



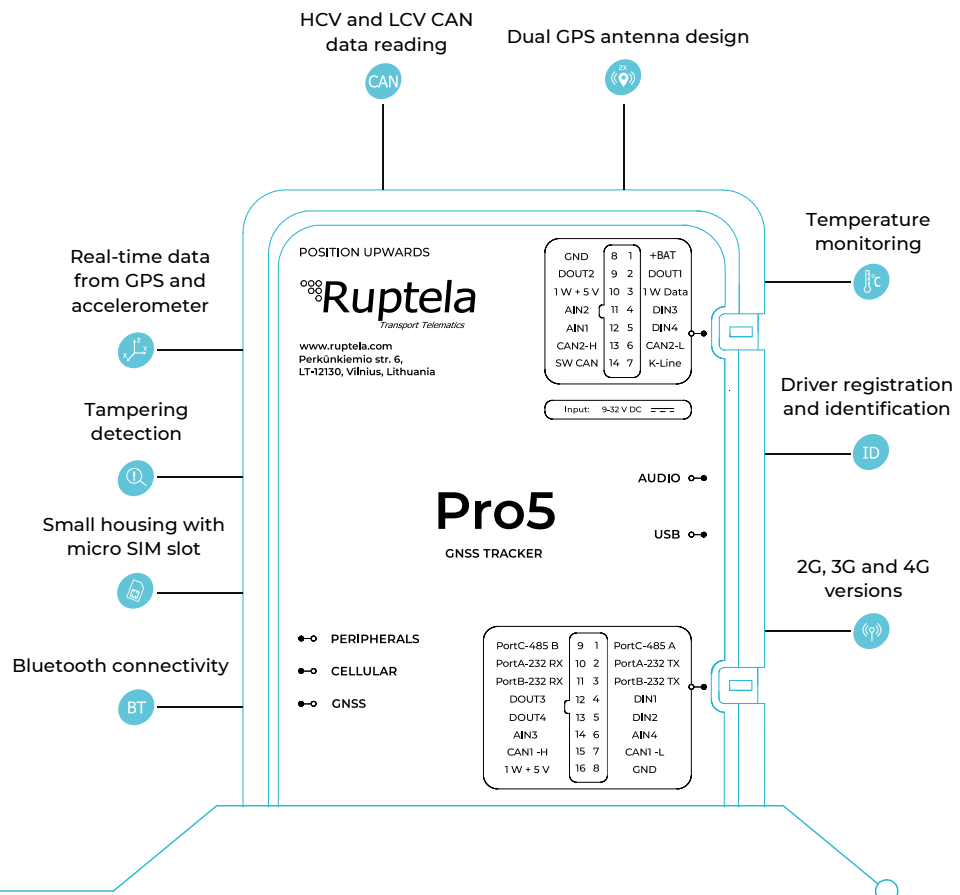
## Pro5

**Pro5** is an advanced GPS tracker for all types of vehicles – trucks, busses, agriculture, vans, cars, and other specialized machinery. It is designed for vehicle tracking and can perform advanced tasks – read on-board computer data (CAN), monitor driver behavior, manage fuel, etc.

The device is available in variations that use 2G (GSM), 3G (UMTS) and 4G (LTE Cat M1) networks and Bluetooth for communication.

## Applications

- Basic HCV CAN reading
- HCV fuel monitoring
- Driver behavior monitoring
- Safety and security
- Customizable with accessories



# Detailed specifications

## Environmental specifications

<b>Temperature</b>	Operating:	-20 to +60 °C
	Storage:	-20 to +45 °C
	Battery charging:	0 to +45 °C
	Battery discharging:	-20 to +60 °C
<b>Relative humidity</b>	5% to 95% Non-condensing	

