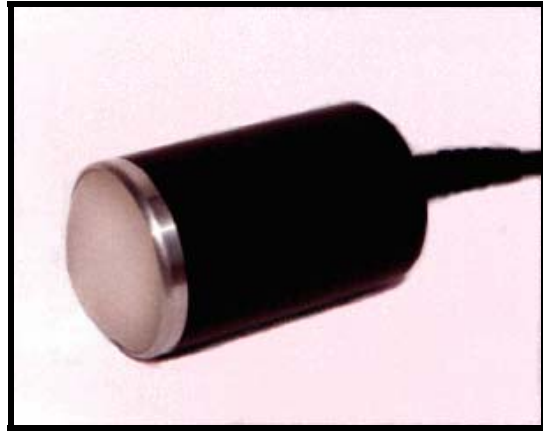


The Delta Speed Sensor is an inexpensive, non-contact Doppler radar speed sensor suitable for a wide variety of speed measurement applications. Small and lightweight, it requires only a small DC power source, making it useful in situations requiring portability or remote sensing.

The sensor may be placed on a moving vehicle to measure vehicle ground speed. It also may be fixed in a stationary mounting to measure the speed of a moving object which can be anything from a wire passing under the sensor to a vehicle a thousand feet away. The output of the sensor is a pulse with frequency proportional to measured speed. The cumulative number of pulses may be used to determine distance traveled or the length of a moving surface.

The sensor can be used with the SRO100 Programmable Digital Speed Indicator, which provides a real-time readout with programmable engineering units, or with the DataBRICK Data Acquisition System from GMH Engineering. It can also be used with many different types of off-the-shelf hardware, such as timer/counters or digital tachometers, and can be integrated into electronic control or data acquisition systems.



Features

- Non-contact speed measurement
- Inexpensive
- Digital pulse output automatically enabled according to signal strength or target presence
- Small, lightweight
- Low power
- Weather resistant

Typical Applications

- Vehicle ground speed measurement
- Amusement park ride testing
- Conveyor belt operations
- Motion sensing
- Speed control
- Traffic monitoring
- Length or distance measurement

Contact Information:

GMH Engineering
336 Mountain Way Drive
Orem, UT 84058
(801) 225-8970
www.gmheng.com

FAX: (801) 225-9008
Email: info@gmheng.com

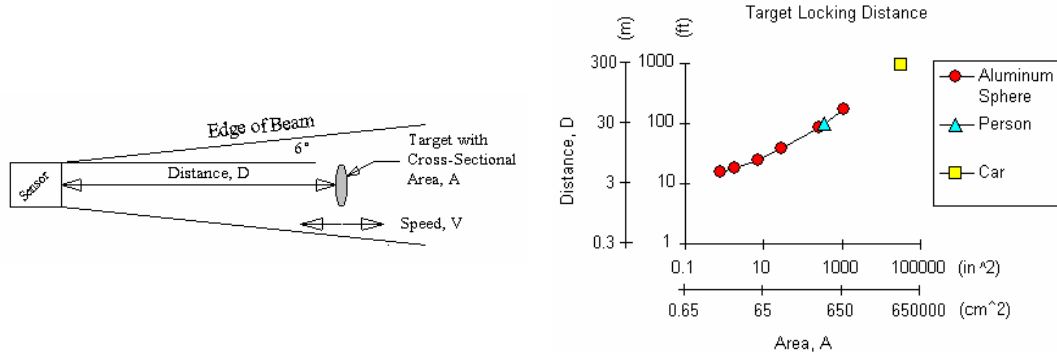


Figure 1 -- Locking Test Diagram and Results: Target moving along beam center axis (0° velocity offset angle)

Specifications

Output: 0-5V square wave, differential or single-ended; 100 Hz/MPH (62.1 Hz/KPH) ¹

Update Period: 0.01 sec.

Speed Measurement:
 Range: 0.5-300 MPH (0.8-480KPH)
 Total Unadjusted Error: ²
 ± (0.34% + 0.0023%/MPH)

Sensor Response:
 Locking Latency: 0.02 sec.
 Unlocking Latency: 0.05 sec.
 Sensor Time Constant: 0.025 sec.

Max. Target Distance: over 1000 ft. (>300 m.)
 (See Figure 1 - Locking Test Results)

Microwave Characteristics: ³
 Frequency: Ka Band 35.5 ± .1 GHz,
 Beam Divergence Angle: 6° from center
 Average RF Power: 0.02 W max
 Effective Radiated Power: 0.98 W

Power Supply: 10.5 - 16.5 VDC, 2.4 W

Temperature Range: 0 to 140°F (-17 to 60°C)

Enclosure: Weather resistant

Weight: 0.5 lb. (230 g)

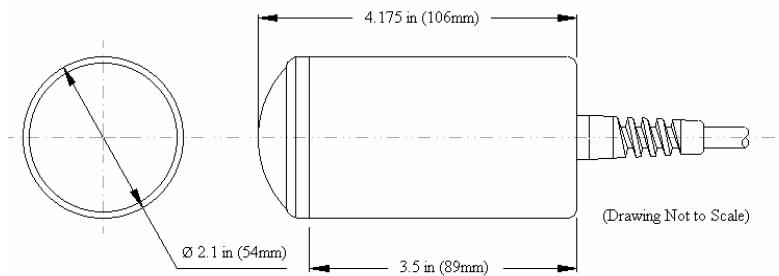
Notes: ¹ Output requires cosine correction for any offset angle between target direction of travel and beam center axis.

² i.e.: ±0.34% @ 1MPH (1.6KPH), ±0.49% @ 65MPH (105KPH), ±1.03% @ 300MPH (480KPH)
 (this is for sensor only - overall accuracy of speed measurement is also influenced by external factors which may include sensor alignment, vibration, clutter, etc.)

³ Regulated under FCC regulations Part 90, Subpart F. Contact GMH Engineering for details.

Physical Dimensions and Electrical Interface

Wiring: Red: Power +
 Black: Power -
 Green: Signal +
 White: Signal -
 (see separate wiring diagram)



Optional mounting bracket available

Information furnished by GMH Engineering is believed to be accurate & reliable. No responsibility is assumed, however, by GMH Engineering for its use, whether correct or incorrect; nor can GMH Engineering be held liable for consequences or any infringements of patents or other rights of third parties which may result from its use. Information in this document is current as of date of writing and is subject to change. Test data are representative of sensor performance under specific test conditions. Actual performance will vary with application and environment.