

## VEHICLE TELEMATICS

# Vehicle Gateway L

LTE-Based On-Road IoT Enabler with CAN Capabilities and Short-Range Communication (Low Energy) Connectivity

The **Vehicle Gateway L** is Powerfleet's mid-level fleet IoT and security enabler, operating on the LTE network. This high quality, cost-effective, and easy-to-install device features LED indicators, CAN capabilities, and built-in short range communication (low energy) connectivity to support sensor integration and advanced mobilisation control with short range communication (low energy) fobs.

Designed for security applications, it is purposebuilt to communicate even without relying on a dedicated power source.

It includes features such as collision detection, enhanced driver behaviour monitoring, and built-in motion sensors, which enable movement and towing detection to ensure improved compliance with vehicle security requirements.

Powerfleet's Vehicle Gateway L, integrates with Unity, our SaaS-based fleet intelligence platform that ingests, processes, and enriches data from every asset, vehicle, and person, and helps increase visibility, identify safety

risks, reduce theft, meet compliance, enhance billing, simplify maintenance and more.



## Key features



LTE CAT M1 with 2G fallback (worldwide), LTE CAT 1 with 2G fallback (EMEA, SA), LTE CAT 1 with 2G+3G fallback (LATAM).



CAN 2.0 OBD-II and J1939-compatible to obtain data from the vehicle's CANBUS (vehicle status, fuel level, tyre status etc.) with configurable data sampling rules.



Enhanced driver behaviour monitoring capabilities including harsh acceleration, harsh braking, harsh turn, over speeding and accident detection powered by onboard accelerometer.



A large capacity rechargeable backup battery (1000mAh)



Memory that can store up to 7400 logged events in offline scenarios.



I/Os: configurable inputs and outputs including:  
Ignition switch | RS-232 serial port | 1-wire interface  
One multipurpose GPIO, configurable either as digital input or output (supports gradual immobilisation) |  
One multipurpose input, that can be configured as digital/analog/frequency



Additional advanced capabilities:  
Up to 100 Geo-Fences | Up to 100 Driver IDs (whitelisting) | Cell-ID based geo location (alternative to GNSS when not available) | Curve smoothing



Supports wireless personal area networks (WPAN) for Powerfleet and third-party sensor integration, supporting long-range connectivity of up to 16 paired or 100 broadcast sensors, plus short-range communication (low energy) fob presence detection for mobilisation control.



Crash detection, enhanced driver behaviour & towing detection.



## Designed to Revolutionise Your Fleet Operations

The **Vehicle Gateway L** offers a broad array of business-relevant fleet management features designed to revolutionise your operations:



Improve security



Enable recovery capabilities



Reduce safety incidents



Shrink operating costs



Mitigate liability



Increase longevity of assets



Achieve sustainability goals



Adhere to compliance standards

# Technical Specifications

## Cellular Communication

Modem	LTE CAT M1 with 2G Fallback (Worldwide)	LTE CAT-1 with 2G Fallback (EMEA, SA)	LTE CAT-1 with 2G+3G Fallback (LATAM)
Supported Technologies & Bands	<ul style="list-style-type: none"><li>CAT M1: B1, B2, B3, B4, B5, B8, B12, B13, B18, B19, B25, B26, B27, B28, B66, B71, B85</li><li>2G Bands: B2, B3, B5</li></ul>	<ul style="list-style-type: none"><li>CAT M1: B1, B2, B3, B4, B5, B8, B12, B13, B18, B19, B25, B26, B27, B28, B66, B71, B85</li><li>2G Bands: B2, B3, B5</li></ul>	<ul style="list-style-type: none"><li>CAT M1: B1, B2, B3, B4, B5, B8, B12, B13, B18, B19, B25, B26, B27, B28, B66, B71, B85</li><li>2G Bands: B2, B3, B5</li></ul>
Data Rates	LTE CAT M1: uplink up to 375 kbps, downlink up to 300 kbps LTE CAT-1: uplink up to 5 Mbps, downlink up to 10 Mbps 2G (EGPRS): uplink up to 236 kbps, downlink up to 296 kbps		
SIM Card Compatibility	Nano SIM		
Antenna	Internal		
Pocket Data	TCP/IP or UDP/IP		
SMS	PDU		

## Local Communication Interfaces

Short-range communication (low energy)	Shor-range communication (low energy), Wireless Connectivity, with PC & Smartphones
RS-232 Port	Wired Serial Communication, 9600 bps or 115000 bps, 8 bits; 1 Stop Bit; No Parity. May be used for Configuration Update/Firmware Upgrade.
1-Wire™ (Dallas Port)	DS1990A, DS1971 compliant for driver management. Extended bus current soruce with 7mA driving capability, DS18B20 compliant for temperature sensors.
CAN	CAN-H / CAN-L ISO 11898-1 to -6 Standard Data Bus interface (CAN variant only)

