

PSW | DIFFERENTIAL PRESSURE SWITCH

Mounting and operating instructions

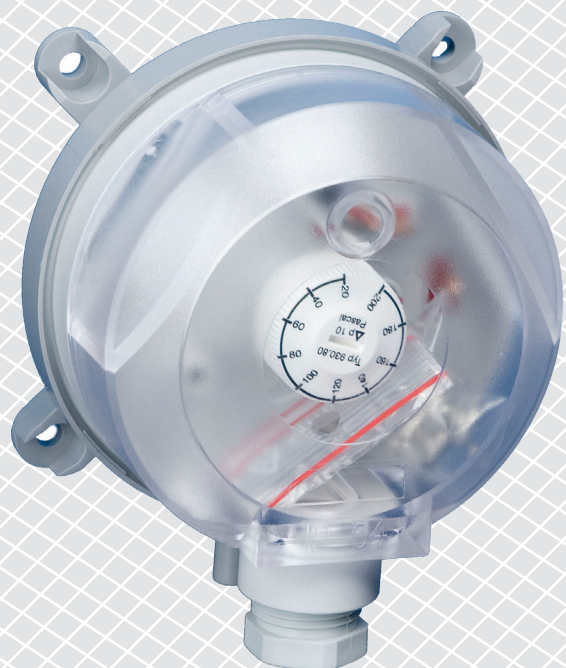


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SAFETY AND PRECAUTIONS



Read all the information, the datasheet, Modbus Register map, mounting and operating instructions and study the wiring and connection diagram before using the product. For personal and equipment safety, and for optimum product performance, make sure you entirely understand the content before installing, using or maintaining this product.



Unauthorised conversion and/or modification of the product is not permitted for safety and licensing (CE) reasons.



The product should not be exposed to abnormal conditions, such as extreme temperatures, direct sunlight or vibrations. Long-term exposure to chemical vapours in high concentration can affect the product performance. Make sure the work environment is as dry as possible and avoid condensation.



All installations shall comply with local health and safety regulations, local electrical standards and approved codes. This product can only be installed by an engineer or a technician who has expert knowledge of the product and of the safety precautions.



Avoid contact with energised electrical parts. Always disconnect the power supply before connecting, servicing or repairing the product.



Always ensure that the product is powered properly and that the wire size and characteristics are appropriate. Make sure that all the screws and nuts are well tightened and fuses (if any) are fitted well.



Recycling of equipment and packaging should be taken into consideration and these should be disposed of in accordance with local and national legislation / regulations.



If you have any further questions, please contact your technical support or consult a professional.

PRODUCT DESCRIPTION

The PSW series are highly sensitive, adjustable differential pressure switches suitable for monitoring overpressure, vacuum and differential pressure of air or other non-combustible, non-aggressive gases. The switching pressure setpoint can be adjusted by means of a scaled calibrated knob; the switching ΔP - by a screwdriver and a pressure gauge.

ARTICLE CODES

	Article codes	
	PSW-200	PSW-500
Range, Pa	20–200	50–500
Range, mBar	0,2–2,0	0,5–5,0
ΔP , Pa (mBar)	10 (0,1)	20 (0,2)

INTENDED AREA OF USE

- Air filter and fan monitoring
- Overheating protection for fan heaters
- Controlling air and fire-protection dampers
- Monitoring air flows
- Monitoring flows in ventilation ducts
- Frost protection for heat exchanger
- Air or other non-combustible, non-aggressive gases only

TECHNICAL DATA

- Max. operating pressure: 2,500 Pa for all pressure ranges
- Mechanical life cycles: 10.000.000 operations
- Contacts rating: max. 1,0 A (0,4) / 250 VAC (VDE 0630, EN 1854)
- Diaphragm: Silicone
- Protection standard: IP54 (according to EN 60529)
- Typical range of use:
 - ▶ temperature: -20–85 °C
 - ▶ rel. humidity: < 95 % rH (non-condensing)

STANDARDS

- Low Voltage Directive 2006/95/EC
- RoHs Directive 2011/65/EC



WIRING AND CONNECTIONS

PSET connections			
Application	Low pressure monitoring	Filter monitoring	Fan monitoring
Higher pressure P1 (+) - higher pressure	Not connected	Connected before the filter	Connected before the fan
Lower pressure - P2 (-)	Connected to the inside of the duct	Connected after the filter	Connected after the fan

Electrical connections	
1	Normally closed contact
2	Normally open contact
3	Common contact

NOTE

Use screened wires

MOUNTING INSTRUCTIONS IN STEPS

Before you start mounting the unit, read carefully **“Safety and Precautions”**. Choose an appropriate mounting location.

ATTENTION

Switching pressure specifications apply to vertical installation which is also the recommended position with pressure-pipe connections pointing downwards.
If the switch is installed horizontally with connection terminals uppermost, the switching values are approximately 20 Pa higher.

Follow these steps:

1. Unscrew the cover to open the unit.
2. Position the pressure switch in an appropriate location adhering to the mounting dimensions and position (**Fig. 1** and **Fig. 2**).

