Sensors for pressure control
OsiSense XM

Catalogue

Telemecanique
Sensors

Contents

Sensors for pressure control
OsiSense XM

Electromechanical pressure and vacuum switches for control circuits *(continued)*

For controlling the pressure of air, water, hydraulic oils and corrosive fluids

For controlling the pressure of air and water

Electromechanical pressure switches for power circuits

For controlling the pressure of water

For controlling the pressure of air and water

Electromechanical pressure and vacuum switches

Technical information

Sensors for pressure control
OsiSense XM
Electronic pressure sensors

Applications	Type of installation	**Control circuits**			
	Fluids controlled	**Air, water, hydraulic oils, corrosive fluids**			
	Type of sensor and features	**Units without display**			
		Pressure transmitters **Analogue output 4…20 mA or 0...10 V**		**Pressure and vacuum switches** **Factory set switching thresholds** **Solid-state NPN or PNP output**	
					
Fluid characteristics		Air, fresh water, hydraulic oils, corrosive fluids (- 15…+ 125°C)			
Sizes		- 1 bar…400 bar (- 14.5 psi…5800 psi)			
Dimensions of case (mm)	Width x height x depth	Ø 22.8 x 70.1	Ø 22.8 x 85	Ø 22.8 x 70.1	Ø 22.8 x 85
Type of output		Analogue, 4…20 mA or 0…10 V		Solid-state, PNP or NPN, NC output 150 mA, ⎓ 12/24 V	
Degree of protection		IP 66, IP 67 conforming to IEC/EN60529, NEMA 4			
Electrical connection		M12 connector *(1)*	Integrated quick connection *(2)*	M12 connector *(1)*	Integrated quick connection *(2)*
Fluid connection		G 1/4 A (male) conforming to ISO7 *(3)*			
Type reference		**XMLG●●●D21, XMLG●●●D71** **XMLG●●●D21TQ** *(4)*, **XMLG●●●D71TQ** *(4)* **XMLG●●●Q21TQ** *(4)*, **XMLG●●●Q71TQ** *(4)*		**XMLG●●●D31TQ** *(4)* **XMLG●●●D41TQ** *(4)* **XMLG●●●Q31TQ** *(4)* **XMLG●●●Q41TQ** *(4)*	
Pages		24 to 31			

Other versions

(1) Other connections (AMP connector, cable, etc.), please consult our Customer Care Centre.
(2) Phoenix Contact "Quickon" type integrated connection.
(3) Other fluid connections (G1/4, 1/4 NPT, etc.), please consult our Customer Care Centre.
(4) Sold in lots of 25.

Control circuits			
Air, fresh water		**Air, water, hydraulic oils, corrosive fluids**	
Units without display			
Pressure transmitters Analogue output, 4…20 mA or 0...10 V Applications: pumping		**Pressure transmitters Analogue output, 4…20 mA**	**Pressure and vacuum switches with solid-state output Regulation between 2 thresholds (adjustable differential)**
			 
Air, fresh water (0...+ 80°C)		Air, fresh water, hydraulic oils, corrosive fluids (- 15…+ 80°C)	
0…25 bar (0…362 psi)	0... 300 psi (0... 20.7 bar)	- 1 bar…600 bar (- 14.5 psi…8700 psi)	
Ø 36 x 79.5		Ø 40 x 87 (sizes - 1…25 bar) Ø 40 x 97 (sizes 60…600 bar)	
Analogue, 4…20 mA or 0…10 V		Analogue, 4…20 mA	Solid-state, NPN or PNP, NC
IP 65 conforming to IEC/EN60529, NEMA 4		IP 65	
M12, DIN 43650 A or Metri-Pack (Packard) connector *(1)*		DIN 43650 A or M12 connector	
G 1/4 A (male) conforming to ISO7 or 1/4"-18 NPT male *(2)*		G 1/4 A (male)	
XMLK•••B2C••, XMLK•••B2C••TQ *(3)* **XMLK•••B2D••, XMLK•••B2D••TQ** *(3)* **XMLK•••P2C••, XMLK•••P2C••TQ** *(3)* **XMLK•••P2D••, XMLK•••P2D••TQ** *(3)* **XMLK•••P2P••, XMLK•••P2P••TQ** *(3)*		**XMLE••••••21**	**XMLE••••••31** **XMLE••••••41**
34 to 41		44 to 47	48 to 51

(1) Other electrical connections, please consult our Customer Care Centre.
(2) Other fluid connections (G1/4, 1/4 NPT, etc.), please consult our Customer Care Centre.
(3) Sold in lots of 25.

Sensors for pressure control
OsiSense XM
Electronic pressure sensors

Applications	Type of installation	**Control circuits**	
	Fluids controlled	**Air, water, hydraulic oils, corrosive fluids**	
	Type of sensor and features	**Configurable units with digital display Pressure transmitters Output current 4…20 mA**	**Configurable units with digital display Pressure transmitters Output voltage 0…10 V**
			
Fluid characteristics		Air, fresh water, hydraulic oils, corrosive fluids (- 15…+ 80°C)	
Sizes		- 1 bar…600 bar (- 14.5 psi…8700 psi)	
Dimensions of case (mm)	Width x height x depth	46 x 113 x 58	
Type of output		Analogue, 4…20 mA	Analogue, 0…10 V
Degree of protection		IP 67	
Electrical connection		M12 connector	
Fluid connection		G 1/4 (female) or 1/4 NPT	
Type reference		**XMLF●●●D201●**	**XMLF●●●D211●**
Pages		56 to 81	

Other versions

Pressure transmitters and electronic pressure and vacuum switches with alternative tapped fluid entries: ISO, NPT, etc. Please consult our Customer Care Centre.

Control circuits Air, water, hydraulic oils, corrosive fluids			
Configurable units with digital display Universal sensors Regulation between 2 thresholds (adjustable differential)	**Configurable units with digital display Universal sensors Regulation between 2 thresholds (adjustable differential)**	**Configurable units with digital display Pressure and vacuum switches with 2.5 A relay outputs Regulation between 2 thresholds (adjustable differential)**	**Configurable units with digital display Dual stage pressure and vacuum switches (solid-state outputs) Detection of 2 thresholds and adjustable differential for each threshold**
Solid-state and analogue output current 4…20 mA	**Solid-state and analogue output voltage 0…10 V**		
			
Air, fresh water, hydraulic oils, corrosive fluids (- 15…+ 80°C)			
- 1 bar…600 bar (- 14.5 psi…8700 psi)			
46 x 113 x 58		46 x 119 x 58	46 x 113 x 58
Solid-state, PNP or NPN, 200 mA, ⎓ 24 V output Analogue output, 4…20 mA	Solid-state, PNP or NPN, 200 mA, ⎓ 24 V output Analogue output, 0…10 V	Relay output 2.5 A, ∿ 120 V	2 solid-state outputs, PNP or NPN, 200 mA, ⎓ 24 V
IP 67			
M12 connector		SAE 7/8"-16UN connector	M12 connector
G 1/4 (female) or 1/4 NPT			
XMLF●●●D202●	**XMLF●●●D212●**	**XMLF●●●E204●**	**XMLF●●●D203●**
56 to 81			

Sensors for pressure control
OsiSense XM
Electromechanical pressure and vacuum switches

Applications	Type of installation	**Control circuits**		
	Fluids controlled	**Air, water, hydraulic oils, corrosive fluids, viscous products**		
	Type of operation	**Detection of a single threshold (fixed differential)**	**Regulation between 2 thresholds (adjustable differential)**	
				
Fluid characteristics		Air, fresh water, corrosive fluids, viscous products, up to 160°C depending on model		
Sizes		- 1 bar…500 bar (- 14.5 psi…7250 psi)		
Dimensions of case (mm)	Width x height x depth	35 x 68 x 75	46 x 68 x 85	
Type of contacts		1 CO single-pole, snap action	2 CO single-pole, simultaneous, snap action	
Degree of protection		IP 66: switches with terminal connections IP 65: switches with connector	IP 66: switches with terminal connections	
Electrical connection		Screw terminals: 1 entry tapped M20 x 1.5 mm for ISO cable gland or tapped for n° 13 cable gland		
Fluid connection		G 1/4 (female) G 1¼" (female) for viscous products		
Type reference		**XMLA**	**XMLB**	**XMLC**
Pages		90 to 141		
Other versions		Electromechanical pressure and vacuum switches with alternative tapped cable entries and/or fluid entries: NPT etc. Please consult our Customer Care Centre.		

Control circuits		
Air, water, hydraulic oils, corrosive fluids, viscous products	**Air, hydraulic oils, corrosive fluids**	
Dual stage switches Detection at each threshold (fixed differential)	**Regulation between 2 thresholds (adjustable differential)**	
		
Air, fresh water, corrosive fluids, viscous products, up to 160°C depending on model	Air, oils and other non corrosive fluids (- 73…+ 125°C)	Oils and other fluids (- 30…+ 125°C) Only oils, including synthetic oils, for certain models
- 1 bar…500 bar (- 14.5 psi…7250 psi)	0.7 bar…131 bar (10.15 psi…1900 psi)	69 bar…340 bar (1000 psi…4930 psi)
45 x 68 x 85	88 x 88 x 68	
2 CO single-pole, staggered, snap action	1 CO or 2 CO single-pole, snap action	
IP 66: switches with terminal connections	IP 65	
Screw terminals: 1 entry tapped M20 x 1.5 mm for ISO cable gland or tapped for n° 13 cable gland	Screw terminals: 1 entry tapped for n° 13 cable gland	
G 1/4 (female) G 1¼" (female) for viscous products		G 3/8 (female)
XMLD	**ACW**	**ADW**
90 to 141	152	154

Sensors for pressure control

OsiSense XM

Electromechanical pressure switches

Applications	Type of installation	**Control circuits**	
	Fluids controlled	**Air, water**	
	Type of operation	**Regulation between 2 thresholds (adjustable differential)**	

Fluid characteristics		Air, fresh water, sea water (0…+ 70°C)	
Sizes		6 bar, 12 bar and 25 bar (87 psi, 174 psi and 362.5 psi)	
Dimensions of case (mm)	Width x height x depth	57 x 78 x 97.5	
Setting of switching points		Internal screws	External screws
Type of contacts		1 CO single-pole, snap action	
Degree of protection		IP 54	
Electrical connection		Screw terminals: 2 entries tapped for n° 13 cable gland, one fitted with n° 13 cable gland, one fitted with blanking plug	
Fluid connection		G 1/4 or 4 x G 1/4 (female) depending on model	
Type reference		**XMX**	**XMA**
Pages		160	161
Other versions		Electromechanical pressure switches with alternative tapped cable entries and/or fluid entries: ISO, NPT, etc. Please consult our Customer Care Centre.	

Power circuits				
Water				Air, water
Detection of a single threshold (fixed differential)	Regulation between 2 thresholds (adjustable differential)			
				
Fresh water, sea water (0…+ 70°C)				Air, fresh water, sea water (0…+ 70°C)
4.6 bar (66.7 psi)		7 bar (101.5 psi)	10.5 bar (152.3 psi)	6 bar, 12 bar and 25 bar (87 psi, 174 psi and 362.5 psi)
73 x 73 x 102	72 x 77 x 106	72 x 73 x 102		57 x 78 x 97.5
Internal screws				
2 NC snap action				2 NC or 3 NC snap action
IP 20/IP 65				IP 54 or IP 65 depending on model
Screw terminals: 2 cable entries with grommet or 2 cable entries with n° 13 cable gland				Screw terminals: 2 entries incorporating n° 13 cable gland or without cable gland, depending on model
G 1/4 or R 1/4 (female or male)				G 1/4, G 3/8 or 4 x G 1/4 (female) depending on model
FTG●, FTG●NE	**FSG●, FSG●NE**	**FYG22, FYG22NE**	**FYG32, FYG32NE**	**XMP**
166 to 168				170 to 179

Electronic pressure sensors
OsiSense XM
Pressure transmitters type XMLP
For control circuits

Presentation

Pressure transmitters XMLP are characterised by their “thin film” technology.
The stainless steel pressure sensing capsule is directly welded onto the stainless steel body of the transmitter, which provides the following advantages:
- no gasket in contact with the fluid required,
- compatibility with all types of fluid.

Designed in stainless steel AISI 304, they are compact and robust.

These transmitters are therefore specially suited to applications such as:
- hydraulic circuits on all types of machine,
- refrigeration (HVAC).

Functions

Pressure sensors XMLP have an analogue output signal:
- 4…20 mA,
- 0…10 V,
- 0.5…4.5 V,

proportional to the pressure ranges available (10 to 600 bar and 100 to 10 000 psi).

The XMLP offer is available in three types of electrical connection:
- M12, 4-pin connector,
- EN 175301-803-A connector (ex-DIN 43650).
- Packard Metri-Pack 150 connector.

Several types of fluid connection are available:
- G1/4 A male,
- SAE 7/16-20 UNF-2A male,
- SAE 7/16-20 UNF-2B female,
- 1/4”-18NPT male.

XMLP sensors are sold in lots of 40 or individually.

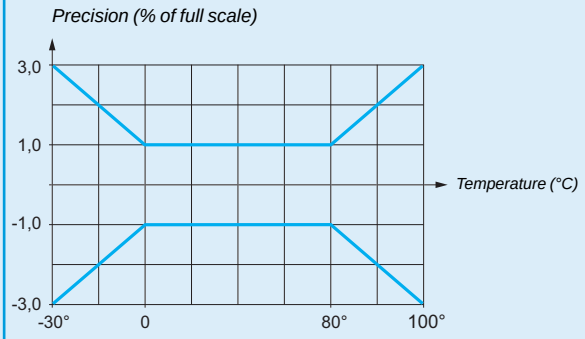
Other versions

Electrical connection: EN 175301-803-B (9.4 mm).
Please consult our Customer Care Centre.

Characteristics: page 11 | References: pages 12 to 17 | Schemes: page 19 | Connections: page 20 | Dimensions: page 21

Electronic pressure sensors
OsiSense XM
Pressure transmitters type XMLP
For control circuits

Environment characteristics

Transmitters			4…20 mA	0…10 V	0.5…4.5 V
Conformity to standards			CE, ROHS, EN 61326		
Product certifications			cULus		
Rated supply voltage	Transmitters 4…20 mA	**V**	⎓ 12/24	–	–
	Transmitters 0…10 V	**V**	–	⎓ 24	
	Transmitters 0.5…4.5 V ratiometric	**V**	–	–	⎓ 5
Voltage limits	Transmitters 4…20 mA	**V**	⎓ 8…30	–	–
	Transmitters 0…10 V	**V**	–	⎓ 14…30	–
	Transmitters 0.5…4.5 V ratiometric	**V**	–	–	⎓ 5 (± 5 %)
Current consumption		**mA**	⩽ 20	⩽ 10	⩽ 5
Protective treatment			Standard version “TC”		
Ambiant air temperature	For operation	**°C**	- 30…+ 100		
	For storage	**°C**	- 30…+ 100		
Fluids or products controlled			Hydraulic oils, air, fresh water, refrigeration fluids and all fluids or gas compatible with stainless steel AISI 304		
Temperature of fluids controlled		**°C**	- 30…+ 120 (- 20…+ 120, with fluorocarbon FKM (Viton) gasket)		
Components materials in contact with fluid	Fluid connection		Stainless steel AISI 304		
	Sensing element		Stainless steel 17-4PH		
	Housing		Stainless steel AISI 304 and plastic PA66 (GF + MD)		
	External gasket		Depending on model: no gasket or fluorocarbon FKM (Viton) gasket		
Operating position			All positions		
Vibration resistance			20 gn (10…2000 Hz), conforming to EN/IEC 60068-2-64		
Shock resistance			25 gn (half sine wave 11 ms) conforming to EN/IEC 60068-2-27		
Rated impulse withstand voltage			Uimp = 0.5 kV		
Resistance to electromagnetic interference	Electrostatic discharges		8 kV in air, 4 kV on contact, conforming to EN/IEC 61000-4-2		
	Radiated electromagnetic fields		10 V/m from 80 to 1000 MHz, 3 V/m from 1400 to 2000 MHz, conforming to EN/IEC 61000-4-3		
	Fast transients		± 1 kV, conforming to EN/IEC 61000-4-4		
	Surges		± 1 kV, conforming to EN/IEC 61000-4-5		
	Conducted disturbances, induced by radio frequency fields		10 V from 0.15 to 80 MHz, conforming to EN/IEC 61000-4-6		
Electrical protection			Protected against reverse polarity and short-circuit		
Degree of protection			IP 65 (EN 175301-803-A connector version) IP 65 and IP 67 (M12 and Packard Metri-Pack connector versions), conforming to EN/IEC 60529. IP 69K (M12 connector version), conforming to DIN 40050.		
Output response time		**ms**	< 5		
Linearity error			< ± 0.5 % of the measuring range, conforming to IEC 61298-2		
Hysteresis			< 0.2 % of the measuring range		
Repeat accuracy			< 0.1 % of the measuring range, conforming to IEC 61298-2		
Precision					
Service life			> 10 million operating cycles		
Fluid connection			G1/4 A (male) DIN 3852-E, G1/4 (male) DIN 3852-A, SAE 7/16-20 UNF-2B (female), SAE 7/16-20 UNF-2A (male), 1/4”-18NPT (male).		
Electrical connection			M12, 4-pins connector, EN 175301-803-A (ex-DIN 43650), Packard Metri-Pack 150, 3-pins connector.		

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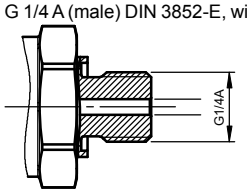
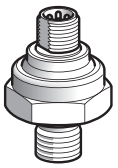
Electronic pressure sensors
OsiSense XM
Pressure transmitters type XMLP
Fluid connection: G 1/4 A (male) DIN 3852-E

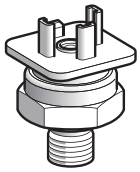
Sizes 10 to 60 bar (145 to 870 psi)

Units with analogue output | **M12 connector** | **EN 175301-803-A connector**

G 1/4 A (male) DIN 3852-E, with fluorocarbon FKM gasket







Pressure range		0... 10 (145 psi)	0... 16 (232 psi)	0... 25 (362.5 psi)	0... 40 (580 psi)	0... 60 (870 psi)
References of pressure transmitters with 4…20 mA output						
M12 connector						
Sold in packs of:	1	**XMLP010BD21V**	**XMLP016BD21V**	**XMLP025BD21V**	**XMLP040BD21V**	**XMLP060BD21V**
	bulk *(1)*	**XMLP010BD21VQ** *(1)*	**XMLP016BD21VQ** *(1)*	**XMLP025BD21VQ** *(1)*	**XMLP040BD21VQ** *(1)*	**XMLP060BD21VQ** *(1)*
EN 175301-803-A connector						
Sold in packs of:	1	**XMLP010BC21V**	**XMLP016BC21V**	**XMLP025BC21V**	**XMLP040BC21V**	**XMLP060BC21V**
	bulk *(1)*	**XMLP010BC21VQ** *(1)*	**XMLP016BC21VQ** *(1)*	**XMLP025BC21VQ** *(1)*	**XMLP040BC21VQ** *(1)*	**XMLP060BC21VQ** *(1)*
References of pressure transmitters with 0…10 V output						
M12 connector						
Sold in packs of:	1	**XMLP010BD71V**	**XMLP016BD71V**	**XMLP025BD71V**	**XMLP040BD71V**	**XMLP060BD71V**
	bulk *(1)*	**XMLP010BD71VQ** *(1)*	**XMLP016BD71VQ** *(1)*	**XMLP025BD71VQ** *(1)*	**XMLP040BD71VQ** *(1)*	**XMLP060BD71VQ** *(1)*
EN 175301-803-A connector						
Sold in packs of:	1	**XMLP010BC71V**	**XMLP016BC71V**	**XMLP025BC71V**	**XMLP040BC71V**	**XMLP060BC71V**
	bulk *(1)*	**XMLP010BC71VQ** *(1)*	**XMLP016BC71VQ** *(1)*	**XMLP025BC71VQ** *(1)*	**XMLP040BC71VQ** *(1)*	**XMLP060BC71VQ** *(1)*
References of pressure transmitters with 0.5…4.5 V ratiometric output						
M12 connector						
Sold in packs of:	1	**XMLP010BD11V**	**XMLP016BD11V**	**XMLP025BD11V**	**XMLP040BD11V**	**XMLP060BD11V**
	bulk *(1)*	**XMLP010BD11VQ** *(1)*	**XMLP016BD11VQ** *(1)*	**XMLP025BD11VQ** *(1)*	**XMLP040BD11VQ** *(1)*	**XMLP060BD11VQ** *(1)*
EN 175301-803-A connector						
Sold in packs of:	1	**XMLP010BC11V**	**XMLP016BC11V**	**XMLP025BC11V**	**XMLP040BC11V**	**XMLP060BC11V**
	bulk *(1)*	**XMLP010BC11VQ** *(1)*	**XMLP016BC11VQ** *(1)*	**XMLP025BC11VQ** *(1)*	**XMLP040BC11VQ** *(1)*	**XMLP060BC11VQ** *(1)*
Weight (kg)		0.050	0.050	0.050	0.050	0.050

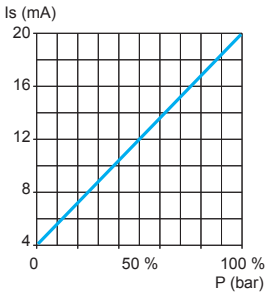
(1) Sold in lots of 40, minimum quantity 40.

Complementary characteristics not shown under general characteristics

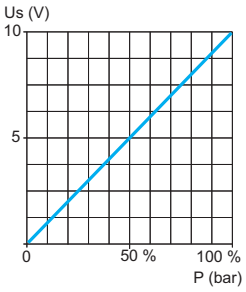
External gasket	Fluorocarbon (Viton)				
Maximum permissible accidental pressure	20 bar (290 psi)	32 bar (464 psi)	50 bar (725 psi)	80 bar (1160 psi)	120 bar (1740 psi)
Destruction pressure	30 bar (435 psi)	48 bar (696 psi)	75 bar (1087.5 psi)	120 bar (1740 psi)	180 bar (2610 psi)

Output curves

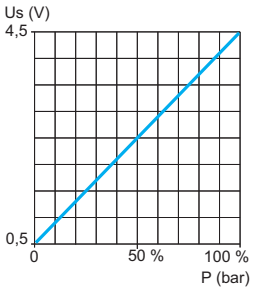
XMLP 4…20 mA



XMLP 0…10 V



XMLP 0.5…4.5 V



Other versions:
Electrical connection: EN 175301-803-B (9.4 mm).
Please consult our Customer Care Centre.

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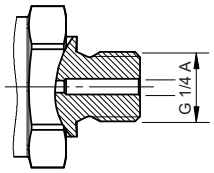
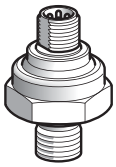
Electronic pressure sensors
OsiSense XM
Pressure transmitters type XMLP
Fluid connection: G 1/4 A (male) DIN 3852-A

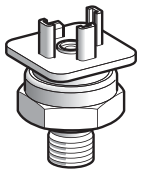
Sizes 100 to 600 bar (1450 to 8700 psi)

Units with analogue output | **M12 connector** | **EN 175301-803-A connector**

G 1/4 A (male) DIN 3852-A







Pressure range		0... 100 (1450 psi)	0... 160 (2320 psi)	0... 250 (3625 psi)	0... 400 (5800 psi)	0... 600 (8700 psi)
References of pressure transmitters with 4…20 mA output						
M12 connector						
Sold in packs of:	1	**XMLP100BD22**	**XMLP160BD22**	**XMLP250BD22**	**XMLP400BD22**	**XMLP600BD22**
	bulk *(1)*	**XMLP100BD22Q** *(1)*	**XMLP160BD22Q** *(1)*	**XMLP250BD22Q** *(1)*	**XMLP400BD22Q** *(1)*	**XMLP600BD22Q** *(1)*
EN 175301-803-A connector						
Sold in packs of:	1	**XMLP100BC22**	**XMLP160BC22**	**XMLP250BC22**	**XMLP400BC22**	**XMLP600BC22**
	bulk *(1)*	**XMLP100BC22Q** *(1)*	**XMLP160BC22Q** *(1)*	**XMLP250BC22Q** *(1)*	**XMLP400BC22Q** *(1)*	**XMLP600BC22Q** *(1)*
References of pressure transmitters with 0…10 V output						
M12 connector						
Sold in packs of:	1	**XMLP100BD72**	**XMLP160BD72**	**XMLP250BD72**	**XMLP400BD72**	**XMLP600BD72**
	bulk *(1)*	**XMLP100BD72Q** *(1)*	**XMLP160BD72Q** *(1)*	**XMLP250BD72Q** *(1)*	**XMLP400BD72Q** *(1)*	**XMLP600BD72Q** *(1)*
EN 175301-803-A connector						
Sold in packs of:	1	**XMLP100BC72**	**XMLP160BC72**	**XMLP250BC72**	**XMLP400BC72**	**XMLP600BC72**
	bulk *(1)*	**XMLP100BC72Q** *(1)*	**XMLP160BC72Q** *(1)*	**XMLP250BC72Q** *(1)*	**XMLP400BC72Q** *(1)*	**XMLP600BC72Q** *(1)*
References of pressure transmitters with 0.5…4.5 V ratiometric output						
M12 connector						
Sold in packs of:	1	**XMLP100BD12**	**XMLP160BD12**	**XMLP250BD12**	**XMLP400BD12**	**XMLP600BD12**
	bulk *(1)*	**XMLP100BD12Q** *(1)*	**XMLP160BD12Q** *(1)*	**XMLP250BD12Q** *(1)*	**XMLP400BD12Q** *(1)*	**XMLP600BD12Q** *(1)*
EN 175301-803-A connector						
Sold in packs of:	1	**XMLP100BC12**	**XMLP160BC12**	**XMLP250BC12**	**XMLP400BC12**	**XMLP600BC12**
	bulk *(1)*	**XMLP100BC12Q** *(1)*	**XMLP160BC12Q** *(1)*	**XMLP250BC12Q** *(1)*	**XMLP400BC12Q** *(1)*	**XMLP600BC12Q** *(1)*
Weight (kg)		0.050	0.050	0.050	0.050	0.050

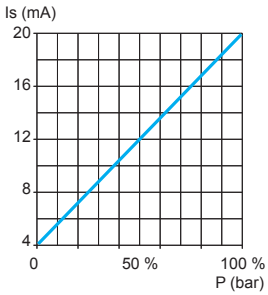
(1) Sold in lots of 40, minimum quantity 40.

Complementary characteristics not shown under general characteristics

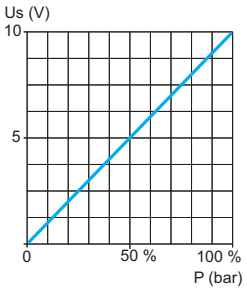
External gasket	None. Aluminium or copper gasket possible, please consult our Customer Care Centre.				
Maximum permissible accidental pressure	200 bar (2900 psi)	320 bar (4640 psi)	375 bar (5437.5 psi)	600 bar (8700 psi)	900 bar (13 050 psi)
Destruction pressure	300 bar (4350 psi)	400 bar (5800 psi)	500 bar (7250 psi)	800 bar (11 600 psi)	1200 bar (17 400 psi)

Output curves

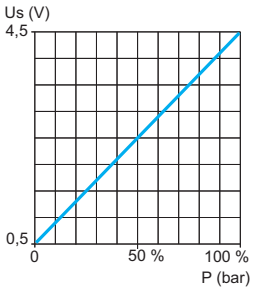
XMLP 4…20 mA



XMLP 0…10 V



XMLP 0.5…4.5 V



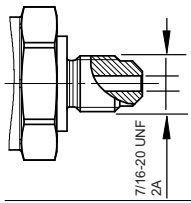
Other versions:
Electrical connection: EN 175301-803-B (9.4 mm).
Please consult our Customer Care Centre.

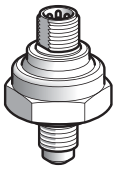
Electronic pressure sensors
OsiSense XM
Pressure transmitters type XMLP
Fluid connection: SAE 7/16-20UNF-2A (male)

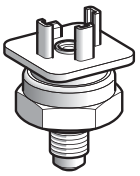
Sizes 10 to 60 bar (145 to 870 psi)

Units with analogue output | **M12 connector** | **EN 175301-803-A connector**

SAE 7/16-20 UNF-2A (male)







Pressure range		0... 10 (145 psi)	0... 16 (232 psi)	0... 25 (362.5 psi)	0... 40 (580 psi)	0... 60 (870 psi)
References of pressure transmitters with 4…20 mA output						
M12 connector						
Sold in packs of:	1	**XMLP010BD27**	**XMLP016BD27**	**XMLP025BD27**	**XMLP040BD27**	**XMLP060BD27**
	bulk *(1)*	**XMLP010BD27Q** *(1)*	**XMLP016BD27Q** *(1)*	**XMLP025BD27Q** *(1)*	**XMLP040BD27Q** *(1)*	**XMLP060BD27Q** *(1)*
EN 175301-803-A connector						
Sold in packs of:	1	**XMLP010BC27**	**XMLP016BC27**	**XMLP025BC27**	**XMLP040BC27**	**XMLP060BC27**
	bulk *(1)*	**XMLP010BC27Q** *(1)*	**XMLP016BC27Q** *(1)*	**XMLP025BC27Q** *(1)*	**XMLP040BC27Q** *(1)*	**XMLP060BC27Q** *(1)*
References of pressure transmitters with 0…10 V output						
M12 connector						
Sold in packs of:	1	**XMLP010BD77**	**XMLP016BD77**	**XMLP025BD77**	**XMLP040BD77**	**XMLP060BD77**
	bulk *(1)*	**XMLP010BD77Q** *(1)*	**XMLP016BD77Q** *(1)*	**XMLP025BD77Q** *(1)*	**XMLP040BD77Q** *(1)*	**XMLP060BD77Q** *(1)*
EN 175301-803-A connector						
Sold in packs of:	1	**XMLP010BC77**	**XMLP016BC77**	**XMLP025BC77**	**XMLP040BC77**	**XMLP060BC77**
	bulk *(1)*	**XMLP010BC77Q** *(1)*	**XMLP016BC77Q** *(1)*	**XMLP025BC77Q** *(1)*	**XMLP040BC77Q** *(1)*	**XMLP060BC77Q** *(1)*
References of pressure transmitters with 0.5…4.5 V ratiometric output						
M12 connector						
Sold in packs of:	1	**XMLP010BD17**	**XMLP016BD17**	**XMLP025BD17**	**XMLP040BD17**	**XMLP060BD17**
	bulk *(1)*	**XMLP010BD17Q** *(1)*	**XMLP016BD17Q** *(1)*	**XMLP025BD17Q** *(1)*	**XMLP040BD17Q** *(1)*	**XMLP060BD17Q** *(1)*
EN 175301-803-A connector						
Sold in packs of:	1	**XMLP010BC17**	**XMLP016BC17**	**XMLP025BC17**	**XMLP040BC17**	**XMLP060BC17**
	bulk *(1)*	**XMLP010BC17Q** *(1)*	**XMLP016BC17Q** *(1)*	**XMLP025BC17Q** *(1)*	**XMLP040BC17Q** *(1)*	**XMLP060BC17Q** *(1)*
Weight (kg)		0.050	0.050	0.050	0.050	0.050

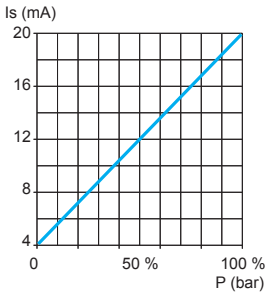
(1) Sold in lots of 40, minimum quantity 40.

Complementary characteristics not shown under general characteristics

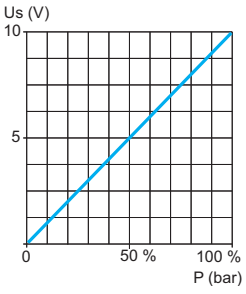
External gasket	None				
Maximum permissible accidental pressure	20 bar (290 psi)	32 bar (464 psi)	50 bar (725 psi)	80 bar (1160 psi)	120 bar (1740 psi)
Destruction pressure	30 bar (435 psi)	48 bar (696 psi)	75 bar (1087.5 psi)	120 bar (1740 psi)	180 bar (2610 psi)

Output curves

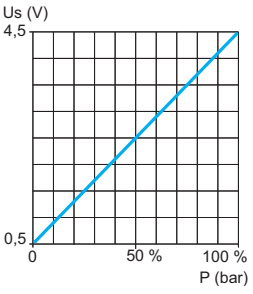
XMLP 4…20 mA



XMLP 0…10 V



XMLP 0.5…4.5 V



Other versions:
Electrical connection: EN 175301-803-B (9.4 mm).
Please consult our Customer Care Centre.

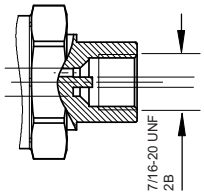
Presentation: page 10 | Characteristics : page 11 | Schemes: page 19 | Connections: page 20 | Dimensions: page 21

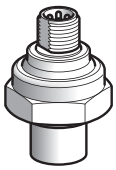
Electronic pressure sensors
OsiSense XM
Pressure transmitters type XMLP
Fluid connection: SAE 7/16-20UNF-2B (female)

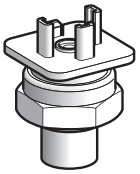
Sizes 10 to 60 bar (145 to 870 psi)

Units with analogue output | **M12 connector** | **EN 175301-803-A connector**

SAE 7/16-20 UNF-2B (female)







Pressure range		0... 10 (145 psi)	0... 16 (232 psi)	0... 25 (362.5 psi)	0... 40 (580 psi)	0... 60 (870 psi)
References of pressure transmitters with 4…20 mA output						
M12 connector						
Sold in packs of:	1	**XMLP010BD29**	**XMLP016BD29**	**XMLP025BD29**	**XMLP040BD29**	**XMLP060BD29**
	bulk *(1)*	**XMLP010BD29Q** *(1)*	**XMLP016BD29Q** *(1)*	**XMLP025BD29Q** *(1)*	**XMLP040BD29Q** *(1)*	**XMLP060BD29Q** *(1)*
EN 175301-803-A connector						
Sold in packs of:	1	**XMLP010BC29**	**XMLP016BC29**	**XMLP025BC29**	**XMLP040BC29**	**XMLP060BC29**
	bulk *(1)*	**XMLP010BC29Q** *(1)*	**XMLP016BC29Q** *(1)*	**XMLP025BC29Q** *(1)*	**XMLP040BC29Q** *(1)*	**XMLP060BC29Q** *(1)*
References of pressure transmitters with 0…10 V output						
M12 connector						
Sold in packs of:	1	**XMLP010BD79**	**XMLP016BD79**	**XMLP025BD79**	**XMLP040BD79**	**XMLP060BD79**
	bulk *(1)*	**XMLP010BD79Q** *(1)*	**XMLP016BD79Q** *(1)*	**XMLP025BD79Q** *(1)*	**XMLP040BD79Q** *(1)*	**XMLP060BD79Q** *(1)*
EN 175301-803-A connector						
Sold in packs of:	1	**XMLP010BC79**	**XMLP016BC79**	**XMLP025BC79**	**XMLP040BC79**	**XMLP060BC79**
	bulk *(1)*	**XMLP010BC79Q** *(1)*	**XMLP016BC79Q** *(1)*	**XMLP025BC79Q** *(1)*	**XMLP040BC79Q** *(1)*	**XMLP060BC79Q** *(1)*
References of pressure transmitters with 0.5…4.5 V ratiometric output						
M12 connector						
Sold in packs of:	1	**XMLP010BD19**	**XMLP016BD19**	**XMLP025BD19**	**XMLP040BD19**	**XMLP060BD19**
	bulk *(1)*	**XMLP010BD19Q** *(1)*	**XMLP016BD19Q** *(1)*	**XMLP025BD19Q** *(1)*	**XMLP040BD19Q** *(1)*	**XMLP060BD19Q** *(1)*
EN 175301-803-A connector						
Sold in packs of:	1	**XMLP010BC19**	**XMLP016BC19**	**XMLP025BC19**	**XMLP040BC19**	**XMLP060BC19**
	bulk *(1)*	**XMLP010BC19Q** *(1)*	**XMLP016BC19Q** *(1)*	**XMLP025BC19Q** *(1)*	**XMLP040BC19Q** *(1)*	**XMLP060BC19Q** *(1)*
Weight (kg)		0.050	0.050	0.050	0.050	0.050

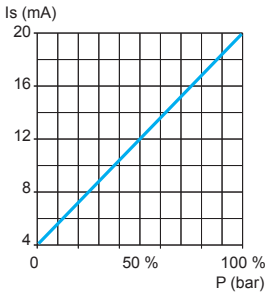
(1) Sold in lots of 40, minimum quantity 40.

Complementary characteristics not shown under general characteristics

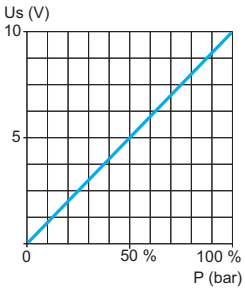
External gasket	None				
Maximum permissible accidental pressure	20 bar (290 psi)	32 bar (464 psi)	50 bar (725 psi)	80 bar (1160 psi)	120 bar (1740 psi)
Destruction pressure	30 bar (435 psi)	48 bar (696 psi)	75 bar (1087.5 psi)	120 bar (1740 psi)	180 bar (2610 psi)

Output curves

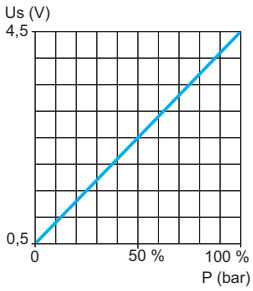
XMLP 4…20 mA



XMLP 0…10 V



XMLP 0.5…4.50 V

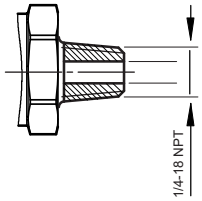


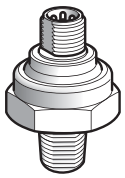
Other versions:
Electrical connection: EN 175301-803-B (9.4 mm).
Please consult our Customer Care Centre.

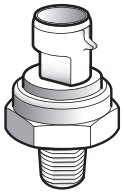
Electronic pressure sensors
OsiSense XM
Pressure transmitters type XMLP
Fluid connection: 1/4”-18NPT (male)

Sizes 100 tp 600 psi (6.9 to 41.4 bar)

Units with analogue output	**M12 connector**	**Packard Metri-Pack 150 connector**
1/4”-18NPT (male)		







Pressure range		**0... 100 psi (6.9 bar)**	**0... 150 psi (10.3 bar)**	**0... 200 psi (13.8 bar)**	**0... 300 psi (20.7 bar)**	**0... 600 psi (41.4 bar)**
References of pressure transmitters with 4…20 mA output						
M12 connector						
Sold in packs of:	1	**XMLP100PD23**	**XMLP150PD23**	**XMLP200PD23**	**XMLP300PD23**	**XMLP600PD23**
	bulk *(1)*	**XMLP100PD23Q** *(1)*	**XMLP150PD23Q** *(1)*	**XMLP200PD23Q** *(1)*	**XMLP300PD23Q** *(1)*	**XMLP600PD23Q** *(1)*
Packard Metri-Pack 150 connector						
Sold in packs of:	1	**XMLP100PP23**	**XMLP150PP23**	**XMLP200PP23**	**XMLP300PP23**	**XMLP600PP23**
	bulk *(1)*	**XMLP100PP23Q** *(1)*	**XMLP150PP23Q** *(1)*	**XMLP200PP23Q** *(1)*	**XMLP300PP23Q** *(1)*	**XMLP600PP23Q** *(1)*
References of pressure transmitters with 0…10 V output						
M12 connector						
Sold in packs of:	1	**XMLP100PD73**	**XMLP150PD73**	**XMLP200PD73**	**XMLP300PD73**	**XMLP600PD73**
	bulk *(1)*	**XMLP100PD73Q** *(1)*	**XMLP150PD73Q** *(1)*	**XMLP200PD73Q** *(1)*	**XMLP300PD73Q** *(1)*	**XMLP600PD73Q** *(1)*
Packard Metri-Pack 150 connector						
Sold in packs of:	1	**XMLP100PP73**	**XMLP150PP73**	**XMLP200PP73**	**XMLP300PP73**	**XMLP600PP73**
	bulk *(1)*	**XMLP100PP73Q** *(1)*	**XMLP150PP73Q** *(1)*	**XMLP200PP73Q** *(1)*	**XMLP300PP73Q** *(1)*	**XMLP600PP73Q** *(1)*
References of pressure transmitters with 0.5…4.5 V ratiometric output						
M12 connector						
Sold in packs of:	1	**XMLP100PD13**	**XMLP150PD13**	**XMLP200PD13**	**XMLP300PD13**	**XMLP600PD13**
	bulk *(1)*	**XMLP100PD13Q** *(1)*	**XMLP150PD13Q** *(1)*	**XMLP200PD13Q** *(1)*	**XMLP300PD13Q** *(1)*	**XMLP600PD13Q** *(1)*
Packard Metri-Pack 150 connector						
Sold in packs of:	1	**XMLP100PP13**	**XMLP150PP13**	**XMLP200PP13**	**XMLP300PP13**	**XMLP600PP13**
	bulk*(1)*	**XMLP100PP13Q** *(1)*	**XMLP150PP13Q** *(1)*	**XMLP200PP13Q** *(1)*	**XMLP300PP13Q** *(1)*	**XMLP600PP13Q** *(1)*
Weight (kg)		0.050	0.050	0.050	0.050	0.050

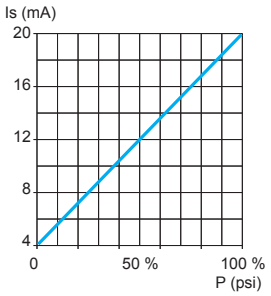
(1) Sold in lots of 40, minimum quantity 40.

Complementary characteristics not shown under general characteristics

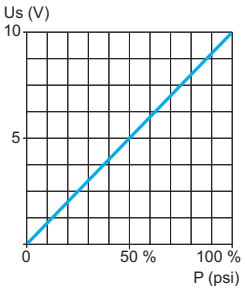
External gasket	None				
Maximum permissible accidental pressure	200 psi (13.8 bar)	300 psi (20.7 bar)	400 psi (27.6 bar)	600 psi (41.4 bar)	1200 psi (82.8 bar)
Destruction pressure	300 psi (20.7 bar)	450 psi (31.bar)	600 psi (41.4 bar)	900 psi (62 bar)	1800 psi (124 bar)

Output curves

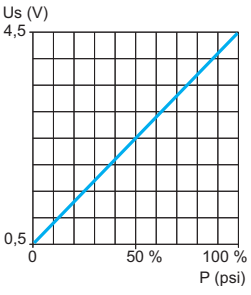
XMLP 4…20 mA



XMLP 0…10 V



XMLP 0.5…4.5 V



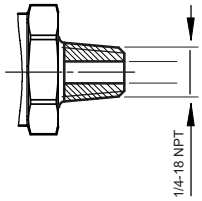
Other versions:
Electrical connection: EN 175301-803-B (9.4 mm).
Please consult our Customer Care Centre.

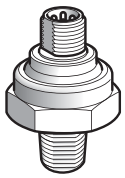
Electronic pressure sensors
OsiSense XM
Pressure transmitters type XMLP
Fluid connection: 1/4”-18NPT (male)

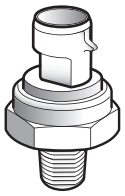
Sizes 1000 to 10 000 psi (69 to 690 bar)

Units with analogue output | **M12 connector** | **Packard Metri-Pack 150 connector**

1/4”-18NPT (male)







Pressure range		**0... 1000 psi (69 bar)**	**0... 2000 psi (138 bar)**	**0... 3000 psi (207 bar)**	**0... 6000 psi (414 bar)**	**0... 10 000 psi (690 bar)**
References of pressure transmitters with 4…20 mA output						
M12 connector						
Sold in packs of:	1	**XMLP1K0PD23**	**XMLP2K0PD23**	**XMLP3K0PD23**	**XMLP6K0PD23**	**XMLP10KPD23**
	bulk *(1)*	**XMLP1K0PD23Q** *(1)*	**XMLP2K0PD23Q** *(1)*	**XMLP3K0PD23Q** *(1)*	**XMLP6K0PD23Q** *(1)*	**XMLP10KPD23Q** *(1)*
Packard Metri-Pack 150 connector						
Sold in packs of:	1	**XMLP1K0PP23**	**XMLP2K0PP23**	**XMLP3K0PP23**	**XMLP6K0PP23**	**XMLP10KPP23**
	bulk *(1)*	**XMLP1K0PP23Q** *(1)*	**XMLP2K0PP23Q** *(1)*	**XMLP3K0PP23Q** *(1)*	**XMLP6K0PP23Q** *(1)*	**XMLP10KPP23Q** *(1)*
References of pressure transmitters with 0…10 V output						
M12 connector						
Sold in packs of:	1	**XMLP1K0PD73**	**XMLP2K0PD73**	**XMLP3K0PD73**	**XMLP6K0PD73**	**XMLP10KPD73**
	bulk *(1)*	**XMLP1K0PD73Q** *(1)*	**XMLP2K0PD73Q** *(1)*	**XMLP3K0PD73Q** *(1)*	**XMLP6K0PD73Q** *(1)*	**XMLP10KPD73Q** *(1)*
Packard Metri-Pack 150 connector						
Sold in packs of:	1	**XMLP1K0PP73**	**XMLP2K0PP73**	**XMLP3K0PP73**	**XMLP6K0PP73**	**XMLP10KPP73**
	bulk *(1)*	**XMLP1K0PP73Q** *(1)*	**XMLP2K0PP73Q** *(1)*	**XMLP3K0PP73Q** *(1)*	**XMLP6K0PP73Q** *(1)*	**XMLP10KPP73Q** *(1)*
References of pressure transmitters with 0.5…4.5 V ratiometric output						
M12 connector						
Sold in packs of:	1	**XMLP1K0PD13**	**XMLP2K0PD13**	**XMLP3K0PD13**	**XMLP6K0PD13**	**XMLP10KPD13**
	bulk *(1)*	**XMLP1K0PD13Q** *(1)*	**XMLP2K0PD13Q** *(1)*	**XMLP3K0PD13Q** *(1)*	**XMLP6K0PD13Q** *(1)*	**XMLP10KPD13Q** *(1)*
Packard Metri-Pack 150 connector						
Sold in packs of:	1	**XMLP1K0PP13**	**XMLP2K0PP13**	**XMLP3K0PP13**	**XMLP6K0PP13**	**XMLP10KPP13**
	bulk *(1)*	**XMLP1K0PP13Q** *(1)*	**XMLP2K0PP13Q** *(1)*	**XMLP3K0PP13Q** *(1)*	**XMLP6K0PP13Q** *(1)*	**XMLP10KPP13Q** *(1)*
Weight (kg)		0.050	0.050	0.050	0.050	0.050

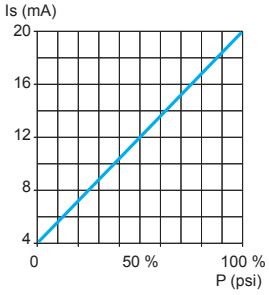
(1) Sold in lots of 40, minimum quantity 40.

Complementary characteristics not shown under general characteristics

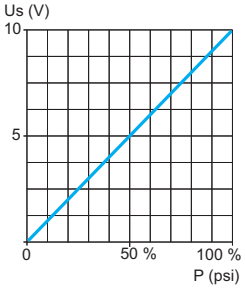
External gasket	None				
Maximum permissible accidental pressure	2000 psi (138 bar)	4000 psi (276 bar)	4500 psi (310 bar)	9000 psi (620 bar)	13 050 psi (900 bar)
Destruction pressure	3000 psi (138 bar)	5000 psi (345 bar)	6000 psi (414 bar)	12 000 psi (828 bar)	17 400 psi (1200 bar)

Output curves

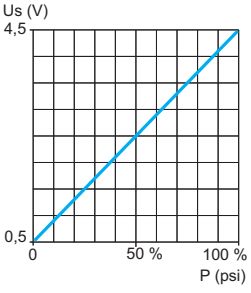
XMLP 4…20 mA



XMLP 0…10 V

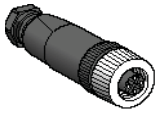


XMLP 0.5…4.50 V

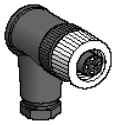


Other versions:
Electrical connection: EN 175301-803-B (9.4 mm).
Please consult our Customer Care Centre.

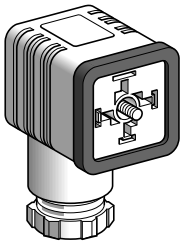
Electronic pressure sensors
OsiSense XM
Pressure transmitters type XMLP
Accessoires



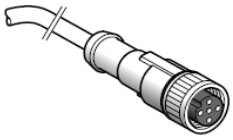
XZCC12FDM40B



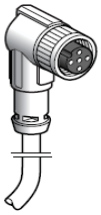
XZCC12FCM40B



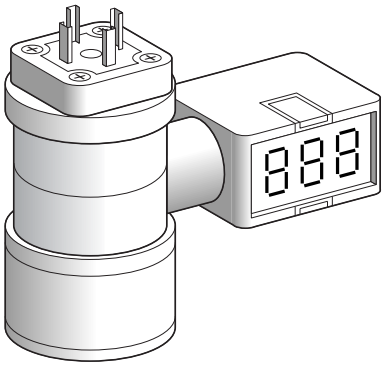
XZCC43FCP40B



XZCP1141L10



XZCP1241L5



XMLEZ●●●

Connection accessoires

Description	Type	Reference	Weight kg
M12 female connector metal clamping ring *(1)*	Straight	**XZCC12FDM40B**	0.020
	Elbowed	**XZCC12FCM40B**	0.020
EN 175301-803-A female connector *(1)*		**XZCC43FCP40B**	0.035

Description	Lenght of cable	Material of cable	Reference	Weight kg
Pre-wired M12, straight, female connectors	2 m	PUR	**XZCP1141L2**	0.090
		PVC	**XZCPV1141L2**	0.110
	5 m	PUR	**XZCP1141L5**	0.190
		PVC	**XZCPV1141L5**	0.210
	10 m	PUR	**XZCP1141L10**	0.370
		PVC	**XZCPV1141L10**	0.390
Pre-wired M12, elbowed, female connectors	2 m	PUR	**XZCP1241L2**	0.090
		PVC	**XZCPV1241L2**	0.110
	5 m	PUR	**XZCP1241L5**	0.190
		PVC	**XZCPV1241L5**	0.210
	10 m	PUR	**XZCP1241L10**	0.370
		PVC	**XZCPV1241L10**	0.390

Description	Sensor size bar	Reference	Weight kg
Digital displays for analogue pressure sensors	0…10	**XMLEZ010**	0.100
	0…25	**XMLEZ025**	0.100
	0…60	**XMLEZ060**	0.100
	0…100	**XMLEZ100**	0.100
	0…250	**XMLEZ250**	0.100
	0…600	**XMLEZ600**	0.100

(1) Connector with screw terminal connections.

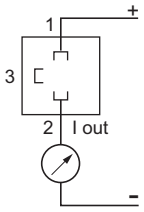
***Note**: For other cabling accessories, please refer to our "Cabling accessories OsiSense XZ" catalogue.*

Electronic pressure sensors
OsiSense XM
Pressure transmitters type XMLP

Connector schemes (pressure sensor connector pin view)

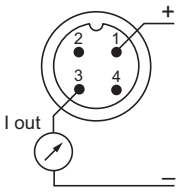
2-wire technique (4-20 mA)

EN 175301-803-A



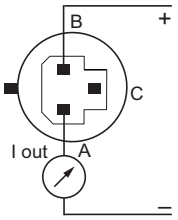
***Note**: Pin 3 must not be connected.*

M12



***Note**: Pins 2 and 4 must not be connected.*

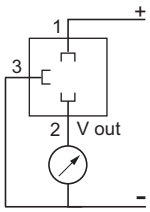
Packard Metri-Pack 150



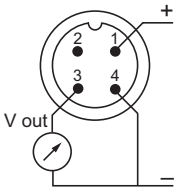
***Note**: Pin C must not be connected.*

3-wire technique (0-10 V or 0.5-4.5 V)

EN 175301-803-A

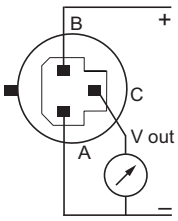


M12



***Note**: Pin 2 must not be connected.*

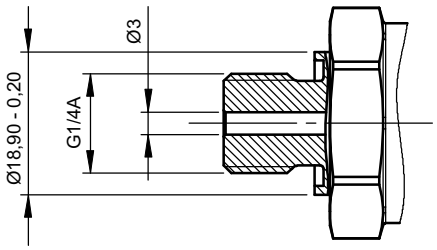
Packard Metri-Pack 150



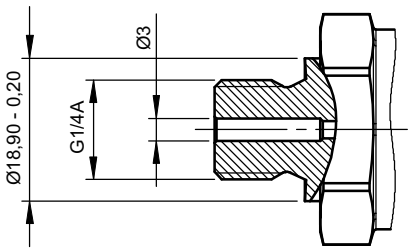
Electronic pressure sensors
OsiSense XM
Pressure transmitters type XMLP

Fluid connection

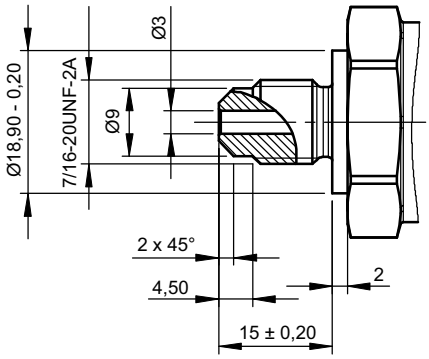
G1/4 A (male) DIN 3852-E



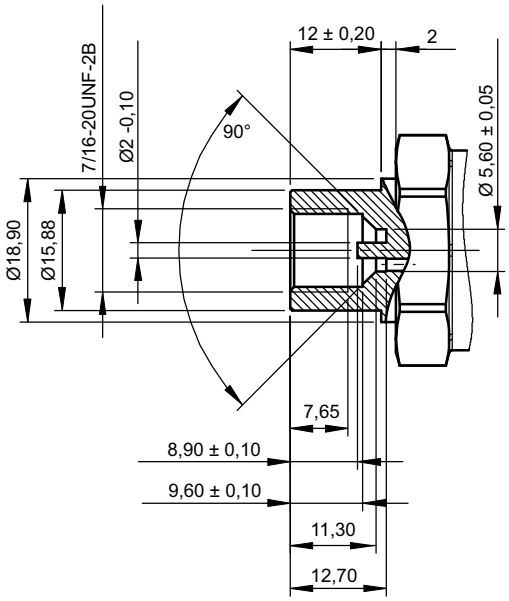
G1/4 A (male) DIN 3852-A



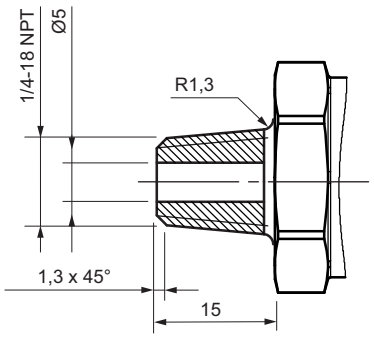
SAE 7/16-20UNF-2A (male)



SAE 7/16-20UNF-2B (female)



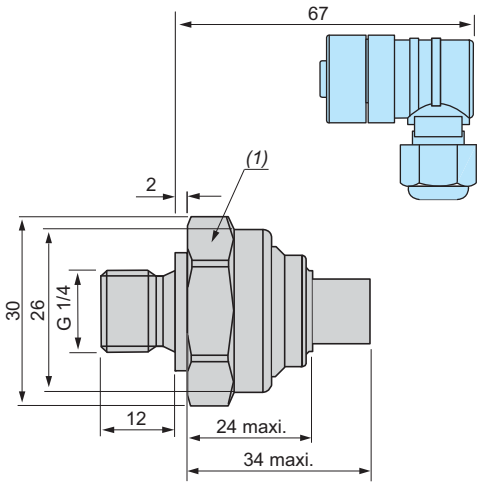
1/4”-18NPT (male)



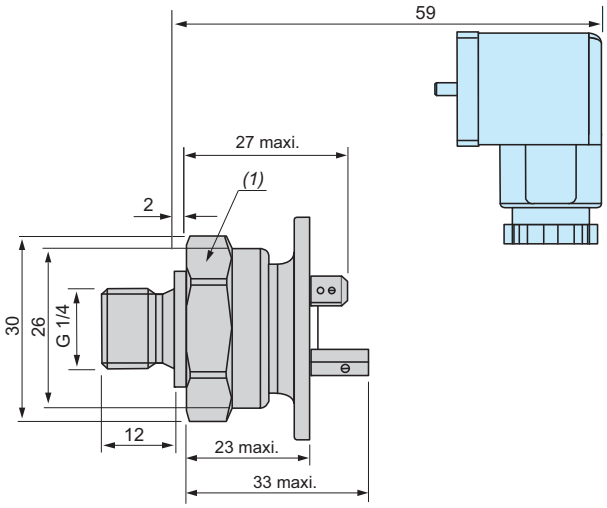
Electronic pressure sensors
OsiSense XM
Pressure transmitters type XMLP

Dimensions

XMLP, M12 connector

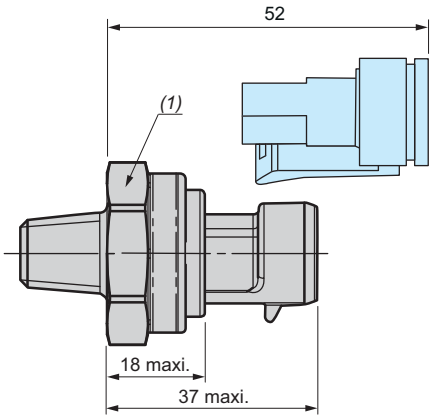


XMLP, EN 175301-803-A connector (ex-DIN 43650)



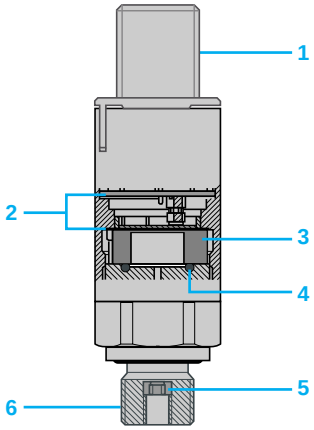
(1) SW 27.

XMLP, Packard Metri-Pack 150 connector



(1) SW 27.

Electronic pressure sensors
OsiSense XM, type XMLG
For control circuits



Presentation

Pressure transmitters and pressure switches type XMLG are characterised by their ceramic pressure measuring cell. The deformation caused by the pressure is transmitted to the resistors of a Wheatstone bridge silk-screened on the ceramic. The change in resistance is then processed by the integrated electronics for providing either a digital or analogue output signal.

1 Electrical connection, for example: M12
2 Electronics with EMC protection
3 Ceramic measuring cell
4 Seals
5 Leakage protection
6 Threaded connection

Functions

Pressure transmitters have an analogue 4-20 mA or 0-10 V output that is proportional to the measuring range.

Pressure and vacuum switches have a solid-state NPN or PNP normally closed (NC) output.

An anti-leakage system integrated in products for pressures ≥ 40 bar prevents fluid leakage in the event of the measuring cell destruction pressure being exceeded.

These compact products that offer excellent EMC characteristics are particularly suited to difficult industrial environments.

The selling in lots is mainly intended for machine manufacturers.

Important ordering requirement

Pressure and vacuum switches XMLG are factory set, the upper and lower switching thresholds must be stated when ordering.

Electronic pressure sensors
OsiSense XM, type XMLG
For control circuits

Environment characteristics

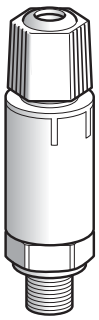
Conformity to standards			CE EN/IEC 60947-1, EN/IEC 60947-5-1 EN 50081-1, EN 50082-2, EN 61000-6-2
Product certifications			UL, CSA
Rated supply voltage	Transmitters 4-20 mA	**V**	⎓ 12/24
	Pressure/vacuum switches		
	Transmitters 0-10 V	**V**	⎓ 24
Voltage limits	Transmitters 4-20 mA	**V**	⎓ 8…33
	Pressure/vacuum switches		
	Transmitters 0-10 V	**V**	⎓ 11.4…33
Current consumption	Pressure/vacuum switches	**mA**	< 4
	Transmitters	**mA**	< 20
Protective treatment			Standard version "TC"
Ambient air temperature	For operation	**°C**	- 15…+ 85
	For storage	**°C**	- 40…+ 85
Fluids or products controlled			Hydraulic oils, air, fresh water, corrosive fluids from - 15…+ 125°C
Component materials in contact with fluid			Ceramic Al_2O_3, stainless steel type AISI 303, FPM (Viton), PPS (Leakage protection for P > 40 bar)
Operating position			All positions
Vibration resistance			20 gn (9…2000 Hz) conforming to EN/IEC 60068-2-6
Shock resistance			25 gn (half sine wave 11 ms) conforming to EN/IEC 60068-2-27
Resistance to electromagnetic interference	Electrostatic discharges		15 kV in air, 8 kV on contact conforming to EN/IEC 61000-4-2
	Radiated electromagnetic fields		200 V/m, 80…1000 MHz conforming to EN/IEC 61000-4-3
	Fast transients		± 4 kV conforming to EN/IEC 61000-4-4
	Surges		± 500 V 12 Ω, ± 1 kV 42 Ω conforming to EN/IEC 61000-4-5
	Conducted disturbances, induced by radio frequency fields		30 V 0.15…80 MHz conforming to EN/IEC 61000-4-6
	Magnetic fields		30 A/m, 50 Hz conforming to EN/IEC 61000-4-8,
Electrical protection			Protected against reverse polarity and load short-circuit
Rated impulse withstand voltage		**kV**	0.5
Degree of protection			IP 66, IP 67 conforming to EN/IEC 60529, NEMA type 4
Output response time		**ms**	< 2
Repeat accuracy			± 0.1% of the measuring range
Precision	Transmitters		Combined sum of linearity, hysteresis and repeat accuracy < ± 0.3% of the measuring range
			Setting tolerance of zero point and measuring range limit < ± 0.3% of the measuring range
	Pressure/vacuum switches		Setting accuracy < ±1% of the measuring range
Drift	Of the zero point		< ± 0.015% of the measuring range/°C
	Of the sensitivity		< ± 0.015% of the measuring range/°C
Service life	In millions of operating cycles		> 10
Fluid connection			G 1/4 A (BSP male) conforming to ISO 7
Electrical connection			M12 connector or integrated connection *(1)*

(1) Phoenix Contact "Quickon" type integrated connection.

Electronic pressure sensors

OsiSense XM, Pressure transmitters, type XMLG
With analogue output 4-20 mA and 0-10 V
Sizes - 1 to 6 bar (-14.5 to 87 psi)

Units with analogue output



Pressure range *(1)*	**- 1… 0 bar (-14.5… 0 psi)**		**0…1 bar (0…14.5 psi)**		**0…6 bar (0…87 psi)**	
Type of electrical connection *(2)*	M12	Integrated quick connection *(3)*	M12	Integrated quick connection *(3)*	M12	Integrated quick connection *(3)*
References						
Pressure transmitters, 4-20 mA						
Sold in packs of: 1	**XMLGM01D21**	–	**XMLG001D21**	–	**XMLG006D21**	–
bulk *(4)*	**XMLGM01D21TQ** *(4)*	**XMLGM01Q21TQ** *(4)*	**XMLG001D21TQ** *(4)*	**XMLG001Q21TQ** *(4)*	**XMLG006D21TQ** *(4)*	**XMLG006Q21TQ** *(4)*
Pressure transmitters, 0-10 V						
Sold in packs of: 1	**XMLGM01D71**	–	**XMLG001D71**	–	**XMLG006D71**	–
bulk *(4)*	**XMLGM01D71TQ** *(4)*	**XMLGM01Q71TQ** *(4)*	**XMLG001D71TQ** *(4)*	**XMLG001Q71TQ** *(4)*	**XMLG006D71TQ** *(4)*	**XMLG006Q71TQ** *(4)*
Fluid connection *(5)*	G 1/4 A (male)					
Weight (kg)	0.095	0.095	0.095	0.095		

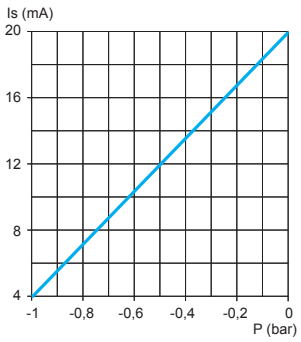
Complementary characteristics not shown under general characteristics

Rated supply voltage	⎓ 12/24 V (transmitters 4-20 mA, pressure/vacuum switches)			
	⎓ 24 V (transmitters 0-10 V)			
Voltage limits	⎓ 8…33 V (transmitters 4-20 mA, pressure/vacuum switches)			
	⎓ 11.4…33 (transmitters 0-10 V)			
Analogue output	4…20 mA, 2-wire technique, or 0-10 V, 3-wire technique			
Current consumption	< 20 mA			
Maximum permissible accidental pressure	2.7 bar (39.1 psi)		2.7 bar (39.1 psi)	17.6 (255.20 psi)
Destruction pressure	3 bar (43.5 psi)		3 bar (43.5 psi)	20 (290 psi)
Electrical connection By connector	**XMLG●●●D21**: M12, 3-pin male. For suitable female connectors, including pre-wired versions, see pages 32 and 33.			
Integrated	**XMLG●●●Q21**: integrated quick connection *(3)*			

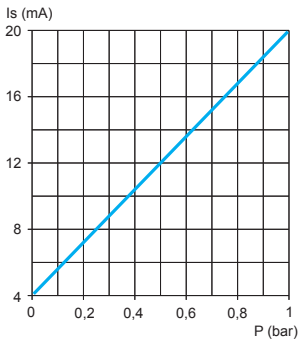
(1) Other pressure ranges, please consult our Customer Care Centre.
(2) Other connections (AMP connector, cable, etc.), please consult our Customer Care Centre.
(3) Phoenix Contact "Quickon" type integrated connection.
(4) Sold in lots of 25, minimum quantity 50.
(5) Other fluid connections (G 1/4, 1/4 NPT, etc.), please consult our Customer Care Centre.
Component materials of units in contact with the fluid, see page 23.

Output curves

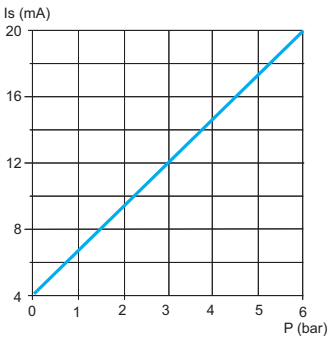
XMLGM01●21



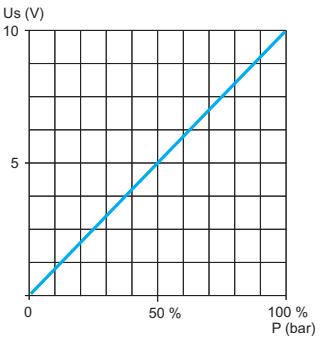
XMLG001●21



XMLG006●21



XMLG●●●●71

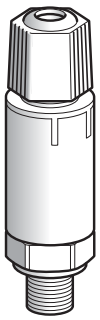


Accessories: page 32
Dimensions: page 33
Schemes: page 33

Electronic pressure sensors

OsiSense XM, Pressure transmitters, type XMLG
With analogue output 4-20 mA and 0-10 V
Sizes 10 to 25 bar (145 to 362.5 psi)

Units with analogue output



Pressure range *(1)*		**0…10 bar (0…145 psi)**		**0…16 bar (0…232 psi)**		**0…25 bar (0…362.5 psi)**	
Type of electrical connection *(2)*		M12	Integrated quick connection *(3)*	M12	Integrated quick connection *(3)*	M12	Integrated quick connection *(3)*
References							
Pressure transmitters, 4-20 mA							
Sold in packs of:	1	**XMLG010D21**	–	**XMLG016D21**	–	**XMLG025D21**	–
	bulk *(4)*	**XMLG010D21TQ** *(4)*	**XMLG010Q21TQ** *(4)*	**XMLG016D21TQ** *(4)*	**XMLG016Q21TQ** *(4)*	**XMLG025D21TQ** *(4)*	**XMLG025Q21TQ** *(4)*
Pressure transmitters, 0-10 V							
Sold in packs of:	1	**XMLG010D71**	–	**XMLG016D71**	–	**XMLG025D71**	–
	bulk *(4)*	**XMLG010D71TQ** *(4)*	**XMLG010Q21TQ** *(4)*	**XMLG016D71TQ** *(4)*	**XMLG016Q71TQ** *(4)*	**XMLG025D71TQ** *(4)*	**XMLG025Q71TQ** *(4)*
Fluid connection *(5)*		G 1/4 A (male)					
Weight (kg)		0.095	0.095	0.095	0.095	0.095	0.095

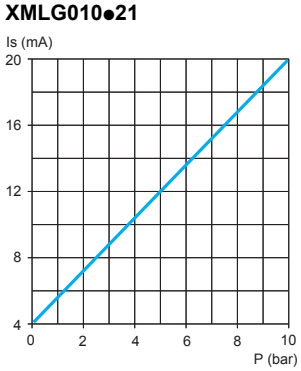
Complementary characteristics not shown under general characteristics

Rated supply voltage		⎓ 12/24 V (transmitters 4-20 mA, pressure/vacuum switches)		
		⎓ 24 V (transmitters 0-10 V)		
Voltage limits		⎓ 8…33 V (transmitters 4-20 mA, pressure/vacuum switches)		
		⎓ 11.4…33 (transmitters 0-10 V)		
Analogue output		4…20 mA, 2-wire technique, or 0-10 V, 3-wire technique		
Current consumption		< 20 mA		
Maximum permissible accidental pressure		22 bar (319 psi)	35.20 (510.4 psi)	56 bar (812 psi)
Destruction pressure		25 bar (362.5 psi)	40 (580 psi)	62.5 bar (906.2 psi)
Electrical connection	By connector	**XMLG●●●D21**: M12, 3-pin male. For suitable female connectors, including pre-wired versions, see pages 32 and 33.		
	Integrated	**XMLG●●●Q21**: integrated quick connection *(3)*		

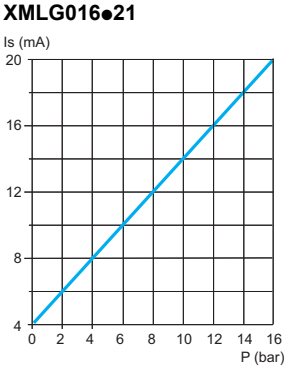
(1) Other pressure ranges, please consult our Customer Care Centre.
(2) Other connections (AMP connector, cable, etc.), please consult our Customer Care Centre.
(3) Phoenix Contact "Quickon" type integrated connection.
(4) Sold in lots of 25, minimum quantity 50.
(5) Other fluid connections (G 1/4, 1/4 NPT, etc.), please consult our Customer Care Centre.
Component materials of units in contact with the fluid, see page 23.

Output curves

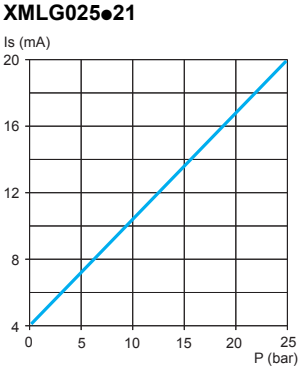
XMLG010●21



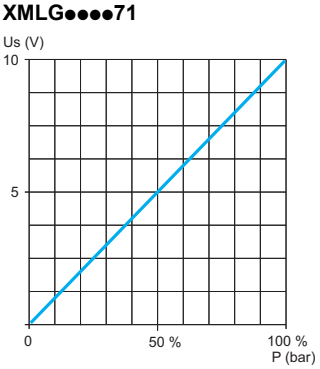
XMLG016●21



XMLG025●21



XMLG●●●●71

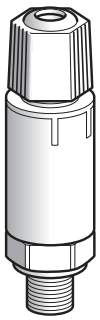


Accessories: page 32
Dimensions: page 33
Schemes: page 33

Electronic pressure sensors

OsiSense XM, Pressure transmitters, type XMLG
With analogue output 4-20 mA and 0-10 V
Sizes 100 to 250 bar (1450 to 3625 psi)

Units with analogue output



Pressure range *(1)*		**0…100 bar (0...1450 psi)**		**0…250 bar (0...3625 psi)**	
Type of electrical connection *(2)*		M12	Integrated quick connection *(3)*	M12	Integrated quick connection *(3)*
References					
Pressure transmitters, 4-20 mA					
Sold in packs of:	1	**XMLG100D21**	–	**XMLG250D21**	–
	bulk *(4)*	**XMLG100D21TQ** *(4)*	**XMLG100Q21TQ** *(4)*	**XMLG250D21TQ** *(4)*	**XMLG250Q21TQ** *(4)*
Pressure transmitters, 0-10 V					
Sold in packs of:	1	**XMLG100D71**	–	**XMLG250D71**	–
	bulk *(4)*	**XMLG100D71TQ** *(4)*	**XMLG100Q71TQ** *(4)*	**XMLG250D71TQ** *(4)*	**XMLG250Q71TQ** *(4)*
Fluid connection *(5)*		G 1/4 A (male)			
Weight (kg)		0.095	0.095	0.095	0.095

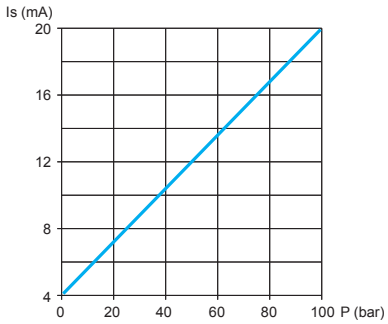
Complementary characteristics not shown under general characteristics

Rated supply voltage	⎓ 12/24 V (transmitters 4-20 mA, pressure/vacuum switches)		
	⎓ 24 V (transmitters 0-10 V)		
Voltage limits	⎓ 8…33 V (transmitters 4-20 mA, pressure/vacuum switches)		
	⎓ 11.4…33 (transmitters 0-10 V)		
Analogue output	4…20 mA, 2-wire technique, or 0-10 V, 3-wire technique		
Current consumption	< 20 mA		
Maximum permissible accidental pressure	225 bar (3262.5 psi)	560 bar (8120 psi)	
Destruction pressure	250 bar (3625 psi)	625 bar (9062.5 psi)	
Electrical connection By connector	**XMLG●●●D21**: M12, 3-pin male. For suitable female connectors, including pre-wired versions, see pages 32 and 33.		
Integrated	**XMLG●●●Q21**: integrated quick connection *(3)*		

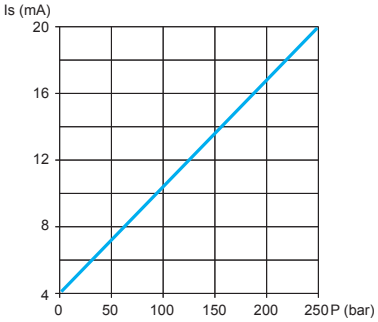
(1) Other pressure ranges, please consult our Customer Care Centre.
(2) Other connections (AMP connector, cable, etc.), please consult our Customer Care Centre.
(3) Phoenix Contact "Quickon" type integrated connection.
(4) Sold in lots of 25, minimum quantity 50.
(5) Other fluid connections (G 1/4, 1/4 NPT, etc.), please consult our Customer Care Centre.
Component materials of units in contact with the fluid, see page 23.

