

PowerView® PV380 R1 Murphy Standard Configuration



Operations Manual

Products covered in this document comply with European Council electromagnetic compatibility directive 2004/108/EC and electrical safety directive 2006/95/EC.

In order to consistently bring you the highest quality, full-featured products, we reserve the right to change our specifications and designs at any time. The latest version of this manual can be found at www.fwmurphy.com.

Warranty - A limited warranty on materials and workmanship is given with this Murphy product. A copy of the warranty may be viewed or printed by going to www.fwmurphy.com/support/warranty.htm

Table of Contents

Introduction	5
Engine and Transmission Parameters.....	6
Navigation and Keypad Functions.....	6
First Time Start up	10
Parameter Gauge Settings	14
Adjusting the Menu Selections	18
Brightness and Contrast.....	18
Units	19
Language.....	19
Active Faults	19
Software Version.....	22
OEM Menu	23
Parameters	25
Inputs.....	30
Outputs	39
CAN.....	40
Throttling.....	43
Service Intervals	53
Sets/Resets	56
Engine Controls	58
Diagnostics and Service	60
LED Indicators	60
Indicator Lamps	61
Supported PGNs	62
Specifications	68

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Introduction

Congratulations on purchasing the PowerView® Model PV380. This advanced tool provides monitoring of Tier 4/Euro Stage 4 compliant electronic engines. The PV380 monitors multiple J1939 parameters and provides basic engine alarm/shut-down information.

This manual was developed to help you become familiar with the PV380 display, identify navigation basics and recognize useful options and features. The clear 3.8 in. monochrome screen makes it easy to see parameters in the display, especially in bright sunlight.

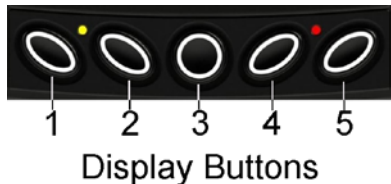
Engine and Transmission Parameters

The following are some of the engine and transmission parameters that can be displayed in standard units.

- Engine Speed
- Engine Temperature
- Engine or Machine Hours of Operation
- Total Machine Hours
- Battery Voltage
- Coolant Temperature
- Engine Oil Pressure
- Engine Fuel Level
- Discharge Pressure
- Suction Pressure
- Diesel Exhaust Fluid (DEF) Level (Tier 4 only)
- Active Fault Codes
- Stored Fault Codes

Navigation and Keypad Functions




The keys on the keypad are as follows:










When directed to press a symbol within the procedural steps, it actually is referring to the button below the displayed symbol.




Each display button may have alternating functions within the configuration as shown in the tables below.





Key 1	Function
	Alternates between parameter screen sets
	Moves highlight up when in certain Menu selections
UTILITIES	Displays the Utilities menu when the Main Menu is displayed
	Increases the number when in the OEM Password screen

Continued on next page

Key 2	Function
	Displays the Request DPF Regen entrance point
	Moves highlight down when in certain Menu selections
	Decreases the number when in the OEM Password screen
SOFTWARE VERSION	Displays the Software Version screen when the Main Menu is displayed

Key 3	Function
	Displays the Main Menu entrance point
	Serves as the Escape/Return to Previous Menu button

Key 4	Function
	Decreases the Throttle set point
	Increases the Contrast, alternates between Svc Reminders and changes the Input Function selections/values
Stored Codes	Displays the Stored Codes when in Diagnostic Messages
OEM	Enters the OEM Menu
	Moves the cursor one slot at a time to the right

Key 5	Function
	Increases the Throttle set point
ACTIVE FAULTS	Displays the Active Faults screen
	Serves as the Enter key for menu selections
	Decreases the Contrast / Hours
	Moves the cursor to the next cell when customizing parameters on the home screen

First Time Start up

When power is applied to the PV380, the **Warning** and **Shutdown** lights illuminate and the Murphy logo displays.




On Electronic engines, if a preheat message is being actively broadcast from the Engine Control Unit (ECU), a **Wait to Start** symbol displays below the Murphy logo as shown in the next image.

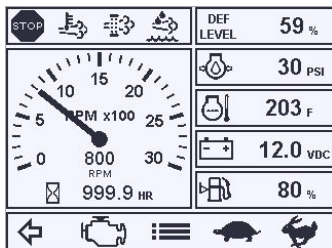


NOTE: The above screen will not be displayed for mechanical engines.

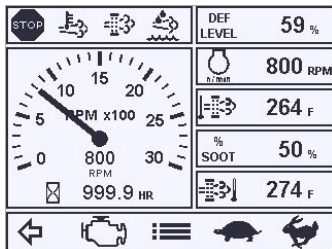
The PV380 will skip the Wait to Start (WTS) screen if the ECU stops transmitting the WTS message or if the engine speed is >500 RPM. However if the ECU never transmits the WTS message the user will only see the splash screen for three seconds after the key is turned on, then the gauge screen appears.

Once the engine is running (> 500 RPM), the engine information (electrical or mechanical) will display and alternate with the chosen Parameter set when the  key is pressed.

