	71
3.11.4 Wiring Diagram	72
3.12 MB6-3200N/PT	73
3.12.1 Module Features	73
3.12.2 Technical parameters	73
3.12.3 Hardware interface	74

3.12.4 Wiring Diagram	75
3.13 MB6-3200N/PT(H)	77
3.13.1 Module features	77
3.13.2 Technical parameters	77
3.13.3 Hardware interface	78
3.13.4 Wiring Diagram	79
3.14 MB6-0016NT	81
3.14.1 Module Features	81
3.14.2 Technical Parameters	81
3.14.3 Hardware Interface	82
3.14.4 Wiring Diagram	83
3.15 MB6-0016PT	84
3.15.1 Module Features	84
3.15.2 Technical Parameters	84
3.15.3 Hardware interface	85
3.15.4 Wiring Diagram	86
3.16 MB6-0032NT	87
3.16.1 Module Features	87
3.16.2 Technical parameters	87
3.16.3 Hardware interface	88
3.16.4 Wiring Diagram	89
3.17 MB6-0032NT(H)	90
3.17.1 Module Features	90
3.17.2 Technical parameters	90
3.17.3 Hardware interface	91
3.17.4 Wiring Diagram	92
3.18 MB6-0032PT	93
3.18.1 Module Features	93
3.18.2 Technical parameters	93
3.18.3 Hardware interface	94
3.18.4 Wiring Diagram	95
3.19 MB6-0032PT(H)	96
3.19.1 Module Features	96
3.19.2 Technical parameters	96
3.19.3 Hardware interface	97
3.19.4 Wiring Diagram	98
3.20 MB6-0808NT	99
3.20.1 Module Features	99
3.20.2 Technical parameters	99
3.20.3 Hardware interface	100
3.20.4 Wiring Diagram	101
3.21 MB6-0808PT	102
3.21.1 Module Features	102
3.21.2 Technical parameters	102
3.21.3 Hardware interface	103
3.21.4 Wiring Diagram	104
3.22 MB6-A0400V	105
3.22.1 Module features	105
3.22.2 Technical parameters	105

3.22.3 Hardware interface	106
3.22.4 Wiring Diagram	107
3.23 MB6-A0800V	107
3.23.1 Module Features	108
3.23.2 Technical parameters	108
3.23.3 Hardware interface	109
3.23.4 Wiring Diagram	110
3.24 MB6-A0400C	111
3.24.1 Module features	111
3.24.2 Technical parameters	111
3.24.3 Hardware interface	112
3.24.4 Wiring Diagram	113
3.25 MB6-A0800C	114
3.25.1 Module features	114
3.25.2 Technical parameters	114
3.25.3 Hardware interface	115
3.25.4 Wiring Diagram	116
3.26 MB6-A0400VC	117
3.26.1 Module features	117
3.26.2 Technical parameters	117
3.26.3 Hardware interface	118
3.26.4 Wiring Diagram	119
3.27 MB6-A0004V	119
3.27.1 Module Features	119
3.27.2 Technical parameters	120
3.27.3 Hardware Interface	121
3.27.4 Wiring Diagram	122
3.28 MB6-A0008V	123
3.28.1 Module Features	123
3.28.2 Technical parameters	123
3.28.3 Hardware interface	124
3.28.4 Wiring Diagram	125
3.29 MB6-A0004C	126
3.29.1 Module Features	126
3.29.2 Technical parameters	126
3.29.3 Hardware interface	127
3.29.4 Wiring Diagram	128
3.30 MB6-A0008C	129
3.30.1 Module Features	129
3.30.2 Technical parameters	129
3.30.3 Hardware interface	130
3.30.4 Wiring Diagram	131
3.31 MB6-0008R	132
3.31.1 Module Features	132
3.31.2 Technical parameters	132
3.31.3 Hardware interface	133
3.31.4 Wiring Diagram	134
3.32 MB6-TM0400	135
3.32.1 Module Features	135

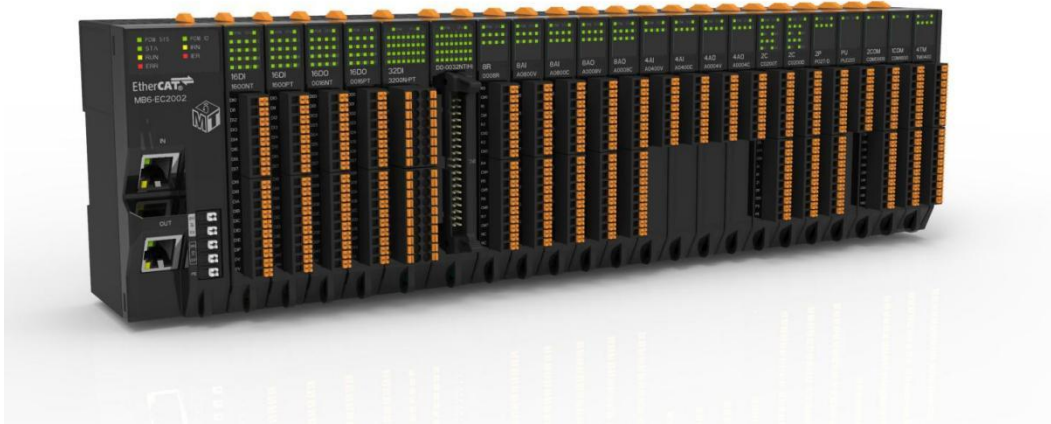
3.32.2 Technical Parameters	135
3.32.3 Hardware interface	136
3.32.4 Wiring Diagram	137
3.33 MB6-C0200T	138
3.33.1 Module features	138
3.33.2 Technical parameters	138
3.33.3 Hardware interface	139
3.33.4 Wiring Diagram	140
3.34 MB6-C0200D	141
3.34.1 Module features	141
3.34.2 Technical parameters	141
3.34.3 Hardware interface	142
3.34.4 Wiring Diagram	143
3.35 MB6-P02T/D	144
3.35.1 Module features	144
3.35.2 Technical parameters	144
3.35.3 Hardware interface	145
3.35.4 Wiring Diagram	146
3.36 MB6-PU0201	147
3.36.1 Module features	147
3.36.2 Technical parameters	147
3.36.3 Hardware interface	148
3.36.4 Wiring Diagram	149
3.37 MB6-MR01	150
3.37.1 Module features	150
3.37.2 Technical parameters	150
3.37.3 Hardware interface	151
3.37.4 Wiring Diagram	152
3.38 MB6-COM0909	153
3.38.1 Module Features	153
3.38.2 Technical parameters	153
3.38.3 Hardware interface	154
3.38.4 Wiring Diagram	155
3.39 MB6-COM1800	156
3.39.1 Module Features	156
3.39.2 Technical parameters	156
3.39.3 Hardware interface	156
3.39.4 Wiring Diagram	158
4 Use	159
4.1 Module application	159
5 Other matters	160
6 Quick Reference Tables	161

1 Product Features

1.1 Product Overview

The MB6 Series plug-in bus I/O module consists of a coupler module, I/O function modules, a trunk power module, and a common terminal module (end cap). The I/O function modules include analog, digital, pulse, relay, encoder, temperature, and other module types with various point configurations. Customers can combine modules according to site requirements. The series supports mainstream communication protocols such as EtherCAT, PROFINET, EtherNet/IP, CC-Link, CC-Link IE Field Basic, and Modbus TCP, and is widely applicable to various bus applications.

1.2 Product Features



Slim plug-in design Plug-in modular design, as thin as 15 mm.

Rich types: analog, digital, pulse, relay, encoder, temperature, and other I/O expansion modules are available with various point configurations.

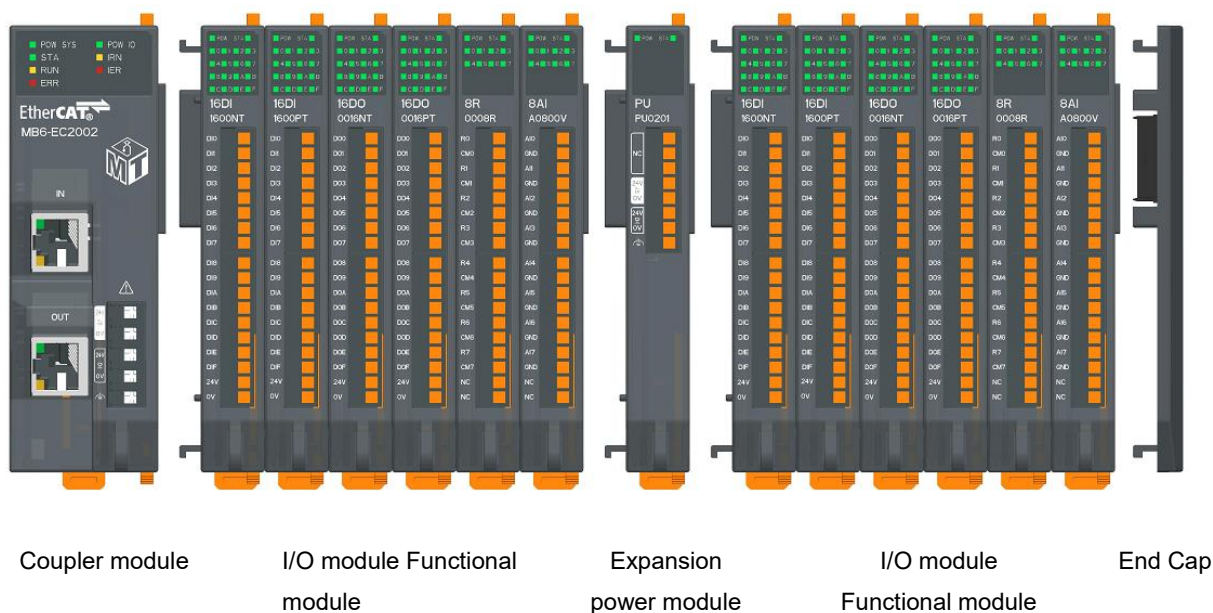
Easy installation: snap-on DIN rail structure for easy disassembly and maintenance; screw-free terminal blocks reduce wiring time. Up to 32 I/O modules can be connected to each coupler, improving installation efficiency and scalability.

High-speed response: transmission speed up to 100 Mbps (full duplex), communication cycle as short as 125 us, and high-precision distributed clock synchronization (jitter <1 us).

Various protection functions: power inputs (coupler, trunk power module, etc.) support reverse-polarity protection; digital outputs (transistor type) and analog outputs (voltage/current) support short-circuit protection.

Mainstream protocols: supports EtherCAT, PROFINET, EtherNet/IP, CC-Link, CC-Link IE Field Basic, Modbus TCP, and other mainstream bus communication protocols for easy connection to various bus systems.

1.3 Application Configuration



Application:

The system adopts a modular combination of coupler, digital, analog, relay, temperature, pulse output, pulse input, power, and common terminal modules.

According to the master station access capacity, number of stations, number of I/O points, and function types, different I/O module combinations can be configured.

Configuration Rules

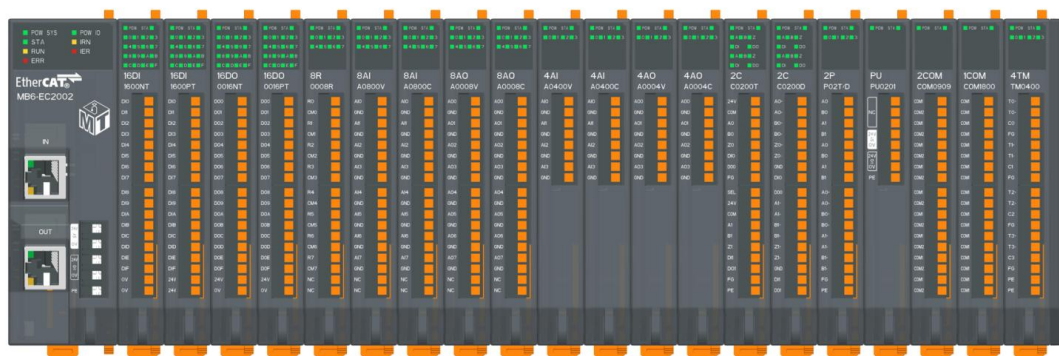
From left to right, the modules are arranged as follows: coupler module (required), I/O module (required), expansion power module (optional; supplies power to the modules on its right), I/O module (optional), and end cap (included with the coupler).

The total current consumed by all I/O modules must be less than the total current capacity of the coupler module and the trunk power module (optional).

A coupler can be configured with up to 32 I/O modules (excluding the trunk power module and common terminal modules).

1.4 Indicator Light

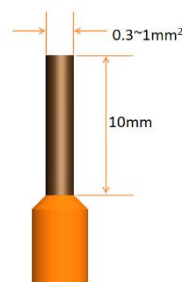
The LED status indicators allow users to check the power status of the coupler and I/O modules, the operating status of the I/O modules, and the I/O channel status. For details on indicator status, refer to the corresponding coupler or I/O module.



1.5 Wiring

Wiring diagram reference: 3.1.4 Coupler Wiring

It is recommended to use cables with a conductor cross-section of $0.3 \sim 1 \text{ mm}^2$.
The crimp terminal parameters are as follows:



1.6 Installation and Removal

MB6 overall installation drawing

Note that there is some space around it, see the picture on the right.

Installing the Complete Module Set

Secure the assembled module set to the DIN rail:

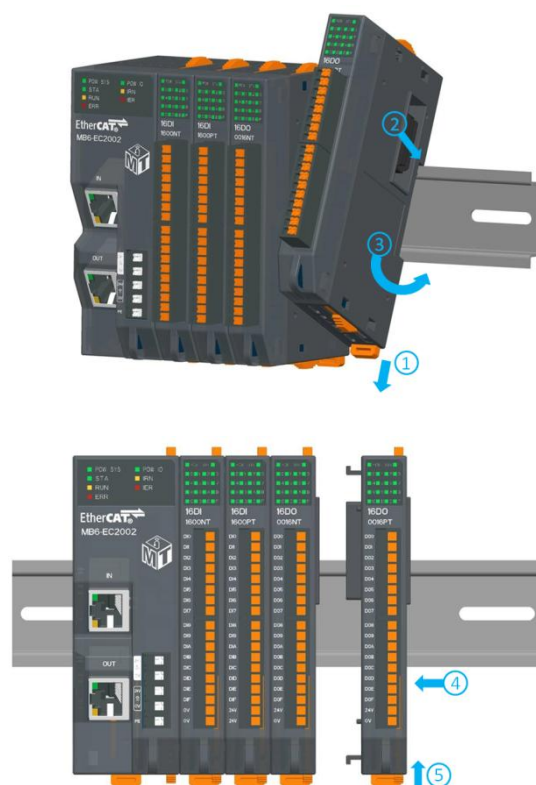
1. Release the DIN DIN DIN rail clips on the bottom of all modules;
2. The whole set of modules is hooked on the DIN rail;
3. The whole set of modules is pressed down and fixed on the DIN rail;
4. The DIN DIN rail clip on the bottom of the module is locked.



Adding I/O Modules

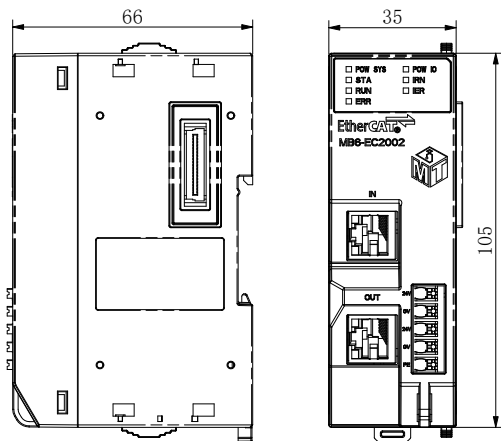
Add a single I/O module to the installed I/O system:

1. loosen the DIN DIN DIN rail clip on the bottom of the module;
2. hook the module on the DIN rail;
3. The module is fixed on the DIN rail with pressing downward;
4. Insert the module pan to the left from the DIN rail;
5. Snap and lock the DIN DIN rail clip at the bottom of the module;
6. Place the end cap well.

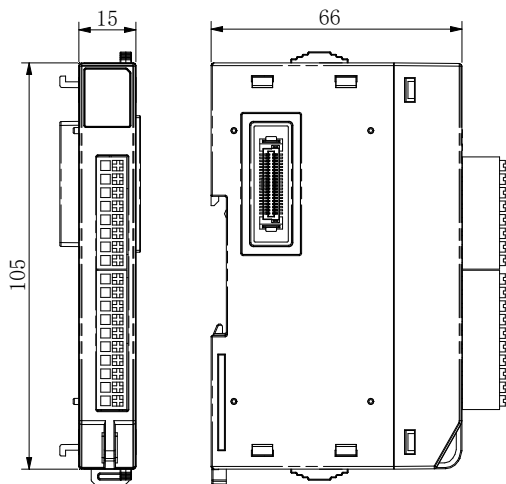


1.7 Dimensional Drawings

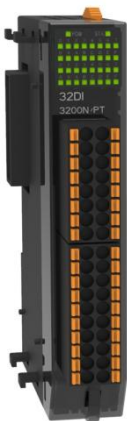
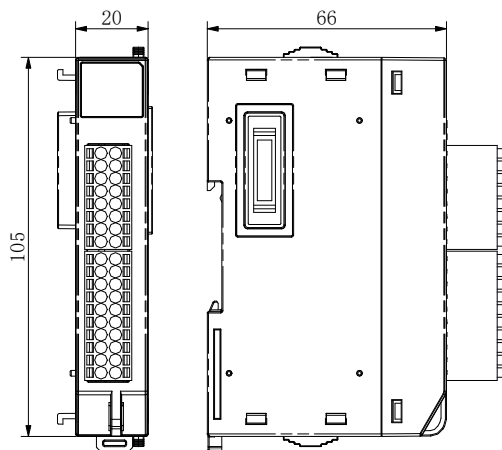
Coupler module



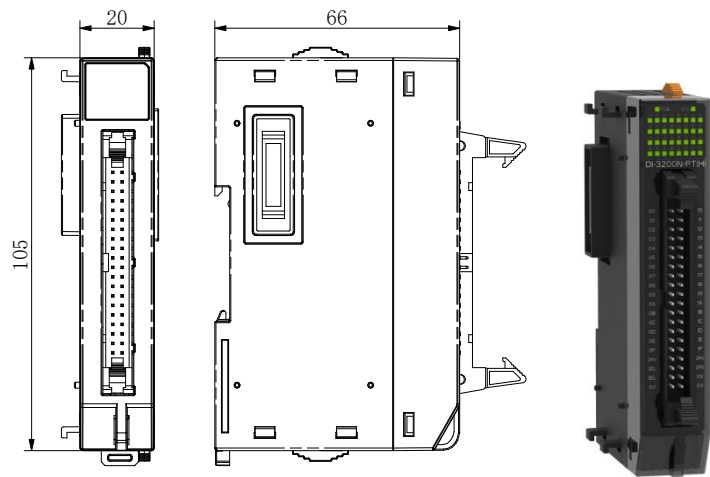
I/O class module (1)



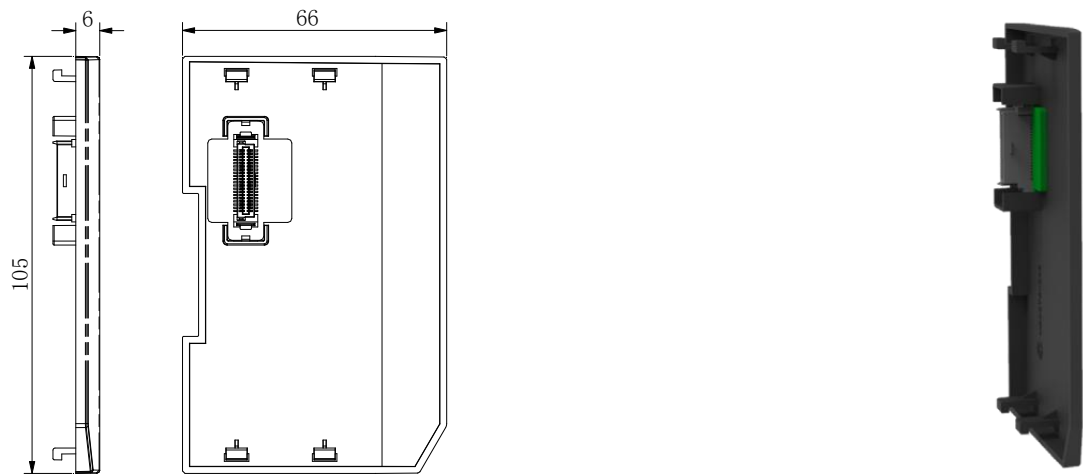
I/O class module (2)



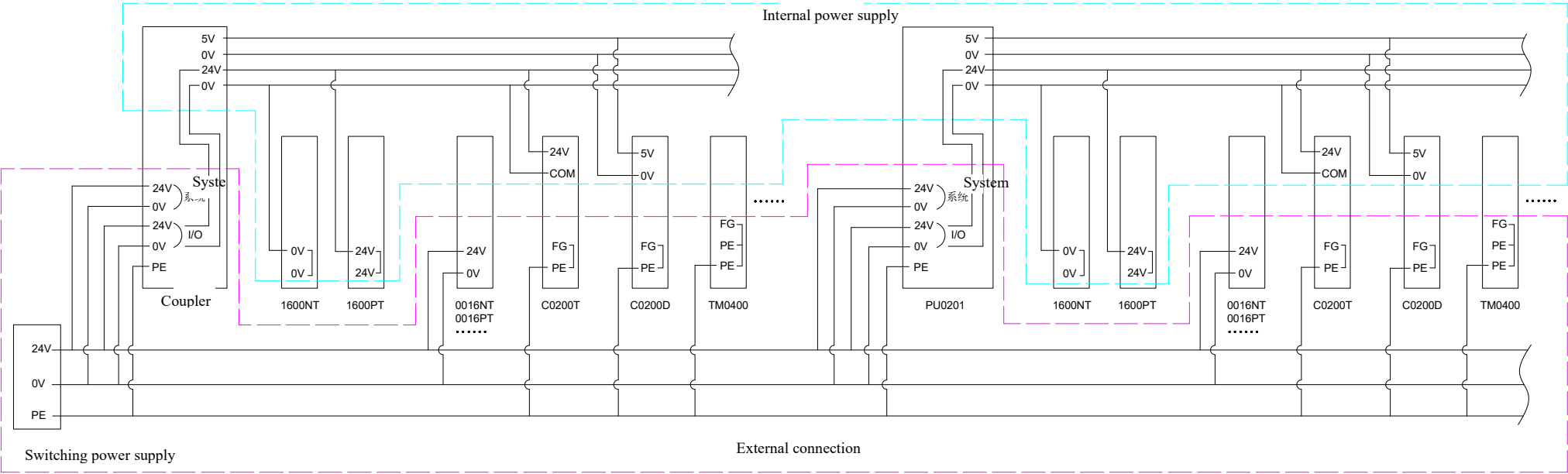
I/O class module(3)



End Cap



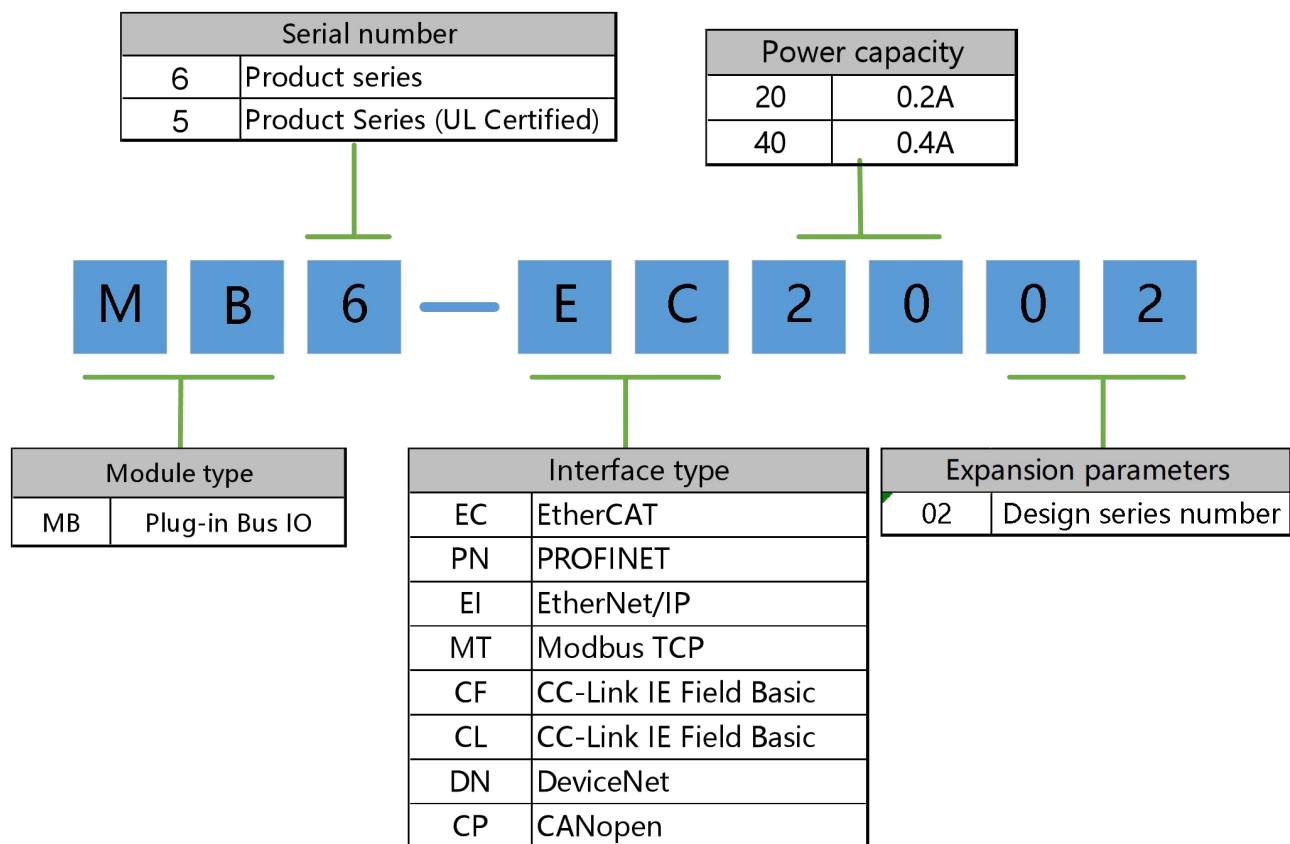
1.8 Internal Power System



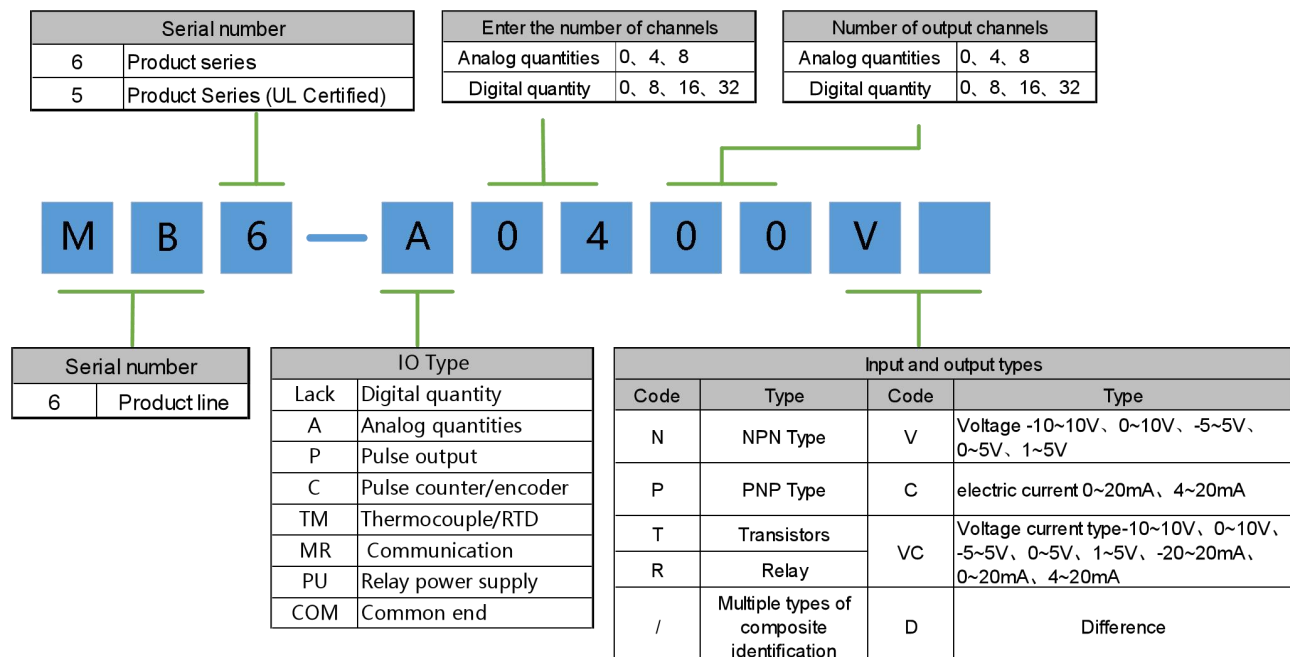
2 Naming Rules

2.1 Naming Rules

2.1.1 Coupler Naming Rules



2.1.2 I/O Module Naming Rules



2.2 Selection List

2.2.1 Coupler Module

		
Models	MB6-EC2002	MB6-PN2002
Name	EtherCAT Coupler	PROFINET Coupler
General Parameters		
Current consumption	200 mA @5V	200 mA @5V
Isolation	System power and I/O power: isolated	
System power input	Nominal: 24 V, permissible range: 18 ~ 30V, Max: 2A, support: short-circuit protection, reverse-polarity protection	
I/O power input	Nominal: 24 V, permitted range: 18 ~ 30V, Max: 3A, support: reverse-polarity protection	
Wiring	I/O wire:0.3mm²(22AWG)~ 1mm²(17AWG)	
	Recommended wire diameter: 0.3 ~ 1mm², crimp terminal length: 10mm	
Installation method	35 mm DIN rail mounting	
Size	105 mm x 66mm x 35mm	
Weight	200 g	
Environmental parameters		
Operating temperature	-20~50°C	
Storage temperature	-25~65°C	
Relative humidity	5%~95% non-condensing	
Protection level	IP20	
Function Parameters		
Network interface	2 RJ45	2 RJ45
Process data	Input bytes:512 Output bytes:512	Input bytes:512 Output bytes:512
Number of supported I/O modules	Max:32	Max:32
Indicator Light	Power, network, internal bus, etc.	
Communication Cycle	Minimum period 125us	RT:Minimum period 1ms
Transmission rate	10/100 Mbps,adaptive, full duplex	
Maximum bus length	100 m	
Diagnostics and alarms	Support	

EtherNet/IP Modbus TCP		
	Models	MB6-EI2002
Name	EtherNet/IP Coupler	Modbus TCP Coupler
General Parameters		
Current consumption	200 mA @5V	200 mA @5V
Isolation	System power and I/O power: isolated	
System power input	Nominal: 24 V, permissible range: 18 ~ 30V, Max: 2A, support: short-circuit protection, reverse-polarity protection	
I/O power input	Nominal: 24 V, permitted range: 18 ~ 30V, Max: 3A, support: reverse-polarity protection	
Wiring	I/O wire:0.3mm²(22AWG)~ 1mm²(17AWG)	
	Recommended wire diameter: 0.3 ~ 1mm², crimp terminal length: 10mm	
Installation method	35 mm DIN rail mounting	
Size	105 mm x 66mm x 35mm	
Weight	200 g	200 g
Environmental parameters		
Operating temperature	-20~50°C	
Storage temperature	-25~65°C	
Relative humidity	5%~95% non-condensing	
Protection level	IP20	
Function Parameters		
Network interface	2 RJ45	2 RJ45
Process data	Input bytes:512 Output bytes:512	Input bytes:512 Output bytes:512
Number of supported I/O modules	Max 32	Max 32
/	Display message:10	Number of customer connections:5
/	Implicit messages:5	Watchdog function:Support
/	Maximum number of CIP connections:10	Supported function codes:01/02/03/04/05/06/15/16/23
Indicator Light	Power, network, internal bus, etc.	
Transmission rate	10/100 Mbps,adaptive, full duplex	
Maximum bus length	100 m	
Diagnostics and alarms	Support	

CC-Link IE Field Basic		
Models	MB6-CF2002	MB6-CL2002
Name	CC-Link IE Field Basic Coupler	CC-Link Coupler
General Parameters		
Current consumption	200 mA @5V	200 mA @5V
Isolation	System power and I/O power: isolated	
System power input	Nominal: 24 V, permissible range: 18 ~ 30V, Max: 2A, support: short-circuit protection, reverse-polarity protection	
I/O power input	Nominal: 24 V, permitted range: 18 ~ 30V, Max: 3A, support: reverse-polarity protection	
Wiring	I/O wire:0.3mm²(22AWG)~ 1mm²(17AWG)	
	Recommended wire diameter: 0.3 ~ 1mm², crimp terminal length: 10mm	
Installation method	35 mm DIN rail mounting	
Size	105 mm x 66mm x 35mm	
Weight	200 g	
Environmental parameters		
Operating temperature	-20~50°C	
Storage temperature	-25~65°C	
Relative humidity	5%~95% non-condensing	
Protection level	IP20	
Function Parameters		
Network interface	2 RJ45	5-bit screw terminals
Process data	RX,RY:64x4bit RW _r ,RW _w :32x4words	Input bytes:512 Output bytes:512
Number of supported I/O modules	Max:32	Max:32
Transmission rate	No	156 K/625K/2.5M/5M/10Mbps
Baud rate	No	120Ω
Indicator Light	Power, network, internal bus, etc.	
Maximum bus length	1000 m(Max)	1200 m(Max)
Station number	x100 x10 x1(Set the rotary encoder)	
Diagnostics and alarms	Support	

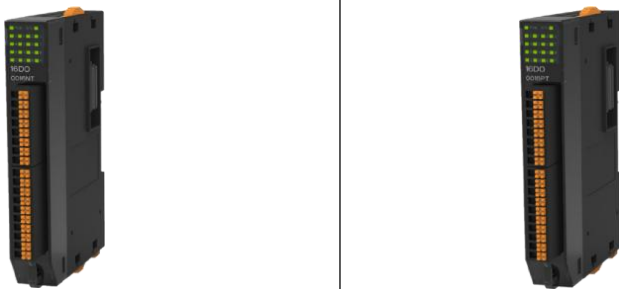
CC-Link IE Field Basic		
Models	MB6-DN2002	MB6-CP2002
Name	DeviceNet Coupler	CANopen Coupler
General Parameters		
Current consumption	200 mA @5V	200 mA @5V
Isolation	System power and I/O power: isolated	
System power input	Nominal: 24 V, permissible range: 18 ~ 30V, Max: 2A, support: short-circuit protection, reverse-polarity protection	
I/O power input	Nominal: 24 V, permitted range: 18 ~ 30V, Max: 3A, support: reverse-polarity protection	
Wiring	I/O wire:0.3mm²(22AWG)~ 1mm²(17AWG)	
	Recommended wire diameter: 0.3 ~ 1mm², crimp terminal length: 10mm	
Installation method	35 mm DIN rail mounting	
Size	105 mm x 66mm x 35mm	
Weight	200 g	
Environmental parameters		
Operating temperature	-20~50°C	
Storage temperature	-25~65°C	
Relative humidity	5%~95% non-condensing	
Protection level	IP20	
Function Parameters		
Network interface	5-bit screw terminals	5-bit screw terminals
Process data	RX,RY:64x4bit RW _r ,RW _w :32x4words	Input bytes:512 Output bytes:512
Number of supported I/O modules	Max:32	Max:32
Transmission rate	可选择:125, 250, 500kbps	10 kbps-1Mbps
Indicator Light	Power, network, internal bus, etc.	
Maximum bus length	500 m(Max)	1000 m(Max)
Station number	x100 x10 x1(Set the rotary encoder)	
Diagnostics and alarms	Support	

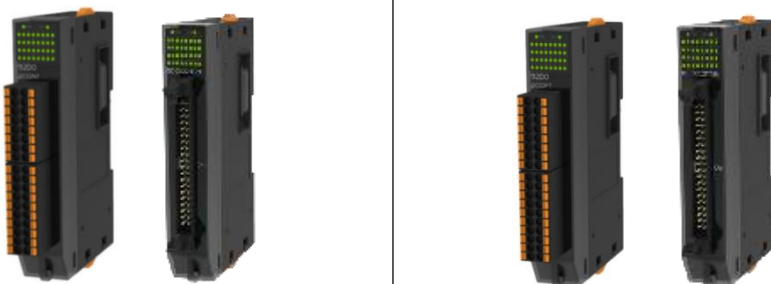
2.2.2 Digital Input Module

Digital input module				
Models	MB6-1600N/PT		MB6-1600NT	
Name	16-channel digital input NPN /PNP(optocoupler)		16-channel digital input NPN (optocoupler)	
General Parameters				
Current consumption	65 mA @5V		65 mA @5V	
Isolation	I/O to internal bus: Optocoupler isolation 3kV			
On-site power supply	Nominal: 24 V, permitted range: 18 ~ 30V			
Wiring	I/O wire:0.3mm²(22AWG)~ 1mm² (17AWG)			
	Recommended wire diameter: 0.3 ~ 1mm², crimp terminal length: 10mm			
Installation method	35 mm DIN rail mounting			
Size	105 mm x 66mm x 15mm			
Weight	80 g			
Environmental parameters				
Operating temperature	-20~50℃			
Storage temperature	-25~65℃			
Relative humidity	5%~95% non-condensing			
Protection level	IP20			
Input characteristics				
Number of channels	16			
Type	NPN type	PNP type	NPN type	PNP type
Indicator Light	16-channel indicator light			
"0" signal voltage	12~30V	0~5V	12~30V	0~5V
"1" signal voltage	0~5V	12~30V	0~5V	12~30V
On current	Max 5 mA			
Input delay	ON to OFF: 1.5ms,OFF to ON : 1.5ms			
Equivalent bandwidth	Max 10 kHz			
Filter time	Configurable: 0~20.0ms, default configuration: 3.0ms			
Diagnostics and alarms	Support			

Digital input module		
Models	MB6-3200N/PT	MB6-3200N/PT(H)
Name	32-channel digital input NPN/PNP (optocoupler)	
General Parameters		
Current consumption	130 mA @5V	
Isolation	I/O to internal bus: Optocoupler isolation 3kV	
On-site power supply	Nominal: 24 V, permitted range: 18 ~ 30V	
Wiring	I/O wire:0.3mm ² (22AWG)~ 1mm ² (17AWG)	
	Recommended wire diameter: 0.3 ~ 1mm ² , crimp terminal length: 10mm	
Installation method	35 mm DIN rail mounting	
Size	105 mm x 66mm x 20mm	
Weight	110 g	
Environmental parameters		
Operating temperature	-20~50°C	
Storage temperature	-25~65°C	
Relative humidity	5%~95% non-condensing	
Protection level	IP20	
Input characteristicsssss		
Number of channels	32	
Type	NPN type	PNP type
Indicator Light	32-channel indicator light	
"0" signal voltage	12~30V	0~5V
"1" signal voltage	0~5V	12~30V
On current	Max 5 mA	
Input delay	ON to OFF: 50us,OFF to ON:50us	
Equivalent bandwidth	Max 10 kHz	
Filter time	Configurable: 0~20.0ms, default configuration: 3.0ms	
Diagnostics and alarms	Support	

