

LASSEN DR+GPS

KEY FEATURES

- Instantaneous and accurate positions in deep urban canyons and dense forests.
- Continuous position outputs in tunnels, parking garages and on lower bridge decks.
- Reliable positioning for tracking high-value assets and for mapping RF field strength.
- Improves QoS and customer satisfaction and retention to maximize service revenue.

WHEN GPS ALONE IS JUST NOT GOOD ENOUGH

The Trimble® Lassen® DR+GPS combines dead reckoning (DR) with GPS to produce accurate and instantaneous positions, even under the most difficult conditions. For service providers tracking high-value or perishable cargo, Lassen DR+GPS dramatically improves quality of service (QoS) and customer satisfaction and retention, helping tracking service providers to maximize revenue opportunities.

Dead reckoning (DR) estimates position based on heading and distance traveled since the last known position. The more accurate the speed, time and heading inputs, the more accurate the dead reckoning. This is where GPS helps. GPS continuously calibrates the gyro and speed sensors to produce optimal dead reckoning.

Lassen DR+GPS accepts inputs from an analog gyro, an odometer pulse and a forward/reverse indicator. Its sophisticated DR+GPS algorithm auto-calibrates these sensors and optimally blends the sensor inputs and GPS to produce accurate position and velocity outputs in the most hostile GPS environments.



OVERVIEW

- DR positioning solution with integrated GPS receiver
- Available in kit and PCB module forms
- Supports both NMEA and Trimble binary protocols
- Automatic calibration of external sensor inputs

PERFORMANCE CHARACTERISTICS

Position Update Rate	1 Hz
Horizontal Accuracy	< 5 m
Altitude Accuracy	< 10 m
Velocity Accuracy	< 0.02 m/s
PPS	± 500 ns
TTFF (calibrated)	< 2 s

PROTOCOLS

Configurable	NMEA or Trimble binary
NMEA Messages	GGA, VTG, GSA, GSV, ZDA and RMC

LASSEN DR+GPS KIT

A Lassen DR+GPS module, gyro, backup battery and interface motherboard mounted in a rugged metal enclosure. DR operation requires external connections to a speed pulse and forward/reverse signal. The kit includes:

- Magnetic mount GPS antenna with 5m cable
- USB interface cable
- Vehicle interface cable
- AC/DC power supply
- Software toolkit and manual on CD-ROM

Prime Power	9 to 32 V DC
Operating Temperature	0 °C to 60 °C
Storage Temperature	-55 °C to +80 °C
Communication Interface	USB client
Vehicle Interface Connector	DB9
Antenna Connector	SMB
PPS Connector	BNC
Enclosure Dimensions without connectors	~173 mm x 102 mm x 38 mm ~6.8" x 4" x 1.5"

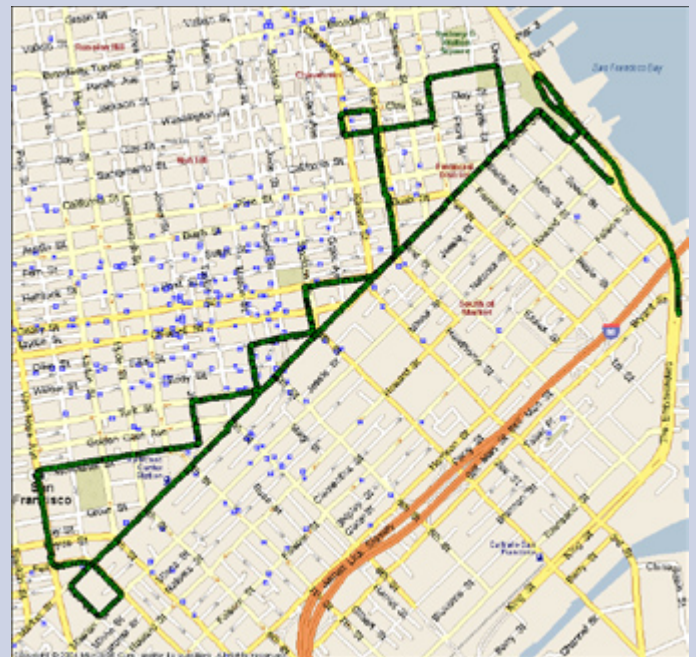
LASSEN DR+GPS MODULE

A PCB assembly suitable for integration in navigation, telematics and tracking systems. This module includes a sophisticated DR processor and requires external inputs from a gyro, speed pulse, reverse indicator, and ignition indicator.

Prime Power	3.3 ± 0.2 V DC 190 mW (typical)
Backup Power	2.5 to 3.6 V DC 30 µA @ 25 °C
Antenna Power	5.0 V DC
Operating Temperature	-40 °C to 85 °C
Storage Temperature	-55 °C to +100 °C
Interface and Power Connector	14-pin Micro Match (AMP Part Number 1-215079-4)
Antenna Connector	SMB or Fakra
PCB Dimensions (without RF connector)	~32 mm x 66 mm x 8.5 mm ~6.8" x 4" x 1.5"

ACCESSORIES

- Shield Kit – encapsulates the Lassen DR+GPS module in a sheet metal shield that protects the module from ESD and mechanical damage.
- Antenna – Compact, active, magnetic and non-magnetic antennas suitable for vehicle installations.



Downtown San Francisco Urban Canyon

Parts of this product are patent protected.

Trimble has relied on representations made by its suppliers in certifying this product as RoHS compliant.

Specifications subject to change without notice.

Trimble Navigation Limited is not responsible for the operation or failure of operation of GPS satellites or the availability of GPS satellite signals.

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