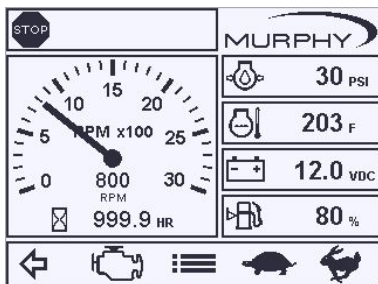
Engine – Electrical



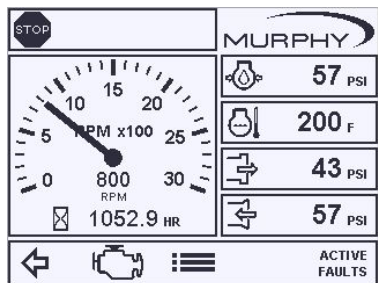
Parameter Set – Electrical (default parameters)



Engine – Mechanical



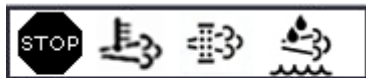
Parameter Set – Mechanical (default parameters)










Parameter Gauge Settings

1	2
8	3
	4
	5
	6
7	

1. **Icon area:** Up to four symbols can be shown at one time in the icon area to represent warnings, Tier 4 status and service indicators. The most important symbol will be shown on the left. The following symbols are a prioritized list from most to least important according to their respective positions A, B, C and D.



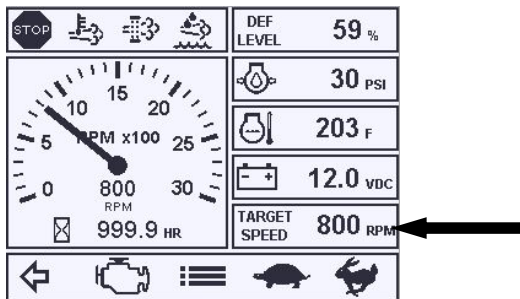
A B C D

Area	Icon(s)	Function(s)
A	 	<ol style="list-style-type: none"> 1. Shutdown (electronic or by mechanical set point) 2. Warning
B	 	<ol style="list-style-type: none"> 1. HEST 2. Regen Inhibit (Regen Inhibit is restricted when a HEST alarm is present)
C		DPF Filter
D	 	<ol style="list-style-type: none"> 1. DEF level (electronic only) 2. Service indicator

8. Tachometer Area: The tachometer is the most important reading and thus is shown in the largest gauge form that will fit the screen. This represents the Engine Speed with a 3,000 or 4,000 RPM dial. Engine or Machine Hours is displayed at the bottom of this area.

2-6. Parameter Area: The following parameters are the electronic engine defaults until other parameters are selected from the menu. Only the second screen, areas 3 through 6 may be changed:

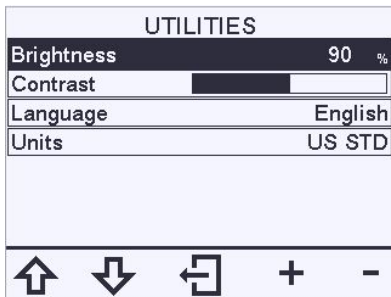
- Engine Oil Pressure (numeric)
- Engine Temperature (numeric)
- Battery Voltage (numeric)
- Fuel Level (numeric)
- 2 – DEF Level (Tier 4 only) or Murphy logo without box (see Note on next page)
- Target Speed – appears on screen for 5 seconds when the user throttles the engine (see arrow below)



7. **Button Selection Display:** The button functions can change depending on the screen display.

NOTE: Tier 4 engines have fewer customizable locations due to requirements in readings being visible at all times.

Adjusting the Menu Selections







Brightness and Contrast

Follow these steps to adjust the Brightness and Contrast:

1. Press to display the Menu.
2. Press UTILITIES. Brightness or Contrast will be highlighted. Arrow to the desired selection.
3. Press and to adjust the selection.
4. Press to save and exit the menu.





Units

Follow these steps to adjust the Units:

1. Press  to display the Menu.
2. Press UTILITIES and then  to Units.
3. Press  to choose US STD, Metric KPA or Metric BAR.
4. Press  to save and exit the menu.


Language


At the time of this printing, English is the only language programmed into the PV380. If this should change, follow these steps to adjust the Language:



1. Press  to display the Menu.
2. Press UTILITIES and then  to Language.
3. Press  to cycle through the available languages.
4. Press  to save and exit the menu.

Active Faults




Follow these steps to display the Active Faults:


1. Press  to display the Menu when Throttle is enabled, or ACTIVE FAULTS when Throttle is disabled or the engine type is Mechanical.
2. Press ACTIVE FAULTS once more if needed. The following screen will appear:

DIAGNOSTIC MESSAGE		0	OF	0	
SPN:	0	FMI:	0	OC:	0
Sample Text					
DEVICE ID:		<id>			
ADDRESS:		0			
				Stored Codes	

Press the  and  to scroll through additional messages if any are present. Each saved code shows the SPN (Suspect Parameter Number), FMI (Failure Mode Identifier) and OC (Occurrence Count). The OC indicates if the same fault occurred more than once. If available, a text explanation of the Warning or Shutdown and the Device ID Address also displays.