Output curves

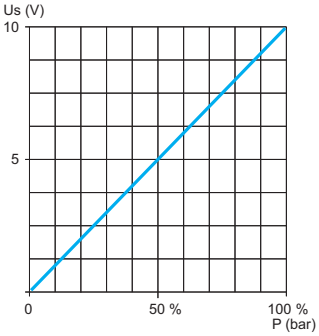
XMLG100●21



XMLG250●21



XMLG●●●●71

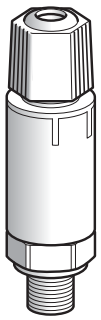


Accessories: page 32
Dimensions: page 33
Schemes: page 33

Electronic pressure sensors

OsiSense XM, Pressure transmitters, type XMLG
With analogue output 4-20 mA and 0-10 V
Size 400 bar (5800 psi)

Units with analogue output



Pressure range *(1)*		**0…400 bar (0…5800 psi)**	
Type of electrical connection *(2)*		M12	Integrated quick connection *(3)*

References

Pressure transmitters, 4-20 mA			
Sold in packs of:	1	**XMLG400D21**	–
	bulk *(4)*	**XMLG400D21TQ** *(4)*	**XMLG400Q21TQ** *(4)*
Pressure transmitters, 0-10 V			
Sold in packs of:	1	**XMLG400D71**	–
	bulk *(4)*	**XMLG400D71TQ** *(4)*	**XMLG400Q71TQ** *(4)*
Fluid connection *(5)*		G 1/4 A (male)	
Weight (kg)		0.095	0.095

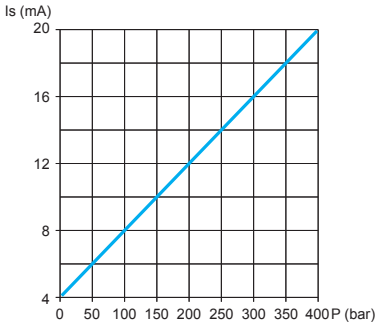
Complementary characteristics not shown under general characteristics

Rated supply voltage		⎓ 12/24 V (transmitters 4-20 mA, pressure/vacuum switches)
		⎓ 24 V (transmitters 0-10 V)
Voltage limits		⎓ 8…33 V (transmitters 4-20 mA, pressure/vacuum switches)
		⎓ 11.4…33 (transmitters 0-10 V)
Analogue output		4…20 mA, 2-wire technique, or 0-10 V, 3-wire technique
Current consumption		< 20 mA
Maximum permissible accidental pressure		800 bar (11,600 psi)
Destruction pressure		900 bar (13,050 psi)
Electrical connection	By connector	**XMLG●●●D21**: M12, 3-pin male. For suitable female connectors, including pre-wired versions, see pages 32 and 33.
	Integrated	**XMLG●●●Q21**: integrated quick connection *(3)*

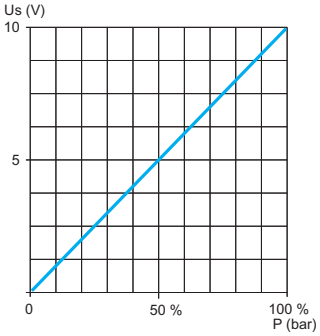
(1) Other pressure ranges, please consult our Customer Care Centre.
(2) Other connections (AMP connector, cable, etc.), please consult our Customer Care Centre.
(3) Phoenix Contact "Quickon" type integrated connection.
(4) Sold in lots of 25, minimum quantity 50.
(5) Other fluid connections (G 1/4, 1/4 NPT, etc.), please consult our Customer Care Centre.
Component materials of units in contact with the fluid, see page 23.

Output curves

XMLG400●21



XMLG●●●●71

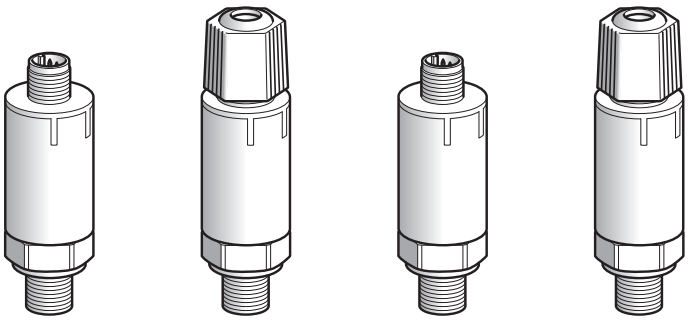


Accessories: page 32
Dimensions: page 33
Schemes: page 33

Electronic pressure sensors

OsiSense XM, Pressure and vacuum switches, type XMLG
Sizes - 1 to 1 bar (- 14.5 to 14.5 psi)

Units with solid-state output *(1)*



Adjustable range of switching point (PH) Rising pressure *(2) (8)*	**- 0.08…- 1 bar (- 1.16…- 14.5 psi)**		**0.08…1 bar (1.16…14.5 psi)**	
Type of electrical connection *(3)*	M12	Integrated quick connection *(4)*	M12	Integrated quick connection *(4)*

References

Only sold in bulk packs *(5)*	**Type of output**				
	NPN	**XMLGM01D31TQ** *(5)*	**XMLGM01Q31TQ** *(5)*	**XMLG001D31TQ** *(5)*	**XMLG001Q31TQ** *(5)*
	PNP	**XMLGM01D41TQ** *(5)*	**XMLGM01Q41TQ** *(5)*	**XMLG001D41TQ** *(5)*	**XMLG001Q41TQ** *(5)*
Fluid connection *(6)*		G 1/4 A (male)			
Weight (kg)		0.095	0.095	0.095	0.095

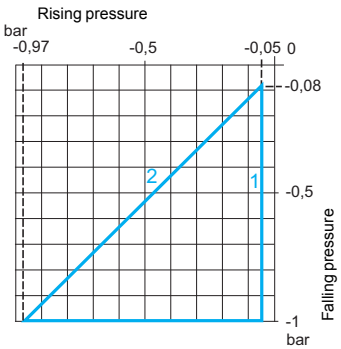
Complementary characteristics not shown under general characteristics

Switching thresholds *(7)*		Factory set	
Possible differential	Min. at low setting	0.03 bar (0.44 psi)	0.03 bar (0.44 psi)
	Min. at high setting	0.03 bar (0.44 psi)	0.03 bar (0.44 psi)
	Max. at high setting	0.95 bar (13.77 psi)	0.95 bar (13.77 psi)
Maximum permissible accidental pressure		2.7 bar (39.1 psi)	2.7 bar (39.1 psi)
Destruction pressure		3 bar (43.5 psi)	3 bar (43.5 psi)
Rated supply voltage		⎓ 12/24 V	
Voltage limits		⎓ 8…33 V	
Output		Solid-state NPN or PNP, NC	
Switching capacity		150 mA	
Current consumption		< 4 mA	
Electrical connection	By connector	**XMLG●●●D●●**: M12, 3-pin male. For suitable female connectors, including pre-wired versions, see pages 32 and 33.	
	Integrated	**XMLG●●●Q●●**: integrated quick connection *(4)*	

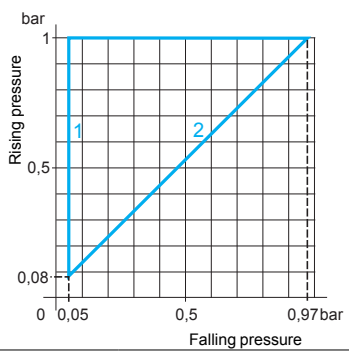
(1) Other types of output (normally open PNP, NPN, etc.), please consult our Customer Care Centre.
(2) Other pressure ranges, please consult our Customer Care Centre.
(3) Other connections (AMP connector, cable, etc.), please consult our Customer Care Centre.
(4) Phoenix Contact "Quickon" type integrated connection.
(5) Sold in lots of 25, minimum quantity 50.
(6) Fluids controlled: hydraulic oils, fresh water, air, corrosive fluids, from -15…+125°C.
Component materials of units in contact with the fluid, see page 23.
Other fluid connections (G 1/4, 1/4 NPT, etc.), please consult our Customer Care Centre.
*(7) **State the switching threshold settings when ordering.***
(8) For vacuum switches (size - 1 bar): adjustable range of switching point (PB) on falling pressure.

Operating curves

XMLGM01●●1



XMLG001●●1



1 Maximum differential
2 Minimum differential

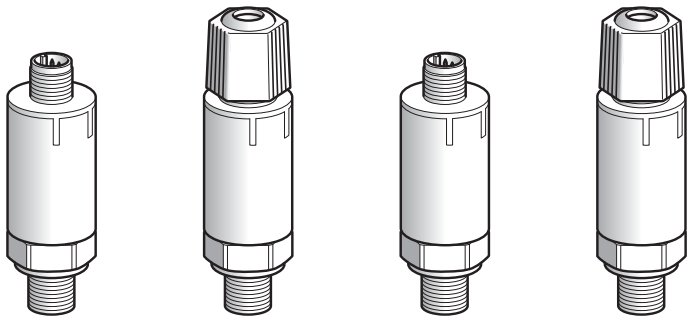
Accessories: page 32
Dimensions: page 33
Schemes: page 33

Telemecanique Sensors

Electronic pressure sensors

OsiSense XM, Pressure switches type XMLG
Sizes 10 to 25 bar (145 to 362.5 psi)

Units with solid-state output *(1)*



Adjustable range of switching point (PH) Rising pressure *(2)*		**0.8…10 bar (11.6…145 psi)**		**2…25 bar (29…362.5 psi)**	
Type of electrical connection *(3)*		M12	Integrated quick connection *(4)*	M12	Integrated quick connection *(4)*

References

Only sold in bulk packs *(5)*	**Type of output**				
	NPN	**XMLG010D31TQ** *(5)*	**XMLG010Q31TQ** *(5)*	**XMLG025D31TQ** *(5)*	**XMLG025Q31TQ** *(5)*
	PNP	**XMLG010D41TQ** *(5)*	**XMLG010Q41TQ** *(5)*	**XMLG025D41TQ** *(5)*	**XMLG025Q41TQ** *(5)*
Fluid connection *(6)*		G 1/4 A (male)			
Weight (kg)		0.095	0.095	0.095	0.095

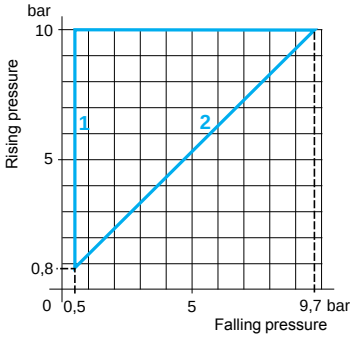
Complementary characteristics not shown under general characteristics

Switching thresholds *(7)*		Factory set	
Possible differential	Min. at low setting	0.3 bar (4.4 psi)	0.75 bar (10.9 psi)
	Min. at high setting	0.3 bar (4.4 psi)	0.75 bar (10.9 psi)
	Max. at high setting	9.5 bar (137.75 psi)	23.8 bar (345.1 psi)
Maximum permissible accidental pressure		22 bar (319 psi)	56 bar (812 psi)
Destruction pressure		25 bar (362.5 psi)	62.5 bar (906.2 psi)
Rated supply voltage		⎓ 12/24 V	
Voltage limits		⎓ 8…33 V	
Output		Solid-state, NPN or PNP, NC	
Switching capacity		150 mA	
Current consumption		< 4 mA	
Electrical connection	By connector	**XMLG●●●D●●**: M12, 3-pin male. For suitable female connectors, including pre-wired versions, see pages 32 and 33.	
	Integrated	**XML-G●●●Q●●**: integrated quick connection *(4)*	

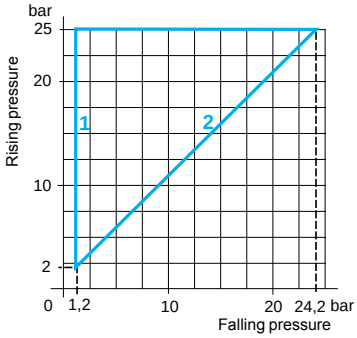
(1) Other types of output (normally open PNP, NPN, etc.), please consult our Customer Care Centre.
(2) Other pressure ranges, please consult our Customer Care Centre.
(3) Other connections (AMP connector, cable, etc.), please consult our Customer Care Centre.
(4) Phoenix Contact "Quickon" type integrated connection.
(5) Sold in lots of 25, minimum quantity 50.
(6) Fluids controlled: hydraulic oils, fresh water, air, corrosive fluids, from -15…+125°C
Component materials of units in contact with the fluid, see page 23.
Other fluid connections (G 1/4, 1/4 NPT, etc.), please consult our Customer Care Centre.
(7) ***State the switching threshold settings when ordering.***

Operating curves

XMLG010●●1



XMLG025●●1



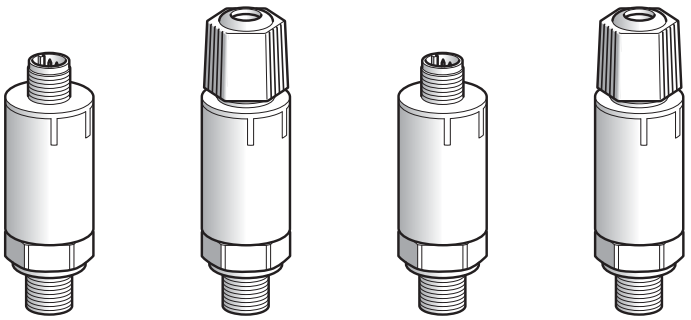
1 Maximum differential
2 Minimum differential

Accessories: page 32
Dimensions: page 33
Schemes: page 33

Electronic pressure sensors

OsiSense XM, Pressure switches type XMLG
Sizes 100 to 250 bar (1450 to 3625 psi)

Units with solid-state output *(1)*



Adjustable range of switching point (PH) Rising pressure *(2)*	**8…100 bar (11.6…1450 psi)**		**20…250 bar (29…3625 psi)**	
Type of electrical connection *(3)*	M12	Integrated quick connection *(4)*	M12	Integrated quick connection *(4)*

References

Only sold in bulk packs *(5)*	**Type of output**				
	NPN	**XMLG100D31TQ** *(5)*	**XMLG100Q31TQ** *(5)*	**XMLG250D31TQ** *(5)*	**XMLG250Q31TQ** *(5)*
	PNP	**XMLG100D41TQ** *(5)*	**XMLG100Q41TQ** *(5)*	**XMLG250D41TQ** *(5)*	**XMLG250Q41TQ** *(5)*
Fluid connection *(6)*		G 1/4 A (male)			
Weight (kg)		0.095	0.095	0.095	0.095

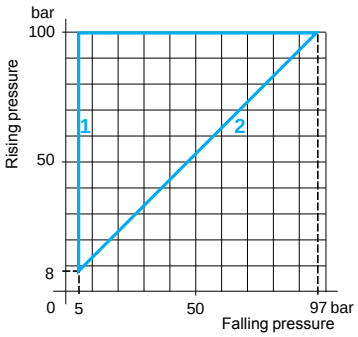
Complementary characteristics not shown under general characteristics

Switching thresholds *(7)*		Factory set	
Possible differential	Min. at low setting	3 bar (43.5 psi)	7.5 bar (108.8 psi)
	Min. at high setting	3 bar (43.5 psi)	7.5 bar (108.8 psi)
	Max. at high setting	95 bar (1377.5 psi)	237.5 bar (3443.7 psi)
Maximum permissible accidental pressure		225 bar (3262.5 psi)	560 bar (8120 psi)
Destruction pressure		250 bar (3625 psi)	625 bar (9062.5 psi)
Rated supply voltage		⎓ 12/24 V	
Voltage limits		⎓ 8…33 V	
Output		Solid-state, NPN or PNP, NC	
Switching capacity		150 mA	
Current consumption		< 4 mA	
Electrical connection	By connector	**XMLG●●●D●●**: M12, 3-pin male. For suitable female connectors, including pre-wired versions, see pages 32 and 33.	
	Integrated	**XMLG●●●Q●●**: integrated quick connection *(4)*	

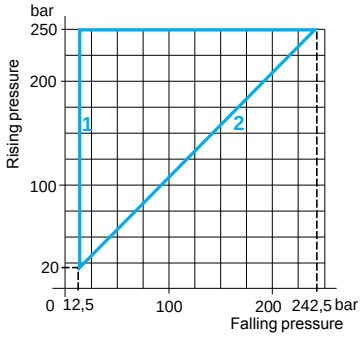
(1) Other types of output (normally open PNP, NPN, etc.), please consult our Customer Care Centre.
(2) Other pressure ranges, please consult our Customer Care Centre.
(3) Other connections (AMP connector, cable, etc.), please consult our Customer Care Centre.
(4) Phoenix Contact "Quickon" type integrated connection.
(5) Sold in lots of 25, minimum quantity 50.
(6) Fluids controlled: hydraulic oils, fresh water, air, corrosive fluids, from -15…+125°C
Component materials of units in contact with the fluid, see page 23.
Other fluid connections (G 1/4, 1/4 NPT, etc.), please consult our Customer Care Centre.
(7) State the switching threshold settings when ordering.

Operating curves

XMLG100●●1TQ



XMLG250●●1TQ



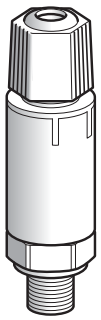
1 Maximum differential
2 Minimum differential

Accessories: page 32
Dimensions: page 33
Schemes: page 33

Electronic pressure sensors

OsiSense XM, Pressure switches type XMLG
Size 400 bar (5800 psi)

Units with solid-state output *(1)*



Adjustable range of switching point (PH) Rising pressure *(2)*		**32…400 bar (464…5800 psi)**	
Type of electrical connection *(3)*		M12	Integrated quick connection *(4)*

References

Only sold in bulk packs *(5)*	**Type of output**		
	NPN	**XMLG400D31TQ** *(5)*	**XMLG400Q31TQ** *(5)*
	PNP	**XMLG400D41TQ** *(5)*	**XMLG400Q41TQ** *(5)*
Fluid connection *(6)*		G 1/4 A (male)	
Weight (kg)		0.095	0.095

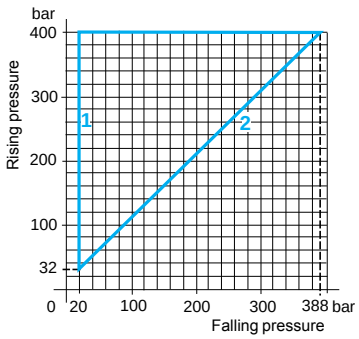
Complementary characteristics not shown under general characteristics

Switching thresholds *(7)*		Factory set
Possible differential	Min. at low setting	12 bar (174 psi)
	Min. at high setting	12 bar (174 psi)
	Max. at high setting	380 bar (5510 psi)
Maximum permissible accidental pressure		800 bar (11,600 psi)
Destruction pressure		900 bar (13,050 psi)
Rated supply voltage		⎓ 12/24 V
Voltage limits		⎓ 8…33 V
Output		Solid-state NPN or PNP, NC
Switching capacity		150 mA
Current consumption		< 4 mA
Electrical connection	By connector	**XMLG●●●D●●:** M12, 3-pin male. For suitable female connectors, including pre-wired versions, see pages 32 and 33.
	Integrated	**XMLG●●●Q●●**: integrated quick connection *(4)*

(1) Other types of output (normally open PNP, NPN, etc.), please consult our Customer Care Centre.
(2) Other pressure ranges, please consult our Customer Care Centre.
(3) Other connections (AMP connector, cable, etc.), please consult our Customer Care Centre.
(4) Phoenix Contact "Quickon" type integrated connection.
(5) Sold in lots of 25, minimum quantity 50.
(6) Fluids controlled: hydraulic oils, fresh water, air, corrosive fluids, from -15…+125°C
Component materials of units in contact with the fluid, see page 23.
Other fluid connections (G 1/4, 1/4 NPT, etc.), please consult our Customer Care Centre.
(7) State the switching threshold settings when ordering.

Operating curve

XMLG400●●1TQ

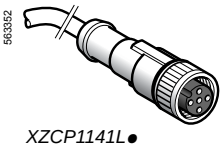


1 Maximum differential
2 Minimum differential

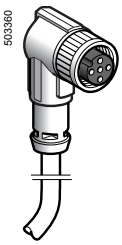
Accessories: page 32
Dimensions: page 33
Schemes: page 33

Electronic pressure sensors

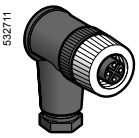
OsiSense XM, Accessories and replacement parts for sensors type XMLG



XZCP1141L●



XZCP1241L●



XZCC12FCM40B

XMLGZ001

Connection accessories

Description		Length of cable m	Reference	Weight kg
M12 female connector, metal clamping ring *(1)*	Straight	–	**XZCC12FDM40B**	0.020
	Elbowed	–	**XZCC12FCM40B**	0.020
Pre-wired M12 female connectors	Straight	2	**XZCP1141L2**	0.090
		5	**XZCP1141L5**	0.190
		10	**XZCP1141L10**	0.370
	Elbowed	2	**XZCP1241L2**	0.090
		5	**XZCP1241L5**	0.190
		10	**XZCP1241L10**	0.370

Replacement part

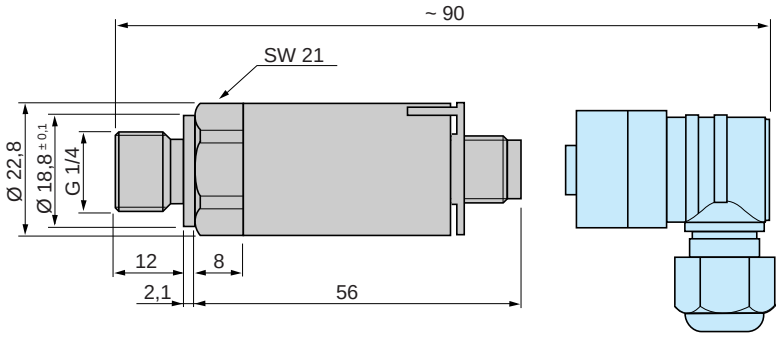
Description	Sold in lots of	Unit reference	Weight kg
Quick connection *(2)*	10	**XMLGZ001**	0.025

(1) Connector with screw terminal connections.
(2) Phoenix Contact "Quickon" type connection.

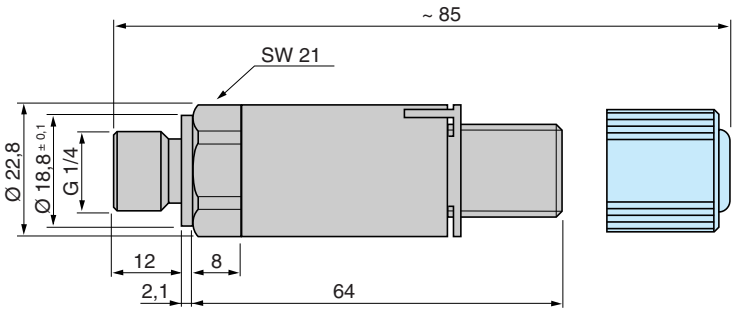
Electronic pressure sensors
OsiSense XM
Transmitters and Pressure switches type XMLG
For control circuits

Dimensions

XMLG●●●D●●, M12 x 1 connection



XMLG●●●Q●●, integrated quick connection

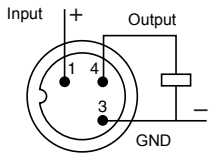


Connector schemes (pressure sensor connector pin view)

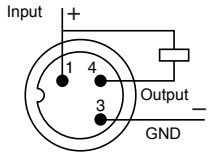
Electronic pressure switches

M12

3-wire technique (PNP)

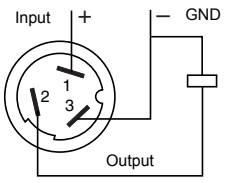


3-wire technique (NPN)

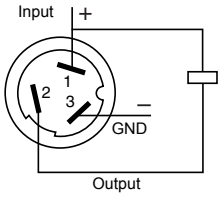


Integrated quick connection

3-wire technique (PNP)



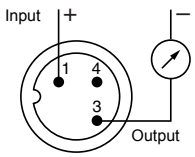
3-wire technique (NPN)



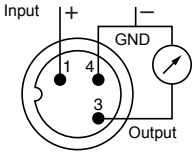
Pressure transmitters

M12

2-wire technique (4-20 mA)

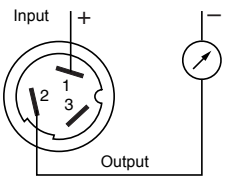


3-wire technique (0-10 V)

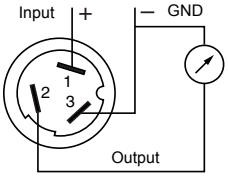


Integrated quick connection

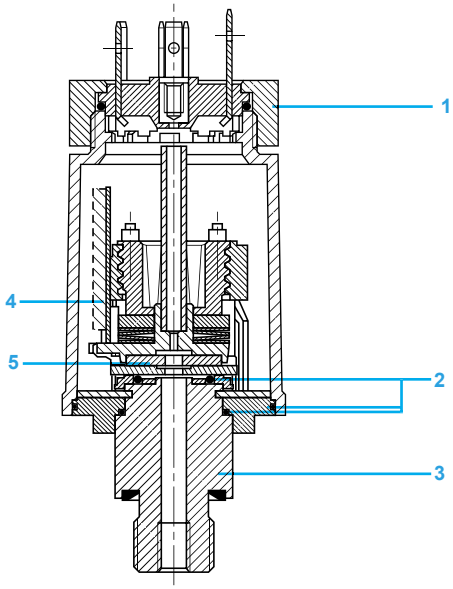
2-wire technique (4-20 mA)



3-wire technique (0-10 V)



Electronic pressure sensors
OsiSense XM
For control circuits, type XMLK



Presentation

Pressure transmitters type XMLK are characterised by their ceramic pressure measuring cell. The deformation caused by the pressure is transmitted to the resistors of a Wheatstone bridge silk-screened on the ceramic. The change in resistance is then processed by the integrated electronics for providing an analogue output signal.

1 Electrical connection, for example: EN 175301-803-A connector
2 Seals
3 Threaded fluid connection
4 Hybrid electronics
5 Ceramic measuring cell

Functions

Pressure transmitters have an analogue 4-20 mA or 0-10 V output that is proportional to the measuring range.

These compact products are available with various types of electrical connector and fluid connection.

As standard, versions are available calibrated in bar and psi.
The selling in lots option offers an excellent price/performance ratio.
Electronic pressure sensors XMLK are, therefore, mainly intended for manufacturers.

The sizes offered are suited to the pumping domain.

Electronic pressure sensors
OsiSense XM
For control circuits, type XMLK

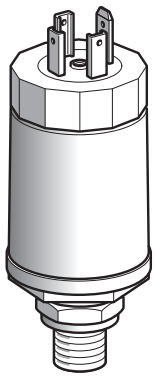
Environmental characteristics

Transmitter output signal			4-20 mA	0-10 V
Conformity to standards			CE, ROHS, EN 61326	
Product certifications			UL, CSA	
Rated supply voltage		**V**	⎓ 12/24 V	⎓ 24 V
Voltage limits			⎓ 8…33 V	⎓ 16.2…33 V
Current consumption			< 20 mA	< 6 mA
Protective treatment			Standard version “TC”	
Ambient air temperature	For operation	**°C**	0…+ 80	
	For storage	**°C**	- 25…+ 80	
Fluids or products controlled			Air, fresh water (0…+ 80°C)	
Component materials in contact with fluid			Steel, type AISI 303 (stainless steel) Nitrile (NBR)	
Operating position			All positions	
Vibration resistance			20 gn (9…2000 Hz) conforming to EN/IEC/60068-2-6	
Shock resistance			25 gn (half sine wave 11 ms) conforming to EN/IEC 60068-2-27	
Resistance to electromagnetic interference	Electrostatic discharges		8 kV in air, 6 kV on contact, conforming to EN/IEC 61000-4-2	
	Radiated electromagnetic fields		10 V/m, 80….1000 MHz conforming to EN/IEC 61000-4-3	
	Fast transients		± 2 kV conforming to EN/IEC 61000-4-4	
	Surges		± 500 V 12 Ω, ± 1 kV 42 Ω conforming to EN/IEC 61000-4-5	
	Conducted disturbances, induced by radio frequency fields		10 V 0.15…80 MHz conforming to EN/IEC 61000-4-6	
	Magnetic fields		30 A/m, 50 Hz conforming to EN/IEC 61000-4-8	
Electrical protection			Protected against reverse polarity and load short-circuit	
Rated impulse withstand voltage		**kV**	0.5	
Degree of protection			IP 65 conforming to EN/IEC 60529 NEMA type 4 conforming to UL/CSA	
Output response time		**ms**	< 2	
Repeat accuracy			± 0.3% of the measuring range	
Precision (resolution)			Combined sum of linearity, hysteresis and repeat accuracy < ± 1% of the measuring range	
			Setting tolerance of zero point and measuring range limit < ± 1% of the measuring range	
Drift	Of the zero point		< ± 0.04% of the measuring range/°K	
	Of the sensitivity		< ± 0.03% of the measuring range/°K	
Service life	Operating cycles		> 10 million	
Fluid connection			G 1/4 A (male), DIN 3852-E or 1/4"-18NPT male	
Electrical connection			Connector, either: M12, EN 175301-803-A (ex-DIN 43650A) or Metri-Pack (Packard)	

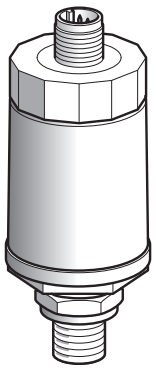
Electronic pressure sensors
OsiSense XM
Pressure transmitters type XMLK, bar version
With analogue output 4-20 mA
Sizes 0 to 25 bar (0 to 362 psi)

Pressure transmitters type XMLK, bar version, DIN 43650A connector or M12 connector *(1)*

DIN 43650A connector



M12 connector

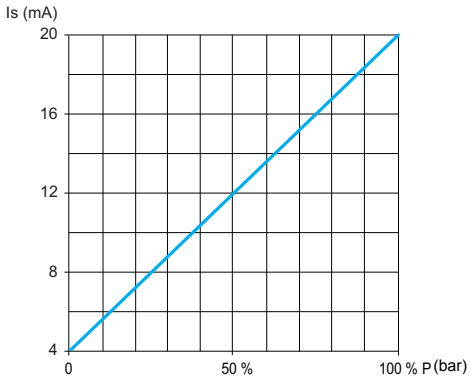


Pressure range		**0…6 bar (0…87 psi)**	**0…10 bar (0…145 psi)**	**0…16 bar (0…232 psi)**	**0…25 bar (0…362.5 psi)**
References					
Pressure transmitters XMLK, DIN 43650A connector					
Sold in packs of:	1	**XMLK006B2C21**	**XMLK010B2C21**	**XMLK016B2C21**	**XMLK025B2C21**
	bulk *(2)*	**XMLK006B2C21TQ**	**XMLK010B2C21TQ**	**XMLK016B2C21TQ**	**XMLK025B2C21TQ**
Pressure transmitters XMLK, M12 connector					
Sold in packs of:	1	**XMLK006B2D21**	**XMLK010B2D21**	**XMLK016B2D21**	**XMLK025B2D21**
	bulk *(2)*	**XMLK006B2D21TQ**	**XMLK010B2D21TQ**	**XMLK016B2D21TQ**	**XMLK025B2D21TQ**
Fluid connection *(3)*		G 1/4 A (male)			
Weight (kg)		0.110	0.110	0.110	0.110
Complementary characteristics not shown under general characteristics					
Rated supply voltage		⎓ 24 V			
Voltage limits		⎓ 8…33 V			
Output *(4)*		4…20 mA, 2-wire technique			
Current consumption		< 20 mA			
Maximum permissible accidental pressure		12 bar (174 psi)	20 bar (290 psi)	32 bar (464 psi)	50 bar (725 psi)
Destruction pressure		18 bar (261 psi)	30 bar (435 psi)	48 bar (696 psi)	75 bar (1087.5 psi)
Electrical connection	**DIN 43650A connector**	EN 175301-803-A (male). For suitable female connector see accessories page 40.			
	M12 connector	M12, 3-pin male. For suitable female connectors, including pre-wired versions, see accessories page 40.			

(1) Other types of electrical connection, please consult our Customer Care Centre.
(2) Sold in lots of 25, minimum quantity 50.
(3) Other types of fluid connection, please consult our Customer Care Centre.
(4) Other types of output, please consult our Customer Care Centre.

Output curve

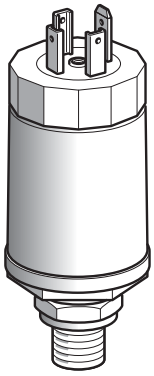
XMLK0●●B2●21



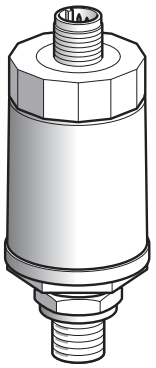
Electronic pressure sensors
OsiSense XM
Pressure transmitters type XMLK, bar version
With analogue output 0-10 V
Sizes 0 to 25 bar (0 to 362 psi)

Pressure transmitters type XMLK, bar version, DIN 43650A connector or M12 connector *(1)*

DIN 43650A connector



M12 connector



Pressure range		**0…6 bar (0…87 psi)**	**0…10 bar (0…145 psi)**	**0…16 bar (0…232 psi)**	**0…25 bar (0…362.5 psi)**
References					
Pressure transmitters XMLK, DIN 43650A connector					
Sold in packs of:	1	**XMLK006B2C71**	**XMLK010B2C71**	**XMLK016B2C71**	**XMLK025B2C71**
	bulk *(2)*	**XMLK006B2C71TQ**	**XMLK010B2C71TQ**	**XMLK016B2C71TQ**	**XMLK025B2C71TQ**
Pressure transmitters XMLK, M12 connector					
Sold in packs of:	1	**XMLK006B2D71**	**XMLK010B2D71**	**XMLK016B2D71**	**XMLK025B2D71**
	bulk *(2)*	**XMLK006B2D71TQ**	**XMLK010B2D71TQ**	**XMLK016B2D71TQ**	**XMLK025B2D71TQ**
Fluid connection *(3)*		G 1/4 A (male)			
Weight (kg)		0.110	0.110	0.110	0.110

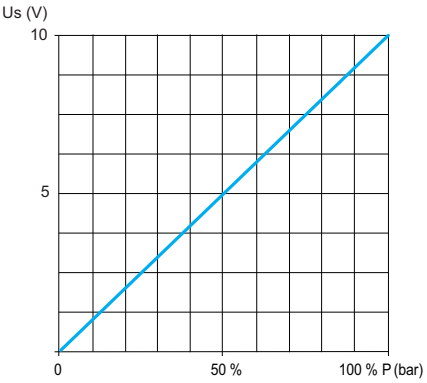
Complementary characteristics not shown under general characteristics

Rated supply voltage		⎓ 24 V			
Voltage limits		⎓ 16.2…33 V			
Output *(4)*		0…10 V, 3-wire technique			
Current consumption		< 6 mA			
Maximum permissible accidental pressure		12 bar (174 psi)	20 bar (290 psi)	32 bar (464 psi)	50 bar (725 psi)
Destruction pressure		18 bar (261 psi)	30 bar (435 psi)	48 bar (696 psi)	75 bar (1087.5 psi)
Electrical connection	**DIN 43650A connector**	EN 175301-803-A (male) . For suitable female connector see accessories page 40.			
	M12 connector	M12, 3-pin male. For suitable female connectors, including pre-wired versions, see accessories page 40.			

(1) Other types of electrical connection, please consult our Customer Care Centre.
(2) Sold in lots of 25, minimum quantity 50.
(3) Other types of fluid connection, please consult our Customer Care Centre.
(4) Other types of output, please consult our Customer Care Centre.

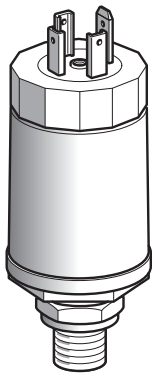
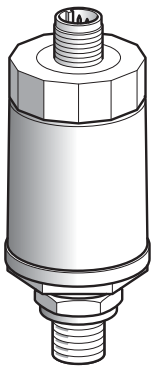
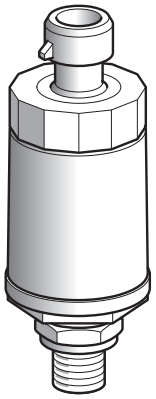
Output curve

XMLK0●●B2●71



Electronic pressure sensors
OsiSense XM
Pressure transmitters type XMLK, PSI version
With analogue output 4-20 mA
Sizes 0 to 300 psi (0 to 20.7 bar)

Pressure transmitters type XMLK, PSI version, DIN 43650A, M12 or Packard connector *(1)*

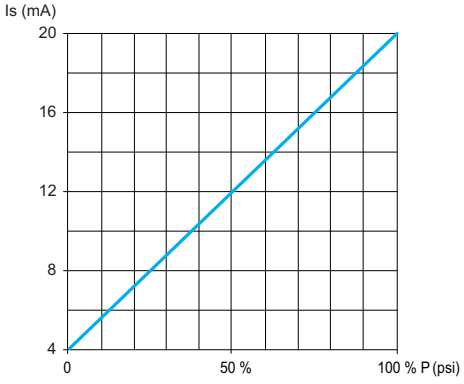
	DIN 43650A connector	M12 connector	Packard connector
			

Pressure range		**0…100 psi (0…6.9 bar)**	**0…150 psi (0…10.3 bar)**	**0…200 psi (0…13.8 bar)**	**0…300 psi (0….20.7 bar)**
References					
Pressure transmitters XMLK, DIN 43650A connector					
Sold in packs of:	1	**XMLK100P2C23**	**XMLK150P2C23**	**XMLK200P2C23**	**XMLK300P2C23**
	bulk *(2)*	**XMLK100P2C23TQ**	**XMLK150P2C23TQ**	**XMLK200P2C23TQ**	**XMLK300P2C23TQ**
Pressure transmitters XMLK, M12 connector					
Sold in packs of:	1	**XMLK100P2D23**	**XMLK150P2D23**	**XMLK200P2D23**	**XMLK300P2D23**
	bulk *(2)*	**XMLK100P2D23TQ**	**XMLK150P2D23TQ**	**XMLK200P2D23TQ**	**XMLK300P2D23TQ**
Pressure transmitters XMLK, Packard connector					
Sold in packs of:	1	**XMLK100P2P23**	**XMLK150P2P23**	**XMLK200P2P23**	**XMLK300P2P23**
	bulk *(2)*	**XMLK100P2P23TQ**	**XMLK150P2P23TQ**	**XMLK200P2P23TQ**	**XMLK300P2P23TQ**
Fluid connection *(3)*		1/4"-18NPT male			
Weight (kg)		0.110	0.110	0.110	0.110
Complementary characteristics not shown under general characteristics					
Rated supply voltage		⎓ 24 V			
Voltage limits		⎓ 8…33 V			
Output *(4)*		4…20 mA, 2-wire technique			
Current consumption		< 20 mA			
Maximum permissible accidental pressure		200 psi (13.8 bar)	300 psi (20.7 bar)	400 psi (27.5 bar)	600 psi (41 bar)
Destruction pressure		300 psi (20.7 bar)	450 psi (31 bar)	600 psi (41 bar)	900 psi (62 bar)
Electrical connection	**DIN 43650A connector**	EN 175301-803-A (male) . For suitable female connector see accessories page 40			
	M12 connector	M12, 3-pin male. For suitable female connectors, including pre-wired versions, see accessories page 40			
	Packard connector	3-pin Delphi (Packard) Metri-Pack 150 series.			

(1) Other types of electrical connection, please consult our Customer Care Centre.
(2) Sold in lots of 25, minimum quantity 50.
(3) Other types of fluid connection, please consult our Customer Care Centre.
(4) Other types of output, please consult our Customer Care Centre.

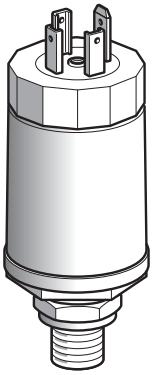
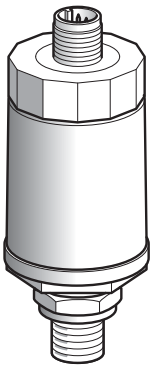
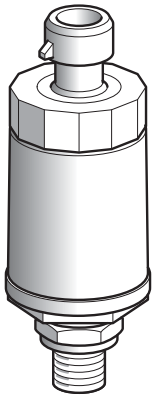
Output curve

XMLK1●●P2●23



Electronic pressure sensors
OsiSense XM
Pressure transmitters type XMLK, PSI version
With analogue output 0-10 V
Sizes 0 to 300 psi (0 to 20.7 bar)

Pressure transmitters type XMLK, PSI version, DIN 43650A, M12 or Packard connector *(1)*

	DIN 43650A connector	M12 connector	Packard connector
			

Pressure range		**0…100 psi (0…6.9 bar)**	**0…150 psi (0…10.3 bar)**	**0…200 psi (0…13.8 bar)**	**0…300 psi (0…20.7 bar)**
References					
Pressure transmitters XMLK, DIN 43650A connector					
Sold in packs of:	1	**XMLK100P2C73**	**XMLK150P2C73**	**XMLK200P2C73**	**XMLK300P2C73**
	bulk *(2)*	**XMLK100P2C73TQ**	**XMLK150P2C73TQ**	**XMLK200P2C73TQ**	**XMLK300P2C73TQ**
Pressure transmitters XMLK, M12 connector					
Sold in packs of:	1	**XMLK100P2D73**	**XMLK150P2D73**	**XMLK200P2D73**	**XMLK300P2D73**
	bulk *(2)*	**XMLK100P2D73TQ**	**XMLK150P2D73TQ**	**XMLK200P2D73TQ**	**XMLK300P2D73TQ**
Pressure transmitters XMLK, Packard connector					
Sold in packs of:	1	**XMLK100P2P73**	**XMLK150P2P73**	**XMLK200P2P73**	**XMLK300P2P73**
	bulk *(2)*	**XMLK100P2P73TQ**	**XMLK150P2P73TQ**	**XMLK200P2P73TQ**	**XMLK300P2P73TQ**
Fluid connection *(3)*		1/4"-18NPT male			
Weight (kg)		0.110	0.110	0.110	0.110

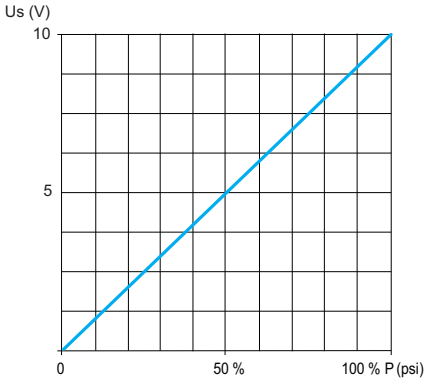
Complementary characteristics not shown under general characteristics

Rated supply voltage		⎓ 24 V			
Voltage limits		⎓ 16.2…33 V			
Output *(4)*		0…10 V, 3-wire technique			
Current consumption		< 6 mA			
Maximum permissible accidental pressure		200 psi (13.8 bar)	300 psi (20.7 bar)	400 psi (27.5 bar)	600 psi (41 bar)
Destruction pressure		300 psi (20.7 bar)	450 psi (31 bar)	600 psi (41 bar)	900 psi (62 bar)
Electrical connection	**DIN 43650A connector**	EN 175301-803-A (male) . For suitable female connector see accessories page 40.			
	M12 connector	M12, 3-pin male. For suitable female connectors, including pre-wired versions, see accessories page 40.			
	Packard connector	3-pin Delphi (Packard) Metri-Pack 150 series.			

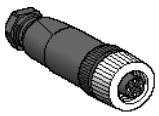
(1) Other types of electrical connection, please consult our Customer Care Centre.
(2) Sold in lots of 25, minimum quantity 50.
(3) Other types of fluid connection, please consult our Customer Care Centre.
(4) Other types of output, please consult our Customer Care Centre.

Output curve

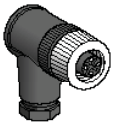
XMLK1●●P2●73



Electronic pressure sensors
Pressure transmitters type XMLK
Accessories

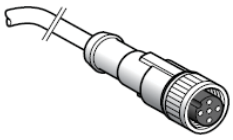


XZCC12FDM40B

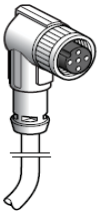


XZCC12FCM40B

XZCC43FCP40B



XZCP1141L10



XZCP1241L5

Connection accessories

Description	Type	Reference	Weight kg
M12 female connector, metal clamping ring *(1)*	Straight	**XZCC12FDM40B**	0.020
	Elbowed	**XZCC12FCM40B**	0.020
DIN 43650A female connector *(1)*		**XZCC43FCP40B**	0.035

Description	Length of cable	Reference	Weight kg
Pre-wired M12, straight female connectors	2 m	**XZCP1141L2**	0.090
	5 m	**XZCP1141L5**	0.190
	10 m	**XZCP1141L10**	0.370
Pre-wired M12, elbowed female connectors	2 m	**XZCP1241L2**	0.090
	5 m	**XZCP1241L5**	0.190
	10 m	**XZCP1241L10**	0.370

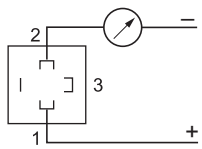
(1) Connector with screw terminal connections.

Connector schemes (pressure sensor connector pin view)

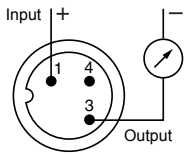
Pressure transmitters XMLK

2-wire technique (4-20 mA)

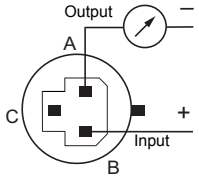
DIN



M12

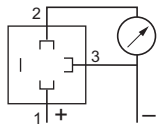


Packard

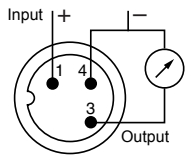


3-wire technique (0-10 V)

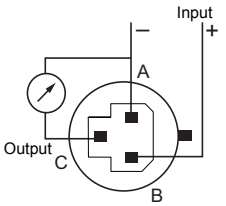
DIN



M12



Packard

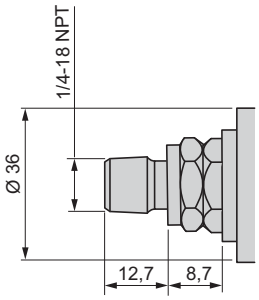


Electronic pressure sensors
Pressure transmitters type XMLK

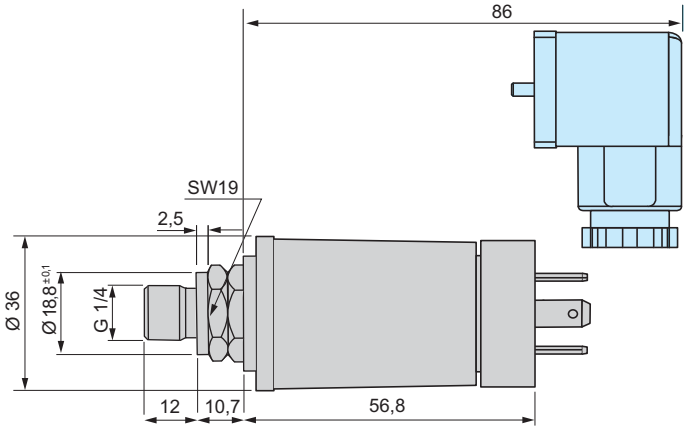
Dimensions

XMLK, DIN connector

NPT

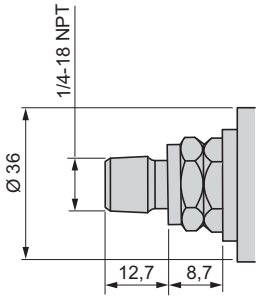


G 1/4 A (male)

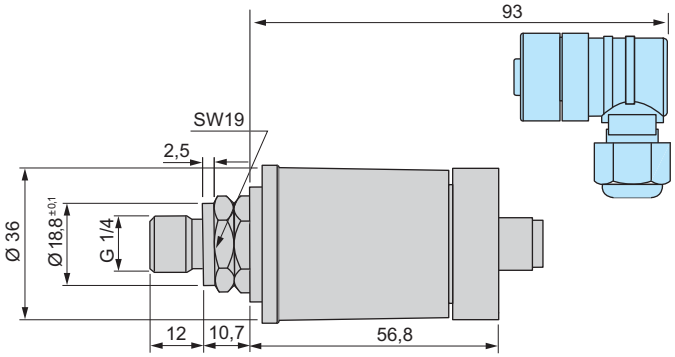


XMLK, M12 connector

NPT

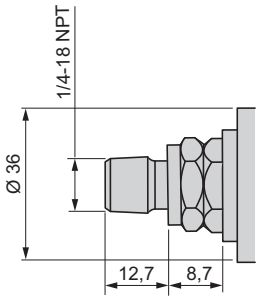


G 1/4 A (male)

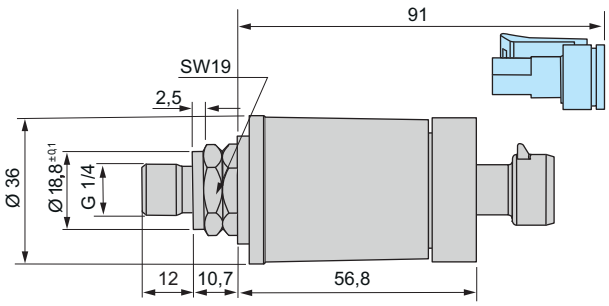


XMLK, Packard connector

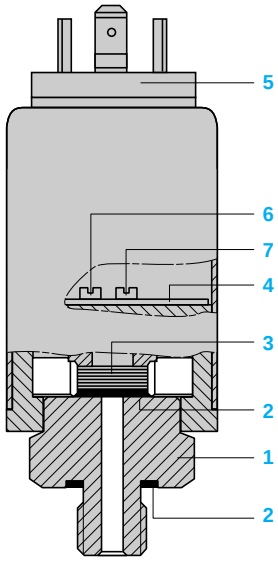
NPT



G 1/4 A (male)



Electronic pressure sensors
OsiSense XM, type XMLE



Presentation

Pressure switches and pressure transmitters type XMLE are characterised by their ceramic pressure measuring cell.

1 Threaded fluid entry.

2 Sealing gaskets.

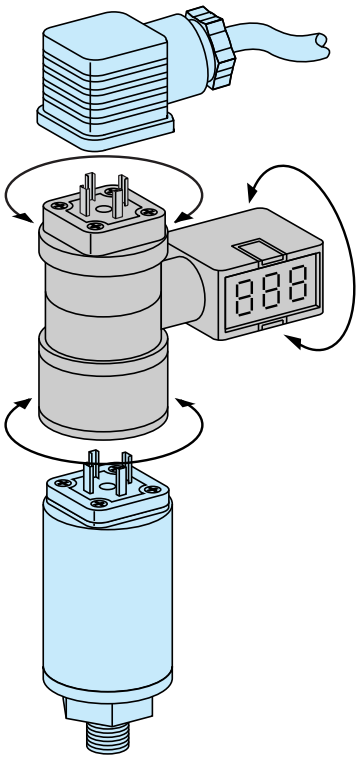
3 Measuring load cell (ceramic technology).

4 Electronic card.

5 Electrical connector.

6 Adjustment potentiometer for switching point PH (rising pressure). Only applicable to pressure switches.

7 Adjustment potentiometer for switching point PB (falling pressure). Only applicable to pressure switches.



Operating principle

Pressure switches XMLE incorporate a solid-state NPN or PNP NC output. Two potentiometers enable the setting of the PH (rising pressure) and PB (falling pressure) switching points.

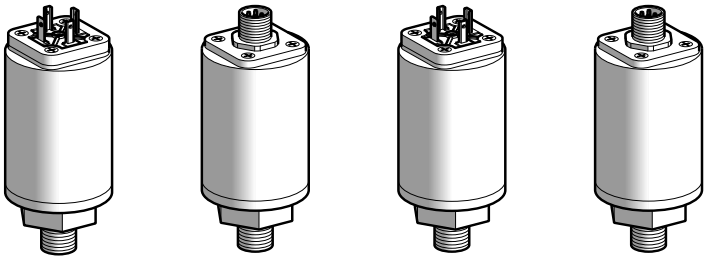
Pressure transmitters XMLE provide a 4-20 mA analogue output which is proportional to the measuring range.

A digital display unit can be directly plugged-in between the male and female EN 175301-803-A connectors.
Simple unrestricted positioning of the display unit + sensor + connector.
The display can be adjusted to enable reading from any direction (360° orientation both vertically and horizontally).

Electronic pressure sensors
OsiSense XM, type XMLE

Characteristics		
Conformity to standards		CE, EN 50081, EN 50082
Product certifications		UL, CSA
Protective treatment		Standard version "TC"
Ambient air temperature	**°C**	For operation: - 15...+ 80
Fluids or products controlled		Hydraulic oils, air, fresh water, corrosive fluids from - 15…+ 80°C
Component materials in contact with fluid		Stainless steel fluid entry type AISI 303, Viton gasket
Operating position		All positions
Vibration resistance	**gn**	5 (25…200 Hz) and 35 (60…2000 Hz)
Shock resistance	**gn**	50
Electrical protection		Protected against reverse polarity, short-circuit and overload
Degree of protection		IP 65 conforming to IEC/EN 60529
Operating rate	**Hz**	50
Response time	**ms**	< 5
Service life	**Op. cycles**	> 10 million
Drift		Of the zero point: < ± 0.03% of the measuring range/°C Of the sensitivity: < ± 0.015% of the measuring range/°C
Precision		< ± 0.3% of the measuring range
Fluid connection		G 1/4 A (BSP male) conforming to NF E 03-004, ISO 7
Electrical connection		DIN 43650 A or M12 connector

Electronic pressure sensors
OsiSense XM
Transmitters without display, type XMLE *(1)*
Sizes - 1 to 25 bar (- 14.5 to 362.5 psi)

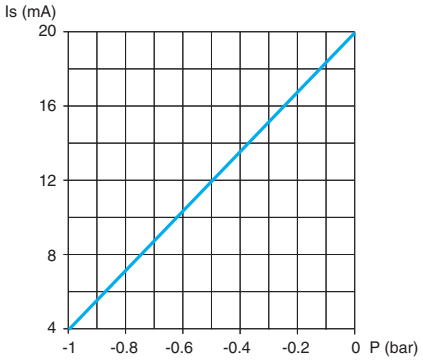
Type	With analogue output, fluid connection G 1/4 A (male)			
				
Pressure range	**0…- 1 bar (0…- 14.5 psi)**		**0…1 bar (0…14.5 psi)**	
Electrical connector type	DIN 43650 A	M12	DIN 43650 A	M12
References				
Fluids controlled *(2)* Hydraulic oils, fresh water, air, corrosive fluids, from - 15 to + 80°C	**XMLEM01U1C21**	**XMLEM01U1D21**	**XMLE001U1C21**	**XMLE001U1D21**
Weight (kg)	0.250	0.300	0.250	0.300

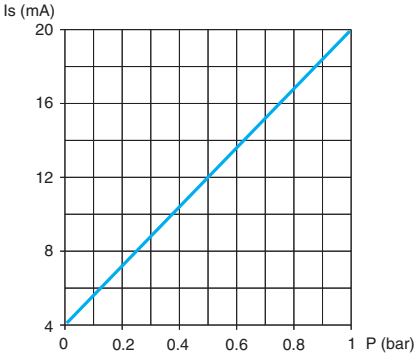
Complementary characteristics not shown under general characteristics (page 43)

Maximum permissible accidental pressure	1 bar (14.5 psi)	2 bar (29 psi)
Destruction pressure	2 bar (29 psi)	3 bar (43.5 psi)
Rated supply voltage	**⎓ 24 V**	
Voltage limits	⎓ 11…33 V	
Output	Analogue, 4…20 mA, 2-wire technique	
Current consumption	< 20 mA	
Electrical connection	XMLE●●●U1C21: DIN 43650A, 4-pin male connector. For suitable female connector, see page 52. XMLE●●●U1D21: M12, 5-pin male connector. For suitable female connector, see page 52.	

(1) Optional digital display for sensor, see page 52.
(2) Component materials of units in contact with the fluid, see page 43.

Output curves

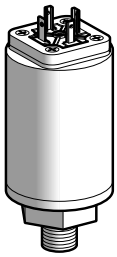




Other versions Pressure transmitters with 1/4" NPTF fluid connection. Please consult our Customer Care Centre.

Accessories: page 52 Dimensions: page 53 Schemes: page 53

With analogue output, fluid connection G 1/4 A (male)




0…10 bar (0…145 psi)		**0…25 bar (0…362.5 psi)**	
DIN 43650 A	M12	DIN 43650 A	M12

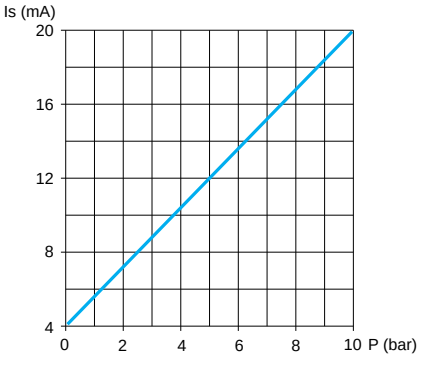
References

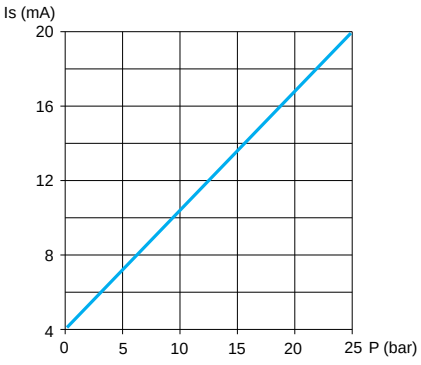
XMLE010U1C21	**XMLE010U1D21**	**XMLE025U1C21**	**XMLE025U1D21**
0.250	0.300	0.250	0.300

Complementary characteristics not shown under general characteristics (page 43)

20 bar (290 psi)	50 bar (725 psi)
30 bar (435 psi)	75 bar (1087.5 psi)
⎓ **24 V**	
⎓ 11…33 V	
Analogue, 4…20 mA, 2-wire technique	
< 20 mA	
XMLE●●●U1C21: DIN 43650A, 4-pin male connector. For suitable female connector, see page 52. XMLE●●●U1D21: M12, 5-pin male connector. For suitable female connector, see page 52.	

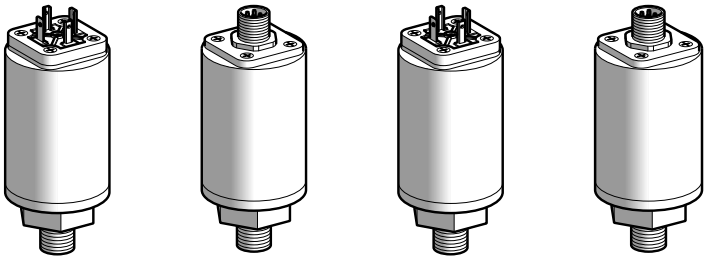
Output curves





Accessories: page 52
Dimensions: page 53
Schemes: page 53

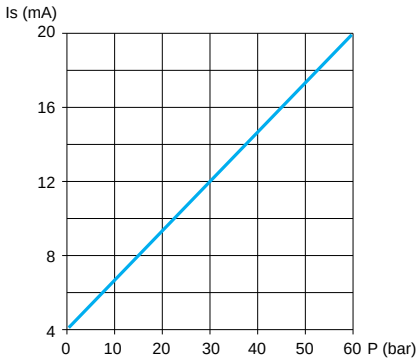
Electronic pressure sensors
OsiSense XM
Transmitters without display, type XMLE *(1)*
Sizes 60 to 600 bar (870 to 8700 psi)

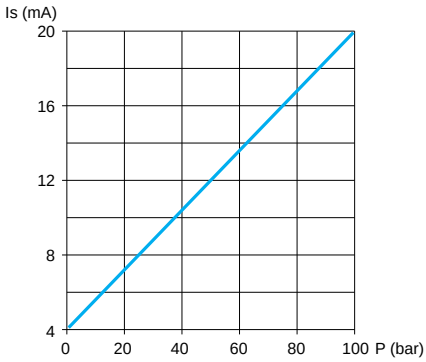
Type	With analogue output, fluid connection G 1/4 A (male)			
				
Pressure range	**0…60 bar (0…870 psi)**		**0…100 bar (0…1450 psi)**	
Electrical connector type	DIN 43650 A	M12	DIN 43650 A	M12
References				
Fluids controlled *(2)* Hydraulic oils, fresh water, air, corrosive fluids, from - 15 to + 80°C	**XMLE060U1C21**	**XMLE060U1D21**	**XMLE100U1C21**	**XMLE100U1D21**
Weight (kg)	0.270	0.320	0.270	0.320

Complementary characteristics not shown under general characteristics (page 43)		
Maximum permissible accidental pressure	120 bar (1740 psi)	200 bar (2900 psi)
Destruction pressure	180 bar (2610 psi)	300 bar (4350 psi)
Rated supply voltage	⎓ **24 V**	
Voltage limits	⎓ 11…33 V	
Output	Analogue, 4…20 mA, 2-wire technique	
Current consumption	< 20 mA	
Electrical connection	XMLE●●●U1C21: DIN 43650A, 4-pin male connector. For suitable female connector, see page 52. XMLE●●●U1D21: M12, 5-pin male connector. For suitable female connector, see page 52.	

(1) Optional digital display for sensor, see page 52.
(2) Component materials of units in contact with the fluid, see page 43.

Output curves

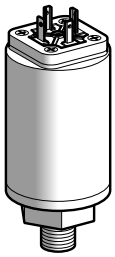


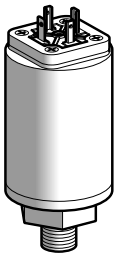


Other versions Pressure transmitters with 1/4" NPTF fluid connection. Please consult our Customer Care Centre.

Accessories: page 52
Dimensions: page 53
Schemes: page 53

With analogue output, fluid connection G 1/4 A (male)






0…250 bar (0…3625 psi)		0…600 bar (0…8700 psi)	
DIN 43650 A	M12	DIN 43650 A	M12

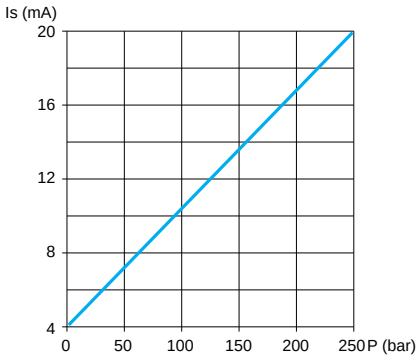
References

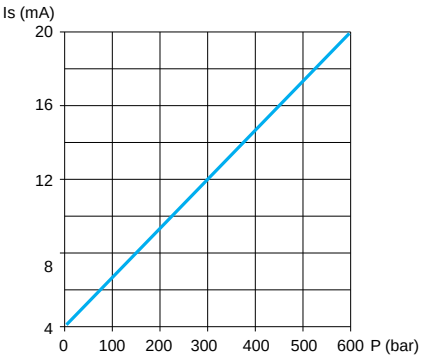
XMLE250U1C21	**XMLE250U1D21**	**XMLE600U1C21**	**XMLE600U1D21**
0.270	0.320	0.270	0.320

Complementary characteristics not shown under general characteristics (page 43)

500 bar (7250 psi)	1200 bar (17,400 psi)
750 bar (10,875 psi)	1800 bar (26,100 psi)
⎓ **24 V**	
⎓ 11…33 V	
Analogue, 4…20 mA, 2-wire technique	
< 20 mA	
XMLE●●●U1C21: DIN 43650 A, 4-pin male connector. For suitable female connector, see page 52. XMLE●●●U1D21: M12, 5-pin male connector. For suitable female connector, see page 52.	

Output curves



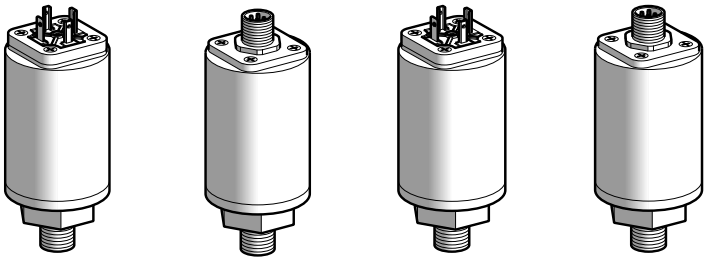


Accessories: page 52
Dimensions: page 53
Schemes: page 53

Electronic pressure sensors

OsiSense XM, type XMLE

Vacuum and pressure switches without display *(1)*, with adjustable differential for regulation between 2 thresholds
Sizes - 1 to 25 bar (- 14.5 to 362.5 psi)

Type	**With solid-state output, fluid connection G 1/4 A (male)**			
				
Adjustable range of switching point (PH) (Rising pressure) *(2)*	**- 0.07…- 1 bar (- 1.015…- 14.5 psi)**		**0.07…1 bar (1015…14.5 psi)**	
Electrical connector type	DIN 43650 A	M12	DIN 43650 A	M12

References

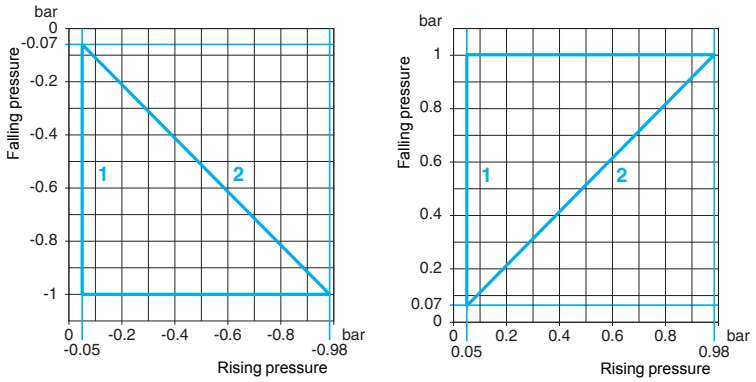
Fluids controlled *(3)*	**Type of output**				
Hydraulic oils, fresh water, air, corrosive fluids, from - 15 to + 80°C	NPN	**XMLEM01U1C31**	**XMLEM01U1D31**	**XMLE001U1C31**	**XMLE001U1D31**
	PNP	**XMLEM01U1C41**	**XMLEM01U1D41**	**XMLE001U1C41**	**XMLE001U1D41**
Weight (kg)		0.250	0.300	0.250	0.300

Complementary characteristics not shown under general characteristics (page 43)

Possible differential	Min. at low setting	0.02 bar (0.29 psi)	0.02 bar (0.29 psi)
	Min. at high setting	0.02 bar (0.29 psi)	0.02 bar (0.29 psi)
	Max. at high setting	0.95 bar (13.77 psi) (max. differential at low setting)	0.95 bar (13.77 psi)
Maximum permissible accidental pressure		1 bar (14.5 psi)	2 bar (29 psi)
Destruction pressure		2 bar (29 psi)	3 bar (43.5 psi)
Rated supply voltage		**⎓ 24 V**	
Voltage limits		⎓ 11…33 V	
Output		Solid-state, NPN or PNP, NC	
Switching capacity		100 mA	
Current consumption		< 15 mA	
Electrical connection		XMLE●●●U1C●1: DIN 43650 A, 4-pin male connector. For suitable female connector, see page 52. XMLE●●●U1D●1: M12, 4-pin male connector. For suitable female connector, see page 52.	

(1) Optional digital display for pressure switch, see page 52.
(2) For vacuum switches (size - 1 bar): adjustable range of switching point (PB) on falling pressure.
(3) Component materials of units in contact with the fluid, see page 43.

Operating curves

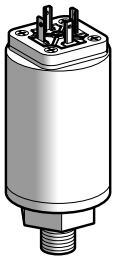


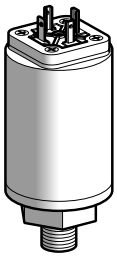
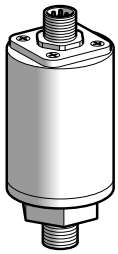
1 Maximum differential
2 Minimum differential

Other versions	Pressure and vacuum switches with 1/4" NPTF fluid connection. Please consult our Customer Care Centre.

Accessories: page 52 | Dimensions: page 53 | Schemes: page 53

With solid-state output, fluid connection G 1/4 A (male)



0.7…10 bar (10.15…145 psi)		1.75…25 bar (25.38…362.5 psi)	
DIN 43650 A	M12	DIN 43650 A	M12

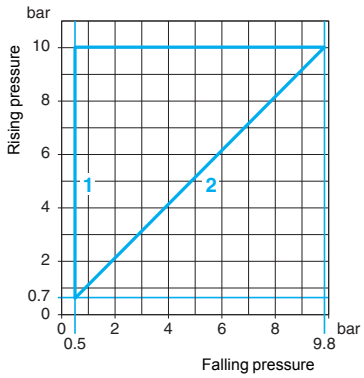
References

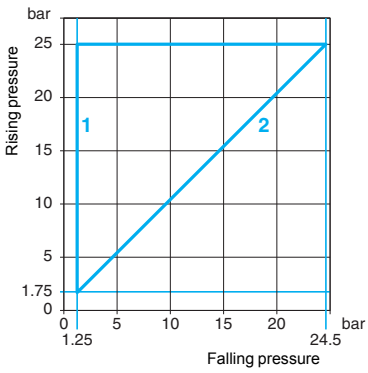
XMLE010U1C31	**XMLE010U1D31**	**XMLE025U1C31**	**XMLE025U1D31**
XMLE010U1C41	**XMLE010U1D41**	**XMLE025U1C41**	**XMLE025U1D41**
0.250	0.300	0.250	0.300

Complementary characteristics not shown under general characteristics (page 43)

0.2 bar (2.9 psi)	0.2 bar (2.9 psi)
0.2 bar (2.9 psi)	0.2 bar (2.9 psi)
9.5 bar (137.7 psi)	23.75 bar (344.37 psi)
20 bar (290 psi)	50 bar (725 psi)
30 bar (435 psi)	75 bar (1087.5 psi)
⎓ 24 V	
⎓ 11…33 V	
Solid-state, NPN or PNP, NC	
100 mA	
< 15 mA	
XMLE●●●U1C●1: DIN 43650 A, 4-pin male connector. For suitable female connector, see page 52. XMLE●●●U1D●1: M12, 5-pin male connector. For suitable female connector, see page 52.	

Operating curves





1 Maximum differential
2 Minimum differential

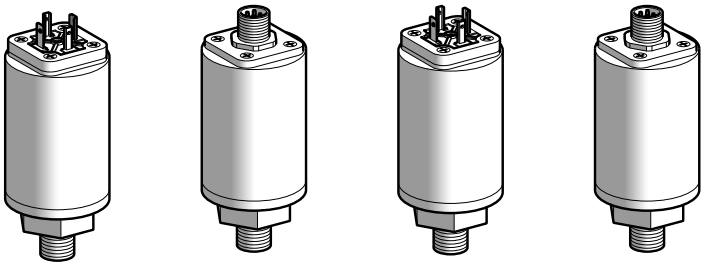
Accessories: page 52
Dimensions: page 53
Schemes: page 53

Electronic pressure sensors

OsiSense XM, type XMLE

Pressure switches without display *(1)*, with adjustable differential for regulation between 2 thresholds
Sizes 60 to 600 bar (870 to 8700 psi)

Type	**With solid-state output, fluid connection G 1/4 A (male)**			



Adjustable range of switching point (PH) (Rising pressure)	**4.2…60 bar (60.9…870 psi)**		**7…100 bar (101.5…1450 psi)**	
Electrical connector type	DIN 43650 A	M12	DIN 43650 A	M12

References

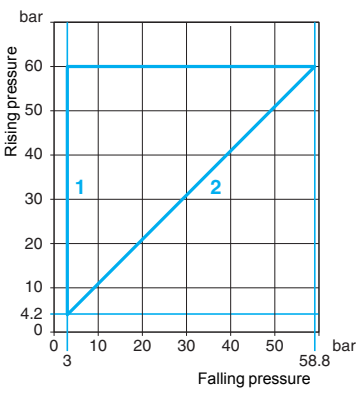
Fluids controlled *(2)*	**Type of output**				
Hydraulic oils, fresh water, air, corrosive fluids, from - 15 to + 80°C	NPN	**XMLE060U1C31**	**XMLE060U1D31**	**XMLE100U1C31**	**XMLE100U1D31**
	PNP	**XMLE060U1C41**	**XMLE060U1D41**	**XMLE100U1C41**	**XMLE100U1D41**
Weight (kg)		0.270	0.320	0.270	0.320

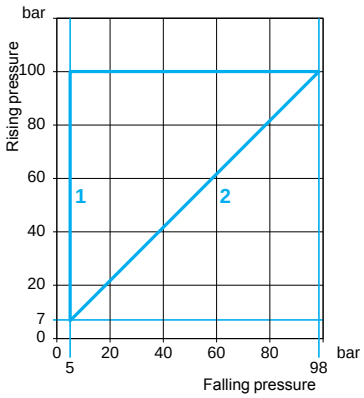
Complementary characteristics not shown under general characteristics (page 43)

Possible differential	Min. at low setting	1.2 bar (17.4 psi)	2 bar (29 psi)
	Min. at high setting	1.2 bar (17.4 psi)	2 bar (29 psi)
	Max. at high setting	57 bar (826.5 psi)	95 bar (1377.5 psi)
Maximum permissible accidental pressure		120 bar (1740 psi)	200 bar (2900 psi)
Destruction pressure		180 bar (2610 psi)	300 bar (4350 psi)
Rated supply voltage		**⎓ 24 V**	
Voltage limits		⎓ 11…33 V	
Output		Solid-state, NPN or PNP, NC	
Switching capacity		100 mA	
Current consumption		< 15 mA	
Electrical connection		XMLE●●●U1C●1: DIN 43650 A, 4-pin male connector. For suitable female connector, see page 52. XMLE●●●U1D●1: M12, 5-pin male connector. For suitable female connector, see page 52.	

(1) Optional digital display for pressure switch, see page 52.
(2) Component materials of units in contact with the fluid, see page 43.

Operating curves



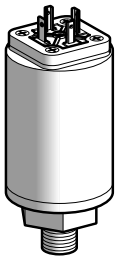


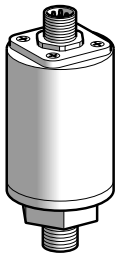
1 Maximum differential
2 Minimum differential

Other versions	Pressure and vacuum switches with 1/4" NPTF fluid connection. Please consult our Customer Care Centre.

