CANlink 310: Power Distribution
Powerful I/O + Circuit Capabilities

Designed for the Vocational market, HED's Power Distribution Module (PDM) combines fusing, high current output and all I/O controls into a single module.

Total Vehicle Control

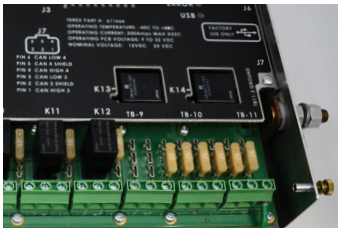
Relays, fuses, solid-state outputs and configurable inputs are combined in single module with a powerful microcontroller offering the ability to minimize components and support a centralized vehicle master control.

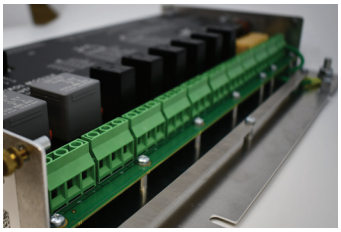
Powerful & Capable

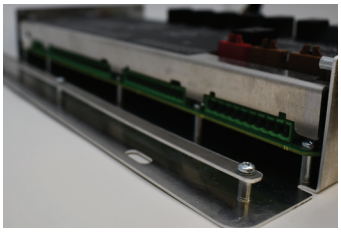
Delivering reliability and high-performance, our PDM provides up to 200 amps through a combination of high current relays and solid-state outputs. Speed and memory combined with a variety of I/O and up to 4 CAN ports offer additional communication options.

Configurable & Customizable

- Terminal block wiring enables easy customization.
- Relays and fuses offer power output configuration.
- Software configurable I/O.
- Onboard USB provides quick software updates.







Contact your Sales Team today!

Intelligent Vehicle Controls

HED, Inc. is an industry leader specializing in the design, manufacture, and application of innovative vehicle controls for commercial vehicles and off-highway equipment. We provide a complete line of controllers, displays, keypads, and power distribution solutions.

CL 310 Power Distribution Module | Specifications

COMPUTING CORE	
MCU	S32K344
Flash	4MB
RAM	512KB
INTERFACES	
CAN	2x CAN-FD ports (Up to 4x CAN-FD optional)
USB	1x USB-A (for USB flash drive)
MECHANICAL	
Housing Material	Aluminum- Base and Inner Cover Black Power Coat Aluminum- Outer Cover
Connectors	2x Lugs for +Battery and Ground 1x Molex for CAN 11x Screw Terminal Blocks for Relay Outputs 4x Degson/Phoenix for I/O 1x USB-A for USB
Dimensions (mm)	403.35 x 270.00 x 55.5
Indicators	4x LEDs
Degree of Protection	IP10
Bolt/Torque	Bolt: 1/4"- 20 or M6 Button Head Screw w/ Washer Torque: 90-97 in-lbs
ELECTRICAL	
Operating Voltage	8-32VDC
Key Switch	Standard for Start/Shutdown
Inputs	4x STB/STG/VTD1/VTD2/FREQ/20mA/RTD 15x STB/STG/VTD1/VTD2
Solid State Outputs	9x DOUT/PWM(+)(10A) 1x DOUT/PWM(+)(10A) / DOUT/PWM(-)(2A) 2x DOUT/PWM(+)(2A) / DOUT/PWM(-)(2A) 1x Analog (0-10V) 1x 5VDC Sensor Supply
Relay Outputs	2x 40A with inline replaceable or re-settable fuse 6x 24A with inline replaceable or re-settable fuse 1x 10A with inline replaceable or re-settable fuse 3x 8A with inline replaceable or re-settable fuse 2x 24A with 4x inline replaceable or re-settable fuses per output *optional wiring configuration for fuse driven relay output or direct fused power connection output
Conducted 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

ENVIRONMENTAL SPECIFICATIONS	
IP Class	IP10
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 +80C (see Derating Curves) Storage: -40C to +85C
SOFTWARE FRAMEWORK & TOOLS	
Development	NXP Design Studio or CODESYS (CODESYS in 2025)
Programming	C / C++ or CODESYS
CAN Protocol	J1939 and CANopen
OPERATING SYSTEM	
Operating System	FreeRTOS
Bootup Time	150msec (approximate)

CL 310 Power Distribution Module | Pinouts

Pin	Connector J1	Comments
1	Relay K1-COM IGN IN	10A
2	Relay K1-NC IGN OUT	10A
3	Relay K2-COM	8A
4	Relay K2-NO	8A
5	Relay K2-NC	8A
6	Relay K3-COM	8A
7	Relay K3-NO	8A
8	Relay K3-NC	8A
9	Relay K4-COM	8A
10	Relay K4-NO	8A

Pin	Connector J2	Comments
1	High Side Output / Diagnostics STB/STG	10A
2	High Side Output / Diagnostics STB/STG	10A
3	High Side Output / Diagnostics STB/STG	10A
4	High Side Output / Diagnostics STB/STG	10A
5	High Side Output / Diagnostics STB/STG	10A
6	High Side Output / Diagnostics STB/STG	10A
7	High Side Output / Diagnostics STB/STG	10A
8	High Side Output / Diagnostics STB/STG	10A
9	High Side Output / Low Side Output / Diagnostics STB/STG	10A / 2A
10	High Side Output / Low Side Output / Diagnostics STB/STG	2A / 2A
11	High Side Output / Low Side Output / Diagnostics STB/STG	2A / 2A
12	High Side Output / Diagnostics STB/STG	10A

