



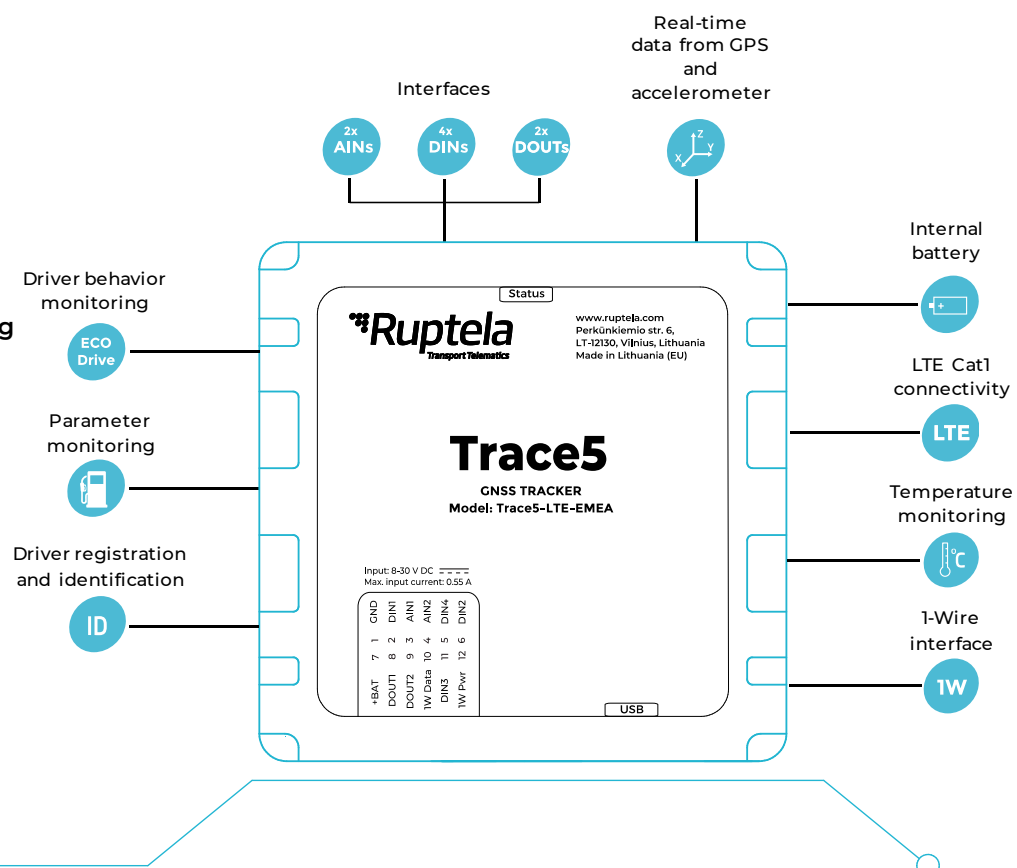
Trace5

Trace5 is a compact GNSS-based Automatic Vehicle Location (AVL) tracker with all essential features for vehicle tracking and fleet management. It acquires its position with a GNSS signal and transfers data to a server via cellular LTE Cat1 or GSM networks.

This GNSS tracker uses GSM (2G) and LTE Cat1 (4G) connectivity and a premium GNSS module from u-blox.

Applications

- Track & Trace
- Safety & Security
- Green fleet
- Delivery
- Service fleets
- Vehicle leasing and financing
- Car rental



Detailed specifications

Trace5-LTE-EMEA	Trace5-LTE-EMEA-IP67	Trace5-LTE-LA	Trace5-LTE-LA-IP67
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Environmental specifications

Temperature	Operating: -30 to +60 °C (-22 to 140 °F) Storage: -40 to +65 °C (-40 to 149 °F) Battery charging: 0 to +45 °C (32 to 113 °F) Battery discharging: -20 to +60 °C (-4 to 140 °F) Battery storage: -20 to +60 °C (-4 to 140 °F)
Relative humidity	5% to 95% Non-condensing

Electrical specifications

Power supply range	8 – 30 V DC
Internal battery	LiPo 3.7 V 190 mAh
Protections	Battery short circuit protection Reverse polarity protection Electrostatic discharge protection on USB Charging protection 2 A fuse on the power line

