

TGSS (MkIII) True Ground Speed Sensor

Measurement of true vehicle speed regardless of wheel size or slippage



Application:

- Non-contacting signal input for true measurement of vehicle speed regardless of wheel size or wheel slippage.
- Used where accurate speed measurement is required.
- Essential for anti-slip systems, traction control etc.
- RDS Technology also supplies a wide range of instrumentation to be used with the TGSS.

Principle of operation:

The TGSS uses the well known principle of Doppler shift. A low power K band microwave beam is transmitted at, and reflected from, the ground. The reflected signal differs from the transmitted one by the doppler shift. The difference in frequency is directly proportional to the forward speed.

The kit includes Sensor, Mounting Plate, Extension Cable, Fixings and fasteners.



TGSS (Mk III)

Technical Details:

Velocity Range: 0.3 - 62 km h⁻¹ (0.2-39mph)

Accuracy: < ±3% 0-3.5 km h⁻¹ (0-2.2mph)
< ±1% 3-62 km h⁻¹ (2-39mph)

Mounting Angle: 45° depressed below horizontal,
rearward-facing (preferred) or
forward-facing

Mounting Height: 30 - 100cm (12 - 39") above the
ground or above the top of the
crop, typical mounting height 60cm
(24")

Mounting Fixings: 3 x M8 Bolts

Overall Dimensions: 10cm(H) x 10cm(W) x 10cm(D)
(4" x 4" x 4")

Weight: 0.45kg (1lb)

Connections: 3-way Female WeatherPak
Pin A (Red Wire): +12V DC
(nominal 12V battery voltage)
Pin B (White Wire): Speed Signal
Output
Pin C (Black Wire): Ground
Standard: 32cm cable length
Optional: 100cm extension cable:
(3-way male-3-way female
WeatherPak)

Electrical Supply: 150mA @ 12VDC

Output Frequency: 35.68Hz/kmh⁻¹ (128.4 pulse m⁻¹)
57.42Hz/mph (3.26 pulse inch⁻¹)

Square Wave Output: Z OH approx. 1000 ohms
Z OL less than or equal to 100
ohms
VOH approx. +V(battery) - 1.0V
VOL less than or equal to 1.0V at
15 mA
I out(max.) = 22mA

Electrical Protection: Signal to ground and signal to
power supply protection.
Electrical transient protection per
SAE EP-455 Standard.

Step Response: < or equal to 200ms delay.

Start/Stop Delay: < or equal to 25cm

Microwave Frequency: 24.125GHz (standard)
24.300GHz (UK)
Tolerance ± 25 MHz

Microwave Power: 5 mW, nominal

Regulatory Compliance:

Environmental: SAE EP-455: includes standards
for reverse polarity, electrical
transients (such as load dump,
inductive load switching),
chemical corrosion, dust, salt
spray, rain, wash, mechanical
shock, and vibration.

**Electromagnetic
Compatibility:** CE, CSA, FCC

Storage Temperature: -40°C to +85°C

Operating Temperature: -30°C to +70°C

Available from:



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