

BLF80 Series - Brushless DC Motors



FEATURES

- 80mm Frame Size BLDC Motors
- Long Life and Highly Reliable
- Cost-Effective Replacement for Brush DC Motors
- Hall Sensor Feedback
- Available in Two Different Stack Lengths
- CE Certified and RoHS Compliant



DESCRIPTION

The powerful BLF80 Series are square-bodied 80mm frame size Brushless DC Motors. These Square-bodied motors include an aluminum square-mounting flange to allow for easy installation, Class F insulation for higher temperature operation, and rated torque up to 453 oz-in.

SPECIFICATIONS

Model #	Frame Size (mm)	Rated Voltage (VDC)	Rated Speed (RPM)	Rated Power (W)	Rated Torque (oz-in)	Line to Line Resistance (ohms)	Line to Line Inductance (mH)	Torque Constant (oz-in/A)	Back EMF Voltage (V/KRPM)	Rotor Inertia (oz-in-sec ²)	Weight (lb)	"L" Length (mm)
BLF80S-065-48V-3000	80	48	3000	650	293	0.106	0.55	15.7	8.2	0.016	5.95	119
BLF80D-065-48V-3000	80	48	3000	650	293	0.106	0.55	15.7	8.2	0.016	5.95	119
BLF80S-065-170V-3000	80	48	3000	650	293	1.34	6.85	53.8	28.6	0.016	5.95	119
BLF80D-065-170V-3000	80	48	3000	650	293	1.34	6.85	53.8	28.6	0.016	6.17	119
BLF80S-080-48V-3000	80	48	3000	800	378	0.083	0.4	15.3	8.0	0.024	7.05	127
BLF80D-080-48V-3000	80	48	3000	800	378	0.083	0.4	15.3	8.0	0.024	7.05	127
BLF80S-080-170V-3000	80	48	3000	800	378	1.0	5.0	54.1	28.3	0.024	7.05	130
BLF80D-080-170V-3000	80	48	3000	800	378	1.0	5.0	54.1	28.3	0.024	7.05	130
BLF80S-100-48V-3000	80	48	3000	1000	453	0.06	0.3	15.7	8.2	0.027	7.72	149
BLF80D-100-48V-3000	80	48	3000	1000	453	0.06	0.3	15.6	8.2	0.027	7.49	149
BLF80S-100-170V-3000	80	48	3000	1000	453	0.625	3.52	52.1	27.2	0.027	7.72	149
BLF80D-100-170V-3000	80	48	3000	1000	453	0.625	3.52	52.1	27.2	0.027	7.72	149

Note: The 6th character "S" denotes a single shaft or "D" for double shaft.

Shaft Axial Force:	33 lbs
Shaft Radial Force:	88 lbs, 25mm from end of shaft
Shaft Axial Play:	0.08mm with 1 lb
Shaft Radial Play:	0.02mm with 1 lb
Winding Type:	Delta Connected, 8 Pole
Hall Angle:	120 Degree Electrical Angle
Operation Temp:	-20~75°C, 85% Humidity
Storage Temp:	-20~85°C, 85% Humidity
Insulation Class Resistance:	Class F (155°C)
Insulation Resistance:	>= 100M Ohm, 500VDC
Dielectric Strength:	1800VAC, 1 sec
IP Rating:	IP40

Hall Sensor Specifications

Supply Voltage:	4.5VDC to 28VDC
Current, I _{off} :	10mA max
Current, I _{on} :	11.3mA max
Rated Sinking Current:	20mA
Saturation Voltage:	0.4VDC max @ 25°C
Output Leakage Current:	10µA
Output Switching Time @ 25°C	
Rise, 10% to 90%	1.5µs
Fall, 90% to 10%	1.5µs
Output Type:	Open Collector

