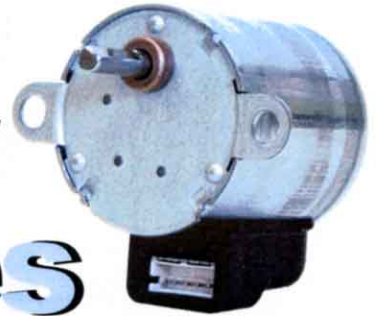


NPM

2-phase stepper motor with compact reduction gear



PFCU25 series

Features

- Compact stepper motor with integrated reduction gear.
- A connector is installed for making the lead wire easy to assemble.
- Motors are also available with other specifications than those shown below, such as different coil resistance or reduction ratio. (Please contact us for details)

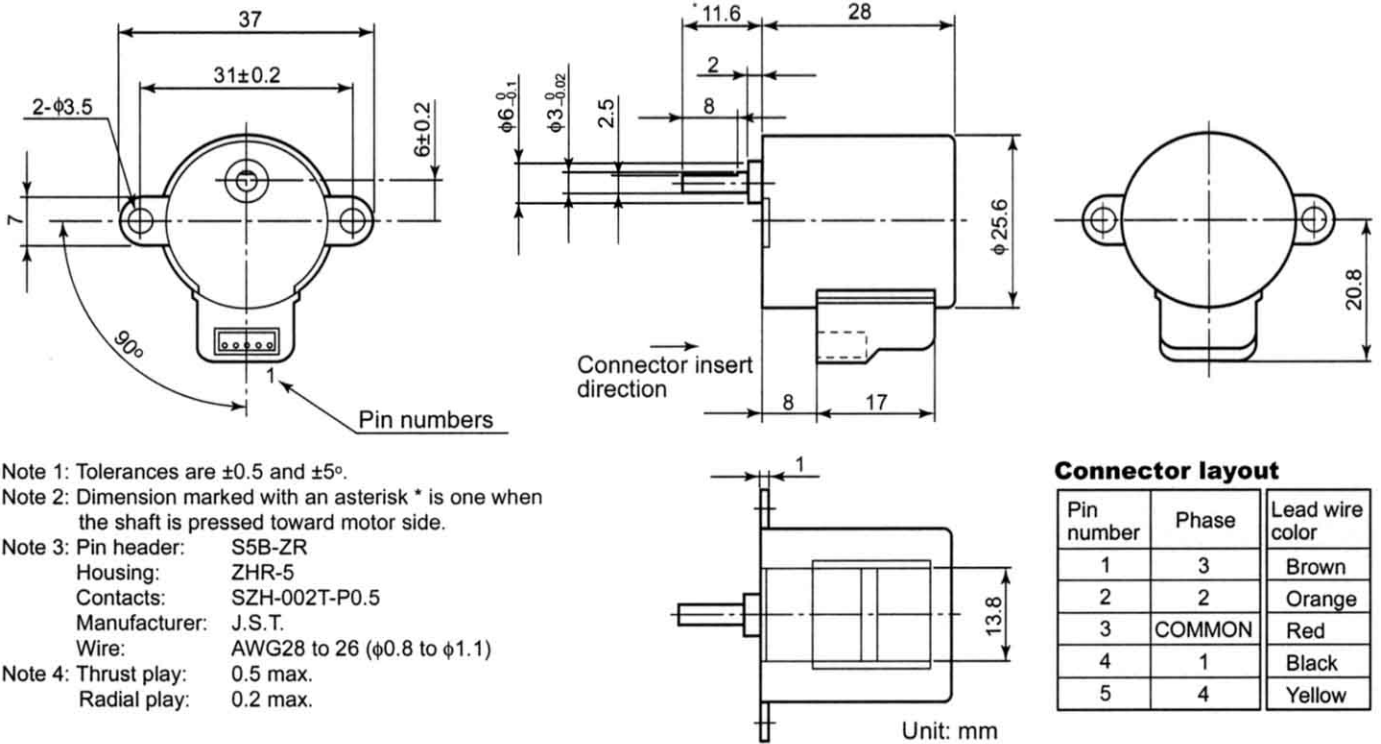
Specifications

No.	Item	PFCU25-24C1G (1/20)	PFCU25-24D1G (1/20)
1	Winding resistance	120 ohm \pm 7%	16 ohm \pm 7%
2	Winding inductance	30 mH (1 Vrms, 1kHz)	4.1 mH (1 Vrms, 1kHz)
3	Power supply voltage	13.3 V	5.4 V
4	Terminal voltage	12.5 V	4.6 V
5	Number of phases	Permanent magnet, 2 phases	
6	Excitation mode	2-2 phase	
7	Gear ratio, backlash	1:20, 7° or less	
8	Step angle	0.75°	
9	Number of steps per revolution	480	
10	Operating temperature range	-10 °C to +50 °C (ambient temperature)	
11	Dielectric strength	500 VAC (for one minute)	
12	Insulation resistance	100 M-ohm (500 VDC)	
13	Insulation class	Type E	
14	Maximum operating temperature	+100 °C (at the case)	
15	Maximum starting pulse rate	420 pps (no load)	
16	Maximum slewing pulse rate	680 pps (no load)	
17	Holding torque	20 mN·m	
18	Gear strength (ordinary)	20 mN·m	
19	Gear strength (destruction)	60 mN·m	
20	Temperature rise	70 K (0 pps, resistance method)	
21	Mass	55 g	
22	Ambient temperature range (operating)	Up to maximum operating temperature	
23	Operating humidity	RH 85% (non Dewdrop)	
24	Ambient temperature range (storage)	-30 °C to +80 °C	

Remarks

