

## PowerView™ Analog Gages - PVA Series



### Features

- For modern electronic engines and equipment using SAE J1939 Controller Area Network
- Display SAE J1939 parameters broadcast by the PowerView system
- Cutting edge, stepper motor technology and robust functionality combined
- Microprocessor driven for high accuracy
- Simple installation and wiring design

The **PowerView Analog Gages (PVA)** are a series of intelligent gages designed to display easy-to-read information transmitted by the PowerView. The PVA gages communicate with the PowerView via a single RS485 twisted pair MODBUS® RTU serial link. The gages can be daisy-chained using quick-connect harnesses with watertight connectors.

The major feature of the PVA gages is their balance between design and functionality. These modern gages offer a selection of lens and bezel styles and colors.

The PVA gages also include features such as a smooth stepper motor operation for the 270° sweep pointer, an environmentally sealed case with two Deutsch DT style connectors molded into the case, and green LED back lighting. They are available for standard 2-1/6" (52mm) and 3-3/8" (86mm) diameter mounting hole sizes. In addition, their polycarbonate/polyester alloy cases incorporate a "D" shape allowing panel cutouts that eliminate gage rotation during installation.

The **PowerView Audible Alarm (PVAA)** alerts operators to fault conditions via piezoelectric alarm and relay contacts. It also has a temporary silencer button that silences the audible tone for 2 minutes on warnings and 30 seconds on shut-down conditions. All PowerView gages can be powered by 12 or 24 VDC systems.

### Specifications

**Power Supply Input:** 12/24V (8-32VDC min/max voltage)

**Power Supply Operating Current:** (@ 14VDC) =

- PVA20, PVA35: 28 mA minimum; 52 mA maximum
- PVAA20: 19 ma minimum; 46 mA maximum

**Backlight Maximum Current:** 24 mA (Not valid for PVAA20)

**Input:** RS485 MODBUS® RTU Data

**Output:** Analog readout

**Operating Temperature:** -40°F to 185°F (-40°C to 85°C)

**Storage Temperature:** -76°F to 185°F (-60°C to 85°C)

**Dial:** White text over black background

**Indicating Pointer:** Stepper motor Operation with 270 sweep

**Gage Accuracy:** Better than  $\pm 1\%$  of full scale

### Environmentally Sealed Enclosure:

- **Sealing:** IP68,  $\pm 5$  psi ( $\pm 34.4$  kPa)
- **Case Materials:** Polycarbonate/Polyester (PC+PBT)
- **Clamp Materials:** Polyester (PBT)
- **Lens Material:** Polycarbonate
- **Bezel Material:** ABS

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

**Connectors:** 6-pin Deutsch DT06 Series

### *The following items apply only to PVAA20*



















**Sound Output Level:** 90 dB @ 30cm

**Relay Rated Load:** 0.5A, 125VAC; 1A, 24VDC

**Relay Maximum Switching Capacity:** 62.5VA, 30W

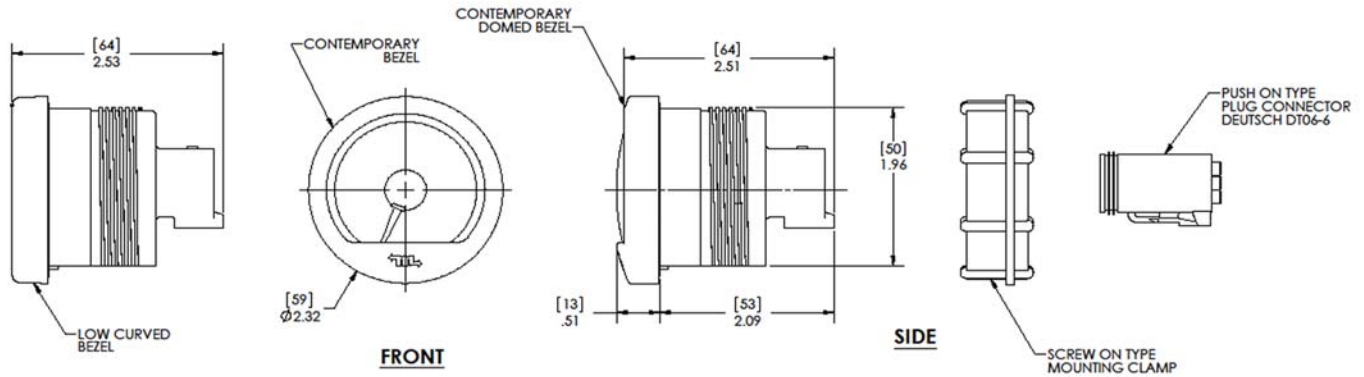
**External Audible Alarm Output:** 28VDC, 30 mA maximum current sink

