PowerView™ - Model PV10 – Diagnostic Display

Features

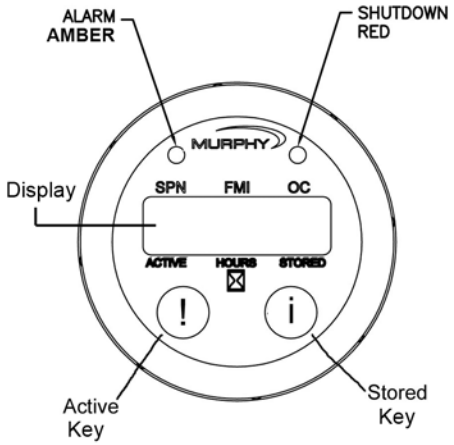
- Display supports electronically controlled engines and equipment applications that use SAE J1939 Controller Area Networks.
- Displays Active and Stored diagnostic trouble codes for diagnosing equipment malfunctions.
- Displays Engine Hours, SPN, FMI, and OC information on a graphic display.
- Provides enhanced visual alarm indication using Ultra-bright ALARM or SHUTDOWN LED's (amber and red).
- Simple installation and connections to the system bus.
- Rugged design for demanding applications.

Product Description

The PV10 Diagnostic display is a CAN device that receives data from a controller or ECU and then displays Active and Stored Fault messages and Engine Hours.

The default mode provides hourmeter data from the ECU for cumulative engine hours.

The PV10 is equipped with two buttons to quickly select between Active or Stored Faults, a graphic display, two LED's to indicate the Active fault's Alarm or Shutdown status in a sealed enclosure that matches the PowerView line of gages.



Fault Messages

Fault messages are formatted to display SPN (Suspect Parameter Number), FMI (Failure Mode Indicator) and OC (Occurrence Count) codes that conform to the SAEJ1939 protocol.

Up to 32 Active or Stored messages may be displayed/cycled at a rate of 3 seconds per message. Fault message format contains 3 banks of numbers representing:

- **SPN** –6 digits
- **FMI** – 2 digits
- **OC** – 3 digits

WARNING! The PV10 displays any valid fault data received through the CAN bus as long as it is complies with the SAEJ1939 communications protocol. When reading CAN information, it is important that care is taken to refer to the engine's technical manuals to insure proper interpretation of the data.

For more specific information, contact the engine manufacturer or refer to the SAE J1939 specifications at www.sae.org.

Display Operation

Up to 32 diagnostic fault codes may be displayed for 3 second each. Whether in Active or Stored mode, pressing "**!**" or "**i**" respectively, will immediately advance to the next message. Holding down a key will quickly cycle through messages.

Engine Hours

By default, the PV10 unit displays in hourmeter mode, indicated by a cursor above the word HOURS. After viewing Active or Stored Faults, the screen will return to Engine Hours mode.

PGN (Parameter Group Number) 65253, Engine Total Hours of Operation

Active Faults

Active Indicator

When the PV10 diagnostic display receives an Active Fault:

- the LED Alarm will light
- the cursor will indicate 'Active'
- all Active Fault code(s) will display

After scrolling through all the faults, the display returns to Engine Hours. After 3 seconds PV10 looks for the next Active Fault message and the process repeats.

You may also display Active Faults at any time by pressing "**!**".

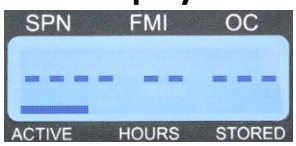
Stored Faults

Stored Indicator

Press "**i**" to display Stored Faults. Notice the cursor moves to the STORED indicator. After the PV10 scrolls through all the Stored Faults, the device returns to Engine Hours.

