

# DataLogger 980 - 4G LTE CAT4/3G UMTS Mobile WiFi Hotspot

## Vehicle Data + WiFi Hotspot Connectivity On The Go!

Danlaw's DL980 is a powerful in-vehicle, OBD2 connected WiFi hotspot, designed to meet the specific needs of connected car and telematics applications. The DL980 enables the vehicle with an easy to install, mobile WiFi hotspot for passengers to connect to the internet on the road. In addition to its WiFi hotspot support, the DL980 supports dedicated APN connectivity for secure critical vehicle, sensor, and position data for enterprise solutions including insurance, fleet and prosumer connected car applications.

The DL980 enables enterprise solution providers with the ability to securely capture and transmit vehicle data via OBD2, along with high resolution GNSS position, accelerometer, and gyrometer information, while offering a mobile WiFi hotspot for passengers.

### Product Highlights

- Small form factor 4G LTE CAT 4 WiFi Hotspot
- BLE 4.2 bluetooth connectivity
- OBD-2 vehicle data capture (1996-present)
- Embedded TLS1.2 security
- Back-up Battery for Real-Time Disconnect Event & Last Gasp
- High Resolution GNSS, 3D Accelerometer & 3D Gyrometer
- Self-installed – plug-n-go



### Markets

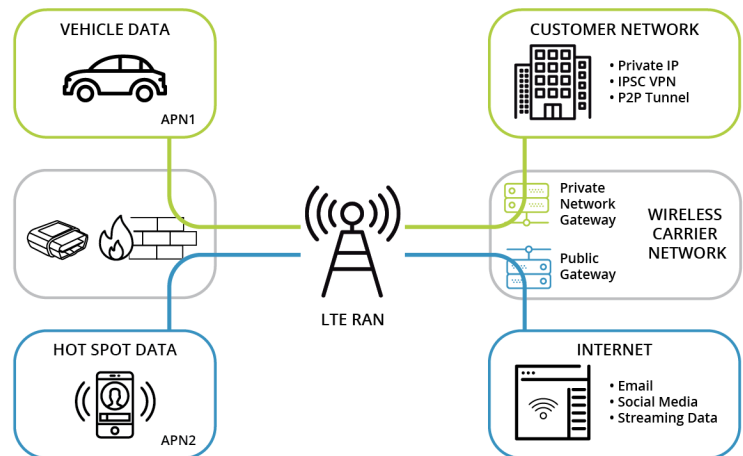
- Insurance (UBI, PAYD, PHYD)
- Fleet Tracking
- Fleet Management
- Mobile Resource Management
- Roadside Assistance
- Remote Vehicle Diagnostics
- Government and Military
- Loyalty Programs
- Consumer

### Perfect Blend of Connectivity, Performance, & Security

The DL980 supports multi-band 4G-LTE with 3G and 2G fallback to maximize connectivity in areas that have weak or no LTE coverage. Data security and privacy are critical concerns for enterprises, as well as vehicle passengers. The DL980 utilizes industry standard bank-level encryption for the data captured by the device and sent over the air. Device firmware over the air (FOTA) updates are encrypted, ensuring the integrity and security of the device and the data.

The DL980 uses split data routing to enable a secure APN1 for vehicle data to be communicated via a private network gateway to enterprise backend systems. Users of the mobile WiFi hotspot are connected to the internet via a secondary APN2 which is isolated from the vehicle interface and secure APN1.

### Split Data Routing



## Features

### North American bands

4G LTE CAT4  
LTE Bands 2, 4, 5, 12  
3G HSPA+ fallback

### European bands

4G LTE CAT4  
LTE Bands 1, 3, 5, 7, 8, 20, 38, 40, 41  
3G and 2G fallback

### EMEA bands

4G LTE CAT4  
LTE Bands 1, 3, 7, 8, 20, 28  
3G and 2G fallback

### India & China bands

4G LTE CAT4  
LTE Bands 1, 3, 5, 8, 40, 41  
3G and 2G fallback

### Australia & Brazil bands

4G LTE CAT4  
LTE Bands 1, 3, 5, 7, 8, 28  
3G and 2G fallback

### WiFi Hotspot

802.11 a/b/g/n/ac 2.4GHz/5GHz

### BLE 4.2 connectivity

### Hardware Security Module (HSM)

### TLS

### GPS/GLONASS/Beidou/Galileo

### 200mAH LiPo backup battery

### Full OBD HSCAN/MSCAN/SWCAN

### Firmware over the air updatable

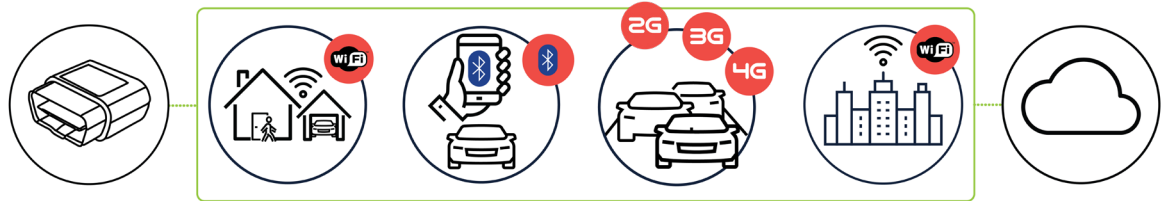
### Proven Qualcomm Technology

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## Universal Vehicle Connectivity On The Go!

