Digitial Switching Platform

MPOWER® IS A FLEXIBLE AND SCALABLE platform designed to control DC systems using configurable keypads, switch modules and multifunction displays. Designed for small runabout vessels to large yachts and beyond, MPower simplifies installation and delivers easy, intuitive control over the increasingly complex systems found on today's vessels.

All MPower products connect directly to the NMEA 2000® network providing access to and compatibility with an array of sensors and instrumentation. If you are a boatbuilder, technical dealer, or a savvy DIY boat owner already familiar with Maretron's vast monitoring & control ecosystem, MPower delivers impressive, distributed power and digital switching capabilities. Because of MPower's use of standard PGNs (versus proprietary messages), MPower easily integrates with an NMEA 2000 system or MFD you likely already service or own.

As part of the Carling Technologies family, with over 100 years of expertise in switches and circuit protection, Maretron customers have the added bonus of a global network of sales and support. We are your ONE source for creating the intelligent boat … from cables & connectors to complete vessel monitoring & control solutions.

Marine has been our passion for decades. It's where we live, work and play–today, tomorrow and in the future.

NMEA 2000® Certified products are listed on the NMEA website www.NMEA.org.

MPower®

Digital Switching Platform

CLMD12
12-Channel DC Load Controller Module

CBMD12
12-Channel Bypass Module

CLMD16
16-Channel DC Load Controller Module

VMM6
Contura® Digital Switch Module, 6 Rocker

CKM12
12-Button Customizable Keypad

WSV100
MConnect HTML5 Web Server

12-Channel DC Load Controller Module

MPower®

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 over-current 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 4
- 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

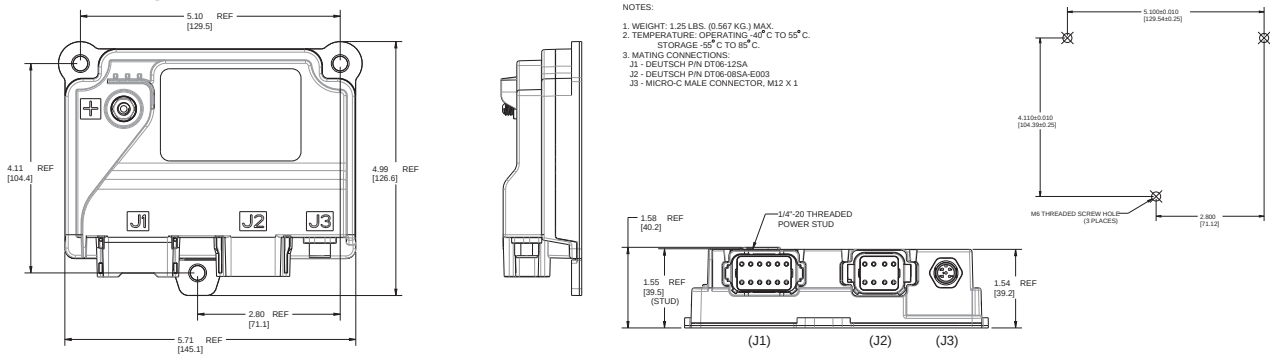
- NMEA 2000® Interface
- IP67 Rated
- Ignition Protected
- Opto-isolated from NMEA 2000, eliminating potential ground loops
- 12 dimmable (PWM) Electronic Circuit Breakers (ECBs) for ON/OFF control over NMEA 2000 network
  - 2 breakers capable of carrying up to 12 amps
  - 6 breakers capable of carrying 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]



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)	

