Hybrid Servo Motor Datasheet

KL23-2N-1000 and KL34-8N-1000

Motor Specifications

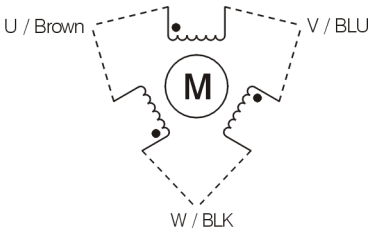
Model	Phase	Step Angle (Degree)	Leads	Holding Torque (N.m)	Phase Current (A)	Phase Resistance (Ohm)	Phase Inductance (mH)	Rotor Inertia ($g.cm^2$)	Weight (Kg)	Encoder (lines)
KL23-2N-1000	3	1.2°	3	2.0	5.8	0.62	1.85	580	1.3	1000
KL34-8N-1000	2	1.8°	4	8.0	6.0	0.44	3.73	2580	3.8	1000

Encoder Specifications

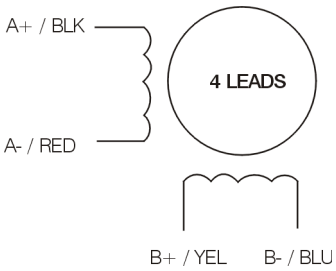
Parameter	Min	Typical	Max	Unit
Operating Temperature	-40	-	100	℃
Supply Voltage	4.5	5	5.5	VDC
Output Current per Channel	-1	-	5	mA
Low Level Output Voltage	-	-	0.4	VDC
High Level Output Voltage	2.4	-	-	VDC
Count Frequency	-	-	100	KHz

Motor Wiring Diagram

KL23-2N-1000



KL34-8N-1000

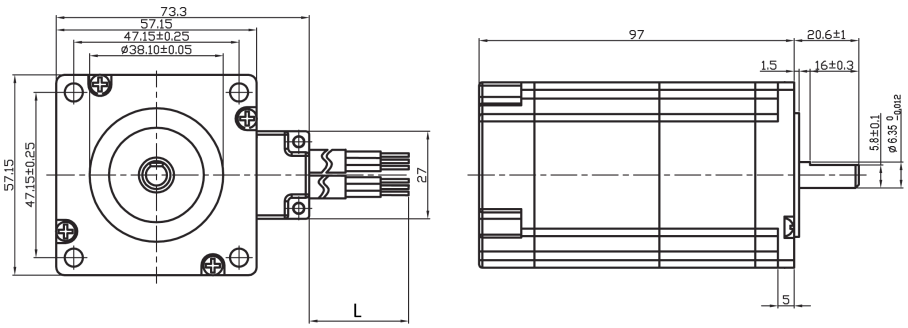


Cable Specifications

Model	Motor Cables			Encoder Cables		
	Standard	Extension		Standard	Extension	
	Length	Length	Part Number	Length	Length	Part Number
KL23-2N-1000	0.55±0.02m	*	*	0.55±0.02m	3m	CABLE-ENCODER-03
					5m	CABLE-ENCODER-05
KL34-8N-1000	0.52±0.02m	*	*	0.30±0.02m	3m	CABLEH-BM3M0
					8m	CABLEH-BM8M0

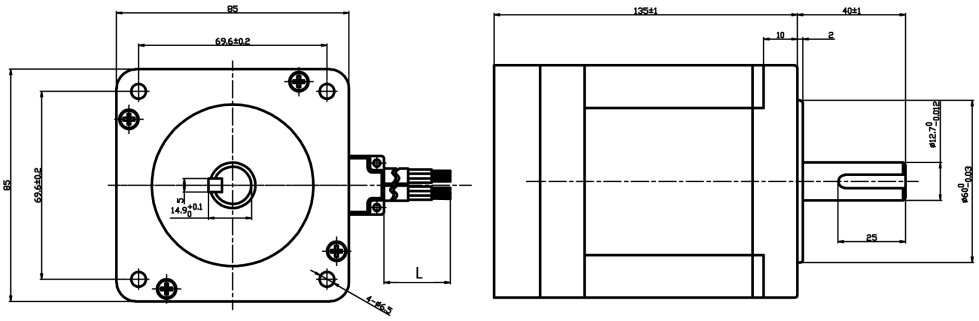
*Contact us if you need motor extension cable.