2.2.3 Digital Output Module

Digital output module		
Models	MB6-0016NT	MB6-0016PT
Name	16-channel digital output NPN (transistor)	16-channel digital output PNP (transistor)
General Parameters		
Current consumption	140 mA @5V	140 mA @5V
Isolation	I/O to internal bus: Optocoupler isolation 3kV	
Power input	24 VDC,permitted range: 18 ~ 30V	
	Capacity reference actual demand total current	
Wiring	I/O wire:0.3mm²(22AWG)~ 1mm² (17AWG)	
	Recommended wire diameter: 0.3 ~ 1mm², crimp terminal length: 10mm	
Installation method	35 mm DIN rail mounting	
Size	105 mm x 66mm x 15mm	
Weight	80 g	
Environmental parameters		
Operating temperature	-20~50°C	
Storage temperature	-25~65°C	
Relative humidity	5%~95% non-condensing	
Protection level	IP20	
Output characteristicssss		
Number of channels	16	
Type	NPN type	PNP type
Indicator Light	16-channel indicator light	
Load capacity	0.8 A/channel, total 16 channels: Max 8A	
Leakage current	Max 10uA	
Output delay	ON to OFF: 100us,OFF to ON: 100us	
Equivalent bandwidth	Max 5 kHz	
Protection function	Short-circuit protection	
Safety features	Fault hold output/fault output value (channel independent)	

Digital output module		
Models	MB6-0032NT, MB6-0032NT(H)	
Name	32-channel digital output NPN Type (transistor)	
General Parameters		
Current consumption	280 mA @5V	280 mA @5V
Isolation	I/O to internal bus: Optocoupler isolation 3kV	
Power input	24 VDC,permitted range: 18 ~ 30V	
	Capacity reference actual demand total current	
Wiring	I/O wire:0.3mm²(22AWG)~ 1mm² (17AWG)	
	Recommended wire diameter: 0.3 ~ 1mm², crimp terminal length: 10mm	
Installation method	35 mm DIN rail mounting	
Size	105 mm x 66mm x 20mm	
Weight	110 g	
Environmental parameters		
Operating temperature	-20~50°C	
Storage temperature	-25~65°C	
Relative humidity	5%~95% non-condensing	
Protection level	IP20	
Output characteristicssss		
Number of channels	32	
Type	NPN type	PNP type
Indicator Light	32-channel indicator light	
Load capacity	0.8 A/channel, 32 channels total:Max 16 A;Horn terminal(H):0.5 A/channel, 32 channels total:Max 10 A	
Leakage current	Max 10uA	
Output delay	ON to OFF: 100us,OFF to ON: 100us	
Equivalent bandwidth	Max 5 kHz	
Protection function	Short-circuit protection	
Safety features	Fault hold output/fault output value (channel independent)	

2.2.4 Digital Input/Output Module

Digital input/output module		
Models	MB6-0808NT	MB6-0808PT
Name	8-channel digital input NPN(optocoupler)	8-channel digital inputPNP (optocoupler)
	8-channel digital output NPN (transistor)	8-channel digital output PNP (transistor)
General Parameters		
Current consumption	80 mA @5V	80 mA @5V
Isolation	I/O to internal bus: Optocoupler isolation 3kV	
Power input	24 VDC, permitted range: 18 ~ 30V	
	Capacity reference actual demand total current	
Wiring	I/O wire:0.3mm²(22AWG)~ 1mm² (17AWG)	
	Recommended wire diameter: 0.3 ~ 1mm², crimp terminal length: 10mm	
Installation method	35 mm DIN rail mounting	
Size	105 mm x 66mm x 15mm	
Weight	80 g	
Environmental parameters		
Operating temperature	-20~50°C	
Storage temperature	-25~65°C	
Relative humidity	5%~95%non-condensing	
Protection level	IP20	
Output characteristicsssssss		
Number of channels	8	
Type	NPN type	PNP type
Indicator Light	8-channel indicator light	
Load capacity	0.8 A/channel	
Leakage current	Max 10uA	
Output delay	ON to OFF: 100us,OFF to ON:100us	
Equivalent bandwidth	Max 5 kHz	
Protection function	Short-circuit protection	
Output characteristicsssssss		
Number of channels	8	

Indicator Light	8-channel indicator light	
"0"Signal voltage	12~30V	0~5V
"1"Signal voltage	0~5V	12~30V
On current	Max 5 mA	
Input delay	ON to OFF: 50us, OFF to ON : 50us	
Equivalent bandwidth	Max 10 kHz	
Filter time	The value can be 0 to 20.0ms. The default value is 3.0ms	
Diagnostics and alarms	Support	
Safety features	Fault hold output/fault output value (channel independent)	

2.2.5 Analog Input Module

Analog input module				
Models	MB6-A0400V	MB6-A0800V	MB6-A0400C	MB6-A0800C
Name	4-channel voltage input	8-channel voltage input	4-channel current input	8-channel current input
General Parameters				
Current consumption	110 mA @5V	110 mA @5V	90 mA @5V	90 mA @5V
Isolation	I/O to internal bus: optocoupler isolation 3kV, non-isolation between channels			
On site power supply	Not used			
Wiring	I/O wire:0.3mm²(22AWG)~ 1mm² (17AWG)			
	Recommended wire diameter: 0.3 ~ 1mm², crimp terminal length: 10mm			
Installation method	35 mm DIN rail mounting			
Size	105 mm x 66mm x 15mm			
Weight	70 g	80 g	70 g	80 g
Environmental parameters				
Operating temperature	-20~50°C			
Storage temperature	-25~65°C			
Relative humidity	5%~95% non-condensing			
Protection level	IP20			
Input characteristicssssss				
Number of channels	4	8	4	8
Type	Voltage input		Current input	
Indicator Light	4-channel indicator light	8-channel indicator light	4-channel indicator light	8-channel indicator light

Input range	-10~10V(Default), 0~10V, -5~5V, 0~5V, 1~5V		0~20 mA,4~20 mA(Default)	
Resolution	16 bit		16 bit	
Accuracy	±0.1%@25°C		±0.1%@25°C	
A/D corresponding value	-10~10V:-32768~32767(Default)		4~20 mA:0~65535(Default)	
	0~10V:0~27648		0~20 mA:0~65535	
	-5~5V:-32768~32767		4~20 mA:0~27648	
	-10~10V:-32000~32000		0~20 mA:0~27648	
	0~10V:0~32000		4~20 mA:0~32000	
	-5~5V:-27648~27648		0~20 mA:0~32000	
	-5~5V:-32000~32000		/	
	0~5V:0~32767			
	0~5V:0~27648			
	0~5V:0~32000			
	1~5V:0~32767			
Hardware filter	0.5 ms		0.4 ms	
Sampling rate	250 us/4 channel	250 us/8 channel	250 us/4 channel	250 us/8 channel
Filter time	configurable:0~30.0ms, default configuration:1.0ms		configurable:0~30.0ms, default configuration:1.0ms	
Diagnostics and alarms	Support			

2.2.6 Analog Input Module(Voltage and current)

Analog input module	
Models	MB6-A0400VC
Name	4 channels voltage and current input
General Parameters	
Current consumption	140 mA @5V
Isolation	I/O to internal bus: optocoupler isolation 3kV, isolation between channels
On site power supply	Not used
Wiring	I/O wire:0.3mm ² (22AWG)~ 1mm ² (17AWG)
	Recommended wire diameter: 0.3 ~ 1mm ² , crimp terminal length: 10mm
Installation method	35 mm DIN rail mounting
Size	105 mm x 66mm x 15mm
Weight	80 g
Environmental parameters	
Operating temperature	-20~50°C
Storage temperature	-25~65°C
Relative humidity	5%~95% non-condensing
Protection level	IP20
Input characteristicss	
Number of channels	4
Type	Voltage and current input
Indicator Light	4-channel indicator light
Input range	-10~10V(Default), 0~10V, -5~5V, 0~5V, 1~5V, -20~20 mA, 0~20 mA, 4~20 mA
Resolution	16 bit
Accuracy	±0.1%@25°C
A/D corresponding value	-32768~32767(Default),-27648~27648,-32000~32000
Hardware filter	0.5 ms
Sampling rate	250 us/4 channel
Filter time	configurable:0~30.0ms, default configuration:1.0ms
Diagnostics and alarms	Support

2.2.7 Analog Output Module

Analog Output Module				
Models	MB6-A0004V	MB6-A0008V	MB6-A0004C	MB6-A0008C
Name	4-channel voltage output	8-channel voltage output	4-channel current output	8-channel current output
General Parameters				
Current consumption	230 mA @5V	230 mA @5V	55 mA @5V	55 mA @5V
Isolation	I/O to internal bus: Optocoupler isolation 3kV,no isolation between channels			
On site power supply	Not used			
Wiring	I/O wire:0.3mm ² (22AWG)~ 1mm ² (17AWG)			
	Recommended wire diameter: 0.3 ~ 1mm ² , crimp terminal length: 10mm			
Installation method	35 mm DIN rail mounting			
Size	105 mm x 66mm x 15mm			
Weight	70 g	80 g	70 g	80 g
Environmental parameters				
Operating temperature	-20~50°C			
Storage temperature	-25~65°C			
Relative humidity	5%~95% non-condensing			
Protection level	IP20			
Output characteristicssssss				
Number of channels	4	8	4	8
Type	Voltage Output		Current output	
Indicator Light	4-channel indicator light	8-channel indicator light	4-channel indicator light	8-channel indicator light
Input range	-10~10V(Default), 0~10V, -5~5V, 0~5V, 1~5V		0~20 mA,4~20 mA(Default)	
Resolution	16 bit		16 bit	
Accuracy	±0.1%@25°C		±0.1%@25°C	
D/A corresponding value	-32768~32767:-10~10V(Default)		0~65535:4~20 mA(Default)	
	0~27648:0~10V		0~65535:0~20 mA	
	-32768~32767:-5~5V		0~27648:4~20 mA	
	-32000~32000:-10~10V		0~27648:0~20 mA	
	0~32000:0~10V		0~32000:4~20 mA	
	-27648~27648:-5~5V		0~32000:0~20 mA	
	-32000~32000:-5~5V		/	

	0~32767:0~5V			
	0~27648:0~5V			
	0~32000:0~5V			
	0~32767:1~5V			
Hardware filter	0.25 ms		0.35 ms	
Conversion time	250 us/4 channel	250 us/8 channel	250 us/4 channel	250 us/8 channel
Load capacity	>2kΩ		50~500Ω	
Short-circuit protection	Supports load short-circuit protection (do not short-circuit for a long time)			
Safety features	Fault hold output/fault output value (channel independent)			

2.2.8 Relay Output Module

Relay output module	
Models	MB6-0008R
Name	8-channel relay output
General Parameters	
Current consumption	100 mA @5V
Isolation	I/O to internal bus:coil isolation 1.6kV
Wiring	I/O wire:0.3mm²(22AWG)~ 1mm² (17AWG)
	Recommended wire diameter: 0.3 ~ 1mm², crimp terminal length: 10mm
Installation method	35 mm DIN rail mounting
Size	105 mm x 66mm x 15mm
Weight	70 g
Environmental parameters	
Operating temperature	-20~50°C
Storage temperature	-25~65°C
Relative humidity	5%~95% non-condensing
Protection level	IP20
Output characteristicss	
Number of channels	8
Type	Relay type output
Indicator Light	8-channel indicator light

Maximum Switching Current	Max 2A/ per channel, 8 channels total: Max 10A
Maximum switching voltage	250 V AC / 220V DC
Maximum switching power	62.5 VA/60W
Mechanical endurance	1 x10 ⁸ 次
electrical endurance	1 x10 ⁵ 次 (0.5A@125V AC)
Output delay	ON to OFF: 2ms,OFF to ON : 2ms
Equivalent bandwidth	Max 200Hz
Diagnostics and alarms	Support
Safety features	Fault hold output/fault output value (channel independent)

2.2.9 Temperature Module

Temperature acquisition module	
Models	MB6-TM0400
Name	4-channel temperature acquisition
General Parameters	
Current consumption	70 mA @5C
Isolation withstand voltage	I/O to internal bus: Optocoupler isolation 3kV
Wiring	I/O wire:0.3mm ² (22AWG)~ 1mm ² (17AWG)
	Recommended wire diameter: 0.3 ~ 1mm ² , crimp terminal length: 10mm
Installation method	35 mm Installation method
Size	105 mm x 66mm x 15mm
Weight	80 g
Environmental parameters	
Operating temperature	-20~50°C
Storage temperature	-25~65°C
Relative humidity	5%~95% non-condensing
Protection level	IP20
Input characteristicssss	
Number of channels	4
Indicator Light	4-channel indicator light

Sensor type	Thermocouple	RTD(Default)
Wiring method	Two-wire connection	Two-wire connection, Three-wire connection
Temperature range	K type(-200~1370°C), J type(200~1200°C)	PT100(-200~850°C)(Default)
	T type(-200~400°C), E type(-200~1000°C)	PT200 (-200~600°C)
	N type(-200~1000°C)	PT500(-200~600°C)
	R type(-50~1700°C), S type(-50~1700°C)	PT1000(-200~600°C)
	B type(250~1800°C), C type(0~2320°C)	Ni120(-70~300°C)
Accuracy	±0.3% Full scale @25°C	±0.5% Full scale @25°C
Sensitivity	0.1°C	0.1°C
Resolution	16 bit signed integer (int)	
Conversion time	100 ms/ channel	100 ms/ channel
Filter time	0~60000ms	
Open-circuit detection	Support	Not supported
Temperature overflow	Support	Support
Temperature underflow	Support	Support

2.2.10 Pulse Input Module

Pulse Input Module		
Models	MB6-C0200T	MB6-C0200D
Name	2-channel encoder input NPN,PNP	2-channel differential encoder input
General Parameters		
Current consumption	50 mA @5V	50 mA @5V
Isolation	I/O to internal bus: Optocoupler isolation 3kV	
Power output	24 V/400 mA	None
(Encoder power supply)		
Wiring	I/O wire:0.3mm²(22AWG)~ 1mm² (17AWG)	
	Recommended wire diameter: 0.3 ~ 1mm², crimp terminal length: 10mm	
Installation method	35 mm DIN rail mounting	
Size	105 mm x 66mm x 15mm	
Weight	80 g	
Environmental parameters		
Operating temperature	-20~50°C	
Storage temperature	-25~65°C	
Relative humidity	5%~95% non-condensing	
Protection level	IP20	
Input characteristicsssss		
Number of channels	2	
Count frequency	≤ 1.5 MHz	≤ 10 MHz
Frequency multiplication	x1, x2, x4(Default)	
Measurement function	Pulse counting, position feedback, position capture, position comparison, Z-phase pulse zeroing, etc	
Length of signal line	≤2m	≤ 10m
Output Type (either type)	NPN type/PNP type	Differential
Signal type	Directional pulse, CW CCW, orthogonal pulse	
Voltage output range	24 VDC	/
DI input type	NPN type/PNP type	NPN type
DI response	250 ns	
DO output type	NPNtype	
DO output voltage	24 VDC	5~24 VDC
DO load capacity	100 mA/ per channel	

Indicator Light	10 lights
Diagnostics and alarms	Support

2.2.11 Pulse Output Module

Pulse Output Module	
Models	MB6-P02T/D
Name	2-channel pulse output supports NPN, PNP, and differential
General Parameters	
Current consumption	120 mA @5V
Isolation	I/O to internal bus: Optocoupler isolation 3kV
Wiring	I/O wire: 0.3mm ² (22AWG)~ 1mm ² (17AWG)
	Recommended wire diameter: 0.3 ~ 1mm ² , crimp terminal length: 10mm
Installation method	35 mm DIN rail mounting
Size	105 mm x 66mm x 15mm
Weight	80 g
Environmental parameters	
Operating temperature	-20~50°C
Storage temperature	-25~65°C
Relative humidity	5%~95% non-condensing
Protection level	IP20
Output characteristics	
Number of channels	2
Output type (one of three wiring options)	NPN type, PNP type, differential type
Indicator Light	4-channel indicator light
Signal type	Directional pulse, CW CCW, orthogonal pulse
Duty cycle	50%
Load capacity	100 mA per channel
Pulse output frequency	NPN, PNP type ≤ 1 MHz, differential interface ≤ 10 MHz
Signal line length	NPN, PNP interface ≤ 2 meters, differential interface ≤ 10 meters
Protection function	Short-circuit protection
Safety features	Fault hold output/fault output value (channel independent)

Diagnostics and alarms	Support
------------------------	---------

2.2.12 Relay Power Module

Relay power module	
Models	MB6-PU0201
Name	2 A capacity relay power module
General Parameters	
power input	System power supply: 24 VDC, allowable range: 18~30V, Max 2A; supports: short-circuit protection, reverse-polarity protection
	I/O power supply: 24 VDC, allowable range: 18~30V, Max 3A; support: reverse-polarity protection
Wiring	I/O wire: 0.3mm ² (22AWG)~1mm ² (17AWG)
	Recommended wire diameter: 0.3 ~ 1mm ² , crimp terminal length: 10mm
Installation method	35 mm DIN rail mounting
Size	105 mm x 66mm x 15mm
Weight	70
Environmental parameters	
Operating temperature	-20~50°C
Storage temperature	-25~65°C
Relative humidity	5%~95% non-condensing
Protection level	IP20
Output characteristics	
Output voltage	5 V
Output Load	Max :2A
Indicator Light	POW indicator light, STA indicator light
Short-circuit protection	Support
Diagnostics and alarms	Support

2.2.13 Communication Module

Communication module	
Models	MB6-MR01
Name	1 channel, supports RS485, RS422, and RS232 communication
General Parameters	
Current consumption	50 mA @5V
Isolation	Communication interface to internal bus: optocoupler isolation 3kV
Wiring	I/O wire:0.3mm ² (22AWG)~ 1mm ² (17AWG)
	Recommended wire diameter: 0.3 ~ 1mm ² , crimp terminal length: 10mm
Installation method	35 mm DIN rail mounting
Size	105 mm x 66mm x 15mm
Weight	80 g
Environmental parameters	
Operating temperature	-20~50°C
Storage temperature	-25~65°C
Relative humidity	5%~95% non-condensing
Protection level	IP20
Input characteristics	
Number of channels	1
Communication type	RS485 / RS422 / RS232(Choose one of three)
Communication protocol	Modbus RTU(default) / ASCII/Free protocol
Baud rate	Optional:300, 600, 1200, 2400, 4800, 9600(default), 14400, 19200, 38400, 57600, 115200, 128000, 230400, 256000, 384000, 500000, Custom baud rate(300-500K)
Data bits	Eight(Default),Seven
Check bit	None(Default), Odd, Even
Stop bit	1(Default), 2 stop bits
Data format	Optional:Swap Byte Order,No byte order is exchanged(Default)
Frame interval	Optional:1.5 characters, 3.5 characters, 5 characters(default), 10 characters, 20 characters, 50 characters, 100 characters, 200 characters
Timeout	Can be set:10-10000,200ms(default)
Polling time	Can be set:10-10000,4000us(default)
Master/slave mode	Supported, master mode (default)
Diagnostics and alarms	Support

2.2.14 Common Terminal Module

Common Terminal Module		
Models	MB6-COM0909	MB6-COM1800
Name	Common Terminal Module	
General Parameters		
Wiring	I/O wire:0.3mm²(22AWG)~ 1mm² (17AWG)	
	Recommended wire diameter: 0.3 ~ 1mm², crimp terminal length: 10mm	
Installation method	35 mm DIN rail mounting	
Size	105 mm x 66mm x 15mm	
Weight	60 g	
Environmental parameters		
Operating temperature	-20~50°C	
Storage temperature	-25~65°C	
Relative humidity	5%~95% non-condensing	
Protection level	IP20	
Electrical characteristics		
Common terminal	COM1: 9pin, COM2: 9pin	COM1: 18pin
Common terminal withstand voltage	Nominal: 24 V, allowable range: 18~30V	
Terminal current	Max 5A/Terminal	
Indicator Light	None	

2.3 Product Parameters

2.3.1 General Parameters

General technical parameters		
Specification size	Coupler module	105 mm x 66mmx 35mm
	I/O module (1).	105 mm x 66mmx 15mm
	I/O module (2).	105 mm x 66mmx 20mm
weight	Coupler module	200 g
	I/O module (1).	80 g
	I/O module (2).	110 g
Operating temperature	-20~50°C	
Storage temperature	-25~65°C	
relative humidity	5%~95% non-condensing	
Degree of protection	IP20	

2.3.2 Power Parameters

Power Parameters		
Coupler module	Working power supply	18~30VDC
	Output voltage	5 VDC
	Output current	2 A,4A
I/O modules	Working power supply	5 VDC
	Working current	Consult Section 5 cheat sheet

2.3.3 Interface Parameters

PROFINET interface parameters	
Bus protocol	PROFINET
Number of I/O stations	Depends on the controller
Data transmission medium	Ethernet/EtherCAT CAT5 cable
Transmission distance	≤100 m
Transmission rate	100 Mbps
Bus interface	2 ×RJ45

EtherCAT interface parameters	
Bus protocol	EtherCAT
Number of I/O stations	Depends on the controller
Data transmission medium	Ethernet/EtherCAT CAT5 cable
Transmission distance	≤100 m
Transmission rate	100 Mbps
Bus interface	2 ×RJ45

CC-Link IE Field Basic interface parameters	
Bus protocol	CC-Link IE Field Basic

Number of I/O stations	Depends on the controller
Data transmission medium	Ethernet/EtherCAT CAT5 cable
Transmission distance	≤100 m
Transmission rate	100 Mbps
Bus interface	2 ×RJ45

2.3.4 Digital Parameters

Signal type		
Digital input	Rated voltage	24 VDC(±25%)
	Number of signal points	8, 16, 32
	Signal type	NPN/PNP
	"0" signal voltage (PNP)	0~5V
	"1" signal voltage (PNP)	12~30V
	"0" signal voltage (NPN)	12~30V
	"1" signal voltage (NPN)	0~5V
	Input filtering	3 ms (configurable: 0~20ms).
	Input current	4 mA
	Isolation mode	Optocoupler isolation
	Isolation withstand voltage	3 kV
	Channel Indicator Light	Green LED light
Transistor output	Rated voltage	24 VDC(±25%)
	Number of signal points	8, 16, 32
	Signal type	NPN/PNP
	Load type	Resistive load, inductive load, lamp load
	Single-channel rated current	0.8 A (16-channel total: Max 8A)
	Port protection	Short-circuit protection
	Isolation mode	Optocoupler isolation
	Isolation withstand voltage	3 kV
	Channel Indicator Light	Green LED light
Relay output	Rated voltage	24 VDC(±25%)
	Number of signal points	8
	Isolation mode	Relay
	rated load	2 A (8 channels total: 10A)
	Channel Indicator Light	Green LED light

2.3.5 Analog Parameters

Model type			
Analog input	Enter the number of points	4, 8	
	Input signal (voltage type)	-10~10V(Default), 0~10V, -5~5V, 0~5V, 1~5V	
	Input signal (current type)	0~20 mA, 4~20 mA(Default)	
	Resolution	16 bit	
	Sampling rate	≤1ksps	
	Accuracy	±0.1%	
	Input impedance (voltage type)	≥2kR	
	Input impedance (current type)	100 R	
	Isolation withstand voltage	3 kV (non-isolated between channels).	
	Channel Indicator Light	Green LED light	
Temperature input	Number of channels	4, 8	
	Sensor type	Thermocouple	RTD(Default: PT100)
		K type(-200~1370°C) J type (200~1200 °C) T type (-200~400°C) E Type(-200~1000°C) N type(-200~1000 °C) R type (-50~1700 °C) S type (-50~1700°C) B type (250~1800°C) C type (0~2320°C)	PT100(-200~850°C)(Default) PT200(-200~600°C) PT500(-200~600°C) PT1000(-200~600°C) Ni120(-70~300°C)
	Resolution	16 bit	
	sensitivity	0.1°C	
	Channel Indicator Light	Green LED light	
Analog output	Output points	4, 8	
	Output signal (voltage type)	-10~10V(Default), 0~10V, -5~5V, 0~5V, 1~5V	
	Output signal (current type)	0~20 mA, 4~20 mA(Default)	
	Resolution	16 bit	
	Accuracy	0.1%	
	Load impedance (voltage type)	≥2kΩ	
	Load impedance (current type)	50~500Ω	
	Isolation withstand voltage	3 kV (non-isolated between channels).	
	Channel Indicator Light	Green LED light	

3 Module Description

3.1 MB6-EC2002

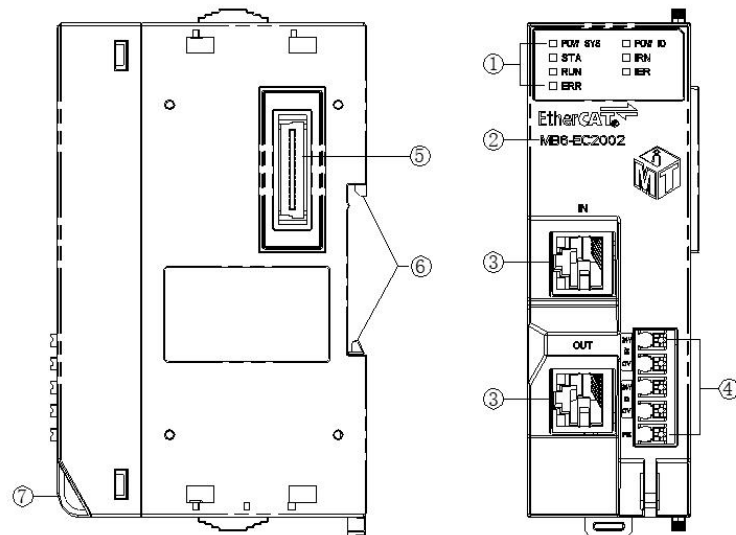
3.1.1 Module Features

The EtherCAT coupling module supports standard EtherCAT protocol access, the coupler supports a maximum input of 512 bytes, a maximum output of 512 bytes, and the number of extended I/O modules supported is 32 pcs.

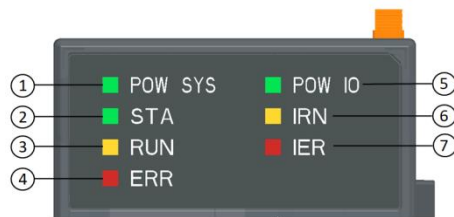
3.1.2 Technical Parameters

Common parameters	
Current consumption	200 mA @5V
isolation	System power and I/O power: isolated
System power input	Nominal: 24 V, allowable range: 18~30V, Max: 1.8A, support: short-circuit protection, reverse-polarity protection
I/O power input	Nominal: 24 V, allowable range: 18~30V, Max: 3A, support: reverse-polarity protection
Wiring	I/O wiring: 0.3mm ² (22AWG) ~ 1mm ² (17AWG).
	Recommended wire diameter: 0.3~1mm ² , crimp terminal length: 10 mm
Installation method	35 mm DIN rail mounting
size	105 mm x 66mm x 35mm
weight	200 g
Environment parameters	
Operating temperature	-20~50°C
Storage temperature	-25~65°C
relative humidity	5%~95% non-condensing
Degree of protection	IP20
Function Parameters	
Network interface	2 RJ45
Process data	Input bytes: 512 bytes
	Output bytes: 512 bytes
Number of supported I/O modules	Max:32
Indicator Light	Indication of power, network, internal bus, etc
Communication cycle	Minimum period 125us
Transmission rate	10/100 Mbps, adaptive, full-duplex
Maximum bus length	100 m
Diagnostics and alarms	Support

3.1.3 Hardware Interface



1 LED indicator light



- ① System power supply (green).
- ② Status indication (green).
- ③ Communication running indicator (yellow).
- ④ Communication error indication (red).
- ⑤ I/O power indication (green).
- ⑥ Internal bus operation indication (yellow).
- ⑦ Internal bus error indication (red).

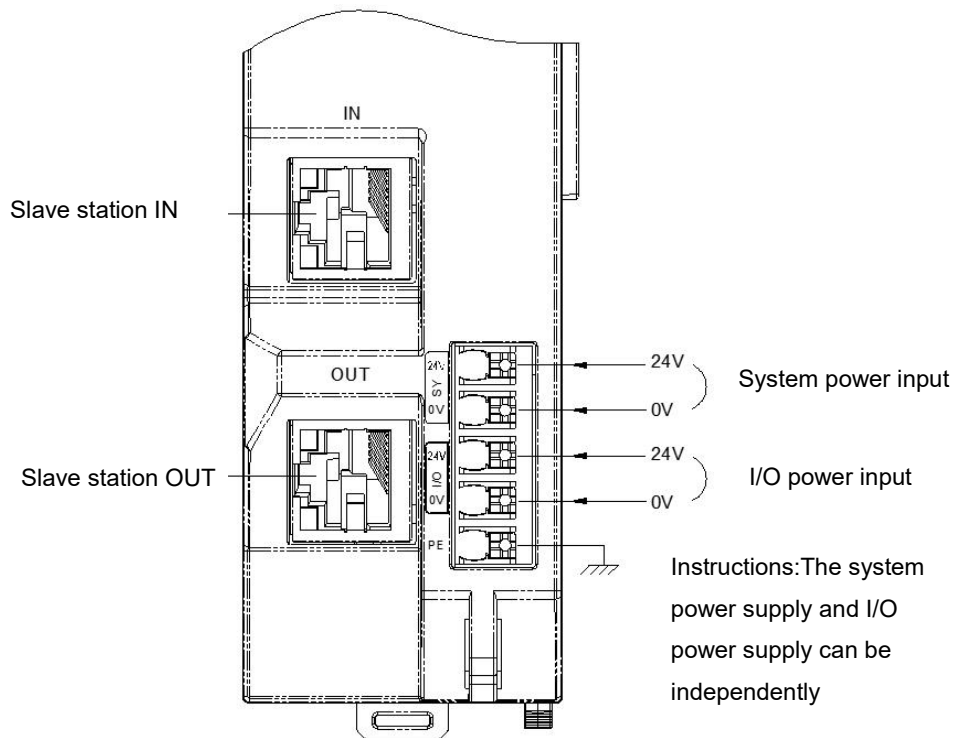
MB6-EC2002 indicator light description			
Light	Description	State	Meaning
POW SYS	System power indicator light	On	Power supply is normal
		Off	Power is not supplied
STA	System status indicator light	not	not
RUN	Communication run indicator light	Off	Communication State machine: INIT
		Flashes every 200 ms	Communication State machine :PREOP
		Bright for 200ms, off for 1s	Communication State machine: SAFE-OP
		Steady on	Communication State machine: OP
ERR	Communication error indicator light	Off	No error
		Flashing	Communication is lost
POW	I/O power indicator light	On	I/O power supply is normal

I/O		Off	I/O power is not supplied
IRN	Internal bus communication indicator light	Flashing	The internal bus is being networked
		On	The internal bus communicates normally
IER	Internal bus error indicator light	Off	No error
		On	Communication is disconnected or the module configuration is inconsistent with the bus configuration

2 Terminal block Definition

Terminal No.	Definition	Description
1	24 V	System power input 24 V
2	0 V	System power input 0 V
3	24 V	I/O power input 24 V
4	0 V	I/O power input 0 V
5	PE	ground

3.1.4 Wiring Diagram



3.2 MB6-PN2002

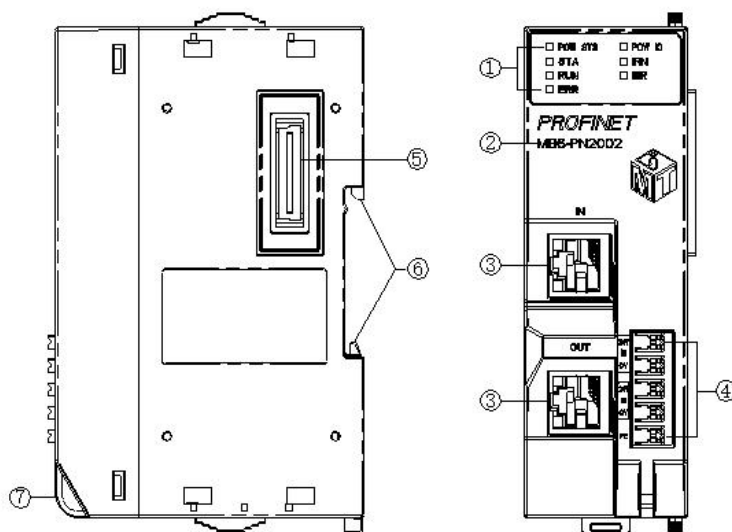
3.2.1 Module Features

The PROFINET coupler supports standard PROFINET I/O Device communication. Support RT real-time communication mode, RT real-time communication minimum period is 1ms. The coupler supports a maximum input of 512 bytes and a maximum output of 512 bytes, and the number of

3.2.2 Technical Parameters

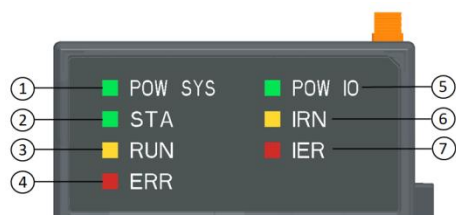
Common parameters	
Current consumption	200 mA @5V
isolation	System power and I/O power: isolated
System power input	Nominal: 24 V, allowable range: 18~30V, Max: 1.8A, support: short-circuit protection, reverse-polarity protection
I/O power input	Nominal: 24 V, allowable range: 18~30V, Max: 3A, support: reverse-polarity protection
Wiring	I/O wiring: 0.3mm ² (11AWG) ~ 1mm ² (17AWG).
	Recommended wire diameter: 0.3~1mm ² , crimp terminal length: 10 mm
Installation method	35 mm DIN rail mounting
size	105 mm x 66mm x 35mm
weight	200 g
Environment parameters	
Operating temperature	-20~50°C
Storage temperature	-25~65°C
relative humidity	5%~95% non-condensing
Degree of protection	IP20
Function Parameters	
Network interface	2 RJ45
Process data	Input bytes: 512 bytes
	Output bytes: 512 bytes
Number of I/O modules supported	Max:32
Indicator Light	Indication of power, network, internal bus, etc
Communication cycle	RT: Minimum period 1 ms
Transmission rate	10/100 Mbps, adaptive, full-duplex
Maximum bus length	100 m
Diagnostics and alarms	Support

3.2.3 Hardware Interface



- ① Status indicator light ② Module model ③ Input/output network ports
 ④ System and I/O power input ⑤ Internal bus ⑥ Plastic clip ⑦ Cable fixing clip

1 LED indicator light



- ① System power supply (green).
 ② Status indication (green).
 ③ Communication running indicator (yellow).
 ④ Communication error indication (red).
 ⑤ I/O power indication (green).
 ⑥ Internal bus operation indication (yellow).
 ⑦ Internal bus error indication (red).

MB6-PN2002 indicator light description

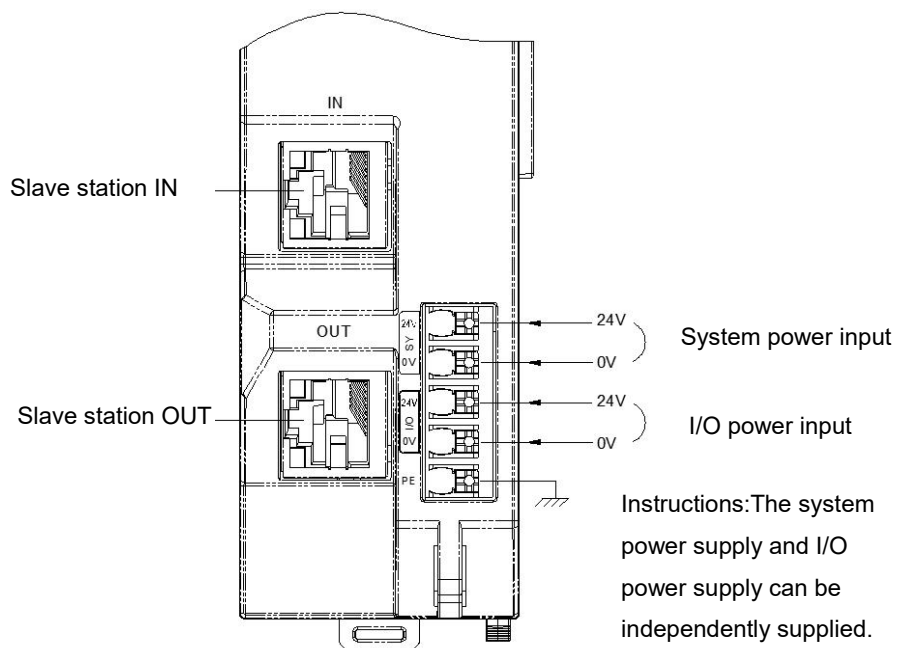
Light	Description	State	Meaning
POW SYS	System power indicator light	On	Power supply is normal
		Off	Power is not supplied
STA	System status indicator light	Flashing	Blinking indicator light
		Off	No Flashing instructions
RUN	Communication run indicator light	Steady on	Periodic communication
		Off	Acyclic communication
ERR	Communication error indicator light	Off	No error
		Flashing	Communication alarm
POW I/O	I/O power indicator light	On	I/O power supply is normal
		Off	I/O power is not supplied
IRN	Internal bus communication indicator light	Flashing	The internal bus is being networked
		On	The internal bus communicates normally
IER	Internal bus error indicator light	Off	No error

		On	Communication is disconnected or the module configuration is inconsistent with the bus configuration
--	--	----	--

2 Terminal block Definition

Terminal No.	Definition	Description
1	24 V	System power input 24 V
2	0 V	System power input 0 V
3	24 V	I/O power input 24 V
4	0 V	I/O power input 0 V
5	PE	ground

3.2.4 Wiring Diagram



3.3 MB6-EI2002

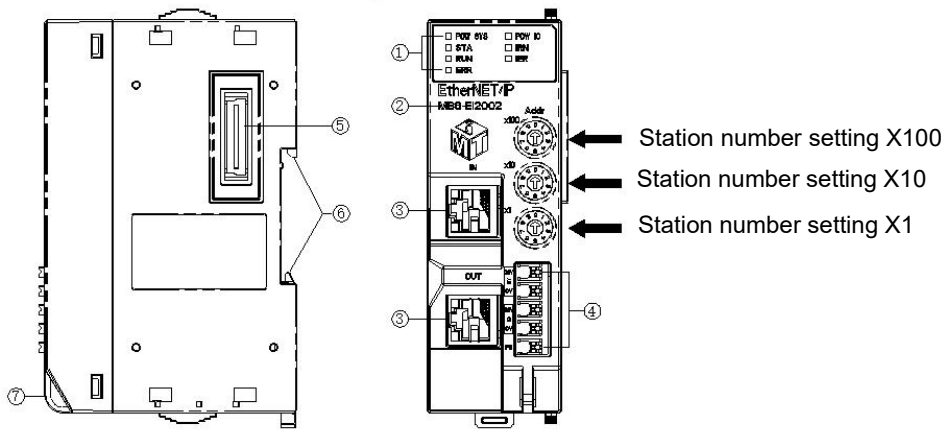
3.3.1 Module Features

The EtherNet/IP coupler supports standard EtherNet/IP device communication. The coupler supports a maximum input of 512 bytes and a maximum output of 512 bytes, and the number of extended I/O modules supported is 32.

