

1 HP (GEARED) BLDC MOTOR SPECIFICATIONS



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JR120-745W-1500RPM

Highlights

- ✓ 36/48VDC or 230VAC, 745Watts, 1500 RPM Brushless DC Motor with Integrated Gear Box
- ✓ In-runner with shaft output and keyway
- ✓ External Control
- ✓ Built in Hall Sensors with Hall Effect Angle of 120 degrees
- ✓ Insulation Class F
- ✓ Operating temperature up to +80°C (Also available up to +150°C)

Motor Specifications

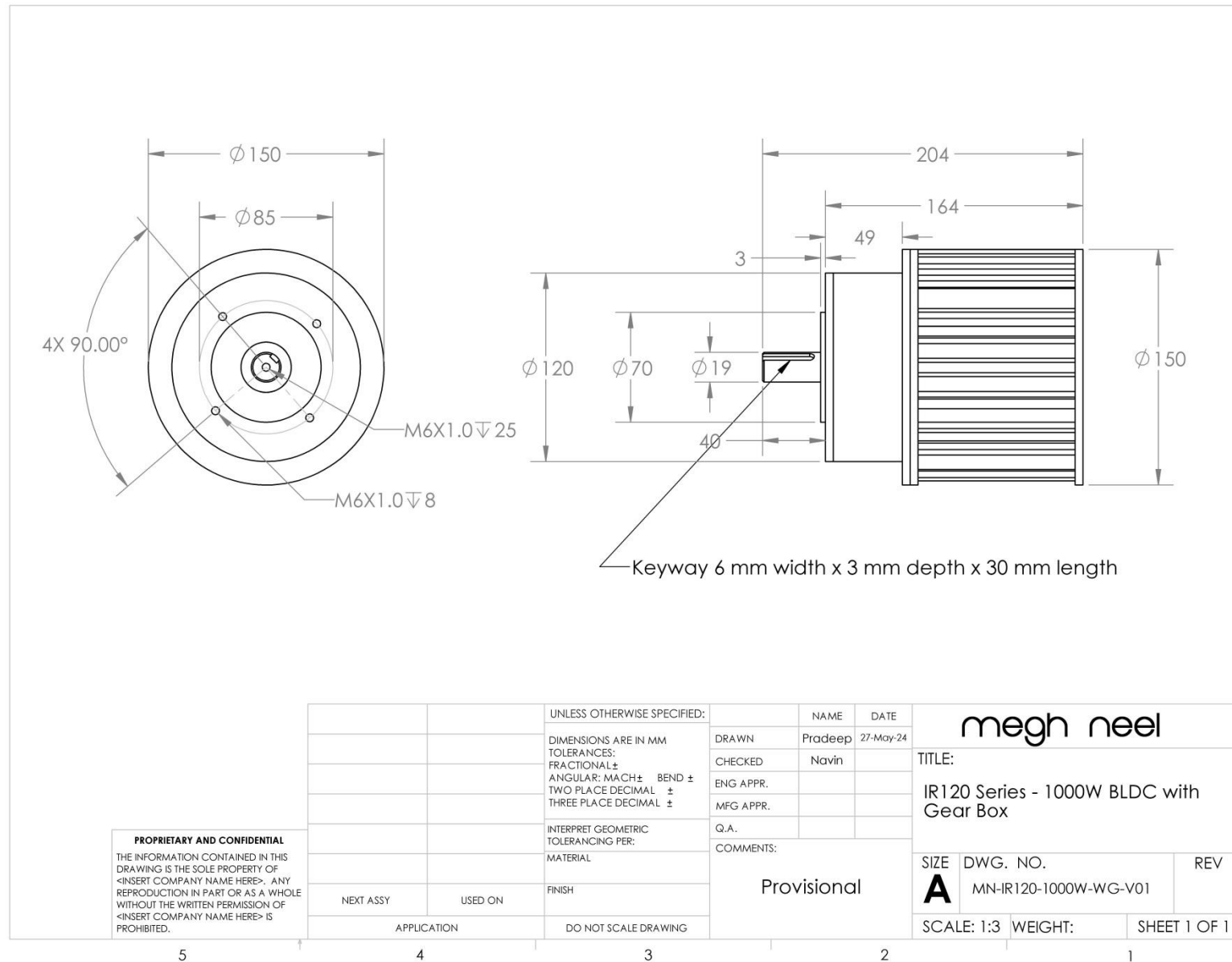
Parameter	Value
Rated Voltage	36/48VDC or 310VDC
Rated Current	25/19A or 3A
Motor Rated Power (Input)	850 Watts
Motor Rated Speed (RPM)	1500 RPM
Motor Rated Torque (Nm)	4.8 Nm
No Load Current (A)	3.8A or 0.8A
Current Density (A/square mm)	5 A/square mm
Variable Speed Range	0-1500 RPM
Motor Diameter	150 mm

