

Electromechanical pressure switches

OsiSense XM

For power circuits, types FTG, FSG and FYG



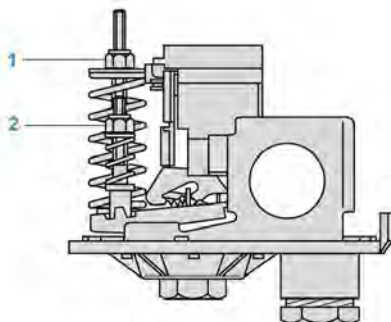
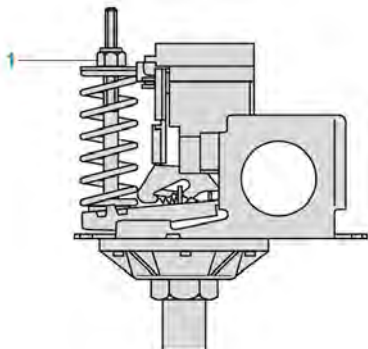
SC FSG 2 MX



SC FYG 22 MX



SC FYG 32 MX



Presentation

Pressure switches types FTG, FSG and FYG are switches for power circuits. They are used to control the pressure of water, up to 10.5 bar.

2 types of product are available:

- pressure switches type FTG with fixed differential, for detection of a single threshold,
- pressure switches type FSG and FYG with an adjustable differential, for regulation between 2 thresholds.

For specific needs, these 2 types of product can be supplied in IP 65 versions, thus ensuring a higher degree of protection. They feature 2 cable entries, fitted with cable gland, and are referenced **F•G •NE**.

Setting

Pressure switches with fixed differential (type FTG)

Only the switching point on rising pressure is adjustable.

Switching point on rising pressure

The switching point on rising pressure (PH) is set by adjusting screw-nut **1**.

Switching point on falling pressure

The switching point on falling pressure (PB) is not adjustable.

The difference between the tripping and resetting points of the contact is the natural differential of the switch (contact differential, friction, etc.).

Pressure switches with adjustable differential (types FSG and FYG)

When setting the pressure switch, adjust the switching point on rising pressure (PH) first and then the switching point on falling pressure (PB).

Switching point on rising pressure

The switching point on rising pressure (PH) is set by adjusting screw-nut **1**.

Switching point on falling pressure

The switching point on falling pressure (PB) is set by adjusting screw-nut **2**.

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Characteristics

Environmental characteristics					
Pressure switch type		FTG ● FTG ●NE	FSG ● and FYG ● FSG ●NE and FYG ●NE		
Conformity to standards		CE, IEC/EN 60730			
Protective treatment		Standard version: "TC"			
Ambient air temperature	°C	For operation: 0...+45. For storage: -30...+80			
Fluids controlled		Fresh water, sea water (0...+70 °C)			
Materials		Case: polystyrene, resistant to mechanical impact Component materials in contact with fluid: nylon 6/6, zinc plated steel, nitrile			
Operating position		All positions			
Electric shock protection		Class I conforming to IEC 536			
Degree of protection conforming to IEC/EN 60529		FTG ●, FSG ● and FYG ●	IP 20		
		FTG ●NE, FSG ●NE and FYG ●NE	IP 65		
Operating rate	Op. cycles/h	600			
Repeat accuracy		< 2 %			
Fluid connection	F●G 2, FYG ●2	G 1/4 (BSP female) conforming to NF E 03-005, ISO 228			
	F●G 9	R 1/4 (BSP male) conforming to NF E 03-004, ISO 7			
Electrical connection	FTG ●, FSG ● and FYG ●	Terminals. 2 cable entries, with grommet			
	FTG ●NE, FSG ●NE and FYG ●NE	Terminals. 2 entries incorporating n° 13 plastic cable gland (DIN Pg 13.5)			
Contact block characteristics					
Rated operational characteristics		I _e = 10 A, U _e = ~ 250 V conforming to EN 60730-1			
Power ratings of controlled motors	Voltage	~ 2-pole 1-phase	~ 2-pole 3-phase	~ 2-pole 1-phase	~ 2-pole 3-phase
	110 V	0.75 kW (1 HP)	1.1 kW (1.5 HP)	0.75 kW (1 HP)	1.1 kW (1.5 HP)
	230 V	1.1 kW (1.5 HP)	1.5 kW (2 HP)	1.5 kW (2 HP)	2.2 kW (3 HP)
	400 V	1.5 kW (2 HP)	1.5 kW (2 HP)	1.5 kW (2 HP)	2.2 kW (3 HP)
Rated insulation voltage conforming to IEC/EN 60947-1	V	U _i = 500			
Rated impulse withstand voltage conforming to IEC/EN 60947-1	kV	U _{imp} = 6			
Type of contacts		1 2-pole 2 NC (4 terminal) contact, snap action			
Short-circuit protection		20 A cartridge fuse type gG			
Connection		Screw clamp terminals. Clamping capacity, min: 1 x 1 mm ² , max: 2 x 2 mm ²			
Electrical durability at an operating rate of 600 operating cycles/hour	Op. cycles	40 000			100 000

