

# 28 Series Brushless DC Motor

Brushless DC motor featuring a small size and high torque up to 20mN.m, with a wide speed range and high efficiency. It is suited for applications requiring precise speed control, high torque density and reliable performance.



## Product Overview

### High-Efficiency 28 Series BLDC Motor

The 28 Series Brushless DC motor is a compact and high-performance solution designed for applications requiring precise speed control and high torque density. Featuring a small 28mm diameter frame, these motors deliver high efficiency and a long operational lifespan compared to traditional brushed alternatives. With a wide speed range and robust construction, they are ideal for integration into robotics, automation systems, and precision instruments.

## Key Performance Metrics

### Performance Highlights

**24 V**

Operating Voltage

**6000 RPM**

No Load Speed

**20 mN.m**

Max Rated Torque

**10 W**

Max Rated Power

## Technical Specifications

● GENERAL SPECIFICATION		● WIRE DIAGRAM			
Winding type: Star		Lead No.	Lead Color	Lead Gauge	Function
Hall effect angle: 120 degree electrical angle		1	RED		Phase U
Shaft run out: 0.02mm		2	YEL	20AWG UL1569	Phase V
Insulation Class: Class B		3	BLA		Phase W
Dielectric strength: 500VDC for one minute		4	RED		+5V
Ambient temperature: -20~+40 °C		5	BLU		Hall A
		6	GRE	20AWG UL1569	Hall B
		7	WHI		Hall C
		8	BLA		GND

● ELECTRICAL SPECIFICATION				
Model	28DMW38-2450	28DMW43-2450	28DMW48-2450	
Voltage	V		24	
Number of poles			4	
Rated power	W	6	8	10
No load speed	rpm	6000	6000	6000
Rated torque	Nm	0.01	0.015	0.02
Rated Speed	rpm	5000	5000	5000
Rated Current	A	0.5	0.8	1
Peak Torque	Nm	0.003	0.045	0.06
Weight	Kg	0.08	0.1	0.14
Length	mm	38	43	48

Comprehensive electrical data and wiring diagrams for the 28DMW series.

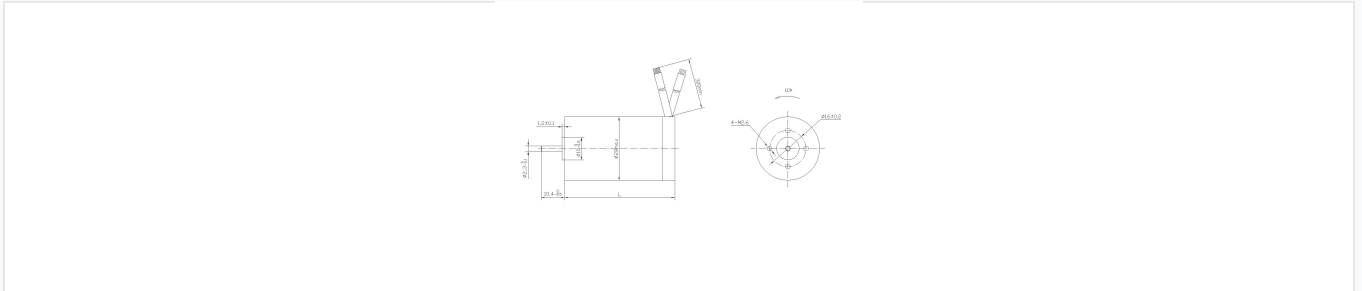
## Model Specifications

Model	Rated Power (W)	Rated Torque (Nm)	Rated Current (A)	Length (mm)	Weight (Kg)
28DMW38-2450	6	0.01	0.5	38	0.08
28DMW43-2450	8	0.015	0.8	43	0.1
28DMW48-2450	10	0.02	1	48	0.14

## General Characteristics

Insulation Class Class B	
Winding Type	Star
Number of Poles	4
Hall Effect Angle	120° electrical angle
Ambient Temperature Range	-20°C to +40°C

## Mechanical & Wiring



Dimensional drawing highlighting the compact 28mm frame and M2.6 mounting holes.

### Wiring Configuration

- Phase U: Red (20AWG)
- Phase V: Yellow (20AWG)
- Phase W: Black (20AWG)
- Hall +5V: Red (26AWG)
- Hall A: Blue (26AWG)
- Hall B: Green (26AWG)
- Hall C: White (26AWG)
- Hall GND: Black (26AWG)

Shaft Run Out	0.025 mm
Direction of Rotation	Counter-Clockwise (CCW)
Lead Wire Length	300 mm min