Honeywell

Installation Instructions for the **SNDH-H Series Hall-Effect Speed Sensor**

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GENERAL INFORMATION

The SNDH-H Series Hall-Effect Speed Sensors use a magnetically biased Hall-effect integrated circuit to accurately sense movement of ferrous metal targets.

Optimum performance is dependent upon variables which must be considered in combination: target material, geometry and speed, sensor/target gap, and environmental temperature.

INSTALLATION

- Mount sensor so that the center of the sensor face is over the center of the gear teeth or target. Ensure the mounted sensor is stable and vibration free.
- Locate sensor wires as far as possible from electrical motors, relays, etc. Do not run sensor wires in parallel with power cables.

Table 1. Specifications

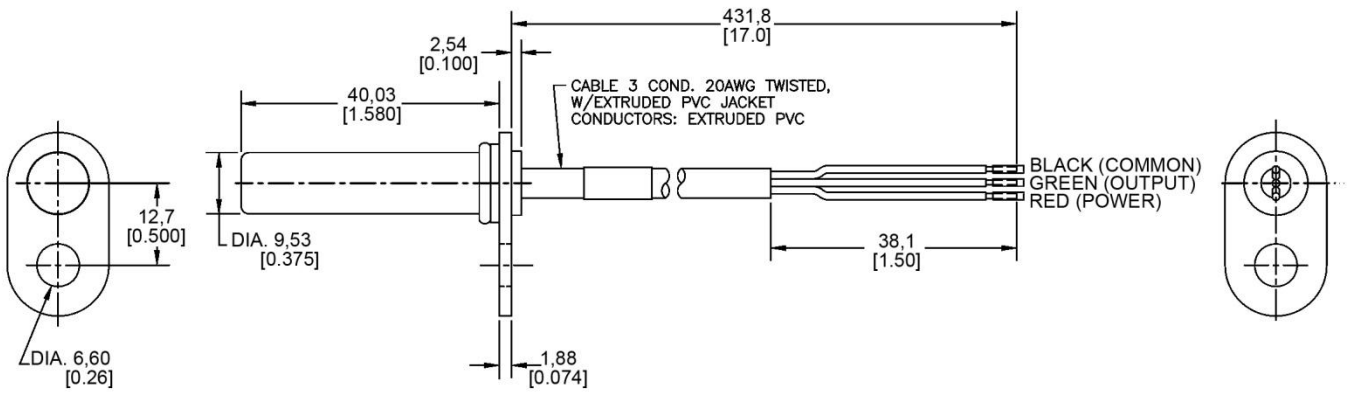
Characteristic	SNDH-H3L-G01	SNDH-H3C-G03	SNDH-H3C-G04	SNDH-H3C-G05	SNDH-H3C-G06	SNDH-H3P-G01
Supply voltage range	4 Vdc to 24 Vdc	4.5 Vdc to 24 Vdc	6.5 Vdc to 24 Vdc	4.5 Vdc to 24 Vdc		6.5 Vdc to 24 Vdc
Output	digital current sinking (open collector)					
Supply current	6 mA max.	20 mA max.	14 mA max.	20 mA max.		14 mA max.
Output current	30 mA[1]	20 mA sinking				
Output leakage current	10 µA					
Reverse output voltage	–		-0.5 V	–		
Rise time (10% to 90%)	400 ns	15 µs max.	1 µs	15 µs max.		1 µs
Fall time (90% to 10%)	400 ns	0.01 µs max.	0.6 µs	0.01 µs max.		0.6 µs
Target orientation	omnidirectional		alignment required	omnidirectional		alignment required
Zero speed	yes	no	yes	no		yes
Operating frequency range	0 kHz to 15 kHz	2 Hz to 15 kHz	0 kHz to 12 kHz	2 Hz to 15 kHz		0 kHz to 12 kHz
Operating temp. range	-40 °C to 100 °C [-40 °F to 212 °F]	-40 °C to 150 °C [-40 °F to 302 °F]	-40 °C to 125 °C [-40 °F to 257 °F]	-40 °C to 150 °C [-40 °F to 302 °F]		-40 °C to 125 °C [-40 °F to 257 °F]
Dielectric	200 Vdc	–				
Housing material	stainless steel	plastic				
Sensing air gap	up to 2,5 mm [0.098 in]	up to 2 mm [0.079 in]	up to 2,5 mm [0.098 in]	up to 2 mm [0.079 in]		up to 2,5 mm [0.098 in]
Target tooth width	2 mm [0.079 in]	2,5 mm [0.098 in] may vary	3 mm [0.118 in]	2,5 mm [0.098 in] may vary		3 mm [0.118 in]
Target slot width	2 mm [0.079 in]	5 mm [0.197 in], constant	>2 mm [0.079 in]	5 mm [0.197 in] constant		>2 mm[0.079 in]
Tooth height	5 mm [0.197 in]	3 mm [0.118 in]	>2 mm [0.079 in]	3 mm [0.118 in]		>2 mm [0.079 in]
Target width	≥3 mm [0.118 in]	>2 mm [0.079 in]				
Sensor misposition to target	dependent on target geometry					
Probe length	40 mm [1.57 in]	24 mm [0.94 in]	27,5 mm [1.08]	46 mm [1.81 in]	67 mm [2.64 in]	20,3 mm [0.80]
Probe diameter	9,53 mm [0.375 in]	17,98 mm [0.71 in]	18,6 mm [0.73 in]	17,98 mm [0.71 in]		15,37 mm [0.605 in]
Connector	leaded[3]	Bosch 928000453	Delphi-Packard Metripak 150.2 Type 101	Bosch 928000453		Deutsch DT06-3S

