

# 12-Channel DC Load Controller Module



Designed for vessels of all sizes with smaller loads, the MPower® CLMD12 is a compact 12-Channel DC Load Controller Module. Two of the 12 breakers handle a maximum of 12 amps, six handle a maximum of 10 amps and four handle a maximum of 5 amps with a total current capacity of 75 amps. Additionally, like circuits can be paralleled.

If a smaller circuit needs to be protected, each of the 12 breakers can be set to trip at lower current levels using the new Maretron N2KAnalyzer® V3 software. In addition, the CLMD12 has inputs for up to 7 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.

The CLMD12 handles many DC load types such as lights, pumps, motors, and electronics. An added benefit of the CLMD12 is that it reports the current through each of the 12 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.

For manual control of the loads, an MPower 12-Channel Bypass Module (CBMD12) can be installed in conjunction with the CLMD12.

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

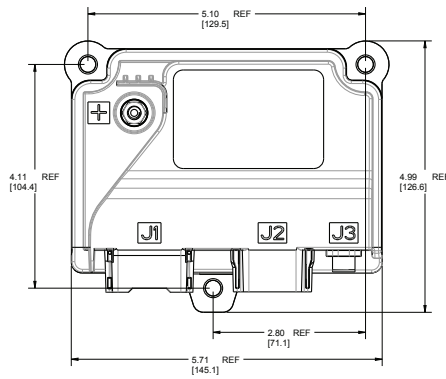
- NMEA 2000® Interface
- IP67 Rated
- Ignition Protected
- Opto-isolated from NMEA 2000, eliminating potential ground loops
- 12 dimmable (PWM) Electronic Circuit Breakers (ECBs) for ON/OFF control over NMEA 2000 network
  - 2 breakers capable of carrying up to 12 amps
  - 6 breakers capable of carrying up to 10 amps
  - 4 breakers capable of carrying up to 5 amps
- Individual breaker electrical current monitoring
- Breakers can have power-up states defined (ON, OFF, or LAST STATE)
- Breakers can be locked against inadvertent actuation
- 7 discrete inputs configurable as Active High, Active Low
- Automatic ECB overcurrent shutdown
- Automatic ECB thermal shutdown (overtemperature protection)

## PRODUCTS

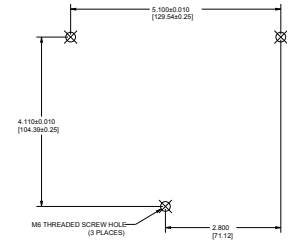
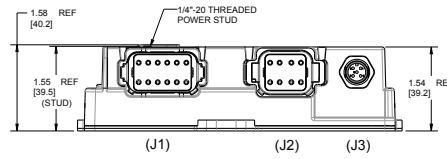
PART NUMBER	DESCRIPTION
CLMD12-R	12-Channel DC Load Controller Module w/A3706 and A3707
CLMD12	12-Channel DC Load Controller Module
A3706	Output (J1) Mating Connector with 0.3m Flying Leads
A3707	Input (J2) Mating Connector with 0.3m Flying Leads

PART NUMBER	DESCRIPTION
DT06-12SA	J1 (Output) Mating Connector, Deutsch
0462-209-16141	J1 (Output) 14AWG Socket, Deutsch
W12S	J1 (Output) Wedge, Deutsch
1028-043-1205	J1 Back Shell, 12 Way Plug, Deutsch
DT06-08SA-E003	J2 (Input) Mating Connector, Deutsch
0462-201-16141	J2 (Input) 16-20AWG Socket, Deutsch
W8S	J2 (Input) Wedge, Deutsch
1011-243-0805	J2 Back Shell, 8 Way Plug, Deutsch

## Dimensional Specifications - Inch [mm]



- NOTES:
1. WEIGHT: 1.25 LBS. (0.567 KG.) MAX.
  2. TEMPERATURE: OPERATING -40° C TO 55° C.  
STORAGE -55° C TO 85° C.
  3. MATING CONNECTIONS:  
J1 - DEUTSCH P/N DT06-12SA  
J2 - DEUTSCH P/N DT06-08SA-E003  
J3 - MICRO-C MALE CONNECTOR, M12 X 1



## SPECIFICATIONS

PARAMETER	VALUE
Number of Channels	12
Switching Voltage	< 32 VDC
Maximum Unit Current Capacity	75 amps
Maximum Channel Current Ratings	4x5A, 6x10A, 2x12A

## CERTIFICATIONS

PARAMETER	COMMENT
NMEA 2000	Certified
CE Mark	Recreational Craft Directive 2014/35/EU

## NMEA 2000® PARAMETER GROUP NUMBERS (PGNs)

DESCRIPTION	PGN#	PGN NAME	DEFAULT RATE
Periodic Data PGNs	65300	Carling Proprietary	1 time / 4 seconds
	127500	Load Controller Connection State & Control	1 time / 4 seconds and on switch change
	127501	Binary Switch Bank Status	1 time / 15 seconds and on switch change
	127751	DC Voltage / Current	1 time / 15 seconds
Response to Requested PGNs	126464	PGN List (Transmit and Receive)	N/A
	126996	Product Information	N/A
	126998	Configuration Information	N/A
	130818	Maretron Proprietary	N/A
	130825	Maretron Proprietary	N/A
	130921	Carling 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

## ELECTRICAL

PARAMETER	VALUE	COMMENT
Voltage Input Range	6.5 to 32 VDC	DC Voltage
Power Consumption	150mA @ 12 VDC / 70 mA @ 24 VDC	NMEA 2000 Interface
Load Equivalence Number (LEN)	3	NMEA 2000 Spec. (1LEN = 50 mA)
Reverse Battery Protection	Yes	Indefinitely
Load Dump Protection	Yes	Energy Rated per SAE J1113
Channel Current Measurement Accuracy	+/- 0.5 amps	Typical
Channel Current Measurement Resolution	0.1amps	
Minimum Channel Current Measurement	0.5 amps	
PWM (all breakers)		
Frequency	200 Hz	
Load	Inductive load interface not recommended when PWM used	
Duty Cycle Range	5% - 100%	
Duty Cycle Resolution	1%	
Programmable Trip Level Resolution	1 amp	
Discrete Input Channels		
Input Resistance	1KΩ	
Input Voltage, Open Circuit	2.75 V	
Low Voltage Threshold	0 to 1.02 V	
Open Voltage Threshold	1.51 – 4.31 V	
High Voltage Threshold	4.82 – 32.0 V	

## MECHANICAL

PARAMETER	VALUE	COMMENT
Size	5.7" x 5.0" x 1.6" (144.8mm x 127mm x 40.6mm)	Including Flanges for Mounting
Weight	1.32 lb. (.599 kg)	
Power Stud Torque Value	20in-lbs. (2.26 N.m)	