

EPC-PG4 Instruction Manual

When users are using encoder of resolver type, please choose our EPC-PG4 to perform closed-loop vector control.

This board also includes two expanded analog inputs and one CAN communication channel, which is independent of resolver speed feedback.

1. Picture of the board



Fig. 1 Picture of EPC-PG4

2. Wiring Terminals and Slide Switch Specification

2.1 Specification of Wiring Terminals

Terminal	Function
CN3	Signal inlet of resolver
CN4	Two expanded analog inputs and one CAN communication channel
J1	PE terminal

2.2 Specification of Slide Switch

Slide switch	Function	Default setting
S1 S2	Selection of excitation signal frequency of resolve 11: 10kHz 10: 12kHz 01: 15kHz 00: 20kHz	11
S3	Analog input type (corresponding to EAI1) * PT100: PT100 temperature measurement PT1000: PT1000 temperature measurement Not connecting to the slide switch: normal outside analog input	PT1000
S4	Terminal resistor of CAN communication ON: select terminal resistor OFF: no terminal resistor	ON

* When S3 use slide switch and is selected as PT100 or PT1000, only thermistor temperature sensor can be connected to CN4 terminal

between EAI1 and GND, and it can't input analog of voltage/current type directly. Motor thermal detection thermistor could also be connected through pin 7 and 2 of CN3 plug, but EAI1 of CN4 has to be vacant, and shouldn't have any input signal under this circumstance. When slide switch of S3 is not connected, EAI1 of CN4 terminal can be used as normal outside analog input.

3. Wiring instruction

3.1 CN3 Wiring Instruction

CN3 adopting DB15 plug is signal inlet of resolver. Refer to table below for the functions of pins, and pin layout in Figure 2.

Pin of DB15	Signal	Color
10	REF+	Grey
5	REF-	Yellow
9	COS+	Brown
4	COS-	Green
8	SIN+	Blue
3	SIN-	Red
14	Shielde layer (GND)	/
7	EAI1(motor temperature measurement input)	Orange
2	GND	Purple
1、6、11、12、13、15	N/A	/

Motor thermal detection thermistor could also be connected through pin 7 and 2 of CN3 plug, but EAI1 of CN4 has to be vacant, and shouldn't have any input signal under this circumstance.

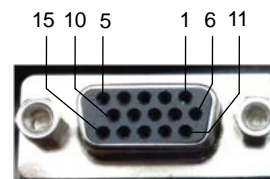


Fig. 2 Pins of CN3

Wiring diagram of resolver and EPC-PG4 is as shown as Figure 3

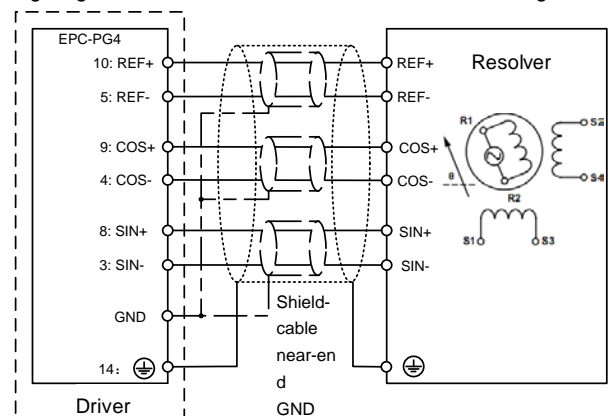


Fig. 3 Wiring diagram of resolver and PG4

Figure 3 is standard cable wiring diagram. Each shielded layer should be connected to GND. The entire shielded layer should be connected to pin 14 of CN3, ensuring the connection with PE.

If the cable is nonstandard, pin 10 and 5 should be twin twisted then connect to corresponding terminal; pin 9 and 4 should be twin twisted then connected to corresponding terminal; pin 8 and

3 also should be twin twisted then to corresponding terminal. The entire shielded layer should be connected to pin 14 of CN3, ensuring the connection with PE.

3.2 CN4 Wiring Instruction

Name	Function
EAI1	Analog input channel 1
EAI2	Analog input channel 2
GND	Analog signal ground
CAN+	CAN communication terminal
CAN-	
GND	

4. Specification of Fault Indicator Light

When resolver signal is abnormal, like unconnected, amplitude of signal out of range, or weak signal, the indicator lights ERR at upper left of PG4 will be lighted up. Under this circumstance, please check whether the excitation frequency of resolver is matching well with PG4, the shielded layers are well grounded, and parameter value of d6-06 is set to 2 (resolver).