

# DIGITAL PRESSURE GAUGES WITH ALARMS AND ANALOG OUTPUT FUNCTIONS

## DPG1000ADA

### AC/DC Powered with Dual Alarms

#### SPECIFICATIONS

**Accuracy:**  $\pm 0.25\%$  FSO or better,  $\pm 1$  least-significant digit (includes linearity, hysteresis, repeatability)

**Controls and Location:** Display zero/span, non-interactive,  $\pm 15\%$  range; setpoint 1 and setpoint 2, 0 to 100% range; top-accessible, multiturn potentiometers

**Alarm Deadbands (Hysteresis):** 1% of FSO, standard

**Alarm Outputs:** Dual form "C" (SPDT) relay contacts; individual setpoint 1 and setpoint 2 settings via top-accessible multiturn potentiometers; high/low alarm configuration standard, others available; relay contacts rated 1 A/24 Vdc, 0.5 A/115 Vac, non-inductive

**Alarm Indicators:** Bicolor (red/green) LEDs on front panel

DPG1000ADA-300G-1N  
shown actual size.

**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 ms typical

**Power:** Any AC source of 8 to 24 Vac, 50/60 Hz, or any DC source of 9 to 32 Vdc, 1.0 W maximum; optional wall-mount power supply available to operate on 115 Vac (DPG1000-PS)

**Electrical Connection:** 0.9 m (3') long, 2-conductor 22 AWG cable for power; 0.9 m (3'), 6-conductor 22 AWG cable for alarm contacts

**Sensor:** Precision oil-filled silicon



## DPG1000DAR DC Powered with Dual Alarms and 4 to 20 mA Output

#### SPECIFICATIONS

**Accuracy:**  $\pm 0.25\%$  FSO or better,  $\pm 1$  least-significant digit (includes linearity, hysteresis, repeatability)

**Controls and Location:** Display zero/span, non-interactive,  $\pm 15\%$  range; setpoint 1 and setpoint 2, 0 to 100% range; test calibration level, 0 to 100% range; top-accessible, multiturn potentiometers analog output zero/span; internal potentiometers

**Alarm Deadbands (Hysteresis):** 1% of FSO, standard

**Alarm Outputs:** Dual form "C" (SPDT) relay contacts; individual setpoint 1 and setpoint 2 settings via top-accessible multiturn potentiometers; high/low alarm configuration standard; relay contacts rated 1 A/24 Vdc, 0.5 A/115 Vac, non-inductive

**Alarm Indicators:** Bi-color (red/green) LEDs on front panel

**Alarm Response Time:** 100 ms typical

**Analog Output:**  
4 to 20 mA DC;  
output drive

(compliance) determined by power source

**Analog Output Response Time:** 50 ms, typical

**Test Function:** Front-panel TEST button, when depressed, toggles both SP1 and SP2 alarm status and simultaneously sets display and analog output to "calibration" level, independent of pressure input, to allow testing system operation

**Power:** Any DC source of 9 to 32 Vdc, 1.0 W maximum

**Electrical Connection:** 0.9 m (3') long, 4-conductor 22 AWG shielded cable for power and retransmitted output; 0.9 m (3') long, 6-conductor 22 AWG cable for alarm contacts.



DPG1000DAR-300G-1N  
shown actual size.

# DIGITAL PRESSURE GAUGES WITH ALARMS AND ANALOG OUTPUT FUNCTIONS

**Using the DPG1000ADA and DPG1000DAR Alarm Outputs Normal (Fail-safe) vs. Reverse Action**—The convention for alarm action is that with the normal or fail-safe configuration, the alarm output relays will be CLOSED (relay energized) for a clear or non-alarm condition and OPEN (relay not energized) for an alarm condition. This is primarily for users who require an alarm condition if the gauge loses power or suffers a catastrophic failure. In the wiring diagrams, the normally closed and normally open designations refer to standard relay terminology (i.e., the relay contact status with the relay coil not energized).

