

# Operating Instructions for Pressure Switch

**Model: SCH-27/SCH-28**



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## 2. Note

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Please read these operating instructions before unpacking and putting the unit into operation. Follow the instructions precisely as described herein.

The instruction manuals on our website [www.kobold.com](http://www.kobold.com) are always for currently manufactured version of our products. Due to technical changes, the instruction manuals available online may not always correspond to the product version you have purchased. If you need an instruction manual that corresponds to the purchased product version, you can request it from us free of charge by email ([info.de@kobold.com](mailto:info.de@kobold.com)) in PDF format, specifying the relevant invoice number and serial number. If you wish, the operating instructions can also be sent to you by post in paper form against an applicable postage fee.

The devices are only to be used, maintained and serviced by persons familiar with these operating instructions and in accordance with local regulations applying to Health & Safety and prevention of accidents.

When used in machines, the measuring unit should be used only when the machines fulfil the EC-machine guidelines.

**as per PED 2014/68/EU**

**PS ≤ 200 bar**

In acc. with Article 4 Paragraph (3), "Sound Engineering Practice", of the PED 2014/68/EU no CE mark.

**PS > 200 bar**

Category 1, module A

## 3. Instrument Inspection

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Instruments are inspected before shipping and sent out in perfect condition.

Should damage to a device be visible, we recommend a thorough inspection of the delivery packaging. In case of damage, please inform your parcel service / forwarding agent immediately, since they are responsible for damages during transit.

**Scope of delivery:**

The standard delivery includes:

- Pressure Switches                      model: SCH-27 or SCH-28

## 4. Regulation Use

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Any use of the Pressure Switch, model: SCH-27 or SCH-28, which exceeds the manufacturer's specification, may invalidate its warranty. Therefore, any resulting damage is not the responsibility of the manufacturer. The user assumes all risk for such usage.

## 5. Mechanical Connection

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### 5.1 Important Information

The instrument described in this manual has been designed and produced in conformity to the following standards in force. All components are submitted to severe quality and traceability controls. The quality management system is certified according to the ISO 9001 standard. This manual contains important information about the use and the installation of the gauge in safe conditions. Therefore, it is highly recommended to read carefully the following instructions before using the instrument.

The instrument works in safe conditions when correctly selected and installed in the system and when the rules concerning the product as well as the maintenance procedures established by the manufacturer are respected. The staff charged with the selection, installation and maintenance of the instrument must be able to recognize the conditions that may negatively affect the instrument's ability to work and which may lead to premature breakage. The staff must therefore be technically qualified and properly trained, and must carry out the procedures called for in the plant regulations.



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#### **Warning!**

**-The manufacturer disclaims all responsibility in case of damages caused by the improper use of the product and by the non-respect of the instructions reported in this manual.**

**-Follow carefully the specific safety rules in case of measuring oxygen pressure, acetylene, inflammable or toxic gas or liquids.**

**-Disconnect the instruments only after depressurization of the system.**

**-The process fluids residuals in the disassembled instruments could affect people, the environment and the system. It is highly recommended to take proper precautions.**

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## **Attention!**

**-Before installation be sure that the right instrument has been selected following the working conditions and in particular range, the working temperature and the compatibility between the material used and the process fluid.**

**-This manual does not concern the instruments conforming to standard 2014/34/EU (ATEX).**

**-The product warranty is no longer valid in case of non-authorized modifications and of wrong use of the product.**

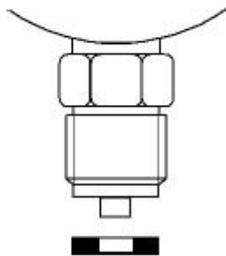
**-The user is totally responsible for the instrument installation and maintenance.**

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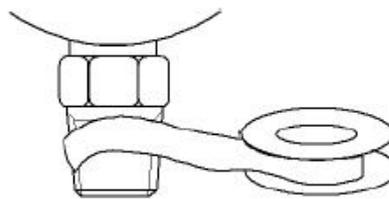
## 5.2 Installation

Fix the instrument thread forcing by a key which should fit with the process connection without forcing by hand on the case. As for the cylindrical thread process connection is concerned (Gas or metric) a head gasket compatible with the fluid or gas to measure should be used. (Fig.1).

In case of conic connection thread (NTP or Conic gas), a PTFE tape on the male thread (Fig.2) ensures the sealing before proceeding to screw and then to the fixing.



**Figure 1**



**Figure 2**

In case of conic connection thread (NTP or Conic gas), a PTFE tape on the male thread (Fig.2) ensures the sealing before proceeding to screw and then to the fixing.

In both cases it is necessary to fix the instrument through two keys: one on the flat sides of the instrument process connection, the other one on the pressure output. All instruments should be mounted in a vertical position unless otherwise shown on the label.

In order to make the instrument dismounting easier it is recommended to mount a shut-off valve between the system and the instrument.

## 6. Electrical Connection

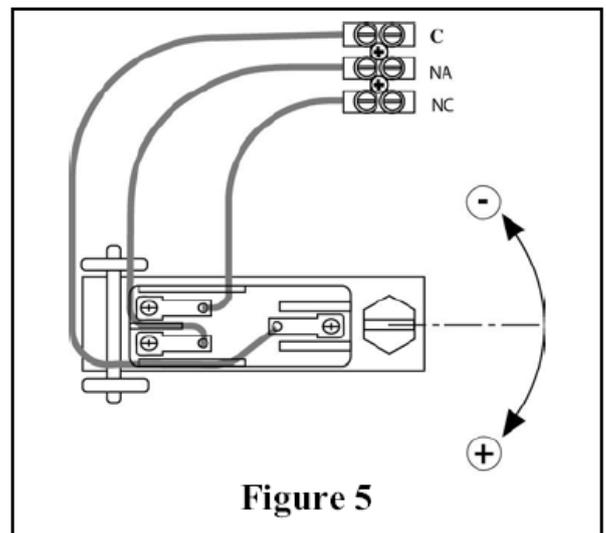
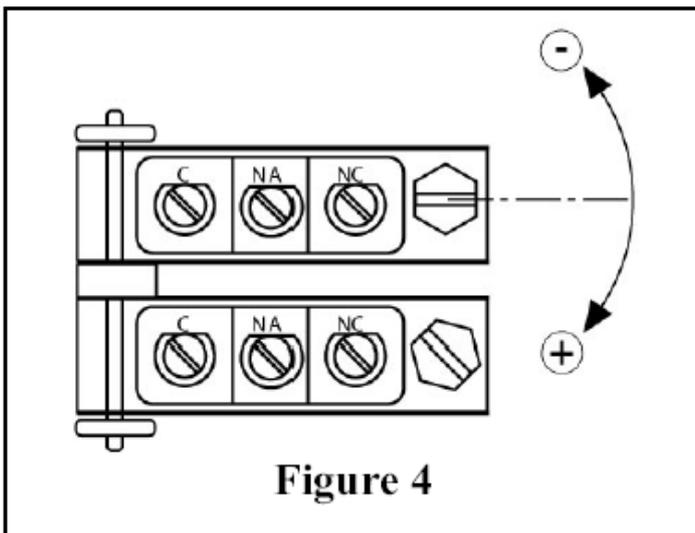
Pressure switches type: SCH-27 are equipped with micro-switch suitable for direct connection through fork wire terminal screws and clamp for ground connection both internal and external provided of cable terminal.

