

Nema23 closed-loop integrated motor

Dimensional drawing - parameters

Model HBT5756C

Current 4A

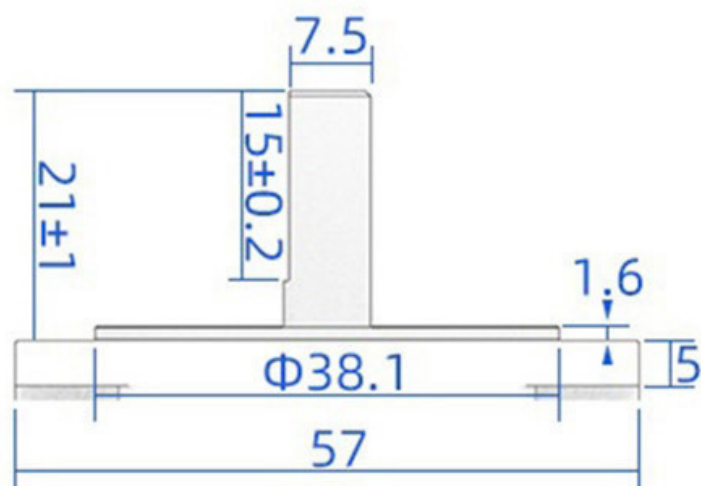
Voltage 2.25V

Step angle 1.8 °

Power Supply Voltage DC 24-55V

Signal voltage 5-24V universal

1.2Nm



2Nm

Model HBT5776C

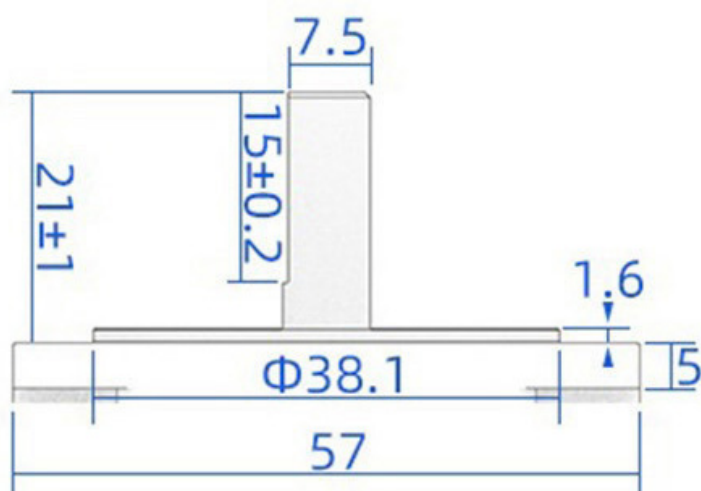
Current 4A

Voltage 2.25V

Step angle 1.8°

Power Supply Voltage DC 24-55V

Signal voltage 5-24V universal



3Nm

Model HBT57112C

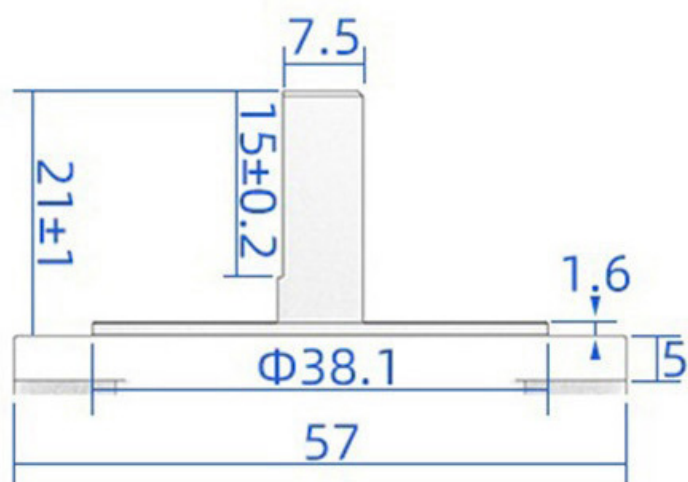
Current 4A

Voltage 3.4V

Step angle 1.8°

Power Supply Voltage DC 24-55V

Signal voltage 5-24V universal



Nema23 Integrated closed-loop stepper motor

1. Electrical, mechanical and environmental indicators

