LANDIS & GYR

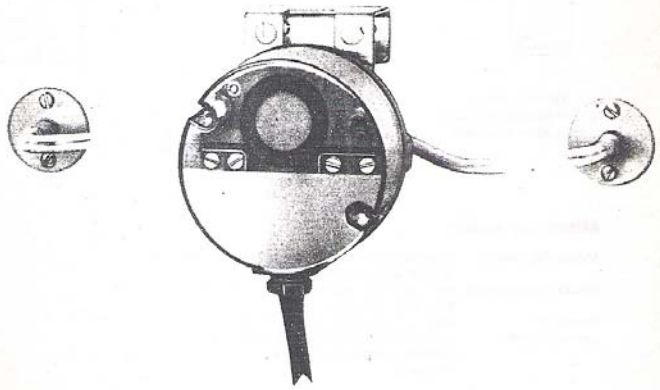
1641 E
February 1983

Differential Pressure Switch

for air; on/off mode;
changeover switch; 24...250 V a.c.

RBM21.2...

Scale 1:2,5



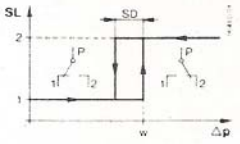
Application

Monitoring the pressure difference on the air-side part of ventilating and air conditioning plants, for example
- for monitoring the amount of dirt collected in air filters (mounted above the filter)
- for monitoring the air flow in air ducts (mounted above the fan)

The RBM21.2... can be used in these cases to initiate an alarm or to lock out or release other plant elements.

Operation

The differential pressure switch measures the pressure difference and compares this value with the set value. The set value is calibrated to the switching point for increasing pressure.
If the pressure difference rises above the set value, the contact position changes from P1 to P2.
If the pressure difference falls below the set value, the contact position changes from P2 to P1.



Δp Pressure difference
SL Switching position
w Set value
SD Switching differential
P,1,2 Terminals

	ON	OFF
Δp rising	P-2	P-1
Δp falling	P-1	P-2

Design features

The measuring element is a sealed aluminium pressure chamber with a Perbunan membrane and a set value spring. On the front side are the set value adjusting knob, the changeover switch, the switching position indication and the connection terminals. A plastic cover, fixed with a screw, covers these parts. It has a transparent window through which the set value is visible. The cable is led in from the bottom via a Pg11 cable gland.
The unit is provided with a mounting bracket for fixing it directly to the air duct, and with two plastic connecting nipples for the pressure tubes.
The following mounting accessories are supplied with the unit:
- 2 plastic connecting nipples for the duct wall
- 1 plastic tube, 4 mm dia. x 6 mm, 2 m long
- 2 plastic tubes, 60 mm long, for leading through the duct insulation
- 6 screws
- 1 drilling template for the mounting bracket and the two duct connecting nipples

Type designations

Type	Useful range	max operating pressure
RBM21.201	40...300 Pa	60 kPa
RBM21.202	100...1000 Pa	60 kPa

Ordering

When ordering, please specify the type designation, e.g. RBM21.201.

Technical data

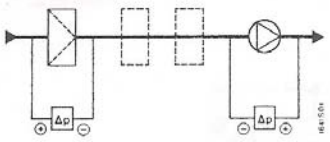
Rating of the contacts	
voltage	24 V a.c....250 V a.c.
current	5 A ohmic, 3 A inductive
Switching differential (fixed)	Approx. 30 Pa
Max. permissible pressure	See «Type designations»
Max. permissible ambient temp.	−15...+60 °C
Max. permissible humidity	Max. 90%
Housing protection humidity	IP54
Weight	0.57 kg

Application advice

The air-side connections are marked with a ⊕ and a ⊖ on the unit:

⊕ = higher pressure
⊖ = lower pressure

The following are the standard types of connection:



Filter monitor
⊕ Before the filter
⊖ After the filter

Fan monitor
⊕ Pressure side after the fan
⊖ Open to the atmospheric pressure, or suction side, before the fan.

Mounting advice

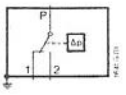
Mounting place:	Directly to or on vibration-free air duct, or on the wall or ceiling of the building
Mounting position:	Any position, but preferably with the membrane vertical
Pressure connections:	Any length; with connections over approx. 5 m in length the reaction time of the differential pressure switch is noticeably delayed.

Commissioning advice

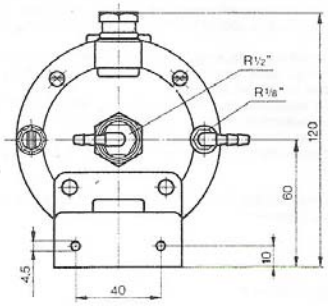
The set value adjustment of the differential pressure switch is calibrated for a vertically mounted position. For horizontal mounting, the set value must be adjusted as follows:

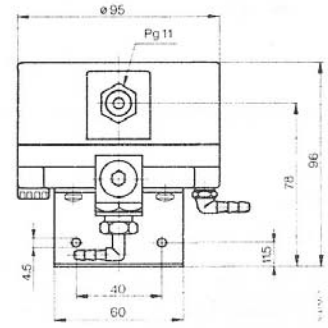
- Cover of the housing facing upwards: Adjust the set value about 50 Pa lower than the desired value
- Cover of the housing facing downwards: Adjust the set value about 50 Pa higher than the desired value.

Connecting diagram of the unit



Dimension drawing





Dimensions en mm