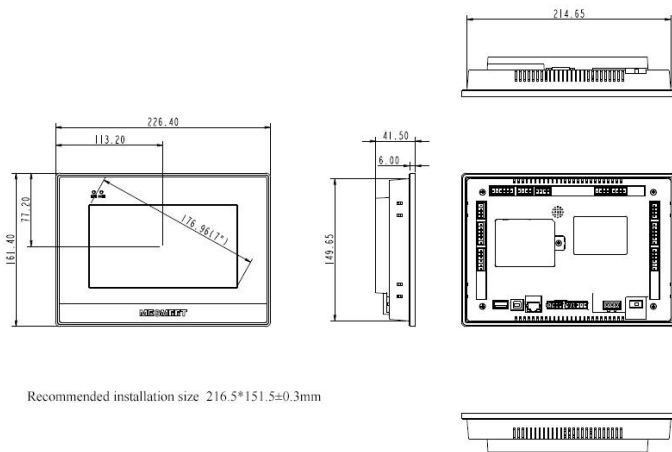
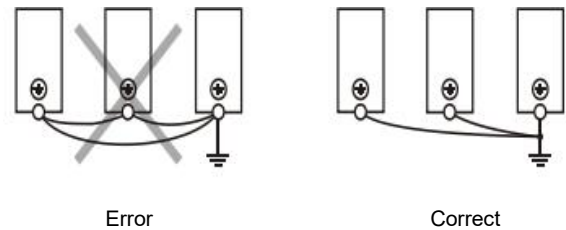




TC input terminal (8PIN)	Back	16~28AWG	6.5mm
PT100 input terminal(4PIN)	Back	16~28AWG	6.5mm
Digital input terminal(20PIN)	Back	16~28AWG	6.5mm
Digital output terminal(20PIN)	Back	16~28AWG	6.5mm

For security (to prevent electric shock and fire accident), and reduce the noise, the module of grounding terminal shall be in strict accordance with the national electrical code requirements, grounding resistance should be less than 0.1 Ω . When grounding multiple modules, single point grounding should be adopted, and the ground wire cannot form a circuit. As shown in the figure below:

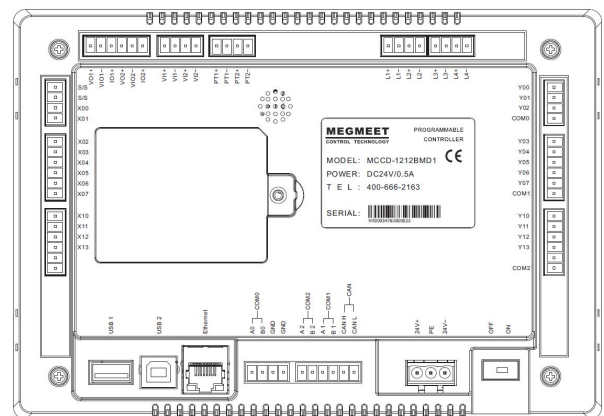


4. Power supply

Item	Unit	Mix. value	Type value	Max. value	Remark
The range of input voltage	Vdc	20.4	24	30	Normal start-up and working range
Input current	A	0.45	0.5	0.55	Normal temperature rated full load

5. Terminal

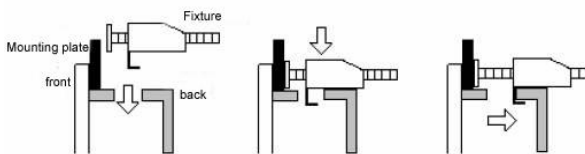
5.1 User terminal



3.4 Installation method

The PLC must be installed horizontally on the back panel of the electrical cabinet. Install it up and down and keep the distance between the PLC and the equipment or cabinet wall above and below not less than 20cm. Installation in other directions is not conducive to heat dissipation of the PLC, and there should be no heating equipment under the PLC.