1) Electrical specifications

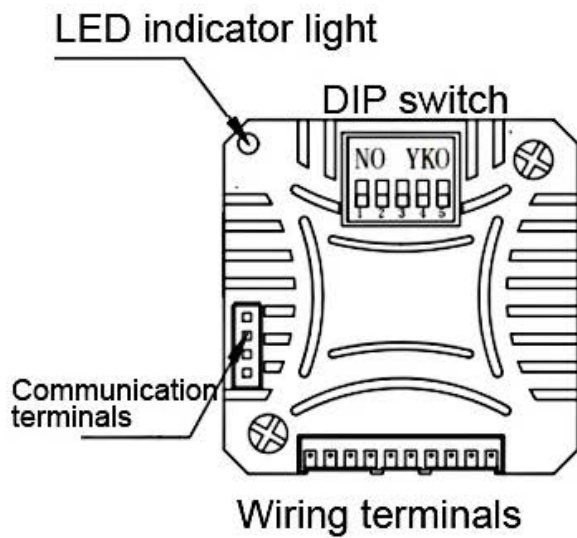
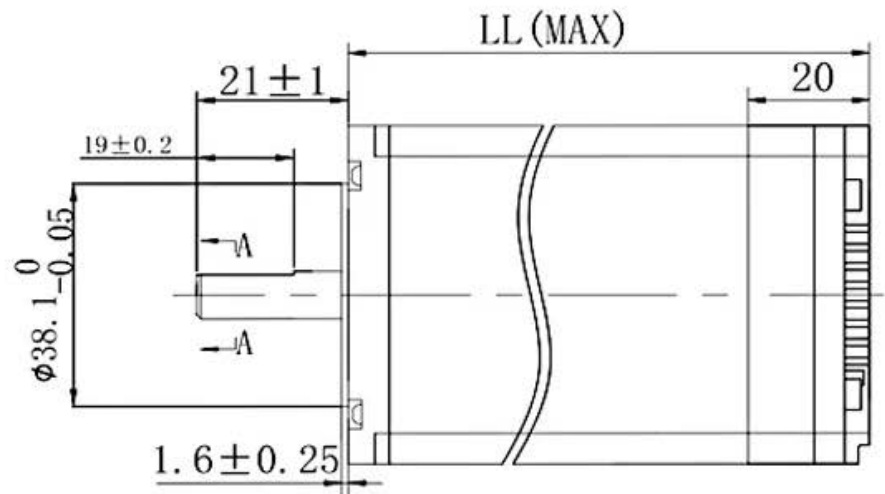
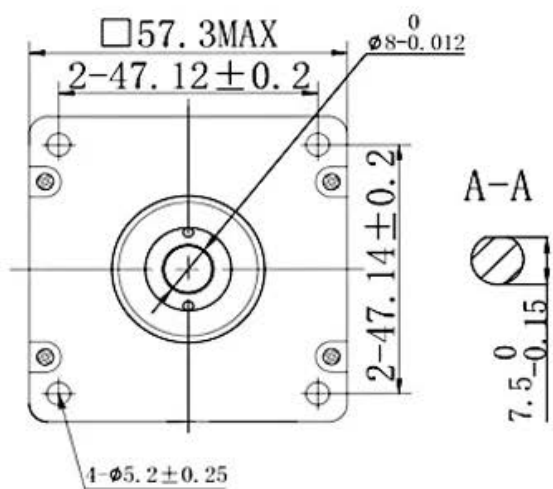
Parameter	HBT57C (Nema 23)			
	Minimum value	Typical value	Maximum value	Unit
Continuous output current	0.5	-	4	A
Power supply voltage (DC)	24	36	55	Vdc
Logic input current	10	10	16	mA
Logic input voltage	4.5	5	24	Vdc
Pulse frequency	0	200	500	kHz
Pulse high-level width	1.5	-	-	uS
Position error control accuracy	-	±1	-	Pulse
Speed control accuracy	-	±2	-	rpm
Maximum acceleration (unloaded)	-	100	-	rpm /ms
Overvoltage protection voltage	55	60	65	Vdc
Insulation resistance	100	-	-	MΩ

