

# Quadrature Speed and Direction Sensors, SNG-Q Series

**Table 3. Environmental Specifications**

Characteristic	Condition	Parameter
EMI: radiated immunity bulk current injection ESD	ISO 11452-2, 400 MHz to 1 GHz ISO 11452-4, 1 MHz to 400 MHz ISO 10605, Section 9 conforms to CE Mark standards EN60947-5-2:2007 and EN 60947-5-2/A1:2012	100 V/m 100 mA ±8 kV contact, ±15 kV air
Operating temperature	—	-40°C to 150°C [-40°F to 302°F]
Thermal shock, air to air	-40°C to 150°C [-40°F to 302°F], 60 min. soak, <3 s transfer	500 cycles
Humidity	95% humidity at 38 °C [100 °F]	240 hr
Salt fog	5% salt solution by mass at 35 °C [95 °F]	96 hr
Thermal saline dunk	100°C to 25°C [212°F to 77°F] air to liquid, 5% saline	10 cycles
High temperature exposure with power	150°C [302°F], 13.5 Vdc, 1 kOhm load	500 hr
Vibration	3 perpendicular axes, 48 hr per axis	29.28 GMS, 50 Hz to 2000 Hz MIL-STD-202-214
Degree of protection	—	IP69K
Resistance to fluids	—	general under-the-hood automotive fluids

**Table 4. Order Guide**

Catalog Listing	Description
SNG-QPLA-000	SNG-Q Series, quadrature speed and direction sensor, plastic housing, 35 mm [1.38 in] housing length, 500 mm [19.7 in] cable, right angle exit,
SNG-QPCA-001	SNG-Q Series, quadrature speed and direction sensor, plastic housing, 35 mm [1.38 in] housing length, Deutsch DTM04-4P connector with 1250 mm [49.2 in] cable, right angle exit
SNG-QPRA-000	SNG-Q Series, quadrature speed and direction sensor, plastic housing, 35 mm [1.38 in] housing length, integral Amp Superseal 1.5 connector, right angle exit
SNG-QPMB-000	SNG-Q Series, quadrature speed and direction sensor, plastic housing, 45 mm [1.77 in] housing length, 500 mm [19.7 in] cable, straight exit
SNG-QPDB-000	SNG-Q Series, quadrature speed and direction sensor, plastic housing, 45 mm [1.77 in] housing length, Amp Superseal 1.5 connector 282106 with 145 mm [5.71 in] cable, straight exit
SNG-QPDB-002	SNG-Q Series, quadrature speed and direction sensor, plastic housing, 45 mm [1.77 in] housing length, Deutsch DTM04-4P connector with 1250 mm [49.2 in] cable, straight exit

**Figure 1. General Nomenclature**

For example, **SNG-QPLA-000** defines an SNG-Q Series quadrature speed and direction sensor, plastic housing, cable with leads, right angle exit, 35 mm [1.38 in] housing length.

<b>SNG-Q</b> Series	<b>P</b> Housing Material <sup>1</sup>	<b>L</b> Connection Type <sup>2</sup>	<b>A</b> Housing Length	<b>-</b>	<b>000</b> For Internal Use Only
4-wire quadrature speed and direction sensor	<b>P</b> Plastic	<b>S</b> Integral connector, straight exit <sup>3</sup> <b>R</b> Integral connector, right angle exit <b>L</b> Cable with leads, right angle exit <b>M</b> Cable with leads, straight exit <b>C</b> Connector with cable, right angle exit <b>D</b> Conenctor with cable, straight exit <sup>3</sup>	<b>A</b> 35 mm [1.38 in] <b>B</b> 45 mm [1.77 in]		

<sup>1</sup> Contact Honeywell for other Housing Material options.

<sup>2</sup> Other cable lengths available upon request.

<sup>3</sup> Contact Honeywell.

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Figure 2. Sensor Output (All catalog listings)

