



# POWERVIEW Analog Gages



## Description

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<sup>®</sup> 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. Pages 2, 3 and 4 of this document show you the complete selection of styles available.

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 casing, and green LED back lighting. They are available for standard 2-1/16 in. (52 mm) and 3-3/8 in. (86 mm) diameter hole sizes. In addition their plastic 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.

## 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

## PVA SERIES

- 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

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

- PVA35 -T = Tachometer
- PVA35 -S = Speedometer

## Specifications

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

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

PVA20, PVA35: 28 mA minimum; 52 mA maximum.

PVAA20: 19 mA minimum; 46 mA maximum.

**Backlight Maximum Current** (not applicable to PVAA20): 24 mA.

**Input:** RS485 MODBUS<sup>®</sup> RTU data.

**Output:** Analog Readout.

**Sound Output Level (PVAA20):** 90 dB @ 30 cm

**Relay Rated Load (PVAA20):** 0.5 A, 125 VAC; 1 A, 24 VDC.

**Relay Maximum Switching Capacity (PVAA20):** 62.5 VA, 30W.

**External Audible Alarm Output (PVAA20):** 28 VDC, 30 mA max. (current sink).

**Temporary Silence Button (PVAA20):** Charge transfer technology.

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

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

**Dial:** White numerals over black background.

**Indicating Pointer:** Stepper motor operation with 270° sweep.

**Gage Accuracy:** PVA20: Better than ±1.0% of scale.

PVA35: Better than ±2% of scale.

**Environmentally Sealed Enclosure:**

*Sealing:* IP68, ±5 psi (±34.4 kPa).

*Case and Clamp Material:* Polyester (PBT).

*Lens Material:* Polycarbonate.

*Bezel Material:* Polyester (PBT).

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

**Connectors:** 6-Pin Deutsch DT06 Series.



**A-20 Style**

**Low Profile SAE Style**

**Contemporary Style**

**Low Curved Style**

**PVA20 Series – 2 inch Size Gages**

*AB Bezel Type*



*A Bezel Type*



*BB Bezel Type*



*B Bezel Type*



*CB Bezel Type*



*C Bezel Type*



*DB Bezel Type*



*D Bezel Type*



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

*AB Bezel Type*



*A Bezel Type*



*BB Bezel Type*



*B Bezel Type*



*CB Bezel Type*



*C Bezel Type*



*DB Bezel Type*



*D Bezel Type*



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

*AB Bezel Type*



*A Bezel Type*



*BB Bezel Type*



*B Bezel Type*



*CB Bezel Type*



*C Bezel Type*



*DB Bezel Type*



*D Bezel Type*



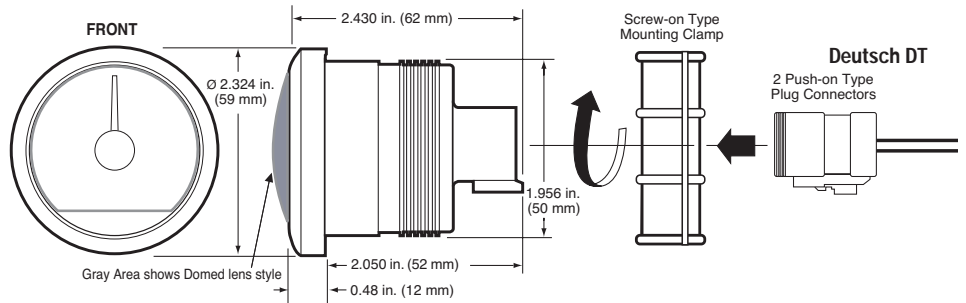
**Contemporary Domed Bezel and Lens Style**

*EB Bezel Type*



*E Bezel Type*

**PVA20 Series – Typical Gage Dimensions**

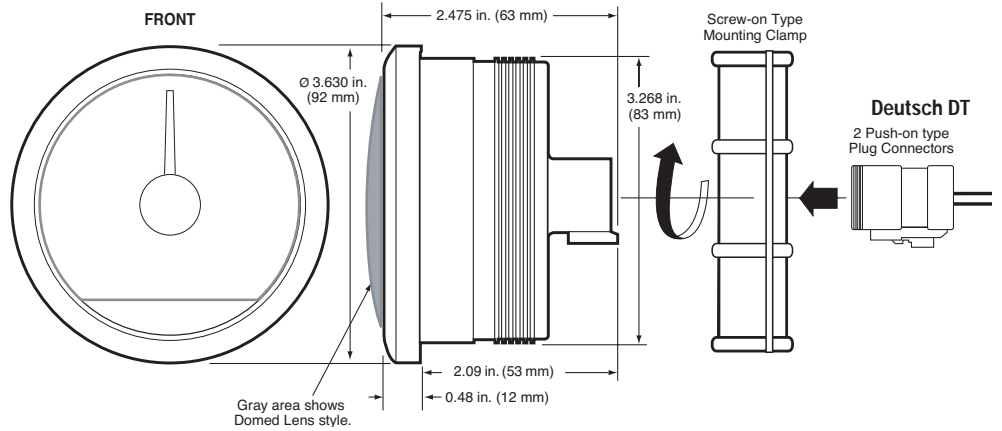


*EB Domed Bezel and Lens Type*



*E Bezel Type*

**PVA30 Series – Typical Gage Dimensions**

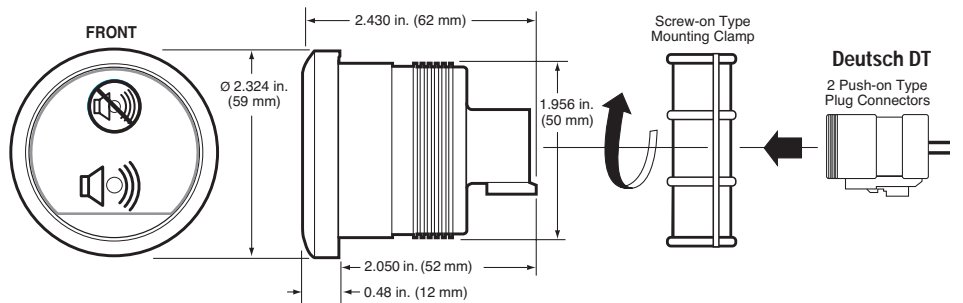


**PVAA20 Model – Audible Alarm Typical Dimensions**

*EB Domed Bezel and Lens Type*



*E Bezel Type*



## How to Order: To order the PowerView use the model number designation diagram.

**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)  
**C** = Contemporary (Brushed Silver)  
**CB** = Contemporary (Black)  
**D** = Low Curved (Brushed Silver)  
**DB** = Low Curved (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 Harnesses and Accessories

For details see bulletin 0710169

## 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 [www.fwmurphy.com/support/warranty.htm](http://www.fwmurphy.com/support/warranty.htm)

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## Shipping Weights

All Models: 1 lb. (450 g.)

## Shipping Dimensions

All Models: 6 x 6 x 6 inch (153 x 153 x 153 mm.)

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