To view the Stored Codes, press Stored Codes. Stored codes are requested from the ECU. While the data is being requested, REQUESTING and RECEIVING DATA will be displayed. If data is not received from the ECU, TIMEOUT will be displayed. Pressing Stored Codes will request data from the ECU again. If data is received, the Diagnostic


Message screen (#) of (#) will appear. Press the  and  to scroll through additional messages if any are present. Press Get Faults to receive additional Stored Faults. Press  to return to the Faults screen.

Press  to exit the menu.

Software Version

To display the software version information (useful for Enovation Controls' personnel to identify which configuration the customer is using) follow these steps:

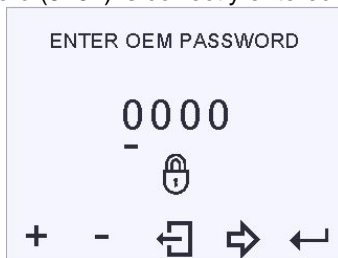
1. Press  to display the Menu.
2. Press Software Version. The following screen will appear:





Versions	
Configuration	2 . 8 . 10023
Boot Loader	00 . 00 . 00000 . 00
Firmware	00 . 00 . 00000 . 00
	


3. Press  to exit the Menu.





OEM Menu

Further settings and controls are accessed after the required four digit password (**3482**) is correctly entered on this screen.

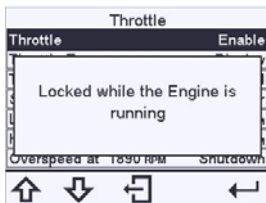


1. Press  to display the Menu.
2. Press OEM and the above screen will appear.
3. Press  or  to enter the correct first number of the password then press  to move the cursor to the next digit.
4. Repeat Step 3 until all digits of the password are entered.

5. Press  to enter the menu. The following screen will appear:


OEM	
Parameters	Enter
Inputs	Enter
5V Output	Disabled
CAN	Enter
Throttling	Enter
Service Intervals	Enter
Sets/Resets	Enter
   	

NOTE: Menu options cannot be changed and saved while the engine is running:



Parameters

As noted previously, some parameters can be substituted for the defaults that were listed. The following screen will display upon entering the Parameters menu:

Parameters	
Engine Type	Electronic
Engine Speed Dial	3000 RPM
Hour meter Type	Engine Hrs
DPF	Enable
SCR	Enable
Setup Parameter Set	Enter
	

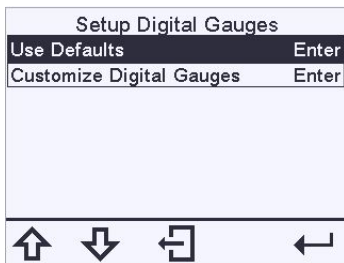
Menu Selection	Description
Engine Type	A selection for either electronic or mechanical engine can be set. The default is electronic.
Engine Speed Dial	The engine speed has a choice of a 3,000 or 4,000 RPM dial.
Hourmeter Type	Choose between Engine hrs (default) and Machine hrs. Machine hrs are counted and locally stored in memory in 1/10 hour increments. Hours are tracked when the engine is running. The hourmeter counts up to 99,999 hours. Machine hrs are capable of presetting to a value other than zero for purposes of replacing hourmeters on used equipment. When the engine type is Mechanical, the Hourmeter type will always be Machine Hours; DPF and SCR will be disabled.

Continued on next page

Menu Selection	Description
DPF	Due to the variation in how engine OEMs are implementing engine aftertreatment systems, an option to enable/disable the DPF icons is available. The default setting is Enabled.
SCR	Due to the variation in how engine OEMs are implementing engine aftertreatment systems, an option to enable/disable the SCR icon is available. The default setting is Enabled.
Setup Parameter Set	As noted earlier, parameters (found at the end of this document) can be substituted for the defaults.

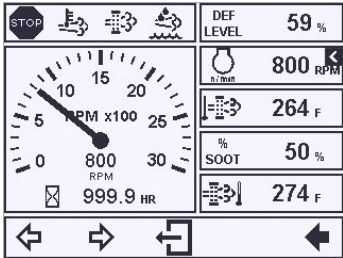



Setup Parameter Set

Upon entering this menu selection, the following screen will appear:









Menu Selection	Description
Use Defaults	Restoring Default Gauge Setup appears when this option is selected.





Continued on next page

Menu Selection	Description
Customize Digital Gauges	<p data-bbox="294 200 905 267">Enter this menu, and the following screen will appear:</p> <div data-bbox="412 301 822 609">  </div> <p data-bbox="294 667 940 943">Press  to cycle through the available parameters for each cell. When the appropriate parameter displays, press , and the cursor will move to the next cell. Repeat this process until all cells have the appropriate parameters. End this process by pressing  to return to the previous menu.</p>

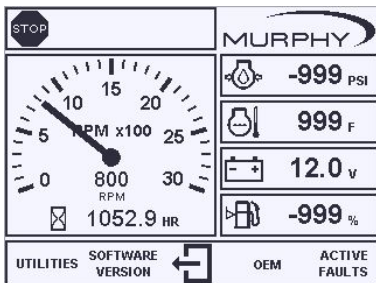
Inputs

The Inputs menu structure allows the OEM to set up four resistive and two analog inputs and calibrate the speed. Each input can be enabled or disabled.

1. Press  to display the Menu.
2. Press OEM and the Enter OEM Password screen will appear.
3. Press  or  to enter the correct first number of the password, then press  to move the cursor to the next digit.
4. Repeat Step 3 until all digits of the password are entered.
5. Press  to enter the menu then  until Inputs is highlighted. The following screen will appear:

Inputs	
Resistive Input 1	Enter
Resistive Input 2	Enter
Resistive Input 3	Enter
Resistive Input 4	Enter
Analog Input 1	Enter
Analog Input 2	Enter
Speed Calibration	Enter
   	

If the Senders are not connected, the gauges will read 999 (Temp) or -999 (US STD Pressure or Metric kPa) or -99.99 (Metric Bar) as shown below:



The ability to add shut-down set points is possible for Temperature and Pressure. By default they are disabled. When changing from Electronic to Mechanical engines, all Resistive Inputs will be defaulted to Murphy senders and respective shutdowns will be enabled. When going from Mechanical to Electronic, all Resistive Inputs will be disabled by default.






Whenever a supported parameter exceeds the minimum and/or maximum set point value(s), the low-side output along with the red LED shall be activated. The output can drive an alarm or shut-down relay.

Resistive Inputs 1-4




Default values for the supported parameters are as follows:

- Pressure – Under 10 psi (after engine is started and running for 15 seconds)
- Temperature – Over 212° F (100° C) (after engine is started and running for 15 seconds)

- Electrical engines – Resistive input is Disabled as the default.
- Mechanical engines – Resistive input is enabled as the default.

Resistive Input 1	
⇒ Function: Murphy Coolant Temp	
Calibration:	
Shutdown	Disable
Value at shutdown	32 F
    	

To change the default settings for this input, follow these steps:

1. From the Inputs list, utilize  or  to highlight the desired input, then  to enter.

2. Press **+** or **-** to cycle through the available choices (Murphy Coolant Temp, VDO Resistive Temp and Disabled).
3. When the appropriate choice is displayed, press **↓** to arrive at Shutdown.
4. Press **+** or **-** to cycle through the available choices (Enable, Disable).
5. Press **↓** to arrive at Value at Shutdown. Press **+** or **-** to cycle through the various values.
6. When the appropriate choice is displayed, press **↩** to save and return to the Inputs list.
7. Repeat steps 1 through 6 until all Resistive Inputs have been chosen.

Input	Connector – Pin	Sender	Usage
Resistive Input #1	J1-5	Murphy ES2T-250, VDO Resistive Temp Throttle Switch UP	Temp
Resistive Input #2	J2-7	Murphy ES2F VDO Fuel Level	Fuel
Resistive Input #3	J2-8	See Throttling section on page 43	Speed
Resistive Input #4	J2-9	Murphy ES2P-100, Murphy ES2PM- 200 VDO 5 Pressure VDO 7 Pressure	Pressure

Analog Inputs 1-2






The Analog Inputs support 4-20mA sensors (with added external 200Ω resistor in the panels). Additionally, the pressures at the 4mA and 20mA values may be adjusted for Analog Inputs 1 and 2.

Input	Connector – Pin	Sender	Usage
Analog Input #1	J2-4	4-20mA with external 200 Ω resistor	Discharge Pressure
Analog Input #2	J2-5	4-20mA with external 200 Ω resistor	Suction Pressure
Analog Input #3	J2-6	Not Used	Not Used









Analog Input 1

↪ Function: 4-20mA Dischrge Press
Calibration:

Value at 4mA 0 PSI
Value at 20mA 200 PSI

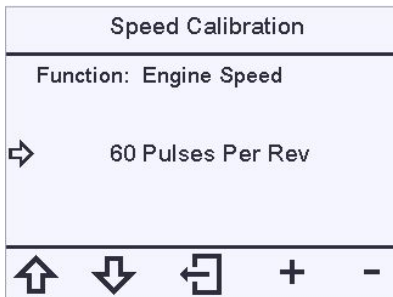






To change the default settings for this input, follow these steps:


1. Press  to cycle through the available choices (4-20mA Discharge Pressure or Disabled).
2. When the appropriate choice is displayed, press  to arrive at Value at 4mA.
3. Press  or  to cycle through the available choices (0 through 252 PSI).
4. When the appropriate choice is displayed, press  to arrive at Value at 20mA.
5. Press  or  to cycle through the available choices, and press  to return to the previous menu.

Speed Calibration

Pulses per revolution or tooth count can be chosen if the configuration is set as a mechanical engine.



To change the default settings for this input, follow these steps:

1. The only available Function is Engine Speed.
2. Press **+** or **-** to arrive at the desired number of pulses per revolution.
3. Press  to return to the previous menu.

Outputs



The 5v Sensor Supply can be set to Comm SHDN, Air Shutoff or Disabled (default).

Comm SHDN: When the 5v output is configured as Comm SHDN, 5v output will turn ON for any shutdown diagnostic message. 5v output will turn back OFF when all the shutdown messages are cleared.

Air Shutoff: The DO is killed, the 5v output is turned on, and an internal Diagnostic Message (red lamp) is displayed when the following conditions are met:

- Air Shutoff is chosen
- Throttle is Enabled
- Pressure Shutdown, Temp Shutdown or Overspeed Shut Type of Shutdown is chosen
- Engine speed is greater than Overspeed Shutdown or 100 RPM more than the target speed





To change the default settings for this output, follow these steps:








1. Highlight 5V Output, and press  to cycle through the available choices.
2. Press  to return to the previous menu.

CAN

ECU and Display Source Addresses


Follow these steps to listen to or change the ECU Source Address:


1. Press  to display the Menu.
2. Press OEM and the Enter OEM Password screen will appear.
3. Press  or  to enter the correct first number of the password, then press  to move the cursor to the next digit.

4. Repeat Step 3 until all digits of the password are entered.
5. Press  to enter the menu then  until CAN is highlighted. Press  to enter.
6. Highlight ECU Source Address (default address is ALL) and press  to enter.
7. On the Listen to ECU Addresses screen, use  or  to display 0 through 253 or All.
8. Press  to save the selection.

A message may appear stating: **Change ECU Address to (selection). This change requires a power cycle to take effect.**

Press YES to accept or NO to reject.

9. Highlight Display Source Address (default address is 43), and press  to enter.



10. Use **+** or **-** to adjust the source address from 0 through 253. Press , and the following message will appear:

Change Display SRC Address to (selection). This change requires a power cycle to take effect.



11. Press YES to accept and NO to reject.

12. Press  to exit out of the menu.

Fault Conversion





From the CAN menu, highlight Fault Conversion and press  to cycle through the available choices: J1939 V-1, J1939 V-2, J1939 V-3, and J1939 V-4. Press  when done.

No Fault Pop-Up


From the CAN menu, highlight No Fault Pop-Up and press  to cycle through Enabled or Disabled. Press  when done.

Throttling

The display is capable of commanding engine speed via J1939 TSC1 messaging. Throttle – Enable/Disable selection determines if the throttling is active.

Throttle	
Throttle	Enable
Throttle Type	Display
Throttle Mode	Manual
Setpoints	Enter
Low Speed Limit	600 <small>RPM</small>
High Speed Limit	1800 <small>RPM</small>
Overspeed at 1890 <small>RPM</small>	Shutdown
   	

The Low and High Speed Limits are the minimum and maximum RPM for the engine when Throttle is enabled.

To change the default settings, press  while highlighting the following:

- Throttle (Disable or Enable)
- Throttle Type (Display, Switch or Knob)
- Throttle Mode (Manual or Preset)

By default, Throttle Type is Display.

Display: If the Throttle Type is Display, the user can throttle the engine by pressing the keys on the PV380 display.

Throttle Mode – Manual: When Throttle Type is Display and Throttle Mode is Manual, the user can throttle the engine to any speed between Low Speed limit and High Speed limits using the rabbit and turtle keys on the main screen.

Throttle Mode – Preset: When Throttle type is Display and Throttle Mode is Preset, the user can throttle the engine at various preset values (Set Points). The user can ramp up the engine speed to the next (higher) set point by pressing the



key on the main screen. The user can ramp down the engine speed to the previous (lower) set point by pressing the



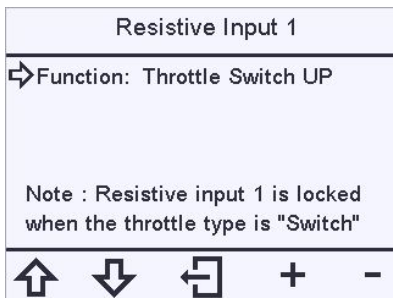
key on the main screen.

Switch: If the Throttle Type is Switch the user can throttle the engine using Resistive Inputs 1 and 3 on the PV380.

Throttle Mode – Manual: When Throttle Type is Switch and Throttle Mode is Manual, the user can throttle the engine to any speed between Low Speed limit and High Speed limit using Resistive Input 1 (increase the speed) and resistive input 3 (decrease the speed).

Throttle Mode – Preset: When Throttle Type is Switch and Throttle Mode is Preset, the user can throttle the engine at various preset values (Set Points). The user can ramp up the engine speed to the next (higher) set point by using resistive input 1 and ramp down the engine speed to the previous (lower) set point by using resistive input 3.

NOTE: When the Throttle Type is changed to Switch, resistive input 1 will be changed to Throttle Switch Up and resistive input 3 will be changed to Throttle Switch Down automatically, so that these inputs can be used to throttle the engine. In addition, as long as the Throttle Type is set to be switched, resistive input 1 is locked to be Throttle Switch Up and the user cannot change the input type in the resistive input 1 screen. The user will see the following message:



Knob: If the Throttle Type is set to Knob, the user can throttle the engine using a 10K ohm potentiometer on resistive input 3. As long as Throttle Type is Knob, Throttle Mode will only be manual.

When the knob is at the minimum position, the engine will be throttle at Low Speed and will be ramped up to High Speed when the knob is moved from the minimum position to the maximum position. If the Resistive Input 3 reads any resistance value above 11K ohm, the engine will be ramped down to Low Speed (usually happens when the connection with the potentiometer is lost or not connected).

When the knob is not at the minimum position when the engine is started (at key on), the engine runs at Low Speed and throws the message "Turn Knob to minimum position" to the user until the knob is brought down to the minimum position. This avoids the engine going to some higher speeds at the startup.

