



PCS

**Position indicator switch
for valves and actuators**

PCS

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Description

The PCS is a mechanically activated switch for monitoring the position of the valve plate. This device can be fitted to the Elektrogas aluminium valves series VMR, VML, VMM, VMH, EVRM-NA, EVRM-6NA, EVRM-NC, EVRM-6NC to check the closed position of the plate.

It can be fitted to the N.O. vent valve VMRNA to check the open position of the plate.

It can be also fitted to solenoid actuators (SR - SL - ST) to check the open/closed position of the butterfly valve (VF - VFH).

Features

PCS is available with working pressure 500mbar or 6bar.

An adapting rod is necessary to fit the switch to an Elektrogas valve or actuator. The switch is supplied with the rod already mounted, to make installation easier.

The switch can be rotated on 360° on rod axis.

Electrical connection with ISO4400 plug.

It is suitable for air and non-aggressive gases (families 1-2-3 EN437). Special versions are available for use with aggressive gases.

The compact, robust and functional design permits a simple and quick installation, and it is essentially maintenance free.

All components are designed to withstand mechanical, thermal and chemical stresses present in a typical installation.



The device can be provided in Ex-proof execution, for use in Zones 2 and 22, according to 2014/34/UE Directive (ATEX).

Switches are 100% tested for seal and functioning.



WARNING

This device shall be installed in accordance with the laws in force.

Functioning and application

The PCS is a mechanically activated switch for monitoring the position of the valve plate.

In a normally closed valve (Fig.2 shows a PCS installed in a VMR valve), when valve is not energized, plate is in contact with valve seat. Switch rod is pushed and the electric contact is switched in configuration 1-3.

When valve opens, plate leaves seat and frees the rod, so that contact switches in configuration 1-2, under the action of a return spring.

The EN 161 standard specifies that switch has to commute when plate is within 1 mm to its closed position, so PCS is a device to detect the closed status, not the completely open one.

Fig. 1 shows how contacts commute in a VMR valve.

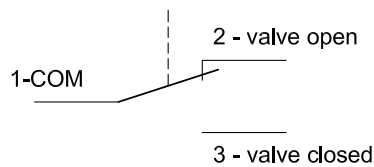


Fig. 1

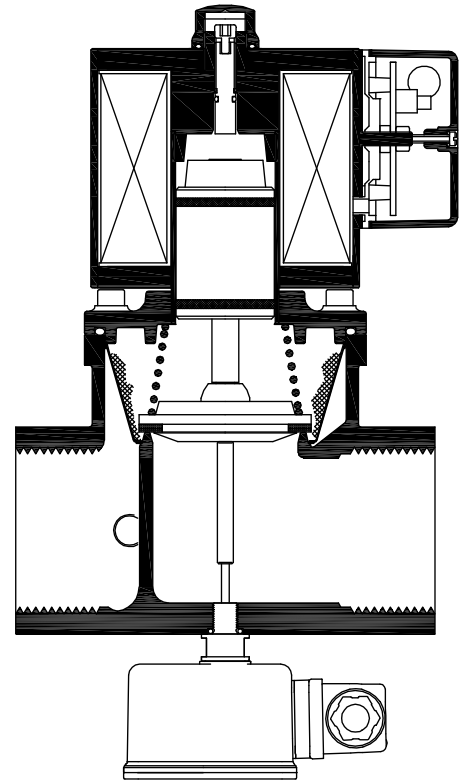


Fig. 2

Fig.3 show PCS mounted on a solenoid actuator. In this case minimum and maximum regulation are not present and the open position switch is possible only with SR type (fast opening-fast closing).

