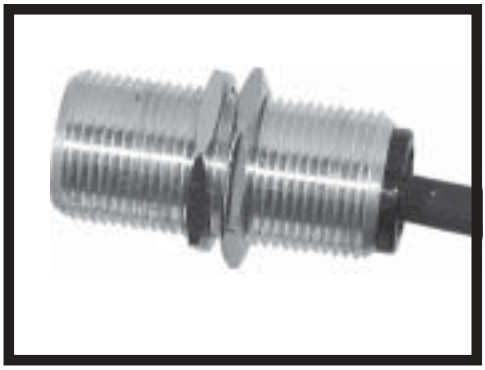
Installation Instructions for Gear Tooth Sensor



APPLICATIONS:

Industrial process control
Factory Automation
Farming
Sprocket RPM
Pump Roller
Mixer
Fan speed
Transmission
Gear reducer RPM
Process speed
Spindle
Generator set
Compressor speed
Dyno testing
R&D testing
RPM

FEATURES:

Low cost
Zero Speed
Omnidirectional sensor
Digital output
Small Size
Low power consumption
Environmentally sealed

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P/N for Manual 1000-5805 Rev A

Overview

The gear tooth sensor addresses a variety of agri-cultural monitoring, factory automation and rotating equipment applications requiring a long-life, cost effective solution where durability is a factor in harsh environments. Housed in a small, easily adjustable package the gear tooth sensor is suitable for a wide range of speed applications. Versatile and simple to install, this gear tooth sensor does not require rotational orientation with object being sensed.

S P E C I F I C A T I O N S

MECHANICAL

Housing: ..... Aluminum 15/32 - 32 x 1” with 2 hex nuts

Interconnect: ..... 36” TPE 24 AWG 3 conductor shielded cable

Connector : ..... 3-pin male (P/N 1000-3157)

Connector mate ..... 3-pin female (P/N 1000-3156)

ELECTRICAL

Supply voltage ..... 4 to 30 VDC @ 8ma max

Operating Frequency ..... 0 to 15 Khz

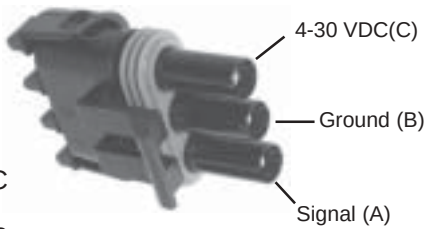
Output signal ..... Open drain MOSFET (current sink)

Voltage low ..... maximum- .4v @ 30 ma maximum sink

Voltage high ..... 30 VDC maximum

Duty cycle ..... 40% to 60%

Dielectric ..... 200 VDC



Connector Wiring

ENVIRONMENTAL

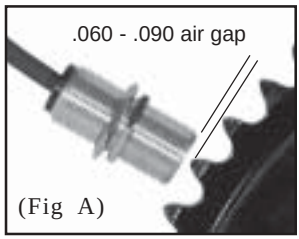
Temperature range ..... -40 C to 100 C

Shock ..... 50 Gs at 11ms

Vibration ..... 15Gs, 10 to 2000 Hz

Installing the gear tooth

Installation of the gear tooth sensor varies depending upon the application. Since all manufacturers equipment is different, it is not possible to document every mounting application. Instead the following parameters are supplied that will act as a guide in installing the gear tooth sensor.



(Fig A)

1. The sensor must be mounted as shown in fig A. *Do not install the sensor with the end facing the side of the sprocket.*

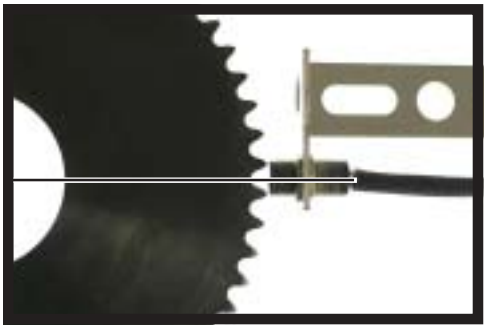
2. A bracket has been included (See the next page) to mount the gear tooth sensor. In some installations it may be necessary to bend or modify the bracket for a specific application.

3. The distance from the face of the sensor, to the tooth on the sprocket should be the thickness of a quarter. (.060 to .090)

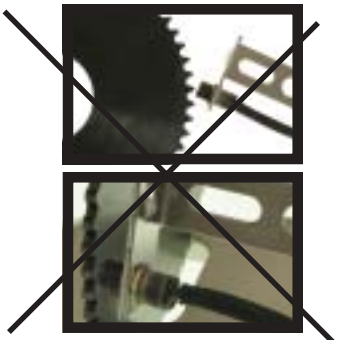
4. The gear tooth sensor must be mounted solid enough so that the air gap distance does not vary while measuring.

5. After mounting the gear tooth sensor the 3-pin connector from the gear tooth sensor connects to the 3-pin connector on the console wiring harness.

6. To verify the sensor is adjusted properly, perform a distance calibration with the system. The sensor will produce one pulse each time a tooth on the sprocket passes the face of the sensor.



When correctly mounted a line drawn from the center of the sprocket should pass through the center of the sensor.



WRONG!!!

Universal Bracket Installation

The bracket included with the gear tooth sensor kit has been designed so that it may easily be adapted to a variety of applications. *It may be necessary to bend or cut the bracket to fit some applications.*

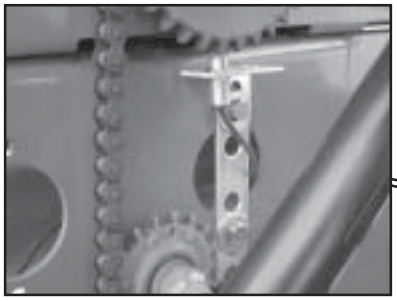
1. Locate a sprocket that turns in relationship to ground speed and the bracket can be mounted adjacent to. *NOTE!! Avoid sprockets that are on the output side of the transmission. If the sensor is monitoring a final drive sprocket, the console will need to be re-calibrated each time the transmission ratio is changed*

2. Mount the bracket in an area where the signal cable can be mounted safe from chains and rotating shafts.

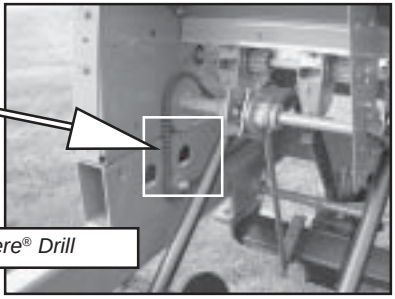
3. Using the bolts supplied, securely fasten the bracket to a solid surface. Allow a distance of .25 - .75 inch between the bracket and the sprocket teeth to mount the sensor. If possible use the slotted openings on the bracket to allow adjustment once the bracket is bolted on.

4. Once the bracket is mounted install the gear tooth sensor using the hex nuts provided and adjust the air gap to the thickness of a quarter, (.060 to .090 inch)

5. Connect the cables to the sensor and secure all cables. Recheck all mounting bolts and sensor nuts for tightness.



Distance from end of bracket(not sensor) to gear teeth should be .25 - .75 inches



Typical installation on a 750 or 1530 John-Deere® Drill

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