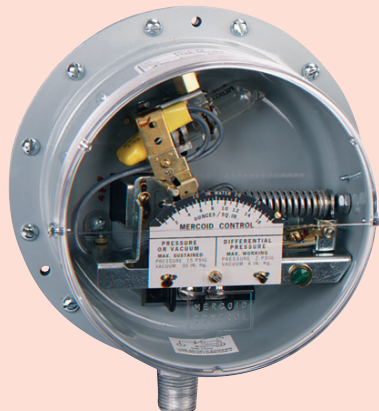




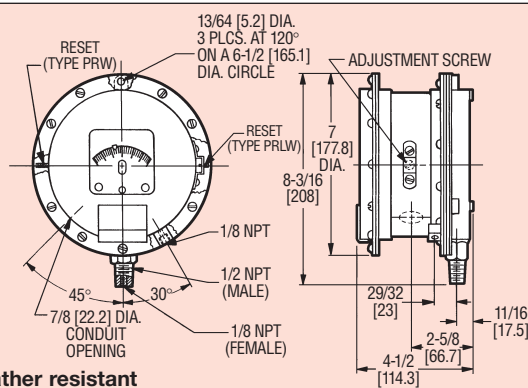
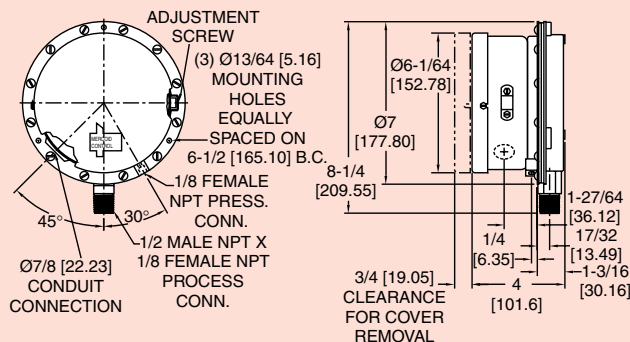
Series  
PG

# Gas Pressure/Differential Pressure Switches

External Adjustment, Visible Dial, Hermetically Sealed Snap Switch



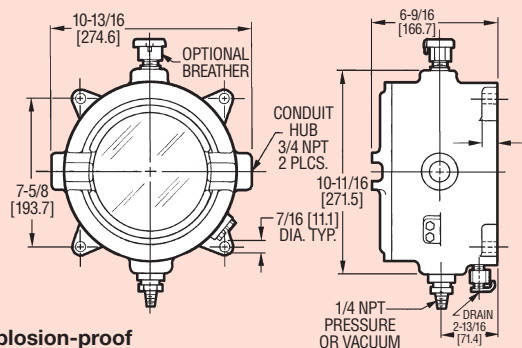
General purpose



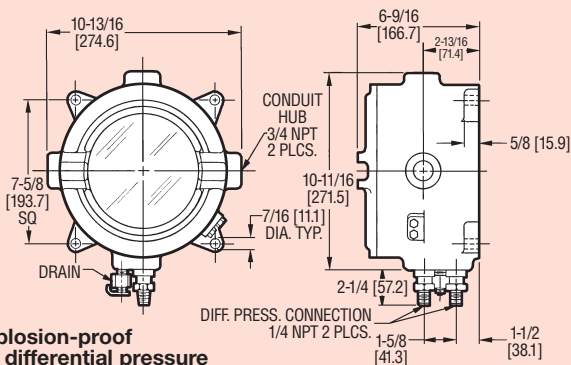
Weather resistant

**Large sensitive diaphragm** and reliable, time proven mechanical design are combined in Series PG pressure/differential pressure switches. For use with air and other compatible gases, they feature excellent  $\pm 1\%$  of full scale repeatability, clear easy-to-read scale and convenient external setpoint adjustment.

Application flexibility is assured by a large variety of switching options including SPST, SPDT, DPST and DPDT; opening or closing on increasing pressure, vacuum or differential. PR and PRL models add manual reset operation on increasing or decreasing pressure. Mercury switches or hermetically sealed snap switches are available where high humidity would be a problem. If vibration or other factors preclude the use of mercury, snap switches can be provided. Standard housing is NEMA-1. Optional enclosures can be supplied for weather resistant and explosion-proof requirements.



Explosion-proof for pressure or vacuum



Explosion-proof for differential pressure

## SPECIFICATIONS

**Wetted Materials:** Fairprene, brass, steel, and aluminum.

**Temperature Limits:** -10 to 180°F (-23 to 82°C).

### Pressure Limit:

Single Pressure Use on High Side:

Sustained Pressure: 15 psig (1.0 bar).

