CANect® CL-T27
Remote Updates & Diagnostics

The CANect® CL-T27 is built to power the future of IoT innovation in rugged environments by offering over-the-air programming (OTA) with the flexibility of using our applications or your own tools.

Build Your Solution

The T27 telematics hardware from HED enables OEMs to build vehicle specific applications leveraging HED standard programming tools or create custom applications using Linux.

Remote Diagnostic and Troubleshooting

Remote diagnostics and troubleshooting through wireless connectivity. Adopt HED standard Portal, View or reflector applications or build with your own back office tools.

Remote Vehicle Programming

Update, reprogram and adjust vehicle capabilities with the touch of a button with Over-the-Air (OTA) programming via Cell or Wi-Fi connectivity.

Predictive Maintenance

Decrease downtime by monitoring asset conditions. Create early notifications and warnings using real-time & historical trend monitoring.

4G LTE and Wi-Fi

Choose remote wireless connectivity and data access through 4G LTE Cat-M1, Cat-4 or Wi-Fi connectivity.

Multiple Local Connectivity Options

USB, Ethernet, Wi-Fi, and CAN capabilities to enable a variety of OEM interfaces and applications.

Integrated Security

Built in security with Industry standard secure boot and on-board, security key use and storage, and encrypted communications

Contact your Sales Team today!

HED®
Intelligent Vehicle Controls

HED specializes in the design, manufacture, and application of innovative controls and telematics systems for on- and off-highway OEMs. We provide a complete line of controllers, displays, keypads, and telematics solutions.

Rev:021825

CL-T27 | Specifications

COMPUTING CORE

Overview	Cortex-A7 ARM Processor running at 800 MHz
CPU	Cortex A7 @ 800 MHz (single-core)
Flash	8GB eMMC Flash
RAM	512MB DDR3 RAM

ELECTRICAL

Operating Voltage	9V- 36V
Key Switch	Standard for Start/Shutdown
Inputs	up to 2 inputs
Outputs	1 sinking output
Max Amp. Draw	300mA at 12V
Average Draw	270mA at 12V
Power Off-LI-Polymer	1.5 mA
Internal Battery	Lithium-ion Polymer (LiPo) 1500mAh
Battery Certification	UN38.3 and IEC62133-2
Transient Immunity	ISO 7637-2, Pulse 1, 2a, 2b, 3a, 3b
Starting Profile	ISO 16750-2, Section 4.6.3
Load Dump	ISO 16750-2, Section 4.6.4, 40V clamped

MECHANICAL

Housing Material	Polycarbonate
Installation	30mm M4; Torque: 40 In/Lbs. (4.5 Nm)
Connectors	1x 35-pin AMPSEAL
Dimensions (mm)	139.3 x 123.3 x 44.8
Weight	.65 lbs

INTERFACES

CAN	2x CAN ports
USB	1x USB OTG (supply up to 500mA to device, max 2.5W)
Ethernet	1x Ethernet 10/100 Base-T
Wi-Fi	Dual-band Wi-Fi 802.11

ACCELEROMETER / INCLINOMETER

Function	3-Axis ; ±3°

ANTENNA

Cat-M1	**CL-A31-104-10** (cable length: 3000 mm)
Cat-4	**CL-A41-105-10** (coming soon)

CELLULAR COMMUNICATION

4G LTE	**Cat-4** – North America/Canada FDD- B2/ B4/ B5/ B12/B13/ B25/ B26 WCDMA – B2/B4/B5
	Cat-M1/NB1 - Global 4G FDD- B1/ B2/ B3/ B4/ B5/ B8/ B12/ B13/ B18/ B10/ B20/ B28 ; TDD- B39 (Cat-M1 only)
SMS	MT/MO; Cell Broadcast; Text & PDU
Protocols	PPP/TCP/UDP/SSL/TLS/FTP(S)/HTTP(S)/NITZ/ PING/ MQTT
SIM	Micro SIM (3FF)

GNSS INTERFACE

Receiver	GNSS, GPS, GLONASS
Horizontal Accuracy	<2.5m; autonomous, open sky
Time-to-First-Fix	Cold: 11.57s; Hot: 1.8s; Aided: 3.4s
Receiver Sensitivity	Tracking & Nav: -157 dBm Cold: -146 dBm; Hot: -157 dBm

ENVIRONMENTAL SPECIFICATIONS

IP Class	ISO 20653, IP67
EMC Conformity	FCC Part 15 (b) and ISED Canada. 2014/30/EU – CE Mark Radiated Emissions: ISO 13766-1, EN 13309, ISO 14982 Conducted Emissions: CISPR 25, Section 6.3 (Voltage Method) Radiated Immunity: ISO 11452-2 Conducted Immunity: ISO 11452-4 (BCI method), 20-200MHz at 100mA ESD: ISO 10605, IEC 61000-4-2
Vibrations	IEC 60068-2-64 Random Vibration Test VII Test: Random Vibe, Freq. Range: 10-2000Hz, Level: 57.9m/s2 per Figure 11 / Table 12 Duration/axis: 8hrs (32Hrs total exposure)
Shock	IEC 60068-2-27 Mechanical Shock Level: 500 m/s2- 6ms, Shape: Half-sinusoidal # Pulses: 100 per direction/axis (600 total shock pulses) Level: 500 m/s2- 11ms, Shape: Half-sinusoidal # Pulses: 6,000 per direction/axis (18,000 total shock pulses)
Temperature Range	Operating:-40C to +65C Storage: -40C to +80C

