

RADAR III

GROUND SPEED SENSOR

The most accurate
ground speed sensor
on the market

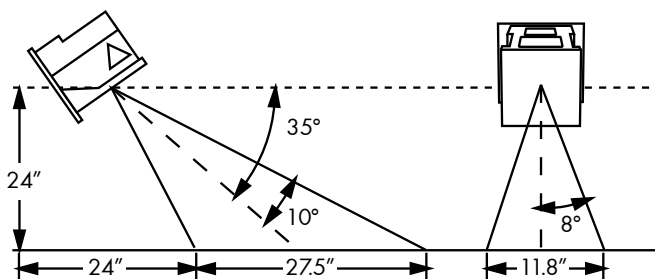
Measuring ground speed has never been easier than with DICKEY-john high-performance ground speed sensors. The DICKEY-john Radar III is a third-generation ground speed sensor that delivers the truest velocity measurement available.

Features and Benefits:

- Small, compact design that does not sacrifice on performance
- High-tech planar array for truest possible velocity measurement
- Views ground surface for accurate ground speed detection
- Velocity errors of less than or equal to 1% from 2–67 mph after field calibration
- Easy to install
- Mounts to view forward or backward from the vehicle

Backed by the power of DICKEY-john:

When you buy a Radar III Ground Speed Sensor, you get all the dependability and value you expect from DICKEY-john products. DICKEY-john's advanced technology and superior electronics are backed by a team of expert, in-house mechanical, electrical, software, and test engineers.



DICKEY-john
CORPORATION

RADAR III

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Specifications

Velocity Range

- .33 - 67 mph (.53 - 107.8 km/h) for 44 Hz/mph output frequency
- .26-67 mph (.42 - 107.8 km/h) for 59 Hz/mph output frequency

Accuracy

True Velocity errors of:

- $\leq \pm 3\%$.33 - 2 mph (.53 - 3.2 km/h)
- $\leq \pm 1\%$ 2-67 mph (3.2 - 70.8 km/h)

(Based on in-field system calibration)

Response, Output Speed

- ≤ 200 milliseconds lag for combo filter selection
[dv/dt = 4.4 mph/sec (6.4 km/h/sec)]

Turn ON/OFF Delay

- ≤ 12 inches (305 mm) distance traversed, typical

Footprint, Target

- Elliptical, 14.5 inches (368 mm) minor axis
- By 21.5 inches (546 mm) major axis
[at 24 inches (601mm) mounting height]

Mounting Angle

- $35 \pm 5^\circ$ depressed from horizontal (from target surface)

Mounting Height

- 18-48 inches (457 - 1219 mm) 24 inches (610 mm) nominal
(from target surface)

DC Power Requirements

- +VB (Unregulated battery voltage)
- ◀ +9 to 16 VDC @ $< .6$ Amp
- ◻ 18 to 32 VDC @ $< .6$ Amp

Output Signal Characteristics

- VOH (High level output signal voltage in VDC)
- VOL (Low level output signal voltage in VDC)
- IOH (High level output source current in ma)
- IOL (Low level output sink current in ma)

- ◀ • VOH $\sim (+VB - 1.5 \text{ VDC}) - 1.051 \text{ (IOH)}$ ▶
- ◀ • VOL $\leq .7 \text{ VDC @ IOL} \leq 6 \text{ ma}$ ▶
- ◻ • VOH $\sim (12.8 \pm 1.0 \text{ VDC}) - 1.051 \text{ (IOH)}$
- ◻ • VOL $\leq 1.0 \text{ VDC @ IOL} \leq 6 \text{ ma}$ ◻

Output Frequency

Factory selectable options:

- 59 Hz/mph (36.60 Hz/Km/h)
- 44 Hz/mph (27.45 Hz/Km/h)
- 27.62 Hz/mph (17.20 Hz/Km/h)
- 17.034 Hz/mph (10.25 Hz/Km/h)

Signal Output Filter Options

- Slow/Fast combo
- Slow (nominal .250 sec.)
- Fast (nominal .060 sec.)
- Superfast (nominal .014 sec.)

Output Stage Characteristics

- Transient/short protected NPN transistor
- ZOH (High level output source impedance)
- ZOL (Low level output sink impedance)
- ZOH $\sim 1051 \text{ ohms}$
- ZOL $\sim 63 \text{ ohms}$

Microwave Frequency

- 24.125 GHz $\pm 50 \text{ MHz}$ except U.K. which is 24.300 GHz

Microwave Power

- 5mw, nominal Level

Overall Size

- 4 x 3.4 x 3.1 inches (103 x 86 x 79 mm)

Weight

- 1 lbs (.5 kg)

Environmental Compliance

- EN ISO 14982
- ASAE EP-455
- Product is immuned to reverse polarity, EMI, and electrical transients such as load dump, alternator field decay, inductive load switching, etc.
- Operating temperature: -40° to 180° F (-40° to $+85^\circ \text{ C}$).
- Environmentally durable, i.e., not affected by chemicals, dust, salt spray, rain and wash.
- Operational vibration limits with isolation mounts
- 0.75 g (0.03 oz) from 200Hz - 350Hz, 3 g (0.11 oz) from 351Hz - 2000Hz.

Connector

Many options are available. The standard +12V unit is as follows:

- Amp 206429-1 (Mating Connector AMP 206430-2)
- Pin 1 Ground - Black
- Pin 2 Signal Out - Green
 - 0 - 12 VDC
 - Symmetrical Squarewave
- Pin 3 +12 VDC - Red
- Pin 4 Radar Presence

Note: Pin 3 and Pin 4 are jumpered at the connector.

Approvals:

- e-mark certification # e24_021030
- Industry Canada cert. # 5682A-RVSIII
- FCCID: 57H8LRDJRVSIII