NOTE: When the Throttle Type is changed to Knob, Resistive Input 1 will be disabled and Resistive Input 3 will be changed to Throttle Knob automatically. Therefore, if the user wants to use Resistive Input as a temperature sender the setting must be changed manually.

If the Throttle Mode is set to Manual, the following changes can be made:

- Ramp Rate (set from 100 to 400 RPM/sec)
- Inc/Dec Step Size (set from 10 to 100 RPM)

During Manual Throttling, notice the following symbols:



Denotes decrement engine speed.



Denotes increment engine speed.


Each button can be held down to continuously and smoothly change the throttle set point to the minimum of four times of INC/DEC step size per 250ms or ramp rate per second.

During Manual Throttling, the Set Points screen will appear as follows:

When the No. of Set points is set to Two, select the following:

- Idle Speed – set between the Low Speed and Run Speed)
- Run Speed – set between Idle Speed and High Speed
- Ramp Rate per second – set between 100 and 400 RPM

The Low and High Speed Limits are the minimum and maximum RPM for the engine when Throttle is enabled.

Throttle Setpoints	
No of Setpoints	Four
Idle Speed	800 RPM
Set Speed 2	800 RPM
Set Speed 3	1800 RPM
Set Speed 4	1800 RPM
Ramp Rate per second	100 RPM
	

When the No. of Setpoints is set to Four, select the following:

- Idle Speed – set between Low Speed and Set Speed 2
- Set Speed 2 – set between Idle Speed and Set Speed 3
- Set Speed 3 – set between Set Speed 2 and Set Speed 4
- Set Speed 4 – set between Set Speed 3 and High Speed
- Ramp Rate per second – set between 100 and 400 RPM

If Preset Throttling is enabled, the following symbols denote decrement and increment for Buttons 4 and 5 respectively.

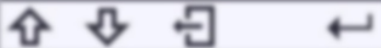


Low Speed Limit – set from 500 to High Speed

High Speed Limit – set from Low Speed to 4,000 RPM

Overspeed at (high speed limit settings) – choose from Shutdown (default), Warning or Disabled.

Overspeed Shutdown – by default this is a shutdown, but can be changed to a warning or disabled. When the Overspeed type is Shutdown, Throttle is enabled and Engine Speed is over the Overspeed shutdown limit. An internal DM1 will be shown on the screen and also Digital Output will be turned off with a red lamp active on the PV380. When the Overspeed type is Warning, Throttle is enabled and Engine Speed is over the Overspeed shutdown limit. Only an internal DM1 message is shown along with an amber lamp active on the PV380. Overspeed set point will be 5% (value is shown) over the high speed limit all the time:

Throttle	
Throttle	Enable
Throttle Type	Display
Throttle Mode	Manual
Setpoints	Enter
Low Speed Limit	800 rpm
High Speed Limit	1800 RPM
Overspeed at 1890 RPM	Shutdown
	

If Throttle is disabled, Overspeed type will be disabled automatically and when the Throttle is enabled, Overspeed shutdown type will be back to its previous setting.

NOTE: Overspeed can be set to Shutdown or warning only for electronic engines and when Throttle is enabled.

Service Intervals









The following engine service intervals can be set in 10 hour increments. The defaults are zero.


- Engine Oil
- Fuel Filter
- Engine Air Filter
- Hydraulic Oil
- Service Engine
- Service Machine

Whenever a timer expires, a pop-up warning symbol/message is shown for 15 seconds every 10 minutes along with illuminating the amber LED to communicate a service interval

has expired. The warning shall persist until the timer is reset. If no service intervals are set, this functionality is not enabled.

Follow these steps to display the Service Intervals Menu:

1. Press  to display the Menu.
2. Press OEM.
3. Enter OEM password by pressing  or  until the appropriate number is in the first slot.
4. Press  to move the cursor to the second position.
5. Repeat Steps 3 and 4 until the password is entered.
6. Press  to enter. The OEM menu will appear.
7. Press  until Service Intervals is highlighted, and press  to enter.
10. The Engine Oil reminders will appear first. Press  to scroll through the reminders for Fuel Filter, Engine Air Filter, Hydraulic Oil, Service Engine and Service Machine.





11. To reset the reminders, press  to move the cursor down to Reset. Press (OK).


NOTE: If the type is set to Engine Hours, the unit must be connected to an ECU and be receiving data to reset the service reminder. If Engine Hours data is not being received, the service reminder will not reset.

NOTE: The interval remaining time may be negative when the service reminder is expired.


Sets/Resets


Resets	
Clear Fault Codes	Enter
Set Machine Hours	0.0 HR
Clear Machine Hours	Enter
Restore Defaults	Enter

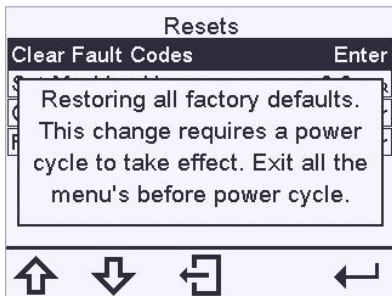






Clear Fault Codes: To clear existing Fault Codes, press  while highlighting this selection. A **Request Sent to Clear Faults** message will display.