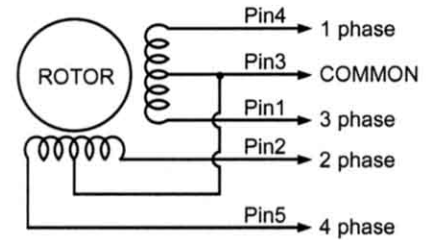
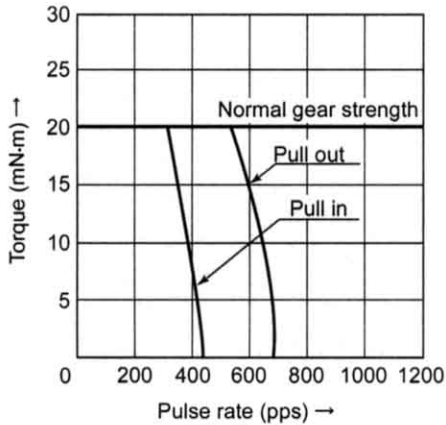
- No. 1, 2 and 15 to 17 are tested at rated voltage (see above) \pm 2%, normal temperature (20°C \pm 5°C), humidity (65% \pm 20%). No. 20 is the value when saturated.
- No. 17 is the value restricted by gear strength (ordinary).
- No. 17 and dynamic torque characteristic are value measured with a torque meter.
- The driver is a PS-1LD-42, the uni-polar constant voltage is a 2SD 633 equivalent, and a surge-killer circuit is not included.
- The terminal voltage is the value when power supply voltage is as above at the specified voltage.

Outline drawings



- Note 1: Tolerances are ± 0.5 and $\pm 5^\circ$.
 Note 2: Dimension marked with an asterisk * is one when the shaft is pressed toward motor side.
 Note 3: Pin header: S5B-ZR
 Housing: ZHR-5
 Contacts: SZH-002T-P0.5
 Manufacturer: J.S.T.
 Wire: AWG28 to 26 ($\phi 0.8$ to $\phi 1.1$)
 Note 4: Thrust play: 0.5 max.
 Radial play: 0.2 max.

Torque characteristics (pull in torque is calculated when JL = 0) Wiring diagram

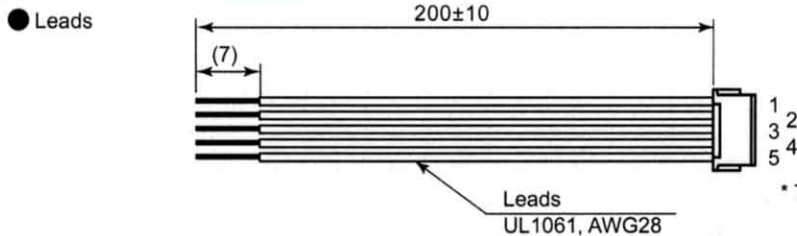


Rotation direction (looking at the shaft from output axis side)

STEP	Pin4	Pin1	Pin2	Pin5	STEP
1	ON	OFF	ON	OFF	4
2	OFF	ON	ON	OFF	3
3	OFF	ON	OFF	ON	2
4	ON	OFF	OFF	ON	1

↑ CCW
↓ CW

Options



* The lead length shown in the figure is the basic length of the optional item.
 Since the leads are not attached to the motor, please order them separately.

* The specifications may be changed for improvement without prior notice



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