Surge Limit: 20 psig (1.4 bar).

Differential Pressure Use:

Sustained Pressure, Range P1: 2 psig (.14 bar).

Sustained Pressure, Range P2: 10 psig (0.7 bar).

**Enclosure Rating:** General purpose. Weatherproof and explosion-proof optional.

**Repeatability:**  $\pm 1\%$  of full range.

**Switch Type:** See model chart.

**Electrical Rating:** See model chart.

**Electrical Connections:** Screw type.

**Conduit Connection:** 7/8" (22.23 mm) hole for 1/2" (12.7 mm) conduit hub.

**Process Connection:** 1/2" male NPT and 1/8" female NPT used for single positive pressure or high differential pressure, 1/8" female NPT used for single vacuum or low differential pressure.

**Mounting Orientation:** Vertical.

**Set Point Adjustment:** External screw.

**Weight:** 4.5 lb (2 kg).

**Deadband:** See model chart.

**Agency Approvals:** UL, CSA, FM for mercury switch models. UL only on snap switch models.

## MODEL CHART – SERIES PG

|  |     |   |      |         |    |   |    |    |     |
|--|-----|---|------|---------|----|---|----|----|-----|
| <b>EXAMPLE</b>   | PG  | – | –    | 153     | P1 | PG-153-P1 (Vacuum) (Pressure) (Differential Pressure) Control, fixed deadband, automatic reset, SPDT mercury switch, adjustable range. 1.0-30" w.c. (25-760). | UL | FM | CSA |
| <b>CONSTRUCTION</b>  | PG  |   |      |         |    | General purpose enclosure, NEMA-1 (standard).   | UL | FM | CSA |
| <b>RESET OPERATIONS</b>  | PR  |   |      |         |    | Manual reset—operates on pressure increase automatically, resets on decrease <sup>1</sup> .   | UL | FM | CSA |
|  | PRL |   |      |         |    | Manual reset—operates on pressure decrease automatically, resets on increase <sup>1</sup> .   | UL | FM | CSA |
| <b>HOUSING OPTIONS</b>   |     | W |      |         |    | Weather-resistant enclosure, NEMA-2, 3R   |    | FM | CSA |
|  |     | E |      |         |    | Explosion-proof enclosure, NEMA-7, 9 – Class I Group C&D; Class II Group E, F, & G. Includes drain. Specify if for pressure, vacuum or differential pressure. |    |    |     |
| <b>CIRCUIT (SWITCHING) OPTIONS</b><br><br>(For Electrical Codes see Chart Below) |     |   |      | 2       |    | SPST mercury switch, Elect Code K† – opens on vacuum, pressure or differential pressure increase.   | UL | FM | CSA |
|  |     |   |      | 2P      |    | SPST mercury switch, Elect Code L† – opens on vacuum, pressure or differential pressure increase  | UL | FM | CSA |
|  |     |   |      | 3       |    | SPST mercury switch, Elect Code K† – closes on vacuum, pressure or differential pressure increase   | UL | FM | CSA |
|  |     |   |      | 3P      |    | SPST mercury switch, Elect Code L† – closes on vacuum, pressure or differential pressure increase   | UL | FM | CSA |
|  |     |   |      | 153     |    | SPDT mercury switch, Elect Code M†  | UL | FM | CSA |
|  |     |   |      | 103     |    | DPST: Two SPST mercury switches, Elect Code L† – both close on increase   | UL | FM | CSA |
|  |     |   |      |         |    | FM approved PG, PGW only  |    |    |     |
|  |     |   |      | 105     |    | DPST: Two SPST mercury switches, One Elect Code L†, One Elect Code N – Both open on decrease.   | UL | FM | CSA |
|  |     |   |      | 127     |    | DPST: Two SPST mercury switches, Elect Code L† – both open on increase  | UL | FM | CSA |
|  |     |   |      | 129     |    | DPST: Two SPST mercury switches, One Elect Code L†, One Elect Code N – Both open on increase.   | UL | FM | CSA |
|  |     |   |      | 158     |    | SPDT: Two SPST mercury switches, One Elect Code L† – opens on increase, One Elect Code N – closes on increase   | UL | FM | CSA |
|  |     |   |      | 161     |    | SPDT: Two SPST mercury switches, One Elect Code L† – opens on decrease, One Elect Code N – closes on decrease   | UL | FM | CSA |
|  |     |   |      | 156     |    | SPDT: Two SPST mercury switches, Elect Code L† – One opens on increase, One closes on increase  | UL | FM | CSA |
|  |     |   |      | 804 (—) |    | DPDT: Two SPDT mercury switches, Elect Code M†  |    |    |     |
|  |     |   |      | 153     |    | Other Circuits Available, consult factory.  |    |    |     |
|  |     |   | 7000 |         |    | SPDT: Snap acting switch, Rated 15A at 120 VAC, 8A at 240 VAC, 0.5A at 120 VDC, .25A at 240 VDC (1)   |    |    |     |
|  |     |   |      | 153HS   |    | SPDT Hermetically Sealed Snap Switch, Rated 5A@125/250 VAC 5A resistive @ 30 VDC.   | UL |    |     |
|  |     |   |      | 153HG   |    | SPDT Hermetically Sealed Gold Contact Snap Switch, Rated 1A @ 125 VAC, 1A resistive @ 30 VDC.   | UL |    |     |
|  |     |   | 7200 | 804     |    | DPDT: Two SPDT snap acting switches, Rated 5A at 120/240 VAC, 30 VDC resistive (1)  |    |    |     |
| <b>ADJUSTABLE DIFFERENTIAL PRESSURE RANGES WITH MAXIMUM SUSTAINED PRESSURES</b>  |     |   |      |         | P1 | Adjustable range 1.0-30" w.c. (25-760), maximum sustained pressure 2 psig* [0.14]   | UL | FM | CSA |
|  |     |   |      |         | P2 | Adjustable range 0.5-5 psig [.03-.35], maximum sustained pressure 10 psig* [.69]  | UL | FM | CSA |