Set Machine Hours: Press **+** and **-** to adjust the hours.
Every button press increments/decrements by 0.1 hour.
Holding the button down will increment/decrement by 20 hours every 250ms.


Clear Machine Hours: To clear existing Machine Hours, press  while highlighting this selection. A **Machine Hours Cleared** message will display.

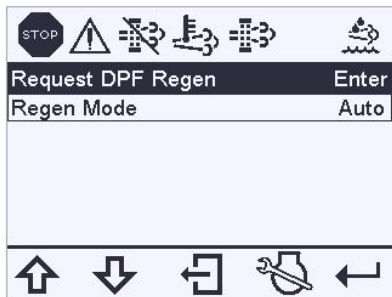
Restore Defaults: To restore factory defaults to the display, press  while highlighting this selection. The following screen will appear:



Press  to acknowledge this message and exit out of the menu. Back out of all menus before cycling the power.


Engine Controls

The Engine Controls are accessed by pressing  when the menu is displayed.



The factory default is to have the display in automatic DPF Regeneration to occur as needed. Follow these steps to request the DPF Regen:

1. Press .

2. Request DPF Regen will be highlighted. Press  to enter.
3. The **Request Diesel Particulate Filter Regen?** screen will appear.
4. Press Yes or No.

If the engine does not respond, it will default back to Auto DPF Regen.

Regen Mode can be set to Auto or Inhibit. In cases where a regen cannot be performed due to restrictions, the operator can inhibit a possible regen from occurring. The inhibit icon will be displayed on the front screen when the engine ECU responds to the inhibit request. When inhibit is no longer needed, the user can select a different option (Auto).

Service Reminders

This submenu of the Engine Controls icon section allows the operator to scroll through the service list via **+** and **-** to view the reminders for Engine Oil, Service Machine, Service

Engine, Hydraulic Oil, Engine Air Filter and Fuel Filter. Access this section by pressing .

Service Reminders	
➡ Engine Oil	
Interval	0 Hrs
Remaining	0 Hrs
Hour Type	Eng Hrs
⏪ + -	

Diagnostics and Service




LED Indicators




The PV380 features amber (Warning) and red (Shutdown) colored LEDs on the front keypad. These are illuminated according to the J1939 error definition for alarms and shutdown conditions.



Indicator Lamps

On each gauge screen and menu (where space allows), the following indicator lamps shall be shown:







Icon	PGN	SPN	Description
	DM1		Stop Diagnostic Lamp: indicates an active DM1 stop fault
	DM1		Warning Diagnostic Lamp: indicates an active DM1 fault
	64892	3697	High Exhaust Temperature (HEST) lamp: indicates regeneration in process







Icon	PGN	SPN	Description
	64892	3703	DPF Particulate Filter Restricted Lamp: indicates a Regen is needed
	64892	3698	DPF Inhibit Lamp: indicates an inhibited Regen status
	65110	1761	Diesel Exhaust Fluid (DEF) Lamp: displays when the fluid level drops below 12%









Supported PGNs

The following table of parameters shall be available for selections based on being actively broadcast on the CAN bus:






	Description	PGN	Icon
1	Accelerator Pedal Position 1	61443	ACCEL PED1





	Description	PGN	Icon
2	Percent Load at Current RPM	61443	
3	Actual Engine Torque	61444	
4	Engine Speed	61444	
5	Trip Distance	65248	TRIP DIST
6	Total Vehicle Distance	65248	VEH DIST
7	Total Engine Hours	65253	ENG HRS
8	Trip Fuel	65257	TRIP FUEL
9	Total Fuel Used	65257	FUEL USED
10	Engine Coolant Temperature	65262	
11	Fuel Temperature	65262	
12	Engine Oil Temperature	65262	
13	Engine Intercooler Temp	65262	INTC TEMP

	Description	PGN	Icon
	Fuel Delivery Pressure	65263	
15	Engine Oil Level	65263	
16	Engine Oil Pressure	65263	
17	Coolant Pressure	65263	
18	Coolant Level	65263	
19	Wheel Based Vehicle Speed	65265	VEH SPD
20	Fuel Rate	65266	FUEL RATE
21	Instantaneous Fuel Economy	65266	FUEL ECON
22	Average Fuel Economy	65266	AVG ECON
23	Barometric Pressure	65269	BARO PRES
24	Air Inlet Temperature	65269	

	Description	PGN	Icon
25	Boost Pressure	65270	BST PRES
26	Intake Temperature	65270	
27	Air Filter Dif. Pressure	65270	
28	Exhaust Gas Temperature	65270	
29	Alternator Potential	65271	ALT VOLT
30	Electrical Potential	65271	
31	Battery Potential Voltage	65271	
32	Transmission Oil Pressure	65272	
33	Transmission Oil Temp	65272	
34	Fan Drive	65213	

	Description	PGN	Icon
35	Auxiliary Temperature	65164	AUX TEMP
36	Auxiliary Pressure	65164	AUX PRES
37	Selected Gear	61445	SLECT GEAR
38	Current Gear	61445	CURNT GEAR
39	Output Shaft Speed	61442	OUT SFT SP
40	Input Shaft Speed	61442	IN SFT SPD
41	Torque Converter Lockup	61442	TORQ LOCK
42	Auxiliary IO Status 1	65241	AUX IO 1
43	Accelerator Pedal Switch	61443	PEDAL SWT
44	Engine Desired Op Speed	65247	DES ENG SP

