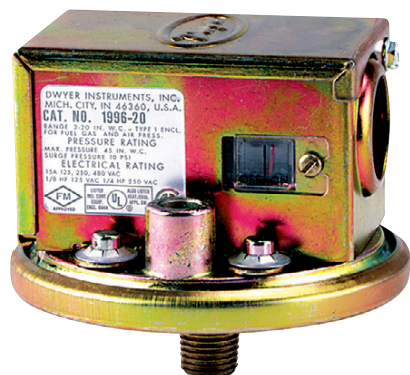




## Series 1996 – Natural and L.P. Gas Pressure Switches

### Specifications - Installation and Operating Instructions



**Series 1996 Gas Pressure Switches** are designed for use with natural, manufactured or LP gas or air.

**Series 1996 Gas Pressure Switches** are reliable and convenient switches for gas-fired furnaces and equipment using natural, manufactured or LP gas. Both models (Model 1996-5, with a pressure range of 1.4 to 5.5" w.c.; Model 1996-20, with a pressure range of 4 to 20" w.c.) feature visible set point and on-off indicators.

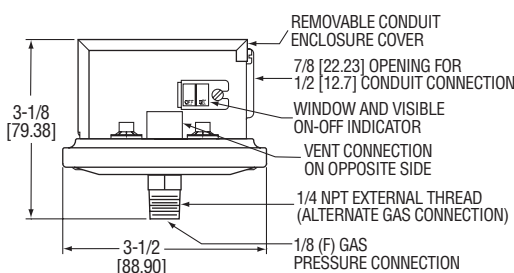
#### OPERATION

Pressure acting on the power diaphragm rotates the amplifying lever, which in turn extends the range spring and rotates the snap switch input lever. When the set point is reached, the snap switch is actuated and the electrical contacts make or break. Decreasing pressure after the switch has been actuated reverses the action, de-actuating the switch and returning the contacts to their normal position.

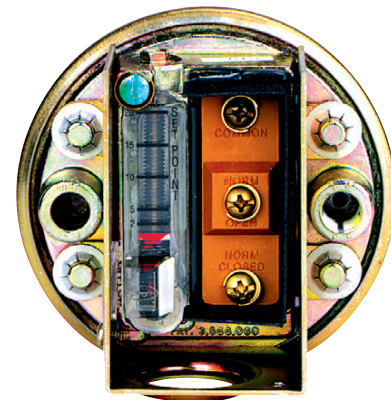
#### INSTALLATION

1. Select a location free from excessive vibration and corrosive atmosphere. These switches may be used in ambient temperatures as low as - 30°F (- 34°C) and as high as 110°F (43°C).

2. Mount switch with diaphragm in a horizontal position and gas pressure connection at bottom. Connect the switch to the source of gas pressure using either the NPT (F) 1/8" or NPT (M) 1/4" thread. Gas pressure connection should always be to bottom connection of switch—see diagram above—which is equipped with a restrictor orifice. Be sure to hold or turn switch with a wrench on the hex portion of the bottom connection. This will prevent applying excessive torque to the bottom fitting, which could damage the switch.



**Connections, dimensions and visible on-off indicator:** Model 1996-20 and Model 1996-5 Gas Pressure Switches.



**Note** set point adjustment indicator window. For quick adjustment of set point before/after installation, turn adjustment screw until red bar is at desired set point. To adjust for low gas pressure interlock service, refer to chart (other side).

#### PHYSICAL DATA

**Temperature limits:** 32°F/0°C (- 30°F/- 34.4°C for dry gas or air) to 110°F/ 43.3°C

**Pressure connection:** 1/8" NPT (F) or 1/4" NPT (M)

**Vent connection:** 1/8" NPT

**Electrical rating:** 15 amps, 120-480 volts, 60 Hz. A.C. Resistive 1/8" H. P. @ 125 volts, 1/4" H. P. @ 250 volts, 60 Hz. A.C.