Differential pressure switches model SCH-28 are provided of internal terminal blocks with screws terminals (Figure 5) with cables whose maximum section should be di 2.5 mm<sup>2</sup> and terminal block for ground connection both internal and external provided of wire terminal. In order to perform the electrical connection, proceed to unplug the pressure switch case top. For connection, use cables whose section is adequate to the requested electrical charge (1.2...2.5 mm<sup>2</sup> - 14...16 AWG) in conformity to the technical requirements concerning connection and commutation instruments. The cable diameter should be suitable for passing through cable glands.

Wiring:

- do not torch or pull the cable excessively;
- cables should not be frayed and the isolating sheath should not be cut or damaged;
- false contacts should be prevented and the terminal screws should be properly tightened;
- calibration should not be modified (factory calibration).

No residue should remain inside the case and the top should be fastened by a lock nut.

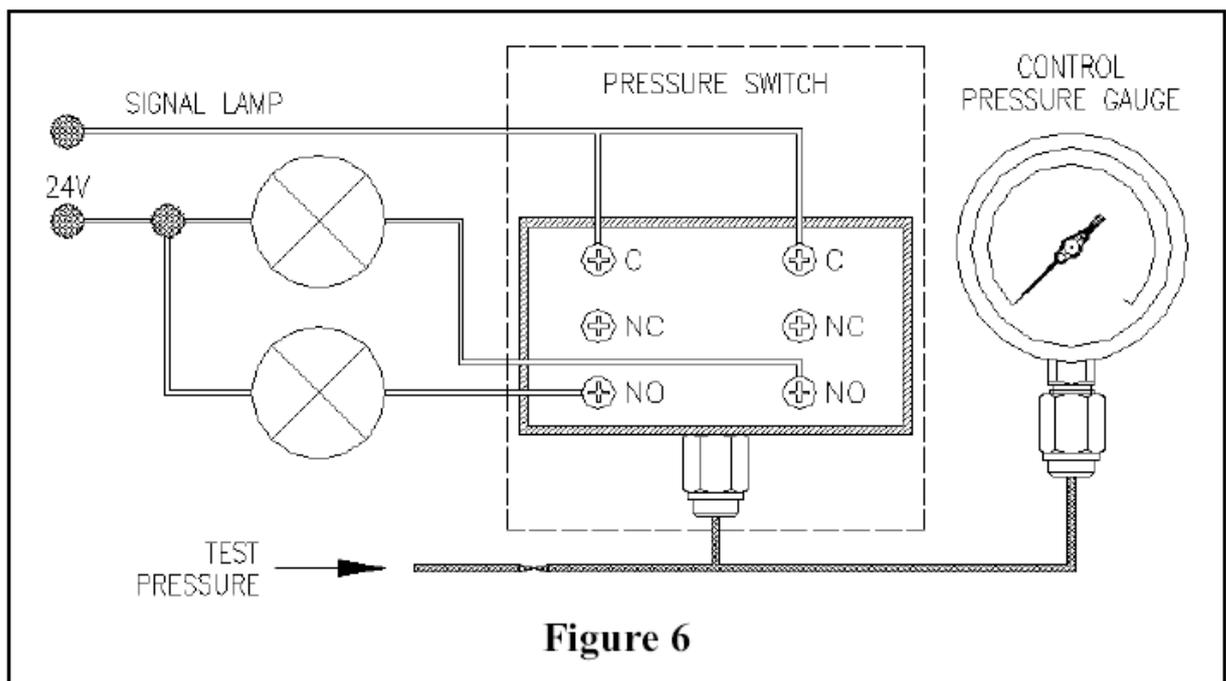


## 6.1 Set Point Calibration

If not otherwise specified in the order the instrument is supplied with a set point calibrated on the lowest possible value. Calibration must be performed fixing the pressure switch and a laboratory instrument for the pressure measuring in parallel to a pressure output. And (Fig. 6). For calibration, please proceed as follows:

### Instrument provided of 1 micro-switch

1. Connect the micro-switch to warning lamp or a sound source as shown in fig.5 in order to be warned if any malfunction should occur during operation;
2. apply a pressure or a vacuum whose value should be the same as the value of operation;
3. when the proper operation pressure value is reached and no warning signal hasn't been detected, it is necessary to rotate the microswitch adjustment screw until the successful operation signal is on;
4. conversely, if the operation signal is shown before reaching the expected pressure value, rotate the adjustment screw clockwise until the operational signal is off.
5. proceed by producing several pressure ups and downs in order to verify the set point accuracy as described in points 8 and 9.



### Instrument provided of 2 micro-switches

The calibration procedure is the same as described for instruments provided with 1 micro-switch considering that these operations should be repeated for one micro-switch at a time alternatively until the desired operation accuracy is reached. This is necessary because the two micro-switches interaction on the same measuring instrument.

