



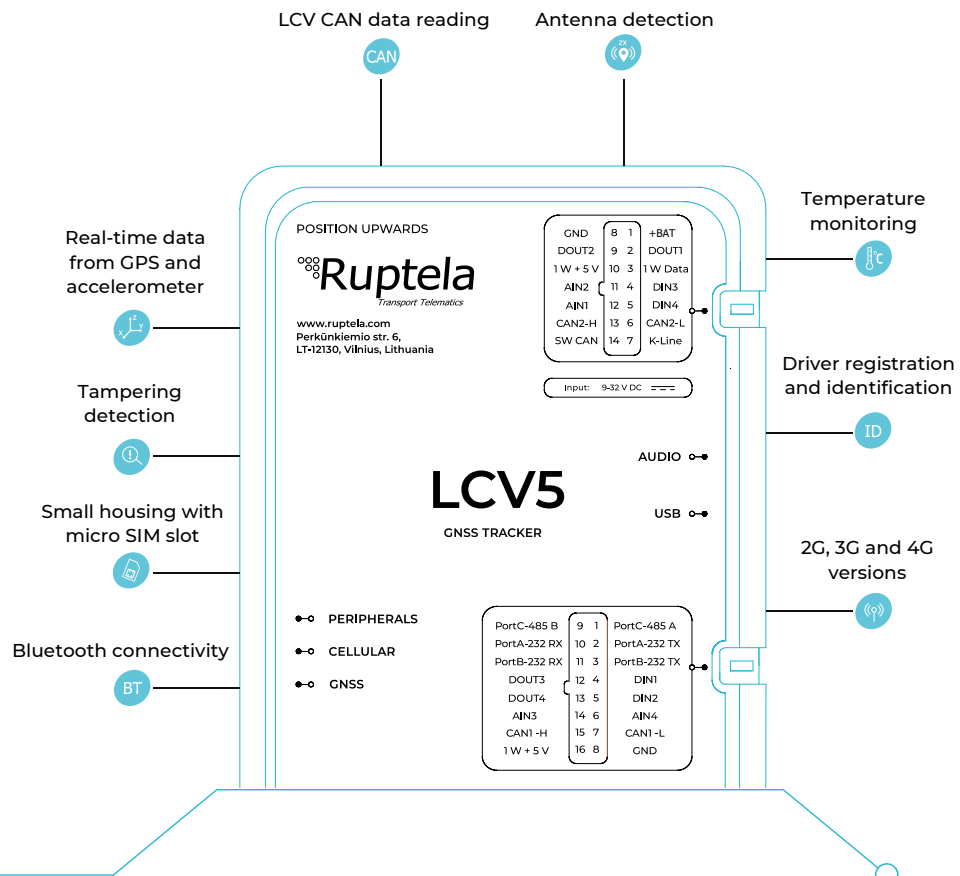
## LCV5

**LCV5** is an advanced GPS tracker for cars and light commercial vehicles. It is designed for vehicle tracking and can perform advanced tasks – read on-board computer data (CAN), read manufacturer specific OBD data, monitor driver behavior, manage fuel, etc.

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

## Applications

- Advanced OBD and CAN reading
- Applicable to business and private trips
- Driver behavior monitoring
- Safety and security
- Car sharing
- LCV fuel monitoring
- Real-time monitoring of fleets
- Fleet efficiency optimization
- Customizable with accessories



# Detailed specifications

## Environmental specifications

<b>Temperature</b>	Operating:	-20 to +60 °C
	Storage:	-20 to +60 °C
	Battery charging:	0 to +45 °C
	Battery discharging:	-20 to +60 °C
	Without battery:	-40 to +80 °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>	<ul style="list-style-type: none"> <li>Battery and a 1-Wire power line short circuit protection</li> <li>Reverse polarity protection</li> <li>Electrostatic discharge protection on USB, SIM card slot and 1-Wire data line</li> <li>Overcurrent protection on a 1-Wire power line and digital outputs</li> <li>Overvoltage protection on inputs</li> <li>Charging protection</li> </ul>

## Power consumption @ 12 V DC

<b>Operating (battery fully charged)</b>	Idle mode:	~80 mA
	Active mode (peak):	~130 mA
	Sleep mode:	~6 mA

## Connectivity

<b>2G option</b>	<ul style="list-style-type: none"> <li>Modem: Quectel M95</li> <li>Antenna: Internal</li> <li>Frequency bands @ 2G (GSM): 850/900/1800/1900 MHz</li> </ul>
<b>3G option</b>	<ul style="list-style-type: none"> <li>Modem: Quectel UG96</li> <li>Antenna: Internal</li> <li>Frequency bands @ 2G (GSM): 850/900/1800/1900 MHz</li> <li>Frequency band @ 3G (UMTS): 800/850/900/1900/2100 MHz</li> </ul>
<b>LTE Cat M1 option</b>	<ul style="list-style-type: none"> <li>Modem: Quectel BG96</li> <li>Antenna: Internal</li> <li>Frequency bands @ 2G (GSM): 850/900/1800/1900 MHz</li> <li>Bands @ 4G (LTE Cat M1): B1/B2/B3/B4/B5/B8/B12/B13/B18/B19/B20/B28/B39</li> <li>Bands @ NB-IoT: B1/B2/B3/B4/B5/B8/B12/B13/B18/B19/B20/B28</li> </ul>
<b>GNSS module</b>	<ul style="list-style-type: none"> <li>Module: U-blox EVA-M8M</li> <li>Antenna: Internal and external (available as an additional accessory)</li> <li>Positioning systems: GPS, GLONASS, Galileo</li> <li>Augmentation systems: QZSS, SBAS (WAAS, GAGAN, EGNOS, MSAS)</li> <li>Aided start services: AssistNow Online (A-GPS)</li> <li>Tracking sensitivity: -154 to -164 dBm</li> <li>Reacquisition sensitivity: -152 to -160 dBm</li> <li>Cold start duration: &lt; 30 s</li> <li>Aided start: As low as 3 s</li> </ul>
<b>Bluetooth module</b>	<ul style="list-style-type: none"> <li>Module: NRF52832</li> <li>Bluetooth version: 5.1 Low energy</li> </ul>

## 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 LCV CAN, OBD data reading (including proprietary manufacturer data) 2 interfaces can be used simultaneously (2 x High speed or 1 x High speed + Single-Wire)
<b>K-Line interface</b>	OBD parameter and DTC reading
<b>3 x Serial ports</b>	RS232 ports: 2 (DFS, transparent channel, RFID) RS485 ports: 1 (DFS, transparent channel)
<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 (in progress), CE, FCC, IC, RoHS, WEEE, EAC (in progress)
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### Physical properties

<b>Dimensions</b>	101 x 74 x 23 mm
<b>Weight</b>	128 ± 1 g
<b>Housing</b>	Plastic

## Ordering information

<b>LCV-2G-GL-BT</b>	LCV5 with global 2G and Bluetooth
<b>LCV-3G-GL-BT</b>	LCV5 with global 3G and Bluetooth
<b>LCV-LTM-GL-BT</b>	LCV5 with global LTE Cat M1 and Bluetooth

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