

0-5" H₂O to 0-300 psid
Piston or Diaphragm
Sensors with Explosion-
Proof Enclosures
for Switches, Relays
or Transmitters

Features

- **Class 1, Div. 1 rated enclosures**
- **Rugged, weatherproof design**
- **Gauge, switch and transmitter versions**



Our Class 1, Div. 2 enclosures found throughout this catalog are popular for hazardous environments where explosive gases or vapors *may* be present. Our Class 1, Div. 1 *Explosion-proof* line, expands on that protection. The heavy-duty enclosures are designed to seal the electronics from environments where flammable gases or vapors *often* exist and to contain any potential explosions.

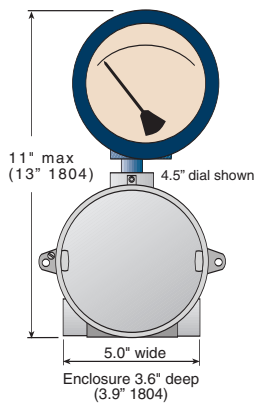
The switches and electrical connections are housed in special UL, CSA, FM and ATEX approved enclosures. The cast aluminum housings have two mounting lugs, two 3/4" NPT electrical conduit ports, and meet the following specifications: Class 1, Gr. B, C, & D; Class 2, Gr. E, F, & G; and Class 3. They also meet NEMA 3, 4X, 7, 9, & 12 specifications.

This explosion-proof line incorporates the same piston or diaphragm sensors and pressure bodies found in the preceding pages. We add an additional extension pin with a secondary magnet to trigger our reed switches or to control transmitter output. The secondary magnet and electronics are located in a sealed explosion-proof box adjacent to the pressure body.

Select from a variety of options such as follower pointers, red arcs and mounting brackets along with switch, relay or transmitter outputs. More details on these models can be found on our DP introduction pages 2-5. Electrical details are on pages 26-27.

Dimensions

Detailed drawings on website.



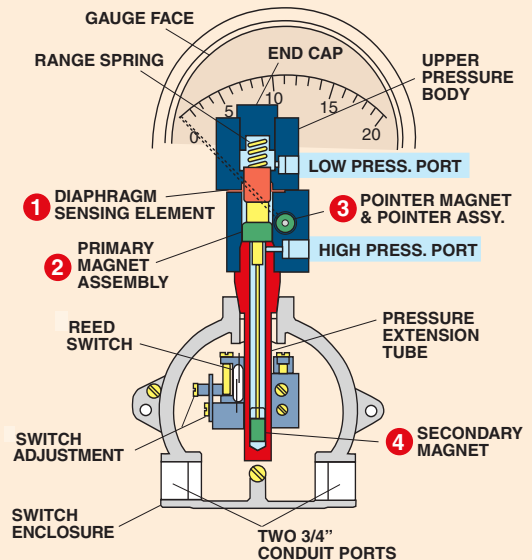
1204PGS, 1504DGS,
1514DGS, 1804DGS

How it Works

Variations between the low pressure and high pressure ports create an imbalance causing the piston or diaphragm sensor **1** to move in proportion to the change. A primary magnet **2** is attached to the pressure sensor and also moves with it in proportion to the differential in pressure.

The motion of the primary magnet is tracked by a rotary magnet **3** located in a separate body cavity. The rotary magnet moves a pointer on a dial indicating differential pressure. Process fluids are isolated from the dial case and switch enclosure.

A secondary follower magnet **4** located in a pressure extension tube also moves with the pressure sensor. Reed switches, mounted externally on the pressure extension tube, are activated when the field of the secondary magnet interacts with the switch elements at a preset point closing or opening the contacts.