(mm w.c.) [bar]

Notes: \* Maximum sustained pressure 15 psig [1.0], maximum surge limit 20 psig [1.4], both ranges when used as single pressure switch with low pressure port vented to atmosphere.

<sup>1</sup> 7000-153 and 7200-804 not available with PR or PRL manual reset.

† See Electrical Rating Chart Below.

### Electrical Ratings - Mercury Switch

| CODE | RATING AC OR DC           |
|------|---------------------------|
| K    | 6A at 120 V, 3A at 240V   |
| L    | 10A at 120 V, 5A at 240V  |
| M    | 4A at 120 V, 2A at 240V   |
| N    | 1A at 120 V, 0.5A at 240V |

### STOCKED MODELS

| Model Number |
|--------------|
| PG-153-P1    |
| PG-153-P2    |
| PG-3-P1      |
| PGW-153-P1   |
| PGW-153-P2   |
| PGW-3-P1     |

### Deadbands (mm w.c.) [bar] (Approx.)

| SINGLE MERCURY SWITCH         | RANGE P1, 1-30 IN. W.C. |               |                | RANGE P2, .5-5.0 psid |            |             |
|-------------------------------|-------------------------|---------------|----------------|-----------------------|------------|-------------|
|                               | MINIMUM In. wc          | MIDDLE In. wc | MAXIMUM In. wc | MINIMUM psi           | MIDDLE psi | MAXIMUM psi |
| 2 or -3                       | .7 (18)                 | 1 (25)        | 1.3 (33)       | .11 [.008]            | .16 [.011] | .25 [.018]  |
| 2P or -3P                     | 2 (50)                  | 2.75 (70)     | 4 (102)        | .31 [.022]            | .44 [.031] | 1.13 [.079] |
| 152, -153, -4 or -54          | 1 (25)                  | 1.5 (38)      | 1.9 (48)       | .13 [.009]            | .25 [.018] | .38 [.027]  |
| <b>DOUBLE MERCURY SWITCH</b>  |                         |               |                |                       |            |             |
| 103, -127 or -156             | 2.5 (65)                | 3.5 (90)      | 4.5 (114)      | .38 [.027]            | .56 [.039] | 1.25 [.088] |
| 105, -129, -158, -161 or -804 | 1.5 (33)                | 2 (50)        | 2.5 (64)       | .22 [.015]            | .31 [.022] | .75 [.053]  |
| 119, -131, -190               | 1.0 (25)                | 1.5 (38)      | 1.9 (48)       | .13 [.009]            | .25 [.018] | .38 [.027]  |
| <b>SINGLE SNAP SWITCH</b>     |                         |               |                |                       |            |             |
| 153                           | 2.5 (65)                | 3 (80)        | 4 (102)        | .38 [.027]            | .44 [.031] | .5 [.035]   |
| <b>DOUBLE SNAP SWITCH</b>     |                         |               |                |                       |            |             |
| 804                           | .5 (12)                 | .6 (15)       | .7 (18)        | .13 [.009]            | .16 [.011] | .19 [.013]  |