PART NUMBER CONFIGURATION OPTIONS

CL-T27-__8-10-9N

Pre-installed SIM (**1** = Aeris US, **2** = Verizon US, **3** = Aeris Fusion/International, **8** = Customer supplied SIM)

Carrier / Region (**0** indicates Global/Cat-M1, **1** indicates North America/Cat-4)
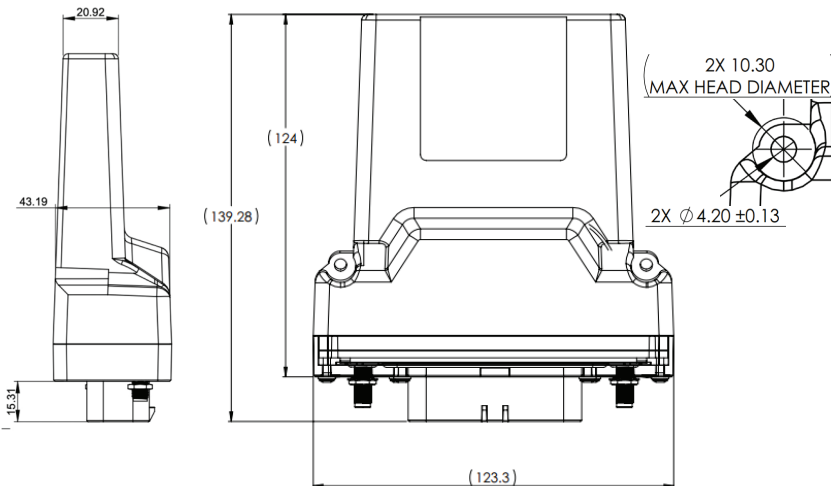
CL-T27 | Pinouts

MAIN CONNECTOR - 776164-1

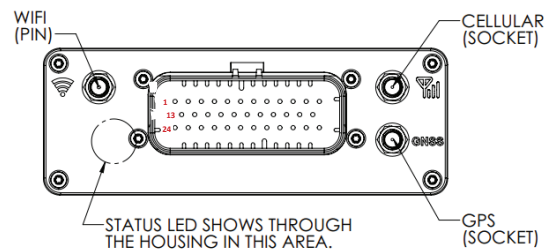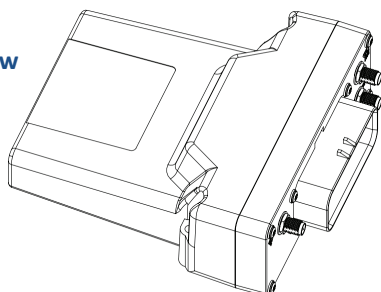| Pin		Pin	
1	NC	19	Analog Input 2 VTD (12V/24 [0V-32V])*
2	Analog Input 1 VTD (12V/24 [0V-32V])	20	NC
3	Digital Input 2 STB (12V/24 [0V-32V])*	21	NC
4	High Speed CAN2 High	22	Ethernet TXP
5	High Speed CAN2 Low	23	Ethernet TXN
6	CAN FD High*	24	Unswitched Battery (+) Module
7	CAN FD Low*	25	Battery (-) Module
8	Keyswitch Input	26	Programming Mode Trigger**
9	NC	27	NC
10	NC	28	NC
11	Ethernet RXP	29	NC
12	Ethernet RXN	30	NC
13	NC	31	NC
14	USB OTG/ID	32	USB Power 5V**
15	Sinking Output 2 (12V [0V-18V], 300mA)*	33	USB D+
16	Sinking Output 1 (12V [0V-18V], 300mA)	34	USB D-
17	High Speed CAN1 High	35	USB Ground
18	High Speed CAN1 Low		

* Hardware only, software development required. Testing not included.
** PINs require connection within harnessing. Pre-connected within CL-T27-W01 adaptor harness.

MECHANICAL DIAGRAMS

Top View

2X 10.30
MAX HEAD DIAMETER

2X ⌀ 4.20 ±0.13

WIFI (PIN)

CELLULAR (SOCKET)

STATUS LED SHOWS THROUGH THE HOUSING IN THIS AREA.

GPS (SOCKET)

Isometric View

Connector View
(above: T27-0; below: T27-1)

WIFI (PIN)

CELLULAR (SOCKET)

GPS (SOCKET)

DIVERSITY (SOCKET)

STATUS LED SHOWS THROUGH THE HOUSING IN THIS AREA.

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