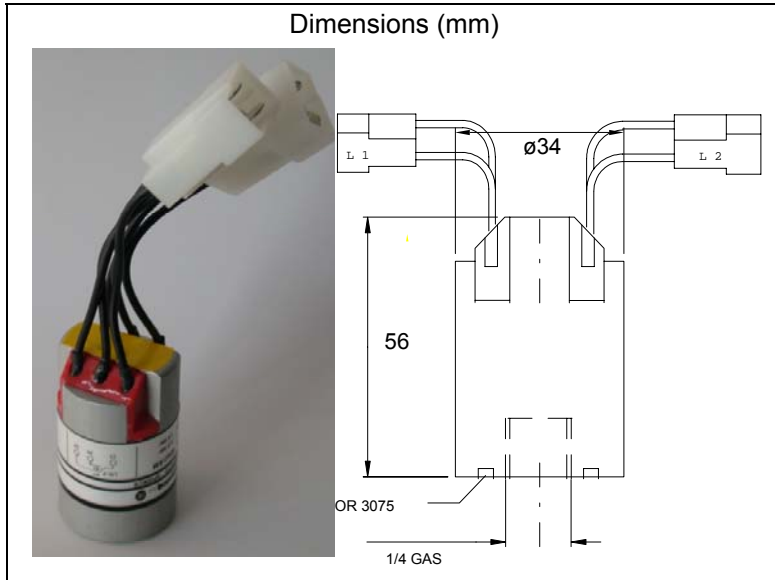


LEAK DETECTORS

SP2002 28/08/03



Security actuator for checking of fluid leak.

It is possible to use two different switching levels to operate a double protection: an alarm signal, a lock signal. Normally used as leak detector on SF6 Medium Voltage Breakers.

CONSTRUCTION DETAILS

All parts of the containment system (i.e. those in contact with the fluid being monitored) are made of stainless steel, in order to guarantee compatibility even with highly reactive chemicals.

The multiple-bellows system permits wide movement without going beyond the elastic limit; this results in insensitivity to overpressure transients and thus repeatability of the pre-set pressure thresholds.

Springs used in the pressure switch are of stainless steel for total protection, even in the most corrosive external conditions.

All moving parts are enclosed in a dustproof housing, minimizing the risks of failure.

An automatic cut-off valve, made to the same dimensions as the pressure switch, makes it possible to install and remove pressure switches without contacting and leaking the fluid being monitored.

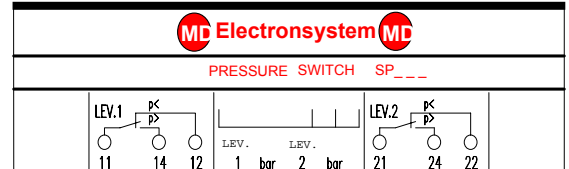
The same valve also allows the container being monitored to be filled or emptied, without the need of other devices and openings.

The external form of the pressure switch allows counter-sunk mounting.

The terminals are connected by faston 2,8 x 0,5 or pre-set cables (faston 6,3x0,5 in AMP plastic housing as cable terminal).

SP

- Two points pressure controller
- Increasing or Decreasing pressure
- Factory calibration
- Gas in contact with stainless steel
- Any mounting position
- Faston 6,3 x 0,5 (on cables) or 2.8 x 0,5
- Automatic cut-off valve (patented)
- Connections:



Mechanical and physical characteristics

Calibration range 0,4 - 8 bar
 Maximum pressure transient amplitude30 bar*
 Mechanical protection of active components.....IP 54
 Operating temperature range..... -40° + 85° C*
 Maximum leakage rate.....1 x 10-9 mbar lt/sec
 Switching level tolerance...< ±10% of calibration value *
 Switching differential.....0,05 - 0,25 bar
 Compatibility with corrosive fluids (particularly SF6 and its derivatives)

*Versions with customized features can be provided

Microswitch characteristics

Minimum time to failure of microswitch10 MIO
 Switching capability (CEE 24)5 A 250 V

Voltage,V dc	Inductive load DC14	Resistive load DC12
24	6 A	10 A
48	1,5 A	2 A
110/127	0,4 A	0,6 A
220/250	0,2 A	0,4 A

Voltage,V ac	Inductive load AC14	Resistive load AC12
48	1,5 A	12 A
110/127	0,6 A	10 A
220/250	0,3 A	10 A
320/440	0,2 A	8 A