**Wiring connections:** 3-screw type, Common, Normally Open and Normally Closed

**Set point adjustment:** Screw type with visible indicator, inside cabinet enclosure

**On-off indicator:** In window, on exterior of conduit enclosure. Shows at a glance whether pressure is above or below set and reset points.

**Housing:** Aluminum die casting and steel stamping, zinc-plated for 200 hour salt spray resistance

**Diaphragm:** Molded Buna-N

**Calibration spring:** Stainless Steel

**Weight:** 1 lb, 2 oz

**U.L. and C.S.A. listed, F.M. approved**

*The port identified with the letters LO-PR is used as a vent in fuel gas switches and should be vented to outside atmosphere or the combustion chamber in accordance with the furnace manufacturer's instructions. The port identified by the letters HI-PR is not used in fuel gas switches and is neither tapped nor connected to the diaphragm chamber.*

#### WARNING:

**Do not connect fuel gas to LO-PR port.**

## Series 1996 – Natural and L.P. Gas Pressure Switches

### Specifications - Installation and Operating Instructions

3. Remove the snap-on cover from the conduit enclosure by loosening its retaining screw and pulling firmly on its set screw held end. Electrical terminals for all switches are marked Common, Normally Open, and Normally Closed. The switch is not actuated until pressure is applied. On rising pressure, the switch actuates and Normally Open contacts close. Should gas pressure fail, the switch (when set for low gas pressure) will de-actuate and the Normally Open contacts re-open. When set for high gas pressure (regulator failure) the switch will actuate (and Normally Closed contacts will open) when overpressure occurs. Wire switch accordingly: make sure load doesn't exceed electrical ratings. Use flexible or rigid conduit to enclose wires to switch.

4. Adjust the set point following instructions under adjustment.

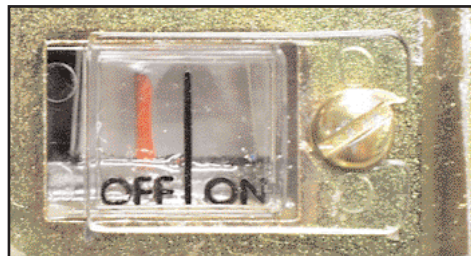
5. Check carefully for leaks. Be sure that switch set point and installation complies with the furnace/burner manufacturer's instructions. Watch the On-Off indicator in window to observe proper operation.

#### ADJUSTMENT

1. To change the set point, remove the cover from the conduit enclosure. Turn the slotted Adjustment Screw at the end of the range spring housing clockwise to raise the set point pressure and counter-clockwise to lower the set point. The visible set point indicator shows the set point from 4 (min) to 20 (max) inches w.c. for Model 1996-20 and 1.5 (min) to 5 (max) inches w.c. for Model 1996-5.

2. (a) For high gas pressure applications, to actuate on regulator failure, adjust the set point so that desired setting (normally 1" or 1½" above operating pressure) shows in the window.

(b) For low gas pressure applications, to actuate on gas



Visible on-off pointer indicates actuation or de-actuation of switch. This permits instant trouble-shooting of electrical circuit or gas supply.

Inches in Water Column		
Set Point	Approximate Dead Band	Reset Point
<b>Model 1996-5</b>		
1.5	0.10	1.30
2	0.12	1.88
3	0.14	2.86
4	0.17	3.83
5	0.19	4.81
<b>Model 1996-20</b>		
4	0.15	3.85
5	0.15	4.85
10	0.24	9.76
15	0.33	14.67
20	0.41	19.59

pressure failure, adjust the set point slightly below (usually ½" or 1" w.c.) the normal gas pressure. De-actuation will occur at set point pressure minus the dead band. See chart below.

#### MAINTENANCE

The moving parts of these switches are sealed in and are permanently tamper-proof. The single adjustment is that of the set point. Care should be taken to keep the switch reasonably dry and free from dust or dirt. No lubrication or unusual precautions are required for normal use.

