

S2525DR8

All-In-One High-Performance 167 Channel GNSS Dead-Reckoning Receiver Module

FEATURES

- 100% coverage
- Continuous position fix in tunnels
- Automatic sensor calibration
- 167 Channel GNSS C/A Code
- GPS / QZSS / SBAS and GLONASS or Beidou option
- Perform 16 million time-frequency hypothesis testing per second
- Open sky hot start 1 sec
- Open sky cold start 29 sec
- Cold start sensitivity -148dBm
- Tracking sensitivity -161dBm
- Accuracy 2.5m CEP
- Operating temperature -40 ~ +85°C
- RoHS compliant

The S2525DR8 GNSS Dead-Reckoning receiver module combines GNSS position data, gyroscope data (measuring turning angle), and odometer data (measuring distance traveled) to formulate position solution. This enables accurate navigation solution in poor signal environment or signal blocked area such as inside tunnels. The S2525DR8 is ideal for applications requiring accurate continuous navigation with 100% availability.

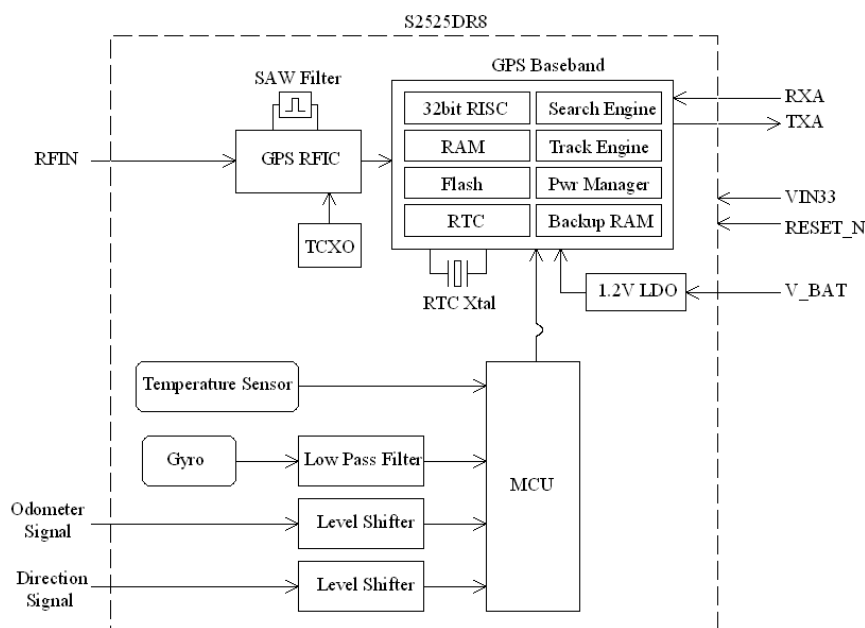
The Extended Kalman Filter algorithm combines GNSS and sensor data with weighting function dependent on GNSS signal quality. In poor signal reception area and multipath environment, the position error is reduced by dead reckoning.

The S2525DR8 features 167 channel GNSS receiver with fast time to first fix and improved -148dBm cold start sensitivity. The superior cold start sensitivity allows it to acquire, track, and get position fix autonomously in difficult weak signal environment. The receiver's -161dBm tracking sensitivity allows continuous position coverage in nearly all application environments. The high performance search engine is capable of testing 16,000,000 time-frequency hypotheses per second, offering industry-leading signal acquisition and TTFF speed.

Applications

- Automotive Navigation

The receiver is suitable for in vehicle car navigation system that requires high performance continuous navigation, low power, and low cost.



TECHNICAL SPECIFICATIONS

Receiver Type	C/A code 167-channel GNSS Venus 8 engine
Accuracy	Position 2.5m CEP Velocity 0.1m/sec Time 10ns
Startup Time	1 second hot start < 29 second warm start 29 second cold start
Reacquisition	1s
Sensitivity	-148dBm cold start -161dBm tracking
Update Rate	1Hz
Operational Limits	altitude < 18,000m or velocity < 515m/s
Serial Interface	3.3V LVTTTL level
Protocol	NMEA-0183 V3.01 SkyTraq binary 38400 baud, 8, N, 1
Datum	Default WGS-84 User definable
Input Voltage	5V DC +/-10%
Input Current	80~110mA
Dimension	25mm L x 25mm W
Weight:	3g
Operating Temperature	-40°C ~ +85°C
Storage Temperature	-55 ~ +100°C
Humidity	5% ~ 95%



ORDERING INFORMATION

Part Number	Description
S2525DR8	GPS/DR Receiver Module
S2525DR8-GL	GPS/GLONASS/DR Receiver Module
S2525DR8-BD	GPS/Beidou/DR Receiver Module

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