Hydro Electronic Devices, Inc.

Technical Data Sheet

CANLink® CANect® CL-T04-100 WiFi Module Service Tool & Data Logger With Internal Antennas

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.

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

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.

CANLINK®

Toll-free technical support: (800) 854-3533

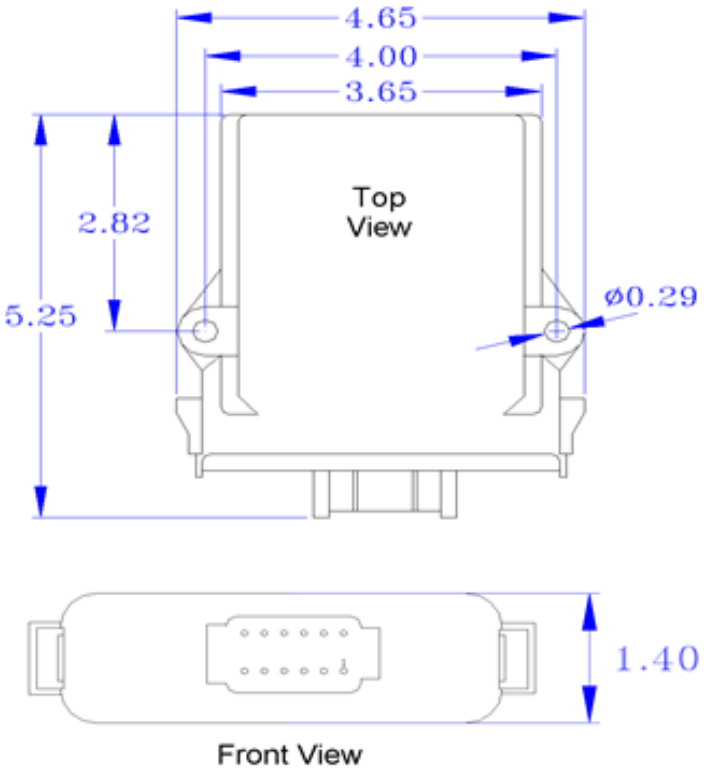
2120 Constitution Avenue, Hartford WI 53027 USA
Tel: 800 398-2224 Fax: 262 673-9455
e-mail: info@hedonline.com Web: www.hedonline.com

Hydro Electronic Devices, Inc.

Specifications

CL-T04-100 CANect® WiFi Module

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 MultiMdiaCard (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 (approxiately 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.

2120 Constitution Avenue, Hartford WI 53027 USA
Tel: 800 398-2224 Fax: 262 673-9455
e-mail: info@hedonline.com Web: www.hedonline.com