USER MANUAL

OUKEDA NEMA 23 Hybrid Stepper Motor

1.8° | 1.89 N·m Holding Torque | 4.2 A

Manufacturer Part Number: OK57DL76-424A-14Y-2M

Product Overview

The OK57DL76-424A-14Y-2M is a two-phase NEMA 23 hybrid stepper motor featuring a 57 × 57 mm frame, 76 mm body length, and an 8 mm diameter short output shaft.

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1. Electrical Specifications

Parameter	Specification
Manufacturer part number	OK57DL76-424A-14Y-2M
Motor type	Hybrid stepper motor
Number of phases	2
Step angle	1.8° ±5%
Holding torque	1.89 N·m (267.3 oz·in)
Rated current per phase	4.2 A
Rated power	100 W
Rated speed	500 RPM
Phase resistance	0.6 Ω ±10%
Phase voltage	2.52 V DC
Phase inductance	1.8 mH ±20%
Insulation class	Class B
Insulation resistance	100 MΩ minimum (500 V DC)

Driver: Use a compatible two-phase stepper motor driver with a phase-current setting appropriate for the motor's 4.2 A rated current. The listed 2.52 V DC is the winding voltage; use a current-regulating stepper driver rather than connecting the windings directly to a power supply.

2. Physical Specifications

Parameter	Specification
Frame size	57 × 57 mm (NEMA 23)
Body length	76 mm
Shaft diameter	8 mm
Shaft length	14 ±0.5 mm
Mounting holes	4 × Ø5.2 mm
Mounting hole spacing	47.14 × 47.14 mm
Number of leads	4
Lead length	2000 mm (2 m)
Weight	Approx. 1.1 kg

3. Motor Wiring and Excitation Sequence

Motor lead assignments:

Wire color	Motor terminal
Black	A+
Green	A–
Red	B+
Blue	B–

Excitation sequence

Step	A+	B+	A–	B–
1	+	+	–	–
2	–	+	+	–
3	–	–	+	+
4	+	–	–	+

The clockwise and counterclockwise directions shown in the drawing are viewed from the motor mounting surface.

4. Installation and Operation

Mechanical installation

• Mount the motor using the four Ø5.2 mm mounting holes and 47.14 mm mounting-hole spacing.
• Check the 8 mm shaft diameter and 14 ±0.5 mm shaft length when selecting a coupling or driven component.
• Align the motor shaft with the load and tighten mounting hardware evenly.

Electrical setup

• Disconnect power before wiring.
• Connect the four motor leads to a compatible two-phase stepper driver according to the phase assignments.
• Configure the driver for the 4.2 A rated phase current, following the driver's instructions.

Initial test

• Begin at low speed and acceleration, then increase gradually.
• Check rotation direction, vibration, unusual noise, and motor temperature during operation.

5. Dimensional Drawing

Dimensional drawing and wiring reference:

