

Electromechanical pressure switches

OsiSense XM

For control circuits, OsiSense XM and XMA

Presentation

Pressure switches OsiSense XM and XMA are switches for control circuits, with an adjustable differential.

They are used to control the pressure of water and air, up to 25 bar.

Equipment fitted to the various models

Location of setting screw

Pressure switches OsiSense XM have an internal setting screw that is only accessible after removing the cover.

Pressure switches OsiSense XMA have an external setting screw that is accessible without removing the cover.

Case

Pressure switches OsiSense XM have a black opaque case.

Pressure switches OsiSense XMA can have a transparent case or a black opaque case.

Setting

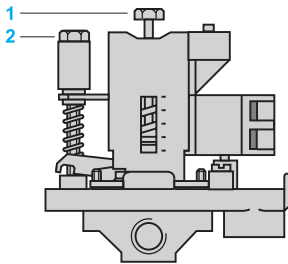
When setting pressure switches XM or XMA, adjust the switching point on rising pressure (PH) first and then the switching point on falling pressure (PB).

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**.



Environment characteristics		
Conformity to standards		CE, IEC/EN 60947-5-1
Product certifications		UL, CSA, CCC, EAC
Protective treatment		"TC"
Ambient air temperature	For operation	°C - 25...+ 70 for 6 and 25 bar versions - 25...+ 55 for 12 bar version
	For storage	- 40...+ 70
Fluids controlled	°C	Air, fresh water, sea water: 0...+ 70°C for 6 and 25 bar versions 0...+ 55°C for 12 bar version
Materials		Case: polycarbonate impregnated with Lexan 500R fibreglass (black opaque cover) or polycarbonate impregnated with Lexan 123 fibreglass (transparent cover) Component materials in contact with fluid: chromated zinc alloy (fluid entry), canvas covered nitrile (diaphragm)
Operating position		All positions
Electric shock protection		Class I conforming to IEC 536
Degree of protection		IP 54 conforming to IEC/EN 60529
Operating rate	Op. cycles/h	600
Repeat accuracy		< 3.5%
Fluid connection		G 1/4 or 4 x G 1/4 (BSP female) conforming to NF E 03-005, ISO 228
Electrical connection		Terminals 2 tapped entries for n° 13 (DIN Pg 13.5) cable gland
Contact block characteristics		
Rated operational characteristics		~ AC-15, B300 (U _e = 240 V, I _e = 1.5 A; U _e = 120 V, I _e = 3 A) ⋯ DC-13, R300 (U _e = 250 V, I _e = 0.1 A)
Rated insulation voltage	V	U _i = 500 conforming to IEC/EN 60947-1
Rated impulse withstand voltage	kV	U _{imp} = 6 conforming to IEC/EN 60947-1
Type of contacts		1 CO single-pole contact, snap action
Terminal referencing		Conforming to CENELEC EN 50013
Short-circuit protection		10 A cartridge fuse type gG (gl)
Connection		Screw clamp terminals Minimum clamping capacity: 1 x 1 mm ² Maximum clamping capacity: 2 x 2.5 mm ²
Electrical durability		AC supply 50/60Hz, I _{th} = 10 A Inductive circuit, utilisation category AC-15, 3 A/240 V: 1 million operating cycles

Electromechanical pressure switches

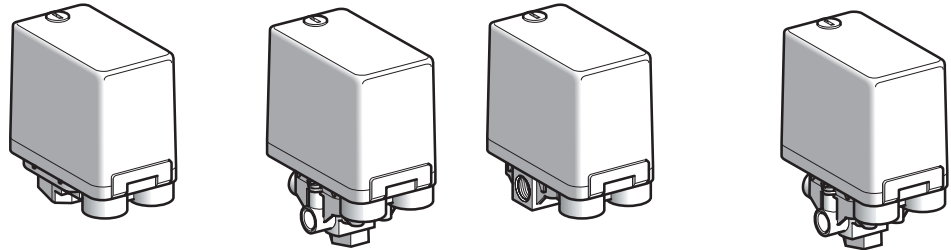
OsiSense XMX for control circuits

Sizes 6 to 25 bar (87 to 362.5 psi)

Adjustable differential, for regulation between 2 thresholds

Switches with 1 CO single-pole contact

Pressure switches OsiSense XMX (internal setting screw)



Adjustable range of switching point (PH) (Rising pressure)	1...6 bar (14.5...87 psi)	1.3...12 bar (18.85...174 psi)	3.5...25 bar (50.75...362.5 psi)	1...6 bar (14.5...87 psi)	1.3...12 bar (18.85...174 psi)	3.5...25 bar (50.75...362.5 psi)
Fluid connection	G 1/4 (female)			4 x G 1/4 (female)		

References

Switches with black opaque cover

Fluids controlled	Air, fresh water, sea water (1)	XMXA06L2135	XMXA12L2135	XMXA25L2135	XMXA06L2435	XMXA12L2435	XMXA25L2435
Weight (kg)		0.430		0.650	0.430		0.650

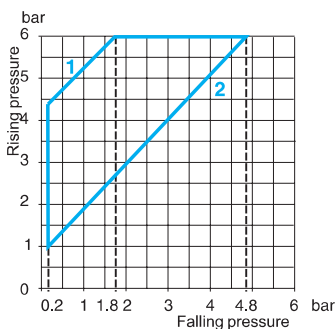
Complementary characteristics not shown under general characteristics (page 83)

Possible differential (subtract from PH to give PB)	Min. at low setting	0.8 bar (11.6 psi)	1 bar (14.5 psi)	3.4 bar (49.3 psi)	0.8 bar (11.6 psi)	1 bar (14.5 psi)	3.4 bar (49.3 psi)
	Min. at high setting	1.2 bar (17.4 psi)	1.7 bar (24.6 psi)	4.5 bar (65.2 psi)	1.2 bar (17.4 psi)	1.7 bar (24.6 psi)	4.5 bar (65.2 psi)
	Max. at high setting	4.2 bar (60.9 psi)	8.4 bar (121.8 psi)	20 bar (290 psi)	4.2 bar (60.9 psi)	8.4 bar (121.8 psi)	20 bar (290 psi)
Maximum permissible pressure	Per cycle	7.5 bar (108.7 psi)	15 bar (217.5 psi)	31.25 bar (453.1 psi)	7.5 bar (108.7 psi)	15 bar (217.5 psi)	31.25 bar (453.1 psi)
	Accidental	13.5 bar (195.7 psi)	27 bar (391.5 psi)	56.25 bar (815.6 psi)	13.5 bar (195.7 psi)	27 bar (391.5 psi)	56.25 bar (815.6 psi)
Destruction pressure	30 bar (435 psi)		100 bar (1450 psi)	30 bar (435 psi)		100 bar (1450 psi)	
Mechanical life	1 x 10 ⁶ operating cycles						
Cable entry	2 entries tapped for n° 13 cable gland, conforming to NF C 68-300 (DIN Pg 13.5)						
Pressure switch type	Diaphragm						

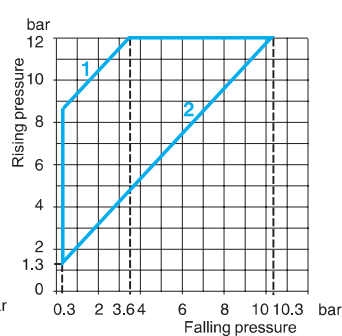
(1) Component materials of units in contact with the fluid, see page 83.

Operating curves

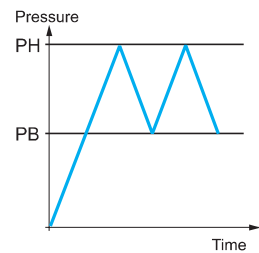
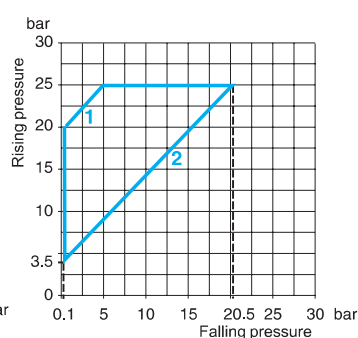
XMXA06.....



XMXA12.....



XMXA25.....



— Adjustable value

- 1 Maximum differential
- 2 Minimum differential

- 1 Maximum differential
- 2 Minimum differential

- 1 Maximum differential
- 2 Minimum differential

Connections



Other versions

Pressure switches with alternative tapped cable entries: ISO, NPT, etc. Please consult our Customer Care Centre.

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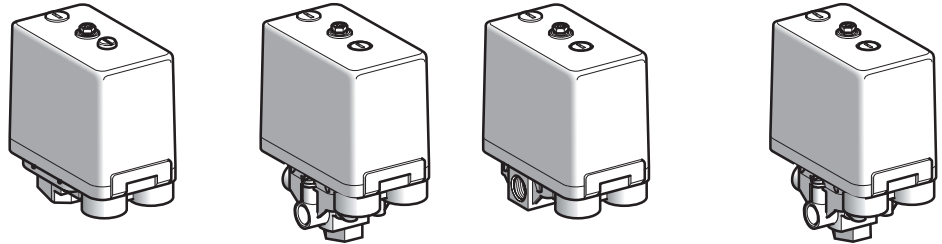
OsiSense XMA for control circuits

Sizes 6 to 25 bar (87 to 362.5 psi)

Adjustable differential, for regulation between 2 thresholds

Switches with 1 CO single-pole contact

Pressure switches OsiSense XMA (external setting screw)



Adjustable range of switching point (PH) (Rising pressure)	1...6 bar (14.5...87 psi)	1.3...12 bar (18.85...174 psi)	3.5...25 bar (50.75...362.5 psi)	1...6 bar (14.5...87 psi)	1.3...12 bar (18.85...174 psi)	3.5...25 bar (50.75...362.5 psi)
Fluid connection	G 1/4 (female)			4 x G 1/4 (female)		

References

Switches with black opaque cover

Fluids controlled	Air, fresh water, sea water (1)	XMAH06L2135	XMAH12L2135	XMAH25L2135	XMAH06L2435	XMAH12L2435	XMAH25L2435
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Switches with transparent cover

Fluids controlled	Air, fresh water, sea water (1)	XMAV06L2135	XMAV12L2135	XMAV25L2135	XMAV06L2435	XMAV12L2435	XMAV25L2435
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Weight (kg)	0.430	0.650	0.430	0.650
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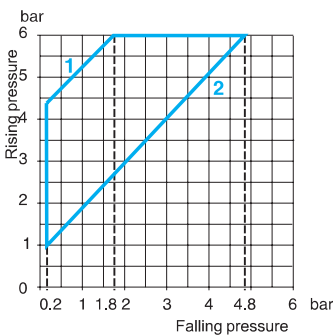
Complementary characteristics not shown under general characteristics (page 83)

Possible differential (subtract from PH to give PB)	Min. at low setting	0.8 bar (11.6 psi)	1 bar (14.5 psi)	3.4 bar (49.3 psi)	0.8 bar (11.6 psi)	1 bar (14.5 psi)	3.4 bar (49.3 psi)
	Min. at high setting	1.2 bar (17.4 psi)	1.7 bar (24.6 psi)	4.5 bar (65.2 psi)	1.2 bar (17.4 psi)	1.7 bar (24.6 psi)	4.5 bar (65.2 psi)
	Max. at high setting	4.2 bar (60.9 psi)	8.4 bar (121.8 psi)	20 bar (290 psi)	4.2 bar (60.9 psi)	8.4 bar (121.8 psi)	20 bar (290 psi)
Maximum permissible pressure	Per cycle	7.5 bar (108.7 psi)	15 bar (217.5 psi)	31.25 bar (453.1 psi)	7.5 bar (108.7 psi)	15 bar (217.5 psi)	31.25 bar (453.1 psi)
	Accidental	13.5 bar (195.7 psi)	27 bar (391.5 psi)	56.25 bar (815.6 psi)	13.5 bar (195.7 psi)	27 bar (391.5 psi)	56.25 bar (815.6 psi)
Destruction pressure		30 bar (435 psi)		100 bar (1450 psi)	30 bar (435 psi)		100 bar (1450 psi)
Mechanical life		1 x 10 ⁶ operating cycles					
Cable entry		2 entries tapped for n° 13 cable gland, conforming to NF C 68-300 (DIN Pg 13.5)					
Pressure switch type		Diaphragm					

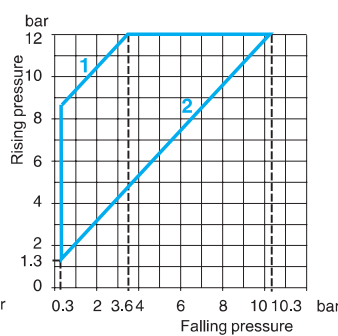
(1) Component materials of units in contact with the fluid, see page 83.

Operating curves

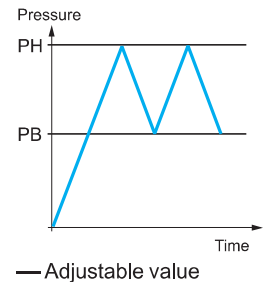
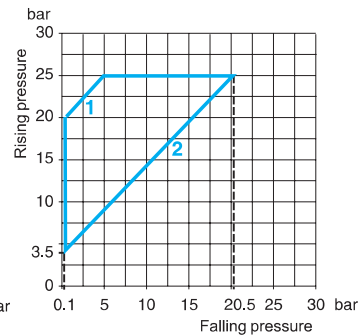
XMA#06#



XMA#12#



XMA#25#



- 1 Maximum differential
- 2 Minimum differential

- 1 Maximum differential
- 2 Minimum differential

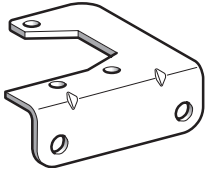
- 1 Maximum differential
- 2 Minimum differential

Connections



Other versions

Pressure switches with alternative tapped cable entries: ISO, NPT, etc. Please consult our Customer Care Centre.



