

CANLink® CANect® CL-T04-103 WiFi Module Service Tool & Data Logger With External Antennas



Special Features include:

- WiFi Interface
 - Supports IEEE 802.11 b/g/n
 - Access real-time and logged data wireless via an interactive web page hosted on CANect module
 - Interface via various mobile devices (laptop, smartphone or tablet) that has WiFi capability and a web browser
- Internal eMMC FLASH Memory Chip
 - 4GB standard (optional up to 32GB configuration)
 - Soldered memory chip for resistance to high shock & vibration
- 128MB DDR3 RAM
- Cortex A8 ARM Microprocessor running up to 800MHz
- Linux operating system
- (2) J1939 CAN ports
- (1) USB Host port
 - Download data to PC or USB Memory Device
 - Update software
- 3-Axis Accelerometer for monitoring of acceleration, deceleration, angle
 - Allows for accident and roll-over detection
- Real Time Clock with internal battery (15 year life - typical)
 - Allows for time-stamping of data and events logged
- GPS location
- Low Power Sleep Module with Controlled Shutdown
 - Allows module to run after key switch is turned off so data can be logged to non-volatile memory. Module turns itself off.
 - Wake-Up by following methods: Digital Input on Connector, CAN Traffic (optional feature), Time set by software using Real Time Clock

The CL-T04 is a solid-state microprocessor based module and member of the HED® CANLink® multiplexed control family. Delivered in a Deutsch enclosure, this unit provides a WiFi wireless interface.

Telematics allows for monitoring the location, movement, status and health of a vehicle or fleet of vehicles. The data is made available via a web page hosted on the CANect module.

The CL-T04 is capable of up to 32GB of data storage, enabling it to also handle small or large data logging applications.

The HED® CL-T04 can be programmed yourself using Linux programming tools or directly by HED® engineering.

Specifications

Enclosure:	Deutsch EEC-325x4 PCB enclosure with 12-pin receptacle.
Mating Connectors: Deutsch	DTM06-12SA WM-12S (wedge) – Two needed (one per connector) 0462-201-20141 20AWG sockets 0462-005-20141 16-18AWG sockets 0413-204-2005 Sealing Plugs – Unused pins are required to be sealed to maintain module sealing
Operating Voltage:	8-32 VDC
Operating Temperature:	-40°C to 70°C
Storage Temperature:	-40°C to 85°C
IP Rating:	IP67
PC Boards:	Printed circuit boards are designed for high EMI/RFI protection. The boards are conformal coated with a silicone coating for further water/moisture protection. All inputs are protected against shorts to Battery(+) or Battery(-). 100% of the boards are functionally tested before shipment.

DTM13-12PA (Gray)	
Pin	Function
1	Switched Battery / Wake-Up
2	USB (Ground)
3	USB (OTG ID)
4	USB (DP)
5	USB (DM)
6	USB (Power) (100mA)
7	CAN2-L
8	CAN2-H
9	CAN1-L
10	CAN1-H
11	Battery(-) Module
12	Unswitched Battery(+) Module**

Note: Different I/O combinations are available. Please refer to specific CL-T04-1xx-xx data sheet for I/O number designations for use within Composer™. Data sheets available on HED® website.

**Unswitched vehicle battery must be connected for controlled shutdown to properly store data to EEPROM & eMMC FLASH, and for Lower Power Sleep and Wake-Up to function properly. Module will draw <1mA after turning itself off.

Embedded MultiMediaCard (eMMC) Memory Features:

The standard flash sizes advertised are relative to the eMMC being configured to multi-level cell (MLC) functionality. This means multiple bits can be stored in each flash bit-cell; greatly improving memory density. This memory mode isn't optimal for the life of the flash (approximately 3,000 writes per cell). This is ideal for applications that don't require excessive non-volatile memory writes.

Alternatively, the eMMC in this module can be configured to pseudo single-level cell (pSLC) functionality. Each flash bit-cell can only have two states which greatly improves memory writes speeds and increases the life of the flash (approximately 30,000 writes per cell). This is ideal for applications that require significant memory writes such as data logging.

Application Note:

1. The eMMC can be converted to pSLC from MLC. Once the device is converted to pSLC, it can't be converted back to MLC.
2. Converting memory from MLC to SLC results in a reduction of memory by 50%. For example, converting 4GB of MLC to pSLC, the effective available memory is reduced to 2GB (as an example).
3. The best practice for data logging on this memory will require the use of file journaling or sequential file writing. This is done in effort to prevent writing to the same memory location repeatedly.

Qualified External Antenna Types for CL-T04:

This device has been designed to operate with the antennas listed below, and having a maximum gain of 2.14 dBi. Antennas not included in this list or having a gain greater than 2.14 dBi are strictly prohibited for use with this device. The required antenna impedance is 50 ohms.

Qualified Antenna Types for WF111-E

- Antenna Radiation: Dipole
- Maximum Gain: 2.14 dBi
- Contact HED for antenna availability

Any antenna that is of the same type and of equal or less directional gain as listed in table above can be used without a need for retesting. To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotropically radiated power (e.i.r.p.) is not more than that permitted for successful communication. Using an antenna of a different type or gain more than 2.14 dBi will require additional testing for FCC, CE and IC.

Note: Extension cable length between the module and the antenna does not impact the FCC/CE certifications. However, extreme cable lengths will reduce RF performance due to the cable's physical properties.

Antenna Connection Mounting Torque:

2-5 in-lbs

Note: Antenna connector should not spin during assembly. This may cause IP seal to break, voiding warranty.