Danlaw's universal communication approach enables reliable wireless data transmission of vehicle and device sensor data to enterprise backend servers and cloud-based infrastructure. This approach supports an "always connected" vehicle experience between vehicles, BLE enabled smart phones, WiFi infrastructure, and backend systems. The DataLogger 980 ensures flexible and cost-effective data transmission via the strongest signal available, or via dedicated and secure connectivity channels.



The DataLogger 980 device supports an "always connected" vehicle experience between vehicles, Bluetooth enabled smartphones, WiFi infrastructure, and cloud-based and backend servers.

## Embedded Security

The DL980 device integrates a powerful Hardware Security Module (HSM), which provides a cybersecurity feature that utilizes industry standard TLS1.2 encryption combined with hardware security support for digital certificate storage and management. Danlaw's HSM feature and TLS1.2 encryption enable bank-level security on the device to secure external interfaces and protect Personally Identifiable Information (PII).



## Stay Connected with Reliable Backup Power

The DataLogger 980's built-in backup LiPo rechargeable battery, extends device connectivity by providing reliable power to capture and transmit real-time data, even when the device is not plugged in, or vehicle power is lost. When vehicle connectivity is imperative to your business application, the backup battery will provide the last gasp location of the vehicle, along with other critical data in the event that the power is lost or the device is disconnected by the user or service shop.



# DataLogger 980 Specifications

## Physical Characteristics

Dimensions	Compact (L = 56 mm, W = 48 mm, H = 24 mm)
Weight	38.1 g (1.3 oz)
Environment	IP53 (planned)
Temperature Range	-35°C to +75°C (operating) / -40°C to +85°C (extended)
Humidity	0% to 95% (non-condensing) (SAE J1455)
Shock, Vibration, and Heat	SAE J1455, SAE J1211

## Certifications

Carrier Certifications	AT&T Certified
Environmental Certifications	RoHS Compliant

## Electrical Characteristics

Supply Voltage	24V (min. 8V to max. 32V)
Current Consumption	<4 mA Average (sleep mode) <120 mA @ 12VDC (data upload)
Voltage Protection	Over Voltage, Reverse Voltage, Load Dump (J1113/11), Short Circuit, Transient (ISO 167502), ESD (J1113/13)
Current Protection	Internally protected

## Vehicle Communication

Protocol Support	ISO 15765, GMLAN, FNOS, ISO 9141-2, J1850 PMW/VPW, KWP 2000, ISO 14230-4
Multi-CAN Communication	Simultaneous Dual CAN channel support
Protocol Detection	Automatic vehicle protocol detection
Ignition ON/OFF Detect	Automatic wake-up from sleep mode on IGN ON / Automatic sleep mode on IGN OFF

## Wireless

### 4G LTE CAT4/3G UMTS HSPA

Cellular	4G LTE CAT4* North American bands: 2, 4, 5, 12 European bands: 1, 3, 5, 7, 8, 20, 38, 40, 41 EMEA bands: 1, 3, 7, 8, 20, 28 India & China bands: 1, 3, 5, 8, 40, 41 Australia & Brazil bands: 1, 3, 5, 7, 8, 28
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	3G WCDMA fallback 2G GSM/GPRS fallback
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Data Rates	4G LTE-FDD: Max 50 Mbps uplink, 150 Mbps downlink 3G WCDMA 3GPP R6 HSUPA: Max 5.76 Mbps uplink 3G WCDMA 3GPP R8 HSPA+: Max 42 Mbps downlink
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COMM	TCP/IP, UDP, FTP, SFTP, HTTP, HTTPS, PPP, NTP, PING, SMTP, MMS, SSL
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SMS	Point-to-Point MO and MT SMS cell broadcast
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Bluetooth	Bluetooth 4.2, BLE Dual-mode support, multi-phone, SPP, SSP
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WiFi	802.11 a/b/g/n/ac Hotspot 2.4 GHz and 5GHz
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Antenna	Internal built-in Cellular, WiFi, and Bluetooth
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FOTA	TLS1.2 encrypted Firmware-Over-The-Air update (config & device firmware)
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## GNSS

### Qualcomm IZat™ Gen8C

Satellite Channels	Acquisition 118 / Simultaneous Tracking 40
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Constellation Support	GPS, GLONASS, Galileo, BeiDou
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Antenna	Internal built-in
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Cold Start/Hot Start	Cold Start < 32 seconds TTFF      Sensitivity -145 dBm Hot Start < 1 second                  Sensitivity -160 dBm
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Data Acquisition Rate	Typical 1 Hz
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Accuracy	Position < 2.0 m CEP (open sky 1 Hz tracking)
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A-GPS	Full A-GPS Support
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## Accelerometer/Gyro

3-Axis Accelerometer	X, Y, Z output
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3-Axis Gyrometer/Gyroscope	X, Y, Z (Roll, Pitch, Yaw) output
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Output Resolution	+/- 2, 4, 8, 16 g (12-bit resolution)
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Auto-Normalization Algorithm	Self-Calibrating, Auto-Normalization of the data to the vehicle's direction-of-motion
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## Miscellaneous

Microprocessor/OS	Cortex A7 / LINUX OS
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Memory (RAM/Flash)	100 Mbytes / 100 Mbytes
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Security (Hardware)	Hardware Security Module
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Installation	Self-Installed (10 seconds or less)
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Data Collection Interval	Configurable (vehicle and sensor data: 1 Hz typical)
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Back-up Power	LiPo Back-up battery (200 mAh)
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\*Device band support to be specified at the time of order.

## Contact Us

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