## Electrical specifications

<b>Power supply range</b>	9 – 32 V DC
<b>Internal battery</b>	LiPo 3.7 V 1050 mAh
<b>Protections</b>	Battery and a 1-Wire power line short circuit protection Reverse polarity protection Electrostatic discharge protection on USB, SIM card slot and 1-Wire data line Overcurrent protection on a 1-Wire power line and digital outputs Overvoltage protection on analog inputs Charging protection

## Average power consumption @ 12 V DC

<b>Operating (battery fully charged)</b>	Normal operation (data sending interval ~15 s) :	~160 mA
	Normal operation (constant link enabled):	~155 mA
	Peak value:	~260 mA
<b>Sleep mode</b>	All modules disabled:	~6 mA
	Modem in sleep mode, other modules disabled:	~8 mA
	Modem enabled, other modules disabled:	~9 mA
	GNSS module enabled, other modules disabled:	~22mA

## Connectivity

<b>2G option</b>	Modem: Quectel M95 Antenna: Internal Frequency bands @ 2G (GSM): 850/900/1800/1900 MHz
<b>3G option</b>	Modem: Quectel UG96 Antenna: Internal Frequency bands @ 2G (GSM): 850/900/1800/1900 MHz Frequency band @ 3G (UMTS): 800/850/900/1900/2100 MHz
<b>LTE Cat M1 option</b>	Modem: Quectel BG96 Antenna: Internal Frequency bands @ 2G (GSM): 850/900/1800/1900 MHz Bands @ 4G (LTE Cat M1): B1/B2/B3/B4/B5/B8/B12/B13/B18/B19/B20/B28/B39 Bands @ NB-IoT (in development): B1/B2/B3/B4/B5/B8/B12/B13/B18/B19/B20/B28
<b>GNSS module</b>	Module: U-blox EVA-M8M Antenna: Internal and external (available as an additional accessory) 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
<b>Bluetooth module</b>	Module: NRF52832 Bluetooth version: 5.1 Low energy

## Detailed specifications

### Interfaces

<b>4 x Digital inputs</b>	Voltage range: 0 - 30 V DC Voltage threshold: 4 V DC Voltage threshold when inverted: 250 mV DC
<b>4 x Analog inputs</b>	Voltage range: 0 - 30 V DC Resolution: 12 bit
<b>4 x Digital outputs</b>	Maximum voltage: 32 V DC Maximum current: 1 A @ 25 °C
<b>3 x CAN interfaces</b>	High speed CAN interfaces: 2 Single-Wire CAN interfaces: 1 FMS, J1939, HCV CAN data reading
<b>3 x Serial ports</b>	RS232 ports: 2 (DFS, transparent channel, RFID) RS485 ports: 1 (DFS, transparent channel, J1708 data reading)
<b>1-Wire interface</b>	Power output: 100 mA @ 4.7 V DC iButton DS1990A, DS1971, up to 4 DS18B20 temperature sensors
<b>User interfaces</b>	Micro USB interface 3 x Indication LEDs 3.5 mm audio interface (not available for the LTE Cat M1 option)

### Features

<b>Internal storage</b>	8 MB
<b>External storage</b>	Up to 32 GB
<b>Accelerometer</b>	Built-in 3-axis (auto-calibrating, impact detection, motion sensing, tilt detection, g-force up to 4 g)

### Certifications and ratings

<b>Certifications</b>	E-mark, CE, FCC, IC, RoHS, WEEE, EAC (in progress)
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### Physical properties

<b>Dimensions</b>	102 x 74 x 23 mm
<b>Weight</b>	128 ± 1 g
<b>Housing</b>	Plastic

## Ordering information

<b>Pro5-2G-GL</b>	Pro5 with global 2G
<b>Pro5-2G-GL-BT</b>	Pro5 with global 2G and Bluetooth
<b>Pro5-3G-GL-BT</b>	Pro5 with global 3G and Bluetooth
<b>Pro5-LTM-GL-BT</b>	Pro5 with global LTE Cat M1 and Bluetooth

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Datasheet v1.2  
2020-09-01