Pin	Connector J3	VTD Range	RTD Range
1	STB/STG/VTD1/VTD2/TRI-STATE	0-5.5V / 0-36V	N/A
2	STB/STG/VTD1/VTD2/TRI-STATE	0-5.5V / 0-36V	N/A
3	STB/STG/VTD1/VTD2/TRI-STATE	0-5.5V / 0-36V	N/A
4	STB/STG/VTD1/VTD2/TRI-STATE	0-5.5V / 0-36V	N/A
5	STB/STG/VTD1/VTD2/TRI-STATE	0-5.5V / 0-36V	N/A
6	STB/STG/VTD1/VTD2/TRI-STATE	0-5.5V / 0-36V	N/A
7	STB/STG/VTD1/VTD2/TRI-STATE	0-5.5V / 0-36V	N/A
8	STB/STG/VTD1/VTD2/FREQ/20mA/RTD/TRI-STATE	0-5.5V / 0-36V	0-500 ohms
9	STB/STG/VTD1/VTD2/TRI-STATE	0-5.5V / 0-36V	N/A
10	STB/STG/VTD1/VTD2/TRI-STATE	0-5.5V / 0-36V	N/A
11	STB/STG/VTD1/VTD2/TRI-STATE	0-5.5V / 0-36V	N/A
12	STB/STG/VTD1/VTD2/TRI-STATE	0-5.5V / 0-36V	N/A
13	STB/STG/VTD1/VTD2/TRI-STATE	0-5.5V / 0-36V	N/A
14	STB/STG/VTD1/VTD2/TRI-STATE	0-5.5V / 0-36V	N/A
15	STB/STG/VTD1/VTD2/TRI-STATE	0-5.5V / 0-36V	N/A
16	STB/STG/VTD1/VTD2/FREQ/20mA/RTD/TRI-STATE	0-5.5V / 0-36V	0-2K ohms
17	STB/STG/VTD1/VTD2/FREQ/20mA/RTD/TRI-STATE	0-5.5V / 0-36V	0-500 ohms
18	STB/STG/VTD1/VTD2/FREQ/20mA/RTD/TRI-STATE	0-5.5V / 0-36V	0-2K ohms
19	Sensor Supply: 5Vdc 250mA Max	0-5.5V	N/A
20	STB/STG/VTD1/VTD2/TRI-STATE	0-5.5V / 0-36V	N/A
21	Sensor Ground	0-5.5V	N/A
22	10Vdc Analog output	N/A	N/A

Pin	Connector J4	Comments
1	CAN HI 1	
2	CAN LO 1	
3	CAN2 Shield	
4	CAN HI 2	
5	CAN LO 2	

Pin	Connector J5 & J6	Comments
1	CAN HI 1	
2	Ground	
3	SW Ignition : High Side Output	2A
4	CAN LO 1	
5	CAN1 Shield	
6	Pass Thru to J6	

Pin	Connector J7 (Optional)	Comments
1	CAN HI 3	
2	CAN3 Shield	
3	CAN LO 3	
4	CAN HI 4	
5	CAN4 Shield	
6	CAN LO 4	

Pin	Terminal Block TB1	Comments
1	Relay K5-NO	40A
2	Relay K5-NO	40A
3	Relay K5-COM	40A

Pin	Terminal Block TB2	Comments
1	Relay K6-NO	40A
2	Relay K6-NO	40A
3	Relay K6-COM	40A

Pin	Terminal Block TB3	Comments
1	Relay K7-NO	24A
2	Relay K7-NO	24A
3	Relay K7-COM	24A

Pin	Terminal Block TB4	Comments
1	Relay K8-NO	24A
2	Relay K8-NC	24A
3	Relay K8-COM	24A

Pin	Terminal Block TB5	Comments
1	Relay K9-NO	24A
2	Relay K9-NO	24A
3	Relay K9-COM	24A

Pin	Terminal Block TB6	Comments
1	Relay K10-NO	24A
2	Relay K10-NO	24A
3	Relay K10-COM	24A

Pin	Terminal Block TB7	Comments
1	Relay K11-NO	24A
2	Relay K11-NO	24A
3	Relay K11-COM	24A

Pin	Terminal Block TB8	Comments
1	Relay K12-NO	24A
2	Relay K12-NC	24A
3	Relay K12-COM	24A

Pin	Terminal Block TB9	Comments
1	Battery OR Relay K13	13A
2	Battery OR Relay K13	13A
3	Battery OR Relay K13	13A

Pin	Terminal Block TB10	Comments
1	Battery OR Relay K13	13A
2	Battery OR Relay K14	13A
3	Battery OR Relay K14	13A

Pin	Terminal Block TB11	Comments
1	Battery OR Relay K14	13A
2	Battery OR Relay K14	13A
3	Ground	24A

Item	Peripheral	Status
1	USB Host	Populate
2	External Memory MX25L6433FM2I-08G	Populate