Gear Box Specifications (Optional)

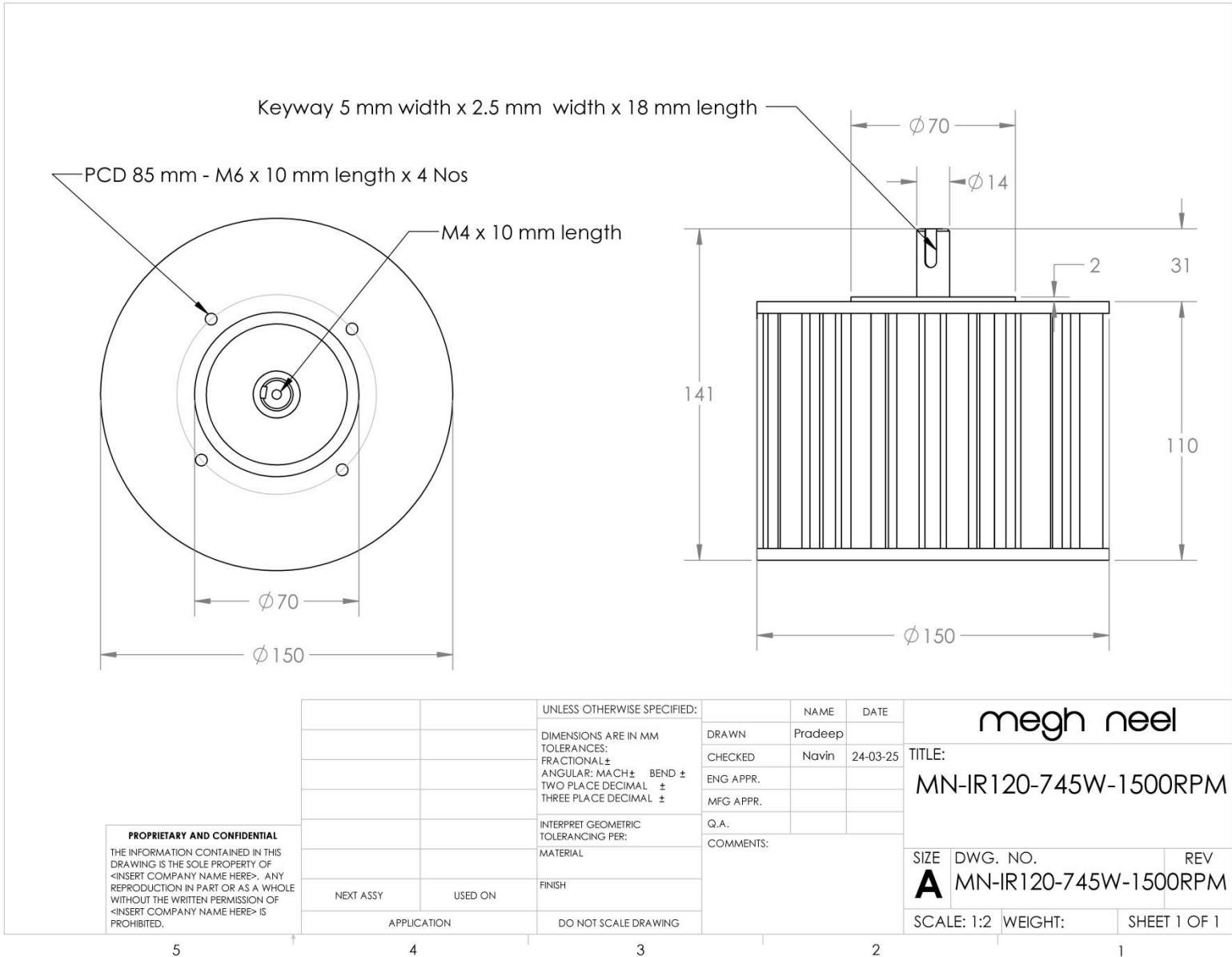
Parameter	Value
Type	Cycloidal Integrated
Ratio	10:1
Output Shaft	19 mm Diameter x 40 mm length
Keyway	6 mm width x 3 mm depth x 30 mm length
Mounting	Face (See drawing)
Weight	9.6 Kilograms (Including Motor)



