



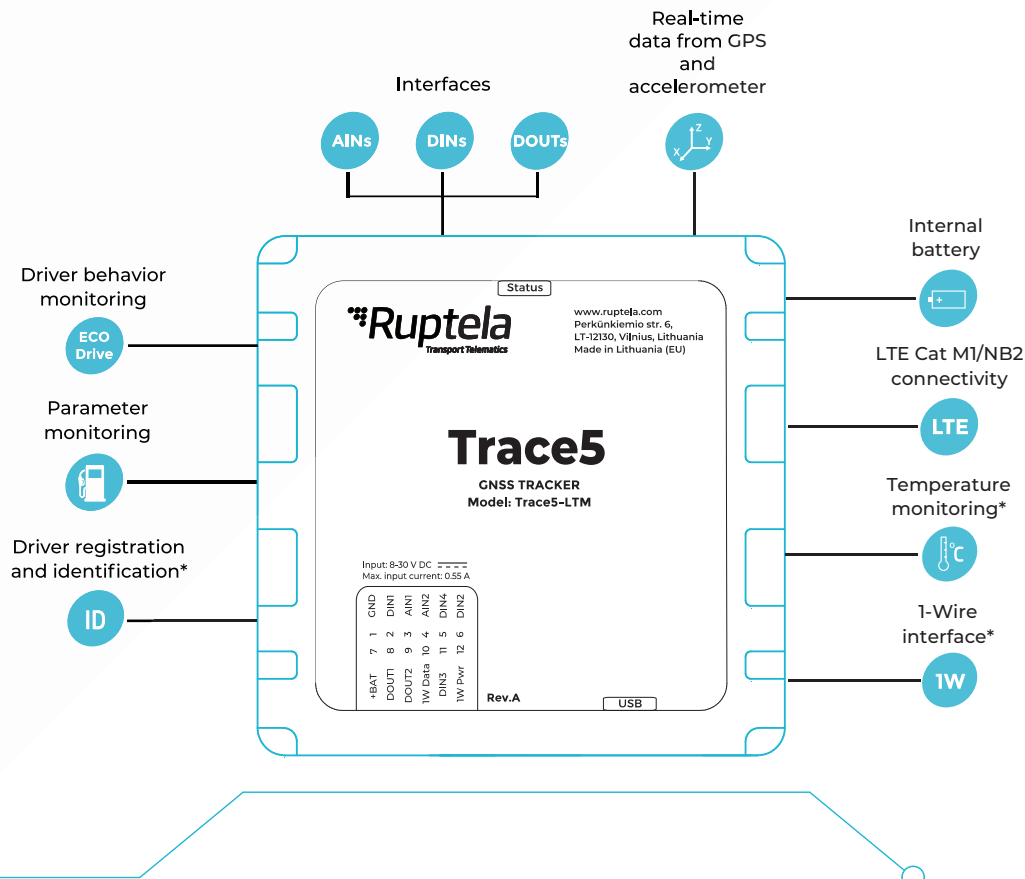
Trace5

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 Cat M1, NB-IoT or GSM networks. Trace5-LTM-IP67 (TT) version can last up to 36 days from battery with 5 hours reporting period, which makes it ideal for trailer tracking application.

This GNSS tracker uses 2G (GSM) and LTE Cat M1/NB2 (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



* – not available for pre-revision Trace5-LTM.

Detailed specifications

| Trace5-2G | Trace5-LTM | Trace5-LTM-IP67 |
|-----------|------------|-----------------|
|-----------|------------|-----------------|

Environmental specifications

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|--------------------------|--------------------------|-------------------------------|
| 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

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|---------------------------|---|---|
| Power supply range | 8 – 30 V DC | |
| Internal battery | LiPo 3.7 V 190 mAh) | LiPo 3.7 V 190 mAh or LiPo 3.7 V 3100 mAh (TT version) |
| Protections | Battery short circuit protection Reverse polarity protection Electrostatic discharge protection on USB Charging protection | |

Average power consumption @ 12 V DC

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|---------------------------------------|------------------------------------|-----------|
| Operating | Idle mode (battery fully charged): | 33 mA* |
| | Active mode (peak): | ~230 mA |
| | Sleep mode (lowest): | ~3.5 mA** |
| * – configuration dependent value | | |
| ** – 5 mA for pre-revision Trace5-LTM | | |

Connectivity

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|-----------------|---|--|
| Cellular | Modem: Quectel M95 Antenna: Internal (Quad-band) Frequency band @ GSM: 850/900/1800/1900 MHz (GPRS multi-slot class 12) | Modem: Quectel BG95-M3 Antenna: Internal Bands (Cat M1): B1/B2/B3/B4/B5/B8/B12/B13/B18/B19/B20/B25*/B26/B27*/B28/ B66*/B85* Bands (Cat NB2): B1/B2/B3/B4/B5/B8/B12/B13/B18/B19/B20/B25*/B28/B66*/ B71*/B85* Bands (GSM): 850/900/1800/1900 MHz (GPRS multi-slot class 33) * – available upon request |
|-----------------|---|--|

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|--------------------|---|
| GNSS module | Module: U-blox EVA-M8M Antenna: Internal Positioning systems: GPS, GLONASS, Galileo Augmentation systems: QZSS, SBAS (WAAS, GAGAN, EGNOS, MSAS) Aided start services: AssistNow Online (A-GPS) Tracking sensitivity: -154 to -164 dBm Reacquisition sensitivity: -152 to -160 dBm Cold start duration: < 30 s Aided start: As low as 3 s Navigation update rate: 10 Hz Horizontal position accuracy: 2.5 m (CEP, 50%, 24 hours static, -130 dBm, > 6 SVs) |
|--------------------|---|

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|--|-----------|------------|-----------------|
|--|-----------|------------|-----------------|

Interfaces

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|--|---|
| 4 x Digital inputs (2 invertible)¹ | Voltage range: 0 - 30 V DC Voltage threshold: 4 V DC Voltage threshold when inverted: 250 mV DC |
| 2 x Analog inputs² | Voltage range: 0 - 30 V DC Resolution: 12 bit |
| 2 x Digital outputs | Maximum voltage: 32 V DC Maximum current: 1 A |
| 1-Wire interface³ | 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 |

¹ – 1 x digital input (invertible) for pre-revision Trace5-LTM.

² – 1 x analog input for pre-revision Trace5-LTM.

³ – not available for pre-revision Trace5-LTM.

Features

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|--------------------------|--|
| SIM card | Micro 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 16 g) |

Certifications and ratings

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|-----------------------|---|
| Certifications | CE, E-Mark, CITC, PTCRB, FCC, IC, IP67 (IP67 versions only) |
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Physical properties

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| 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") |
| Weight | 70 g (2.47 oz) | 185 g (6.52 oz) or 242 g (8.53 oz) (TT version) |
| Housing | Plastic (PC + ABS) | Plastic (PC), IP67 certified. |

Ordering information

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| Trace5-2G | Trace5 with 2G network support |
| Trace5-LTM | Trace5 with global LTE Cat M1/NB2 and 2G fallback network support |
| Trace5-LTM-IP67 | Trace5 with global LTE Cat M1/NB2 and 2G fallback network support, IP67 housing |
| Trace5-LTM-IP67 (TT) | Trace5 with global LTE Cat M1/NB2 and 2G fallback network support, IP67 housing, big battery |

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