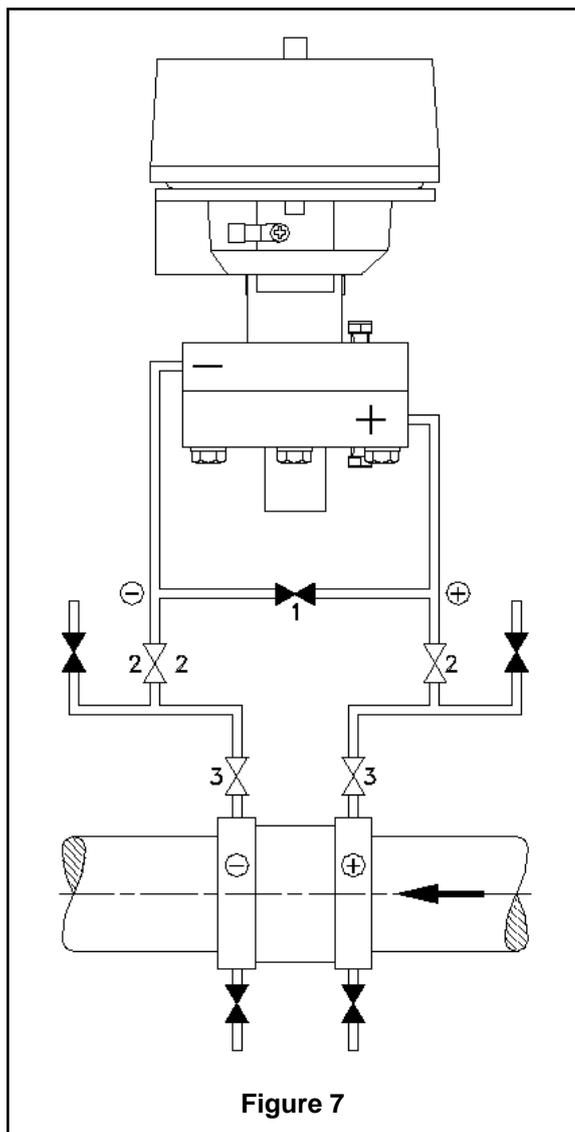
## 7. Commissioning

Commissioning should always be performed carefully in order to prevent any shock or sudden temperature variations. Slowly open the shut-off valves placed between the instrument and the process.

As for differential pressure switches model SCH-28, please refer to figure 7 and follow the following instructions:

1. open the by-pass valve "1";
2. open the root valve "3";
3. open the shut-off valve "2" of the positive side (+);
4. shut the by-pass valve "1";
5. open the shut-off valve "2" of the negative side (-).

All obstruction of the sensing element pressure abduction pipe should be avoided in order to prevent any repeated and unnecessary rearm of the micro-switch. In case of malfunction, the instrument must be completely depressurized and isolated through a shut-off valve before removal.



## **8. Working Limits**

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### **8.1 Working temperature**

This instrument is designed to be used safely in an ambient temperature between  $-20$  and  $+65^{\circ}\text{C}$

### **8.2 Working pressure**

The instrument should be selected among those having an adjustment range which should be approximately the double of working pressure value that could be between 25% and 75% of the pressure switch range. As for ranges  $< 1\text{bar}$  any accidental vacuum higher than the working range of the instrument should be prevented.

### **8.3 Cyclic and dynamic pressures**

They generally appear when the instruments are mounted on pumps bringing to a relevant reduction of the sensing element and the microswitch life. They might cause uninterrupted false alarms. It is necessary to decrease these pulsations placing a shut-off valve between the pressure source and the instrument. If the instrument is selected inaccurately, a fatigue breakage could occur.

### **8.4 Overpressure**

Overpressure may affect the sensing element decreasing its life and accuracy. Therefore, an instrument performing a full-scale range is wider than the maximum working pressure is highly recommended since it is more likely to absorb overpressure. Shocks could be treated just like the pulsating pressures. Long-lasting overpressure can be prevented by installing a shut-off valve calibrated on site. Even only one overpressure episode could permanently damage the instrument.

### **8.5 Vibrations**

When the instrument support receives vibrations, instruments must be mounted far from vibrations and connected through capillaries (in case of strong and irregular vibrations). If this is not possible, the instrument should be installed at right angle position to the vibrations plan. Vibrations can be detected when the micro-switch malfunctions permanently.

### **8.6 Micro-switch**

A resistive charge which might be higher than that indicated on the instrument label should not be applied. If this occurs, the case surface and the sheath temperature could increase making the installation unsafe. According to the micro-switch model, it is necessary to consider the differential value between the working pressure and the restored one.

## 8.7 Differential

The difference between the working pressure value and that of the micro-switch rearm is called differential or dead-band value and it appears on the instrument label. The set point and the differential value should allow the micro-switch to rearm correctly. This is an essential aspect for the micro-switch provided with an adjustable differential range from 10% to 50% of the full working scale.

The differential value can be adjusted by turning on the graduated wheel located under the micro-switch. The roller is graduated from letter A to letter F which represents the minimum differential (around 10% of the adjustment range) and maximum differential (about 40-50% of the adjustment range) respectively. While adjusting the differential, be aware that the device increases the set working pressure value leaving the rearm untouched, acting on the micro-switch click force. It is important to remember, that when the instrument is provided with a micro-switch, this is calibrated at the factory and then adjusted on site. This has to be taken into account too, when the instrument works in vacuum.

## 8.8 Protection degree

According to EN 60529 regulation. It concerns the instrument's top when this is completely tightened. A special nut lock mounted on the case body should be tightened to the top preventing its removal during normal operation conditions.

## 8.9 Corrosive fluids and gas liquids

The sensing element thickness is generally moderate so it can work in severe mechanical stress conditions. The chemical compatibility with the fluid to measure has to be considered. No common material can be immune from a chemical attack whose intensity can be influenced by the following conditions: concentration, temperature and the mixture type among different chemical substances. A chemical attack can lead rapidly to a corrosion failure.

# 9. Improper usage

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## 9.1 Failure for fatigue

Pressure may produce a mechanical stress which could damage the sensitive element permanently since it might crack. The crack can be more dangerous if it happens during compressed and liquid gas measuring because the sensing element leaks slowly so that the pressure inside the case increases and the safety gasket opens.