Accessories: page 52 | Dimensions: page 53 | Schemes: page 53

With solid-state output, fluid connection G 1/4 A (male)



17.5…250 bar (253.7…3625 psi)		42…600 bar (609…8700 psi)	
DIN 43650 A	M12	DIN 43650 A	M12

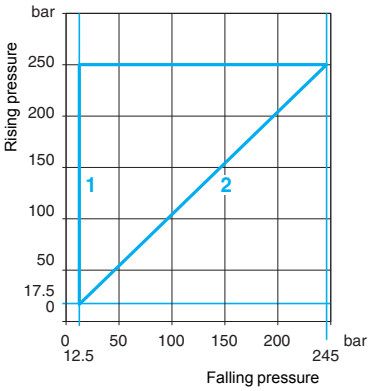
References

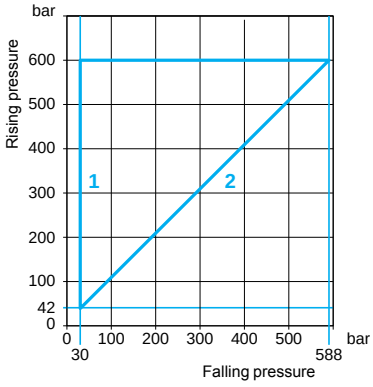
XMLE250U1C31	**XMLE250U1D31**	**XMLE600U1C31**	**XMLE600U1D31**
XMLE250U1C41	**XMLE250U1D41**	**XMLE600U1C41**	**XMLE600U1D41**
0.270	0.320	0.270	0.320

Complementary characteristics not shown under general characteristics (page 43)

5 bar (72.5 psi)	12 bar (174 psi)
5 bar (72.5 psi)	12 bar (174 psi)
237.5 bar (3443.7 psi)	570 bar (8265 psi)
500 bar (7250 psi)	1200 bar (17,400 psi)
750 bar (10,875 psi)	1800 bar (26,100 psi)
⎓ 24 V	
⎓ 11…33 V	
Solid-state, NPN or PNP, NC	
100 mA	
< 15 mA	
XMLE●●●U1C●1: DIN 43650 A, 4-pin male connector. For suitable female connector, see page 52. XMLE●●●U1D●1: M12, 5-pin male connector. For suitable female connector, see page 52.	

Operating curves

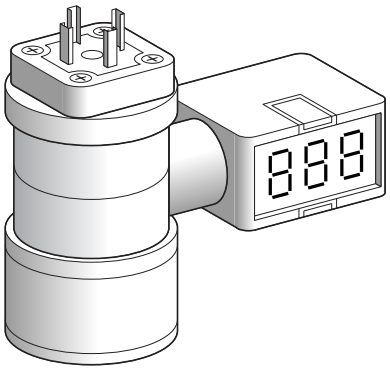




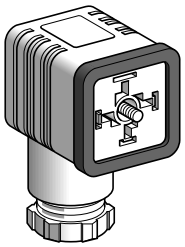
1 Maximum differential
2 Minimum differential

Accessories: page 52
Dimensions: page 53
Schemes: page 53

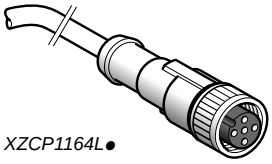
Electronic pressure sensors
OsiSense XM, type XMLE
Accessories



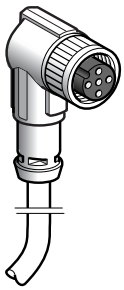
XMLEZ●●●●



XZCC43FCP40B



XZCP1164L●



XZCP1264L●

Accessories

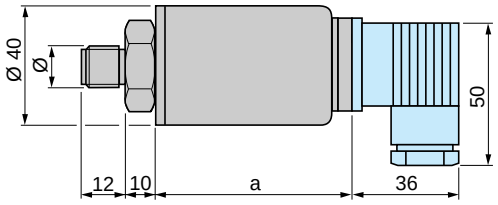
Description	Sensor size	Reference	Weight
	bar		kg
Digital displays for analogue pressure sensors	- 1…0	**XMLEZM01**	0.100
	0…1	**XMLEZ001**	0.100
	0…10	**XMLEZ010**	0.100
	0…25	**XMLEZ025**	0.100
	0…60	**XMLEZ060**	0.100
	0…100	**XMLEZ100**	0.100
	0…250	**XMLEZ250**	0.100
	0…600	**XMLEZ600**	0.100

Connection accessories

Description	Length of cable	Reference	Weight
	m		kg
Female DIN 43650 A connector	–	**XZCC43FCP40B**	0.035
Pre-wired M12, straight, female connectors	2 m	**XZCP1164L2**	0.115
	5 m	**XZCP1164L5**	0.270
	10 m	**XZCP1164L10**	0.520
Pre-wired M12, elbowed, female connectors	2 m	**XZCP1264L2**	0.115
	5 m	**XZCP1264L5**	0.270
	10 m	**XZCP1264L10**	0.520

Dimensions

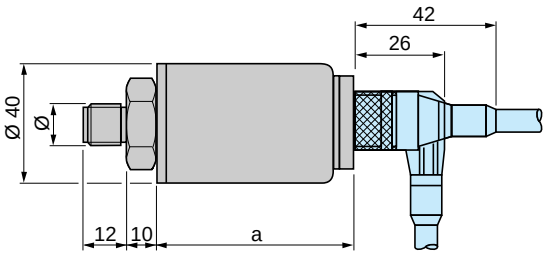
XMLE●●●U1C21, XMLU1C31



XMLE	a
M01, 001, 010, 025	65
060, 250, 600	75

Ø: G 1/4 A (male)

XMLE●●●U1D31

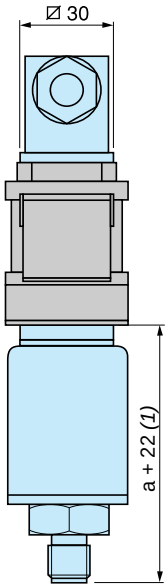


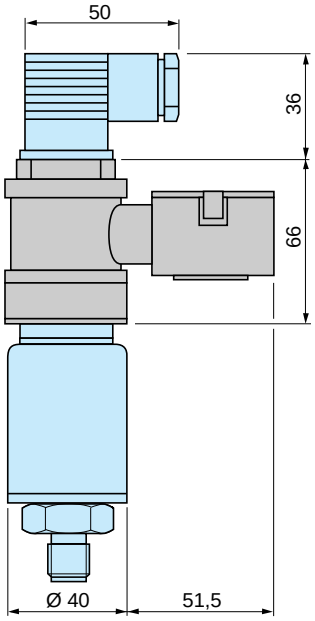
XMLE	a
M01, 001, 010, 025	65
060, 250, 600	75

Ø: G 1/4 A (male)

Digital displays

XMLEZ●●●



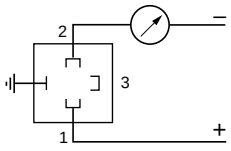


(1) a = 65 or 75, see above.

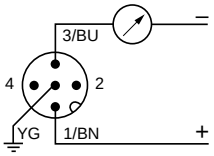
Wiring schemes

Pressure transmitters *(1)*

XMLE●●●U1C21



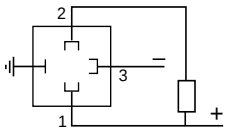
XMLE●●●U1D21



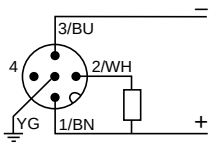
(1) Sensor connector pin view

Electronic pressure switches *(2)*

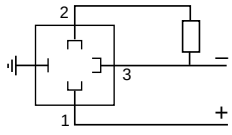
XMLE●●●U1C31



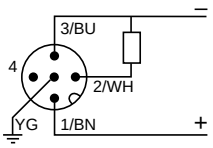
XMLE●●●U1D31



XMLE●●●U1C41

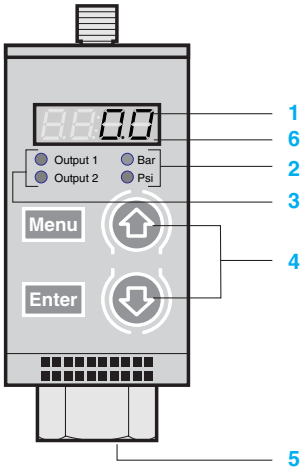


XMLE●●●U1D41



(2) Switch connector pin view

Electronic pressure sensors
OsiSense XM
For control circuits, type XMLF



Presentation

Electronic pressure sensors type XMLF are used for pressure control of hydraulic oils, fresh water, air and corrosive fluids, between − 1 and 600 bar.

■ **Simplicity of setting-up**

Electronic pressure sensors type XMLF are characterised by their ceramic pressure measuring cell.

1 Large 4-digit display indicating programming codes, parameter values or the measured pressure.
2 LED indicators for pressure unit of measurement selected (direct reading of bar or psi).
3 LED indicator(s) for providing status of pressure switch output(s).
4 Ergonomic keys for configuring the product via the pull-down menu.
5 Excellent resistance to overpressures.
6 Memorisation and possibility of reading pressure peaks within the installation.

□ Three menus enable the user to:
- configure ("PROG" menu) the various functions of the unit (access to all the parameters of the product),
- perform ("USER" menu) diagnostic operations and, for pressure switches, to set the switching point pressure values,
- read ("READ" menu) all the configuration details, together with the values set in the "PROG" and "USER" menus.

Functions

■ Pressure transmitters **XMLF●●●D2●1●** have a 4…20 mA or 0…10 V analogue output. In addition to having a manual diagnostic function (see below), they also incorporate a remote diagnostic function: a digital input connected, for example, to a PLC enables remote activation of the sensor's test function. When the sensor is operating correctly, the analogue output must, when testing, be close to 50% of the sensor size (12 mA or 5 V).

■ Universal sensors **XMLF●●●D2●2●** are pressure switches with an adjustable differential, for regulation between 2 thresholds, featuring a solid-state output (configurable both for NPN or PNP and NO or NC), and a 4…20 mA or 0…10 V analogue output. They incorporate the manual diagnostic function (see below).

■ Pressure switches **XMLF●●●D2●3●** are dual stage switches, with adjustable differential for each threshold, featuring 2 solid-state outputs (configurable both for NPN or PNP and NO or NC). They incorporate the manual diagnostic function (see below).

■ Pressure switches **XMLF●●●E2●4●** for AC control are switches with adjustable differential, for regulation between 2 thresholds, featuring an ∿ 2.5 A relay output (configurable for NO or NC). They incorporate the manual diagnostic function (see below).

Sensors type XMLF feature:

■ **Various configurable functions**

□ For the display:
- pressure unit of measurement (bar or psi),
- response time (slow: display refreshes in 1% steps of the units size, normal: display refreshes in 0.5% steps of the units size or fast: display refreshes every 10 ms).

□ For the analogue output:
- response time (adjustable from 5 to 500 ms, in steps of 1 ms),
- maximum pressure of the output curve (adjustable from 75 to 125% of the units size).

□ For each solid-state output:
- PNP or NPN logic,
- NO or NC output,
- time delay both on trip and on reset (adjustable from 0 to 50 s, in steps of 1 s),
- response time (adjustable from 5 to 500 ms, in steps of 1 ms).

□ For the AC relay output models:
- NO or NC contact,
- time delay both on trip and on reset (adjustable from 0 to 50 s, in steps of 1 s),
- response time (adjustable from 5 to 500 ms, in steps of 1 ms).

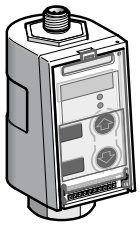
■ **Manual diagnostic function enabling:**
- checking correct operation of sensor,
- reading the value of the maximum pressure peak that has occurred since the last reset to zero and also, deleting this value for a fresh reset.

Electronic pressure sensors
OsiSense XM
For control circuits, type XMLF

Environment characteristics

Conformity to standards		CE, IEC/EN 60947-1, IEC/EN 60947-5-1, EN 50081, EN 50082, EN 61000-6-2, EN 61000-4-2/3/4/5/6/8/11
Product certifications		UL, CSA
Protective treatment		Standard version "TC"
Ambient air temperature	For operation	- 25…+ 80°C (DC models)
		- 25…+ 75°C (AC models)
Fluids or products controlled		Hydraulic oils, air, fresh water, corrosive fluids from - 15…+ 80°C
Component materials in contact with fluid		Stainless steel fluid entry type AISI 303, viton gasket
Operating position		All positions
Vibration resistance		5 gn (25…200 Hz) and 35 gn (60…2000 Hz) conforming to IEC 68-2-6
Shock resistance		50 gn conforming to IEC 68-2-27
Electrical protection		Protected against reverse polarity, short-circuit, overload and connection faults
Resistance to electromagnetic interference	Electrostatic discharges	Contact 4kV, air 8 kV conforming to EN 61000-4-2
	Radiated electromagnetic fields	10 V/m conforming to EN 61000-4-3
	Fast transients	2 kV conforming to EN 61000-4-4
	Surges	(AC) 1 kV, (DC) 0.5 kV conforming to EN 61000-4-5
	Conducted disturbances, induced by radio frequency fields	10 V conforming to EN 61000-4-6
Degree of protection		IP 67 conforming to IEC/EN 60529, NEMA 4/6/12/13
Operating rate		< 50 Hz
Output response time		Adjustable from 5 to 500 ms, in steps of 1 ms
Service life	In millions of operating cycles	> 10
Drift	Of the zero point	< ± 0.1% of the measuring range/°C
	Of the sensitivity	< ± 0.03% of the measuring range/°C
Precision	Analogue output	≤ 0.6% of the measuring range, output offset < 200 mV
	Solid-state output	≤ 0.6% of the measuring range
Repeat accuracy		≤ 0.5 % of the measuring range
Display response time		Adjustable; 3 options: - slow (1% of the units size), - normal (0.5% of the units size), or - fast (refreshed every 10 ms)
Fluid connection		G 1/4 (BSP female) conforming to NF E 03-004 and ISO 7 or 1/4" NPT female, depending on model
Electrical connection		M12 or SAE 7/8"-16UN connector, depending on model

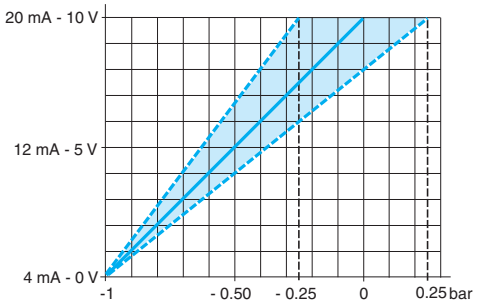
Electronic pressure sensors
OsiSense XM, type XMLF
Size - 1 bar (- 14.5 psi)

Type		Pressure transmitters		Universal sensors with adjustable differential. Solid-state and analogue outputs *(1)*	
					
Adjustable range of switching point (PB) (Falling pressure)		**–**		**- 0.08…- 1 bar (- 1.16…- 14.5 psi)**	
Analogue output		4-20 mA	0-10 V	4-20 mA	0-10 V
References					
Fluid connection *(2) (3)*	G 1/4 female	**XMLFM01D2015**	**XMLFM01D2115**	**XMLFM01D2025**	**XMLFM01D2125**
	1/4" NPT female	**XMLFM01D2016**	**XMLFM01D2116**	**XMLFM01D2026**	**XMLFM01D2126**
Weight (kg)		0.480			
Complementary characteristics not shown under general characteristics (page 55)					
Possible differential (add to PB to give PH)	Min. at low and high setting	–		0.03 bar (0.44 psi)	
	Max. at low setting	–		0.95 bar (13.77 psi)	
Maximum permissible accidental pressure		3 bar (43.5 psi)			
Destruction pressure		5 bar (72.5 psi)			
Rated supply voltage		⎓ **24 V**			
Voltage limits		⎓ 17…33 V			
Current consumption		80 mA			
Output		–		Programmable, NPN or PNP and NO or NC	
Time delay		–		Adjustable time delay on trip and on reset from 0 to 50 s, in steps of 1 second	
Switching capacity		–		200 mA	
Analogue output		4…20 mA or 0…10 V, depending on model. Maximum signal level adjustable between - 0.25 and 0.25 bar (- 3.62 and 3.62 psi)			
Electrical connection		M12, 4-pin male connector. For suitable female connectors, including pre-wired versions, see page 83			

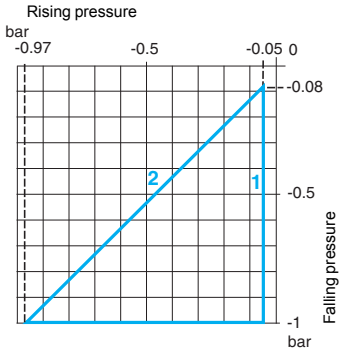
(1) Vacuum sensors with adjustable differential for regulation between 2 thresholds. Solid-state and analogue outputs.
(2) Fluids controlled: hydraulic oils, fresh water, air, corrosive fluids, from - 15 to + 80°C. Component materials of units in contact with the fluid, see page 55.
(3) For SAE 7/16-20UNF and other threads, please consult our Customer Care Centre.

Curves

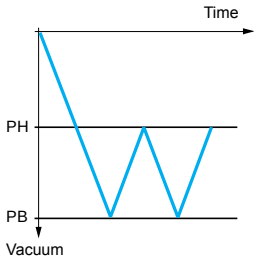
Analogue output curve



Vacuum switch operating curves



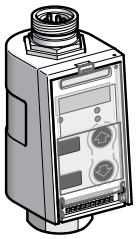
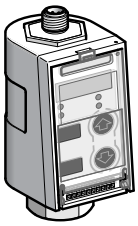
1 Maximum differential
2 Minimum differential



— Adjustable value

Accessories: page 82
Dimensions: page 83
Schemes: page 83

Electronic pressure sensors
OsiSense XM, type XMLF
Size - 1 bar (- 14.5 psi)

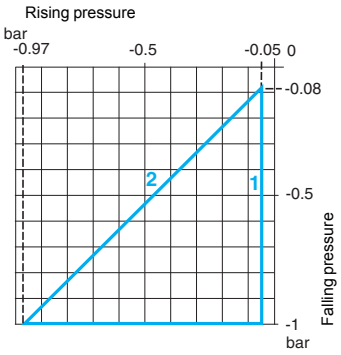
Type	Vacuum switches with adjustable differential and relay output *(1)*	Dual stage adjustable vacuum switches with solid-state outputs *(2)*
		
Adjustable range of switching point(s) (PB or PB1 and PB2) (Falling pressure)	**- 0.08…- 1 bar (- 1.16…- 14.5 psi)**	
References		
Fluid connection *(3) (4)* — G 1/4 female	**XMLFM01E2045**	**XMLFM01D2035**
Fluid connection *(3) (4)* — 1/4" NPT female	**XMLFM01E2046**	**XMLFM01D2036**
Weight (kg)	0.590	0.480
Complementary characteristics not shown under general characteristics (page 55)		
Possible differential (add to: - PB to give PH - PB1 & PB2 to give PH1 & PH2) — Min. at low and high setting	0.03 bar (0.44 psi)	For each stage: min. at low and high setting: 0.03 bar (0.44 psi) max. at low setting: 0.95 bar (13.77 psi)
Possible differential (add to: - PB to give PH - PB1 & PB2 to give PH1 & PH2) — Max. at low setting	0.95 bar (13.77 psi)	
Maximum permissible accidental pressure	3 bar (43.5 psi)	
Destruction pressure	5 bar (72.5 psi)	
Rated supply voltage	**~ 120 V**	**⎓ 24 V**
Voltage limits	~ 102…132 V	⎓ 17…33 V
Current consumption	32 mA	80 mA
Output	Relay	Programmable, NPN or PNP and NO or NC
Time delay	Adjustable time delay on trip and on reset from 0 to 50 s, in steps of 1 second	
Switching capacity	2.5 A, AC-15, C300 (120 V - 1.5 A)	200 mA
Electrical connection	SAE 7/8-16UN, 5-pin male connector. For suitable female pre-wired connectors, see page 83	M12, 4-pin male connector. For suitable female connectors, including pre-wired versions, see page 83

(1) Vacuum switches with adjustable differential for regulation between 2 thresholds. Relay output.
(2) Vacuum switches with 2 adjustable stages and adjustable differential for each threshold. Solid-state outputs.
(3) Fluids controlled: hydraulic oils, fresh water, air, corrosive fluids, from - 15 to + 80°C. Component materials of units in contact with the fluid, see page 55.
(4) For SAE 7/16-20UNF and other threads, please consult our Customer Care Centre.

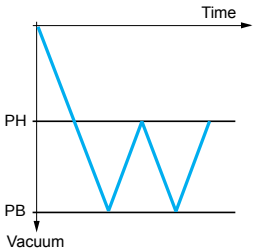
Vacuum switch operating curves

(Curve for each stage for dual stage vacuum switches)

Vacuum switches with relay output

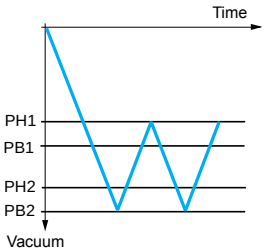


1 Maximum differential
2 Minimum differential



— Adjustable value

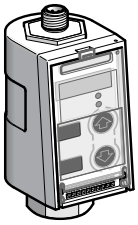
Dual stage vacuum switches



— Adjustable value

Accessories: page 82
Dimensions: page 83
Schemes: page 83

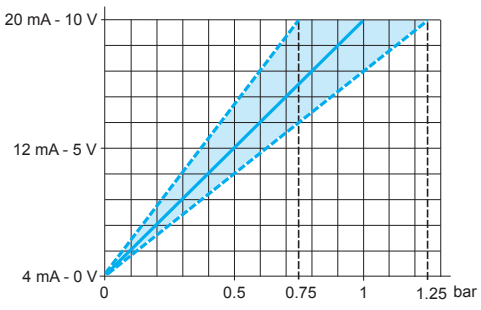
Electronic pressure sensors
OsiSense XM, type XMLF
Size 1 bar (14.5 psi)

Type		Pressure transmitters		Universal sensors with adjustable differential. Solid-state and analogue outputs *(1)*	
					
Adjustable range of switching point (PH) (Rising pressure)		–		**0.08…1 bar (1.16…14.5 psi)**	
Analogue output		4-20 mA	0-10 V	4-20 mA	0-10 V
References					
Fluid connection *(2) (3)*	G 1/4 female	**XMLF001D2015**	**XMLF001D2115**	**XMLF001D2025**	**XMLF001D2125**
	1/4" NPT female	**XMLF001D2016**	**XMLF001D2116**	**XMLF001D2026**	**XMLF001D2126**
Weight (kg)		0.480			
Complementary characteristics not shown under general characteristics (page 55)					
Possible differential (subtract from PH to give PB)	Min. at low and high setting	–		0.03 bar (0.44 psi)	
	Max. at high setting	–		0.95 bar (13.77 psi)	
Maximum permissible accidental pressure		4 bar (58 psi)			
Destruction pressure		6 bar (87 psi)			
Rated supply voltage		⎓ **24 V**			
Voltage limits		⎓ 17…33 V			
Current consumption		80 mA			
Output		–		Programmable, NPN or PNP and NO or NC	
Time delay		–		Adjustable time delay on trip and on reset from 0 to 50 s, in steps of 1 second	
Switching capacity		–		200 mA	
Analogue output		4…20 mA or 0…10 V, depending on model. Maximum signal level adjustable between 0.75 and 1.25 bar (10.88 and 18.12 psi)			
Electrical connection		M12, 4-pin male connector. For suitable female connectors, including pre-wired versions, see page 83			

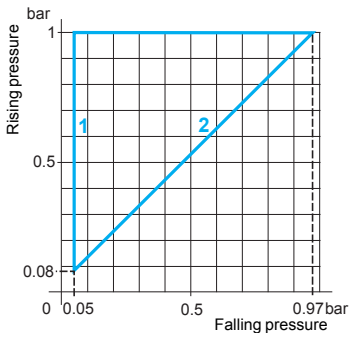
(1) Pressure sensors with adjustable differential for regulation between 2 thresholds. Solid-state and analogue outputs.
(2) Fluids controlled: hydraulic oils, fresh water, air, corrosive fluids, from - 15 to + 80°C. Component materials of units in contact with the fluid, see page 55.
(3) For SAE 7/16-20UNF and other threads, please consult our Customer Care Centre.

Curves

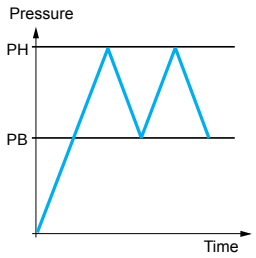
Analogue output curve



Pressure sensor operating curves



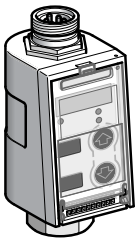
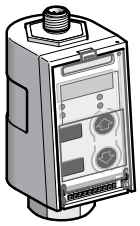
1 Maximum differential
2 Minimum differential



— Adjustable value

Accessories: page 82
Dimensions: page 83
Schemes: page 83

Electronic pressure sensors
OsiSense XM, type XMLF
Size 1 bar (14.5 psi)

Type	Pressure switches with adjustable differential and relay output *(1)*	Dual stage adjustable pressure switches with solid-state outputs *(2)*
		
Adjustable range of switching point(s) (PH or PH1 and PH2) (Rising pressure)	**0.08…1 bar (1.16…14.5 psi)**	

References

Fluid connection *(3) (4)*	G 1/4 female	**XMLF001E2045**	**XMLF001D2035**
	1/4" NPT female	**XMLF001E2046**	**XMLF001D2036**
Weight (kg)		0.590	0.480

Complementary characteristics not shown under general characteristics (page 55)

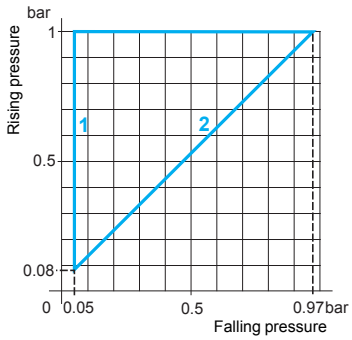
Possible differential (subtract from: - PH to give PB - PH1 & PH2 to give PB1 & PB2)	Min. at low and high setting	0.03 bar (0.44 psi)	For each stage: min. at low and high setting: 0.03 bar (0.44 psi) max. at high setting: 0.95 bar (13.77 psi)
	Max. at high setting	0.95 bar (13.77 psi)	
Maximum permissible accidental pressure		4 bar (58 psi)	
Destruction pressure		6 bar (87 psi)	
Rated supply voltage		**~ 120 V**	**⎓ 24 V**
Voltage limits		~ 102…132 V	⎓ 17…33 V
Current consumption		32 mA	80 mA
Output		Relay	Programmable, NPN or PNP and NO or NC
Time delay		Adjustable time delay on trip and on reset from 0 to 50 s, in steps of 1 second	
Switching capacity		2.5 A, AC-15, C300 (120 V - 1.5 A)	200 mA
Electrical connection		SAE 7/8-16UN, 5-pin male connector. For suitable female pre-wired connectors, see page 83	M12, 4-pin male connector. For suitable female connectors, including pre-wired versions, see page 83

(1) Pressure switches with adjustable differential for regulation between 2 thresholds. Relay output.
(2) Pressure switches with 2 adjustable stages and adjustable differential for each threshold. Solid-state outputs.
(3) Fluids controlled: hydraulic oils, fresh water, air, corrosive fluids, from - 15 to + 80°C. Component materials of units in contact with the fluid, see page 55.
(4) For SAE 7/16-20UNF and other threads, please consult our Customer Care Centre.

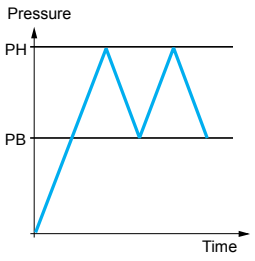
Pressure switch operating curves

(Curve for each stage for dual stage pressure switches)

Pressure switches with relay output

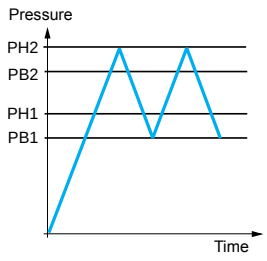


1 Maximum differential
2 Minimum differential



— Adjustable value

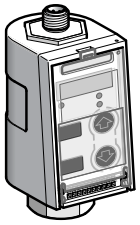
Dual stage pressure switches



— Adjustable value

Accessories: page 82
Dimensions: page 83
Schemes: page 83

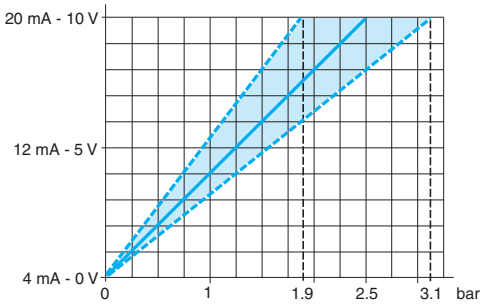
Electronic pressure sensors
OsiSense XM, type XMLF
Size 2.5 bar (36.25 psi)

Type		Pressure transmitters		Universal sensors with adjustable differential. Solid-state and analogue outputs *(1)*	
					
Adjustable range of switching point (PH) (Rising pressure)		–		**0.20…2.5 bar (2.9…36.25 psi)**	
Analogue output		4-20 mA	0-10 V	4-20 mA	0-10 V
References					
Fluid connection *(2) (3)*	G 1/4 female	**XMLF002D2015**	**XMLF002D2115**	**XMLF002D2025**	**XMLF002D2125**
	1/4" NPT female	**XMLF002D2016**	**XMLF002D2116**	**XMLF002D2026**	**XMLF002D2126**
Weight (kg)		0.480			
Complementary characteristics not shown under general characteristics (page 55)					
Possible differential (subtract from PH to give PB)	Min. at low and high setting	–		0.08 bar (1.09 psi)	
	Max. at high setting	–		2.38 bar (34.51 psi)	
Maximum permissible accidental pressure		10 bar (145 psi)			
Destruction pressure		15 bar (217.5 psi)			
Rated supply voltage		⎓ 24 V			
Voltage limits		⎓ 17…33 V			
Current consumption		80 mA			
Output		–		Programmable, NPN or PNP and NO or NC	
Time delay		–		Adjustable time delay on trip and on reset from 0 to 50 s, in steps of 1 second	
Switching capacity		–		200 mA	
Analogue output		4…20 mA or 0…10 V, depending on model. Maximum signal level adjustable between 1.9 and 3.1 bar (27.5 and 44.9 psi)			
Electrical connection		M12, 4-pin male connector. For suitable female connectors, including pre-wired versions, see page 83			

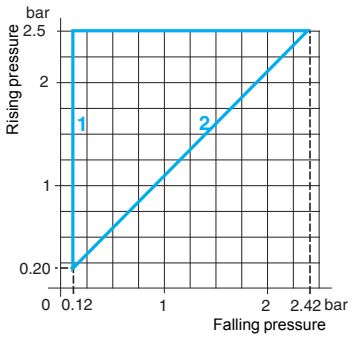
(1) Pressure sensors with adjustable differential for regulation between 2 thresholds. Solid-state and analogue outputs.
(2) Fluids controlled: hydraulic oils, fresh water, air, corrosive fluids, from - 15 to + 80°C. Component materials of units in contact with the fluid, see page 55.
(3) For SAE 7/16-20UNF and other threads, please consult our Customer Care Centre.

Curves

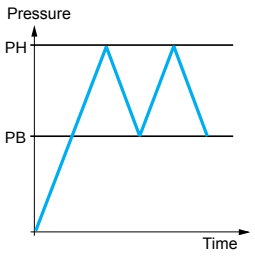
Analogue output curve



Pressure sensor operating curves



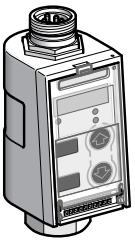
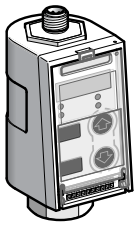
1 Maximum differential
2 Minimum differential



— Adjustable value

Accessories: page 82
Dimensions: page 83
Schemes: page 83

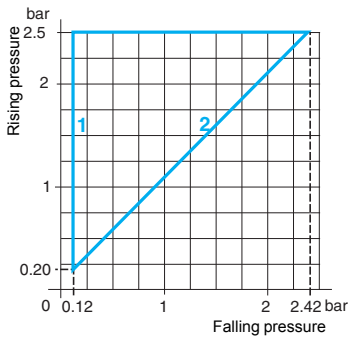
Electronic pressure sensors
OsiSense XM, type XMLF
Size 2.5 bar (36.25 psi)

Type		Pressure switches with adjustable differential and relay output *(1)*	Dual stage adjustable pressure switches with solid-state outputs *(2)*
			
Adjustable range of switching point(s) (PH or PH1 and PH2) (Rising pressure)		**0.20…2.5 bar (2.9…36.25 psi)**	
References			
Fluid connection *(3) (4)*	G 1/4 female	**XMLF002E2045**	**XMLF002D2035**
	1/4" NPT female	**XMLF002E2046**	**XMLF002D2036**
Weight (kg)		0.590	0.480
Complementary characteristics not shown under general characteristics (page 55)			
Possible differential (subtract from: - PH to give PB - PH1 & PH2 to give PB1 & PB2)	Min. at low and high setting	0.08 bar (1.09 psi)	For each stage: min. at low and high setting: 0.08 bar (1.09 psi) max. at high setting: 2.38 bar (34.51 psi)
	Max. at high setting	2.38 bar (34.51 psi)	
Maximum permissible accidental pressure		10 bar (145 psi)	
Destruction pressure		15 bar (217.5 psi)	
Rated supply voltage		∼ 120 V	⎓ 24 V
Voltage limits		∼ 102…132 V	⎓ 17…33 V
Current consumption		32 mA	80 mA
Output		Relay	Programmable, NPN or PNP and NO or NC
Time delay		Adjustable time delay on trip and on reset from 0 to 50 s, in steps of 1 second	
Switching capacity		2.5 A, AC-15, C300 (120 V - 1.5 A)	200 mA
Electrical connection		SAE 7/8-16UN, 5-pin male connector. For suitable female pre-wired connectors, see page 83	M12, 4-pin male connector. For suitable female connectors, including pre-wired versions, see page 83

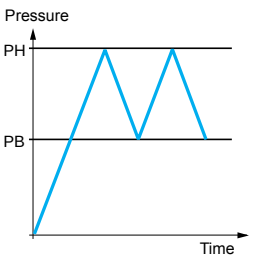
(1) Pressure switches with adjustable differential for regulation between 2 thresholds. Relay output.
(2) Pressure switches with 2 adjustable stages and adjustable differential for each threshold. Solid-state outputs.
(3) Fluids controlled: hydraulic oils, fresh water, air, corrosive fluids, from - 15 to + 80°C. Component materials of units in contact with the fluid, see page 55.
(4) For SAE 7/16-20UNF and other threads, please consult our Customer Care Centre.

Pressure switch operating curves (Curve for each stage for dual stage pressure switches)

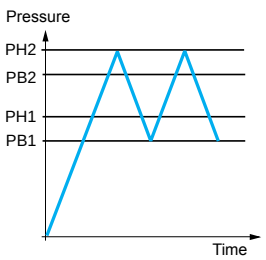
	Pressure switches with relay output	Dual stage pressure switches



1 Maximum differential
2 Minimum differential



— Adjustable value



— Adjustable value

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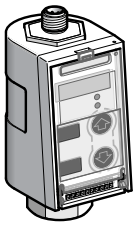
Dimensions: page 83
Schemes: page 83

Electronic pressure sensors
OsiSense XM, type XMLF
Size 10 bar (145 psi)

Type		Pressure transmitters		Universal sensors with adjustable differential. Solid-state and analogue outputs *(1)*	
					
Adjustable range of switching point (PH) (Rising pressure)		**–**		**0.8…10 bar (11.6…145 psi)**	
Analogue output		4-20 mA	0-10 V	4-20 mA	0-10 V
References					
Fluid connection *(2) (3)*	G 1/4 female	**XMLF010D2015**	**XMLF010D2115**	**XMLF010D2025**	**XMLF010D2125**
	1/4" NPT female	**XMLF010D2016**	**XMLF010D2116**	**XMLF010D2026**	**XMLF010D2126**
Weight (kg)		0.480			
Complementary characteristics not shown under general characteristics (page 55)					
Possible differential (subtract from PH to give PB)	Min. at low and high setting	–		0.3 bar (4.4 psi)	
	Max. at high setting	–		9.5 bar (137.75 psi)	
Maximum permissible accidental pressure		40 bar (580 psi)			
Destruction pressure		60 bar (870 psi)			
Rated supply voltage		**⎓ 24 V**			
Voltage limits		⎓ 17…33 V			
Current consumption		80 mA			
Output		–		Programmable, NPN or PNP and NO or NC	
Time delay		–		Adjustable time delay on trip and on reset from 0 to 50 s, in steps of 1 second	
Switching capacity		–		200 mA	
Analogue output		4…20 mA or 0…10 V, depending on model. Maximum signal level adjustable between 7.5 and 12.5 bar (108.75 and 181.25 psi)			
Electrical connection		M12, 4-pin male connector. For suitable female connectors, including pre-wired versions, see page 83			

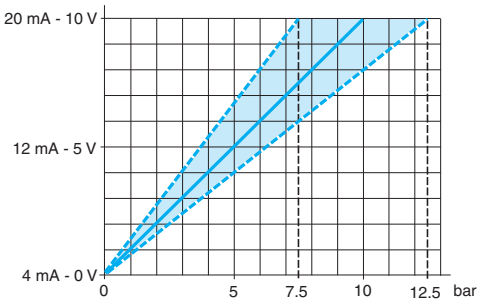
(1) Pressure sensors with adjustable differential for regulation between 2 thresholds. Solid-state and analogue outputs.

(2) Fluids controlled: hydraulic oils, fresh water, air, corrosive fluids, from - 15 to + 80°C. Component materials of units in contact with the fluid, see page 55.

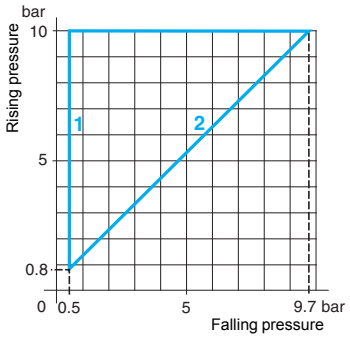
(3) For SAE 7/16-20UNF and other threads, please consult our Customer Care Centre.

Curves

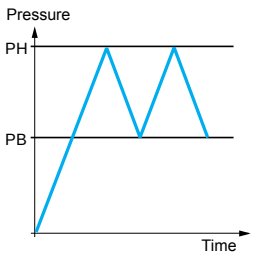
Analogue output curve



Pressure sensor operating curves



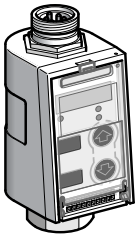
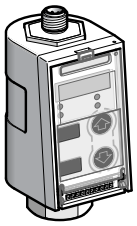
1 Maximum differential
2 Minimum differential



— Adjustable value

Accessories: page 82
Dimensions: page 83
Schemes: page 83

Electronic pressure sensors
OsiSense XM, type XMLF
Size 10 bar (145 psi)

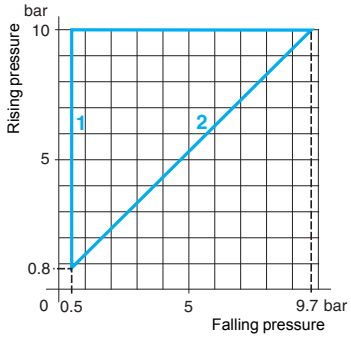
Type		Pressure switches with adjustable differential and relay output *(1)*	Dual stage adjustable pressure switches with solid-state outputs *(2)*
			
Adjustable range of switching point(s) (PH or PH1 and PH2) (Rising pressure)		**0.8…10 bar (11.6…145 psi)**	
References			
Fluid connection *(3) (4)*	G 1/4 female	**XMLF010E2045**	**XMLF010D2035**
	1/4" NPT female	**XMLF010E2046**	**XMLF010D2036**
Weight (kg)		0.590	0.480
Complementary characteristics not shown under general characteristics (page 55)			
Possible differential (subtract from: - PH to give PB - PH1 & PH2 to give PB1 & PB2)	Min. at low and high setting	0.3 bar (4.4 psi)	For each stage: min. at low and high setting: 0.3 bar (4.4 psi) max. at high setting: 9.5 bar (137.75 psi)
	Max. at high setting	9.5 bar (137.75 psi)	
Maximum permissible accidental pressure		40 bar (580 psi)	
Destruction pressure		60 bar (870 psi)	
Rated supply voltage		**~ 120 V**	**⎓ 24 V**
Voltage limits		~ 102…132 V	⎓ 17…33 V
Current consumption		32 mA	80 mA
Output		Relay	Programmable, NPN or PNP and NO or NC
Time delay		Adjustable time delay on trip and on reset from 0 to 50 s, in steps of 1 second	
Switching capacity		2.5 A, AC-15, C300 (120 V - 1.5 A)	200 mA
Electrical connection		SAE 7/8-16UN, 5-pin male connector. For suitable female pre-wired connectors, see page 83	M12, 4-pin male connector. For suitable female connectors, including pre-wired versions, see page 83

(1) Pressure switches with adjustable differential for regulation between 2 thresholds. Relay output.
(2) Pressure switches with 2 adjustable stages and adjustable differential for each threshold. Solid-state outputs.
(3) Fluids controlled: hydraulic oils, fresh water, air, corrosive fluids, from - 15 to + 80°C. Component materials of units in contact with the fluid, see page 55.
(4) For SAE 7/16-20UNF and other threads, please consult our Customer Care Centre.

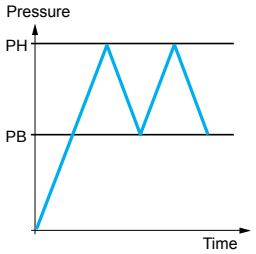
Pressure switch operating curves

(Curve for each stage for dual stage pressure switches)

Pressure switches with relay output

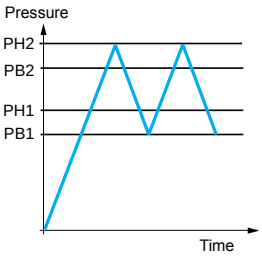


1 Maximum differential
2 Minimum differential



— Adjustable value

Dual stage pressure switches



— Adjustable value

Accessories: page 82
Dimensions: page 83
Schemes: page 83

Electronic pressure sensors
OsiSense XM, type XMLF
Size 16 bar (232 psi)

Type		Pressure transmitters		Universal sensors with adjustable differential. Solid-state and analogue outputs *(1)*	
					
Adjustable range of switching point (PH) (Rising pressure)		**–**		**1.28…16 bar (18.56…232 psi)**	
Analogue output		4-20 mA	0-10 V	4-20 mA	0-10 V
References					
Fluid connection *(2)*	G 1/4 female	**XMLF016D2015**	**XMLF016D2115**	**XMLF016D2025**	**XMLF016D2125**
	1/4" NPT female	**XMLF016D2016**	**XMLF016D2116**	**XMLF016D2026**	**XMLF016D2126**
Weight (kg)		0.480			

Complementary characteristics not shown under general characteristics (page 55)

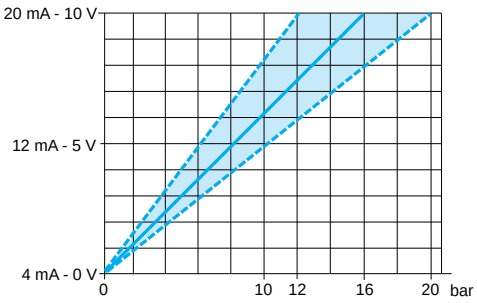
Possible differential (subtract from PH to give PB)	Min. at low and high setting	–	0.48 bar (6.96 psi)
	Max. at high setting	–	15.2 bar (220.4 psi)
Maximum permissible accidental pressure		64 bar (928 psi)	
Destruction pressure		96 bar (1392 psi)	
Rated supply voltage		⎓ **24 V**	
Voltage limits		⎓ 17…33 V	
Current consumption		80 mA	
Output		–	Programmable, NPN or PNP and NO or NC
Time delay		–	Adjustable time delay on trip and on reset from 0 to 50 s, in steps of 1 second
Switching capacity		–	200 mA
Analogue output		4…20 mA or 0…10 V, depending on model. Maximum signal level adjustable between 12 and 20 bar (174 and 290 psi)	
Electrical connection		M12, 4-pin male connector. For suitable female connectors, including pre-wired versions, see page 83	

(1) Pressure sensors with adjustable differential for regulation between 2 thresholds. Solid-state and analogue outputs.

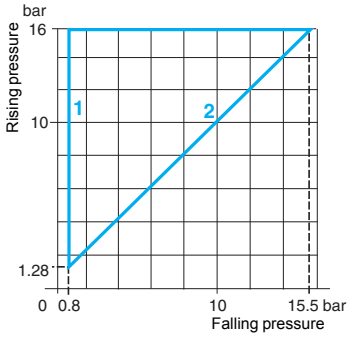
(2) Fluids controlled: hydraulic oils, fresh water, air, corrosive fluids, from - 15 to + 80°C. Component materials of units in contact with the fluid, see page 55.

Curves

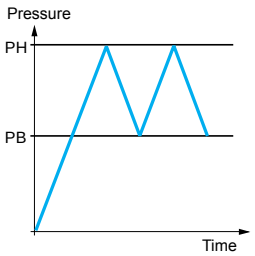
Analogue output curve



Pressure sensor operating curves

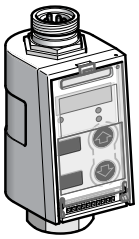
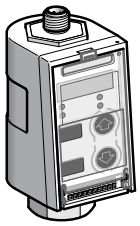


1 Maximum differential
2 Minimum differential



— Adjustable value

Electronic pressure sensors
OsiSense XM, type XMLF
Size 16 bar (232 psi)

Type	Pressure switches with adjustable differential and relay output *(1)*	Dual stage adjustable pressure switches with solid-state outputs *(2)*
		
Adjustable range of switching point(s) (PH or PH1 and PH2) (Rising pressure)	**1.28…16 bar (18.56…232 psi)**	

References

Fluid connection *(3)*	G 1/4 female	**XMLF016E2045**	**XMLF016D2035**
	1/4" NPT female	**XMLF016E2046**	**XMLF016D2036**
Weight (kg)		0.590	0.480

Complementary characteristics not shown under general characteristics (page 55)

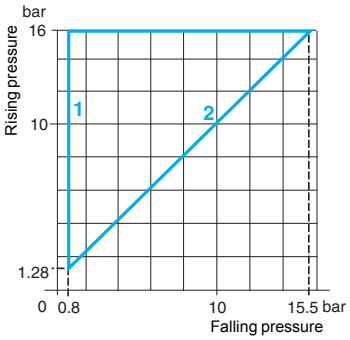
Possible differential (subtract from: - PH to give PB - PH1 & PH2 to give PB1 & PB2)	Min. at low and high setting	0.48 bar (6.96 psi)	For each stage: min. at low and high setting: 0.48 bar (6.96 psi) max. at high setting: 15.2 bar (220.4 psi)
	Max. at high setting	15.2 bar (220.4 psi)	
Maximum permissible accidental pressure		64 bar (928 psi)	
Destruction pressure		96 bar (1392 psi)	
Rated supply voltage		**~ 120 V**	**⎓ 24 V**
Voltage limits		~ 102…132 V	⎓ 17…33 V
Current consumption		32 mA	80 mA
Output		Relay	Programmable, NPN or PNP and NO or NC
Time delay		Adjustable time delay on trip and on reset from 0 to 50 s, in steps of 1 second	
Switching capacity		2.5 A, AC-15, C300 (120 V - 1.5 A)	200 mA
Electrical connection		SAE 7/8-16UN, 5-pin male connector. For suitable female pre-wired connectors, see page 83	M12, 4-pin male connector. For suitable female connectors, including pre-wired versions, see page 83

(1) Pressure switches with adjustable differential for regulation between 2 thresholds. Relay output.
(2) Pressure switches with 2 adjustable stages and adjustable differential for each threshold. Solid-state outputs.
(3) Fluids controlled: hydraulic oils, fresh water, air, corrosive fluids, from - 15 to + 80°C. Component materials of units in contact with the fluid, see page 55.

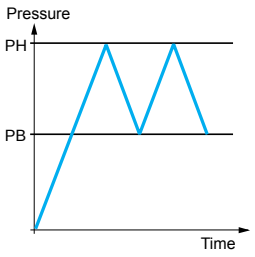
Pressure switch operating curves

(Curve for each stage for dual stage pressure switches)

Pressure switches with relay output

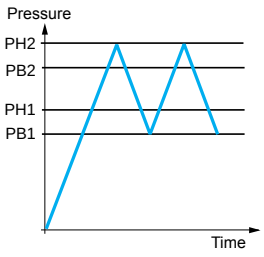


1 Maximum differential
2 Minimum differential



— Adjustable value

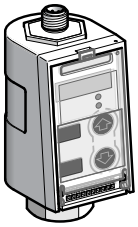
Dual stage pressure switches



— Adjustable value

Accessories: page 82
Dimensions: page 83
Schemes: page 83

Electronic pressure sensors
OsiSense XM, type XMLF
Size 25 bar (362.5 psi)

Type		Pressure transmitters		Universal sensors with adjustable differential. Solid-state and analogue outputs *(1)*	
					
Adjustable range of switching point (PH) (Rising pressure)		**–**		**2…25 bar (29…362.5 psi)**	
Analogue output		4-20 mA	0-10 V	4-20 mA	0-10 V
References					
Fluid connection *(2) (3)*	G 1/4 female	**XMLF025D2015**	**XMLF025D2115**	**XMLF025D2025**	**XMLF025D2125**
	1/4" NPT female	**XMLF025D2016**	**XMLF025D2116**	**XMLF025D2026**	**XMLF025D2126**
Weight (kg)		0.480			

Complementary characteristics not shown under general characteristics (page 55)

Possible differential (subtract from PH to give PB)	Min. at low and high setting	–	0.75 bar (10.9 psi)
	Max. at high setting	–	23.8 bar (345.1 psi)
Maximum permissible accidental pressure		100 bar (1450 psi)	
Destruction pressure		150 bar (2175 psi)	
Rated supply voltage		⎓ **24 V**	
Voltage limits		⎓ 17…33 V	
Current consumption		80 mA	
Output		–	Programmable, NPN or PNP and NO or NC
Time delay		–	Adjustable time delay on trip and on reset from 0 to 50 s, in steps of 1 second
Switching capacity		–	200 mA
Analogue output		4…20 mA or 0…10 V, depending on model. Maximum signal level adjustable between 18.8 and 31.2 bar (272.6 and 452.4 psi)	
Electrical connection		M12, 4-pin male connector. For suitable female connectors, including pre-wired versions, see page 83	

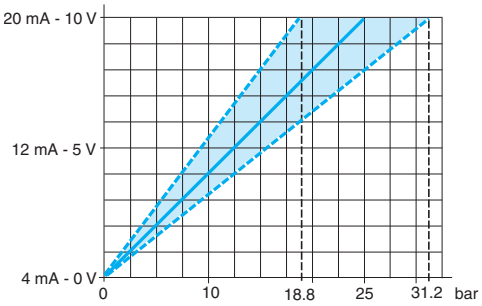
(1) Pressure sensors with adjustable differential for regulation between 2 thresholds. Solid-state and analogue outputs.

(2) Fluids controlled: hydraulic oils, fresh water, air, corrosive fluids, from - 15 to + 80°C. Component materials of units in contact with the fluid, see page 55.

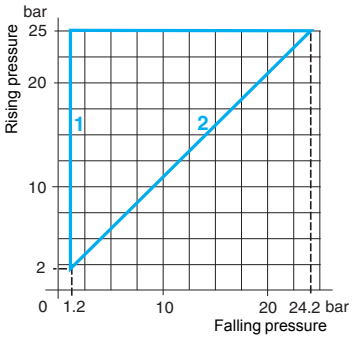
(3) For SAE 7/16-20UNF and other threads, please consult our Customer Care Centre.

Curves

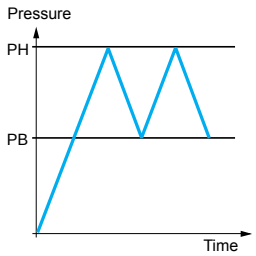
Analogue output curve



Pressure sensor operating curves



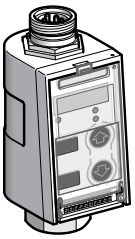
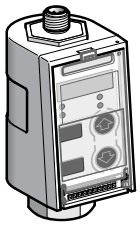
1 Maximum differential
2 Minimum differential



— Adjustable value

Accessories: page 82
Dimensions: page 83
Schemes: page 83

Electronic pressure sensors
OsiSense XM, type XMLF
Size 25 bar (362.5 psi)

Type	Pressure switches with adjustable differential and relay output *(1)*	Dual stage adjustable pressure switches with solid-state outputs *(2)*
		
Adjustable range of switching point(s) (PH or PH1 and PH2) (Rising pressure)	**2…25 bar (29…362.5 psi)**	

References

Fluid connection *(3) (4)*	G 1/4 female	**XMLF025E2045**	**XMLF025D2035**
	1/4" NPT female	**XMLF025E2046**	**XMLF025D2036**
Weight (kg)		0.590	0.480

Complementary characteristics not shown under general characteristics (page 55)

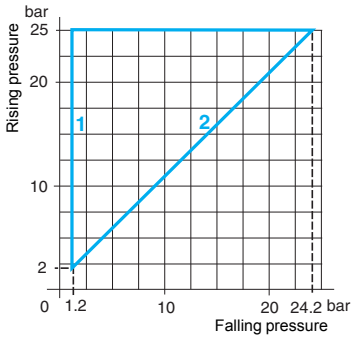
Possible differential (subtract from: - PH to give PB - PH1 & PH2 to give PB1 & PB2)	Min. at low and high setting	0.75 bar (10.9 psi)	For each stage: min. at low and high setting: 0.75 bar (10.9 psi) max. at high setting: 23.8 bar (345.1 psi)
	Max. at high setting	23.8 bar (345.1 psi)	
Maximum permissible accidental pressure		100 bar (1450 psi)	
Destruction pressure		150 bar (2175 psi)	
Rated supply voltage		**~ 120 V**	**⎓ 24 V**
Voltage limits		~ 102…132 V	⎓ 17…33 V
Current consumption		32 mA	80 mA
Output		Relay	Programmable, NPN or PNP and NO or NC
Time delay		Adjustable time delay on trip and on reset from 0 to 50 s, in steps of 1 second	
Switching capacity		2.5 A, AC-15, C300 (120 V - 1.5 A)	200 mA
Electrical connection		SAE 7/8-16UN, 5-pin male connector. For suitable female pre-wired connectors, see page 83	M12, 4-pin male connector. For suitable female connectors, including pre-wired versions, see page 83

(1) Pressure switches with adjustable differential for regulation between 2 thresholds. Relay output.
(2) Pressure switches with 2 adjustable stages and adjustable differential for each threshold. Solid-state outputs.
(3) Fluids controlled: hydraulic oils, fresh water, air, corrosive fluids, from - 15 to + 80°C. Component materials of units in contact with the fluid, see page 55.
(4) For SAE 7/16-20UNF and other threads, please consult our Customer Care Centre.

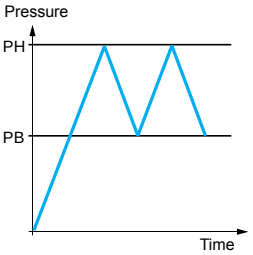
Pressure switch operating curves

(Curve for each stage for dual stage pressure switches)

Pressure switches with relay output

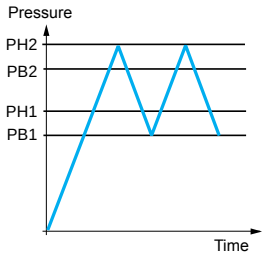


1 Maximum differential
2 Minimum differential



— Adjustable value

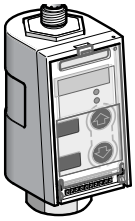
Dual stage pressure switches



— Adjustable value

Accessories: page 82
Dimensions: page 83
Schemes: page 83

Electronic pressure sensors
OsiSense XM, type XMLF
Size 40 bar (580 psi)

Type		Pressure transmitters		Universal sensors with adjustable differential. Solid-state and analogue outputs *(1)*	
					
Adjustable range of switching point (PH) (Rising pressure)		**–**		**3.2…40 bar (46.4…580 psi)**	
Analogue output		4-20 mA	0-10 V	4-20 mA	0-10 V
References					
Fluid connection *(2) (3)*	G 1/4 female	**XMLF040D2015**	**XMLF040D2115**	**XMLF040D2025**	**XMLF040D2125**
	1/4" NPT female	**XMLF040D2016**	**XMLF040D2116**	**XMLF040D2026**	**XMLF040D2126**
Weight (kg)		0.500			

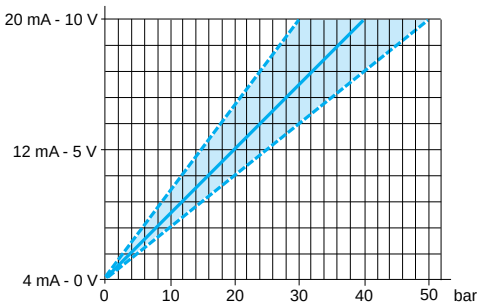
Complementary characteristics not shown under general characteristics (page 55)

Possible differential (subtract from PH to give PB)	Min. at low and high setting	–	1.2 bar (17.4 psi)
	Max. at high setting	–	38 bar (551 psi)
Maximum permissible accidental pressure		160 bar (2320 psi)	
Destruction pressure		240 bar (3480 psi)	
Rated supply voltage		⎓ **24 V**	
Voltage limits		⎓ 17…33 V	
Current consumption		80 mA	
Output		–	Programmable, NPN or PNP and NO or NC
Time delay		–	Adjustable time delay on trip and on reset from 0 to 50 s, in steps of 1 second
Switching capacity		–	200 mA
Analogue output		4…20 mA or 0…10 V, depending on model. Maximum signal level adjustable between 30 and 50 bar (435 and 725 psi)	
Electrical connection		M12, 4-pin male connector. For suitable female connectors, including pre-wired versions, see page 83	

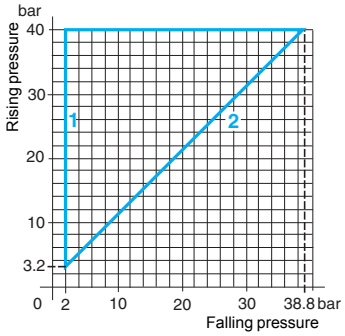
(1) Pressure sensors with adjustable differential for regulation between 2 thresholds. Solid-state and analogue outputs.
(2) Fluids controlled: hydraulic oils, fresh water, air, corrosive fluids, from - 15 to + 80°C. Component materials of units in contact with the fluid, see page 55.
(3) For SAE 7/16-20UNF and other threads, please consult our Customer Care Centre.

Curves

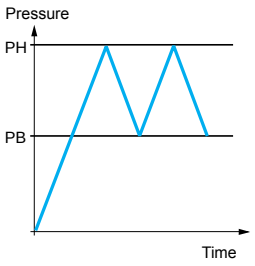
Analogue output curve



Pressure sensor operating curves



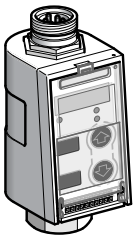
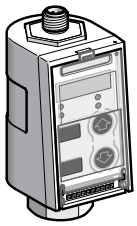
1 Maximum differential
2 Minimum differential



— Adjustable value

Accessories: page 82
Dimensions: page 83
Schemes: page 83

Electronic pressure sensors
OsiSense XM, type XMLF
Size 40 bar (580 psi)

Type	Pressure switches with adjustable differential and relay output *(1)*	Dual stage adjustable pressure switches with solid-state outputs *(2)*
		
Adjustable range of switching point(s) (PH or PH1 and PH2) (Rising pressure)	**3.2…40 bar (46.4…580 psi)**	

References

Fluid connection *(3) (4)*	G 1/4 female	**XMLF040E2045**	**XMLF040D2035**
	1/4" NPT female	**XMLF040E2046**	**XMLF040D2036**
Weight (kg)		0.610	0.500

Complementary characteristics not shown under general characteristics (page 55)

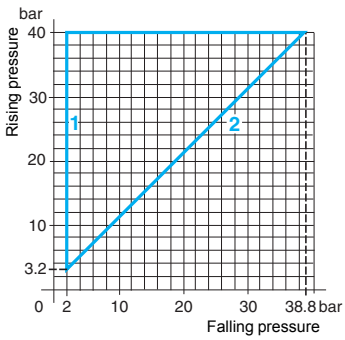
Possible differential (subtract from: - PH to give PB - PH1 & PH2 to give PB1 & PB2)	Min. at low and high setting	1.2 bar (17.4 psi)	For each stage: min. at low and high setting: 1.2 bar (17.4 psi) max. at high setting: 38 bar (551 psi)
	Max. at high setting	38 bar (551 psi)	
Maximum permissible accidental pressure		160 bar (2320 psi)	
Destruction pressure		240 bar (3480 psi)	
Rated supply voltage		**~ 120 V**	**⎓ 24 V**
Voltage limits		~ 102…132 V	⎓ 17…33 V
Current consumption		32 mA	80 mA
Output		Relay	Programmable, NPN or PNP and NO or NC
Time delay		Adjustable time delay on trip and on reset from 0 to 50 s, in steps of 1 second	
Switching capacity		2.5 A, AC-15, C300 (120 V - 1.5 A)	200 mA
Electrical connection		SAE 7/8-16UN, 5-pin male connector. For suitable female pre-wired connectors, see page 83	M12, 4-pin male connector. For suitable female connectors, including pre-wired versions, see page 83

(1) Pressure switches with adjustable differential for regulation between 2 thresholds. Relay output.
(2) Pressure switches with 2 adjustable stages and adjustable differential for each threshold. Solid-state outputs.
(3) Fluids controlled: hydraulic oils, fresh water, air, corrosive fluids, from - 15 to + 80°C. Component materials of units in contact with the fluid, see page 55.
(4) For SAE 7/16-20UNF and other threads, please consult our Customer Care Centre.

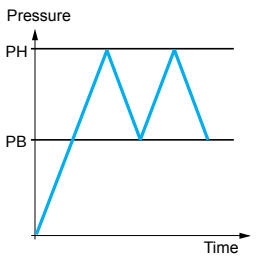
Pressure switch operating curves

(Curve for each stage for dual stage pressure switches)

Pressure switches with relay output

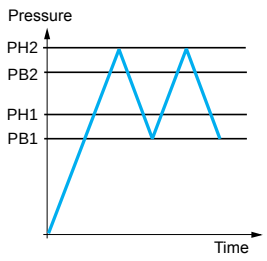


1 Maximum differential
2 Minimum differential



— Adjustable value

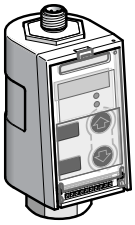
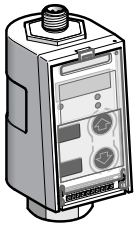
Dual stage pressure switches



— Adjustable value

Accessories: page 82
Dimensions: page 83
Schemes: page 83

Electronic pressure sensors
OsiSense XM, type XMLF
Size 70 bar (1015 psi)

Type		Pressure transmitters		Universal sensors with adjustable differential. Solid-state and analogue outputs *(1)*	
					
Adjustable range of switching point (PH) (Rising pressure)		–		**5.6…70 bar (81.2…1015 psi)**	
Analogue output		4-20 mA	0-10 V	4-20 mA	0-10 V
References					
Fluid connection *(2) (3)*	G 1/4 female	**XMLF070D2015**	**XMLF070D2115**	**XMLF070D2025**	**XMLF070D2125**
	1/4" NPT female	**XMLF070D2016**	**XMLF070D2116**	**XMLF070D2026**	**XMLF070D2126**
Weight (kg)		0.500			

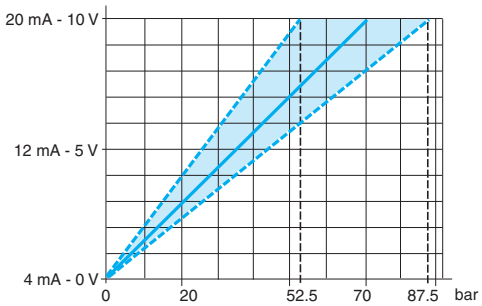
Complementary characteristics not shown under general characteristics (page 55)

Possible differential (subtract from PH to give PB)	Min. at low and high setting	–	2.1 bar (30.5 psi)
	Max. at high setting	–	66.5 bar (964.2 psi)
Maximum permissible accidental pressure		280 bar (4060 psi)	
Destruction pressure		420 bar (6090 psi)	
Rated supply voltage		⎓ **24 V**	
Voltage limits		⎓ 17…33 V	
Current consumption		80 mA	
Output		–	Programmable, NPN or PNP and NO or NC
Time delay		–	Adjustable time delay on trip and on reset from 0 to 50 s, in steps of 1 second
Switching capacity		–	200 mA
Analogue output		4…20 mA or 0…10 V, depending on model. Maximum signal level adjustable between 52.5 and 87.5 bar (761.3 and 1268.7 psi)	
Electrical connection		M12, 4-pin male connector. For suitable female connectors, including pre-wired versions, see page 83	

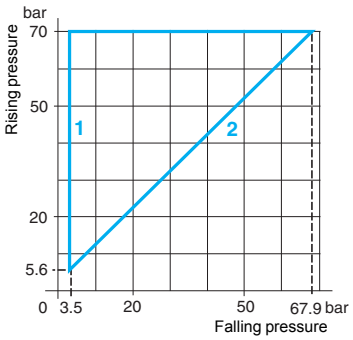
(1) Pressure sensors with adjustable differential for regulation between 2 thresholds. Solid-state and analogue outputs.
(2) Fluids controlled: hydraulic oils, fresh water, air, corrosive fluids, from - 15 to + 80°C. Component materials of units in contact with the fluid, see page 55.
(3) For SAE 7/16-20UNF and other threads, please consult our Customer Care Centre.

Curves

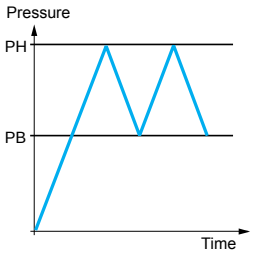
Analogue output curve



Pressure sensor operating curves



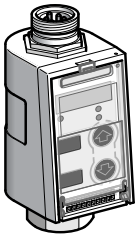
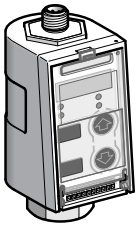
1 Maximum differential
2 Minimum differential



— Adjustable value

Accessories: page 82
Dimensions: page 83
Schemes: page 83

Electronic pressure sensors
OsiSense XM, type XMLF
Size 70 bar (1015 psi)

Type	Pressure switches with adjustable differential and relay output *(1)*	Dual stage adjustable pressure switches with solid-state outputs *(2)*
		
Adjustable range of switching point(s) (PH or PH1 and PH2) (Rising pressure)	**5.6…70 bar (81.2…1015 psi)**	

References

Fluid connection *(3) (4)*	G 1/4 female	**XMLF070E2045**	**XMLF070D2035**
	1/4" NPT female	**XMLF070E2046**	**XMLF070D2036**
Weight (kg)		0.610	0.500

Complementary characteristics not shown under general characteristics (page 55)

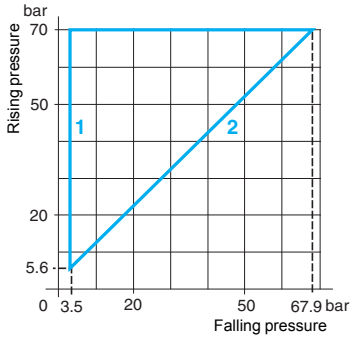
Possible differential (subtract from: - PH to give PB - PH1 & PH2 to give PB1 & PB2)	Min. at low and high setting	2.1 bar (30.5 psi)	For each stage: min. at low and high setting: 2.1 bar (30.5 psi) max. at high setting: 66.5 bar (964.2 psi)
	Max. at high setting	66.5 bar (964.2 psi)	
Maximum permissible accidental pressure		280 bar (4060 psi)	
Destruction pressure		420 bar (6090 psi)	
Rated supply voltage		**~ 120 V**	**⎓ 24 V**
Voltage limits		~ 102…132 V	⎓ 17…33 V
Current consumption		32 mA	80 mA
Output		Relay	Programmable, NPN or PNP and NO or NC
Time delay		Adjustable time delay on trip and on reset from 0 to 50 s, in steps of 1 second	
Switching capacity		2.5 A, AC-15, C300 (120 V - 1.5 A)	200 mA
Electrical connection		SAE 7/8-16UN, 5-pin male connector. For suitable female pre-wired connectors, see page 83	M12, 4-pin male connector. For suitable female connectors, including pre-wired versions, see page 83

(1) Pressure switches with adjustable differential for regulation between 2 thresholds. Relay output.
(2) Pressure switches with 2 adjustable stages and adjustable differential for each threshold. Solid-state outputs.
(3) Fluids controlled: hydraulic oils, fresh water, air, corrosive fluids, from - 15 to + 80°C. Component materials of units in contact with the fluid, see page 55.
(4) For SAE 7/16-20UNF and other threads, please consult our Customer Care Centre.

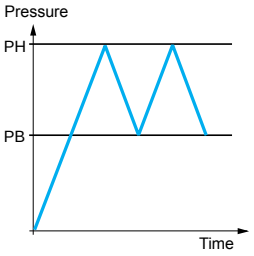
Pressure switch operating curves

(Curve for each stage for dual stage pressure switches)

Pressure switches with relay output

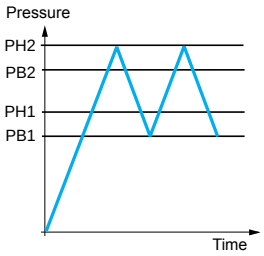


1 Maximum differential
2 Minimum differential



— Adjustable value

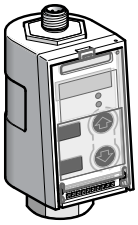
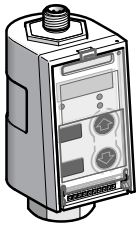
Dual stage pressure switches



— Adjustable value

Accessories: page 82
Dimensions: page 83
Schemes: page 83

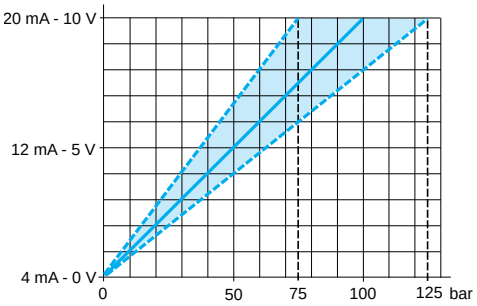
Electronic pressure sensors
OsiSense XM, type XMLF
Size 100 bar (1450 psi)

Type		Pressure transmitters		Universal sensors with adjustable differential. Solid-state and analogue outputs *(1)*	
					
Adjustable range of switching point (PH) (Rising pressure)		–		**8…100 bar (116…1450 psi)**	
Analogue output		4-20 mA	0-10 V	4-20 mA	0-10 V
References					
Fluid connection *(2) (3)*	G 1/4 female	**XMLF100D2015**	**XMLF100D2115**	**XMLF100D2025**	**XMLF100D2125**
	1/4" NPT female	**XMLF100D2016**	**XMLF100D2116**	**XMLF100D2026**	**XMLF100D2126**
Weight (kg)		0.500			
Complementary characteristics not shown under general characteristics (page 55)					
Possible differential (subtract from PH to give PB)	Min. at low and high setting	–		3 bar (43.5 psi)	
	Max. at high setting	–		95 bar (1377.5 psi)	
Maximum permissible accidental pressure		400 bar (5800 psi)			
Destruction pressure		600 bar (8700 psi)			
Rated supply voltage		⎓ **24 V**			
Voltage limits		⎓ 17…33 V			
Current consumption		80 mA			
Output		–		Programmable, NPN or PNP and NO or NC	
Time delay		–		Adjustable time delay on trip and on reset from 0 to 50 s, in steps of 1 second	
Switching capacity		–		200 mA	
Analogue output		4…20 mA or 0…10 V, depending on model. Maximum signal level adjustable between 75 and 125 bar (1087.5 and 1812.5 psi)			
Electrical connection		M12, 4-pin male connector. For suitable female connectors, including pre-wired versions, see page 83			

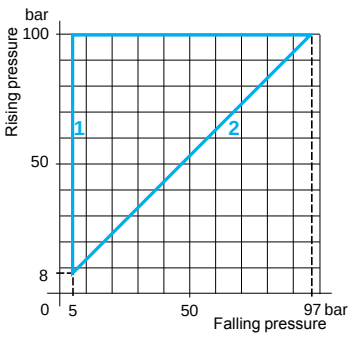
(1) Pressure sensors with adjustable differential for regulation between 2 thresholds. Solid-state and analogue outputs.
(2) Fluids controlled: hydraulic oils, fresh water, air, corrosive fluids, from - 15 to + 80°C. Component materials of units in contact with the fluid, see page 55.
(3) For SAE 7/16-20UNF and other threads, please consult our Customer Care Centre.

Curves

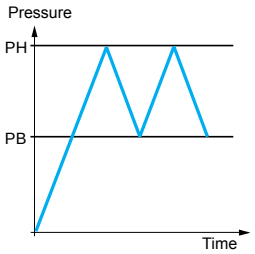
Analogue output curve



Pressure sensor operating curves



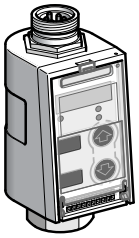
1 Maximum differential
2 Minimum differential



— Adjustable value

Accessories: page 82
Dimensions: page 83
Schemes: page 83

Electronic pressure sensors
OsiSense XM, type XMLF
Size 100 bar (1450 psi)

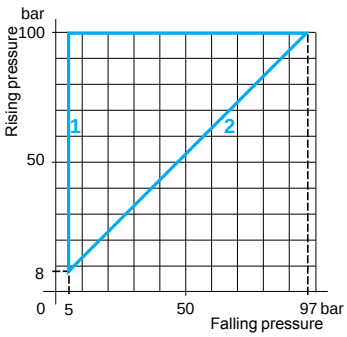
Type		Pressure switches with adjustable differential and relay output *(1)*	Dual stage adjustable pressure switches with solid-state outputs *(2)*
			
Adjustable range of switching point(s) (PH or PH1 and PH2) (Rising pressure)		**8…100 bar (116…1450 psi)**	
References			
Fluid connection *(3) (4)*	G 1/4 female	**XMLF100E2045**	**XMLF100D2035**
	1/4" NPT female	**XMLF100E2046**	**XMLF100D2036**
Weight (kg)		0.610	0.500
Complementary characteristics not shown under general characteristics (page 55)			
Possible differential (subtract from: - PH to give PB - PH1 & PH2 to give PB1 & PB2)	Min. at low and high setting	3 bar (43.5 psi)	For each stage: min. at low and high setting: 3 bar (43.5 psi) max. at high setting: 95 bar (1377.5 psi)
	Max. at high setting	95 bar (1377.5 psi)	
Maximum permissible accidental pressure		400 bar (5800 psi)	
Destruction pressure		600 bar (8700 psi)	
Rated supply voltage		**~ 120 V**	**⎓ 24 V**
Voltage limits		~ 102…132 V	⎓ 17…33 V
Current consumption		32 mA	80 mA
Output		Relay	Programmable, NPN or PNP and NO or NC
Time delay		Adjustable time delay on trip and on reset from 0 to 50 s, in steps of 1 second	
Switching capacity		2.5 A, AC-15, C300 (120 V - 1.5 A)	200 mA
Electrical connection		SAE 7/8-16UN, 5-pin male connector. For suitable female pre-wired connectors, see page 83	M12, 4-pin male connector. For suitable female connectors, including pre-wired versions, see page 83

(1) Pressure switches with adjustable differential for regulation between 2 thresholds. Relay output.
(2) Pressure switches with 2 adjustable stages and adjustable differential for each threshold. Solid-state outputs.
(3) Fluids controlled: hydraulic oils, fresh water, air, corrosive fluids, from - 15 to + 80°C. Component materials of units in contact with the fluid, see page 55.
(4) For SAE 7/16-20UNF and other threads, please consult our Customer Care Centre.

Pressure switch operating curves

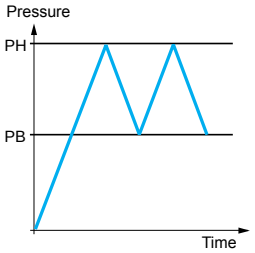
(Curve for each stage for dual stage pressure switches)

Pressure switches with relay output

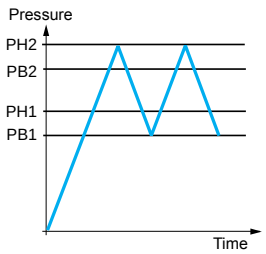


1 Maximum differential
2 Minimum differential

Dual stage pressure switches



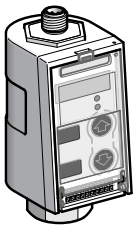
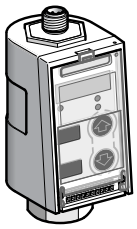
— Adjustable value



— Adjustable value

Accessories: page 82
Dimensions: page 83
Schemes: page 83

Electronic pressure sensors
OsiSense XM, type XMLF
Size 160 bar (2320 psi)

Type		Pressure transmitters		Universal sensors with adjustable differential. Solid-state and analogue outputs *(1)*	
					
Adjustable range of switching point (PH) (Rising pressure)		–		**12.8…160 bar (185.6…2320 psi)**	
Analogue output		4-20 mA	0-10 V	4-20 mA	0-10 V
References					
Fluid connection *(2) (3)*	G 1/4 female	**XMLF160D2015**	**XMLF160D2115**	**XMLF160D2025**	**XMLF160D2125**
	1/4" NPT female	**XMLF160D2016**	**XMLF160D2116**	**XMLF160D2026**	**XMLF160D2126**
Weight (kg)		0.590			

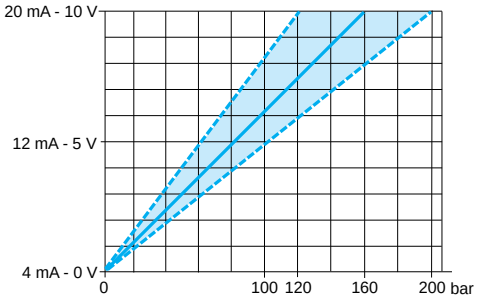
Complementary characteristics not shown under general characteristics (page 55)

Possible differential (subtract from PH to give PB)	Min. at low and high setting	–	4.8 bar (69.6 psi)
	Max. at high setting	–	152 bar (2204 psi)
Maximum permissible accidental pressure		640 bar (9280 psi)	
Destruction pressure		960 bar (13 920 psi)	
Rated supply voltage		⎓ **24 V**	
Voltage limits		⎓ 17…33 V	
Current consumption		80 mA	
Output		–	Programmable, NPN or PNP and NO or NC
Time delay		–	Adjustable time delay on trip and on reset from 0 to 50 s, in steps of 1 second
Switching capacity		–	200 mA
Analogue output		4…20 mA or 0…10 V, depending on model. Maximum signal level adjustable between 120 and 200 bar (1740 and 2900 psi)	
Electrical connection		M12, 4-pin male connector. For suitable female connectors, including pre-wired versions, see page 83	

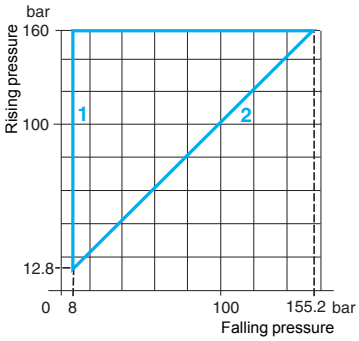
(1) Pressure sensors with adjustable differential for regulation between 2 thresholds. Solid-state and analogue outputs.
(2) Fluids controlled: hydraulic oils, fresh water, air, corrosive fluids, from - 15 to + 80°C. Component materials of units in contact with the fluid, see page 55.
(3) For SAE 7/16-20UNF and other threads, please consult our Customer Care Centre.

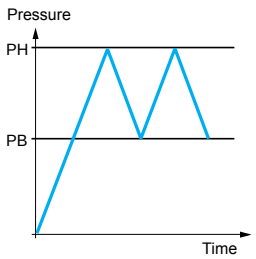
Curves

Analogue output curve



Pressure sensor operating curves



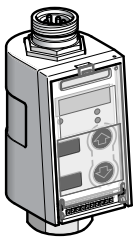
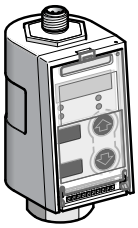


1 Maximum differential
2 Minimum differential

— Adjustable value

Accessories: page 82
Dimensions: page 83
Schemes: page 83

Electronic pressure sensors
OsiSense XM, type XMLF
Size 160 bar (2320 psi)

Type	Pressure switches with adjustable differential and relay output *(1)*	Dual stage adjustable pressure switches with solid-state outputs *(2)*
		
Adjustable range of switching point(s) (PH or PH1 and PH2) (Rising pressure)	**12.8…160 bar (185.6…2320 psi)**	

References

Fluid connection *(3) (4)*	G 1/4 female	**XMLF160E2045**	**XMLF160D2035**
	1/4" NPT female	**XMLF160E2046**	**XMLF160D2036**
Weight (kg)		0.700	0.590

Complementary characteristics not shown under general characteristics (page 55)

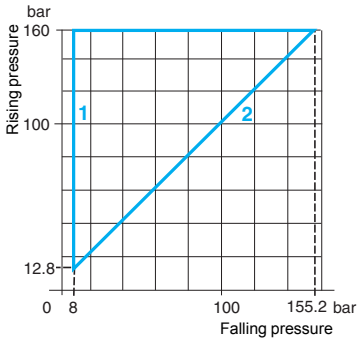
Possible differential (subtract from: - PH to give PB - PH1 & PH2 to give PB1 & PB2)	Min. at low and high setting	4.8 bar (69.6 psi)	For each stage: Min. at low and high setting: 4.8 bar (69.6 psi) Max. at high setting: 152 bar (2204 psi)
	Max. at high setting	152 bar (2204 psi)	
Maximum permissible accidental pressure		640 bar (9280 psi)	
Destruction pressure		960 bar (13 920 psi)	
Rated supply voltage		**~ 120 V**	**⎓ 24 V**
Voltage limits		~ 102…132 V	⎓ 17…33 V
Current consumption		32 mA	80 mA
Output		Relay	Programmable, NPN or PNP and NO or NC
Time delay		Adjustable time delay on trip and on reset from 0 to 50 s, in steps of 1 second	
Switching capacity		2.5 A, AC-15, C300 (120 V - 1.5 A)	200 mA
Electrical connection		SAE 7/8-16UN, 5-pin male connector. For suitable female pre-wired connectors, see page 83	M12, 4-pin male connector. For suitable female connectors, including pre-wired versions, see page 83

(1) Pressure switches with adjustable differential for regulation between 2 thresholds. Relay output.
(2) Pressure switches with 2 adjustable stages and adjustable differential for each threshold. Solid-state outputs.
(3) Fluids controlled: hydraulic oils, fresh water, air, corrosive fluids, from - 15 to + 80°C. Component materials of units in contact with the fluid, see page 55.
(4) For SAE 7/16-20UNF and other threads, please consult our Customer Care Centre.

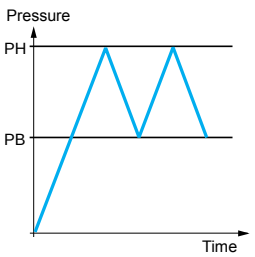
Pressure switch operating curves

(Curve for each stage for dual stage pressure switches)

Pressure switches with relay output

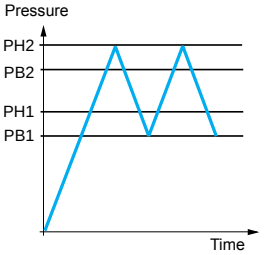


1 Maximum differential
2 Minimum differential



— Adjustable value

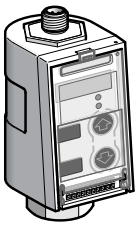
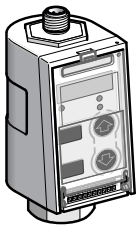
Dual stage pressure switches



— Adjustable value

Accessories: page 82
Dimensions: page 83
Schemes: page 83

Electronic pressure sensors
OsiSense XM, type XMLF
Size 250 bar (3625 psi)

Type		Pressure transmitters		Universal sensors with adjustable differential. Solid-state and analogue outputs *(1)*	
					
Adjustable range of switching point (PH) (Rising pressure)		–		**20…250 bar (290…3625 psi)**	
Analogue output		4-20 mA	0-10 V	4-20 mA	0-10 V
References					
Fluid connection *(2) (3)*	G 1/4 female	**XMLF250D2015**	**XMLF250D2115**	**XMLF250D2025**	**XMLF250D2125**
	1/4" NPT female	**XMLF250D2016**	**XMLF250D2116**	**XMLF250D2026**	**XMLF250D2126**
Weight (kg)		0.590			

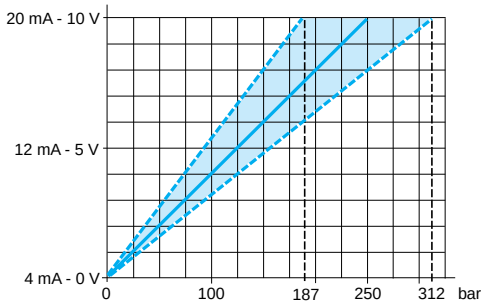
Complementary characteristics not shown under general characteristics (page 55)

Possible differential (subtract from PH to give PB)	Min. at low and high setting	–	7.5 bar (108.8 psi)
	Max. at high setting	–	237.5 bar (3443.7 psi)
Maximum permissible accidental pressure		1000 bar (14 500 psi)	
Destruction pressure		1500 bar (21 750 psi)	
Rated supply voltage		⎓ **24 V**	
Voltage limits		⎓ 17…33 V	
Current consumption		80 mA	
Output		–	Programmable, NPN or PNP and NO or NC
Time delay		–	Adjustable time delay on trip and on reset from 0 to 50 s, in steps of 1 second
Switching capacity		–	200 mA
Analogue output		4…20 mA or 0…10 V, depending on model. Maximum signal level adjustable between 187 and 312 bar (2711 and 4524 psi)	
Electrical connection		M12, 4-pin male connector. For suitable female connectors, including pre-wired versions, see page 83	

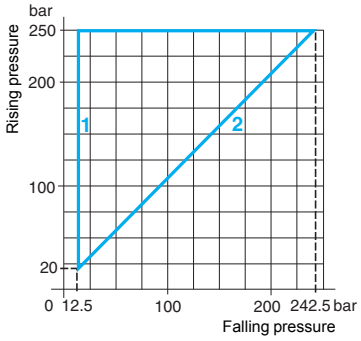
(1) Pressure sensors with adjustable differential for regulation between 2 thresholds. Solid-state and analogue outputs.
(2) Fluids controlled: hydraulic oils, fresh water, air, corrosive fluids, from - 15 to + 80°C. Component materials of units in contact with the fluid, see page 55.
(3) For SAE 7/16-20UNF and other threads, please consult our Customer Care Centre.

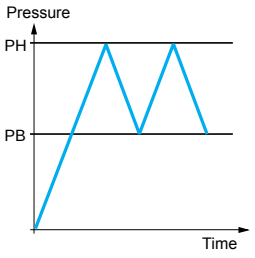
Curves

Analogue output curve



Pressure sensor operating curves



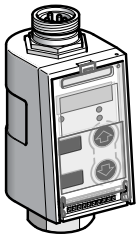
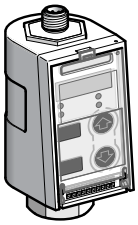


1 Maximum differential
2 Minimum differential

— Adjustable value

Accessories: page 82 | Dimensions: page 83 | Schemes: page 83

Electronic pressure sensors
OsiSense XM, type XMLF
Size 250 bar (3625 psi)

Type	Pressure switches with adjustable differential and relay output *(1)*	Dual stage adjustable pressure switches with solid-state outputs *(2)*
		
Adjustable range of switching point(s) (PH or PH1 and PH2) (Rising pressure)	**20…250 bar (290…3625 psi)**	

References

Fluid connection *(3) (4)*	G 1/4 female	**XMLF250E2045**	**XMLF250D2035**
	1/4" NPT female	**XMLF250E2046**	**XMLF250D2036**
Weight (kg)		0.700	0.590

Complementary characteristics not shown under general characteristics (page 55)

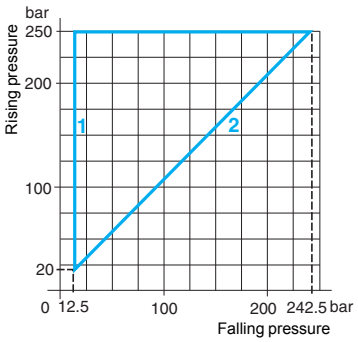
Possible differential (subtract from: - PH to give PB - PH1 & PH2 to give PB1 & PB2)	Min. at low and high setting	7.5 bar (108.8 psi)	For each stage: Min. at low and high setting: 7.5 bar (108.8 psi) Max. at high setting: 237.5 bar (3443.7 psi)
	Max. at high setting	237.5 bar (3443.7 psi)	
Maximum permissible accidental pressure		1000 bar (14 500 psi)	
Destruction pressure		1500 bar (21 750 psi)	
Rated supply voltage		**~ 120 V**	**⎓ 24 V**
Voltage limits		~ 102…132 V	⎓ 17…33 V
Current consumption		32 mA	80 mA
Output		Relay	Programmable, NPN or PNP and NO or NC
Time delay		Adjustable time delay on trip and on reset from 0 to 50 s, in steps of 1 second	
Switching capacity		2.5 A, AC-15, C300 (120 V - 1.5 A)	200 mA
Electrical connection		SAE 7/8-16UN, 5-pin male connector. For suitable female pre-wired connectors, see page 83	M12, 4-pin male connector. For suitable female connectors, including pre-wired versions, see page 83

(1) Pressure switches with adjustable differential for regulation between 2 thresholds. Relay output.
(2) Pressure switches with 2 adjustable stages and adjustable differential for each threshold. Solid-state outputs.
(3) Fluids controlled: hydraulic oils, fresh water, air, corrosive fluids, from - 15 to + 80°C. Component materials of units in contact with the fluid, see page 55.
(4) For SAE 7/16-20UNF and other threads, please consult our Customer Care Centre.

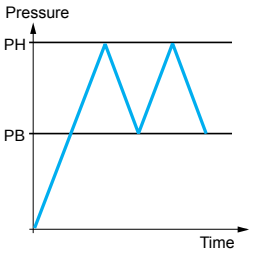
Pressure switch operating curves

(Curve for each stage for dual stage pressure switches)

Pressure switches with relay output

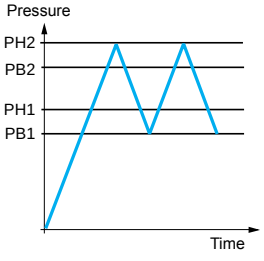


1 Maximum differential
2 Minimum differential



— Adjustable value

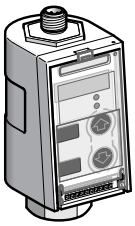
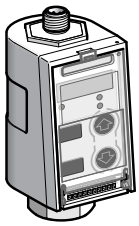
Dual stage pressure switches



— Adjustable value

Accessories: page 82
Dimensions: page 83
Schemes: page 83

Electronic pressure sensors
OsiSense XM, type XMLF
Size 400 bar (5800 psi)

Type		Pressure transmitters		Universal sensors with adjustable differential. Solid-state and analogue outputs *(1)*	
					
Adjustable range of switching point (PH) (Rising pressure)		**–**		**32…400 bar (464…5800 psi)**	
Analogue output		4-20 mA	0-10 V	4-20 mA	0-10 V
References					
Fluid connection *(2) (3)*	G 1/4 female	**XMLF400D2015**	**XMLF400D2115**	**XMLF400D2025**	**XMLF400D2125**
	1/4" NPT female	**XMLF400D2016**	**XMLF400D2116**	**XMLF400D2026**	**XMLF400D2126**
Weight (kg)		0.590			

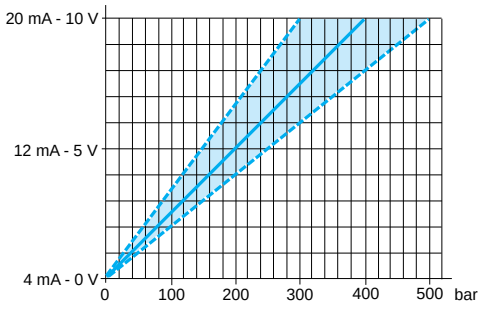
Complementary characteristics not shown under general characteristics (page 55)

Possible differential (subtract from PH to give PB)	Min. at low and high setting	–	12 bar (174 psi)
	Max. at high setting	–	380 bar (5510 psi)
Maximum permissible accidental pressure		1200 bar (17 400 psi)	
Destruction pressure		1800 bar (26 100 psi)	
Rated supply voltage		⎓ **24 V**	
Voltage limits		⎓ 17…33 V	
Current consumption		80 mA	
Output		–	Programmable, NPN or PNP and NO or NC
Time delay		–	Adjustable time delay on trip and on reset from 0 to 50 s, in steps of 1 second
Switching capacity		–	200 mA
Analogue output		4…20 mA or 0…10 V, depending on model. Maximum signal level adjustable between 300 and 500 bar (4350 and 7250 psi)	
Electrical connection		M12, 4-pin male connector. For suitable female connectors, including pre-wired versions, see page 83	

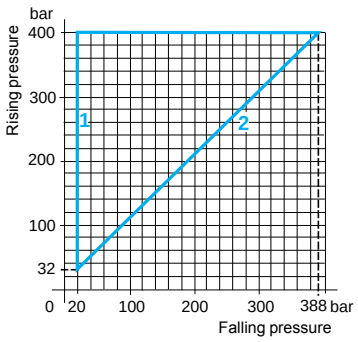
(1) Pressure sensors with adjustable differential for regulation between 2 thresholds. Solid-state and analogue outputs.
(2) Fluids controlled: hydraulic oils, fresh water, air, corrosive fluids, from - 15 to + 80°C. Component materials of units in contact with the fluid, see page 55.
(3) For SAE 7/16-20UNF and other threads, please consult our Customer Care Centre.

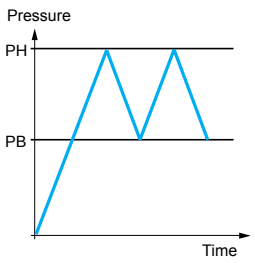
Curves

Analogue output curve



Pressure sensor operating curves



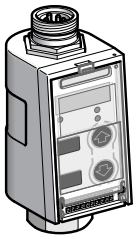
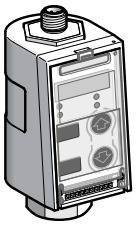


1 Maximum differential
2 Minimum differential

— Adjustable value

Accessories: page 82
Dimensions: page 83
Schemes: page 83

Electronic pressure sensors
OsiSense XM, type XMLF
Size 400 bar (5800 psi)

Type	Pressure switches with adjustable differential and relay output *(1)*	Dual stage adjustable pressure switches with solid-state outputs *(2)*
		
Adjustable range of switching point(s) (PH or PH1 and PH2) (Rising pressure)	**32…400 bar (464…5800 psi)**	

References

Fluid connection *(3) (4)*	G 1/4 female	**XMLF400E2045**	**XMLF400D2035**
	1/4" NPT female	**XMLF400E2046**	**XMLF400D2036**
Weight (kg)		0.700	0.590

Complementary characteristics not shown under general characteristics (page 55)

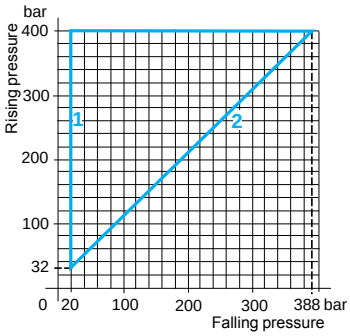
Possible differential (subtract from: - PH to give PB - PH1 & PH2 to give PB1 & PB2)	Min. at low and high setting	12 bar (174 psi)	For each stage: Min. at low and high setting: 12 bar (174 psi) Max. at high setting: 380 bar (5510 psi)
	Max. at high setting	380 bar (5510 psi)	
Maximum permissible accidental pressure		1200 bar (17 400 psi)	
Destruction pressure		1800 bar (26 100 psi)	
Rated supply voltage		**~ 120 V**	**⎓ 24 V**
Voltage limits		~ 102…132 V	⎓ 17…33 V
Current consumption		32 mA	80 mA
Output		Relay	Programmable, NPN or PNP and NO or NC
Time delay		Adjustable time delay on trip and on reset from 0 to 50 s, in steps of 1 second	
Switching capacity		2.5 A, AC-15, C300 (120 V - 1.5 A)	200 mA
Electrical connection		SAE 7/8-16UN, 5-pin male connector. For suitable female pre-wired connectors, see page 83	M12, 4-pin male connector. For suitable female connectors, including pre-wired versions, see page 83

(1) Pressure switches with adjustable differential for regulation between 2 thresholds. Relay output.
(2) Pressure switches with 2 adjustable stages and adjustable differential for each threshold. Solid-state outputs.
(3) Fluids controlled: hydraulic oils, fresh water, air, corrosive fluids, from - 15 to + 80°C. Component materials of units in contact with the fluid, see page 55.
(4) For SAE 7/16-20UNF and other threads, please consult our Customer Care Centre.

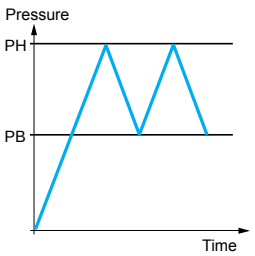
Pressure switch operating curves

(Curve for each stage for dual stage pressure switches)

Pressure switches with relay output

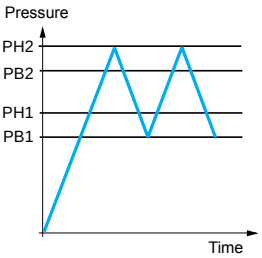


1 Maximum differential
2 Minimum differential



— Adjustable value

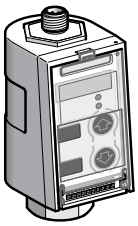
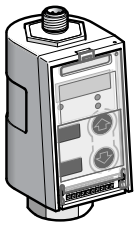
Dual stage pressure switches



— Adjustable value

Accessories: page 82
Dimensions: page 83
Schemes: page 83

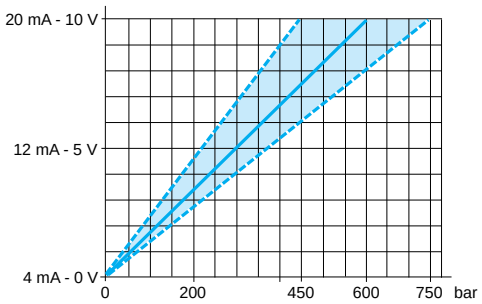
Electronic pressure sensors
OsiSense XM, type XMLF
Size 600 bar (8700 psi)

Type		Pressure transmitters		Universal sensors with adjustable differential. Solid-state and analogue outputs *(1)*	
					
Adjustable range of switching point (PH) (Rising pressure)		**–**		**48…600 bar (696…8700 psi)**	
Analogue output		4-20 mA	0-10 V	4-20 mA	0-10 V
References					
Fluid connection *(2) (3)*	G 1/4 female	**XMLF600D2015**	**XMLF600D2115**	**XMLF600D2025**	**XMLF600D2125**
	1/4" NPT female	**XMLF600D2016**	**XMLF600D2116**	**XMLF600D2026**	**XMLF600D2126**
Weight (kg)		0.590			
Complementary characteristics not shown under general characteristics (page 55)					
Possible differential (subtract from PH to give PB)	Min. at low and high setting	–		18 bar (261 psi)	
	Max. at high setting	–		570 bar (8265 psi)	
Maximum permissible accidental pressure		1200 bar (17 400 psi)			
Destruction pressure		1800 bar (26 100 psi)			
Rated supply voltage		**⎓ 24 V**			
Voltage limits		⎓ 17…33 V			
Current consumption		80 mA			
Output		–		Programmable, NPN or PNP and NO or NC	
Time delay		–		Adjustable time delay on trip and on reset from 0 to 50 s, in steps of 1 second	
Switching capacity		–		200 mA	
Analogue output		4…20 mA or 0…10 V, depending on model. Maximum signal level adjustable between 450 and 750 bar (6525 and 10 875 psi)			
Electrical connection		M12, 4-pin male connector. For suitable female connectors, including pre-wired versions, see page 83			

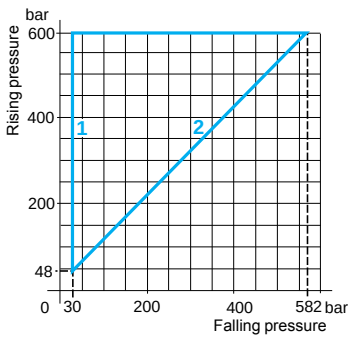
(1) Pressure sensors with adjustable differential for regulation between 2 thresholds. Solid-state and analogue outputs.
(2) Fluids controlled: hydraulic oils, fresh water, air, corrosive fluids, from - 15 to + 80°C. Component materials of units in contact with the fluid, see page 55.
(3) For SAE 7/16-20UNF and other threads, please consult our Customer Care Centre.

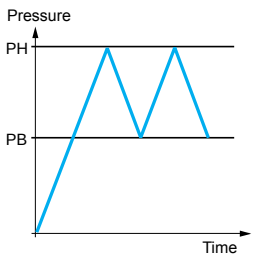
Curves

Analogue output curve



Pressure sensor operating curves



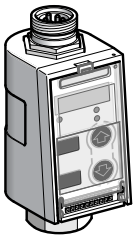
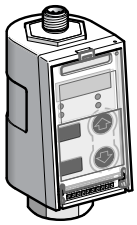


1 Maximum differential
2 Minimum differential

— Adjustable value

Accessories: page 82
Dimensions: page 83
Schemes: page 83

Electronic pressure sensors
OsiSense XM, type XMLF
Size 600 bar (8700 psi)

Type	Pressure switches with adjustable differential and relay output *(1)*	Dual stage adjustable pressure switches with solid-state outputs *(2)*
		
Adjustable range of switching point(s) (PH or PH1 and PH2) (Rising pressure)	**48…600 bar (696…8700 psi)**	

References

Fluid connection *(3) (4)*	G 1/4 female	**XMLF600E2045**	**XMLF600D2035**
	1/4" NPT female	**XMLF600E2046**	**XMLF600D2036**
Weight (kg)		0.700	0.590

Complementary characteristics not shown under general characteristics (page 55)

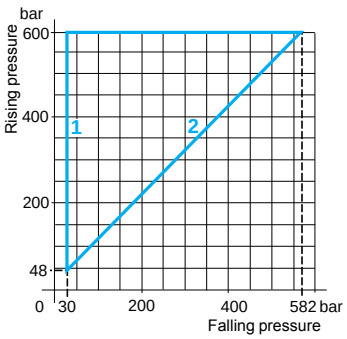
Possible differential (subtract from: - PH to give PB - PH1 & PH2 to give PB1 & PB2)	Min. at low and high setting	18 bar (261 psi)	For each stage: Min. at low and high setting: 18 bar (261 psi) Max. at high setting: 570 bar (8265 psi)
	Max. at high setting	570 bar (8265 psi)	
Maximum permissible accidental pressure		1200 bar (17 400 psi)	
Destruction pressure		1800 bar (26 100 psi)	
Rated supply voltage		**~ 120 V**	**⎓ 24 V**
Voltage limits		~ 102…132 V	⎓ 17…33 V
Current consumption		32 mA	80 mA
Output		Relay	Programmable, NPN or PNP and NO or NC
Time delay		Adjustable time delay on trip and on reset from 0 to 50 s, in steps of 1 second	
Switching capacity		2.5 A, AC-15, C300 (120 V - 1.5 A)	200 mA
Electrical connection		SAE 7/8-16UN, 5-pin male connector. For suitable female pre-wired connectors, see page 83	M12, 4-pin male connector. For suitable female connectors, including pre-wired versions, see page 83

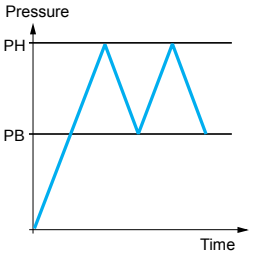
(1) Pressure switches with adjustable differential for regulation between 2 thresholds. Relay output.
(2) Pressure switches with 2 adjustable stages and adjustable differential for each threshold. Solid-state outputs.
(3) Fluids controlled: hydraulic oils, fresh water, air, corrosive fluids, from - 15 to + 80°C. Component materials of units in contact with the fluid, see page 55.
(4) For SAE 7/16-20UNF and other threads, please consult our Customer Care Centre.

Pressure switch operating curves

(Curve for each stage for dual stage pressure switches)

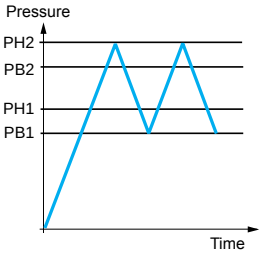
Pressure switches with relay output





— Adjustable value

Dual stage pressure switches

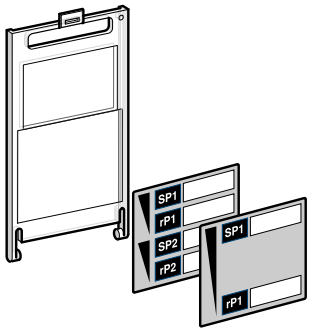


— Adjustable value

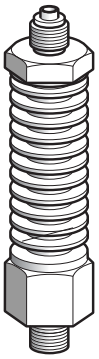
1 Maximum differential
2 Minimum differential

Accessories: page 82 | Dimensions: page 83 | Schemes: page 83

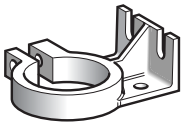
Electronic pressure sensors
OsiSense XM, type XMLF
Accessories and replacement parts

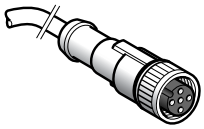


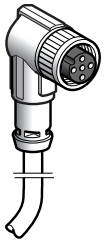
XMLZL007

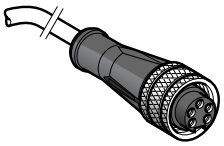

XMLZL009

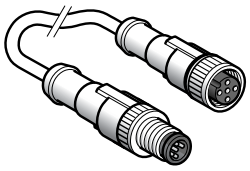

XMLZL010

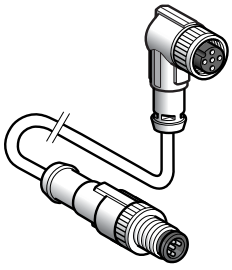

XMLZL008


XZCP1141L●


XZCP1241L●


XZCP1764L●


XZCR1511041C●


XZCR1512041C●

References

Replacement parts

Description		Reference	Weight kg
Transparent cover with legends		**XMLZL007**	0.020
Sealing gasket (Sold in lots of 10)	All sizes (XMLF)	**XMLZL010**	0.015

Accessories

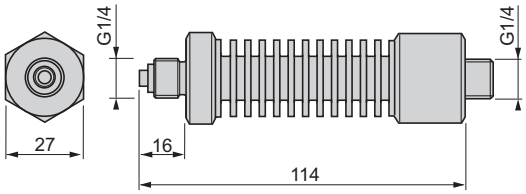
Description		Length of cable	Reference	Weight kg
Fixing bracket		–	**XMLZL008**	0.037
Cooler for versions with G 1/4 A (male) fluid connection *(1)* Usage temperature: 150°C for the fluid, 50°C for the ambient air		–	**XMLZL009**	0.370
Pre-wired M12, straight, female connectors		2 m	**XZCP1141L2**	0.115
		5 m	**XZCP1141L5**	0.270
		10 m	**XZCP1141L10**	0.520
Pre-wired M12, elbowed, female connectors		2 m	**XZCP1241L2**	0.115
		5 m	**XZCP1241L5**	0.270
		10 m	**XZCP1241L10**	0.520
Pre-wired 7/8"-16UN, straight, female connectors		2 m	**XZCP1764L2**	0.185
		5 m	**XZCP1764L5**	0.460
		10 m	**XZCP1764L10**	0.900
M12 - M12 jumper cables with straight male connector, for splitter box	Straight female connector	1 m	**XZCR1511041C1**	0.065
		2 m	**XZCR1511041C2**	0.095
	Elbowed female connector	1 m	**XZCR1512041C1**	0.065
		2 m	**XZCR1512041C2**	0.095

(1) Available with other fluid connections (1/4" NPT AND SAE 7/16-20 UNF. Please consult our Customer Care Centre.

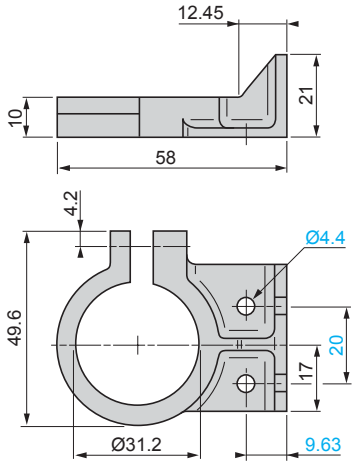
Electronic pressure sensors
OsiSense XM, type XMLF
Accessories and replacement parts

Dimensions

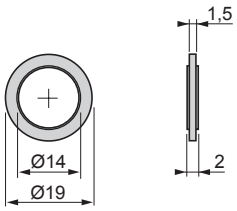
XMLZL009



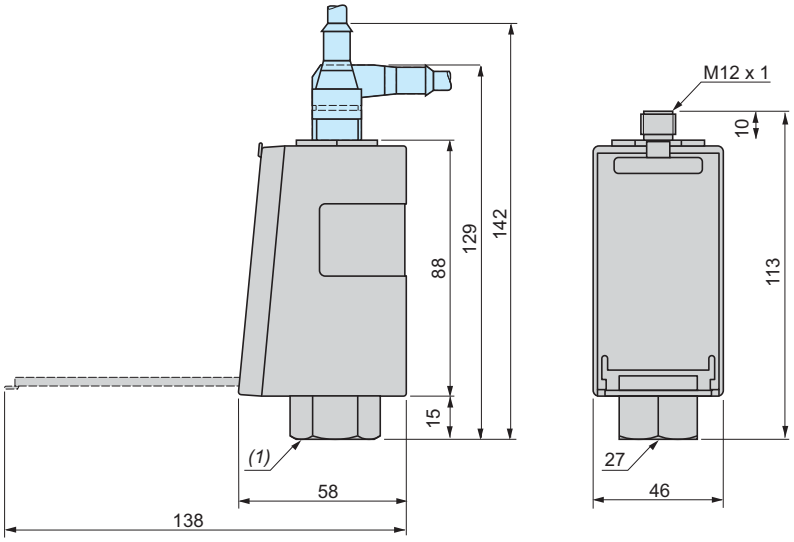
XMLZL008



XMLZL010

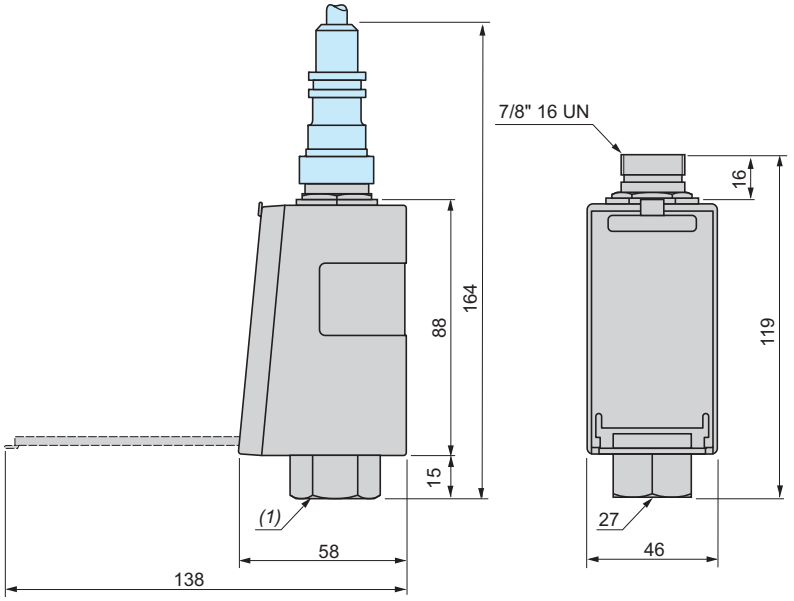


XMLF●●●D2●●●



(1) Female fluid entry
XMLF●●●D2●●5: G 1/4 A
XMLF●●●D2●●6: 1/4" NPT

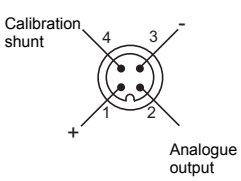
XMLF●●●E2●●●



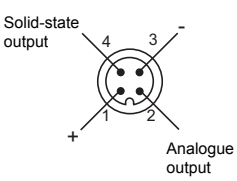
(1) Female fluid entry
XMLF●●●E2●●5: G 1/4 A
XMLF●●●E2●●6: 1/4" NPT

Connections (pressure sensor connector pin view)

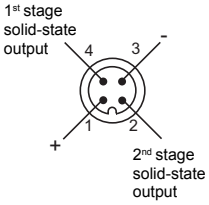
XMLF●●●D201●, F●●●D211●



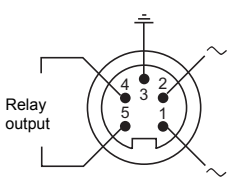
XMLF●●●D202●, F●●●D212●



XMLF●●●D203●



XMLF●●●E204●



Electronic pressure sensors
OsiSense XM
For control circuits

Functions

Pressure transmitters

The function of pressure transmitters is the control and measurement of pressure or vacuum levels in hydraulic or pneumatic systems.
They transform the pressure into an electrical signal which is proportional to the pressure measured.
Their high precision makes them suitable for all industrial applications requiring pressure/vacuum display, control or regulation.
Being very robust, they are equally suitable for applications involving high operating rates.

Pressure and vacuum switches

The function of electronic pressure and vacuum switches is the control or regulation of pressure or vacuum levels in hydraulic or pneumatic systems.
They transform the pressure change into a digital output signal when the preset pressure or vacuum points are reached. The very wide adjustment range for the setting points characterise these electronic switches.
Their robustness, together with their excellent adherence to the set values over a period of time, make them ideal for applications involving high operating rates.
In addition, the high repeat accuracy and fast response time of these sensors make them equally suitable for applications requiring accurate pressure regulation and monitoring.

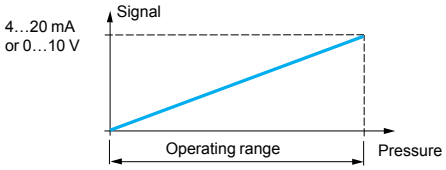
Universal sensors

Universal sensors are electronic pressure and vacuum switches which include an analogue output, identical to that of the pressure transmitters.

Operating principle

Pressure transmitters

The electrical signal from the pressure transmitter (signal proportional to the pressure being monitored) is amplified, calibrated and output as a standard 4 to 20 mA or 0 to 10 V (depending on model) analogue signal.

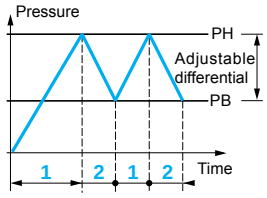


Pressure and vacuum switches

Designed for regulation between 2 thresholds (adjustable differential), these switches have both a high point setting (PH) and a low point setting (PB). Both of these points can be independently adjusted.
The difference (differential) between the two setting points can be little or considerable, thus enabling small or large differentials to be set.
Being electronic, the switches have no mechanical moving parts.

Operating principle with solid-state NC outputs

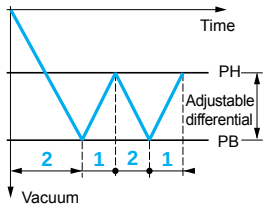
Pressure switches with digital output



— Adjustable value
PH = high point
PB = low point

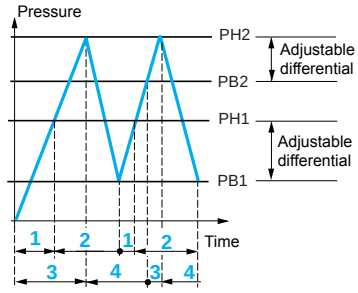
1 Output on
2 Output off

Vacuum switches with digital output



1 Output on
2 Output off

Dual stage pressure switches



— Adjustable value
PH1 = high point 1st stage
PB1 = low point 1st stage
PH2 = high point 2nd stage
PB2 = low point 2nd stage
1 Output 1st stage on
2 Output 1st stage off
3 Output 2nd stage on
4 Output 2nd stage off

Electronic pressure sensors
OsiSense XM
For control circuits

Terminology

Measuring range

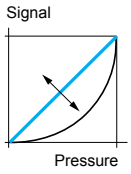
The measuring range (MR) of a pressure sensor corresponds to the difference between the upper and lower values measured by the load cell. It is comprised between 0 bar and the pressure corresponding to the size of the sensor.

Operating range

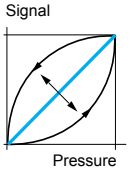
The operating range of a pressure transmitter corresponds to its measuring range. Within this range, its analogue output signal varies between 4 and 20 mA or 0 and 10 V and is proportional to the measured pressure.
The operating range of a pressure or vacuum switch is the difference between the minimum low point (PB) and the maximum high point (PH) setting values.

Precision

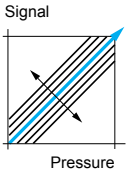
This comprises linearity, hysteresis, repeat accuracy and setting tolerances.
It is expressed as a % of the measuring range (MR) of the load cell (% MR).



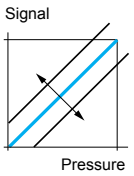
The linearity is the maximum deviation between the real transmitted curve and the ideal curve.

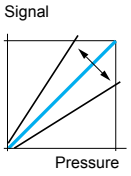


The hysteresis is the maximum deviation between the rising pressure curve and the falling pressure curve.



The repeat accuracy is the maximum drift encountered at varying pressures under given conditions.

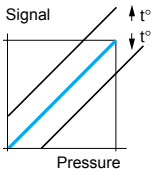




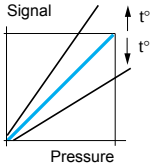
The setting tolerances are the manufacturer's tolerances regarding the zero point and sensitivity (gradient of output signal curve from the pressure transmitter).

Temperature drift

The precision of a pressure sensor is always susceptible to variation due to the operating temperature.



Zero point drift
This is proportional to the temperature and is expressed as % MR/°C.



Sensitivity drift
This is proportional to the temperature and is expressed as % MR/°C.

Electronic pressure sensors
OsiSense XM
For control circuits

Terminology (continued)

Switching point on rising pressure (PH)
The upper pressure setting at which the output of the electronic pressure or vacuum switch changes state on rising pressure.

Switching point on falling pressure (PB)
The lower pressure setting at which the output of the electronic pressure or vacuum switch changes state on falling pressure.

Differential
The difference between the switching point on rising pressure (PH) and the switching point on falling pressure (PB). The low point can be set at the values indicated on the operating curves shown on the product pages.

Repeat accuracy
The variation of the operating point of the pressure or vacuum switch between several successive operations.

Size
Pressure transmitters and pressure switches
This is the maximum value of the operating range.
Vacuum transmitters and vacuum switches
This is the minimum value of the operating range.

Maximum permissible accidental pressure
The maximum pressure (excluding pressure surges) that the sensor can occasionally withstand without permanent damage.

Destruction pressure
The pressure value which if exceeded is likely to cause serious damage to the sensor, i.e. leaking, bursting, component failure, etc.

Load resistance of pressure transmitters

The supply voltage and load resistance of a pressure transmitter must be selected according to the formula:

$$R_{load} = \frac{U_{supply} - U_{supply\ min.}}{0.02\ A}$$ (U supply min. = 11 V for XMLE and 17 V for XMLF)

Electronic pressure sensors
OsiSense XM
For control circuits

Features of pressure sensors XMLF

Pressure sensors type XMLF (see page 54) feature numerous configuration possibilities with regards to the display (response time, choice of bar or psi units of measurement), analogue output signal operation (maximum signal output adjustable between 75% and 125% of the units size), solid-state output operation (PNP or NPN, NO or NC, time delay on opening or on closing, response time) and status signalling (see below).
A diagnostic function is incorporated which enables verification, at any time, of the sensors correct operation (see below) and also, to provide information regarding pressure peak values.

Self-test function (calibration shunt)

All pressure sensors XMLF incorporate a diagnostic function which can be used, at any time, to check the correct operation of the unit. It comprises an internal system which enables automatic monitoring of all the sensor circuits, including the ceramic pressure measuring load cell.
For all models, this function is manually activated and the result of the test is indicated on the display (DONE or ERR).
For pressure transmitters, this function can also be remotely activated via a digital input connected to a PLC, thus enabling automatic verification without the need of intervention by an operator. In this instance, the self-test also generates an analogue output signal which is equivalent to 50% of the sensors size (12 mA or 5 V) which, in turn, can be verified by the PLC.
The unit can be considered as defective if the difference between the signal transmitted and the standard theoretical value is too great.

Operational status signalling

Pressure and vacuum switches XMLF feature status LED indicators for the digital outputs. Indication can be configured for 2 modes:
- "hysteresis" mode: indicator illuminated when output activated (output off for NC configuration or output on for NO configuration).
- "window" mode: indicator illuminated when the pressure being measured is between the high and low set point values.

Selection of switch size

Size selection is made according to the maximum pressure of the system to be controlled.

Adherence to pressure

Select a size whereby the nominal pressure is higher than the maximum pressure of the system to be controlled.

Precision, repeat accuracy

The precision and repeat accuracy are expressed as a percentage of the measuring range and better detection is achieved when the size of the sensor is close to that of the maximum pressure of the system to be controlled. As a general rule, avoid working towards the bottom limit of the measuring range.

Minimum differential of a pressure or vacuum switch

The minimum differential for each switch size is 2% for XMLE and 3% for XMLF of its operating range.

Selection example for a pressure switch

Maximum pressure of system = 11 bar
PH = 7 bar
PB = 6 bar
2 alternative choices:
XML●010●●●●● (10 bar) or
XML●025●●●●● (25 bar)
Advantages:
XML●010●●●●●: maximum repeat accuracy and precision
XML●025●●●●●: withstand to overpressure.

Electromechanical pressure and vacuum switches

OsiSense XM

For control circuits, type XML

Presentation

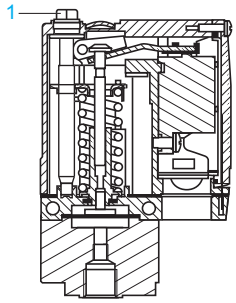
Pressure and vacuum switches type **XML** are switches for control circuits. They are used to control the pressure of hydraulic oils, fresh water, sea water, air, steam, corrosive fluids or viscous products, up to 500 bar.

XMLA pressure and vacuum switches have a fixed differential and are for detection of a single threshold. They incorporate a 1 CO single-pole contact.
XMLB pressure and vacuum switches have an adjustable differential and are for regulation between 2 thresholds. They incorporate a 1 CO single-pole contact.
XMLC pressure and vacuum switches have an adjustable differential and are for regulation between 2 thresholds. They incorporate 2 CO single-pole contacts.
XMLD pressure and vacuum switches are dual stage switches, each stage with a fixed differential, and are for detection at each threshold. They incorporate 2 CO single-pole contacts (one per stage).

Setting

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

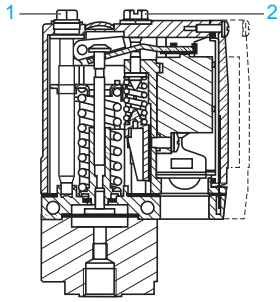
Pressure and vacuum switches with fixed differential, type XMLA



Switching point on rising pressure
The switching point on rising pressure (PH) is set by adjusting the red screw 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.).

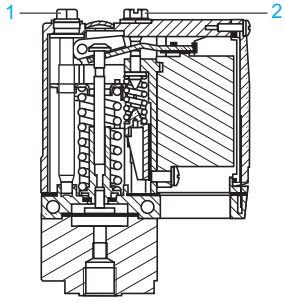
Pressure and vacuum switches with adjustable differential, types XMLB and XMLC



Switching point on rising pressure
The switching point on rising pressure (PH) is set by adjusting the red screw 1.

Switching point on falling pressure
The switching point on falling pressure (PB) is set by adjusting the green screw 2.

Dual stage pressure and vacuum switches with fixed differential for each threshold, type XMLD



Switching point on rising pressure of stage 1 and stage 2
The first stage switching point on rising pressure (PH1) is set by adjusting the red screw 1.
The second stage switching point on rising pressure (PH2) is set by adjusting the blue screw 2.

Switching point on falling pressure
The switching points on falling pressure (PB1 and PB2) are not adjustable.
The difference between the tripping and resetting points of each contact is the natural differential of the switch (contact differential, friction, etc.).

Electromechanical pressure and vacuum switches

OsiSense XM

For control circuits, type XML

Environment characteristics

Conformity to standards		CE, IEC/EN 60947-5-1, UL 508, CSA C22-2 n° 14
Product certifications		UL, CSA, CCC, BV, LROS, RINA, GL, DNV, VIT-SEPRO
Protective treatment		Standard version "TC". Special version "TH"
Ambient air temperature	**°C**	For operation: - 25...+ 70. For storage: - 40...+ 70
Fluids or products controlled		Hydraulic oils, air, fresh water, sea water (0…+ 160°C), depending on model Steam, corrosive fluids, viscous products (0…+ 160°C), depending on model
Materials		Case: zinc alloy Component materials in contact with fluid: see pages *148 and 149*
Operating position		All positions
Vibration resistance		4 gn (30...500 Hz) conforming to IEC 68-2-6 except **XML●L35●●●●●**, **XML●001●●●●●** and **XMLBM03●●●●●**: 2 gn
Shock resistance		50 gn conforming to IEC 68-2-27 except **XML●L35●●●●●**, **XML●001●●●●●** and **XMLBM03●●●●●**: 30 gn
Electric shock protection		Class I conforming to IEC 1140, IEC 536 and NF C 20-030
Degree of protection		Screw terminal models: IP 66 conforming to IEC/EN 60529 Connector models: IP 65 conforming to IEC/EN 60529
Operating rate	**Op. cycles/ min**	Piston version switches: ≤ 60 (for temperature > 0°C) Diaphragm version switches: ≤ 120 (for temperature > 0°C)
Repeat accuracy		< 2%
Fluid connection		G 1/4 (BSP female) conforming to NF E 03-005, ISO 228 or 1/4" NPTF (consult our Customer Care Centre)
Electrical connection		Screw terminal models: ISO M20 x 1.5 tapped entry For an entry tapped for n° 13 (DIN Pg 13.5) cable gland, replace the last number of the reference by 1 (example: **XMLA010A2S12** becomes **XMLA010A2S11**) For an entry tapped 1/2" NPT, please consult our Customer Care Centre Connector models (either type DIN 43650 A or M12): please consult our Customer Care Centre

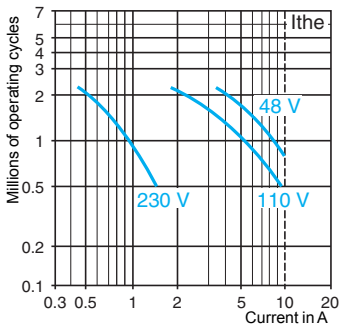
Contact block characteristics

Rated operational characteristics		~ AC-15; B300 (Ue = 240 V, Ie = 1.5 A - Ue = 120 V, Ie = 3 A) ⎓ DC-13; R300 (Ue = 250 V, Ie = 0.1 A) conforming to IEC 947-5-1 Appendix A, EN 60 947-5-1
Rated insulation voltage		Ui = 500 V conforming to IEC/EN 60947-1 Ui = 300 V conforming to UL 508, CSA C22-2 n° 14
Rated impulse withstand voltage		U imp = 6 kV conforming to IEC/EN 60947-1
Type of contacts		Silver tipped contacts **XMLA** and **XMLB**: 1 CO single-pole contact (4 terminal), snap action **XMLC**: 2 CO single-pole contacts (8 terminal), simultaneous, snap action **XMLD**: 2 CO single-pole contacts (8 terminal), staggered, snap action
Resistance across terminals	**mΩ**	< 25 conforming to NF C 93-050 method A or IEC 255-7 category 3
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 0.2 mm², max: 2 x 2.5 mm²

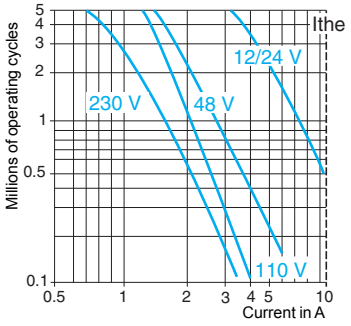
Electrical durability
Conforming to IEC/EN 60947-5-1 Appendix C
Utilisation categories AC-15 and DC-13

Operating rate: 3600 operating cycles/hour
Load factor: 0.5

XMLA and **XMLB**
AC supply ~ 50/60 Hz
Inductive circuit, Ithe = 10 A



XMLC and **XMLD**
AC supply ~ 50/60 Hz
Inductive circuit, Ithe = 10 A



DC supply ⎓
Power broken in W
for 1 million operating cycles

Voltage	V	**24**	**48**	**120**
	W	31	29	26

DC supply ⎓
Power broken in W
for 5 million operating cycles

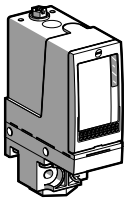
Voltage	V	**24**	**48**	**120**
	W	10	7	4

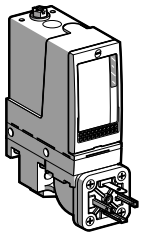
Electromechanical vacuum switches

OsiSense XM, type XML

Size - 1 bar (- 14.5 psi)
Fixed differential, for detection of a single threshold
Switches with 1 CO single-pole contact
Fluid connection G 1/4 (female)

Vacuum switches type XMLA | **With setting scale**





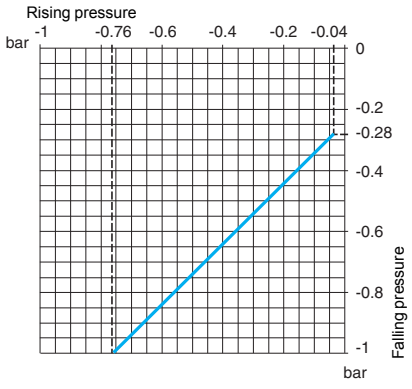
Adjustable range of switching point (PB) (Falling pressure)		**- 0.28…- 1 bar (- 4.06…- 14.5 psi)**	
Electrical connection		Terminals	DIN connector
References *(1)*			
Fluids controlled *(2)*	Hydraulic oils, fresh water, air, up to +70°C	**XMLAM01V2S12**	**XMLAM01V2C11**
	Hydraulic oils, fresh water, air, corrosive fluids, up to + 160°C	**XMLAM01T2S12**	**XMLAM01T2C11**
Weight (kg)		0.685	0.715

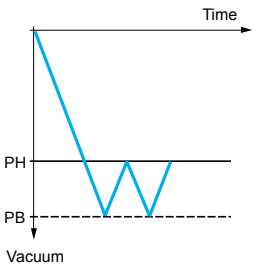
Complementary characteristics not shown under general characteristics (page 89)

Natural differential (add to PB to give PH)	At low setting *(3)*	0.24 bar (3.48 psi)
	At high setting *(3)*	0.24 bar (3.48 psi)
Maximum permissible pressure	Per cycle	5 bar (72.5 psi)
	Accidental	9 bar (130.5 psi)
Destruction pressure		18 bar (261 psi)
Mechanical life		3 x 10^6 operating cycles
Cable entry for terminal models		1 entry tapped M20 x 1.5 mm for ISO cable gland, clamping capacity 7 to 13 mm
Connector type for connector models		DIN 43650 A, 4-pin male. For suitable female connector, see page 142
Vacuum switch type		Diaphragm

*(1) For 1 entry tapped for n° 13 cable gland, replace **S12** by **S11** (example: **XMLAM01V2S12** becomes **XMLAM01V2S11**).*
(2) Component materials of units in contact with the fluid, see pages 148 and 149.
(3) Deviation of the differential at low and high setting points for switches of the same size: ± 0.05 bar (± 0.72 psi).

Operating curves





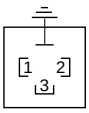
— Adjustable value
--- Non adjustable value

Connection

Terminal model

Connector model

Vacuum switch connector pin view



1 → 11 and 13
2 → 12
3 → 14

Other versions	Vacuum switches with alternative tapped cable entries: NPT etc. Please consult our Customer Care Centre.

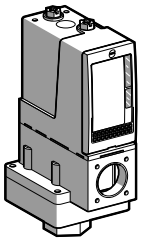
Accessories: page 142
Dimensions: pages143 to 145

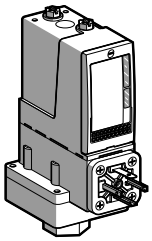
Electromechanical vacuum switches

OsiSense XM, type XML

Size - 1 bar (- 14.5 psi)
Adjustable differential, for regulation between 2 thresholds
Switches with 1 CO single-pole contact
Fluid connection G 1/4 (female)

Vacuum switches type XMLB | **With setting scale**





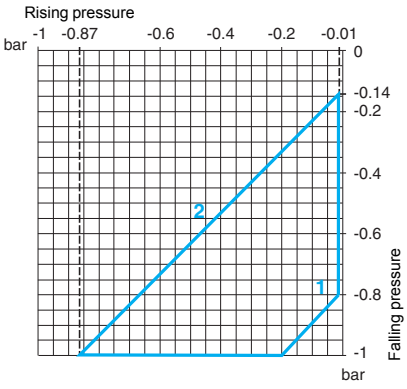
Adjustable range of switching point (PB) (Falling pressure)		**- 0.14…- 1 bar (- 2.03…- 14.5 psi)**	
Electrical connection		Terminals	DIN connector
References *(1)*			
Fluids controlled *(2)*	Hydraulic oils, fresh water, air, up to +70°C	**XMLBM02V2S12**	**XMLBM02V2C11**
	Hydraulic oils, fresh water, air, corrosive fluids, up to + 160°C	**XMLBM02T2S12**	**XMLBM02T2C11**
Weight (kg)		1.015	1.030

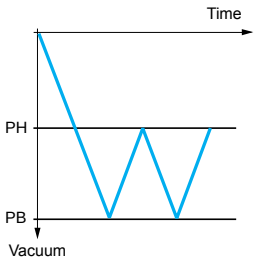
Complementary characteristics not shown under general characteristics (page 89)

Possible differential (add to PB to give PH)	Min. at low setting *(3)*	0.13 bar (1.88 psi)
	Min. at high setting *(3)*	0.13 bar (1.88 psi)
	Max. at high setting	0.8 bar (11.6 psi)
Maximum permissible pressure	Per cycle	5 bar (72.5 psi)
	Accidental	9 bar (130.5 psi)
Destruction pressure		18 bar (261 psi)
Mechanical life		3 x 10^6 operating cycles
Cable entry for terminal models		1 entry tapped M20 x 1.5 mm for ISO cable gland, clamping capacity 7 to 13 mm
Connector type for connector models		DIN 43650 A, 4-pin male. For suitable female connector, see page 142
Vacuum switch type		Diaphragm

*(1) For 1 entry tapped for n° 13 cable gland, replace **S12** by **S11** (example: **XMLBM02V2S12** becomes **XMLBM02V2S11**).*
(2) Component materials of units in contact with the fluid, see pages 148 and 149.
(3) Deviation of the differential at low and high setting points for switches of the same size: ± 0.02 bar (± 0.29 psi).

Operating curves





1 Maximum differential
2 Minimum differential

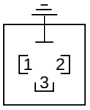
— Adjustable value

Connection

Terminal model

Connector model

Vacuum switch connector pin view



1 → 11 and 13
2 → 12
3 → 14

Other versions

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

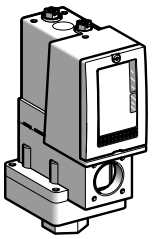
Accessories: page 142
Dimensions: pages143 to 145

Electromechanical vacuum switches

OsiSense XM, type XML

Size - 1 bar (- 14.5 psi)
Adjustable differential, for regulation between 2 thresholds
Switches with 2 CO single-pole contacts
Fluid connection G 1/4 (female)

Vacuum switches type XMLC | **With setting scale**



Adjustable range of switching point (PB) (Falling pressure)	**- 0.14…- 1 bar (- 2.03…- 14.5 psi)**
Electrical connection	Terminals

References *(1)*

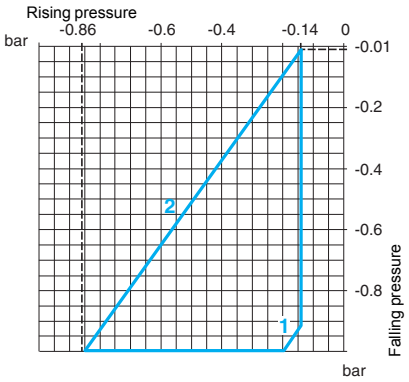
Fluids controlled *(2)*	Hydraulic oils, fresh water, air, up to +70°C	**XMLCM02V2S12**
	Hydraulic oils, fresh water, air, corrosive fluids, up to + 160°C	**XMLCM02T2S12**
Weight (kg)		1.015

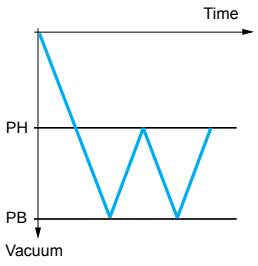
Complementary characteristics not shown under general characteristics (page 89)

Possible differential (add to PB to give PH)	Min. at low setting *(3)*	0.13 bar (1.89 psi)
	Min. at high setting *(3)*	0.14 bar (2.03 psi)
	Max. at high setting	0.8 bar (11.6 psi)
Maximum permissible pressure	Per cycle	5 bar (72.5 psi)
	Accidental	9 bar (130.5 psi)
Destruction pressure		18 bar (261 psi)
Mechanical life		3 x 10^6 operating cycles
Cable entry for terminal models		1 entry tapped M20 x 1.5 mm for ISO cable gland, clamping capacity 7 to 13 mm
Vacuum switch type		Diaphragm

*(1) For 1 entry tapped for n° 13 cable gland, replace **S12** by **S11** (example: **XMLCM02V2S12** becomes **XMLCM02V2S11**).*
(2) Component materials of units in contact with the fluid, see pages 148 and 149.
(3) Deviation of the differential at low and high setting points for switches of the same size: ± 0.02 bar (± 0.29 psi).

Operating curves



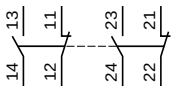


1 Maximum differential
2 Minimum differential

— Adjustable value

Connection

Terminal model



Other versions

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

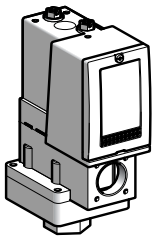
Accessories: page 142
Dimensions: pages143 to 145

Electromechanical vacuum switches

OsiSense XM, type XML

Size - 1 bar (- 14.5 psi)
Dual stage, fixed differential, for detection at each threshold
Switches with 2 CO single-pole contacts (one per stage)
Fluid connection G 1/4 (female)

Vacuum switches type XMLD | **Without setting scale**



Adjustable range of each switching point (Falling pressure)	2nd stage switching point (PB2)	**- 0.12…- 1 bar (- 1.74…- 14.5 psi)**
	1st stage switching point (PB1)	**- 0.10…- 0.98 bar (- 1.45…- 14.21 psi)**
Spread between 2 stages (PB2 - PB1)		**0.02…0.88 bar (0.29…12.76 psi)**
Electrical connection		Terminals

References *(1)*

Fluids controlled *(2)*	Hydraulic oils, fresh water, air, up to +70°C	**XMLDM02V1S12**
	Hydraulic oils, fresh water, air, corrosive fluids, up to + 160°C	**XMLDM02T1S12**
Weight (kg)		1.015

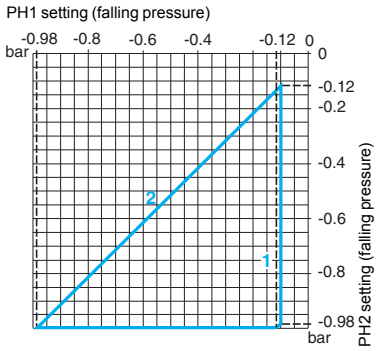
Complementary characteristics not shown under general characteristics (page 89)

Natural differential (add to PB1/PB2 to give PH1/PH2)	At low setting *(3)*	0.1 bar (1.45 psi)
	At high setting *(4)*	0.1 bar (1.45 psi)
Maximum permissible pressure	Per cycle	5 bar (72.5 psi)
	Accidental	9 bar (130.5 psi)
Destruction pressure		18 bar (261 psi)
Mechanical life		3 x 10^6 operating cycles
Cable entry for terminal models		1 entry tapped M20 x 1.5 mm for ISO cable gland, clamping capacity 7 to 13 mm
Vacuum switch type		Diaphragm

*(1) For 1 entry tapped for n° 13 cable gland, replace **S12** by **S11** (example: **XMLDM02V1S12** becomes **XMLDM02V1S11**).*
(2) Component materials of units in contact with the fluid, see pages 148 and 149.
(3) Deviation of the differential at low setting point for switches of the same size: ± 0.035 bar (± 0.51 psi).
(4) Deviation of the differential at high setting point for switches of the same size: ± 0.02 bar (± 0.29 psi).

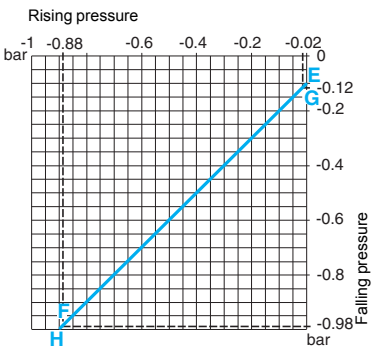
Operating curves

High setting tripping points of contacts 1 and 2

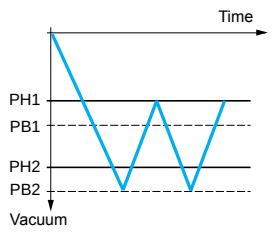


1 Maximum differential
2 Minimum differential

Natural differential of contacts 1 and 2



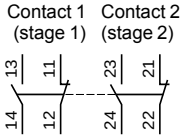
EF Contact 1 (stage 1)
GH Contact 2 (stage 2)



— Adjustable value
--- Non adjustable value

Connection

Terminal model



Other versions	Vacuum switches with alternative tapped cable entries: NPT, etc. Please consult our Customer Care Centre.

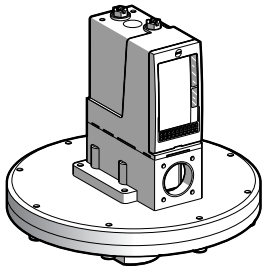
Accessories: page 142
Dimensions: pages 143 to 145

Electromechanical vacuum switches

OsiSense XM, type XML

Size - 200 mbar (- 2.9 psi)
Adjustable differential, for regulation between 2 thresholds
Switches with 1 CO single-pole contact
Fluid connection G 1/4 (female)

Vacuum switches type XMLB | **With setting scale**



Adjustable range of switching point (PB) (Falling pressure)	**- 20…- 200 mbar (- 0.29…- 2.9 psi)**
Electrical connection	Terminals

References *(1)*

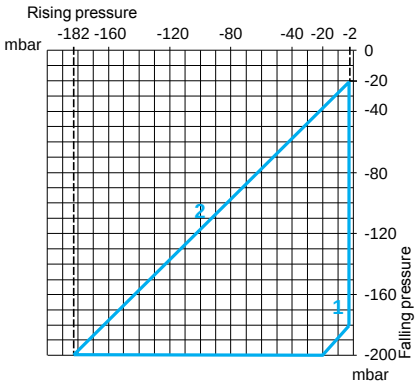
Fluids controlled *(2)*	Hydraulic oils, air, up to + 160°C	**XMLBM03R2S12**
	Fresh water, corrosive fluids, up to + 160°C	**XMLBM03S2S12**
Weight (kg)		3.310

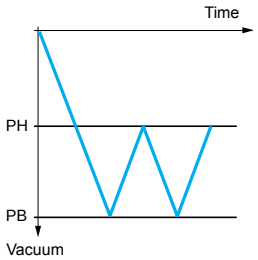
Complementary characteristics not shown under general characteristics (page 89)

Possible differential (add to PB to give PH)	Min. at low setting *(3)*	18 mbar (0.26 psi)
	Min. at high setting *(3)*	18 mbar (0.26 psi)
	Max. at high setting	180 mbar (2.6 psi)
Maximum permissible pressure	Per cycle	1 bar (14.5 psi)
	Accidental	2 bar (29 psi)
Destruction pressure		3.5 bar (50.75 psi)
Mechanical life		3 x 10^6 operating cycles
Cable entry for terminal models		1 entry tapped M20 x 1.5 mm for ISO cable gland, clamping capacity 7 to 13 mm
Vacuum switch type		Diaphragm

*(1) For 1 entry tapped for n° 13 cable gland, replace **S12** by **S11** (example: **XMLBM03R2S12** becomes **XMLBM03R2S11**).*
(2) Component materials of units in contact with the fluid, see pages 148 and 149.
(3) Deviation of the differential at low and high setting points for switches of the same size: ± 2 mbar (± 0.29 psi).

Operating curves





1 Maximum differential
2 Minimum differential

— Adjustable value

Connection

Terminal model

Other versions

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

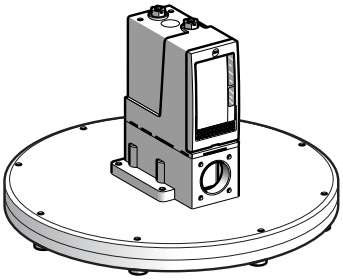
Accessories: page 142
Dimensions: pages 143 to 145

Electromechanical pressure switches

OsiSense XM, type XML

Size 50 mbar (0.72 psi)
Adjustable differential, for regulation between 2 thresholds
Switches with 1 CO single-pole contact
Fluid connection G 1/4 (female)

Pressure switches type XMLB	**With setting scale**



Adjustable range of switching point (PH) (Rising pressure)	**2.6…50 mbar (0.038…0.72 psi)**
Electrical connection	Terminals

References *(1)*

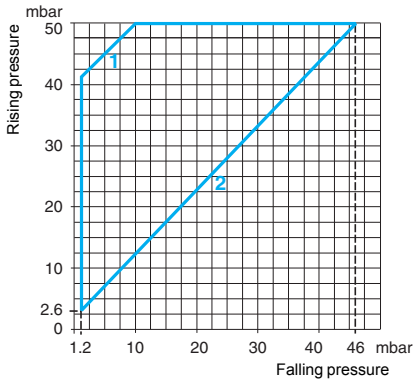
Fluids controlled *(2)*	Hydraulic oils, air, up to + 160°C	**XMLBL05R2S12**
	Fresh water, corrosive fluids, up to + 160°C	**XMLBL05S2S12**
Weight (kg)		2.420

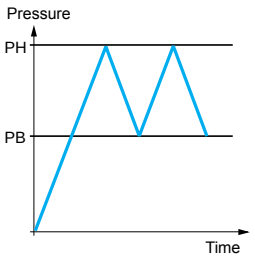
Complementary characteristics not shown under general characteristics (page 89)

Possible differential (subtract from PH to give PB)	Min. at low setting *(3)*	1.4 mbar (0.02 psi)
	Min. at high setting *(4)*	4 mbar (0.06 psi)
	Max. at high setting	40 mbar (0.58 psi)
Maximum permissible pressure	Per cycle	62.5 mbar (0.90 psi)
	Accidental	112.5 mbar (1.63 psi)
Destruction pressure		225 mbar (3.26 psi)
Mechanical life		6 x 10^6 operating cycles
Cable entry for terminal models		1 entry tapped M20 x 1.5 mm for ISO cable gland, clamping capacity 7 to 13 mm
Pressure switch type		Diaphragm

*(1) For 1 entry tapped for n° 13 cable gland, replace **S12** by **S11** (example: **XMLBL05R2S12** becomes **XMLBL05R2S11**).*
(2) Component materials of units in contact with the fluid, see pages 148 and 149.
(3) Deviation of the differential at low setting point for switches of the same size: - 0.8 mbar, + 1.1 mbar (- 0.01 psi, + 0.02 psi).
(4) Deviation of the differential at high setting point for switches of the same size: ± 1.4 mbar, (+ 0.02 psi).

Operating curves





1 Maximum differential
2 Minimum differential

— Adjustable value

Connection

Terminal model

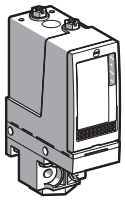
Other versions	Pressure switches with DIN 43650 A connector or with alternative tapped cable entries: NPT, etc. Please consult our Customer Care Centre.

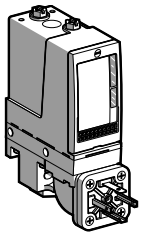
Accessories: page 142
Dimensions: pages 143 to 145

Electromechanical vacu-pressure switches

OsiSense XM, type XML. Size 5 bar (72.5 psi).
Adjustable differential, for regulation between 2 thresholds.
Switches with 1 CO single-pole contact.
Fluid connection G 1/4 (female)

Vacu-pressure switches type XMLB | **With setting scale**





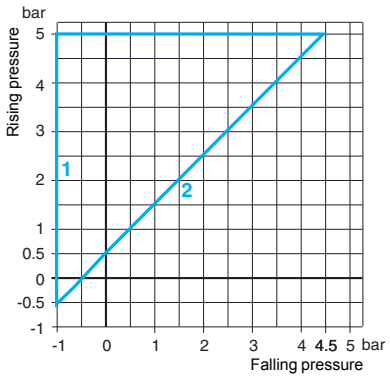
Adjustable range of switching point (PH) (Rising pressure)		**- 0.5…5 bar (- 7.25…72.5 psi)**	
Electrical connection		Terminals	DIN connector
References *(1)*			
Fluids controlled *(2)*	Hydraulic oils, fresh water, air, up to +70°C	**XMLBM05A2S12**	**XMLBM05A2C11**
	Hydraulic oils, fresh water, air, up to 160°C	**XMLBM05B2S12**	**XMLBM05B2C11**
	Corrosive fluids, up to + 160°C	**XMLBM05C2S12**	**XMLBM05C2C11**
	Viscous products, up to + 160°C (G 1¼" fluid connection)	**XMLBM05P2S12**	**XMLBM05P2C11**
Weight (kg)		0.685	0.715

Complementary characteristics not shown under general characteristics (page 89)

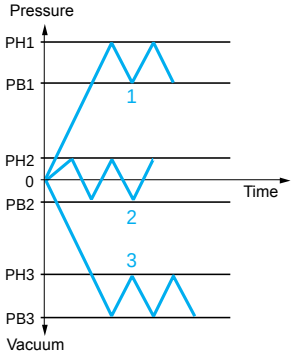
Possible differential (subtract from PH to give PB)	Min. at low setting *(3)*	0.5 bar (7.25 psi)
	Min. at high setting *(3)*	0.5 bar (7.25 psi)
	Max. at high setting	6 bar (87 psi)
Maximum permissible pressure	Per cycle	6.25 bar (90.62 psi)
	Accidental	11.25 bar (163.12 psi)
Destruction pressure		23 bar (333.5 psi)
Mechanical life		3 x 10^6 operating cycles
Cable entry for terminal models		1 entry tapped M20 x 1.5 mm for ISO cable gland, clamping capacity 7 to 13 mm
Connector type for connector models		DIN 43650 A, 4-pin male. For suitable female connector, see page 142
Vacu-pressure switch type		Diaphragm

*(1) For 1 entry tapped for n° 13 cable gland, replace **S12** by **S11** (example: **XMLBM05A2S12** becomes **XMLBM05A2S11**).*
(2) Component materials of units in contact with the fluid, see pages 148 and 149.
(3) Deviation of the differential at low and high setting points for switches of the same size: ± 0.05 bar (± 0.72 psi).

Operating curves



1 Maximum differential
2 Minimum differential



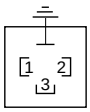
— Adjustable value

Connection

Terminal model

Connector model

Vacu-pressure switch pin view



1 → 11 and 13
2 → 12
3 → 14

Other versions

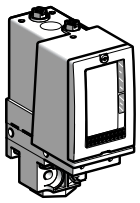
Vacu-pressure switches with alternative tapped cable entries: NPT, etc. Please consult our Customer Care Centre.

Accessories: page 142
Dimensions: pages 143 to 145

Electro-mechanical vacu-pressure switches

OsiSense XM, type XML. Size 5 bar (72.5 psi).
Adjustable differential, for regulation between 2 thresholds.
Switches with 2 CO single-pole contacts
Fluid connection G 1/4 (female)

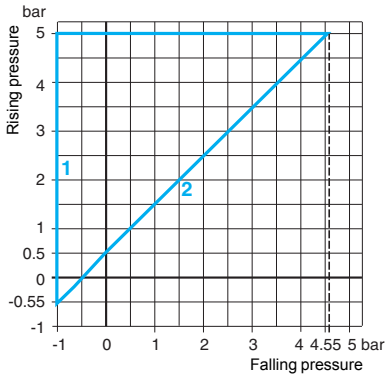
Pressure switches type XMLC	**With setting scale**



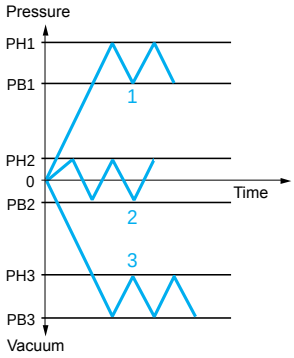
Adjustable range of switching point (PH) (Rising pressure)		**- 0.55…5 bar (- 7.97…72.5 psi)**
Electrical connection		Terminals
References *(1)*		
Fluids controlled *(2)*	Hydraulic oils, fresh water, air, up to +70°C	**XMLCM05A2S12**
	Hydraulic oils, fresh water, air, up to 160°C	**XMLCM05B2S12**
	Corrosive fluids, up to + 160°C	**XMLCM05C2S12**
Weight (kg)		0.685
Complementary characteristics not shown under general characteristics (page 89)		
Possible differential (subtract from PH to give PB)	Min. at low setting *(3)*	0.45 bar (6.52 psi)
	Min. at high setting *(3)*	0.45 bar (6.52 psi)
	Max. at high setting	6 bar (87 psi)
Maximum permissible pressure	Per cycle	6.25 bar (90.62 psi)
	Accidental	11.25 bar (163.12 psi)
Destruction pressure		23 bar (333.5 psi)
Mechanical life		3 x 10^6 operating cycles
Cable entry for terminal models		1 entry tapped M20 x 1.5 mm for ISO cable gland, clamping capacity 7 to 13 mm
Vacu-pressure switch type		Diaphragm

*(1) For 1 entry tapped for n° 13 cable gland, replace **S12** by **S11** (example: **XMLCM05A2S12** becomes **XMLCM05A2S11**).*
(2) Component materials of units in contact with the fluid, see pages 148 and 149.
(3) Deviation of the differential at low and high setting points for switches of the same size: ± 0.1 bar (± 1.45 psi).

Operating curves



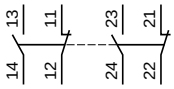
1 Maximum differential
2 Minimum differential



— Adjustable value

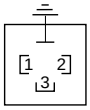
Connection

Terminal model



Connector model

Vacu-pressure switch pin view

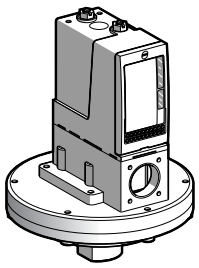
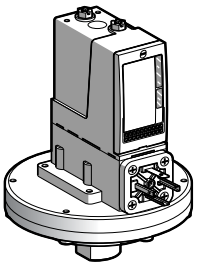


1 → 11 and 13
2 → 12
3 → 14

Other versions	Vacu-pressure switches with alternative tapped cable entries: NPT, etc. Please consult our Customer Care Centre.

Accessories: page 142
Dimensions: pages 143 to 145

Electromechanical pressure switches
OsiSense XM, type XML
Size 350 mbar (5.07 psi)
Adjustable differential, for regulation between 2 thresholds
Switches with 1 CO single-pole contact
Fluid connection G 1/4 (female)

Pressure switches type XMLB	**With setting scale**	
		
Adjustable range of switching point (PH) (Rising pressure)	**45…350 mbar (0.65…5.07 psi)**	
Electrical connection	Terminals	DIN connector

References *(1)*

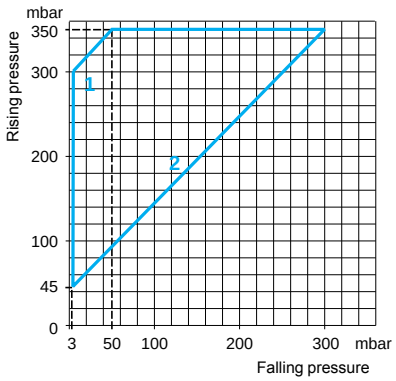
Fluids controlled *(2)*	Hydraulic oils, air, up to + 160°C	**XMLBL35R2S12**	**XMLBL35R2C11**
	Fresh water, corrosive fluids, up to + 160°C	**XMLBL35S2S12**	**XMLBL35S2C11**
	Viscous products, up to + 160°C (G 1¼" fluid connection)	**XMLBL35P2S12**	**XMLBL35P2C11**
Weight (kg)		2.575	2.590

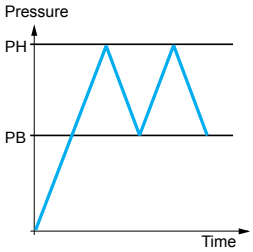
Complementary characteristics not shown under general characteristics (page 89)

Possible differential (subtract from PH to give PB)	Min. at low setting *(3)*	42 mbar (0.60 psi)
	Min. at high setting *(4)*	50 mbar (0.72 psi)
	Max. at high setting	300 mbar (4.35 psi)
Maximum permissible pressure	Per cycle	1.25 bar (18.12 psi)
	Accidental	2.25 bar (32.62 psi)
Destruction pressure		4.5 bar (65.25 psi)
Mechanical life		4 million operating cycles
Cable entry for terminal models		1 entry tapped M20 x 1.5 mm for ISO cable gland, clamping capacity 7 to 13 mm
Connector type for connector models		DIN 43650 A, 4-pin male. For suitable female connector, see page 142
Pressure switch type		Diaphragm

*(1) For 1 entry tapped for n° 13 cable gland, replace **S12** by **S11** (example: **XMLBL35R2S12** becomes **XMLBL35R2S11**).*
(2) Component materials of units in contact with the fluid, see pages 148 and 149.
(3) Deviation of the differential at low setting point for switches of the same size: - 8 mbar, + 3 mbar (- 0.12 psi, + 0.04 psi).
(4) Deviation of the differential at high setting point for switches of the same size: ± 8 mbar (± 0.11 psi).

Operating curves





1 Maximum differential
2 Minimum differential

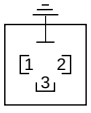
— Adjustable value

Connection

Terminal model

Connector model

Pressure switch connector pin view



1 → 11 and 13
2 → 12
3 → 14

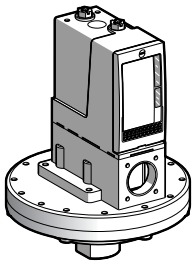
Other versions

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

Accessories: page 142
Dimensions: pages 143 to 145

Electromechanical pressure switches
OsiSense XM, type XML
Size 350 mbar (5.07 psi)
Adjustable differential, for regulation between 2 thresholds
Switches with 1 CO single-pole contact
Fluid connection G 1/4 (female)

Pressure switches type XMLB	**30 bar (435 psi) overpressure** **With setting scale**



Adjustable range of switching point (PH) (Rising pressure)	**42…330 mbar (0.61…4.78 psi)**
Electrical connection	Terminals

References *(1)*

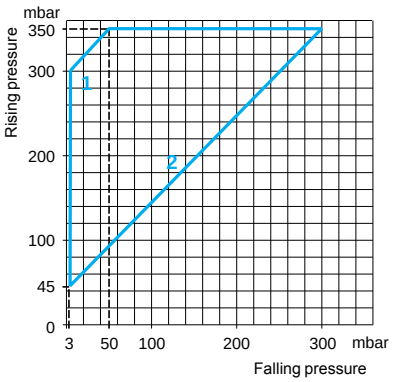
Fluids controlled *(2)*	Hydraulic oils, air, up to + 160°C	**XMLBS35R2S12**
	Fresh water, corrosive fluids, up to + 160°C	**–**
	Viscous products, up to + 160°C (G 1¼" fluid connection)	**–**
Weight (kg)		3.500

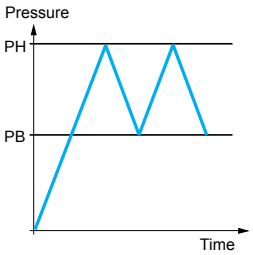
Complementary characteristics not shown under general characteristics (page 89)

Possible differential (subtract from PH to give PB)	Min. at low setting *(3)*	33 mbar (0.48 psi)
	Min. at high setting *(4)*	58 mbar (0.84 psi)
	Max. at high setting	250 mbar (3.62 psi)
Maximum permissible pressure	Per cycle	30 bar (435 psi)
	Accidental	37.5 bar (543.75 psi)
Destruction pressure		67.5 bar (978.75 psi)
Mechanical life		2 million operating cycles
Cable entry for terminal models		1 entry tapped M20 x 1.5 mm for ISO cable gland, clamping capacity 7 to 13 mm
Connector type for connector models		DIN 43650 A, 4-pin male. For suitable female connector, see page 142
Pressure switch type		Diaphragm

*(1) For 1 entry tapped for n° 13 cable gland, replace **S12** by **S11** (example: **XMLBS35R1S12** becomes **XMLBS35R1S11**).*
(2) Component materials of units in contact with the fluid, see pages 148 and 149.
(3) Deviation of the differential at low setting point for switches of the same size: - 8 mbar, + 3 mbar (- 0.12 psi, + 0.04 psi).
(4) Deviation of the differential at high setting point for switches of the same size: ± 8 mbar (± 0.11 psi).

Operating curves





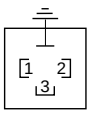
1 Maximum differential
2 Minimum differential
— Adjustable value

Connection

Terminal model

Connector model

Pressure switch connector pin view



1 → 11 and 13
2 → 12
3 → 14

Other versions

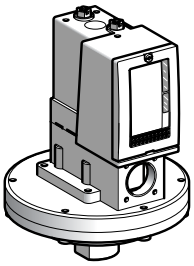
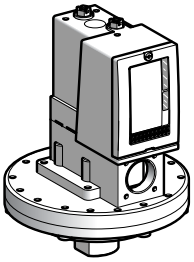
Pressure switches with alternative tapped cable entries: NPT, etc. Please consult our Customer Care Centre.

Accessories: page 142
Dimensions: pages 143 to 145

Electromechanical pressure switches

OsiSense XM, type XML

Size 350 mbar (5.07 psi)
Adjustable differential, for regulation between 2 thresholds
Switches with 2 CO single-pole contacts
Fluid connection G 1/4 (female)

Pressure switches type XMLC	**With setting scale**	**30 bar (435 psi) overpressure With setting scale**
		
Adjustable range of switching point (PH) (Rising pressure)	**45…350 mbar (0.65…5.07 psi)**	**42…330 mbar (0.61…4.78 psi)**
Electrical connection	Terminals	

References *(1)*

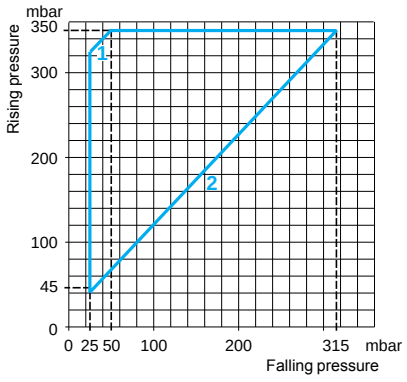
Fluids controlled *(2)*	Hydraulic oils, air, up to + 160°C	**XMLCL35R2S12**	**XMLCS35R2S12**
	Fresh water, corrosive fluids, up to + 160°C	**XMLCL35S2S12**	**–**
Weight (kg)		2.575	3.500

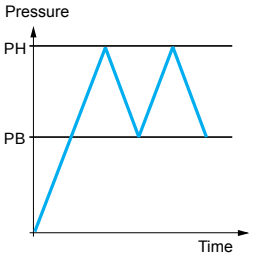
Complementary characteristics not shown under general characteristics (page 89)

Possible differential (subtract from PH to give PB)	Min. at low setting *(3)*	20 mbar (0.29 psi)	40 mbar (0.58 psi)
	Min. at high setting *(3)*	35 mbar (0.51 psi)	88 mbar (1.27 psi)
	Max. at high setting	300 mbar (4.35 psi)	230 mbar (3.33 psi)
Maximum permissible pressure	Per cycle	1.25 bar (18.12 psi)	30 bar (435 psi)
	Accidental	2.25 bar (32.62 psi)	37.5 bar (543.75 psi)
Destruction pressure		4.5 bar (65.25 psi)	67.5 bar (978.75 psi)
Mechanical life		4 million operating cycles	2 million operating cycles
Cable entry for terminal models		1 entry tapped M20 x 1.5 mm for ISO cable gland, clamping capacity 7 to 13 mm	
Pressure switch type		Diaphragm	

*(1) For 1 entry tapped for n° 13 cable gland, replace **S12** by **S11** (example: **XMLCL35R2S12** becomes **XMLCL35R2S11**).*
(2) Component materials of units in contact with the fluid, see pages 148 and 149.
(3) Deviation of the differential at low setting point for switches of the same size: ± 20 mbar (± 0.29 psi).

Operating curves



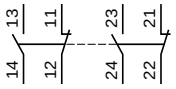


1 Maximum differential
2 Minimum differential

— Adjustable value

Connection

Terminal model



Other versions

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

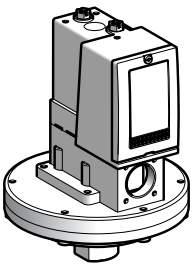
Accessories: page 142
Dimensions: pages 143 to 145

Electromechanical pressure switches

OsiSense XM, type XML

Size 350 mbar (5.07 psi)
Dual stage, fixed differential, for detection at each threshold
Switches with 2 CO single-pole contacts (one per stage)
Fluid connection G 1/4 (female)

Pressure switches type XMLD | **Without setting scale**



Adjustable range of each switching point (Rising pressure)	2nd stage switching point (PH2)	**58…350 mbar (0.84…5.07 psi)**
	1st stage switching point (PH1)	**33…325 mbar (0.48…4.71 psi)**
Spread between 2 stages (PH2 - PH1)		**25…310 mbar (0.36…4.50 psi)**
Electrical connection		Terminals

References *(1)*

Fluids controlled *(2)*	Hydraulic oils, air, up to + 160°C	**XMLDL35R1S12**
	Fresh water, corrosive fluids, up to + 160°C	**XMLDL35S1S12**
Weight (kg)		2.575

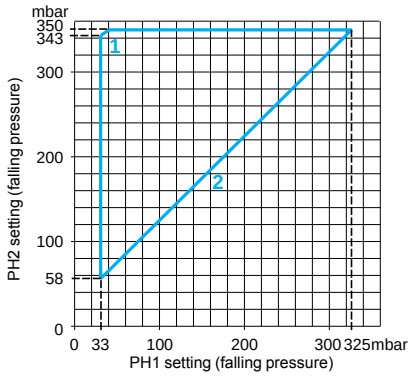
Complementary characteristics not shown under general characteristics (page 89)

Natural differential (subtract from PH1/PH2 to give PB1/PB2)	At low setting *(3)*	30 mbar (0.44 psi)
	At high setting *(4)*	30 mbar (0.44 psi)
Maximum permissible pressure	Per cycle	1.25 bar (18.12 psi)
	Accidental	2.25 bar (32.62 psi)
Destruction pressure		4.5 bar (65.25 psi)
Mechanical life		4 million operating cycles
Cable entry for terminal models		1 entry tapped M20 x 1.5 mm for ISO cable gland, clamping capacity 7 to 13 mm
Pressure switch type		Diaphragm

*(1) For 1 entry tapped for n° 13 cable gland, replace **S12** by **S11** (example: **XMLDL35R1S12** becomes **XMLDL35R1S11**).*
(2) Component materials of units in contact with the fluid, see pages 148 and 149.
(3) Deviation of the differential at low setting point for switches of the same size: ± 10 mbar (± 0.15 psi).
(4) Deviation of the differential at high setting point for switches of the same size: ± 8 mbar (± 0.11 psi).

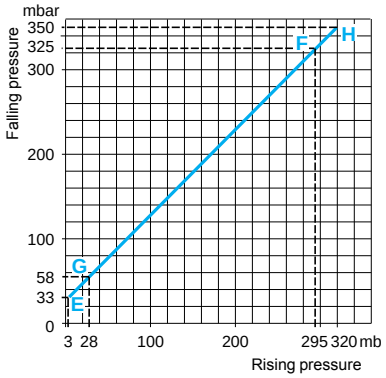
Operating curves

High setting tripping points of contacts 1 and 2

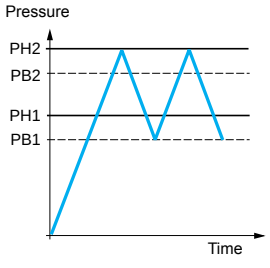


1 Maximum differential
2 Minimum differential

Natural differential of contacts 1 and 2



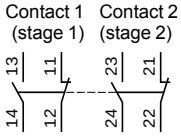
EF Contact 1 (stage 1)
GH Contact 2 (stage 2)



— Adjustable value
--- Non adjustable value

Connection

Terminal model



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

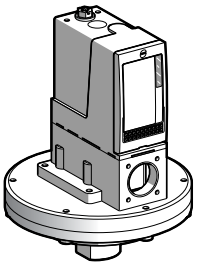
Accessories: page 142
Dimensions: pages 143 to 145

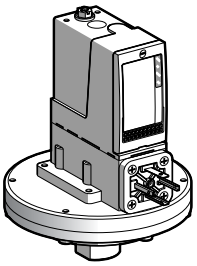
Electromechanical pressure switches

OsiSense XM, type XML

Size 1 bar (14,5 psi)
Fixed differential, for detection of a single threshold
Switches with 1 CO single-pole contact
Fluid connection G 1/4 (female)

Pressure switches type XMLA | **With setting scale**





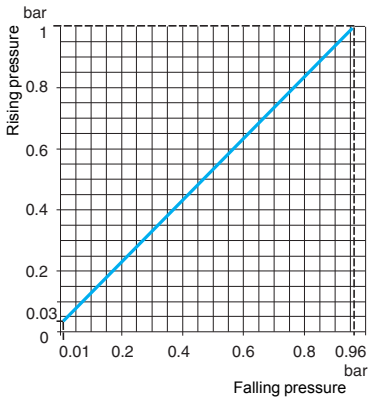
Adjustable range of switching point (PH) (Rising pressure)		**0.03…1 bar (0.435…14.5 psi)**	
Electrical connection		Terminals	DIN connector
References *(1)*			
Fluids controlled *(2)*	Hydraulic oils, air, up to + 160°C	**XMLA001R2S12**	**XMLA001R2C11**
	Fresh water, corrosive fluids, up to + 160°C	**XMLA001S2S12**	**XMLA001S2C11**
Weight (kg)		2.555	2.570

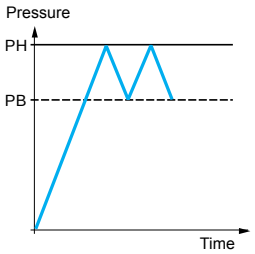
Complementary characteristics not shown under general characteristics (page 89)

Natural differential (subtract from PH to give PB)	At low setting *(3)*	0.02 bar (0.29 psi)
	At high setting *(3)*	0.04 bar (0.58 psi)
Maximum permissible pressure	Per cycle	1.25 bar (18.12 psi)
	Accidental	2.25 bar (32.62 psi)
Destruction pressure		4.5 bar (65.25 psi)
Mechanical life		4 x 10^6 operating cycles
Cable entry for terminal models		1 entry tapped M20 x 1.5 mm for ISO cable gland, clamping capacity 7 to 13 mm
Connector type for connector models		DIN 43650 A, 4-pin male. For suitable female connector, see page 142
Pressure switch type		Diaphragm

*(1) For 1 entry tapped for n° 13 cable gland, replace **S12** by **S11** (example: **XMLA001R2S12** becomes **XMLA001R2S11**).*
(2) Component materials of units in contact with the fluid, see pages 148 and 149.
(3) Deviation of the differential at low and high setting points for switches of the same size: ± 0.01 bar (± 0.14 psi).

Operating curves





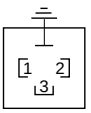
— Adjustable value
--- Non adjustable value

Connection

Terminal model

Connector model

Pressure switch connector pin view



1 → 11 and 13
2 → 12
3 → 14

Other versions

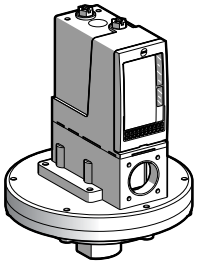
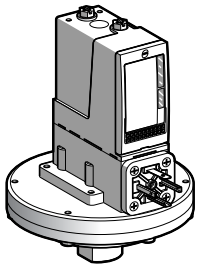
Pressure switches with alternative tapped cable entries: NPT, etc. Please consult our Customer Care Centre.

Accessories: page 142
Dimensions: pages143 to 145

Electromechanical pressure switches

OsiSense XM, type XML

Size 1 bar (14.5 psi)
Adjustable differential, for regulation between 2 thresholds
Switches with 1 CO single-pole contact
Fluid connection G 1/4 (female)

Pressure switches type XMLB	**With setting scale**	
		
Adjustable range of switching point (PH) (Rising pressure)	**0.05…1 bar (0.72…14.5 psi)**	
Electrical connection	Terminals	DIN connector

References *(1)*

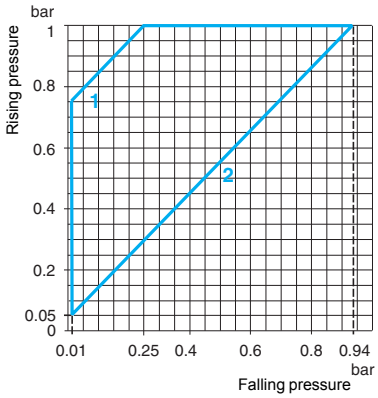
Fluids controlled *(2)*	Hydraulic oils, air, up to + 160°C	**XMLB001R2S12**	**XMLB001R2C11**
	Fresh water, corrosive fluids, up to + 160°C	**XMLB001S2S12**	**XMLB001S2C11**
	Viscous products, up to + 160°C (G 1¼" fluid connection)	**XMLB001P2S12**	**XMLB001P2C11**
Weight (kg)		2.575	2.590

Complementary characteristics not shown under general characteristics (page 89)

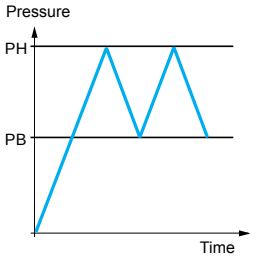
Possible differential (subtract from PH to give PB)	Min. at low setting *(3)*	0.04 bar (0.58 psi)
	Min. at high setting *(4)*	0.06 bar (0.87 psi)
	Max. at high setting	0.75 bar (10.87 psi)
Maximum permissible pressure	Per cycle	1.25 bar (18.12 psi)
	Accidental	2.25 bar (32.62 psi)
Destruction pressure		4.5 bar (65.25 psi)
Mechanical life		4 x 10^6 operating cycles
Cable entry for terminal models		1 entry tapped M20 x 1.5 mm for ISO cable gland, clamping capacity 7 to 13 mm
Connector type for connector models		DIN 43650 A, 4-pin male. For suitable female connector, see page 142
Pressure switch type		Diaphragm

*(1) For 1 entry tapped for n° 13 cable gland, replace **S12** by **S11** (example: **XMLB001R2S12** becomes **XMLB001R2S11**).*
(2) Component materials of units in contact with the fluid, see pages 148 and 149.
(3) Deviation of the differential at low setting point for switches of the same size: ± 10 mbar (± 0.14 psi).
(4) Deviation of the differential at high setting point for switches of the same size: ± 20 mbar (± 0.29 psi).

Operating curves



1 Maximum differential
2 Minimum differential



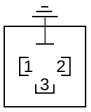
— Adjustable value

Connection

Terminal model

Connector model

Pressure switch connector pin view



1 → 11 and 13
2 → 12
3 → 14

Other versions

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

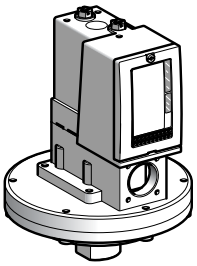
Accessories: page 142
Dimensions: pages 143 to 145

Electromechanical pressure switches

OsiSense XM, type XML

Size 1 bar (14.5 psi)
Adjustable differential, for regulation between 2 thresholds
Switches with 2 CO single-pole contacts
Fluid connection G 1/4 (female)

Pressure switches type XMLC | **With setting scale**



Adjustable range of switching point (PH) (Rising pressure)		**0.05…1 bar (0.725…14.5 psi)**
Electrical connection		Terminals

References *(1)*

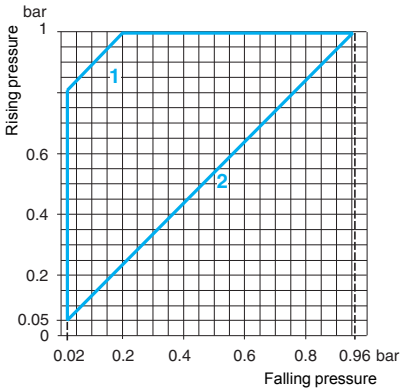
Fluids controlled *(2)*	Hydraulic oils, air, up to + 160°C	**XMLC001R2S12**
	Fresh water, corrosive fluids, up to + 160°C	**XMLC001S2S12**
Weight (kg)		2.555

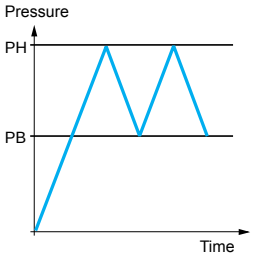
Complementary characteristics not shown under general characteristics (page 89)

Possible differential (subtract from PH to give PB)	Min. at low setting *(3)*	0.03 bar (0.43 psi)
	Min. at high setting *(4)*	0.04 bar (0.58 psi)
	Max. at high setting	0.8 bar (11.6 psi)
Maximum permissible pressure	Per cycle	1.25 bar (18.12 psi)
	Accidental	2.25 bar (32.62 psi)
Destruction pressure		4.5 bar (65.25 psi)
Mechanical life		4 x 10^6 operating cycles
Cable entry for terminal models		1 entry tapped M20 x 1.5 mm for ISO cable gland, clamping capacity 7 to 13 mm
Pressure switch type		Diaphragm

*(1) For 1 entry tapped for n° 13 cable gland, replace **S12** by **S11** (example: **XMLC001R2S12** becomes **XMLC001R2S11**).*
(2) Component materials of units in contact with the fluid, see pages 148 and 149.
(3) Deviation of the differential at low setting point for switches of the same size: ± 0.01 bar (± 0.14 psi).
(4) Deviation of the differential at high setting point for switches of the same size: ± 0.03 bar (± 0.43 psi).

Operating curves



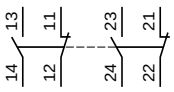


1 Maximum differential
2 Minimum differential

— Adjustable value

Connection

Terminal model



Other versions

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

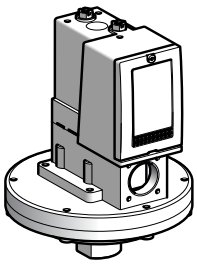
Accessories: page 142
Dimensions: pages 143 to 145

Electromechanical pressure switches

OsiSense XM, type XML

Size 1 bar (14.5 psi)
Dual stage, fixed differential, for detection at each threshold
Switches with 2 CO single-pole contacts (one per stage)
Fluid connection G 1/4 (female)

Pressure switches type XMLD | **Without setting scale**



Adjustable range of each switching point (Rising pressure)	2nd stage switching point (PH2)	**0.12…1 bar (1.74…14.5 psi)**
	1st stage switching point (PH1)	**0.04…0.92 bar (0.58…13.34 psi)**
Spread between 2 stages (PH2 - PH1)		**0.08…0.73 bar (1.16…10.59 psi)**
Electrical connection		Terminals

References *(1)*

Fluids controlled *(2)*	Hydraulic oils, air, up to + 160°C	**XMLD001R1S12**
	Fresh water, corrosive fluids, up to + 160°C	**XMLD001S1S12**
Weight (kg)		2.575

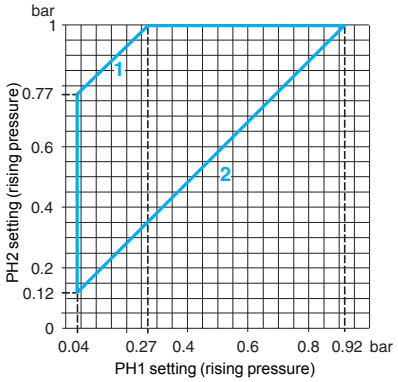
Complementary characteristics not shown under general characteristics (page 89)

Natural differential (subtract from PH1/PH2 to give PB1/PB2)	At low setting *(3)*	0.03 bar (0.44 psi)
	At high setting *(4)*	0.07 bar (1.02 psi)
Maximum permissible pressure	Per cycle	1.25 bar (18.12 psi)
	Accidental	2.25 bar (32.62 psi)
Destruction pressure		4.5 bar (65.25 psi)
Mechanical life		4 x 10^6 operating cycles
Cable entry for terminal models		1 entry tapped M20 x 1.5 mm for ISO cable gland, clamping capacity 7 to 13 mm
Pressure switch type		Diaphragm

*(1) For 1 entry tapped for n° 13 cable gland, replace **S12** by **S11** (example: **XMLD001R1S12** becomes **XMLD001R1S11**).*
(2) Component materials of units in contact with the fluid, see pages 148 and 149.
(3) Deviation of the differential at low setting point for switches of the same size: ± 0.01 bar (± 0.14 psi).
(4) Deviation of the differential at high setting point for switches of the same size: ± 0.04 bar (± 0.58 psi).

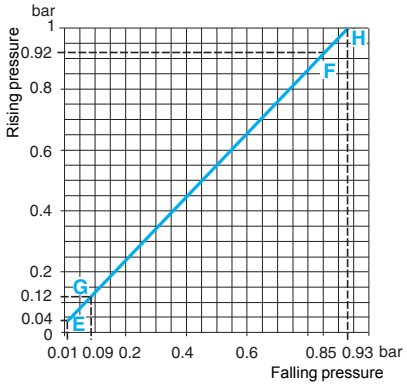
Operating curves

High setting tripping points of contacts 1 and 2

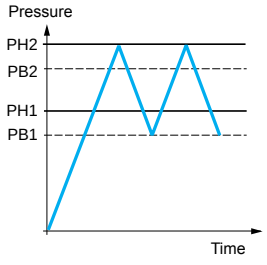


1 Maximum differential
2 Minimum differential

Natural differential of contacts 1 and 2



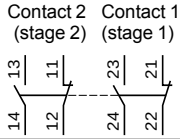
EF Contact 1 (stage 1)
GH Contact 2 (stage 2)



— Adjustable value
--- Non adjustable value

Connection

Terminal model



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

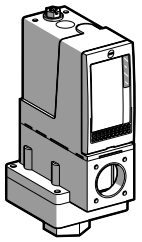
Accessories: page 142
Dimensions: pages 143 to 145

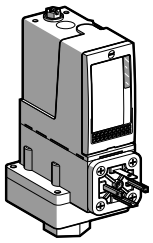
Electromechanical pressure switches

OsiSense XM, type XML

Size 2.5 bar (36.25 psi)
Fixed differential, for detection of a single threshold
Switches with 1 CO single-pole contact
Fluid connection G 1/4 (female)

Pressure switches type XMLA | **With setting scale**





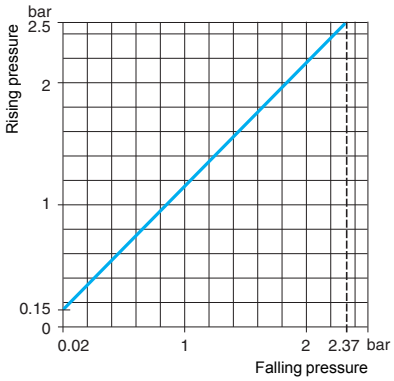
Adjustable range of switching point (PH) (Rising pressure)		**0.15…2.5 bar (2.17…36.25 psi)**	
Electrical connection		Terminals	DIN connector
References *(1)*			
Fluids controlled *(2)*	Hydraulic oils, fresh water, air, up to +70°C	**XMLA002A2S12**	**XMLA002A2C11**
	Hydraulic oils, fresh water, air, up to 160°C	**XMLA002B2S12**	**XMLA002B2C11**
	Corrosive fluids, up to + 160°C	**XMLA002C2S12**	**XMLA002C2C11**
Weight (kg)		0.995	1.010

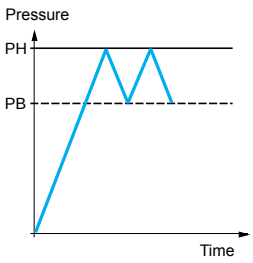
Complementary characteristics not shown under general characteristics (page 89)

Natural differential (subtract from PH to give PB)	At low setting *(3)*	0.13 bar (1.88 psi)
	At high setting *(3)*	0.13 bar (1.88 psi)
Maximum permissible pressure	Per cycle	5 bar (72.5 psi)
	Accidental	9 bar (130.5 psi)
Destruction pressure		18 bar (261 psi)
Mechanical life		8 x 10^6 operating cycles
Cable entry for terminal models		1 entry tapped M20 x 1.5 mm for ISO cable gland, clamping capacity 7 to 13 mm
Connector type for connector models		DIN 43650 A, 4-pin male. For suitable female connector, see page 142
Pressure switch type		Diaphragm

*(1) For 1 entry tapped for n° 13 cable gland, replace **S12** by **S11** (example: **XMLA002A2S12** becomes **XMLA002A2S11**).*
(2) Component materials of units in contact with the fluid, see pages 148 and 149.
(3) Deviation of the differential at low and high setting points for switches of the same size: ± 0.03 bar (± 0.43 psi).

Operating curves





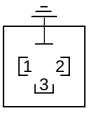
— Adjustable value
--- Non adjustable value

Connection

Terminal model

Connector model

Pressure switch connector pin view



1 → 11 and 13
2 → 12
3 → 14

Other versions

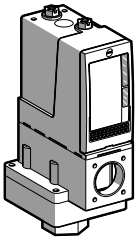
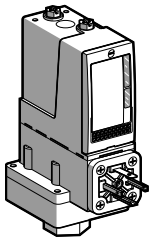
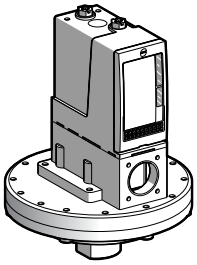
Pressure switches with alternative tapped cable entries: NPT, etc. Please consult our Customer Care Centre.

Accessories: page 142
Dimensions: pages 143 to 145

Electromechanical pressure switches

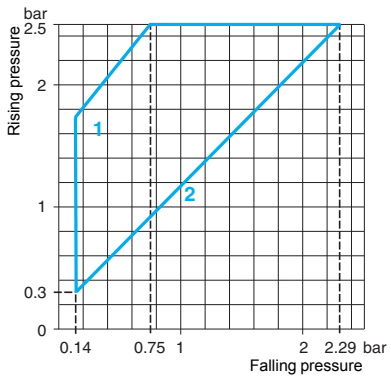
OsiSense XM, type XML

Size 2.5 bar (36.25 psi)
Adjustable differential, for regulation between 2 thresholds
Switches with 1 CO single-pole contact
Fluid connection G 1/4 (female)

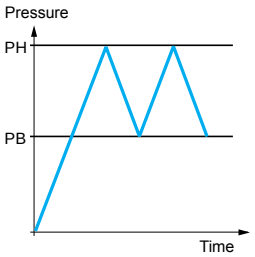
Pressure switches type XMLB	**With setting scale**		**30 bar (435 psi) overpressure With setting scale**
			
Adjustable range of switching point (PH) (Rising pressure)	**0.3…2.5 bar (4.35…36.25 psi)**		
Electrical connection	Terminals	DIN connector	Terminals
References *(1)*			
Fluids controlled *(2)* — Hydraulic oils, Fresh water, air, up to +70°C	**XMLB002A2S12**	**XMLB002A2C11**	**–**
Hydraulic oils, Fresh water, air, up to 160°C	**XMLB002B2S12**	**XMLB002B2C11**	**–**
Hydraulic oils, fresh water, air, up to + 160°C	**–**		**XMLBS02B2S12**
Corrosive fluids, up to + 160°C	**XMLB002C2S12**	**XMLB002C2C11**	**–**
Weight (kg)	1.015	1.030	3.500
Complementary characteristics not shown under general characteristics (page 89)			
Possible differential (subtract from PH to give PB) — Min. at low setting *(3)*	0.16 bar (2.32 psi)		0.1 bar (1.45 psi)
Min. at high setting *(3)*	0.21 bar (3.04 psi)		0.22 bar (3.19 psi)
Max. at high setting	1.75 bar (25.37 psi)		1.45 bar (21 psi)
Maximum permissible pressure — Per cycle	5 bar (72.5 psi)		30 bar (435 psi)
Accidental	9 bar (130.5 psi)		37.5 bar (543.75 psi)
Destruction pressure	18 bar (261 psi)		67.5 bar (978.75 psi)
Mechanical life	8 x 10^6 operating cycles		2 x 10^6 operating cycles
Cable entry for terminal models	1 entry tapped M20 x 1.5 mm for ISO cable gland, clamping capacity 7 to 13 mm		
Connector type for connector models	DIN 43650 A, 4-pin male. For suitable female connector, see page 142		
Pressure switch type	Diaphragm		

*(1) For 1 entry tapped for n° 13 cable gland, replace **S12** by **S11** (example: **XMLB002A2S12** becomes **XMLB002A2S11**).*
(2) Component materials of units in contact with the fluid, see pages 148 and 149.
(3) Deviation of the differential at low and high setting points for switches of the same size: - 0.03 bar, + 0.05 bar (- 0.43 psi, + 0.72 psi).

Operating curves



1 Maximum differential
2 Minimum differential



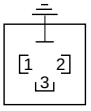
— Adjustable value

Connection

Terminal model

Connector model

Pressure switch connector pin view



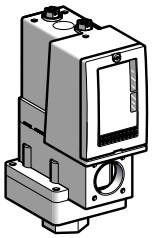
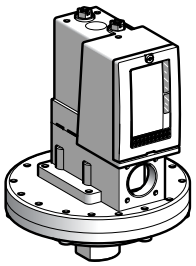
1 → 11 and 13
2 → 12
3 → 14

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

Electromechanical pressure switches

OsiSense XM, type XML

Size 2.5 bar (36.25 psi)
Adjustable differential, for regulation between 2 thresholds
Switches with 2 CO single-pole contacts
Fluid connection G 1/4 (female)

Pressure switches type XMLC	**With setting scale**	**30 bar (435 psi) overpressure With setting scale**
		
Adjustable range of switching point (PH) (Rising pressure)	**0.3…2.5 bar (4.35…36.25 psi)**	
Electrical connection	Terminals	

References *(1)*

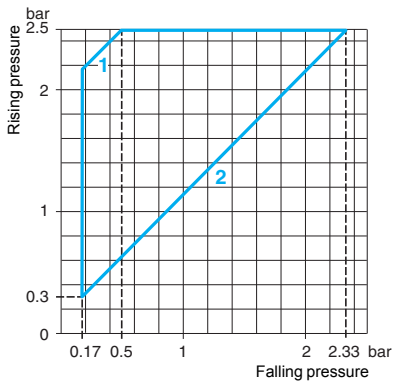
Fluids controlled *(2)*	Hydraulic oils, fresh water, air, up to + 160°C	**–**	**XMLCS02B2S12**
	Hydraulic oils, fresh water, air, up to 160°C	**XMLC002B2S12**	**–**
	Corrosive fluids, up to + 160°C	**XMLC002C2S12**	**–**
Weight (kg)		0.995	3.500

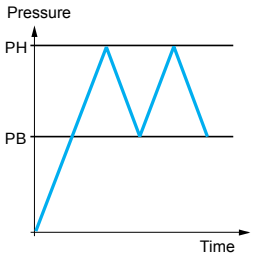
Complementary characteristics not shown under general characteristics (page 89)

Possible differential (subtract from PH to give PB)	Min. at low setting *(3)*	0.13 bar (1.89 psi)	0.1 bar (1.45 psi)
	Min. at high setting *(4)*	0.17 bar (2.47 psi)	0.18 bar (2.61 psi)
	Max. at high setting	2 bar (29 psi)	1.25 bar (18.12 psi)
Maximum permissible pressure	Per cycle	5 bar (72.5 psi)	30 bar (435 psi)
	Accidental	9 bar (130.5 psi)	37.5 bar (543.75 psi)
Destruction pressure		18 bar (261 psi)	67.5 bar (978.75 psi)
Mechanical life		8 x 10^6 operating cycles	2 x 10^6 operating cycles
Cable entry for terminal models		1 entry tapped M20 x 1.5 mm for ISO cable gland, clamping capacity 7 to 13 mm	
Pressure switch type		Diaphragm	

*(1) For 1 entry tapped for n° 13 cable gland, replace **S12** by **S11** (example: **XMLC002B2S12** becomes **XMLC002B2S11**).*
(2) Component materials of units in contact with the fluid, see pages 148 and 149.
(3) Deviation of the differential at low setting point for switches of the same size: ± 0.02 bar (± 0.29 psi).
(4) Deviation of the differential at high setting point for switches of the same size: ± 0.03 bar (± 0.43 psi).

Operating curves



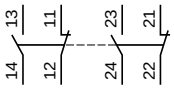


1 Maximum differential
2 Minimum differential

— Adjustable value

Connection

Terminal model



Other versions

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

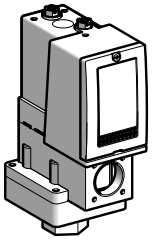
Accessories: page 142
Dimensions: pages 143 to 145

Electromechanical pressure switches

OsiSense XM, type XML

Size 2.5 bar (36.25 psi)
Dual stage, fixed differential, for detection at each threshold
Switches with 2 CO single-pole contacts (one per stage)
Fluid connection G 1/4 (female)

Pressure switches type XMLD | **Without setting scale**



Adjustable range of each switching point (Rising pressure)	2nd stage switching point (PH2)	**0.34…2.5 bar (4.93…36.25 psi)**
	1st stage switching point (PH1)	**0.2…2.36 bar (2.9…34.22 psi)**
Spread between 2 stages (PH2 - PH1)		**0.14…1.5 bar (2.03…21.75 psi)**
Electrical connection		Terminals

References *(1)*

Fluids controlled *(2)*	Hydraulic oils, fresh water, air, up to 160°C	**XMLD002B1S12**
	Corrosive fluids, up to + 160°C	**XMLD002C1S12**
Weight (kg)		1.015

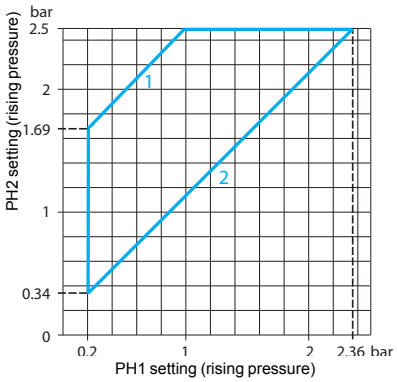
Complementary characteristics not shown under general characteristics (page 89)

Natural differential (subtract from PH1/PH2 to give PB1/PB2)	At low setting *(3)*	0.14 bar (2.03 psi)
	At high setting *(4)*	0.19 bar (2.76 psi)
Maximum permissible pressure	Per cycle	5 bar (72.5 psi)
	Accidental	9 bar (130.5 psi)
Destruction pressure		18 bar (261 psi)
Mechanical life		8 x 10^6 operating cycles
Cable entry for terminal models		1 entry tapped M20 x 1.5 mm for ISO cable gland, clamping capacity 7 to 13 mm
Pressure switch type		Diaphragm

*(1) For 1 entry tapped for n° 13 cable gland, replace **S12** by **S11** (example: **XMLD002B1S12** becomes **XMLD002B1S11**).*
(2) Component materials of units in contact with the fluid, see pages 148 and 149.
(3) Deviation of the differential at low setting point for switches of the same size: ± 0.04 bar (± 0.58 psi).
(4) Deviation of the differential at high setting point for switches of the same size: ± 0.07 bar (± 1.02 psi).

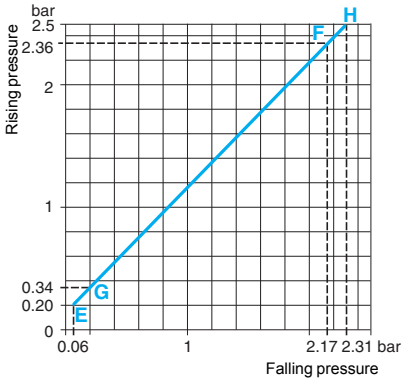
Operating curves

High setting tripping points of contacts 1 and 2

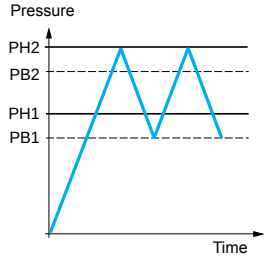


1 Maximum differential
2 Minimum differential

Natural differential of contacts 1 and 2



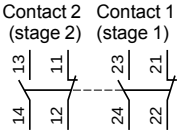
EF Contact 1 (stage 1)
GH Contact 2 (stage 2)



— Adjustable value
--- Non adjustable value

Connection

Terminal model



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

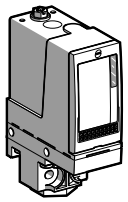
Accessories: page 142
Dimensions: pages 143 to 145

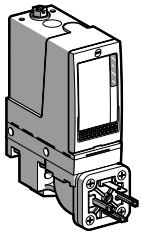
Electromechanical pressure switches

OsiSense XM, type XML

Size 4 bar (58 psi)
Fixed differential, for detection of a single threshold
Switches with 1 CO single-pole contact
Fluid connection G 1/4 (female)

Pressure switches type XMLA | **With setting scale**





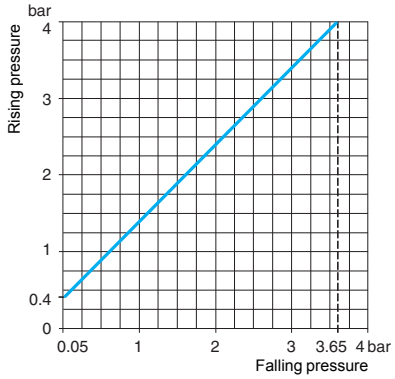
Adjustable range of switching point (PH) (Rising pressure)		**0.4…4 bar (5.8…58 psi)**	
Electrical connection		Terminals	DIN connector
References *(1)*			
Fluids controlled *(2)*	Hydraulic oils, fresh water, air, up to +70°C	**XMLA004A2S12**	**XMLA004A2C11**
	Hydraulic oils, fresh water, air, up to 160°C	**XMLA004B2S12**	**XMLA004B2C11**
	Corrosive fluids, up to + 160°C	**XMLA004C2S12**	**XMLA004C2C11**
	Viscous products, up to + 160°C (G 1¼" fluid connection)	**XMLA004P2S12**	**XMLA004P2C11**
Weight (kg)		0.685	0.715

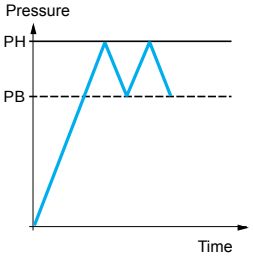
Complementary characteristics not shown under general characteristics (page 89)

Natural differential (subtract from PH to give PB)	At low setting *(3)*	0.35 bar (5.07 psi)
	At high setting *(3)*	0.35 bar (5.07 psi)
Maximum permissible pressure	Per cycle	5 bar (72.5 psi)
	Accidental	9 bar (130.5 psi)
Destruction pressure		18 bar (261 psi)
Mechanical life		8 x 10^6 operating cycles
Cable entry for terminal models		1 entry tapped M20 x 1.5 mm for ISO cable gland, clamping capacity 7 to 13 mm
Connector type for connector models		DIN 43650 A, 4-pin male. For suitable female connector, see page 142
Pressure switch type		Diaphragm

*(1) For 1 entry tapped for n° 13 cable gland, replace **S12** by **S11** (example: **XMLA004A2S12** becomes **XMLA004A2S11**).*
(2) Component materials of units in contact with the fluid, see pages 148 and 149.
(3) Deviation of the differential at low and high setting points for switches of the same size: ± 0.03 bar (± 0.43 psi).

Operating curves





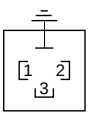
— Adjustable value
--- Non adjustable value

Connection

Terminal model

Connector model

Pressure switch connector pin view



1 → 11 and 13
2 → 12
3 → 14

Other versions

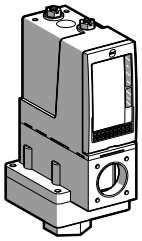
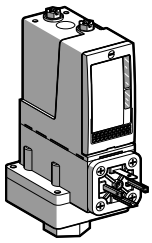
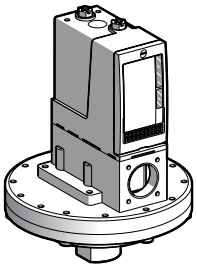
Pressure switches with alternative tapped cable entries: NPT, etc. Please consult our Customer Care Centre.

Accessories: page 142
Dimensions: pages 143 to 145

Electromechanical pressure switches

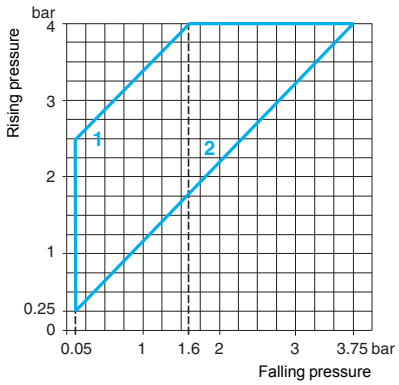
OsiSense XM, type XML

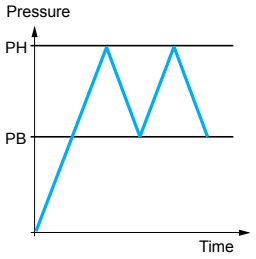
Size 4 bar (58 psi)
Adjustable differential, for regulation between 2 thresholds
Switches with 1 CO single-pole contact
Fluid connection G 1/4 (female)

Pressure switches type XMLB		**With setting scale**		**30 bar (435 psi) overpressure With setting scale**
				
Adjustable range of switching point (PH) (Rising pressure)		**0.25…4 bar (3.62…58 psi)**		
Electrical connection		Terminals	DIN connector	Terminals
References *(1)*				
Fluids controlled *(2)*	Hydraulic oils, fresh water, air, up to +70°C	**XMLB004A2S12**	**XMLB004A2C11**	**–**
	Hydraulic oils, fresh water, air, up to 160°C	**XMLB004B2S12**	**XMLB004B2C11**	**–**
	Hydraulic oils, fresh water, air, up to + 160°C	**–**		**XMLBS04B2S12**
	Corrosive fluids, up to + 160°C	**XMLB004C2S12**	**XMLB004C2C11**	**–**
Weight (kg)		1.015	1.030	3.500
Complementary characteristics not shown under general characteristics (page 89)				
Possible differential (subtract from PH to give PB)	Min. at low setting *(3)*	0.2 bar (2.9 psi)		0.15 bar (2.18 psi)
	Min. at high setting *(4)*	0.25 bar (3.62 psi)		0.34 bar (4.93 psi)
	Max. at high setting	2.4 bar (34.8 psi)		2.46 bar (35.67 psi)
Maximum permissible pressure	Per cycle	5 bar (72.5 psi)		30 bar (435 psi)
	Accidental	9 bar (130.5 psi)		37.5 bar (543.75 psi)
Destruction pressure		18 bar (261 psi)		67.5 bar (978.75 psi)
Mechanical life		8 x 10^6 operating cycles		2 x 10^6 operating cycles
Cable entry for terminal models		1 entry tapped M20 x 1.5 mm for ISO cable gland, clamping capacity 7 to 13 mm		
Connector type for connector models		DIN 43650 A, 4-pin male. For suitable female connector, see page 142		
Pressure switch type		Diaphragm		

*(1) For 1 entry tapped for n° 13 cable gland, replace **S12** by **S11** (example: **XMLB004A2S12** becomes **XMLB004A2S11**).*
(2) Component materials of units in contact with the fluid, see pages 148 and 149.
(3) Deviation of the differential at low setting point for switches of the same size: ± 0.01 bar (± 0.14 psi).
(4) Deviation of the differential at high setting point for switches of the same size: - 0.03 bar, + 0.05 bar (- 0.43 psi, + 0.72 psi).

Operating curves





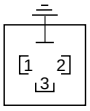
1 Maximum differential
2 Minimum differential
— Adjustable value

Connection

Terminal model

Connector model

Pressure switch connector pin view



1 → 11 and 13
2 → 12
3 → 14

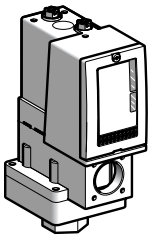
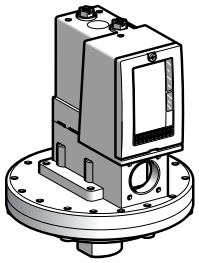
Other versions Pressure switches with alternative tapped cable entries: NPT, etc. Please consult our Customer Care Centre.

Accessories: page142
Dimensions: pages 143 to 145

Electromechanical pressure switches

OsiSense XM, type XML

Size 4 bar (58 psi)
Adjustable differential, for regulation between 2 thresholds
Switches with 2 CO single-pole contacts
Fluid connection G 1/4 (female)

Pressure switches type XMLC	**With setting scale**	**30 bar (435 psi) overpressure With setting scale**
		
Adjustable range of switching point (PH) (Rising pressure)	**0.3…4 bar (4.35…58 psi)**	
Electrical connection	Terminals	

References *(1)*

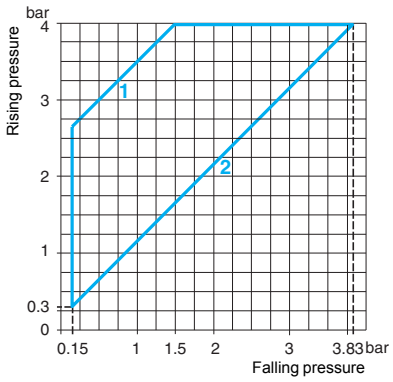
Fluids controlled *(2)*	Hydraulic oils, fresh water, air, up to + 160°C	**–**	**XMLCS04B2S12**
	Hydraulic oils, fresh water, air, up to 160°C	**XMLC004B2S12**	**–**
	Corrosive fluids, up to + 160°C	**XMLC004C2S12**	**–**
Weight (kg)		0.685	3.500

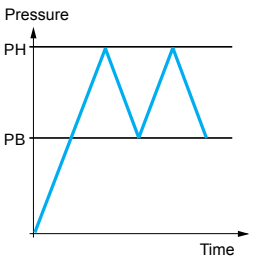
Complementary characteristics not shown under general characteristics (page 89)

Possible differential (subtract from PH to give PB)	Min. at low setting *(3)*	0.15 bar (2.18 psi)	0.1 bar (1.45 psi)
	Min. at high setting *(3)*	0.17 bar (2.47 psi)	0.25 bar (3.62 psi)
	Max. at high setting	2.5 bar (36.25 psi)	2.20 bar (31.9 psi)
Maximum permissible pressure	Per cycle	5 bar (72.5 psi)	30 bar (435 psi)
	Accidental	9 bar (130.5 psi)	37.5 bar (543.75 psi)
Destruction pressure		18 bar (261 psi)	67.5 bar (978.75 psi)
Mechanical life		8 x 10^6 operating cycles	2 x 10^6 operating cycles
Cable entry for terminal models		1 entry tapped M20 x 1.5 mm for ISO cable gland, clamping capacity 7 to 13 mm	
Pressure switch type		Diaphragm	

*(1) For 1 entry tapped for n° 13 cable gland, replace **S12** by **S11** (example: **XMLC004B2S12** becomes **XMLC004B2S11**).*
(2) Component materials of units in contact with the fluid, see pages 148 and 149.
(3) Deviation of the differential at low and high setting points for switches of the same size: ± 0.02 bar (± 0.29 psi).

Operating curves



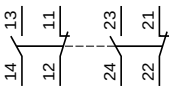


1 Maximum differential
2 Minimum differential

— Adjustable value

Connection

Terminal model



Other versions

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

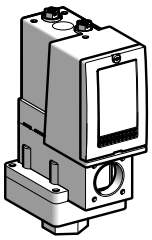
Accessories: page 142
Dimensions: pages143 to 145

Electromechanical pressure switches

OsiSense XM, type XML

Size 4 bar (58 psi)
Dual stage, fixed differential, for detection at each threshold
Switches with 2 CO single-pole contacts (one per stage)
Fluid connection G 1/4 (female)

Pressure switches type XMLD | **Without setting scale**



Adjustable range of each switching point (Rising pressure)	2nd stage switching point (PH2)	**0.40…4 bar (5.8…58 psi)**
	1st stage switching point (PH1)	**0.19…3.79 bar (2.76…54.96 psi)**
Spread between 2 stages (PH2 - PH1)		**0.21…2.18 bar (3.05…31.61 psi)**
Electrical connection		Terminals

References *(1)*

Fluids controlled *(2)*	Hydraulic oils, fresh water, air, up to 160°C	**XMLD004B1S12**
	Corrosive fluids, up to + 160°C	**XMLD004C1S12**
Weight (kg)		1.015

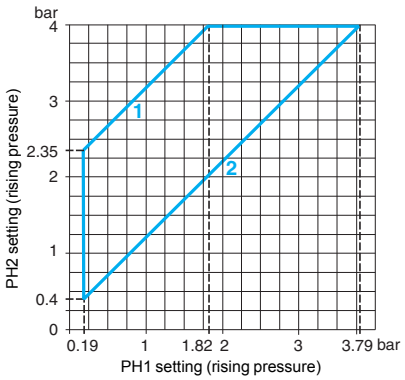
Complementary characteristics not shown under general characteristics (page 89)

Natural differential (subtract from PH1/PH2 to give PB1/PB2)	At low setting *(3)*	0.15 bar (2.18 psi)
	At high setting *(3)*	0.19 bar (2.76 psi)
Maximum permissible pressure	Per cycle	5 bar (72.5 psi)
	Accidental	9 bar (130.5 psi)
Destruction pressure		18 bar (261 psi)
Mechanical life		8 x 10^6 operating cycles
Cable entry for terminal models		1 entry tapped M20 x 1.5 mm for ISO cable gland, clamping capacity 7 to 13 mm
Pressure switch type		Diaphragm

*(1) For 1 entry tapped for n° 13 cable gland, replace **S12** by **S11** (example: **XMLD004B1S12** becomes **XMLD004B1S11**).*
(2) Component materials of units in contact with the fluid, see pages 148 and 149.
(3) Deviation of the differential at low and high setting points for switches of the same size: ± 0.03 bar (± 0.43 psi).

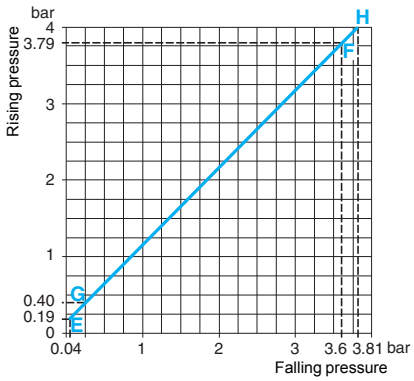
Operating curves

High setting tripping points of contacts 1 and 2

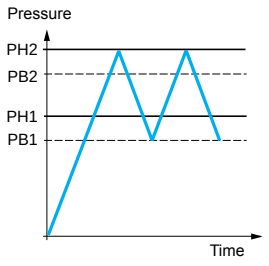


1 Maximum differential
2 Minimum differential

Natural differential of contacts 1 and 2



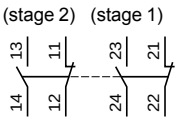
EF Contact 1 (stage 1)
GH Contact 2 (stage 2)



— Adjustable value
--- Non adjustable value

Connection

Terminal model



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

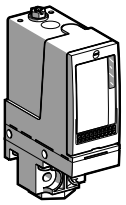
Accessories: page 142
Dimensions: pages 143 to 145

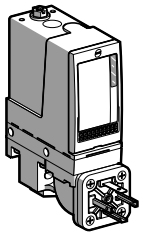
Electromechanical pressure switches

OsiSense XM, type XML

Size 10 bar (145 psi)
Fixed differential, for detection of a single threshold
Switches with 1 CO single-pole contact
Fluid connection G 1/4 (female)

Pressure switches type XMLA | **With setting scale**





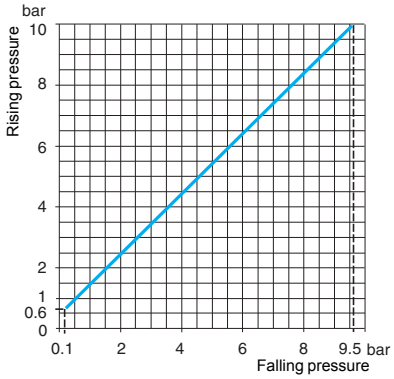
Adjustable range of switching point (PH) (Rising pressure)		**0.6…10 bar (8.7…145 psi)**	
Electrical connection		Terminals	DIN connector
References *(1)*			
Fluids controlled *(2)*	Hydraulic oils, fresh water, air, up to +70°C	**XMLA010A2S12**	**XMLA010A2C11**
	Hydraulic oils, fresh water, air, up to 160°C	**XMLA010B2S12**	**XMLA010B2C11**
	Corrosive fluids, up to + 160°C	**XMLA010C2S12**	**XMLA010C2C11**
	Viscous products, up to + 160°C (G 1¼" fluid connection)	**XMLA010P2S12**	**XMLA010P2C11**
Weight (kg)		0.685	0.715

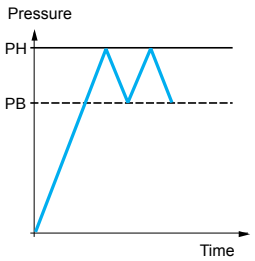
Complementary characteristics not shown under general characteristics (page 89)

Natural differential (subtract from PH to give PB)	At low setting *(3)*	0.5 bar (7.25 psi)
	At high setting *(3)*	0.5 bar (7.25 psi)
Maximum permissible pressure	Per cycle	12.5 bar (181.25 psi)
	Accidental	22.5 bar (326.25 psi)
Destruction pressure		45 bar (652.5 psi)
Mechanical life		5 x 10^6 operating cycles
Cable entry for terminal models		1 entry tapped M20 x 1.5 mm for ISO cable gland, clamping capacity 7 to 13 mm
Connector type for connector models		DIN 43650 A, 4-pin male. For suitable female connector, see page 142
Pressure switch type		Diaphragm

*(1) For 1 entry tapped for n° 13 cable gland, replace **S12** by **S11** (example: **XMLA010A2S12** becomes **XMLA010A2S11**).*
(2) Component materials of units in contact with the fluid, see pages 148 and 149.
(3) Deviation of the differential at low and high setting points for switches of the same size: ± 0.05 bar (± 0.72 psi).

Operating curves





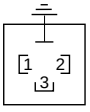
— Adjustable value
--- Non adjustable value

Connection

Terminal model

Connector model

Pressure switch connector pin view



1 → 11 and 13
2 → 12
3 → 14

Other versions

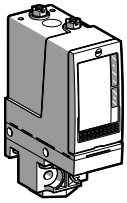
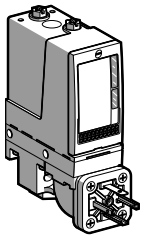
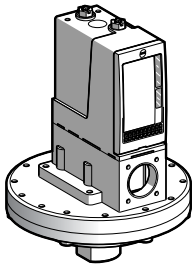
Pressure switches with alternative tapped cable entries: NPT , etc. Please consult our Customer Care Centre.

Accessories: page 142
Dimensions: pages 143 to 145

Electromechanical pressure switches

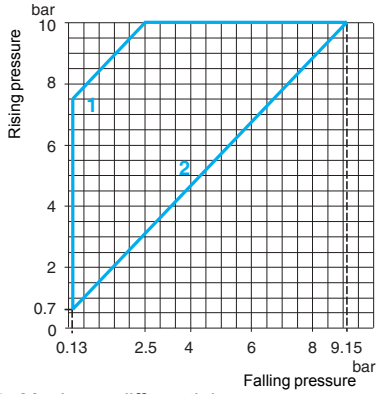
OsiSense XM, type XML

Size 10 bar (145 psi)
Adjustable differential, for regulation between 2 thresholds
Switches with 1 CO single-pole contact
Fluid connection G 1/4 (female)

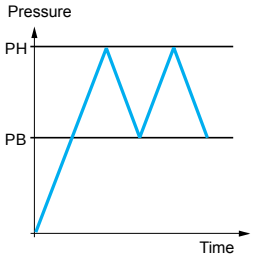
Pressure switches type XMLB		With setting scale		30 bar (435 psi) overpressure With setting scale
				
Adjustable range of switching point (PH) (Rising pressure)		**0.7…10 bar (10.15…145 psi)**		
Electrical connection		Terminals	DIN connector	Terminals
References *(1)*				
Fluids controlled *(2)*	Hydraulic oils, fresh water, air, up to +70°C	**XMLB010A2S12**	**XMLB010A2C11**	**–**
	Hydraulic oils, fresh water, air, up to + 160°C	**–**	**–**	**XMLBS10A2S12**
	Hydraulic oils, fresh water, air, up to + 160°C	**XMLB010B2S12**	**XMLB010B2C11**	**–**
	Corrosive fluids, up to + 160°C	**XMLB010C2S12**	**XMLB010C2C11**	**–**
	Viscous products, up to + 160°C (G 1¼" fluid connection)	**XMLB010P2S12**	**XMLB010P2C11**	**–**
Weight (kg)		0.705	0.735	3.500
Complementary characteristics not shown under general characteristics (page 89)				
Possible differential (subtract from PH to give PB)	Min. at low setting *(3)*	0.57 bar (8.26 psi)		0.45 bar (6.52 psi)
	Min. at high setting *(4)*	0.85 bar (12.32 psi)		0.85 bar (12.32 psi)
	Max. at high setting	7.5 bar (108.75 psi)		6.25 bar (90.62 psi)
Maximum permissible pressure	Per cycle	12.5 bar (181.25 psi)		30 bar (435 psi)
	Accidental	22.5 bar (326.25 psi)		37.5 bar (543.75 psi)
Destruction pressure		45 bar (652.5 psi)		67.5 bar (978.75 psi)
Mechanical life		5 x 10^6 operating cycles		2 x 10^6 operating cycles
Cable entry for terminal models		1 entry tapped M20 x 1.5 mm for ISO cable gland, clamping capacity 7 to 13 mm		
Connector type for connector models		DIN 43650 A, 4-pin male. For suitable female connector, see page 142		
Pressure switch type		Diaphragm		

*(1) For 1 entry tapped for n° 13 cable gland, replace **S12** by **S11** (example: **XMLB010A2S12** becomes **XMLB010A2S11**).*
(2) Component materials of units in contact with the fluid, see pages 148 and 149.
(3) Deviation of the differential at low setting point for switches of the same size: ± 0.05 bar (± 0.72 psi).
(4) Deviation of the differential at high setting point for switches of the same size: - 0.1 bar, + 0.15 bar (- 1.45 psi, + 2.17 psi).

Operating curves



1 Maximum differential
2 Minimum differential



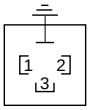
— Adjustable value

Connection

Terminal model

Connector model

Pressure switch connector pin view



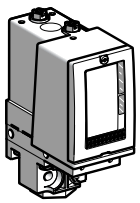
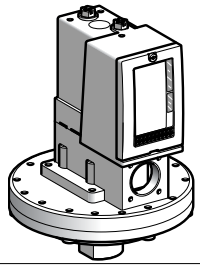
1 → 11 and 13
2 → 12
3 → 14

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

Electromechanical pressure switches

OsiSense XM, type XML

Size 10 bar (145 psi)
Adjustable differential, for regulation between 2 thresholds
Switches with 2 CO single-pole contacts
Fluid connection G 1/4 (female)

Pressure switches type XMLC		With setting scale	30 bar (435 psi) overpressure With setting scale
			
Adjustable range of switching point (PH) (Rising pressure)		**0.7…10 bar (10.15…145 psi)**	
Electrical connection		Terminals	

References *(1)*

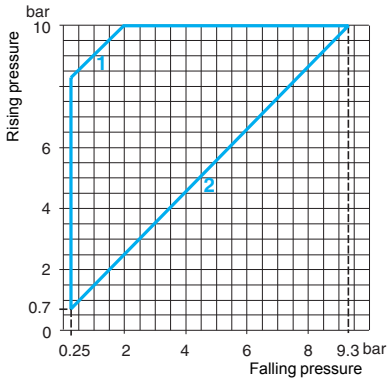
Fluids controlled *(2)*	Hydraulic oils, fresh water, air, up to + 70°C	**–**	**XMLCS10A2S12**
	Hydraulic oils, fresh water, air, up to 160°C	**XMLC010B2S12**	**–**
	Corrosive fluids, up to + 160°C	**XMLC010C2S12**	**–**
Weight (kg)		0.685	3.500

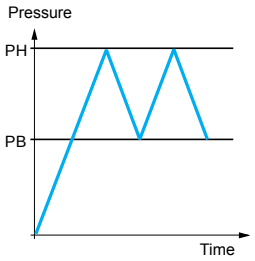
Complementary characteristics not shown under general characteristics (page 89)

Possible differential (subtract from PH to give PB)	Min. at low setting *(3)*	0.45 bar (6.53 psi)	0.25 bar (3.62 psi)
	Min. at high setting *(4)*	0.70 bar (10.15 psi)	0.65 bar (9.42 psi)
	Max. at high setting	8 bar (116 psi)	5.6 bar (81.2 psi)
Maximum permissible pressure	Per cycle	12.5 bar (181.25 psi)	30 bar (435 psi)
	Accidental	22.5 bar (326.25 psi)	37.5 bar (543.75 psi)
Destruction pressure		45 bar (652.5 psi)	67.5 bar (978.75 psi)
Mechanical life		5 x 10^6 operating cycles	2 x 10^6 operating cycles
Cable entry for terminal models		1 entry tapped M20 x 1.5 mm for ISO cable gland, clamping capacity 7 to 13 mm	
Pressure switch type		Diaphragm	

*(1) For 1 entry tapped for n° 13 cable gland, replace **S12** by **S11** (example: **XMLC010B2S12** becomes **XMLC010B2S11**).*
(2) Component materials of units in contact with the fluid, see pages 148 and 149.
(3) Deviation of the differential at low setting point for switches of the same size: ± 0.05 bar (± 0.72 psi).
(4) Deviation of the differential at high setting point for switches of the same size: ± 0.01 bar (± 1.45 psi).

Operating curves



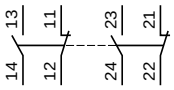


1 Maximum differential
2 Minimum differential

— Adjustable value

Connection

Terminal model



Other versions

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

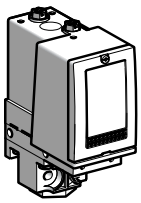
Accessories: page 142
Dimensions: pages 143 to 145

Electromechanical pressure switches

OsiSense XM, type XML

Size 10 bar (145 psi)
Dual stage, fixed differential, for detection at each threshold
Switches with 2 CO single-pole contacts (one per stage)
Fluid connection G 1/4 (female)

Pressure switches type XMLD | **Without setting scale**



Adjustable range of each switching point (Rising pressure)	2nd stage switching point (PH2)	**1.2…10 bar (17.4…145 psi)**
	1st stage switching point (PH1)	**0.52…9.32 bar (7.54…135.14 psi)**
Spread between 2 stages (PH2 - PH1)		**0.68…5.8 bar (9.86…84.1 psi)**
Electrical connection		Terminals

References *(1)*

Fluids controlled *(2)*	Hydraulic oils, fresh water, air, up to 160°C	**XMLD010B1S12**
	Corrosive fluids, up to + 160°C	**XMLD010C1S12**
Weight (kg)		0.705

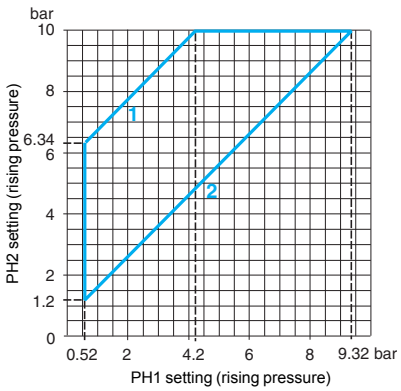
Complementary characteristics not shown under general characteristics (page 89)

Natural differential (subtract from PH1/PH2 to give PB1/PB2)	At low setting *(3)*	0.45 bar (6.53 psi)
	At high setting *(4)*	0.6 bar (8.7 psi)
Maximum permissible pressure	Per cycle	12.5 bar (181.25 psi)
	Accidental	22.5 bar (326.25 psi)
Destruction pressure		45 bar (652.5 psi)
Mechanical life		5 x 10^6 operating cycles
Cable entry for terminal models		1 entry tapped M20 x 1.5 mm for ISO cable gland, clamping capacity 7 to 13 mm
Pressure switch type		Diaphragm

*(1) For 1 entry tapped for n° 13 cable gland, replace **S12** by **S11** (example: **XMLD010B1S12** becomes **XMLD010B1S11**).*
(2) Component materials of units in contact with the fluid, see pages 148 and 149.
(3) Deviation of the differential at low setting point for switches of the same size: ± 0.05 bar (± 0.72 psi).
(4) Deviation of the differential at high setting point for switches of the same size: ± 0.1 bar (± 1.45 psi).

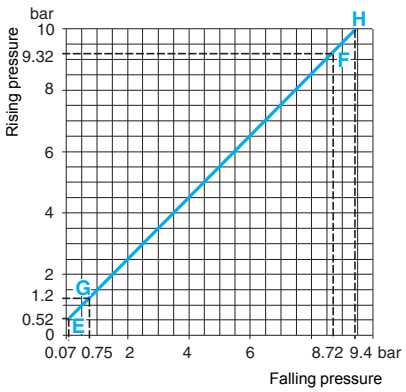
Operating curves

High setting tripping points of contacts 1 and 2

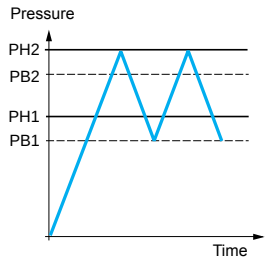


1 Maximum differential
2 Minimum differential

Natural differential of contacts 1 and 2



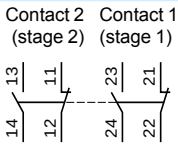
EF Contact 1 (stage 1)
GH Contact 2 (stage 2)



— Adjustable value
--- Non adjustable value

Connection

Terminal model



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

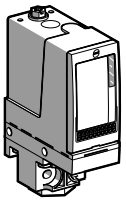
Accessories: page 142
Dimensions: pages 143 to 145

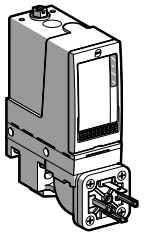
Electromechanical pressure switches

OsiSense XM, type XML

Size 20 bar (290 psi)
Fixed differential, for detection of a single threshold
Switches with 1 CO single-pole contact
Fluid connection G 1/4 (female)

Pressure switches type XMLA | **With setting scale**





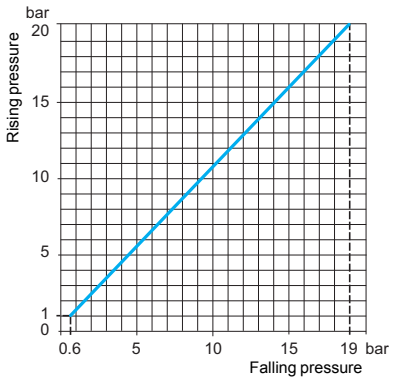
Adjustable range of switching point (PH) (Rising pressure)		**1…20 bar (14.5…290 psi)**	
Electrical connection		Terminals	DIN connector
References *(1)*			
Fluids controlled *(2)*	Hydraulic oils, fresh water, air, up to +70°C	**XMLA020A2S12**	**XMLA020A2C11**
	Hydraulic oils, fresh water, air, up to 160°C	**XMLA020B2S12**	**XMLA020B2C11**
	Corrosive fluids, up to + 160°C	**XMLA020C2S12**	**XMLA020C2C11**
	Viscous products, up to + 160°C (G 1¼" fluid connection)	**XMLA020P2S12**	**XMLA020P2C11**
Weight (kg)		0.685	0.715

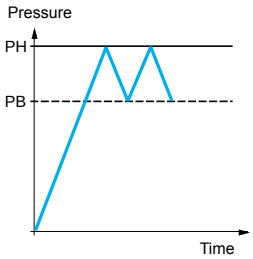
Complementary characteristics not shown under general characteristics (page 89)

Natural differential (subtract from PH to give PB)	At low setting *(3)*	0.4 bar (5.8 psi)
	At high setting *(3)*	1 bar (14.5 psi)
Maximum permissible pressure	Per cycle	25 bar (362.5 psi)
	Accidental	45 bar (652.5 psi)
Destruction pressure		90 bar (1305 psi)
Mechanical life		5 x 10^6 operating cycles
Cable entry for terminal models		1 entry tapped M20 x 1.5 mm for ISO cable gland, clamping capacity 7 to 13 mm
Connector type for connector models		DIN 43650 A, 4-pin male. For suitable female connector, see page 142
Pressure switch type		Diaphragm

*(1) For 1 entry tapped for n° 13 cable gland, replace **S12** by **S11** (example: **XMLA020A2S12** becomes **XMLA020A2S11**).*
(2) Component materials of units in contact with the fluid, see pages 148 and 149.
(3) Deviation of the differential at high setting point for switches of the same size: ± 0.1 bar (± 1.45 psi).
Deviation of the differential at low setting point: ± 0.2 bar (± 2.9 psi).

Operating curves





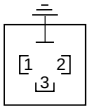
— Adjustable value
--- Non adjustable value

Connection

Terminal model

Connector model

Pressure switch connector pin view



1 → 11 and 13
2 → 12
3 → 14

Other versions

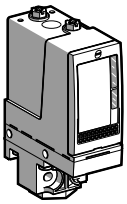
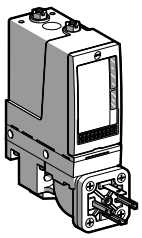
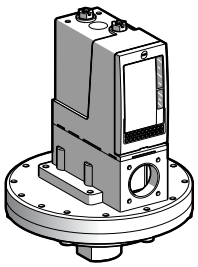
Pressure switches with alternative tapped cable entries: NPT, etc. Please consult our Customer Care Centre.

Accessories: page 142
Dimensions: pages 143 to 145

Electromechanical pressure switches

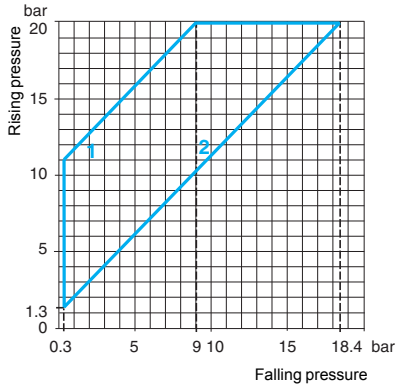
OsiSense XM, type XML

Size 20 bar (290 psi)
Adjustable differential, for regulation between 2 thresholds
Switches with 1 CO single-pole contact
Fluid connection G 1/4 (female)

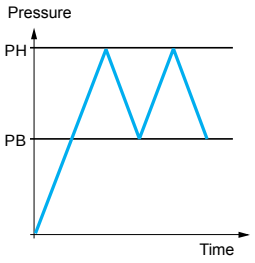
Pressure switches type XMLB		**With setting scale**		**30 bar (435 psi) overpressure With setting scale**
				
Adjustable range of switching point (PH) (Rising pressure)		**1.3…20 bar (18.9…290 psi)**		
Electrical connection		Terminals	DIN connector	Terminals
References *(1)*				
Fluids controlled *(2)*	Hydraulic oils, fresh water, air, up to +70°C	**XMLB020A2S12**	**XMLB020A2C11**	**–**
	Hydraulic oils, fresh water, air, up to + 160°C	**–**	**–**	**XMLBS20A2S12**
	Hydraulic oils, fresh water, air, up to + 160°C	**XMLB020B2S12**	**XMLB020B2C11**	**–**
	Corrosive fluids, up to + 160°C	**XMLB020C2S12**	**XMLB020C2C11**	**–**
	Viscous products, up to + 160°C (G 1¼" fluid connection)	**XMLB020P2S12**	**XMLB020P2C11**	**–**
Weight (kg)		0.705	0.735	3.500
Complementary characteristics not shown under general characteristics (page 89)				
Possible differential (subtract from PH to give PB)	Min. at low setting *(3)*	1 bar (14.5 psi)		0.95 bar (13.78 psi)
	Min. at high setting *(3)*	1.6 bar (23.20 psi)		1.45 bar (21.03 psi)
	Max. at high setting	11 bar (159.5 psi)		12.6 bar (182.7 psi)
Maximum permissible pressure	Per cycle	25 bar (362.5 psi)		30 bar (435 psi)
	Accidental	45 bar (652.5 psi)		37.5 bar (543.75 psi)
Destruction pressure		90 bar (1305 psi)		67.5 bar (978.75 psi)
Mechanical life		5 x 10^6 operating cycles		2 x 10^6 operating cycles
Cable entry for terminal models		1 entry tapped M20 x 1.5 mm for ISO cable gland, clamping capacity 7 to 13 mm		
Connector type for connector models		DIN 43650 A, 4-pin male. For suitable female connector, see page 142		
Pressure switch type		Diaphragm		

*(1) For 1 entry tapped for n° 13 cable gland, replace **S12** by **S11** (example: **XMLB020A2S12** becomes **XMLB020A2S11**).*
(2) Component materials of units in contact with the fluid, see pages 148 and 149.
(3) Deviation of the differential at low and high setting points for switches of the same size: ± 0.25 bar (± 3.63 psi).

Operating curves



1 Maximum differential
2 Minimum differential



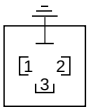
— Adjustable value

Connection

Terminal model

Connector model

Pressure switch connector pin view



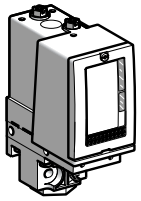
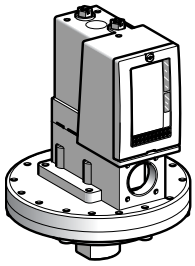
1 → 11 and 13
2 → 12
3 → 14

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

Electromechanical pressure switches

OsiSense XM, type XML

Size 20 bar (290 psi)
Adjustable differential, for regulation between 2 thresholds
Switches with 2 CO single-pole contacts
Fluid connection G 1/4 (female)

Pressure switches type XMLC	With setting scale	30 bar (435 psi) overpressure With setting scale
		
Adjustable range of switching point (PH) (Rising pressure)	**1.3…20 bar (18.85…290 psi)**	
Electrical connection	Terminals	

References *(1)*

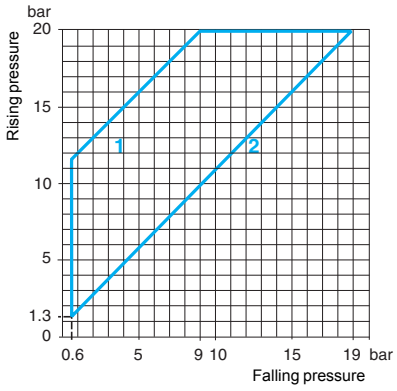
Fluids controlled *(2)*	Hydraulic oils, fresh water, air, up to + 70°C	**–**	**XMLCS20A2S12**
	Hydraulic oils, fresh water, air, up to 160°C	**XMLC020B2S12**	**–**
	Corrosive fluids, up to + 160°C	**XMLC020C2S12**	**–**
Weight (kg)		0.685	3.500

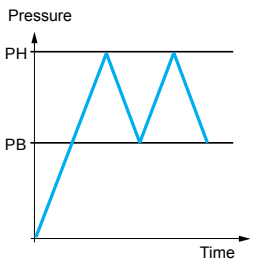
Complementary characteristics not shown under general characteristics (page 89)

Possible differential (subtract from PH to give PB)	Min. at low setting *(3)*	0.7 bar (10.15 psi)	0.7 bar (10.15 psi)
	Min. at high setting *(3)*	1 bar (14.5 psi)	1.15 bar (16.67 psi)
	Max. at high setting	11 bar (159.5 psi)	11.70 bar (169.6 psi)
Maximum permissible pressure	Per cycle	25 bar (362.5 psi)	30 bar (435 psi)
	Accidental	45 bar (652.5 psi)	37.5 bar (543.75 psi)
Destruction pressure		90 bar (1305 psi)	67.5 bar (978.75 psi)
Mechanical life		5 x 10^6 operating cycles	2 x 10^6 operating cycles
Cable entry for terminal models		1 entry tapped M20 x 1.5 mm for ISO cable gland, clamping capacity 7 to 13 mm	
Pressure switch type		Diaphragm	

*(1) For 1 entry tapped for n° 13 cable gland, replace **S12** by **S11** (example: **XMLC020B2S12** becomes **XMLC020B2S11**).*
(2) Component materials of units in contact with the fluid, see pages 148 and 149.
(3) Deviation of the differential at low and high setting points for switches of the same size: ± 0.2 bar (± 2.9 psi).

Operating curves



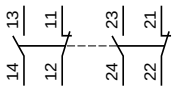


1 Maximum differential
2 Minimum differential

— Adjustable value

Connection

Terminal model



Other versions

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

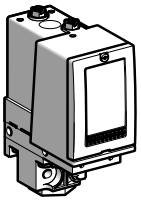
Accessories: page 142
Dimensions: pages 143 to 145

Electromechanical pressure switches

OsiSense XM, type XML

Size 20 bar (290 psi)
Dual stage, fixed differential, for detection at each threshold
Switches with 2 CO single-pole contacts (one per stage)
Fluid connection G 1/4 (female)

Pressure switches type XMLD | **Without setting scale**



Adjustable range of each switching point (Rising pressure)	2nd stage switching point (PH2)	**2.14…20 bar (31.03…290 psi)**
	1st stage switching point (PH1)	**0.9…18.76 bar (13.05…272.02 psi)**
Spread between 2 stages (PH2 - PH1)		**1.24…9.55 bar (17.98…138.48 psi)**
Electrical connection		Terminals

References *(1)*

Fluids controlled *(2)*	Hydraulic oils, fresh water, air, up to 160°C	**XMLD020B1S12**
	Corrosive fluids, up to + 160°C	**XMLD020C1S12**
Weight (kg)		0.705

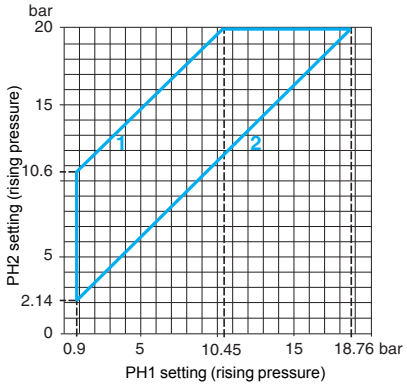
Complementary characteristics not shown under general characteristics (page 89)

Natural differential (subtract from PH1/PH2 to give PB1/PB2)	At low setting *(3)*	0.7 bar (10.15 psi)
	At high setting *(4)*	1.3 bar (18.85 psi)
Maximum permissible pressure	Per cycle	25 bar (362.5 psi)
	Accidental	45 bar (652.5 psi)
Destruction pressure		90 bar (1305 psi)
Mechanical life		5 x 10^6 operating cycles
Cable entry for terminal models		1 entry tapped M20 x 1.5 mm for ISO cable gland, clamping capacity 7 to 13 mm
Pressure switch type		Diaphragm

*(1) For 1 entry tapped for n° 13 cable gland, replace **S12** by **S11** (example: **XMLD020B1S12** becomes **XMLD020B1S11**).*
(2) Component materials of units in contact with the fluid, see pages 148 and 149.
(3) Deviation of the differential at low setting point for switches of the same size: ± 0.15 bar (± 2.18 psi).
(4) Deviation of the differential at high setting point for switches of the same size: ± 0.3 bar (± 4.35 psi).

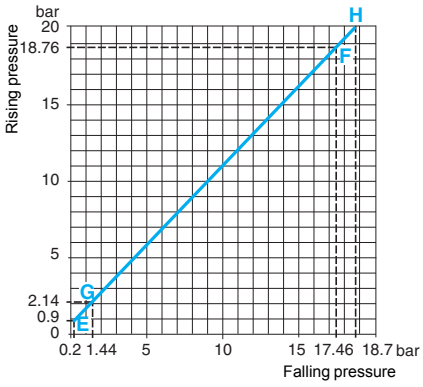
Operating curves

High setting tripping points of contacts 1 and 2

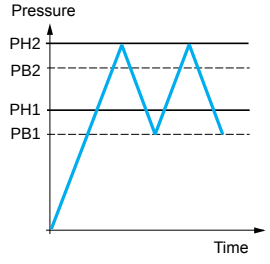


1 Maximum differential
2 Minimum differential

Natural differential of contacts 1 and 2



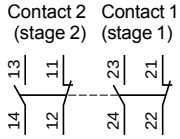
EF Contact 1 (stage 1)
GH Contact 2 (stage 2)



— Adjustable value
--- Non adjustable value

Connection

Terminal model



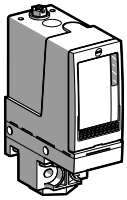
Other versions — Pressure switches with alternative tapped cable entries: NPT, etc. Please consult our Customer Care Centre.

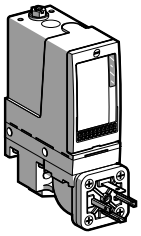
Electromechanical pressure switches

OsiSense XM, type XML

Size 35 bar (507.5 psi)
Fixed differential, for detection of a single threshold
Switches with 1 CO single-pole contact
Fluid connection G 1/4 (female)

Pressure switches type XMLA | **With setting scale**





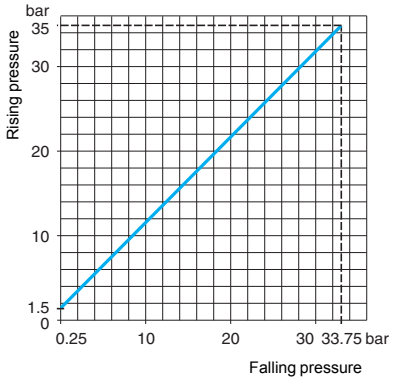
Adjustable range of switching point (PH) (Rising pressure)		**1.5…35 bar (21.75…507.5 psi)**	
Electrical connection		Terminals	DIN connector
References *(1)*			
Fluids controlled *(2)*	Hydraulic oils, fresh water, air, up to +70°C	**XMLA035A2S12**	**XMLA035A2C11**
	Hydraulic oils, fresh water, air, up to 160°C	**XMLA035B2S12**	**XMLA035B2C11**
	Corrosive fluids, up to + 160°C	**XMLA035C2S12**	**XMLA035C2C11**
	Viscous products, up to + 160°C (G 1¼" fluid connection)	**XMLA035P2S12**	**XMLA035P2C11**
Weight (kg)		0.695	0.725

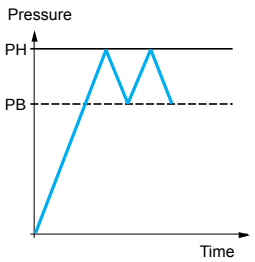
Complementary characteristics not shown under general characteristics (page 89)

Natural differential (subtract from PH to give PB)	At low setting *(3)*	1.25 bar (18.12 psi)
	At high setting *(3)*	1.25 bar (18.12 psi)
Maximum permissible pressure	Per cycle	45 bar (652.5 psi)
	Accidental	80 bar (1160 psi)
Destruction pressure		160 bar (2320 psi)
Mechanical life		5 x 10^6 operating cycles
Cable entry for terminal models		1 entry tapped M20 x 1.5 mm for ISO cable gland, clamping capacity 7 to 13 mm
Connector type for connector models		DIN 43650 A, 4-pin male. For suitable female connector, see page 142
Pressure switch type		Diaphragm

*(1) For 1 entry tapped for n° 13 cable gland, replace **S12** by **S11** (example: **XMLA035A2S12** becomes **XMLA035A2S11**).*
(2) Component materials of units in contact with the fluid, see pages 148 and 149.
(3) Deviation of the differential at low and high setting points for switches of the same size: ± 0.25 bar (± 3.62 psi).

Operating curves





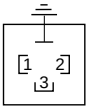
— Adjustable value
--- Non adjustable value

Connection

Terminal model

Connector model

Pressure switch connector pin view



1 → 11 and 13
2 → 12
3 → 14

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

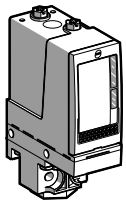
Accessories: page 142
Dimensions: pages 143 to 145

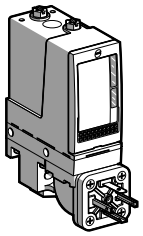
Electromechanical pressure switches

OsiSense XM, type XML

Size 35 bar (507.5 psi)
Adjustable differential, for regulation between 2 thresholds
Switches with 1 CO single-pole contact
Fluid connection G 1/4 (female)

Pressure switches type XMLB | **With setting scale**





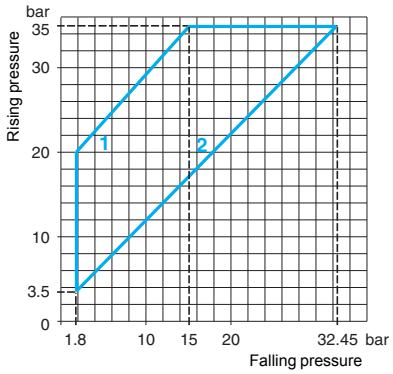
Adjustable range of switching point (PH) (Rising pressure)		**3.5…35 bar (50.75…507.5 psi)**	
Electrical connection		Terminals	DIN connector
References *(1)*			
Fluids controlled *(2)*	Hydraulic oils, fresh water, air, up to +70°C	**XMLB035A2S12**	**XMLB035A2C11**
	Hydraulic oils, fresh water, air, up to 160°C	**XMLB035B2S12**	**XMLB035B2C11**
	Corrosive fluids, up to + 160°C	**XMLB035C2S12**	**XMLB035C2C11**
	Viscous products, up to + 160°C (G 1¼" fluid connection)	**XMLB035P2S12**	**XMLB035P2C11**
Weight (kg)		0.715	0.745

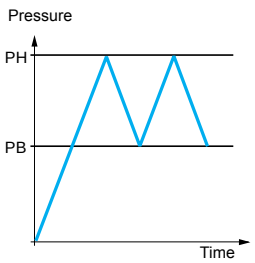
Complementary characteristics not shown under general characteristics (page 89)

Possible differential (subtract from PH to give PB)	Min. at low setting *(3)*	1.7 bar (24.65 psi)
	Min. at high setting *(3)*	2.55 bar (36.97 psi)
	Max. at high setting	20 bar (290 psi)
Maximum permissible pressure	Per cycle	45 bar (652.5 psi)
	Accidental	80 bar (1160 psi)
Destruction pressure		160 bar (2320 psi)
Mechanical life		5 x 10^6 operating cycles
Cable entry for terminal models		1 entry tapped M20 x 1.5 mm for ISO cable gland, clamping capacity 7 to 13 mm
Connector type for connector models		DIN 43650 A, 4-pin male. For suitable female connector, see page 142
Pressure switch type		Diaphragm

*(1) For 1 entry tapped for n° 13 cable gland, replace **S12** by **S11** (example: **XMLB035A2S12** becomes **XMLB035A2S11**).*
(2) Component materials of units in contact with the fluid, see pages 148 and 149.
(3) Deviation of the differential at low and high setting points for switches of the same size: - 0.5 bar, + 0.7 bar (- 7.25 psi, + 10.15 psi).

Operating curves





1 Maximum differential
2 Minimum differential

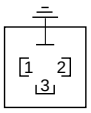
— Adjustable value

Connection

Terminal model

Connector model

Pressure switch connector pin view



1 → 11 and 13
2 → 12
3 → 14

Other versions

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

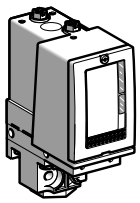
Accessories: page 142
Dimensions: pages 143 to 145

Electromechanical pressure switches

OsiSense XM, type XML

Size 35 bar (507.5 psi)
Adjustable differential, for regulation between 2 thresholds
Switches with 2 CO single-pole contacts
Fluid connection G 1/4 (female)

Pressure switches type XMLC	**With setting scale**



Adjustable range of switching point (PH) (Rising pressure)		**3.5…35 bar (50.75…507.5 psi)**
Electrical connection		Terminals

References *(1)*

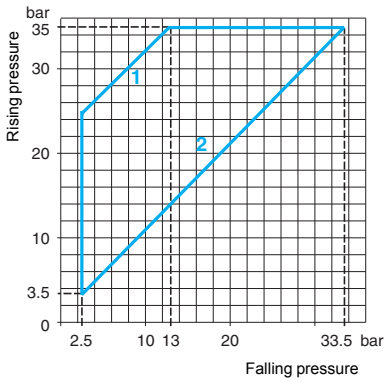
Fluids controlled *(2)*	Hydraulic oils, fresh water, air, up to 160°C	**XMLC035B2S12**
	Corrosive fluids, up to + 160°C	**XMLC035C2S12**
Weight (kg)		0.695

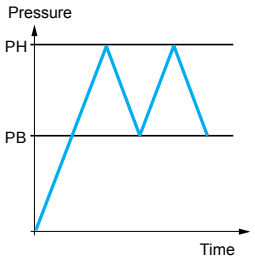
Complementary characteristics not shown under general characteristics (page 89)

Possible differential (subtract from PH to give PB)	Min. at low setting *(3)*	1 bar (14.5 psi)
	Min. at high setting *(4)*	1.5 bar (21.75 psi)
	Max. at high setting	22 bar (319 psi)
Maximum permissible pressure	Per cycle	45 bar (652.5 psi)
	Accidental	80 bar (1160 psi)
Destruction pressure		160 bar (2320 psi)
Mechanical life		5 x 10^6 operating cycles
Cable entry for terminal models		1 entry tapped M20 x 1.5 mm for ISO cable gland, clamping capacity 7 to 13 mm
Pressure switch type		Diaphragm

*(1) For 1 entry tapped for n° 13 cable gland, replace **S12** by **S11** (example: **XMLC035B2S12** becomes **XMLC035B2S11**).*
(2) Component materials of units in contact with the fluid, see pages 148 and 149.
(3) Deviation of the differential at low setting point for switches of the same size: ± 0.2 bar (± 2.9 psi).
(4) Deviation of the differential at high setting point for switches of the same size: ± 0.5 bar (± 7.25 psi).

Operating curves



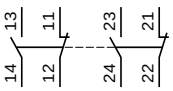


1 Maximum differential
2 Minimum differential

— Adjustable value

Connection

Terminal model



Other versions

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

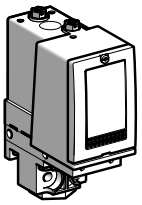
Accessories: page 142
Dimensions: pages 143 to 145

Electromechanical pressure switches

OsiSense XM, type XML

Size 35 bar (507.5 psi)
Dual stage, fixed differential, for detection at each threshold
Switches with 2 CO single-pole contacts (one per stage)
Fluid connection G 1/4 (female)

Pressure switches type XMLD | **Without setting scale**



Adjustable range of each switching point (Rising pressure)	2nd stage switching point (PH2)	**4.4…35 bar (63.8…507.5 psi)**
	1st stage switching point (PH1)	**1.9…32.5 bar (27.55…471.25 psi)**
Spread between 2 stages (PH2 - PH1)		**2.5…20.4 bar (36.25…295.8 psi)**
Electrical connection		Terminals

References *(1)*

Fluids controlled *(2)*	Hydraulic oils, fresh water, air, up to 160°C	**XMLD035B1S12**
	Corrosive fluids, up to + 160°C	**XMLD035C1S12**
Weight (kg)		0.715

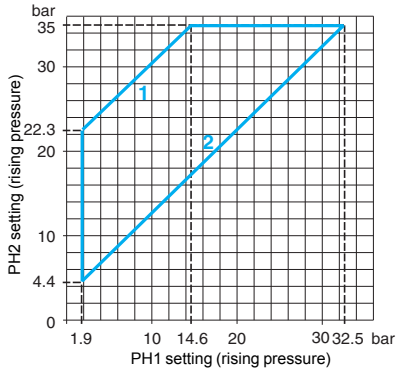
Complementary characteristics not shown under general characteristics (page 89)

Natural differential (subtract from PH1/PH2 to give PB1/PB2)	At low setting *(3)*	1.5 bar (21.75 psi)
	At high setting *(4)*	2.6 bar (37.7 psi)
Maximum permissible pressure	Per cycle	45 bar (652.5 psi)
	Accidental	80 bar (1160 psi)
Destruction pressure		160 bar (2320 psi)
Mechanical life		5 x 10^6 operating cycles
Cable entry for terminal models		1 entry tapped M20 x 1.5 mm for ISO cable gland, clamping capacity 7 to 13 mm
Pressure switch type		Diaphragm

*(1) For 1 entry tapped for n° 13 cable gland, replace **S12** by **S11** (example: **XMLD035B1S12** becomes **XMLD035B1S11**).*
(2) Component materials of units in contact with the fluid, see pages 148 and 149.
(3) Deviation of the differential at low setting point for switches of the same size: ± 0.3 bar (± 4.35 psi).
(4) Deviation of the differential at high setting point for switches of the same size: ± 0.7 bar (± 10.15 psi).

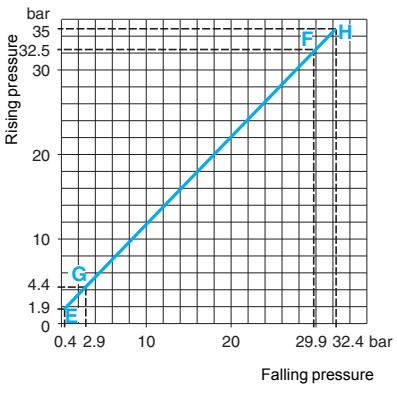
Operating curves

High setting tripping points of contacts 1 and 2

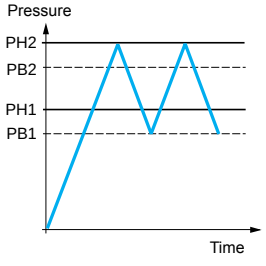


1 Maximum differential
2 Minimum differential

Natural differential of contacts 1 and 2



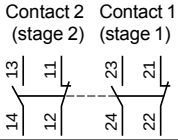
EF Contact 1 (stage 1)
GH Contact 2 (stage 2)



— Adjustable value
--- Non adjustable value

Connection

Terminal model



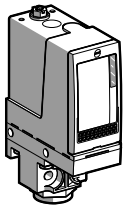
Other versions — Pressure switches with alternative tapped cable entries: NPT, etc. Please consult our Customer Care Centre.

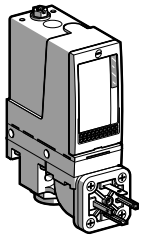
Electromechanical pressure switches

OsiSense XM, type XML

Size 70 bar (1015 psi)
Fixed differential, for detection of a single threshold
Switches with 1 CO single-pole contact
Fluid connection G 1/4 (female)

Pressure switches type XMLA | **With setting scale**





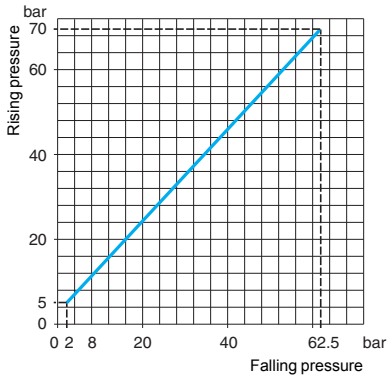
Adjustable range of switching point (PH) (Rising pressure)		**5…70 bar (72.5…1015 psi)**	
Electrical connection		Terminals	DIN connector
References *(1)*			
Fluids controlled *(2)*	Hydraulic oils, up to + 160°C	**XMLA070D2S12**	**XMLA070D2C11**
	Fresh water, up to + 160°C	**XMLA070E2S12**	**XMLA070E2C11**
	Corrosive fluids, air, up to + 160°C	**XMLA070N2S12**	**XMLA070N2C11**
Weight (kg)		0.695	0.725

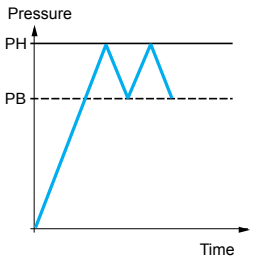
Complementary characteristics not shown under general characteristics (page 89)

Natural differential (subtract from PH to give PB)	At low setting *(3)*	3 bar (43.5 psi)
	At high setting *(3)*	9.5 bar (137.75 psi)
Maximum permissible pressure	Per cycle	90 bar (1035 psi)
	Accidental	160 bar (2320 psi)
Destruction pressure		320 bar (4640 psi)
Mechanical life		6 x 10^6 operating cycles
Cable entry for terminal models		1 entry tapped M20 x 1.5 mm for ISO cable gland, clamping capacity 7 to 13 mm
Connector type for connector models		DIN 43650 A, 4-pin male. For suitable female connector, see page 142
Pressure switch type		Piston

*(1) For 1 entry tapped for n° 13 cable gland, replace **S12** by **S11** (example: **XMLA070D2S12** becomes **XMLA070D2S11**).*
(2) Component materials of units in contact with the fluid, see pages 148 and 149.
(3) Deviation of the differential at low and high setting points for switches of the same size: ± 1 bar (± 14.5 psi)

Operating curves





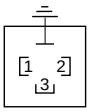
— Adjustable value
--- Non adjustable value

Connection

Terminal model

Connector model

Pressure switch connector pin view



1 → 11 and 13
2 → 12
3 → 14

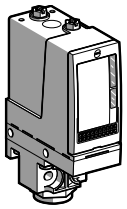
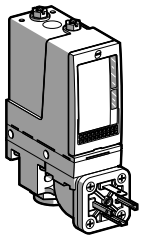
Other versions	Pressure switches with alternative tapped cable entries: NPT, etc. Please consult our Customer Care Centre.

Accessories: page 142
Dimensions: pages 143 to145

Electromechanical pressure switches

OsiSense XM, type XML

Size 70 bar (1015 psi)
Adjustable differential, for regulation between 2 thresholds
Switches with 1 CO single-pole contact
Fluid connection G 1/4 (female)

Pressure switches type XMLB	**With setting scale**	
		
Adjustable range of switching point (PH) (Rising pressure)	**7…70 bar (101.5…1015 psi)**	
Electrical connection	Terminals	DIN connector

References *(1)*

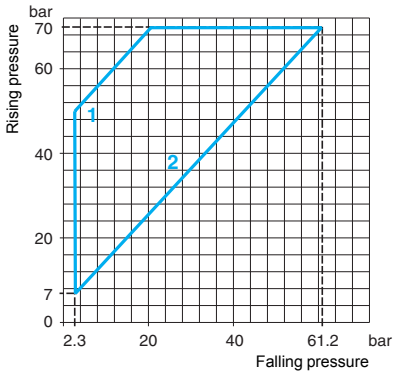
Fluids controlled *(2)*	Hydraulic oils, up to + 160°C	**XMLB070D2S12**	**XMLB070D2C11**
	Fresh water, up to + 160°C	**XMLB070E2S12**	**XMLB070E2C11**
	Corrosive fluids, air, up to + 160°C	**XMLB070N2S12**	**XMLB070N2C11**
Weight (kg)		0.715	0.745

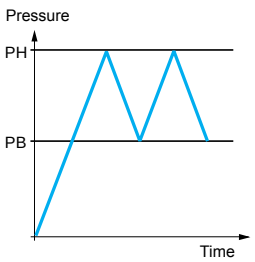
Complementary characteristics not shown under general characteristics (page 89)

Possible differential (subtract from PH to give PB)	Min. at low setting *(3)*	4.7 bar (68.15 psi)
	Min. at high setting *(4)*	9.5 bar (137.75 psi)
	Max. at high setting	50 bar (725 psi)
Maximum permissible pressure	Per cycle	90 bar (1035 psi)
	Accidental	160 bar (2320 psi)
Destruction pressure		320 bar (4640 psi)
Mechanical life		6 x 10^6 operating cycles
Cable entry for terminal models		1 entry tapped M20 x 1.5 mm for ISO cable gland, clamping capacity 7 to 13 mm
Connector type for connector models		DIN 43650 A, 4-pin male. For suitable female connector, see page 142
Pressure switch type		Piston

*(1) For 1 entry tapped for n° 13 cable gland, replace **S12** by **S11** (example: **XMLB070D2S12** becomes **XMLB070D2S11**).*
(2) Component materials of units in contact with the fluid, see pages 148 and 149.
(3) Deviation of the differential at low setting point for switches of the same size: - 0.4 bar, + 0.7 bar (- 5.8 psi, + 10.15 psi).
(4) Deviation of the differential at high setting point for switches of the same size: - 0.6 bar, + 0.8 bar (- 8.7 psi, + 11.6 psi).

Operating curves





1 Maximum differential
2 Minimum differential

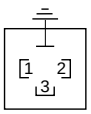
— Adjustable value

Connection

Terminal model

Connector model

Pressure switch connector pin view



1 → 11 and 13
2 → 12
3 → 14

Other versions

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

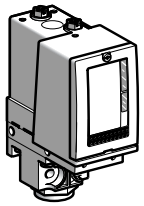
Accessories: page 142
Dimensions: pages 143 to145

Electromechanical pressure switches

OsiSense XM, type XML

Size 70 bar (1015 psi)
Adjustable differential, for regulation between 2 thresholds
Switches with 2 CO single-pole contacts
Fluid connection G 1/4 (female)

Pressure switches type XMLC	**With setting scale**



Adjustable range of switching point (PH) (Rising pressure)		**7…70 bar (101.5…1015 psi)**
Electrical connection		Terminals

References *(1)*

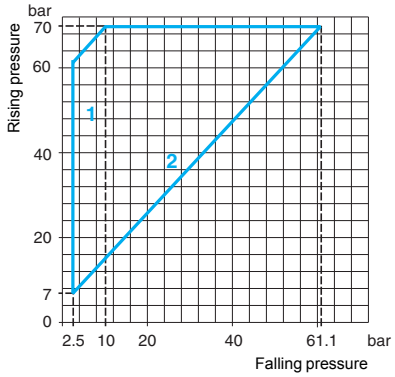
Fluids controlled *(2)*	Hydraulic oils, up to + 160°C	**XMLC070D2S12**
	Fresh water, up to + 160°C	**XMLC070E2S12**
	Corrosive fluids, up to + 160°C	**XMLC070N2S12**
Weight (kg)		0.695

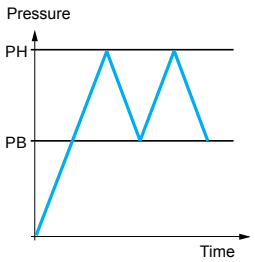
Complementary characteristics not shown under general characteristics (page 89)

Possible differential (subtract from PH to give PB)	Min. at low setting *(3)*	4.5 bar (65.25 psi)
	Min. at high setting *(3)*	9.5 bar (137.75 psi)
	Max. at high setting	60 bar (870 psi)
Maximum permissible pressure	Per cycle	90 bar (1035 psi)
	Accidental	160 bar (2320 psi)
Destruction pressure		320 bar (4640 psi)
Mechanical life		6 x 10^6 operating cycles
Cable entry for terminal models		1 entry tapped M20 x 1.5 mm for ISO cable gland, clamping capacity 7 to 13 mm
Pressure switch type		Piston

*(1) For 1 entry tapped for n° 13 cable gland, replace **S12** by **S11** (example: **XMLC070D2S12** becomes **XMLC070D2S11**).*
(2) Component materials of units in contact with the fluid, see pages 148 and 149.
(3) Deviation of the differential at low and high setting points for switches of the same size: ± 0.8 bar (± 11.6 psi).

Operating curves



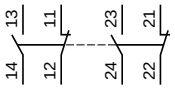


1 Maximum differential
2 Minimum differential

— Adjustable value

Connection

Terminal model



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

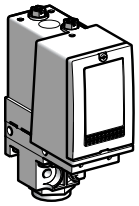
Accessories: page 142
Dimensions: pages 143 to 145

Electromechanical pressure switches

OsiSense XM, type XML

Size 70 bar (1015 psi)
Dual stage, fixed differential, for detection at each threshold
Switches with 2 CO single-pole contacts (one per stage)
Fluid connection G 1/4 (female)

Pressure switches type XMLD	**Without setting scale**



Adjustable range of each switching point (Rising pressure)	2nd stage switching point (PH2)	**9.4…70 bar (136.3…1015 psi)**
	1st stage switching point (PH1)	**6.6…67.2 bar (95.7…974.4 psi)**
Spread between 2 stages (PH2 - PH1)		**2.8…46 bar (40.6…667 psi)**
Electrical connection		Terminals

References *(1)*

Fluids controlled *(2)*	Hydraulic oils, up to + 160°C	**XMLD070D1S12**
	Fresh water, up to + 160°C	**XMLD070E1S12**
	Corrosive fluids, air, up to + 160°C	**XMLD070N1S12**
Weight (kg)		0.715

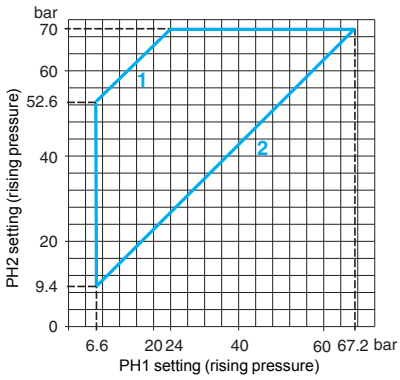
Complementary characteristics not shown under general characteristics (page 89)

Natural differential (subtract from PH1/PH2 to give PB1/PB2)	At low setting *(3)*	5 bar (72.5 psi)
	At high setting *(4)*	9.5 bar (137.75 psi)
Maximum permissible pressure	Per cycle	90 bar (1035 psi)
	Accidental	160 bar (2320 psi)
Destruction pressure		320 bar (4640 psi)
Mechanical life		6 x 10^6 operating cycles
Cable entry for terminal models		1 entry tapped M20 x 1.5 mm for ISO cable gland, clamping capacity 7 to 13 mm
Pressure switch type		Piston

(1) For 1 entry tapped for n° 13 cable gland, replace ***S12*** *by* ***S11*** *(example:* ***XMLD070D1S12*** *becomes* ***XMLD070D1S11****).*
(2) Component materials of units in contact with the fluid, see pages 148 and 149.
(3) Deviation of the differential at low setting point for switches of the same size: ± 1.5 bar (± 21.75 psi).
(4) Deviation of the differential at high setting point for switches of the same size: ± 2 bar *(± 29 psi).*

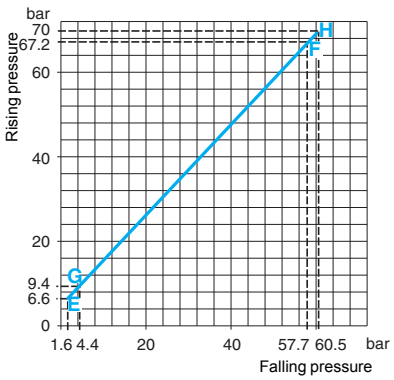
Operating curves

High setting tripping points of contacts 1 and 2

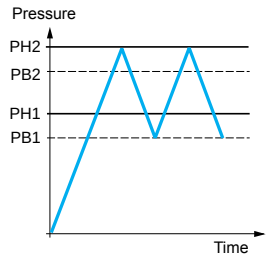


1 Maximum differential
2 Minimum differential

Natural differential of contacts 1 and 2



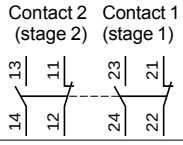
EF Contact 1 (stage 1)
GH Contact 2 (stage 2)



— Adjustable value
--- Non adjustable value

Connection

Terminal model



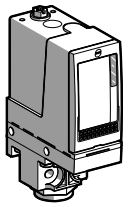
Other versions	Pressure switches with alternative tapped cable entries: NPT, etc. Please consult our Customer Care Centre.

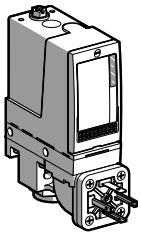
Electromechanical pressure switches

OsiSense XM, type XML

Size 160 bar (2320 psi)
Fixed differential, for detection of a single threshold
Switches with 1 CO single-pole contact
Fluid connection G 1/4 (female)

Pressure switches type XMLA | **With setting scale**





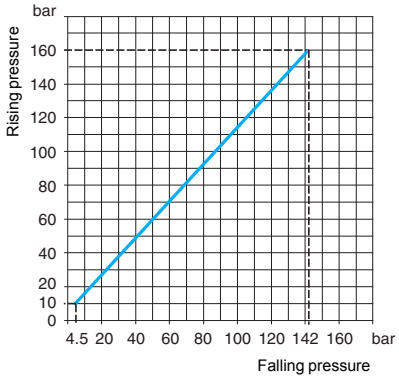
Adjustable range of switching point (PH) (Rising pressure)		**10…160 bar (145…2320 psi)**	
Electrical connection		Terminals	DIN connector
References *(1)*			
Fluids controlled *(2)*	Hydraulic oils, up to + 160°C	**XMLA160D2S12**	**XMLA160D2C11**
	Fresh water, up to + 160°C	**XMLA160E2S12**	**XMLA160E2C11**
	Corrosive fluids, air, up to + 160°C	**XMLA160N2S12**	**XMLA160N2C11**
Weight (kg)		0.750	0.780

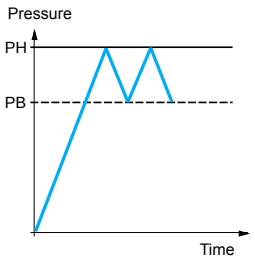
Complementary characteristics not shown under general characteristics (page 89)

Natural differential (subtract from PH to give PB)	At low setting *(3)*	5.5 bar (79.75 psi)
	At high setting *(4)*	18 bar (261 psi)
Maximum permissible pressure	Per cycle	200 bar (2900 psi)
	Accidental	360 bar (5220 psi)
Destruction pressure		720 bar (10,440 psi)
Mechanical life		6 x 10^6 operating cycles
Cable entry for terminal models		1 entry tapped M20 x 1.5 mm for ISO cable gland, clamping capacity 7 to 13 mm
Connector type for connector models		DIN 43650 A, 4-pin male. For suitable female connector, see page 142
Pressure switch type		Piston

*(1) For 1 entry tapped for n° 13 cable gland, replace **S12** by **S11** (example: **XMLA160D2S12** becomes **XMLA160D2S11**).*
(2) Component materials of units in contact with the fluid, see pages 148 and 149.
(3) Deviation of the differential at low setting point for switches of the same size: ± 1 bar (± 14.5 psi).
(4) Deviation of the differential at high setting point for switches of the same size: ± 3 bar (± 43.5 psi).

Operating curves





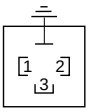
— Adjustable value
--- Non adjustable value

Connection

Terminal model

Connector model

Pressure switch connector pin view



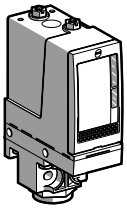
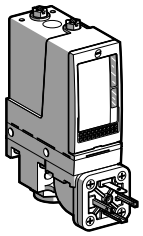
1 → 11 and 13
2 → 12
3 → 14

Other versions

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

Accessories: page 142
Dimensions: pages 143 to 145

Electromechanical pressure switches
OsiSense XM, type XML
Size 160 bar (2320 psi)
Adjustable differential, for regulation between 2 thresholds
Switches with 1 CO single-pole contact
Fluid connection G 1/4 (female)

Pressure switches type XMLB	**With setting scale**	
		
Adjustable range of switching point (PH) (Rising pressure)	**10…160 bar (145…2320 psi)**	
Electrical connection	Terminals	DIN connector

References *(1)*

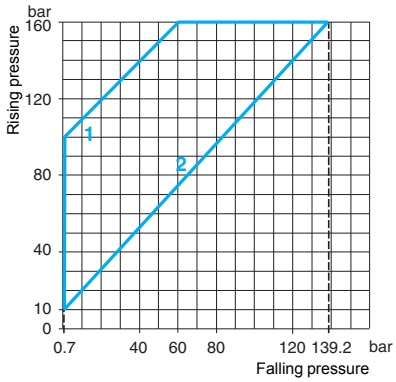
Fluids controlled *(2)*	Hydraulic oils, up to + 160°C	**XMLB160D2S12**	**XMLB160D2C11**
	Fresh water, up to + 160°C	**XMLB160E2S12**	**XMLB160E2C11**
	Corrosive fluids, air, up to + 160°C	**XMLB160N2S12**	**XMLB160N2C11**
Weight (kg)		0.750	0.780

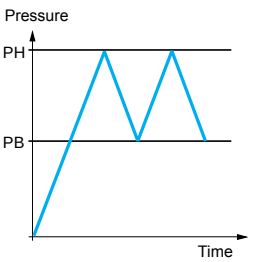
Complementary characteristics not shown under general characteristics (page 89)

Possible differential (subtract from PH to give PB)	Min. at low setting *(3)*	9.3 bar (134.85 psi)
	Min. at high setting *(4)*	20.8 bar (301.6 psi)
	Max. at high setting	100 bar (1450 psi)
Maximum permissible pressure	Per cycle	200 bar (2900 psi)
	Accidental	360 bar (5220 psi)
Destruction pressure		720 bar (10,440 psi)
Mechanical life		6 x 10^6 operating cycles
Cable entry for terminal models		1 entry tapped M20 x 1.5 mm for ISO cable gland, clamping capacity 7 to 13 mm
Connector type for connector models		DIN 43650 A, 4-pin male. For suitable female connector, see page 142
Pressure switch type		Piston

*(1) For 1 entry tapped for n° 13 cable gland, replace **S12** by **S11** (example: **XMLB160D2S12** becomes **XMLB160D2S11**).*
(2) Component materials of units in contact with the fluid, see pages 148 and 149.
(3) Deviation of the differential at low setting point for switches of the same size: - 1.8 bar, + 1.5 bar (- 26.1 psi, + 21.75 psi).
(4) Deviation of the differential at high setting point for switches of the same size: - 1.9 bar, + 1.6 bar (- 27.55 psi, + 23.2 psi).

Operating curves





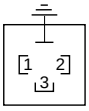
1 Maximum differential
2 Minimum differential
— Adjustable value

Connection

Terminal model

Connector model

Pressure switch connector pin view



1 → 11 and 13
2 → 12
3 → 14

Other versions

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

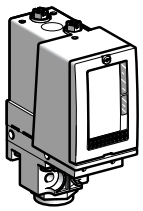
Accessories: page 142
Dimensions: pages 143 to 145

Electromechanical pressure switches

OsiSense XM, type XML

Size 160 bar (2320 psi)
Adjustable differential, for regulation between 2 thresholds
Switches with 2 CO single-pole contacts
Fluid connection G 1/4 (female)

Pressure switches type XMLC	**With setting scale**



Adjustable range of switching point (PH) (Rising pressure)		**12…160 bar (174…2320 psi)**
Electrical connection		Terminals

References *(1)*

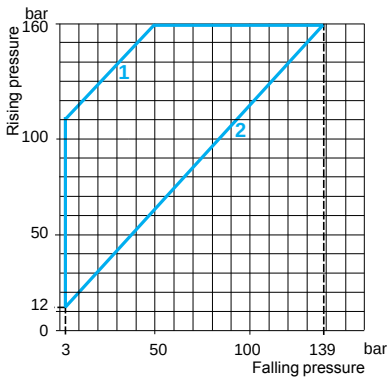
Fluids controlled *(2)*	Hydraulic oils, up to + 160°C	**XMLC160D2S12**
	Fresh water, up to + 160°C	**XMLC160E2S12**
	Corrosive fluids, up to + 160°C	**XMLC160N2S12**
Weight (kg)		0.750

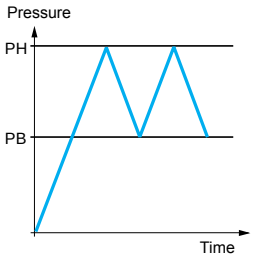
Complementary characteristics not shown under general characteristics (page 89)

Possible differential (subtract from PH to give PB)	Min. at low setting *(3)*	9 bar (130.5 psi)
	Min. at high setting *(3)*	21 bar (304.5 psi)
	Max. at high setting	110 bar (1590 psi)
Maximum permissible pressure	Per cycle	200 bar (2900 psi)
	Accidental	360 bar (5220 psi)
Destruction pressure		720 bar (10,440 psi)
Mechanical life		6 x 10^6 operating cycles
Cable entry for terminal models		1 entry tapped M20 x 1.5 mm for ISO cable gland, clamping capacity 7 to 13 mm
Pressure switch type		Piston

*(1) For 1 entry tapped for n° 13 cable gland, replace **S12** by **S11** (example: **XMLC160D2S12** becomes **XMLC160D2S11**).*
(2) Component materials of units in contact with the fluid, see pages 148 and 149.
(3) Deviation of the differential at low and high setting points for switches of the same size: ± 0.9 bar (± 13.05 psi).

Operating curves



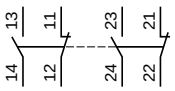


1 Maximum differential
2 Minimum differential

— Adjustable value

Connection

Terminal model



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

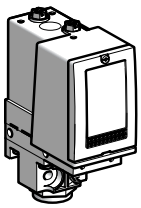
Accessories: page 142
Dimensions: pages 143 to 145

Electromechanical pressure switches

OsiSense XM, type XML

Size 160 bar (2320 psi)
Dual stage, fixed differential, for detection at each threshold
Switches with 2 CO single-pole contacts (one per stage)
Fluid connection G 1/4 (female)

Pressure switches type XMLD | **Without setting scale**



Adjustable range of each switching point (Rising pressure)	2nd stage switching point (PH2)	**16.5…160 bar (239.25…2320 psi)**
	1st stage switching point (PH1)	**10.5…154 bar (152.25…2233 psi)**
Spread between 2 stages (PH2 - PH1)		**6…83 bar (87…1203.5 psi)**
Electrical connection		Terminals

References *(1)*

Fluids controlled *(2)*	Hydraulic oils, up to + 160°C	**XMLD160D1S12**
	Fresh water, up to + 160°C	**XMLD160E1S12**
	Corrosive fluids, air, up to + 160°C	**XMLD160N1S12**
Weight (kg)		0.750

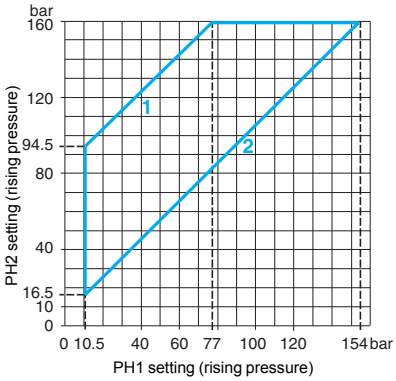
Complementary characteristics not shown under general characteristics (page 89)

Natural differential (subtract from PH1/PH2 to give PB1/PB2)	At low setting *(3)*	8.8 bar (127.6 psi)
	At high setting *(4)*	20 bar (290 psi)
Maximum permissible pressure	Per cycle	200 bar (2900 psi)
	Accidental	360 bar (5220 psi)
Destruction pressure		720 bar (10,440 psi)
Mechanical life		6 x 10^6 operating cycles
Cable entry for terminal models		1 entry tapped M20 x 1.5 mm for ISO cable gland, clamping capacity 7 to 13 mm
Pressure switch type		Piston

*(1) For 1 entry tapped for n° 13 cable gland, replace **S12** by **S11** (example: **XMLD160D1S12** becomes **XMLD160D1S11**).*
(2) Component materials of units in contact with the fluid, see pages 148 and 149.
(3) Deviation of the differential at low setting point for switches of the same size: ± 1.5 bar (± 21.75 psi).
(4) Deviation of the differential at high setting point for switches of the same size: ± 7 bar (± 101.5 psi).

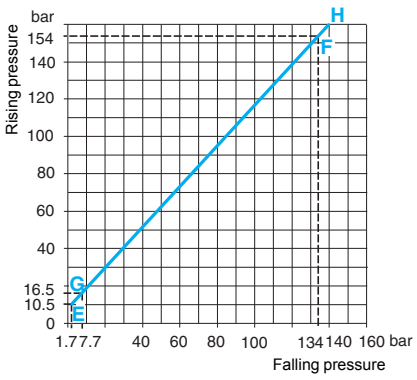
Operating curves

High setting tripping points of contacts 1 and 2

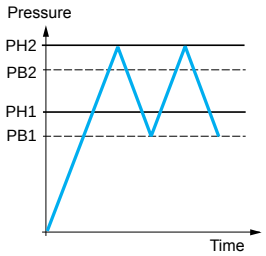


1 Maximum differential
2 Minimum differential

Natural differential of contacts 1 and 2



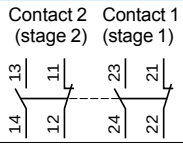
EF Contact 1 (stage 1)
GH Contact 2 (stage 2)



— Adjustable value
--- Non adjustable value

Connection

Terminal model



Other versions

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

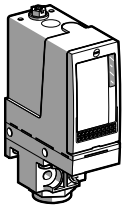
Accessories: page 142
Dimensions: pages 143 to 145

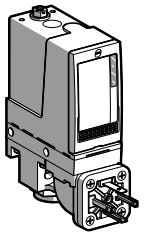
Electromechanical pressure switches

OsiSense XM, type XML

Size 300 bar (4350 psi)
Fixed differential, for detection of a single threshold
Switches with 1 CO single-pole contact
Fluid connection G 1/4 (female)

Pressure switches type XMLA | **With setting scale**





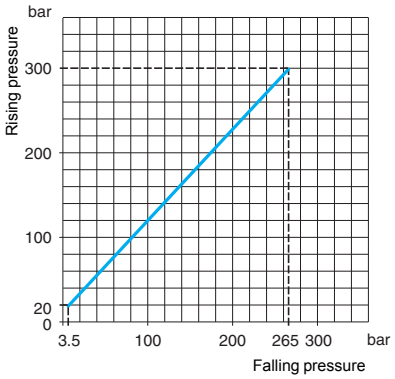
Adjustable range of switching point (PH) (Rising pressure)		**20…300 bar (290…4350 psi)**	
Electrical connection		Terminals	DIN connector
References *(1)*			
Fluids controlled *(2) (5)*	Hydraulic oils, up to + 160°C	**XMLA300D2S12**	**XMLA300D2C11**
	Fresh water, up to + 160°C	**XMLA300E2S12**	**XMLA300E2C11**
	Corrosive fluids, air, up to + 160°C	**XMLA300N2S12**	**XMLA300N2C11**
Weight (kg)		0.750	0.780

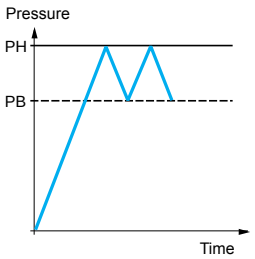
Complementary characteristics not shown under general characteristics (page 89)

Natural differential (subtract from PH to give PB)	At low setting *(3)*	16.5 bar (239.25 psi)
	At high setting *(4)*	35 bar (507.5 psi)
Maximum permissible pressure	Per cycle	375 bar (5437.5 psi)
	Accidental	675 bar (9787.5 psi)
Destruction pressure		1350 bar (19,575 psi)
Mechanical life		3 x 10^6 operating cycles
Cable entry for terminal models		1 entry tapped M20 x 1.5 mm for ISO cable gland, clamping capacity 7 to 13 mm
Connector type for connector models		DIN 43650 A, 4-pin male. For suitable female connector, see page 142
Pressure switch type		Piston

*(1) For 1 entry tapped for n° 13 cable gland, replace **S12** by **S11** (example: **XMLA300D2S12** becomes **XMLA300D2S11**).*
(2) Component materials of units in contact with the fluid, see pages 148 and 149.
(3) Deviation of the differential at low setting point for switches of the same size: ± 3 bar (± 43.5 psi).
(4) Deviation of the differential at high setting point for switches of the same size: ± 6 bar (± 87 psi).
(5) Only for control of group 2 fluids, in accordance with directive 97/23/EEC.

Operating curves





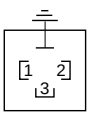
— Adjustable value
--- Non adjustable value

Connection

Terminal model

Connector model

Pressure switch connector pin view



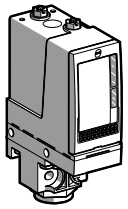
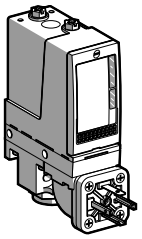
1 → 11 and 13
2 → 12
3 → 14

Other versions

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

Accessories: page 142
Dimensions: pages 143 to 145

Electromechanical pressure switches
OsiSense XM, type XML
Size 300 bar (4350 psi)
Adjustable differential, for regulation between 2 thresholds
Switches with 1 CO single-pole contact
Fluid connection G 1/4 (female)

Pressure switches type XMLB	**With setting scale**	
		
Adjustable range of switching point (PH) (Rising pressure)	**22…300 bar (319…4350 psi)**	
Electrical connection	Terminals	DIN connector

References *(1)*

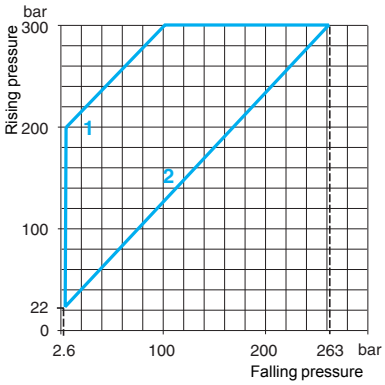
Fluids controlled *(2) (5)*	Hydraulic oils, up to + 160°C	**XMLB300D2S12**	**XMLB300D2C11**
	Fresh water, up to + 160°C	**XMLB300E2S12**	**XMLB300E2C11**
	Corrosive fluids, air, up to + 160°C	**XMLB300N2S12**	**XMLB300N2C11**
Weight (kg)		0.750	0.780

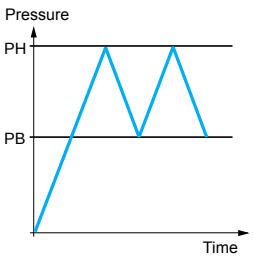
Complementary characteristics not shown under general characteristics (page 89)

Possible differential (subtract from PH to give PB)	Min. at low setting *(3)*	19.4 bar (281.3 psi)
	Min. at high setting *(4)*	37 bar (536.5 psi)
	Max. at high setting	200 bar (2900 psi)
Maximum permissible pressure	Per cycle	375 bar (5437.5 psi)
	Accidental	675 bar (9787.5 psi)
Destruction pressure		1350 bar (19,575 psi)
Mechanical life		3 x 10^6 operating cycles
Cable entry for terminal models		1 entry tapped M20 x 1.5 mm for ISO cable gland, clamping capacity 7 to 13 mm
Connector type for connector models		DIN 43650 A, 4-pin male. For suitable female connector, see page 142
Pressure switch type		Piston

*(1) For 1 entry tapped for n° 13 cable gland, replace **S12** by **S11** (example: **XMLB300D2S12** becomes **XMLB300D2S11**).*
(2) Component materials of units in contact with the fluid, see pages 148 and 149.
(3) Deviation of the differential at low setting point for switches of the same size: - 1.5 bar, + 1.7 bar (- 21.75 psi, + 24.65 psi).
(4) Deviation of the differential at high setting point for switches of the same size: - 1 bar, + 4 bar (- 14.5 psi, + 58 psi).
(5) Only for control of group 2 fluids, in accordance with directive 97/23/EEC.

Operating curves





1 Maximum differential
2 Minimum differential

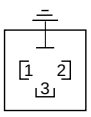
— Adjustable value

Connection

Terminal model

Connector model

Pressure switch connector pin view



1 → 11 and 13
2 → 12
3 → 14

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

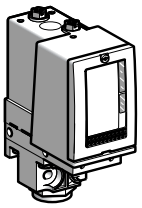
Accessories: page 142
Dimensions: pages 143 to 145

Electromechanical pressure switches

OsiSense XM, type XML

Size 300 bar (4350 psi)
Adjustable differential, for regulation between 2 thresholds
Switches with 2 CO single-pole contacts
Fluid connection G 1/4 (female)

Pressure switches type XMLC	**With setting scale**



Adjustable range of switching point (PH) (Rising pressure)		**22…300 bar (319…4350 psi)**
Electrical connection		Terminals

References *(1)*

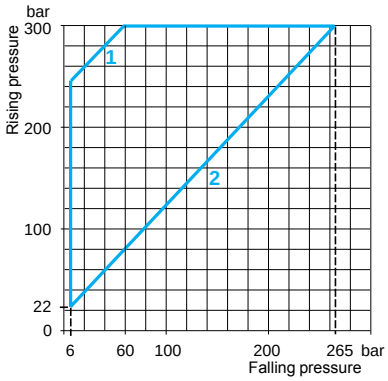
Fluids controlled *(2) (4)*	Hydraulic oils, up to + 160°C	**XMLC300D2S12**
	Fresh water, up to + 160°C	**XMLC300E2S12**
	Corrosive fluids, air, up to + 160°C	**XMLC300N2S12**
Weight (kg)		0.750

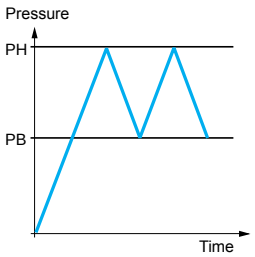
Complementary characteristics not shown under general characteristics (page 89)

Possible differential (subtract from PH to give PB)	Min. at low setting *(3)*	16 bar (232 psi)
	Min. at high setting *(3)*	35 bar (507.5 psi)
	Max. at high setting	240 bar (3480 psi)
Maximum permissible pressure	Per cycle	375 bar (5437.5 psi)
	Accidental	675 bar (9787.5 psi)
Destruction pressure		1350 bar (19,575 psi)
Mechanical life		3 x 10^6 operating cycles
Cable entry for terminal models		1 entry tapped M20 x 1.5 mm for ISO cable gland, clamping capacity 7 to 13 mm
Pressure switch type		Piston

*(1) For 1 entry tapped for n° 13 cable gland, replace **S12** by **S11** (example: **XMLC300D2S12** becomes **XMLC300D2S11**).*
(2) Component materials of units in contact with the fluid, see pages 148 and 149.
(3) Deviation of the differential at low and high setting points for switches of the same size: ± 0.9 bar (± 13.05 psi).
(4) Only for control of group 2 fluids, in accordance with directive 97/23/EEC.

Operating curves



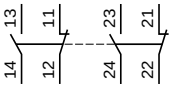


1 Maximum differential
2 Minimum differential

— Adjustable value

Connection

Terminal model



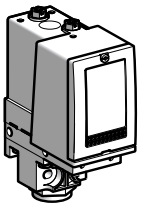
Other versions

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

Accessories: page 142
Dimensions: pages 143 to 145

Electromechanical pressure switches
OsiSense XM, type XML
Size 300 bar (4350 psi)
Dual stage, fixed differential, for detection at each threshold
Switches with 2 CO single-pole contacts (one per stage)
Fluid connection G 1/4 (female)

Pressure switches type XMLD | **Without setting scale**



Adjustable range of each switching point (Rising pressure)	2nd stage switching point (PH2)	**36…300 bar (522…4350 psi)**
	1st stage switching point (PH1)	**25…289 bar (362.5…4190.5 psi)**
Spread between 2 stages (PH2 - PH1)		**11…189 bar (159.5…2740.5 psi)**
Electrical connection		Terminals

References *(1)*

Fluids controlled *(2) (5)*	Hydraulic oils, up to + 160°C	**XMLD300D1S12**
	Fresh water, up to + 160°C	**XMLD300E1S12**
	Corrosive fluids, air, up to + 160°C	**XMLD300N1S12**
Weight (kg)		0.750

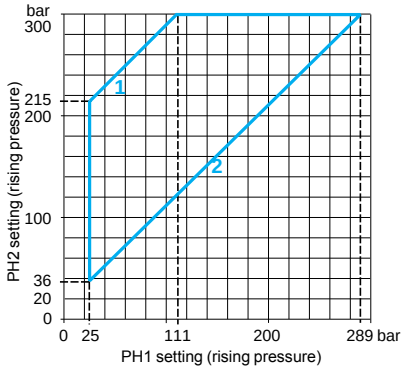
Complementary characteristics not shown under general characteristics (page 89)

Natural differential (subtract from PH1/PH2 to give PB1/PB2)	At low setting *(3)*	17 bar (246.5 psi)
	At high setting *(4)*	42 bar (609 psi)
Maximum permissible pressure	Per cycle	375 bar (5437.5 psi)
	Accidental	675 bar (9787.5 psi)
Destruction pressure		1350 bar (19,575 psi)
Mechanical life		3 x 10^6 operating cycles
Cable entry for terminal models		1 entry tapped M20 x 1.5 mm for ISO cable gland, clamping capacity 7 to 13 mm
Pressure switch type		Piston

*(1) For 1 entry tapped for n° 13 cable gland, replace **S12** by **S11** (example: **XMLD300D1S12** becomes **XMLD300D1S11**).*
(2) Component materials of units in contact with the fluid, see pages 148 and 149.
(3) Deviation of the differential at low setting point for switches of the same size: ± 2.5 bar (± 36.25 psi).
(4) Deviation of the differential at high setting point for switches of the same size: ± 9 bar (± 130.5 psi).
(5) Only for control of group 2 fluids, in accordance with directive 97/23/EEC.

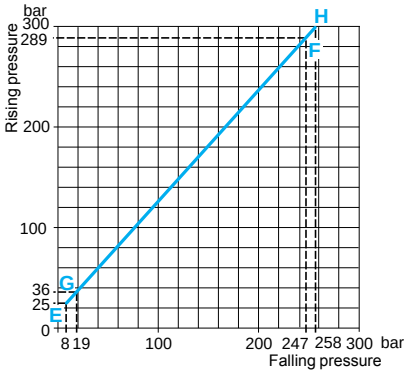
Operating curves

High setting tripping points of contacts 1 and 2

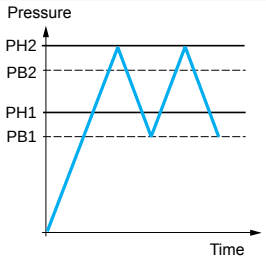


1 Maximum differential
2 Minimum differential

Natural differential of contacts 1 and 2



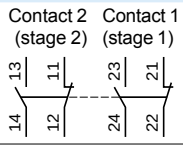
EF Contact 1 (stage 1)
GH Contact 2 (stage 2)



— Adjustable value
--- Non adjustable value

Connection

Terminal model



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

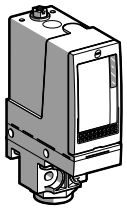
Accessories: page 142
Dimensions: pages 143 to 145

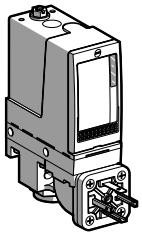
Electromechanical pressure switches

OsiSense XM, type XML

Size 500 bar (7250 psi)
Fixed differential, for detection of a single threshold
Switches with 1 CO single-pole contact
Fluid connection G 1/4 (female)

Pressure switches type XMLA | **With setting scale**





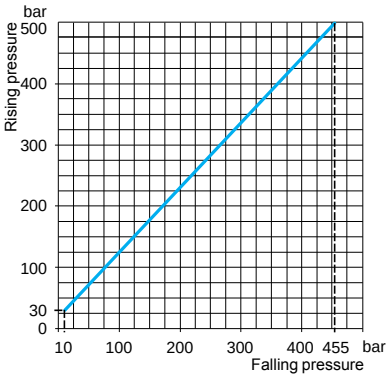
Adjustable range of switching point (PH) (Rising pressure)		**30…500 bar (435…7250 psi)**	
Electrical connection		Terminals	DIN connector
References *(1)*			
Fluids controlled *(2) (5)*	Hydraulic oils, up to + 160°C	**XMLA500D2S12**	**XMLA500D2C11**
	Fresh water, up to + 160°C	**XMLA500E2S12**	**XMLA500E2C11**
	Corrosive fluids, air, up to + 160°C	**XMLA500N2S12**	**XMLA500N2C11**
Weight (kg)		0.750	0.780

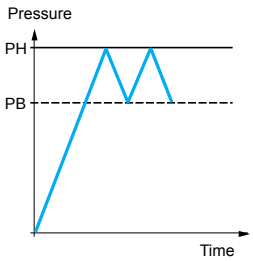
Complementary characteristics not shown under general characteristics (page 89)

Natural differential (subtract from PH to give PB)	At low setting *(3)*	20 bar (290 psi)
	At high setting *(4)*	45 bar (652.5 psi)
Maximum permissible pressure	Per cycle	625 bar (9062.5 psi)
	Accidental	1125 bar (16,312.5 psi)
Destruction pressure		2250 bar (32,625 psi)
Mechanical life		3 x 10^6 operating cycles
Cable entry for terminal models		1 entry tapped M20 x 1.5 mm for ISO cable gland, clamping capacity 7 to 13 mm
Connector type for connector models		DIN 43650 A, 4-pin male. For suitable female connector, see page 142
Pressure switch type		Piston

*(1) For 1 entry tapped for n° 13 cable gland, replace **S12** by **S11** (example: **XMLA500D2S12** becomes **XMLA500D2S11**).*
(2) Component materials of units in contact with the fluid, see pages 148 and 149.
(3) Deviation of the differential at low setting point for switches of the same size: ± 6 bar (± 87 psi).
(4) Deviation of the differential at high setting point for switches of the same size: ± 10 bar (± 145 psi).
(5) Only for control of group 2 fluids, in accordance with directive 97/23/EEC.

Operating curves





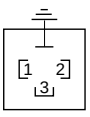
— Adjustable value
--- Non adjustable value

Connection

Terminal model

Connector model

Pressure switch connector pin view



1 → 11 and 13
2 → 12
3 → 14

Other versions

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

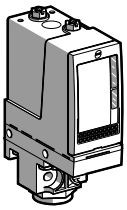
Accessories: page 142
Dimensions: pages 143 to 145

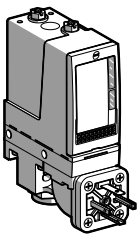
Electromechanical pressure switches

OsiSense XM, type XML

Size 500 bar (7250 psi)
Adjustable differential, for regulation between 2 thresholds
Switches with 1 CO single-pole contact
Fluid connection G 1/4 (female)

Pressure switches type XMLB | **With setting scale**





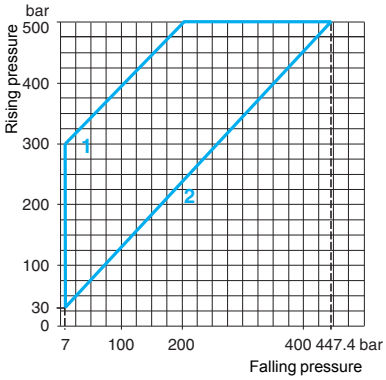
Adjustable range of switching point (PH) (Rising pressure)		**30…500 bar (435…7250 psi)**	
Electrical connection		Terminals	DIN connector
References *(1)*			
Fluids controlled *(2) (5)*	Hydraulic oils, up to + 160°C	**XMLB500D2S12**	**XMLB500D2C11**
	Fresh water, up to + 160°C	**XMLB500E2S12**	**XMLB500E2C11**
	Corrosive fluids, air, up to + 160°C	**XMLB500N2S12**	**XMLB500N2C11**
Weight (kg)		0.750	0.780

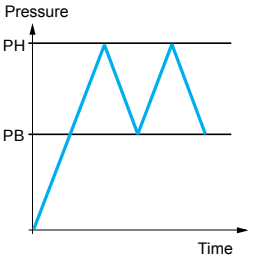
Complementary characteristics not shown under general characteristics (page 89)

Possible differential (subtract from PH to give PB)	Min. at low setting *(3)*	23 bar (333.5 psi)
	Min. at high setting *(4)*	52.6 bar (762.7 psi)
	Max. at high setting	300 bar (4350 psi)
Maximum permissible pressure	Per cycle	625 bar (9062.5 psi)
	Accidental	1125 bar (16,312.5 psi)
Destruction pressure		2250 bar (32,625 psi)
Mechanical life		3 x 10^6 operating cycles
Cable entry for terminal models		1 entry tapped M20 x 1.5 mm for ISO cable gland, clamping capacity 7 to 13 mm
Connector type for connector models		DIN 43650 A, 4-pin male. For suitable female connector, see page 142
Pressure switch type		Piston

*(1) For 1 entry tapped for n° 13 cable gland, replace **S12** by **S11** (example: **XMLB500D2S12** becomes **XMLB500D2S11**).*
(2) Component materials of units in contact with the fluid, see pages 148 and 149.
(3) Deviation of the differential at low setting point for switches of the same size: - 2.6 bar, + 3.8 bar (- 37.7 psi, + 55.1 psi).
(4) Deviation of the differential at high setting point for switches of the same size: - 14.8 bar, + 11.2 bar (- 214.6 psi, + 162.4 psi).
(5) Only for control of group 2 fluids, in accordance with directive 97/23/EEC.

Operating curves





1 Maximum differential
2 Minimum differential

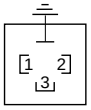
— Adjustable value

Connection

Terminal model

Connector model

Pressure switch connector pin view



1 → 11 and 13
2 → 12
3 → 14

Other versions

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

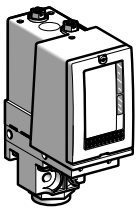
Accessories: page 142
Dimensions: pages 143 to 145

Electromechanical pressure switches

OsiSense XM, type XML

Size 500 bar (7250 psi)
Adjustable differential, for regulation between 2 thresholds
Switches with 2 CO single-pole contacts
Fluid connection G 1/4 (female)

Pressure switches type XMLC	**With setting scale**



Adjustable range of switching point (PH) (Rising pressure)		**30…500 bar (435…7250 psi)**
Electrical connection		Terminals

References *(1)*

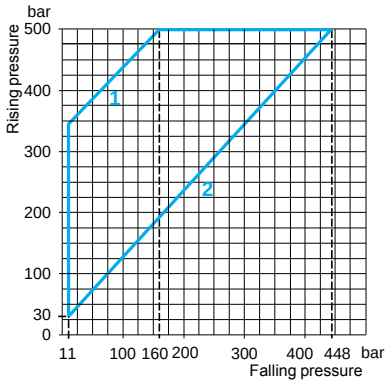
Fluids controlled *(2) (4)*	Hydraulic oils, up to + 160°C	**XMLC500D2S12**
	Fresh water, up to + 160°C	**XMLC500E2S12**
	Corrosive fluids, air, up to + 160°C	**XMLC500N2S12**
Weight (kg)		0.750

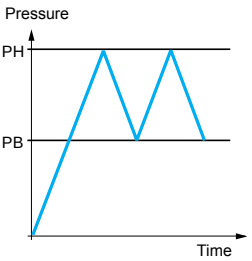
Complementary characteristics not shown under general characteristics (page 89)

Possible differential (subtract from PH to give PB)	Min. at low setting *(3)*	19 bar (275.5 psi)
	Min. at high setting *(3)*	52 bar (754 psi)
	Max. at high setting	340 bar (4930 psi)
Maximum permissible pressure	Per cycle	625 bar (9062.5 psi)
	Accidental	1125 bar (16,312.5 psi)
Destruction pressure		2250 bar (32,625 psi)
Mechanical life		3 x 10^6 operating cycles
Cable entry for terminal models		1 entry tapped M20 x 1.5 mm for ISO cable gland, clamping capacity 7 to 13 mm
Pressure switch type		Piston

*(1) For 1 entry tapped for n° 13 cable gland, replace **S12** by **S11** (example: **XMLC500D2S12** becomes **XMLC500D2S11**).*
(2) Component materials of units in contact with the fluid, see pages 148 and 149.
(3) Deviation of the differential at low and high setting points for switches of the same size: ± 0.9 bar (± 13.05 psi).
(4) Only for control of group 2 fluids, in accordance with directive 97/23/EEC.

Operating curves



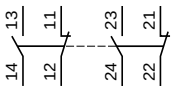


1 Maximum differential
2 Minimum differential

— Adjustable value

Connection

Terminal model



Other versions

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

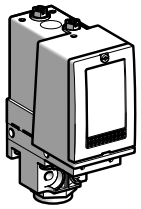
Accessories: page 142
Dimensions: pages 143 to 145

Electromechanical pressure switches

OsiSense XM, type XML

Size 500 bar (7250 psi)
Dual stage, fixed differential, for detection at each threshold
Switches with 2 CO single-pole contacts (one per stage)
Fluid connection G 1/4 (female)

Pressure switches type XMLD | **Without setting scale**



Adjustable range of each switching point (Rising pressure)	2nd stage switching point (PH2)	**41…500 bar (594.5…7250 psi)**
	1st stage switching point (PH1)	**25…484 bar (362.5…7018 psi)**
Spread between 2 stages (PH2 - PH1)		**16…244 bar (232…3538 psi)**
Electrical connection		Terminals

References *(1)*

Fluids controlled *(2) (5)*	Hydraulic oils, up to + 160°C	**XMLD500D1S12**
	Fresh water, up to + 160°C	**XMLD500E1S12**
	Corrosive fluids, air, up to + 160°C	**XMLD500N1S12**
Weight (kg)		0.750

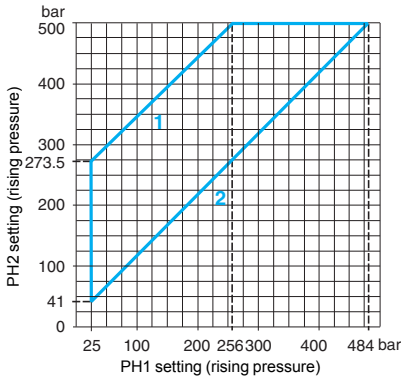
Complementary characteristics not shown under general characteristics (page 89)

Natural differential (subtract from PH1/PH2 to give PB1/PB2)	At low setting *(3)*	21 bar (304.5 psi)
	At high setting *(4)*	65 bar (942.5 psi)
Maximum permissible pressure	Per cycle	625 bar (9062.5 psi)
	Accidental	1125 bar (16,312.5 psi)
Destruction pressure		2250 bar (32,625 psi)
Mechanical life		3 x 10^6 operating cycles
Cable entry for terminal models		1 entry tapped M20 x 1.5 mm for ISO cable gland, clamping capacity 7 to 13 mm
Pressure switch type		Piston

*(1) For 1 entry tapped for n° 13 cable gland, replace **S12** by **S11** (example: **XMLD500D1S12** becomes **XMLD500D1S11**).*
(2) Component materials of units in contact with the fluid, see pages 148 and 149.
(3) Deviation of the differential at low setting point for switches of the same size: ± 3 bar (± 43.5 psi).
(4) Deviation of the differential at high setting point for switches of the same size: ± 10 bar (± 145 psi).
(5) Only for control of group 2 fluids, in accordance with directive 97/23/EEC.

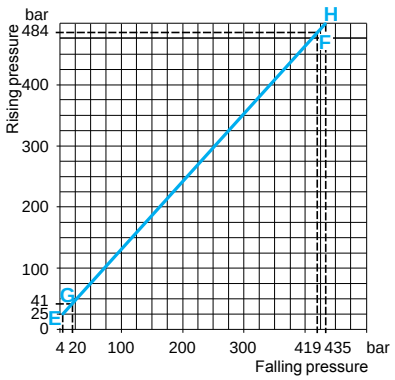
Operating curves

High setting tripping points of contacts 1 and 2

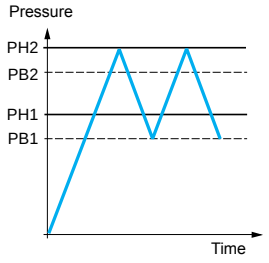


1 Maximum differential
2 Minimum differential

Natural differential of contacts 1 and 2



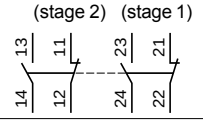
EF Contact 1 (stage 1)
GH Contact 2 (stage 2)



— Adjustable value
--- Non adjustable value

Connection

Terminal model



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

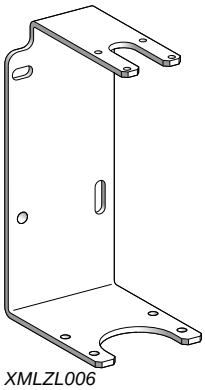
Accessories: page 142
Dimensions: pages 143 to 145

Electromechanical pressure and vacuum switches

OsiSense XM

Types XMLA, XMLB, XMLC and XMLD

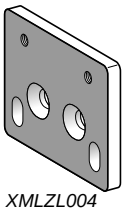
Accessories and replacement parts



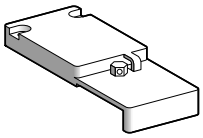
XMLZL006

XMLZL002

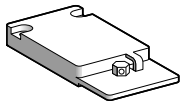
XMLZL003



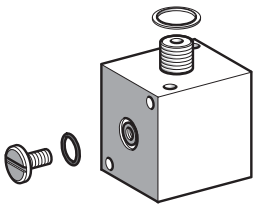
XMLZL004



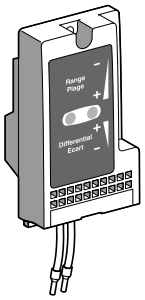
XMLZL001



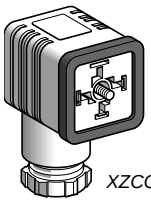
XMLZL011



XMLZL005



XMLZA●●●,
XMLZB●●●



XZCC43FCP40B

XMLZL010

Accessories for pressure switches and vacuum switches

Description		Specific characteristics	For use with switches	Unit reference	Weight kg
Rear fixing bracket for vibrations > 2 gn		–	XML●L35 XML●001	**XMLZL006**	0.230
Additional top support bracket for vibrations > 4 gn		–	XMLAM01 XML●M05 XMLA004 XML●010… XML●500	**XMLZL002**	0.020
Knurled adjustment knob, Ø 36 mm fits over adjustment screw(s) to facilitate setting		–	All models	**XMLZL003**	0.010
Fixing plate for replacing an XMJA or XMGB switch by an XML switch		–	XMLAM01 XML●M05 XMLA004 XML●010… XML●500	**XMLZL004**	0.110
Lead sealable protective cover to prevent unauthorised access to adjustment screws and fixing screw of switch cover		–	XMLA XMLB	**XMLZL001**	0.035
Lead sealable protective cover to prevent unauthorised access to adjustment screws		–	All models	**XMLZL011**	0.030
Indicator modules and associated covers, 2 LEDs (orange and green)	Without setting scale	∿ or ⎓ 24/48 V	XMLA/B	**XMLZZ024**	0.090
		∿ 110/240 V	XMLA/B	**XMLZZ120**	0.090
	With setting scale	∿ or ⎓ 24/48 V	XMLA	**XMLZA024**	0.090
			XMLB	**XMLZB024**	0.090
		∿ 110/240 V	XMLA	**XMLZA120**	0.090
			XMLB	**XMLZB120**	0.090
Hydraulic block for base mounting directly onto fluid manifold		–	All models	**XMLZL005**	0.240
Female DIN 43650 A connector		–	XML●●●●●●C11	**XZCC43FCP40B**	0.035
Adaptor, G 1/4"/G 3/8" male/female		–	All models	**XMLZL012**	0.130

Replacement parts

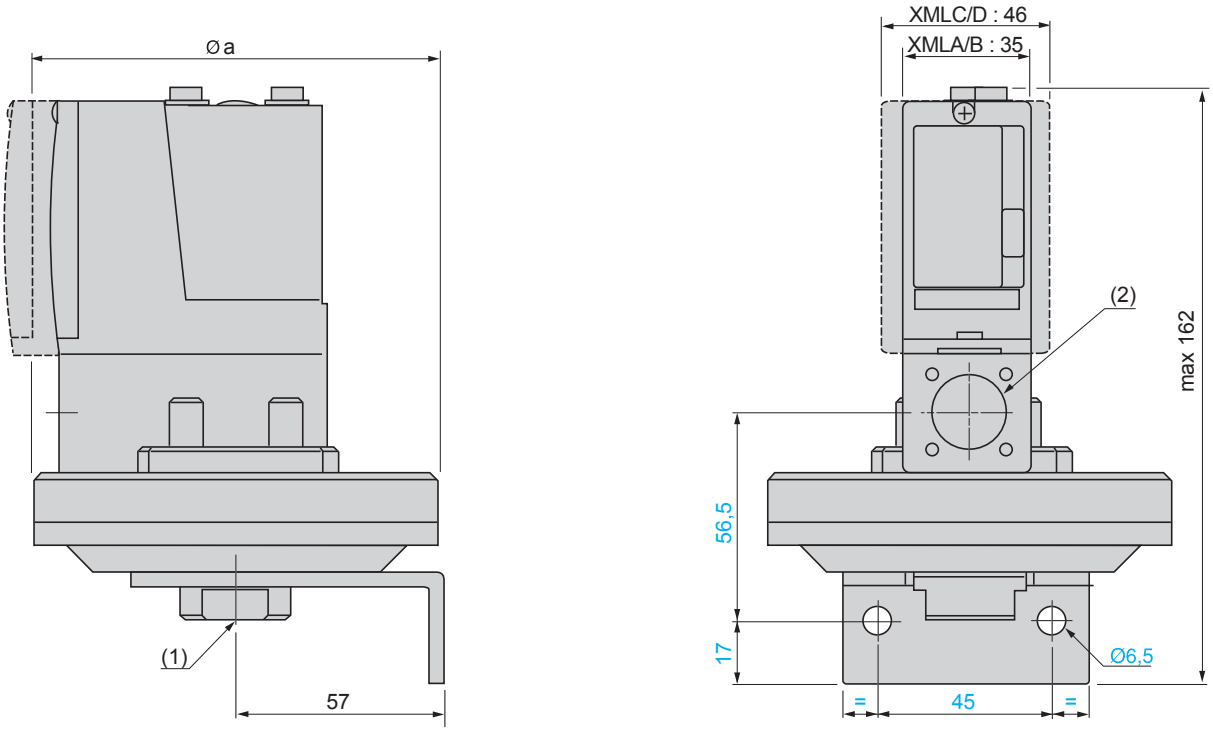
Sealing gasket	For sizes ⩾ 300 bar (XMLA/B/C/D)		**XMLZL010**	0.015
Diaphragms	–	XML●S35	**XMLZL013**	0.060
		XML ●S02	**XMLZL014**	0.040
		XML ●S04	**XMLZL015**	0.030

Electromechanical pressure and vacuum switches

OsiSense XM

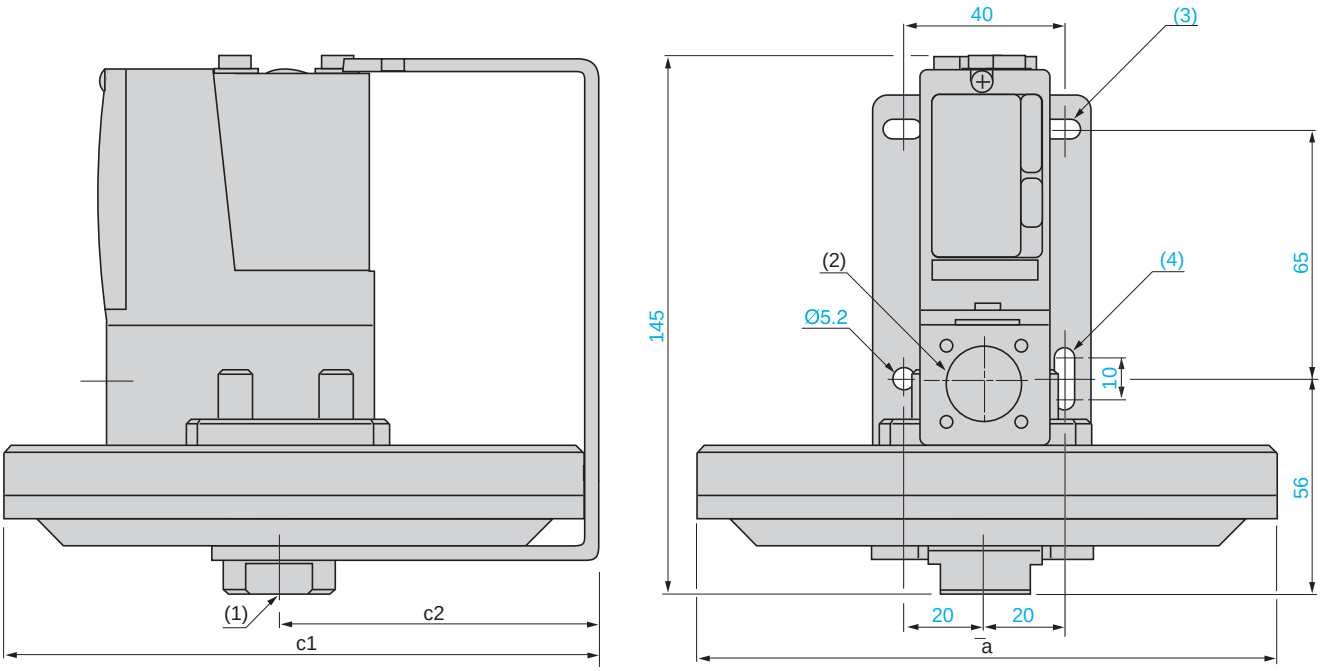
Types XMLA, XMLB, XMLC and XMLD

XML●L35, XML●001, XML●S



(1) 1 fluid entry, tapped G 1/4 (BSP female)
(2) 1 electrical connections entry, tapped M20 x 1.5 or Pg 13.5

XMLBM03, XMLBL05



(1) 1 fluid entry, tapped G 1/4 (BSP female)
(2) 1 electrical connections entry, tapped M20 x 1.5 or Pg 13.5
(3) 2 elongated holes Ø 10.2 x 5.2
(4) 1 elongated hole Ø 15.2 x 5.2

XML	Øa	c1	c2
BM03	150	155.5	80.5
BL05	200	204	104
●L35, ●001	110	–	–
●S35, ●S02, ●S04	110	–	–
●S10, ●S20	86	–	–

Characteristics:
pages 89 to 141

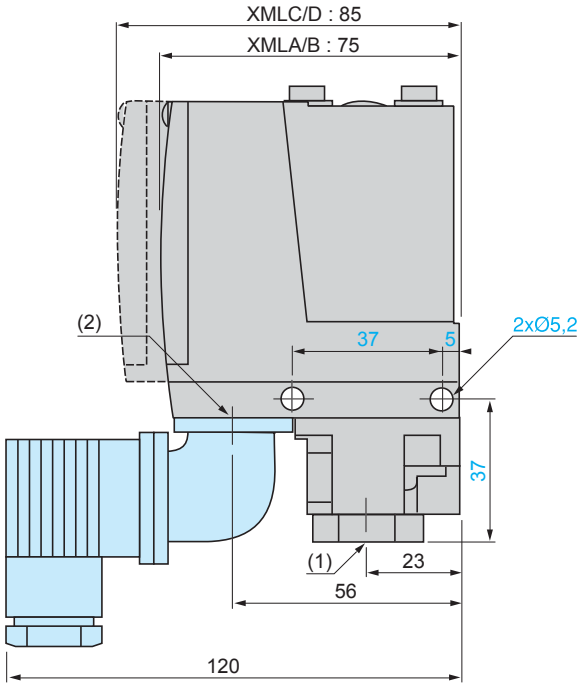
References:
pages 90 to 141

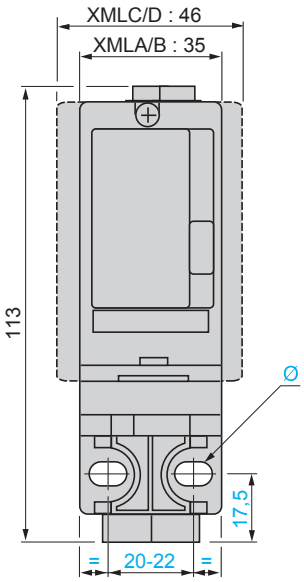
Electromechanical pressure and vacuum switches

OsiSense XM

Types XMLA, XMLB, XMLC and XMLD

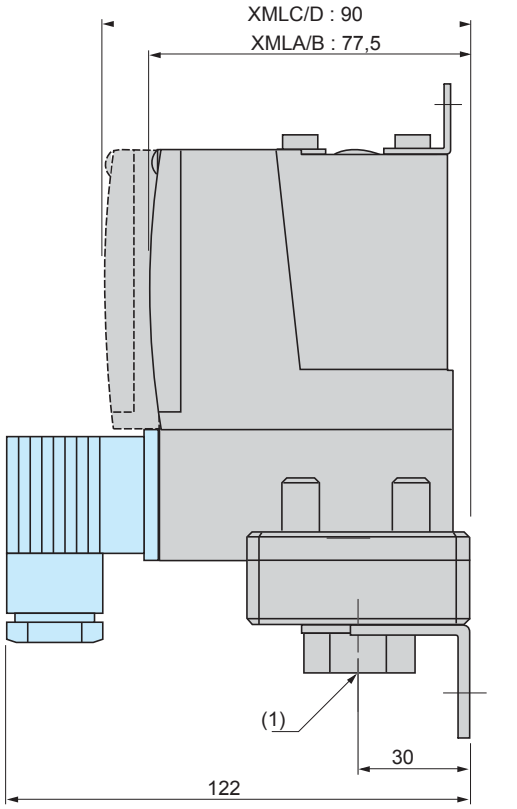
XMLAM01, XMLBM05, XMLCM05, XMLA004, XML●010…500

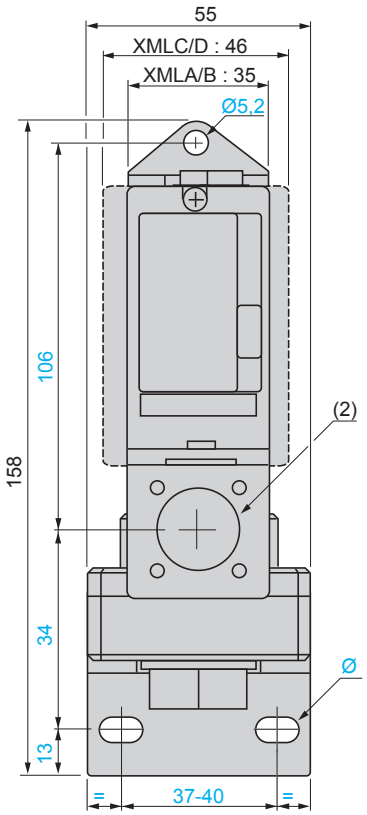




(1) 1 fluid entry, tapped G 1/4 (BSP female)
(2) 1 electrical connections entry, tapped M20 x 1.5 or Pg 13.5
Ø: 2 elongated holes Ø 5.2 x 6.7

XML●M02, XML●002, XMLB004, XMLC004, XMLD004





(1) 1 fluid entry, tapped G 1/4 (BSP female)
(2) 1 electrical connections entry, tapped M20 x 1.5 or Pg 13.5
Ø: 2 elongated holes Ø 10.2 x 5.2

Characteristics:
pages 89 to 141

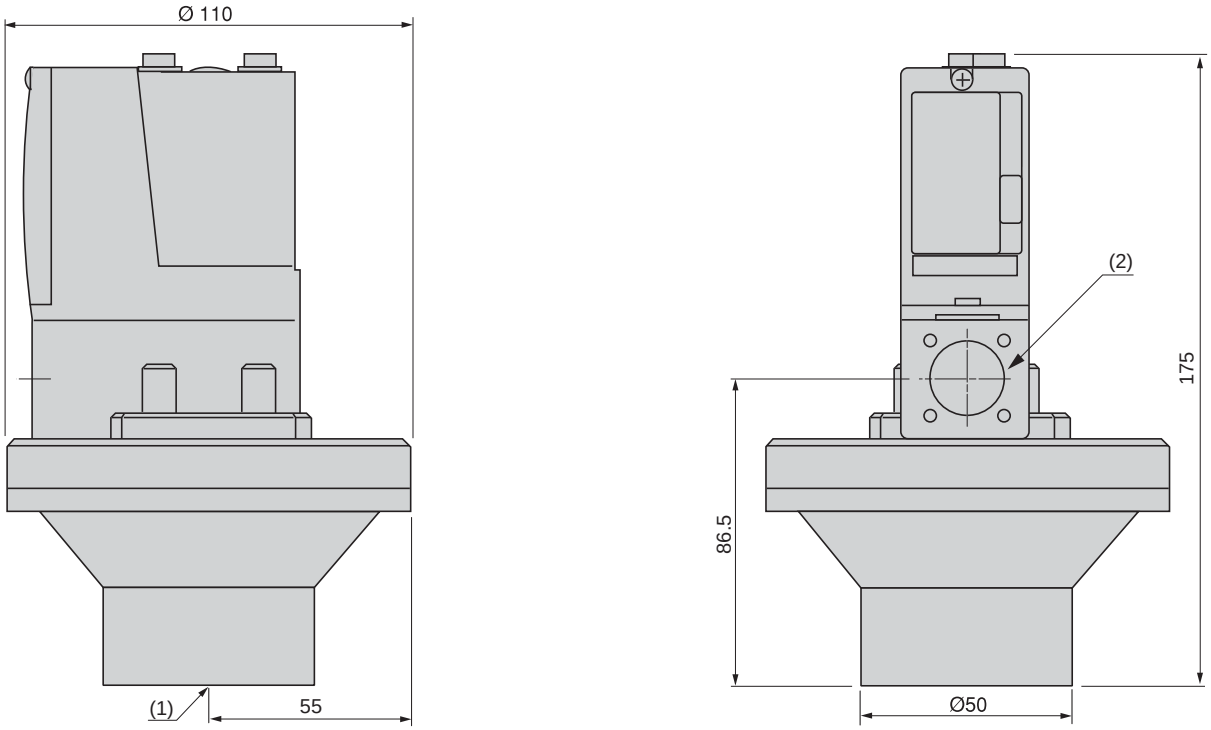
References:
pages 90 to 141

Electromechanical pressure and vacuum switches

OsiSense XM

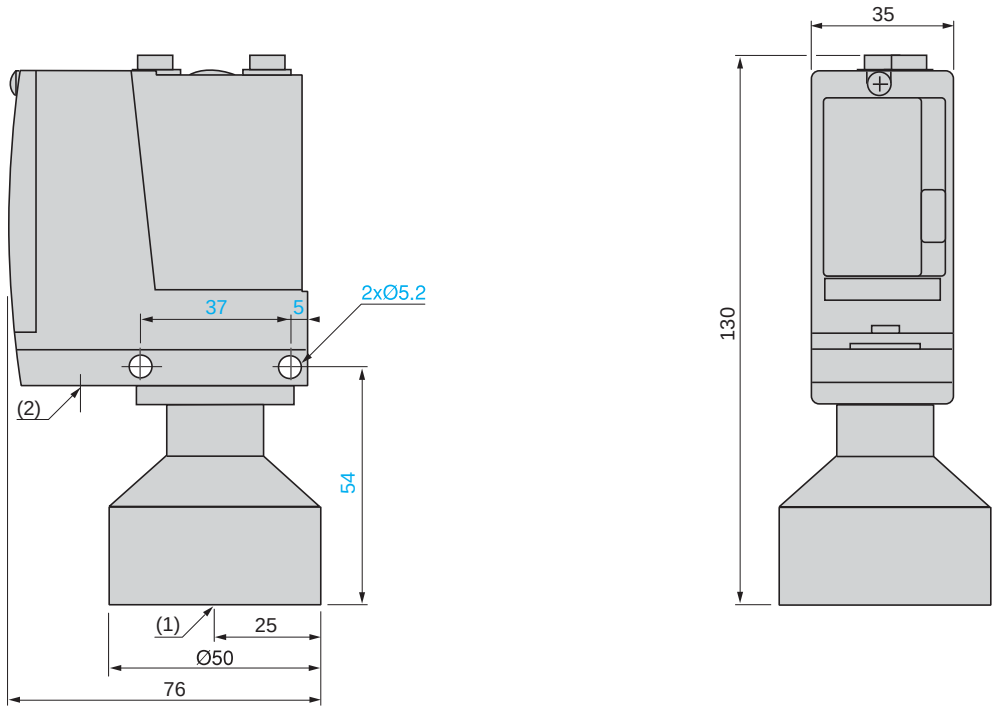
Types XMLA, XMLB, XMLC and XMLD

XMLBL35P, XMLB001P



(1) 1 fluid entry, tapped G 1¼ (BSP female)
(2) 1 electrical connections entry, tapped M20 x 1.5 or Pg 13.5

XMLBM05P, XMLA004P, XML●010P, XML●020P, XML●035P



(1) 1 fluid entry, tapped G 1¼ (BSP female)
(2) 1 electrical connections entry, tapped M20 x 1.5 or Pg 13.5

Electromechanical pressure and vacuum switches

OsiSense XM

Equivalent model references of pressure and vacuum switches XML for previous range switches XM2JM, XMJ and XMG

Pressure and vacuum switches with fixed differential

Old XM2JM	New XMLA
XM2JM091	XMLAM01V2S11
XM2JM002	XMLA002A2S11
XM2JM0025	XMLA002C2S11
XM2JM004	XMLA004A2S11
XM2JM0045	XMLA004C2S11
XM2JM0046	XMLA004P2S11
XM2JM012 *(1)*	XMLA010A2S11
XM2JM012 *(1)*	XMLA020A2S11
XM2JM0125 *(1)*	XMLA010C2S11
XM2JM0125 *(1)*	XMLA020C2S11
XM2JM0126 *(1)*	XMLA010P2S11
XM2JM0126 *(1)*	XMLA020P2S11
XM2JM030 *(2)*	XMLA020A2S11
XM2JM030 *(2)*	XMLA035A2S11
XM2JM0304 *(2)*	XMLA020A2S11
XM2JM0304 *(2)*	XMLA035A2S11
XM2JM050 *(3)*	XMLA035A2S11
XM2JM050 *(3)*	XMLA070D2S11
XM2JM0504 *(3)*	XMLA035A2S11
XM2JM0504 *(3)*	XMLA070E2S11
XM2JM160	XMLA160D2S11
XM2JM1604	XMLA160E2S11
XM2JM300	XMLA300D2S11

Old XM2JM	New XMLA
XM2JM3004	XMLA300E2S11
XM2JM500	XMLA500D2S11
XM2JM5004	XMLA500E2S11
XM2JM0912	XMLAM01V2S11
XM2JM0022	XMLA002B2S11
XM2JM00225	XMLA002C2S11
XM2JM0042	XMLA004B2S11
XM2JM00425	XMLA004C2S11
XM2JM00426	XMLA004P2S11
XM2JM0122	XMLA010B2S11
XM2JM01225	XMLA010C2S11
XM2JM01226	XMLA010P2S11
XM2JM0302	XMLA035B2S11
XM2JM03024	XMLA035B2S11
XM2JM0502	XMLA070D2S11
XM2JM05024	XMLA070E2S11
XM2JM1602	XMLA160D2S11
XM2JM16024	XMLA160E2S11
XM2JM3002	XMLA300D2S11
XM2JM30024	XMLA300E2S11
XM2JM5002	XMLA500D2S11
XM2JM50024	XMLA500E2S11

Old XMJA	New XMLA
XMJA091	XMLAM01V2S11
XMJA0915	XMLAM01T2S11
XMJA0037	XMLA004A2S11
XMJA003	XMLA004A2S11
XMJA00375	XMLA004C2S11
XMJA0035	XMLA004C2S11
XMJA0127 *(1)*	XMLA010A2S11
XMJA0127 *(1)*	XMLA020A2S11
XMJA012 *(1)*	XMLA010A2S11
XMJA012 *(1)*	XMLA020A2S11
XMJA01275 *(1)*	XMLA010C2S11
XMJA01275 *(1)*	XMLA020C2S11
XMJA0125 *(1)*	XMLA010C2S11
XMJA0125 *(1)*	XMLA020C2S11
XMJA020	XMLA020A2S11
XMJA0207	XMLA020A2S11
XMJA02075	XMLA020C2S11
XMJA0205	XMLA020C2S11
XMJA0307 *(2)*	XMLA020A2S11
XMJA0307 *(2)*	XMLA035A2S11
XMJA03074 *(2)*	XMLA020A2S11
XMJA03074 *(2)*	XMLA035A2S11
XMJA03078 *(2)*	XMLA020A2S11
XMJA03078 *(2)*	XMLA035A2S11
XMJA030 *(2)*	XMLA020A2S11
XMJA030 *(2)*	XMLA035A2S11
XMJA0304 *(2)*	XMLA020A2S11
XMJA0304 *(2)*	XMLA035A2S11
XMJA0308 *(2)*	XMLA020A2S11
XMJA0308 *(2)*	XMLA035A2S11
XMJA03075 *(2)*	XMLA020C2S11
XMJA03075 *(2)*	XMLA035C2S11
XMJA0305 *(2)*	XMLA020C2S11
XMJA0305 *(2)*	XMLA035C2S11
XMJA050 *(3)*	XMLA035A2S11
XMJA050 *(3)*	XMLA070D2S11
XMJA050 *(4)*	XMLA070E2S11
XMJA050 *(4)*	XMLA070N2S11
XMJA0507 *(3)*	XMLA035A2S11

Old XMJA	New XMLA
XMJA0507 *(3)*	XMLA070D2S11
XMJA0507 *(4)*	XMLA070E2S11
XMJA0507 *(4)*	XMLA070N2S11
XMJA0707	XMLA070D2S11
XMJA070	XMLA070D2S11
XMJA07074	XMLA070E2S11
XMJA0704	XMLA070E2S11
XMJA07075	XMLA070N2S11
XMJA07078	XMLA070N2S11
XMJA0705	XMLA070N2S11
XMJA0708	XMLA070N2S11
XMJA115 *(4)* *(5)*	XMLA070D2S11
XMJA115 *(4)* *(5)*	XMLA070E2S11
XMJA115 *(4)* *(5)*	XMLA070N2S11
XMJA115 *(4)* *(5)*	XMLA160D2S11
XMJA115 *(4)* *(5)*	XMLA160E2S11
XMJA115 *(4)* *(5)*	XMLA160N2S11
XMJA1157 *(4)* *(5)*	XMLA070D2S11
XMJA1157 *(4)* *(5)*	XMLA070E2S11
XMJA1157 *(4)* *(5)*	XMLA070N2S11
XMJA1157 *(4)* *(5)*	XMLA160D2S11
XMJA1157 *(4)* *(5)*	XMLA160E2S11
XMJA1157 *(4)* *(5)*	XMLA160N2S11
XMJA1607	XMLA160D2S11
XMJA160	XMLA160D2S11
XMJA16074	XMLA160E2S11
XMJA1604	XMLA160E2S11
XMJA16075	XMLA160N2S11
XMJA16078	XMLA160N2S11
XMJA1605	XMLA160N2S11
XMJA1608	XMLA160N2S11
XMJA3007	XMLA300D2S11
XMJA300	XMLA300D2S11
XMJA30074	XMLA300E2S11
XMJA3004	XMLA300E2S11
XMJA30075	XMLA300N2S11
XMJA30078	XMLA300N2S11
XMJA3005	XMLA300N2S11
XMJA3008	XMLA300N2S11

Pressure and vacuum switches with fixed differential (continued)

Old XMJA	New XMLA	Old XMJA	New XMLA
XMJA5007	XMLA500D2S11	XMJA50075	XMLA500N2S11
XMJA500	XMLA500D2S11	XMJA50078	XMLA500N2S11
XMJA50074	XMLA500E2S11	XMJA5005	XMLA500N2S11
XMJA5004	XMLA500E2S11	XMJA5008	XMLA500N2S11

Pressure and vacuum switches with adjustable differential

Old XMGB	New XMLB	Old XMGB	New XMLC	Old XMGB	New XMLB	Old XMGB	New XMLC
XMGB091	XMLBM02V2S11	XMGB0912	XMLCM02V2S11	XMGB0146 *(1)*	XMLB020P2S11	XMGB01462	*(8)*
XMGB092	XMLBM02V2S11	XMGB0922	XMLCM02V2S11	XMGB0286 *(6)*	XMLB020P2S11	XMGB02862	*(8)*
XMGB093	XMLBM02V2S11 *(8)*	XMGB0932	XMLCM02V2S11	XMGB0286 *(6)*	XMLB035P2S11	XMGB02862	*(8)*
XMGB0911	XMLBM02T2S11	XMGB09112	XMLCM02T2S11	XMGB070	XMLB070D2S11	XMGB0702	XMLC070D2S11
XMGB0921	XMLBM02T2S11	XMGB09212	XMLCM02T2S11	XMGB140	XMLB160D2S11	XMGB1402	XMLC160D2S11
XMGB0917	XMLBM02T2S11	XMGB09172	XMLCM02T2S11	XMGB280	XMLB300D2S11	XMGB2802	XMLC300D2S11
XMGB0927	XMLBM02T2S11	XMGB09272	XMLCM02T2S11	XMGB500	XMLB500D2S11	XMGB5002	XMLC500D2S11
XMGB001 *(4)*	XMLBL35R2S11	XMGB0012 *(4)*	XMLCL35R2S11	XMGB0704	XMLB070E2S11	XMGB07042	XMLC070E2S11
XMGB001 *(4)*	XMLBL35S2S11	XMGB0012 *(4)*	XMLCL35S2S11	XMGB1404	XMLB160E2S11	XMGB14042	XMLC160E2S11
XMGB002	XMLB002A2S11	XMGB0022	XMLC002A2S11	XMGB2804	XMLB300E2S11	XMGB28042	XMLC300E2S11
XMGB003	XMLB004A2S11	XMGB0032	XMLC004A2S11	XMGB5004	XMLB500E2S11	XMGB50042	XMLC500E2S11
XMGB008	XMLB010A2S11	XMGB0082	XMLC010A2S11	XMGB0708	XMLB070N2S11	XMGB07082	XMLC070N2S11
XMGB014 *(1)*	XMLB010A2S11	XMGB0142 *(1)*	XMLC010A2S11	XMGB1408	XMLB160N2S11	XMGB14082	XMLC160N2S11
XMGB014 *(1)*	XMLB020A2S11	XMGB0142 *(1)*	XMLC020A2S11	XMGB2808	XMLB300N2S11	XMGB28082	XMLC300N2S11
XMGB028 *(6)*	XMLB020A2S11	XMGB0282 *(6)*	XMLC020A2S11	XMGB5008	XMLB500N2S11	XMGB50082	XMLC500N2S11
XMGB028 *(6)*	XMLB035A2S11	XMGB0282 *(6)*	XMLC035A2S11	XMGB0701 *(4)*	XMLB070D2S11	XMGB07012 *(4)*	XMLC070D2S11
XMGB0011 *(4)*	XMLBL35R2S11	XMGB00112 *(4)*	XMLCL35R2S11	XMGB0701 *(4)*	XMLB070E2S11	XMGB07012 *(4)*	XMLC070E2S11
XMGB0011 *(4)*	XMLBL35S2S11	XMGB00112 *(4)*	XMLCL35S2S11	XMGB1401 *(4)*	XMLB160D2S11	XMGB14012 *(4)*	XMLC160D2S11
XMGB0021	XMLB002B2S11	XMGB00212	XMLC002B2S11	XMGB1401 *(4)*	XMLB160E2S11	XMGB14012 *(4)*	XMLC160E2S11
XMGB0031	XMLB004B2S11	XMGB00312	XMLC004B2S11	XMGB2801 *(4)*	XMLB300D2S11	XMGB28012 *(4)*	XMLC300D2S11
XMGB0081	XMLB010B2S11	XMGB00812	XMLC010B2S11	XMGB2801 *(4)*	XMLB300E2S11	XMGB28012 *(4)*	XMLC300E2S11
XMGB0141 *(1)*	XMLB010B2S11	XMGB01412 *(1)*	XMLC010B2S11	XMGB5001 *(4)*	XMLB500D2S11	XMGB50012 *(4)*	XMLC500D2S11
XMGB0141 *(1)*	XMLB020B2S11	XMGB01412 *(1)*	XMLC020B2S11	XMGB5001 *(4)*	XMLB500E2S11	XMGB50012 *(4)*	XMLC500E2S11
XMGB0281 *(6)*	XMLB020B2S11	XMGB02812 *(6)*	XMLC020B2S11	XMGB0707	XMLB070N2S11	XMGB07072	XMLC070N2S11
XMGB0281 *(6)*	XMLB035B2S11	XMGB02812 *(6)*	XMLC035B2S11	XMGB1407	XMLB160N2S11	XMGB14072	XMLC160N2S11
XMGB0017	XMLBL35S2S11	XMGB00172	XMLCL35S2S11	XMGB2807	XMLB300N2S11	XMGB28072	XMLC300N2S11
XMGB0027	XMLB002C2S11	XMGB00272	XMLC002C2S11	XMGB5007	XMLB500N2S11	XMGB50072	XMLC500N2S11
XMGB0037	XMLB004C2S11	XMGB00372	XMLC004C2S11	XMGB0018	XMLBS35R2S11	XMGB00182	XMLCS35R2S11
XMGB0087	XMLB010C2S11	XMGB00872	XMLC010C2S11	XMGB0028	XMLBS02B2S11	XMGB00282	XMLCS02B2S11
XMGB0147 *(1)*	XMLB010C2S11	XMGB01472 *(1)*	XMLC010C2S11	XMGB0038	XMLBS04B2S11	XMGB00382	XMLCS04B2S11
XMGB0147 *(1)*	XMLB020C2S11	XMGB01472 *(1)*	XMLC020C2S11	XMGB0088	XMLBS10A2S11 *(7)*	XMGB00882	XMLCS10A2S11 *(7)*
XMGB0287 *(6)*	XMLB020C2S11	XMGB02872 *(6)*	XMLC020C2S11	XMGB0148 *(1)*	XMLBS10A2S11 *(7)*	XMGB01482 *(1)*	XMLCS10A2S11 *(7)*
XMGB0287 *(6)*	XMLB035C2S11	XMGB02872 *(6)*	XMLC035C2S11	XMGB0148 *(1)*	XMLBS20A2S11 *(7)*	XMGB01482 *(1)*	XMLCS20A2S11 *(7)*
XMGB0016	XMLBL35P2S11	XMGB00162	*(8)*	XMGB0120 *(5)* *(4)*	XMLB070D2S11	XMGB01202 *(5)* *(4)*	XMLC070D2S11
XMGB0026	XMLBM05P2S11	XMGB00262	*(8)*	XMGB0120 *(5)* *(4)*	XMLB070E2S11	XMGB01202 *(5)* *(4)*	XMLC070E2S11
XMGB0036	XMLBM05P2S11	XMGB00362	*(8)*	XMGB0120 *(5)* *(4)*	XMLB160D2S11	XMGB01202 *(5)* *(4)*	XMLC160D2S11
XMGB0086	XMLB010P2S11	XMGB00862	*(8)*	XMGB0120 *(5)* *(4)*	XMLB160E2S11	XMGB01202 *(5)* *(4)*	XMLC160E2S11
XMGB0146 *(1)*	XMLB010P2S11	XMGB01462	*(8)*				

(1) Depending on required adjustment range, examples: *pressure < 8 bar =* ***XMLA/B/C010****,*
pressure > 8 bar = ***XMLA/B/C020****.*

(2) Depending on required adjustment range, examples: *pressure < 18 bar =* ***XMLA/B/C020****,*
pressure > 18 bar = ***XMLA/B/C035****.*

(3) Depending on required adjustment range, examples: *pressure < 32 bar =* ***XMLA/B/C035****,*
pressure > 32 bar = ***XMLA/B/C070****.*

(4) Depending on fluid to be controlled.

(5) Depending on required adjustment range, examples: *pressure < 65 bar =* ***XMLA/B/C070****,*
pressure > 65 bar = ***XMLA/B/C160****.*

(6) Depending on required adjustment range, examples: *pressure < 18 bar =* ***XMLA/B/C020****,*
pressure > 18 bar = ***XMLA/B/C035****.*

(7) Temperature of fluid to be controlled limited to 70°C

(8) Please consult our Customer Care Centre.

Component materials of units in contact with fluid

This information will assist in checking the corrosion resistance of the pressure or vacuum switches in relation to the fluids controlled

Electromechanical pressure and vacuum switches

OsiSense XM, type XML

Pressure or vacuum switch reference	Component materials in contact with fluid							
	Zinc alloy	Stainless steel	Brass	Steel	Nitrile	PTFE	FPM, FKM	Aluminium
XMLAM01V●●●●, XML●M02V●●●●	■	*(1)*			■			
XMLAM01T●●●●, XML●M02T●●●●		*(2)*				■		
XMLBM03R●●●●				■			■	■
XMLBM03S●●●●		*(3)*				■		■
XML●M05A●●●●	■	*(1)*			■			
XML●M05B●●●●		*(1)*	■				■	
XML●M05C●●●●		*(1)*				■		
XMLBM05P●●●●		*(1)*		■			■	
XMLBL05R●●●●							■	■
XMLBL05S●●●●		*(3)*				■		
XML●L35R●●●●, XML●S35R●●●●		*(1)*		■			■	
XML●L35S●●●●		*(3)*				■		
XMLBL35P●●●●		*(1)*		■			■	
XML●001R●●●●		*(1)*		■			■	
XML●001S●●●●		*(3)*				■		
XMLB001P●●●●		*(1)*		■			■	
XML●002A●●●●	■				■			
XML●002B●●●●, XML●S02B●●●●				■			■	
XML●002C●●●●		*(3)*				■		
XMLA004A●●●●	■						■	
XMLA004B●●●●			■				■	
XMLA004C●●●●		*(2)*				■		
XMLA004P●●●●				■			■	

■ Materials in contact with fluid

(1) 1.4307 (AISI 304L)
(2) 1.4404 (AISI 316L)
(3) 1.4305 (AISI 316L)

Component materials of units in contact with fluid

This information will assist in checking the corrosion resistance of the pressure or vacuum switches in relation to the fluids controlled

Electromechanical pressure and vacuum switches

OsiSense XM, type XML

Pressure switch reference	Materials in contact with fluid							
	Zinc alloy	Stainless steel	Brass	Steel	Nitrile	PTFE	FPM, FKM	Aluminium
XMLB004A●●●●	■				■			
XML●004B●●●●, XML●S04B●●●●				■			■	
XML●004C●●●●		*(3)*				■		
XML●010A●●●●	■						■	
XML●010B●●●●			■				■	
XML●010C●●●●		*(2)*				■		
XML●010P●●●●, XML●S10A●●●●				■			■	
XML●020A●●●●, XML●035A●●●●	■		■		■			■
XML●020B●●●●, XML●035B●●●●			■				■	
XML●020C●●●●, XML●035C●●●●		*(2)*				■		
XML●020P●●●●, XML●035P●●●●, XML●S20A●●●●				■			■	
XML●070D●●●●, XML●160D●●●●			■	■		■	■	
XML●070E●●●●, XML●160E●●●●		*(4)*	■			■	■	
XML●070N●●●●, XML●160N●●●●		*(5)*				■	■	
XML●300D●●●●			■	■		■	■	
XML●300E●●●●		*(4)*	■			■	■	
XML●300N●●●●		*(5)*				■	■	
XML●500D●●●●		■	■	■		■	■	
XML●500E●●●●		■	■			■	■	
XML●500N●●●●4		*(5)*				■	■	

■ Component materials in contact with fluid

(2) 1.4404 (AISI 316L)
(3) 1.4305 (AISI 316L)
(4) 1.4404 (AISI 316L) + 1.4462
(5) 1.4404 (AISI 316L) + 1.4305 (AISI 303)

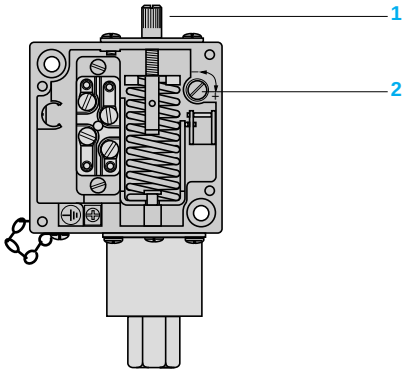
Electromechanical pressure switches
OsiSense XM
For control circuits, types ACW and ADW

Presentation

Pressure switches type ACW and ADW are switches for control circuits, with an adjustable differential.
Pressure switches type ACW are used to control the pressure of air, oils and other non corrosive fluids, up to 131 bar.
Pressure switches type ADW are used to control the pressure of oils (including synthetic), up to 340 bar.

Setting, operating principle

Pressure switches type ACW

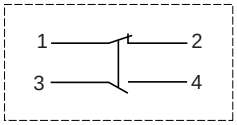


The switching point on falling pressure (low point - PB) is adjusted using screw 1.

The switching point on rising pressure (high point - PH) is made by adjusting screw 2. This sets the differential between the low and high points, giving a switching point on rising pressure of the displayed low point setting plus the differential setting.

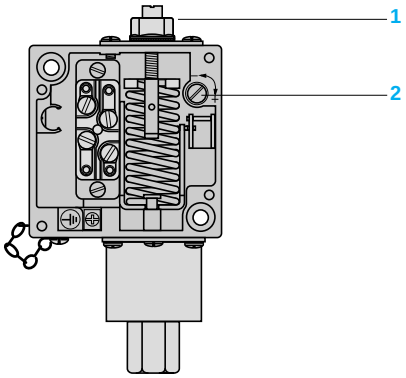
The two adjustments are completely independent.

Contact block operation



When the rising pressure reaches the high point setting (low point setting + differential setting), contact B (1-2) opens and contact A (3-4) closes. The contacts remain actuated until the pressure falls back to the low point setting.

Pressure switches type ADW

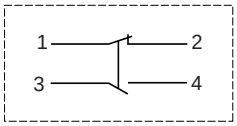


The switching point on rising pressure (high point - PH) is adjusted using screw 1.

The switching point on falling pressure (low point - PB) is made by adjusting screw 2. This sets the differential between the high and low points, giving a switching point on falling pressure of the displayed high point setting minus the differential setting.

The two adjustments are completely independent.

Contact block operation



When the rising pressure reaches the high point setting, contact B (1-2) opens and contact A (3-4) closes. The contacts remain actuated until the pressure falls back to the low point setting (high point setting - differential setting).

Electromechanical pressure switches
OsiSense XM
For control circuits, types ACW and ADW

Environment characteristics

Pressure switch type		ACW (bellows operated)	ADW (piston operated)
Conformity to standards		CE, IEC/EN 60947-5-1	
Product certifications		CSA, UL (Recognized)	
Protective treatment		"TC"	
Materials		Zinc alloy case Phosphor bronze bellows	Zinc alloy case Pressure switches with drainage hole: Buna N diaphragm, steel piston, cast iron cylinder Pressure switches with Quad-Ring piston seal: Buna N diaphragm, Teflon and Viton seal, stainless steel piston and cylinder
Ambient air temperature (for operation)	**°C**	- 56…+ 85	- 30…+ 85
Fluids controlled		Air, oils and other non corrosive fluids, from - 73 to + 125°C	Oils and other fluids, from - 25 to + 120°C (for **ADW5, 6, 7S1, 25, 26, 27S1**) Oils (including synthetic) only, from - 30 to + 125°C (for **ADW3, 4, 7, 23, 24, 27**)
Degree of protection		IP 65 conforming to IEC/EN 60529	
Fluid connection		G 1/4 (BSP female) conforming to NF E 03-005, ISO 228	G 3/8 (BSP female) conforming to NF E 03-005, ISO 228
Electrical connection		Terminals. 1 tapped entry for n° 13 (DIN Pg 13.5) cable gland	

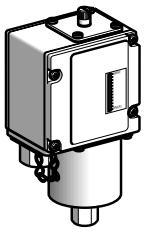
Contact block characteristics

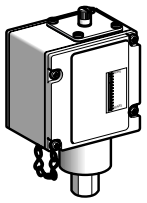
Rated operational current			**1 CO single-pole pressure switches**	**2 CO single-pole pressure switches**
	Category AC-15	Ue 24 V 110 V 220 V 500 V	Ie 5 A 5 A 3 A 1.4 A	Ie 3 A 3 A 1.5 A 0.7 A
	Category DC-13	Ue 24 V 110 V 220 V 500 V 600 V	Ie 5 A 0.5 A 0.25 A 0.10 A 0.06 A	Ie 1.5 A 0.25 A – – –
Short-circuit protection		10 A cartridge fuse type gG		
Connection		Screw terminals Minimum clamping capacity: 1 x 1 mm^2 Maximum clamping capacity: 2 x 2.5 mm^2		

References: page 152
Dimensions: page 156

Electromechanical pressure switches
OsiSense XM
For control circuits, type ACW
Sizes 0.70 to 131 bar (10.15 to 1900 psi)
Adjustable differential, for regulation between 2 thresholds
Fluid connection G 1/4 (female)

Pressure switches type ACW | **Bellows operated**

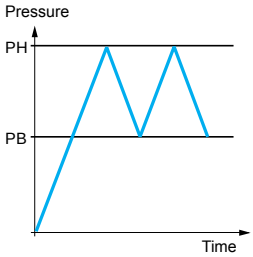




Adjustable range of switching point (PB) (Falling pressure)			**0.07…0.70 bar (1.01…10.15 psi)**	**0.07…1.4 bar (1.01…20.3 psi)**	**0.07…5.2 bar (1.01…75.4 psi)**	**0.07…7.6 bar (1.01…110.2 psi)**
References						
Switches with 1 CO single-pole contact						
Fluids controlled	Air, oils and other non corrosive fluids, from - 73 to + 125°C *(1)*		**ACW3M129012**	**ACW4M129012**	**ACW5M129012**	**ACW1M129012**
Weight (kg)			1.750		1.550	
Switches with 2 CO single-pole contacts						
Fluids controlled	Air, oils and other non corrosive fluids, from - 73 to + 125°C *(1)*		**ACW23M129012**	**ACW24M129012**	**ACW25M129012**	**ACW21M129012**
Weight (kg)			1.750		1.550	
Complementary characteristics not shown under general characteristics (page 151)						
Possible differential (add to PB to give PH)	1 CO switches	Min.	0.04 bar (0.58 psi)	0.10 bar (1.45 psi)	0.30 bar (4.35 psi)	0.50 bar (7.25 psi)
		Max.	0.34 bar (4.93 psi)	0.40 bar (5.8 psi)	1 bar (14.5 psi)	2 bar (29 psi)
	2 CO switches	Min.	0.05 bar (0.73 psi)	0.14 bar (2.03 psi)	0.41 bar (5.95 psi)	0.9 bar (13.05 psi)
		Max.	0.48 bar (6.96 psi)	0.70 bar (10.15 psi)	1.4 bar (20.3 psi)	2.8 bar (40.6 psi)
Maximum permissible pressure			2 bar (29 psi)		7 bar (101.5 psi)	17 bar (246.5 psi)
Mechanical life			1 x 10^6 operating cycles (average value, depending on application)			
Cable entry			1 entry tapped for n° 13 cable gland, conforming to NF C 68-300 (DIN Pg 13.5). Clamping capacity 9 to 13 mm			

(1) See "Component materials of units in contact with the fluid", page 151.

Operating curve



— Adjustable value

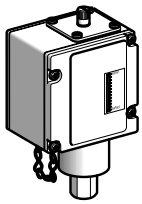
Contact block connections

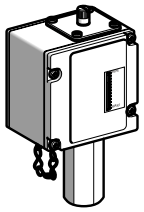
Other versions

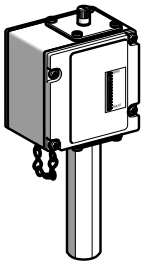
Pressure switches with alternative tapped cable entries: ISO, NPT, etc. Please consult our Customer Care Centre.

Dimensions: page 156

Bellows operated







1.4…12 bar (20.3…174 psi)	0.7…18 bar (10.15…261 psi)	0.7…21 bar (10.15…304.5 psi)	5.2…34 bar (75.4…493 psi)	10…69 bar (145…1000 psi)	24…131 bar (348…1900 psi)

References

Switches with 1 CO single-pole contact

ACW8M129012	ACW9M129012	ACW2M129012	ACW6M129012	ACW7M129012	ACW10M129012
1.550		2.100			

Switches with 2 CO single-pole contacts

ACW28M129012	ACW29M129012	ACW22M129012	ACW26M129012	ACW27M129012	ACW20M129012
1.550		2.100			

Complementary characteristics not shown under general characteristics (page 151)

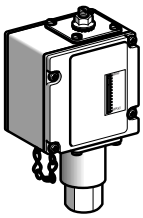
0.70 bar (10.15 psi)	1 bar (14.5 psi)	1.7 bar (24.7 psi)	3.4 bar (49.3 psi)	5.9 bar (85.6 psi)	11 bar (159.5 psi)
2 bar (29 psi)	1.7 bar (24.7 psi)	8.6 bar (124.7 psi)	8.3 bar (120.4 psi)	10 bar (145 psi)	21 bar (304.5 psi)
1 bar (14.5 psi)	1.6 bar (23.2 psi)	2.4 bar (34.8 psi)	5.9 bar (85.6 psi)	9.3 bar (134.9 psi)	17 bar (246.5 psi)
2.8 bar (40.6 psi)	2.4 bar (34.8 psi)	10 bar (145 psi)	11 bar (159.5 psi)	14 bar (203 psi)	24 bar (348 psi)
17 bar (246.5 psi)	20 bar (290 psi)	41 bar (549.5 psi)	140 bar (2030 psi)	140 bar (2030 psi)	175 bar (2538 psi)
1×10^6 operating cycles (average value, depending on application)					
1 entry tapped for n° 13 cable gland, conforming to NF C 68-300 (DIN Pg 13.5). Clamping capacity 9 to 13 mm					

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

Dimensions:
page 156

Electromechanical pressure switches
OsiSense XM
For control circuits, type ADW
Sizes 69 to 340 bar (1000 to 4930 psi)
Adjustable differential, for regulation between 2 thresholds
Fluid connection G 3/8 (female)

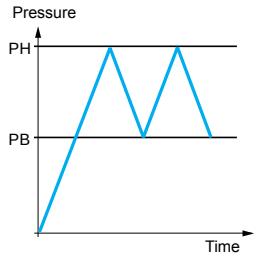
Pressure switches type ADW	**Piston operated, with drainage hole** *(1)*



Adjustable range of switching point (PH) (Rising pressure)			**9.3…69 bar (135…1000 psi)**	**28…210 bar (406…3045 psi)**	**38…340 bar (551…4930 psi)**
References					
Switches with 1 CO single-pole contact					
Fluids controlled	Oils (including synthetic), from - 30°C to + 125°C *(2) (3)*		**ADW3M129012**	**ADW4M129012**	**ADW7M129012**
Weight (kg)			1.880		
Switches with 2 CO single-pole contacts					
Fluids controlled	Oils (including synthetic), from - 30°C to + 125°C *(2) (3)*		**ADW23M129012**	**ADW24M129012**	**ADW27M129012**
Weight (kg)			1.880		
Complementary characteristics not shown under general characteristics (page 151)					
Possible differential (subtract from PH to give PB)	1 CO switches	Min.	2.4 bar (34.8 psi)	6.9 bar (100 psi)	8.6 bar (124.7 psi)
		Max.	9.3 bar (135 psi)	28 bar (406 psi)	38 bar (551 psi)
	2 CO switches	Min.	3.1 bar (45 psi)	8.6 bar (124.7 psi)	14 bar (203 psi)
		Max.	14 bar (203 psi)	34 bar (493 psi)	41 bar (594.5 psi)
Maximum permissible pressure			690 bar (10 000 psi)		
Mechanical life			1 x 10^6 operating cycles (average value, depending on application)		
Cable entry			1 entry tapped for n° 13 cable gland, conforming to NF C 68-300 (DIN Pg 13.5). Clamping capacity 9 to 13 mm		

(1) Since it is normal for piston type pressure switches (not incorporating a piston seal) to have a slight oil leakage past the piston, a drain hole through the cylinder wall is incorporated. To avoid back pressure, this hole should never be plugged. If for any reason this oil leakage is undesirable, use pressure switches incorporating a Quad-Ring piston seal.
(2) See "Component materials of units in contact with the fluid", page 151.
(3) Only for control of group 2 fluids, in accordance with directive 97/23/EEC.

Operating curve



— Adjustable value

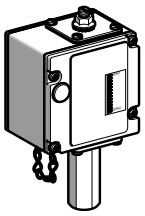
Contact block connections

Other versions

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

Dimensions:
page 156

Pressure switches type ADW	Piston operated, with Quad-Ring piston seal



Adjustable range of switching point (PH) (Falling pressure)	**9.3…69 bar (135…1000 psi)**	**28…210 bar (406…3045 psi)**	**38…340 bar (551…4930 psi)**

References

Switches with 1 CO single-pole contact

Fluids controlled	Oils and other fluids, from - 25°C to + 120°C *(1) (2)*	**ADW5M129012**	**ADW6M129012**	**ADW7S1M129012**
Weight (kg)		1.880		

Switches with 2 CO single-pole contacts

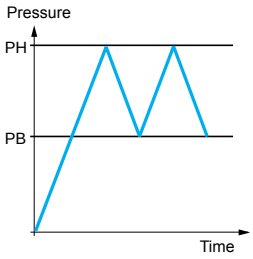
Fluids controlled	Oils and other fluids, from - 25°C to + 120°C *(1) (2)*	**ADW25M129012**	**ADW26M129012**	**ADW27S1M129012**
Weight (kg)		1.880		

Complementary characteristics not shown under general characteristics (page 151)

Possible differential (subtract from PH to give PB)	1 CO switches	Min./max. at low setting	4.8/6.9 bar (69.6/100 psi)	14/21 bar (203/304.5 psi)	19/25 bar (275.5/362.5 psi)
		Min./max. at high setting	8.6/10 bar (124.7/145 psi)	28/34 bar (406/493 psi)	38/45 bar (551/652.5 psi)
	2 CO switches	Min./max. at low setting	6.2/7.9 bar (89.9/114.6 psi)	17/24 bar (246.5/348 psi)	22/28 bar (319/406 psi)
		Min./max. at high setting	10/12 bar (145/174 psi)	34/39 bar (493/565.5 psi)	44/50 bar (638/725 psi)
Maximum permissible pressure			690 bar (10,000 psi)		
Mechanical life			1 x 10^6 operating cycles (average value, depending on application)		
Cable entry			1 entry tapped for n° 13 cable gland, conforming to NF C 68-300 (DIN Pg 13.5). Clamping capacity 9 to 13 mm		

(1) See "Component materials of units in contact with the fluid", page 151.
(2) Only for control of group 2 fluids, in accordance with directive 97/23/EEC.

Operating curve



— Adjustable value

Contact block connections

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

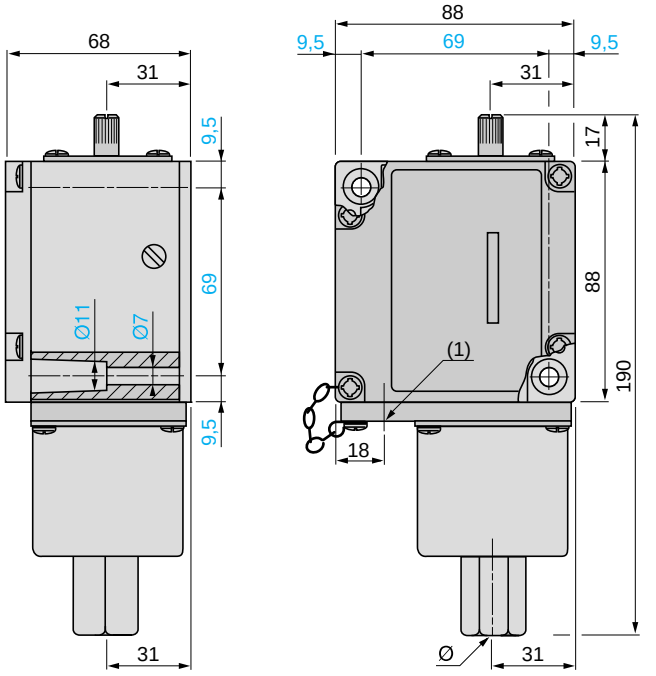
Dimensions:
page 156

Electromechanical pressure switches

OsiSense XM

For control circuits, type ACW

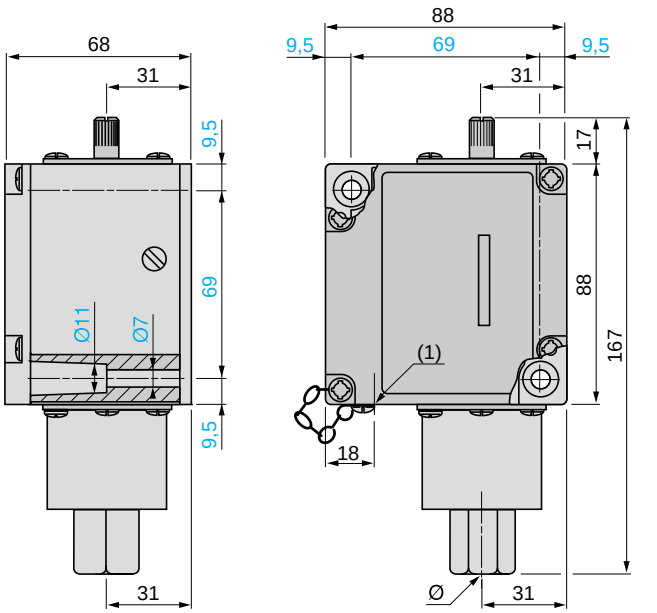
ACW3, 4, 23, 24



(1) Tapped entry for n° 13 cable gland

Ø: G 1/4 (female)

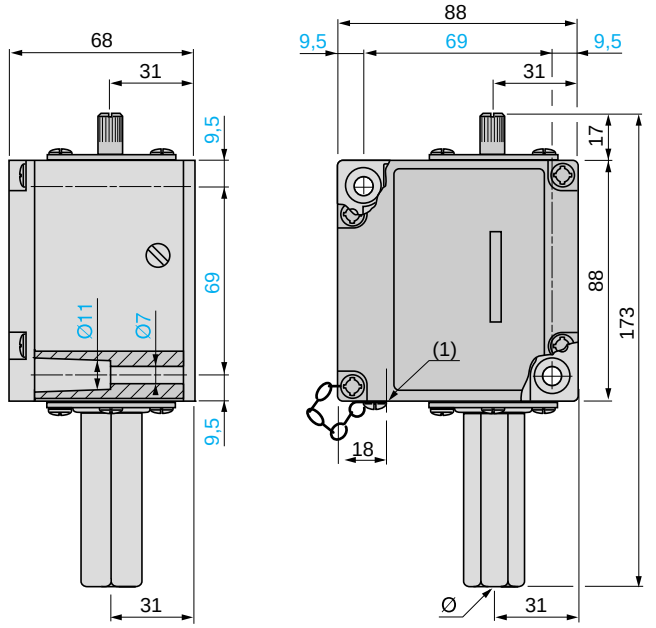
ACW1, 5, 8, 9, 21, 25, 28, 29



(1) Tapped entry for n° 13 cable gland

Ø: G 1/4 (female)

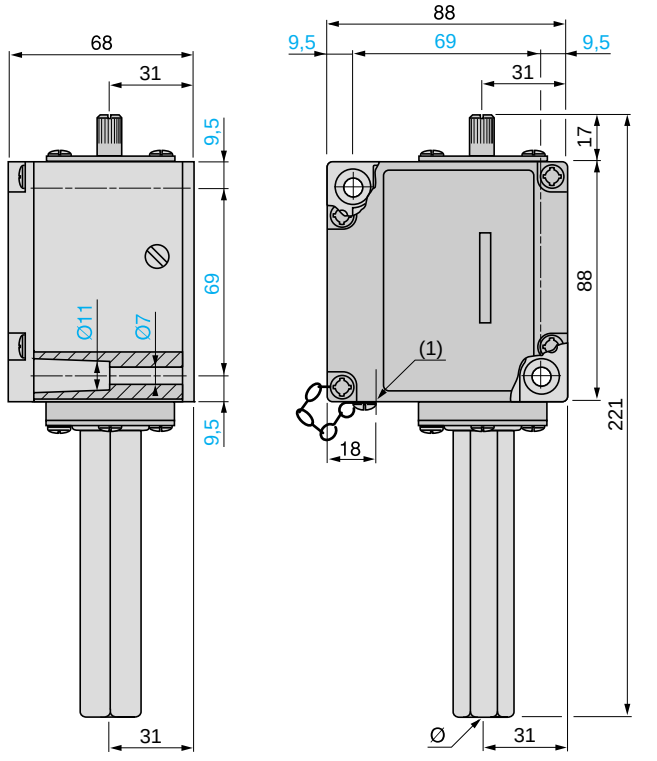
ACW2, 22



(1) Tapped entry for n° 13 cable gland

Ø: G 1/4 (female)

ACW6, 7, 10, 26, 27, 20



(1) Tapped entry for n° 13 cable gland

Ø: G 1/4 (female)

Characteristics:
pages 151 to 155

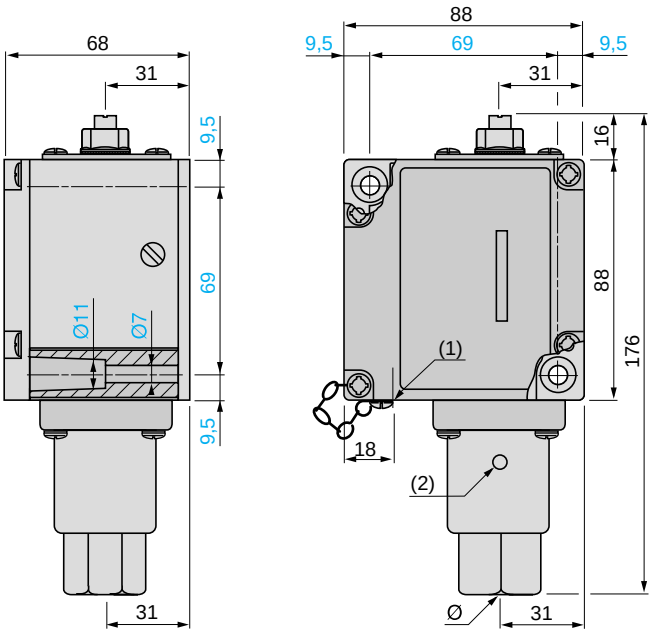
References:
pages 152 to 155

Electromechanical pressure switches

OsiSense XM

For control circuits, type ADW

ADW3, 4, 7, 23, 24, 27

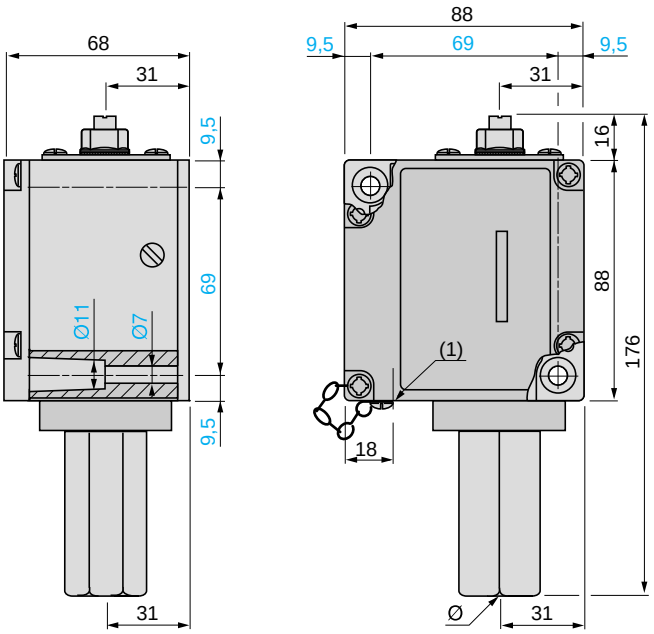


(1) Tapped entry for n° 13 cable gland

(2) Drainage hole, tapped G 1/8 (female)

Ø: G 3/8 (female)

ADW5, 6, 7S1, 25, 26, 27S1



(1) Tapped entry for n° 13 cable gland

Ø: G 3/8 (female)

Characteristics:
pages 151 to 155

References:
pages 152 to 155

Electromechanical pressure switches
OsiSense XM
For control circuits, types XMX and XMA

Presentation

Pressure switches type XMX 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

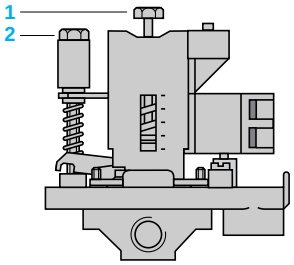
Location of setting screw

Pressure switches type XMX have an internal setting screw that is only accessible after removing the cover.
Pressure switches type XMA have an external setting screw that is accessible without removing the cover.

Case

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

Setting



When setting pressure switches XMX 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.

References:
page 160

Dimensions:
page 163

Electromechanical pressure switches
OsiSense XM
For control circuits, types XMX and XMA

Environment characteristics

Conformity to standards		CE, IEC/EN 60947-5-1
Product certifications		UL, CSA, ccc
Protective treatment		"TC"
Ambient air temperature	**°C**	For operation: - 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 (Ue = 240 V, Ie = 1.5 A; Ue = 120 V, Ie = 3 A) ⎓ DC-13, R300 (Ue = 250 V, Ie = 0.1 A)
Rated insulation voltage	**V**	Ui = 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, Ith = 10 A Inductive circuit, utilisation category AC-15, 3 A/240 V: 1 million operating cycles

References: page 160
Dimensions: page 163

Electromechanical pressure switches

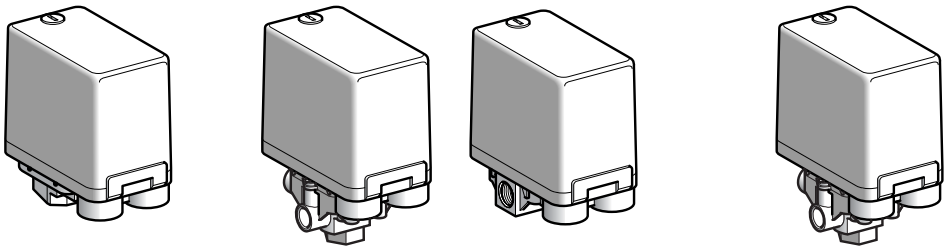
OsiSense XM for control circuits, type XMX

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 type XMX (internal setting screw)

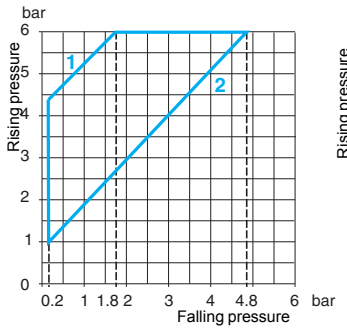


Adjustable range of switching point (PH) (Rising pressure)		**1…6 bar (14.5…87 psi)**	**1.3…12 bar (18.85…174 psi)**	**3.5…25 bar (50.75…362.5 psi)**	**1…6 bar (14.5…87 psi)**	**1.3…12 bar (18.85…174 psi)**	**3.5…25 bar (50.75…362.5 psi)**
Fluid connection		G 1/4 (female)			4 x G 1/4 (female)		
References							
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 159)							
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 159.

