

# JUPITER SL869-3DR

GNSS Standalone

GNSS Dead Reckoning Embedded



16 mm

## **Product Description**

The Jupiter SL869-3DR is an industry-leading standalone GNSS MEMS-only Dead Reckoning solution. It is equipped with features that include internal 7 degrees of freedom(7-DOF), a 6-axis inertial sensor, and pressure sensor. The SL869-3DR provides accurate positioning without relying on wheel tick input. This multiconstellation, ultra compact module is ideal for telematics applications that require flexible navigation and tracking solutions

The embedded 7-DOF MEMS sensors in conjunction with Telit's MoDR (MEMS-only Dead Reckoning) solution provides users with an unparalleled turn-key solution that delivers position, velocity, and time (PVT) whenever GNSS coverage is missing or compromised without the need to connect the device to the vehicle's sensors.

Dead Reckoning boosts the accuracy in areas with adverse GNSS conditions like urban canyons, tunnels, parking garages, etc.

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

The SL869-3DR provides a fully portable gap-free navigation solution that compensates for blocked or impeded GNSS conditions when needed most by Automotive, telematics, aftermarket, and fleet tracking applications.

## **Key Features**

- GPS, Glonass, Galileo and Beidou compatible
- 16 x 12.2 x 2.4 mm LLC package
- Supply voltage range: 3 3.6 VDC
- Embedded accelerometer, gyroscope and pressure sensor
- Antenna ON pin
- Antenna sense (open / short circuit)
- UART, I2C

# **Key Benefits**

- Dead Reckoning boosts the accuracy in areas with adverse conditions like urban canyons, foliage, parking garages, etc.
- AGPS support via Extended Ephemeris injection as well as Extended Ephemeris on-board generation for fastest TTFF
- Odometer-Less provides fully portable DR solution
- P2p compatible with SL869, SL869-DR, SL869-V3, SL869-ADR

## Family Concept

The xL869 is Telit's GNSS Unified Form Factor family which allows 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 multiconstellation 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 / ERA-GLONASS 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 vour Cellular module with

Short Range modules



GNSS modules



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Model	Constellations				Interfaces			MEMS		Features		
	GPS/ QZSS	GLONASS	Galileo	BDS	UART	I2C	WT/ Reverse	Pressure sensor	3D Gyro+ 3D Acc	ADR	MoDR	Ant ON+ sense
SL869-V3	•	•	•	•	•	•						•
SL869-3DR	•	•	•	•	•	•		•	•		•	•
SL869-ADR	•	•	•	•	•	•	•		•	•		•

# JUPITER **SL869**-3DR

**GNSS Standalone** 

## **Product Features**

- Frequency Band: GPS (L1), GLONASS (L1, FDMA), Galileo (E1), Beidou (B1)
- Standards: NMEA, RTCM 104
- 48 Channel GNSS architecture
- Positional Accuracy (CEP50): 1.5 m
- Time To First Fix (@ -130 dBm)
- Hot Start: 1 s - Cold Start: < 34 s
- A-GPS: local ephemeris prediction
- A-GPS: server predicted ephemeris
- Jammer rejection
- Dead Reckoning software
- Embedde 6-axis MEMS sensor (3D Gyro+3D accelerometer)
- Pressure sensor
- Antenna sense (open/short circuit detection)

## 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
- 12C

## **Electrical & Sensitivity**

- Current consumption
- Acquisition: 188 mWTracking: 158 mWStand-by: 218 uW
- Power supply
- VCC: 3.0 3.6 V
- Battery: 2.5 3.6 V
- Sensitivity
- Acquisition: -147 dBmNavigation: -158 dBmTracking: -162 dBm

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Telit Communications S.p.A. Via Stazione di Prosecco, 5/B I-34010 Sgonico (Trieste), Italy

Phone +39 040 4192 200 Fax +39 040 4192 383 E-Mail EMEA@telit.com Telit Wireless Solutions Inc. 3131 RDU Center Drive, Suite 135 Morrisville, NC 27560, USA

Phone +1 888 846 9773 or +1 919 439 7977
Fax +1 888 846 9774 or +1 919 840 0337
E-Mail NORTHAMERICA@telit.com

Telit Wireless Solutions Inc. Rua Paes Leme, 524, Conj, 126 05424-101, Pinheiros São Paulo-SP-Brazil

São Paulo-SP-Brazil

Phone +55 11 3031 5051

Fax +55 11 3031 5051

E-Mail LATINAMERICA@telit.com

Telit Wireless Solutions Co., Ltd. 8th Fl., Shinyoung Securities Bld. 6, Gukjegeumyung-ro8-gil, Yeongdeungpo-gu Seoul, 150-884, Korea

Seoul, 150-884, Korea

Phone +82 2 368 4600

Fax +82 2 368 4606

E-Mail APAC@telit.com