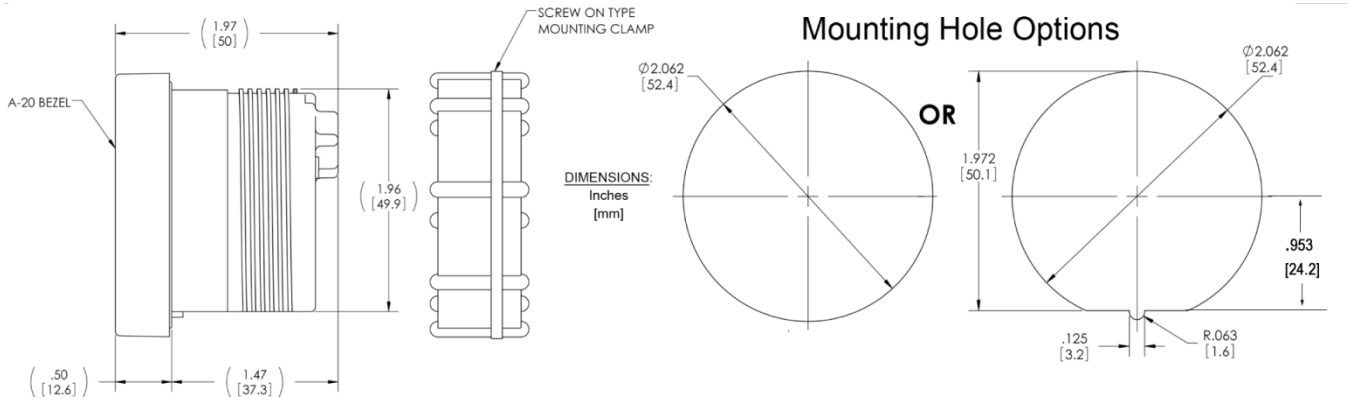
NOTE: If the LED Alarm lights up while displaying Stored Faults, you may press "**!**" to immediately display the Active Faults. Otherwise, the PV10 will finish scrolling through the Stored Fault codes, return to Engine Hours for 3 seconds, and then displays the Active Faults.

Blank Display

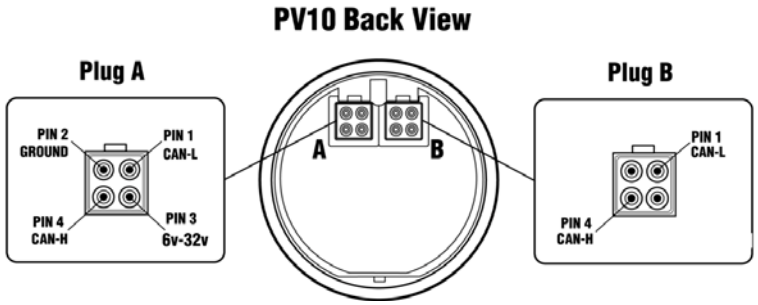


When all dashes are displayed in place of numbers, the PV10 received invalid or no data to display Engine Hours, Active or Stored Faults.

