

OK25BY25-048-327/10

PM Stepper Motor with 10:1 Reduction

This manual summarizes the supplied dimensional drawing and product specifications for installation, wiring, and basic operation. Read the electrical and mechanical notes before connecting or mounting the motor.

Motor Type PM Stepper Motor	Supply 12 VDC phase voltage	Phase Current 300 mA / phase	Gear Ratio 10:1
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1. Electrical Specifications

Parameter	Specification
Manufacturer Part Number	OK25BY25-048-327/10
Motor Type	PM Stepper Motor
Number of Phases	2
Step Angle	7.5° motor step angle; drawing indicates 7.5° / 10
Rated Current per Phase	300 mA
Phase Voltage	12 VDC
Static Moment / Torque	1500 g·cm (approx. 14.7 N·cm; as stated in drawing)
Phase Resistance	40 Ω ±10% at 20°C
Maximum No-Load Speed	700 PPS
Pull-in Torque at 400 PPS	300 g·cm
Dielectric Strength	600 VAC, 1 mA, 1 second
Winding Temperature	≤65°C
Ambient Temperature	−20°C to +50°C
Ambient Humidity	15%–95%

Torque note: The source drawing calls 1500 g·cm “Static Moment.” Confirm with the supplier whether this value refers to motor torque or geared output torque before using it for load calculations.

2. Physical Specifications

Parameter	Specification
Frame / Housing Size	Ø25 mm
Body Length	25 mm (drawing dimension)
Shaft Diameter	Ø3 mm, tolerance +0 / -0.01 mm
Shaft Length	12 ±0.5 mm
Gear Ratio	10:1 (as specified by model / drawing)
Mounting Hole Spacing	31 ±0.2 mm
Mounting Holes	2 × Ø3.5 ±0.1 mm
Overall Mounting Width	37 ±0.2 mm
Number of Leads	4
Lead Length	180 ±10 mm
Lead Specification	UL1061, AWG28
Connector	Molex 51021-0400 / 50058-8000 series; 1.25 mm pitch (per drawing)
Weight	Approx. 50 g

3. Wiring and Connection

The supplied wiring diagram identifies a 2-phase, 4-lead motor. Connect each winding to its corresponding driver output. Do not connect or disconnect the motor while the driver is powered.

Wire Color	Winding Terminal	Connection
Black (BLK)	A+	Phase A
White (WHT)	A-	Phase A
Yellow (YEL)	B+	Phase B
Red (RED)	B-	Phase B

Important: Use a suitable stepper-motor driver compatible with a 12 VDC phase voltage and 300 mA rated phase current. Set the driver current limit before operation. The driver supply range is not separately specified in the provided drawing; do not assume a supply range without supplier confirmation.

4. Installation and Operation

Mechanical Installation

- Mount the motor on a flat, rigid surface using the two Ø3.5 mm mounting holes shown in the drawing.
- Ensure the mounting surface and driven mechanism do not place excessive radial or axial load on the shaft.
- Align the shaft and coupling carefully. Avoid hammering or pressing loads directly onto the shaft.
- Keep the motor body and cable clear of moving parts. Provide strain relief for the lead wires.

Electrical Operation

- Verify wiring polarity and driver settings before energizing the motor.
- Use the rated phase current of 300 mA as the maximum reference setting unless the motor supplier specifies otherwise.
- The drawing lists a maximum no-load speed of 700 PPS. Actual usable speed depends on the driver, load, supply, and acceleration profile.
- The drawing lists a pull-in torque of 300 g·cm at 400 PPS; torque and speed should be validated under the intended application conditions.

Safety Precautions

- Disconnect power before changing wiring or performing mechanical installation.
- Do not exceed the specified ambient temperature range of -20°C to $+50^{\circ}\text{C}$.
- The winding temperature is specified as $\leq 65^{\circ}\text{C}$ in the drawing; stop operation if abnormal heating, noise, or vibration occurs.
- Protect the motor from moisture, conductive debris, and mechanical impact. The supplied drawing does not specify an ingress-protection rating.

