

## 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 shutdown 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 ± 1% of full scale

### Environmentally Sealed Enclosure:

- **Sealing:** IP68, ±5 psi (±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**

**PVA20 Series – 2 inch Size Gages**

**AB Bezel Type**



**A Bezel Type**

**BB Bezel Type**



**B Bezel Type**

**EB Bezel Type**



**E Bezel Type**

**PVA35 Series – 3-1/2 inch Size Gages**

**AB Bezel Type**



**A Bezel Type**

**BB Bezel Type**



**B Bezel Type**

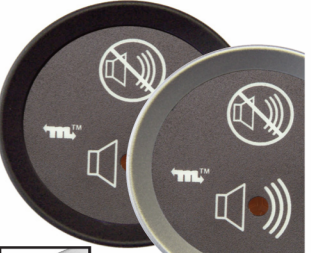
**EB Domed Bezel and Lens Type**



**E Bezel Type**

**PVAA20 Model – 2 inch Size Audible Alarm**

**AB Bezel Type**



**A Bezel Type**

**BB Bezel Type**



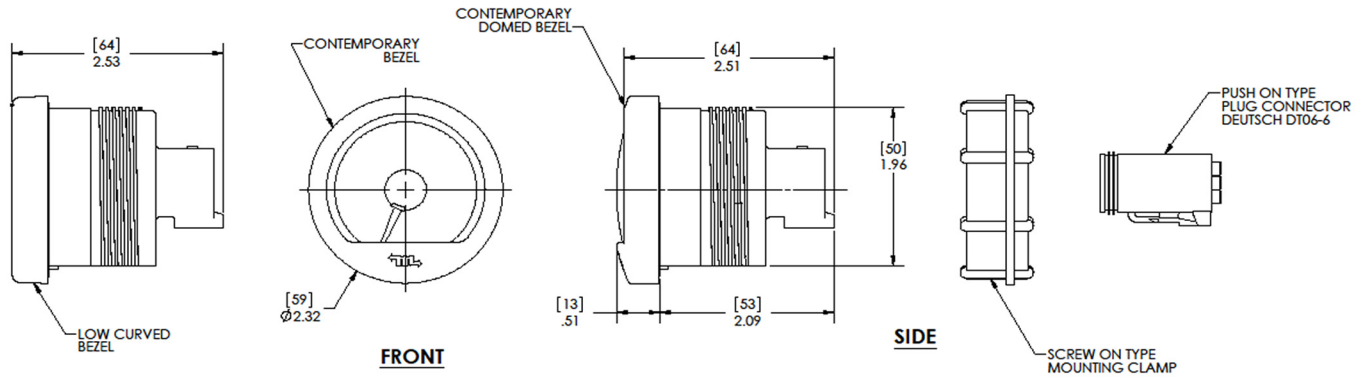
**B Bezel Type**

**EB Domed Bezel and Lens Type**

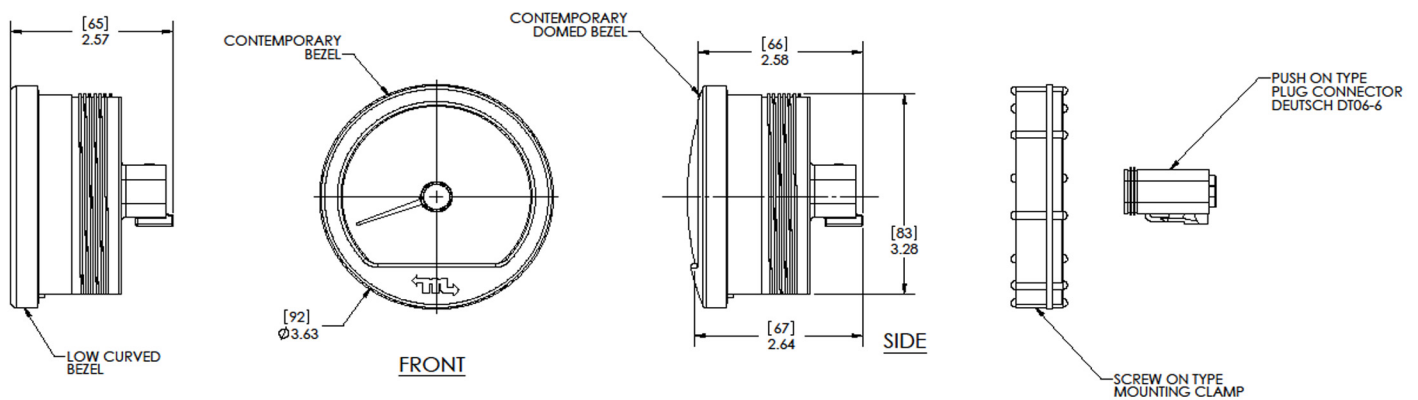


**E Bezel Type**

## 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) 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)