USER MANUAL

OUKEDA NEMA 11 Two-Phase Stepper Motor with Electromagnetic Brake
1.8° Step Angle | 6.86 N·cm Holding Torque | 1.0 A
Manufacturer Part Number: OK28DL32-104A-YS

Product Overview

The OK28DL32-104A-YS is a compact two-phase NEMA 11 stepper motor equipped with an electromagnetic brake. The motor and brake have separate electrical connections and ratings.

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1. Motor Electrical Specifications

Parameter	Specification
Manufacturer part number	OK28DL32-104A-YS
Motor type	Two-phase stepper motor
Frame size	28 × 28 mm (NEMA 11)
Number of phases	2
Step angle	1.8° ±5%
Holding torque	6.86 N·cm (0.97 oz·in)
Rated current per phase	1.0 A
Phase voltage	2.1 V DC
Phase resistance	2.1 Ω ±10% (at 20°C)
Phase inductance	1.5 mH ±20%
Insulation class	Class B
Insulation resistance	100 MΩ minimum (500 V DC)
Operating temperature	–20°C to +50°C
Ambient humidity	15%–95%
Recommended driver	OK2D4020A
Use voltage (datasheet)	12–24 V DC

The datasheet lists 2.1 V DC as the phase voltage and 12–24 V DC as the use voltage.

2. Electromagnetic Brake Specifications

Parameter	Specification
Brake type	Electromagnetic brake
Rated voltage	24 V DC
Rated current	0.07 A
Braking torque	0.2 N·m
Power consumption	2.0 W
Brake polarity	Red (+), Black (–)
Response time	50 ms
Brake mode (drawing)	Power-off brake

The supplied drawing identifies the brake as a power-off brake.

3. Physical Specifications

Parameter	Specification
Frame size	28 × 28 mm
Motor body length	32.8 mm
Shaft diameter	5 mm (0 / –0.012 mm shown in drawing)
Shaft length	20 ±0.5 mm
D-cut length	15 mm
Mounting holes	4 × M2.5
Mounting hole spacing	23 × 23 mm (±0.15 mm shown in drawing)
Number of motor leads	4
Cable length	540 mm (motor and brake cables shown)
Motor weight	Approx. 110 g

4. Wiring and Excitation Sequence

Motor winding connections

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

Electromagnetic brake connections

Wire color	Brake connection
Red	Positive (+)
Black	Negative (–)

Motor excitation sequence

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

The drawing indicates the rotation viewing direction from the motor mounting surface.

5. Installation and Operation

Mechanical installation
Mount the motor using the four M2.5 mounting holes and 23 × 23 mm mounting-hole spacing. Check the 5 mm shaft diameter, 20 ±0.5 mm shaft length, and 15 mm D-cut length when selecting the mating component.

Motor electrical connection
Connect the four motor leads to a compatible two-phase stepper driver according to the A+/A– and B+/B– wire assignments. The datasheet identifies OK2D4020A as the recommended driver.

Brake electrical connection
Connect the brake red lead to positive (+) and black lead to negative (–). The brake is rated for 24 V DC. Keep motor-driver and brake-supply connections separate.

Initial operation
Verify motor phase wiring and brake polarity before operation. Confirm that the driver is configured for the 1.0 A rated phase current and that the brake supply matches its 24 V DC rating.

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6. Dimensional and Wiring Drawing

Original manufacturer datasheet drawing (page 1):

