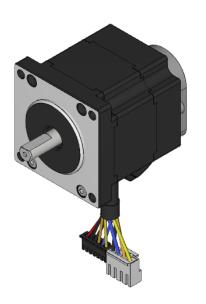


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BL23 SERIES

BL23E22-02D-A-ES1000-B12F

BLDC MOTOR

CONFIGURATION

Gearbox: No Gearbox **Shaft**: With Rear Shaft

Shaft Option (front shaft): Flat Shaft **Encoder:** E5S - Optical, Single Ended

Encoder Cable : Include Encoder Cable (090-00191)

Resolution: 1000 CPR

Index : Included

Connector: Molex Connector

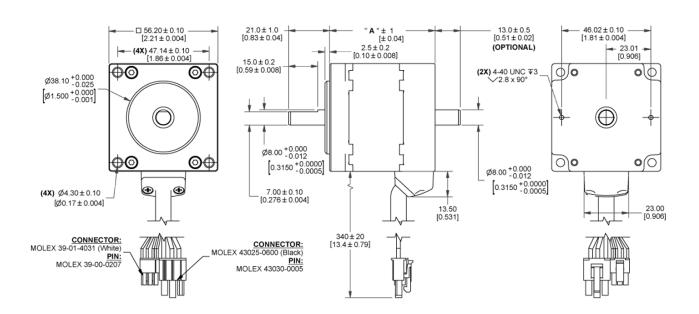
Leadwire Length: 12 inch (30.50 cm)

MOTOR SPECIFICATIONS

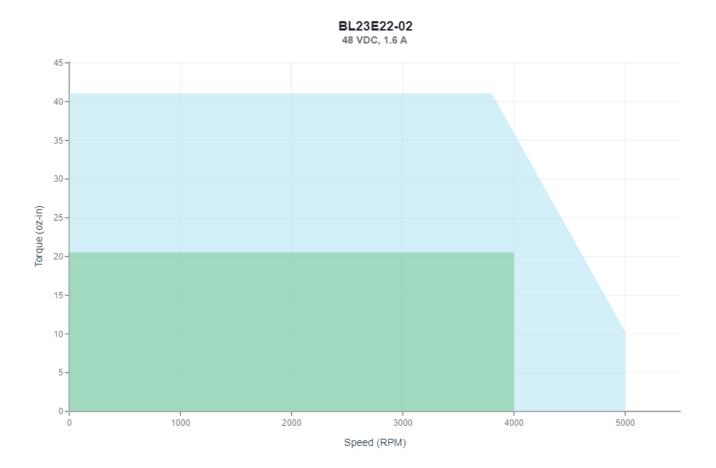
Phase	3
Frame Size	2.200 in
NEMA Size	NEMA 23
Body Length (Dimension A)	2.190 in
Rated Voltage	48 VDC
Rated Output Power	60 W
Rated Speed	4000 RPM
Max Speed	5000 RPM
Rated Torque	21.24 oz-in
Rated Current	1.6 A
Max Torque	41.07 oz-in
Resistance	1.8 ohm
Terminal Inductance	1.9 mH
Torque Constant	12.745 oz-in/A
Rotor Inertia	0.809 oz-in²
Weight	1.411 lbs
Electrical Time Constant	1.1 ms
Mechanical Time Constant	3.5 ms

DIMENSIONS

Model	BL23E22-02D-A-ES1000-B12F
DIM. A (length) in	2.190 in



PERFORMANCE CURVE



OPERATING SPECIFICATIONS

Hall Effect Angle 120° electrical Angle			
Radial Play	0.002 in @ 0.992 lbs		
End Play	0.003 in @ 99.208 lbs		
Max. Radial Force 0.787 in @ 16.799 lbs			
Max. Axial Force 3.373 lbs			
Insulation Class B			
Dielectric Strength	500 VDC for 1 minute		
Insulation Resistance	100 Ω Min. 500 VDC		
Ambient Operating Temperature	-4 °F to 122.00 °F		
Storage Temperature -4 °F to 212.00 °F			
Humidity Range (%) 85% (RH) non-condensing			
Direction Of Rotation	CCW		

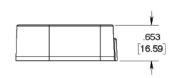
PIN OUTS

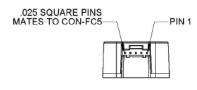
PIN#	COLOR	PHASE
1	RED	VCC (+5V)
2	YELLOW	HV
3	BLUE	HW
4	BLACK	GND
5	ORANGE	HU

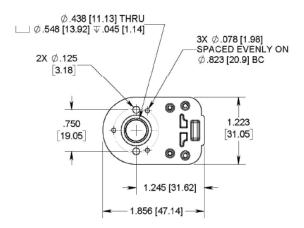
PIN#	COLOR	PHASE
1	BLUE	W
2	ORANGE	U
5	YELLOW	V

ENCODER OPTIONS

E5S - Single-Ended Optical Encoder



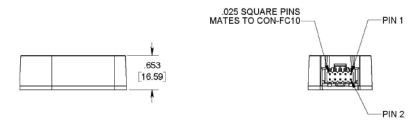


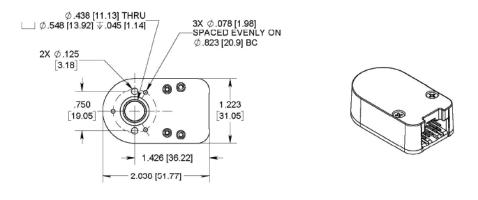




View E5S Specifications

E5D - Differential Optical Encoder

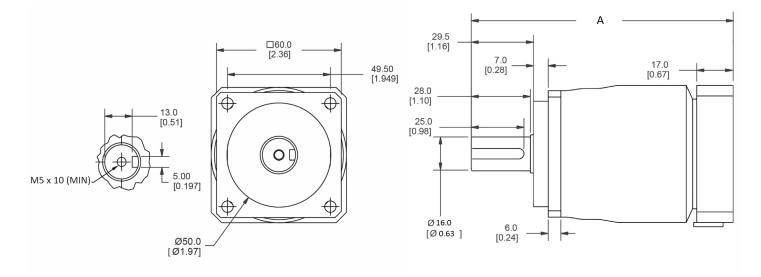




View E5D Specifications

GEARBOX OPTIONS

Stage	Dimension A
1	106mm (4.17in)
2	127.5mm (5.02in)



Stage		1		2	
Ratio	latio 5		10	20	50
Nominal Output Torque	Nm	60	40	50	60
Emergency Stop Torque	Nm	3 times nominal output torque			
Nominal Input Speed	RPM	5000			
Max Input Speed	RPM	10000			
Max Radial Load	N	1377			
Max Axial Load	N	765			
Efficiency η	%	90		85	
Backlash	arcmin	<5		<7	
Protection Class		IP65			
Service Life	hr	20000			
Weight	kg	1.4			
Operating Temperature	°C	-20 to 90			
Lubrication		synthetic lubrica- tion oils			
Noise (n = 3000 rpm)	dB(A)	56	54	58	55
Mass Moment of Inertia	kg-cm ²	0.13	0.13	0.03	0.03



Motion Control, Solved.

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