

# CLMD12

## MPower 12-Channel DC Load Module

The new MPower Series by Maretron replaces standard mechanical circuit breakers and switches with state-of-the-art digital power distribution. Customers looking to achieve the power and convenience of advanced home automation for their boats will appreciate MPower's seamless, reliable operation as well as simple and cost-effective installation.

Maretron's new CLMD12 offers programmable multi-channel DC electronic load modules in an innovative, scalable configuration, each capable of switching up to 5, 10, or 12 Amps with a total current capacity of 75 Amps. The CLMD12 provides fast switching and low-loss solid state ON/OFF switches.

The CLMD12 connects directly to the NMEA 2000® network, allowing breakers to be turned on and off from a Maretron DSM-Series display or any device running Maretron N2KView® (including Maretron's TSM-Series multifunction displays and MBB-Series black boxes or smart phones/tablets running N2KView software). Additionally, since the CLMD12 supports standard NMEA 2000 messages, it can be controlled by any NMEA 2000 device.

The CLMD12 easily handles resistive DC loads like lights and inductive DC loads like pumps and motors. 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 little electrical current such as burnt-out bulbs, or if the loads are starting to draw too much electrical current.



### Product Highlights

- NMEA 2000® Interface
- IP67 Rated
- Ignition Protected
- Opto-Isolated from NMEA 2000®, eliminating potential ground loops
- Twelve (12) dimmable Electronic Circuit Breakers (ECBs) for ON/OFF control over NMEA 2000® network
- Each breaker is capable of carrying up to 5, 10, or 12 Amps
- Individual breaker electrical current monitoring
- Breakers can have power-up states defined (ON, OFF, or previous states)
- Breakers can be locked against inadvertent actuation
- Seven (7) discrete inputs configurable as Active High, Active Low
- Automatic ECB overcurrent shutdown
- Automatic ECB thermal shutdown (Overtemperature Protection)

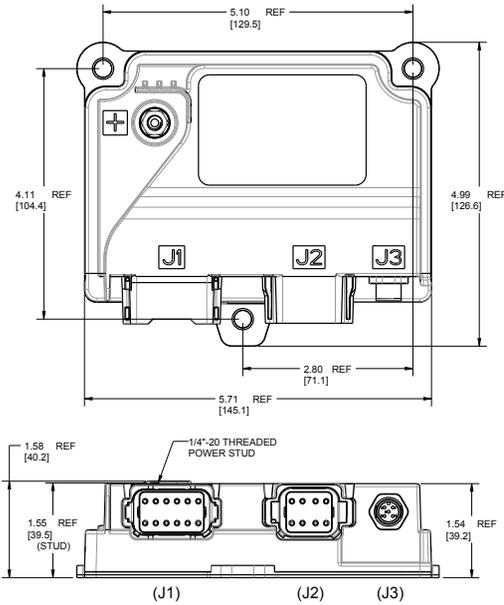


### PRODUCTS

Part Number	Description
CLMD12	MPower CLMD12 12-Channel DC Load Module
Deutsch DT06-12SA	J1 (Output) Mating Connector
Deutsch 0462-209-16141 (14 AWG)	J1 (Output) Socket
Deutsch W12S	J1 (Output) Wedge
Deutsch DT06-08SA-E003	J2 (Input) Mating Connector
Deutsch 0462-201-16141 (16-20 AWG)	J2 (Input) Socket
Deutsch W8S	J2 (Input) Wedge
A3706 Output	(J1) Mating Connector with 12" Flying Leads
A3707 Input	(J2) Mating Connector with 12" Flying Leads
CBMD12	MPower 12 Channel DC Bypass Module

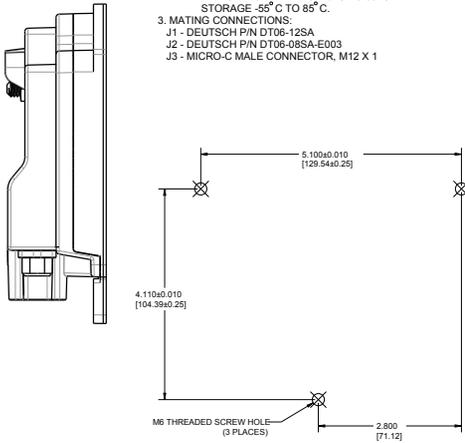
\*Manufacturer reserves the right to change product specification without prior notice. Please refer to our website for the latest details.

# Dimensional Specifications - in [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	<32VDC
Maximum Unit Current Capacity	75 Amps
Maximum Channel Current Ratings	4x5A, 6x10A, 2x12A

**CERTIFICATIONS**

Parameter	Comments
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
	126464	PGN List (Transmit and Receive)	N/A
Response to Requested PGNs	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

Parameter	Value	Comment
Voltage Input Range	6.5 to 32 VDC	DC Voltage
Power Consumption	150 mA @ 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	0.1 Amps	
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" x 1.6" (144.8mm x 127mm x 40.6mm)	Including Flanges for Mounting
Weight	1.32 lb. (.599 kg)	
Power Stud Torque Value	20 in.-lbs. (2.26 N-m)	

# System Diagram