Dimensions (With Integrated Gear)



Dimensions (Without Gear)



Low Voltage DC - Controller Specifications

Parameter	Value
Rated Voltage	24/36/48VDC
Controller Current Limit	30 A
Variable Speed	3 Pin Plug with analog voltage input from 0 to 3.4 VDC 3.4VDC – Maximum Speed 0.8VDC – Start Motor 0VDC – Stop Motor
Commutation	Sensored or Sensorless
Reverse Option	2 Pin (Short the pins to enable half speed reverse)

Connection Sequence

Supply: Connect the 24/36/48V Positive Supply to the Controller Red Wire via a key switch. Connect the Battery Negative terminal to the Controller Black Wire.

Motor Connection:

Connect the Controller Phase Wires to the respective wires from the motor as given below

Motor Phase Connection	Yellow	Blue	Green
Controller Phase Connection	Yellow	Blue	Green

Connect the 6 pin motor sensor plug to the controller sensor input plug. After powering ON the controller, connect the white “self study” male & female plugs to help the controller determine the right commutation sequence and motor running direction. Make sure that the motor is not loaded when performing this step. Once the motor starts running, disconnect the plugs. If you require the motor to run in the opposite direction, perform this step again.

Throttle / Accelerator

Connect the 3 pin connector (Red, Black, Green) to 3 pin on the board. While connecting, ensure that the color codes match as per the diagram provided. Red: +5 VDC, Black: Ground, Green: 0-5 VDC. Automatic throttle to maximum speed can also be provided.



230VAC - Controller Specifications

Parameter	Value
Rated Voltage	96-270VAC (Single Phase Input)
Frequency	50-60Hz
Controller Current Limit	5 A
Rated Speed (RPM)	1500 RPM (Configurable)
Commutation	Sensorless
Variable Speed	3 Pin Plug with analog voltage input from 0 to 5VDC 5VDC – Maximum Speed 0.8VDC – Start Motor 0VDC – Stop Motor
RPM Output	Digital Pulse Output - 12 Pulses Per Rotation
Fault Conditions	Over Voltage, Under Voltage, Over Temperature, Rotor Lock, Phase Loss
Others	Configurable using programming tool
Place of Origin	India
Available on request at additional cost	With Active PFC, PWM Control

Connection Sequence

Supply: Connect the 230VAC wires via a key switch as shown in the diagram.

Motor Connection:

Connect the Controller Phase Wires to the respective wires from the motor as given below

