Product Manual

Part Number: MVP-MG100
Revision: 1.0

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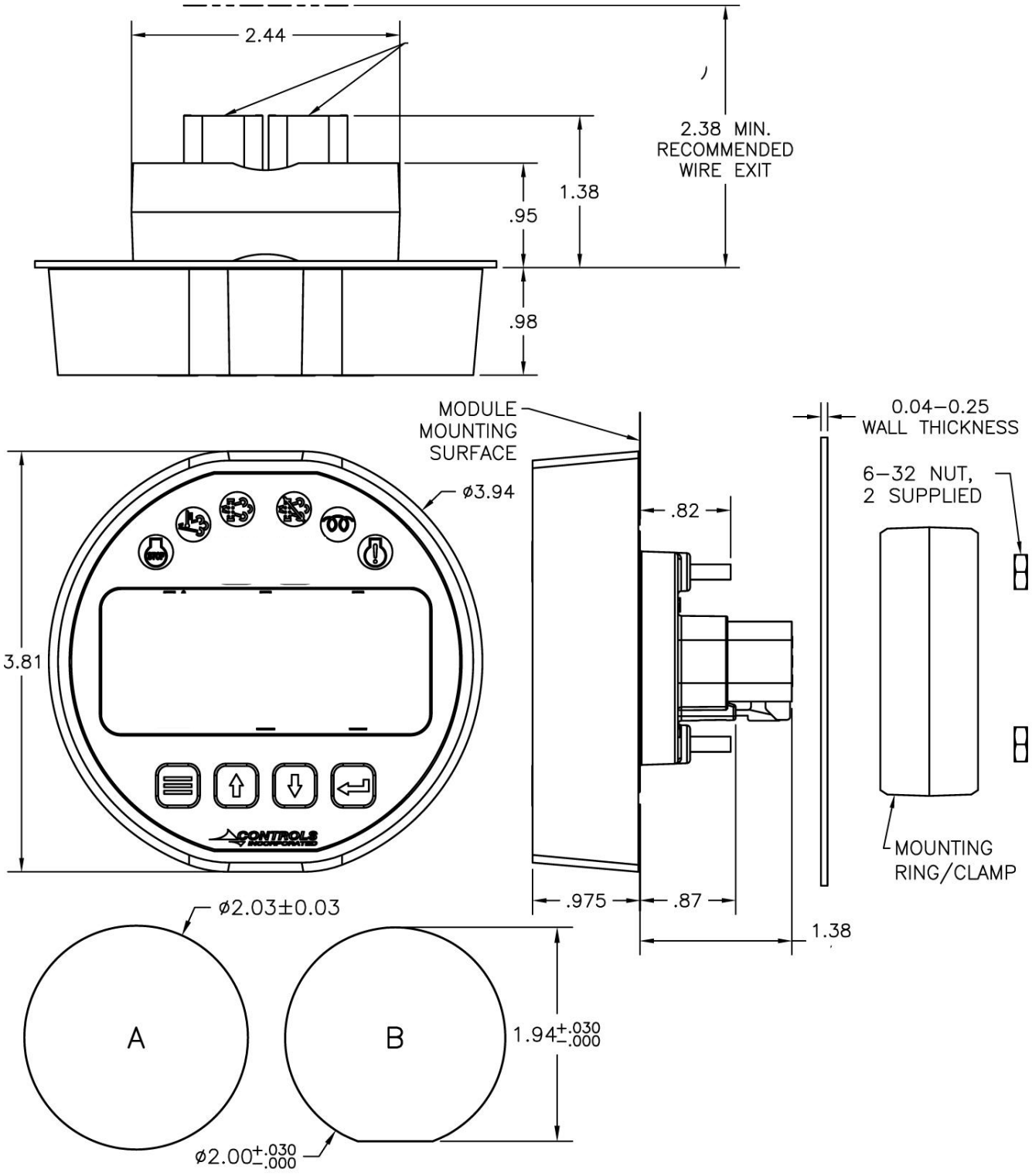
Prior to starting the engine, select the proper throttle control mode and parameters required for application.