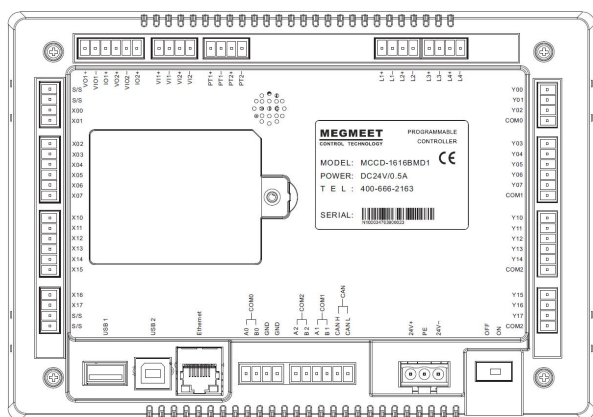
Make holes in the panel according to the size of the opening. The MCCD series display control integrated PLC is embedded from the front of the panel, and the text display is fixed with four randomly equipped mounting brackets. See the operation diagram below:



3.5 Cable connections and specifications

When wiring products, it is recommended to use multiple copper wires and prefabricate insulated terminals to ensure the quality of wiring. The sectional area and type of the recommended conductor are shown in the table below.

Cable	Position	Allow wire number	Recommended stripping length
Power terminal(3PIN)	Back	16~28AWG	6.5mm
Communication terminal(10PIN)	Back	16~28AWG	6.5mm
DA output terminal(6PIN)	Back	16~28AWG	6.5mm
AD input terminal (4PIN)	Back	16~28AWG	6.5mm



The terminal definition of MCCD-1212BMD1/2/3/4

	7, output common terminal 1
Y10~Y17, COM2	The channel of switch output10~17, output common terminal 2
VI1+,VIO1-,IO1+,VI2+,VIO2-,IO2+	The channel of analog output1~2 (Compatible with voltage and current)
VI1+,VI1-, VI2+,VI2-	The channel of analog output 1 and 2(voltage or current)
PT1+,PT1-,PT2+,PT2-	PT100 input channel 1 and channel 2
L1+,L1-,L2+,L2-,L3+,L3-,L4+,L4-	TC input channel 1,channel 2,channel 3 and channel 4
ETH	Ethernet
USB1	USB flash drive interface for program upgrade
USB2	USB interface for program debugging and downloading

5.2 Communication port

Name	Supported protocols	Position	Physical layer
Communication port 0	Modbus (slave station)	COM0 (A0 ,B0)	RS485
Communication port 1	Modbus (master and slave station) free port	COM1 (A1 ,B1)	RS485
Communication port 2	Modbus (master and slave station)	COM2 (A2 ,B2)	RS485
Communication port 3	CAN free port	CAN0(H,L)	CAN
Communication port 4	Ethernet	ETH	TCP/IP
Communication port 5	USB host	USB1	USB
Communication port 6	USB slave	USB2	USB

Note: 1. Communication port 2 is HMI resource, which needs to be set in MEGVIEW2 for use. Modbus slave station is the default.

Communication port 4, 5 and 6 are HMI resources, which need to be set in MEGVIEW2 for use

6. Switching characteristics of input and output

6.1 Switching input characteristics and signal specifications

The counter input port has a maximum frequency limit. If the limit is exceeded, the count may be inaccurate or the system may not function properly. Please arrange the input port reasonably and select the appropriate external sensor.

The PLC provides port "S/S" for selecting whether the input signal is source input or leak input.

6.1.1 Transistor input specifications

Item	High-speed input	Normal input
Input resistance	3.3kΩ	4.3kΩ
Input current	6.5mA (Type value)	5.3mA (Type value)
ON voltage/current	DC18V /4.5mA	DC18V /3mA (Mix.