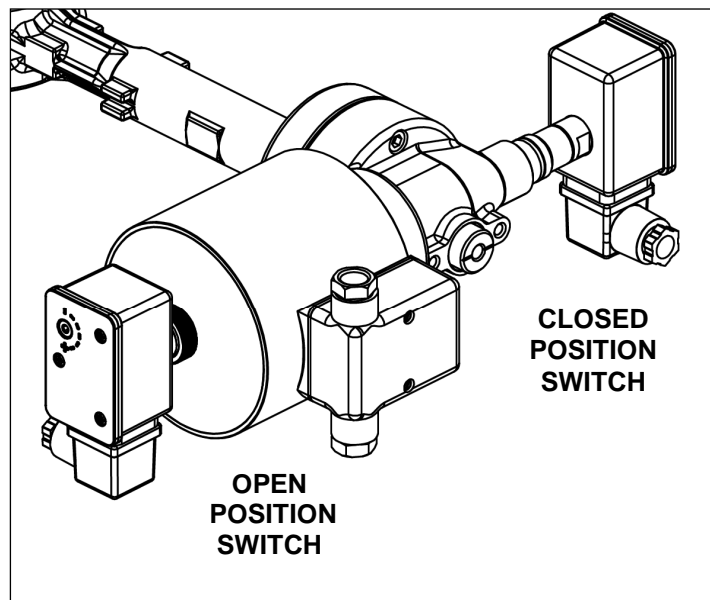


Fig. 3

In the normally open valve VMRNA, PCS is mounted over the stem. When valve is not energized, disc is open and the magnetic core pushes the switch rod, so electric contact is switched in configuration 1-3. When valve is energized, magnetic core pushes disc on seat and frees the PCS rod, so that contact switches in configuration 1-2.

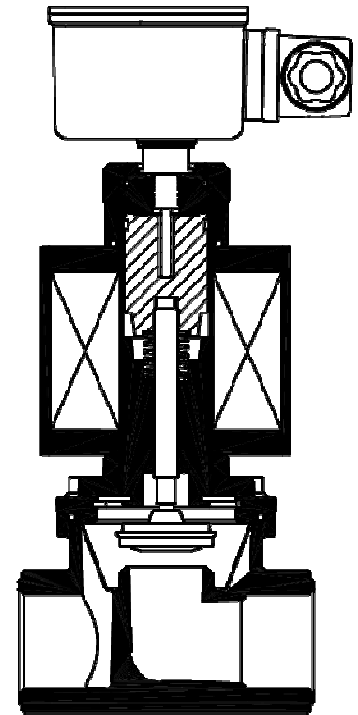


Fig. 4

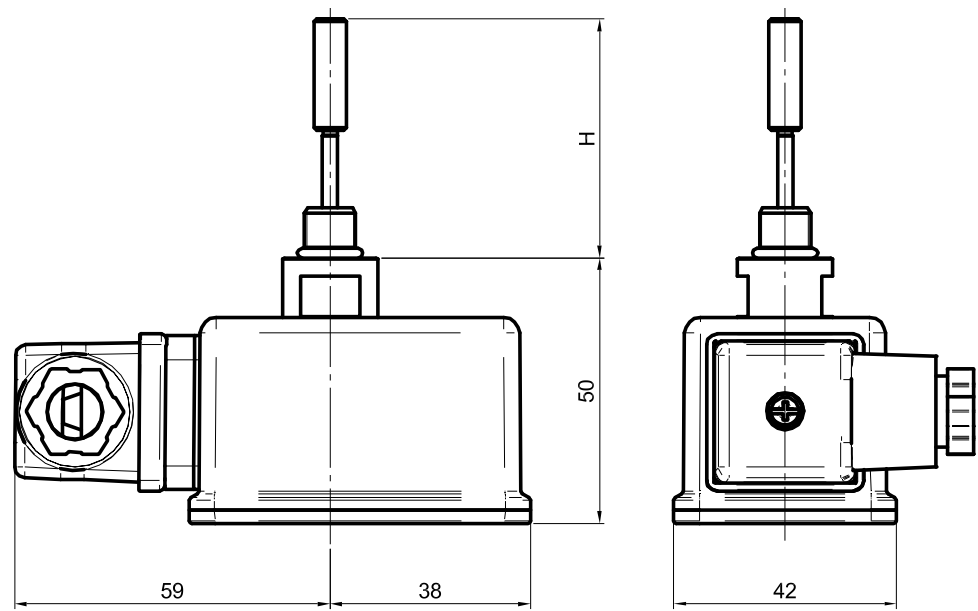
**WARNING**

Location and mode of installation must be in compliance with local rules in force.