**Temporary Silence Button:** Charge transfer technology

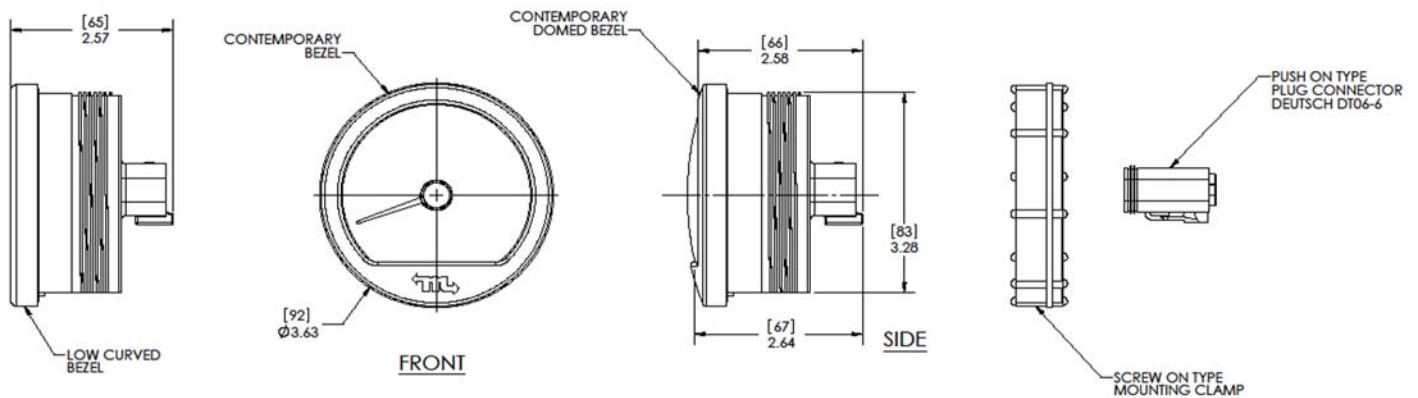
A-20 Style	Low Profile SAE Style	Contemporary Domed Bezel and Lens Style
<b>PVA20 Series – 2 inch Size Gages</b>		
<p>AB Bezel Type</p>   <p>A Bezel Type</p>	<p>BB Bezel Type</p>   <p>B Bezel Type</p>	<p>EB Bezel Type</p>   <p>E Bezel Type</p>
<b>PVA35 Series – 3-1/2 inch Size Gages</b>		
<p>AB Bezel Type</p>   <p>A Bezel Type</p>	<p>BB Bezel Type</p>   <p>B Bezel Type</p>	<p>EB Domed Bezel and Lens Type</p>   <p>E Bezel Type</p>
<b>PVAA20 Model – 2 inch Size Audible Alarm</b>		
<p>AB Bezel Type</p>   <p>A Bezel Type</p>	<p>BB Bezel Type</p>   <p>B Bezel Type</p>	<p>EB Domed Bezel and Lens Type</p>   <p>E Bezel Type</p>