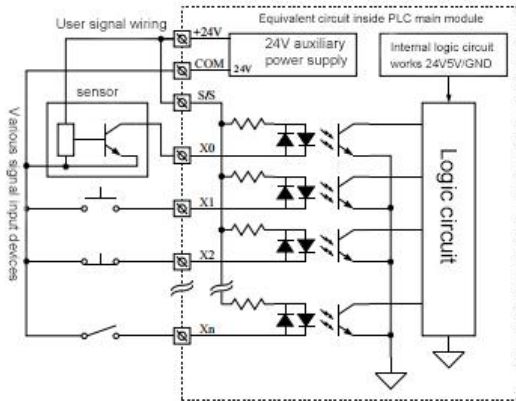
The terminal definition of MCCD-1616BMD1/2/3/4

Remark	Explanation
24V+,24V-	Power supply DC24V
PE	Ground
A0,B0	RS485 port 0 (COM0)
A1,B1	RS485 port 1 (COM1)
A2,B2	RS485 port 2 (COM2)
CANH、CANL	CAN terminal 0
X00~X01, S/S	High-speed input port 0~1, input common terminal
X02~X17, S/S	Switch input terminal 02 ~ 17 , input common terminal
Y00~Y02, COM0	The channel of high-speed output 0 ~ 2 , output common terminal
Y03~Y07, COM1	The channel of switch output3~

	(Mix. value)	value)
OFF voltage/current	DC4V /1mA (Max. value)	DC4V /1mA (Max. value)
Speed requirement	Single channel frequency $\leq 50\text{KHz}$. 2 channels total frequency $\leq 80\text{kHz}$	$\leq 100\text{HZ}$

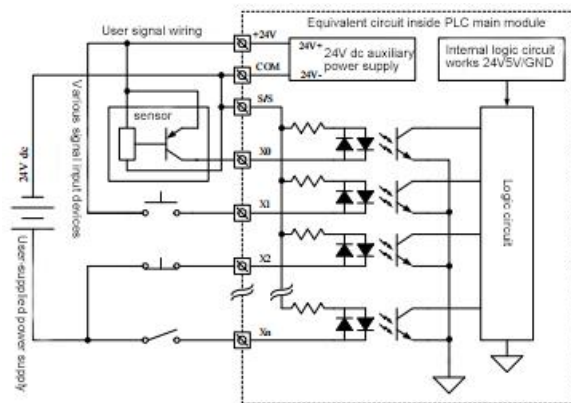
6.1.2 Wiring method

Leaky input: connect S/S terminal to +24V terminal. NPN sensors can be connected in this way. The internal equivalent circuit and external connection mode of leakage input mode are shown in the figure below.



Source input: Short connect S/S terminal to COM terminal. This way can be connected to the PNP sensor. The internal equivalent circuit and external connection mode of source input mode are shown in the figure

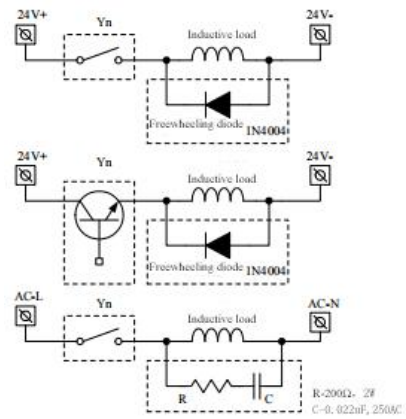
Transistor input specification



6.2 Switching output characteristics and signal specifications

The output terminals of MCCD series are divided into several groups, each group is electrically isolated, and the output contacts of different groups are connected to different power circuits. The output can be divided into two types: relay and transistor. Transistor output stages can only be used in DC 24V load circuits with attention to power polarity. The inductive load of DC circuit should be considered to increase the continuation diode; For the inductive load of ac circuit, the external circuit should consider the RC instantaneous voltage

absorption circuit. As shown in the figure below.



Special function of output port

The transistor output type main module contains three high-speed output ports Y0,Y1 and Y2. The three channels can independently output high-speed pulse. Provides high speed I/O instructions and location instructions to manage high speed output channels. For high speed output, it is recommended to use double stranded shielding wire for the corresponding input port, and to ground the shielding layer (connected with the $\oplus$ terminal or connected to the signal ground) to improve disturbance immunity.