## **9.2 Failure for overpressure**

It occurs when a higher pressure than the declared one for the sensing element is applied (i.e. when an instrument for low pressures is installed on a system working with high pressure). The effects of this kind of damage, which are commonly more serious in case of compressed gas measuring, are not predictable and may lead to the case explosion despite the safety gasket. Spikes may happen in hydraulic and pneumatic systems especially after the opening and the closing of valves.

Spikes amplitude may be much higher than the working pressure. They cannot be detected by the instrument because of their quickness therefore they are not detectable by the operator. Spikes may affect the instrument permanently. A choke may reduce the overpressure amplitude pike transmitted to the sensing element. A shut-off valve could protect the instrument from pressures higher than pressures the instrument is calibrated for.

## **9.3 Failure for corrosion**

When the sensing element material is attacked by the process fluid chemical substances or by other substances that may be present in the pressure system, a leakage or a stress crack may occur. In this case it is advisable to install a diaphragm compatible with the process fluid or a fluid diaphragm seal.

## **9.4 Failure for explosion**

A powerful release of thermal energy due to chemical reactions such as the oxygen adiabatic compression reaction in presence of hydrocarbons might produce an explosion. The inability to force this kind of damage is generally accepted. It is advisable to clean and de-grease the wetted parts with special products in case the instrument has to be interchanged in order to prevent any chemical reaction in the system. In case of use of highly oxidant agents (e.g. oxygen) the producer should be informed during order procedure.

## **9.5 Failure for vibrations**

The movable components of the instrument can be damaged by vibrations even if they are not too severe. First the accuracy of operation decreases then damages may occur involving the general functioning of the instrument. In order to prevent vibrations damage the instrument should be mounted far from vibrations and connected to the system through a capillary.

## **9.6 Stress for vibrations**

Wide amplitude vibrations could also break the sensing element structure and lead to a process fluid leakage.

## 9.7 Mechanical stress

Instruments should not receive any mechanical stress. If the installation points are under mechanical stress, the instruments should be mounted far from vibrations and connected to the system through a capillary.

Instruments must be selected among those provided with wall or panel anchorage.

## 10. Maintenance

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The instrument's characteristics should be maintained during time in order to prevent damages caused by high temperatures, fire risk and explosion due to possible malfunctions during operation.

As for heavy work instruments operating in severe conditions plants (vibrations, pulsating pressures, corrosive or sedimentous fluids, fuel or inflammable fluids) we recommend to schedule their replacement according to the maintenance program schedule. In case the instrument does not work properly it is necessary to proceed to an unscheduled checking procedure.

### 10.1 Regular check

In order to verify the sensing element conditions, it is advisable to install the instrument on the pressure generator adding a shut-off valve between them. Apply the maximum pressure value to the gauge and isolate it from the pressure source through the valve. Any possible leakage of the sensing element can be noticed from the slow restore of the pointer to zero.

### 10.2 Recalibration

If recalibration results are different from the nominal values declared on the recalibration procedure should be repeated. The return of the instrument to KOBOLD is recommended for this procedure.

The verification the switch point must be performed in accordance with the operating conditions of the instruments and in particular in accordance with the switching frequency.

Just as an example, control interval of six months is suggested in case of marginal number of switches per day. In case of higher switching frequencies, the control interval should be reduced. The interval for the next verification of the instrument's switch point may be defined on the basis of the outcome of previous verifications. In case of positive outcomes, the control interval can be increased. In case of negative results, it should be decreased.

**KOBOLD will not be responsible for any non authorized intervention on the instrument. Moreover, the contract warranty and the CE Conformity Declaration will be no longer valid.**

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## 11. Technical Information

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Electrical specifications:	1... 2 SPDT microswitches (see microswitches table)
Differential (dead band):	Fixed (value as per setting range table), adjustable (microswitch code E/F) from 10% ... 50% of setting range
Repeatability:	≤ 1% of the full setting value
Set-point adjustment:	Internal, micrometric adjustable
Protection:	IP 65 as per IEC 529
Electrical wiring:	Terminal strip
Earth contact:	1 x internal and 1 x external
Process temperature:	100 °C max. (+212 °F)
Ambient temperature:	-25 ... +65 ° C (-13 ... +149 °F)
Thermal drift:	≤ 0.05% / °C (≤ 0.027% / °F)
Process connection:	AISI 316 stainless steel
Elastic element:	AISI 316 stainless steel diaphragm AISI 321 stainless steel bellows (SCH-28)
Gasket:	PTFE
Flushing plugs:	AISI 316 stainless steel
Case:	AISI 304 stainless steel
Cover:	AISI 304 stainless steel, bayonet lock
Tag:	AISI 304 stainless steel, etched

# SCH-27/-28

## Setting ranges SCH-27

Code	Setting range	Test pressure	Special overrange (code H)	Differential 1 micro <sup>2)</sup>	Differential 2 micro <sup>2)</sup>
F7	0.7...6 mbar <sup>1)</sup>	10 mbar		0.5 mbar	
F8	1...16 mbar <sup>1)</sup>	20 mbar		0.8 mbar	
F9	2...25 mbar <sup>1)</sup>	30 mbar		1.2 mbar	
F0	5...40 mbar <sup>1)</sup>	0.5 bar	400 mbar	4 mbar	5 mbar
F1	5...60 mbar <sup>1)</sup>	0.5 bar	600 mbar	4 mbar	5 mbar
F2	6...100 mbar <sup>1)</sup>	0.5 bar	1 bar	4 mbar	6 mbar
F3	9...160 mbar <sup>1)</sup>	0.5 bar	1.6 bar	6 mbar	9 mbar
F4	9...250 mbar <sup>1)</sup>	1 bar	2.5 bar	6 mbar	9 mbar
F5	15...400 mbar <sup>1)</sup>	1 bar	4 bar	10 mbar	15 mbar
F6	18...600 mbar <sup>1)</sup>	1 bar	6 bar	12 mbar	18 mbar
B2	0.06...1 bar <sup>1)</sup>	1.2 bar	10 bar	25 mbar	60 mbar
B3	0.06...1.6 bar <sup>1)</sup>	2 bar	16 bar	30 mbar	60 mbar
B4	0.06...2.5 bar <sup>1)</sup>	3 bar	25 bar	40 mbar	60 mbar
B5	0.08...4 bar	5 bar	40 bar	50 mbar	80 mbar
B6	0.09...6 bar	8 bar	40 bar	60 mbar	90 mbar
B7	0.15...10 bar	12 bar	40 bar	100 mbar	150 mbar
B8	0.25...16 bar	20 bar	40 bar	160 mbar	250 mbar
B9	0.4...25 bar	30 bar	40 bar	250 mbar	400 mbar
B0	0.6...40 bar	48 bar	60 bar	400 mbar	600 mbar
C1	0.9...60 bar	70 bar	80 bar	600 mbar	900 mbar
C2	6...100 bar	120 bar		4 bar	6 bar
C3	8...160 bar	185 bar		5 bar	8 bar
YY	Vacuum and compound range/consult factory				