## Global positioning

Sensitivity	Acquisition: -148 dBm Tracking: -165 dBm Reacquisition: -162 dBm
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## Technical Specifications (cont'd)

TTFB	Cold Start: <30s Warm Start: <2s Hot Start: <2s
Antenna	Internal

### Configurable Inputs / Outputs

Configurable GPIO Connector Pin 3	<ul style="list-style-type: none"><li>As Input: Digital "Wet" Input: 0-30V DC</li><li>As Output: Open Drain Sink Output (250 mA max)</li></ul>
Configurable Analog Input Connector Pin 5	<ul style="list-style-type: none"><li>Dry Contact Input: Sink to GND</li><li>Digital "Wet" Input: 0-30V DC range, Configurable Threshold</li><li>Frequency Counter: 0-5kHz (speed and RPM) range</li></ul>

### Accelerometer

Internal	3D, 16g range, 12-bit representation, 1mg resolution
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### User Interface

Dual Color LED	GNSS Status LED & Cellular Connectivity Status LED. Operates only during installation and shuts off after installation completion.
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### Power

Input Voltage (Vehicle Power)	9-32VDC
Average Current Consumption, 12V Power Installation	Normal (during idle with short-range communication (low energy) on): 19mA Hibernation with short-range communication (low energy) ON: 3.3mA Hibernation with short-range communication (low energy) OFF: 2.1mA Shipment (Off): <20uA (Internal Battery)
Internal Backup Battery	Li-Ion Polymer, 3.7V, 1000mAh, rechargeable Embedded NTC for temperature-controlled charging Operating Temperature: -20°C (65% charge) to +60°C Charging Temperature: 0°C to +45°C Autonomy: 140 messages from a fully charged battery in a TX Rate of once per 5 Minutes @ room temperature

## Technical Specifications (cont'd)

### Vehicle Environment Immunity

Immunity	Compliant with ISO 7637 till test level #4 (in accordance with E-mark directive)
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### Applicable Environmental Conditions

Charge	0~55°C (32~131°F) 60±25% R.H.
Discharge	-20~60°C (-4~140°F) 60±25% R.H.
Humidity	95% non-condensing
Ingress Protection	IP40
Protector Sleeve	Upgradable to IP 66 with added protector accessory
Climatic, Vibration, Impact	ISO 16750

### Vehicle Installation Methods

Harnesses	Plug-n-play OBD-II Peripheral OBD-II Wired *Y-adapters and converters available
Mounting	Tie-Wraps and/or Double-Sided Adhesive Tape

### Certifications

FCC	Part 15 Subpart B + C, part 22/24 compliant
PTCRB	All Applicable Bands
CE	Radio Equipment directive (RED) 2014/53/EU CE EMC Article 3.1 (b) Electromagnetic Compatibility CE Radio Article 3.2 Effective use of Spectrum CE Safety Article 3.1 (a) Health & Safety Automotive Directive 2004/104/EC (E-Mark)
IC	Industrial Canada

# Technical Specifications (cont'd)

## Environmental Protection

RoHS	Directive 2011/65/EU, including Directive (EU) 2015/863 amendment
Conflict Minerals Law	Production Conformity with U.S. Conflict Materials provisions of the Dodd-Frank Wall Street Reform and Consumer Protection Act, HR 4173, Section 1502 (Conflict Minerals Act)

## Dimensions and Weight

Dimensions	90.8 × 70.5 × 22.9 mm (3.57 × 2.77 × 0.90in)
Weight	130gr (4.58 oz) (unpacked, without harness, battery included)

## Features

Movement	3D Accelerometer
Use Cases	Vehicle utilisation reporting class 1-6 vehicles, driver productivity and safety reporting, fuel efficiency and usage reporting, backup recovery/SVR
Capabilities	OBD-II and J1939 CAN signal detection (up to 35 parameters), Trip Detection, Driver Identification with white listing, Driver Behaviour event detection, Ignition Status (motion or ignition wire), Speeding, Idling, Odometer, Open short-range communication (low energy) Sensor Integration, GPIO Integration, FOTA
Geofence	Up to 100 Geofences, Up to 100 driver whitelist

Powerfleet (Nasdaq: PWFL; JSE: PWR; TASE: PWFL) is a global leader in the artificial intelligence of things (AIoT) software-as-a-service (SaaS) mobile asset industry. With more than 30 years of experience, Powerfleet unifies business operations through the ingestion, harmonisation, and integration of data, irrespective of source, and delivers actionable insights to help companies save lives, time, and money. Powerfleet's ethos transcends our data ecosystem and commitment to innovation; our people-centric approach empowers our customers to realise impactful and sustained business improvement. The company is headquartered in New Jersey, United States, with offices around the globe. Explore more at [www.powerfleet.com](http://www.powerfleet.com).