



TGSS (Mk3V) True Ground Speed Sensor



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.

Technical Details:

Velocity Range:	0.5 - 70 km h ⁻¹ (0.3 - 44mph)
Accuracy:	±3% 0.5 - 3 km h ⁻¹ (0.3 - 2 mph) <±1% 3 - 70 km h ⁻¹ (2 - 44 mph)
Beam Footprint:	Elliptical, 41.7 cm (16.4") major axis & 22.9 cm (9.0") minor axis at 61 cm (24") mounting height
Beam Pattern:	12.5° in the vertical plane & 12° wide, symmetric around centerline of sensor
Mounting Angle:	37° depressed below horizontal, rear facing (preferred to reduce potential damage) or forward facing
Mounting Height:	30 - 120 cm (12 - 48") above the ground, typical mounting height 60 cm (24")
Mounting Fasteners:	3 of 1/4" - 20 UNC cap screws or M6 screws
Overall Dimensions:	9.9 cm (H) x 9.9 cm (W) x 9.2 cm (D) (3.9" x 3.9" x 3.6")
Weight:	Approximately 460 grms w/ cable
Materials:	Enclosure : Black Nylon, glass reinforced
Cable:	Water resistant 18 AWG 4/C SJOW. Cable length: 31 - 33cm
Connections:	

Connector Option	3-way Weatherpack	3-way AMP Superseal 1.5 Series	4-way Deutsch (DT04-4P -E003)	Function
RDS Pt No.:	S/SR/168-13-003	S/SR/168-13-002	S/SR/168-13-004	
Pin Out / Wire Colour	Pin B	Pin 2	Pin 1 (Green)	Speed Signal
	Pin A	Pin 3	Pin 3 (Red)	+12V DC Supply
	Pin C	Pin 1	Pin 2 (Black)	0V Ground
	-	-	Pin 4 (White)	Radar Present

Electrical Supply:	Max. 120 mA @ 12 V DC +9 to 16V DC input voltage range
Output Frequency:	35.68 Hz / km h ⁻¹ @ 35° mounting angle (128.4 pulse m ⁻¹) 57.42 Hz / mph @ 35° mounting angle (3.26 pulse inch ⁻¹)
Square Wave Output:	VOH VDC input - 0.6V - (IOH(mA) X 1k) VOL 1.0V at 10 mA IOH 16mA (Source) IOL 35mA (Sink)
Electrical Protection:	Electrical Signal to ground & signal to power supply protection. Electrical transient protection per ASAE EP-455 Standard.
Step Response:	200 milliseconds delay
Start/Stop Delay:	25 cm (12")
Microwave Frequency:	24.125 GHz (standard). Tolerance ± 50 MHz
Microwave Power:	500mW, EIRP
Approvals:	RSS-210 (Industry Canada) FCC (Part 15, USA)
Environmental Compliance:	EN ISO 14982 ASAE EP-455 which includes standards for reverse polarity, EMI, electrical transients (such as load dump, inductive load switching), chemical corrosion, dust, salt spray, rain, wash, mechanical shock, and vibration.
Operating Temperature:	-40C to +85C (-40F - 185F)

Specifications and design are subject to change without notice.