PRODUCT SPECIFICATION

TSL-PG8K64-SM08

PM Stepper Motor with Planetary Gearbox

Product Overview

The TSL-PG8K64-SM08 combines a compact permanent-magnet stepper motor with a 64:1 planetary gearbox. The integrated metal gearing, bipolar drive and low-speed output make it suitable for precise motion and compact actuator applications.

Key Specifications

Rated Voltage	**5.0 VDC**
Gear Ratio	**64:1**
Output Torque	**> 230 gf.cm (22.5 mN.m) @ 500 Hz**
Output Speed	**23.4 RPM @ 500 Hz**
Drive Configuration	**2-2 phase, bipolar**
Gearbox	**Planetary, metal gears**
Motor Weight	**8.6 g**
Output Shaft	**Customizable**

TECHNICAL DATA

Performance Specifications

Model: TSL-PG8K64-SM08

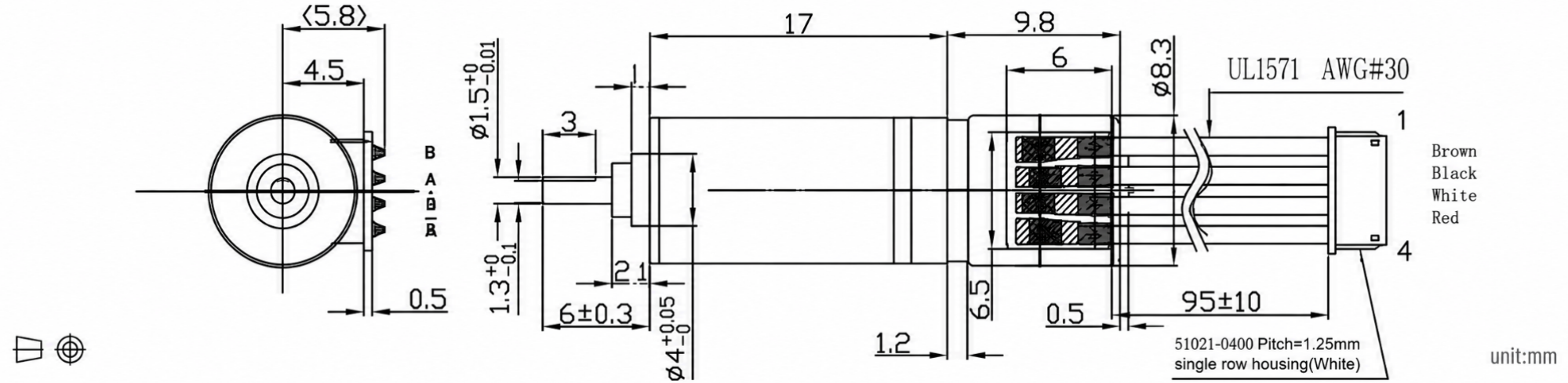
Parameter	Specification
Motor Model	TSL-PG8K64-SM08
Rated Voltage	5.0 VDC
Coil Resistance (+/-10%)	16.3 Ohms
Phase Current	0.31 A
Drive Method	2-2 Phase
Gear Ratio	64:1
Drive Circuit	Bipolar
Output Torque	More than 230 gf.cm (22.5 mN.m) @ 500 Hz (PPS)
Output Speed	23.4 RPM @ 500 Hz (PPS)
Step Angle	18 Degrees / 64
Number of Steps per Rotation	20 x 64
Max. Response Frequency	At least 1600 Hz (PPS)
Type of Gearbox	Planetary
Transmission Efficiency	60% - 70%
Customized Output Shaft	Available
Material of Gears	Metal
Material of Gearbox Housing	Metal
Operating Temperature	-20 C to +85 C (-4 F to +122 F)
Insulation Strength	100 VAC for 1 second
Insulation Class	Class E, 120 C
Motor Weight	8.6 grams
Wiring	AWG 30, UL1570

Note: Performance parameters are for reference only and can be customized according to customer requirements.

ENGINEERING DRAWING

Mechanical Dimensions

All dimensions are in millimetres unless otherwise stated.



Drawing Notes

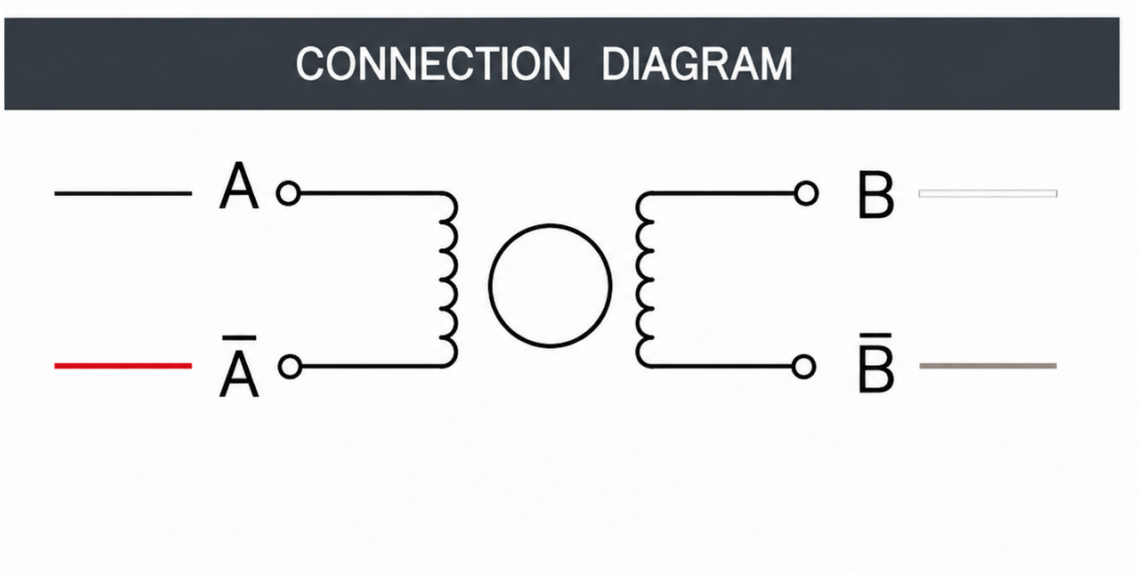
Connector: 51021-0400, 1.25 mm pitch, single-row white housing. Lead wire length: 95 +/- 10 mm.

Wire identification: Pin 1 Brown, Pin 2 Black, Pin 3 White, Pin 4 Red.

Connection Diagram and Excitation Sequence

4-wire bipolar configuration; rotation direction is shown as viewed from the flange side.

CONNECTION DIAGRAM



SEQUENCE OF EXCITATION

CONNECTOR PIN LOCATION

PIN NO.	COLOR	CCW ← CW (SEEN FROM FLANGE SIDE)				PHASE
1					ON	B
2		ON		ON	ON	A
3		ON	ON			B
4			ON	ON		Ā