FuelTech 5005100083 Hall Effect RPM Speed Sensor Installation Guide

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FuelTech 5005100083 Hall Effect RPM Speed Sensor

Product Information

The Sensor Hall is a Hall effect device designed for applications that require ferrous edge detection or near zero-speed sensing. It provides a sinking output current. The sensor has the following features:

- From near zero speed up to 15 kHz sensing capability
- Plastic flange-mount housing
- Compatible with unregulated power supply
- IP67 ingress protection
- Typical air gap of 1.5 mm

Product Usage Instructions

Installation

For optimal performance, it is recommended to use targets made from low carbon cold rolled steel. Other factors that may affect the sensor's performance include gear tooth height and width, space between the teeth, shape of the teeth, and thickness of the target. As a general guideline, consider using a target with the minimum parameters provided below. However, testing for the specific application is necessary:

Tooth Height	Tooth Width	Distance between Teeth	Target Thickness
5.0 mm (.200)	2.5 mm (.100)	10 mm (.400)	6.35 mm (.250)

Environmental Specifications

- Vibration: N/A
- Mechanical Shock Resistance: N/A
- Maximum Speed Detection: N/A
- Operating Temperature: N/A
- Storage Temperature: N/A
- Ingress Protection: IP67

Electrical Specifications

- Operating Supply Voltage: 5 to 24 VDC
- Maximum Input Voltage: 30 VDC
- Maximum Reverse Voltage: 24 VDC
- Supply Current: 3 mA typ., 6 mA max
- Output Sink Current: 20 mA max

Mechanical Specifications

- Housing Material: Glass Reinforced Thermoplastic
- Maximum Installation Torque: 5.65 Nm (50 in lb) on threads
- Limit Operating Air Gap / Sensing Distance: 1.5 mm (0.06)*
- Sensor Orientation: Not sensitive

Pinout

- VCC (5-32V)
- Signal
- C – GND

Description

The sensor is Hall effect devices designed for use in applications where ferrous edge detection/near zero speed sensing is needed. They provide a sinking output current.

Features

- From near zero speed um to 15 kHz sensing capability
- Plastic flange-mount housing
- Compatible with unregulated power supply
- IP67
- Typical air gap of 1.5 mm

Environmental Specifications

Vibration	Sinusoidal, 15 g max from 40 Hz to 2 kHz
Mechanical Shock Resistance	50 g
Maximum Speed Detection	15 kHz
Operating Temperature	-40 °C to 125 °C (-40 F to 257 F)
Storage Temperature	-40 °C to 125 °C (-40 F to 257 F)
Ingress Protection	IP67

Electrical Specifications

Operating Supply Voltage	5 to 24 VDC
Maximum Input Voltage	30 VDC
Maximum Reverse Voltage	24 VDC
Supply Current	3 mA typ., 6 mA max
Output Sink Current	20 mA max

Mechanical Specifications

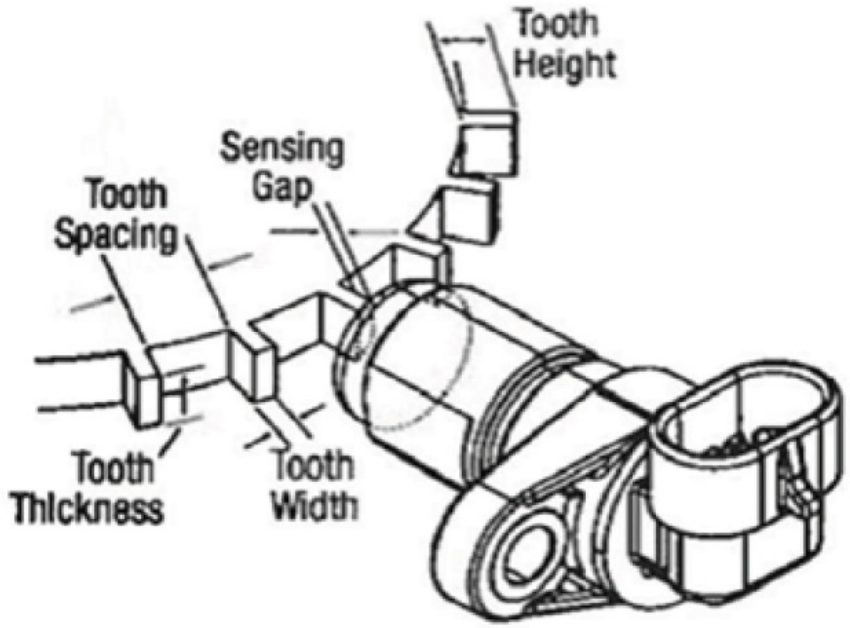
Housing Material	Glass Reinforced Thermoplastic
Maximum Installation Torque Limit	5.65 Nm (50 in lb) on threads
Operating Air Gap / Sensing Distance*	1.5 mm (0.06”)
Sensor Orientation	Not sensitive

