

# Electric Differential Pressure Switches

## Type 4738

### Type 5335-5, Type 5335-6



#### Application

Limit monitoring of differential pressure, pressure and vacuum (draught).

**Type 4738:** Designed for liquids, gases and steams as well as differential pressure, pressure and vacuum set points from 35 to 400 mbar with operating pressures up to 10 bar.

**Type 5335:** Designed for air with differential pressure, pressure and vacuum set points from 0.2 to 10 mbar with operating pressures up to 50 mbar.

The differential pressure switches are limit switches which issue an electrical limit signal whenever a certain limit of the differential pressure, pressure or vacuum is reached. This signal is used to control an audible or visual alarm, signal processing and closed or open-loop control equipment.

**Type 4738** Differential Pressure Switch is used, for example in heating plants utilizing hot-water priority circuit, and is overloadable on one side up to 10 bar. The maximum permissible temperature of the process medium is 80 °C.

**Types 5335-5 and 5335-6** Differential Pressure Switches are especially suitable for monitoring flow rates, differential pressure, pressure and vacuum (draught) in air ducts of ventilation and air-conditioning systems. They are overloadable on one side up to 50 mbar. The maximum permissible temperature of the process medium is 50 °C.

#### Versions

**Type 4738** (Fig. 1) · Differential pressure switch with adjustable limit values from  $\Delta p = 35$  to 160 mbar or from 160 to 400 mbar

**Type 5335-5** (Fig. 2) · Differential pressure switch with adjustable limit values from  $\Delta p = 0.2$  to 2 mbar

**Type 5335-6** · Differential pressure switch with adjustable limit values from  $\Delta p = 1$  to 10 mbar

#### Ordering text

Electric Differential Pressure Switch Type ...

Setting range  $\Delta p$  ... to ... mbar

Operating pressure ... bar

Safety pressure limiter, see SAMSOMATIC T 758-4 EN.

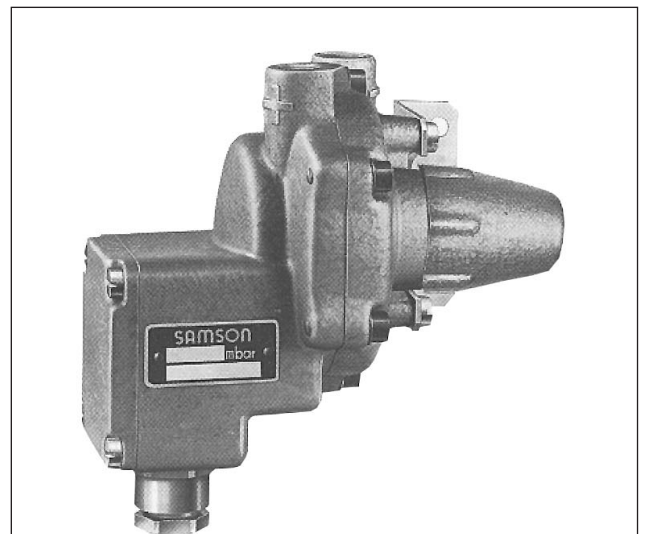


Fig. 1 · Type 4738 Differential Pressure Switch



Fig. 2 · Type 5335-5 Differential Pressure Switch

## Principle of operation

The differential pressure switches are equipped with a differential pressure cell containing spring-loaded measuring diaphragm.

The differential pressure, pressure or vacuum produce a force acting on the diaphragm which is balanced by the range spring. If the force produced on the diaphragm exceeds the spring compression, the integrated switch is activated, i.e. the range spring compression determines the limit of the differential pressure switch.