Mechanical Specifications – with Encoder



L	KL23-2N-1000	
	Motor Cable	Encoder Cable
	550±20mm	550±20mm

Figure 1: Mechanical Specification of KL23-2N-1000



L	KL34-8N-1000	
	Motor Cable	Encoder Cable
	520±20mm	300±20mm

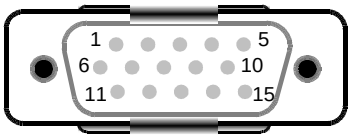
Figure 2: Mechanical Specification of KL34-8N-1000

Encoder Extension Cable Pin Out

Pin	Color	Name	Description	Pin	Color	Name	Description
1	**Red**	VCC	+5V power input	4	**Green**	B-	Encoder Channel B-
2	**White**	GND	+5V GND	5	**Black**	A+	Encoder Channel A+
3	**Yellow**	B+	Encoder Channel B+	6	**Blue**	A-	Encoder Channel A-

Encoder Connector

Encoder Connector – HDD15 Male



Pin	Name	Color	I/O	Description
1	EA+	Black	O	Encoder channel A+ output
2	EB+	Yellow	O	Encoder channel B+ output
3	GND	White	GND	Ground
4	NC	-	-	Not Connected
5	NC	-	-	Not Connected
6	FG	-	-	Ground terminal for shielded
7	NC	-	-	Not Connected
8	NC	-	-	Not Connected
9	NC	-	-	Not Connected
10	NC	-	-	Not Connected
11	EA-	Blue	O	Encoder channel A- output
12	EB-	Green	O	Encoder channel B- output
13	VCC	Red	O	+5V power input.
14	NC	-	-	Not Connected
15	NC	-	-	Not Connected

KL23-2N-1000 Speed-Torque Curves

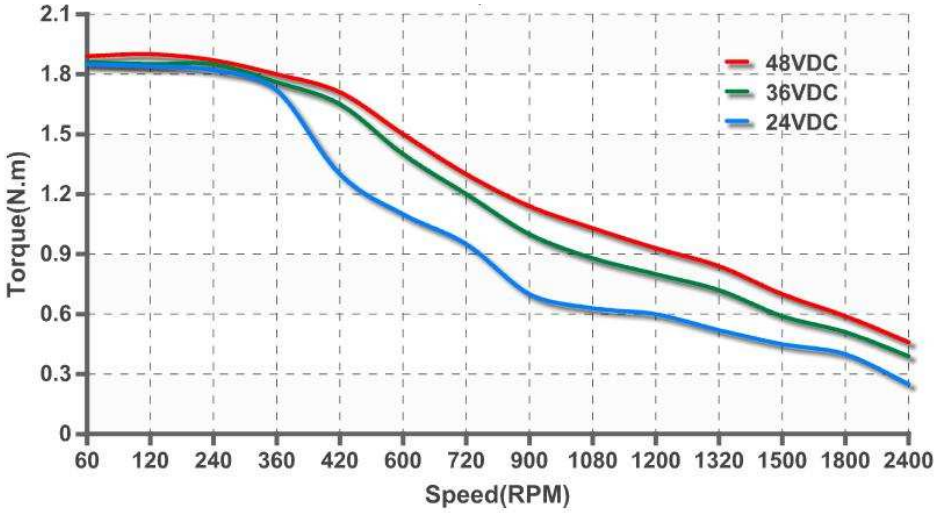


Figure 1: Speed Torque Curve of KL23-2N-1000

Note: These curves are based on 40% holding torque percentage of the drive. If higher torque at high speed is required, you can change the holding torque percentage to 100%. See software manual.

KL34-8N-1000 Speed-Torque Curves

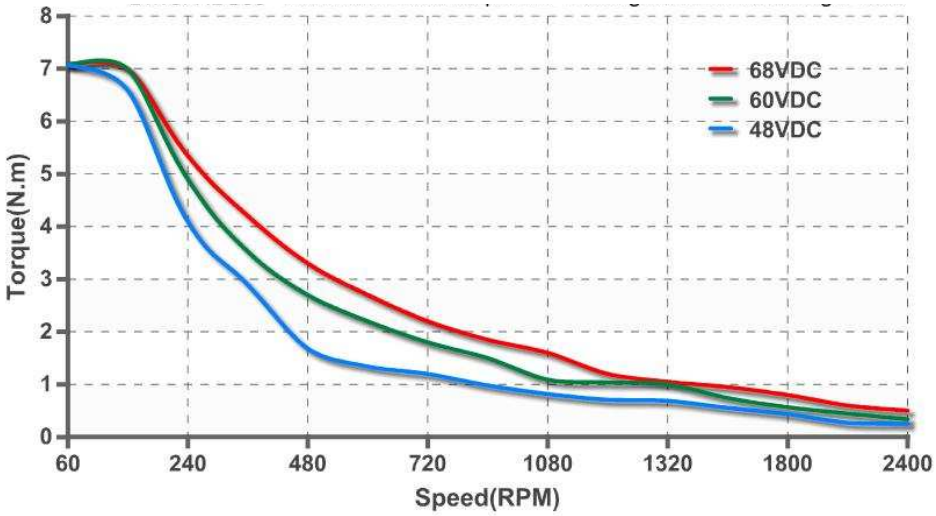


Figure 2: Speed Torque Curve of KL34-8N-1000

Note: These curves are based on 40% holding torque percentage of the drive. If higher torque at high speed is required, you can change the holding torque percentage to 100%. See software manual.