	Description	PGN	Icon
45	Throttle Position	65266	THROTTLE
46	Air Inlet Pressure	65270	
47	Actual Engine Timing	65159	ENG TIMING
48	Total Engine Revolutions	65253	ENG REVOLU
49	Requested Gear	65256	REQ GEAR
50	Fuel Level	65276	
51	Hydraulic Pressure	61448	
52	Hydraulic Temp	65128	
53	Machine Hours	61444	
54	Diesel Exhaust Fluid Level	65110	DEF LVL
55	% Soot	64891	% SOOT

	Description	PGN	Icon
56	% Ash	64891	% ASH
57	Exhaust Filter Temp	64947	
58	Exhaust Filter Inlet Temp	64948	
59	Discharge Pressure	Analog Input #1	
60	Suction Pressure	Analog Input #2	

Specifications

Electrical

Display	3.8" (9.65 cm) QVGA (320x240 pixels); monochrome transfective LCD with heater, MTFB 50,000 hours
Resolution	QVGA, 320 x 240 pixels
Backlighting	White LED
CAN	(1) CAN 2.0B (J1939 protocol and proprietary messaging), (1) RS-485 serial (Modbus)
Protocols	J1939, NMEA 2000

Connection	Deutsch DT Series 6 and 12 pin
Keyboard	5 tactile buttons
Input	(4) resistive analog (3) analog; 0-5V analog or digital (1) frequency; 2-10,000Hz, 3.6-120VAC
Output	(1) 500mA; switched low-side (1) 5V supply (250mA); protected
Voltage	6-36 VDC; reverse polarity protected

Environmental

Operating Temperature	-40° C to +85° C (-40° F to +185° F)
Storage Temperature	-40° C to +85° C (-40° F to +185° F)
Protection	IP66 and 67 (IEC/EN 60529)
Emissions and Immunity	Electromagnetic Compatibility: 2004/108/EC and 2006/95/EC directives: <ul style="list-style-type: none"> • EN 61000-6-4:2001 (emission) • EN 61000-6-2:2001 (immunity) • EN 50121-3-2 and EN 12895 • J1113/2, 4, 11, 12, 21, 24, 26 and 41
Vibration	7.86g random vibrate (5-2,000Hz)
Shock	±50g shock in 3 axes

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- NOTES -

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ENOVATION CONTROLS CORPORATE HEADQUARTERS

5311 S 122ND EAST AVENUE
TULSA, OK 74146

ENOVATION CONTROLS – SAN ANTONIO OFFICE

5757 FARINON DRIVE
SAN ANTONIO, TX 78249

ENOVATION CONTROLS – HOUSTON OFFICE

105 RANDON DYER RD
ROSENBERG, TX 77471

ENOVATION CONTROLS LTD. – UNITED KINGDOM

CHURCH ROAD LAVERSTOCK
SALISBURY SP1 1QZ UK

MURPHY ECONTROLS TECHNOLOGIES (HANGZHOU) CO., LTD.

77, 23RD STREET
HANGZHOU ECONOMIC & TECHNOLOGICAL DEVELOPMENT AREA
HANGZHOU, ZHEJIANG 310018 CHINA

DOMESTIC SALES & SUPPORT**ECONTROLS PRODUCTS**

PHONE: 210 495 9772
FAX: 210 495 9791
EMAIL: INFO@ENOVATIONCONTROLS.COM
WWW.ECONTROLS.COM

MURPHY PRODUCTS

PHONE: 918 317 4100
FAX: 918 317 4266
EMAIL: SALES@ENOVATIONCONTROLS.COM
WWW.FWMURPHY.COM

MURPHY CONTROL SYSTEMS & SERVICES

PHONE: 281 633 4500
FAX: 281 633 4588
EMAIL: CSS.SOLUTIONS@ENOVATIONCONTROLS.COM

MURPHY INDUSTRIAL PANEL DIVISION

PHONE: 918 317 4100
FAX: 918 317 4124
EMAIL: IPDSALES@ENOVATIONCONTROLS.COM

INTERNATIONAL SALES & SUPPORT**UNITED KINGDOM**

PHONE: +44 1722 410055
FAX: +44 1722 410088
EMAIL: SALES@ENOVATIONCONTROLS.EU
WWW.FWMURPHY.EU

CHINA

PHONE: +86 21 6237 5885
FAX: +86 21 6237 5887
EMAIL: APSALES@ENOVATIONCONTROLS.COM

LATIN AMERICA & CARIBBEAN

PHONE: 918 317 2500
EMAIL: LASALES@ENOVATIONCONTROLS.COM

SOUTH KOREA

PHONE: +82 70 7351 4100
EMAIL: SKOREASALES@ENOVATIONCONTROLS.COM

INDIA

PHONE: +91 91581 37633
EMAIL: INDIASALES@ENOVATIONCONTROLS.COM



PM 28221 (Tulsa, OK - USA)
PM 620667 (San Antonio, TX - USA)
PM 28221 (Rosenberg, TX - USA)
PM 29422 (UK)



PM 523851 (China) TS 589322 (China)