3.3.2 Technical Parameters

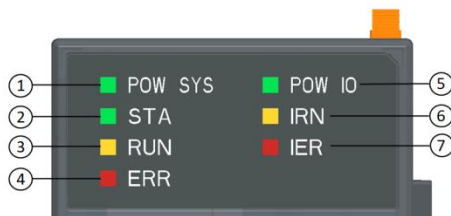
Common parameters	
Current consumption	200 mA @5V
isolation	System power and I/O power: isolated
System power input	Nominal: 24 V, allowable range: 18~30V, Max: 1.8A, support: short-circuit protection, reverse-polarity protection
I/O power input	Nominal: 24 V, allowable range: 18~30V, Max: 3A, support: reverse-polarity protection
Wiring	I/O wiring: 0.3mm ² (22AWG) ~ 1mm ² (17AWG).
	Recommended wire diameter: 0.3~1mm ² , crimp terminal length: 10 mm
Installation method	35 mm DIN rail mounting
size	105 mm x 66mm x 35mm
weight	200 g
Environment parameters	
Operating temperature	-20~50°C
Storage temperature	-25~65°C
relative humidity	5%~95% non-condensing
Degree of protection	IP20
Function Parameters	
Network interface	2 RJ45
Process data	Input bytes: 512 bytes
	Output bytes: 512 bytes
Number of supported I/O modules	Max 32
/	Display message: 10
/	Implicit messages: 5
/	Maximum number of CIP connections: 10
Indicator Light	Indication of power, network, internal bus, etc
Transmission rate	10/100 Mbps, full duplex, adaptive
Maximum bus length	100 m
Diagnostics and alarms	Support

3.3.3 Hardware Interface



- ① Status indicator light ② Module model ③ Input/output network ports
④ System and I/O power input ⑤ Internal bus ⑥ Plastic clip ⑦ Cable fixing clip

1 LED indicator light



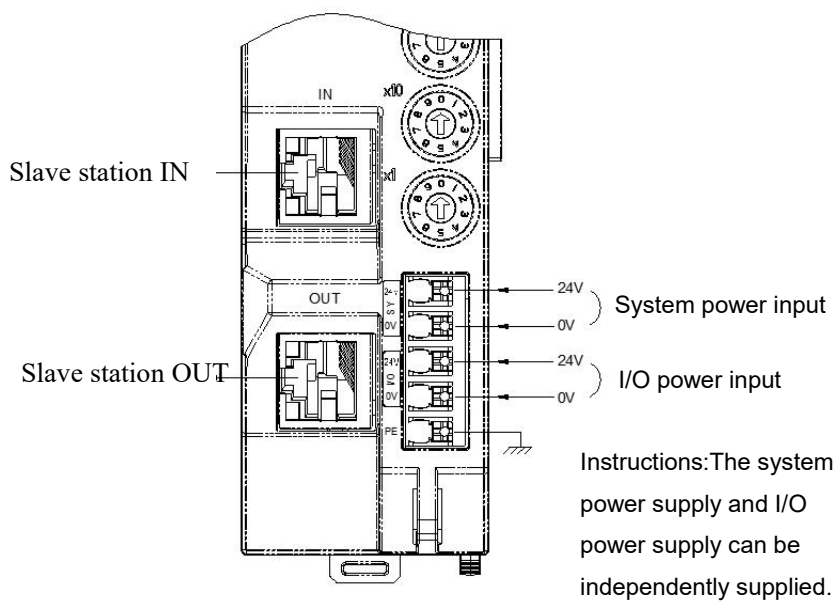
- ① System power supply (green)
② Status indication (green)
③ Communication running indicator (yellow)
④ Communication error indication (red)
⑤ I/O power indication (green).
⑥ Internal bus operation indication (yellow)
⑦ Internal bus error indication (red)

MB6-EI2002 indicator light description			
Light	Description	State	Meaning
POW SYS	System power indicator light	On	Power supply is normal
		Off	Power is not supplied
STA	System status indicator light	Flashing	Blinking indicator light
		Off	No Flashing instructions
RUN	Communication run indicator light	Steady on	Periodic communication
		Off	Acyclic communication
ERR	Communication error indicator light	Off	No error
		Flashing	Communication alarm
POW I/O	I/O power indicator light	On	I/O power supply is normal
		Off	I/O power is not supplied
IRN	Internal bus communication indicator light	Flashing	The internal bus is being networked
		On	The internal bus communicates normally
IER	Internal bus error indicator light	Off	No error
		On	Communication is disconnected or the module configuration is inconsistent with the bus configuration

2 Terminal block Definition

Terminal No.	Definition	Description
1	24 V	System power input 24 V
2	0 V	System power input 0 V
3	24 V	I/O power input 24 V
4	0 V	I/O power input 0 V
5	PE	ground

3.3.4 Wiring Diagram



3.4 MB6-MT2002

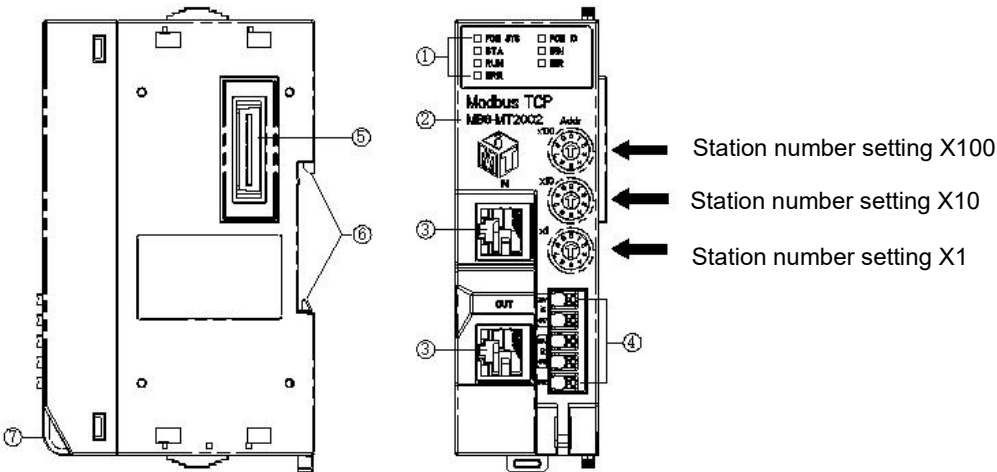
3.4.1 Module Features

The Modbus TCP coupling module supports standard Modbus TCP protocol access, the coupler supports a maximum input of 512 bytes, a maximum output of 512 bytes, and the number of extended I/O modules supported is 32 pcs.

3.4.2 Technical Parameters

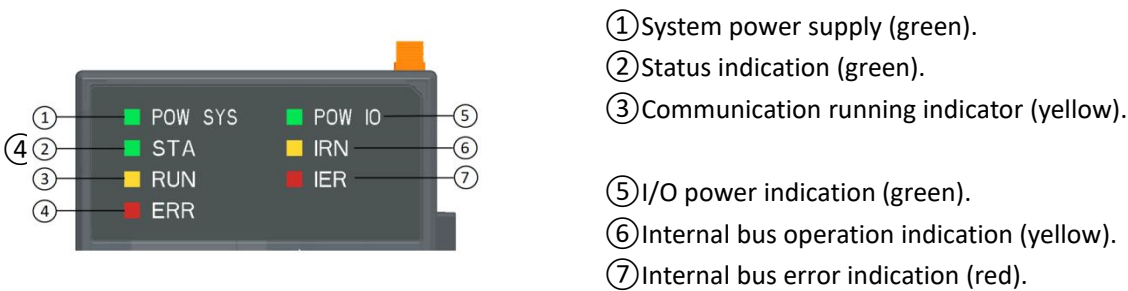
Common parameters	
Current consumption	200 mA @5V
isolation	System power and I/O power: isolated
System power input	Nominal: 24 V, allowable range: 18~30V, Max: 1.8A, support: short-circuit protection, reverse-polarity protection
I/O power input	Nominal: 24 V, allowable range: 18~30V, Max: 3A, support: reverse-polarity protection
Wiring	I/O wiring: 0.75mm ² (18AWG) ~ 1mm ² (17AWG).
	Recommended wire diameter: 0.75~1mm ² , crimp terminal length: 10 mm
Installation method	35 mm DIN rail mounting
size	105 mm x 66mm x 35mm
weight	200 g
Environment parameters	
Operating temperature	-20~50°C
Storage temperature	-25~65°C
relative humidity	5%~95% non-condensing
Degree of protection	IP20
Function Parameters	
Network interface	2 RJ45
Process data	Input bytes: 512 bytes
	Output bytes: 512 bytes
Number of I/O modules supported	Max 32
/	Number of customer connections 5
/	Watchdog function: Support
/	Support function code: 01/02/03/04/05/06/15/16/23
Indicator Light	Indication of power, network, internal bus, etc
Transmission rate	10/100 Mbps, full duplex, adaptive
Maximum bus length	100 m
Diagnostics and alarms	Support

3.4.3 Hardware Interface



- ① Status indicator light ② Module model ③ Input/output network ports
 ④ System and I/O power input ⑤ Internal bus ⑥ Plastic clip ⑦ Cable fixing clip

1 LED indicator light



MB6-MT2002 indicator light description			
Light	Description	State	Meaning
POW SYS	System power indicator light	On	Power supply is normal
		Off	Power is not supplied
STA	System status indicator light	Flashing	Blinking indicator light
		Off	No Flashing instructions
RUN	Communication run indicator light	Steady on	Periodic communication
		Off	Acyclic communication
ERR	Communication error indicator light	Off	No error
		Flashing	Communication alarm
POW I/O	I/O power indicator light	On	I/O power supply is normal
		Off	I/O power is not supplied
IRN	Internal bus communication indicator light	Flashing	The internal bus is being networked
		On	The internal bus communicates normally
IER	Internal bus error indicator light	Off	No error

Terminal No.	Definition	Description
1	24 V	System power input 24 V
2	0 V	System power input 0 V
3	24 V	I/O power input 24 V
4	0 V	I/O power input 0 V
5	PE	ground

The diagram shows the rear panel of the Slave station with the following components and labels:

- Slave station IN:** Points to the IN connector block.
- Slave station OUT:** Points to the OUT connector block.
- IN:** Label for the IN connector block.
- OUT:** Label for the OUT connector block.
- 24V, 0V, 24V, 0V:** Labels for the power input terminals.
- System power input:** Points to the first 24V and 0V terminals.
- I/O power input:** Points to the second 24V and 0V terminals.
- Instructions:** The system power supply and I/O power supply can be independently supplied.

3.5 MB6-CF2002

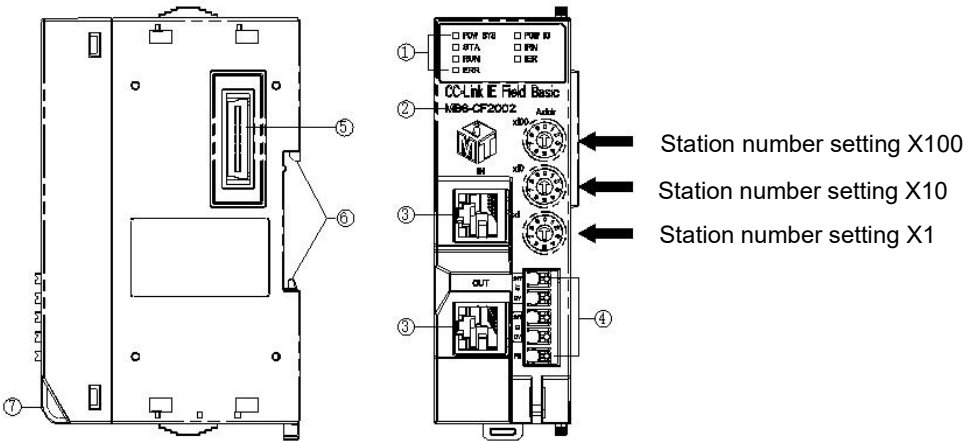
3.5.1 Module Features

CC Link IE Field Basic is a bus network based on standard 100 Mbps Ethernet, designed to provide a low-cost control network for small-scale systems that do not require high-speed control. The coupler supports a maximum input of 512 bytes and a maximum output of 512 bytes, and can be extended to 32 I/O modules. It can be directly used with Mitsubishi FX5U, L, Q, R series and other PLCs, and is widely used in multi-point and multi type centralized deployment industrial sites

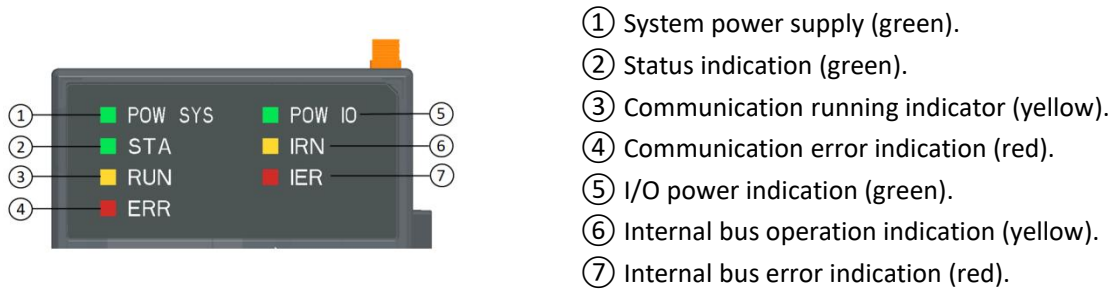
3.5.2 Technical Parameters

Common parameters	
Current consumption	200 mA @5V
isolation	System power and I/O power: isolated
System power input	Nominal: 24 V, allowable range: 18~30V, Max:1.8A, support: short-circuit protection, reverse-polarity protection
I/O power input	Nominal: 24 V, allowable range: 18~30V, Max: 3A, support: reverse-polarity protection
Wiring	I/O wiring: 0.3mm ² (22AWG) ~ 1mm ² (17AWG).
	Recommended wire diameter: 0.3~1mm ² , cold-pressed terminal conduit length: 10 mm
Installation method	35 mm DIN rail mounting
size	105 mm x 66mm x 35mm
weight	200 g
Environment parameters	
Operating temperature	-20~50°C
Storage temperature	-25~65°C
relative humidity	5%~95% non-condensing
Degree of protection	IP20
Function Parameters	
Network interface	2 RJ45
Process data	RX,RY:64x4bit RW _r ,RW _w :32x4words
Number of supported I/O modules	Max 32
Transmission rate	not
baud rate	not
Indicator Light	Indication of power, network, internal bus, etc
Maximum bus length	1000 m(Max)
Station number	x100 x10 x1 (rotary encoder setting).
Diagnostics and alarms	Support

3.5.3 Hardware Interface



1 LED indicator light



MB6-CF2002 indicator light description

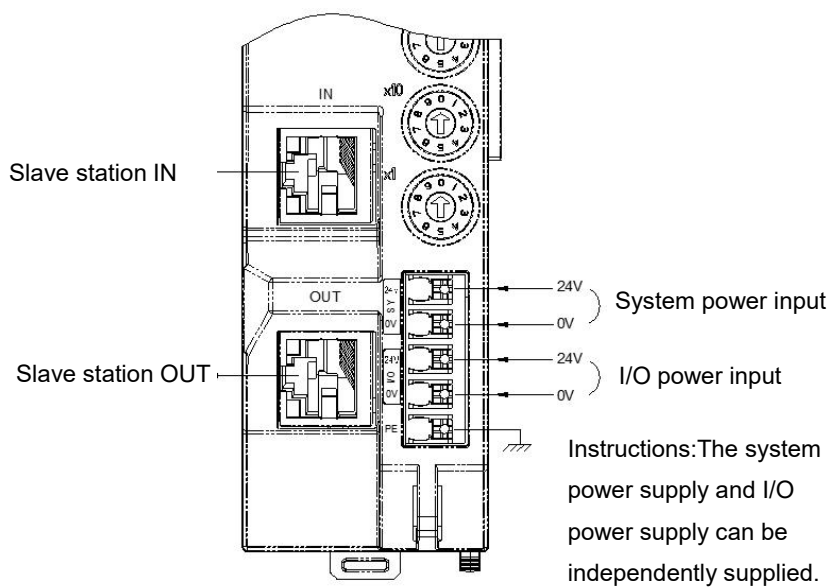
Light	Description	State	Meaning
POW SYS	System power indicator light	On	Power supply is normal
		Off	Power is not supplied
STA	System status indicator light	On	The coupler is connected to the I/O module, and the system interacts normally
		Flashes 2.5Hz (400ms)	1. The connection of the I/O module is inconsistent with the configuration on the PLC 2. The type of submodule written during PLC configuration is inconsistent with the submodule actually connected
RUN	Communication run indicator light	On	The device is operating normally and the data exchange is normal
		Off	Data exchange stops
ERR	Communication error indicator light	On	Data exchange stops
		Flashes 2.5Hz (400ms)	The number of occupied stations set is greater or less than the actual number of occupied stations
		Off	Data exchange is normal

POW I/O	I/O power indicator light	On	I/O power supply is normal
		Off	I/O power is not supplied
IRN	Internal bus communication indicator light	Flashing	The internal bus is being networked
		On	The internal bus communicates normally
IER	Internal bus error indicator light	Off	No error
		On	Communication is disconnected or the module configuration is inconsistent with the bus configuration

2 Terminal block Definition

Terminal No.	Definition	Description
1	24 V	System power input 24 V
2	0 V	System power input 0 V
3	24 V	I/O power input 24 V
4	0 V	I/O power input 0 V
5	PE	ground

3.5.4 Wiring Diagram



3.6 MB6-CL2002

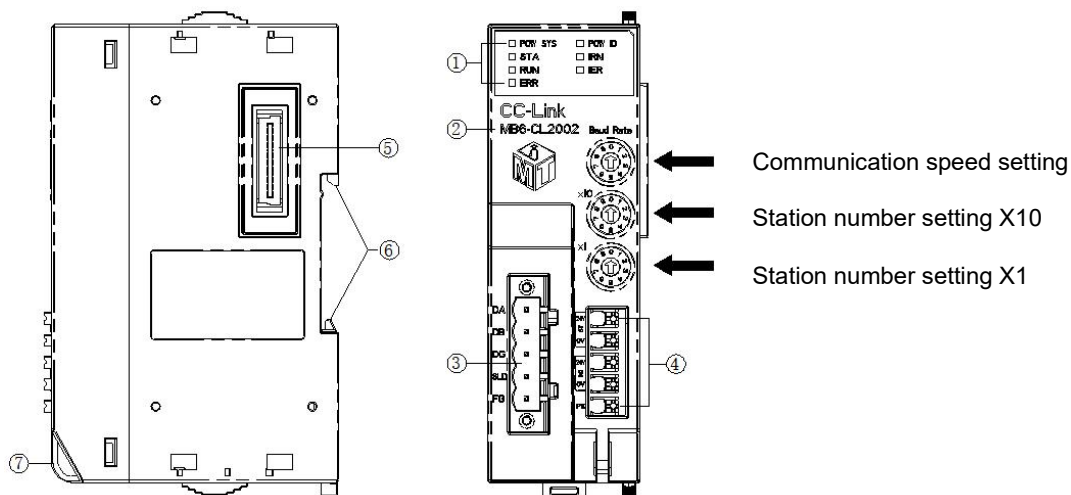
3.6.1 Module Features

The CC Link coupling module supports standard CC Link protocol access, and the coupler supports a maximum input of 512 bytes and a maximum output of 512 bytes. The number of supported extended I/O modules is 32.

3.6.2 Technical Parameters

General Parameters	
Current consumption	200 mA @5V
Isolation	System power and I/O power: isolated
System power input	Nominal: 24 V, permissible range: 18 ~ 30V, Max: 2A, support: short-circuit protection, reverse-polarity protection
I/O power input	Nominal: 24 V, permitted range: 18 ~ 30V, Max: 3A, support: reverse-polarity protection
Wiring	I/O wire:0.3mm ² (18AWG)~ 1mm ² (17AWG)
	Recommended wire diameter: 0.3 ~ 1mm ² , crimp terminal length: 10mm
Installation method	35 mm DIN rail mounting
Size	105 mm x 66mm x 35mm
Weight	200 g
Environmental parameters	
Operating temperature	-20~50°C
Storage temperature	-25~65°C
Relative humidity	5%~95% non-condensing
Protection level	IP20
Function Parameters	
Network interface	5-bit screw terminals
Process data	Input bytes: 512 bytes Output bytes: 512 bytes
Number of supported I/O modules	Max:32
Transmission rate	156 K/625K/2.5M/5M/10Mbps
Baud rate	120Ω
Indicator Light	Power, network, internal bus, etc.
Maximum bus length	1200 m(Max)
Station number	x100 x10 x1(Set the rotary encoder)
Diagnostics and alarms	Support

3.6.3 Hardware Interface



- ① Status indicator light ② Module model ③ Input/output network ports
 ④ System and I/O power input ⑤ Internal bus ⑥ Plastic clip ⑦ Cable fixing clip

1 LED indicator light



- ① System power supply (green).
 ② Status indication (green).
 ③ Communication running indicator (yellow).
 ⑤ I/O power indication (green).
 ⑥ Internal bus operation indication (yellow).
 ⑦ Internal bus error indication (red).

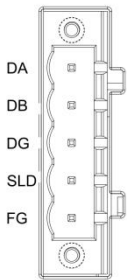
MB6-CL2002 indicator light description

Light	Description	State	Meaning
POW SYS	System power indicator light	On	Power supply is normal
		Off	Power is not supplied
STA	System status indicator light	Flashing	Blinking indicator light
		Off	No Flashing instructions
RUN	Communication run indicator light	Steady on	Periodic communication
		Off	Acyclic communication
ERR	Communication error indicator light	Off	No error
		Flashing	Communication alarm
POW I/O	I/O power indicator light	On	I/O power supply is normal
		Off	I/O power is not supplied
IRN	Internal bus communication indicator light	Flashing	The internal bus is being networked
		On	The internal bus communicates normally
IER	Internal bus error indicator light	Off	No error

		On	Communication is disconnected or the module configuration is inconsistent with the bus configuration
--	--	----	--

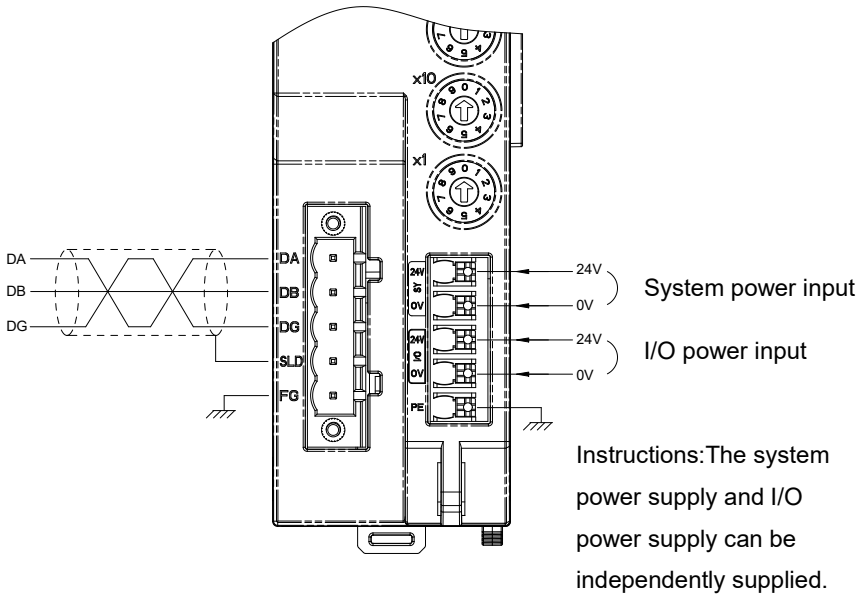
2 Terminal block Definition

Terminal No.	Definition	Description
1	24 V	System power input 24 V
2	0 V	System power input 0 V
3	24 V	I/O power input 24 V
4	0 V	I/O power input 0 V
5	PE	ground



端子序号	定义	说明
1	DA	Communication Line A
2	DB	Communication Line B
3	DG	Communication common terminal
4	SLG	Shielded wire
5	FG	Ground wire

3.6.4 Wiring Diagram



3.7 MB6-DN2002

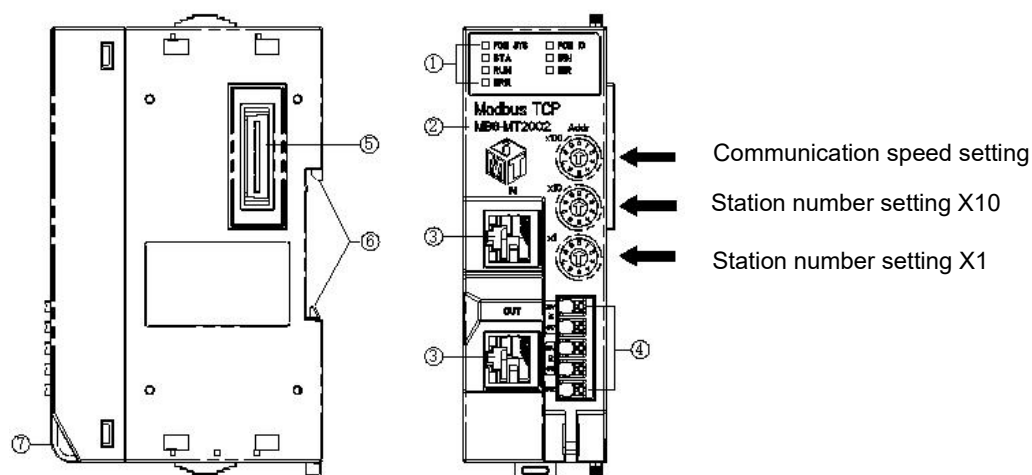
3.7.1 Module Features

The DeviceNET coupling module supports standard DeviceNET protocol access, and the coupler supports a maximum input of 512 bytes and a maximum output of 512 bytes. The number of supported extended I/O modules is 32.

3.7.2 Technical Parameters

General Parameters	
Current consumption	200 mA @5V
Isolation	System power and I/O power: isolated
System power input	Nominal: 24 V, permissible range: 18 ~ 30V, Max: 2A, support: short-circuit protection, reverse-polarity protection
I/O power input	Nominal: 24 V, permitted range: 18 ~ 30V, Max: 3A, support: reverse-polarity protection
Wiring	I/O wire: 0.3mm ² (18AWG)~ 1mm ² (17AWG)
	Recommended wire diameter: 0.3 ~ 1mm ² , crimp terminal length: 10mm
Installation method	35 mm DIN rail mounting
Size	105 mm x 66mm x 35mm
Weight	200 g
Environmental parameters	
Operating temperature	-20~50°C
Storage temperature	-25~65°C
Relative humidity	5%~95% non-condensing
Protection level	IP20
Function Parameters	
Network interface	5-bit screw terminals
Process data	Input bytes: 512 bytes Output bytes: 512 bytes
Number of supported I/O modules	Max:32
Transmission rate	可选择: 125, 250, 500kbps
Indicator Light	Power, network, internal bus, etc.
Maximum bus length	500 m(Max)
Station number	x100 x10 x1(Set the rotary encoder)
Diagnostics and alarms	Support

3.7.3 Hardware Interface



- ① Status indicator light ② Module model ③ Input/output network ports
 ④ System and I/O power input ⑤ Internal bus ⑥ Plastic clip ⑦ Cable fixing clip

1 LED indicator light



- ① System power supply (green).
 ② Status indication (green).
 ③ Communication running indicator (yellow).
 ⑤ I/O power indication (green).
 ⑥ Internal bus operation indication (yellow).
 ⑦ Internal bus error indication (red).

MB6-DN2002 indicator light description

Light	Description	State	Meaning
POW SYS	System power indicator light	On	Power supply is normal
		Off	Power is not supplied
STA	System status indicator light	Flashing	Blinking indicator light
		Off	No Flashing instructions
RUN	Communication run indicator light	Steady on	Periodic communication
		Off	Acyclic communication
ERR	Communication error indicator light	Off	No error
		Flashing	Communication alarm
POW I/O	I/O power indicator light	On	I/O power supply is normal
		Off	I/O power is not supplied
IRN	Internal bus communication indicator light	Flashing	The internal bus is being networked
		On	The internal bus communicates normally
IER	Internal bus error indicator light	Off	No error

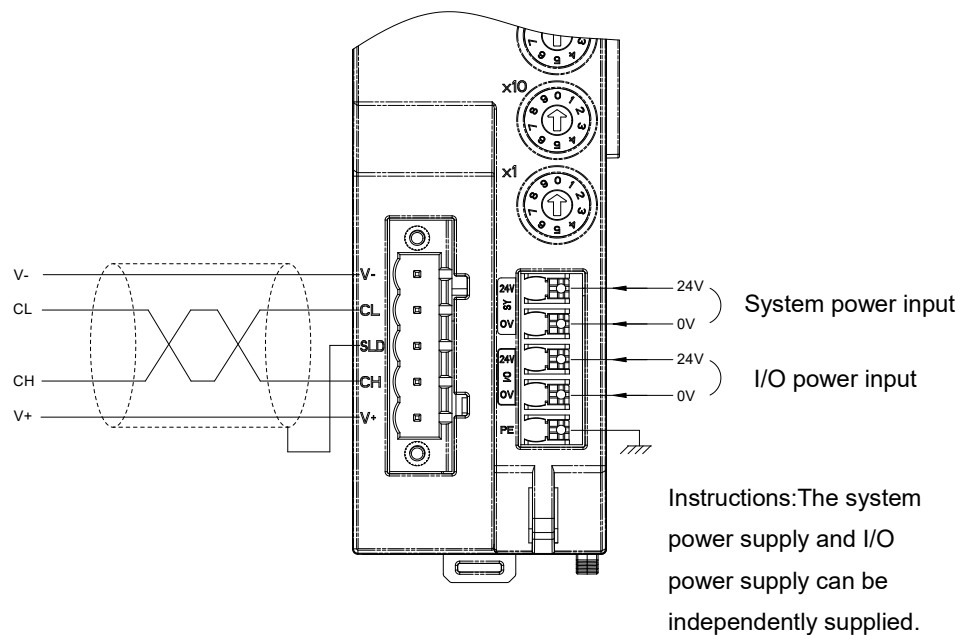
		On	Communication is disconnected or the module configuration is inconsistent with the bus configuration
--	--	----	--

2 Terminal block Definition

Terminal No.	Definition	Description
1	24 V	System power input 24 V
2	0 V	System power input 0 V
3	24 V	I/O power input 24 V
4	0 V	I/O power input 0 V
5	PE	ground

Signal terminal sequence	signal	signal Definition
1	V-	Negative pole of power supply
2	CL	Signal negative
3	SLD	Shielding wire
4	CH	Signal positive
5	V+	Positive pole of power supply

3.7.4 Wiring Diagram



3.8 MB6-CP2002

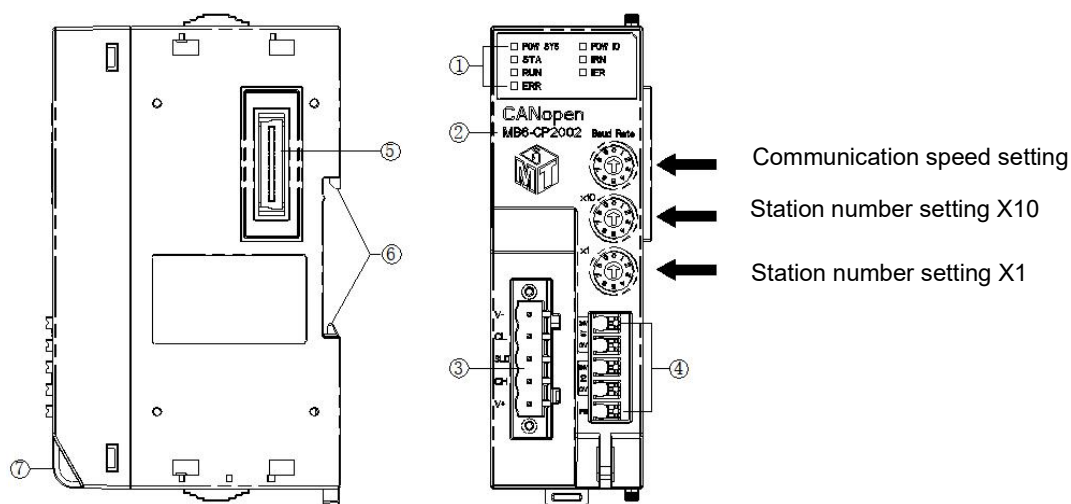
3.8.1 Module Features

The CANopen coupling module supports standard CANopen protocol access, and the coupler supports a maximum input of 512 bytes and a maximum output of 512 bytes. The number of supported extended I/O modules is 32.

3.8.2 Technical Parameters

General Parameters	
Current consumption	200 mA @5V
Isolation	System power and I/O power: isolated
System power input	Nominal: 24 V, permissible range: 18 ~ 30V, Max: 2A, support: short-circuit protection, reverse-polarity protection
I/O power input	Nominal: 24 V, permitted range: 18 ~ 30V, Max: 3A, support: reverse-polarity protection
Wiring	I/O wire: 0.3mm ² (18AWG)~ 1mm ² (17AWG)
	Recommended wire diameter: 0.3 ~ 1mm ² , crimp terminal length: 10mm
Installation method	35 mm DIN rail mounting
Size	105 mm x 66mm x 35mm
Weight	200 g
Environmental parameters	
Operating temperature	-20~50°C
Storage temperature	-25~65°C
Relative humidity	5%~95% non-condensing
Protection level	IP20
Function Parameters	
Network interface	5-bit screw terminals
Process data	Input bytes: 512 bytes Output bytes: 512 bytes
Number of supported I/O modules	Max:32
Transmission rate	可选择: 125, 250, 500kbps
Indicator Light	Power, network, internal bus, etc.
Maximum bus length	500 m(Max)
Station number	x100 x10 x1(Set the rotary encoder)
Diagnostics and alarms	Support

3.8.3 Hardware Interface



- ① Status indicator light ② Module model ③ Input/output network ports
 ④ System and I/O power input ⑤ Internal bus ⑥ Plastic clip ⑦ Cable fixing clip

1 LED indicator light



- ① System power supply (green).
 ② Status indication (green).
 ③ Communication running indicator (yellow).
 ⑤ I/O power indication (green).
 ⑥ Internal bus operation indication (yellow).
 ⑦ Internal bus error indication (red).

MB6-CP2002 indicator light description

Light	Description	State	Meaning
POW SYS	System power indicator light	On	Power supply is normal
		Off	Power is not supplied
STA	System status indicator light	Flashing	Blinking indicator light
		Off	No Flashing instructions
RUN	Communication run indicator light	Steady on	Periodic communication
		Off	Acyclic communication
ERR	Communication error indicator light	Off	No error
		Flashing	Communication alarm
POW I/O	I/O power indicator light	On	I/O power supply is normal
		Off	I/O power is not supplied
IRN	Internal bus communication indicator light	Flashing	The internal bus is being networked
		On	The internal bus communicates normally
IER	Internal bus error indicator light	Off	No error

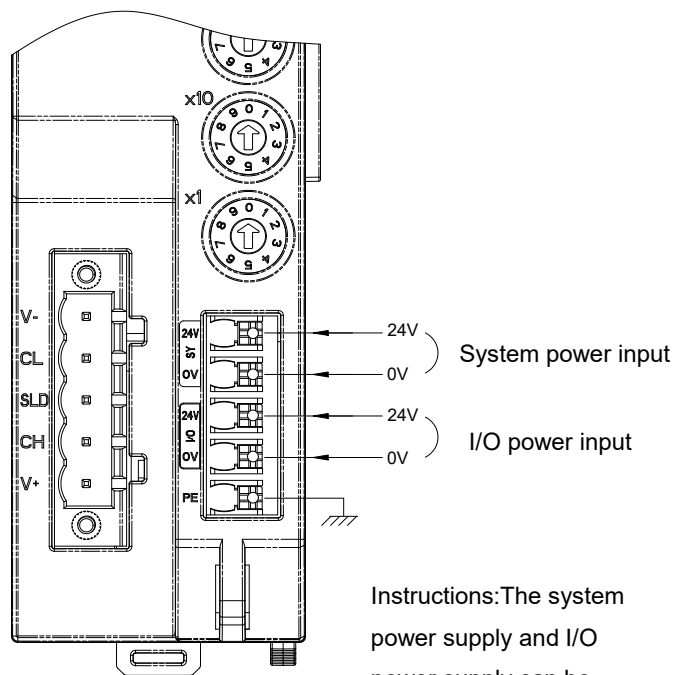
		On	Communication is disconnected or the module configuration is inconsistent with the bus configuration
--	--	----	--

2 Terminal block Definition

Terminal No.	Definition	Description
1	24 V	System power input 24 V
2	0 V	System power input 0 V
3	24 V	I/O power input 24 V
4	0 V	I/O power input 0 V
5	PE	ground

Signal terminal sequence	signal	signal Definition
1	V-	Negative pole of power supply
2	CL	Signal negative
3	SLD	Shielding wire
4	CH	Signal positive
5	V+	Positive pole of power supply

3.8.4 Wiring Diagram



Instructions: The system power supply and I/O power supply can be independently supplied.

3.9 MB6-1600N/PT

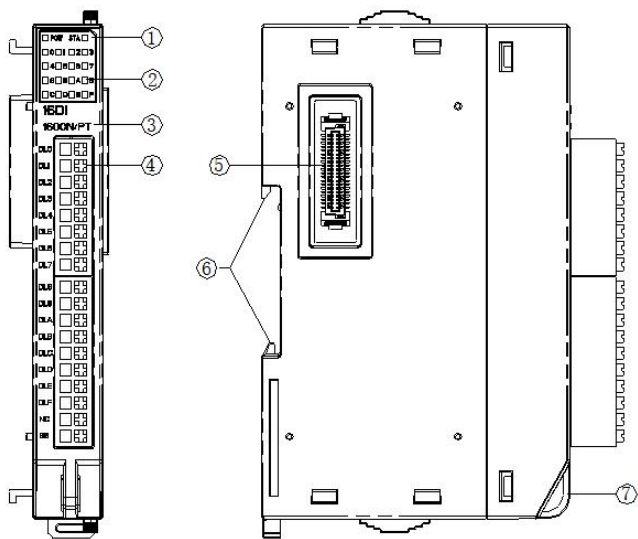
3.9.1 Module Features

1. The module supports 16 channel digital input, NPN type input low level effective, PNP type input high level effective, connected to NPN or PNP type sensor.
2. The module can collect the digital output signal of the field device.
3. The internal bus and field input of the module are optocoupler isolation.
4. The module comes with 16 digital input channel LED indicator light.
5. The module can set the digital signal input filter time (0-20ms).
6. Each channel of the module can be configured independently.

3.9.2 Technical Parameters

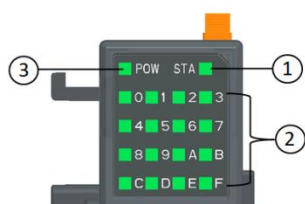
Common parameters		
Current consumption	65 mA @5V	
Isolation withstand voltage	I/O to Internal bus: Optocoupler isolated 3kV	
On-site power supply	Nominal: 24 V, allowable range: 18~30V	
Wiring	I/O wiring: 0.3 mm² (22AWG) ~ 1mm² (17AWG).	
	Recommended wire diameter: 0.3~1mm², crimp terminal length: 10 mm	
Installation method	35 mm DIN rail mounting	
size	105 mm x 66mm x 15mm	
weight	80 g	
Environment parameters		
Operating temperature	-20~50°C	
Storage temperature	-25~65°C	
relative humidity	5%~95% non-condensing	
Degree of protection	IP20	
Input properties		
Number of channels	16	
type	NPN type	NPN type
indicator light	16-channel indicator light	
"0" signal voltage	12~30V	0~5V
"1" signal voltage	0~5V	12~30V
On current	Max 5 mA	
Input delay	ON to OFF:50 us,OFF to ON:50 us	
Equivalent bandwidth	Max 10 kHz	
Filter time	Configurable: 0~20.0ms, default configuration: 3.0 ms	
Diagnostics and alarms	Support	

3.9.3 Hardware Interface



- ① Status Indicator light ② channel indicator light ③ Module model
④ Terminal and identification ⑤ Internal bus ⑥ Plastic clip ⑦ Cable fixing clip

1 LED indicator light



- ① Module status indicator light (green).
② Input channel indicator light (green).
③ Power indicator light (green).