2) Operating Environment and Parameters

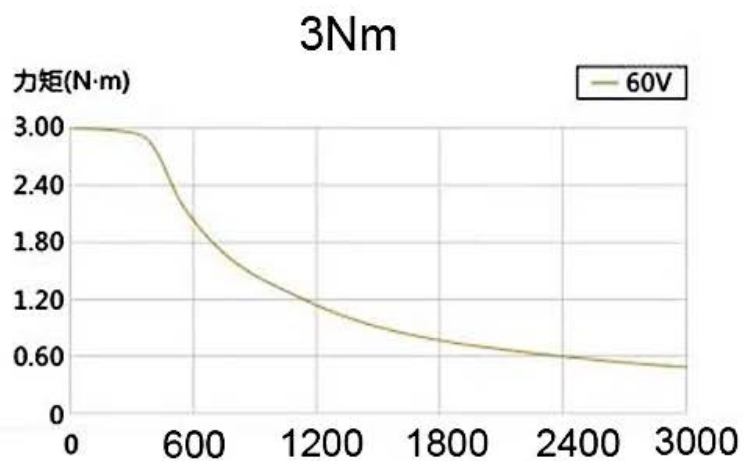
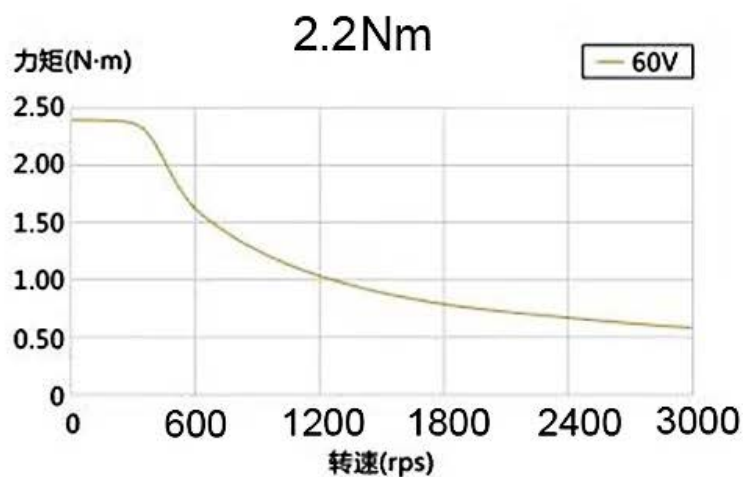
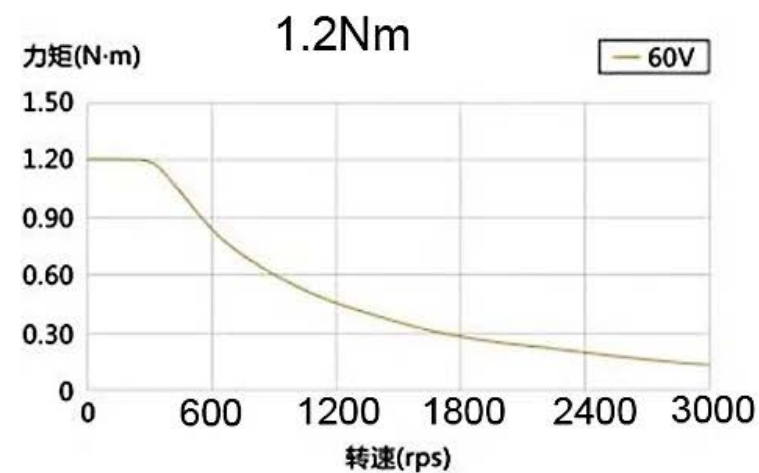
Cooling method		Natural cooling or forced air cooling
Use environment	occasion	Can not be placed next to other heating equipment, to avoid dust, oil mist, corrosive gas, humidity is too large and strong vibration places, flammable gas and conductive dust are prohibited;
	temperature	-5℃ ~ +45℃
	humidity	40 ~ 90%RH
	vibration	10 ~ 55Hz / 0.15mm
Storage temperature		-20℃ ~ +65℃
Using altitude		≤1000m
Weight		-KG

3)Product selection and dimensions

Motor model	Motor Length	Axis length	Shaft Diameter	Phase Current	Phase Resistance	Maintain Torque	Moment of Inertia	Weight
	(LL)mm	(LR)mm	(S)mm	(A)	Ω	N.m	g.cm ²	g
HBT5756C	76	21	8	3.0	0.93	1.5	300	750
HBT5776C	96	21	8	3.5	0.40	2.2	450	1100
HBT57100C	120	21	8	4.0	0.50	2.8	680	1560
HBT57112C	132	21	8	4.5	0.78	3.2	760	1780



