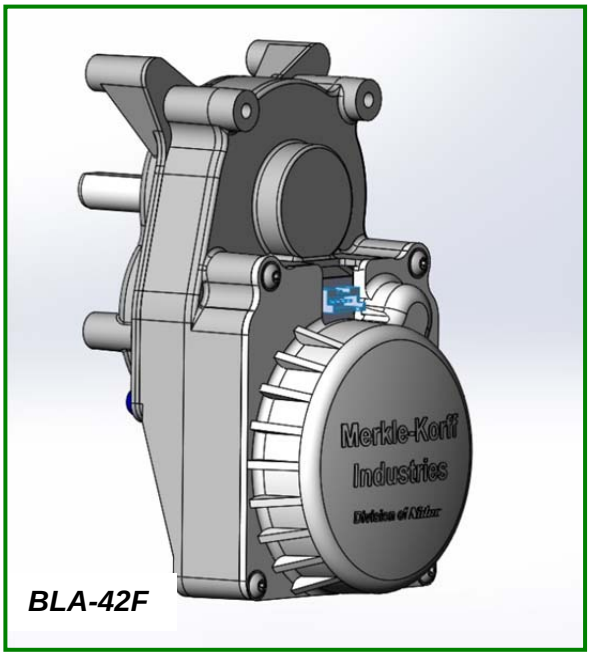
BLA- 42F PARALLEL SHAFT BLDC GEARMOTORS

Nidec -All for dreams Merkle-Korff Industries

The BLA-42F series gear motor utilizes a Brushless DC motor with internal control electronics for precise movement in the application. The gear motor can be driven using a PWM signal to obtain speed control of the device. The brushless motor offers the highest efficiency, speed control, low audible noise, and extended life.



BLA-42F

GEAR REDUCER FEATURES

Housing Material: Zinc die cast
Gears: Sintered Powder Metal & Plastic
1st Gear: Plastic Helical for low audible noise
Bearings: Ball Bearing Output
Lubrication: Synthetic Grease
Gear Ratio: 485:1 +
Output speeds: 0.5 to 4 RPM

MOTOR FEATURES

Type: Electronically Commutated Outer Rotor
Voltage: 24Vdc ± 10%
Output Power: 3 Watts
Phase Connection: 3 Phase Wye
Slot / Poles: 12 / 10
Rotor Magnets: Ferrite
Insulation Class: B
Rotation: Reversible
Rotor Positioning: Hall Elements
Bearings: Ball

INTEGRAL DRIVE CONTROL FEATURES

Type: Sinusoidal
Speed Control: PWM (20 to 30 kHz)
Locked Rotor Protection: Detects No Movement of the rotor within 1 second – Auto-recovery: 3 seconds
Braking: Dynamic
Current Limit: 1.7 Amps
Speed Feedback: 5 PPR
Mating Connector: JST PARP-05V

Drive Components Temperature Rating @ 24Vdc

Item	Temperature Rating (°C)
IC	105 Maximum
MOSFETs	105 Maximum
Other	105 Maximum

OPTIONAL FEATURES

- Customized output shafts including dual output
- Various lead lengths, terminals and connectors
- Mating Wire Harness

++ **Maximum Running Torque: 80 In.Lb (9.0 N.m)**
++ **Maximum Peak Torque: 265 In.Lb (30 N.m)**
++ **Speed: Up to 3.8 RPM @ 100% PWM**
Ambient Operating Temperature Range: -10°C to 50°C
Circuit Protection: This product does not have a protection circuit against overvoltage or reverse polarity connection.
Regulatory Agency: RoHs, CE

+ Note: Other gear ratios available based on application. The performance of the product will vary depending on the motor and gear ratio combination.

++ Listed performance values based on standard 485:1 gear ratio.

