

# R-10 Vehicle Tracker



## Features

- Power input detection with ISO 7637
- External power lost detection
- Configurable I/O
- Up to 5 roaming partners can be configured
- Angle/distance based tracking
- Accurate distance measurement using GPS data
- Multi-tasking allows sending/receiving GPS/GSM data while monitoring the I/O
- 3 axis G-sensor with collision detection
- Upload firmware/configuration over the air
- 1 wire solution (Driver ID)
- Temperature/fuel/air pressure sensor

## Specifications

<b>PHYSICAL CHARACTERISTICS</b>	
Unit Size	118 x 77 x 30 mm (L x W x H)
Weight	280 g (±10 g)
Housing	Aluminum case
<b>Environmental Characteristics</b>	
Operational Temperature	-25°C ~ +70°C (board temperature)
Battery	-20°C ~ +60°C
I/O	<ul style="list-style-type: none"> <li>• 8 digital outputs (200mA max)</li> <li>• 4 digital inputs (high voltage)</li> <li>• 3 digital inputs / outputs (low voltage +3.3 Volt MAX)</li> <li>• 2 analog inputs (10 Bit)</li> <li>• 1 RJ45 port for serial RS232</li> <li>• 1 direct GPS output RS232 (9600 Baud)</li> <li>• 1 voice I/O connector</li> </ul>

<b>ELECTRICAL CHARACTERISTICS</b>	
Input Voltage	+9~+37 Volt DC regulated / 2A-MAX (GSM Transmit)
Power Consumption	<ul style="list-style-type: none"> <li>• 12 Volt – 100mA~320mA (GPS “Online”, GSM/GPRS “Online”)</li> <li>• 12 Volt – 60mA (GPS “Online”, GSM “Standby”)</li> <li>• 12 Volt – &lt;20mA (GPS “Power Down”, GSM “Standby”)</li> </ul>
Backup Power	Li-ion Battery – 1100mA
Memory Backup	2 Mbytes Flash Memory

<b>GPS SPECIFICATIONS</b>	
<b>Receiver Performance Data</b>	
Receiver Type	<ul style="list-style-type: none"> <li>• 50-channel u-Blox 5 engine</li> <li>• GPS L1 C/A code</li> <li>• GALILEO L1 Open Service (with upgrade)</li> </ul>
SBAS	WAAS, EGNOS, MSAS, GAGAN

Accuracy	Position 2.5m CEP SBAS 2.0m CEP
<b>Acquisition (Open sky, stationary requirements)</b>	
Cold Start	29 sec (Open Sky) – Can be between 1-3 minutes or more
Warm Start	29 sec
Hot Starts	< 1sec
<b>Sensitivity</b>	
Tracking	-160 dBm
Reacquisition	-160 dBm
Cold Starts	-144 dBm
Operation Velocity Limits	515 m/s (1000 knots)
Powered by the 50-channel u-Blox 5 positioning engine, the module boasts a Time-To-First Fix of less than 1 second. The dedicated acquisition engine, with over 1 million correlates, is capable of massive parallel time/frequency space searches, enabling it to find satellites instantly. Innovative design and technology suppresses jamming sources and mitigates multipath effects, giving u-Blox 5 GPS receivers excellent tracking performance even in the most challenging environments.	

<b>GSM SPECIFICATIONS</b>	
Frequency Bands	<ul style="list-style-type: none"> <li>• Supports GSM Tri-Band or Quad-Band.</li> <li>• Can search the 4 frequency bands automatically. The frequency bands also can be set by AT command.</li> <li>• Compliant to GSM Phase 2/2+</li> </ul>
GSM Class	Small MS
Transmit Power	Class 4 (2W) at EGSM 900 Class 1 (1W) at DCS 1800 and PCS 1900
GPRS Connectivity	GPRS multi-slot class 8 (optional) GPRS multi-slot class 10 (default) GPRS mobile station class B
DATA GPRS CSD	<ul style="list-style-type: none"> <li>• GPRS Data Downlink Transfer : Max 85.6 kbps</li> <li>• GPRS Data Uplink Transfer : Max 42.8 kbps</li> <li>• Coding Scheme : CS-1, CS-2, CS-3 and CS-4</li> <li>• Supports the protocols PAP (Password Authentication Protocol) usually used for PPP connections.</li> <li>• Integrates the TCP/IP protocol.</li> <li>• Support Packet Switched Broadcast Control Channel (PBCCH) CSD transmission rates : 2.4kbps, 4.8kbps, 9.6kbps, 14.4kbps, and non-transparent Unstructured - Supplementary Services Data (USSD) support</li> </ul>
SMS	<ul style="list-style-type: none"> <li>• MT, MO, CB, Text and PDU mode</li> <li>• SMS storage : SIM card</li> </ul>
FAX	Group 3 Class 1
SIM Interface	Supports SIM card : 1.8V, 3V
External Antenna	Connected via 50 Ohm antenna connector or antenna pad
Audio Features	Speech Codec Modes : Half Rate (ETS 06.20) Full Rate (ETS 06.10) Enhanced Full Rate (ETS 06.50 / 06.60 / 06.80) Echo Suppression