



Pressure / Differential Pressure Switches Model IPS / IPSD

Switzer data sheet IPS-IPSD-00

Applications

- Pumps Controls
- Compressors
- Turbines
- Lubrication Systems
- Condensers
- Process Boilers
- Controls in conjunction with Solenoid Valves

Special Features

- Bellows Actuated
- Proven Rugged Mechanism
- Reliable Performance

Description

Industrial Pressure Switch (IPS) is an electromechanical device that senses changes in pressure and provides electrical contact closures at predetermined pressure values.

IPS Pressure Switch may be used to energize an alarm or may directly control the process by cycling pumps, shifting valves etc. In an alarm application, the switch protects valuable equipment by signaling an alarm. In direct control application, the switch can be linked electrically to other equipment.

IPS Pressure Switches are meant for use with oil, water, air, steam and other non corrosive pressure mediums. They are not designed for use with refrigerant gases.

IPS Pressure Switches are used on a wide variety of applications which include pumps, compressors, turbines, lubrication systems & condensers to name a few.



MODEL 'IPS'



MODEL 'IPSD'

Industrial Differential Pressure Switch (IPSD-50) is an electro-mechanical device that senses changes in pressure difference between two pressure lines and provides electrical contact closures at predetermined values.

These switches are normally used on pressure lubricated system across its filter to get an indication or alarm when the filter gets choked. It can also be used to stop the pump or energise/ de-energise another electric circuit depending upon the actual application.

It is designed for use with oil, air, water and low temperature steam. It is not designed for refrigerant gases.

IPS

Setting

The adjustment knobs are conveniently located on top surface of the control. The switch can be set to operate at desired pressure values by adopting following procedure :

1. Decide the maximum pressure at which the switch has to changeover.
2. Decide the on-off differential at which the control has to operate.
3. First set the maximum changeover pressure on the range scale. This can be done by removing the knob and turning the range spindle.
4. Next set the differential on the differential scale with the help of the differential spindle.
5. Check the maximum and minimum changeover pressures with a master gauge.

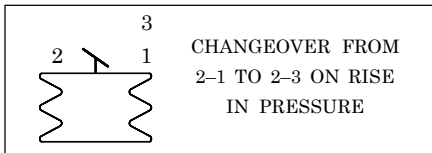
Electrical Connection

On the inside of the front cover, a diagram as shown below is stamped.

Terminal designations 1, 2 & 3 are engraved on the transparent cover of the electrical contact system.

The electrical circuit is maintained between contacts 2-1 under normal conditions. The contacts change over to 2-3 on rise of pressure to preset value.

Since the electrical contact is of SPDT type, it can be used for



reverse applications also.

Mounting

The pressure control can be mounted on a wall or panel by means of mounting holes provided at the back of the device.

General Specifications

Enclosure

Powder painted Mild Steel to IP:33 as per IS:13947 (Part-1), 1993

Sensing Element

Phosphor Bronze Bellows

Switching

1 SPDT Contact System

Switch Rating

6A Inductive / 10A Resistive 380V AC, 0.2A Inductive 250V DC

Repeatability / Accuracy

± 2% FSR

Ambient Temperature

70°C

Process Temperature

100°C max.

Process Connection

1/4" BSP (F)

Cable Entry

Suitable for for 6 to 14 mm dia Cable

Mounting

Surface / Panel

Ordering Matrix

Type	Code No.	Range		Differential		Max. Pressure	
		atm	PSI	atm	PSI	atm	PSI
IPS-70	020D8275	0 – 5	0 – 70	0.4 – 4	6 – 55	16	230
IPS-100	020D8276	0 – 7	0 – 100	0.6 – 6	9 – 85	16	230
IPS-200	020D8277	6 – 15	85 – 215	1.5 – 5	20 – 70	32	450
IPS-400	020D8278	6 – 30	85 – 425	3 – 8	45 – 115	32	450

IPSD-50

Setting

The lower changeover is set on the scale by rotating the pressure setting disc inside the control. Clockwise rotation of the setting disc reduces the set differential pressure and vice versa. The higher changeover is achieved by adding the contact differential (2.8 PSI fixed) to the lower changeover. The setting disc is visible after removing front cover. It is placed just below the LP bellows between the LP bellows and main spring.

Fitting

IPSD Differential Pressure Switch can be fitted in any position. It can be mounted directly or on panel by means of mounting holes in the back of the device.