Notes:

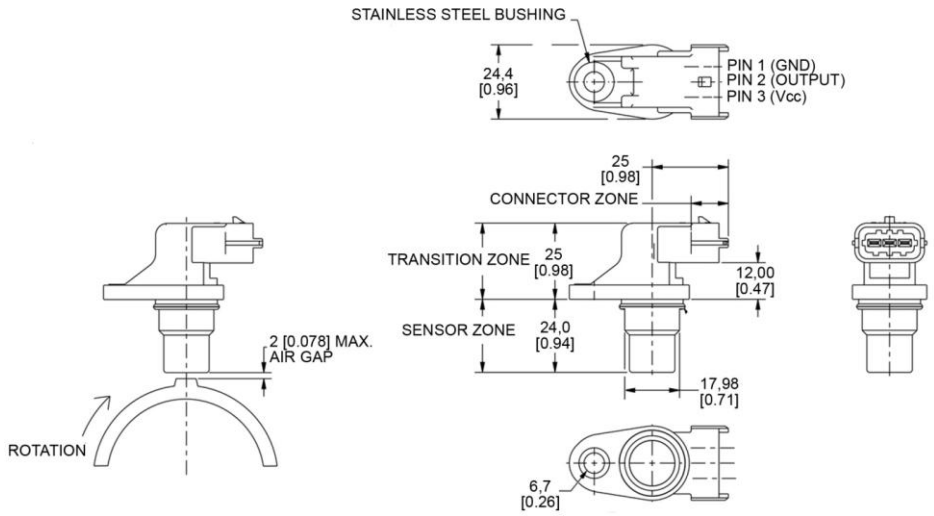
1. Short circuit protected.

Figure 1. Mounting Dimensions and General Mounting Geometry (For reference only: mm [in].)