12-Channel Bypass Module

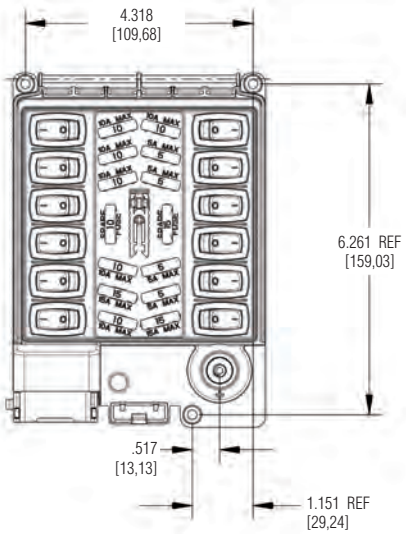
MPower®

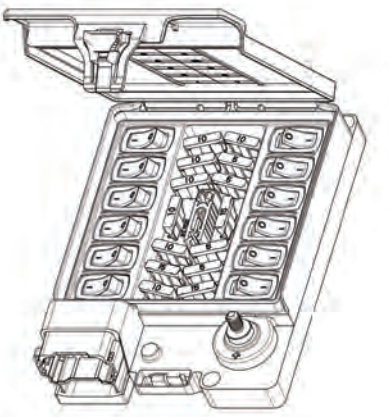
Installing the MPower® Bypass Module (CBMD12) in conjunction with the MPower 12-Channel DC Load Controller Module (CLMD12) provides owners/operators with the ability to manually control individual loads locally with a simple flip of a switch. The CBMD12 utilizes standard fuses for overcurrent protection and 12 Carling Curvette® Marine Rocker Switches for manual control of each load. One of the most popular styles used in general electrical applications, Curvette Rocker Switches are designed for extreme environments, corrosion, temperature, vibration, shock, and more. Extremely robust, Curvette switches are designed to last a minimum of 100,000 actuation cycles. This is a more reliable, safer and simpler process than physically moving a fuse while manually overriding a circuit.

It's important to ensure that the current rating of the fuse for each load is appropriate to protect the load and the wiring for that load. Please note that the Bypass Module does not support paralleled outputs since each circuit is controlled by a separate switch. Additionally, the Bypass Module does not support dimming of circuits.

Product Features

- 75 amps maximum current capacity
- Outputs
  - 12A max (two outputs)
  - 10A max (six outputs)
  - 5A max (four outputs)
- 12 & 24V DC power systems
- Carling Technologies Curvette® Rocker Switches
- Overcurrent protection via ATC standard fuses

