Falcon DPG1000ADA *Digital Pressure Gauge*

Low Voltage AC or DC Powered with Dual SPDT Alarm Relays

- ***±0.25% Test Gauge Accuracy***
- ***316 Stainless Steel Wetted Parts***
- ***Alarm Test Function***
- ***Rugged Extruded Aluminum Case***

DPG1000ADA with 100.0 psig range

ELECTRICAL SPECIFICATIONS

Standard ranges and resolution
30.0 inHg vacuum, ±15.00 psig
3.00, 5.00, 10.00, 15.00, 19.99 psig
30.0, 50.0, 100.0, 199.9 psig
300, 500, 1000, 3000, 5000 psig
Absolute reference: 15.00, 30.0, 100.0 psia

Optional units
Convert standard ranges for other engineering units such as kPa, atm, bar, mbar, inHg, mmHg, inH_2O, ftH_2O, torr, kg/cm^2, cmH_2O, oz/in^2

Display (type, size, update rate)
3½ digit LCD, ½" digit height
4 digit LCD, 0.4" digit height for 2000 psi or higher
3 readings per second nominal display update rate

Controls & location
Display zero/span; non-interactive, ±15% range
Setpoint 1 and Setpoint 2; 0-100% range
Top-accessible multiturn potentiometers

Accuracy (linearity, hysteresis, repeatability)
±0.25% of full scale or better, ±1 least significant digit

Temperature stability
±0.003% of span per degree C (typical)
±0.01% of span per degree C (max) 0 to 70°C

Alarm deadbands (hysteresis)
1% of of full scale

Alarm outputs
Dual form C (SPDT) relay contacts
Individual Setpoint 1 and Setpoint 2 settings via top-accessible multi-turn potentiometers
HI/LO alarm configuration standard, others available
Relay contacts rated 1A/24VDC, 0.5A/115VAC, non-inductive

Alarm indicators
Bicolor (red/green) LEDs on front panel

Test function
Front panel TEST button, when depressed, toggles both SP1 and SP2 alarm status, independent of pressure input to allow testing of system operation.

Alarm response time
100 milliseconds typical

Power
Any AC source of 8 to 24 VAC 50/60 Hz or any DC source of 9 to 32 VDC, 1.0 watt maximum. Order optional WMPSK 12 VDC wall mount power supply kit to operate on 115 VAC.

ENVIRONMENTAL SPECIFICATIONS

Storage temperature . . . . . –55 to +95°C
Operating temperature . . . . . –20 to +85°C
Compensated temperature . . . . . 0 to +70°C

MECHANICAL SPECIFICATIONS

Size
3.38"W x 2.88"H x 1.65"D (not including pressure fitting or cable strain relief). Add approximately 0.75" to height for pressure fitting and 1" to depth for strain relief and wire clearance.

Weight (approximate)
Gauge: 9 ounces, Shipping weight: 1 pound

Material
Extruded aluminum case, epoxy powder coated
Polycarbonate cover, front and rear gaskets

Color
Light gray body, light gray/blue front

Pressure/vacuum connection and material
¼" NPT male, 316 stainless steel

Media compatibility
All wetted parts are 316 SS
Compatible with most liquids and gases

Electrical connection
3 foot long, 2-conductor 22AWG cable for power
3 foot long, 6-conductor 22AWG cable for alarm contacts

Overpressure
5000 psig for 3000 psig range, 7500 psig for 5000 psig range
All others; 2x rated pressure minimum

Burst pressure
4x rated pressure minimum or 10,000 psi, whichever is less

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Description

The **DPG1000ADA** is ideal for applications that require dual setpoints (alarms). The **DPG1000ADA** is powered by any AC source of 8 to 24 VAC 50/60 Hz, or any DC source of 9 to 32 VDC. No polarity needs to be observed when connecting a DC supply. Therefore, the **DPG1000ADA** can be used with inexpensive unregulated low voltage AC or DC sources in applications requiring a continuous pressure display.

The **DPG1000ADA** circuitry includes dual mechanical relay alarm outputs with fully adjustable setpoints in a standard HI/LO alarm configuration. Other standard features of the **DPG1000ADA** make the alarm feature easy to set up and use. Bicolor LEDs on the front panel (green = normal, red = alarm) provide a visual indication of alarm status. Setpoint 1 and Setpoint 2 buttons allow viewing the setpoints on the gauge display without disrupting normal operation. To test system installation and operation, a front-panel TEST button, when pressed, toggles the alarm output status independent of system pressure.

Installation

When installing gauge, tighten using wrench on hex fitting only. Do not attempt to tighten by turning housing or any other part of the gauge.

Electrical Connection

Connection to the **DPG1000ADA** is made with the two cables at the gauge rear. The smaller two-conductor cable is for the gauge power supply. This cable has one RED and one BLACK lead. However, since the **DPG1000ADA** will operate on either AC or DC power, there is no need to observe polarity; simply connect an AC supply of 8 to 24 VAC, 50/60 Hz, or a DC supply of 9 to 32 VDC to the two wires to activate the gauge.

The larger 6-conductor cable is for the alarm relay contact outputs. This cable's color code is as follows.