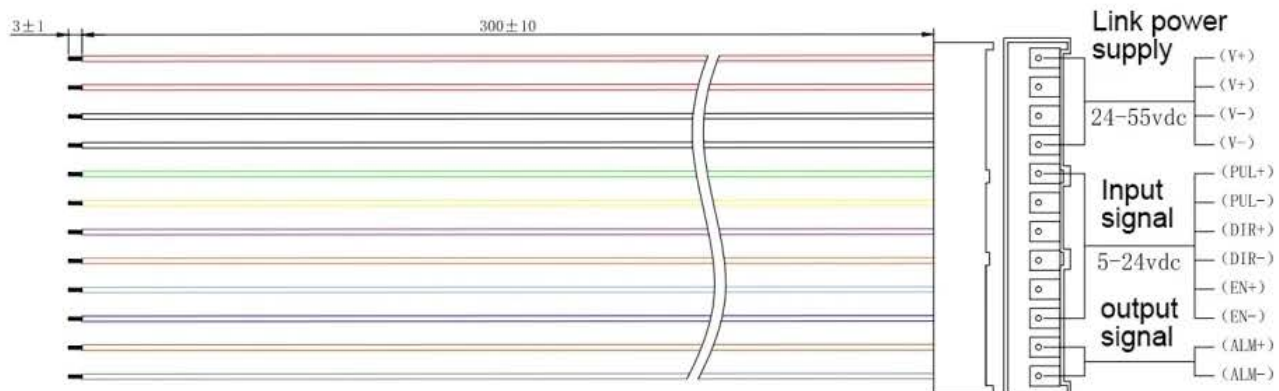
Nema 23 Integrated Closed Loop Steppr Torque Curve Diagram



2.Driver interfaces and cable connections are introduced

1) Control Port

PIN No.	Signal	Colour	Function	
1-2	+VDC	Red	Power input positive terminal, input voltage is 24-55Vdc	Pay attention to the positive and negative poles of the power supply do not reverse the positive and negative poles
3-4	GND	Black	Power input negative end	
5	PU+	Green	Signal positive input terminal	Compatible with 4.5-24V level signals
6	PU-	Yellow	Signal negative input terminal	
7	DR+	Purple	Signal positive input terminal	
8	DR-	Orange	Signal negative input terminal	
9	EN+	White	Signal positive input terminal	
10	EN-	Blue	Signal negative input terminal	
11	AL+	Brown	Alarm signal positive output	Open collector OC output, maximum pull-up level 24V , maximum output current 100mA
12	AL-	Gray	Alarm signal negative output	

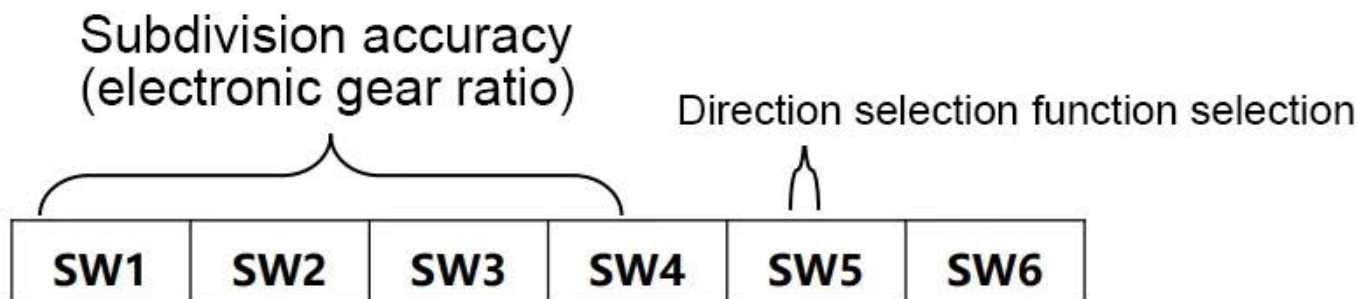


2) LED light status indication

The green LED is the power indicator light, which stays on when the driver is powered on; When the drive is powered off, The LED goes out. The red LED is the fault indicator light. When a fault occurs, the indicator light flashes in cycles of 5 seconds; When the fault is cleared by the user, the red LED remains off. The flashing frequency of the red LED is 2Hz, with the LED on for 200ms and off 300ms. The number of times the red LED flashes within 5 seconds represents different fault information, and the specific relationship is shown in the table below:

Serial Number	Flashing frequency	Red indicator light flashing waveform	Fault Description
1	1		Overcurrent fault ($I \geq 6A$)
2	2		Overvoltage fault ($V_{dc} \geq 60V$)
3	7		Tracking error out of tolerance fault

3. DIP switch setting



Pulse/rev	SW1	SW2	SW3	SW4
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Default	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
3600	On	Off	Off	Off
7200	Off	Off	Off	Off