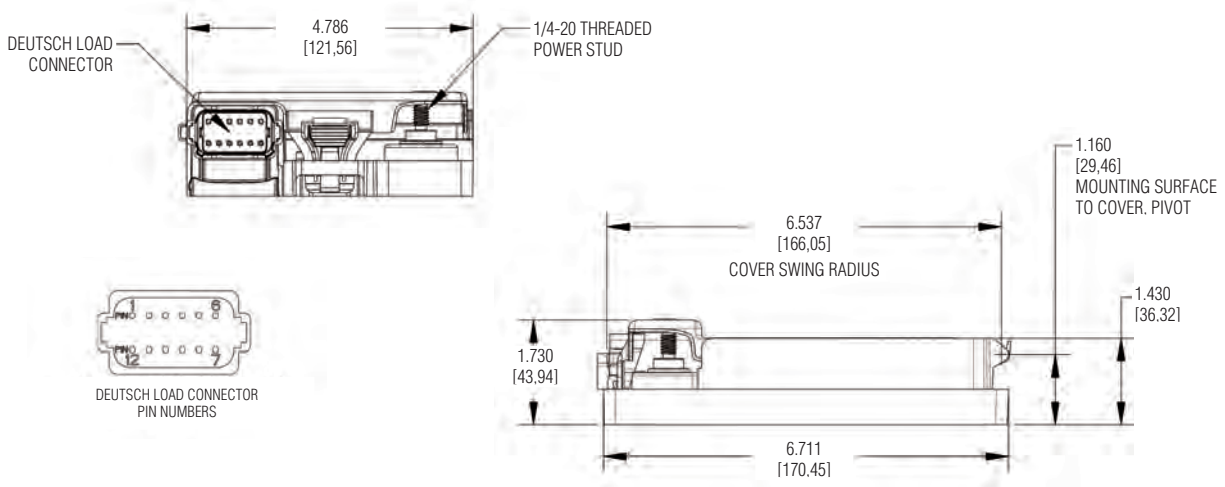




PRODUCT

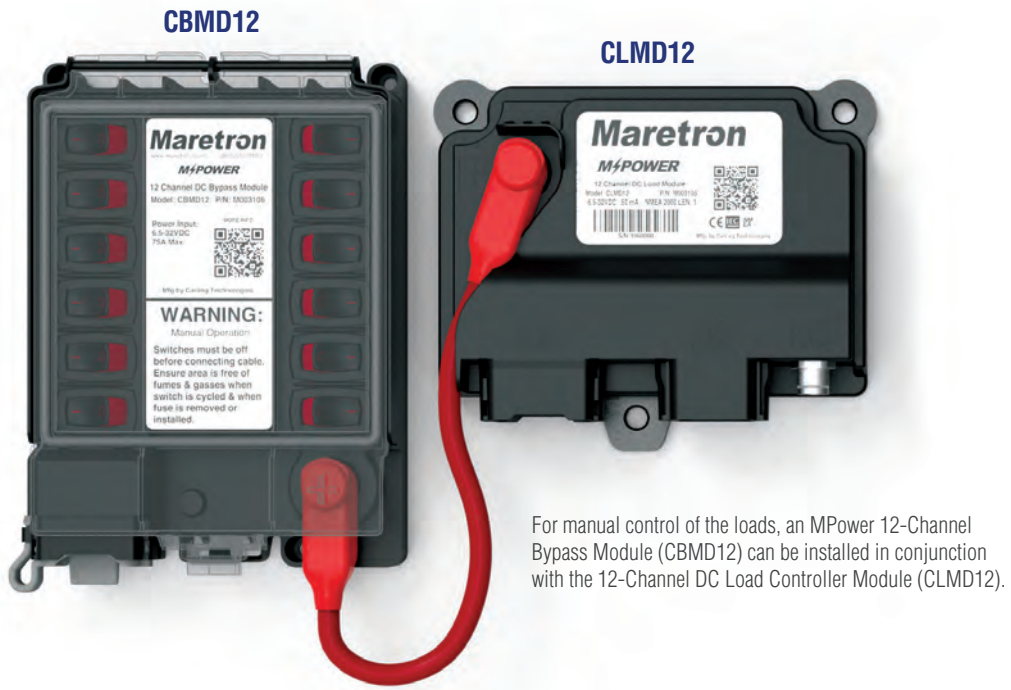
PART NUMBER	DESCRIPTION
CBMD12-R	12-Channel Bypass Module w/ Fuse Pack and Jumper Wire
CBMD12	12-Channel Bypass Module
A3720	Bypass Module Jumper Wire with Lugs, 6AWG, Red
A3721	Bypass Module Fuse Pack (2 qty 15A, 6 qty 10A and 4 qty 5A)

Dimensional Specifications - Inch [mm]



PIN#	1	2	3	4	5	6	7	8	9	10	11	12
SWITCH#	1	2	3	4	5	6	12	11	10	9	8	7
CIRCUIT#	5	4	8	2	10	1	11	3	12	6	9	7
FUSE MAX RATING	10 AMP	12 AMP	10 AMP	10 AMP	10 AMP	10 AMP	10 AMP	5 AMP	5 AMP	5 AMP	5 AMP	12 AMP

12-Channel Bypass Module and 12-Channel DC Load Controller Module Installation



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

16-Channel DC Load Controller Module

MPower®

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 over-current 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 4
- 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

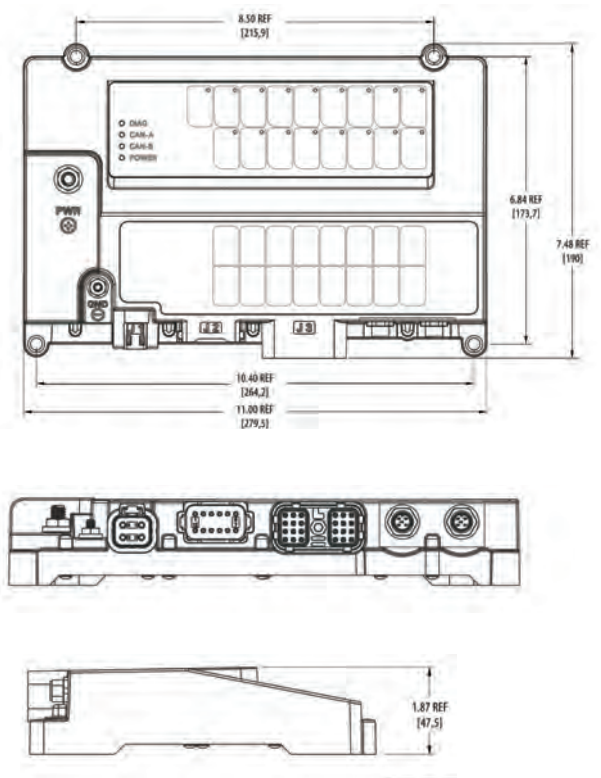
ELECTRICAL

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)	