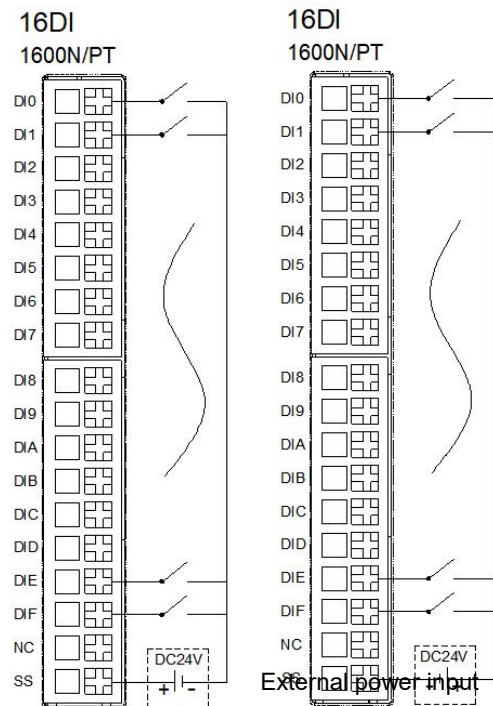
POW	STA	Meaning
Bright	Off	The module does not communicate
Bright	Bright	The module works normally
Bright	1 Hz	Addressing
Bright	3 Hz	Addressing completes and waits for the coupler to run
Bright	10 Hz	Program upgrade status
xHz	xHz	Reserve alarm indications

2 Terminal block Definition

Terminal No.	Definition	Description
1	DI0	Signal input
2	DI1	
3	DI2	
4	DI3	
5	DI4	
6	DI5	
7	DI6	
8	DI7	

9	DI8	Signal input
10	DI9	
11	DIA	
12	.DIB	
13	DIC	
14	DID	
15	DIE	
16	DIF	
17	NC	Power output
18	SS	

3.9.4 Wiring Diagram



NPN type signal input mode

PNP type signal input mode

3.10 MB6-1600NT

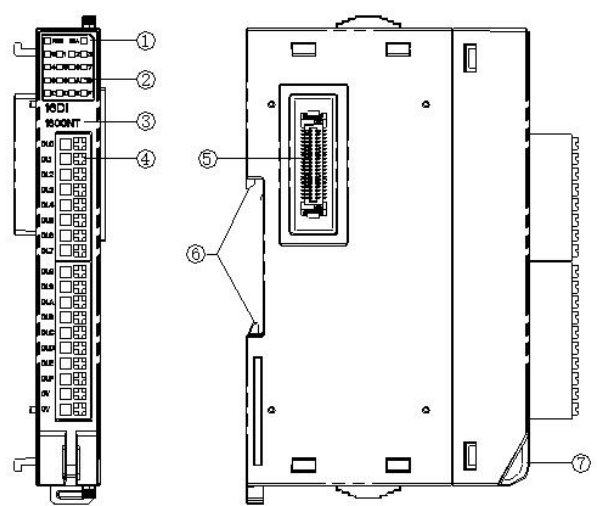
3.10.1 Module Features

1. The module supports 16-channel digital input, input low level is active, connected to NPN type sensor.
2. The module can collect the digital output signal of the field device.
3. The internal bus and field input of the module are optocoupler isolation.
4. The module comes with 16 digital input channel LED indicator light.
5. The module can set the digital signal input filter time (0-20ms).
6. Each channel of the module can be configured independently.

3.10.2 Technical Parameters

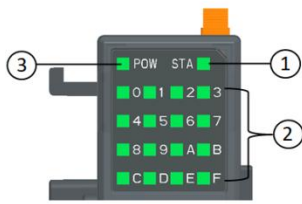
Common parameters	
Current consumption	65 mA @5V
Isolation withstand voltage	I/O to Internal bus: Optocoupler isolated 3kV
On-site power supply	Nominal: 24 V, allowable range: 18~30V
Wiring	I/O wiring: 0.3 mm ² (22AWG) ~ 1mm ² (17AWG).
	Recommended wire diameter: 0.3~1mm ² , crimp terminal length: 10 mm
Installation method	35 mm DIN rail mounting
size	105 mm x 66mm x 15mm
weight	80 g
Environment parameters	
Operating temperature	-20~50°C
Storage temperature	-25~65°C
relative humidity	5%~95% non-condensing
Degree of protection	IP20
Input properties	
Number of channels	16
type	NPN type
indicator light	16-channel indicator light
"0" signal voltage	12~30V
"1" signal voltage	0~5V
On current	Max 5 mA
Input delay	ON to OFF:50 us,OFF to ON:50 us
Equivalent bandwidth	Max 10 kHz
Filter time	Configurable: 0~20.0ms, default configuration: 3.0 ms
Diagnostics and alarms	Support

3.10.3 Hardware Interface



- ① Status Indicator light ② channel indicator light ③ Module model
④ Terminal and identification ⑤ Internal bus ⑥ Plastic clip ⑦ Cable fixing clip

1 LED indicator light



- ① Module status indicator light (green).
② Input channel indicator light (green).
③ Power indicator light (green).

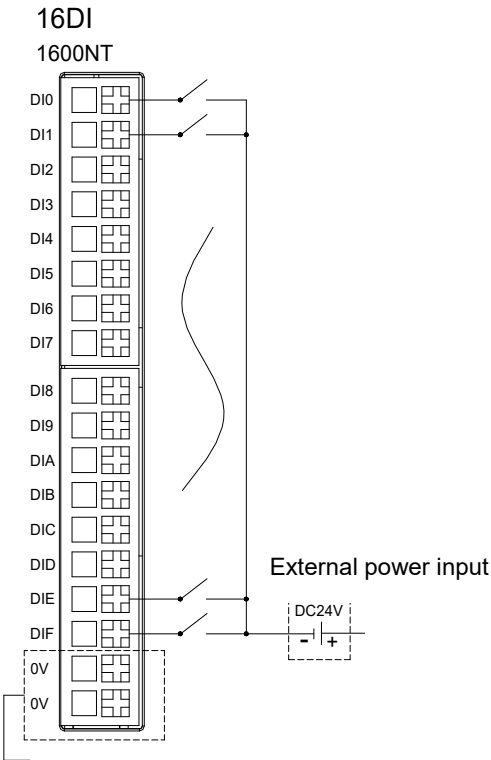
POW	STA	Meaning
Bright	Off	The module does not communicate
Bright	Bright	The module works normally
Bright	1 Hz	Addressing
Bright	3 Hz	Addressing completes and waits for the coupler to run
Bright	10 Hz	Program upgrade status
xHz	xHz	Reserve alarm indications

2 Terminal block Definition

Terminal No.	Definition	Description
1	DI0	Signal input
2	DI1	
3	DI2	
4	DI3	
5	DI4	
6	DI5	
7	DI6	
8	DI7	

9	DI8	Signal input
10	DI9	
11	DIA	
12	DIB	
13	DIC	
14	DID	
15	DIE	
16	DIF	
17	24 V	External power input
18	0 V	

3.10.4 Wiring Diagram



3.11 MB6-1600PT

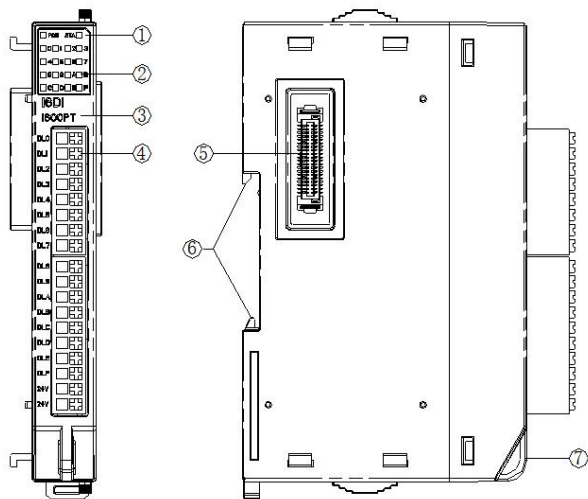
3.11.1 Module Features

1. Module support 16 channel digital input, input high level effective, connected to PNP type sensor.
2. The module can collect the digital output signal of the field device.
3. The internal bus and field input of the module are optocoupler isolation.
4. The module comes with 16 digital input channel LED indicator light.
5. The module can set the digital signal input filter time (0-20ms).
6. Each channel of the module can be configured independently.

3.11.2 Technical Parameters

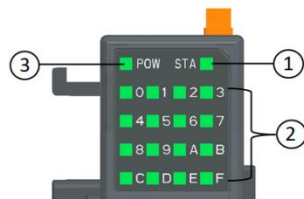
Common parameters	
Current consumption	65 mA @5V
Isolation withstand voltage	I/O to Internal bus: Optocoupler isolated 3kV
On-site power supply	Nominal: 24 V, allowable range: 18~30V
Wiring	I/O wiring: 0.3 mm ² (22AWG) ~ 1mm ² (17AWG).
	Recommended wire diameter: 0.3~1mm ² , crimp terminal length: 10 mm
Installation method	35 mm DIN rail mounting
size	105 mm x 66mm x 15mm
weight	80 g
Environment parameters	
Operating temperature	-20~50°C
Storage temperature	-25~65°C
relative humidity	5%~95% non-condensing
Degree of protection	IP20
Input properties	
Number of channels	16
type	NPN type
indicator light	16-channel indicator light
"0" signal voltage	0~5V
"1" signal voltage	12~30V
On current	Max 5 mA
Input delay	ON to OFF:50 us, OFF to ON:50 us
Equivalent bandwidth	Max 10 kHz
Filter time	Configurable: 0~20.0ms, default configuration: 3.0 ms
Diagnostics and alarms	Support

3.11.3 Hardware Interface



- ① Status Indicator light ② channel indicator light ③ Module model
④ Terminal and identification ⑤ Internal bus ⑥ Plastic clip ⑦ Cable fixing clip

1 LED indicator light



- ① Module status indicator light (green)
② Input channel indicator light (green)
③ Power indicator light (green)

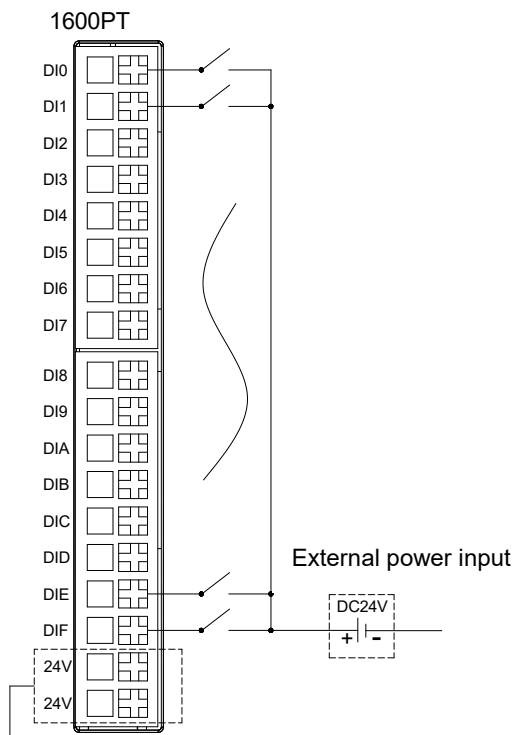
POW	STA	Meaning
Bright	Off	The module does not communicate
Bright	Bright	The module works normally
Bright	1 Hz	Addressing
Bright	3 Hz	Addressing completes and waits for the coupler to run
Bright	10 Hz	Program upgrade status
xHz	xHz	Reserve alarm indications

2 Terminal block Definition

Terminal No.	Definition	Description
1	DI0	Signal input
2	DI1	
3	DI2	
4	DI3	
5	DI4	
6	DI5	
7	DI6	
8	DI7	

9	DI8	Signal input
10	DI9	
11	DIA	
12	DIB	
13	DIC	
14	DID	
15	DIE	
16	DIF	
17	24 V	External power input
18	24 V	

3.11.4 Wiring Diagram



The input common terminal is connected to the I/O power supply of the coupler, and no wiring is required here

3.12 MB6-3200N/PT

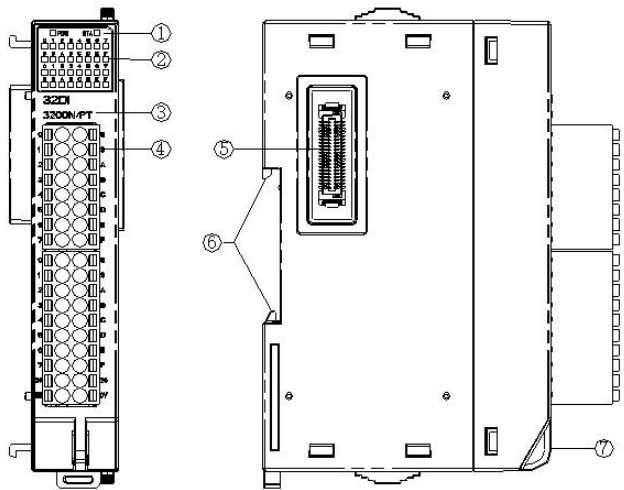
3.12.1 Module Features

1. The module supports 32-channel digital input, input low level active, connected to NPN type sensor, or input high level active, connected to PNP type sensor.
2. The module can collect the digital output signal of the field device.
3. The internal bus and field input of the module are optocoupler isolation.
4. The module comes with 32 digital input channel LED indicator light.
5. The module can set the digital signal input filter time (0-20ms).
6. Each channel of the module can be configured independently.

3.12.2 Technical Parameters

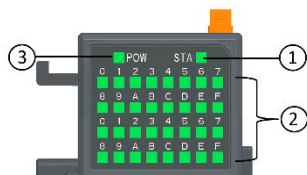
Common parameters		
Current consumption	130 mA @5V	
Isolation withstand voltage	I/O to Internal bus: Optocoupler isolated 3kV	
On-site power supply	Nominal: 24 V, allowable range: 18~30V	
Wiring	I/O wiring: 0.3 mm² (22AWG) ~ 1mm² (17AWG).	
	Recommended wire diameter: 0.3~1mm², crimp terminal length: 10 mm	
Installation method	35 mm DIN rail mounting	
size	105 mm x 66mm x 20mm	
weight	110 g	
Environment parameters		
Operating temperature	-20~50℃	
Storage temperature	-25~65℃	
relative humidity	5%~95% non-condensing	
Degree of protection	IP20	
Input properties		
Number of channels	32	
type	NPN type	PNP type
indicators light	32-channel indicators light	
"0" signal voltage	12~30V	0~5V
"1" signal voltage	0~5V	12~30V
On current	Max 5 mA	
Input delay	ON to OFF:50 us,OFF to ON:50 us	
Equivalent bandwidth	Max 10 kHz	
Filter time	Configurable: 0~20.0ms, default configuration: 3.0 ms	
Diagnostics and alarms	Support	

3.12.3 Hardware Interface



- ① Status Indicator light ② channel indicator light ③ Module model
④ Terminal and identification ⑤ Internal bus ⑥ Plastic clip ⑦ Cable fixing clip

1 LED indicator light



- ① Module status indicator light (green)
② Input channel indicator light (green)
③ Power indicator light (green)

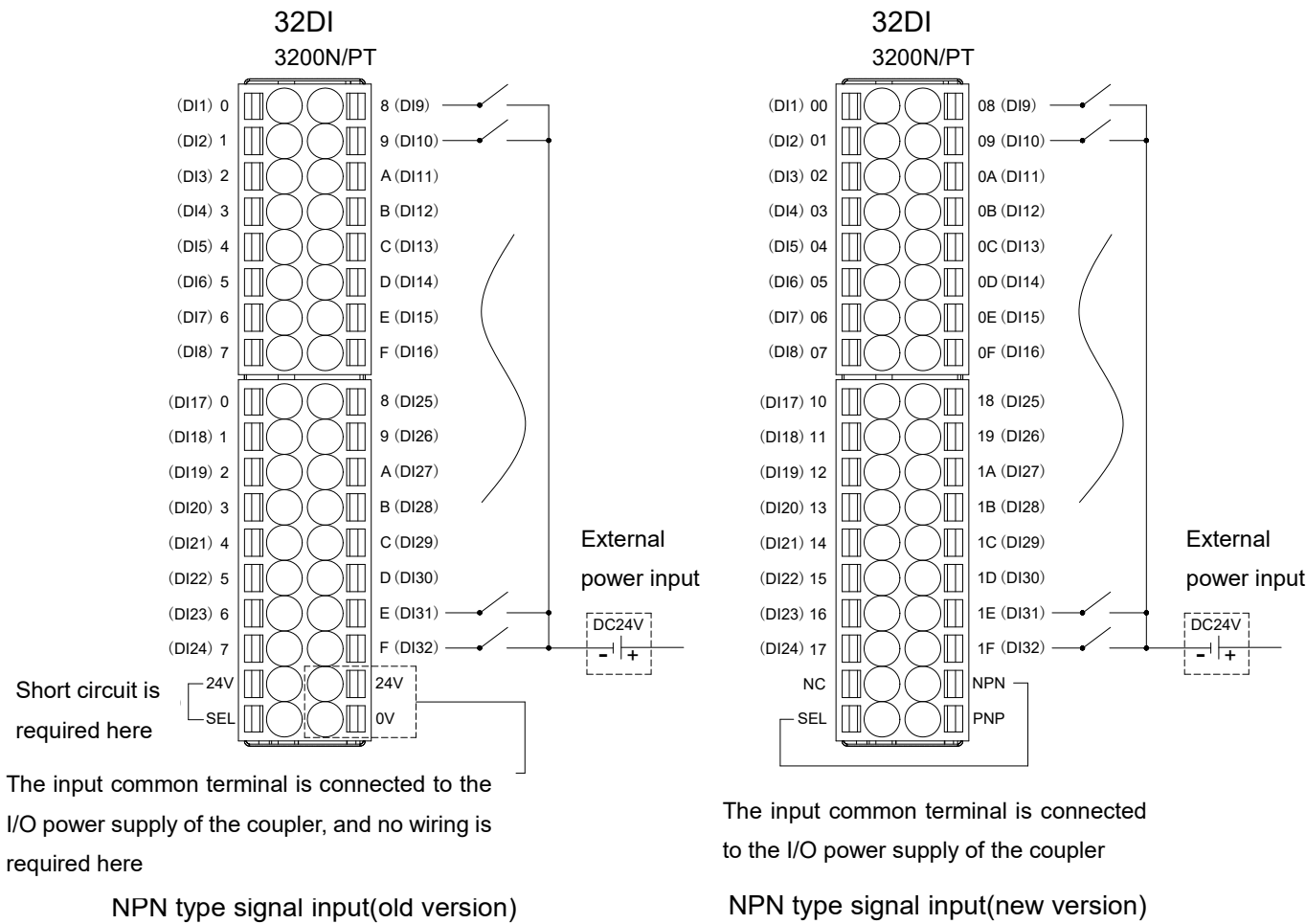
POW	STA	Meaning
Bright	Off	The module does not communicate
Bright	Bright	The module works normally
Bright	1 Hz	Addressing
Bright	3 Hz	Addressing completes and waits for the coupler to run
Bright	10 Hz	Program upgrade status
xHz	xHz	Reserve alarm indications

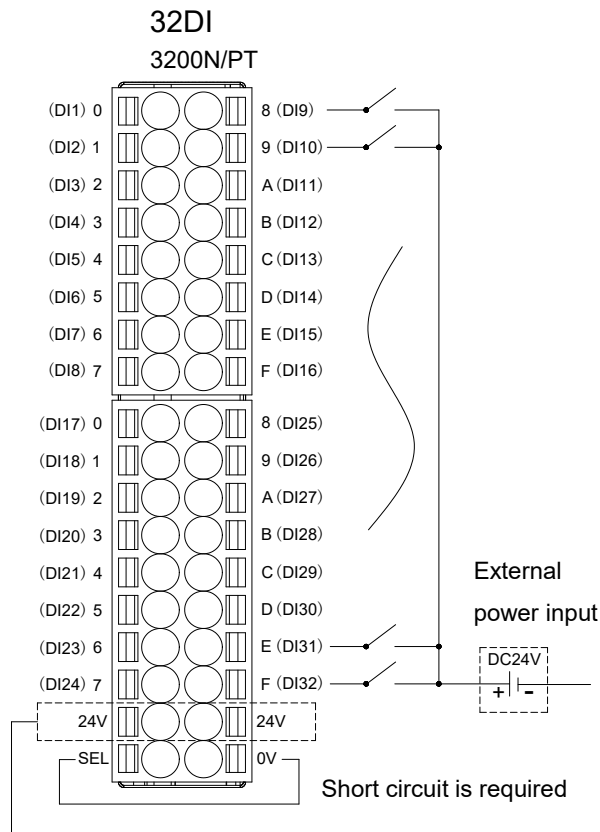
2 Terminal block Definition

Terminal No.	Definition	Definition	Terminal No.	Description
00	DI1	DI9	08	Signal input
01	DI2	DI10	09	
02	DI3	DI11	0 A	
03	DI4	DI12	0 B	
04	DI5	DI13	0 C	
05	DI6	DI14	0 D	
06	DI7	DI15	0 E	
07	DI8	DI16	0 F	
10	DI17	DI25	18	Signal input

11	DI18	DI26	19	
12	DI19	DI27	1 A	
13	DI20	DI28	1 B	
14	DI21	DI29	1 C	
15	DI22	DI30	1 D	
06	DI23	DI31	1 E	
17	DI24	DI32	1 F	
/	NC	NPN	/	NPN type: SEL shorted NPN PNP type: SEL shorted PNP
/	SEL	PNP	/	

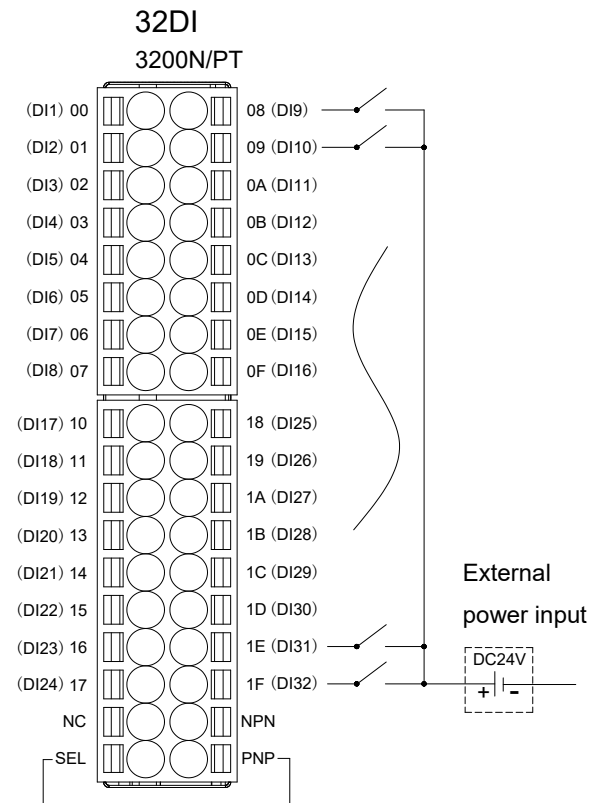
3.12.4 Wiring Diagram





The input common terminal is connected to the I/O power supply of the coupler, and no wiring is required here

PNP type signal input(old version)



The input common terminal is connected to the I/O power supply of the coupler

PNP type signal input(new version)

3.13 MB6-3200N/PT(H)

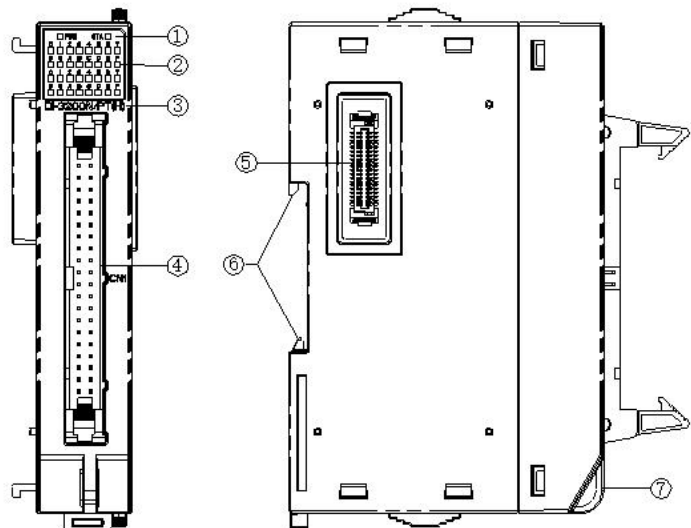
3.13.1 Module Features

1. The module supports 32-channel digital input, input low level active, connected to NPN type sensor, or input high level active, connected to PNP type sensor.
2. The module can collect the digital output signal of the field device.
3. The internal bus and field input of the module are optocoupler isolation.
4. The module comes with 32 digital input channel LED indicator light.
5. The module can set the digital signal input filter time (0-20ms).
6. Each channel of the module can be configured independently.

3.13.2 Technical Parameters

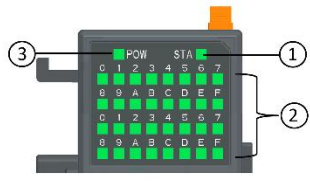
Common parameters	
Current consumption	130 mA @5V
Isolation withstand voltage	I/O to Internal bus: Optocoupler isolated 3kV
On-site power supply	Nominal: 24 V, allowable range: 18~30V
Wiring	I/O wiring: 0.3 mm ² (22AWG) ~ 1mm ² (17AWG).
	Recommended wire diameter: 0.3~1mm ² , crimp terminal length: 10 mm
Installation method	35 mm DIN rail mounting
size	105 mm x 66mm x 20mm
weight	110 g
Environment parameters	
Operating temperature	-20~50°C
Storage temperature	-25~65°C
relative humidity	5%~95% non-condensing
Degree of protection	IP20
Input properties	
Number of channels	32
type	NPN type/PNP type
indicators light	32-channel indicators light
"0" signal voltage	NPN: 12~30V PNP: 0~5V
"1" signal voltage	NPN: 0~5V PNP: 12~30V
On current	Max 5 mA
Input delay	ON to OFF:50 us,OFF to ON:50s
Equivalent bandwidth	Max 10 kHz
Filter time	Configurable: 0~20.0ms, default configuration: 3.0ms
Diagnostics and alarms	Support

3.13.3 Hardware Interface



- ① Status Indicator light ② channel indicator light ③ Module model
 ④ Terminal and identification ⑤ Internal bus ⑥ Plastic clip ⑦ Cable fixing clip

1 LED indicator light



- ① Module status indicator light (green)
 ② Input channel indicator light (green)
 ③ Power indicator light (green)

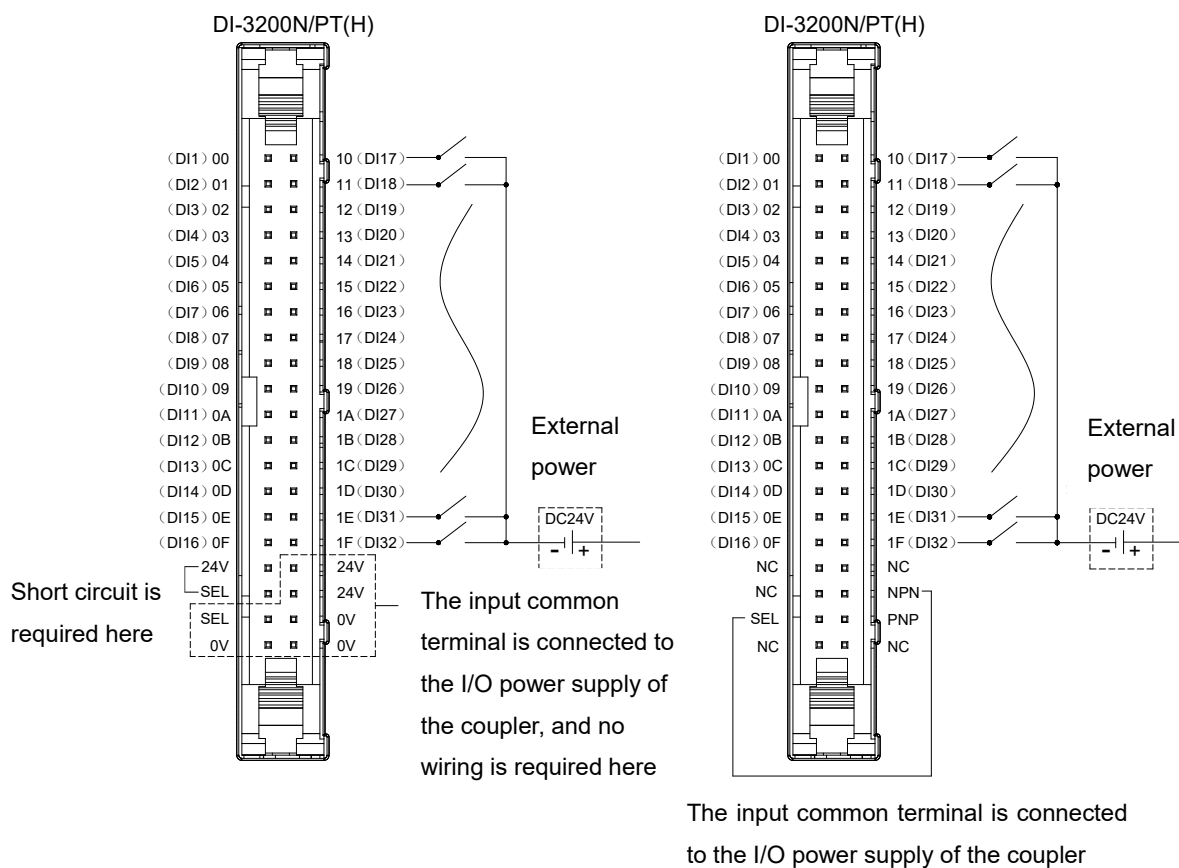
POW	STA	Meaning
Bright	Off	The module does not communicate
Bright	Bright	The module works normally
Bright	1 Hz	Addressing
Bright	3 Hz	Addressing completes and waits for the coupler to run
Bright	10 Hz	Program upgrade status
xHz	xHz	Reserve alarm indications

2 Terminal block Definition

Terminal No.	Definition	Definition	Terminal No.	Description
00	DI1	DI17	10	Signal input
01	DI2	DI18	11	
02	DI3	DI19	12	
03	DI4	DI20	13	
04	DI5	DI21	14	
05	DI6	DI22	15	
06	DI7	DI23	16	
07	DI8	DI24	17	
08	DI9	DI25	18	Signal input

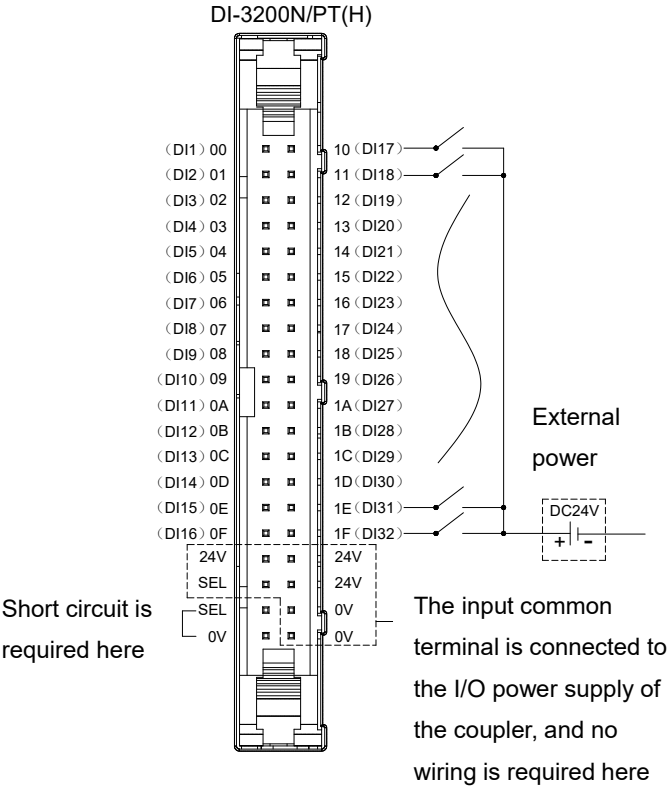
09	DI10	DI26	19	
0 A	DI11	DI27	1 A	
0 B	DI12	DI28	1 B	
0 C	DI13	DI29	1 C	
0 D	DI14	DI30	1 D	
0 E	DI15	DI31	1 E	
0 F	DI16	DI32	1 F	
/	NC	NC	/	NPN type: SEL shorted NPN PNP type: SEL shorted PNP
/	NC	NPN	/	
/	SEL	PNP	/	
/	NC	NC	/	

3.13.4 Wiring Diagram

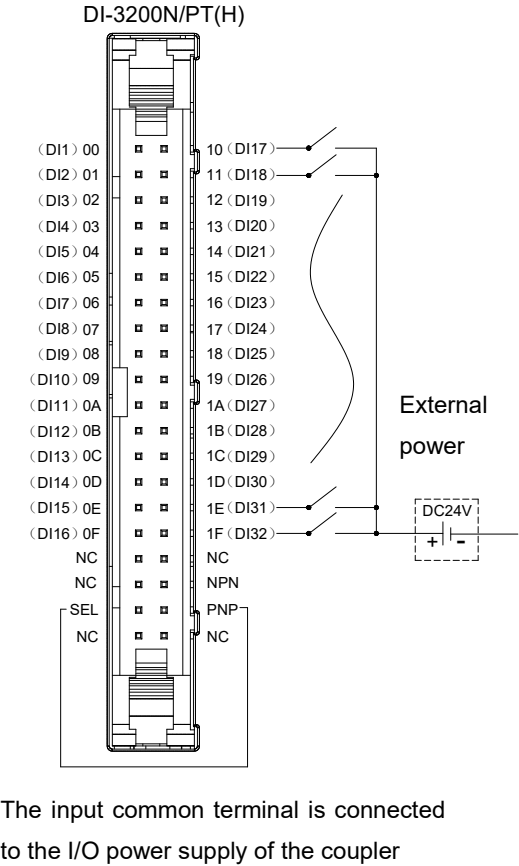


NPN type signal input(old version)

NPN type signal input(new version)



PNP type signal input(old version)



PNP type signal input(new version)

3.14 MB6-0016NT

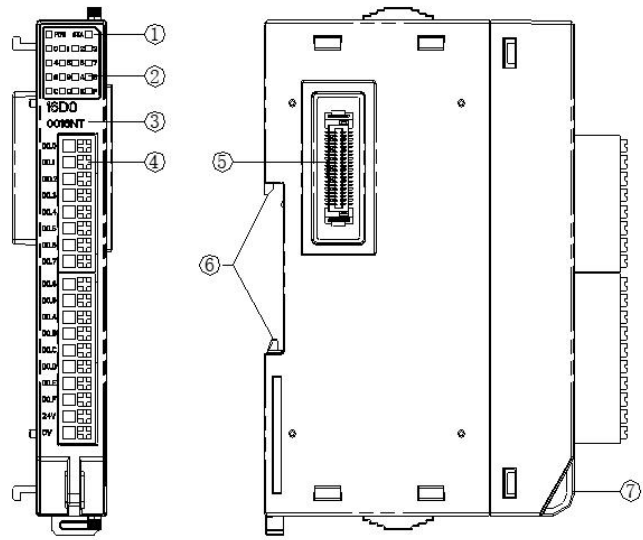
3.14.1 Module Features

1. The module supports 16-channel digital output (NPN type), and the output is active at low level.
2. DO maximum current that can be output by a single channel is 0.8A.
3. The module can drive field devices (relays, solenoid valves, etc.).
4. The internal bus and field output of the module are optocoupler isolation.
5. The module comes with 16 digital output channel LED indicator light.
6. The module supports short-circuit protection function.

3.14.2 Technical Parameters

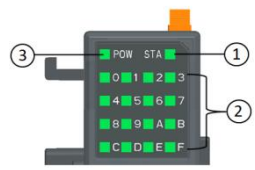
Common parameters	
Current consumption	140 mA @5V
Isolation withstand voltage	I/O to Internal bus: Optocoupler isolated 3kV
Power input	24 VDC, allowable range: 18~30V
	The capacity refers to the actual total current required
Wiring	I/O wiring: 0.3 mm ² (22AWG) ~ 1mm ² (17AWG).
	Recommended wire diameter: 0.3~1mm ² , crimp terminal length: 10 mm
Installation method	35 mm DIN rail mounting
size	105 mm x 66mm x 15mm
weight	80 g
Environment parameters	
Operating temperature	-20~50°C
Storage temperature	-25~65°C
relative humidity	5%~95% non-condensing
Degree of protection	IP20
Output characteristics	
Number of channels	16
type	NPN type
indicators light	16-channel indicators light
Load capacity	0.8 A/channel, 16 channels total: Max 8A
Leakage current	Max 10uA
Output delay	ON to OFF:100 us,OFF to ON:100 us
Equivalent bandwidth	Max 5kHz
Protection function	Short-circuit protection
Safety features	Fault hold output/fault output value (channel independent).

3.14.3 Hardware Interface



- ① Status Indicator light ② channel indicator light ③ Module model
 ④ Terminal and identification ⑤ Internal bus ⑥ Plastic clip ⑦ Cable fixing clip

1 LED indicator light



- ① Module status indicator ligh (green).
 ② Input channel indicator ligh (green).
 ③ Power indicator ligh (green).