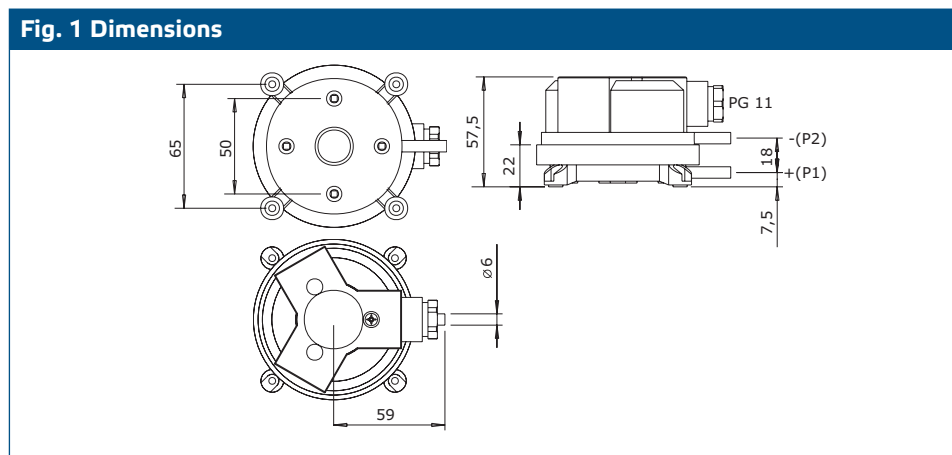
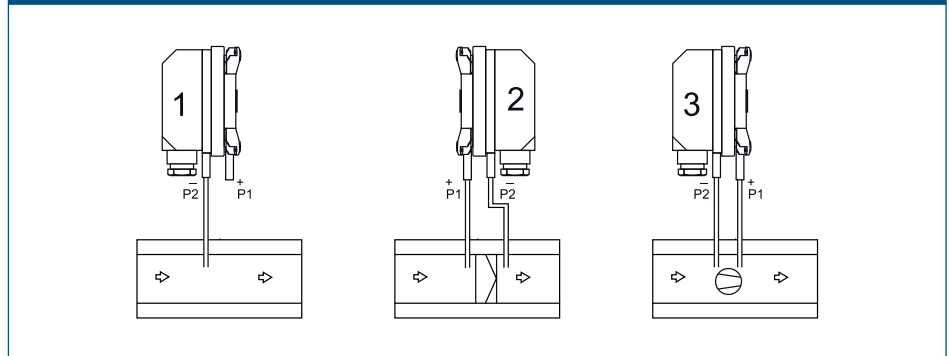


Fig. 2 Mounting position

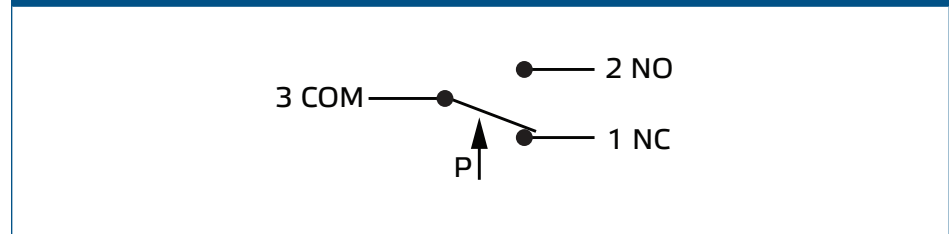


NOTE

When choosing an installation location consider the ease of access for installation, connection and operation. Avoid exposure to direct sunlight or rain. The IP protection class of the equipment must comply with the ambient conditions. To prevent dangerous temperature increases on the surface of the equipment, dust deposits must be avoided.

3. Connect the nozzles to the duct. Depending the application, the PSET must be connected differently. See **Fig. 2**:
 - 3.1 Low pressure monitoring (**Fig. 2 - 1**)
 - 3.2 Filter monitoring (**Fig. 2 - 2**)
 - 3.3 Fan monitoring (**Fig. 2 - 3**)
4. Insert the cables through the cable gland and do the wiring according to the wiring diagram (see **Fig. 3**).

Fig. 3 Wiring



5. Put the cover back in place and tighten the screw.
6. Switch on the mains supply. Once the power supply is applied, the equipment is ready for operation immediately.

OPERATING INSTRUCTIONS

Before voltage is applied to the equipment the following checks must be performed:

- Check that screws are firmly seated in
 - ▶ Connecting terminals, protective earth conductor terminals and potential equalisation terminals
 - ▶ Housing cover
- Check
 - ▶ The torque of the cable lead-in
 - ▶ The tightness of the seal provided by the cable lead-in
- Check whether the equipment is ready for operation
 - ▶ Adjust the switch according to the intended use
 - ▶ All interfaces such as inputs and outputs for control purposes must be connected and ready for operation

Settings

- Define all application-specific parameters.
- Adjustment of the pressure ranges:
 - ▶ With this pressure switch the pressure can be adjusted without a pressure

- gauge using the scaled adjustment knob.
- ▶ The switching differential can also be adjusted with a screwdriver by the adjustment screw with the identification " Δp ".

TRANSPORT AND STORAGE

Avoid shocks and extreme conditions; stock in original packing.

WARRANTY AND RESTRICTIONS

The warranty against manufacturing flaws is valid for two years starting from the date of delivery. Any alterations or adjustments to the product absolve the manufacturer of all liability. The manufacturer disclaims all liability for typographical or other errors in this document.

MAINTENANCE

In normal conditions this product is maintenance-free. If soiled, clean with a dry or damp cloth. In case of heavy pollution, clean with a non-aggressive product. In these circumstances the unit should be disconnected from the supply. Pay attention that no fluids enter the unit. Only reconnect it to the supply when it is completely dry.