Dimensional Specifications - Inch [mm]



VMM Series

Contura® Digital Switch Module, 6 Rocker

MPower®

The VMM6 is a sealed multiplexed, digital switch module featuring the Carling V-Series Contura® Rocker Switches. Well known for their cutting-edge design, high quality, maximum performance and unmatched reliability, the VMM6 Series reduces the complexity and cost of traditional wiring harnesses, increases product life and reliability, and reduces installation time. Available in six simple configurations, VMM6 is a plug-and-play solution that delivers switching technology at a very attractive price point.

For customers that want the option to source aftermarket actuators, we offer two versions of the VMM6 without actuators (Part numbers A3801-5, A3801-6).

Product Features

- NMEA 2000® CAN Protocol
- IP68 Front Panel Sealing Protection
- Configurable
- Horizontal or Vertical Mounting Options
- Aftermarket Actuators Available
- LED Feedback of Circuit State
- Low Current Switching
- Tactile and Audible Feedback

Front View

SEALING PROTECTION
Fully sealed IP68 front panel (when connected)

CUSTOMIZABLE ICONS
Choose from our standard selection of icons, or customize your own. Consult the factory for additional options.

ROCKERS
Variety of Carling V-Series Contura® actuators

Back View

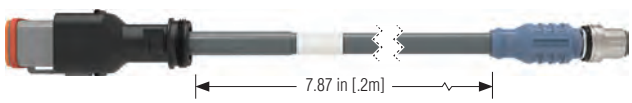
SEALING PROTECTION
Fully sealed IP68 back panel when connected and mating plug installed (included).

4 PIN CONNECTOR
The included mating plug must be installed to meet IP68 Rating for back panel.

SNAP-IN MOUNTING
For fast, easy assembly

6 PIN CONNECTOR
Mates to the VMM to NMEA 2000 Adapter Cable

VMM to NMEA 2000® Adapter Cable - .2m (A3702)



PRODUCTS

PART NUMBER	DESCRIPTION
A3801-1	Contura II (ALL Position Momentary ON) w/A3702
A3801-2	Contura II (Right Switch 3-Position) w/A3702
A3801-3	Contura V (All Positions Momentary ON) w/A3702
A3801-4	Contura V (Right Switch 3-Position) w/A3702
A3801-5	No Actuators (ALL Positions Momentary ON) w/A3702
A3801-6	No Actuators (Right Switch 3-Position) w/A3702

PART NUMBER	DESCRIPTION
A3702	VMM to NMEA 2000® Adapter Cable - .2m
A3702-1	VMM to NMEA 2000® Adapter Cable - 1m
A3702-2	VMM to NMEA 2000® Adapter Cable - .2m (90° Deutsch Connector)
A3702-3	VMM to NMEA 2000® Adapter Cable - 1m (90° Deutsch Connector)

NMEA 2000® PARAMETER GROUP NUMBERS (PGNs)

DESCRIPTION	PGN#	PGN NAME	DEFAULT RATE
Periodic Data PGNs	127501	Binary Status Report	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
Protocol PGNs	059392	ISO Acknowledge	N/A
	055904	ISO Request	N/A
	060160	ISO Transport Protocol, Data Transfer	N/A
	060928	ISO Address Claim	N/A
	065240	ISO Address Command	N/A
	126208	NMEA Request/Command/Acknowledge	N/A
	126993	Heartbeat	1 time / 60 seconds
Carling Proprietary PGNs	061184	Device Configuration Information	N/A
	065226		N/A
	065300	Carling Flash Table Configuraton Response	N/A

ELECTRICAL

PARAMETER	VALUE	COMMENT
Operating Voltage	9 to 32 Volts	DC Voltage
Power Consumption	150mA	NMEA2000® Interface
Load Equivalence Number (LEN)	3	NMEA2000® Spec. (1 LEN = 50mA)
Reverse Polarity Protection	Yes	-24V for 5 minutes
Electrical Endurance	250,000 operations	
Connector Type	Deutsch DT Series	

