



DANLAW DATA LOGGER
DL970
USER MANUAL

Revision: V2
Revision date: January 15th, 2020



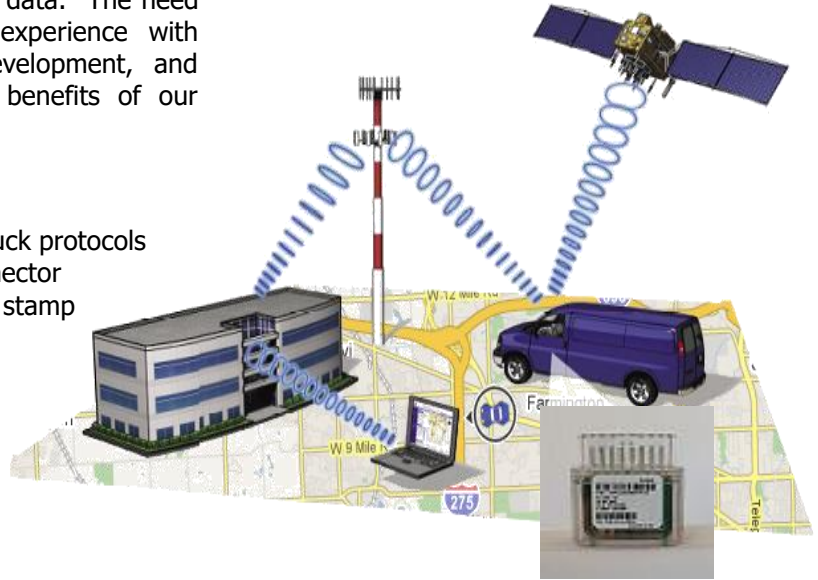
1.1 Product Overview

Danlaw Data Logger – Vehicle Data Over the Air

Danlaw's Data Logger was developed to provide companies with an easy to install, wireless communication device for monitoring and logging vehicle network message data. The need for the DDL was driven by Danlaw's own experience with Networked Automotive Electronics solution development, and perfected to provide our customers with the benefits of our experience.

The Danlaw Data Logger provides:

- Support for all major passenger car & light truck protocols
- Simple plug-n-go via the vehicle's OBDII connector
- OBD Vehicle Data logging with real-time data stamp
- LTE & 3G communication
- Support for FTP, TCP/IP data transfer
- Firmware Over-The-Air (FOTA) Re-flash
- Rugged, compact field-hardened design
- No external antenna connections needed
- Completely self contained



Danlaw Data Logger - Advantage

DL970 Features:

- **High Speed Data Upload** – DDL has been demonstrated to significantly reduce the Data Upload time as compared to the speed of other wired and wireless OBDII interface solutions.
- **Stand Alone Simplicity** – Easy plug in and even easier to use. No external connections needed. Eliminates the need for costly power adapters, antenna connections and knowledgeable resources to install the module.
- **Portability** – The DDL has been designed to maximize in-the-field efficiency, light weight, robust, and compact design.
- **Low Cost Solution** – Low data transmission cost due to optimized data transmission, cost effective hardware – no maintenance and no batteries.
- **Rugged Design** – it's field ready.
- **Flexible** – Supports all major OEMs including: GM, Ford, DCX, Honda, Toyota, Nissan, BMW, Audi, Volvo and more.



1.2 Product Specifications

Danlaw Data Logger - Specifications

OPERATING VOLTAGE: 12V

POWER

CONSUMPTION: < 100 mA @ 12VDC (Data Upload)
< 3 mA Average (during Sleep mode)

HUMIDITY: 90% RH – non condensing

CERTIFICATIONS: RoHS Compliant

VEHICLE COMMUNICATION:

Vehicle Protocol Support: GMLAN, FNOS, ISO-9141-2, SAE J1850 VPW, SAE J1850 PWM, ISO 14230-4, ISO 15765 (11bit CAN & 29bit CAN), SW CAN

Vehicle Message Data: Time Stamped Event and Vehicle Message Bus Data Recording including: (All OEM Supported OBDII Data including: VIN, ODO, Time &Date, Vehicle Speed, module connect/disconnect events)

PHYSICAL DIMENSIONS: Ultra Compact

PACKAGING: Danlaw Data Logger Enclosure

INSTALLATION TIME: 10 Seconds

NUMBER OF TRIPS: Unlimited

DATA RECORDING INTERVAL: Selectable (1 Hz and up)

2.0 Installation Instructions

1. Locate the OBD connector:



If you are not able to locate the OBD connector, please refer to the Vehicle User Manual

2. Install the DL970 device by plugging it into the OBD connector

Warning: The device has to be installed in such a way that at all times a minimum distance of at least 20cm shall be kept between the device and the user.



3.0 Electronic Code of Federal Regulations

The device complies with Part 15 of the FCC Rules.

Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference, and
- (2) this device must accept any interference received, including interference that may cause undesired operation.

Caution: changes or modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

RF Exposure safety

This device complies with the FCC RF exposure limits and has been evaluated in compliance with portable exposure condition.

4.0 Canada

Innovation, Science and Economic Development Canada (ISED) Regulations

This Class ICES B digital apparatus complies with Canadian Innovation, Science and Economic Development Canada (ISED) ICES-003 regulations.

Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference, and



(2) this device must accept any interference received, including interference that may cause undesired operation of the device.

This device has been evaluated and shown compliant with the ISED RF Exposure limits under mobile exposure conditions. The distance between the antenna and the person's body shall be greater than 20cm at all times.

**This device has been certified for use in Canada. Status of the listing in the Innovation, Science and Economic Development's REL (Radio Equipment List) can be found at the following web address:
<https://sms-sgs.ic.gc.ca/equipmentSearch/searchRadioEquipments?execution=e1s1&lang=en>**

**Additional Canadian information on RF exposure also can be found at the following web address:
<http://www.ic.gc.ca/eic/site/smt-gst.nsf/eng/sf08792.html>**

Régulations Innovation, Sciences et Développement Economique (ISED) Canada

L'émetteur/récepteur exempt de licence contenu dans le présent appareil est conforme aux CNR d'Innovation, Sciences et Développement Economique Canada applicables aux appareils radio exempts de licence.

L'exploitation est autorisée aux deux conditions suivantes:

- (1) l'appareil ne doit pas produire de brouillage, et**
- (2) l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.**

Le présent appareil a été approuvé aux normes ISED concernant l'exposition humaine aux radiofréquences, à condition que la distance entre l'appareil et le corps humain soit plus grande que 20 cm.

Le présent appareil a été approuvé pour usage en Canada. On peut trouver la liste des équipements radio, approuvé par Innovation, Sciences et Développement Economique Canada, à l'adresse web suivante:

<https://sms-sgs.ic.gc.ca/equipmentSearch/searchRadioEquipments?execution=e1s1&lang=fr>

**On peut trouver de l'information additionnelle concernant la conformité des appareils de radiocommunication aux limites d'exposition humaine aux radiofréquences à l'adresse web suivante:
<http://www.ic.gc.ca/eic/site/smt-gst.nsf/fra/sf08792.html>**



If you have any questions regarding safety or use cases please contact Danlaw Inc. Office:
41131 Vincenti Court. Novi, MI 48375 USA.



5.0 Revision History

08/08/2019 Initial Release

01/15/2020 Added FCC exposure statement