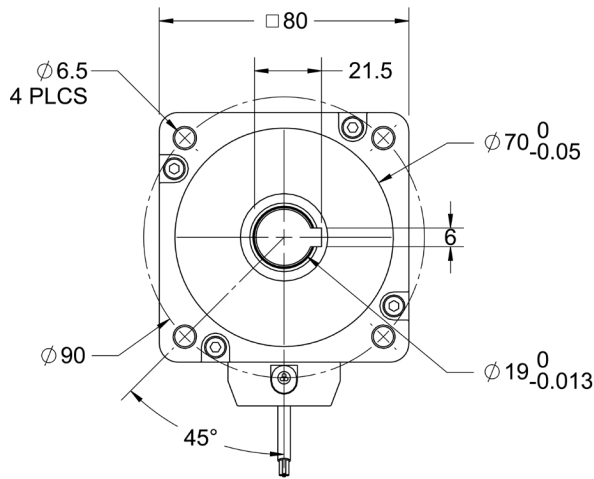
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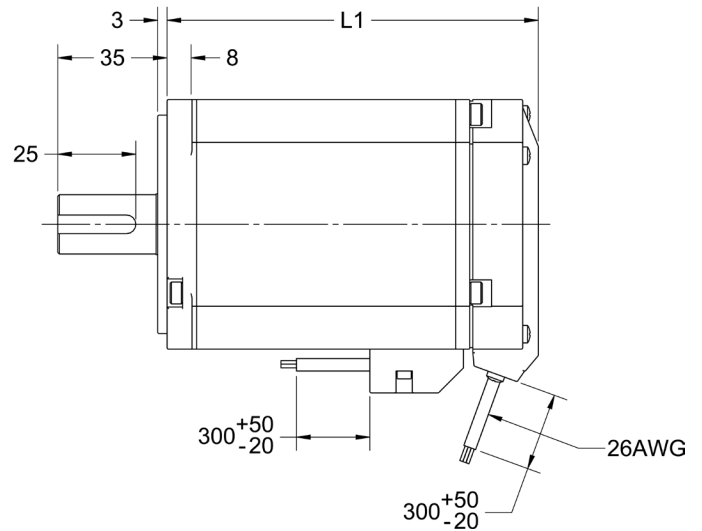


DIMENSIONS

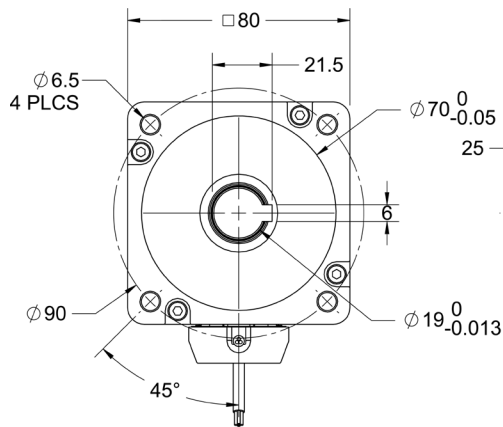
BLF80S



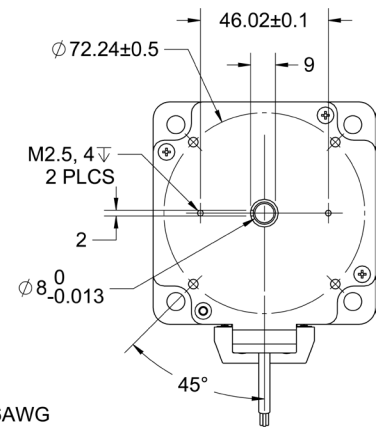
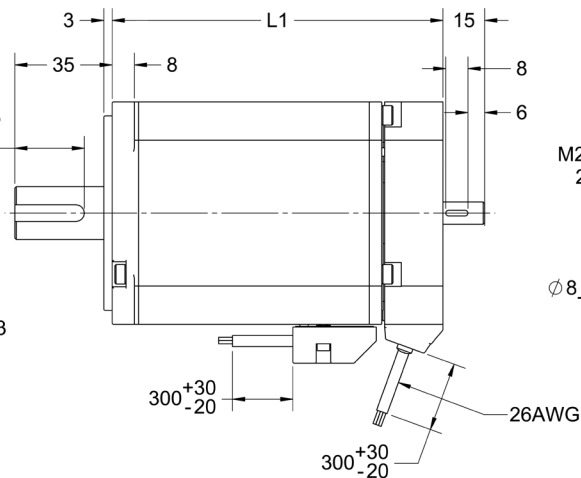
Units are in mm



BLF80D



Units are in mm



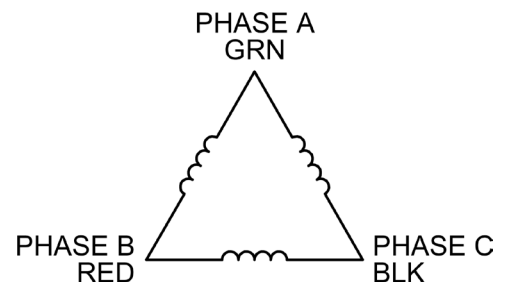
WIRING INFORMATION

Motor Phase

Color	Function	48V AWG	170V AWG
Yellow	Phase A	13	16
Red	Phase B	13	16
Black	Phase C	13	16

Hall Sensors

Color	Function	AWG
Red	Vcc +5V	26
Black	Hall Gnd	26
Blue	Hall A	26
Green	Hall B	26
White	Hall C	26



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