MECHANICAL

PARAMETER	VALUE	COMMENT
Size	6.31" x 2.00" x 2.29" (160.27mm x 50.8mm x 58.17mm)	Includes Flanges for Mounting
Weight	8 oz. (227g)	

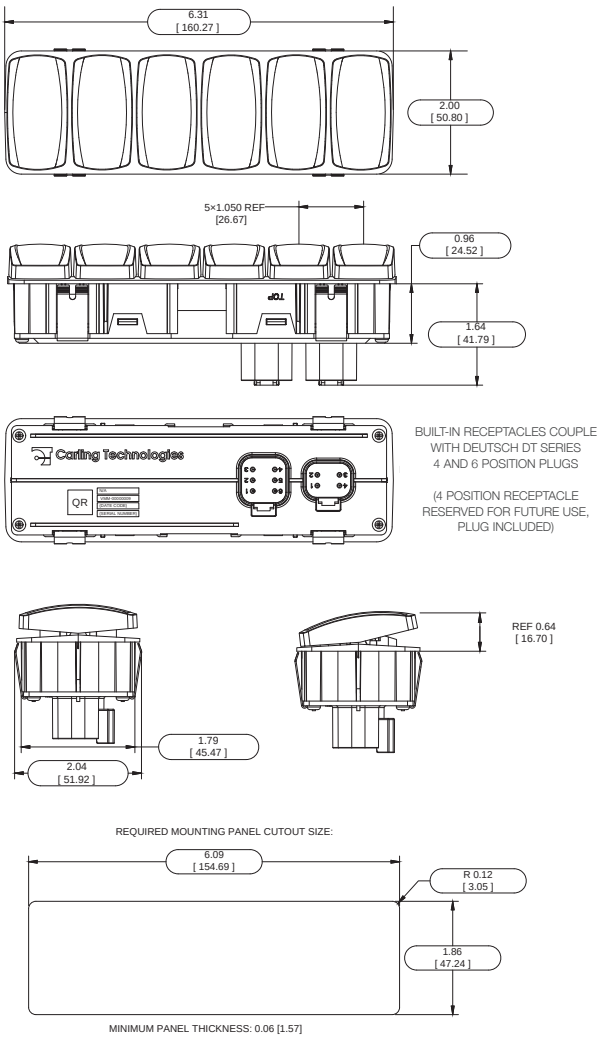
ENVIRONMENTAL

PARAMETER	VALUE
Degree of Protection	IP68
Operating Temperature	-40°C – 85°C
Humidity, Soak	EN 60068-2-78 Test Cab, 30°C at 93% RH for 10 days
Vibration	EN 60068-2-6, swept sine wave from 5-500 Hz, ±15mm
Solar Radiation	EN 60068-2-5 Procedure B, 40°C for 10 days
Corrosion (Salt Mist)	EN 60068-2-52 Test Kb, severity level 4

CERTIFICATIONS

PARAMETER	COMMENT
NMEA 2000® Standard	Level A
CE Mark	Electromagnetic Compatibility

Dimensional Specifications - Inch [mm]



CKM Series

12-Button Customizable Keypad

MPower®

The CKM12 is a customizable keypad featuring laser-etched legends and LED function lights for each button. The LEDs also provide diagnostics when fault conditions are detected.

With the rugged mechanical packaging (IP69K), the CKM12 can be installed inside or outside the cabin. The low-profile design offers a seamless dashboard look and it can be mounted either vertically or horizontally.

The CKM12 offers significant advantages over traditional electromechanical switches such as longer actuation cycle (1,000,000), reduced wiring harness and reduced installation time. The CKM12 is sold off the shelf in two configurations and includes a CKM to NMEA 2000® Adapter Cable.

Product Features

- NMEA 2000® CAN Protocol
- IP69K Front Panel Sealing Protection
- Configurable
- Diagnostic Feedback
- Standard or Custom Laser Etched Legends
- 1,000,000+ Button Actuation Cycles
- Low Current Switching
- Tactile and Audible Feedback

Front View

LOW PROFILE DESIGN
.57 inch [14.48 mm] thickness (See dimensional specifications for more detail)

SEALING PROTECTION
IP69K front panel sealing protection

CUSTOMIZABLE ICONS
Choose from our standard selection of icons or customize your own. Consult the factory for additional options and minimum quantities for customization.

