

PM35-2402

Permanent Magnet Stepper Motor

This manual summarizes the supplied PM35-2402 dimensional drawing and product data for basic selection, installation, wiring, and operation. Check the dimensional drawing and the notes in this manual before using the motor in an application.

Motor Type Permanent Magnet Stepper	Step Angle 7.5°	Phase Voltage 12 VDC	Phase Resistance 30 Ω ±10%
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1. Electrical Specifications

Parameter	Specification
Manufacturer Part Number	PM35-2402
Motor Type	Permanent Magnet (PM) Stepper Motor
Phase	2
Drive Method	2-2 phase excitation
Step Angle	7.5°
Voltage	12 VDC
Rated Current / Phase	Not specified in the drawing
Pull-in Torque at 200 PPS	>250 gf·cm (≈ >2.45 N·cm)
Detent Torque	90 gf·cm reference (≈0.883 N·cm)
Phase Resistance	30 Ω ±10% at 25°C
Maximum Pull-out Rate	>500 PPS
Maximum Pull-in Rate	>400 PPS
Dielectric Strength	500 VAC for 1 minute
Insulation Resistance	>100 MΩ (test condition shown: 500 V AC, 1 minute)

Torque conversion note: The supplied drawing lists pull-in torque as >250 gf·cm and detent torque as 90 gf·cm. These convert to approximately >2.45 N·cm and 0.883 N·cm, respectively. The N·cm values in the supplied text (24.52 and 8.83 N·cm) are 10 times higher than the conversions of the drawing values; the original gf·cm values are retained here.

2. Physical Specifications

Parameter	Specification
Model	PM35-2402
Motor Body Diameter	Ø35 mm
Overall Mounting Width	42 ±0.1 mm
Body Length	22.2 mm Max.
Shaft Diameter	Ø2.0 mm (as provided)
Shaft Length	12 ±0.5 mm
Output Pinion Dimension	10 ±0.1 mm (feature definition to be confirmed)
Gear Type	Involute gear
Gear Module	0.4
Gear Pressure Angle	20°
Number of Gear Teeth	12
Gear Pitch Circle Diameter	Ø6 mm (drawing value; verify with supplier)
Gear Outside Diameter	Ø5.6 mm (drawing tolerance appears to be ±0.1 mm)
Gear Accuracy	JGMA 4
Mounting Holes	2 × M2; drawing also shows a Ø3.2 dimension—confirm hole type
Number of Leads	4
Lead Colors	Orange, Red, Blue, Yellow
Lead Length	150 ±10 mm
Lead Specification	UL1007, AWG 26
Connector	JST PHR-4
Crimp Terminal	JST SPH-002T-P0.5S
Weight	40 g (provided product data; drawing states approx. 0.05 kg / 50 g—verify)

3. Wiring and Connection

The drawing shows a 4-lead, 2-phase motor. Wire colors are identified as Orange, Red, Blue, and Yellow. The coil diagram groups Orange/Red as one winding and Blue/Yellow as the other. Confirm coil pairs and polarity before connecting to the driver.

Connector Pin	Wire Color	Winding Pair
1	Orange	Phase A (paired with Red)
2	Red	Phase A (paired with Orange)
3	Blue	Phase B (paired with Yellow)
4	Yellow	Phase B (paired with Blue)

Connection safety: Disconnect power before wiring. Never plug or unplug the motor while the driver is energized. Use a compatible stepper driver and confirm its current setting with the motor supplier; the drawing does not specify rated phase current.

4. Installation and Operation

Mechanical Installation

- Mount the motor securely on a rigid, flat support using the mounting features shown in the dimensional drawing.
- Align the output pinion with the driven gear. Avoid excessive radial load, impact, or forcing the pinion into place.
- Ensure the motor body, leads, and connector are clear of moving parts; provide strain relief for the cable.

Electrical Operation

- Apply the specified 12 VDC phase voltage only in a driver arrangement approved for this motor.
- The drawing lists a maximum no-load output frequency greater than 500 PPS and a maximum pull-in frequency greater than 400 PPS. Actual operation depends on load, driver, and acceleration profile.
- Test the motor at low pulse rates first, then increase speed gradually while monitoring motion, noise, and temperature.

Safety and Maintenance

- Disconnect the power supply before servicing, changing wiring, or adjusting the mechanical load.
- Do not exceed the motor's specified electrical limits. Stop operation if unusual heating, vibration, or noise occurs.
- Keep the motor away from moisture, conductive debris, and mechanical shock. No ingress-protection rating is specified in the supplied drawing.