Technical specifications

Tab. 1

Connection	G1/8 (ISO 228-1)	
Max operating pressure	500 mbar or 6 bar	
Max testing pressure	0.75 bar or 9 bar	
Environmental temperature	-15°C / +60°C	
Installation	See valve instruction sheet for the correct position	
Gas type	Air and non aggressive gases (fam. 1-2-3 EN 437) Special versions for aggressive gases	
Switching capacity (standard silver contact)	Resistive Load	Inductive Load/ Lamp
	250VAC 2A	250VAC 0.3A
	120VAC 3A	120VAC 0.5A
	30VDC 3A	30VDC 1A
Electrical connection	ISO 4400 plug with PG11 cable gland	
Enclosure	IP54 (EN 60529) (optional IP65)	
Weight	0,20 Kg 0,30 Kg (Ex-proof version)	
Materials in contact with media	Aluminum Brass NBR PTFE Stainless steel FPM	



H depending on which valve/actuator is to be mounted.

Fig. 5

Ordering information

Tab. 2

	-	PCS	6	.X
-	Pmax 500 mbar			
6	Pmax 6 bar			
PCS closed position indicator switch				
Rod type				
1	for VMR0/1	EVRMNA0/1	EVRMNC0/1	
3	“ VMR2/3	EVRMNA2/3	EVRMNC2/3	
4	“ VMR35/4	EVRMNA35/4	EVRMNC35/4	
6	“ VMR6	EVRMNA6	EVRMNC6	
8	“ VMR7/8	EVRMNA7/8	EVRMNC7/8	
9	“ VMR9	EVRMNA9	EVRMNC9	
95	“ VMR93/95	EVRMNA93/95	EVRMNC93/95	
98	“	EVRMNA98	EVRMNC98	
910	“	EVRMNA910	EVRMNC910	
912	“	EVRMNA912	EVRMNC912	
M3	“ VMM20/25			
M6	“ VMM32/40/50			
M8	“ VMM65/80			
HP	“ VMH (all models)			
RA	“ VMRNA (open position of N.O. valve)			
S	“ SR-L-T(closed position)			
S4	“ SR4 (open position)			
S8	“ SR8 (open position)			
Special versions				
J	Biogas and COG			
X	ATEX execution			
B	Gold alloy contacts			

Examples:

PCS9: closed position switch suitable for VMR9, EVRMNA9, EVRMNC9 (DN100)

6PCS9: closed position switch suitable for EVRM6NA9, EVRM6NC9 (6 bar - DN100)

Special versions

- Gold alloy contacts for very low applicable loads.
- The model for aggressive gases such as biogas and COG (J version) are free of non-ferrous metals and provided with special seals.
- The special execution for Atex environment is suitable for Zones 2 and 22, according to 2014/34/UE Directive (ATEX) and it is only IP65.

category	II 3 G,D
protection mode	Ex nR IIA T4 Gc X Ex tc IIIC T135°C Dc X

Standards and approvals

The product complies with the essential requirements of the following European Directives and their amendments:



2016/426/EU (Gas Appliances Regulation)
2014/34/EU (ATEX) when shown upon the product
2014/30/EU (Electromagnetic Compatibility)
2014/35/EU (Low Voltage Directive)
2011/65/EU (RoHS II)

CE-Reg.-No. 0063AQ1350

Quality Management System is certified according to UNI EN ISO 9001.



The information in this document contains general descriptions of technical options available and based on current specifications.

The company reserves the right to make changes in specifications and models as design improvements are introduced, without prior notice.

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