JUPITER **SL869**-3DR

GNSS Standalone

GNSS Dead Reckoning Embedded

12.2 mm

2.4 mm

16 mm
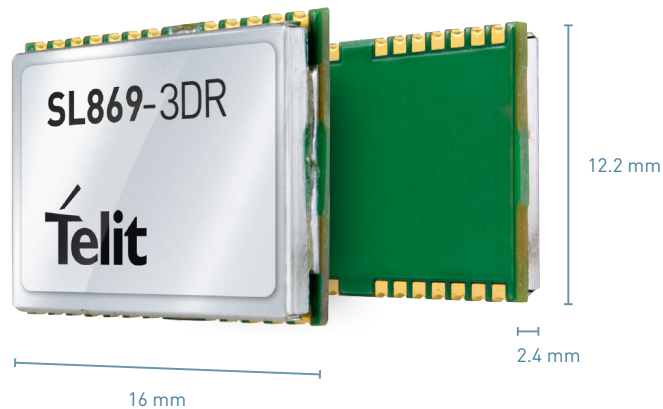
Product Description

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 multi-constellation, 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.

ENABLING THE IoT
IS WHAT WE DO.

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

- I2C

Electrical & Sensitivity

- Current consumption
  - Acquisition: 188 mW
  - Tracking: 158 mW
  - Stand-by: 218 uW

- Power supply
  - VCC: 3.0 - 3.6 V
  - Battery: 2.5 - 3.6 V

- Sensitivity
  - Acquisition: -147 dBm
  - Navigation: -158 dBm
  - Tracking: -162 dBm

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