CAN Bus Configuration

This module communicates to the engine ECU via the J1939 CAN Bus network. This is a three wire connection to the engine ECU. Engine information and alarm codes are broadcast over the CAN bus from the engine ECU to the controller display.

To assure proper communications between the engine ECU and the controller, the correct **SOURCE ADDRESS** need to be selected in the controller for the particular engine make and model. These settings are available in the **CAN CONFIGURATION MENU**.

INSTALLATION INFORMATION



MOUNTING HOLE REQUIREMENTS (A OR B)

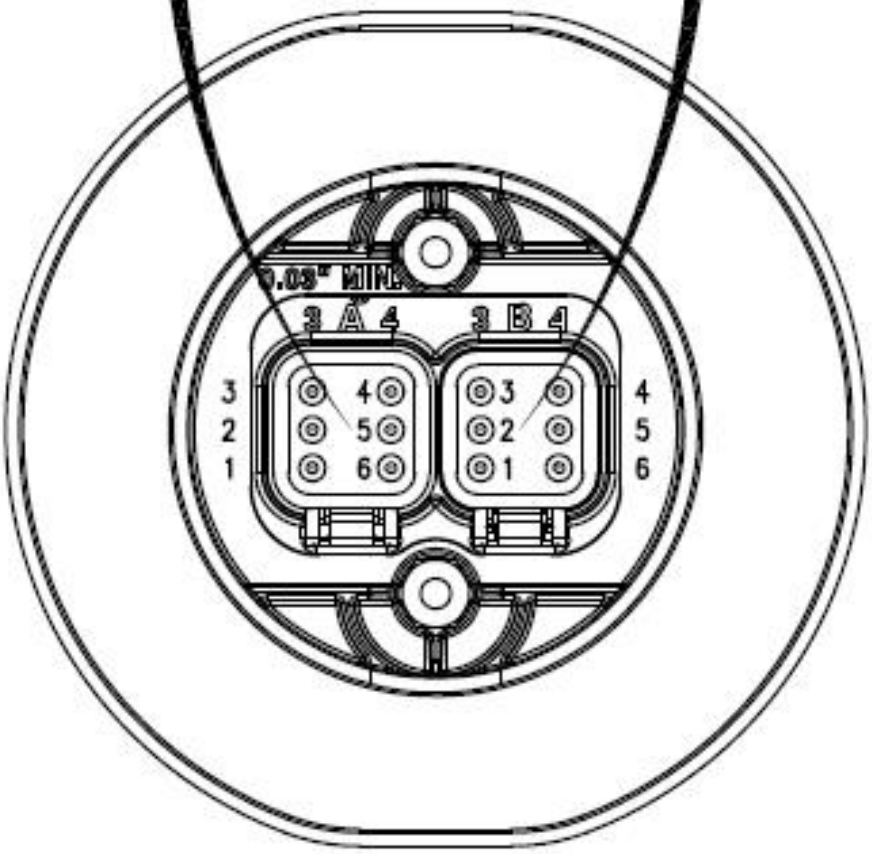
CONNECTOR INFORMATION

CONNECTOR A

FUNCTION	PIN
BATTERY +	1
CAN H	2
CAN L	3
DIGITAL INPUT 1	4
FUEL LEVEL	5
GROUND	6

CONNECTOR B

FUNCTION	PIN
BATTERY +	1
DIGITAL 1	2
RS–485 +	3
RS–485 –	4
DIGITAL 2	5
GROUND	6



ENGINE ALARMS, CODES AND MESSAGES

Engine ECU Alarm/De-Rate/Shut Downs

It is important to understand panel operation with respect to engine safety protections, alarms, and fault codes. The panel operates with J1939 engines. These engines have an ECU (engine control unit) which is essentially a computer that runs the engine. When engine parameters are out of normal operating ranges, the ECU takes specific actions which can include the following:

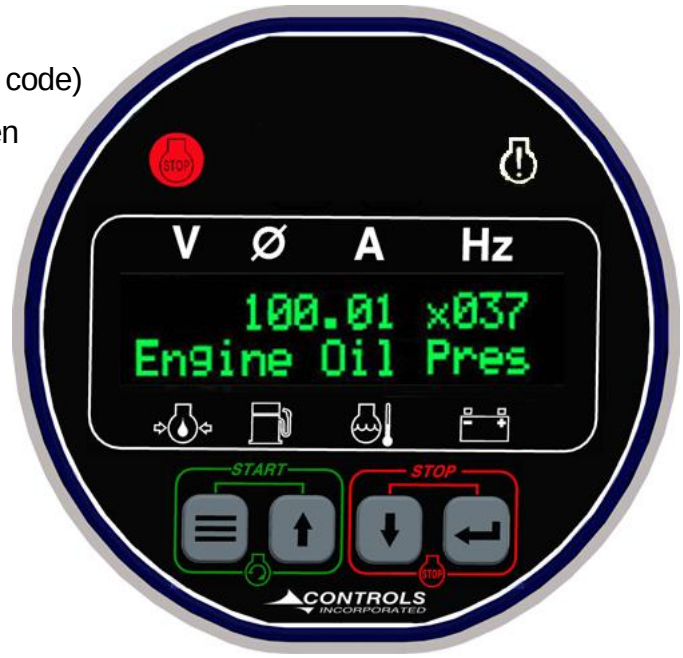
1) Broadcast a trouble code
2) Broadcast a red or yellow lamp
3) De-rate the engine
4) Shut down the engine
5) Turn on alarm horn

It is the engine ECU that de-rates or shuts down the engine when it is not operating within normal parameters. This includes more common shut downs like high engine temperature and low oil pressure but can encompass a large range of parameters depending on the ECU.

Alarm Annunciation and Code Reader

This panel is configured to operate with standard J1939 engines where engine de-rate and shutdowns are managed by the engine ECU. The panel communicates with the engine ECU and serves as a trouble code reader. When the engine ECU broadcasts a trouble code (called an SPN.FMI code) the panel does the following:

1) Illuminate the appropriate LED indicator lamp
    a. Yellow Lamp = Alarm
    b. Red Lamp = Engine Shut Down
2) Displays the trouble code (standard SPN.FMI code)
3) Displays a code description on the LCD screen
4) Displays the occurrence count of the code