<sup>1)</sup> also available for vacuum and compound

<sup>2)</sup> differential and minimum set-point values for microswitches cod. I, L, N, R, S, T, U, V are 300% of those shown in table

## Setting ranges SCH-28

Code	Setting range	One side static pressure	Both side static pressure	Differential 1 micro <sup>1)</sup>	Differential 2 micro <sup>1)</sup>
B2	0.1...1 bar	10 bar	25 bar	60 mbar	80 mbar
B4	0.1...2.5 bar	15 bar	25 bar	60 mbar	80 mbar
B5	0.2...4 bar	15 bar	25 bar	70 mbar	100 mbar
B6	0.2...6 bar	15 bar	25 bar	100 mbar	150 mbar
B7	0.2...10 bar	15 bar	25 bar	120 mbar	170 mbar

<sup>1)</sup> differential and minimum set-point values for microswitches cod. I, L, N, R, S, T, U, V are 300% of those shown in table

## 12. Order codes

Order Details SCH-27 (Example: SCH-27 C2 A I2 1 N)

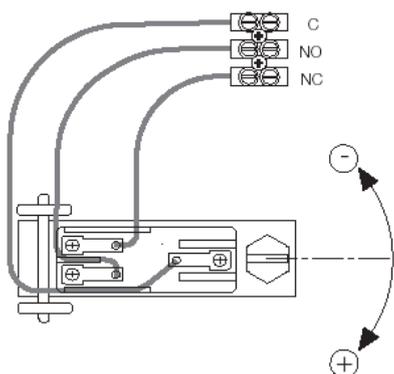
Model	Setting range	Microswitch type	Process connection (F)	Electrical connection (F1)	Options
SCH-27...	...F7...= 0.7...6 mbar <sup>1)</sup>	...A = standard, single	I2 = ¼ -18 NPT F N4 = ½ -14 NPT F I4 = ½ -14 NPT F G4 = G ½ A	1 = R ½ -ISO 7/1 2 = R ¾ -ISO 7/1 3 = ½ -14 NPT 4 = ¾ -14 NPT A = M 20 x 1,5	<b>N</b> = none  <b>H</b> = special over pressure stop  <b>P</b> = PTFE covered diaphragm  <b>M</b> = 2" stake's mounting bracket  <b>W</b> = wall mounting bracket  <b>T</b> = tropicalisation  <b>S</b> = oxygen service  <b>Y</b> = special (specify in clear text)
	...F8...= 1...16 mbar <sup>1)</sup>	...B = standard, double			
	...F9...= 2...25 mbar <sup>1)</sup>	...I <sup>2)</sup> = goldplated, single			
	...F0...= 5...40 mbar <sup>1)</sup>	...L <sup>2)</sup> = goldplated, double			
	...F1...= 5...60 mbar <sup>1)</sup>	...M <sup>2)</sup> = inert gas filled, single			
	...F2...= 6...100 mbar <sup>1)</sup>	...P <sup>2)</sup> = inert gas filled, double			
	...F3...= 9...160 mbar <sup>1)</sup>	...N <sup>2)</sup> = goldplated and inert gas filled, single			
	...F4...= 9...250 mbar <sup>1)</sup>	...R <sup>2)</sup> = goldplated and inert gas filled, double			
	...F5...= 15...400 mbar <sup>1)</sup>	...E <sup>3)</sup> = adjustable differential, single			
	...F6...= 18...600 mbar <sup>1)</sup>	...F <sup>3)</sup> = adjustable differential, double			
	...B2...= 0.06...1 bar <sup>1)</sup>	...U <sup>2)</sup> = inert gas filled V <sub>DC</sub> , single			
	...B3...= 0.06...1.6 bar <sup>1)</sup>	...V <sup>2)</sup> = inert gas filled V <sub>DC</sub> , double			
	...B4...= 0.06...2.5 bar <sup>1)</sup>				
	...B5...= 0.08...4 bar				
	...B6...= 0.09...6 bar				
	...B7...= 0.15...10 bar				
	...B8...= 0.25...16 bar				
	...B9...= 0.4...25 bar				
	...B0...= 0.6...40 bar				
	...C1...= 0.9...60 bar				
...C2...= 6...100 bar					
...C3...= 8...160 bar					
...YY...= Vacuum and compound ranges(consult factory)					

1) also available for vacuum and compound

2) for pressure ranges ≥40 mbar

3) for pressure ranges ≥1 bar

### Set-point Adjustment



### Microswitch Electrical Rating Ohmic load

Single	Double	Type	250 V <sub>AC</sub>	125 V <sub>AC</sub>	24 V <sub>DC</sub>
A	B	standard	15 A	15 A	0.1 A
I	L	goldplated <sup>1)</sup>		1 A	0.1 A
M	P	inert gas filled <sup>1)</sup>	15 A	15 A	0.1 A
N	R	goldplated and inert gas filled <sup>1)</sup>		1 A	0.1 A
E	F	adjustable differential <sup>2)</sup>	20 A	20 A	0.1 A
U <sup>2)</sup>	V	inert gas filled V <sub>DC</sub> <sup>1)</sup>	15 A	15 A	6 A