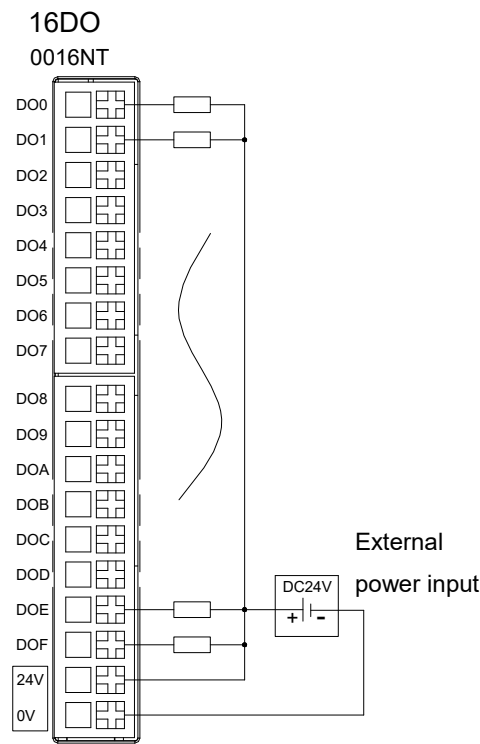
POW	STA	Meaning
Bright	Off	The module does not communicate
Bright	Bright	The module works normally
Bright	1 Hz	Addressing
Bright	3 Hz	Addressing completes and waits for the coupler to run
Bright	10 Hz	Program upgrade status
xHz	xHz	Reserve alarm indications

2 Terminal block Definition

Terminal No.	Definition	Description
1	DO0	Signal output
2	DO1	
3	DO2	
4	DO3	
5	DO4	
6	DO5	
7	DO6	
8	DO7	

9	DO8	Signal output
10	DO9	
11	DOA	
12	DOB	
13	DOC	
14	DOD	
15	DOE	
16	DOF	
17	24 V	External power input
18	0 V	

3.14.4 Wiring Diagram



3.15 MB6-0016PT

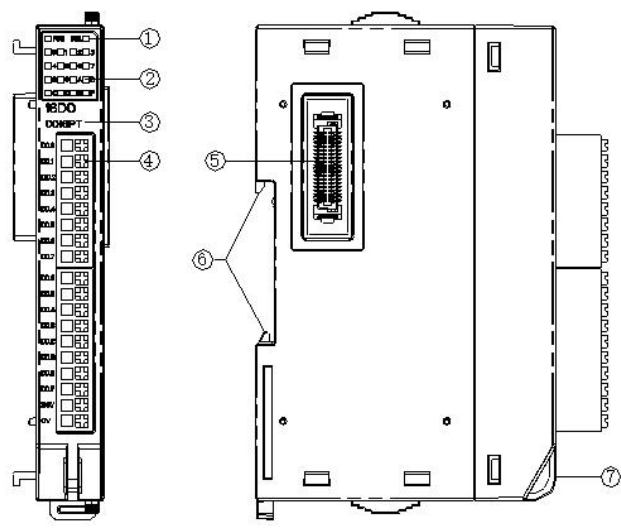
3.15.1 Module Features

1. The module supports 16-channel digital output (PNP type), and the output is active at high level.
2. DO maximum current that can be output by a single channel is 0.8A.
3. The module can drive field devices (relays, solenoid valves, etc.).
4. The internal bus and field output of the module are optocoupler isolation.
5. The module comes with 16 digital output channel LED indicator light.
6. The module supports short-circuit protection function.

3.15.2 Technical Parameters

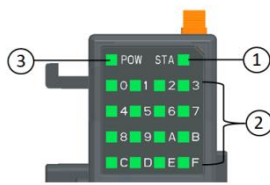
Common parameters	
Current consumption	140 mA @5V
Isolation withstand voltage	I/O to Internal bus: Optocoupler isolated 3kV
Power input	24 VDC, allowable range: 18~30V
	The capacity refers to the actual total current required
Wiring	I/O wiring: 0.3 mm ² (22AWG) ~ 1mm ² (17AWG).
	Recommended wire diameter: 0.3~1mm ² , crimp terminal length: 10 mm
Installation method	35 mm DIN rail mounting
size	105 mm x 66mm x 15mm
weight	80 g
Environment parameters	
Operating temperature	-20~50°C
Storage temperature	-25~65°C
relative humidity	5%~95% non-condensing
Degree of protection	IP20
Output characteristicssss	
Number of channels	16
type	PNP type
indicators light	16-channel indicators light
Load capacity	0.8 A/channel, 16 channels total: Max 8A
Leakage current	Max 10uA
Output delay	ON to OFF:100 us,OFF to ON:100 us
Equivalent bandwidth	Max 5kHz
Protection function	Short-circuit protection
Safety features	Fault hold output/fault output value (channel independent).

3.15.3 Hardware Interface



- ① Status Indicator light ② channel indicator light ③ Module model
④ Terminal and identification ⑤ Internal bus ⑥ Plastic clip ⑦ Cable fixing clip

1 LED indicator light



- ① Module status indicator ligh (green)
② Input channel indicator ligh (green)
③ Power indicator ligh (green)

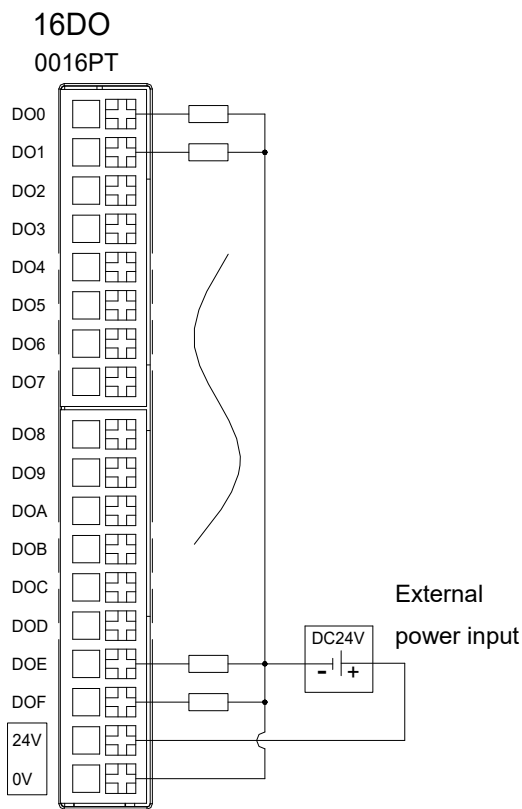
POW	STA	Meaning
Bright	Off	The module does not communicate
Bright	Bright	The module works normally
Bright	1 Hz	Addressing
Bright	3 Hz	Addressing completes and waits for the coupler to run
Bright	10 Hz	Program upgrade status
xHz	xHz	Reserve alarm indications

2 Terminal block Definition

Terminal No.	Definition	Description
1	DO0	Signal output
2	DO1	
3	DO2	
4	DO3	
5	DO4	
6	DO5	
7	DO6	
8	DO7	

9	DO8	Signal output
10	DO9	
11	DOA	
12	DOB	
13	DOC	
14	DOD	
15	DOE	
16	DOF	
17	24 V	External power input
18	0 V	

3.15.4 Wiring Diagram



3.16 MB6-0032NT

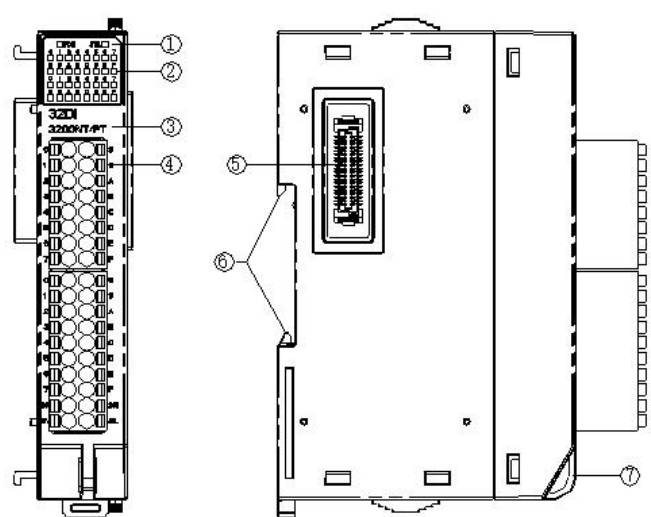
3.16.1 Module Features

1. The module supports 32-channel digital output (NPN type), and the output is active low.
2. Do maximum current that can be output by a single channel is 0.8A.
3. The module can drive field devices (relays, solenoid valves, etc.).
4. The internal bus and field output of the module are optocoupler isolation.
5. The module comes with 32 digital output channel LED indicator light.
6. The module supports short-circuit protection function.

3.16.2 Technical Parameters

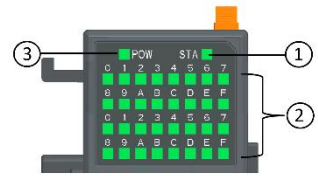
Common parameters	
Current consumption	280 mA @5V
Isolation withstand voltage	I/O to Internal bus: Optocoupler isolated 3kV
Power input	24 VDC, allowable range: 18~30V
	The capacity refers to the actual total current required
Wiring	I/O wiring: 0.3 mm ² (22AWG) ~ 1mm ² (17AWG).
	Recommended wire diameter: 0.3~1mm ² , crimp terminal length: 10 mm
Installation method	35 mm DIN rail mounting
size	105 mm x 66mm x 20mm
weight	110 g
Environment parameters	
Operating temperature	-20~50°C
Storage temperature	-25~65°C
relative humidity	5%~95% non-condensing
Degree of protection	IP20
Output characteristicssss	
Number of channels	32
type	NPN type
indicators light	32-channel indicators light
Load capacity	0.8 A/channel, 32 channels total: Max 16A
Leakage current	Max 10uA
Output delay	ON to OFF:100 us,OFF to ON:100us
Equivalent bandwidth	Max 5kHz
Protection function	Short-circuit protection
Safety features	Fault hold output/fault output value (channel independent).

3.16.3 Hardware Interface



- ① Status Indicator light ② channel indicator light ③ Module model
④ Terminal and identification ⑤ Internal bus ⑥ Plastic clip ⑦ Cable fixing clip

1 LED indicator light



- ① Module status indicator light (green)
② Input channel indicator light (green)
③ Power indicator light (green)

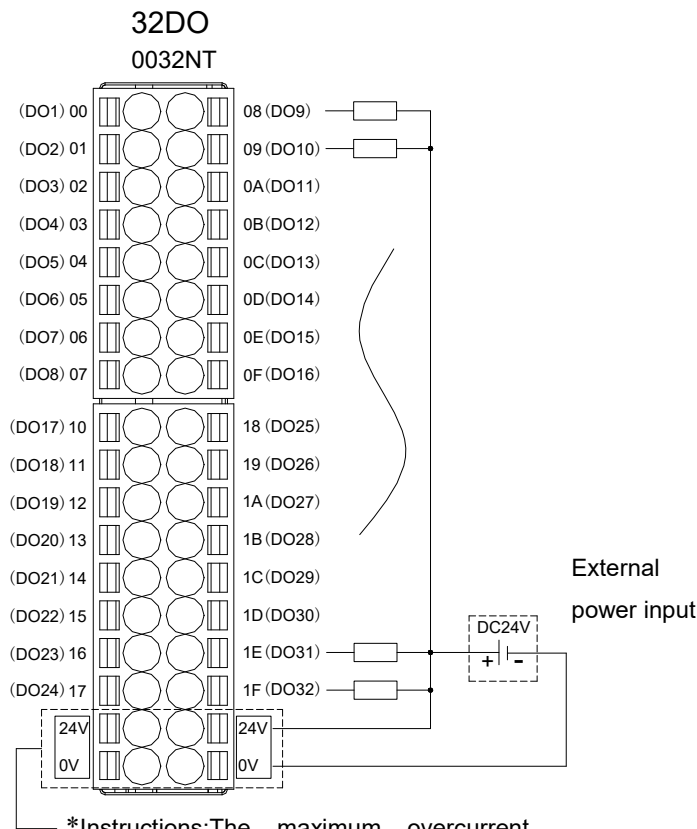
POW	STA	Meaning
Bright	Off	The module does not communicate
Bright	Bright	The module works normally
Bright	1 Hz	Addressing
Bright	3 Hz	Addressing completes and waits for the coupler to run
Bright	10 Hz	Program upgrade status
xHz	xHz	Reserve alarm indications

2 Terminal block Definition

Terminal No.	Definition	Definition	Terminal No.	Description
00	DO1	DO9	08	Signal output
01	DO2	DO10	09	
02	DO3	DO11	0 A	
03	DO4	DO12	0 B	
04	DO5	DO13	0 C	
05	DO6	DO14	0 D	
06	DO7	DO15	0 E	
07	DO8	DO16	0 F	
10	DO17	DO25	18	Signal output

11	DO18	DO26	19	
12	DO19	DO27	1 A	
13	DO20	DO28	1 B	
14	DO21	DO29	1 C	
15	DO22	DO30	1 D	
16	DO23	DO31	1 E	
17	DO24	DO32	1 F	
/	24 V	24 V	/	External power input
/	0 V	0 V	/	

3.16.4 Wiring Diagram



*Instructions: The maximum overcurrent capacity of each PIN terminal is 8A. Please connect enough power terminals according to the actual load of the entire module!

3.17 MB6-0032NT(H)

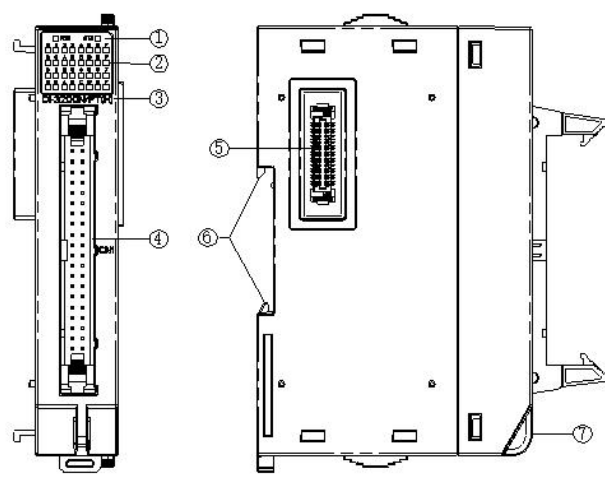
3.17.1 Module Features

1. The module supports 32-channel digital output (NPN type), and the output is active low.
2. Do maximum current that can be output by a single channel is 0.5A.
3. The module can drive field devices (relays, solenoid valves, etc.).
4. The internal bus and field output of the module are optocoupler isolation.
5. The module comes with 32 digital output channel LED indicator light.
6. The module supports short-circuit protection function.

3.17.2 Technical Parameters

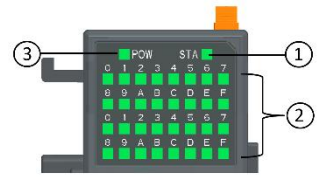
Common parameters	
Current consumption	280 mA @5V
Isolation withstand voltage	I/O to Internal bus: Optocoupler isolated 3kV
Power input	24 VDC, allowable range: 18~30V
	The capacity refers to the actual total current required
Wiring	I/O wiring: 0.3 mm ² (22AWG) ~ 1mm ² (17AWG).
	Recommended wire diameter: 0.3~1mm ² , crimp terminal length: 10 mm
Installation method	35 mm DIN rail mounting
size	105 mm x 66mm x 20mm
weight	110 g
Environment parameters	
Operating temperature	-20~50°C
Storage temperature	-25~65°C
relative humidity	5%~95% non-condensing
Degree of protection	IP20
Output characteristicssss	
Number of channels	32
type	NPN type
indicators light	32-channel indicators light
Load capacity	0.5 A/channel, 32 channels total: Max 9A
Leakage current	Max 10uA
Output delay	ON to OFF:100 us,OFF to ON:100 us
Equivalent bandwidth	Max 5kHz
Protection function	Short-circuit protection
Safety features	Fault hold output/fault output value (channel independent).

3.17.3 Hardware Interface



- ①Status Indicator light ②channel indicator light ③Module model
 ④Terminal and identification ⑤Internal bus ⑥Plastic clip ⑦Cable fixing clip

1 LED indicator light



- ①Module status indicator ligh (green).
 ②Input channel indicator ligh (green).
 ③Power indicator ligh (green).

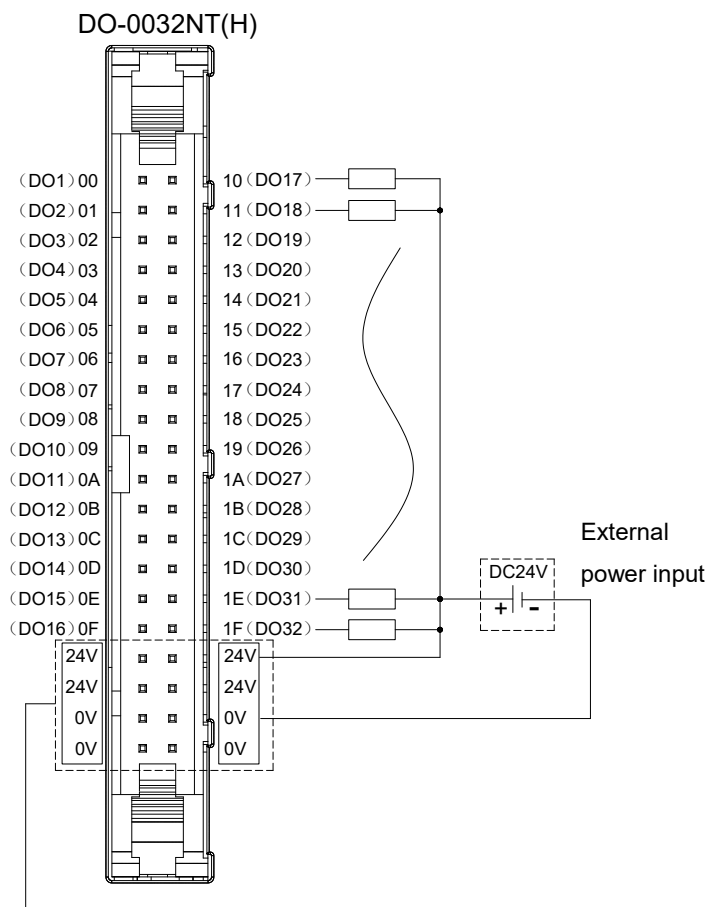
POW	STA	Meaning
Bright	Off	The module does not communicate
Bright	Bright	The module works normally
Bright	1 Hz	Addressing
Bright	3 Hz	Addressing completes and waits for the coupler to run
Bright	10 Hz	Program upgrade status
xHz	xHz	Reserve alarm indications

2 Terminal block Definition

Terminal No.	Definition	Definition	Terminal No.	Description
00	DO1	DO17	10	Signal output
01	DO2	DO18	11	
02	DO3	DO19	12	
03	DO4	DO20	13	
04	DO5	DO21	14	
05	DO6	DO22	15	
06	DO7	DO23	16	
07	DO8	DO24	17	
08	DO9	DO25	18	Signal output

09	DO10	DO26	19	
0 A	DO11	DO27	1 A	
0 B	DO12	DO28	1 B	
0 C	DO13	DO29	1 C	
0 D	DO14	DO30	1 D	
0 E	DO15	DO32	1 E	
0 F	DO16	DO32	1 F	
/	24 V	24 V	/	External power input
/	24 V	24 V	/	
/	0 V	0 V	/	
/	0 V	0 V	/	

3.17.4 Wiring Diagram



*Instructions: The maximum overcurrent capacity of each PIN terminal is 3A. Please connect enough power terminals according to the actual load of the entire module!

3.18 MB6-0032PT

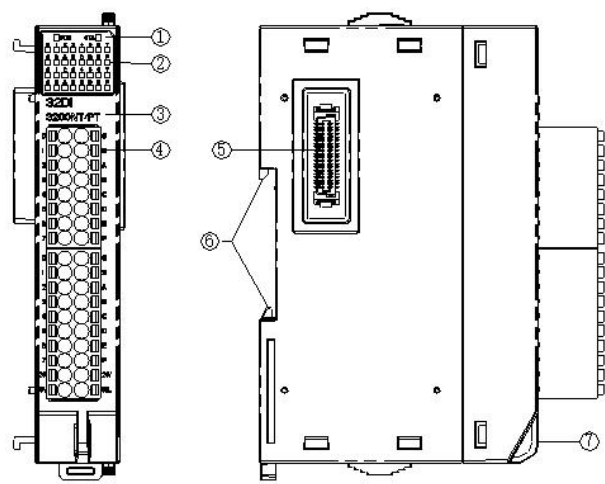
3.18.1 Module Features

1. The module supports 32-channel digital output (PNP type), and the output is active at high level.
2. Do maximum output current for a single channel is 0.8A.
3. The module can drive field devices (relays, solenoid valves, etc.).
4. The internal bus and field output of the module are optocoupler isolation.
5. The module comes with 32 digital output channel LED indicator light.
6. The module supports short-circuit protection function.

3.18.2 Technical Parameters

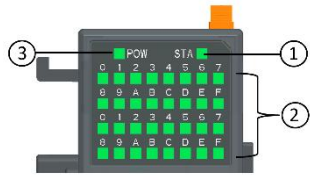
Common parameters	
Current consumption	280 mA @5V
Isolation withstand voltage	I/O to Internal bus: Optocoupler isolated 3kV
Power input	24 VDC, allowable range: 18~30V
	The capacity refers to the actual total current required
Wiring	I/O wiring: 0.3 mm ² (22AWG) ~ 1mm ² (17AWG).
	Recommended wire diameter: 0.3~1mm ² , crimp terminal length: 10 mm
Installation method	35 mm DIN rail mounting
size	105 mm x 66mm x 20mm
weight	110 g
Environment parameters	
Operating temperature	-20~50°C
Storage temperature	-25~65°C
relative humidity	5%~95% non-condensing
Degree of protection	IP20
Output characteristicssss	
Number of channels	32
type	PNP type
indicators light	32-channel indicators light
Load capacity	0.8 A/channel, 32 channels total: Max 16A
Leakage current	Max 10uA
Output delay	ON to OFF:100 us,OFF to ON:100 us
Equivalent bandwidth	Max 5kHz
Protection function	Short-circuit protection
Safety features	Fault hold output/fault output value (channel independent).

3.18.3 Hardware Interface



- ①Status Indicator light ②channel indicator light ③Module model
④Terminal and identification ⑤Internal bus ⑥Plastic clip ⑦Cable fixing clip

1 LED indicator light



- ①Module status indicator light (green).
②Input channel indicator light (green).
③Power indicator light (green).

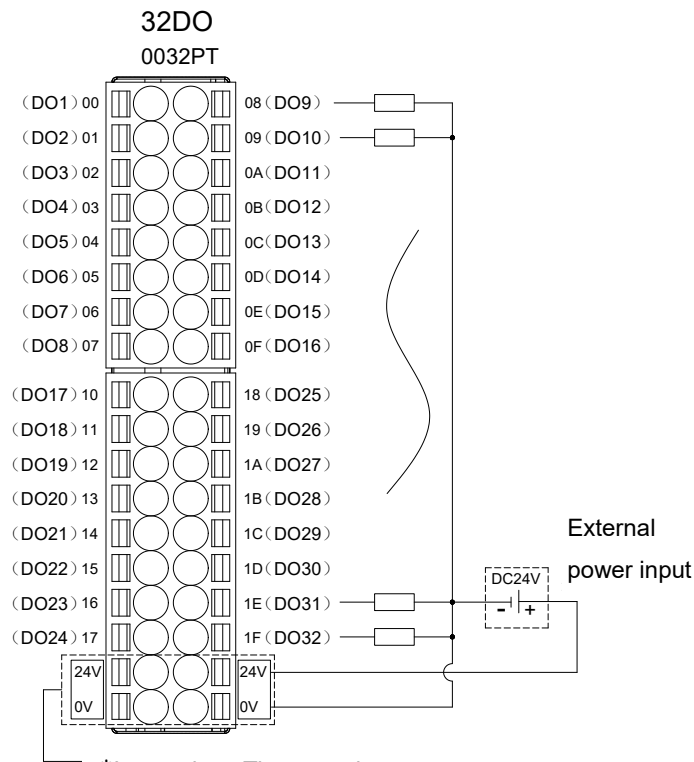
POW	STA	Meaning
Bright	Off	The module does not communicate
Bright	Bright	The module works normally
Bright	1 Hz	Addressing
Bright	3 Hz	Addressing completes and waits for the coupler to run
Bright	10 Hz	Program upgrade status
xHz	xHz	Reserve alarm indications

2 Terminal block Definition

Terminal No.	Definition	Definition	Terminal No.	Description
00	DO1	DO9	08	Signal output
01	DO2	DO10	09	
02	DO3	DO11	0 A	
03	DO4	DO12	0 B	
04	DO5	DO13	0 C	
05	DO6	DO14	0 D	
06	DO7	DO15	0 E	
07	DO8	DO16	0 F	
10	DO17	DO25	18	Signal output

11	DO18	DO26	19	
12	DO19	DO27	1 A	
13	DO20	DO28	1 B	
14	DO21	DO29	1 C	
15	DO22	DO30	1 D	
16	DO23	DO31	1 E	
17	DO24	DO32	1 F	
/	24 V	24 V	/	External power input
/	0 V	0 V	/	

3.18.4 Wiring Diagram



*Instructions: The maximum overcurrent capacity of each PIN terminal is 8A. Please connect enough power terminals according to the actual load of the entire module!

3.19 MB6-0032PT(H)

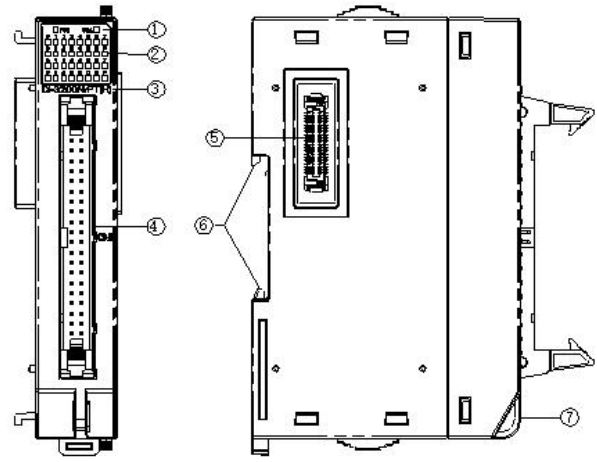
3.19.1 Module Features

1. The module supports 32-channel digital output (PNP type), and the output is active at high level.
2. Do maximum current that can be output by a single channel is 0.5A.
3. The module can drive field devices (relays, solenoid valves, etc.).
4. The internal bus and field output of the module are optocoupler isolation.
5. The module comes with 32 digital output channel LED indicator light.
6. The module supports short-circuit protection function.

3.19.2 Technical Parameters

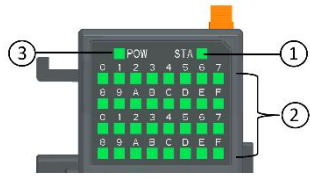
Common parameters	
Current consumption	280 mA @5V
Isolation withstand voltage	I/O to Internal bus: Optocoupler isolated 3kV
Power input	24 VDC, allowable range: 18~30V
	The capacity refers to the actual total current required
Wiring	I/O wiring: 0.3 mm ² (22AWG) ~ 1mm ² (17AWG).
	Recommended wire diameter: 0.3~1mm ² , crimp terminal length: 10 mm
Installation method	35 mm DIN rail mounting
size	105 mm x 66mm x 20mm
weight	110 g
Environment parameters	
Operating temperature	-20~50°C
Storage temperature	-25~65°C
relative humidity	5%~95% non-condensing
Degree of protection	IP20
Output characteristicssss	
Number of channels	32
type	PNP type
indicators light	32-channel indicators light
Load capacity	0.5 A/channel, 32 channels total: Max 9A
Leakage current	Max 10uA
Output delay	ON to OFF:100 us,OFF to ON:100 us
Equivalent bandwidth	Max 5kHz
Protection function	Short-circuit protection
Safety features	Fault hold output/fault output value (channel independent).

3.19.3 Hardware Interface



- ①Status Indicator light ②channel indicator light ③Module model
④Terminal and identification ⑤Internal bus ⑥Plastic clip ⑦Cable fixing clip

1 LED indicator light



- ①Module status indicator light (green).
②Input channel indicator light (green).
③Power indicator light (green).

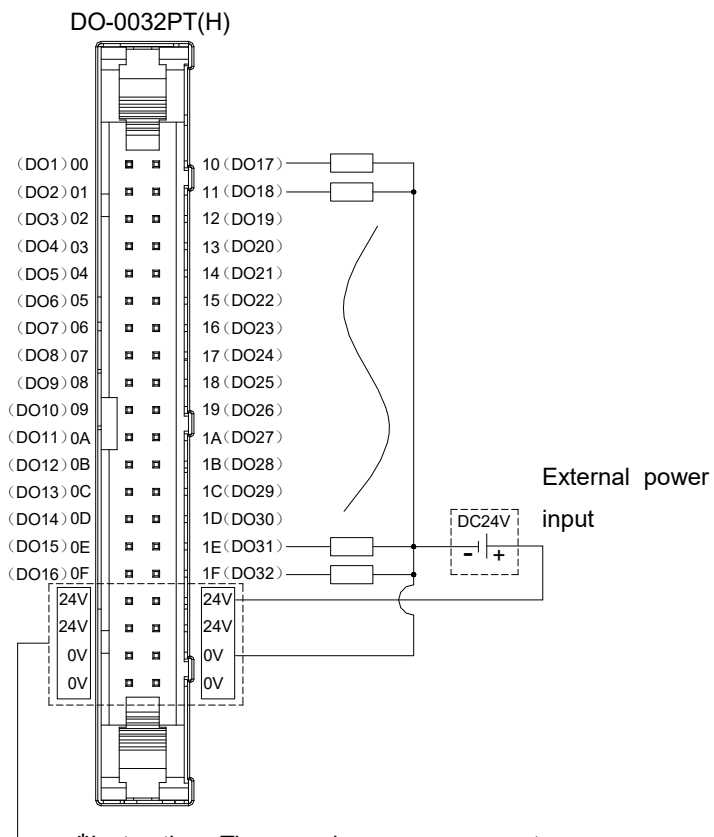
POW	STA	Meaning
Bright	Off	The module does not communicate
Bright	Bright	The module works normally
Bright	1 Hz	Addressing
Bright	3 Hz	Addressing completes and waits for the coupler to run
Bright	10 Hz	Program upgrade status
xHz	xHz	Reserve alarm indications

2 Terminal block Definition

Terminal No.	Definition	Definition	Terminal No.	Description
00	DO1	DO17	10	Signal output
01	DO2	DO18	11	
02	DO3	DO19	12	
03	DO4	DO20	13	
04	DO5	DO21	14	
05	DO6	DO22	15	
06	DO7	DO23	16	
07	DO8	DO24	17	
08	DO9	DO25	18	Signal output

09	DO10	DO26	19	
0 A	DO11	DO27	1 A	
0 B	DO12	DO28	1 B	
0 C	DO13	DO29	1 C	
0 D	DO14	DO30	1 D	
0 E	DO15	DO32	0 E	
0 F	DO16	DO32	1 F	
/	24 V	24 V	/	External power input
/	24 V	24 V	/	
/	0 V	0 V	/	
/	0 V	0 V	/	

3.19.4 Wiring Diagram



*Instructions: The maximum overcurrent capacity of each PIN terminal is 3A. Please connect enough power terminals according to the actual load of the entire module!

3.20 MB6-0808NT

3.20.1 Module Features

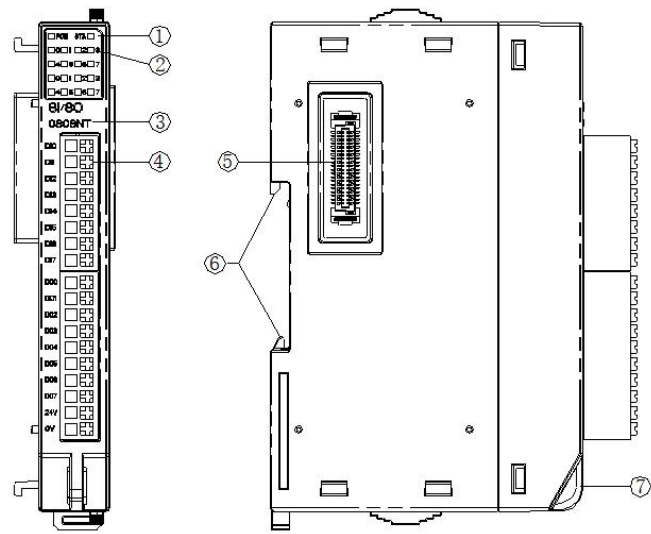
1. The module supports 8-channel digital output (NPN type), with low level output being effective.
2. The module supports 8-channel digital input (NPN type), with high level output being effective.
3. The maximum current that can be output by a single DO channel is 0.8A.
4. The module can drive on-site devices (relays, solenoid valves, etc.).
5. The internal bus and field output of the module are isolated by optocouplers.
6. The module is equipped with 8 digital output channels and LED indicator lights.
7. The module is equipped with 8 digital input channels and LED indicator lights.
8. The module supports short-circuit protection function.

3.20.2 Technical Parameters

General Parameters	
Current consumption	80 mA @5V
Isolation	I/O to internal bus: Optocoupler isolation 3kV
Power input	24 VDC, permitted range: 18 ~ 30V
	Capacity reference actual demand total current
Wiring	I/O wire:0.3mm ² (22AWG)~ 1mm ² (17AWG)
	Recommended wire diameter: 0.3 ~ 1mm ² , crimp terminal length: 10mm
Installation method	35 mm DIN rail mounting
Size	105 mm x 66mm x 15mm
Weight	80 g
Environmental parameters	
Operating temperature	-20~50°C
Storage temperature	-25~65°C
Relative humidity	5%~95%non-condensing
Protection level	IP20
Output characteristicss	
Number of channels	8
Type	NPN type
Indicator Light	8-channel indicator light
Load capacity	0.8 A/channel
Leakage current	Max 10uA
Output delay	ON to OFF: 100us,OFF to ON:100us
Equivalent bandwidth	Max 5 kHz
Protection function	Short-circuit protection
Output characteristicss	
Number of channels	8

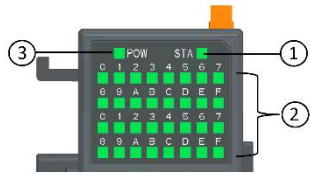
Indicator Light	8-channel indicator light
"0"Signal voltage	12~30V
"1"Signal voltage	0~5V
On current	Max 5 mA
Input delay	ON to OFF: 50us,OFF to ON : 50us
Equivalent bandwidth	Max 10 kHz
Filter time	The value can be 0 to 20.0ms. The default value is 3.0ms
Diagnostics and alarms	Support
Safety features	Fault hold output/fault output value (channel independent)

3.20.3 Hardware Interface



- ①Status Indicator light ②channel indicator light ③Module model
④Terminal and identification ⑤Internal bus ⑥Plastic clip ⑦Cable fixing clip

1 LED indicator light



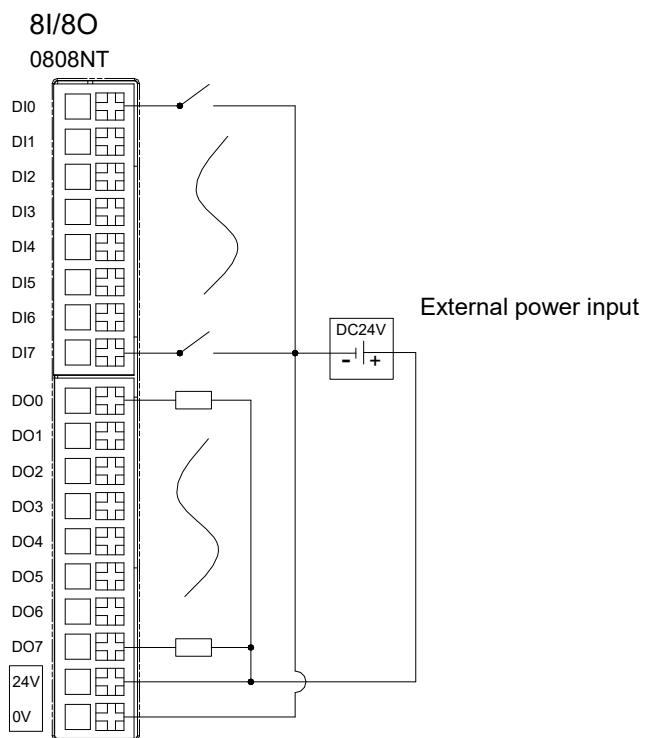
- ①Module status indicator ligh (green).
②Input channel indicator ligh (green).
③Power indicator ligh (green).

POW	STA	Meaning
Bright	Off	The module does not communicate
Bright	Bright	The module works normally
Bright	1 Hz	Addressing
Bright	3 Hz	Addressing completes and waits for the coupler to run
Bright	10 Hz	Program upgrade status
xHz	xHz	Reserve alarm indications

2 Terminal block Definition

Terminal No.	Definition	Description
1	DI0	Signal input
2	DI1	
3	DI2	
4	DI3	
5	DI4	
6	DI5	
7	DI6	
8	DI7	
9	DO0	Signal output
10	DO1	
11	DO2	
12	DO3	
13	DO4	
14	DO5	
15	DO6	
16	DO7	
17	24 V	External power input
18	0 V	

3.20.4 Wiring Diagram



3.21 MB6-0808PT

3.21.1 Module Features

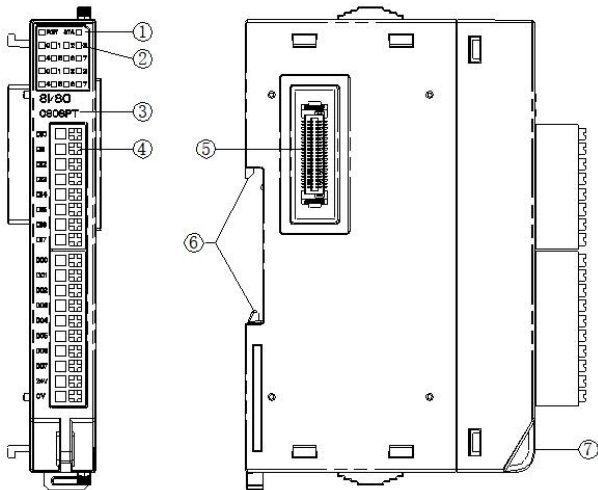
1. The module supports 8-channel digital output (PNP type), with high level output being effective.
2. The module supports 8-channel digital input (PNP type), with low level output being effective.
3. The maximum current that can be output by a single DO channel is 0.8A.
4. The module can drive on-site devices (relays, solenoid valves, etc.).
5. The internal bus and field output of the module are isolated by optocouplers.
6. The module is equipped with 8 digital output channels and LED indicator lights.
7. The module is equipped with 8 digital input channels and LED indicator lights.
8. The module supports short-circuit protection function.

3.21.2 Technical Parameters

General Parameters	
Current consumption	80 mA @5V
Isolation	I/O to internal bus: Optocoupler isolation 3kV
Power input	24 VDC, permitted range: 18 ~ 30V
	Capacity reference actual demand total current
Wiring	I/O wire: 0.3mm ² (22AWG)~ 1mm ² (17AWG)
	Recommended wire diameter: 0.3 ~ 1mm ² , crimp terminal length: 10mm
Installation method	35 mm DIN rail mounting
Size	105 mm x 66mm x 15mm
Weight	80 g
Environmental parameters	
Operating temperature	-20~50°C
Storage temperature	-25~65°C
Relative humidity	5%~95%non-condensing
Protection level	IP20
Output characteristicss	
Number of channels	8
Type	PNP 型
Indicator Light	8-channel indicator light
Load capacity	0.8 A/channel
Leakage current	Max 10uA
Output delay	ON to OFF: 100us, OFF to ON: 100us
Equivalent bandwidth	Max 5 kHz
Protection function	Short-circuit protection
Output characteristicss	

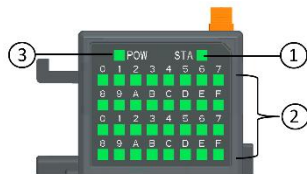
Number of channels	8
Indicator Light	8-channel indicator light
"0"Signal voltage	0~5V
"1"Signal voltage	12~30V
On current	Max 5 mA
Input delay	ON to OFF: 50us,OFF to ON : 50us
Equivalent bandwidth	Max 10 kHz
Filter time	The value can be 0 to 20.0ms. The default value is 3.0ms
Diagnostics and alarms	Support
Safety features	Fault hold output/fault output value (channel independent)

3.21.3 Hardware Interface



- ①Status Indicator light ②channel indicator light ③Module model
④Terminal and identification ⑤Internal bus ⑥Plastic clip ⑦Cable fixing clip

1 LED indicator light



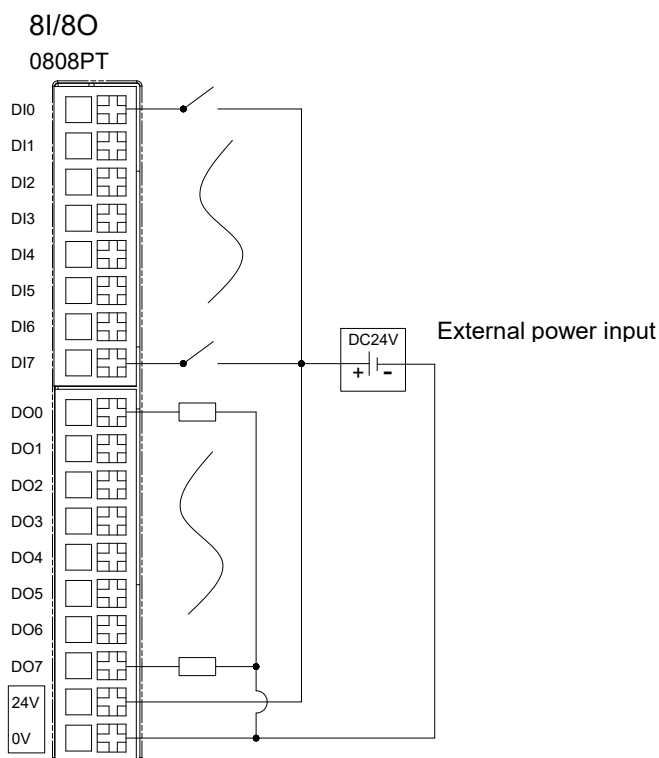
- ①Module status indicator ligh (green).
②Input channel indicator ligh (green).
③Power indicator ligh (green).