Therefore, with the normal (fail-safe) configuration in a green or non-alarm condition, the relay will be energized so that continuity can be expected between the common and normally open leads. In a red or alarm condition, the relay will be open (not energized) so that continuity can be expected between the common and normally closed leads.

### Contact Rating and Protection

The contacts of the alarm relays are rated at 1 A/24 Vdc or 0.5 A/115 Vac. Switching loads greater than the rating, or switching large inductive loads, will shorten the useful life of the contacts. In low-level switching or with dry contacts, the user should consider whether external contact protection, such as snubber networks or arc suppression networks, is required to protect the contacts.

In addition, no internal fusing is included in the DPG1000 contact circuits. The circuit external to the gauge alarm outputs should be fused by the user in applications in which good design dictates this practice.

### Using the DPG1000DAR Analog Output

The analog output is easy to use if a few system considerations are observed. The DPG1000DAR is DC powered, with the gauge power supply (–) tied to the 4 to 20 mA (–). Therefore, the DC supply (–) lead should be considered common with

regard to the analog output (–) or ground connection in the user's system.

Be sure to observe the output compliance (voltage drive) capabilities of the gauge. The compliance, and therefore the maximum loop resistance the output can drive, is a function of the supply voltage to the gauge. Consult the manual for maximum loop resistance vs. supply voltage. Too large a loop resistance will cause the gauge output to “limit” or saturate before reaching its full 20 mA output.



DPG1000ADA-300G-1N shown smaller than actual size.

ALARM CONFIGURATIONS		
1		HI/LO (standard)
2		HI/HI
3		LO/LO
	N	Normal acting (standard)
	R	Reverse acting

**¼ NPT Pressure Snubbers**  
 PS-4G = Gas  
 PS-4E = Lt Oil  
 PS-4D = Dense Lq

To Order		
RANGE (psi)	MODEL NO.	COMPATIBLE METERS
<b>AC/DC POWERED/DUAL ALARMS</b>		
0 to 15.00	DPG1000ADA-15G-1N	N/A
0 to 30.00	DPG1000ADA-30G-1N	N/A
0 to 100.0	DPG1000ADA-100G-1N	N/A
0 to 300	DPG1000ADA-300G-1N	N/A
0 to 500	DPG1000ADA-500G-1N	N/A
0 to 1000	DPG1000ADA-1KG-1N	N/A
<b>DC POWERED/DUAL ALARMS/ANALOG OUTPUT</b>		
0 to 15.00	DPG1000DAR-15G-1N	DP41-E, DP25B-E, DP24-E
0 to 30.00	DPG1000DAR-30G-1N	DP41-E, DP25B-E, DP24-E
0 to 100.0	DPG1000DAR-100G-1N	DP41-E, DP25B-E, DP24-E
0 to 300	DPG1000DAR-300G-1N	DP41-E, DP25B-E, DP24-E
0 to 500	DPG1000DAR-500G-1N	DP41-E, DP25B-E, DP24-E
0 to 1000	DPG1000DAR-1KG-1N	DP41-E, DP25B-E, DP24-E

Comes complete with operator's manual.

**Note:** To order another alarm configuration, replace “-1N” with alarm configuration from table above.

**Ordering Examples:** DPG1000ADA-100G-1N, AC/DC-powered unit with range of 0 to 100.0 psig and standard-acting dual alarms in the HI/LO configuration.

DPG1000DAR-100G-1N, DC-powered unit with range of 0 to 100.0 psig, analog output and standard-acting dual alarms in the HI/LO configuration.

Units available with 15 and 100 psi absolute pressure range. Change “15G” in model number to “15A” or “100G” to “100A” and add additional cost to price.

### ACCESSORY

MODEL NO.	DESCRIPTION
DPG1000-PS	Wall mount 115 Vac power supply for DPG1000ADA units