

SERIES S

S10 Differential Pressure Switch Relay Contacts Output



DESCRIPTION

The Modus pressure switch is a highly sensitive differential pressure switch, capable of detecting pressure changes of .10 inches of water and greater.

To measure pressure between .10 and 5.0 inches of water, a differential capacitance cell is used. In the capacitance cell, a very lightweight, responsive diaphragm deflects a small amount when pressure is applied. This deflection results in a change in capacitance, which is detected and processed electronically. Reliability and long life are inherent advantages of the solid-state design. Differential pressure changes greater than 5.0 inches of water are detected with a piezo-resistive (silicon) sensor. The piezoresistive sensor is a solid state device designed in a Wheatstone bridge configuration. When pressure is applied to the device, the resistance of the bridge changes by a small amount. This resistive change is converted to a voltage and amplified.

A wide selection of standard pressure ranges and electrical ratings is available.

The output of Series S10 pressure switch is an SPDT relay contact.

FEATURES

- Virtually position insensitive even at very low pressure (0.01")
- Fast response time due to low internal volume
- No moving parts to wear out
- Solid-state circuitry for long life
- Compact size
- Low power consumption

TYPICAL APPLICATIONS

- HVAC monitoring of:
 - Filter differential pressures
 - Fan static pressures
 - Clean room pressures
 - Variable air volume systems
 - Velocity pressures
- Medical and analytical instruments
- Liquid level monitoring
- General automation

SPECIFICATIONS

General

Setpoint and Deadband are adjusted by means of a 20-turn potentiometer for fine resolution

Dead band is adjustable to 25% of span

Repeatability is $\pm 1\%$ of setpoint

Available with relay energizing either on rising or falling pressure

Pressure

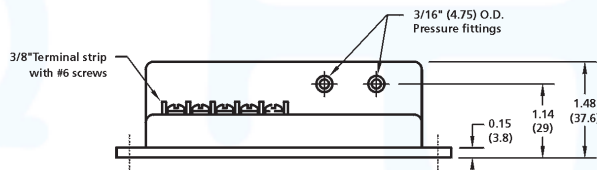
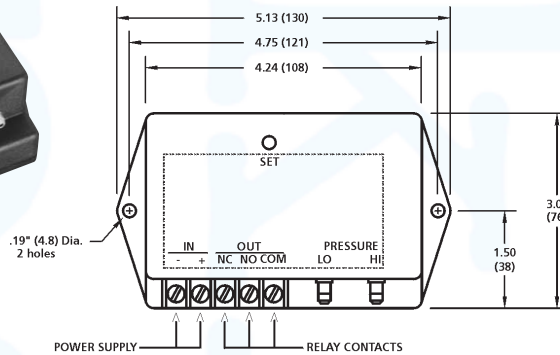
Measures differential, gage pressure or vacuum

Suitable for air or inert gases

Port connections: 3/16" Dia. suitable for:

- 1/8" I.D. Tygon™ or polyurethane tubing
- 1/4" I.D. polyethylene tubing

Integral filters at both ports



DIMENSIONS ARE IN INCHES (MILLIMETERS)

S10-

Electrical

Nominal Input Voltage	Power Consumption	Operating Voltage Range
12 Vdc*	0.35W	9.5 to 16 Vdc
24 Vdc*	0.35W	19 to 32 Vdc
24 Vac	1.70W	19 to 32Vac
120 Vac	1.90W	100 to 140 Vac

*Protected against reversal of polarity

Connections by means of 3/8" terminal strip with #6 screw

Output is SPDT (1 Form C) relay contacts rated at:

5A @ 30 VDC/120 VAC Resistive

4A @240 VAC Resistive

Electrical life expectancy 100×10^3 ops. minimum

Isolation between coil and contacts 2000 VAC 1 minute

Physical

Dimensions: 3.00"W x 5.15"Lx1.40"H

Weight: 230 g (0.5lb)

Case: Flame retardant glass-reinforced NORYL™

Environmental

Operating temperature range: 0°C to 45°C (32°F to 115°F)

Effect of temperature on set point: $\pm 0.05\%/^{\circ}\text{C}$

Operating humidity range: 20% to 90% R.H. non-condensing

Shock resistance: 10G (11ms)

Vibration resistance: 5G to 50Hz

ORDERING INFORMATION

Order Number (See Table below and Reference Table A on page 26)

S10 - PPP - SV - R

EXAMPLE: S10 - 01E - A - F

PPP = Pressure Range	SV = Supply Voltage	R = Relay
See Reference Table A	A = 12 Vdc B = 24 Vdc C = 24 Vac D = 120 Vac	R = Energizing on rising pressure F = Energizing on falling pressure

