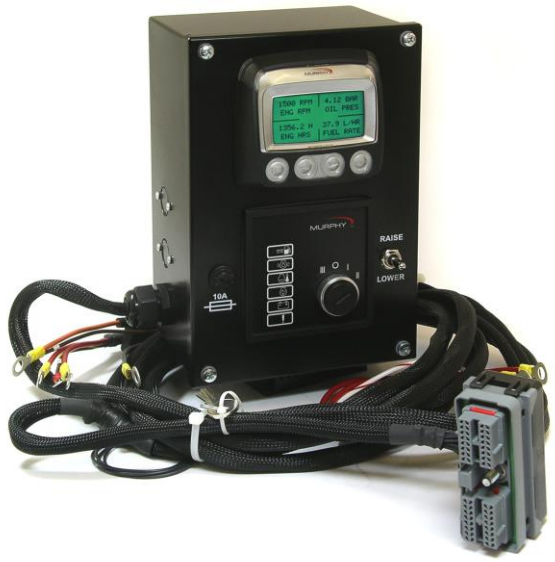
B6502, B6503, B6524, B6525

CANstart™/PowerView® panels for Perkins & Caterpillar J1939 engines



Features

- Compatible with:
  Perkins 1104D/1106D (SAE J1939)
  Caterpillar C4.4/C6.6 (SAE J1939)
- PowerView® PV101 LCD display of ECU-transmitted data
- CANstart™ operator control & LED fault indication
- TSC1 throttle control by raise/lower toggle switch
- Auto start/stop control option
- Integral, direct-connect wiring harness

These Murphy panels provide operator-controlled start/stop, throttle control and fault indication for Perkins and Caterpillar ECU-controlled SAE J1939 engines. The panels can be used with land-based, stationary engine applications such as pumps, crushers, shredders, etc. Models B6503 and B6525 additionally feature automatic control of engine/pump start and stop, triggered from remote float switches.

Operator control is through a 4 position security keyswitch on a Murphy CANstart module - see front view diagram for operation details. The key is common to all CANstarts and is removable only in the Stop/Reset (O) position.

ECU (J1939) transmitted engine data and fault details are displayed on a Murphy PowerView PV101 module. The PV101 can be configured to show common engine parameters such as RPM, coolant temperature, oil pressure etc, in 1-up or 4-up display formats. ECU-transmitted faults are indicated by both the Powerview display and CANstart LEDs; the CANstart also has LEDs and associated inputs for charge alternator warning and auxiliary fault shutdown.

Throttle control is via a front panel increment/decrement rocker switch, which triggers J1939 TSC1 speed control messages, sent direct to the engine ECU. The CANstart module also provides adjustable engine overspeed protection.

These panels are housed in a weather-resistant, Zintec steel case with black powder-coating. Electrical connection is by an integral wiring harness, via cable glands in the case side: ring terminals are provided for battery supply, starter solenoid and charge alternator; other connections are via a 64-pin Delphi connector for direct mating with the engine ECU.

Specifications

Power supply
Operating voltage, steady state:
8 – 16 VDC (B6502 & B6503), 18 – 32 VDC (B6524 & B6525)

Inputs
CANbus: SAE J1939 protocol, internal 120 Ohm terminating resistor
Auxiliary shutdown: close to negative DC to activate

Outputs (all ratings non-reactive)
Run (ECU enable): positive DC, protected FET, 6A max @ 32VDC
Start (crank): positive DC, switched relay, 10A max @ 24VDC

Physical
Case/finish: Zintec steel, 70 Micron black powder coat
Case dimensions (w x h x d): 172 x 250 x 150 mm
allow an additional minimum:
- 50mm at the left side for cable access
- 30mm at rear and base for shockmounts (4 supplied)

Weight: approx. 3.8 Kg / 8.4 lb
Operating temperature: –20 to +75°C / –4 to +167 °F

CANstart™ front view and operation

LED indication

☼ flashing ☀ constant

Green. ECU status:
☼ CAN inactive ☀ CAN active.

Red. Oil pressure fault:
☼ warning ☀ shutdown.

Red. Coolant temperature fault:
☼ warning ☀ shutdown.

Red. Engine speed fault:
☀ overspeed shutdown.

Red. ☀ Charge fail warning.

Red. ECU/auxiliary fault:
☀ ECU shutdown fault.
☼ (50/50 on/off) ECU warning fault.
☼ (1 on pulse) aux. 1 shutdown.
☼ (2 on pulses) aux. 2 shutdown.