References, characteristics

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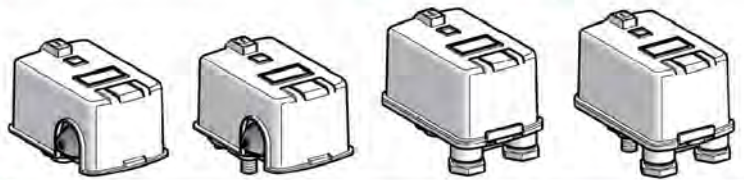
For power circuits, type FSG

Size 0-6 Bar adjustable differential, for regulation

between 2 thresholds. Switches with 2-pole 2 NC contact.

Degree protection IP 20 or IP 65

Fluid connection	G 1/4 (BSP female)	R 1/4 (BSP male)	G 1/4 (BSP female)	R 1/4 (BSP male)
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Adjustable range of switching point (PH) (Rising pressure)	0-6 Bar			
Degree of protection conforming to IEC/EN 60529	IP 20		IP 65	

References

Fluids controlled	Fresh water, sea water, from 0 °C to + 70 °C (1)	FSG 2	FSG 9	FSG 2NE (2)	FSG 9NE
Weight (kg)	0.340				

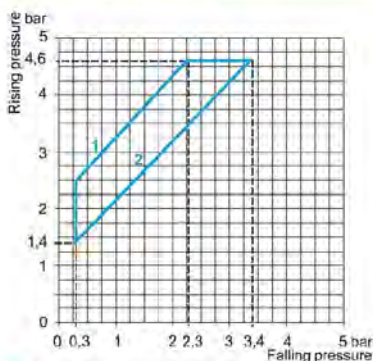
Complementary characteristics not shown under general characteristics (page 30380-EN/3)

Possible differential (subtract from PH to give PB)	Max. at low setting	2.1 bar (30.45 psi)
	Max. at middle setting	2.2 bar (31.9 psi)
	Max. at high setting	2.3 bar (33.35 psi)
	Min. at low setting	1 bar (14.5 psi)
	Min. at middle setting	1.1 bar (15.95 psi)
	Min. at high setting	1.2 bar (17.4 psi)
Maximum permissible pressure	Per cycle	5.75 bar (83.38 psi)
	Accidental	8 bar (116 psi)
Destruction pressure	20 bar (290 psi)	
Mechanical life	1 x 10 ⁶ operating cycles	
Cable entry	2 cable entries, with grommet	2 entries with n° 13 plastic cable gland (DIN Pg 13.5)
Clamping capacity	9 to 13 mm	
Pressure switch type	Diaphragm	

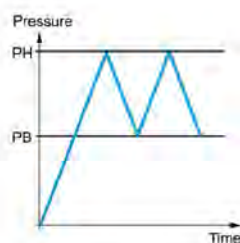
(1) Component materials of units in contact with the fluid, see page 30380-EN/3.

(2) Variant, for a G 3/8 female fluid entry that pivots throughout 360°, select the **FSG 2NEG**.

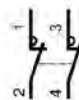
Operating curves



- 1 Maximum differential
- 2 Minimum differential



— Adjustable value



Connections