TYPICAL APPLICATIONS

- Pellet Stove Augers
- Food Service Equipment
- Pumps
- Agricultural Equipment
- Valve Actuators
- Medical / Laboratory Equipment
- Robotics
- Material Handling

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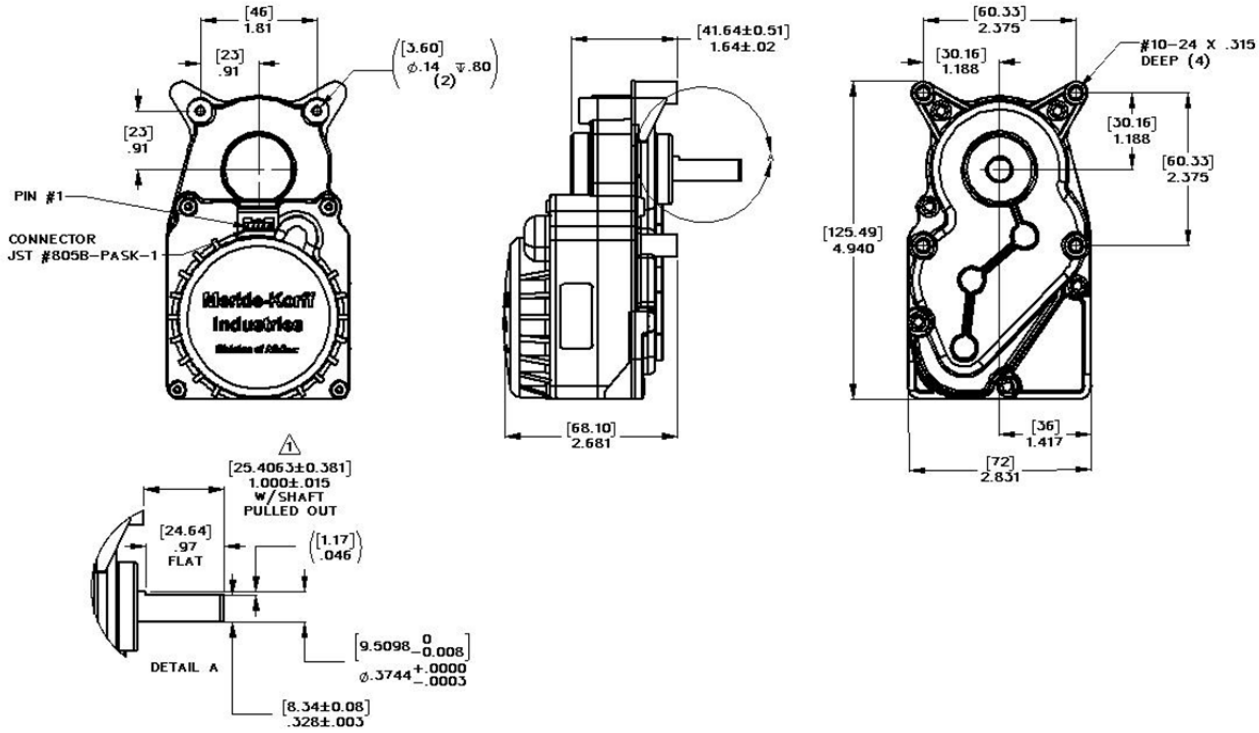
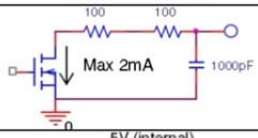
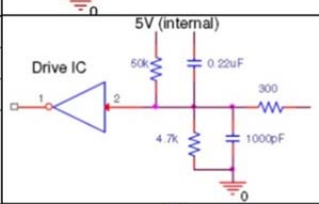
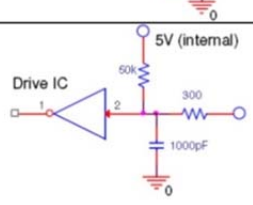


Electrical Interface Conection					
Connector		Pin	Signal	Detail	Internal Circuit
Motor: B05B-PASK-1 (JST)	Mating: PARP-05V-S (JST)	1	FG	**Speed Feedback Output**	
				5 Pulses Per Revolution	
				Speed [rpm] = FG [Hz] x 60 / 5	
				Open Collector Output (I = 2mA Max)	
		2 *	CW/CW	**Output Direction From Shaft End of Gear Reducer**	
				*** CCW = Connected to External +5Vdc	
				*** CW = Open	
		3	PWM	**PWM Input (Low Active)**	
				Full Speed (100%) = Connected to Pin 4	
				Motor Stop = Open	
				Recommended PWM Frequency: 20-30 kHz	
		4 **	GND	**Power Ground**	-
		5 **	VM	**Power Supply Voltage**	-

* Motor must stop rotating and be at 0 RPM before reversing direction.
**Reversed polarity on Pins #4 and #5 will damage controller.
***Output shaft direction for gear ratios other than 485:1 may result in opposite rotation.