

STALKER® Radar Sport Speed Sensor

GENERAL SPECIFICATIONS

TYPE:	Stationary 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
SPEED RANGE:	1 to 300 MPH (1 to 480 KPH)
AUX OUTPUT:	TTL-compatible logic output is provided that can be configured to activate (HIGH) when a target speed exceeds a configured threshold

FACTORY CONFIGURATION (defaults in bold)

MODE:	16 modes are provided to set target speed measurement method and min/max speed range: 0 – Normal: 0 to 140 MPH (0 to 225 KPH) 1 – Normal: 5 to 140 MPH (8 to 225 KPH) 2 – Normal: 15 to 140 MPH (24 to 225 KPH) 3 – Normal: 25 to 140 MPH (40 to 225 KPH) 4 – Normal: 50 to 140 MPH (80 to 225 KPH) 5 – Normal: 0 to 300 MPH (0 to 480 KPH) 6 – Normal: 5 to 300 MPH (8 to 480 KPH) 7 – Normal: 15 to 300 MPH (24 to 480 KPH) 8 – Normal: 25 to 300 MPH (40 to 480 KPH) 9 – Normal: 50 to 300 MPH (80 to 480 KPH) 10 – Baseball: 10 to 110 MPH (16 to 175 KPH) 11 – Baseball: 20 to 110 MPH (32 to 175 KPH) 12 – Baseball: 30 to 110 MPH (48 to 175 KPH) 13 – Baseball: 40 to 110 MPH (64 to 175 KPH) 14 – Baseball: 50 to 110 MPH (80 to 175 KPH) 15 – Tennis: 50 to 148 MPH (80 to 238 KPH)
SENSITIVITY:	8 levels of sensitivity can be selected: 1/2/3/4/5/6/7/8
AUX PIN CONFIGURATION:	The AUX output pin can be configured to be Disabled , or Speed Alarm
ALARM SPEED THRESHOLD:	1 – 300 MPH (1 to 480 KPH)
PEAK SPEED REPORTING:	Reporting of peak speed in addition to target speed can be Enabled or Disabled
DIRECTIONALITY:	10 levels of directionality can be selected (least restrictive to most restrictive): 0/1/2/3/4/5/6/7/8/9
UNITS:	Speeds can be reported in one of the following units: MPH (miles per hour), KPH (kilometers per hour), knots, feet per second, and meters per second
UNIT RESOLUTION:	Speeds may be reported in whole numbers (Units) or Tenths
MESSAGE PERIOD:	N=0 (send speed report on each 30ms measurement interval); N=1-9999 (send speed report on nearest 30 ms measurement interval following a delay of N milliseconds)
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, 57600, 115200
SERIAL PORT DATA FORMAT:	None – no data output 'A' – Strongest Target only (continuous) 'AP' – Peak Speed only (continuous) 'B' – all indicators output (continuous) 'S' – current and peak speed/direction and unit status (continuous)
COMMUNICATIONS PROTOCOL:	RS-232

OPERATOR ACTIONS (defaults in bold)

TRANSMIT/ HOLD:	Turns the microwave transmitter On or Off
TARGET DIRECTION:	Report only Away, Closing, or Both (away and closing) target speeds
SPEED LOCK:	This command causes the target speed to be “locked” and reported as the locked speed in selected output formats (EF, B)
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)

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 minimum 15 mW nominal 25 mW maximum
POWER DENSITY:	1 mW/cm ² maximum at 5 cm from lens