Position Sensors

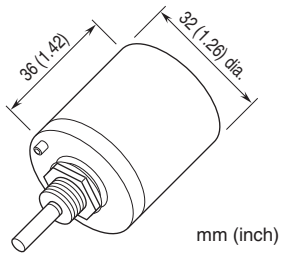
BRUSHLESS ANGLE SENSOR

(90° use)

Functions & Features

• Providing a DC voltage output proportional to rotating angle

• No mechanical contact



MODEL: NRA–1–T

ORDERING INFORMATION

• Code number: NRA-1-T

ACTION

1: Direct (the output increases when the input stem, as it is faced, is turned clockwise.)

POWER INPUT

DC Power

T: 5 V DC

RELATED PRODUCTS

• Angle sensor transmitter (model: PNS)

GENERAL SPECIFICATIONS

Material

Housing: ABS

Shaft: SUS303

Leadwire: UL1007 AWG24, 200 mm (7.87") long

INPUT SPECIFICATIONS

Input: Mechanical rotating angle

Effective rotating angle: Approx. -55° – +55° (110°)

Linearity-assured range: -45° – +45° (90°)

Mechanical rotating angle: Approx. -55° – +55° (110°)

Torque: 0.00147 N·m (0.00108 ft·lbs)

Stopper strength: 0.098 N·m (0.0723 ft·lbs)

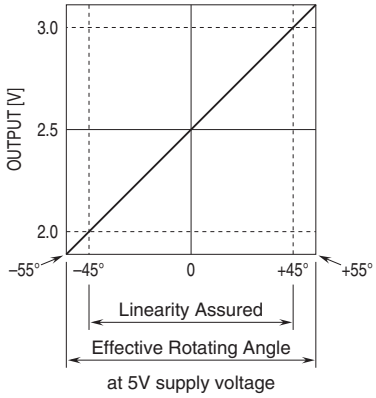
OUTPUT SPECIFICATIONS

Output: 40 – 60 % of excitation supply (within linearity-assured range)

Output resistance: Approx. 12 kΩ

Output waveform: Sinusoidal, full-wave rectified

Output characteristics: Proportional to the input angle within the linearity-assured range



INSTALLATION

Power input

•DC: 5 V DC ±10 %

Current consumption: Approx. 2 mA

Operating temperature: -20 to +60°C (-4 to +140°F)

Operating humidity: 30 to 90 %RH (non-condensing)

Environemnt: Protect from strong magnetic field.

Vibration: ≤ 2 G (19.6 m/s^2)

Mounting position: All directions

Thickness of mounting panel: 2.5 – 5 mm (0.10" – 0.20")

Weight: 50 g (1.76 oz)

PERFORMANCE

"Span" means the output span of linearity-assured range.

Linearity: ±0.5 % (of span)

Accuracy of the span: ±7 % of excitation supply

Output accuracy with 0°input: ±1% of exc. supply

Temp. coefficient: ±0.009 % / °C (±0.005 % / °F) or ±90 ppm / °C (±50 ppm / °F) of span

Resolution: Infinite

Dielectric strength: 1000 V AC @ 1 minute (circuit to housing)

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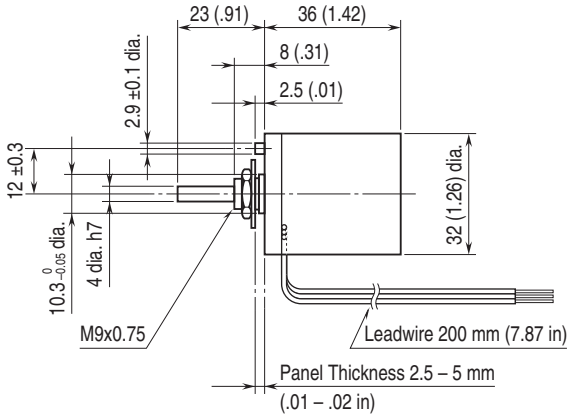
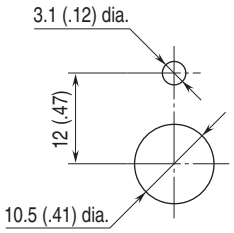
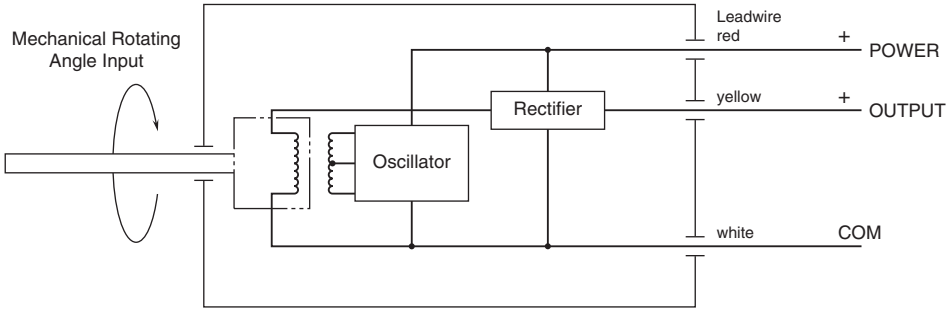
EXTERNAL DIMENSIONS unit: mm [inch]



MOUNTING REQUIREMENTS unit: mm [inch]



SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



⚠ Specifications are subject to change without notice.

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