

## CANLink® CL-411-1XX Module Family I/O Module

### 21 Outputs and 20 Inputs including:

- (6) 2.5A PWM outputs with estimated current feedback
- (2) 2.5A digital outputs with current limiting
- (8) 4A digital outputs with current limiting
- (2) 6A digital outputs with current limiting
- (3) 15A digital outputs with current limiting
- (8) inputs hardware configurable as 12-bit analog inputs or switch to battery inputs
- (6) switch to battery inputs
- (1) input hardware configurable as switch to ground or frequency
- (3) inputs hardware configurable as switch to ground, frequency or harness codes\*
- (1) input configurable as switch to ground or harness code\*
- (1) input configurable as 12-bit analog or resistive sensor input (RTD)
- Battery voltage and sensor supply voltage monitoring
- (2) 5VDC regulated sensor supplies (30mA)
- (2) J1939 CAN ports



The CL-411 is a solid-state microprocessor based module and member of the HED® CANLink® multiplexed control family. Delivered in an aluminum enclosure, this unit provides a high density I/O count in a compact and economical package.

The CL-411 is designed for use as a stand alone unit or as part of a distributed system

The HED® CL-411 can be programmed using HED®'s do-it-yourself CANLink® Composer™ programming tool or directly by HED® engineering, and is designed for use with the CANLink® Conductor™ software tool for diagnostics and field troubleshooting.

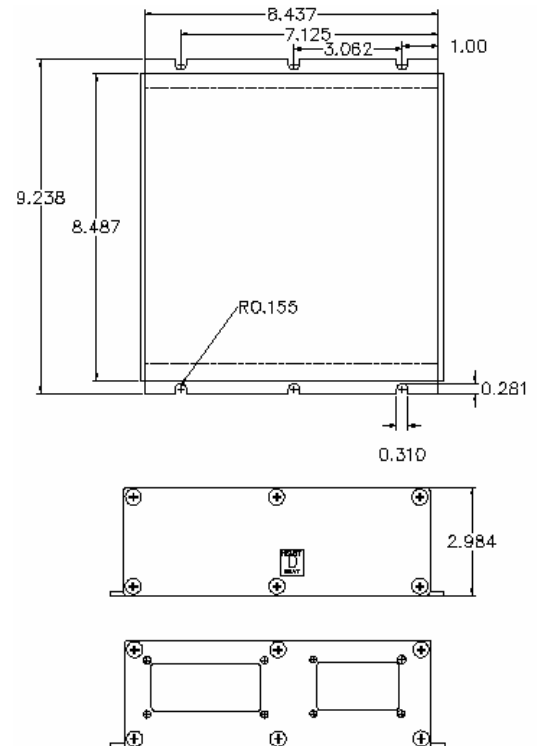
### Specifications

|                               |   |
|-------------------------------|---|
| Enclosure:                    | Aluminum extrusion  |
| Mating Connectors:<br>Deutsch | Deutsch DRC16-40SA<br>Deutsch DRC16-24SA<br>0462-201-20141 20AWG sockets<br>0462-201-16141 16AWG sockets  |
| Operating Voltage Range:      | 8 to 32 VDC   |
| Operating Temperature:        | -40°C to 85°C   |
| Storage Temperature:          | -40°C to 85°C   |
| IP Rating:                    | IP 67   |
| PC Boards:                    | The printed circuit boards are designed for high EMI/RFI protection.<br>The boards are conformal coated with a silicone coating for further water/moisture protection.<br>All inputs and outputs are protected against shorts to Battery(+) or Battery(-).<br>100% of the boards are functionally tested before shipment.<br>* Harness codes are switch to ground inputs used to identify I/O module location and function to the master controller |