**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>

## PVA20/PVAA20 Series - Typical Gage Dimensions



## PVA35 Series - Typical Gage Dimensions



### PVA20 Series Models - 2 inch size gages

- |   |  |
|---|--|
| <b>PVA20-A</b> = Engine Oil Pressure          | <b>PVA20-J</b> = Percent Fuel Level          |
| <b>PVA20-B</b> = Coolant Temperature          | <b>PVA20-K</b> = Boost Pressure              |
| <b>PVA20-C</b> = Voltmeter                    | <b>PVA20-L</b> = Exhaust Gas Temperature     |
| <b>PVA20-D</b> = Percent Load at Current RPM  | <b>PVA20-M</b> = Intake Manifold Temperature |
| <b>PVA20-E</b> = Transmission Oil Pressure    | <b>PVA20-N</b> = Auxiliary Temperature       |
| <b>PVA20-F</b> = Transmission Oil Temperature | <b>PVA20-P</b> = Auxiliary Pressure          |
| <b>PVA20-G</b> = Engine Oil Temperature       | <b>PVA20-T</b> = Tachometer                  |
| <b>PVA20-H</b> = Hydraulic Oil Temperature    | <b>PVAA20</b> = Audible Alarm                |

### PVA35 Series Models - 3 1/2 inch size gages

- |                             |                              |
|-----------------------------|------------------------------|
| <b>PVA35-T</b> = Tachometer | <b>PVA35-S</b> = Speedometer |
|-----------------------------|------------------------------|

# How to Order

## PVA20 - A - 100 - A - R1

### Model

- PVA20** = 2 inch size PowerView Gage
- PVA35** = 3-1/2 inch size PowerView Gage (Tachometer or Speedometer only)
- PVAA20** = 2 inch PowerView Audible Alarm

### Gage Function (excludes PVAA20)

- A** = Engine Oil Pressure
- B** = Engine Coolant Temperature
- C** = Voltmeter
- D** = Percent Load at Current RPM
- E** = Transmission Oil Pressure
- F** = Transmission Oil Temperature
- G** = Engine Oil Temperature
- H** = Hydraulic Oil Temperature
- J** = Percent Fuel Level
- K** = Boost Pressure
- L** = Exhaust Gas Temperature
- M** = Intake Manifold Temperature
- N** = Auxiliary Temperature
- P** = Auxiliary Pressure
- T** = Tachometer
- S** = Speedometer

### Bezel (All Models)

#### Bezel Type (flat lens)

- A** = A20 (Brushed Silver)
- AB** = A20 (Black)
- B** = Low profile SAE (Brushed Silver)
- BB** = Low profile SAE (Black)

#### Bezel Type (domed lens)

- E** = Contemporary Domed (Brushed Silver)
- EB** = Contemporary Domed (Glossy Black)

### Remote Gage

**R1** = Option for a second gage of identical type on the gage network.  
For example: If you are already using one PVA20-A-100-A, and a second oil pressure gage is needed, order a PVA20-A-100-A-R1.

### Gage Ranges (excludes PVAA20)

- 100** = 100 psi/700 kPa
- 150** = 150 psi/1000 kPa (PVA20-A only)
- 7B** = 7 Bar/100 psi
- 10B** = 10 Bar/150 psi
- 250** = 250°F/120°C
- 120C** = 120°C/250°F
- 12** = 12 VDC
- 24** = 24 VDC
- 100** = 100%
- 400** = 400psi/28 bar
- 28B** = 28 Bar/400 psi
- 150C** = 150°C/300°F
- 40** = 40psi/275 kPa
- 1600** = 1600°F/870°C
- 280** = 280°F/138°C
- 85** = 85 mph/130kmh
- 130K** = 130kmh/85mph
- 3000** = 3000 RPM
- 6000** = 6000 RPM

### Available for Gage Functions

- A**
- A**
- A**
- A**
- B, F, G, H, M**
- B**
- C**
- C**
- D, J**
- E, P**
- E, P**
- F, G, N**
- K**
- L**
- N**
- S**
- S**
- T**
- T (PVA35 model only)**

### Wiring Harness and Accessories

For ordering and connecting wire harnesses, see Bulletin 03020.

### Shipping Weight

All Models: 1 lb. (450 g)

### Shipping Dimensions

All Models: 6x6x6 inches (153x153x153 mm)

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