SNDH-H3L-G01



SNDH-H3C-G03



SNDH-H3C-G04

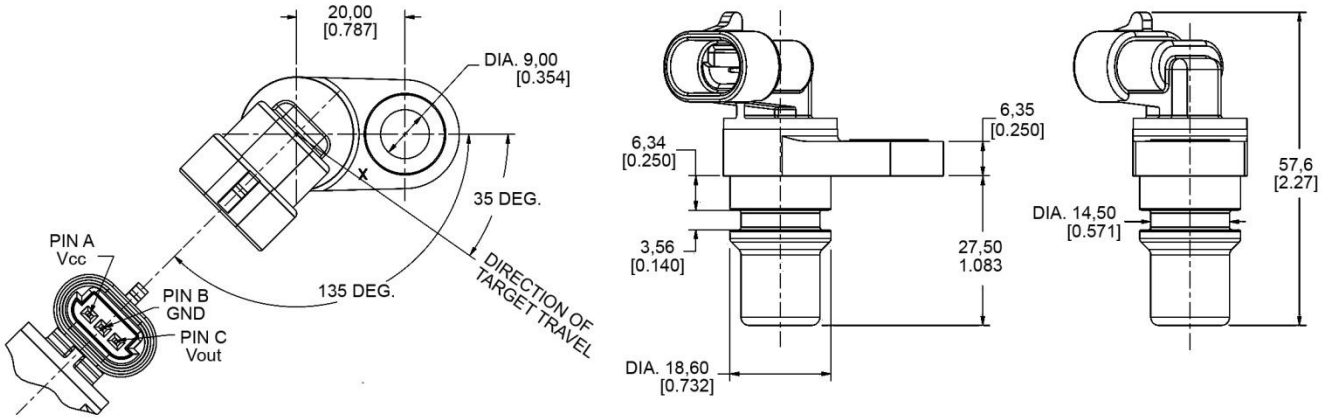
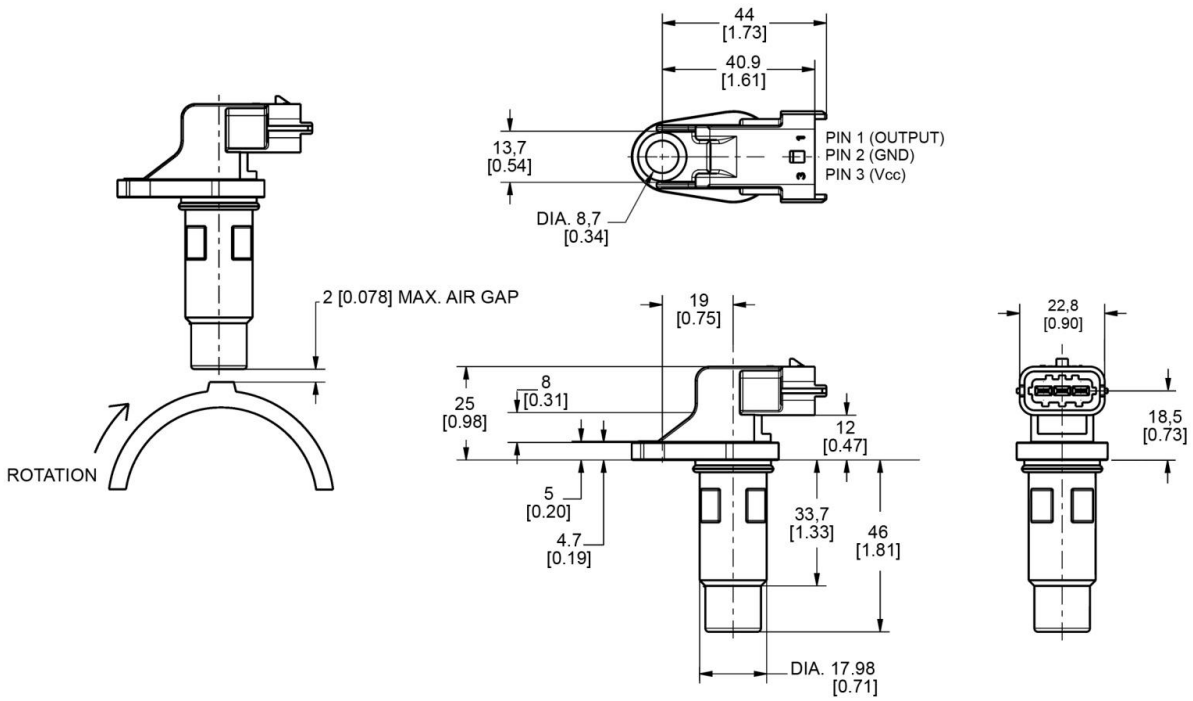


Figure 1. Mounting Dimensions and General Mounting Geometry (For reference only: mm [in].) (continued)