## CL-411 I/O Module

### CL-411 I/O Module Pinout

| DRC13-40PA 40-Pin Connector |   | DRC13-24PA 24-Pin Connector |                                    |
|-----------------------------|---|-----------------------------|------------------------------------|
| Pin                         | Function  | Pin                         | Function                           |
| 1                           | Output DOUT(+)(15A)   | 1                           | Output DOUT(+)(6A)                 |
| 2                           | Output DOUT(+)(4A)  | 2                           | Output DOUT(+)(6A)                 |
| 3                           | Output DOUT(+)(4A)  | 3                           | BAT(+) Outputs                     |
| 4                           | Output DOUT(+)(4A)  | 4                           | Output DOUT(+)/PWM(+)/ECC(+)(2.5A) |
| 5                           | Output DOUT(+)(4A)  | 5                           | Output DOUT(+)/PWM(+)/ECC(+)(2.5A) |
| 6                           | Output DOUT(+)(4A)  | 6                           | Output DOUT(+)/PWM(+)/ECC(+)(2.5A) |
| 7                           | Output DOUT(+)(4A)  | 7                           | Output DOUT(+)(2.5A)               |
| 8                           | Output DOUT(+)(4A)  | 8                           | Shield                             |
| 9                           | Output DOUT(+)(4A)  | 9                           | Output DOUT(+)/PWM(+)/ECC(+)(2.5A) |
| 10                          | BAT(+) Outputs  | 10                          | Output DOUT(+)/PWM(+)/ECC(+)(2.5A) |
| 11                          | BAT(+) Module / Input Battery Voltage                         | 11                          | Input STG or Freq                  |
| 12                          | Input STG or Freq   | 12                          | Output DOUT(+)/PWM(+)/ECC(+)(2.5A) |
| 13                          | Input STG or Freq   | 13                          | Output DOUT(+)(2.5A)               |
| 14                          | Input STG or Freq   | 14                          | Input STB                          |
| 15                          | Input STG/Unswitched Battery(+)*                              | 15                          | Input STB                          |
| 16                          | BAT(+) Outputs  | 16                          | Input STB                          |
| 17                          | 5VDC Sensor Supply #1 (30mA) / Input Sensor Supply #1 Voltage | 17                          | Input STB                          |
| 18                          | 5VDC Sensor Supply Ground                                     | 18                          | BAT(+) Outputs                     |
| 19                          | Shield  | 19                          | BAT(+) Outputs                     |
| 20                          | BAT(+) Outputs  | 20                          | CAN2-L                             |
| 21                          | Input STB or AIN  | 21                          | CAN2-H                             |
| 22                          | Input STB or AIN  | 22                          | RS232 (Tx)                         |
| 23                          | Input STB or AIN  | 23                          | RS232 (Rx)                         |
| 24                          | Input STB or AIN  | 24                          | RS232 (GND)                        |
| 25                          | Input STB or AIN  |                             |                                    |
| 26                          | Input STB or AIN  |                             |                                    |
| 27                          | Input STB or AIN  |                             |                                    |
| 28                          | Input STB or AIN  |                             |                                    |
| 29                          | Shield  |                             |                                    |
| 30                          | Output DOUT(+)(15A)   |                             |                                    |
| 31                          | BAT(-) Module   |                             |                                    |
| 32                          | 5VDC Sensor Supply #2 (30mA) / Input Sensor Supply #2 Voltage |                             |                                    |
| 33                          | 5VDC Sensor Supply Ground                                     |                             |                                    |
| 34                          | Input AIN/RTD   |                             |                                    |
| 35                          | Shield  |                             |                                    |
| 36                          | CAN1-L  |                             |                                    |
| 37                          | CAN1-H  |                             |                                    |
| 38                          | Input STB   |                             |                                    |
| 39                          | Input STB   |                             |                                    |
| 40                          | Output DOUT(+)(15A)   |                             |                                    |



Note: Different I/O combinations are available. Please refer to specific CL-411-1XX data sheet for I/O number designations for use within Composer™. Data sheets available on HED® website.

\*Unswitched vehicle battery must be connected to properly store data to EEPROM. Module will draw max of 200 micro amps (12V) and 400 micro amps (24V) after turning itself off. This feature is only available on versions of this module that are Master Module capable.