

EPC-PG6 User Manual

When resolver is used for speed feedback, please select EPC-PG6 as an optional card. In addition, EPC-PG6 includes two analog inputs and one CAN communication channel, which are independent of resolver speed feedback.

1. Picture of EPC-PG6

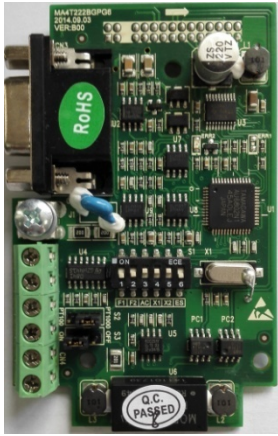


Fig. 1 EPC-PG6 picture

2. Terminal Wiring and Slide Switch

2.1 Specification of Wiring Terminal

Terminal	Function
CN3	Resolver signal interface
CN4	Two analog inputs and one CAN communication channel
J1	PE

2.2 Specification of Slide Switch S1

Slide Switch	Func	Function details	Default
1 2	F1 F2	Resolver excitation signal frequency selection: 00: 10kHz 10: 2.5kHz 01: 5kHz 11: 5kHz	00
3	AC	Accel mode selection: 0: Enabled 1: Disabled	1
4 5	X1 X2	Pole-pairs matching factor: 00: 1 10: 2 01: 3 11: 4 Matching factor= Motor pole-pairs/Resolver pole-pairs	11
6	ES	Fault resetting: 0: Report fault 1: Reset fault	0

Remark: S1 slide switch is "1" when turned to "ON" and "0" the other side.

2.3 Specification of Slide Switch S2/S3

Slide Switch	Function details	Default
S2	Thermal detector selection (corresponding to EA11 channel) *: PT100: PT100 thermal detector PT1000: PT1000 thermal detector	PT1000
S3	CAN communication terminal resistor selection: ON: select terminal resistor OFF: no select terminal resistor	ON

* When S2 use slide switch and is selected as PT100 or PT1000, only thermistor temperature sensor can be connected to CN3 terminal between EA11 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 EA11 has to be vacant, and shouldn't have any input signal under this circumstance. When slide switch of S2 is not connected, EA11 can be used as normal outside analog input.

3. Wiring instruction

3.1 CN3 Wiring Instruction

CN3 is the interface of resolver, adopting DB15 plug, of which pin definitions are listed as below, and layout in Fig. 2.

DB15 pin	Signal definition	Color
10	REF+	Grey
5	REF-	Yellow
9	COS+	Brown
4	COS-	Green
8	SIN+	Blue
3	SIN-	Red
14	Shielded layer (GND)	/
11	OUTA	/
12	OUTB	/
13	OUTZ	/
7	MTMP (Motor thermal detection input)	Orange
2	GND	Purple
1, 6	GND	/
15	N/A	/

Motor thermal detection thermistor could also be connected through pin 7 and 2 of CN3 plug, but EA11 has to be vacant, and shouldn't have any input signal under this circumstance.

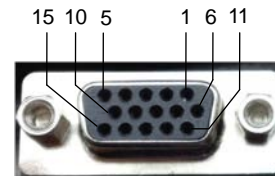


Fig. 2 Pins of CN3

See Fig. 3 or Fig. 4 for wiring diagram of resolver and EPC-PG6.

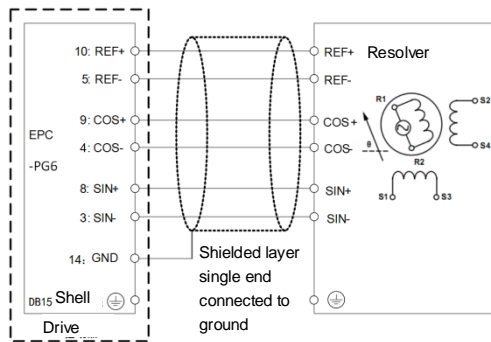


Fig. 3 Use twin-twisted single-shielded cable to connect resolver

(Differential signals all use twin-twisted cables for connection, shielded layer cannot contact with PE)

Fig.3 shows twin-twisted single-shielded cable connection, pin 10 and 5 can be connected to corresponding terminals after cables are twin-twisted; pin 9 and 4 can be connected to corresponding terminals after cables are twin-twisted; pin 8 and 3 can be connected to corresponding terminals after cables are twin-twisted; The single end of shielded layer cable shall be connected to ground, and shielded layer shall be connected to pin 14 of CN3, ensuring reliable connection with GND.

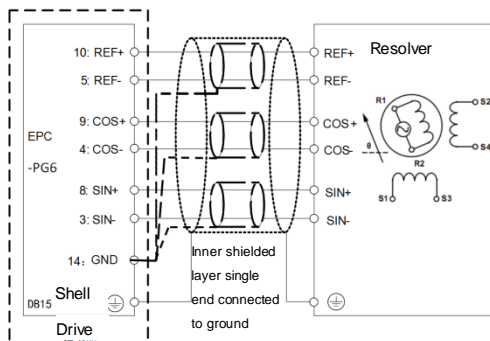


Fig. 4 Use twin-twisted twin-shielded cable to connect resolver (inner and outer shielded layer can't be wrongly connected)

Some servo applications will use twin-shielded cable to connect the encoder, the wiring is as shown in Fig. 4, shielded layer of each group of cable shall be connected to GND; the shielded layer of the entire cable shall be connected to metal shell of DB15 plug, ensuring reliable connection. After wiring, we must ensure that inner and outer shielded layers cannot be wrongly connected (if connected then it will work like single-shielded layer); inner shielded layer shall be single-end connected to "GND" at PG6 side; outer shielded layer shall be connected to metal shell of DB15 plug at PG6 side, and be connected to encoder shell at motor side.

3.2 CN4 Wiring Instruction

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

4. Fault indicator light

When there is abnormality of resolver signal, such as unconnected, signal amplitude out of range, or weak signal, EPC-PG6 fault indicator will be lighting. Please check whether the excitation frequency of resolver and EPC-PG6 is matching well or not and the connection is well or not.