Average power consumption @ 12 V DC

Operating	Idle mode (battery fully charged): 33 mA* Active mode (peak): ~230 mA Sleep mode (lowest): ~3.5 mA * – configuration dependent value
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Connectivity

Cellular	Modem: Fibocom MC610-EU Antenna: Internal Bands (LTE-FDD): B1/3/7/8/20/28 Bands (GSM): 900/1800 MHz (GPRS multi-slot class 12)		Modem: Fibocom MC610-LA Antenna: Internal Bands (LTE-FDD): B1/2/3/4/5/7/8/28/66 Bands (GSM): 850/900/1800/1900 MHz (GPRS multi-slot class 12)	
GNSS module	Module: u-blox M8/M10 Antenna: Internal Positioning systems: GPS, GLONASS, Galileo Augmentation systems: QZSS, SBAS (WAAS, GAGAN, EGNOS, MSAS) Aided start services: AssistNow Online (A-GPS) Tracking sensitivity: -163 to -164 dBm (M8) / -167 to -168 dBm (M10) Reacquisition sensitivity: -156 to -160 dBm (M8) / -160 dBm (M10) Cold start duration: < 30 s Aided start: As low as 3 s (M8) / As low as 1 s (M10) Navigation update rate: 10 Hz Horizontal position accuracy: 2.5 m (CEP, 50%, 24 hours static, -130 dBm, > 6 SVs) (M8) / 1.5 m (CEP, 50%, 24 hours static, -130 dBm, >6 SVs for each GNSS system) (M10)	Module: u-blox M10	Module: u-blox M8/M10	Module: u-blox M10
BLE	-	Compliant with BLE v4.2 Classic and BLE specifications	-	Compliant with BLE v4.2 Classic and BLE specifications

Detailed specifications

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Interfaces

4 x Digital inputs (2 invertible)	Voltage range: 0 - 30 V DC Voltage threshold: 4 V DC Voltage threshold when inverted: 250 mV DC
2 x Analog inputs	Voltage range: 0 - 30 V DC Resolution: 12 bit
2 x Digital outputs	Maximum voltage: 32 V DC Maximum current: 1 A
1-Wire interface	Power output: 0 mA @ 4.87 V DC Power output: 100 mA @ 4.65 V DC Maximum cable capacitance: 4 nF
User interfaces	Mini USB interface Indication LED

Features

SIM card	Nano SIM
Device management	Monitor, manage, upgrade firmware, configure and troubleshoot devices remotely
Accelerometer	Built-in 3-axis (auto-calibrating, impact detection, motion sensing, tilt detection, g-force up to 4 g)

Certifications and ratings

Certifications	CE, E-Mark, CITC, IP67 (IP67 versions only)	FCC, Anatel	FCC, IP67
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Physical properties

Dimensions	65 x 61 x 22 mm (2.54 x 2.40 x 0.87")	95 x 77 x 29 mm (3.74 x 3.03 x 1.14")	65 x 61 x 22 mm (2.54 x 2.40 x 0.87")	95 x 77 x 29 mm (3.74 x 3.03 x 1.14")
Weight	70 g (2.47 oz)	185 g (6.52 oz)	70 g (2.47 oz)	185 g (6.52 oz)
Housing	Plastic (PC + ABS)	Plastic (PC), IP67 certified.	Plastic (PC + ABS)	Plastic (PC), IP67 certified.

Ordering information

Trace5-LTE-EMEA	Trace5 with LTE Cat1 and 2G fallback network support for the EMEA region
Trace5-LTE-EMEA-IP67	Trace5 with LTE Cat1 and 2G fallback network support for the EMEA region, IP67 housing
Trace5-LTE-EMEA-IP67 (Battery mounted)	Trace5 with LTE Cat1 and 2G fallback network support for the EMEA region, IP67 housing, two wire (power +/-) harness with fork type terminals and double-sided adhesive tape.
Trace5-LTE-LA	Trace5 with LTE Cat1 and 2G fallback network support for the LA region
Trace5-LTE-LA-IP67	Trace5 with LTE Cat1 and 2G fallback network support for the LA region, IP67 housing

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