6.2.1 High-speed transistor output specifications

Item	Index
Power of loop circuit	<30Vdc
Circuit insulation	Optocoupler isolation
Min. load	5mA (5~24VDC)
Maximum output current of resistive load	0.5A/point;
Maximum output current of inductive load	7.2W/24VDC
ON response time	10uS
OFF response time	10uS
Response frequency	$\leq 100\text{kHz}$

6.2.2 Normal transistor output specifications

Item	Index
Power of loop circuit	<30Vdc
Circuit insulation	Optocoupler isolation
Min. load	5mA (5~24VDC)
Maximum output current of resistive load	0.5A/point;
Maximum output current of inductive load	7.2W/24VDC
ON response time	0.5ms
OFF response time	0.5ms
Response frequency	$\leq 100\text{Hz}$

6.2.3 Relay output specifications

Item	Index
Circuit insulation	Relay isolation
Contact load (resistive)	5A 250VAC/30VDC
Switching voltage	250VAC/30VDC

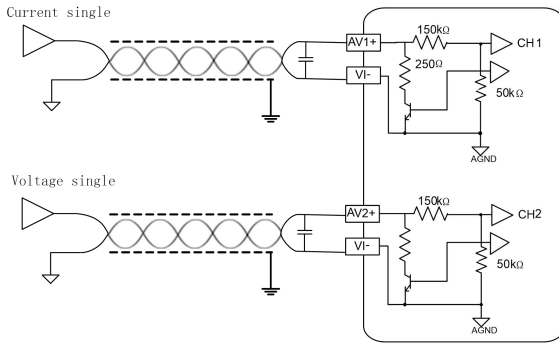
Switching current	2A
Switching power	1250VA/150W
ON response time	10ms
OFF response time	10ms
Output common terminal	Each common terminal is isolated from each other

* It is recommended to use connection cables of less than 100m in length to reduce measurement errors and noise interference.

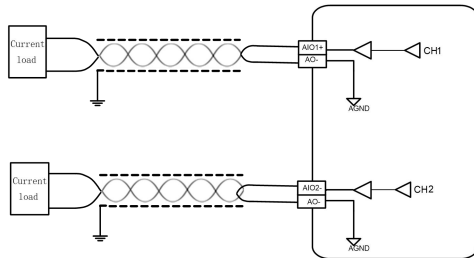
7. Analog input and output characteristics

7.1 Wiring method

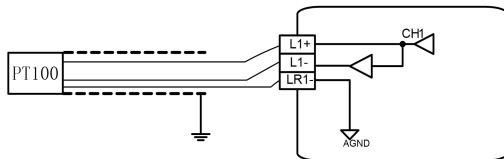
The specific connection is shown in the following figure:



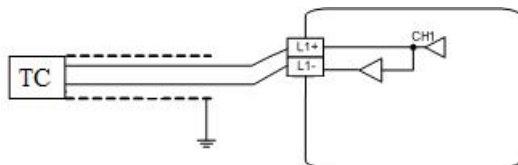
The wire method of analog input



The wire method of analog output



The wire method of thermal resistance input



The wire method of TC input

* Double stranded shielded cable access is recommended. Cables should be kept away from power lines or other wires, user terminals, extension cables and interface extension cables that may cause electrical interference.

* If the input signal fluctuates or there is electrical interference in the external wiring, it is recommended to connect a smooth capacitor (0.1uf ~ 0.47uf/25V).

7.2 Specifications

7.2.1 Current and voltage input channel specification

Item		Index	
Conversion speed		15ms/channel(Normal),6ms/channel(high-speed)	
Analog input range	Voltage input	0VDC~+10VDC, input resistance 1MΩ	The attributes of each channel can be set individually through the X-Builder programming software
	Current input	0mA ~ +20mA , input resistance 250Ω	
Digital output		Scope:0~+2000	
Resolution	Voltage input	5mV	
	Current input	10uA	
Accuracy		Full load ±1%	
Isolation		Analog and digital circuits are not isolated	

7.2.2 Analogy output channel specification

Item		Index
Conversion speed		2ms/channel
Analog output	Voltage output	0 ~ + 10 VDC, external load impedance $\geq 2\text{ k}\Omega$
	Current output	0 ma ~ + 20 ma, external load impedance $\leq 500\Omega$
Digital output	Voltage output	Default setting: 0 ~ +2000
	Current output	Default setting: 0 ~ +2000
Resolution	Voltage input	5mV
	Current input	10uA
Accuracy		Full load $\pm 1\%$
Isolation		Analog and digital circuits are isolated, analog channels are not isolated.