* With recommended target type; see drawing

Installation

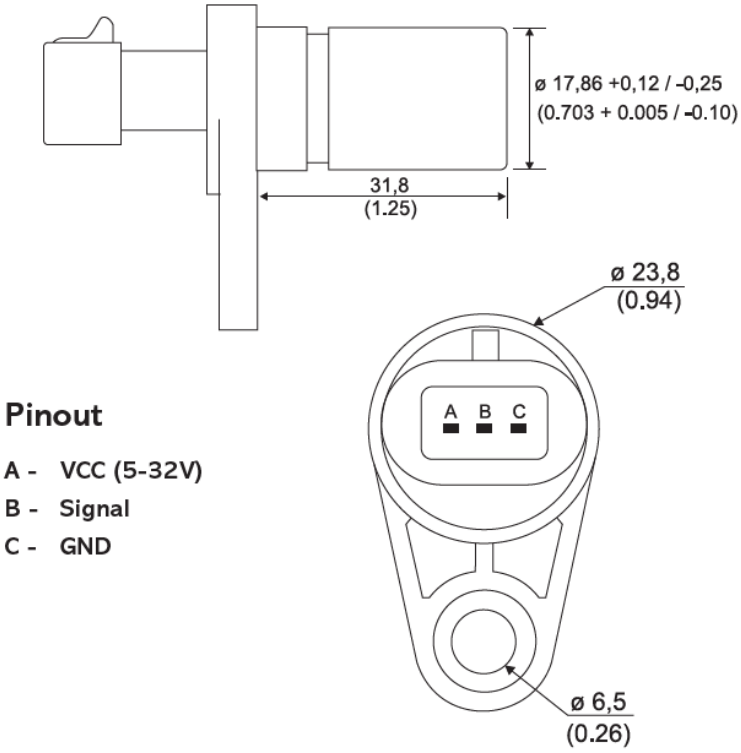
For best results, we recommend targets made from low carbon cold rolled steel. Other factors that influence sensor performance include gear tooth height and width, space between the teeth, shape of the teeth and thickness of the target. As a general guideline, consider a target with minimum parameters as shown below. Note that smaller dimensions may work, but testing for the application is required.

Tooth Height	5,0 mm (.200”)
Tooth Width	2,5 mm (.100”)
Distance between Teeth	10 mm (.400”)
Target Thickness	6,35 mm (.250”)



Dimensions

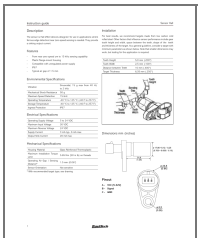
Dimensions mm (inches)



Pinout

A - VCC (5-32V)
B - Signal
C - GND

Documents / Resources

	FuelTech 5005100083 Hall Effect RPM Speed Sensor [pdf] Installation Guide 5005100083 Hall Effect RPM Speed Sensor, 5005100083, Hall Effect RPM Speed Sensor, RPM Speed Sensor, Speed Sensor