POW	STA	Meaning
Bright	Off	The module does not communicate
Bright	Bright	The module works normally
Bright	1 Hz	Addressing
Bright	3 Hz	Addressing completes and waits for the coupler to run
Bright	10 Hz	Program upgrade status
xHz	xHz	Reserve alarm indications

2 Terminal block Definition

Terminal No.	Definition	Description
1	DI0	Signal input
2	DI1	
3	DI2	
4	DI3	
5	DI4	
6	DI5	
7	DI6	
8	DI7	
9	DO0	Signal output
10	DO1	
11	DO2	
12	DO3	
13	DO4	
14	DO5	
15	DO6	
16	DO7	
17	24 V	External power input
18	0 V	

3.21.4 Wiring Diagram



3.22 MB6-A0400V

3.22.1 Module Features

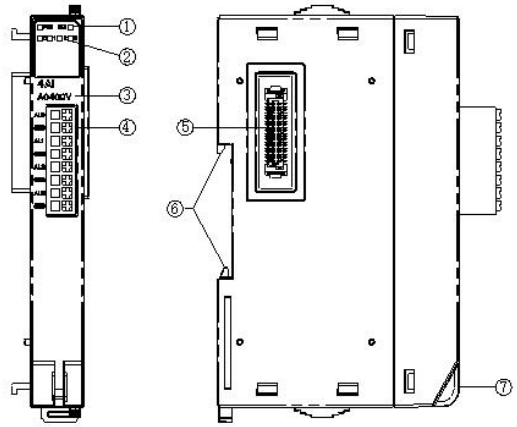
1. The module supports 4-channel voltage signal input.
2. The module can collect -10~10V(Default), 0~10V, -5~5V, 0~5V, 1~5V, 16-bit resolution.
3. The module comes with 4 analog input channel LED indicator light.
4. The module input signal is single-ended common ground input.
5. The filter time can be set.

3.22.2 Technical Parameters

Common parameters	
Current consumption	110 mA @5V
Isolation withstand voltage	I/O to internal bus: optocoupler isolation 3kV, non-isolated between channels
On-site power supply	Not used
Wiring	I/O wiring: 0.3 mm ² (22AWG) ~ 1mm ² (17AWG).
	Recommended wire diameter: 0.3~1mm ² , crimp terminal length: 10 mm
Installation method	35 mm DIN rail mounting
size	105 mm x 66mm x 15mm
weight	70 g
Environment parameters	
Operating temperature	-20~50°C
Storage temperature	-25~65°C
relative humidity	5%~95% non-condensing
Degree of protection	IP20
Input properties	
Number of channels	4
type	Voltage input
indicators light	4-channel indicators light
Input range	-10~10V(Default), 0~10V, -5~5V, 0~5V, 1~5V
resolution	16 bit
Accuracy	±0.1%@25°C
The modulus corresponds to the value	-10~10V:-32768~32767((Default) 0~10V:0~27648 -5~5V:-32768~32767 -10~10V:-32000~32000 0~10V:0~32000 -5~5V:-27648~27648 -5~5V:-32000~32000 0~5V:0~32767 0~5V:0~27648

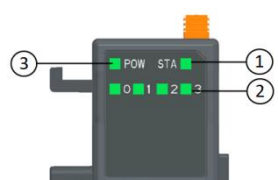
	0~5V:0~32000 1~5V:0~32767
Hardware filter	0.5 ms
Sampling speed	250 us/4 channels
Filter time	Configurable: 0~30.0ms, default configuration: 1.0 ms
Diagnostics and alarms	Support

3.22.3 Hardware Interface



- ①Status Indicator light ②channel indicator light ③Module model
④Terminal and identification ⑤Internal bus ⑥Plastic clip ⑦Cable fixing clip

1 LED indicator light



- ①Module status indicator ligh (green).
②Input channel indicator ligh (green).
③Power indicator ligh (green).

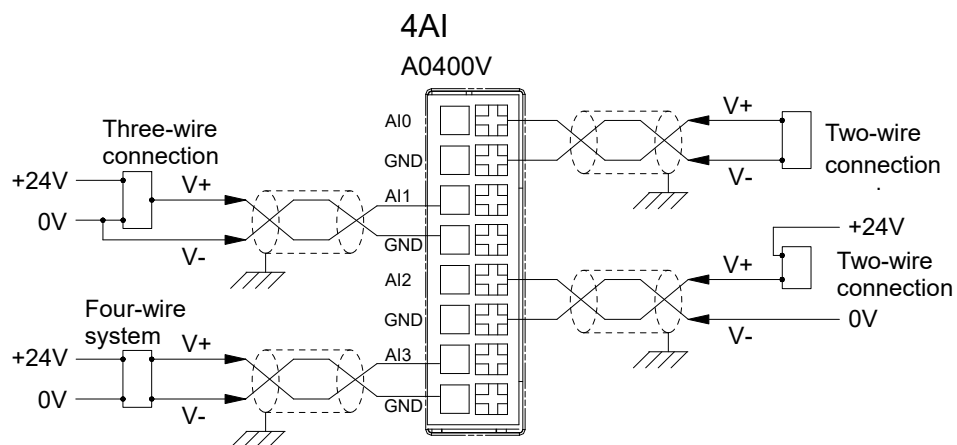
POW	STA	Meaning
Bright	Off	The module does not communicate
Bright	Bright	The module works normally
Bright	1 Hz	Addressing
Bright	3 Hz	Addressing completes and waits for the coupler to run
Bright	10 Hz	Program upgrade status
xHz	xHz	Reserve alarm indications

2 Terminal block Definition

Terminal No.	Definition	Description
1	AI0	Voltage input
2	GND	
3	AI1	Voltage input
4	GND	

5	AI2	Voltage input
6	GND	
7	AI3	Voltage input
8	GND	

3.22.4 Wiring Diagram



3.23 MB6-A0800V

3.23.1 Module Features

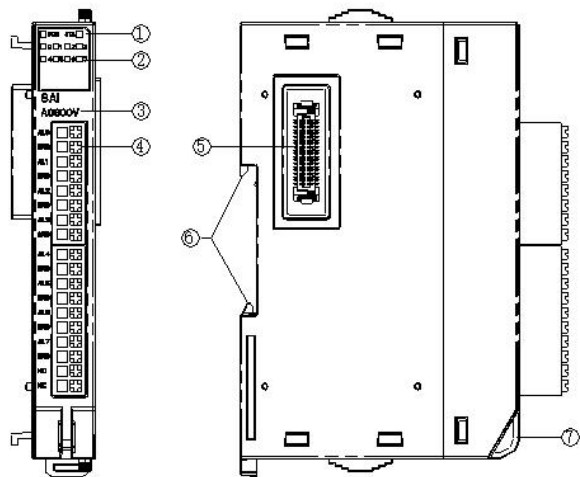
1. The module supports 8-channel voltage signal input.
2. The module can acquire -10~10V(Default), 0~10V, -5~5V, 0~5V, 1~5V, 16-bit resolution.
3. The module comes with 8 analog input channel LED indicator light.
4. The module input signal is single-ended common ground input.
5. The filter time can be set.

3.23.2 Technical Parameters

Common parameters	
Current consumption	110 mA @5V
Isolation withstand voltage	I/O to internal bus: optocoupler isolation 3kV, non-isolated between channels
On-site power supply	Not used
Wiring	I/O wiring: 0.3 mm ² (22AWG) ~ 1mm ² (17AWG).
	Recommended wire diameter: 0.3~1mm ² , crimp terminal length: 10 mm
Installation method	35 mm DIN rail mounting
size	105 mm x 66mm x 15mm
weight	80 g
Environment parameters	
Operating temperature	-20~50°C
Storage temperature	-25~65°C
relative humidity	5%~95% non-condensing
Degree of protection	IP20
Input properties	
Number of channels	8
type	Voltage input
indicators light	8-channel indicators light
Input range	-10~10V(Default), 0~10V, -5~5V, 0~5V, 1~5V
resolution	16 bit
Accuracy	±0.1% _{@25°C}
The modulus corresponds to the value	-10~10V:-32768~32767(Default) 0~10V:0~27648 -5~5V:-32768~32767 -10~10V:-32000~32000 0~10V:0~32000 -5~5V:-27648~27648 -5~5V:-32000~32000 0~5V:0~32767 0~5V:0~27648 0~5V:0~32000 1~5V:0~32767

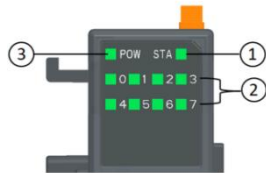
Hardware filter	0.5 ms
Sampling speed	250 us/8 channels
Filter time	Configurable: 0~30.0ms, default configuration: 1.0 ms
Diagnostics and alarms	Support

3.23.3 Hardware Interface



- ①Status Indicator light ②channel indicator light ③Module model
④Terminal and identification ⑤Internal bus ⑥Plastic clip ⑦Cable fixing clip

1 LED indicator light



- ①Module status indicator ligh (green).
②Input channel indicator ligh (green).
③Power indicator ligh (green).

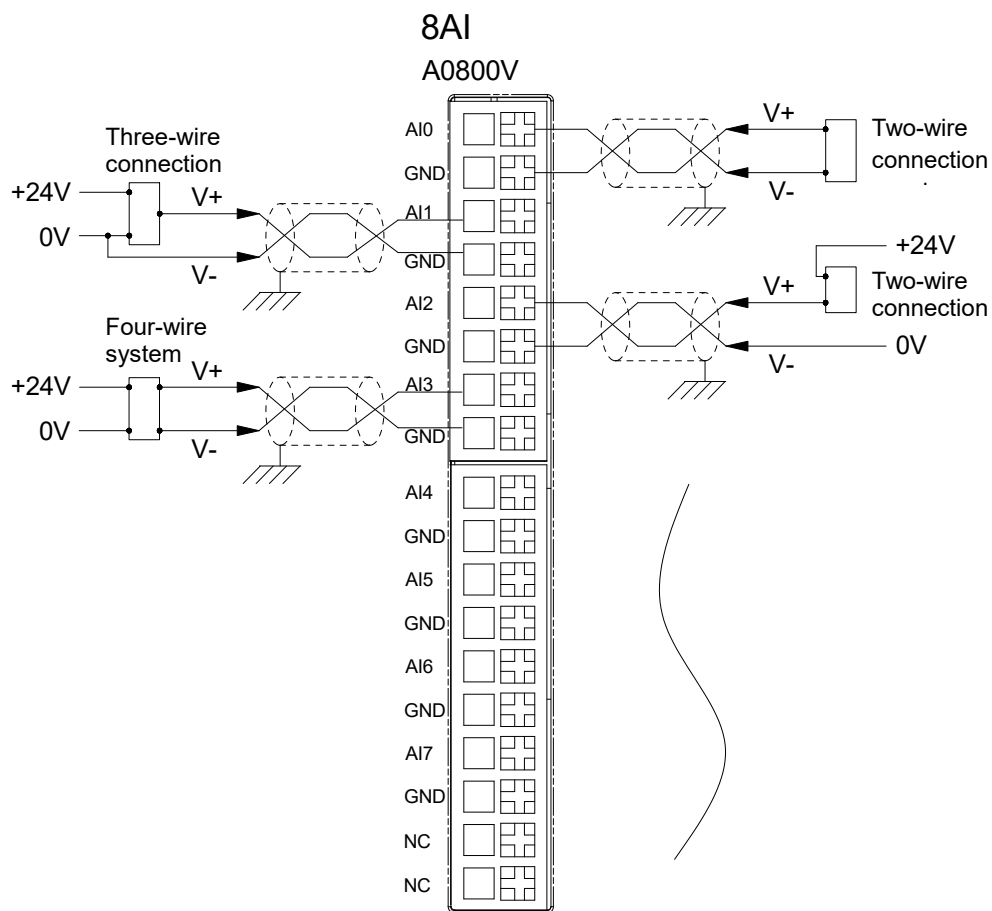
POW	STA	Meaning
Bright	Off	The module does not communicate
Bright	Bright	The module works normally
Bright	1 Hz	Addressing
Bright	3 Hz	Addressing completes and waits for the coupler to run
Bright	10 Hz	Program upgrade status
xHz	xHz	Reserve alarm indications

2 Terminal block Definition

Terminal No.	Definition	Description
1	AI0	Voltage input
2	GND	
3	AI1	Voltage input

4	GND	
5	AI2	Voltage input
6	GND	
7	AI3	Voltage input
8	GND	
9	AI4	Voltage input
10	GND	
11	AI5	Voltage input
12	GND	
13	AI6	Voltage input
14	GND	
15	AI7	Voltage input
16	GND	
17	NC	Not connected
18	NC	

3.23.4 Wiring Diagram



3.24 MB6-A0400C

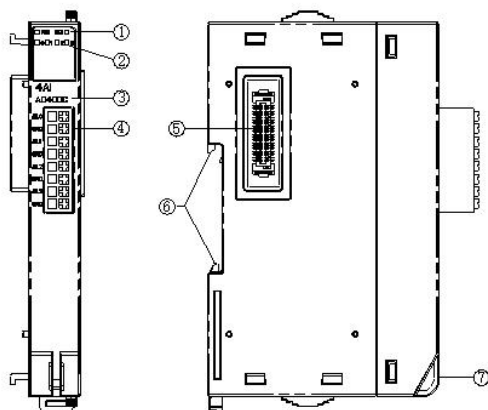
3.24.1 Module Features

1. The module supports 4-channel current signal acquisition.
2. The module can be configured for 0-20 mA or 4-20 mA(Default) current signal acquisition.
3. The module supports 2-wire current sensor input.
4. The internal bus and field input of the module are optocoupler isolation.
5. The module channel has TVS overvoltage protection.
6. The module has 16bit resolution.
7. The module comes with 4 analog output channel LED indicator light.

3.24.2 Technical Parameters

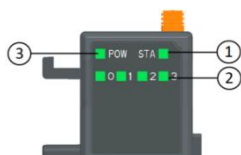
Common parameters	
Current consumption	90 mA @5V
Isolation withstand voltage	I/O to internal bus: optocoupler isolation 3kV, non-isolated between channels
On-site power supply	Not used
Wiring	I/O wiring: 0.3 mm ² (22AWG) ~ 1mm ² (17AWG).
	Recommended wire diameter: 0.3~1mm ² , crimp terminal length: 10 mm
Installation method	35 mm DIN rail mounting
size	105 mm x 66mm x 15mm
weight	70 g
Environment parameters	
Operating temperature	-20~50°C
Storage temperature	-25~65°C
relative humidity	5%~95% non-condensing
Degree of protection	IP20
Input properties	
Number of channels	4
type	Current input
indicators light	4-channel indicators light
Input range	0~20 mA,4~20 mA(Default)
resolution	16 bit
Accuracy	±0.1%@25°C
The modulus corresponds to the value	4~20 mA:0~65535(Default) 0~20 mA:0~65535 4~20 mA:0~27648 0~20 mA:0~27648 4~20 mA:0~32000 0~20 mA:0~32000
Hardware filter	0.4 ms
Sampling speed	250 us/4 channels
Filter time	Configurable: 0~30.0ms, default configuration: 1.0 ms

3.24.3 Hardware Interface



- ① Status Indicator light ② channel indicator light ③ Module model
 ④ Terminal and identification ⑤ Internal bus ⑥ Plastic clip ⑦ Cable fixing clip

1 LED indicator light



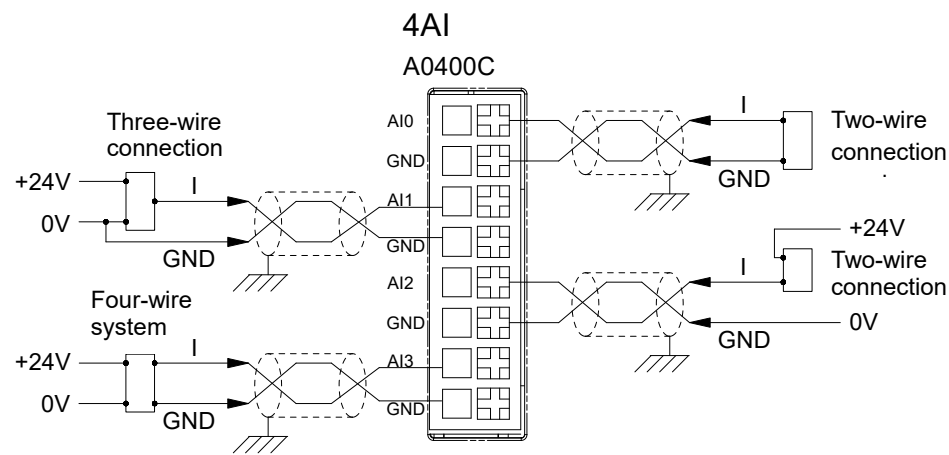
- ① Module status indicator light (green).
 ② Input channel indicator light (green).
 ③ Power indicator light (green).

POW	STA	Meaning
Bright	Off	The module does not communicate
Bright	Bright	The module works normally
Bright	1 Hz	Addressing
Bright	3 Hz	Addressing completes and waits for the coupler to run
Bright	10 Hz	Program upgrade status
xHz	xHz	Reserve alarm indications

2 Terminal block Definition

Terminal No.	Definition	Description
1	AI0	Current input
2	GND	
3	AI1	Current input
4	GND	
5	AI2	Current input
6	GND	
7	AI3	Current input
8	GND	

3.24.4 Wiring Diagram



3.25 MB6-A0800C

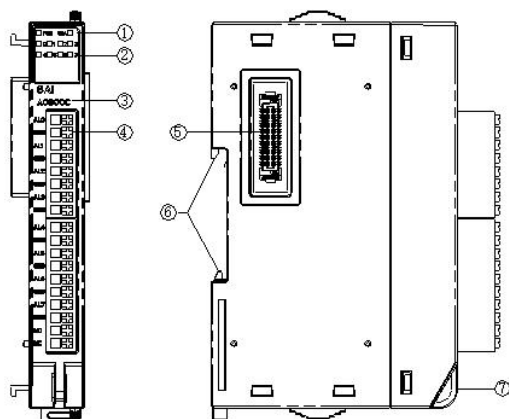
3.25.1 Module Features

1. The module supports 8-channel current signal acquisition.
2. The module can be configured for 0-20 mA or 4-20 mA(Default) current signal acquisition.
3. The module supports 2-wire current sensor input.
4. The internal bus and field input of the module are optocoupler isolation.
5. The module channel has TVS overvoltage protection.
6. The module has 16bit resolution.
7. The module comes with 8 analog output channel LED indicator light.

3.25.2 Technical Parameters

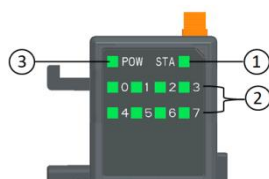
Common parameters	
Current consumption	90 mA @5V
Isolation withstand voltage	I/O to internal bus: optocoupler isolation 3kV, non-isolated between channels
On-site power supply	Not used
Wiring	I/O wiring: 0.3 mm ² (22AWG) ~ 1mm ² (17AWG).
	Recommended wire diameter: 0.3~1mm ² , crimp terminal length: 10 mm
Installation method	35 mm DIN rail mounting
size	105 mm x 66mm x 15mm
weight	80 g
Environment parameters	
Operating temperature	-20~50°C
Storage temperature	-25~65°C
relative humidity	5%~95% non-condensing
Degree of protection	IP20
Input properties	
Number of channels	8
type	Current input
indicators light	8-channel indicators light
Input range	0~20 mA,4~20 mA(Default)
resolution	16 bit
Accuracy	±0.1%@25°C
The modulus corresponds to the value	4~20 mA:0~65535(Default)
	0~20 mA:0~65535
	4~20 mA:0~27648
	0~20 mA:0~27648
	4~20 mA:0~32000
	0~20 mA:0~32000
Hardware filter	0.4 ms
Sampling speed	250 us/8 channels
Filter time	Configurable: 0~30.0ms, default configuration: 1.0 ms

3.25.3 Hardware Interface



- ① Status Indicator light ② channel indicator light ③ Module model
 ④ Terminal and identification ⑤ Internal bus ⑥ Plastic clip ⑦ Cable fixing clip

1 LED indicator light



- ① Module status indicator light (green).
 ② Input channel indicator light (green).
 ③ Power indicator light (green).

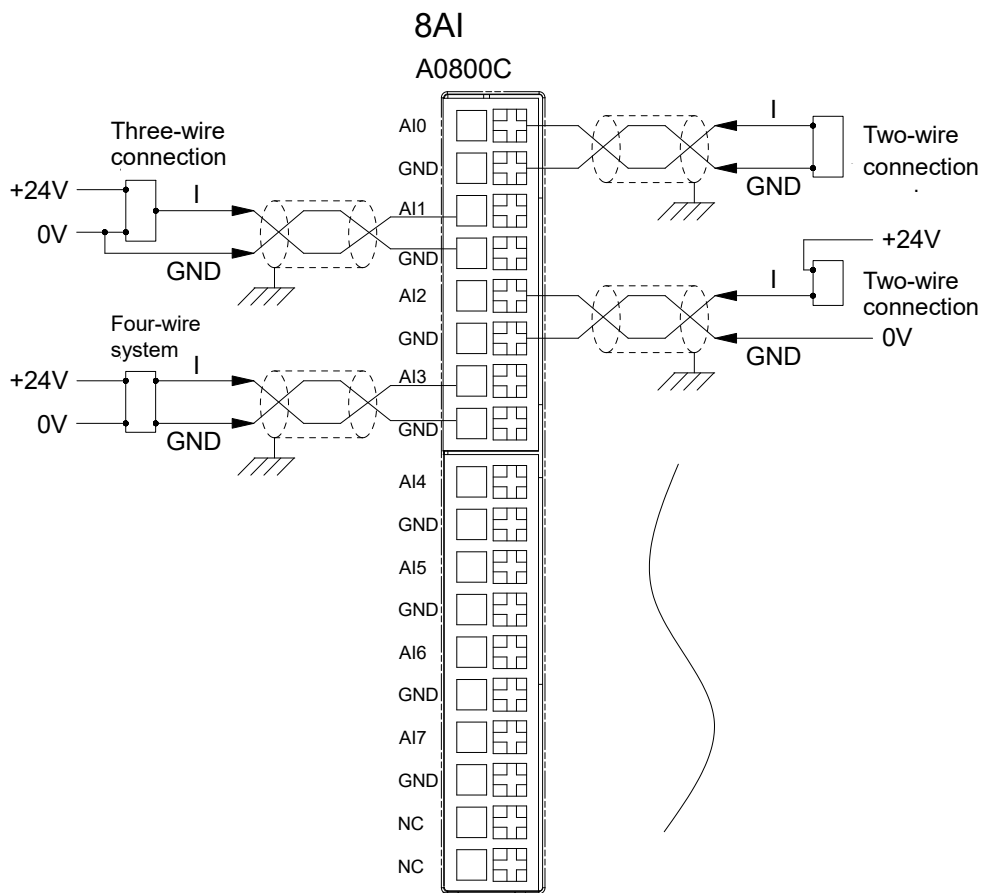
POW	STA	Meaning
Bright	Off	The module does not communicate
Bright	Bright	The module works normally
Bright	1 Hz	Addressing
Bright	3 Hz	Addressing completes and waits for the coupler to run
Bright	10 Hz	Program upgrade status
xHz	xHz	Reserve alarm indications

2 Terminal block Definition

Terminal No.	Definition	Description
1	AI0	Current input
2	GND	
3	AI1	Current input
4	GND	
5	AI2	Current input
6	GND	
7	AI3	Current input
8	GND	
9	AI4	Current input

10	GND	Current input
11	AI5	
12	GND	
13	AI6	Current input
14	GND	
15	AI7	
16	GND	Not connected
17	NC	
18	NC	

3.25.4 Wiring Diagram



3.26 MB6-A0400VC

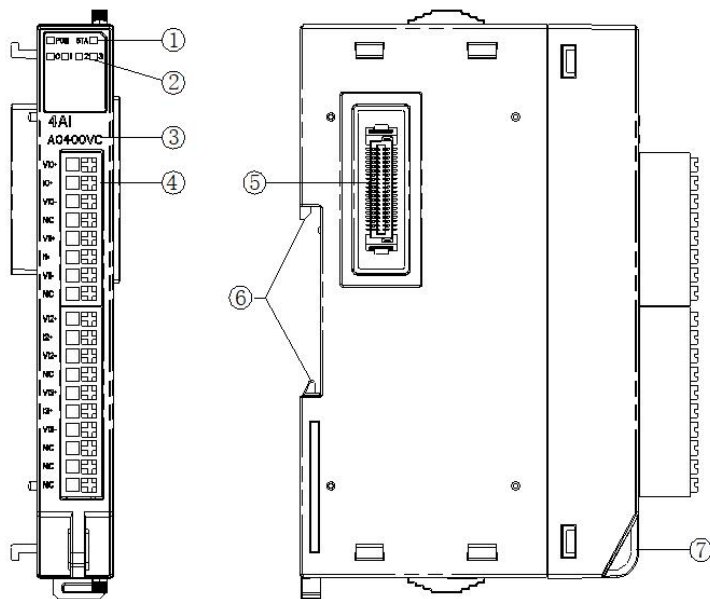
3.26.1 Module Features

1. The module supports 4-channel analog input, and each channel can be configured as either a voltage signal input or a current signal input.
2. The Input range of the module is -10~10V (default), 0~10V, -5~5V, 0~5V, 1~5V, -20~20 mA, 0-20 mA, 4-20 mA.
3. The module adopts a 16 bit resolution with an Accuracy of $\pm 0.1\%$.
4. The module is equipped with four analog input channels and LED indicator lights.
5. The module supports 2-wire system, 3-wire system, and 4-wire system sensor inputs.
6. The internal bus and field input of the module are isolated by optocouplers, and there is isolation between each channel of the module.
7. The module channel is equipped with TVS overvoltage protection.
8. The filter time can be set.

3.26.2 Technical Parameters

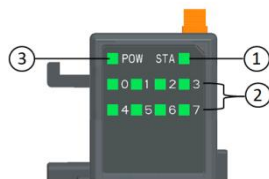
Common parameters	
Current consumption	1 mA @5V
Isolation withstand voltage	I/O to internal bus: optocoupler isolation 3kV, isolated between channels
On-site power supply	Not used
Wiring	I/O wiring: 0.3 mm ² (22AWG) ~ 1mm ² (17AWG).
	Recommended wire diameter: 0.3~1mm ² , crimp terminal length: 10 mm
Installation method	35 mm DIN rail mounting
size	105 mm x 66mm x 15mm
weight	80 g
Environment parameters	
Operating temperature	-20~50°C
Storage temperature	-25~65°C
relative humidity	5%~95% non-condensing
Degree of protection	IP20
Input properties	
Number of channels	4
type	Voltage or current input
indicators light	4-channel indicators light
Input range	-10~10V(default), 0~10V, -5~5V, 0~5V, 1~5V, -20~20 mA, 0-20 mA, 4-20 mA
resolution	16 bit
Accuracy	$\pm 0.1\%$ @25°C
The modulus corresponds to the value	-32768~32767(default), -27648~27648, -32000~32000
Hardware filter	0.5 ms
Sampling speed	250 us/4 channels
Filter time	Configurable: 0~30.0ms, default configuration: 1.0 ms
Diagnostics and alarms	Support

3.26.3 Hardware Interface



- ①Status Indicator light ②channel indicator light ③Module model
④Terminal and identification ⑤Internal bus ⑥Plastic clip ⑦Cable fixing clip

1 LED indicator light



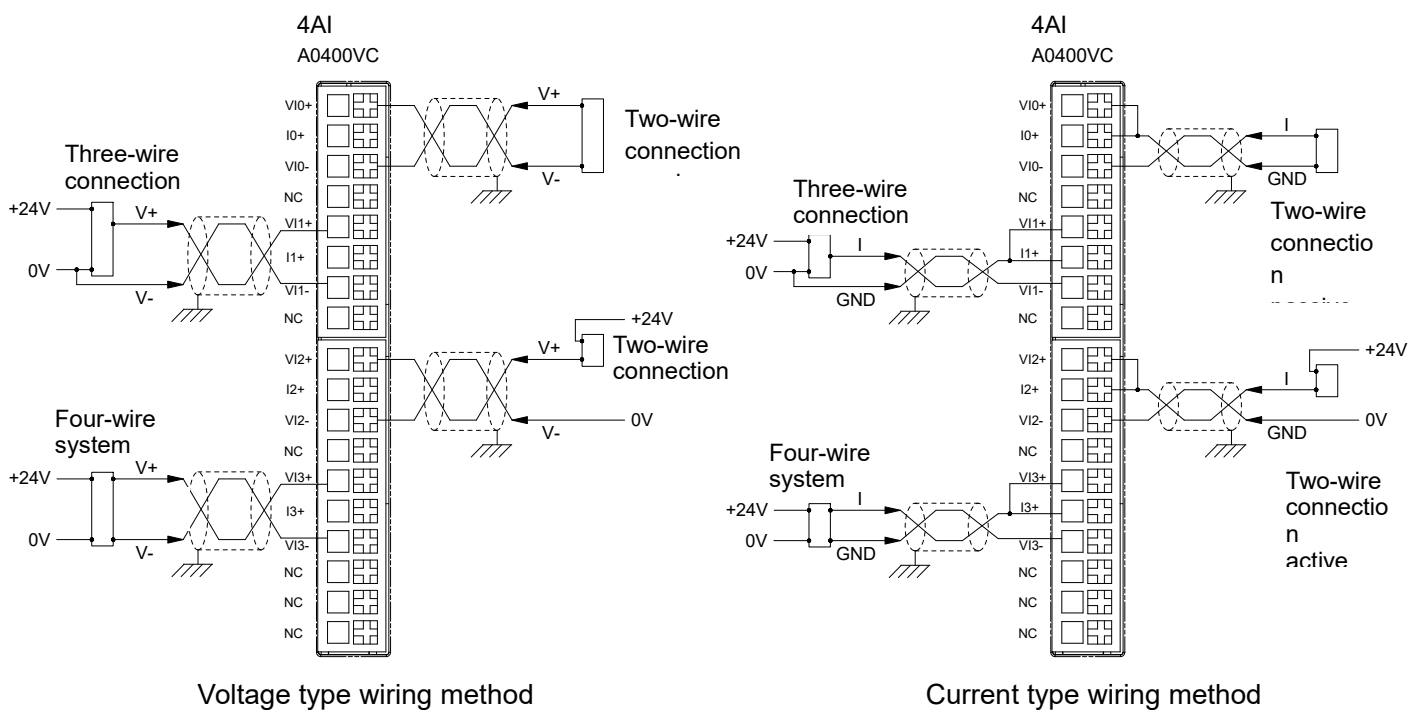
- ①Module status indicator light (green).
②Input channel indicator light (green).
③Power indicator light (green).

POW	STA	Meaning
Bright	Off	The module does not communicate
Bright	Bright	The module works normally
Bright	1 Hz	Addressing
Bright	3 Hz	Addressing completes and waits for the coupler to run
Bright	10 Hz	Program upgrade status
xHz	xHz	Reserve alarm indications

2 Terminal block Definition

Terminal No.	Definition	Voltage input Description	Current input Description
1	VI0+	Voltage input V+	Current input I+
2	I0+	/	
3	VI0-	Voltage input V-	Current input I-
4	NC	/	/
5	VI1+	Voltage input V+	Current input I+
6	I1+	/	
7	VI1-	Voltage input V-	Current input I-
8	NC	/	/
9	VI2+	Voltage input V+	Current input I+
10	I2+	/	
11	VI2-	Voltage input V-	Current input I-
12	NC	/	/
13	VI3+	/	Current input I+
14	I3+	Voltage input V+	
15	VI3-	Voltage input V-	Current input I-
16	NC	/	/
17	NC	/	/
18	NC	/	/

3.26.4 Wiring Diagram



3.27 MB6-A0004V

3.27.1 Module Features

1. The module supports 4-channel voltage signal output.

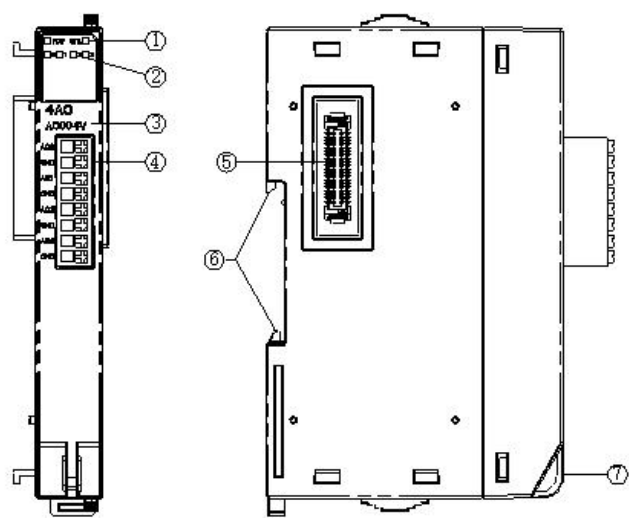
2. Output range:-10~10V(Default), 0~10V, -5~5V, 0~5V, 1~5V, 16-bit resolution.
3. The module is equipped with 4 analog output channel LED indicator light.
4. The module output signal is single-ended common ground output.

3.27.2 Technical Parameters

Common parameters	
Current consumption	230 mA @5V
Isolation withstand voltage	I/O to internal bus: optocoupler isolation 3kV, non-isolated between channels
On-site power supply	Not used
Wiring	I/O wiring: 0.3 mm ² (22AWG) ~ 1mm ² (17AWG).
	Recommended wire diameter: 0.3~1mm ² , crimp terminal length: 10 mm
Installation method	35 mm DIN rail mounting
size	105 mm x 66mm x 15mm
weight	70 g
Environment parameters	
Operating temperature	-20~50°C
Storage temperature	-25~65°C
relative humidity	5%~95% non-condensing
Degree of protection	IP20
Output characteristicssss	
Number of channels	4
type	Voltage output
indicators light	4-channel indicators light
Output range	-10~10V(Default), 0~10V, -5~5V, 0~5V, 1~5V
resolution	16 bit
Accuracy	±0.1%@25°C
The corresponding value of the number and analogy	-32768~32767:-10~10V(Default) 0~27648:0~10V -32768~32767:-5~5V -32000~32000:-10~10V 0~32000:0~10V -27648~27648:-5~5V -32000~32000:-5~5V 0~32767:0~5V 0~27648:0~5V 0~32000:0~5V 0~32767:1~5V
Hardware filter	0.25 ms
Conversion time	250 us/4 channels

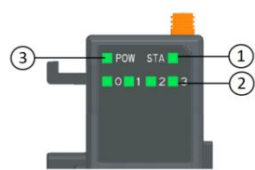
Load capacity	>2kΩ
Short-circuit protection	Supports load short-circuit protection (do not short-circuit for a long time)
Safety features	Fault hold output/fault output value (channel independent).

3.27.3 Hardware Interface



- ①Status Indicator light ②channel indicator light ③Module model
④Terminal and identification ⑤Internal bus ⑥Plastic clip ⑦Cable fixing clip

1 LED indicator light



- ①Module status indicator ligh (green).
②Input channel indicator ligh (green).
③Power indicator ligh (green).

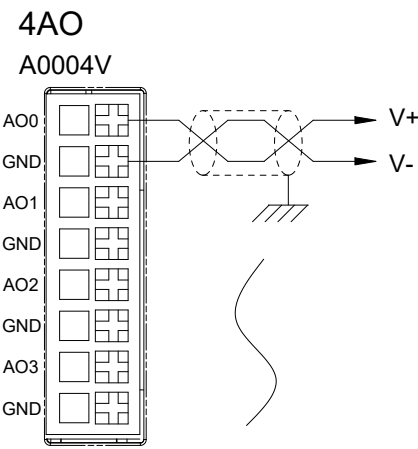
POW	STA	Meaning
Bright	Off	The module does not communicate
Bright	Bright	The module works normally
Bright	1 Hz	Addressing
Bright	3 Hz	Addressing completes and waits for the coupler to run
Bright	10 Hz	Program upgrade status
xHz	xHz	Reserve alarm indications

2 Terminal block Definition

Terminal No.	Definition	Description
1	AO0	Voltage output
2	GND	
3	AO1	Voltage output
4	GND	
5	AO2	Voltage output
6	GND	

7	AO3	Voltage output
8	GND	

3.27.4 Wiring Diagram



3.28 MB6-A0008V

3.28.1 Module Features

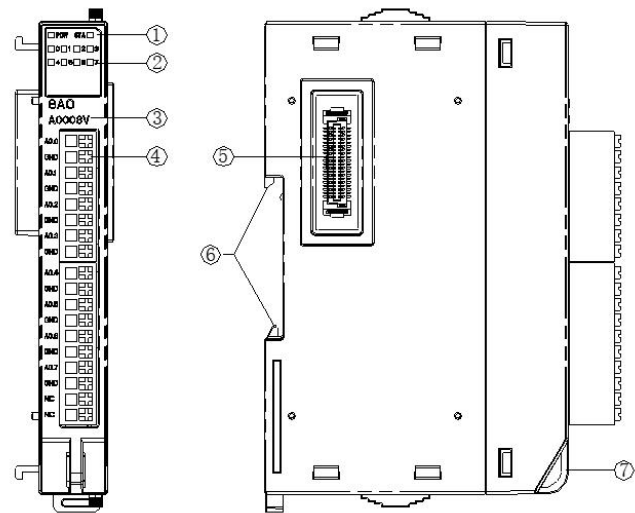
1. The module supports 8-channel voltage signal output.
2. Output range: -10~10V(Default), 0~10V, -5~5V, 0~5V, 1~5V, 16-bit resolution.
3. The module comes with 8 analog output channel LED indicator light.
4. The module output signal is single-ended common ground output.