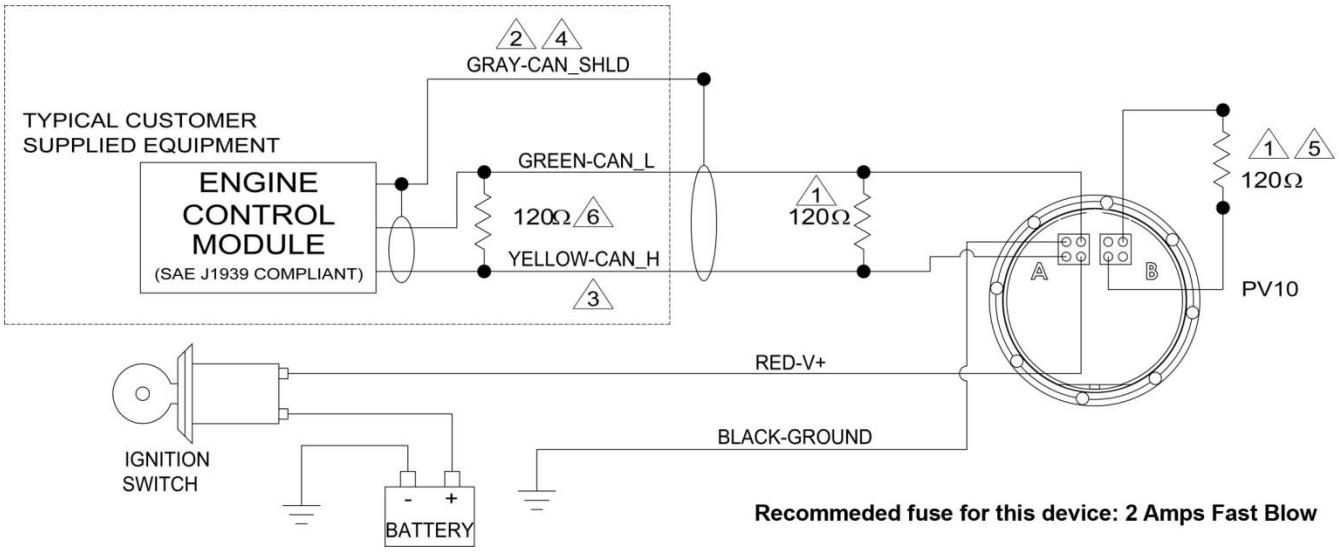
Product Dimensions



Connection Detail



Typical Wiring Diagram



WARNING! READ NOTES below before installing the PV10.

Note	
1	Use resistor between CAN_H and CAN_L line near PowerView (included in some cables or factory purchased panels). Resistor can be installed in the wire harness attached to Port A or a terminating resistor (Murphy P/N 7800480) can be attached to Port B. Do not connect a terminating resistor to Port A and B simultaneously. If PV10 is not the last device on the CAN bus, place terminator resistor at last CAN device.
2	Use SAE J1939 CAN compliant wiring.
3	Only use 120 OHM characteristic impedance cable, ex. Belden 9841.
4	CAN Shield connected to ECU end only.
5	Do not connect to PV10 Port B other than to terminate CAN bus. See Note 1.
6	Terminating resistor at ECU end of harness. **WARNING:** Two 120 Ohm resistors should be located at opposite ends of the J1939 CAN bus. Failure to comply will cause bus failures. Only two 120 Ohm resistors are allowed on the J1939 CAN bus. ECU terminating resistor is typically located in the harness, but can be located inside the ECU's. For ECU resistor location check with OEM, equipment supplier, or ECU specification.

Specifications

Operating Voltage

- 6.0 VDC minimum to 36 VDC maximum

Power Supply Operating Current

- 460mA max @ 12VDC
- 810mA max @ 24VDC

Reversed Polarity: Withstands reversed battery terminal polarity.

Environmental

- **Operating Temperature:** -40°C to 70°C (-40°F to 158°F)
- **Storage Temperature:** -55°C to 85°C (-67°F to 185°F)
- **Sealing:** IP68

CAN Bus: SAE J1939 compliant

Case: Polycarbonate /PBT blend

Clamp: PBT

Connectors:

- 4-pin AMP "Mini-universal Mate-N-Lok" connector
- AMP Plug: P/N 172338-1
- AMP Socket: P/N 171639-1 (4 each, assumes 18 gauge wire. See AMP Plug specification to match socket and wire size.)

Maximum Panel Thickness: 3/8 inch (9.6 mm)

Shipping Weights (all models): 0.2 lb. (0.1 kg.)

Shipping Dimensions (all models): 3-7/8 x 2-3/4 x 2-3/4 in. (98.4 x 69.85 x 69.85 mm)

Accessories

Wiring Harness, PVW-PDA-12 PowerView 10 CAN and Power (PN 78-00-0613)

Wiring Harness, PA-30 PowerView 10 Loose Wiring (PN 78-00-0614)

Terminating Resistor, PVMJR (PN 78-00-0480)

> **NOTE:** For additional information on PV10 accessories and Quick Connect Diagram, visit our website: www.fwmurphy.com/pv10

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