

JUPITER SL869-ADR

GNSS Standalone

GNSS Dead Reckoning Embedded



Product Description

The Jupiter SL869-ADR is an industry-leading standalone GNSS Automotive Dead Reckoning solution. It is equipped with features that include anti-jamming, 6-axis sensor MEMS, and a powerful GNSS core. With dead-reckoning, the SL869-ADR delivers the highest-performance positioning solution available—even when GNSS is absent or compromised. This multi-constellation, ultra compact module is ideal for telematics applications that require continuous and reliable accuracy for navigation and tracking.

The embedded 6-axis MEMS sensor simplifies integration with navigation systems. Dead Reckoning boosts the accuracy in areas with adverse GNSS conditions such as urban canyons, tunnels, parking garages, etc. When GNSS coverage is lost, our proprietary Dead Reckoning software fills in the gaps.

The SL869-ADR tracks GPS, Glonass, Beidou and is Galileo-ready. A-GNSS support includes onboard generation and server-generated file injection.

The SL869-ADR supports three dimensional Dead Reckoning (3D DR). 3D DR delivers uninterrupted navigation in the X,Y and Z axis when signals are blocked in difficult environments such as multi-level parking structures.

Key Features

- GPSS, GLONASS, Galileo, and Beidou
- 16 x 12.2 x 2.4 mm LLC package
- Supply voltage range: 3 - 3.6 VDC
- 6-axis embedded MEMS sensor
- Assisted GPS
- 10Hz Navigation, SBAS, 1PPS
- UART, I²C
- Wheel tick (Odo) input
- Reverse input

Key Benefits

- Multi-constellation allows accurate navigation in harsh environments such as urban canyons
- A-GPS support via Extended Ephemeris injection as well as Extended Ephemeris on-board generation for fastest TTFF
- Straightforward integration with a self-contained embedded MEMS solution
- Compatible with JN3 and the popular 12 x 16 mm industry standard footprint

Family Concept

The xL869 is Telit's GNSS Unified Form Factor family, enabling customers to select among different GNSS technologies. Modules in this family are offered in a 16 x 12.2 mm, 24-pad, LCC package supporting GPS, GLONASS, Galileo, and QZSS constellations.

Our robust positioning product portfolio reflects over twenty years of dedicated GNSS know-how. Telit has developed a range of products compatible with the GPS constellation as well as its Russian counterpart, GLONASS. Moreover, our portfolio is fully aligned with the upcoming service launch of Europe's Galileo constellation. Valuable features such as Dead Reckoning, Precision Timing, as well as speed and reliability assured by multi-constellation coverage, provide additional benefits for your telematics or automotive application.

Your application development effort can also benefit significantly from the seamless integration between Telit's cellular and positioning modules. This bundling of cellular and positioning modules significantly reduces development complexity without adding costs. Multi-constellation positioning products applied together with our eCall / ERAGLONASS compliant cellular modules bring you ready-to-use emergency automotive tracking solutions for the European and Russian markets.

Typical applications include fleet management systems, European GPS-assisted road tolling systems, cellular base stations, in-car navigation systems, automotive telematics systems, and GPS-based personal sports training monitors.

Combine your GNSS module with

Cellular modules



Short Range modules



www.telit.com

JUPITER SL869-ADR

Product Features

- Frequency Bands: GPS (L1), GLONASS (L1, FDMA), Galileo (E1), BeiDou (B1)
- Standards: NMEA, RTCM 104
- 48 Channel GNSS architecture
- Positional Accuracy (CEP50): 1.3 m
- Time To First Fix (@ -130 dBm)
 - Hot Start: 1 s
 - Cold Start: < 35 s
- A-GPS: local ephemeris prediction
- A-GPS: server predicted ephemeris
- Jammer rejection
- 3D Automotive Dead Reckoning
- Embedded 6-axis MEMS sensor (3D Gyro + 3D Accelerometer)
- ODO (Wheel Tick pulse) input
- Reverse input

Environmental

- Dimensions: 16 x 12.2 x 2.4 mm
- Weight: 1.8 g
- 24-pad LCC package
- Temperature Range
 - Operating temperature: -40 to +85°C
 - Storage temperature: -40 to +85°C

Interfaces

- 3 UARTs
- 1PPS
- EGNOS, WAAS and MSAS
- I²C

Electrical & Sensitivity

- Current consumption
 - Acquisition: 188mW (GPS+GLO)
 - Tracking: 158mW (GPS+GLO)
 - Hibernate: 221uW
- Power supply
 - VCC: 3.0 - 3.6 V
 - Battery: 2.5 - 3.6 V
- Sensitivity
 - Acquisition: -147 dBm
 - Navigation: -158 dBm
 - Tracking: -162 dBm



Join the Telit Technical Forum

For a quicker and more rewarding integration experience join the Telit Technical Forum. There you can browse the first open forum covering all IoT topics, get direct support by region (EMEA, North America, Latin America, APAC), take part in this quickly growing IoT community and exchange experiences.