The upper bellows is the low pressure element and must be connected to lower pressure circuit.

The lower bellows is the high pressure element and must be connected to higher pressure circuit.

Functioning example

IPSD Differential Pressure Switch can be used, to monitor choking of filters in a lubrication system.

High pressure bellows can be connected to the inlet of the filter and LP side bellows to the outlet of the filter. The differential can be set at desired differential pressure which is adjustable between 4.3 to 64 PSI.

As soon as the pressure difference between the inlet and the outlet increases above the set difference of pressure by 2.8 PSI, the switch will operate and changeover will take place to give a signal. It will changeover again when the difference of pressure falls to the set difference of pressure to stop the signal.

General Specifications

Enclosure

Powder painted Mild Steel to IP:33 as per IS:13947 (Part-1), 1993

Range

4.3 to 64 PSI (0.3 to 4.5 atm)

Differential

2.8 PSI (0.2 atm), Fixed

Maximum Pressure

313 PSI (22 atm)

Sensing Element

Stainless Steel Bellows

Switching

1 SPDT Microswitch

Switch Rating

5A, 125/250V AC, 0.2A 250V DC

Repeatability / Accuracy

± 2% FSR

Ambient Temperature

70°C

Process Temperature

100°C max.

Process Connections (Hi & Lo)

3/8" BSP (M)

Cable Entry

Suitable for 6 to 14 mm dia Cable

Mounting

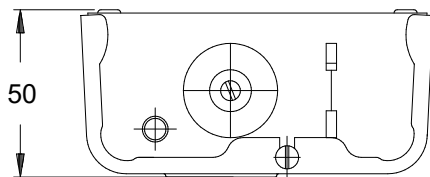
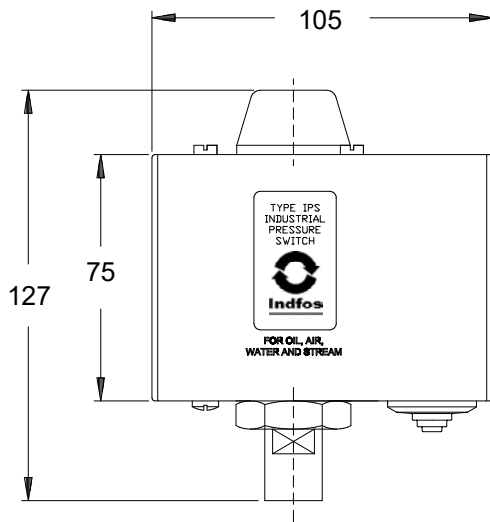
Surface / Panel

Code No.

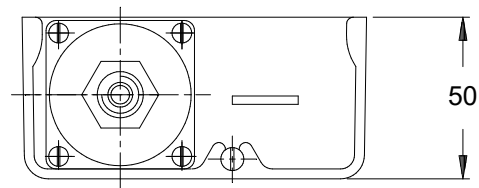
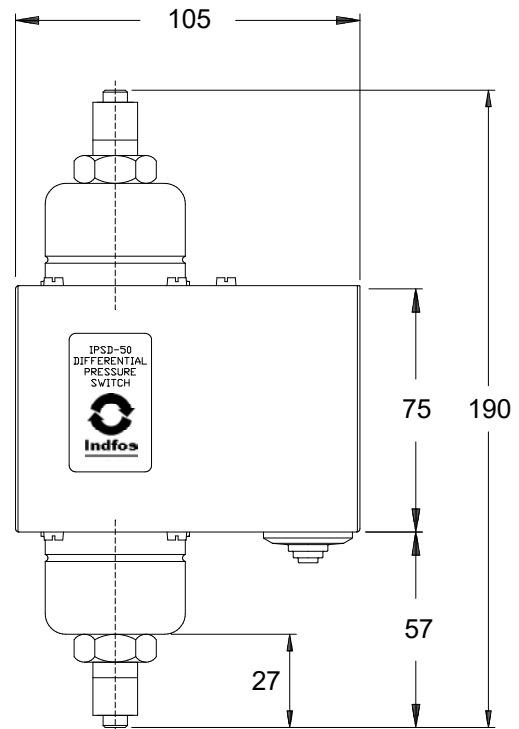
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Mounting Dimensions

IPS



IPSD-50



All dimensions are in mm

The specifications given in this document represent the state of engineering at the time of publishing. We reserve the right to make modifications to the specifications and materials.



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