

# DPS-1591DP SERIES DIGITAL PRESSURE GAUGE WITH DUAL SETPOINTS

- Solid-state design replaces analog gauges
- Digital readout with analog bar-graph display
- Highly accurate:  $\pm 0.25\%$
- Loop-powered from 10-32Vdc
- User programmable for units, setpoints, bar-graph
- Two adjustable setpoints, N.O. / N.C. outputs
- 4-20mA output
- Standard 4-1/2" round case

The Altronic DPS-1591DP is an advanced digital/bar-graph gauge for pressure display, monitoring and protection. The gauge features a large 0.75 inch digital readout, accurate to  $\pm 0.25\%$  of full scale, and a 25-segment analog arc bar-graph. The integral pressure transducer is a high quality all stainless steel media-isolated sensor with no internal o-rings, silicone oil or welds. The gauge is intended for use in the measurement of gases and liquids compatible with stainless steel.

The DPS-1591DP is powered from the same two lines used for the proportional current loop output. This keeps wiring to a minimum and simplifies installation. The device also contains a very long life back-up battery to allow calibration without

external power and to maintain readout and alarm capability in the event of a loss of the external loop power. This feature makes the gauge ideal for critical applications where loss of readout or protection is unacceptable.

A unique feature of the DPS gauge is the digital readout/bar-graph display. The analog bar-graph gives the operator an immediate indication of the reading as a percent of span between two selected points (such as full gauge span or the span between low and high setpoints), as well as a reference to direction and amplitude of a rapid change in reading. An adjustable software filter stabilizes readings where the pressure is fluctuating. The gauge also stores the highest and lowest filtered readings to which it has been exposed.

The front panel of the microprocessor-based gauge has a sealed membrane keypad for easy selection and adjustment of the units and setpoints. There are two solid-state output switches, one assigned to each setpoint. Each setpoint can be individually assigned to be a low, high or loss-of-loop alarm. The display indicates the units and annunciates an alarm by number and type.

Power requirement is 10-32 Vdc, 25 mA maximum. The DPS-1591DP is available in eight pressure ranges ranging from 50 to 9999 psig. All versions operate into the vacuum range to -14.7 psig. Like Altronic's type 45PHL analog movement pressure gauge series, the DPS series features a stainless steel pressure connection stem which can be user-adjusted for either bottom or back location.



## Specifications

**Power requirement**..... 10-32Vdc, 25mA max.

**Hazardous area classification** ..... Class I, Div. 2, Groups C and D  
See "To order" for Division 1

### Instrument display

Type..... 4-digit LCD, 0.75" height with 25-segment bar-graph

Units displayed ..... psig, in-Hg, in-H<sub>2</sub>O, mm-H<sub>2</sub>O, mm-Hg, Bar, mbar, Kg/cm<sup>2</sup>

Range ..... -999 to 9999, setable decimal point

### Instrument accuracy

0 to full scale ..... ±0.25% of full scale

0 to -14.7" psig ..... ±2.0% of highest vacuum reading

Loop signal ..... ±0.25% of full scale

**Display update rate** ..... 4 times per sec. (loop powered)

1 time per sec. (battery powered)

**Output switches**..... 2 solid state, isolated

100Vdc, 1.0Amp continuous

**4-20mA output**..... 150 Ohm max. with 12Vdc supply

250 Ohm max. with 14Vdc supply

### Ambient temperature

For stated accuracy ..... +32°F to +131°F / 0°C to +55°C

Operating range..... -40°F to +185°F / -40°C to +85°C

## To order

-14.7 to 50 psig.....DPS-1591DP-50

-14.7 to 100 psig..... DPS-1591DP-100

-14.7 to 200 psig.....DPS-1591DP-200

-15 to 500 psig ..... DPS-1591DP-500

-15 to 1000 psig ..... DPS-1591DP-1000

-15 to 2500 psig .....DPS-1591DP-2500

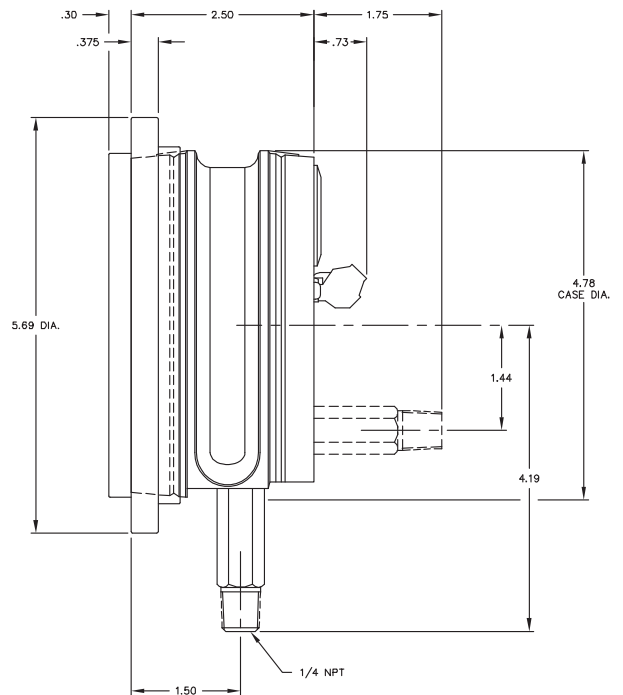
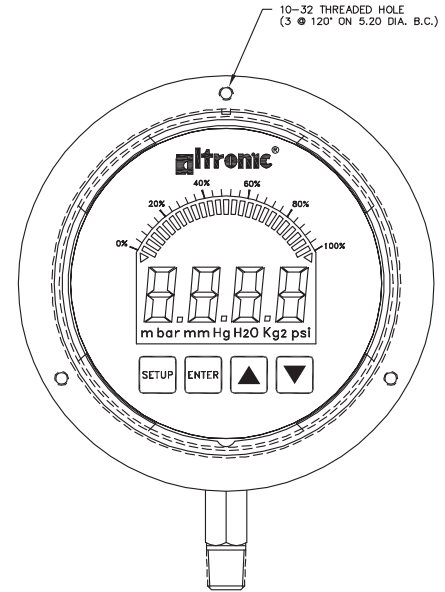
-15 to 5000 psig ..... DPS-1591DP-5000

-15 to 9999 psig .....DPS-1591DP-9999

### Class I, Division 1, Group D Hazardous Area Application

Intrinsically safe option: use a CSA certified zener barrier rated 30 volts max., 120 Ohms min. Such as Stahl part no. 9002/13-280-110-00.

## Dimensions



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