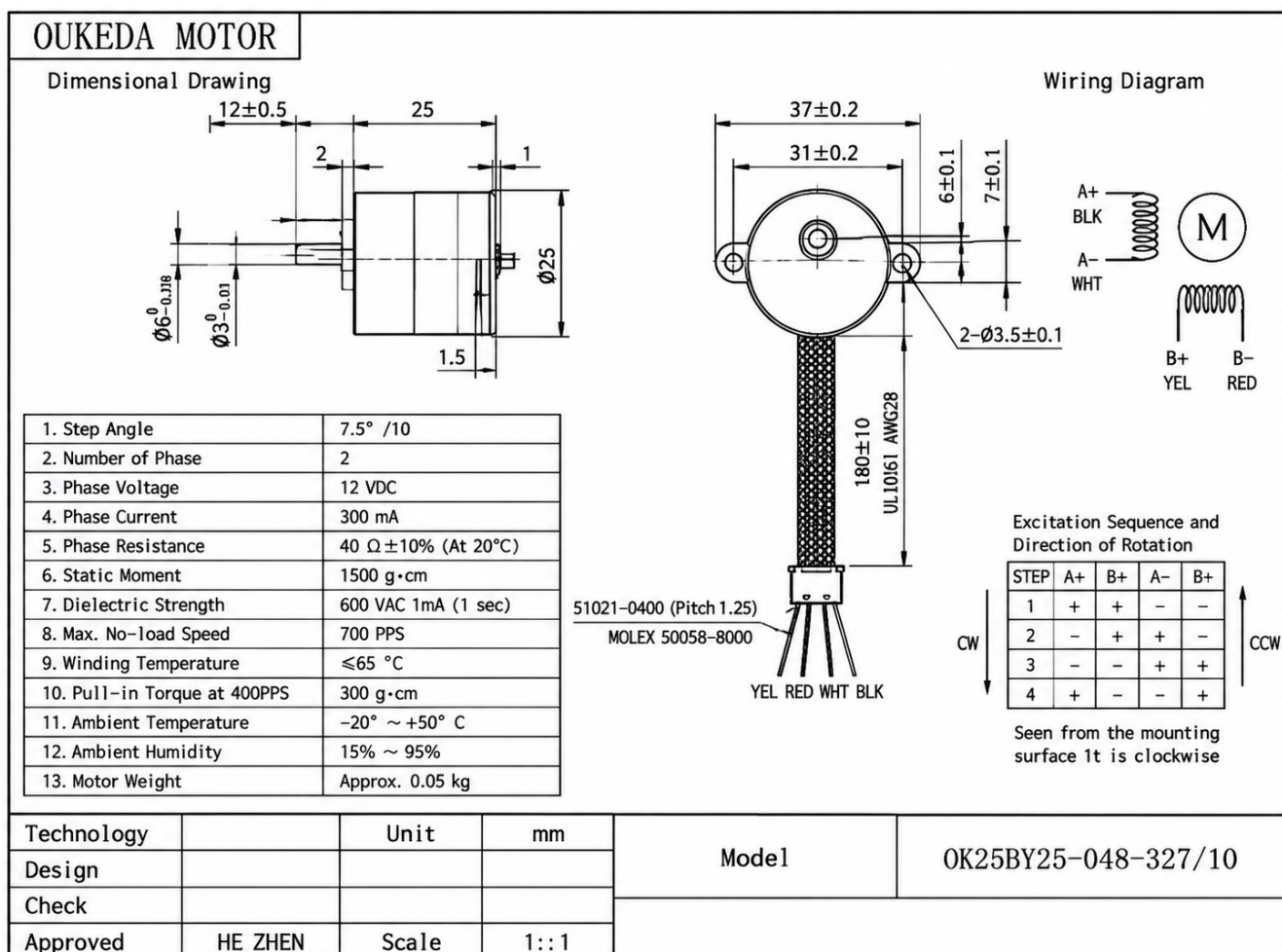
5. Basic Troubleshooting

Symptom	Possible Cause	Suggested Check
Motor does not move	No power, incorrect wiring, driver disabled	Check supply, enable signal, current setting, and A/B winding connections.
Vibration or rough motion	Incorrect phase pairing or unsuitable pulse rate	Verify winding pairs and pulse sequence; reduce speed and acceleration.
Insufficient torque	Load too high, current setting too low, speed too high	Check load, current limit, coupling alignment, and operating speed.
Excessive heating	Incorrect current setting or poor cooling	Power off, verify current setting and operating conditions before restarting.

Disclaimer: This manual is based on the supplied drawing and parameter list. Confirm critical dimensions, torque definition, and driver compatibility with the supplier before production use. Specifications may be revised by the manufacturer.

6. Dimensional Drawing Reference

The original drawing is included below as a reference. Use the dimension list in Section 2 for the stated mechanical specifications; for critical fit checks, verify the original CAD or supplier-approved drawing.



Reference Summary

Item	Value
Model	OK25BY25-048-327/10
Main dimensions	Ø25 mm body; 25 mm body length; Ø3 mm shaft; 12 ±0.5 mm shaft length
Mounting	2 × Ø3.5 ±0.1 mm holes; 31 ±0.2 mm spacing; 37 ±0.2 mm overall mounting width
Electrical	2 phases; 12 VDC phase voltage; 300 mA/phase; 40 Ω ±10% at 20°C

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