

42 Series Brushless DC Motor

This brushless DC motor delivers high torque up to 0.25Nm. It features a wide speed range, high efficiency, and long service life.



Overview

High-Efficiency 42 Series BLDC Motor

The 42 Series Brushless DC Motor is designed for high-performance applications requiring high torque up to 0.25Nm and a wide speed range. These motors offer exceptional efficiency and a long service life, making them ideal for precision motion control in robotics and automation. With a compact square flange design and multiple power options, they provide a versatile solution for modern industrial needs.

Key Performance Metrics

Performance Highlights

24 V

Operating Voltage

5000 rpm

No Load Speed

0.25 Nm

Max Rated Torque

100 W

Max Rated Power

General Specifications

Insulation Class

Class B

Winding Type

Star

Hall Effect Angle

120 degree electrical angle

Operating Temperature

-20 to +40

Dielectric Strength

500VDC for one minute

Electrical Data by Model

Model Comparison

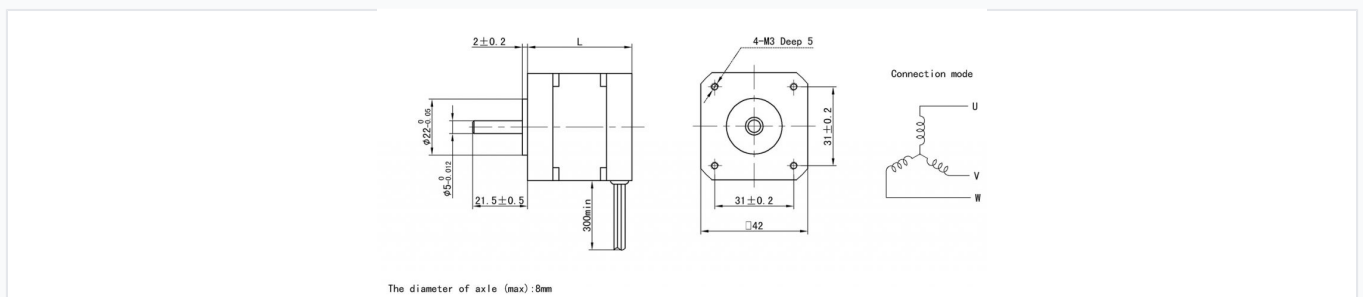
| Model | Rated Power (W) | Rated Torque (Nm) | Rated Current (A) | Resistance (ohm) |
|---------------|-----------------|-------------------|-------------------|------------------|
| 42DMW41-2440 | 25 | 0.063 | 1.7 | 1.5 |
| 42DMW51-2440 | 40 | 0.096 | 2.4 | 1 |
| 42DMW61-2440 | 50 | 0.125 | 3.5 | 0.74 |
| 42DMW81-2440 | 75 | 0.18 | 4.6 | 0.56 |
| 42DMW101-2440 | 100 | 0.25 | 6 | 0.4 |

Wiring & Connectivity

Lead Wire Configuration

| Lead No. | Color | Gauge | Function |
|----------|-------|--------------|----------|
| 1 | RED | 20AWG UL1569 | Phase U |
| 2 | YEL | 20AWG UL1569 | Phase V |
| 3 | BLA | 20AWG UL1569 | Phase W |
| 4 | RED | 26AWG UL1569 | +5V |
| 5 | BLU | 26AWG UL1569 | Hall A |
| 6 | GRE | 26AWG UL1569 | Hall B |
| 7 | WHI | 26AWG UL1569 | Hall C |
| 8 | BLA | 26AWG UL1569 | GND |

Mechanical Dimensions



Detailed mechanical dimensions and connection diagram for the 42 series motor.

Mounting Features

- 4-M3 Deep 5 mounting holes
- 31mm x 31mm mounting hole spacing
- 42mm square flange
- 5mm shaft diameter
- 300mm minimum lead length

Shaft Run Out

0.025 mm