SETPOINT 1		**SETPOINT 2**	
Normally Closed (NC)	BLACK	Normally Closed (NC)	GREEN
Common (C)	RED	Common (C)	BROWN
Normally Open (NO)	WHITE	Normally Open (NO)	BLUE

Operation

Mount the **DPG1000ADA** on the pressure or vacuum system, wire the alarms as indicated, and apply power to the supply leads to activate the display. The gauge is powered ON whenever a supply voltage is applied. The type and magnitude of the supply voltage have negligible effects on the gauge calibration as long as it is within the voltage ranges stated above.

In normal operation, the system pressure is displayed on the gauge LCD. In addition, the **DPG1000ADA** circuitry compares the system pressure to two independent setpoint levels; these are referred to as Setpoint 1 and Setpoint 2. These setpoint levels are adjustable via top-accessible controls (see Calibration) and may be viewed by pressing either the SP1 or SP2 buttons on the front of the unit. Pressing SP1 or SP2 will switch the display to show, and allow adjusting of, the corresponding setpoint only; normal operation of the alarm outputs is not otherwise affected.

Alarm status is easily seen on the two alarm indicator LEDs in the corner of the SP1 and SP2 buttons. A GREEN indication is a "clear" or non-alarm condition; RED is an abnormal or alarm condition. If a particular setpoint is configured as a HI alarm, the **DPG1000ADA** will provide a RED alarm indication when the system pressure exceeds the setpoint. If a particular setpoint is configured as a LO alarm, the **DPG1000ADA** will provide a RED alarm indication when the system pressure falls below the setpoint. Alarm configurations are set at the factory at time of manufacture and may be ordered as HI/LO, HI/HI, or LO/LO configurations. See Appendix A for additional information on using the **DPG1000ADA** alarm outputs.

For system setup, testing, and troubleshooting, the TEST button is provided. This button, when pressed, toggles the current state of the alarm outputs. Therefore the alarm outputs may be "exercised" on demand without the need to vary the system pressure to test devices, annunciators, etc. connected to these outputs.

Calibration

Lift calibration label on the top of the unit to access individual controls to adjust the zero and span of the display.

GAUGE reference units may be re-zeroed without affecting the span calibration. The gauge port must be open to the ambient with no pressure or vacuum applied. Adjust the Zero control until the gauge reads zero with the minus (–) sign occasionally flashing.

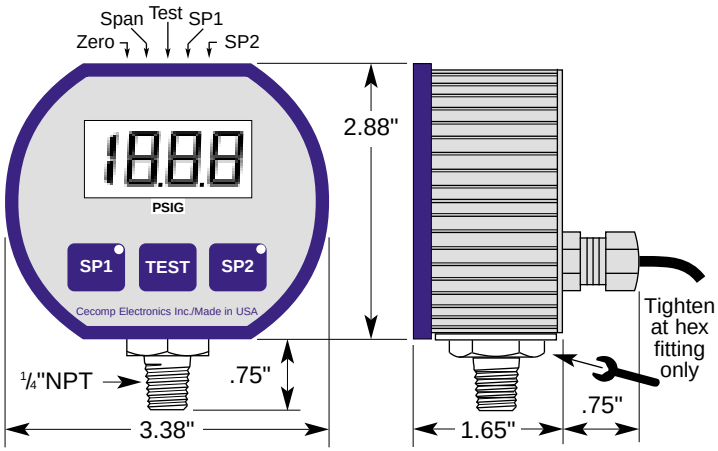
Span calibration should only be attempted if the user has access to a pressure reference of known accuracy. The quality of the calibration is only as good as the accuracy of the calibration equipment and ideally should be at least four times the gauge accuracy. Zero calibration must be done before span calibration. Apply full-scale pressure (or vacuum) to the gauge port and adjust the Span control for the correct reading.

ABSOLUTE reference gauges require vacuum generation and atmospheric pressure measurement equipment for accurate calibration and thus are more difficult to calibrate in the field. Gauges may be returned to Cecomp Electronics for factory certified recalibration. N.I.S.T. traceability is available.

To adjust alarm Setpoint 1, press and hold the SP1 button. When holding the SP1 button, the display will show the current setting for Setpoint 1. Turn the top-accessible Setpoint 1 control. Repeat the procedure by pressing the SP2 button to adjust Setpoint 2.

General

An important consideration in successful application of the **DPG1000ADA** is to ensure that the gauge supply voltage does not fall below 8 VAC RMS if AC power is used, or 9 VDC if DC power is used. Operation with less than these values may cause erratic or erroneous readings or alarm operation



Cecomp Electronics maintains a constant effort to upgrade and improve its products, therefore specifications are subject to change.

MODEL NUMBERING SYSTEM

DPG1000ADA range units ref - alarm

Pressure/Vacuum Range

Units

G=Gauge, A=Absolute, VAC=Vacuum

Alarm Options

1N = Hi/Lo Normal action (Std)	1R = Hi/Lo Reverse action
2N = Hi/Hi Normal action	2R = Hi/Hi Reverse action
3N = Lo/Lo Normal action	3R = Lo/Lo Reverse action

Example: DPG1000ADA500PSIG-1N = DPG1000, Alarms, 500 psig, HI/LO normal action alarms