Hydro Electronic Devices, Inc.

Technical Data Sheet

CANLink® CL-411-108 Module
Master I/O Module

21 Outputs and 19 Inputs including:

- (11) switch to battery inputs
- (3) switch to ground inputs
- (3) 0-5.0VDC 12-bit analog inputs
- (1) input configurable as switch to ground or frequency
- (1) input configurable as 0-5.0VDC 12-bit analog or resistive sensor (0-1K ohm RTD)
- (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
- 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: Deutsch	Deutsch DRC16-40SA Deutsch DRC16-24SA 0462-201-20141 20AWG sockets 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. The boards are conformal coated with a silicone coating for further water/moisture protection. All inputs and outputs are protected against shorts to Battery(+) or Battery(-). 100% of the boards are functionally tested before shipment. * Harness codes are switch to ground inputs used to identify I/O module location and function to the master controller

CANLINK®

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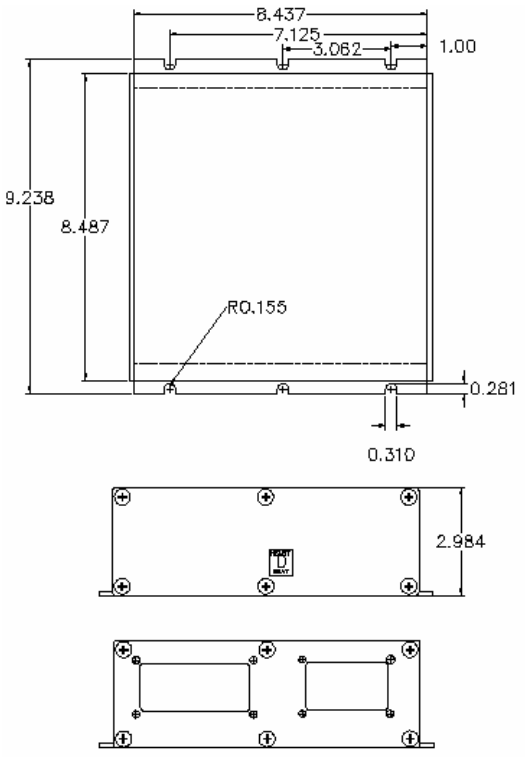
Specifications

CL-411-108 Master I/O Module

CL-411-108 Master I/O Module Pinout

DRC13-40PA 40-Pin Connector		DRC13-24PA 24-Pin Connector	
Pin	**Function**	**Pin**	**Function**
1	Output #1 DOUT(+)(15A)	1	Output #12 DOUT(+)(6A)
2	Output #2 DOUT(+)(4A)	2	Output #13 DOUT(+)(6A)
3	Output #3 DOUT(+)(4A)	3	BAT(+) Outputs 12, 13, 17
4	Output #4 DOUT(+)(4A)	4	Output #14 DOUT(+)/PWM(+)/ECC(+)(2.5A)
5	Output #5 DOUT(+)(4A)	5	Output #15 DOUT(+)/PWM(+)/ECC(+)(2.5A)
6	Output #6 DOUT(+)(4A)	6	Output #16 DOUT(+)/PWM(+)/ECC(+)(2.5A)
7	Output #7 DOUT(+)(4A)	7	Output #17 DOUT(+)(2.5A)
8	Output #8 DOUT(+)(4A)	8	Shield
9	Output #9 DOUT(+)(4A)	9	Output #18 DOUT(+)/PWM(+)/ECC(+)(2.5A)
10	BAT(+) Outputs 6,7,8,9	10	Output #19 DOUT(+)/PWM(+)/ECC(+)(2.5A)
11	BAT(+) Module and Output 1 / Input #20 Battery Voltage	11	Input #15 STG/FREQ
12	Input #1 STG	12	Output #20 DOUT(+)/PWM(+)/ECC(+)(2.5A)
13	Input #2 STG	13	Output #21 DOUT(+)(2.5A)
14	Input #3 STG	14	Input #16 STB
15	Unswitched Battery(+)** / Input #21 Battery Voltage	15	Input #17 STB
16	BAT(+) Outputs 2, 3, 4, 5	16	Input #18 STB
17	5VDC Sensor Supply #1 (30mA) / Input #22 Sensor Supply #1 Voltage	17	Input #19 STB
18	5VDC Sensor Supply Ground	18	BAT(+) Outputs 14, 15, 16, 18, 19, 20
19	Shield	19	BAT(+) Outputs 11
20	BAT(+) Outputs 10, 21	20	CAN2-L
21	Input #4 AIN(0-5.0V)	21	CAN2-H
22	Input #5 AIN(0-5.0V)	22	RS232 (Tx)
23	Input #6 STB	23	RS232 (Rx)
24	Input #7 STB	24	RS232 (GND)
25	Input #8 STB		
26	Input #9 AIN(0-5.0V)		
27	Input #10 STB		
28	Input #11 STB		
29	Shield		
30	Output #10 DOUT(+)(15A)		
31	BAT(-) Module		
32	5VDC Sensor Supply #2 (30mA) / Input #23 Sensor Supply #2 Voltage		
33	5VDC Sensor Supply Ground		
34	Input #12 AIN(0-5.0V)/RTD(0-1Kohm)		
35	Shield		
36	CAN1-L		
37	CAN1-H		
38	Input #13 STB		
39	Input #14 STB		
40	Output #11 DOUT(+)(15A)		



Note: Above pinout is for HED® part number CL-411-108.
Additional part number 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.

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