USER MANUAL

OUKEDA NEMA 11 External Linear Stepper Motor

Model: OK28STH32E-150G4-M3 | Lead screw: Tr5×4 | Step angle: 1.8°

Product Overview

Two-phase external linear stepper motor with a 28 mm-class frame and Tr5×4 lead screw. The nominal linear movement is 0.02 mm per full step, based on a 1.8° step angle and 4 mm travel per revolution.

1. Electrical Specification

Parameter	Specification
Manufacturer Part Number	OK28STH32E-150G4-M3
Motor Type	2-Phase External Linear Stepper Motor
Step Angle	1.8° ±5%
Minimal Thrust	Not specified
Rated Current/Phase	0.67 A
Phase Resistance	5.6 Ω ±10% (at 20°C)
Inductance	3.9 mH ±20%
Rated Voltage	3.75 V
Insulation Class	Class B
Insulation Resistance	100 MΩ min. (500 V DC)
Operating Voltage	12–24 V DC
Ambient Temperature	−20°C to +50°C
Ambient Humidity	15%–95%
Static Moment	490 g·cm (as specified on drawing)
Recommended Driver	OK2D4020A

2. Physical Specification

Parameter	Specification
Frame Size	28 × 28 mm (nominal); drawing shows 28.2 mm
Body Length	32 ±1 mm
Lead Screw Length	150 ±1 mm (drawing dimension)
Lead Screw Diameter	5 mm (Tr5×4)

Parameter	Specification
Lead/Step	0.02 mm per full step (calculated)
Lead Travel/Revolution	4 mm
Number of Leads	4
Lead Length	300 ±10 mm
Mounting Holes	4 × M2.5, minimum depth 3.5 mm
Mounting Hole Spacing	23 ±0.1 mm
Weight	Approx. 0.18 kg

3. Wiring Specification

Motor Terminal	Wire Color
A+	Black
A−	Green
B+	Red
B−	Blue

4. Full-Step Excitation Sequence

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

5. Linear Motion Calculation

Steps per revolution: 360° ÷ 1.8° = 200 full steps.

Linear travel per full step: 4 mm ÷ 200 = 0.02 mm.

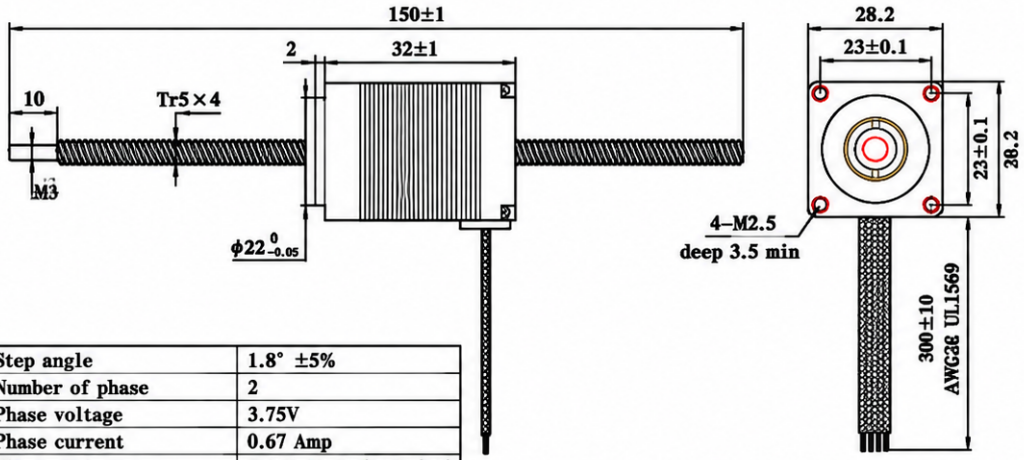
6. Installation and Operation

Mount the motor using the four M2.5 threaded holes shown in the dimensional drawing. Connect the four motor leads to a compatible two-phase stepper driver according to the wire colors above. Configure the driver for the specified 0.67 A rated phase current and verify the screw motion direction at low speed before normal operation.

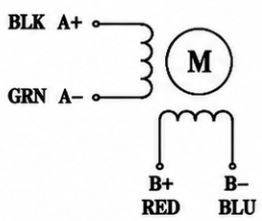
7. Original Dimensional and Wiring Drawing

OUKEDA MOTOR	The output shaft size can be customized

Dimensional drawing



Wiring Diagram



1. Step angle	1.8° ±5%
2. Number of phase	2
3. Phase voltage	3.75V
4. Phase current	0.67 Amp
5. Phase resistance	5.6 Ω ±10% (At 20° C)
6. Phase inductance	3.9 mH±20%
7. Static moment	490 g.cm
8. Insulation class	Class B
9. Insultation resistance	100MΩ min. (500V DC)
10. Ambient temperature	–20° ~+50°
11. Ambient hum	15% to 95%
12. Motor weight	Approx 0.18 Kg
13. Use voltage	VDC:12–24V
14. Recommended drive	OK2D4020A

Excitation sequence and direction of clockwise

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

CW ↓ ↑ CCW

seen from the mounting surface It is clockwise

Technology		Unit	mm	OUKEDA®	DRAWING	OK28STH32E–150G4–M3
Design						