

60mm series



Motor characteristics

- ◆ Step Angle: 1.8°
- ◆ Frame Size: 60mm
- ◆ Holding Torque: 0.9-3.0N.m
- ◆ Built-in 1000-line encoder
- ◆ Low heat, High torque
- ◆ High stability, High consistency

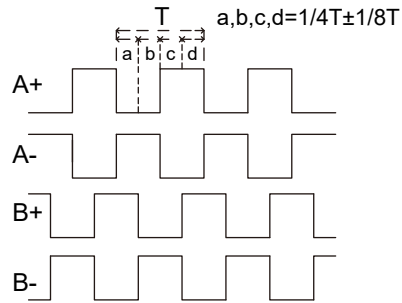
Motor Specifications

Model	Phase Current	Phase Resistance	Phase Resistance	Holding Torque	Rotor Inertia	Bi/Unipolar	Weight	Length (L)
	A/∅	Ω/∅	mH/∅	N.m	g.cm <sup>2</sup>	# of Leads	kg	mm
PHSM60S45-430-210EC	3.0	0.6	1.3	0.9	140	Bi(4)	0.85	45
PHSM60S45-440-210EC	4.2	0.3	1.0	0.9	140	Bi(4)	0.85	45
PHSM60S56-430-210EC	3.0	0.8	2.4	1.6	320	Bi(4)	1.0	56
PHSM60S56-440-210EC	4.2	0.45	1.2	1.6	320	Bi(4)	1.0	56
PHSM60S90-430-210EC	3.0	1.1	5.0	3.0	800	Bi(4)	1.5	90
PHSM60S90-440-210EC	4.2	0.75	2.8	3.0	800	Bi(4)	1.5	90

Encoder Specifications

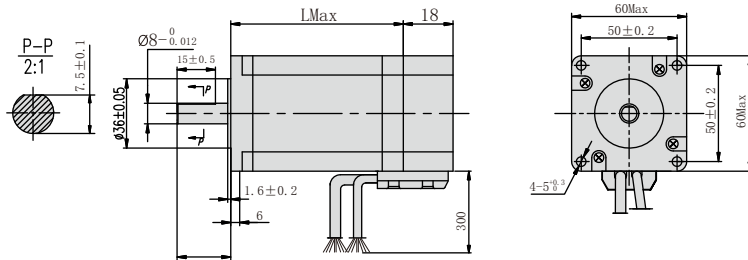
Resolution	1000CPR	
Supply voltage	4.5~5.5V	
Supply current(Max)	100mA	
Signal	A+,A-,B+,B-	
Rise/fall time(Max)	100ns	
Frequency	300kHz	
Output voltage	"H"	2.4V min
	"L"	0.4V Max
Max.output current	20mA	

Encoder Waveform



Outline Drawing

● Motor Without Brake



● Motor With Brake

