



PCS

**Proof of closure switch
for safety gas valves**

PCS

Proof of closure switch for safety gas valves

Contents

Description.....	3
Features.....	3
Functioning and application	4
Technical specifications	5
Ordering information	6
Standards and approvals	6
Installation, wiring and adjustment.....	7

Elektrogas® is a brand name of

ELETTROMECCANICA DELTA S.p.A.
Via Trieste, 132 - 31030 Arcade (TV) - Italy
Tel +39 0422 874068
Fax +39 0422 874048
delta-elektrogas.com
info@delta-elektrogas.com

ELETTROMECCANICA DELTA S.p.A. reserves the right to update or make any technical changes without prior notice.

Copyright © 2013 ELETTROMECCANICA DELTA S.p.A. all rights reserved

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, VMP
- EVRM-NA, EVRM-6NA
- EVRM-NC, EVRM-6NC

It can be also fitted to all the solenoid actuator (SR - SL - ST) to check the minimum position of the butterfly valve (VF - VFH).

Features

PCS is available with two working pressure: 500mbar and 6bar.

An adapting rod is necessary to fit the switch to an Elektrogas valve. 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.

Switches are 100% tested.



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.

When valve is closed, plate is in contact with valve seat. Switch rod is pushed and 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.

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

Fig. 1 shows how contacts commute.

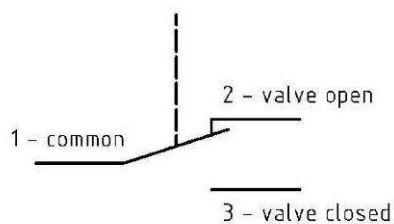


Fig. 1

Fig. 2 shows how a PCS works in a VMR valve.

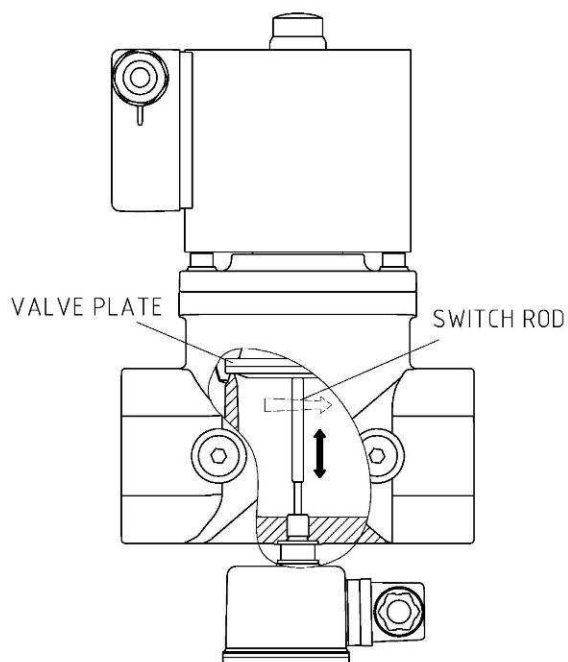


Fig. 2



WARNING

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

Technical specifications

Tab. 1

Connection	G 1/8 (ISO228)
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 EN437) Special versions for aggressive gases
Electrical loads	250V AC 2A
Electrical connection	ISO4400 plug with PG9 cable gland
Protection class	IP54 (EN60529)
Materials in contact with media	Aluminum Brass NBR PTFE Stainless steel (aggressive gases version) FPM (aggressive gases version)

