

S1216DR8P

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

FEATURES

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

The S1216DR8P GNSS Dead-Reckoning receiver module combines GNSS position data, gyroscope data (measuring turning angle), and optional 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 S1216DR8P is ideal for applications requiring accurate continuous navigation with 100% availability.

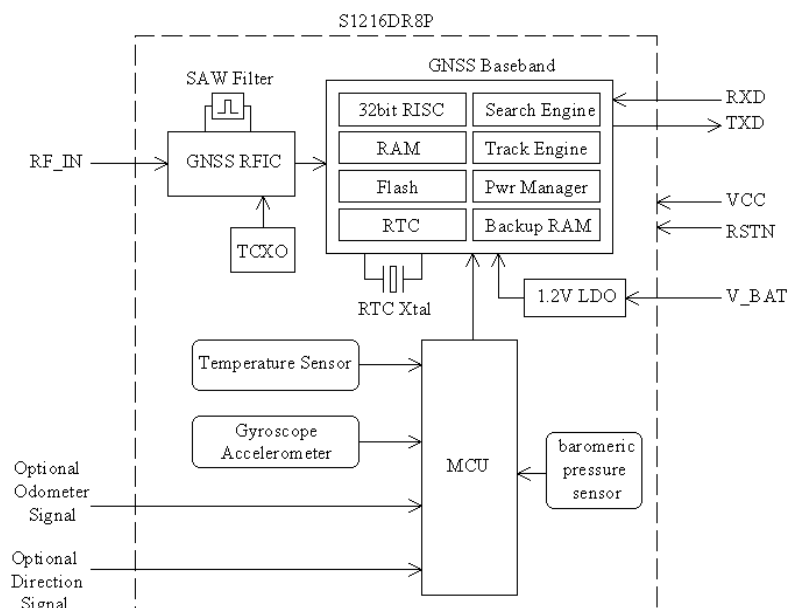
S1216DR8 can operate in Automotive Dead Reckoning (**ADR**) mode if the vehicle wheel-tick odometer signal is connected; or operate in Odometer-less Dead Reckoning (**ODR**) mode if the odometer signal is not connected. The barometric pressure sensor provides superior performance differentiating floor levels in stacked highway and multi-story parking garage.

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.

Applications

- Vehicle Navigation
- Vehicle Tracking

The receiver is suitable for navigation and tracking systems that require high performance continuous positioning and velocity data.



TECHNICAL SPECIFICATIONS

Receiver Type	C/A code 167-channel GNSS Venus 8 engine
Accuracy	Position 2.5m CEP Velocity 0.1m/sec Time 12ns
Startup Time	1 second hot start 28 second warm start 29 second cold start
Reacquisition	1s
Sensitivity	-148dBm cold start -165dBm tracking
Update Rate	1 / 2 / 4 / 8 / 10 Hz
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	3.3V DC +/-10%
Input Current	80mA
Dimension	16mm L x 12mm W
Weight:	2g
Operating Temperature	-40°C ~ +85°C
Storage Temperature	-55°C ~ +100°C
Humidity	5% ~ 95%



ORDERING INFORMATION

Part Number	Description
S1216DR8P	GNSS/DR Receiver Module

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