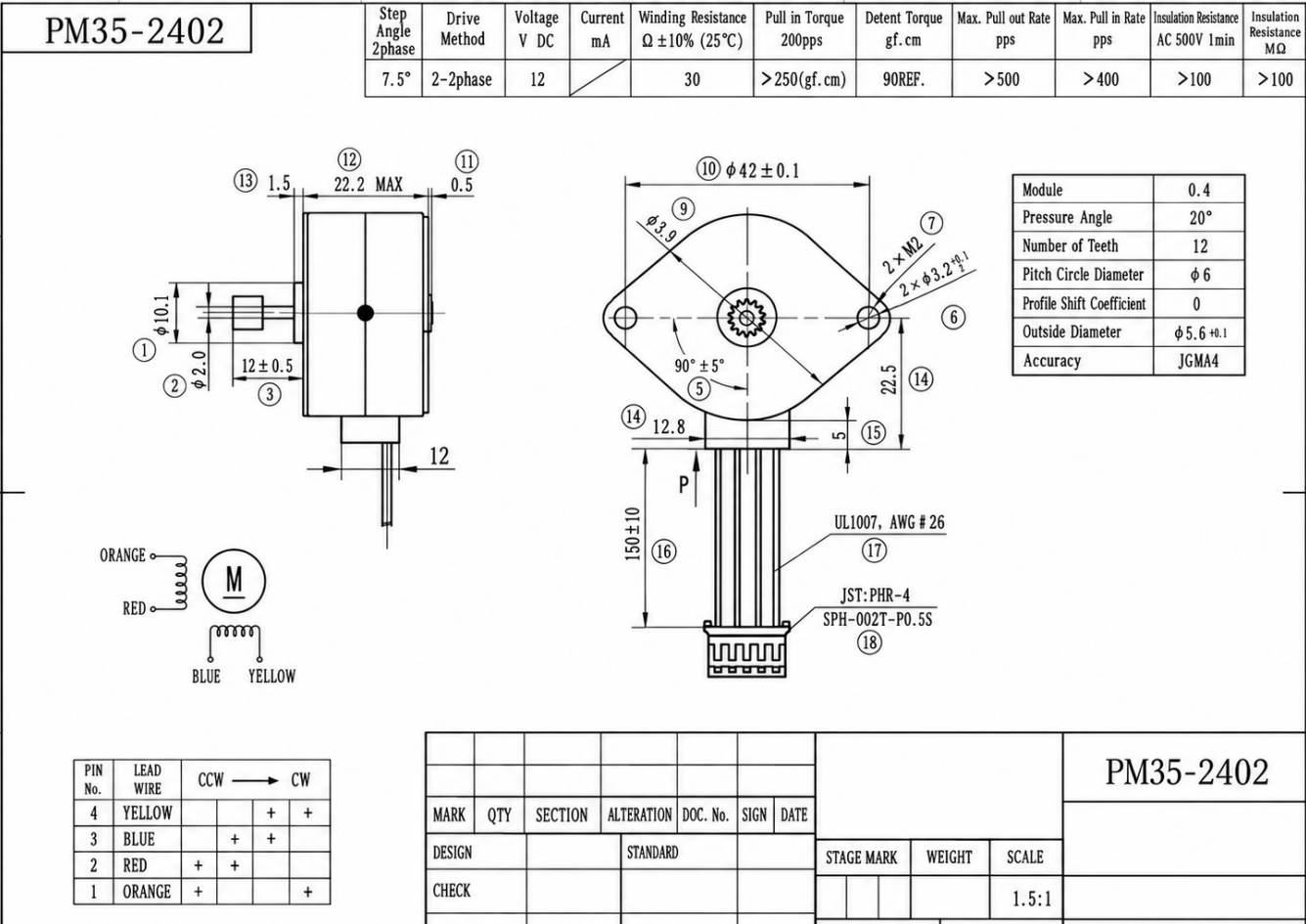
5. Parameter Verification Notes

Item	Note
Torque conversion	Use the drawing values in gf·cm as primary until supplier confirms the torque units. The provided N·cm conversions appear 10× too high.
Gear dimensions	Module 0.4 × 12 teeth implies a pitch diameter of 4.8 mm for a standard gear, not Ø6 mm. Ask supplier to verify the pitch diameter and outside diameter.
Mounting holes	The drawing includes both an M2 callout and a Ø3.2 dimension. Confirm whether the holes are threaded or clearance holes.
Weight	Provided product data states 40 g, while the drawing states approximately 0.05 kg. Confirm the production weight.

This document is compiled from the supplied product data and drawing. It is not a substitute for supplier-approved specifications. Verify critical fit, gear geometry, torque values, and driver compatibility before production use.

6. Dimensional Drawing Reference

Original supplier drawing supplied with this request. Use the source drawing or supplier-approved CAD data for critical measurements.



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