3.28.2 Technical Parameters

Common parameters	
Current consumption	230 mA @5V
Isolation withstand voltage	I/O to internal bus: optocoupler isolation 3kV, non-isolated between channels
On-site power supply	Not used
Wiring	I/O wiring: 0.3 mm ² (22AWG) ~ 1mm ² (17AWG).
	Recommended wire diameter: 0.3~1mm ² , crimp terminal length: 10 mm
Installation method	35 mm DIN rail mounting
size	105 mm x 66mm x 15mm
weight	80 g
Environment parameters	
Operating temperature	-20~50°C
Storage temperature	-25~65°C
relative humidity	5%~95% non-condensing
Degree of protection	IP20
Output characteristicssss	
Number of channels	8
type	Voltage output
indicators light	8-channel indicators light
Output range	-10~10V(Default), 0~10V, -5~5V, 0~5V, 1~5V
resolution	16 bit
Accuracy	±0.1%@25°C
The corresponding value of the number and analogy	-32768~32767:-10~10V(Default) 0~27648:0~10V -32768~32767:-5~5V -32000~32000:-10~10V 0~32000:0~10V -27648~27648:-5~5V -32000~32000:-5~5V 0~32767:0~5V 0~27648:0~5V 0~32000:0~5V

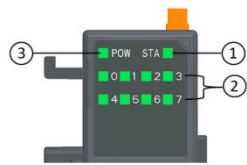
	0~32767:1~5V
Hardware filter	0.25 ms
Conversion time	250 us/8 channels
Load capacity	>2kΩ
Short-circuit protection	Supports load short-circuit protection (do not short-circuit for a long time)
Safety features	Fault hold output/fault output value (channel independent).

3.28.3 Hardware Interface



- ①Status Indicator light ②channel indicator light ③Module model
④Terminal and identification ⑤Internal bus ⑥Plastic clip ⑦Cable fixing clip

1 LED indicator light



- ①Module status indicator ligh (green).
②Input channel indicator ligh (green).
③Power indicator ligh (green).

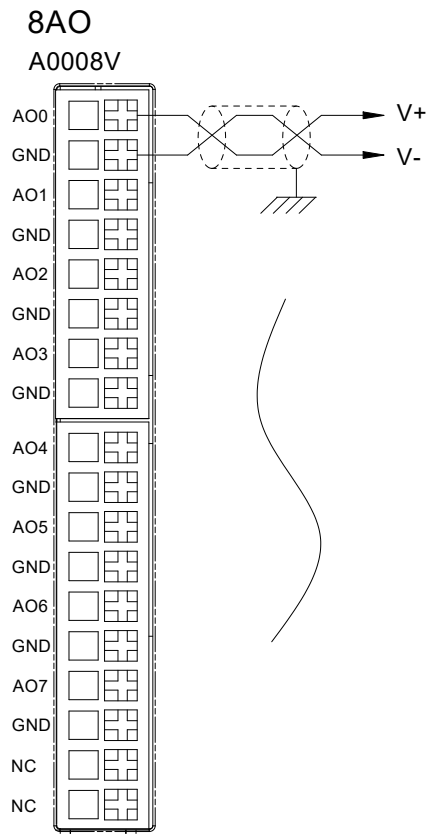
POW	STA	Meaning
Bright	Off	The module does not communicate
Bright	Bright	The module works normally
Bright	1 Hz	Addressing
Bright	3 Hz	Addressing completes and waits for the coupler to run
Bright	10 Hz	Program upgrade status
xHz	xHz	Reserve alarm indications

2 Terminal block Definition

Terminal No.	Definition	Description
1	AO0	Voltage output
2	GND	

3	AO1	Voltage output
4	GND	
5	AO2	Voltage output
6	GND	
7	AO3	Voltage output
8	GND	
9	AO4	Voltage output
10	GND	
11	AO5	Voltage output
12	GND	
13	AO6	Voltage output
14	GND	
15	AO7	Voltage output
16	GND	
17	NC	Not connected
18	NC	

3.28.4 Wiring Diagram



3.29 MB6-A0004C

3.29.1 Module Features

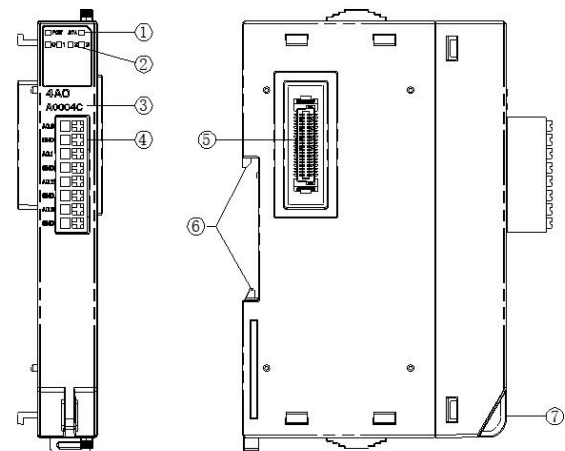
1. The module supports 4-channel current signal output.
2. The module has 16-bit resolution.
3. The module is equipped with 4 analog output channel LED indicator light.
4. The module output signal is single-ended common ground output.
5. The output range of 5.0-20 mA and 4-20 mA(Default)can be set.

3.29.2 Technical Parameters

Common parameters	
Current consumption	55 mA @5V
Isolation withstand voltage	I/O to internal bus: optocoupler isolation 3kV, non-isolated between channels
On-site power supply	Not used
Wiring	I/O wiring: 0.3 mm ² (22AWG) ~ 1mm ² (17AWG).
	Recommended wire diameter: 0.3~1mm ² , crimp terminal length: 10 mm
Installation method	35 mm DIN rail mounting
size	105 mm x 66mm x 15mm
weight	70 g
Environment parameters	
Operating temperature	-20~50°C
Storage temperature	-25~65°C
relative humidity	5%~95% non-condensing
Degree of protection	IP20
Output characteristicssss	
Number of channels	4
type	Current output
indicators light	4-channel indicators light
Output range	0~20 mA,4~20 mA(Default)
resolution	16 bit
Accuracy	±0.1%@25°C
The corresponding value of the number and analogy	0~65535:4~20 mA(Default) 0~65535:0~20 mA 0~27648:4~20 mA 0~27648:0~20 mA 0~32000:4~20 mA 0~32000:0~20 mA
Hardware filter	0.35 ms
Conversion time	250 us/4 channels
Load capacity	50~500Ω

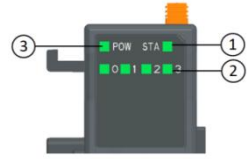
Short-circuit protection	Supports load short-circuit protection (do not short-circuit for a long time)
Safety features	Fault hold output/fault output value (channel independent).

3.29.3 Hardware Interface



- ①Status Indicator light ②channel indicator light ③Module model
④Terminal and identification ⑤Internal bus ⑥Plastic clip ⑦Cable fixing clip

1 LED indicator light



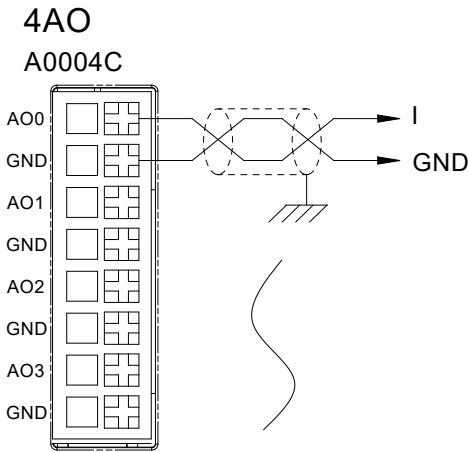
- ①Module status indicator light (green).
②Input channel indicator light (green).
③Power indicator light (green).

POW	STA	Meaning
Bright	Off	The module does not communicate
Bright	Bright	The module works normally
Bright	1 Hz	Addressing
Bright	3 Hz	Addressing completes and waits for the coupler to run
Bright	10 Hz	Program upgrade status
xHz	xHz	Reserve alarm indications

2 Terminal block Definition

Terminal No.	Definition	Description
1	AO0	Current output
2	GND	
3	AO1	Current output
4	GND	
5	AO2	Current output
6	GND	
7	AO3	Current output
8	GND	

3.29.4 Wiring Diagram



3.30 MB6-A0008C

3.30.1 Module Features

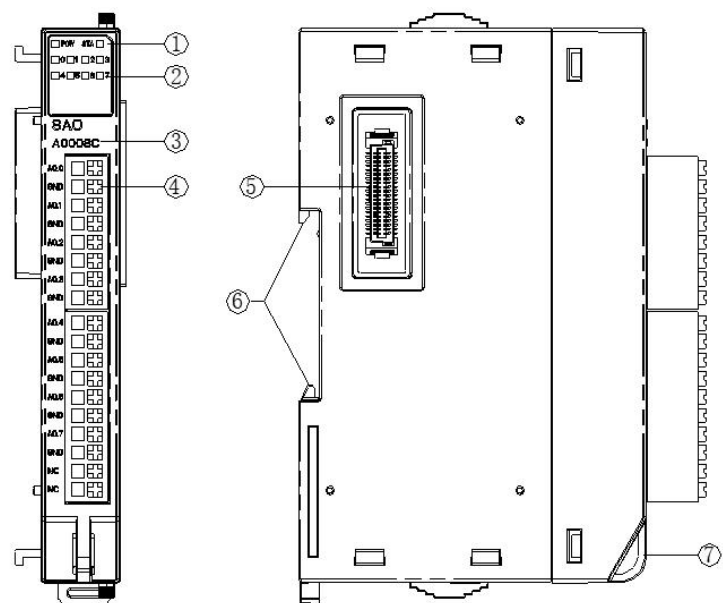
1. The module supports 8-channel current signal output.
2. The module has 16-bit resolution.
3. The module comes with 8 analog output channel LED indicator light.
4. The module output signal is single-ended common ground output.
5. 0-20 mA, 4-20 mA(Default) 2 output ranges can be set.

3.30.2 Technical Parameters

Common parameters	
Current consumption	55 mA @5V
Isolation withstand voltage	I/O to internal bus: optocoupler isolation 3kV, non-isolated between channels
On-site power supply	Not used
Wiring	I/O wiring: 0.3 mm ² (22AWG) ~ 1mm ² (17AWG).
	Recommended wire diameter: 0.3~1mm ² , crimp terminal length: 10 mm
Installation method	35 mm DIN rail mounting
size	105 mm x 66mm x 15mm
weight	80 g
Environment parameters	
Operating temperature	-20~50°C
Storage temperature	-25~65°C
relative humidity	5%~95% non-condensing
Degree of protection	IP20
Output characteristicssss	
Number of channels	8
type	Current output
indicators light	8-channel indicators light
Output range	0~20 mA,4~20 mA(Default)
resolution	16 bit
Accuracy	±0.1%@25°C
The corresponding value of the number and analogy	0~65535:4~20 mA(Default) 0~65535:0~20 mA 0~27648:4~20 mA 0~27648:0~20 mA 0~32000:4~20 mA 0~32000:0~20 mA
Hardware filter	0.35 ms
Conversion time	250 us/8 channels

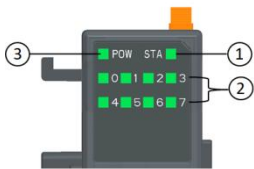
Load capacity	50~500Ω
Short-circuit protection	Supports load short-circuit protection (do not short-circuit for a long time)
Safety features	Fault hold output/fault output value (channel independent).

3.30.3 Hardware Interface



- ①Status Indicator light ②channel indicator light ③Module model
④Terminal and identification ⑤Internal bus ⑥Plastic clip ⑦Cable fixing clip

1 LED indicator light



- ①Module status indicator light (green).
②Input channel indicator light (green).
③Power indicator light (green).

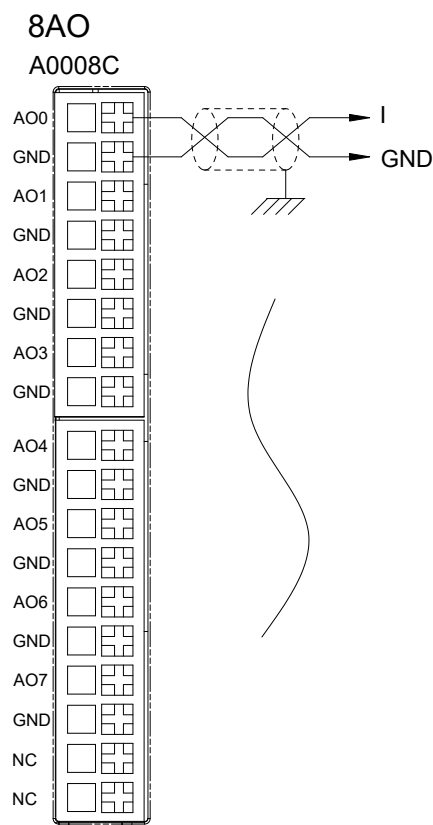
POW	STA	Meaning
Bright	Off	The module does not communicate
Bright	Bright	The module works normally
Bright	1 Hz	Addressing
Bright	3 Hz	Addressing completes and waits for the coupler to run
Bright	10 Hz	Program upgrade status
xHz	xHz	Reserve alarm indications

2 Terminal block Definition

Terminal No.	Definition	Description
1	AO0	Current output
2	GND	
3	AO1	Current output
4	GND	

5	AO2	Current output
6	GND	
7	AO3	Current output
8	GND	
9	AO4	Current output
10	GND	
11	AO5	Current output
12	GND	
13	AO6	Current output
14	GND	
15	AO7	Current output
16	GND	
17	NC	Not connected
18	NC	

3.30.4 Wiring Diagram



3.31 MB6-0008R

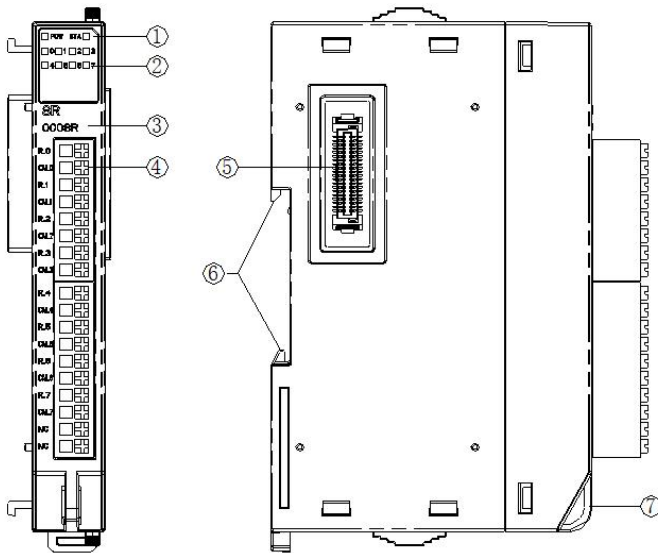
3.31.1 Module Features

1. The module supports 8-channel relay normally open output.
2. The module has 8 analog output channels with LED indicator lights.
3. The maximum switching voltage is 250VAC/220V DC.
4. The maximum current of each relay in the module is 2A.

3.31.2 Technical Parameters

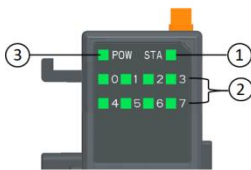
General Parameters	
Current consumption	100 mA @5V
Isolation	I/O to internal bus:coil isolation 1.6kV
Wiring	I/O wire:0.3mm ² (22AWG)~ 1mm ² (17AWG)
	Recommended wire diameter: 0.3 ~ 1mm ² , crimp terminal length: 10mm
Installation method	35 mm DIN rail mounting
Size	105 mm x 66mm x 15mm
Weight	70 g
Environmental parameters	
Operating temperature	-20~50°C
Storage temperature	-25~65°C
Relative humidity	5%~95% non-condensing
Protection level	IP20
Output characteristicss	
Number of channels	8
Type	Relay type output
Indicator Light	8-channel indicator light
Maximum Switching Current	Max 2A/ per channel, 8 channels total: Max 10A
Maximum switching voltage	250 V AC / 220V DC
Maximum switching power	62.5 VA/60W
Mechanical endurance	1 x10 ⁸ 次
electrical endurance	1 x10 ⁵ 次 (0.5A@125V AC)
Output delay	ON to OFF: 2ms,OFF to ON : 2ms
Equivalent bandwidth	Max 200Hz
Diagnostics and alarms	Support
Safety features	Fault hold output/fault output value (channel independent)

3.31.3 Hardware Interface



- ①Status Indicator light ②channel indicator light ③Module model
④Terminal and identification ⑤Internal bus ⑥Plastic clip ⑦Cable fixing clip

1 LED indicator light



- ①Module status indicator ligh (green).
②Input channel indicator ligh (green).
③Power indicator ligh (green).

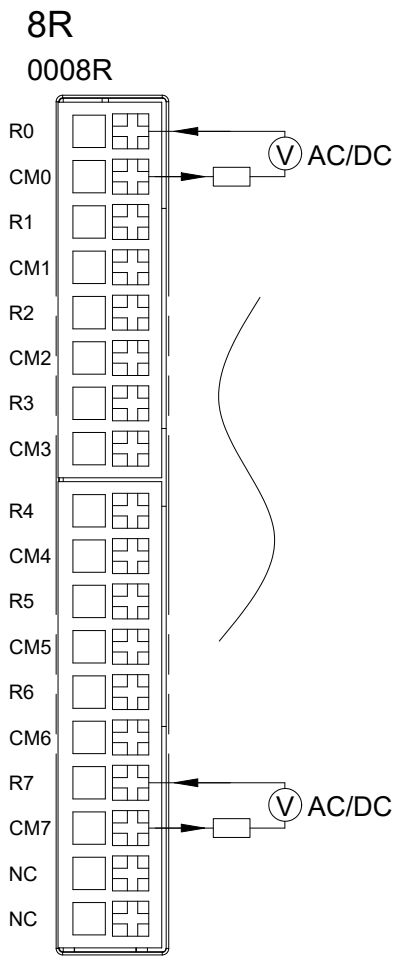
POW	STA	Meaning
Bright	Off	The module does not communicate
Bright	Bright	The module works normally
Bright	1 Hz	Addressing
Bright	3 Hz	Addressing completes and waits for the coupler to run
Bright	10 Hz	Program upgrade status
xHz	xHz	Reserve alarm indications

2 Terminal block Definition

Terminal No.	Definition	Description
1	R0	Relay output 0
2	CM0	Common end 0
3	R1	Relay output 1
4	CM1	Common end 1
5	R2	Relay output 2
6	CM2	Common end 2
7	R3	Relay output 3
8	CM3	Common end 3

9	R4	Relay output 4
10	CM4	Common end 4
11	R5	Relay output 5
12	CM5	Common end 5
13	R6	Relay output 6
14	CM6	Common end 6
15	R7	Relay output 7
16	CM7	Common end 7
17	NC	not connected
18	NC	

3.31.4 Wiring Diagram



3.32 MB6-TM0400

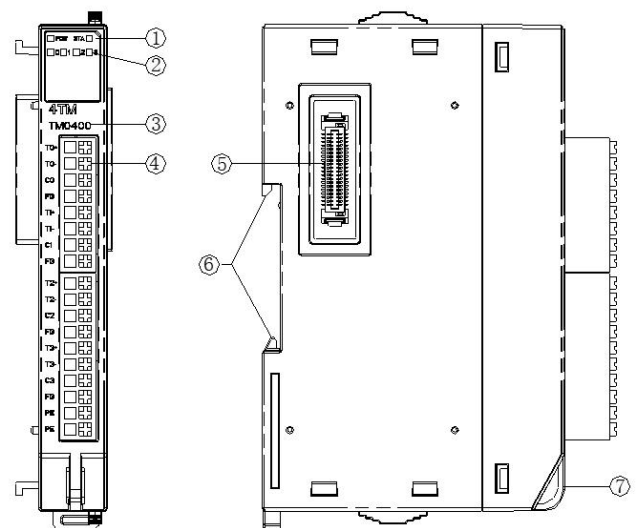
3.32.1 Module Features

1. The module supports 4-channel RTD (PT100) temperature acquisition and a variety of thermocouples (K, J, T, E, N, R, S, B, C) acquisition.
2. The internal bus and field input of the module are optocoupler isolation.
3. The module comes with 4 analog input channel LED indicator light.
4. The module has 16-bit ADC resolution.

3.32.2 Technical Parameters

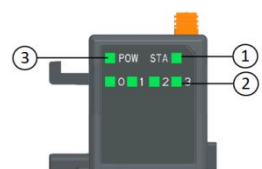
Common parameters		
Current consumption	70 mA @5V	
Isolation withstand voltage	I/O to Internal bus: Optocoupler isolated 3kV	
Wiring	I/O wiring: 0.3 mm² (22AWG) ~ 1mm² (17AWG).	
	Recommended wire diameter: 0.3~1mm², crimp terminal length: 10 mm	
Installation method	35 mm DIN rail mounting	
size	105 mm x 66mm x 15mm	
weight	80 g	
Environment parameters		
Operating temperature	-20~50°C	
Storage temperature	-25~65°C	
relative humidity	5%~95% non-condensing	
Degree of protection	IP20	
Input properties		
Number of channels	4	
Indicators light	4-channel indicators light	
Sensor type	Thermocouple	RTD(Default)
Wiring method	Two-wire connection	Two-wire connection, three-wire system
Temperature measurement range	K type (-200~1370 °C), J type (200~1200 °C). T type (-200~400 °C), E type (-200~1000 °C). Type N (-200~1000°C). R type (-50~1700 °C), S type (-50~1700 °C). Type B (250~1800°C), Type C (0~2320°C).	PT100(-200~850°C)(Default) PT200 (-200~600°C) PT500(-200~600°C) PT1000(-200~600°C) Ni120(-70~300°C)
Accuracy	±0.3% full scale @25°C	±0.5% full scale @25°C
sensitivity	0.1°C	0.1°C
resolution	16-bit signed integer (int).	
Conversion time	100 ms/channel	100 ms/channel
Filter time	0~60000ms	
Wire break detection	Support	Not supported
Temperature overflow	Support	Support
Temperature underflow	Support	Support

3.32.3 Hardware Interface



- ①Status Indicator light ②channel indicator light ③Module model
④Terminal and identification ⑤Internal bus ⑥Plastic clip ⑦Cable fixing clip

1 LED indicator light



- (1) Module status indicator ligh (green).
(2) Input channel indicator ligh (green).
(3) Power indicator ligh (green).

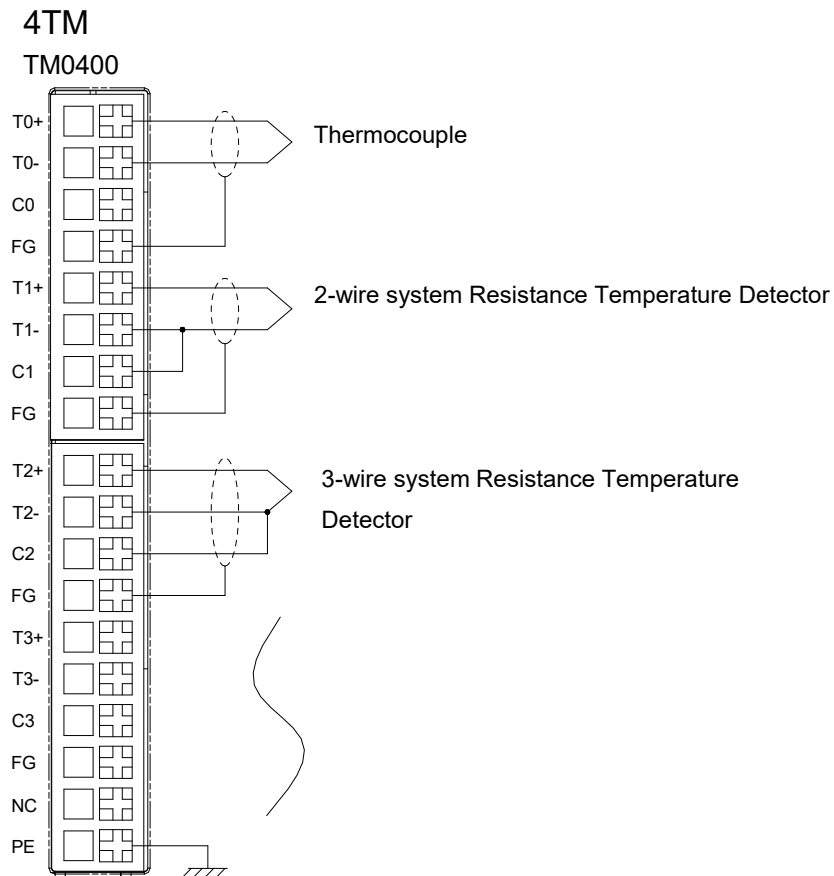
POW	STA	Meaning
Bright	Off	The module does not communicate
Bright	Bright	The module works normally
Bright	1 Hz	Addressing
Bright	3 Hz	Addressing completes and waits for the coupler to run
Bright	10 Hz	Program upgrade status
xHz	xHz	Reserve alarm indications

2 Terminal block Definition

Terminal No.	Definition	Description
1	T0+	Sensor 0+
2	T0-	Sensor 0-
3	C0	Sensor common terminal 0
4	FG	Shielding layer
5	T1+	Sensor 1+
6	T1-	Sensor 1-
7	C1	Sensor Common Terminal 1
8	FG	Shielding layer
9	T2+	Sensor 2+
10	T2-	Sensor 2-

11	C2	Sensor Common Terminal 2
12	FG	Shielding layer
13	T3+	Sensor 3+
14	T3-	Sensor 3-
15	C3	Sensor Common Terminal 3
16	FG	Shielding layer
17	NC	Ground
18	PE	

3.32.4 Wiring Diagram



3.33 MB6-C0200T

3.33.1 Module Features

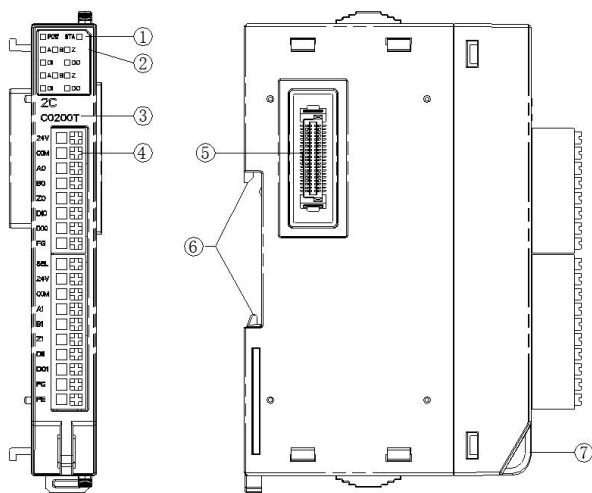
1. The module supports a total of 2 channels of encoder input.
2. Each encoder channel supports A/B incremental encoder or pulse-directional encoder input.
3. Each encoder channel supports quadrature A/B signal input, input voltage 24 V, and supports source and drain input.
4. Incremental encoder mode supports x1/x2/x4 frequency multiplication selection.
5. Pulse-direction mode supports directionless signal, pulse input only.
6. Each encoder channel supports 1 digital signal input with an input voltage of 24 VDC.
7. Each encoder channel supports 1 digital output signal with an output voltage of 24 VDC.
8. Each encoder channel supports 1channel 24 V power output, which can be connected to the encoder for power supply.
9. The module comes with 10 LED indicator light.
10. The maximum input frequency of the encoder supported by the module is 1.5 MHz.

3.33.2 Technical Parameters

General Parameters	
Current consumption	50 mA @5V
Isolation	I/O to internal bus: Optocoupler isolation 3kV
Power output (Encoder power supply)	24 V/400 mA
Wiring	I/O wire:0.3mm ² (22AWG)~ 1mm ² (17AWG)
	Recommended wire diameter: 0.3 ~ 1mm ² , crimp terminal length: 10mm
Installation method	35 mm DIN rail mounting
Size	105 mm x 66mm x 15mm
Weight	80 g
Environmental parameters	
Operating temperature	-20~50°C
Storage temperature	-25~65°C
Relative humidity	5%~95% non-condensing
Protection level	IP20
Input characteristicssss	
Number of channels	2
Count frequency	≤ 1.5 MHz
Frequency multiplication	x1, x2, x4(Default)
Measurement function	Pulse counting, position feedback, position capture, position comparison, Z-phase pulse zeroing, etc
Length of signal line	≤2m

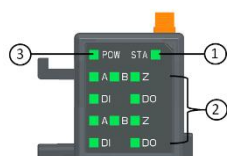
Output Type (either type)	NPN type/PNP type
Signal type	Directional pulse, CW CCW, orthogonal pulse
Voltage output range	24 V
DI input type	NPN type/PNP type
DI response	250 ns
DO output type	NPNtype
DO output voltage	24 VDC
DO load capacity	100 mA/ per channel
Indicator Light	10 lights
Diagnostics and alarms	Support

3.33.3 Hardware Interface



- ①Status Indicator light ②channel indicator light ③Module model
 ④Terminal and identification ⑤Internal bus ⑥Plastic clip ⑦Cable fixing clip

1 LED indicator light



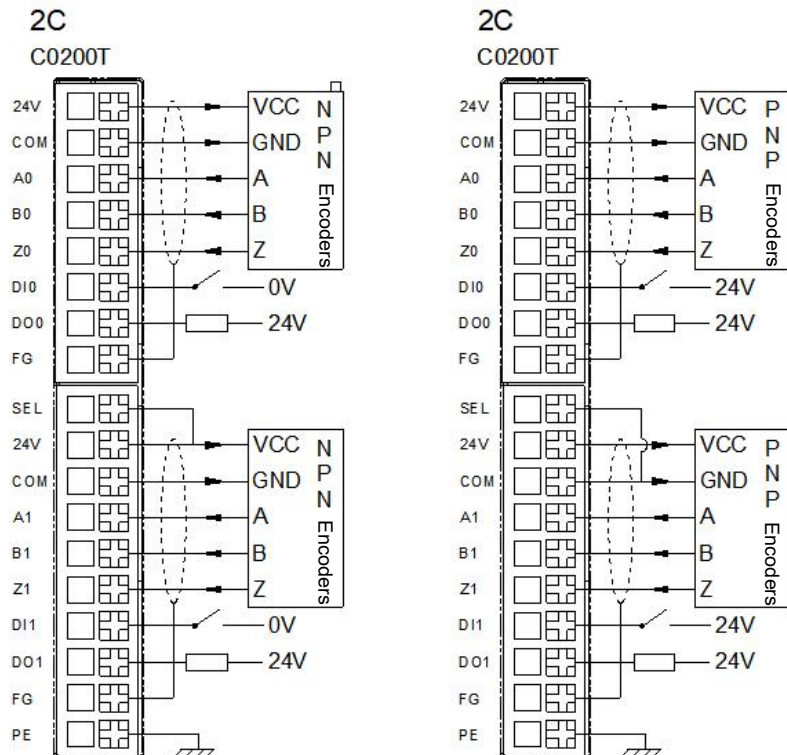
- ①Module status indicator ligh (green).
 ②Input channel indicator ligh (green).
 ③Power indicator light (green).

POW	STA	Meaning
Bright	Off	The module does not communicate
Bright	Bright	The module works normally
Bright	1 Hz	Addressing
Bright	3 Hz	Addressing completes and waits for the coupler to run
Bright	10 Hz	Program upgrade status
xHz	xHz	Reserve alarm indications

2 Terminal block Definition

Terminal No.	Definition	Description
1	24 V	Power output
2	COM	
3	A0	Pulse signal input
4	B0	
5	Z0	
6	DI0	Digital input
7	DO0	Digital output
8	FG	Shielding layer
9	SEL	NPN/PNP Select Port
10	24 V	Power output
11	COM	
12	A1	Pulse signal input
13	B1	
14	Z1	
15	DI1	Digital input
16	DO1	Digital output
17	FG	Shielding layer
18	PE	ground

3.33.4 Wiring Diagram



3.34 MB6-C0200D

3.34.1 Module Features

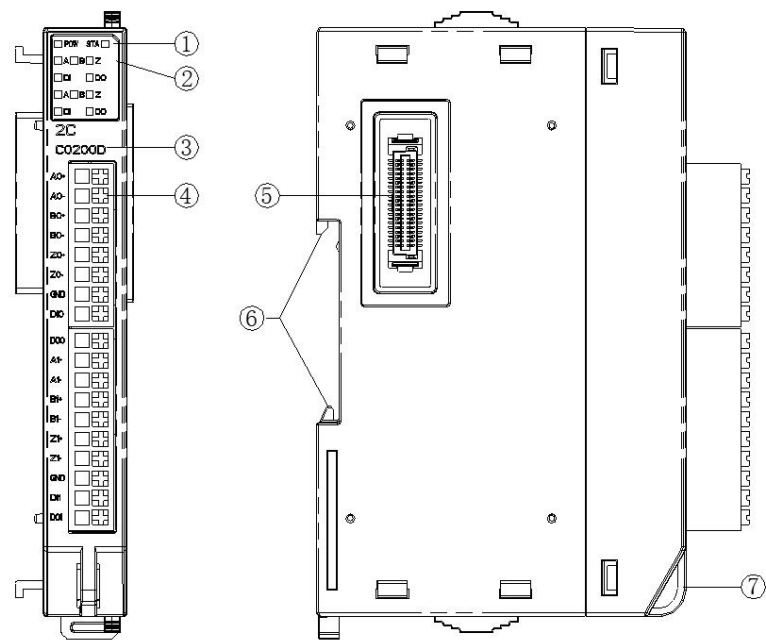
1. The module supports a total of 2 channels of encoder input.
2. Each encoder channel supports A/B incremental encoder or pulse-directional encoder input.
3. Each encoder channel supports quadrature A/B differential signal input.
4. Incremental encoder mode supports x1/x2/x4 frequency multiplication mode.
5. Pulse-direction mode supports directionless signal, pulse input only.
6. Each encoder channel supports 1 digital signal input and 1 digital signal output.
7. The internal bus and field input of the module are optocoupler isolation.
8. The module comes with 10 LED indicator light.
9. The maximum input frequency of the encoder supported by the module is 10 MHz.

3.34.2 Technical Parameters

General Parameters	
Current consumption	50 mA @5V
Isolation	I/O to internal bus: Optocoupler isolation 3kV
Power output (Encoder power supply)	None
Wiring	I/O wire:0.3mm ² (22AWG)~ 1mm ² (17AWG)
	Recommended wire diameter: 0.3 ~ 1mm ² , crimp terminal length: 10mm
Installation method	35 mm DIN rail mounting
Size	105 mm x 66mm x 15mm
Weight	80 g
Environmental parameters	
Operating temperature	-20~50°C
Storage temperature	-25~65°C
Relative humidity	5%~95% non-condensing
Protection level	IP20
Input characteristics	
Number of channels	2
Count frequency	≤ 10 MHz
Frequency multiplication	x1, x2, x4(Default)
Measurement function	Pulse counting, position feedback, position capture, position comparison, Z-phase pulse zeroing, etc
Length of signal line	≤ 10m
Output Type (either type)	Differential
Signal type	Directional pulse, CW CCW, orthogonal pulse

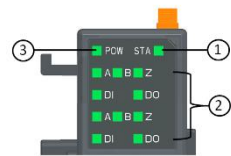
Voltage output range	/
DI input type	NPN type
DI response	250 ns
DO output type	NPN type
DO output voltage	5~24 VDC
DO load capacity	100 mA/ per channel
Indicator Light	10 lights
Diagnostics and alarms	Support

3.34.3 Hardware Interface



- ①Status Indicator light ②channel indicator light ③Module model
④Terminal and identification ⑤Internal bus ⑥Plastic clip ⑦Cable fixing clip

1 LED indicator light



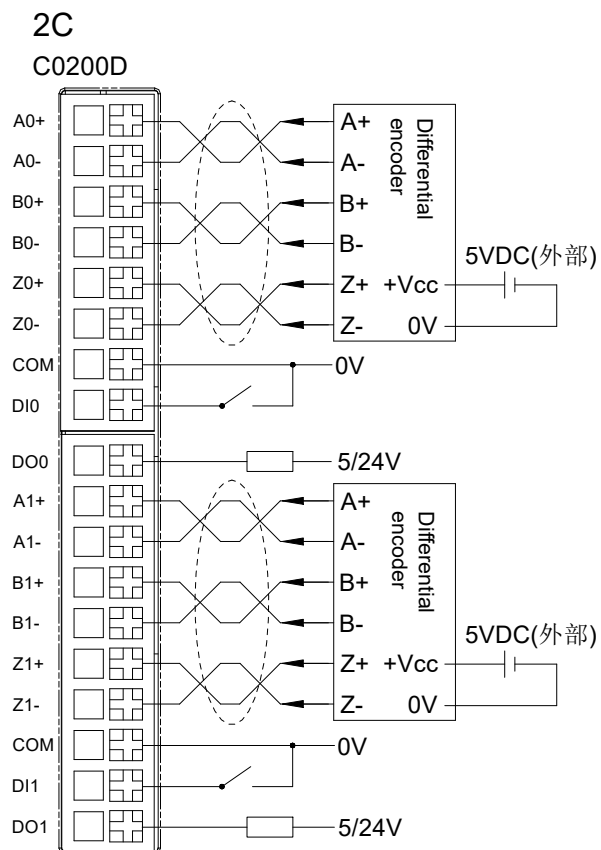
- ①Module status indicator ligh (green).
②Input channel indicator ligh (green).
③Power indicator ligh (green).

POW	STA	Meaning
Bright	Off	The module does not communicate
Bright	Bright	The module works normally
Bright	1 Hz	Addressing
Bright	3 Hz	Addressing completes and waits for the coupler to run
Bright	10 Hz	Program upgrade status
xHz	xHz	Reserve alarm indications

2 Terminal block Definition

Terminal No.	Definition	Description
1	A0+	Differential signal input
2	A0-	
3	B0+	Differential signal input
4	B0-	
5	Z0+	Differential signal input
6	Z0-	
7	COM	Common port
8	DI0	Digital input
9	DO0	Digital output
10	A1+	Differential signal input
11	A1-	
12	B1+	Differential signal input
13	B1-	
14	Z1+	Differential signal input
15	Z1-	
16	COM	Common port
17	DI1	Digital input
18	DO1	Digital output

3.34.4 Wiring Diagram



3.35 MB6-P02T/D

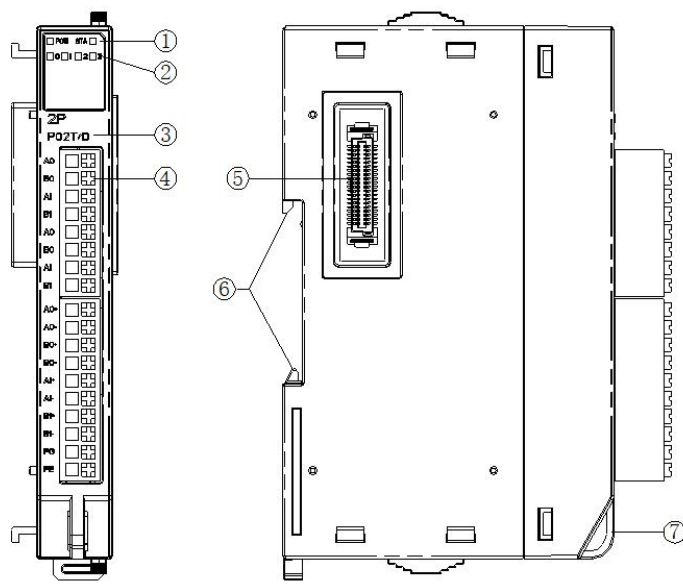
3.35.1 Module Features

1. The module supports three output types (NPN, PNP, and differential).
2. The module outputs two sets of NPN type, two sets of PNP type, and one set of differential output.
3. NPN, PNP type, maximum pulse output frequency of 1 MHz.
4. The module is equipped with four LED indicator lights.