XMAZL001



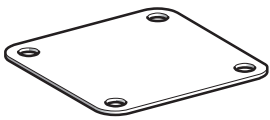
XMLZL003



DE9PM1201



DE9PM1202



XMPZ3

References

Description	Reference	Weight kg
Fixing bracket	XMAZL001	0.035

Knurled adjustment knob, Ø 36 mm fits over adjustment screws to facilitate setting	XMLZL003	0.010
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13P cable gland With anti pull-out ring (for cable Ø 6...9 mm)	DE9PM1201	0.005
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Without anti pull-out ring (for cable Ø 6...9 mm)	DE9PM1202	0.005
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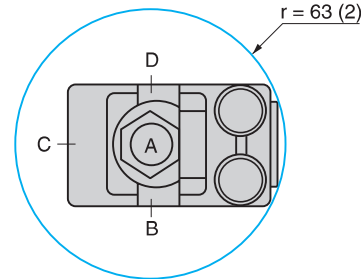
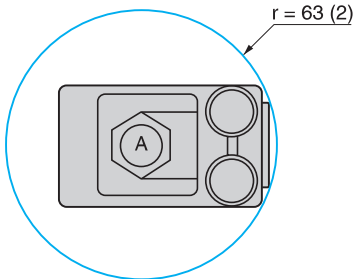
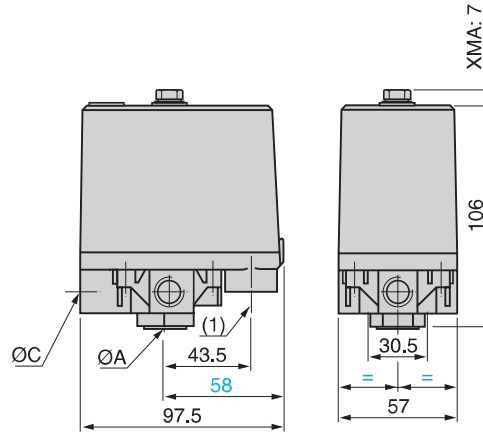
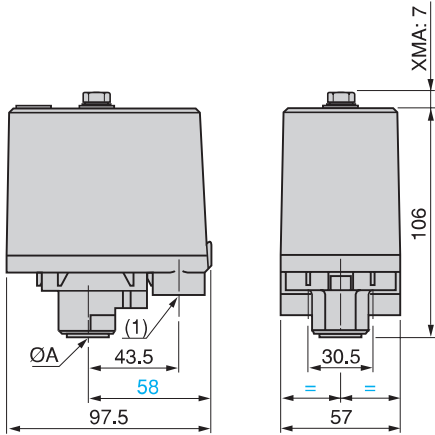
With anti pull-out ring (for cable Ø 9...12.5 mm)	DE9PM1203	0.005
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Description	For pressure switch	Reference	Weight kg
Diaphragms	Size 6 bar	XMPZ31	0.005
	Size 25 bar	XMPZ33	0.005

Dimensions

XMxA06L2135, XMxA12L2135
XMA●06L2135, XMA●12L2135

XMxA06L2435, XMxA12L2435
XMA●06L2435, XMA●12L2435



ØA = G 1/4 (female)

(1) 2 tapped entries for n° 13 cable gland

(2) Minimum clearance zone for screwing-on pressure switch at point A

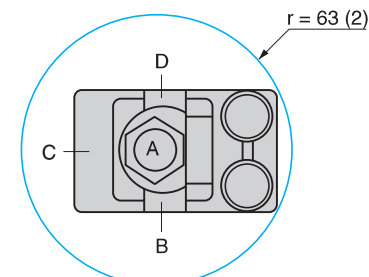
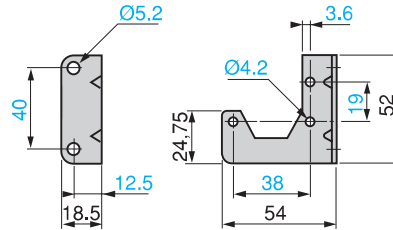
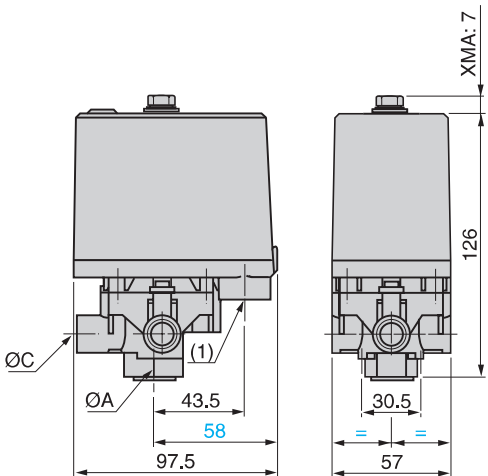
ØA = ØB = ØC = ØD = G 1/4 (female)

(1) 2 tapped entries for n° 13 cable gland

(2) Minimum clearance zone for screwing-on pressure switch at point A

XMxA25L2135, XMxA25L2435
XMA●25L2135, XMA●25L2435

Fixing bracket
XMAZL001



XM●25L2135: ØA only = G 1/4 (female)

XM●25L2435: ØA = ØB = ØC = ØD = G 1/4 (female)

(1) 2 tapped entries for n° 13 cable gland

(2) Minimum clearance zone for screwing-on pressure switch at point A