4 position keyswitch:

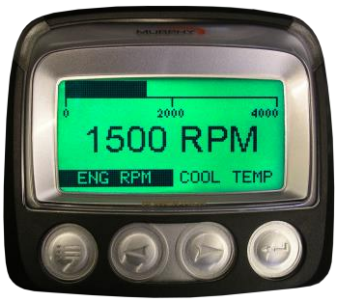
◯ **Off/Reset**. Removes power, de-activates the Run (ECU) output and resets any latched overspeed or aux input fault.

| **Run.** Activates the Run (ECU) output (green LED flashes) and waits for ECU to respond (green LED constant). The CANstart inputs and J1939 CANbus are then monitored for faults, with warning/shutdown LED indication as detailed above.

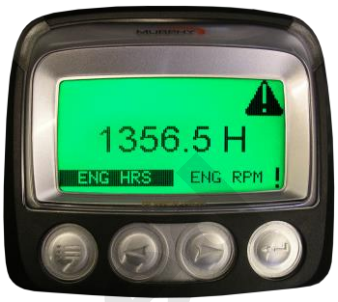
|| **Start/crank**. Maintains the Run output and activates the Start (crank) output. This position spring-returns to I (Run) on release.

||| **(B6503 & B6525 only) Auto mode**. Automatic start, run and stop triggered from remote float switches. In standby mode, CAN and aux fault LEDs give a short flash every 5 secs.

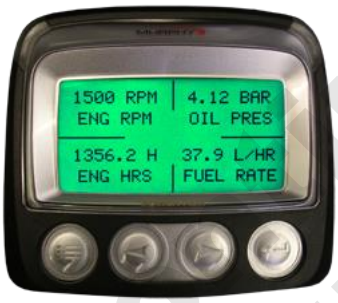
PowerView PV101 typical displays



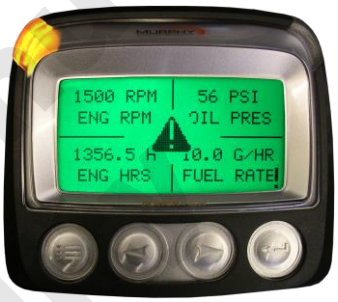
1-up display, RPM



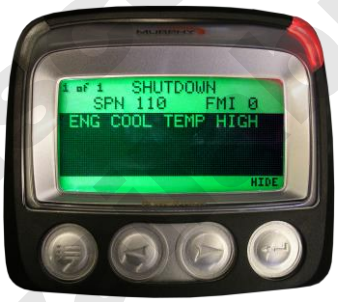
1-up display, hours run



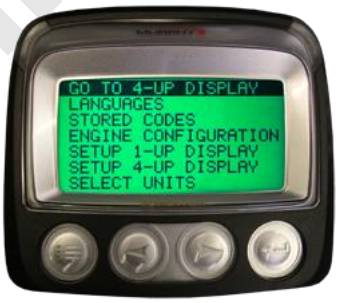
4-up display



4-up display with warning fault



Shutdown fault

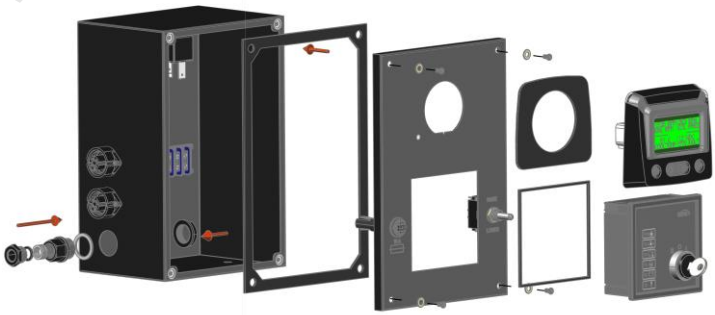


Typical menu

How to order

Stock code	Model / description
B6502	CANstart/PV101 panel for Perkins/Caterpillar, manual start/stop, 12 VDC,
B6503	CANstart/PV101 panel for Perkins/Caterpillar, auto and manual start/stop, 12 VDC
B6524	As B6502, but for 24 VDC
B6525	As B6503, but for 24 VDC

Panel construction



Further information

Document	Description
0610091	PowerView® PV101 bulletin
0810330	CANstart™ bulletin
0810313	SenderCAN™ bulletin

Related products:

0610067	CANdrive™ J1939 to analogue gauge converter

MURPHY by ENOVATION CONTROLS

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FM 28221 (Rosenberg, TX – USA)
FM 620667 (San Antonio, TX – USA)
FM 29422 (UK)
FM 523851 (China)