GPS/GLONASS Odometer Sender

High quality GPS/GLONASS pulse sender for automotive applications

Simcom's GPS/GLONASS Odometer Sender (GOS) is a reliable calibration and recalibration free speed sender that provides distance travelled information in an independent manner. As there is no physical connection to a sensitive vehicle sender or Canbus system, vehicle warranties are unaffected using this unit.

Using data received from the GPS and GLONASS Satellite Constellations, the GOS unit calculates three dimensional ground speed and provides a pulsed output compatible with existing mechanical speed senders. No connection with a GSM network is required. This State-of-charge solution eradicates the dependency on vehicle specific parameters, thereby reducing installation time and eradicating the need for calibration and recalibration.

Powerful Performance

Designed for harsh automotive environments, the module features transient voltage protection on its power supply and short circuit protection on its outputs.

A 51 - channel acquisition engine with the ability to track 14 satellites simultaneously; enhanced receiver sensitivity and active antennas, results in fast time-to-first-velocity calculation as well as the ability to operate in the harshest RF environments such as canyons and cities.

Last known position and satellite information critical to fast start up are saved in case of power failure. Three dimensional velocity calculations are accurate to 0.2 km/h and pulse output rates are updated 5 times per second.

Compensation is provided for inaccuracies inpulse output that may occur due to loss of lock in tunnels and similar complex RF terrains. The proprietary compensation algorithm uses the positions at which lock was lost and then regained to estimate lost distance, which is then compensated for by increasing the output pulse rate until the lost distance has been regained.

The GPS/GLONASS Odometer Sender can be supplied with an Adhesive or Roof Mount GOS/GLONASS Antenna.

Rugged Hardware

The GOS is supplied in an ABS plastic enclosure that has been designed to be small that it can be incorporated in the wiring loom of most installations. Antenna connection for the active antenna is provided through a gold plated threaded SMA connector. The antenna is waterproof and is protected against UV radiation. The antenna is available in two options:

- Adhesive Mount, suitable for mounting on the interior of the vehicle, for example under the dashboard or rear windowsill
- Roof Mount for external mounting on the roof of the cab.

Power to the unit and pulse outputs are provided through four colour coded wires.

For optimum performance, the antenna should be mounted horizontally and upright; and should have a clear view of the sky.

A bi colour red/green LED is provided to give the user status information. At power on, after visually signalling the firmware version, the LED will begin to flash red at 2 Hz, indicating that the unit has power and is searching for satellites. When satellites have been acquired, the LED will remain red and on. The LED will flash green when the vehicle is moving.

GPS/GLONSASS Odometer Sender with Adhesive Mount Antenna

Key Features

Reduced installation times
Calibration and Recalibration-free
3-Dimensional speed calculation
Position and Velocity pin
Five updates per second
Transient voltage protection
Short-circuit protection
Loss-of-lock compensation
Fast start-up after power loss
Compact waterproof enclosure

Performance Specifications

Pulse rate: 5000 pulses per km (5000 ppk)
General: 14 channel tracking receiver
Update rate: 5Hz
Accuracy:
Horizontal < 5m (50%), < 8 (90%)
Altitude < 10m (50%), < 16m (90%)
Velocity < 0.06m/sec = 0.22km/h
Acquisition:
After loss of lock < 2s (90%)
Temporary loss of power < 10s (50%), < 13s (90%)
First time power applied < 38s (50%), < 42s (90%)
Operational limits:
Altitude: 18000m
Velocity: 300km/h

Ordering Information

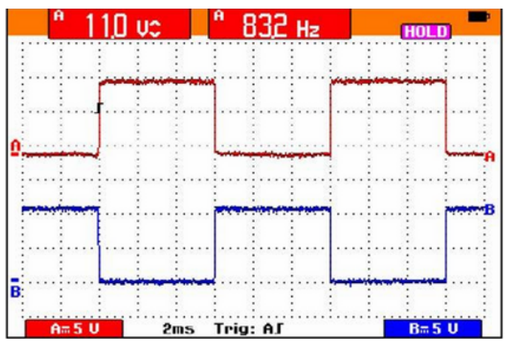
GOS/GLONASS Control Unit

GOS/GLONASS Adhesive Mount Antenna

GOS/GLONASS Roof Mount Antenna

Electrical Characteristics

Operating voltage: DC 9 - 30V
Absolute maximum voltage: 36V
Power consumption:
520mW
12V, 43 mA
24V, 21 mA
Output pulse:
Peak to Peak voltage: 8 - 29V (input voltage -1V)
On Time voltage: 8 - 29V (input voltage - 1V)
Off Time voltage: less than 250mV
Maximum current drain: 10mA
DO NOT SHORT THE OUTPUTS TO GROUND OR SUPPLY



Output pulses at 60km/h for 12V input voltage

Interface Specification

Power and pulse output:
Red - Input voltage (9 - 30V)
Black - Ground (0V)
Green - Pulse output
Blue - Inverted pulse output
RF interface (where applicable):
SMA (compatible connector supplied with antenna)
Adhesive or Roof Mount antenna options available

Physical Characteristics

GOS Control Unit: 46mm (L), 20kk (W), 12mm (H)
Antenna: 51mm (L), 42mm (W), 14mm (H)
Antenna Cable Length 1- 1.5m

Environmental Specifications

Operating temperature: - 40°C to + 85°C
Storage temperature: -55°C to + 105°C
Humidity: 5% to 95% R.H. noncondensing at 60°C

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Sourcewell Awarded Contract Contract #081524-CUL

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