Indicator Lamps

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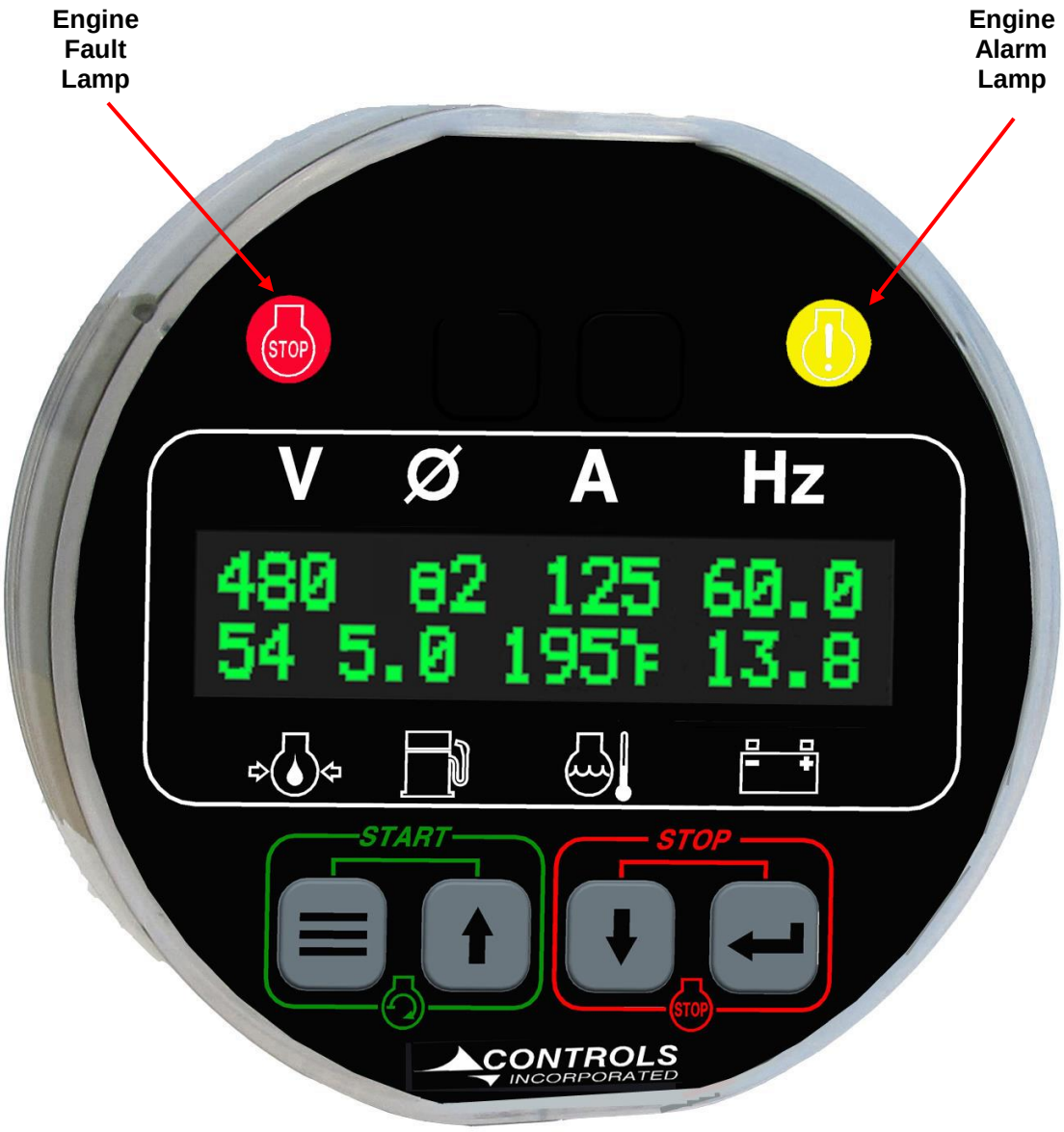

Active and Stored Engine ECU Codes

The panel also provides the ability to check the engine ECU for all ACTIVE and STORED engine ECU codes. These codes can be viewed via the Active Codes and Stored Codes menus.

CONTROL PANEL ANALOG AND DIGITAL INPUTS

The panel has one analog input and up to one digital input available to monitor other components, senders or signals. These inputs can be used for a number of purposes including alarms and shut downs.

Input	Heading	Default	Options	Connector	Pin
Analog 1	Function	Fuel Level		A	5
Digital 1	Normally	Open	Open / Closed	A	4
	Function	None			
	Message	None			
	Check	Off	Off / Always / Run		