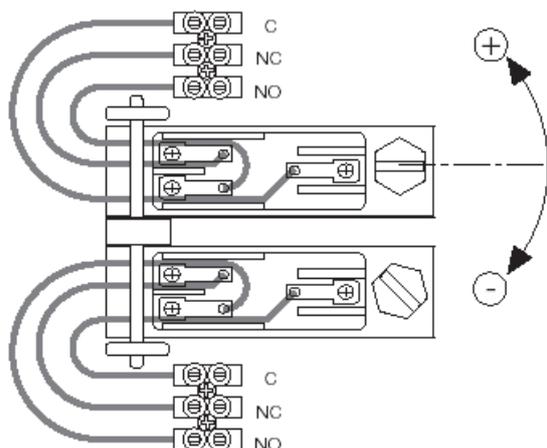
1) for pressure ranges ≥40 mbar 2) for pressure ranges ≥1 bar

# SCH-27/-28

Model	Range	Microswitch type	Process connection (F)	Electrical connection (F1)	Options
SCH-28...	...B2...= 0.01...1 bar	...A = standard, single	I2 = ¼ -18 NPT F N4 = ½ -14 NPT F I4 = ½ -14 NPT F G4 = G ½ A	1 = R ½ -ISO 7/1 2 = R ¾ -ISO 7/1 3 = ½ -14 NPT 4 = ¾ -14 NPT A = M 20 x 1,5	<b>N</b> = none  <b>B</b> = bottom connection  <b>S</b> = degreasing for oxygen  <b>M</b> = 2" stake's mounting bracket  <b>W</b> = wall mounting bracket  <b>T</b> = tropicalisation  <b>Y</b> = special (specify in clear text)
	...B4...= 0.1...2.5 bar	...B = standard, double			
	...B5...= 0.2...4 bar	...I = goldplated, single			
	...B6...= 0.2...6 bar	...L = goldplated, double			
	...B7...= 0.2...10 bar	...M = inert gas filled, single			
		...P = inert gas Filled, double			
		...N = goldplated and inert gas filled, single			
		...R = goldplated and inert gas filled, double			
		...E = adjustable differential, single			
		...F = adjustable differential, double			
		...U = inert gas filled V <sub>DC</sub> , single			
		...V = inert gas filled V <sub>DC</sub> , double			

Order Details SCH-28 (Example: SCH-28 B2 A I2 1 B)

## Set-point Adjustment



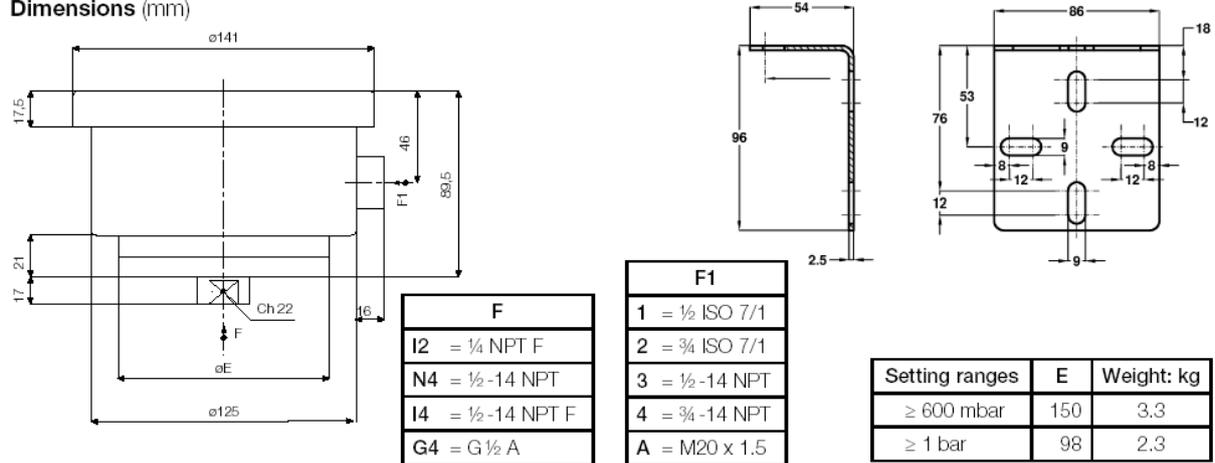
## Microswitch Electrical Rating Ohmic load

Single	Double	Type	250 V <sub>AC</sub>	125 V <sub>AC</sub>	24 V <sub>DC</sub>
A	B	standard	15 A	15 A	0.1 A
I	L	goldplated		1 A	0.1 A
M	P	inert gas filled	15 A	15 A	0.1 A
N	R	goldplated and inert gas filled		1 A	0.1 A
E	F	adjustable differential	20 A	20 A	0.1 A
U	V	inert gas filled V <sub>DC</sub>	15 A	15 A	6 A

