

HV320-PG-RB-V2
Product Introduction

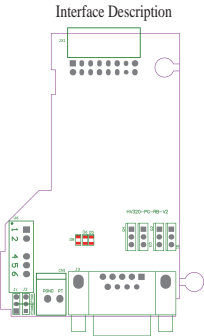
HV320-PG-RB-V2 is a resolver PG card, a dedicated signal acquisition card for resolver type encoders, and also a must-have for closed-loop vector control of inverters.

HV320-PG-RB-V2 can output 7VRMS/10KHZ excitation source and receive 0.5 ratio feedback signal. HV320-PG-RB-V2 uses a universal D-type (9-pin) female connector for external use, and uses 2*8P 90-degree elbow sockets to exchange data with the main control board.

HV320-PG-RB-V2 is an optional resolver PG card for HV320-V2 series inverters. Please read this manual carefully before using this product.



Interface layout



Interface Description Definition

HV320-PG-RB-V2 Interface Description	
JX1	PG card and inverter control board connection interface
J3	Resolver interface
D5/D6	Working status indicator
D8	Power supply indicator
J1/J2	PT100/PT1000 switching
CN1	Analog input interface/PT100 sensor access port
VP-P	3.15V±27%
Transformation ratio	0.5

Technical specifications

Item	Specification
User Interface	DB9 female
Plug and unplug	Yes
cable	>22AWG
Resolution	12bits
Excitation frequency	10khz
Vrms	7V

VP-P	3.15V±27%
Transformation ratio	0.5

Resolver Interface Pin Definition

No.	Name	Function
1	EXC1	Excitation voltage -
2	EXC	Excitation voltage +
3	SIN	Sine input+
4	SINLO	Sine input-
5	COS	Cosine input+
6/7/8	NC	None
9	COSLO	Cosine input-

J1/J2 Interface Pin Definition

Mark	Name	Function	Jumper
J1/J2	PT100 and PT1000 switching	PT100	

		PT1000	
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CN1 Interface Pin Definition

No.	Name	Function
1	PT100	PT100/PT1000 input
2	PGND	The negative pole of the isolate power supply and connect it to one end of the PT100/PT1000 sensor.

Indicator light status description

Indicator		Function
D5 Signal amplitude upper limit indicator	OFF	The encoder input signal is normal, the speed feedback does not exceed the upper limit or there is no interference.
	ON/Flash	The amplitude of the encoder input signal SIN/COS exceeds the upper limit or the signal feedback is abnormal.
D6 Signal amplitude lower limit indicator	OFF	The encoder input signal is normal, the speed feedback does not exceed the upper limit or there is no interference.
	ON/Flash	The amplitude of the encoder input signal SIN/COS is too small or the signal is disconnected.

Indicator light status description

D5	D6	Status Description	Solution
OFF	OFF	Normal	None
ON/Flash	OFF	Phase-locked loop lost lock	This is usually caused by the phase lag of the selected resolver being too large.
OFF	ON/Flash	The signal SIN/ COS amplitude exceeds the upper limit	Usually, D6 flickering is caused by interference. Grounding the motor well and connecting the grounding point on the PG to the PE terminal of the inverter can effectively solve the problem.
ON/Flash	ON/Flash	The amplitude of the signal SIN/COS is too small	Generally, the DB9 connector is not connected or connected incorrectly or even broken. If the above situation is not found, check whether the resolver transformer selection matches HV320-PG-RV2.

- The selection of the resolver must meet the parameter requirements of HV320-PG-RB-V2, especially the input DC resistance of the excitation must be greater than 1TΩ (can be measured with a multimeter), otherwise HV320-PG-RB-V2 will not work properly.
- In order to avoid selecting a resolver with too high a pole pair number, which will cause the HV320-PG-RB-V2 to be in an overload state, it is recommended not to use a resolver with a pole pair number higher than 4 pairs.
- If the speed or position feedback of HV320-PG-RB-V2 is found to be unstable when the inverter software parameters are set correctly, it means that HV320-PG-RB-V2 is subject to electromagnetic interference. It is recommended to connect the shielding layer of the encoder signal line to the PE grounding point of the inverter to effectively suppress electromagnetic interference.

PT100 sensor function instructions

Instructions		
Steps	Description	Parameters
1	Connect the PT100/PT1000 sensor to the CN3 terminal	
2	Set P9-56 parameters to PT100 /PT1000 sensor	0 = None 1 = PT100 2 = PT1000
3	Enter U0-34 parameter to view the temperature value feedback by the PT100/PT1000 sensor	