

Operating instructions

Please keep carefully for future use

Diaphragm Pressure Switch Series

0110, 0112, 0114, 0116, 0118, 0120, 0122

Piston pressure switch Series

0111, 0113, 0115, 0117, 0119, 0121, 0123

Installation and commissioning must be carried out in accordance with these operating Instructions and by authorized, qualified personnel only.



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Operating and use

The pressure switch opens or closes an electrical circuit when a certain (adjustable) pressure is reached. A diaphragm or piston is moved by the increase in pressure. The amount of the diaphragm deflection or piston travel depends on the force of the pressure applied and the (adjustable) spring tension. At a predetermined deflection of the diaphragm or movement of the piston, a electrical contact will be opened or closed.

The pressure switch monitors a preset pressure.

Conditions governing the use of the product

The following general instructions are to be observed at all times to ensure the correct, safe use of the pressure switch:

- Observe without fail the warning notices and other instructions laid down in the operating instructions.
- Observe the applicable safety regulations laid down by the regulatory bodies in the country of use.
- Do not exceed the specified limits for e.g. pressures, forces, moments or temperatures under any circumstances.
- Give due consideration to the prevailing ambient conditions (temperatures, atmospheric humidity, atmospheric pressure, etc.).
- Never subject pressure switch to intense blows or high vibrations.
- Never expose the pressure switch to severe side impacts or vibrations.
- Use the product only in its original condition. Do not carry out any unauthorized modifications.
- Remove all items providing protection in transit such as foils, caps or cartons.
- Disposal of the above-named materials in recycling containers is permitted.

Operating conditions

Media temperatures other than room temperature (20°C):

The effects of extreme temperatures (relative to the room temperature) can lead to pronounced variations in the switching point or failure of the pressure switch.

Type of protection IPxx:

Type testing does not apply to all ambient conditions without limitations. The user is responsible for verifying that the plug-and-socket connection complies with the specified rules and regulations of CE, or whether it may be used for specialized purposes other than those intended by us.

Use with oxygen:

Diaphragm pressure switch

(0110, 0112, 0114, 0116, 0118, 0120 and 0122):

If oxygen is used, the applicable accident prevention regulations must be observed. In addition, we recommend a maximum operating pressure of 10 bar, which should not be exceeded.

Piston pressure switch

(0111, 0113, 0115, 0117, 0119, 0121 und 0123):

Piston pressure switches are not suitable for gaseous media, particularly oxygen.

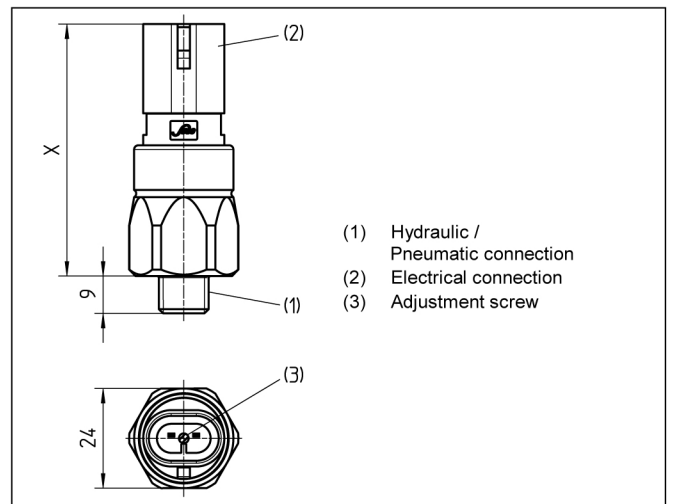
Protection against overpressure:

The static overpressure safety is included in the technical data. The overpressure safety corresponds to the hydraulic, pneumatic part of the pressure switch. The dynamic rating of the overpressure safety is smaller than 30 to 50%.

Technical data

Switch type:	NC (A) or NO (E)
Max. voltage:	42V
Max. current:	4A
Switching capacity:	100 VA
Degree of protection:	
series	
0110/0111, 0112/0113, 0114/0115, 0116/ 0117, 0120/0121, 0122/0123:	IP67
series	
0110/0111, 0116/0117, 0120/0121:	IP6K9K
series	
0118/0119:	IP65, IPx4K
Switching frequency:	< 200 min ⁻¹
Mechanical life:	
Diaphragm pressure switches:	10 ⁶ operations (at set points up to 50 bar)
Diaphragm pressure switches with brass housing:	10 ⁶ operations (at set points up to 20 bar)
Piston pressure switches:	10 ⁶ operations
Temperature range:	NBR -40°C ... +100°C EPDM -30°C ... +120°C FKM -5°C ... +120°C
Over pressure safety:	
Diaphragm pressure switch:	300 bar
Piston pressure switch:	600 bar
Diaphragm pressure switch with brass housing:	35 bar
Housing material:	
depending of version:	zinc plated steel stainless steel 1.4305 (AISI 303) or brass
Pressure ranges:	
Diaphragm pressure switches :	0,1-1; 1-10; 10-20; 20-50 bar
Piston pressure switches :	50-150 bar
Resistance against vibrations:	10g / 5-200Hz sine
Resistance against shock:	294 m/s ² ; 14 ms semi-sine

Operating controls and connections




						
Deutsch DT04-2P	AMP Superseal	Packard MetriPack 280	Deutsch DT04-3P (A+B)	AMP Junior Timer	Bajonet bayonett DIN 72585 A1-Z1	M12x1 (1 + 3)
IP67, IP6K9K	IP67	IP67	IP67, IP6K9K	IP65, IPx4K	IP67, IP6K9K	IP67
x ≈ 71 mm	x ≈ 70 mm	x ≈ 71 mm	x ≈ 71 mm	x ≈ 61.5 mm	x ≈ 49 mm	x ≈ 60 mm

Installation

Mechanical / pneumatic / hydraulic:

With a size 24 open-ended wrench (to DIN 894 or similar), install the pressure switch, by means of the hexagon connector, in the corresponding pressure socket.


 For sealing the system use a standard copper gasket of the appropriate dimensions.

Electrical:

Connect the cable to the electric connection (2).

Entry into service



- When putting the pressure switch into service, please observe the applicable safety regulations laid down by the governing bodies in the country of use.
- Using a continuity tester, wire up the electrical connection (2).
-  If using a testing lamp as a continuity tester, observe the maximum permissible switching capacity (see technical data)
- First, screw in the adjustment screw (3) as far as it will go. To adjust the pressure switch use a screwdriver with a 2.5 mm wide blade.
- Adjust the pressure switch to the desired actuating pressure (a test pressure gauge is required).
- Ease off the adjustment screw (3) to a sufficient extent to cause the pressure switch to trip (continuity tester reacts).
- If necessary, adjust the trip pressure setting by turning the adjustment screw (3).

Removing the pressure switch



When removing the pressure switch, observe the following important instructions:

- The system from which the pressure switch shall be moved, must be de-energized and free of pressure.
- All the relevant safety regulations must be observed.
- Use a size 24 open-ended wrench (to DIN 894 or similar), to remove the pressure switch.

Key to drawings:



Caution



Note



Recycling



Danger