

No.	Name	Description
①	Fixing screw	It is used to fixed the card to the MD580.
②	J1 terminal	It is used for electrical connection with the MD580.
③	Over-temperature warning indicator	When the yellow indicator is on, the interior temperature of the motor is high. Keep a close observation.
④	Over-temperature indicator	When the red indicator is on, the motor interior is overheated. Check the motor temperature.
		When the red indicator is on, the PTC sampling terminal is not connected.
⑤	Short circuit indicator	When the red indicator is on, the PTC sampling circuit is short-circuited.
⑥	J3 terminal	STO 24 V DO
⑦	PE grounding screw	It is used to connect the card to the external and ensure proper PE grounding.
⑧	J2 terminal	PTC sampling terminal of the motor

4.7 I/O Card

Overview

The MD580-IO-RD1 is an I/O expansion card of the MD580. The card provides two AIs, two AOs, four DIs, and two ROs. It is wired by using crimping terminals and is connected to the main control board by using the pin header. The card is also designed with reserved screw holes for fixing it to the plastic housing of the main control board and provides optional grounding screw.

Product information

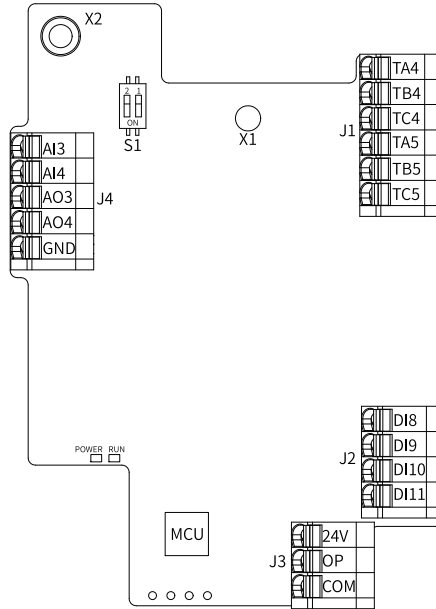


Figure 4-51 Layout of MD580-IO-RD1 terminals

Interface Name	Terminal Name	Description	Specification
J1	TA4	Common terminal	TA-TB: normally closed (NC); TA-TC: normally open (NO); contact capacity: 250 VAC/3 A (COS ϕ =0.4)
	TB4	NC terminal	
	TC4	NO terminal	
	TA5	Common terminal	
	TB5	NC terminal	
	TC5	NO terminal	
J2	DI8	DI	<ul style="list-style-type: none"> • Ordinary DIs; high-speed pulse input not supported and photocoupler isolation supported; input frequency < 100 Hz; compatible with bipolar input • Input impedance: > 3.3 kΩ • Effective level input range: 9 V to 30 V
	DI9	DI	
	DI10	DI	
	DI11	DI	

Interface Name	Terminal Name	Description	Specification
J3	24V	External 24 V power supply	-
	OP	Multi-functional input common terminal	The OP terminal is internally isolated from the COM and 24V terminals and short-circuited to the 24V terminal by a jumper by default.
	COM	24 V reference ground	-
J4	AI3	Analog input terminal 3	0 V to 10 V or 0 mA to 20 mA; 12-bit resolution; correction accuracy: 0.5%; input impedance in voltage input mode: 22.1 k Ω ; input impedance in current input mode: 500 Ω or 250 Ω ; voltage input mode by default. For details, see the function guide.
	AI4	Analog input terminal 4	
	AO3	Analog output terminal 3	<ul style="list-style-type: none"> ● 0 V to 10 V and 0 mA to 20 mA available; 12-bit resolution; correction accuracy: 1%; maximum load output current in voltage mode: 2 mA; load impedance in voltage mode: > 5 kΩ; load impedance in current mode: < 500 Ω ● To enable the current mode, set S1 to non-ON and configure through the software. For detailed software configurations, see the function guide. ● To enable the voltage mode, set S1 to ON and configure through the software. For detailed software configurations, see the function guide.
	AO4	Analog output terminal 4	
	GND	Analog reference ground	Internally isolated from COM
S1	AO mode selection	Voltage mode selection for AO3	1 set to ON: voltage mode enabled (default); 1 set to non-ON: current mode enabled
		Voltage mode selection for AO4	2 set to ON: voltage mode enabled (default); 2 set to non-ON: current mode enabled
LED	POWER	Power supply indicator	Off: The power supply is not connected.
	RUN	Operation indicator	<ul style="list-style-type: none"> ● Flashing quickly: The EEPROM is faulty. ● Flashing slowly: Normal operation ● Off: The program does not run.

Note

- The X1 screw is used for fixing, and X2 is an optional ground screw.
 - You can configure I/O expansion card-related parameters (such as parameters related to the correction function) in group F. For details, see the function guide. To distinguish the terminals on the I/O expansion card from those on the main control board, the terminals on the I/O expansion card are named following the terminal naming rule of the main control board. For example, if the main control board provides AI1 and AI2, the AI provided by the I/O expansion card will be named AI3.
 - To improve the anti-interference ability, you need to use a ground cable to connect the ground screw and the ground hole next to it.
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4.8 PG Card

4.8.1 ABZ Encoder

Overview

The MD38PGMD multi-function expansion card is optimized based on the MD38PG1, MD38PG5, and MD38PG6D cards. The MD38PGMD card supports differential input, collector input, push-pull input, as well as differential output and collector output; therefore, it can be used to connect to different encoders and supports A/B phase input of the host controller. Two models, MD38PGM and MD38PGMD, are available. The MD38PGMD features 64 (0-63) frequency division outputs, self-adaptive filtering, automatic interlock, etc., which can effectively solve application problems such as low upper limit of the host controller input frequency, strong field interference, and edge jitter of the encoder output signal.