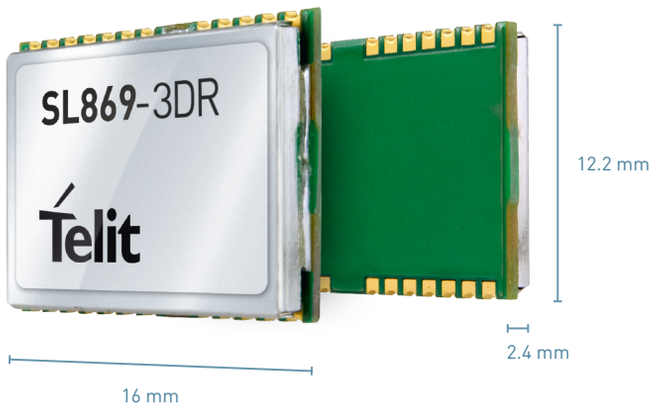
JUPITER **SL869**-3DR

GNSS Standalone

GNSS Dead Reckoning Embedded



Product Description

The Jupiter SL869-3DR is a new representative of the SL869 module family equipped with Telit MEMS-only Dead Reckoning software, internal 7-DOF (degrees of freedom) MEMS: 6-axis inertial sensor (3 axis accelerometer , 3 gyroscope) and pressure sensor with a powerful GNSS core. The SL869-3DR provides the host application with accurate estimates of PVT solution by combining speed and heading sensor data coming from the internal MEMS sensor, the wheel tick input is not mandatory. This makes the SL869-3DR the perfect solution for high accuracy applications that, for whatever reason, cannot be plugged to vehicle's sensors.

The embedded 7-DOF MEMS sensors in conjunction with Telit's MoDR (MEMS-only Dead Reckoning) solution provides user with anunparalleled turn-key solution that is able to output PVT solution 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 SL869-3DR is able to track GPS, Glonass, Beidou and Galileo constellations and supports A-GNSS onboard generation as well as A-GNSS server-generated file injection.

The SL869-3DR provides a fully portable gap-free navigation solution that compensates for possible difficult GNSS conditions for different applications like Automotive, telematics, aftermarket, and fleet tracking.

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 positioning product portfolio is the result of over twenty years of experience in GNSS applications. Telit has developed a range of products compatible with the well-known 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 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 your **Cellular** module with

Short Range modules

GNSS modules

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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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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.

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
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
Phone +82 2 368 4600
Fax +82 2 368 4606
E-Mail APAC@telit.com

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