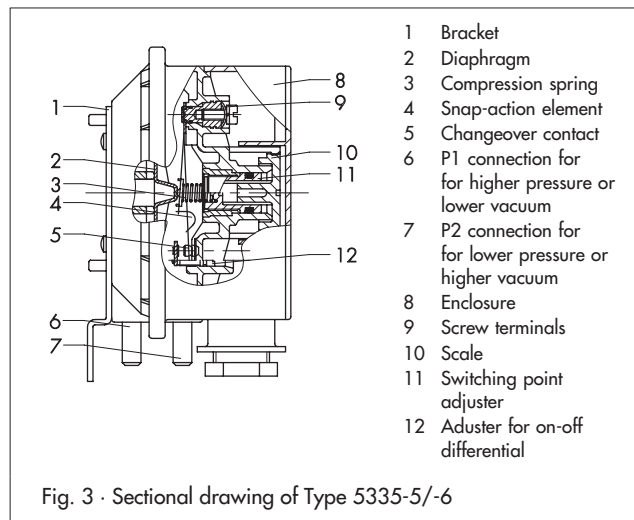


Fig. 3 · Sectional drawing of Type 5335-5/-6

## Technical data

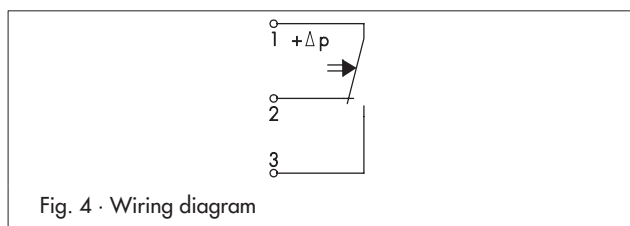
Differential Pressure Switch	Type 4738	Type 5335-5	Type 5335-6
Limits	Continuously adjustable		
Differential pressure ( $\Delta p$ )	35 to 160 mbar or 160 to 400 mbar	0.2 to 2 mbar	1 to 10 mbar
Max. on-off differential	For limits $\leq 100$ mbar: 15 mbar For limits $> 100$ mbar: 25 mbar	0.4 mbar	1.0 mbar
Max. permissible operating pressure	10 bar, short-term overload up to 16 bar	50 mbar	50 mbar
Overload capacity one side max.	10 bar	50 mbar	50 mbar
Perm. temperature of process medium max.	80 °C	50 °C	
Materials coming into contact with the medium	Housing: GD AlSi12 Diaphragm: Perbunan	Housing: Plastic Diaphragm: Buna N with aluminum plate	
Switch capacity	250 V~, 5 A with resistive load	250 V~, 1 A with resistive load	
Ambient temperature	Max. 50 °C	Max. 65 °C	
Degree of protection	IP 54	IP 54	
Weight	Approx. 1 kg	Approx. 0.5 kg	

## Installation

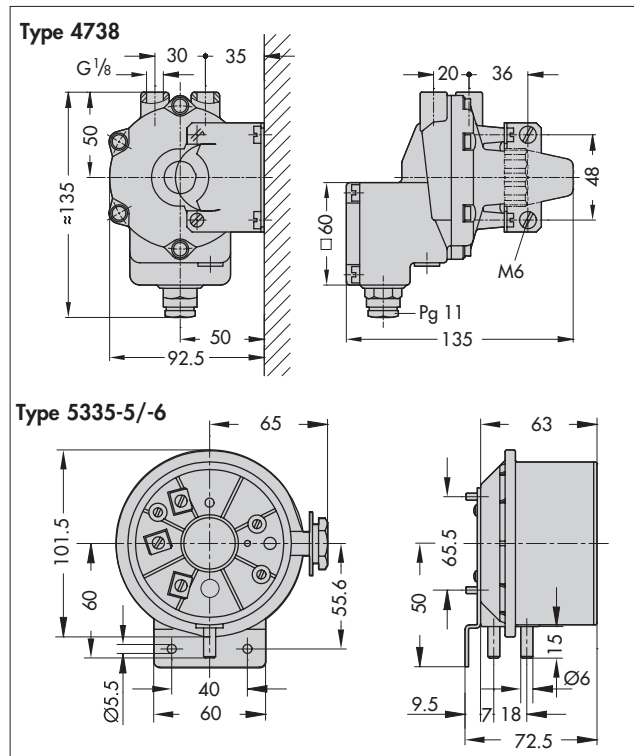
The differential pressure switches must be installed according to the dimensional drawing. **Type 4738** Differential Pressure Switch has pressure connections located at the top, electrical connections at the bottom.

In **Types 5335-5** and **5335-6** Differential Pressure Switches, the pressure connection are located at the bottom and the electrical connections at the top. The differential pressure is measured upstream and downstream of the restriction (e.g. valve, orifice plate assembly, orifice or heating battery). The upstream pressure of the restriction must be connected to the positive (+) connection of the differential pressure switch, while the downstream pressure must be connected with the negative (-) connection.

To monitor the pressure, only the positive (+) connection (negative connection (-) open) is connected to the measuring point. To monitor the vacuum (draught) only the negative connection (-) (positive (+) connection open) is connected to the measuring point. The wiring is to be performed according to the wiring diagram and the signal or control equipment to be connected.



## Dimensions in mm



Specifications subject to change without notice.

