

OUKEDA 17HS3401S

NEMA 17 • Two-Phase Hybrid Stepping Motor • 42 mm Frame

Step angle	1.8° ± 5%	Rated current	1.33 A/phase
Holding torque	32 N·cm (0.32 N·m)	Rated voltage	3.6 V DC
Body size	42 × 42 × 34 mm	Lead length	1000 ± 20 mm

1. Product Overview

The OUKEDA 17HS3401S is a 2-phase hybrid stepper motor intended for precision motion applications such as 3D printers, CNC equipment, automation systems, and positioning mechanisms. It advances in nominal 1.8° full steps when driven with the appropriate bipolar stepper-motor driver.

2. Electrical Specifications

Parameter	Specification
Manufacturer part number	17HS3401S
Number of phases	2
Step angle	1.8° ± 5%
Rated voltage	3.6 V DC (winding rating)
Rated current per phase	1.33 A
Holding torque	32 N·cm (0.32 N·m; approximately 45.32 oz·in)
Detent torque	1.2 N·cm (approximately 1.70 oz·in)
Phase resistance	2.7 Ω ± 10% at 20°C
Phase inductance	4.2 mH ± 20%
Rotor inertia	38 g·cm ²
Insulation resistance	100 MΩ minimum at 500 V DC
Insulation class	Class B

Driver note: Use a current-regulated bipolar stepper driver and set the phase-current limit according to the driver's documentation, not by applying 3.6 V directly from an unrestricted supply. Do not exceed the motor's rated phase current.

3. Mechanical Specifications

Parameter	Specification
Frame size	42 × 42 mm (NEMA 17 class)
Body length	34 mm maximum
Shaft diameter	5 mm nominal
Shaft protrusion length	24 mm nominal (drawing tolerance as shown)
D-flat length	20 mm nominal
Lead length	1000 ± 20 mm
Number of leads	4
Weight	Approximately 200 g
Mounting	4 × M3 mounting holes; minimum thread depth 4.5 mm per drawing

4. Wiring and Phase Identification

The supplied drawing identifies the four motor leads as BLK (black), GRN (green), RED (red), and BLU (blue). The winding labels shown are A and C on one phase, and B and D on the other. Confirm the actual wire-to-phase mapping with the supplied connector/drawing before powering the motor; wire colors alone should not be treated as universal phase identifiers.

Drawing label	Lead color	Phase designation
A	Black (BLK)	Phase A
C	Green (GRN)	Phase A return / opposite end
B	Red (RED)	Phase B
D	Blue (BLU)	Phase B return / opposite end

Important: Never plug in or unplug motor leads while the driver is energized. This can damage the driver. If the motor only vibrates or moves irregularly, switch off power and verify the two winding pairs and driver configuration.

5. Full-Step Excitation Sequence

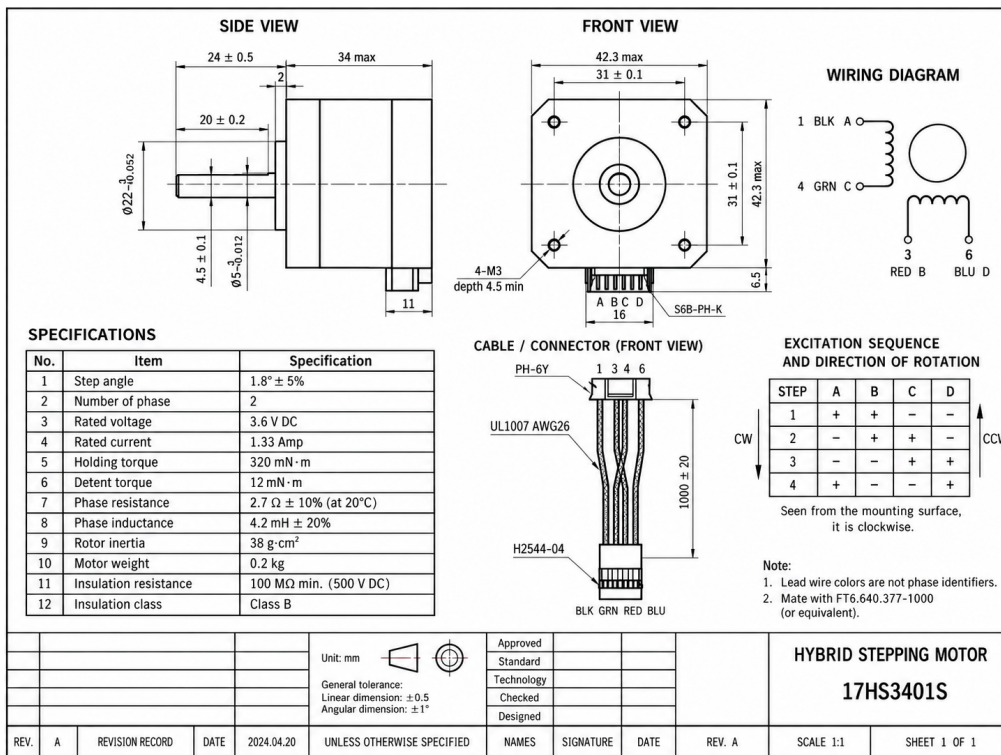
Step	A	B	C	D
1	+	+	–	–
2	–	+	+	–
3	–	–	+	+
4	+	–	–	+

The sequence above is transcribed from the supplied drawing. Direction depends on phase mapping, driver convention, and the viewing direction. Reverse the sequence order to reverse rotation. Microstepping drivers use their own current-control method; follow the driver manufacturer's instructions.

6. Installation and Safe Operation

- Mount the motor to a rigid, flat surface using suitable M3 fasteners. Do not exceed the available thread depth.
- Align the shaft and coupling carefully. Avoid applying excessive axial or radial force to the shaft or bearings.
- Secure the cable to prevent pulling, sharp bends, abrasion, or interference with moving parts.
- The motor may become hot during normal operation. Allow adequate ventilation and avoid touching it during or immediately after operation.
- Keep metal chips, conductive debris, liquids, and loose hardware away from the motor and driver.
- Before servicing, switch off and disconnect the power supply, then allow the system to cool.

7. Outline Drawing



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