LED FUNCTION LIGHTS
Standard blue. Consult the factory for additional options.

Back View

SEALING PROTECTION
Fully sealed IP68 back panel when connected

10-32 MOUNTING STUDS (2X)
Max tightening torque 30 inch lbs.

CONNECTOR
Mates to the CKM to NMEA 2000® Adapter Cable

CKM to NMEA 2000® Adapter Cable - .2m (A3703)

PRODUCTS

PART NUMBER	DESCRIPTION
A3802-1	CKM12 Keypad (Circle on Buttons) w/A3703
A3802-2	CKM12 Keypad (Number in Center of Circle on Buttons) w/A3703
A3703	CKM to NMEA 2000® Adapter Cable - .2m

PART NUMBER	DESCRIPTION
A3703-1	CKM to NMEA2000® Adapter Cable - 1m
A3703-2	CKM to NMEA2000® Adapter Cable - .2m (90° Deutsch Connector)
A3703-3	CKM to NMEA2000® Adapter Cable - 1m (90° Deutsch Connector)

NMEA 2000® PARAMETER GROUP NUMBERS (PGNs)

DESCRIPTION	PGN#	PGN NAME	DEFAULT RATE
Periodic Data PGNs	127501	Binary Status Report	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
Protocol PGNs	059392	ISO Acknowledge	N/A
	055904	ISO Request	N/A
	060160	ISO Transport Protocol, Data Transfer	N/A
	060416	ISO Transport Protocol, Connection Management	N/A
	060928	ISO Address Claim	N/A
	065240	ISO Address Command	N/A
	126208	NMEA Request/Command/Acknowledge	N/A
	126993	Heartbeat	1 time / 60 seconds
Carling Proprietary PGNs	061184	Device Configuration Information	N/A
	065300	Carling Flash Table Configuraton Response	N/A

ELECTRICAL

PARAMETER	VALUE	COMMENT
Operating Voltage	8 to 32 Volts	DC Voltage
Power Consumption	150mA	NMEA2000® Interface
Load Equivalence Number (LEN)	3	NMEA2000® Spec. (1 LEN = 50mA)
Reverse Polarity Protection	Yes	-24V for 5 minutes
Electrical Endurance	1,000,000 operations	
Connector Type	Deutsch DT Series	

MECHANICAL

PARAMETER	VALUE	COMMENT
Size	6.49" x 2.30" x 1.3" (164.85mm x 58.42mm x 33.02mm)	Includes Flanges for Mounting
Weight	.50 lb. (.23 kg)	

