STALKER® Radar Speedometer Speed Sensor

GENERAL SPECIFICATIONS

TYPE:	Moving Doppler Radar Speed Sensor
OPERATING FREQUENCY:	34.7 GHz (Ka-band)
STABILITY:	±100 MHz
POWER REQUIREMENTS:	**Voltage**: 9 - 16 VDC **Current** (at 12 VDC nominal) Transmitter on: 370 mA Transmitter off: 100 mA
ENVIRONMENTAL:	**Operating:** -30°C to +70°C, 90% relative humidity **Non-operating:** -40°C to +85°C
MECHANICAL:	**Weight** – 1.15 lb. (0.52 kg) **Diameter** – 2.6 in. (6.7 cm) **Length** – 4.7 in. (11.8 cm) **Case Material** – Aluminum die cast
ACCURACY:	+/- 0.3% – Speeds are rounded down to the nearest unit or tenths of a unit depending on the unit resolution setting.
AUTO SELF-TEST:	Performed every 10 minutes while transmitting
GROUND SPEED RANGE:	Low ground speed acquisition threshold configurable: *Standard* acquisition of 20 to 90 MPH (32 to 144 KPH), when Ground Speed Lo Cutoff = 20 MPH *Optional* acquisition of 5 to 90 MPH (8 to 144 KPH), when Ground Speed Lo Cutoff = 5 MPH Ground speed, once locked, will track to 199 MPH (320 KPH)

MICROWAVE SPECIFICATIONS

ANTENNA:	Conical horn
POLARIZATION:	Circular
3DB BEAMWIDTH:	12° ±1°
RF SOURCE:	Gunn-Effect diode
RECEIVER TYPE:	Two Direct Conversion Homodyne receivers using four low-noise Schottky barrier mixer diodes
POWER OUTPUT:	10 mW mininum 15 mW nominal 25 mW maximum
POWER DENSITY:	1 mW/cm^2 maximum at 5 cm from lens

FACTORY CONFIGURATION (defaults in **bold**)

UNITS:	**MPH** (miles-per-hour) or KPH (kilometers-per-hour)
UNIT RESOLUTION:	Speeds may be reported in whole numbers (**Units**) or Tenths
MIN AGC GAIN: **MAX AGC GAIN:**	8 levels each: 0 (min) to 7 (max); Normally **Min=0** and **Max=7** – setting these differently reduces the dynamic range of the speed sensor.
SERIAL PORT BAUD RATE:	The serial port operates at 8 data bits, no parity and 1 stop bit (8N1) with the following selectable baud rates: 300, 600, 1200, 2400, 4800, **9600**, 19200, 38400
SERIAL PORT DATA FORMAT:	None – no data output **'EF' – Enhanced Format** (continuous) 'EE' – ground speed only (polled) 'B' – all indicators output (continuous)
COMMUNICATIONS PROTOCOL:	**RS-485** or RS-232 (Available as two different models. Only polled format available on RS-485 model.)
MESSAGE PERIOD:	N=**0** (send speed report on each 45ms measurement interval);N=1-2000(send speed report on nearest 45 ms measurement interval following a delay of N milliseconds)
AUTO-TEST PERIOD:	Automatic test runs every 30-900 seconds. Default is **840 seconds** (14 minutes).
AUTO-TEST MODE:	Automatic test runs **always** or only when the radar transmitter is on.

OPERATOR ACTIONS (defaults in **bold**)

TRANSMIT/ HOLD:	Turns the microwave transmitter **On** or Off
SENSITIVITY:	23 levels of sensitivity may be selected
GROUND SPEED LO CUTOFF:	The minimum acquisition speed for ground speed tracking may be set to either 5 MPH or **20 MPH** (8 or 32 KPH)
PS BLANK:	Momentarily clears the reported ground speed and causes ground speed to be re-acquired
TEST MODE:	Initiates a speed sensor self-test followed by a 60 second tuning fork mode, during which time directionality screening is disabled and the speed sensor will respond to any target direction (away or closing) or to non-directional targets (like tuning forks)
FORK MODE:	Disables direction sensing so that directionality screening is disabled and the speed sensor will respond to any signal (away or closing) or to non-directional targets (like tuning forks)