RADAR III Ground speed sensor

The Radar III is the most accurate ground speed sensor in the market.

This third generation ground speed sensor delivers the truest velocity measurement available.

1/3 the size of the Radar II
with no sacrifice in performance

Small, compact design

Easy to install

Views actual ground surface for accurate speed measurement

Can be mounted to look forward or backward from vehicle

Backed by the Power of DICKEY-john

When you buy the Radar III, you get dependability and reliability you expect from DICKEY-john.

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

Revolutionizing Electronics

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CERTIFIED ISO-9001 INTERTEK CERTIFICATION

C.I.E. CHAMPION INDUSTRIAL EQUIPMENT

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www.cie-eic.com

RADAR III Ground speed sensor

SPECIFICATIONS

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

Accuracy*
True Velocity errors of:
≤ ± 5% .53 - 3.2 km/h (.33 - 2 mph)
≤ ± 3% 3.2 - 70.8 km/h (2-67 mph)

Response, Output Speed
≤ 200 milliseconds lag for combo filter selection
(d_v/d_t = 6.4 km/h/sec (4.4 mph/sec))

Turn ON/OFF Delay
≤ 305 mm (12 inches) distance traversed, typical

Footprint, Target
Elliptical, 305 mm (12 inches) major axis {at 601mm (24 inches) mounting height}

Mounting Angle
35 ± 5° depressed from horizontal (from target surface)

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

DC Power Requirements
$+V_B$ (Unregulated battery voltage)
〈+9 to 16 VDC @ ≤ .6 Amp〉
[18 to 32 VDC @ ≤ .6 Amp]

Output Signal Characteristics
V_{OH} (High level ouput signal voltage in VDC)
V_{OL} (Low level output signal voltage in VDC)
I_{OH} (High level output source current in ma)
I_{OL} (Low level output sink current in ma)
〈 $V_{OH} \simeq (+V_B - 1.5\ VDC) - 1.051\ (I_{OH})$
$V_{OL} \leq .7\ VDC\ @\ I_{OL} \leq 6\ ma$ 〉
[$V_{OH} \simeq (12.8 \pm 1.0\ VDC) - 1.051\ (I_{OH})$
$V_{OL} \leq 1.0\ VDC\ @\ I_{OL} \leq 6\ ma$]

Output Frequency
Factory selectable options:
34.80 Hz/Km/h (59 Hz/mph)
26.11 Hz/Km/h (44 Hz/mph)
16.32 Hz/Km/h (27.62 Hz/mph)
10.06 Hz/Km/h (17.034 Hz/mph)

Output Response Time
Factory selectable options:
Slow/Fast combo
Slow
Fast
Superfast

Output Stage Characteristics
Transient/short protected NPN transistor
Z_{OH} (High level ouput source impedance)
Z_{OL} (Low level output sink impedance)
$Z_{OH} \simeq 1051$ ohms
$Z_{OL} \simeq 63$ ohms

Microwave Frequency
24.125 GHz ± 50 MHz except U.K. which is 24.300 GHz

Microwave Power Level
5mw, nominal

Overall Size
103 x 86 x 79 mm (4 x 3.4 x 3.1 inches)

Weight
.5 kg (1 lbs)

Ag Environmental Requirements
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 +85°C. Environmentally durable, i.e., not affected by chemicals, dust, salt spray, rain, wash, and mechanical shock or vibration.

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 Singnal 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.

Note: ≤ means less than or equal to.

* Basic Sensor Accuracy - Overall Instrumentation System velocity errors of ≤ ± 1 - 3% can be achieved through in-field system calibration

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