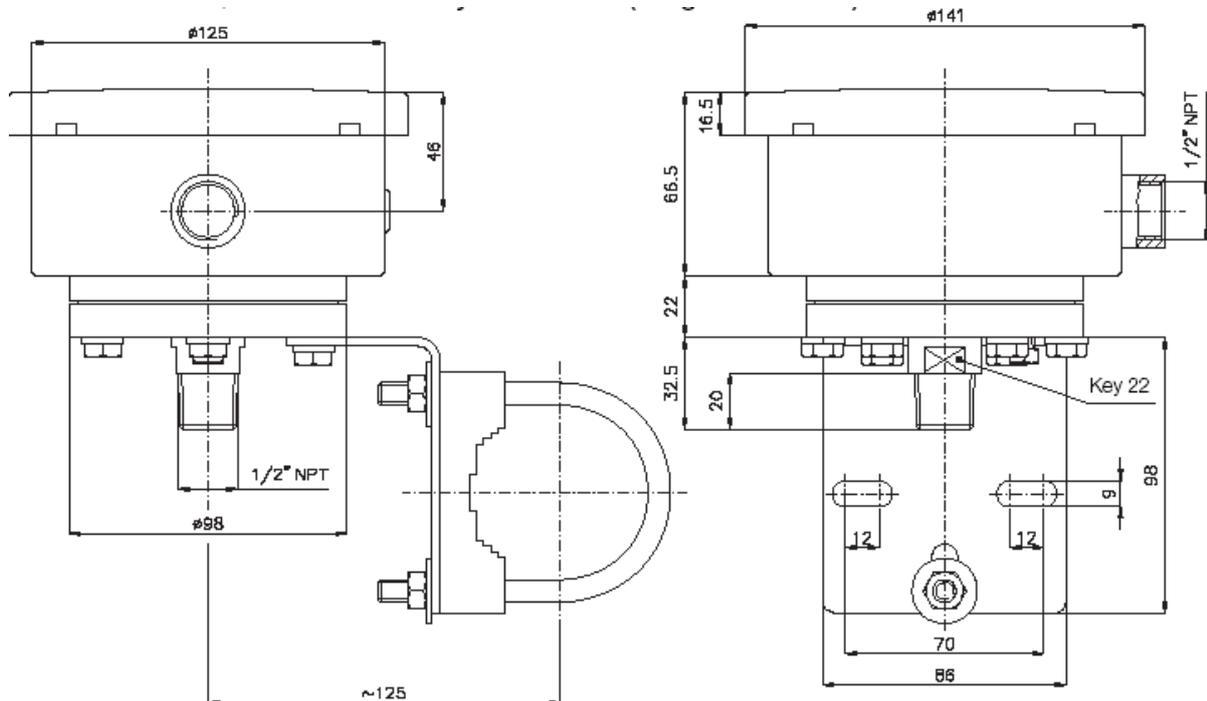
### 13. Dimensions

#### Diaphragm Pressure Switch Model SCH-27

Dimensions (mm)

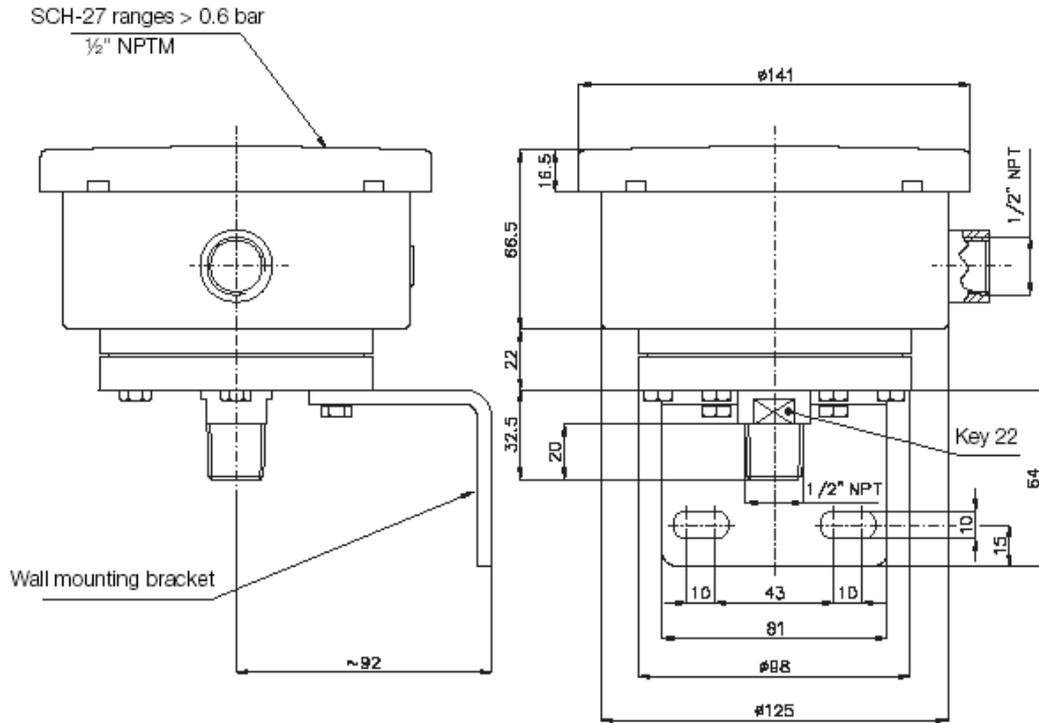


1/2" NPT M, cable exit 1/2" NPT F, with 2" bracket yoke mount (ranges >0.6 bar)

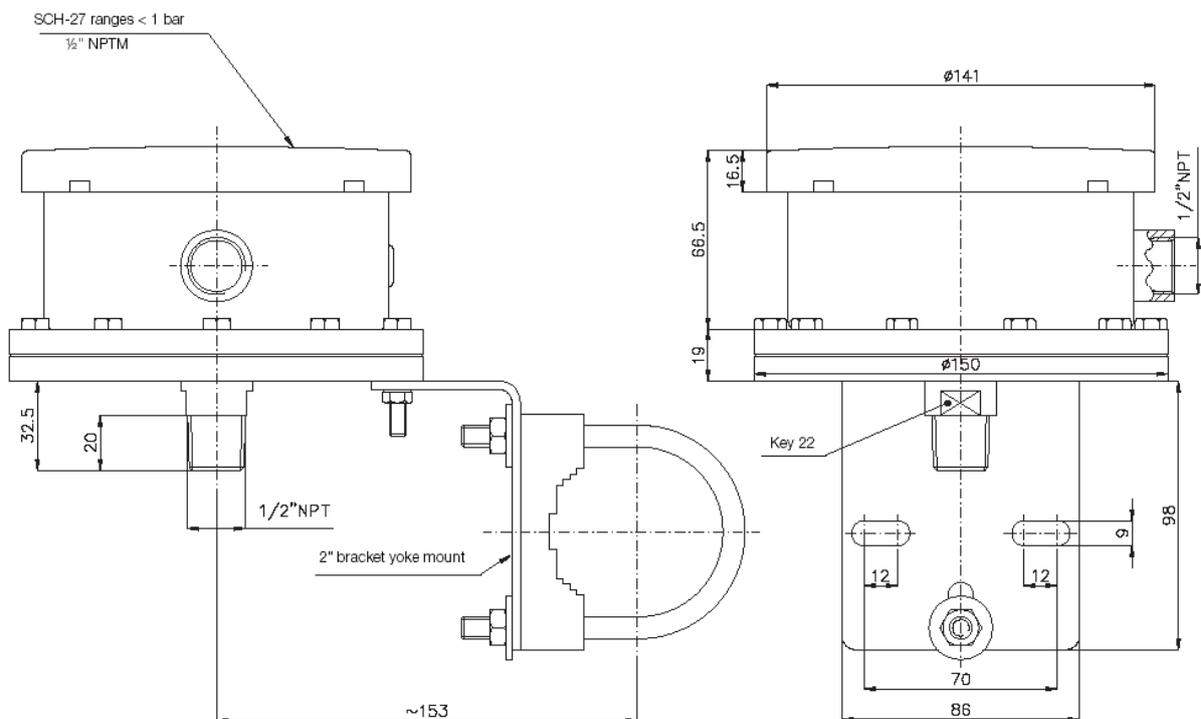


# SCH-27/-28

1/2" NPT M, cable exit 1/2" NPT F, with wall bracket (ranges >0.6 bar)