7.2.3 Thermal resistance input channel specifications

Item	Index
Thermal resistance type	Pt100、Cu100、JPt100、Cu50、Ni120
Temperature control output	Transistors and analog output are configurable
The sampling period	About 100ms
Temperature control cycle	1~100, unit 1s, The specific value is determined by the characteristics of the temperature control object
Control method	Hand control, ON/OFF control, PID control

Sensor type and temperature range	Pt100	-150℃~600℃ (-238°F~1112°F)
	JPt100	-150℃~500℃ (-238°F~932°F)
	Cu100	-30℃~120℃ (-22°F~248°F)
	Cu50	-30℃~120℃ (-22°F~248°F)
	Ni120	-80.0℃~280.0℃ (-112.0°F~536.0°F)
Thermal resistance		Input range±0.5%

7.2.4 TC input channel specifications

Item		Index
Input single	Thermocouple type	K、J、E、N、T、R、S、B
Output method	Transistor output with open gate	Loop power voltage: 5V~24V; Max. Power voltage of loop: 30V; Loop current: 0.3A/24Vdc; Leakage current when open: < 0.1mA/30Vdc; Min. load: 5mA (5Vdc~24Vdc)
The sampling period		About 100ms
Temperature control cycle		1~100, unit 1s, The specific value is determined by the characteristics of the temperature control object
Control method		ON/OFF control, Hand control, single PID control
Rate temperature range	K type	-100℃~1200℃ (-148°F~2192°F)
	J type	-100℃~1200℃ (-148°F~1112°F)
	E type	-100℃~850℃ (-148°F~1562°F)
	N type	-100℃~1200℃ (-148°F~2192°F)
	T type	-200℃~300℃ (-328°F~572°F)
	R type	0℃~1600℃ (32°F~2912°F)
	S type	0℃~1600℃ (32°F~2912°F)
Accuracy	Thermocouple	Input range±0.3 % , Ambient temperature compensation error≤2℃
	Thermal resistance	Input range±0.5%
Isolation		Channels are isolated from each other

8. Common problems and solutions

When the module cannot work normally, please check in turn:

(1) The connection of power lines and the status of related switches and protective appliances to ensure that the module has been reliably supplied;

(2) Whether the connection of user terminals is firm;

If the above inspection is still unable to work, you can refer to the following table.

phenomenon	Possible reason	Countermeasures
RUN and ERR are OFF	Out of voltage or low voltage	Check power supply condition and exclude
	The power switch is off or the fuse is blown	Check the condition of switches, wires or fuses to exclude them
	Abnormal power connection	

	Power plate damage	Check and confirm whether the voltages between 24V+ and 24V- terminals are in normal range
RUN and ERR are flashed intermittently in the same time	The power supply is unstable	
	The module is damage	
RUN is OFF	Shut down remotely by upper computer equipment	Make the upper computer start up remotely
	System error outage	Check by assistant
ERR single light is ON	System error outage	Check with an assistant and consult the errata manual

1. Warranty scope refers to the programmable controller body.
2. The warranty period is 18 months. If the product breaks down or is damaged during normal use, our company will repair it free of charge.
3. The warranty period starts from the date the product is manufactured. Machine code is the only basis for judging the warranty period. Equipment without machine code shall be treated as under warranty.
4. Even within the warranty period, a maintenance fee will be charged if:

- Failure of the machine caused by failure to operate in accordance with the user's manual.
- Damage to machinery caused by fire, flood, abnormal voltage, etc.
- Damage caused when a programmable controller is used for abnormal functions.
- Self-disassemble the programmable controller.

5. The service fee shall be calculated according to the actual cost. If there is another contract, the contract shall take precedence.

6. If you have any questions, please contact the agent or our company directly.

SHENZHEN MEGMEET CONTROL TECHNOLOGY CO., LTD
Add: floor 5, tower B, qinghua information port, langshan road, north district, science and technology park, nanshan district, shenzhen
Tel: 400-6662163
Fax: (+86)0755-26897197
Zip code: 518067
Web: www.megmeet.com