Specifications (Detailed Specification Sheets on Website)

Model	Differential pressure range	Maximum line pressure/temperature	Accuracy (F.S.) (Ascending)	Porting (Many porting types available)	Electrical Available
1204 PGS/PS/PGT/PT PGS = Piston Gauge-Switch PS = Piston Switch PGT = Piston Gauge-Transmitter PT = Piston Transmitter	0-5 to 0-150 psid (0-0.33 to 0-10 bar)	5000 psig (340 bar)/200°F (93°C)	2%	1/4" NPT	1 or 2 switches 1 or 2 relays transmitter Class 1 Div. 1
1504 DGS/DS/DGT/DT DGS = Diaphragm Gauge-Switch DS = Diaphragm Switch DGT = Diaphragm Gauge-Trans DT = Diaphragm Transmitter	0-5 to 0-300 psid (0-0.33 to 0-20 bar)	3000 psig (100 bar)/200°F (93°C)	2%	1/4" NPT	1 or 2 switches 1 or 2 relays transmitter Class 1 Div. 1
1514 DGS/DS/DGT/DT DGS = Diaphragm Gauge-Switch DS = Diaphragm Switch DGT = Diaphragm Gauge-Trans DT = Diaphragm Transmitter	0-1 to 0-50 psid (0-0.07 to 0-3.3 bar)	1500 psig (100 bar)/200°F (93°C)	2%	1/4" NPT	1 or 2 switches 1 or 2 relays transmitter Class 1 Div. 1
1804 DGS/DS/DGT/DT DGS = Diaphragm Gauge-Switch DS = Diaphragm Switch DGT = Diaphragm Gauge-Trans DT = Diaphragm Transmitter	0-5" H ₂ O to 0-8 psid (0-125 mm H ₂ O to 0-0.5 bar)	Aluminum body 100 psig (7 bar)/200°F (93°C) Stainless steel body 150 psig (10 bar)/200°F (93°C)	2%	1/4" NPT	1 or 2 switches 1 or 2 relays transmitter Class 1 Div. 1

How to Order

Select from each of the applicable categories to construct a model number. Use the model number when ordering or obtaining additional information and pricing from Orange Research or your local distributor.

Reordering? You must supply the Part Number from your instrument label.

Sample Model Number
1204PGS - 1A - 3.5B - A 0-5 psid, 1, 3, E

1204PGS	1A	3.5B	A	0-5 psid	1, 3, E
Model	Pressure Body	Dial Case	Switch	Range	Options (more on pg. 5)
1204PGS 1204PS	In-line ports: 1A = aluminum 1C = 316 stainless steel	3.5B = 3.5" basic 4.5B = 4.5" basic 6B = 6.0" basic	A = SPST, N.O. B = SPST, N.C. C = SPDT	Model 1204: 0-5, 0-8, 0-10, 0-15, 0-20, 0-25, 0-30, 0-35, 0-40, 0-50, 0-60, 0-80, 0-100, 0-125, 0-150 psid	1 = 1/2" NPT 2 = plastic lens 3 = liquid filled (glycerine) 4 = follower pointer 5 = Teflon coated magnet/spring
1504DGS 1504DS	Back ports: 4A = aluminum 4C = 316 stainless steel	Change "B" to "F" above for flanged dial case	A-A = 2 ea. - A B-B = 2 ea. - B C-C = 2 ea. - C R1A = 1 relay R2D = 2 relays T1 = transmitter	Model 1504: In addition to above 0-200, 0-250, 0-300 psid	6 = red arc (specify range) 7 = dual scale (specify both) 8 = high temperature
1514DGS 1514DS				Model 1514: 0-1, 0-2, 0-3, 0-5, 0-8, 0-10, 0-15, 0-20, 0-25, 0-30, 0-35, 0-40, 0-50 psid	Special Diaphragm & Seals (Buna-N standard)
1804DGS 1804DS				Model 1804: 0-5", 0-10", 0-15", 0-20", 0-25", 0-30", 0-40", 0-50", 0-60", 0-80", 0-100", 0-150", 0-200" H ₂ O; 0-8 psid	Model 1204 (o-ring seals only): E = EPDM V = Viton F = Fluorosilicone T = Teflon Models 1504, 1514 & 1804: E = EPDM V = Viton F = Fluorosilicone
<i>More models above</i>					