16-Channel DC Load Controller Module

For larger loads and more circuits, the MPower® CLMD16 is a 16-Channel DC Load Controller Module. Four of the 16 breakers handle a maximum of 25 amps and twelve breakers handle a maximum of 12 amps with a total current capacity of 125 amps. Additionally, circuits can be paralleled.

The CLMD16 also supports two 12A H-Bridge reversing polarity circuits that can be used for loads such as engine hatches, passerelles, trim tabs, etc. The CLMD16 has 8 inputs for hard-wired switches that can be used to switch breaker states, or as inputs for other data such as bilge alarms or hatch positions, etc. There are 2 resistive inputs and 1 current loop input that can be used for various applications including tank level monitoring.

The CLMD16 handles many DC load types such as lights, pumps, motors, and electronics. An added benefit of the CLMD16 is that it reports the current through each of the 16 breakers. This allows you to determine if loads are drawing too much or too little electrical current. This information can be used to report overcurrent faults and undercurrent conditions.

Monitor and control onboard electrical and electronic systems and reset circuits onboard and remotely with the following devices:

- Any 3rd party MFD that supports standard digital switching PGNs
- Maretron MBB300C Black Box
  - Garmin OneHelm™
  - Raymarine LightHouse 3
- Maretron TSM Series Dedicated Touchscreen
- MPower VMM6 Digital Switch Module
- MPower CKM12 Keypad
- Any device running Maretron's award-winning N2KView® V3 Software

Product Features

- NMEA 2000® Interface
- IP67 Rated
- Ignition Protected
- Opto-Isolated from NMEA 2000, eliminating potential ground loops
- 16 Electronic Circuit Breakers (ECBs) for ON/OFF control over NMEA 2000 network
- 12 dimmable breakers
- 12 breakers carry 12 amps maximum, and 4 breakers are capable of carrying up to 25 amps
- Select breakers can be paralleled for larger loads.
- 2 sets of 12 amp breakers can be combined for reversing motor control
- Individual breaker electrical current monitoring
- Breakers can have power-up states defined (ON, OFF, or LAST STATE)
- Breakers can be locked against inadvertent actuation
- Capacitive touch switches for local control of all loads
- All inputs and outputs protected against short to power and short to ground
- Automatic ECB overcurrent shutdown
- Automatic ECB thermal shutdown (overtemperature protection)

PRODUCTS

PART NUMBER	DESCRIPTION
CLMD16-R	16-Channel DC Load Controller Module w/A3708, A3709 & A3710
CLMD16	16-Channel Load Controller Module
A3708	Output (J2) Mating Connector with 1m Flying Leads
A3709	Output (J1) Mating Connector with 1m Flying Leads
A3710	J3 (I/O Gen Purpose) Harness Kit
DTP06-4S	J1 (Output) Mating Connector, Deutsch
0462-203-12141	J1 (Output) 14AWG Socket, Deutsch

PART NUMBER	DESCRIPTION
WP-4S	J1 (Output) Wedge, Deutsch
DT06-12SA	J2 (Output) Mating Connector, Deutsch
0462-209-16141	J2 (Output) 14AWG Socket, Deutsch
W12S	J2 (Output) Wedge, Deutsch
1028-043-1205	J2 Back Shell, 12 Way Plug, Deutsch
DRC26-24SA	J3 (I/O General Purpose) Mating Connector, Deutsch
0462-201-20141	J3 (I/O General Purpose) 16-20AWG Socket, Deutsch
0413-204-2005	J3 Connector Seal Plug, 20 HD SER, Deutsch

SPECIFICATIONS

PARAMETER	VALUE
Number of Channels	16
Switching Voltage	< 32 VDC
Maximum Unit Current Capacity	125 amps
Maximum Channel Current Ratings	12x12A, 4x25A

