

## 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

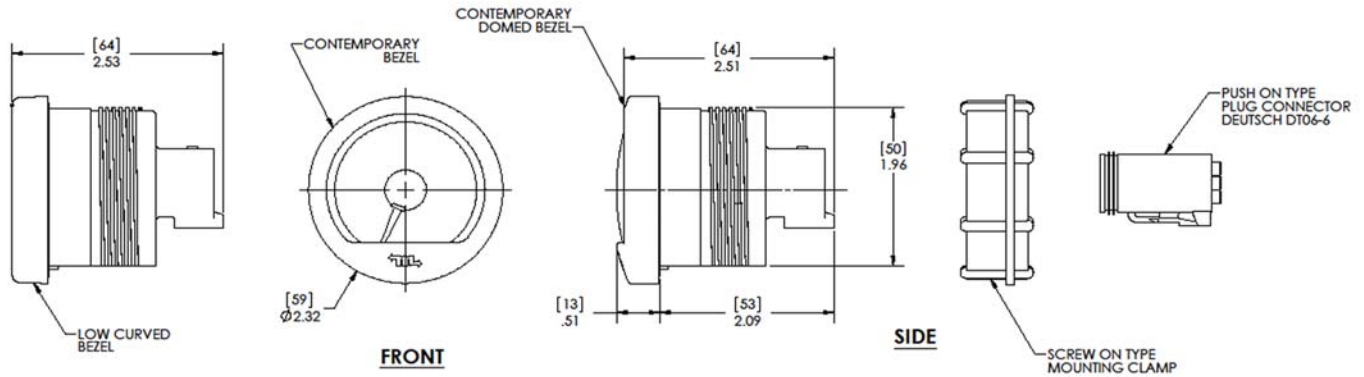
**External Audible Alarm Output:** 28VDC, 30 mA maximum current sink

**Temporary Silence Button:** Charge transfer technology

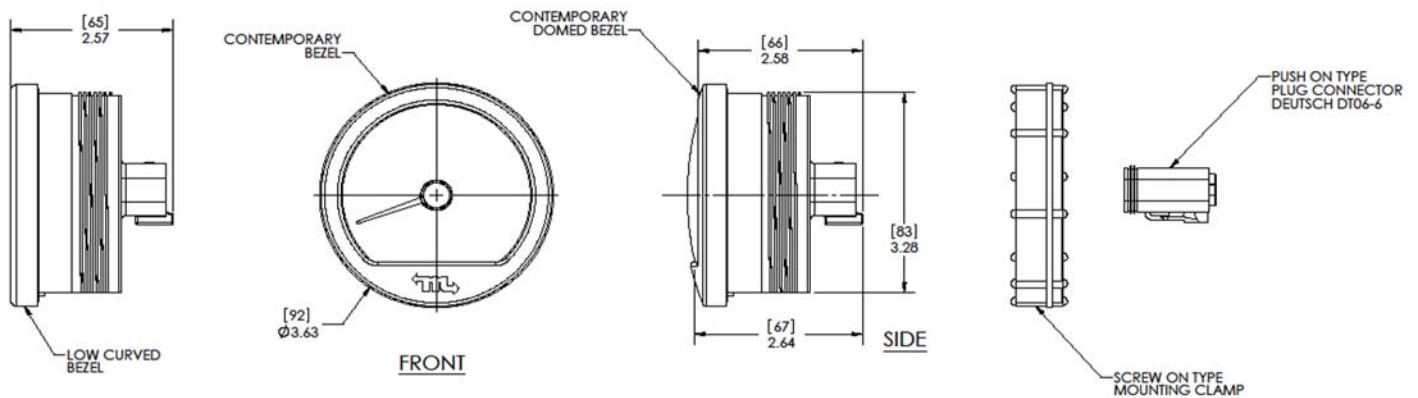
A-20 Style	Low Profile SAE Style	Contemporary Domed Bezel and Lens Style
<b>PVA20 Series – 2 inch Size Gages</b>		
<p>AB Bezel Type</p>   <p>A Bezel Type</p>	<p>BB Bezel Type</p>   <p>B Bezel Type</p>	<p>EB Bezel Type</p>   <p>E Bezel Type</p>
<b>PVA35 Series – 3-1/2 inch Size Gages</b>		
<p>AB Bezel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

**PVA20-A** = Engine Oil Pressure

**PVA20-B** = Coolant Temperature

**PVA20-C** = Voltmeter

**PVA20-D** = Percent Load at Current RPM

**PVA20-E** = Transmission Oil Pressure

**PVA20-F** = Transmission Oil Temperature

**PVA20-G** = Engine Oil Temperature

**PVA20-H** = Hydraulic Oil Temperature

**PVA20-J** = Percent Fuel Level

**PVA20-K** = Boost Pressure

**PVA20-L** = Exhaust Gas Temperature

**PVA20-M** = Intake Manifold Temperature

**PVA20-N** = Auxiliary Temperature

**PVA20-P** = Auxiliary Pressure

**PVA20-T** = Tachometer

**PVAA20** = Audible Alarm

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

**PVA35-T** = Tachometer

**PVA35-S** = 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) Available for Gage Functions

<b>100</b> = 100 psi/700 kPa	<b>A</b>
<b>150</b> = 150 psi/1000 kPa (PVA20-A only)	<b>A</b>
<b>7B</b> = 7 Bar/100 psi	<b>A</b>
<b>10B</b> = 10 Bar/150 psi	<b>A</b>
<b>250</b> = 250°F/120°C	<b>B, F, G, H, M</b>
<b>120C</b> = 120°C/250°F	<b>B</b>
<b>12</b> = 12 VDC	<b>C</b>
<b>24</b> = 24 VDC	<b>C</b>
<b>100</b> = 100%	<b>D, J</b>
<b>400</b> = 400psi/28 bar	<b>E, P</b>
<b>28B</b> = 28 Bar/400 psi	<b>E, P</b>
<b>150C</b> = 150°C/300°F	<b>F, G, N</b>
<b>40</b> = 40psi/275 kPa	<b>K</b>
<b>1600</b> = 1600°F/870°C	<b>L</b>
<b>280</b> = 280°F/138°C	<b>N</b>
<b>85</b> = 85 mph/130kmh	<b>S</b>
<b>130K</b> = 130kmh/85mph	<b>S</b>
<b>3000</b> = 3000 RPM	<b>T</b>
<b>6000</b> = 6000 RPM	<b>T (PVA35 model only)</b>

### 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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