Approvals: ASE, CSA, SEMKO,UL, UTE, VDE. IMQ, KEMA, BS

Electrical insulation characteristics

Isolation level to ground.....3 kV 50 Hz x 1'
 Isolation level between contacts.....1 kV 50 Hz x 1'

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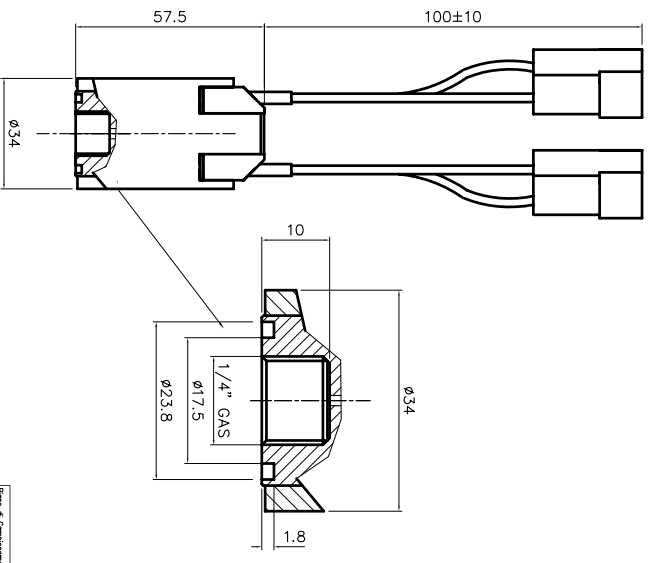
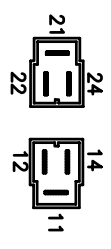


Foto e Componente (UNI 4842-75)	
LIVELLO	L04
L2	1

Rev./Mod	Data	Descrizione:	Rev./Mod	Data	Descrizione:	Rev./Mod	Data	Descrizione:	Rev./Mod	Data	Descrizione:	Rev./Mod	Data	Descrizione:
Fig.		Materiali/Materie		N° Serie / Serie		Finishing / Finitura								
Filling Room		Thru-d quality, tolerance		General tolerance for machining / Tolleranze generali per lavorazioni meccaniche:										
Archivio		Tolleranza toller. qualità		Coord. partec. a C.N.										
		79-85 UNI 5841-85		5S11										
Prep. MATERIA		Uff. Tecnico		Title										
App. PRESSURE		Uff. Resp.		Tipo										
Rev./Mod		0 10.08.2001 : Emisione nuovo disegno		Apparatus										
				Apparatus										
				N° Doc.										
				43900282										
				Scale										
				1:1										
				SP										
				2/2										

Rev./Mod	Data	Descrizione:	Rev./Mod	Data	Descrizione:	Rev./Mod	Data	Descrizione:	Rev./Mod	Data	Descrizione:	Rev./Mod	Data	Descrizione:
Fig.		Materiali/Materie		N° Serie / Serie		Finishing / Finitura								
Filling Room		Thru-d quality, tolerance		General tolerance for machining / Tolleranze generali per lavorazioni meccaniche:										
Archivio		Tolleranza toller. qualità		Coord. partec. a C.N.										
		79-85 UNI 5841-85		5S11										
Prep. MATERIA		Uff. Tecnico		Title										
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1.2 DESIGNATION: PRESSURE SWITCH SP2XXC6 (XX=See table A)

2 TECHNICAL DATA

- 2.1 MECHANICAL DATA
 - 2.1.1 Sensor materiali: ANSI 316
 - 2.1.2 Housing materiali: Aluminium anticorrosion anodised
 - 2.1.3 Protection class: IP42
 - 2.1.4 Leak rate: <1X10⁻⁹ mbarl/sec
 - 2.1.5 Vibration: 50g (xyz)
 - 2.1.6 Temperature range: +70°C...-25°C
 - 2.1.7 Contacts Accuracy: See table A
 - 2.1.8 Switching difference: 0.04-0.3 bar rel;

- 2.2 ELECTRICAL DATA
 - 2.2.1 Type of contact: Micro switch
 - 2.2.2 Contact material: Pure silver
 - 2.2.3 Insulation level between contacts and casing: 1 kV x 50 Hz x 1" and 2.2.4 Insulation level between contacts and casing: 2.5 kV x 50 Hz x 1" and 2.2.5 Rated voltage/current: 1A/220V/50Hz
 - 2.2.6 Terminal cable with faston AMP 6.3x0.8

