

# 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 casing, and green LED back lighting. They are available for standard 2-1/6" (52mm) and 3-3/8" (86mm) 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 shut-down 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

## 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:** (@ 14VDC) =

PVA20, PVA35: 28 mA minimum; 52 mA maximum

PVAA20: 19 mA minimum; 46 mA maximum

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

**Input:** RS485 MODBUS® RTU data

**Output:** Analog readout

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

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

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

**External Audible Alarm Output (PVAA20):** 28 VDC, 30 mA maximum (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% 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. (9.6mm)

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

**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**

**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>

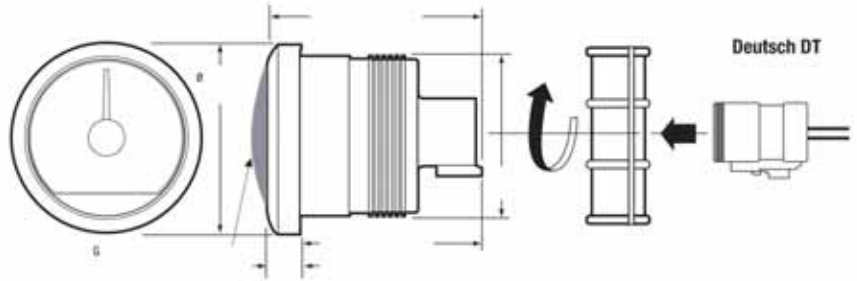
**Contemporary Domed Bezel and Lens Style**

EB Bezel Type



E Bezel Type

**PVA20 Series – Typical Gage Dimensions**

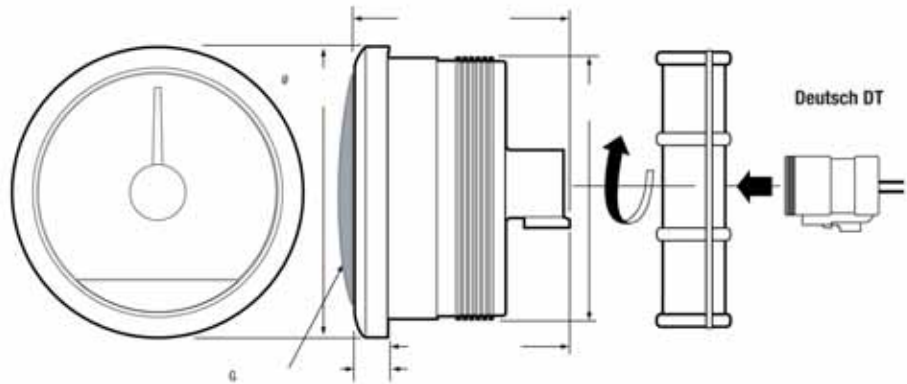


EB Domed Bezel and Lens Type



E Bezel Type

**PVA35 Series – Typical Gage Dimensions**

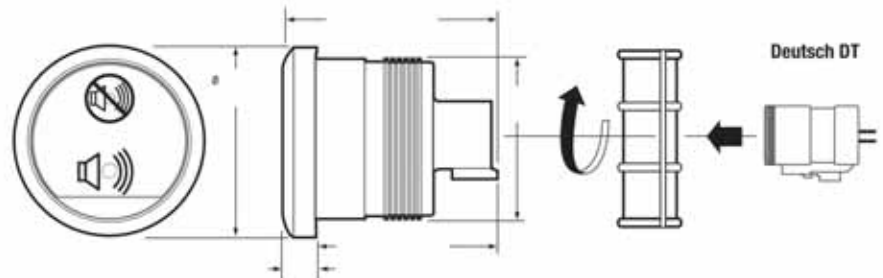


EB Domed Bezel and Lens Type



E Bezel Type

**PVAA20 Model – Audible Alarm Typical Dimensions**



# 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)
- 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) 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 Harnesses and Accessories

For details see bulletin 03020.

## Shipping Weights

All Models: 1 lb. (450 g.)

## Shipping Dimensions

All Models: 6x6x6 inch (153x153x153 mm)