The HBS 57 closed-loop drive instruction manual

1 Product features:

Stepper closed loop motor with 57,60,86 flanges,

Voltage input range: 24 to 50 VDC

Segment range: 200 ~ 51,200 ppr

Signal input: differential / single end, pulse / direction, signal level 5~24V compatible

Light isolation of signal input, strong anti-interference ability

Pulse response frequency: 200 KHz

Closed loop vector control, ensure the motor high speed torque output, and ensure that the motor does not lose step

Variable current control, according to the load and speed automatic output matching current, the motor heating is greatly reduced

Ultra low vibration noise

It has overvoltage, overcurrent, tracking error error and other protection functions

two. Electrical indicators

1. Interface definition

parameter	HBS57			
	least value	represent ative value	crest value	unit
Maximum peak current	-	-	5.6	A
Input power voltage	18	36	70	VDC
Logical input current	7	10	16	MA
impulse frequency	-	200	-	KHZ
insulation resistance	500			MΩ

2. Environmental indicators

cooling-down method	Natural cooling or forced cooling	
service environment	occasion	Avoid dust, oil mist, and corrosive gases
	Storage temperature	-20%~+80℃
	Maximum ambient temperature	70℃
	ambient humidity	<80% RH, non-condensation without frost
vibrate	-	5.9m/s²,Max
weight	-	0.58kg

3. Motor and power supply input port

Terminal number	symbol	name	explain
1	A +	Phase A motor winding +	If the initial direction of the motor is opposite, set SW 5
2	A -	Phase A motor winding-	If the initial direction of the motor is opposite, set SW 5
3	B +	Phase B motor winding +	If the initial direction of the motor is opposite, set SW 5
4	B -	Phase B Motor Winding-	If the initial direction of the motor is opposite, set SW 5
5	VDC	Input the DC power supply	18V~ 50V DC
6	GND	Power negative end	**Power anode**

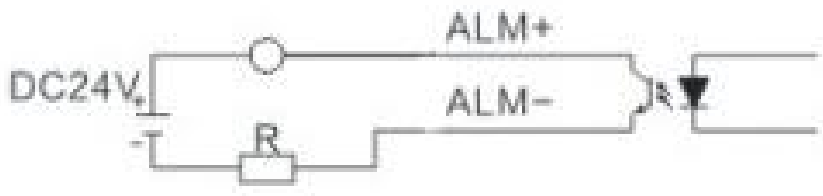
4. Encoder signal connection port

Terminal number	symbol	name	explain
1	EB +	The Motor encoder phase B has a positive input	
2	EB -	Motor Encoder Phase B with a negative input	
3	EA +	Positive input to the motor encoder, phase A	
4	EA -	Motor Encoder phase A negative input	
5	VCC	Encoder power supply	The + 5V internal output
6	EGND	Encoder power supply	0V internal output

5. Control the signal port

name	explain
PUL +	Pulse Input signal:
PUL -	The pulse effective edge is adjustable and the default pulse rising edge is valid; in order to reliably respond to the pulse signal, the pulse width should be greater than 1.2 μ s.5 ~ 24 The VDC level is compatible.

DIR +	Directional input signal: High / low level signal, to ensure reliable motor change, the direction signal should establish before the pulse signal at least 5 μ s.5 ~ 24 The VDC level is compatible.
DIR -	
ENA +	An enable control signal used to enable or prohibit drive output. When the ENA is connected to a low level (or internal optical coupling conduction), the driver will cut off the current of each phase of the motor to keep the motor in a free state and does not respond to the input signal pulse. When this function is not required, the enabling signal terminal can be suspended. 5 ~ 24 The VDC level is compatible.
ENA -	
ALM +	Fault signal output in open form of collector
ALM -	



Outiring diagram of alarm in place

6 D-up setting;

The HBS 57 driver uses a six-digit dial switch to set the subdivision and motor rotation direction, as described in detail below

Subdivision setting

Step number / circle	SW1	SW2	SW3	SW4
Default	on	on	on	on
400	on	on	on	on
800	off	on	on	on
1600	on	off	on	on
3200	off	off	on	on
6400	on	on	off	on
12800	off	on	off	on
25600	on	off	off	on
51200	off	off	off	on
1000	on	on	on	off
2000	off	on	on	off
4000	on	off	on	off
5000	off	off	on	off
8000	on	on	off	off
10000	off	on	off	off
20000	on	off	off	off
3600	off	off	off	off

SW 5: Motor DIR initialized running direction, off=CC clockwise (positive), on = CW counterclockwise (reverse)
SW 6: off; standard mode on; start acceleration assist (not for arc signal)

SW 7	SW 8	Motor
on	on	42
off	on	57
on	off	60
off	off	57 Open-ring current is 4.0A

VDC: 20V-50V (DC voltage)