TABLE A - VALUE IN RELATIVE PRESSURE (bar)

CODE MD	SETTING L1	SETTING L2	COLOR
SP201C6	0.7±0.2	0.4±0.2	RED
SP206C6	2±0.2	1.6±0.2	YELLOW
SP210C6	3±0.2	2.4±0.2	GREEN
SP202C6	1.2±0.2	0.7±0.2	YELLOW

ELECTRICAL DIAGRAM (CONTACTS WITHOUT PRESSURE)

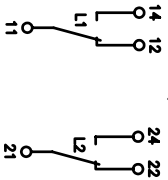


Foto e Componente (UNI 4842-75)	
LIVELLO	L04
L2	1

Rev./Mod	Data	Descrizione:	Rev./Mod	Data	Descrizione:	Rev./Mod	Data	Descrizione:	Rev./Mod	Data	Descrizione:	Rev./Mod	Data	Descrizione:
Fig.		Materiali/Materie		N° Serie / Serie		Finishing / Finitura								
Filling Room		Thru-d quality, tolerance		General tolerance for machining / Tolleranze generali per lavorazioni meccaniche:										
Archivio		Tolleranza toller. qualità		Coord. partec. a C.N.										
		79-85 UNI 5841-85		5S11										
Prep. MATERIA		Uff. Tecnico		Title										
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Rev./Mod		0 10.08.2001 : Emisione nuovo disegno		Apparatus										
				Apparatus										
				N° Doc.										
				43900282										
				Scale										
				1:1										
				SP										
				2/2										

