

# 30 Series Brushless DC Motor

This 30 series brushless DC motor is designed for efficient and reliable power in various applications. It offers excellent torque and speed characteristics while requiring minimal maintenance.



## Product Overview

### High-Performance 30 Series BLDC Motor

The 30 Series Brushless DC Motor is a compact and efficient power solution designed for precision motion control in robotics, automation, and electric bicycles. Featuring a star winding type and a 120-degree electrical Hall effect angle, this motor ensures reliable performance with minimal maintenance. Its robust construction includes Class B insulation and high dielectric strength, making it suitable for demanding industrial and commercial applications.

## Key Performance Metrics

### Performance Highlights

**30 mm**

Frame Size

**4**

Number of Poles

**7700 rpm**

Max No-Load Speed

**25 mN.m**

Max Rated Torque

## Electrical Specifications

### Model Comparison

Parameter	30DMW41-2450	30DMW56-1215
Voltage (V)	24	12
Rated Power (W)	6	4
No Load Speed (rpm)	7700	3200
Rated Torque (mN.m)	11	25
Rated Speed (rpm)	5000	1500
Rated Current (A)	0.5	0.7
Back-EMF Constant (V/Krpm)	2.2	3.4
Resistance (Ohm)	11.2	6
Weight (Kg)	0.08	0.1
Length (mm)	41	56

## Technical Characteristics

Insulation Class Class B	
Winding Type	Star
Hall Effect Angle	120 degree electrical angle
Dielectric Strength	500VDC for one minute

## Environmental & Mechanical

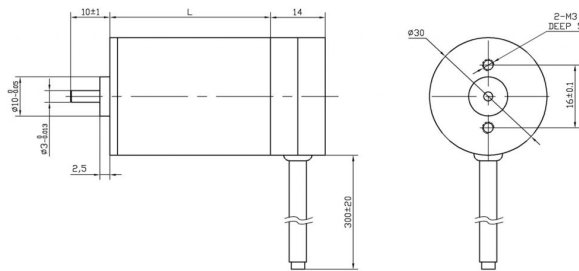
Ambient Temperature Range	0 to +50
Shaft Run Out	0.025 mm

## Wiring Configuration

### Lead Wire Functions

Lead No.	Color	Gauge	Function
1	Orange	26AWG UL1007	Phase U
2	Green	26AWG UL1007	Phase V
3	Brown	26AWG UL1007	Phase W
4	Red	26AWG UL1007	+5V
5	Black	26AWG UL1007	GND
6	Yellow	26AWG UL1007	HALL A
7	White	26AWG UL1007	HALL B
8	Blue	26AWG UL1007	HALL C

## Physical Dimensions



Dimensional diagram for the 30mm series brushless motor, illustrating shaft specifications and mounting hole patterns.

### Mechanical Dimensions

- Motor Diameter: 30mm
- Mounting Holes: 2-M3, 5mm depth
- Mounting Hole Spacing: 16mm ±0.1mm
- Shaft Diameter: 3mm (-0.013mm)
- Cable Length: 300mm ±20mm