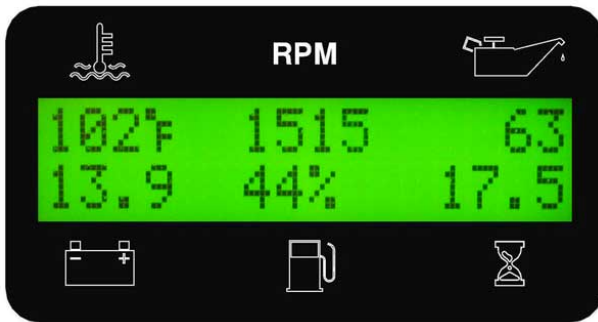


## DESCRIPTION

The M-4562 marine panel comes with the M-100 uCAN™ Engine Control Module, a microprocessor-based, digital controller that provides engine monitoring, and alarm enunciation for J1939 electronic engines. The large backlit display provides complete, easy-to-read engine information. A 21-pin connector plugs is provided for a simply plug and play interface with the engine harness. The M-4562 panel comes with key switch and gauges.

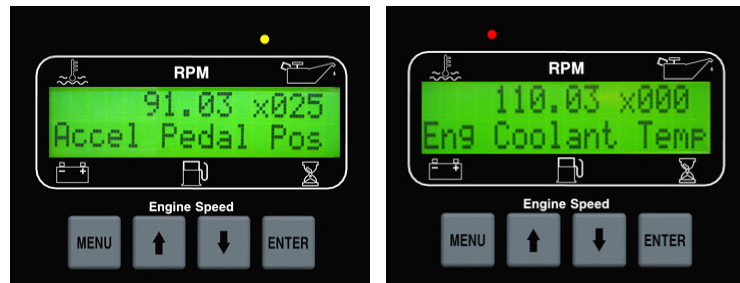
## DISPLAY

Large backlit display with ½" characters. Six full-time display parameters. Fuel level is display when wired to a fuel level sender.



## ALARMS & SHUTDOWNS

Engine protection is provided with easy-to-read display messages and indication lamps (red and yellow) for pre alarm and alarm conditions. The display provides the SPN.FMI trouble code, and a descriptive text message.



## ENCLOSURE

The M-100 module is water tight and constructed from durable polycarbonate for protection and longevity in marine applications.

## MULTIPLEXING

The M-100 module can be configured for multiplex operation. Multiple panels can be installed on a single engine with each panel providing start/stop, engine display and engine ECU fault codes. Please contact Controls, Inc. to review your application requirements. We can also provide wire harnessing for a simple and complete installation.

## CONNECTOR

A water tight 21-pin connector is provided for simple plug and play connection to the engine harness.

## FLEX INPUTS/OUTPUTS

The controller flex input and flex outputs are configurable to be normally open or closed and can be assigned for different functions. Customer specific display messages can be implemented for each input or output.

## SPECIFICATIONS

### GENERAL

OPERATING VOLTAGE.....	5.5 VDC to 20VDC
MAXIMUM CURRENT CONSUMPTION AT 12.6V.....	150mA
OPERATING TEMPERATURE.....	-20°C to +70°C
STORAGE TEMPERATURE.....	-30°C to +80°C
HUMIDITY.....	95% Non-condensing
REVERSE POLARITY PROTECTION.....	Yes
TRANSIENT VOLTAGE SUPPRESSION.....	Yes
LOAD DUMP PROTECTION.....	Yes
DISPLAY.....	LCD, 1"H X 4"W, (2 lines x 16 characters/line)
ENCLOSURE.....	Polycarbonate w/ Powder Coated Steel Bracket
OVERLAY/INTERFACE.....	Autotex Polyester
APPROX. WEIGHT.....	7.5 lbs
APPROX. DIMENSIONS.....	7.5"H x 16"W x 5.5"D

### COMMUNICATIONS

ENGINE COM PORT.....	CAN bus J1939 Protocol
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### INPUTS

ANALOG INPUT.....	1
DIGITAL FLEX INPUT.....	1
<i>Configurable as: 1) Normally open or normally closed, 2) Relay closure, pre alarm or alarm, 3) User defined message for display</i>	

### FLEX OUTPUTS

5A FORM A DRY CONTACTS.....	2
5A OR 10A FORM A DRY CONTACTS (Specification Dependent).....	2
<i>Each output is configurable as: 1) Normally open or normally closed, 2) Pre alarm, alarm, throttle or tied to flex input</i>	

### THROTTLE CONFIGURATION.....SELECTABLE

1) TSC Range 2) Digital 2-State 3) Digital 3-State 4) Digital Momentary 5) Disabled

### CONNECTOR

DEUTSCH 31-PIN (P/N HDP24-24-31PE).....	ENVIRONMENTALLY SEALED
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### OTHER

ENGLISH/METRIC DISPLAY.....	SELECTABLE
DISPLAY BACKLIGHT ADJUSTMENT.....	SELECTABLE
DISPLAY TEMPERATURE CONTRAST ADJUSTMENT.....	AUTOMATIC
<i>Extreme Cold Weather Option</i>	
OPERATING TEMPERATURE.....	-45°C to +85°C
STORAGE TEMPERATURE.....	-55°C to +95°C

## SUMMARY

- Robust design & construction for demanding marine applications
- Easy-to-read, simple-to-operate
- Flexible input and outputs
- Configurable via user friendly menu selections (No computer interface required)