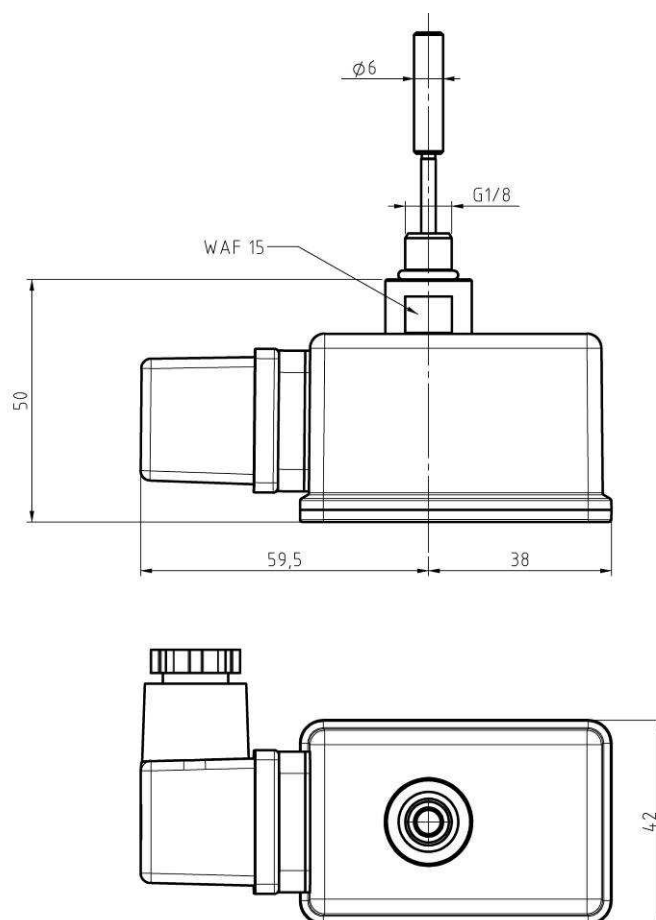


Fig. 3

Ordering information

Tab. 2

			-	PCS	6	-
-						Pmax 500mbar
6						Pmax 6bar
PCS proof of closure switch						
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				
HP	"	VMH/VMP	(all models)			
S	"	SR/SL/ST				
-						for air and non aggressive gases (standard)
K						for bio and coke gas

Examples:

PCS.9: closed position switch suitable for VMR9, EVRMNA9, EVRMNC9 (DN100)

6PCS.9: closed position switch suitable for EVRM6NA9, EVRM6NC9 (6 bar - DN100)

Standards and approvals

PCS switches comply with current European regulation regarding gaseous fuels, pressure equipments and electrical items.

These products conform with the Gas Appliances Directive (2009/142/CE – ex 90/396/CE) and the certification has been issued by the notified body:



GASTEC CERTIFICATION B.V.
Wilmersdorf, 50
NL-7323 AC Apeldoorn

CE Reg.-No 0063AQ1350



The following standards/technical specifications have been fulfilled:

- Electromagnetic Compatibility (2004/108/EC)
- Low Voltage Directive (2006/95/EC)

The quality management System is certified according to UNI EN ISO 9001 certification, issued by the notified body:

Kiwa Gastec Italia SpA
Via Treviso, 32/34
I - 31020 San Vendemiano (TV)



Installation, wiring and adjustment



WARNING

Shut off gas and disconnect power before attempting any work on the system

INSTALLATION (qualified personnel only)

IMPORTANT: before proceeding with the installation, ensure that all the features of your system comply with the specifications of the switch (media type, operating pressure, temperature range, etc.). Ensure also that valve is properly installed, especially free of vibration.

Check the integrity of the PCS before fitting. It may be unsafe, if externally damaged.

The valves must be provided with a G1/8 threaded hole, to allow the switch assembly. This hole is generally on the bottom.

Remove the 1/8" plug from valve / actuator.

Introduce the rod inside the hole and screw the microswitch with O-ring. Tighten using open-ended spanner WAF15, avoiding overtightening (Torque <math>< 5\text{Nm}</math>). Do not use unit as lever.



Perform a leak test

Use a screwdriver to remove the connector and connect the wires to the terminals, respecting the symbols indicated.

During reassembly use properly the cable gland.

Adjust the switching point with a 3mm Allen wrench. Rotate the setting screw to + until the switch commute (Fig. 1, contact 1-3), then rotate another half-turn.



Perform a complete functional test opening and closing the valve.

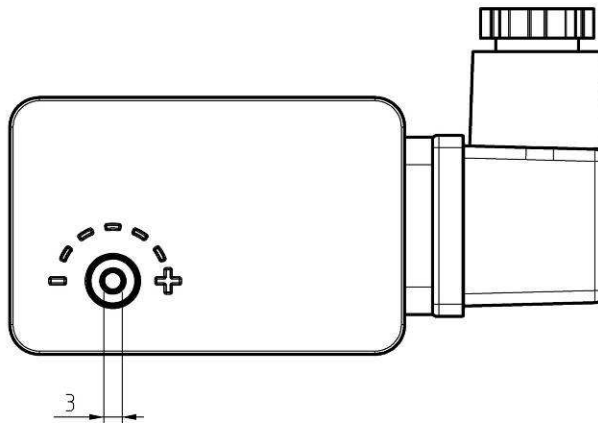


Fig. 4



WARNING

To maintain a good performance of the system, an external inspection is recommended once a year (twice if used with bio or aggressive gas).

Due to seals aging, to ensure safe operation, we recommend switch replacement after 10 years from the date of manufacture stamped on the product.

To prevent product damage and dangerous situations, read the Installation and Service Instructions carefully.

Make sure installation and maintenance are performed by qualified technicians only and in compliance with local and national codes.