SNDH-H3C-G05



SNDH-H3C-G06

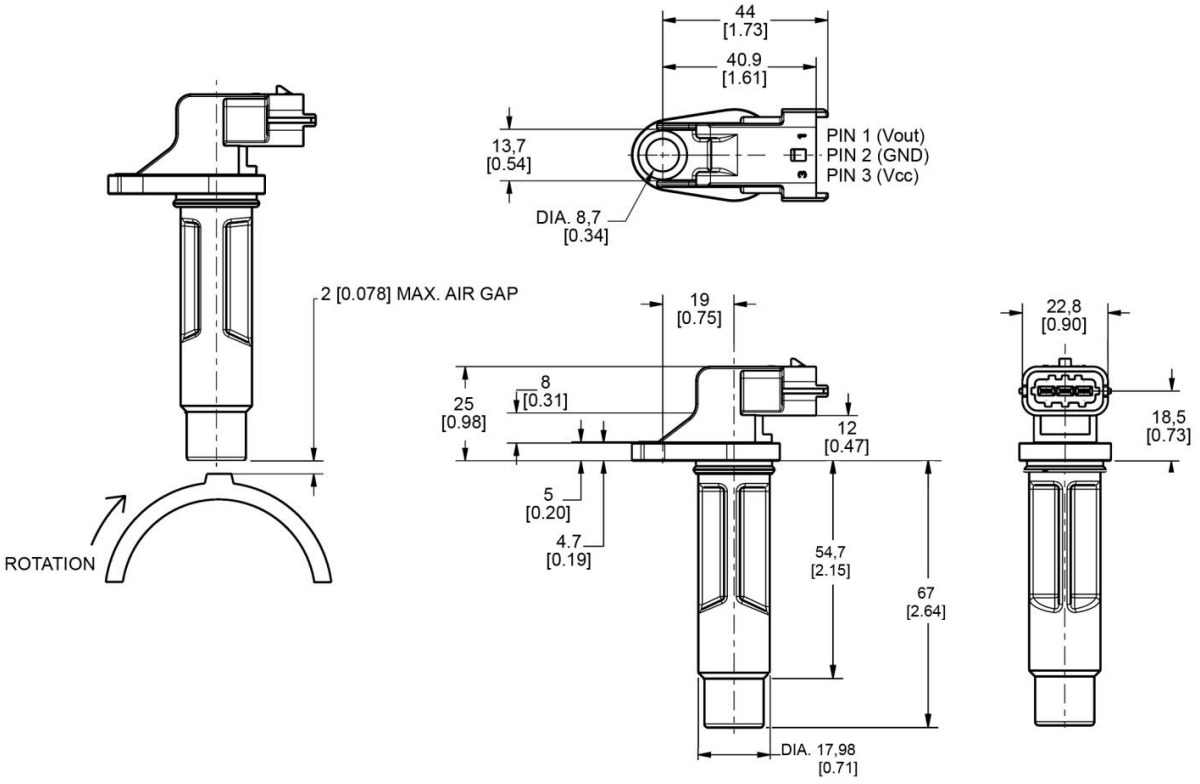
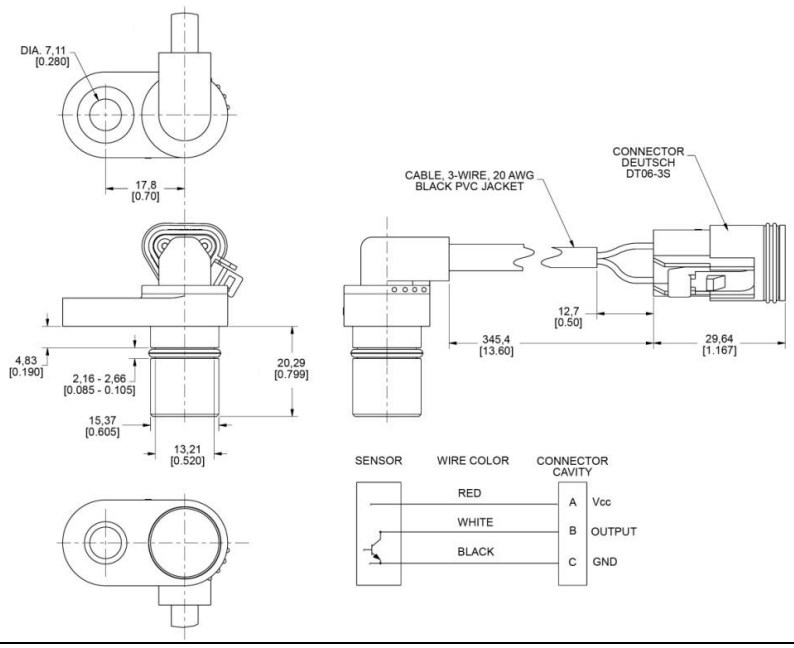


Figure 1. Mounting Dimensions (For reference only. mm/[in] (continued)

SNDH-H3P-G01



⚠ WARNING

PERSONAL INJURY

DO NOT USE these products as safety or emergency stop devices or in any other application where failure of the product could result in personal injury.

Failure to comply with these instructions could result in death or serious injury.

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Specifications may change without notice. The information we supply is believed to be accurate and reliable as of this printing. However, we assume no responsibility for its use.

⚠ WARNING

MISUSE OF DOCUMENTATION

- The information presented in this application note is for reference only. Do not use this document as a product installation guide.
- Complete installation, operation, and maintenance information is provided in the instructions supplied with each product.

Failure to comply with these instructions could result in death or serious injury.

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