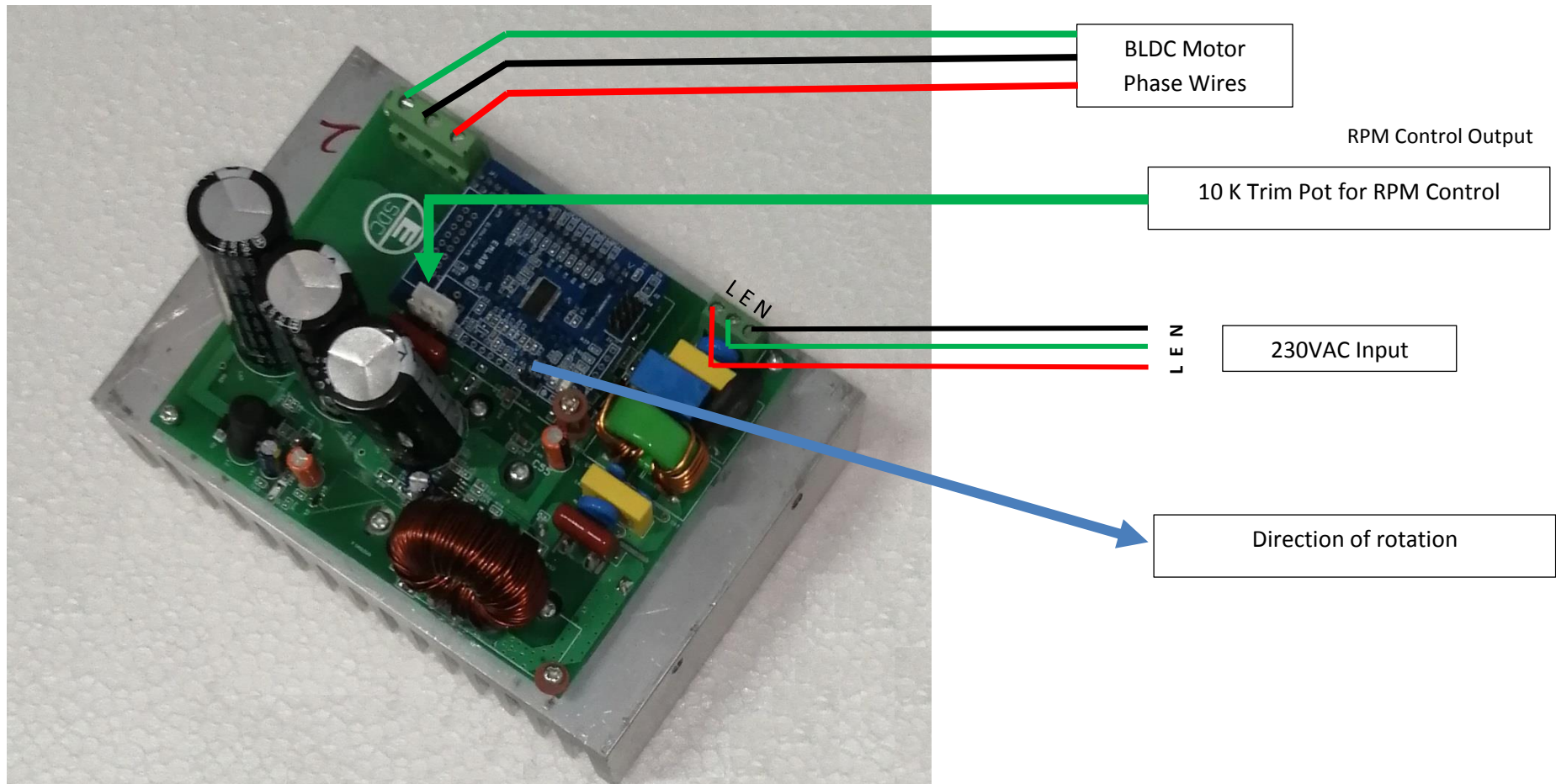
Motor Phase Connection	Red	Black	Green
Controller Phase Connection	U	V	W

Speed Control

Connect the 3 pin connector (Red, Black, Green) to 3 pin on the board. While connecting, ensure that the color codes match as per the diagram provided. Red: +5 VDC, Black: Ground, Green: 0-5 VDC. For constant max speed, connect the red and green pins.



Connection Diagram



Caution:

1. Ensure to ground the motor and / or the machine on which the motor is mounted.
2. Mount the motor and controller firmly before operating the motor. Provide an enclosure for the controller, preferably IP65 rating.



Contact Information

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