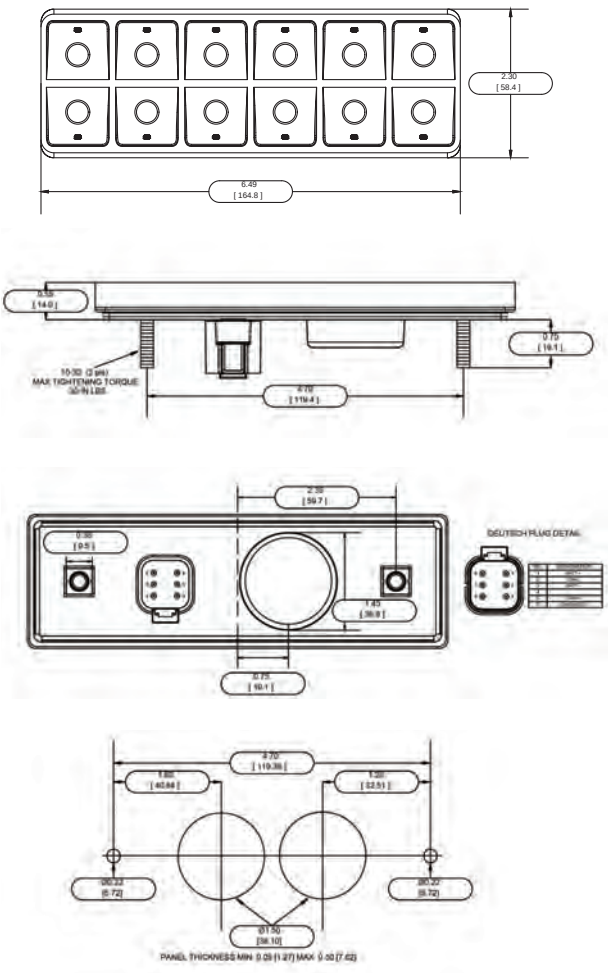
ENVIRONMENTAL

PARAMETER	VALUE
Degree of Protection	IP6K9K (front), IP6K8 (back)
Operating Temperature	-40°C – 85°C
Humidity, Soak	EN 60068-2-78 Test Cab, 30°C at 93% RH for 10 days
Vibration	EN 60068-2-6, swept sine wave from 5-500 Hz
Solar Radiation	EN 60068-2-5 Procedure B, 10 cycles, Total irradiation per cycle = 22.4 kWh/m^2
Corrosion (Salt Mist)	EN 60068-2-52 Test Kb, severity level 4

CERTIFICATIONS

PARAMETER	COMMENT
NMEA 2000® Standard	Level A
CE Mark	Electromagnetic Compatibility

Dimensional Specifications - Inch [mm]



MConnect

HTML5 Web Server

Designed for vessels of all sizes, the new MConnect® Web Server provides real time data on web pages that can be displayed on multiple phones, tablets, PCs or MACs—simultaneously. Following the design paradigm of Maretron's award-winning N2KView® Vessel Monitoring and Control Software, MConnect's engaging and informative graphic controls make it easy to display a large amount of critical data.

Pages can also be displayed on marine Multifunction Displays (MFDs) that support remote HTML servers such as Garmin OneHelm™ and Raymarine LightHouse 4 as well as full integration with digital switching systems such as Octoplex® and MPower®.

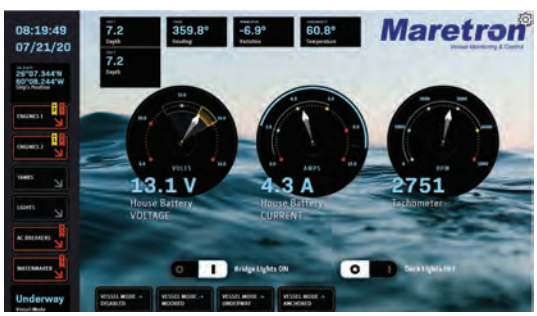
Through innovative use of color and high-definition graphics, the health of your boat is displayed at a glance as this information is seamlessly rolled up to other screens, bringing attention to potential problems. MConnect is fast, seamless, and easy to learn with an uncluttered interface that is customizable.

MConnect has direct connections to two NMEA 2000 busses, and receives data from both, independently. This means that MConnect can monitor Primary and Secondary busses, or independent Navigation and Monitoring busses without the need for a bridge.

With multiple simultaneous users, and a low price point, MConnect makes comprehensive vessel monitoring available to more users than ever before.

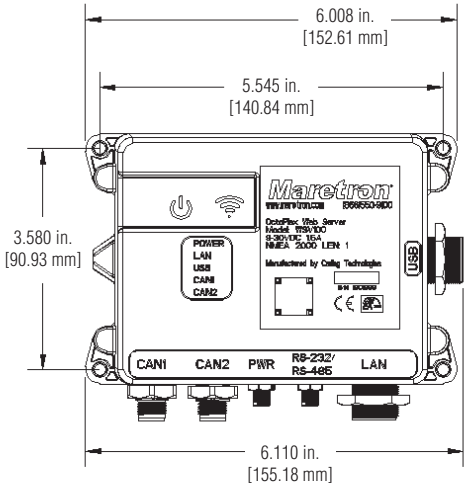
Product features:

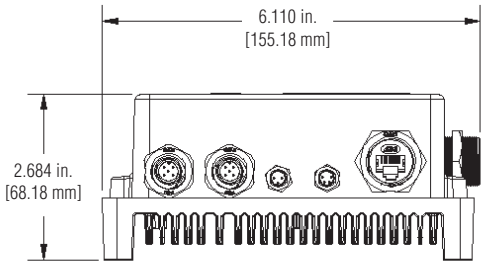
- IP67 Rated
- Dual CAN Bus for single or redundant NMEA 2000® Network Connections
- USB 3.0 Port
- RJ45 Ethernet Port
- Can support simultaneous access from up to (4) users
- 9-32 Volt Power Input (Reverse Polarity Protected)
- 5 Watt Power Usage
- Engaging HTLM5 User Interface Experience