3.35.2 Technical Parameters

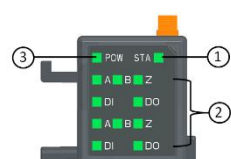
General Parameters	
Current consumption	120 mA @5V
Isolation	I/O to internal bus: Optocoupler isolation 3kV
Wiring	I/O wire:0.3mm ² (22AWG)~ 1mm ² (17AWG)
	Recommended wire diameter: 0.3 ~ 1mm ² , crimp terminal length: 10mm
Installation method	35 mm DIN rail mounting
Size	105 mm x 66mm x 15mm
Weight	80 g
Environmental parameters	
Operating temperature	-20~50°C
Storage temperature	-25~65°C
Relative humidity	5%~95% non-condensing
Protection level	IP20
Output characteristicss	
Number of channels	2
Output type (one of three wiring options)	NPN type, PNP type, differential type
Indicator Light	4-channel indicator light
Signal type	Directional pulse, CW CCW, orthogonal pulse
Duty cycle	50%
Load capacity	100 mA per channel
Pulse output frequency	NPN, PNP type ≤ 1 MHz, differential interface ≤ 10 MHz
Signal line length	NPN,PNP interface ≤ 2 meters, differential interface ≤ 10 meters
Protection function	Short-circuit protection
Safety features	Fault hold output/fault output value (channel independent)
Diagnostics and alarms	Support

3.35.3 Hardware Interface



- ①Status Indicator light ②channel indicator light ③Module model
④Terminal and identification ⑤Internal bus ⑥Plastic clip ⑦Cable fixing clip

1 LED indicator light



- ①Module status indicator ligh (green).
②Input channel indicator ligh (green).
③Power indicator ligh (green).

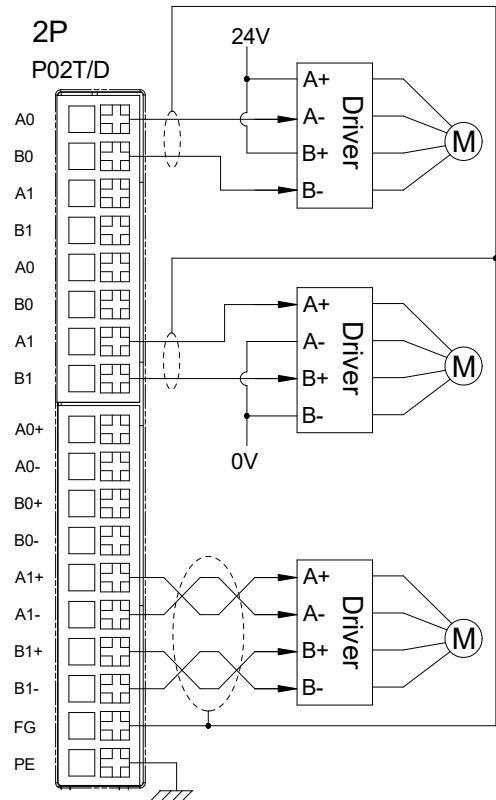
POW	STA	Meaning
Bright	Off	The module does not communicate
Bright	Bright	The module works normally
Bright	1 Hz	Addressing
Bright	3 Hz	Addressing completes and waits for the coupler to run
Bright	10 Hz	Program upgrade status
xHz	xHz	Reserve alarm indications

2 Terminal block Definition

Terminal No.	Definition	Description
1	A0	NPN type pulse output
2	B0	
3	A1	NPN type pulse output
4	B1	
5	A0	PNP type pulse output
6	B0	
7	A1	PNP type pulse output
8	B1	

9	A0+	differential type pulse output
10	A0-	
11	B0+	
12	B0-	
13	A1+	differential type pulse output
14	A1-	
15	B1+	
16	B1-	
17	FG	Shielding layer
18	PE	Ground wire

3.35.4 Wiring Diagram



3.36 MB6-PU0201

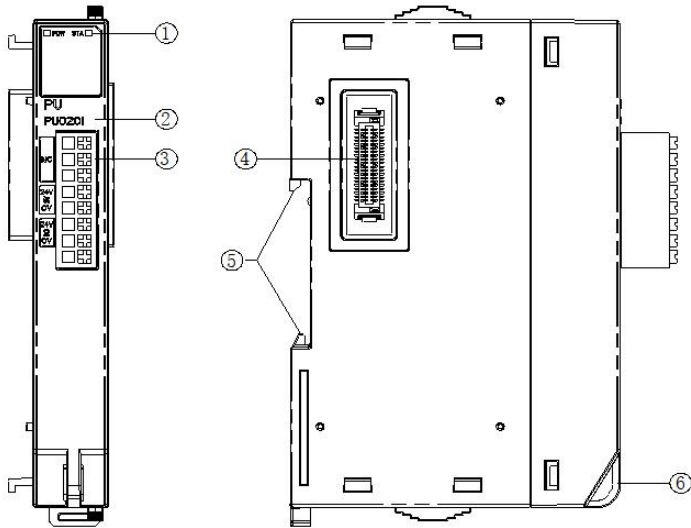
3.36.1 Module Features

1. System power and I/O power expansion.
2. System power output 2A@5VDC .
3. The module is equipped with 2 LED indicator lights.

3.36.2 Technical Parameters

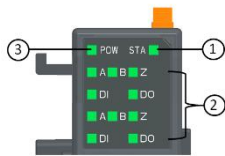
General Parameters	
power input	System power supply: 24 VDC, allowable range: 18~30V, Max 2A; supports: short-circuit protection, reverse-polarity protection I/O power supply: 24 VDC, allowable range: 18~30V, Max 3A; support: reverse-polarity protection
Wiring	I/O wire: 0.3mm ² (22AWG)~ 1mm ² (17AWG)
	Recommended wire diameter: 0.3 ~ 1mm ² , crimp terminal length: 10mm
Installation method	35 mm DIN rail mounting
Size	105 mm x 66mm x 15mm
Weight	70
Environmental parameters	
Operating temperature	-20~50°C
Storage temperature	-25~65°C
Relative humidity	5%~95% non-condensing
Protection level	IP20
Output characteristicss	
Output voltage	5 V
Output Load	Max :2A
Indicator Light	POW indicator light, STA indicator light
Short-circuit protection	Support
Diagnostics and alarms	Support

3.36.3 Hardware Interface



- ① Status Indicator light ② Module model ③ Terminal and identification
④ Internal bus ⑤ Plastic clip ⑥ Cable fixing clip

1 LED indicator light



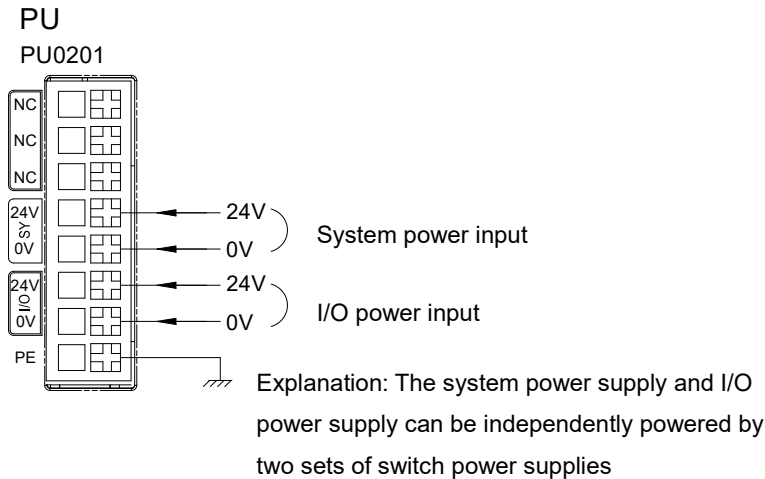
- ① Module status indicator ligh (green)
② Power indicator ligh (green)

POW	STA	Meaning
Bright	Off	The module does not communicate
Bright	Bright	The module works normally
Bright	1 Hz	Addressing
Bright	3 Hz	Addressing completes and waits for the coupler to run
Bright	10 Hz	Program upgrade status
xHz	xHz	Reserve alarm indications

2 Terminal block Definition

端子序号	定义	说明
1	NC	not connected
2	NC	not connected
3	NC	not connected
4	24 V	System power input 24 V
5	0 V	System power input 0V
6	24 V	I/O power input 24 V
7	0 V	I/O power input 0V
8	PE	Ground wire

3.36.4 Wiring Diagram



3.37 MB6-MR01

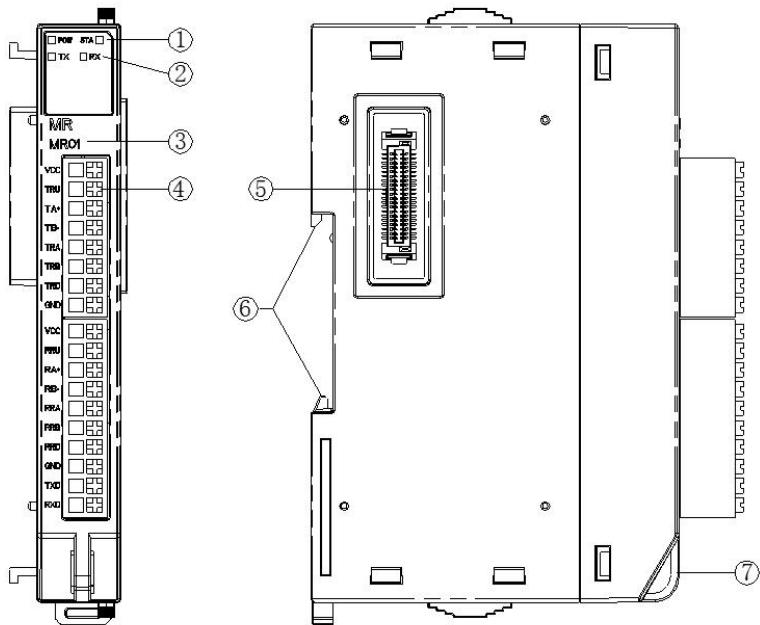
3.37.1 Module Features

1. The module supports a total of 3 communication types (RS485, RS422, RS232 three choices).
2. Support Modbus RTU/ASCII protocol, free port agreement.
3. The module is equipped with 2 LED communication indicator light (TX, RX).

3.37.2 Technical Parameters

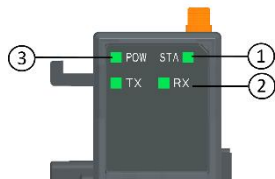
Common parameters	
Current consumption	50 mA @5V
Isolation withstand voltage	Communication interface to internal bus: optocoupler isolated 3kV
Wiring	I/O wiring: 0.3 mm ² (22AWG) ~ 1mm ² (17AWG).
	Recommended wire diameter: 0.3~1mm ² , cold-pressed terminal conduit length: 10 mm
Installation method	35 mm DIN rail mounting
size	105 mm x 66mm x 15mm
weight	80 g
Environment parameters	
Operating temperature	-20~50°C
Storage temperature	-25~65°C
relative humidity	5%~95% non-condensing
Degree of protection	IP20
Input properties	
Number of channels	1
Communication type	RS485 / RS422 / RS232 (choose one of the three).
Communication protocol	Modbus RTU / ASCII, Free port agreement
baud rate	Optional: 300, 600, 1200, 2400, 4800, 9600(default), 14400, 19200, 38400, 57600, 115200, 128000, 230400, 256000, 384000, 500000, custom baud rate (300-500K).
Data bits	8-bit (default), 7-bit
Check digit	None (default), Odd, Even
Stop bit	1 (default), 2-bit stop bit
Data format	Optional: Swap endianness, do not swap endianness (default)
Frame interval	Optional: 1.5 characters, 3.5 characters, 5 characters(default), 10 characters, 20 characters, 50 characters, 100 characters, 200 characters
Timeout	Configurable: 10-10000,200 ms(default)
Polling time	Configurable: 10-10000,4000us(default)
Master/Slave Mode	master mode (default)
Diagnostics and alarms	Support

3.37.3 Hardware Interface



- ①Status Indicator light ②channel indicator light ③Module model
④Terminal and identification ⑤Internal bus ⑥Plastic clip ⑦Cable fixing clip

1 LED indicator light



- ①Module status indicator light (green).
②Communication indicator light (green).
③Power indicator light (green).

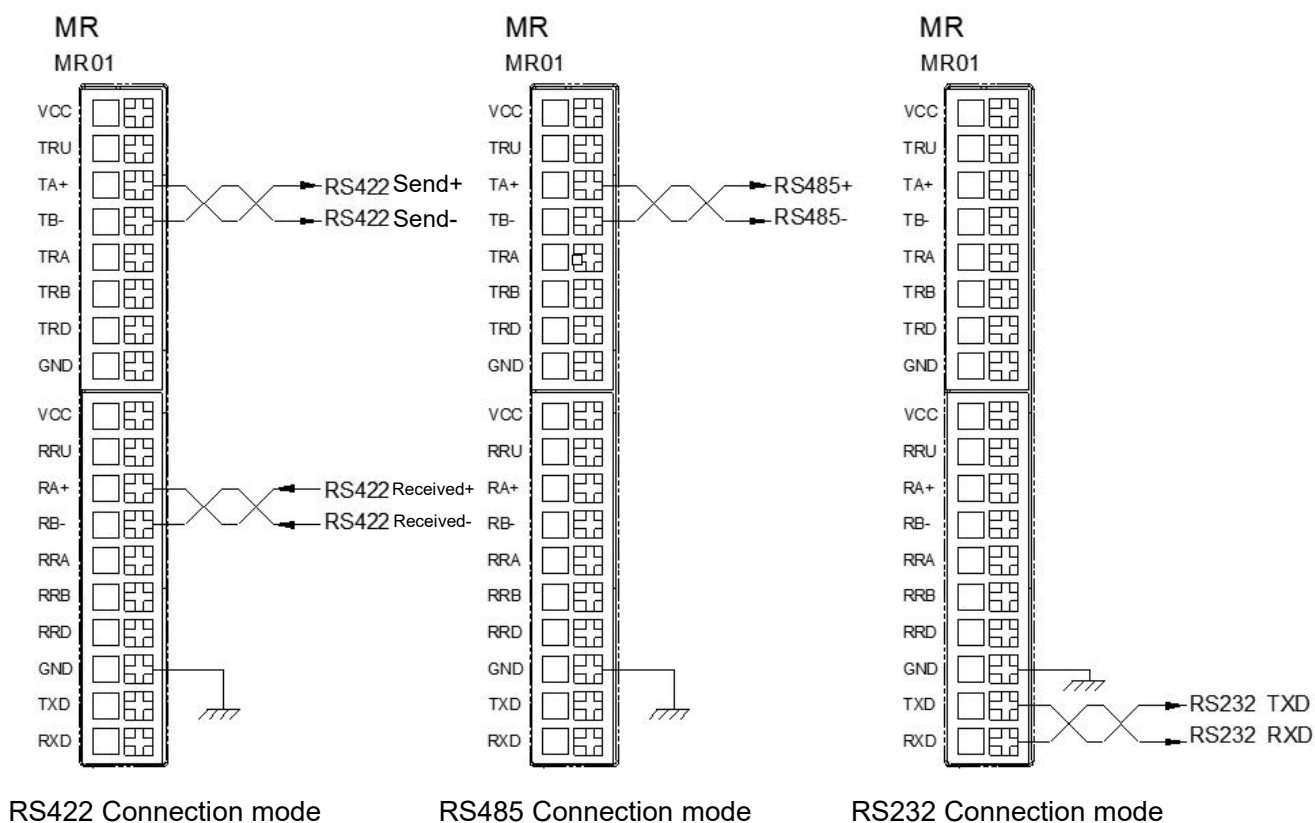
POW	STA	Meaning
Bright	Off	The module does not communicate
Bright	Bright	The module works normally
Bright	1 Hz	Addressing
Bright	3 Hz	Addressing completes and waits for the coupler to run
Bright	10 Hz	Program upgrade status
xHz	xHz	Reserve alarm indications

2 Terminal block Definition

Terminal No.	Definition	RS485	RS422	RS232
1	VCC	Short circuit (pull-up 4.7K resistor).	Short circuit (pull-up 4.7K resistor TX).	---
2	TRU			
3	TA+	A+	TX+	---
4	TB-	B-	TX-	---

5	TRA	Short circuit (120R termination resistor).	Short circuit (120R termination resistor TX).	---
6	TRB			
7	TRD	Short circuit (pull-down 4.7K resistor).	Short circuit (Pull down 4.7K resistor TX).	---
8	GND			
9	VCC	---	Short circuit (pull-up 4.7K resistor RX).	---
10	RRU	---		---
11	RA+	---	RX+	---
12	RB-	---	RX-	---
13	RRA	---	Short circuit (120R termination resistor RX).	---
14	RRB	---		---
15	RRD	---	Short circuit (Pull down the 4.7K resistor RX).	---
16	GND	GND		GND
17	TXD	---	---	TXD
18	RXD	---	---	RXD

3.37.4 Wiring Diagram



3.38 MB6-COM0909

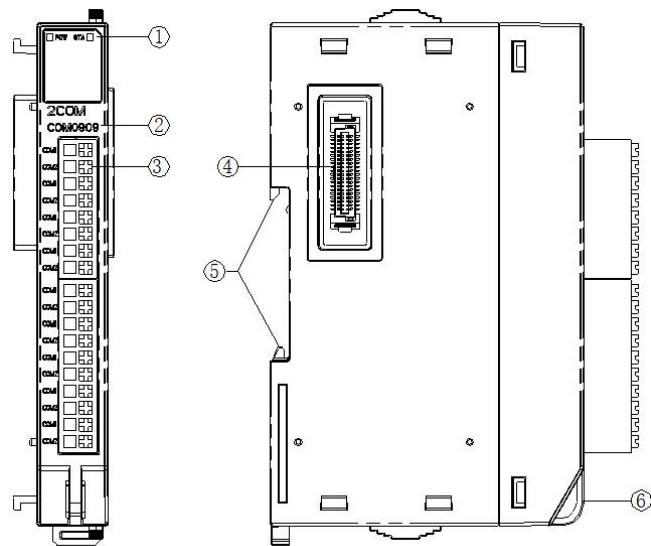
3.38.1 Module Features

1. The module has 2 sets of common terminals, providing common terminals for three wire and four wire digital input signals.
2. Modules can make wiring clear and easy to troubleshoot wiring issues.

3.38.2 Technical Parameters

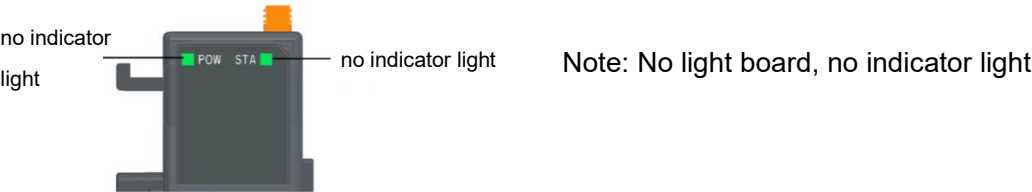
General Parameters	
Wiring	I/O wire: 0.3mm ² (22AWG)~ 1mm ² (17AWG)
	Recommended wire diameter: 0.3 ~ 1mm ² , crimp terminal length: 10mm
Installation method	35 mm DIN rail mounting
Size	105 mm x 66mm x 15mm
Weight	60 g
Environmental parameters	
Operating temperature	-20~50°C
Storage temperature	-25~65°C
Relative humidity	5%~95% non-condensing
Protection level	IP20
Electrical characteristics	
Common terminal	COM1: 9pin, COM2: 9pin
Common terminal withstand voltage	Nominal: 24 V, allowable range: 18~30V
Terminal current	Max 5A/Terminal
Indicator Light	None

3.38.3 Hardware Interface



- ①Status Indicator light ②Module model ③ Terminal and identification
④Internal bus ⑤Plastic clip ⑥Cable fixing clip

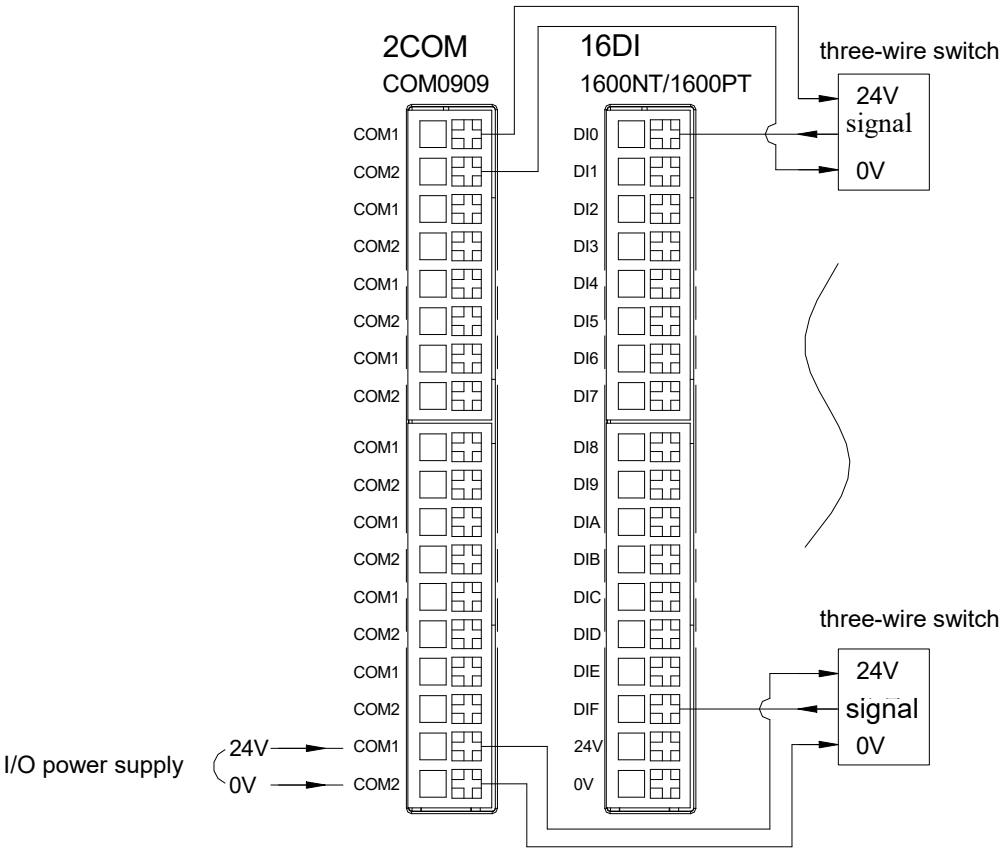
1 LED indicator light



2 Terminal block Definition

端子序号	定义	说明
1	COM1	Common end 1
2	COM2	Common end 2
3	COM1	Common end 1
4	COM2	Common end 2
5	COM1	Common end 1
6	COM2	Common end 2
7	COM1	Common end 1
8	COM2	Common end 2
9	COM1	Common end 1
10	COM2	Common end 2
11	COM1	Common end 1
12	COM2	Common end 2
13	COM1	Common end 1
14	COM2	Common end 2
15	COM1	Common end 1
16	COM2	Common end 2
17	COM1	Common end 1
18	COM2	Common end 2

3.38.4 Wiring Diagram



3.39 MB6-COM1800

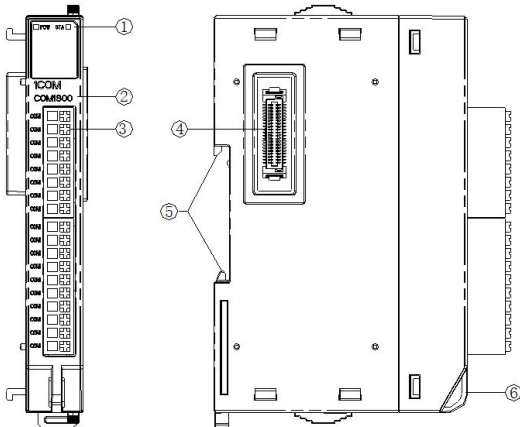
3.39.1 Module Features

1. The module has one set of common terminals, which provide common terminals for three wire and four wire digital input signals.
2. Modules can make wiring clear and easy to troubleshoot wiring issues.

3.39.2 Technical Parameters

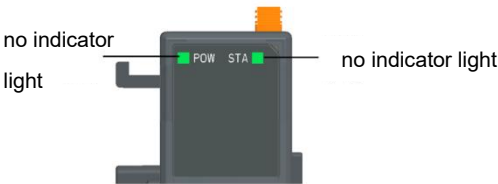
General Parameters	
Wiring	I/O wire:0.3mm ² (22AWG)~ 1mm ² (17AWG)
	Recommended wire diameter: 0.3 ~ 1mm ² , crimp terminal length: 10mm
Installation method	35 mm DIN rail mounting
Size	105 mm x 66mm x 15mm
Weight	60 g
Environmental parameters	
Operating temperature	-20~50°C
Storage temperature	-25~65°C
Relative humidity	5%~95% non-condensing
Protection level	IP20
Electrical characteristics	
Common terminal	COM1: 18pin
Common terminal withstand voltage	Nominal: 24 V, allowable range: 18~30V
Terminal current	Max 5A/Terminal
Indicator Light	None

3.39.3 Hardware Interface



- ① Status Indicator light ② Module model ③ Terminal and identification
 ④ Internal bus ⑤ Plastic clip ⑥ Cable fixing clip

1 LED indicator light

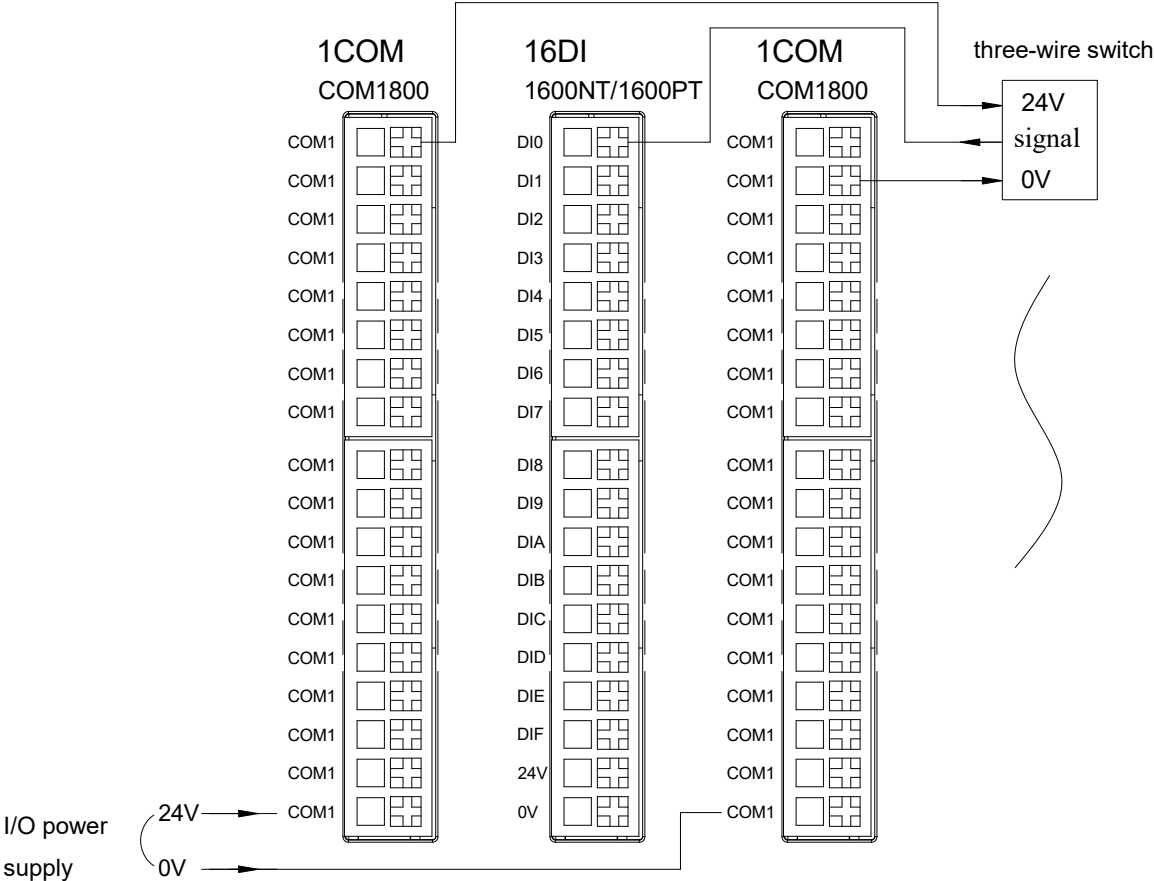


Note: No light board, no indicator light

2 Terminal block Definition

端子序号	定义	说明
1	COM1	Common end 1
2	COM1	Common end 1
3	COM1	Common end 1
4	COM1	Common end 1
5	COM1	Common end 1
6	COM1	Common end 1
7	COM1	Common end 1
8	COM1	Common end 1
9	COM1	Common end 1
10	COM1	Common end 1
11	COM1	Common end 1
12	COM1	Common end 1
13	COM1	Common end 1
14	COM1	Common end 1
15	COM1	Common end 1
16	COM1	Common end 1
17	COM1	Common end 1
18	COM1	Common end 1

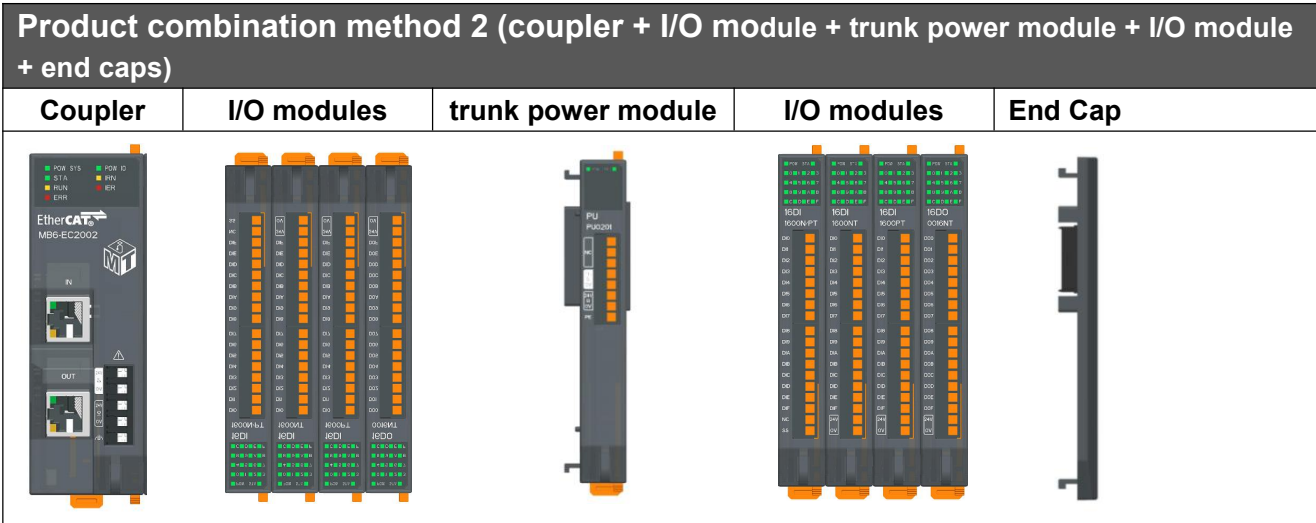
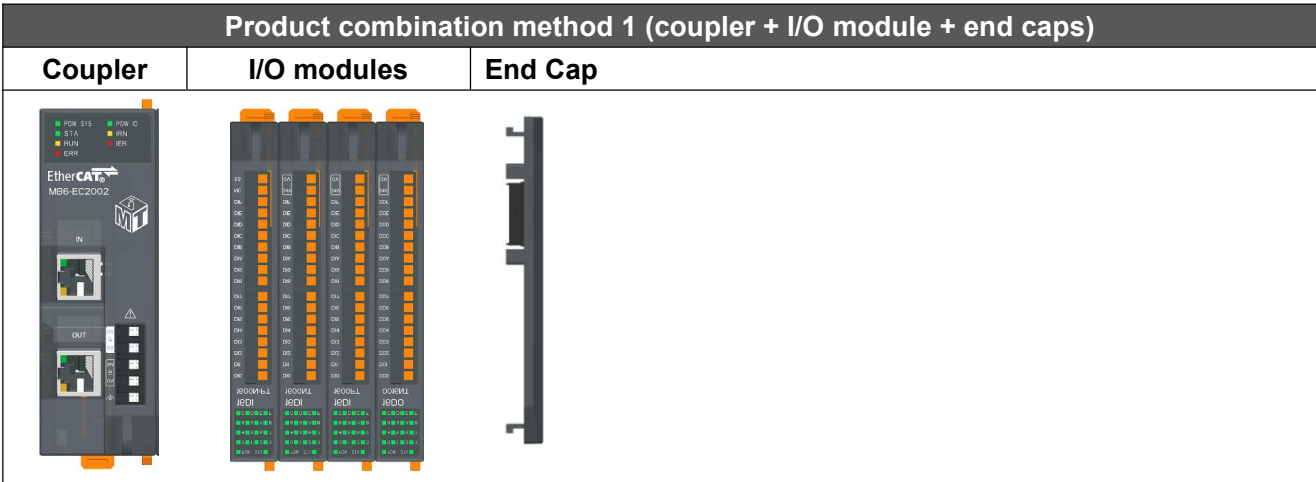
3.39.4 Wiring Diagram



4 Use

4.1 Module application

The product adopts the application mode of coupler, I/O module and end cap, and there are the following two combination applications.



Please refer to the following guidelines for the number of I/O module configurations

- (1) The model and number of I/O modules configured in the system, and the maximum value of the current consumed must be less than the load current provided by the power module.
- (2) The number of I/O modules that can be configured by the coupler ≤ 32 .
- (3) When the load current is not enough, the trunk power module can be expanded.
- (4) When the power supply is expanded, the coupler cannot be directly connected to the trunk power module, and the trunk power module only supplies power to its right module.

5 Other Matters

- (1) ⚠ Our company will not bear any legal responsibility for personal safety accidents, property losses, etc. caused by illegal operation of products.
- (2) ⚠ During the use of the module, it is necessary to maintain a certain ventilation distance and natural cooling.
- (3) ⚠ All external circuits are SELV.
- (4) Using Ethernet and Type-C interfaces.
- (5) Working altitude is 0-2000 meters.

6 Quick Reference Tables

Module type	Specifications and models	Current consumption mA@5V	Enter the number of bytes	Output the number of bytes	remark
Coupler	MB6-EC2002	200	2	2	EtherCAT coupler: 2A power capacity Supports up to 32 modules
	MB6-PN2002	200	2	2	PROFINET coupler: 2A power capacity supports up to 32 modules
	MB6-EI2002	200	2	2	EtherNet/IP coupler: 2A power capacity Supports up to 32 modules
	MB6-MT2002	200	2	2	Modbus TCP coupler: 2A power supply capacity supports up to 32 modules
	MB6-CF2002	200	2	2	CC-Link IE Field Basic coupler: 2A power capacity supports up to 32 modules
	MB6-CL2002	200	2	2	CC-Link coupler: 2A power capacity supports up to 32 modules
	MB6-DN2002	200	2	2	DeviceNet coupler: 2A power capacity supports up to 32 modules
	MB6-CP2002	200	2	2	CANopen coupler: 2A power capacity supports up to 32 modules
Digital input	MB6-1600N/PT	65	2	0	16-point digital input: NPN/PNP type optocoupler input
	MB6-1600NT	65	2	0	16-point digital input: NPN type optocoupler input
	MB6-1600PT	65	2	0	16-point digital input: PNP type optocoupler input
	MB6-3200N/PT	130	4	0	32-point digital input: NPN/PNP type optocoupler input
	MB6-3200N/PT(H)	130	4	0	32-point digital input: NPN/PNP type optocoupler input Bull horn terminal
Digital output	MB6-0016NT	140	0	2	16-point digital output: NPN type transistor output 0.8A per channel
	MB6-0016PT	140	0	2	16-point digital output: PNP type transistor output 0.8A per channel
	MB6-0032NT	280	0	4	32-point digital output: NPN type transistor output 0.8A per channel
	MB6-0032NT(H)	280	0	4	32-point digital output: NPN type transistor output 0.5A per channel horn terminal
	MB6-0032PT	280	0	4	32-point digital output: PNP type transistor output 0.8A per channel
	MB6-0032PT(H)	280	0	4	32-point digital output: PNP type transistor output 0.5A per channel horn terminal
Digital Input&Output	MB6-0808NT	80	1	1	8-point digital output: NPN transistor outputs 0.8A per channel 8-point digital input: NPN optocoupler input
	MB6-0808PT	80	1	1	8-point digital output: PNP transistor outputs 0.8A per channel 8-point digital input:PNP optocoupler input
Relay output	MB6-0008R	100	0	1	8-point relay output: Contact rated current 2A
Analog input	MB6-A0400V	110	8	0	4-channel analog voltage input: -10~10V, 0~10V, -5~5V, 0~5V, 1~5V, 16 bit resolution $\pm 0.1\%$ Accuracy
	MB6-A0800V	110	16	0	8-channel analog voltage input: -10~10V, 0~10V, -5~5V, 0~5V, 1~5V, 16 bit resolution $\pm 0.1\%$ Accuracy
	MB6-A0400C	90	8	0	4-channel current input: 0~20 mA, 4~20 mA, 16 bit resolution $\pm 0.1\%$ Accuracy
	MB6-A0800C	90	16	0	8-channel current input: 0~20 mA, 4~20 mA, 16 bit resolution $\pm 0.1\%$ Accuracy
	MB6-A0400VC	140	8	0	4-channel input, each channel can be configured as either voltage signal input or current signal input, with a resolution of 16 bits and an Accuracy of $\pm 0.1\%$ Input range: -10~10V, 0~10V, -5~5V, 0~5V, 1~5V, -20~20 mA, 0-20 mA, 4-20 mA

MB6 Series Plug-in Bus I/O user manual

Temperature acquisition	MB6-TM0400	70	16	0	4-channel temperature acquisition: support thermocouple, RTD, 2-wire, 3-wire
Analog output	MB6-A0004V	230	0	8	4-channel analog voltage output: -10~10V, 0~10V, -5~5V, 0~5V, 1~5V, 16 bit resolution $\pm 0.1\%$ Accuracy
	MB6-A0008V	230	0	16	8-channel analog voltage output: -10~10V, 0~10V, -5~5V, 0~5V, 1~5V, 16 bit resolution $\pm 0.1\%$ Accuracy
	MB6-A0004C	55	0	8	4-channel current output: 0~20 mA, 4~20 mA, 16 bit resolution $\pm 0.1\%$ Accuracy
	MB6-A0008C	55	0	16	8-channel current output: 0~20 mA, 4~20 mA, 16 bit resolution $\pm 0.1\%$ Accuracy
Pulse input	MB6-C0200T	50	48	16	2-channel coding input: pulse count, support NPN, PNP 1.5 MHz
	MB6-C0200D	50	48	16	2-channel differential encoder input: 10 MHz
pulse output	MB6-P02T/D	120	10	20	2-channel pulse output: supports NPN, PNP, and differential interfaces
Relay power	MB6-PU0201	60	0	0	Relay power module:2A capacity 24 VDC
Communication module	MB6-MR01	50	14	18	1-channel communication module: support Modbus RTU/ASCII protocol, free port protocol one of two
Common terminal	MB6-COM0909	0	0	0	COM1:9pin,COM2:9pin
	MB6-COM1800	0	0	0	COM1:18pin,COM2:无