1) Analog 1 Function Options

1) Fuel Level S-W – Fuel amount, in percentage, can be measured and displayed using a standard Stewart Warner scale sender of 240 ohms – 33 ohms. 240 = Empty and 33 = Full. Sender ground must be common with battery negative.
2) Fuel Level VDO – Fuel amount, in percentage can be measured and displayed using a VDO scale sender of 10 ohms – 180 ohms. 10 = Empty and 180 = Full. Sender ground must be common with battery negative.
3) Oil Pressure 100 PSI – Oil pressure, in PSI, can be measured and displayed using a standard Stewart Warner scale sender of 240 ohms – 33 ohms. 240 = 0 PSI and 33 = 100 PSI. Sender ground must be common with battery negative.
4) Oil Pressure 125 PSI – Oil pressure, in PSI, can be measured and displayed using a standard Stewart Warner scale sender of 240 ohms – 33 ohms. 240 = 0 PSI and 33 = 125 PSI. Sender ground must be common with battery negative.
5) Oil Pressure bar – Oil pressure, in bar, can be measured and displayed standard Stewart Warner scale sender of 240 ohms – 33 ohms. 240 = 0 bar and 33 = 7 bar. Sender ground must be common with battery negative.
6) Oil Pressure VDO PSI – Oil pressure, in PSI, can be measured and displayed using a standard Stewart Warner scale sender of 10 ohms – 180 ohms. 10 = 0 PSI and 180 = 150 PSI. Sender ground must be common with battery negative.
7) Oil Pressure bar – Oil pressure, in bar, can be measured and displayed using a standard Stewart Warner scale sender of 10 ohms – 180 ohms. 240 = 0 bar and 33 = 10 bar. Sender ground must be common with battery negative.
8) Switch – This setting allows for a switch to be connected rather than an analog sender. Set Analog 1 Message to assign a label to the switch device.
9) None – Set to None when no functionality is required.

2) Digital Function Activation

1) Off / Always / Run – Describes when the parameter will be monitored for alarm conditions. Run refers to when the engine is running. Off disables the alarm conditions. Always enables the alarm constantly regardless of engine state.

2) Alarm Delay – The time period, after Sender Check Bypass, that the parameter must be on the alarm condition before the alarm becomes latched.

MENU SYSTEM

To Enter Menu System

Hold MENU button and press ENTER button.

Menu Navigation

Press MENU button to scroll menu options.

Press UP arrow button to enter menu.

Press DOWN arrow button to reverse.

Exit Menu System

Hold MENU button and press ENTER button.

To Change a Setting

Press ENTER button to bring up brackets [ ].

Press UP arrow button and DOWN arrow button to change setting.

Press ENTER button to make selection, brackets disappear.

Recycle key to the OFF position after changing a setting.

Main Menus

Main Menus	Sub Menus		
Generator Parameters	View Generator Power Information		**Viewing Menus**
Active Engine Fault Codes	View/Scroll Active Fault Codes		
Stored Engine Fault Codes	View/Scroll Stored Fault Codes		
Engine Parameters	View ECU Engine Information (% Load, Torque, Oil Temp, etc.)		
Engine Identification	Engine Model # View		
	Engine Serial # View		
Module Information	Control Unit Part# View		
	Control Unit Software Version View		
Controller Setup (PASSWORD PROTECTED)	Input Configuration	(1)	**Configuration Menus**
	Module Configuration	(2)	
	CAN Configuration	(3)	
	XCAN-AC Calibration	(4)	

To access the controller setup menus, a password is required. The password is 4345.

Configuration Menus

(1)	**Input Configuration**	Analog 1 Function
		Digital 1 Function

(2)	**Module Configuration**	Display Mode (Legacy + Hours, Engine, Generator, Alternate)
		Voltage Display (Line-Line, Line-Neutral)
		Activation Frequency (Default = 47 Hz)
		Activation Delay (Default = 0:02)
		Deactivation Frequency (Default = 20.0 Hz)
		KWH Reset Yes/No
		Units (English/Metric)
		Hour Meter Source (Default = Engine ECU)
		Hour Meter Setting
		Display Battery Source (Default = J1939)
		Battery Volt Trim (Default = 5 100mV)
		Speed Source (Default = J1939)
		Generator Pole Pairs (Default = 2)
		Sleep Mode (Default = On)
		Multi Plex Communication (Default = Mode A)
		Multi Plex Timeout (Default = 500 msec)

(3)	**CAN bus Configuration**	Source Address (Default = 44) Others available
		Engine Address (Default = 0) Others available
		Oil/Fuel Transmit

(4)	**XCAN-AC Calibration**	XCAN-AC Configuration) (DO NOT ACCESS - FOR CI USE ONLY)