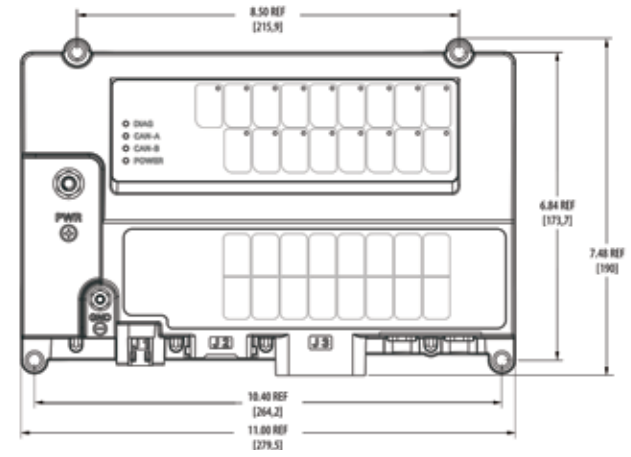
CERTIFICATIONS

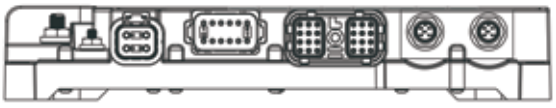
PARAMETER	COMMENT
NMEA 2000	Certified
CE Mark	Recreational Craft Directive 2014/35/EU
Lloyd's Certification	Pending

NMEA 2000® PARAMETER GROUP NUMBERS (PGNs)

DESCRIPTION	PGN#	PGN NAME	DEFAULT RATE
Periodic Data PGNs	127500	Load Controller Connection State & Control	1 time / 1.5 seconds and on switch change
	127501	Binary Status Report	1 time / 15 seconds and on switch change
	127751	DC Voltage / Current	1 time / 1.5 seconds
Response to Requested PGNs	126464	PGN List (Transmit and Receive)	N/A
	126720	Carling Proprietary	N/A
	126996	Product Information	N/A
	126998	Configuration Information	N/A
	130818	Maretron Proprietary	N/A
	130825	Maretron Proprietary	N/A
Protocol PGNs	059392	ISO Acknowledge	N/A
	059904	ISO Request	N/A
	060928	ISO Address Claim	N/A
	126208	NMEA Request/Command/Acknowledge	N/A
	126993	Heartbeat	1 time / 60 seconds
	130060	Label	N/A

Dimensional Specifications - Inch [mm]





ELECTRICAL

PARAMETER	VALUE	COMMENT
Voltage Input Range	8 to 32 VDC	DC Voltage
Power Consumption	50mA	NMEA 2000 Interface
Load Equivalence Number (LEN)	1	NMEA 2000 Spec. (1LEN = 50 mA)
Reverse Battery Protection	Yes	5 minutes
Load Dump Protection	Yes	12V: 87V, 200ms pulse, 1Ω impedance 24V: 173V, 100ms pulse, 2Ω impedance
12A ECB peak current capacity	120 A	
25A ECB peak current capacity	250 A	
Channel Current Measurement Accuracy	+/- 0.5 amps	Typical
Channel Current Measurement Resolution	0.1 amps	
Minimum Channel Current Measurement	0.5 amps	
PWM Frequency	200 Hz	Breakers 3, 4, 5, 6, 7, 8, 9, 10
	20 kHz	Breakers 1, 2, 11, 12
Load	Inductive load interface	
Duty Cycle Range	10% – 100%	
Duty Cycle Resolution	1%	
Programmable Trip Level Resolution	1% increments	Between 20% to 100% of Channel Capacity (12A or 25A)
Analog/Digital Input Channels Input Resistance	1KΩ	
Input Voltage, Open Circuit	2.75 V	
Alarm Output Maximum Supplied Current	300mA	
Resistive Input Measurement Accuracy	5 Ω	
Resistive Input Measurement Precision	2 Ω	
Resistive Input Measurement Resolution	1 Ω	

MECHANICAL

PARAMETER	VALUE	COMMENT
Size	11.0" x 7.48" x 1.871" (279.4mm x 190.0mm x 47.5mm)	Including Flanges for Mounting
Weight	2.5 lb. (1.2 kg)	
Power Stud Torque Value	30 to 35 in-lbs. (3.39N·m - 3.95N·m)	
Ground Stud Torque Value	10 to 15 in-lbs. (1.13 -1.69N·m)	