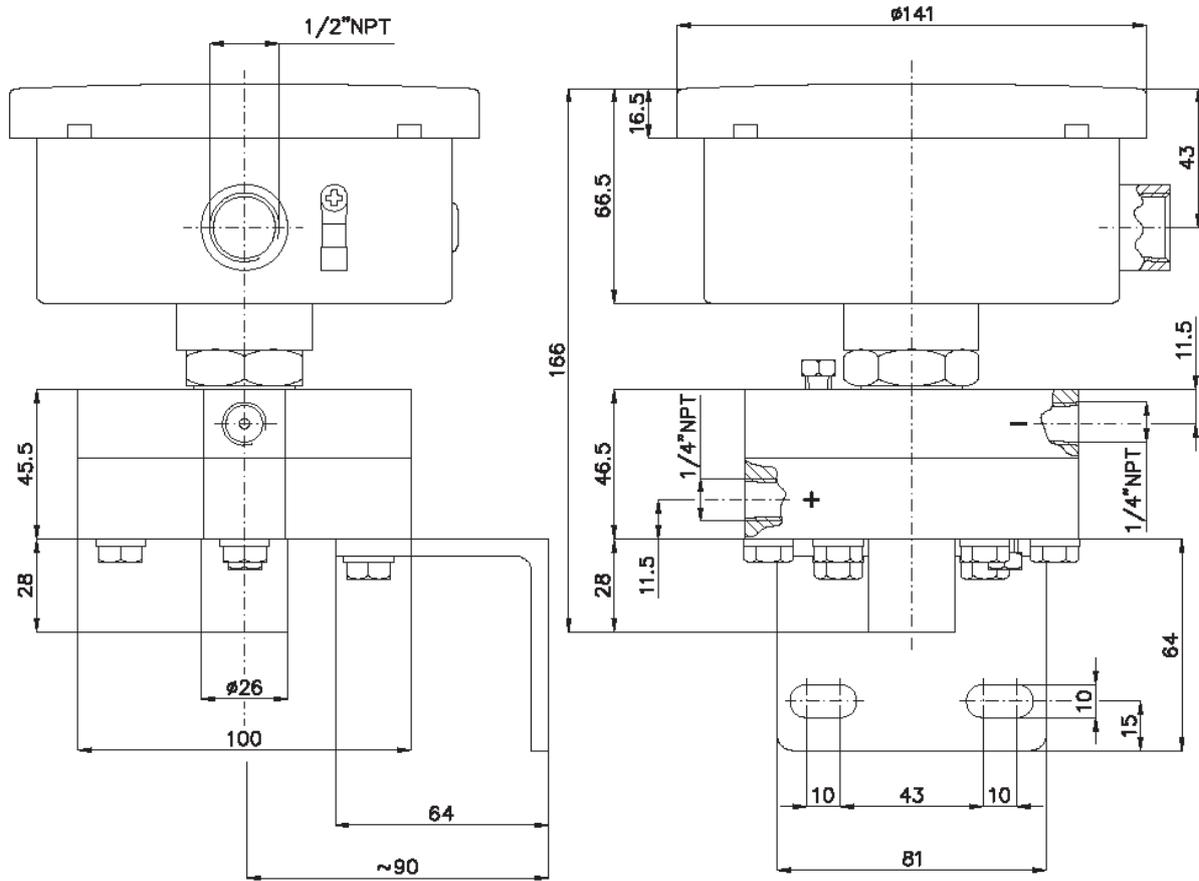
1/2" NPT M, cable exit 1/2" NPT F, with 2" bracket yoke mount (ranges ≤0.6 bar)





# SCH-27/-28

Example with cable entry 1/2" NPTF and process connection 1/4" NPTF with wall bracket



## 14. Disposal

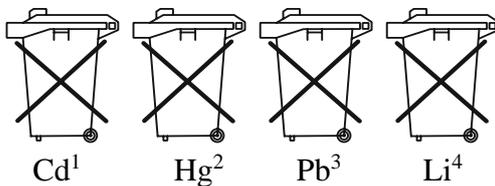
Any process fluid residue remaining inside the instrument must be removed before disposal. It is also recommended to remove tops and plastic components and to proceed to disposal as aluminum and stainless steel.

### **Note!**

- Avoid environmental damage caused by media-contaminated parts
- Dispose of the device and packaging in an environmentally friendly manner
- Comply with applicable national and international disposal regulations and environmental regulations.

### **Batteries**

Batteries containing pollutants are marked with a sign consisting of a crossed-out garbage can and the chemical symbol (Cd, Hg, Li or Pb) of the heavy metal that is decisive for the classification as containing pollutants:



1. „Cd" stands for cadmium
2. „Hg" stands for mercury
3. „Pb" stands for lead
4. „Li" stands for lithium

### **Electrical and electronic equipment**



## 15. EU Declaration of Conformance

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We, KOBOLD Messring GmbH, Hofheim-Ts, Germany, declare under our sole responsibility that the product:

**Pressure Switch      Model: SCH-27, SCH-28**

to which this declaration relates is in conformity with the standards noted below:

**EN 60947-1:2007/A1:2011/A2:2014**

Low-voltage switchgear and controlgear - Part 1: General rules

**EN 60947-5-1:2004/A1:2009**

Low-voltage switchgear and controlgear - Part 5-1: Control circuit devices and switching elements - Electromechanical control circuit devices

Also, the following EC guidelines are fulfilled:

**2014/35/EU      Low Voltage Directive**

**2011/65/EU      RoHS (category 9)**

**2015/863/EU    Delegated Directive (RoHS III)**

Additional for devices with PS > 200 bar:

**2014/68/EU      PED**



H. Peters  
General Manager



M. Wenzel  
Proxy Holder

Hofheim, 02 Aug. 2019