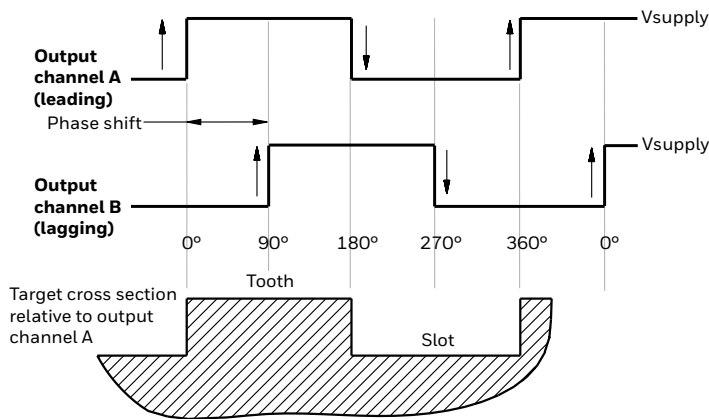


Figure 3. Possible Mounting Orientations

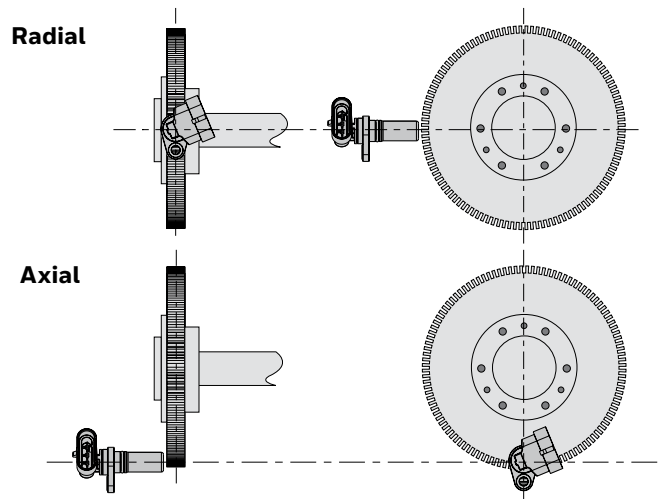
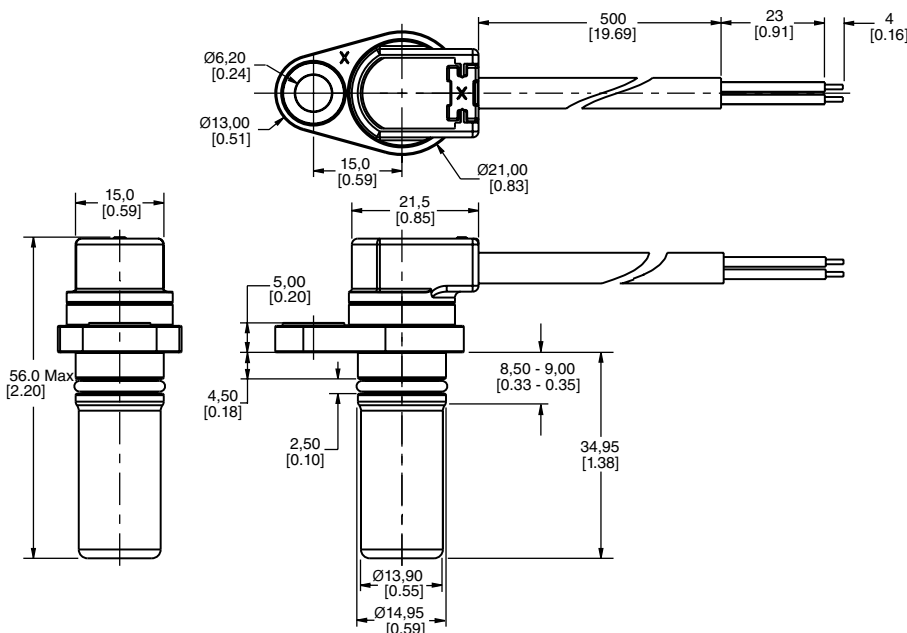
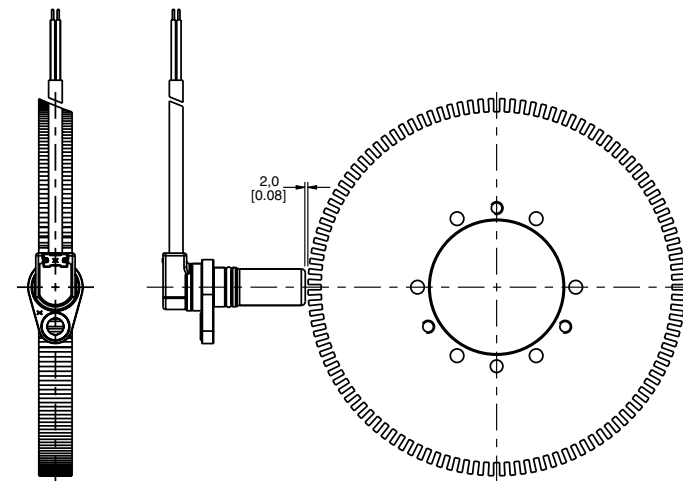
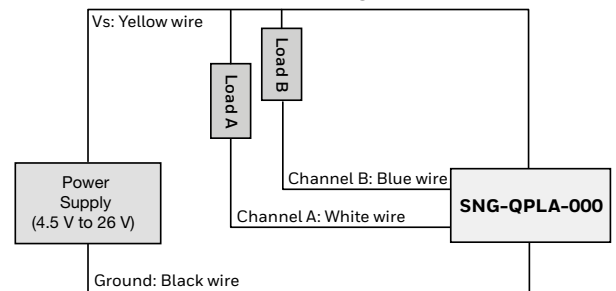


Figure 4. SNG-QPLA-000 Mounting Dimensions (For reference only: mm/[in].)



Circuit Diagram



Note: The load resistor values should be such that the output current does not exceed the maximum load current of 40 mA.

Use Ohm's Law to calculate the load resistor based on the supply/load voltage used:

$$R = V / 0.04 A$$

Leadwire Assignment

Yellow	Black	White	Blue
Vsupply	Ground	Channel A	Channel B