

Small Brushless DC Motor

Motor, DC Brushless
TS4353N800 Series

Description

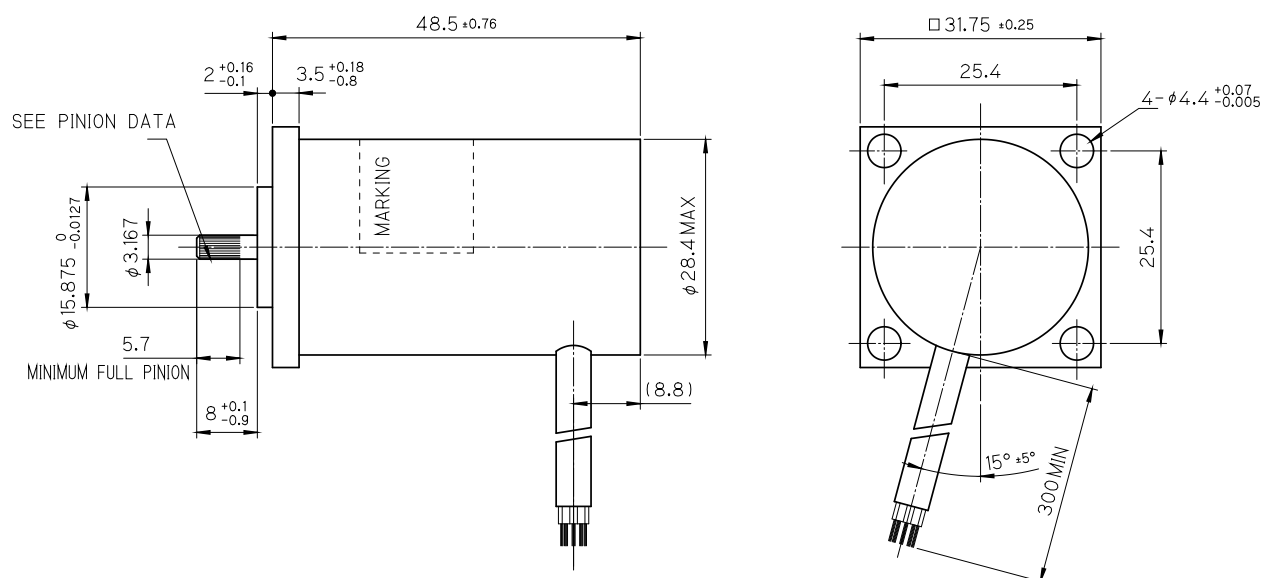
TAMAGAWA Small Brushless DC Motor is mainly used for Cockpit/Pilot Control System such as motor for thrust lever. Because of the brushless type, the motor is free from maintenance, and has long lifetime and high reliability. Size and winding specification can be customized.

Features

- 4-pole 3-phase Brushless DC motor
- Using rare earth magnets (Samarium-Cobalt type)
- Three Hall IC for magnetic pole detection use
- Robust configuration with a smaller number of parts
- Low cogging torque
- Custom designs for electrical characteristics & shape of output shaft



Outline



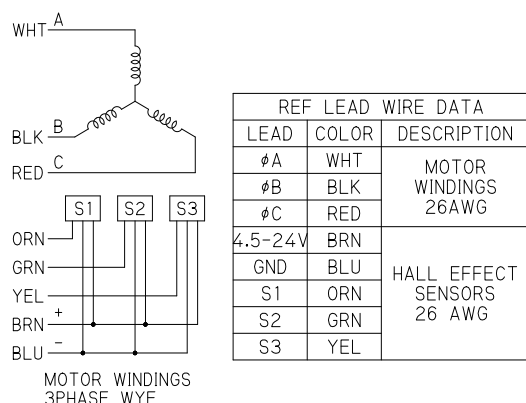
*Dimensions are in mm

Specifications

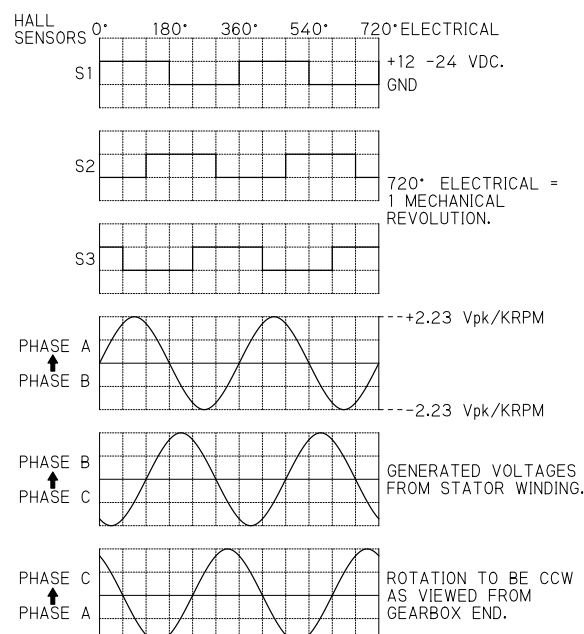
Motor Type	Brushless DC Motor, 4 pole, 3 phase
Peak Torque at 28 VDC	0.145 N-m
Peak Current at 28 VDC	6.82 AMPS
Torque Constant	0.0212 N-m/AMPS $\pm 10\%$
Voltage Constant	2.23 V/kRPM $\pm 10\%$
Breakaway Torque	0.0049 N-m MAX
Friction Torque	0.000847 N-m MAX
Speed at 20 VDC	8,000 min ⁻¹ (rpm) MIN
Dielectric Strength	AC 750 Vrms, 2 mA, 1 MIN
Insulation Resistance	10 M Ω MIN, DC 500 V
Mass	170 g MAX
Temperature Range	-55 °C to +85 °C

Schematic

Wiring Diagram



Nominal Output Voltage



Pinion Data

PINION DATA	
NUMBER OF TEETH	13
DIAMETRIAL PITCH	120
PRESSURE ANGLE	20°
STD. PITCH DIAMETER	.1083 $\phi 2.7508$ mm
TOOTH FORM	FULL DEPTH INVOLUTE
AGMA CLASS	10 D
OUTSIDE DIAMETER	.1245/.1217 $\phi 3.1623/3.0912$ mm
TESTING RADIUS	.0539/.0526 1.369/1.336mm
SIZE OVER .016 WIRES	.1322-.1294 $\phi 3.358-3.2867$ mm
PINION MATERIAL	SUS630H1075 (JIS G 4303)