CODICI PRODOTTO E TARATURE SERIE SP

RIF. TABELLA MATERIALI	CODICE	SPEC. CLIENTE / STANDARDI	COLORE	CODICE CLIENTE	TARATURA (S= Taratura in solita)					
					TARATURA	TOLLERANZA	SENSIBILITA'	TARATURA	TOLLERANZA	SENSIBILITA'
43900282/807 SP201C6	STANDARD		ROSSO		0.7	+0.2	0.04-0.30	0.4	+0.2	0.04-0.30
43900282/805 SP201C6			ROSSO		0.7	+0.2	0.04-0.30	0.4	+0.2	0.04-0.30
43900282/805 SP202C6			GIALLO		1.2	+0.2	0.04-0.30	0.7	+0.2	0.04-0.30
43900282/805 SP203C6			VERDE		3	+0.2	0.04-0.30	2.7	+0.2	0.04-0.30
43900282/805 SP204C6			BLU		4	+0.25	0.04-0.30	3.7	+0.25	0.04-0.30
43900282/807 SP205C6			ARANCIO		1.2	+0.2	0.04-0.30	0.9	+0.2	0.04-0.30
43900282/807 SP206C6			GIALLO	30083	2	+0.2	0.04-0.30	1.6	+0.2	0.04-0.30
43900282/807 SP207C6			BIANCO		0.8	+0.2	0.04-0.30	0.5	+0.2	0.04-0.30
43900282/807 SP208C6			AZZURRO		1.5	+0.2	0.04-0.30	1	+0.2	0.04-0.30
43900282/807 SP209C6			GRIGIO	16650	1.8	+0.2	0.04-0.30	1.5	+0.2	0.04-0.30
43900282/807 SP210C6			VERDE		3.0	+0.2	0.04-0.30	2.4	+0.2	0.04-0.30
43900282/807 SP211C6			BIANCO	16644	4.4	+0.25	0.04-0.30	4	+0.25	0.04-0.30
43900282/807 SP214C6			GRIGIO		2	+0.2	0.04-0.30	1.2	+0.2	0.04-0.30
43900282/807 SP215C6					2	+0.2	0.04-0.30	1.2	+0.2	0.04-0.30
43900282/807 SP216C6			AZZURRO		2	+0.2	0.04-0.30	1.4	+0.2	0.04-0.30
43900282/807 SP218C6			STANDARD		3.3	+0.2	0.04-0.30	3	+0.2	0.04-0.30
43900282/807 SP219C6			STANDARD		5.3	+0.25	0.04-0.30	5	+0.25	0.04-0.30
43900282/807 SP220C6			STANDARD		2.5	+0.2	0.04-0.30	2	+0.2	0.04-0.30
43900282/805 SP221C6			GRIGIO		2.1	+0.2	0.04-0.30	1.8	+0.2	0.04-0.30
43900282/805 SP222C6			VERDE		2.8	+0.2	0.04-0.30	2.5	+0.2	0.04-0.30
43900282/808 SP223C6			GIALLO		3.8	+0.2	0.04-0.30	3.5	+0.2	0.04-0.30
43900282/806 SP224C6			GRIGIO		2.1	+0.2	0.04-0.30	1.8	+0.2	0.04-0.30
43900282/806 SP225C6			VERDE		16655					
43900282/806 SP226C6			GIALLO		16654					
43900282/806 SP227C6			GRIGIO		16653					
43900282/806 SP228C6			ROSSO		16653					
43900282/806 SP229C6			ROSSO		3	+0.2	0.04-0.30	2.5	+0.2	0.04-0.30
43900282/806 SP230C6			ROSSO		1.8	+0.1	0.04-0.30	1.5	+0.1	0.04-0.30
43900282/806 SP2M09C6					0.3895701902			0.5	+0.1	0.04-0.30
43900282/806 SP2M08C6					0.3895701904			1	+0.1	0.04-0.30
43900282/806 SP2M07C6					0.3895701905			0.5	+0.1	0.04-0.30
43900282/806 SP2M18C6					0.3895701906			0.5	+0.1	0.04-0.30
43900282/806 SP2M20C6					0.3895701907			0.4	+0.2	0.04-0.30
43900200/802 SP201SF			ROSSO		0.7	+0.2	0.04-0.30	0.4	+0.2	0.04-0.30
43900200/802 SP202SF			GIALLO		1.2	+0.2	0.04-0.30	0.7	+0.2	0.04-0.30
43900282/806 SP2M21C6					5463903605-J			1.0	0 / +0.2	0.04-0.30
43900282/806 SP2M22C6			VERDE		2.2	+0.2	0.04-0.30	3.2	+0.2	0.04-0.30
43900282/807 SP224C6			STANDARD		2.8	+0.15	0.04-0.40	1.7	+0.2	0.04-0.30
43900282/807 SP225C6			STANDARD		4	+0.2	0.04-0.30	3.4	+0.2	0.04-0.30
43900282/807 SP226C6			STANDARD		0.7	+0.2	0.04-0.30	0.7	+0.2	0.04-0.30
43900282/807 SP227C6			STANDARD		3.8	+0.2	0.04-0.30	3.5	+0.2	0.04-0.30
43900282/807 SP228C6			ROSSO		0.7	0 / +0.2	0.04-0.30	0.4	0 / +0.2	0.04-0.30
43900282/807 SP229C6			GIALLO		1.2	0 / +0.2	0.04-0.30	0.7	0 / +0.2	0.04-0.30
43900282/807 SP230C6			GIALLO		1.3	0 / +0.2	0.04-0.30	1.0	0 / +0.2	0.04-0.30

Rev./Mod Descrizione:	Data	Rev./Mod Descrizione:	Data	Rev./Mod Descrizione:	Data	Rev./Mod Descrizione:	Data	Rev./Mod Descrizione:	Data

Fig. _____ **Material/Materiale** _____ **N° Series / Serie** _____ **Finishing / Finitura** _____
Filing Room _____ **General tolerance for machining / Tolleranze generali per lavorazioni meccaniche:** _____
Archivio _____ **Thread quality tolerance** _____ **Coord.Punching N.C. mach.** _____
 Tolleranza filetti qualità _____ **Coord. punzon. a C.N.** _____
 6g-6S UNI 5541-65 _____ **JS11** _____
Prep. M.BOSISIO _____ **Resp. Dep. Uff. Tecnico** _____
Dis. _____ **Uff. Resp.** _____
App. P. CIBOLDI _____
Rev./Mod. _____ **01.10.2003 : Emissione nuovo disegno** _____
ELECTRONSYSTEM MD S.r.l. _____ **Apparatus** _____
 Doc. No. _____ **43900282/T** _____ **Apparecchio** _____
 Doc. _____ **1:1** _____ **Scale** _____
 _____ **1/2** _____ **Sh. No.** _____
 _____ **1/2** _____ **Lang. Lingua** _____

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 L2 1

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