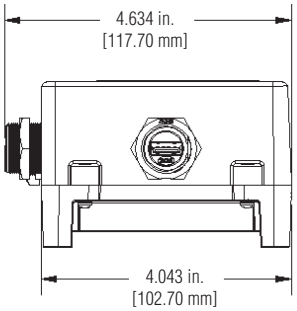


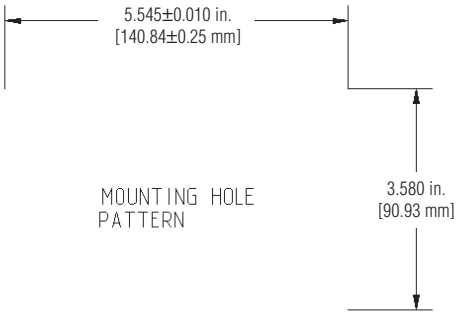
PRODUCTS

PART NUMBER	DESCRIPTION
WSV100	MConnect HTML5 Web Server

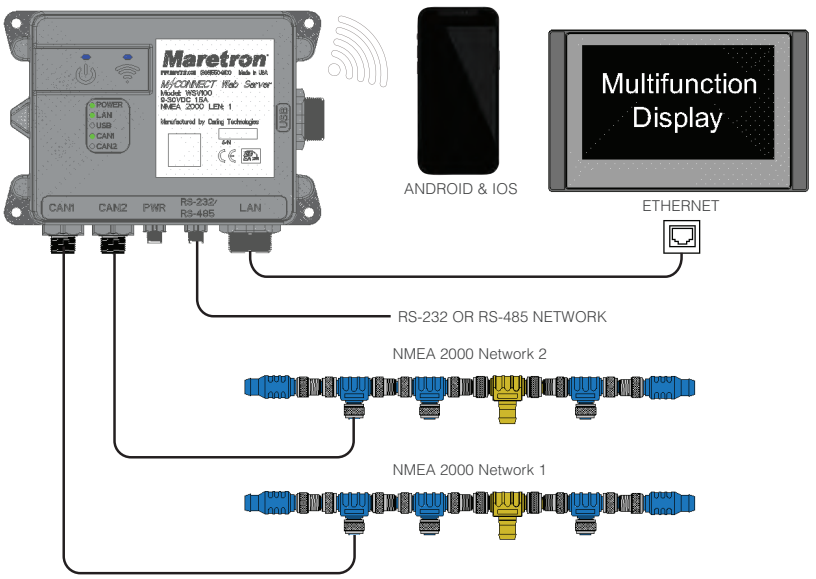








MConnect



SPECIFICATIONS

PARAMETER	VALUE	COMMENT
(2) CAN Ports	NMEA 2000 Micro-C	For Connectivity to NMEA 2000
Serial Port	UART Interface	Switchable between RS-485 and RS-232 Protocols
USB Port	USB 3.0	For Software Updates and File Uploading
RJ45 Ethernet	1Gb/s	HTTP/HTTPS Port
Web Browser®	HTML5/JavaScript	To Support MFD Connectivity

ELECTRICAL

PARAMETER	VALUE	COMMENT
Operating Voltage	9–32 Volts	DC Voltage (Dedicated Power Connection)
Power Consumption	5 Watts	Typical
Operating Voltage (NMEA 2000 Connection)	8–32 Volts	DC Voltage
Power Consumption (NMEA 2000 Connection)	50mA	1 LEN
Reverse Polarity Protection	Yes	NMEA 2000 & Power Connection

MECHANICAL

PARAMETER	VALUE	COMMENT
Overall Dimensions (D x W x H)	2.68" x 6.00" x 4.04" (68.18 mm x 152.61 mm x 102.70mm)	Excluding Connectors
Weight	3 lbs. (1.36 kg)	
Mounting	Screw Mount	4 x #10 Screw Recommended, (Horizontal or Vertical Mounting Orientation
Material	ABS Plastic Front Aluminum Back	
Heat Dissipation	Aluminum Heatsink	Air Cooled

ENVIRONMENTAL

PARAMETER	VALUE
Operating Temperature	-20°C to 70°C
Storage Temperature	-40°C to 85°C
Ingress Protection	IP67

CERTIFICATION

AGENCY
FCC Part 15
CE
NMEA 2000