

TAROS SOFTWARE

BALLAST▶40

LTE-M (Cat-M1)/NB-IoT

Compact and affordable vehicle tracking device featuring simple plug-and-play installation and backup battery for real-time fleet management, driver safety and behavior monitoring, theft recovery, and more



Real-Time Tracking

High-precision GPS/GLONASS tracking device plugs into existing OBDII ports



Backup Battery

Internal backup battery – if the device is removed from power it will continue to track for a period of time



Critical Alerts

Unplugged/power loss alerts to notify users of device removal, tampering, unauthorized trips, or theft



Driver Behavior

Speeding, harsh braking and cornering, accident and rollover detection



Run Hour Monitoring

Electronic Odometer Calculations



Movement-Based Tracking

Accelerometer for adaptive and movement-based tracking



Plug-and-Play

Plug and play or splitter installation options for covert install

Connectivity

	Nordic nRF9160 Modem operates on all major global LTE-M and NB-IoT bands
Cellular Module	Supported LTE bands: LTE-M (Cat-M1): B1, B2, B3, B4, B5, B8, B12, B13, B14, B17, B18, B19, B20, B25, B26, B28, B66 NB-IoT (Cat-NB1/NB2): B1, B2, B3, B4, B5, B8, B12, B13, B17, B19, B20, B25, B26, B28, B66
SIM Size & Access	Internal Nano 4FF SIM

Location

GNSS Module	ublox EVA-M8Q with TCXO
Constellations	Concurrent GPS / GLONASS / Galileo
Channels	72 Channel High Sensitivity Receiver
Tracking Sensitivity	-167dBm industry-leading tracking performance
*Location Accuracy	~2.0m CEP, 50%, 24 hours static, GPS, SBAS, -130dBm, > 6SVs
GNSS Assistance	GNSS almanac data for greater sensitivity and position accuracy
Low Noise Amplifier	GPS signals are boosted by a unique low-noise amplifier (LNA) allowing operation where other units fail

*Results vary based on real world conditions. Device configuration, installation, environmental conditions, augmentation services, and many other factors may lead to variations in positioning accuracy.

Power

Input Voltage	8-33V DC (max). OBDII connector draws power from vehicle's OBD port.
Self-Resetting Fuse	Built-in self-resetting fuse makes installation simple and safe. Stringent automotive power "load dump" tests are conducted to ensure operation in the harshest electrical systems.
Operating Current	~25/50mA when moving
Sleep Current	<1mA
Backup Battery	200mAh LiPo internal backup battery pack

Mechanics / Design

Dimensions	71 x 46 x 24 mm (2.8 x 1.81 x 0.94)
Weight	48 g (1.69 oz)
Housing	ABS Polycarbonate Plastic. Non-branded housing for optional white-labeling.
Operating Temperature	-30°C to +60°C
Installation	OBDII standard connector draws power from the OBDII port to operate
Cellular Antenna	Internal
GPS Antenna	Internal
RF Antenna	Internal
3-Axis Accelerometer	3-Axis Accelerometer to detect movement, high G-force events, and more
Diagnostic LED	Diagnostic LED signifies operation status
Flash Memory	Store weeks of records if device is out of cellular coverage. Storage capacity for over 10 days of continuous 30-second logging.
On-Board Speed and Heading	The device continuously monitors speed and heading, allowing for over-speed alerts as well as updates on speed and heading changes.
On-Board Temperature	The device reports internal temperature and prevents the internal battery from charging in extreme temperatures. Internal temperature provides an indication of ambient temperature but may not always be precise.

Smarts

Auto-APN	Auto-APN allows the device to analyze the SIM card and select the correct APN details from a list that is pre-loaded in the device's firmware
Accident & Rollover Detection	Configure accident and rollover alerts triggered by extreme changes in velocity and orientation of vehicle or equipment. Second-by-second GPS data is saved on the device's flash memory, with a capacity of approximately 2 hours of data. In the event of an accident, a subset of the data (60 seconds before / 10 seconds after) is uploaded to the server automatically (if configured) or can be requested manually for a detailed reconstruction of the incident.
Driver Safety & Behavior	Monitor speeding, harsh acceleration, braking, cornering, idling, and more to improve safety and prevent unnecessary wear on vehicles
Geofence Alerts	The server can use device location to create geofences and alerts if an asset enters or leaves designated locations
Preventative Maintenance	Set reminders based on distance traveled and run hours to reduce maintenance and repair costs
Real-Time Tracking	Device remains continuously connected while on the move for real-time asset tracking
Run Hour Monitoring	Calculate run hours and distance traveled (odometer) to understand and optimize asset utilization
Tamper/Removal Detection	Critical 'unplugged/power loss' alerts to notify users of device removal, tampering, unauthorized trips, or theft
Theft Recovery	Switch to Recovery Mode in the case of theft or loss to activate real-time tracking for asset retrieval

Device Management

Flexible Configuration	Configure device parameters such as position update rate, movement, and accelerometer settings, and more to fit any tracking application
Device Management Platform	Manage, monitor, configure, debug, update, and restart devices remotely from our cloud-based device management system
Configuration App	Configurable with DM-Link provisioning tool

Integration

Third-Party Integration	TCP Direct or HTTPS Webhook
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Security

Data Security	Military-level AES-256 Encryption from device to Device Manager to protect the integrity and confidentiality of telematics data. Data forwarded to third-party systems is sent via HTTPS for end-to-end security.
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Warranty

Manufacturer's Warranty	Two-year manufacturer's warranty.
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