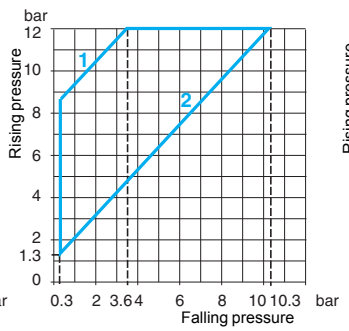
Operating curves

XMXA06●●●●●



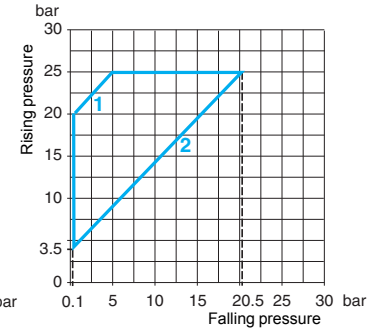
1 Maximum differential
2 Minimum differential

XMXA12●●●●●

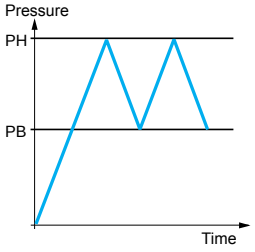


1 Maximum differential
2 Minimum differential

XMXA25●●●●●



1 Maximum differential
2 Minimum differential



— Adjustable value

Connections

Other versions

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

Accessories: page 162

Dimensions: page 163

Electromechanical pressure switches

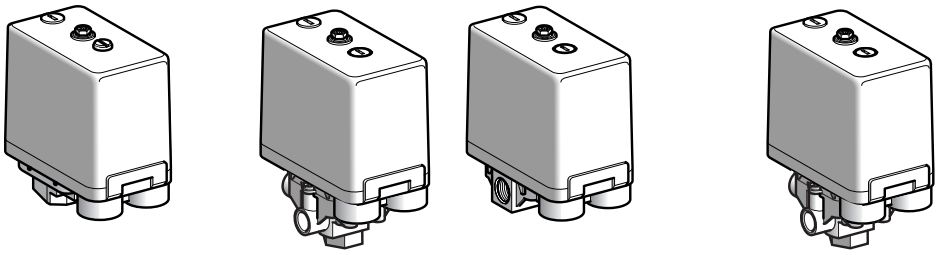
OsiSense XM for control circuits, type XMA

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 type 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**
Switches with transparent cover						
Fluids controlled	Air, fresh water, sea water *(1)*	**XMAV06L2135**	**XMAV12L2135**	**XMAV25L2135**	**XMAV06L2435**	**XMAV12L2435**	**XMAV25L2435**
Weight (kg)		0.430		0.650	0.430		0.650

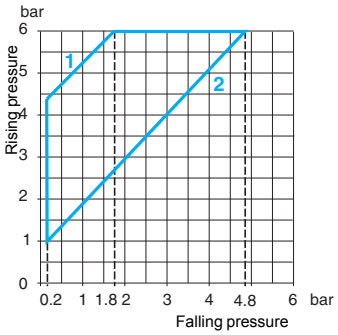
Complementary characteristics not shown under general characteristics (page 159)

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					

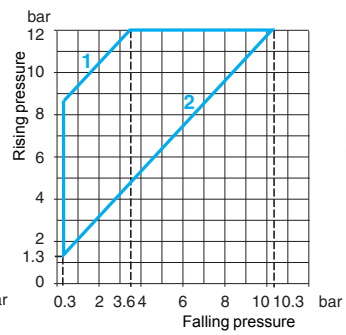
(1) Component materials of units in contact with the fluid, see page 159.

Operating curves

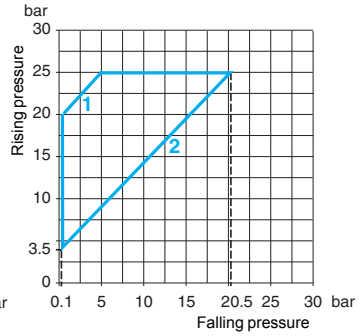
XMA●06●●●●●

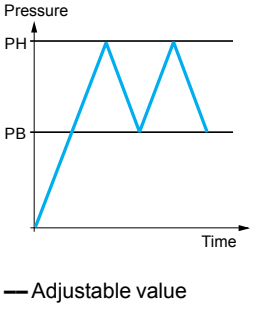


XMA●12●●●●●



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.

Accessories: page 162

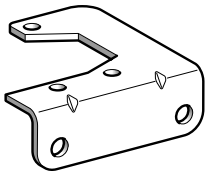
Dimensions: page 163

Electromechanical pressure switches

OsiSense XM

For control circuits, types XMX and XMA

Accessories and replacement parts

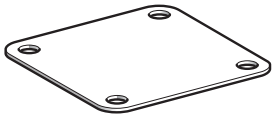


XMAZL001

XMLZL003

DE9PM1201

DE9PM1202



XMPZ3●

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
13P cable gland	With anti pull-out ring (for cable Ø 6…9 mm)	**DE9PM1201**	0.005
	Without anti pull-out ring (for cable Ø 6…9 mm)	**DE9PM1202**	0.005
	With anti pull-out ring (for cable Ø 9…12.5 mm)	**DE9PM1203**	0.005
	Without anti pull-out ring (for cable Ø 9…12.5 mm)	**DE9PM1204**	0.005

Description	For pressure switch	Reference	Weight kg
Diaphragms	Size 6 bar	**XMPZ31**	0.005
	Size 12 bar	**XMPZ32**	0.005
	Size 25 bar	**XMPZ33**	0.005

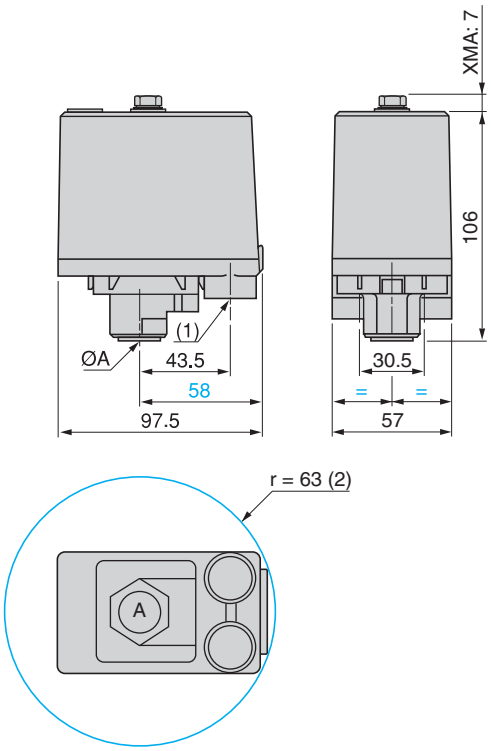
Dimensions:
page 163

Electromechanical pressure switches

OsiSense XM

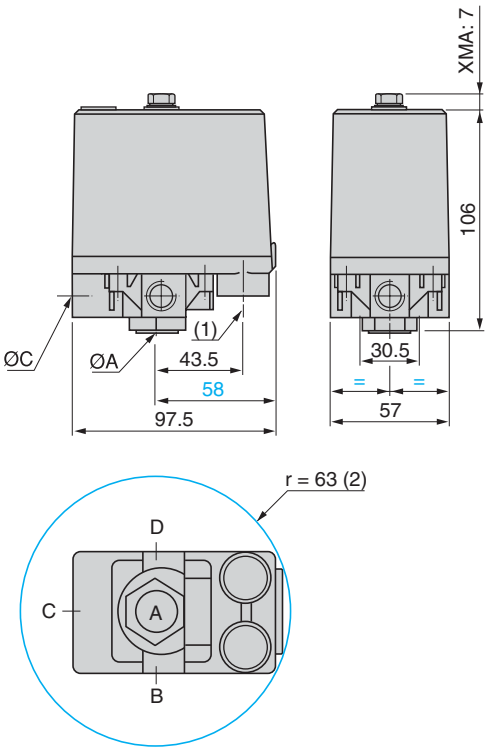
For control circuits, types XMX and XMA
Accessories and replacement parts

XMXA06L2135, XMXA12L2135
XMA●06L2135, XMA●12L2135



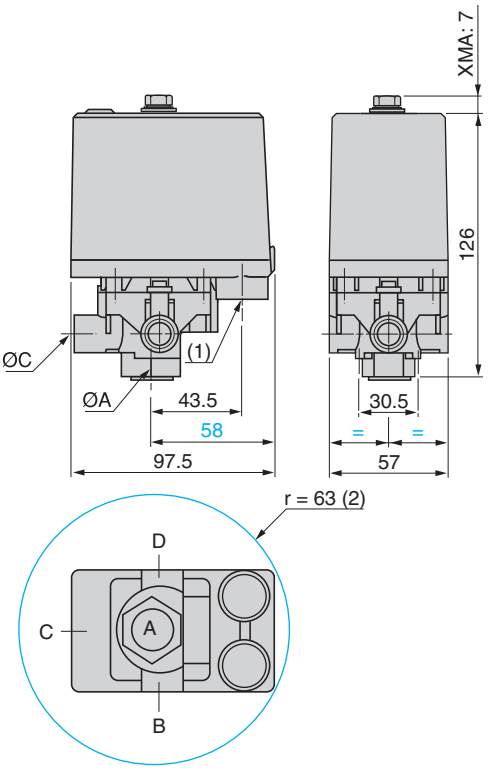
ØA = G 1/4 (female)
(1) 2 tapped entries for n° 13 cable gland
(2) Minimum clearance zone for screwing-on pressure switch at point A

XMXA06L2435, XMXA12L2435
XMA●06L2435, XMA●12L2435



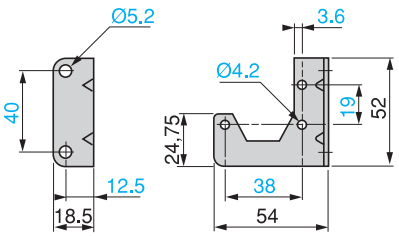
ØA = ØB = ØC = ØD = G 1/4 (female)
(1) 2 tapped entries for n° 13 cable gland
(2) Minimum clearance zone for screwing-on pressure switch at point A

XMXA25L2135, XMXA25L2435
XMA●25L2135, XMA●25L2435



XM●●25L2135: ØA only = G 1/4 (female)
XM●●25L2435: ØA = ØB = ØC = ØD = G 1/4 (female)

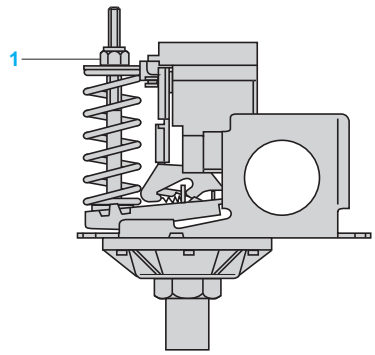
Fixing bracket
XMAZL001

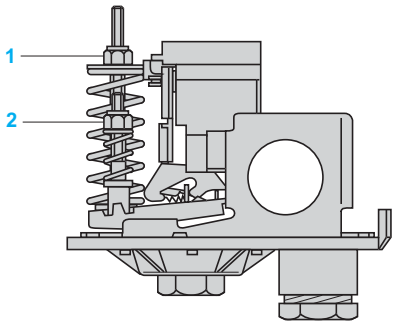


(1) 2 tapped entries for n° 13 cable gland
(2) Minimum clearance zone for screwing-on pressure switch at point A

Characteristics: page 159
References: page 160

Electromechanical pressure switches
OsiSense XM
For power circuits, types FTG, FSG and FYG





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.

References:
page 166

Dimensions:
page 169

Electromechanical pressure switches

OsiSense XM

For power circuits, types FTG, FSG and FYG

Environment 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 13P cable gland (DIN Pg 13.5)	

Contact block characteristics

Rated operational characteristics			Ie = 10 A, Ue = ∿ 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**	Ui = 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. Minimum clamping capacity: 1 x 1 mm², max: 2 x 2 mm²			
Electrical durability at an operating rate of 600 operating cycles/hour		**Op. cycles**	40 000		100 000	

References: page 166
Dimensions: page 169

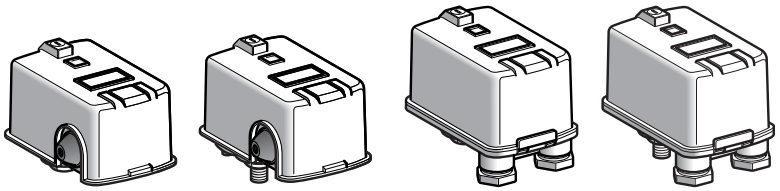
Electromechanical pressure switches

OsiSense XM

For power circuits, type FTG

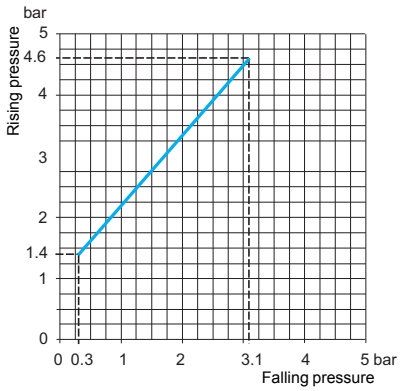
Size 4.6 bar (66.7 psi), fixed differential, for detection of a single threshold. Switches with 2-pole 2 NC contact.

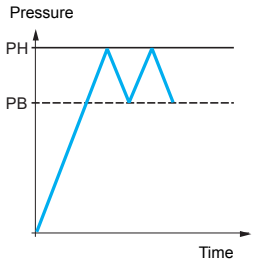
Degree of protection IP 20 or IP 65

Fluid connection		**G 1/4 (female)**	**R 1/4 (male)**	**G 1/4 (female)**	**R 1/4 (male)**
					
Adjustable range of switching point (PH) (Rising pressure)		**1.4…4.6 bar (20.3…66.7 psi)**			
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)*	**FTG2**	**FTG9**	**FTG2NE**	**FTG9NE**
Weight (kg)		0.340			
Complementary characteristics not shown under general characteristics (page 165)					
Natural differential (subtract from PH to give PB)	At low setting	1.1 bar (15.95 psi)			
	At middle setting	1.3 bar (18.85 psi)			
	At high setting	1.5 bar (21.75 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		4 x 10^5 operating cycles			
Cable entry		2 cable entries, with grommet		2 entries with 13P 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 165.

Operating curves

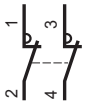




— Adjustable value

---- Non adjustable value

Connections



Dimensions: page 169

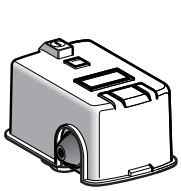
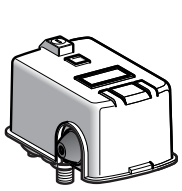
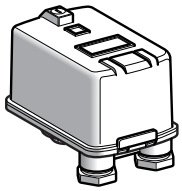
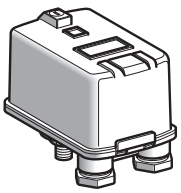
Electromechanical pressure switches

OsiSense XM

For power circuits, type FSG

Size 4.6 bar (66.7 psi), 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 (female)**	**R 1/4 (male)**	**G 1/4 (female)**	**R 1/4 (male)**
				
Adjustable range of switching point (PH) (Rising pressure)	**1.4…4.6 bar (20.3…66.7 psi)**			
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)*	**FSG2**	**FSG9**	**FSG2NE** *(2)*	**FSG9NE**
Weight (kg)		0.340			

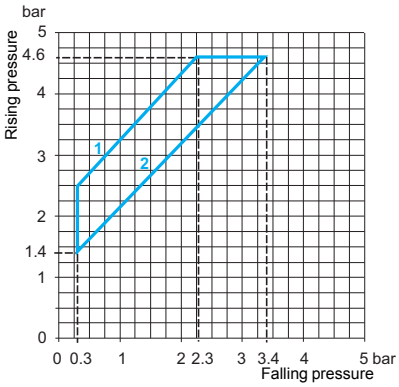
Complementary characteristics not shown under general characteristics (page 165)

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 13P cable gland (DIN Pg 13.5)
Clamping capacity		–	9 to 13 mm
Pressure switch type		Diaphragm	

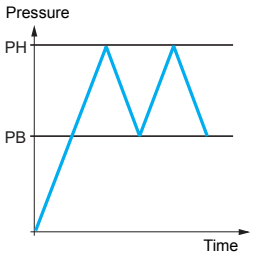
(1) Component materials of units in contact with the fluid, see page 165.

*(2) Variant: for a G 3/8 female fluid entry that pivots throughout 360°, select the **FSG2NEG**.*

Operating curves

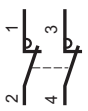


1 Maximum differential
2 Minimum differential



— Adjustable value

Connections

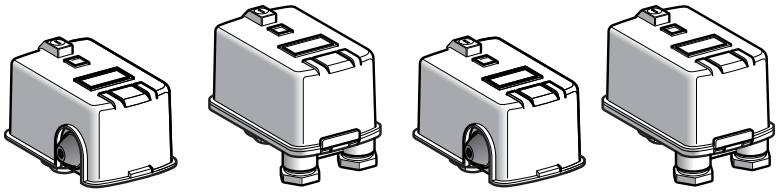


Dimensions:
page 169

Electromechanical pressure switches

OsiSense XM

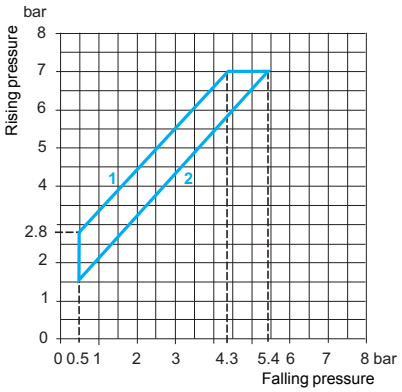
For power circuits, type FYG
Sizes 7 and 10.5 bar (101.5 and 152.3 psi), adjustable differential, for regulation between 2 thresholds. Switches with 2-pole 2 NC contact. Degree of protection IP 20 or IP 65

Fluid connection		**G 1/4 (female)**			
					
Adjustable range of switching point (PH) (Rising pressure)		**2.8…7 bar (40.6…101.5 psi)**		**5.6…10.5 bar (81.2…152.3 psi)**	
Degree of protection conforming to EN/IEC 60529		**IP 20**	**IP 65**	**IP 20**	**IP 65**
References					
Fluids controlled	Fresh water, sea water, from 0°C to + 70°C *(1)*	**FYG22** *(2)*	**FYG22NE**	**FYG32** *(3)*	**FYG32NE**
Weight (kg)		0.340			
Complementary characteristics not shown under general characteristics (page 165)					
Possible differential (subtract from PH to give PB)	Max. at low setting	2.3 bar (33.35 psi)		3 bar (43.5 psi)	
	Max. at middle setting	2.5 bar (36.25 psi)		3.2 bar (46.4 psi)	
	Max. at high setting	2.7 bar (39.15 psi)		3.4 bar (49.3 psi)	
	Min. at low setting	1.2 bar (17.4 psi)		1.9 bar (27.55 psi)	
	Min. at middle setting	1.4 bar (20.3 psi)		2.1 bar (30.45 psi)	
	Min. at high setting	1.6 bar (23.2 psi)		2.3 bar (33.35 psi)	
Maximum permissible pressure	Per cycle	8.75 bar (126.9 psi)		13 bar (188.5 psi)	
	Accidental	15 bar (217.5 psi)		15 bar (217.5 psi)	
Destruction pressure		20 bar (290 psi)		20 bar (290 psi)	
Mechanical life		1 x 10^6 operating cycles			
Cable entry		2 cable entries, with grommet			
Pressure switch type		Diaphragm			

(1) Component materials of units in contact with the fluid, see page 165.
(2) Variant: for a 2.8 to 7 bar, IP 20, pressure switch with R 1/4 (male) fluid entry, select the ***FYG29.***
(3) Variant: for a 5.6 to 10.5 bar, IP 20, pressure switch with R 1/4 (male) fluid entry, select the ***FYG39.***

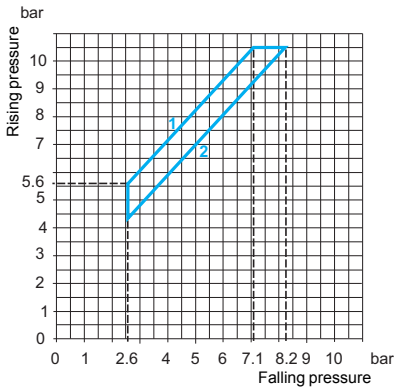
Operating curves

FYG22



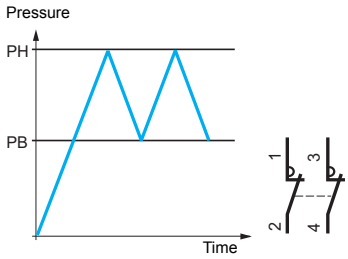
1 Maximum differential
2 Minimum differential

FYG32



1 Maximum differential
2 Minimum differential

Connections



— Adjustable value

Dimensions:
page 169

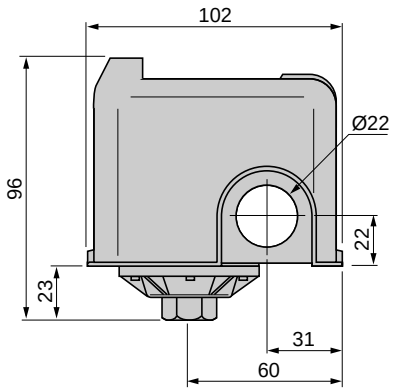
Electromechanical pressure switches

OsiSense XM

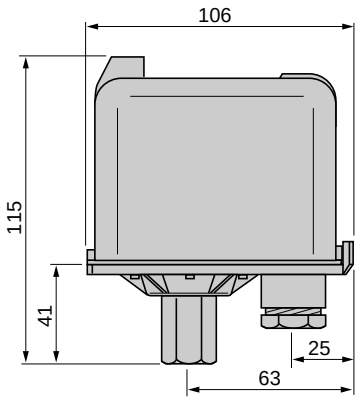
For power circuits, types FTG, FSG and FYG

Dimensions

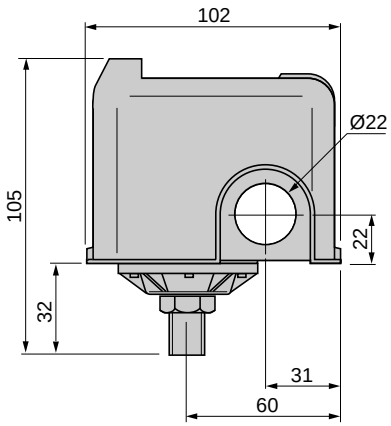
FTG2/FSG2



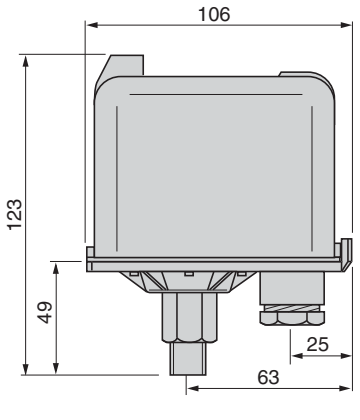
FTG2NE/FSG2NE



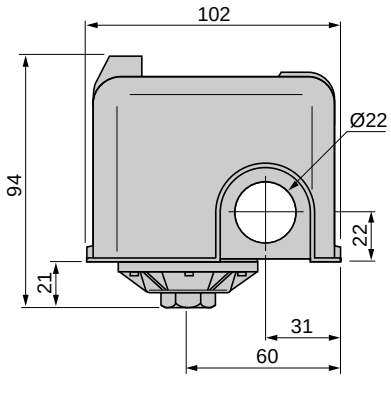
FTG9/FSG9



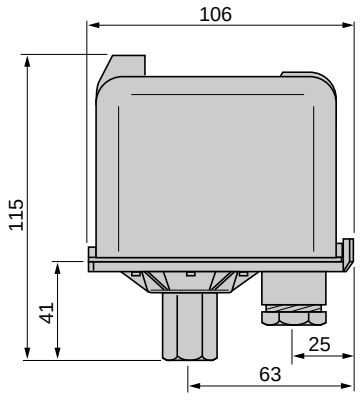
FTG9NE/FSG9NE



FYG22, FYG32



FYG22NE, FYG32NE



Characteristics: page 165
References: page 166

Electromechanical pressure switches
OsiSense XM
For power circuits, type XMP

Presentation

Pressure switches type XMP are switches for power circuits (direct switching), 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

Case

Pressure switches type XMP, depending on the model, include:

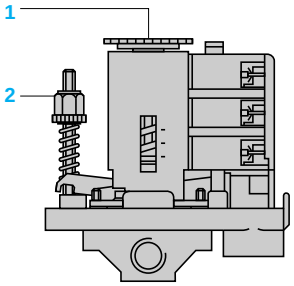
- 3 types of case:
  - bare case,
  - case with On/Off knob (black): used as a switch for starting and stopping the installation,
  - case with reset knob (yellow): necessary when the safety requirements of the system include tripping in the event of overpressure. Resetting is not automatic on return to normal pressure, and it can only be achieved by manually turning the "Reset" knob.

- 2 degrees of protection:
  - IP 54,
  - IP 65.

Decompression valve

Depending on the model, 2 types of decompression valve can be fitted to pressure switches type XMP:
- Straight, instant connection, decompression valve (connection by Ø 6 mm plastic tube).
- Straight, olive connection, decompression valve (connection by Ø 6 mm plastic or metal tube).

Setting



When setting XMP pressure switches, 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 the screw-nut or knurled knob 1.
Tighten either the nut or knurled knob 1 to increase the high point switching value.

Switching point on falling pressure
The switching point on falling pressure is set by adjusting screw-nut 2.
Tighten nut 2 to reduce the low point switching value (increase in differential).

References:
page 172

Dimensions:
page 181

Electromechanical pressure switches
OsiSense XM
For power circuits, type XMP

Environment characteristics

Conformity to standards		CE, IEC/EN 60947-4-1
Ambient air temperature	**°C**	For operation: - 25...+ 70 For storage: - 40...+ 70
Fluids controlled		Air, fresh water, sea water (0…+ 70°C)
Materials		Case: polyamide impregnated with fibreglass Component materials in contact with fluid: chromated zinc alloy (fluid entry), canvas covered nitrile (diaphragm)
Operating position		All positions
Vibration resistance		3 gn (10…500 Hz) conforming to IEC 68-2-6
Shock resistance		50 gn, conforming to IEC 68-2-27
Electric shock protection		Class I conforming to IEC 536
Degree of protection		IP 54 conforming to IEC/EN 60529 or IP 65 for universal model
Operating rate	**Op. cycles/h**	≤ 600
Repeat accuracy		< 3.5%
Fluid connection		G 1/4, 4 x G 1/4 or G 3/8 (BSP female) conforming to NF E 03-005, ISO 228
Electrical connection		2 tapped entries for n° 13 (DIN Pg 13.5) cable gland

Contact block characteristics

Rated insulation voltage	**V**	Ui = 500 conforming to IEC/EN 60947-1
Rated impulse withstand voltage	**V**	U imp = 6 kV conforming to IEC/EN 60 947-1
Type of contacts		One 2-pole 2 NC or 3-pole 3 NC contact, snap action
Resistance across terminals	**mΩ**	≤ 25 conforming to NF C 93-050 method A or IEC 255-7 category 3
Terminal referencing		Conforming to CENELEC EN 50013
Short-circuit protection		Cartridge fuse type Am
Connection		Screw clamp terminals. Minimum clamping capacity: 2 x 4 mm^2

Electrical durability
Operating rate: 600 operating cycles/hour
Load factor: 0.4

Power	Number of operating cycles	
kW	∼ 400 V, 3-phase	∼ 230 V, 3-phase
1.5	1 000 000	600 000
2.2	700 000	–
3	500 000	–

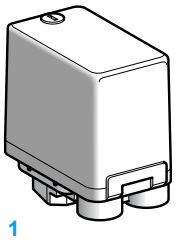
References: page 172
Dimensions: page 181

Electromechanical pressure switches

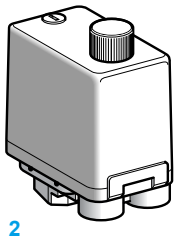
OsiSense XM, Type XMP, IP 54

Size 6 bar (87 psi)
Adjustable differential, for regulation between 2 thresholds
Switches with 2-pole 2 NC or 3-pole 3 NC contact

Fluid connection	**G 1/4 (female)**	



1



2

Adjustable range of switching point (PH) (Rising pressure)	**1…6 bar (14.5…87 psi)**	
Type of contact	2-pole 2 NC	3-pole 3 NC

References *(1)*

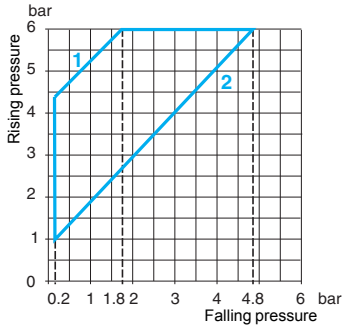
Switches without decompression valve		
Bare case 1	**XMPA06B2131**	**XMPA06C2131**
Case with reset knob 2	**XMPB06B2131**	**–**
Case with On/Off knob 2	**XMPC06B2131**	**XMPC06C2131**
Weight (kg)	0.430	
Switches with straight decompression valve, instant connection		
Bare case 1	**XMPD06B2131**	**XMPD06C2131**
Case with On/Off knob 2	**XMPE06B2131**	**XMPE06C2131**
Weight (kg)	0.450	

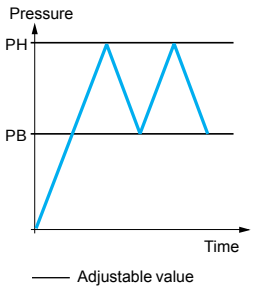
Complementary characteristics not shown under general characteristics (page 171)

Possible differential (subtract from PH to give PB)	Min. at low setting	0.8 bar (11.6 psi)
	Min. at high setting	1.2 bar (17.4 psi)
	Max. at high setting	4.2 bar (60.9 psi)
Destruction pressure		30 bar (435 psi)
Mechanical life		1 million 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) References for individually packaged switches. Also available packaged in lots of 10. To order, add the letter **C** to the reference selected from above. Example: reference for lot of 10 pressure switches **XMPA06B2131** in one package becomes **XMPA06B2131C**.*

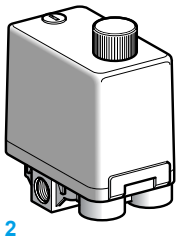
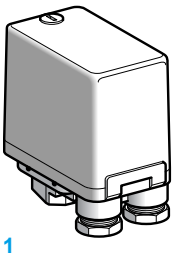
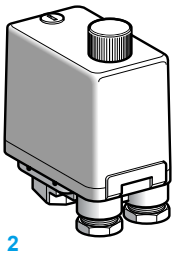
Operating curves





1 Maximum differential
2 Minimum differential

Accessories: page 180
Dimensions: page 181

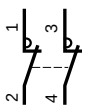
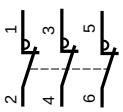
4 x G 1/4 (female)		G 3/8 (female)	
 2		 1	 2
1…6 bar (14.5…87 psi)			
2-pole 2 NC	3-pole 3 NC	2-pole 2 NC	3-pole 3 NC
References *(1)*			
Switches without decompression valve			
–		**XMPA06B2242**	**XMPA06C2242**
–		**XMPB06B2242**	–
–		**XMPC06B2242**	**XMPC06C2242**
–		0.430	
Switches with straight decompression valve, instant connection			
–		**XMPD06B2242**	**XMPD06C2242**
XMPE06B2431	**XMPE06C2431**	**XMPE06B2242**	**XMPE06C2242**
0.450			

Complementary characteristics not shown under general characteristics (page 171)

0.8 bar (11.6 psi)	
1.2 bar (17.4 psi)	
4.2 bar (60.9 psi)	
30 bar (435 psi)	
1 million operating cycles	
2 entries tapped for n° 13 cable gland, conforming to NF C 68-300 (DIN Pg 13.5)	2 entries incorporating n° 13 plastic cable gland (DIN Pg 13.5) Clamping capacity 9 to 13 mm
Diaphragm	
Other versions	Pressure switches not listed above, comprising the equipment proposed for the choice of reference. Please consult our Customer Care Centre.

*(1) References for individually packaged switches. Also available packaged in lots of 10. To order, add the letter **C** to the reference selected from above. Example: reference for lot of 10 pressure switches **XMPA06B2242** in one package becomes **XMPA06B2242C**.*

Terminal connections

	XMP●●●B●●●●	**XMP●●●C●●●●**
		

Accessories: page 180
Dimensions: page 181

Electromechanical pressure switches

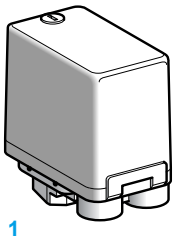
OsiSense XM, Type XMP, IP 54

Size 12 bar (174 psi)

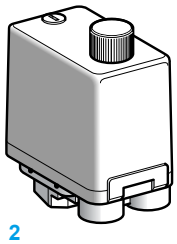
Adjustable differential, for regulation between 2 thresholds

Switches with 2-pole 2 NC or 3-pole 3 NC contact

Fluid connection	**G 1/4 (female)**	



1



2

Adjustable range of switching point (PH) (Rising pressure)	**1.3…12 bar (18.85…174 psi)**	
Type of contact	2-pole 2 NC	3-pole 3 NC

References *(1)*

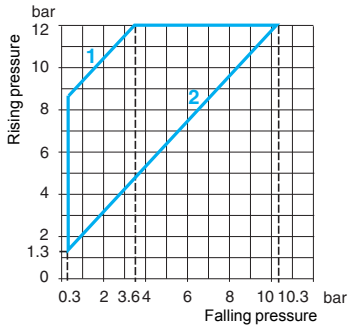
Switches without decompression valve		
Bare case 1	**XMPA12B2131**	**XMPA12C2131**
Case with reset knob 2	**XMPB12B2131**	**–**
Case with On/Off knob 2	**XMPC12B2131**	**XMPC12C2131**
Weight (kg)	0.430	
Switches with straight decompression valve, instant connection		
Bare case 1	**XMPD12B2131**	**XMPD12C2131**
Case with On/Off knob 2	**XMPE12B2131**	**XMPE12C2131**
Weight (kg)	0.450	
Switches with straight decompression valve, olive connection		
Case with On/Off knob 2	**XMPR12B2131**	**XMPR12C2131**
Weight (kg)	0.450	

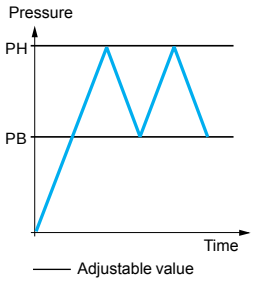
Complementary characteristics not shown under general characteristics (page 171)

Possible differential (subtract from PH to give PB)	Min. at low setting	1 bar (14.5 psi)
	Min. at high setting	1.7 bar (24.6 psi)
	Max. at high setting	8.4 bar (121.8 psi)
Destruction pressure		30 bar (435 psi)
Mechanical life		1 million 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) References for individually packaged switches. Also available packaged in lots of 10. To order, add the letter **C** to the reference selected from above. Example: reference for lot of 10 pressure switches **XMPA12B2131** in one package becomes **XMPA12B2131C**.*

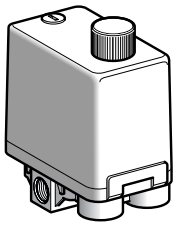
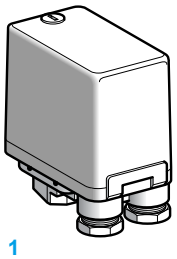
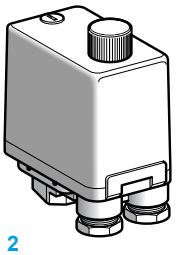
Operating curves





1 Maximum differential
2 Minimum differential

Accessories: page 180
Dimensions: page 181

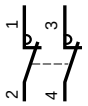
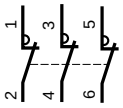
4 x G 1/4 (female)		G 3/8 (female)	
 2		 1	 2
1.3…12 bar (18.85…174 psi)			
2-pole 2 NC	3-pole 3 NC	2-pole 2 NC	3-pole 3 NC
References *(1)*			
Switches without decompression valve			
–		**XMPA12B2242**	**XMPA12C2242**
–		**XMPB12B2242**	–
–		**XMPC12B2242**	**XMPC12C2242**
–		0.430	
Switches with straight decompression valve, instant connection			
–		**XMPD12B2242**	**XMPD12C2242**
XMPE12B2431	**XMPE12C2431**	**XMPE12B2242**	**XMPE12C2242**
0.450			
Switches with straight decompression valve, olive connection			
–			
–			

Complementary characteristics not shown under general characteristics (page 171)

1 bar (14.5 psi)	
1.7 bar (24.6 psi)	
8.4 bar (121.8 psi)	
30 bar (435 psi)	
1 million operating cycles	
2 entries tapped for n° 13 cable gland, conforming to NF C 68-300 (DIN Pg 13.5)	2 entries incorporating n° 13 plastic cable gland (DIN Pg 13.5) Clamping capacity 9 to 13 mm
Diaphragm	
Other versions	Pressure switches not listed above, comprising the equipment proposed for the choice of reference. Please consult our Customer Care Centre.

*(1) References for individually packaged switches. Also available packaged in lots of 10. To order, add the letter **C** to the reference selected from above. Example: reference for lot of 10 pressure switches **XMPA12B2242** in one package becomes **XMPA12B2242C**.*

Terminal connections

	XMP●●●B●●●●	XMP●●●C●●●●
		

Accessories: page 180
Dimensions: page 181

Electromechanical pressure switches

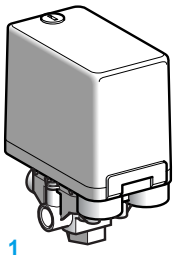
OsiSense XM, Type XMP, IP 54

Size 25 bar (362.5 psi)

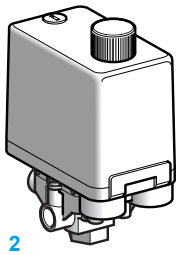
Adjustable differential, for regulation between 2 thresholds

Switches with 2-pole 2 NC or 3-pole 3 NC contact

Fluid connection	**G 1/4 (female)**



1



2

Adjustable range of switching point (PH) (Rising pressure)	**3.5…25 bar (50.75…362.5 psi)**
Type of contact	2-pole 2 NC

References *(1)*

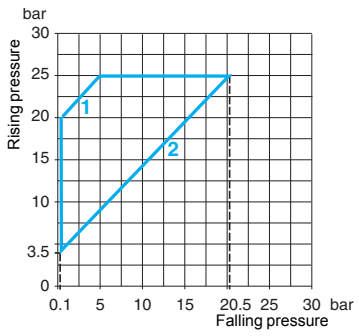
Switches without decompression valve	
Bare case 1	**XMPA25B2131**
Case with reset knob 2	**XMPB25B2131**
Case with On/Off knob 2	**XMPC25B2131**
Weight (kg)	0.650
Switches with straight decompression valve, olive connection	
Case with On/Off knob 2	**XMPR25B2131**
Weight (kg)	0.670

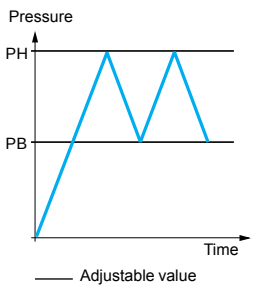
Complementary characteristics not shown under general characteristics (page 171)

Possible differential (subtract from PH to give PB)	Min. at low setting	3.4 bar (49.3 psi)
	Min. at high setting	4.5 bar (65.2 psi)
	Max. at high setting	20 bar (290 psi)
Destruction pressure		100 bar (1450 psi)
Mechanical life		1 million 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) References for individually packaged switches. Also available packaged in lots of 10. To order, add the letter **C** to the reference selected from above. Example: reference for lot of 10 pressure switches **XMPA25B2131** in one package becomes **XMPA25B2131C**.*

Operating curves

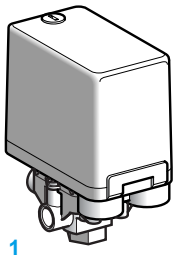




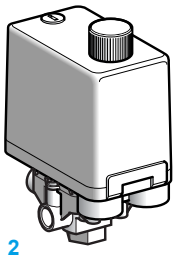
1 Maximum differential
2 Minimum differential

Accessories: page 180
Dimensions: page 181

G 1/4 (female)



1



2

3.5…25 bar (50.75…362.5 psi)

3-pole 3 NC

References *(1)*

Switches without decompression valve

XMPA25C2131

–

XMPC25C2131

0.650

Switches with straight decompression valve, olive connection

XMPR25C2131

0.670

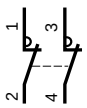
Complementary characteristics not shown under general characteristics (page 171)

3.4 bar (49.3 psi)	
4.5 bar (65.2 psi)	
20 bar (290 psi)	
100 bar (1450 psi)	
1 million operating cycles	
2 entries tapped for n° 13 cable gland, conforming to NF C 68-300 (DIN Pg 13.5)	
Diaphragm	
Other versions	Pressure switches not listed above, comprising the equipment proposed for the choice of reference. Please consult our Customer Care Centre.

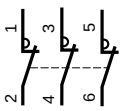
*(1) References for individually packaged switches. Also available packaged in lots of 10. To order, add the letter **C** to the reference selected from above. Example: reference for lot of 10 pressure switches **XMPA25C2131** in one package becomes **XMPA25C2131C**.*

Terminal connections

XMP●●●B●●●●



XMP●●●C●●●●



Accessories: page 180

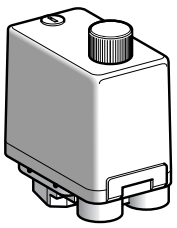
Dimensions: page 181

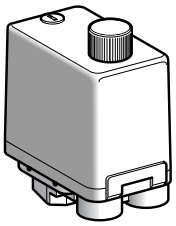
Electromechanical pressure switches

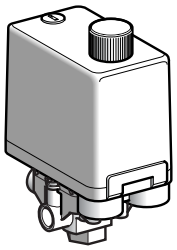
OsiSense XM, Type XMP, IP 65

Sizes 6 to 25 bar (87 to 362.5 psi)
Adjustable differential, for regulation between 2 thresholds
Switches with 2-pole 2 NC or 3-pole 3 NC contact

Fluid connection	**G 1/4 (female)**







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)**	
Type of contact	2-pole 2 NC	3-pole 3 NC	2-pole 2 NC	3-pole 3 NC	2-pole 2 NC	3-pole 3 NC

References *(1)*

Switches with straight decompression valve, olive connection

Case with On/Off knob	**XMPR06B2133**	**XMPR06C2133**	**XMPR12B2133**	**XMPR12C2133**	**XMPR25B2133**	**XMPR25C2133**
Weight (kg)	0.450				0.670	

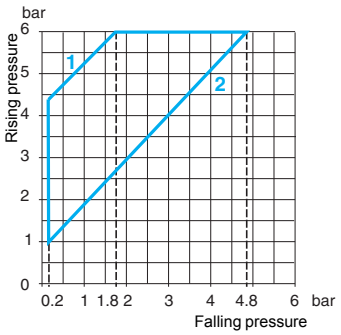
Complementary characteristics not shown under general characteristics (page 171)

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)
	Min. at high setting	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)
Destruction pressure		30 bar (435 psi)		100 bar (1450 psi)
Mechanical life		1 million operating cycles		
Cable entry		2 entries tapped for n° 13 cable gland, conforming to NF C 68-300 (DIN Pg 13.5)		
Adjustment of high setting point (PH)		By screw-nut		
Pressure switch type		Diaphragm		

*(1) References for individually packaged switches. Also available packaged in lots of 10. To order, add the letter **C** to the reference selected from above. Example: reference for lot of 10 pressure switches **XMPR06B2133** in one package becomes **XMPR06B2133C**.*

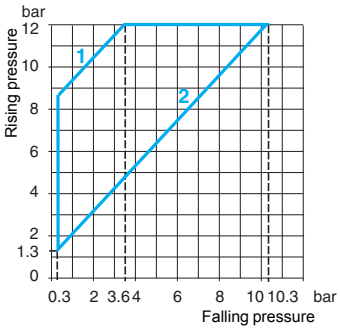
Operating curves

XMPR06●●●●●



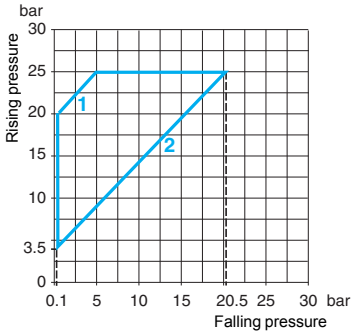
1 Maximum differential
2 Minimum differential

XMPR12●●●●●

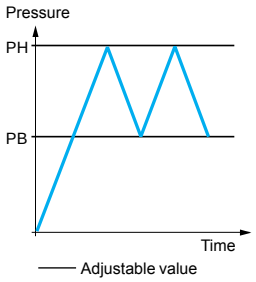


1 Maximum differential
2 Minimum differential

XMPR25●●●●●

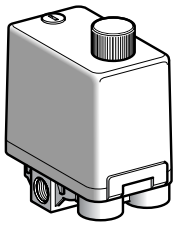


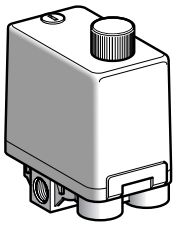
1 Maximum differential
2 Minimum differential

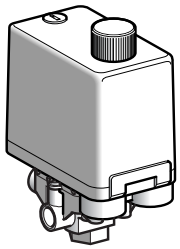


Accessories: page 180
Dimensions: page 181

4 x G 1/4 (female)







1…6 bar (14.5…87 psi)		1.3…12 bar (18.85…174 psi)		3.5…25 bar (50.75…362.5 psi)	
2-pole 2 NC	3-pole 3 NC	2-pole 2 NC	3-pole 3 NC	2-pole 2 NC	3-pole 3 NC

References *(1)*

Switches with straight decompression valve, olive connection

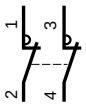
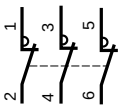
XMPR06B2433	XMPR06C2433	XMPR12B2433	XMPR12C2433	XMPR25B2433	XMPR25C2433
0.450				0.670	

Complementary characteristics not shown under general characteristics (page 171)

0.8 bar (11.6 psi)	1 bar (14.5 psi)	3.4 bar (49.3 psi)
1.2 bar (17.4 psi)	1.7 bar (24.6 psi)	4.5 bar (65.2 psi)
4.2 bar (60.9 psi)	8.4 bar (121.8 psi)	20 bar (290 psi)
30 bar (435 psi)		100 bar (1450 psi)
1 million operating cycles		
2 entries tapped for n° 13 cable gland, conforming to NF C 68-300 (DIN Pg 13.5)		
By screw-nut		
Diaphragm		
Other versions	Pressure switches not listed above, comprising the equipment proposed for the choice of reference. Please consult our Customer Care Centre.	

*(1) References for individually packaged switches. Also available packaged in lots of 10. To order, add the letter **C** to the reference selected from above. Example: reference for lot of 10 pressure switches **XMPR06B2433** in one package becomes **XMPR06B2433C**.*

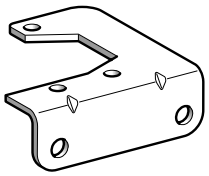
Terminal connections

XMP●●●B●●●●	XMP●●●C●●●●
	

Accessories: page 180

Dimensions: page 181

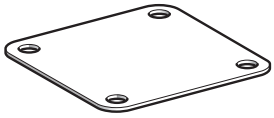
Electromechanical pressure switches
OsiSense XM
For power circuits, type XMP
Accessories and replacement parts


XMAZL001


XMPMDR01


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		**XMPMDR01**	0.010
13P cable gland	With anti pull-out ring (for cable Ø 6…9 mm)	**DE9PM1201**	0.005
	Without anti pull-out ring (for cable Ø 6…9 mm)	**DE9PM1202**	0.005
	With anti pull-out ring (for cable Ø 9…12.5 mm)	**DE9PM1203**	0.005
	Without anti pull-out ring (for cable Ø 9…12.5 mm)	**DE9PM1204**	0.005

Description	For pressure switch	Sold in lots of	Unit reference	Weight kg
Diaphragms	Size 6 bar	50	**XMPZ31**	0.005
	Size 25 bar	50	**XMPZ33**	0.005

Dimensions:
page 181

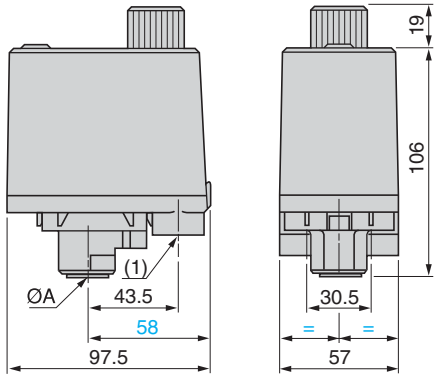
Electromechanical pressure switches

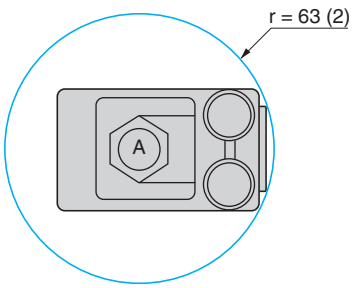
OsiSense XM
For power circuits, type XMP
Accessories and replacement parts

Dimensions

XMP●06●●●●● and XMP●12●●●●●

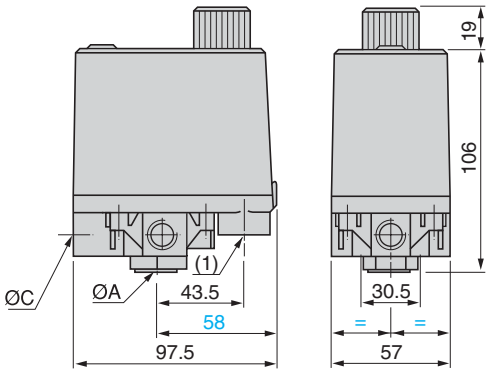
Fluid connection G 1/4 or G 3/8 (female)
Without decompression valve

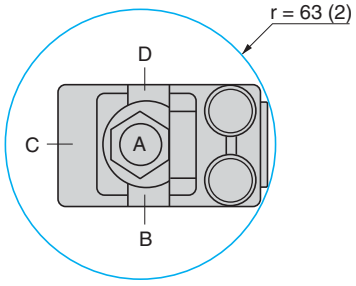




ØA = G 1/4 or G 3/8 (female)

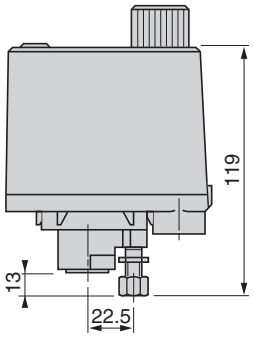
Fluid connection 4 x G 1/4 (female)
Without decompression valve



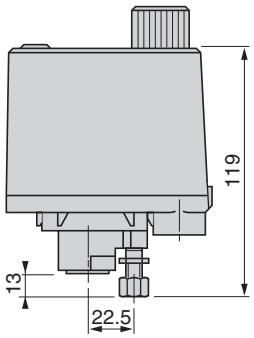


ØA = ØB = ØC = ØD = G 1/4 (female)

With straight, instant connection, decompression valve



With straight, olive connection, decompression valve

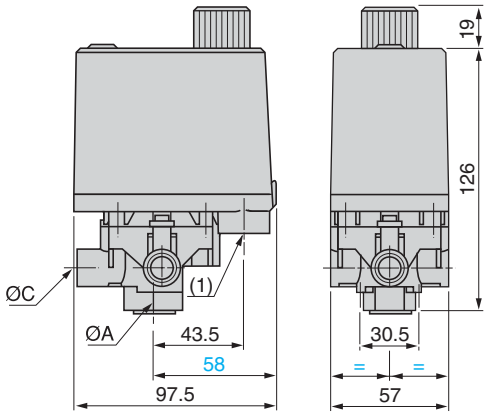


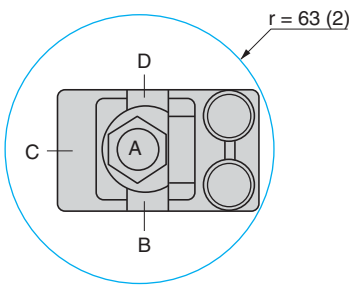
(1) 2 tapped entries for n° 13 cable gland

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

XMP●25●●●●●

Fluid connection G 1/4 or 4 x G 1/4 (female)
Without decompression valve





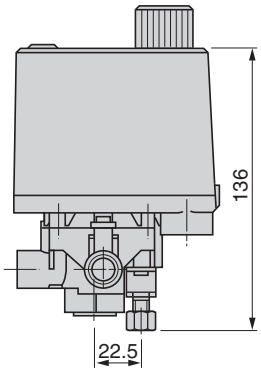
XMP●25●21●●: ØA only = G 1/4 (female)

XMP●25●24●●: ØA = ØB = ØC = ØD = G 1/4 (female)

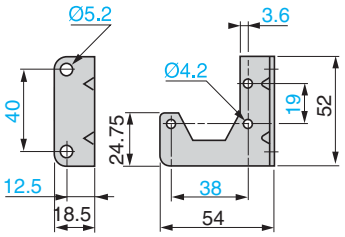
(1) 2 tapped entries for n° 13 cable gland

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

With straight, olive connection, decompression valve



Fixing bracket XMAZL001



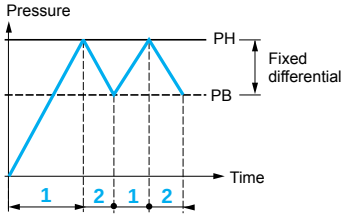
Electromechanical pressure and vacuum switches
OsiSense XM

Function
The function of pressure and vacuum switches is the control or regulation of pressure or vacuum levels in hydraulic or pneumatic systems.
They transform the pressure change into a digital electrical signal when the preset switching points are reached.

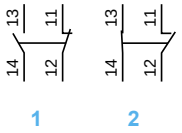
Switches for power circuits
Switches with power electrical contacts, either 2-pole or 3-pole, designed for direct switching of single-phase or 3-phase motors (pumps, compressors, etc.).

Switches for control circuits
Switches with standard electrical contacts, designed for control of contactors, relays, power valves, PLC inputs, etc.

Pressure switch operating principle
Detection of a single threshold
The switches for detection of a single threshold (fixed differential) have a single adjustable setting point (PH). The differential between the high and low points (PH - PB) depends upon the natural characteristics of the switch. It is not adjustable.



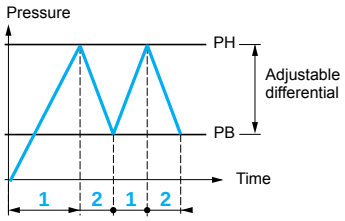
Example: contact schematics of XMLA



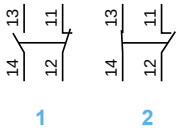
— Adjustable value
--- Non adjustable value

PH = High point
PB = Low point

Regulation between 2 thresholds
The switches for regulation between 2 thresholds (adjustable differential) have both a high point setting (PH) and a low point setting (PB). Both of these points can be independently adjusted.



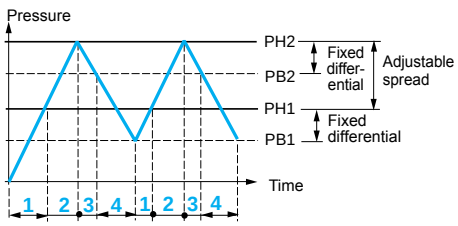
Example: contact schematics of XMLB



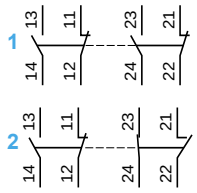
— Adjustable value

PH = High point
PB = Low point

Detection of 2 thresholds
The dual stage switches, for detection at each threshold, have an adjustable high point setting for each stage (PH1 and PH2). Both of these points can be independently adjusted. For both stages, the differential between the high point and the low point (PH1 - PB1 and PH2 - PB2) depends upon the natural characteristics of the switch. It is not adjustable.

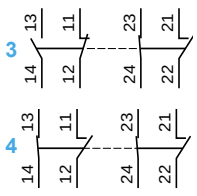


Example: contact schematics of XMLD



— Adjustable value
--- Non adjustable value

PH = High point
PB = Low point

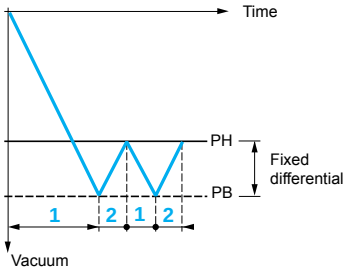


Electromechanical pressure and vacuum switches
OsiSense XM

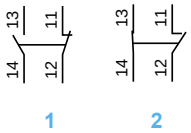
Vacuum switch operating principle

Detection of a single threshold

The switches for detection of a single threshold (fixed differential) have a single adjustable setting point (PH). The differential between the high and low points (PH - PB) depends upon the natural characteristics of the switch. It is not adjustable.



Example: contact schematics of XMLA

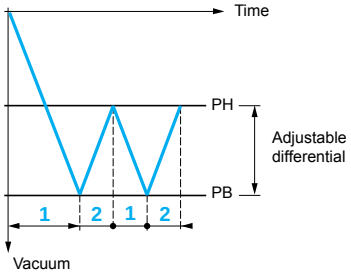


— Adjustable value
--- Non adjustable value

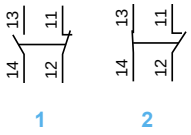
PH = High point
PB = Low point

Regulation between 2 thresholds

The switches for regulation between 2 thresholds (adjustable differential) have both a high point setting (PH) and a low point setting (PB). Both of these points can be independently adjusted.



Example: contact schematics of XMLB

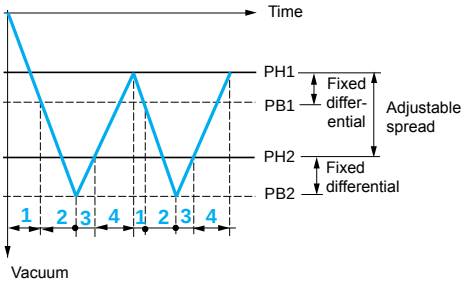


— Adjustable value

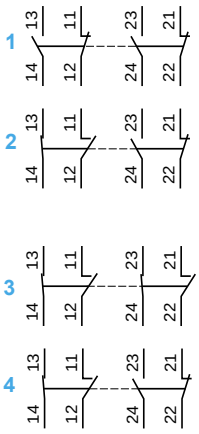
PH = High point
PB = Low point

Detection of 2 thresholds

The dual stage switches, for detection at each threshold, have an adjustable high point setting for each stage (PH1 and PH2). Both of these points can be independently adjusted.
For both stages, the differential between the high point and the low point (PH1 - PB1 and PH2 - PB2) depends upon the natural characteristics of the switch. It is not adjustable.



Example: contact schematics of XMLD



— Adjustable value
--- Non adjustable value

PH = High point
PB = Low point

Electromechanical pressure and vacuum switches
OsiSense XM

Terminology

Operating range
The difference between the minimum low point (PB) and the maximum high point (PH) setting values.

Size
Pressure switches and vacuum-pressure switches (vacu-pressure switches)
Maximum value of the operating range.

Vacuum switches
Minimum value of the operating range.

Switching point on rising pressure (PH)
Pressure switches
The upper pressure setting at which the pressure switch will actuate the contacts on rising pressure.

Vacuum switches
The lower vacuum setting at which the vacuum switch will reset the contacts on rising pressure.

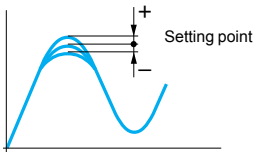
Switching point on falling pressure (PB)
The pressure at which the switch output changes state on falling pressure.

Switches with fixed differential
The lower point (PB) is not adjustable and is entirely dependent on the high point setting (PH) and the natural differential of the switch.

Switches with adjustable differential
The adjustable differential enables the independent setting of the lower point (PB).

Differential
The difference between the switching point on rising pressure (PH) and the switching point on falling pressure (PB).

Spread
For dual stage switches, the spread indicates the difference between the 2 switching points on rising pressure (PH2 and PH1) and, for vacuum switches, the difference between the 2 switching points on falling pressure (PB2 and PB1).

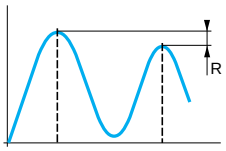
Accuracy (switches with setting scale)


The tolerance between the point at which the switch actuates its contacts and the value indicated on the setting scale. Where very high setting accuracy is required (initial installation of the product), it is recommended to use separate measuring equipment (pressure gauge, etc.).

Electromechanical pressure and vacuum switches
OsiSense XM

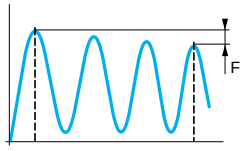
Terminology (continued)

Repeat accuracy (R)



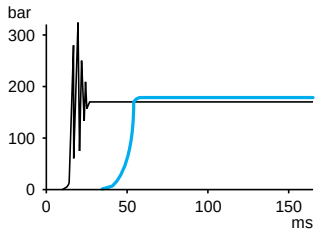
The tolerance between two consecutive switching operations.

Drift (F)

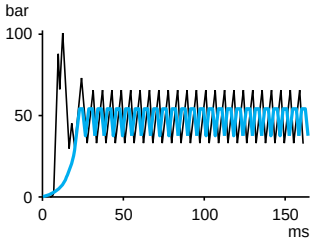


The tolerance of the switching point throughout the entire service life of the switch.

Accidental overpressure



Example 1: with destructive pressure level.



Example 2: with destructive pressure level and destructive pressure oscillations.

——— Without damping device
——— With damping device

This is an accidental pressure surge of very short duration (a few milliseconds).

If accidental overpressures occur and their duration is less than 50 milliseconds, the pressure damping device incorporated in the XML switches (sizes 10 bar and greater) will diminish the effect.

Maximum permissible pressure per cycle (Ps)

A pressure switch can withstand this pressure, without detrimental effect, on each cycle throughout its service life.

Its minimum value is at least equal to 1.25 times the switch size.

Maximum permissible accidental pressure

The maximum accidental pressure is at least equal to 2.25 times the switch size.

Destruction pressure

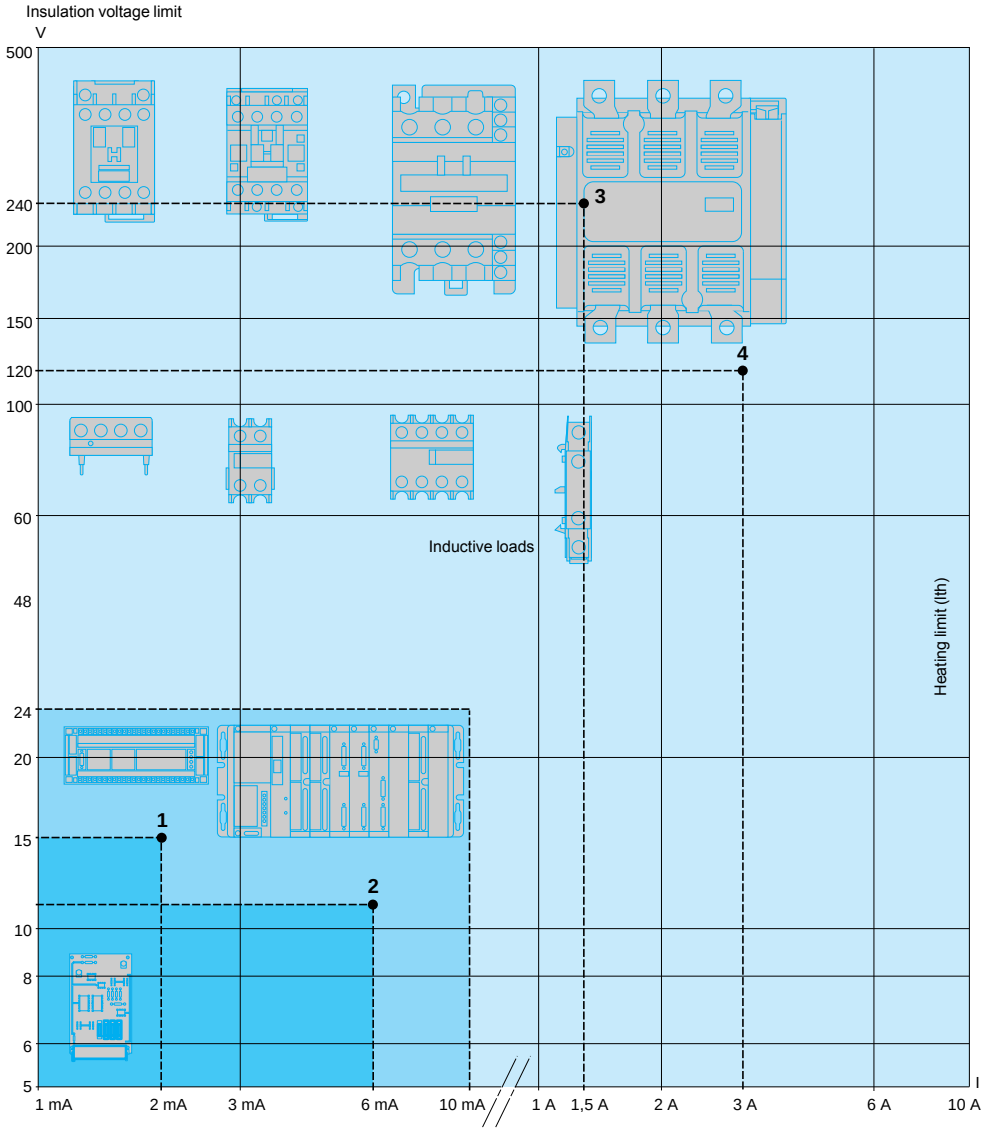
The maximum guaranteed pressure that the switch will withstand before its destruction, i.e. bursting, rupturing, component failure, etc.

Its value is at least equal to 4.5 times the switch size.

Electromechanical pressure and vacuum switches
OsiSense XM

Application range of pressure and vacuum switches types XML, XMA and XMX, for control circuits

On standard loads
Continuous duty, frequent switching.



1 Standard PLC input, type 1
2 Standard PLC input, type 2
3 Switching capacity conforming to IEC 947-5-1, utilisation category AC-15, DC-13
B300 240 V 1.5 A
R300 250 V 0.1 A
4 Switching capacity conforming to IEC 947-5-1, utilisation category AC-15, DC-13
B300 120 V 3 A
R300 125 V 0.22 A
PLC: Programmable Logic Controller

Pressure switches	Application range
XMLA XMLB XMLC XMLD XMX, XMA	
XMLE XMLF XMLG XMLK	

On small loads
The use of electromechanical pressure and vacuum switches with programmable logic controllers is becoming more predominant.
On small loads, the reliability of the switches maintain a failure rate of less than 1 for 100 million operating cycles.

Electromechanical pressure and vacuum switches
OsiSense XM

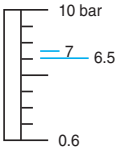
Selection of switch size

After establishing the type of switch required for the application (single threshold detection or regulation between 2 thresholds), the selection of its size will depend on the following criteria:
- the differential: difference between the high point (PH) and the low point (PB),
- the maximum pressure permissible per cycle,
- repeat accuracy, precision and minimum drift.

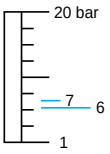
Examples of a fixed differential pressure switch selection, for detection of a single threshold

Main criterion: minimum differential

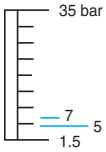
Example: for a selected high point (PH) of 7 bar



XMLA010●●●●●
Differential = 0.5 bar



XMLA020●●●●●
Differential = 1 bar

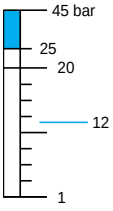


XMLA035●●●●●
Differential = 2 bar

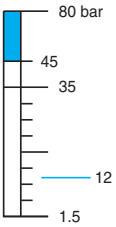
Select an XMLA010●●●●● (the lowest size)

Main criterion: tolerance to overpressures

Example: for a selected high point (PH) of 12 bar



XMLA020●●●●●
Permissible accidental overpressure = 45 bar

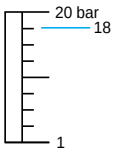


XMLA035●●●●●
Permissible accidental overpressure = 80 bar

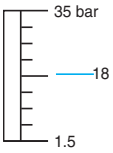
Select an XMLA035●●●●● (the highest size)

Main criterion: repeat accuracy, precision and minimum drift

Example: for a selected high point (PH) of 18 bar



XMLA020●●●●●
Adjustable from 1 to 20 bar



XMLA035●●●●●
Adjustable from 1.5 to 35 bar

Select an XMLA035●●●●●

As a general rule, working at the upper or lower limits of the operating range should be avoided.

Units of pressure conversion table

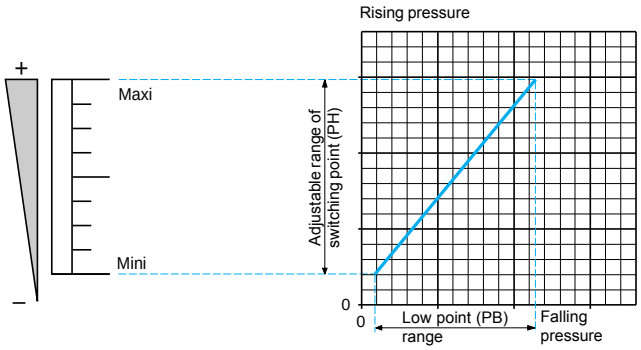
	psi	kg/cm²	bar	atm	mm Hg (Torr)	mm H_2O	Pa
1 psi =	1	0.07031	0.06895	0.06805	51.71	703.7	6895
1 kg/cm² =	14.22	1	0.98066	0.96784	735.55	10 000	98 066
1 bar =	14.50	1.0197	1	0.98695	750.06	10 197	10^5
1 atm =	14.70	1.0333	1.0132	1	760.0	10 333	101 325
1 mm Hg (Torr) =	0.01934	1.360×10^{-3}	1.333×10^{-3}	1.316×10^{-3}	1	13.59	133.3
1 mm H_2O =	1.421×10^{-3}	10^{-4}	$\sim 10^{-4}$	$\sim 10^{-4}$	0.07361	1	~ 9.80
1 Pa =	1.45×10^{-4}	1.0197×10^{-5}	10^{-5}	9.8695×10^{-6}	7.5×10^{-3}	0.10197	1

Example: 1 bar = 14.50 psi = 10^5 Pa

Electromechanical pressure and vacuum switches

Fixed differential switches, for detection of a single threshold

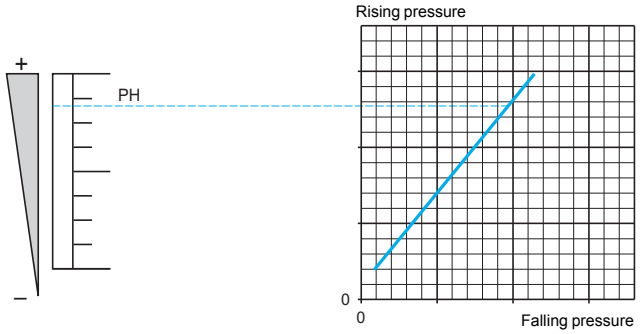
Adjustment range of the high point



Defined by the difference between the minimum and maximum high point (PH) setting values.

For a high set point (PH), the lower point (PB) is fixed and cannot be adjusted.
For a low set point (PB1 or PB2), the higher point (PH1 or PH2) is fixed and cannot be adjusted.

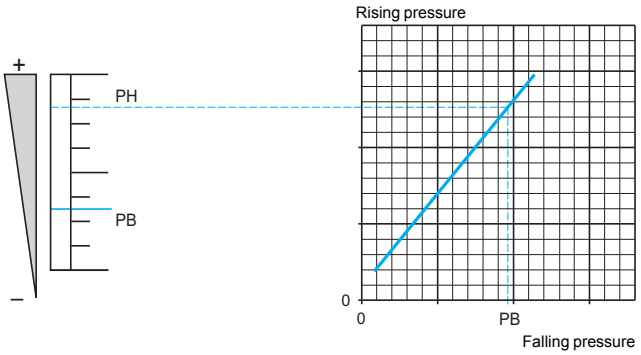
Switching point on rising pressure (PH)



The upper pressure setting at which the pressure or vacuum switch will actuate the contacts on rising pressure.

Adjustable throughout the range on rising pressure.

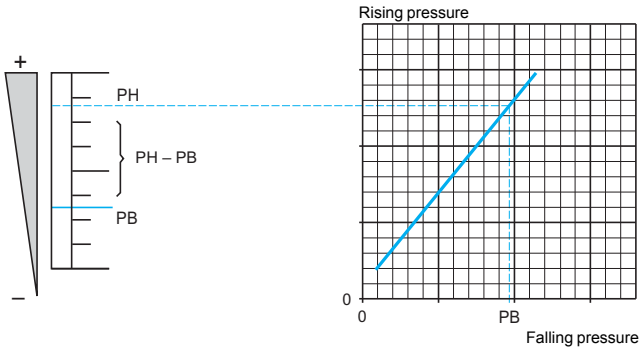
Switching point on falling pressure (PB)



The pressure at which the switch contact changes state on falling pressure.

The lower point (PB) is not adjustable and is entirely dependent on the high point setting (PH) and the natural differential of the switch.

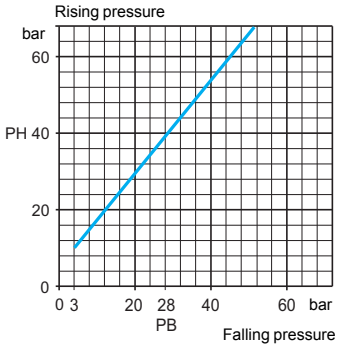
Differential



PH - PB = natural differential
The difference between the switching point on rising pressure (PH) and the switching point on falling pressure (PB).

This point is not adjustable and therefore, the value of the differential is fixed.
It is the natural differential of the switch (contact differential, friction, etc.).

Example

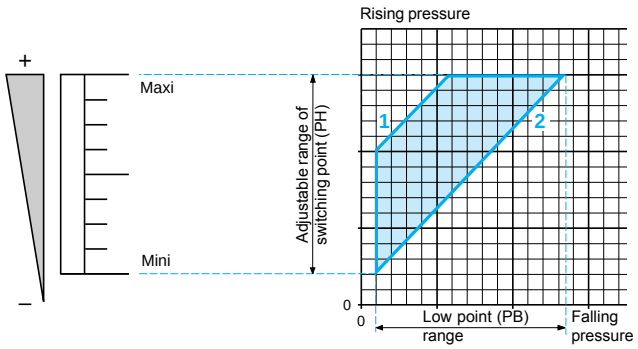


■ Consider a switching point on rising pressure (PH) of 40 bar (set value at which the contact will change state on rising pressure).
■ It can be seen that the switching point on falling pressure (PB) is 28 bar (fixed value at which the contact will return to its original state).
Conclusion:
□ the differential will be 40 - 28 = 12 bar.

Electromechanical pressure and vacuum switches

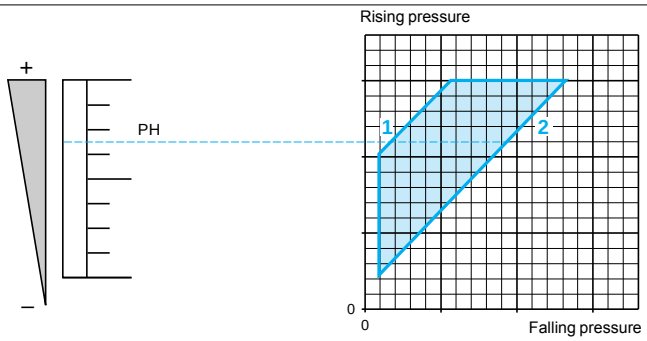
Adjustable differential switches, for regulation between 2 thresholds

Adjustment range of the high point



Defined by the difference between the minimum and maximum high point (PH) setting values.

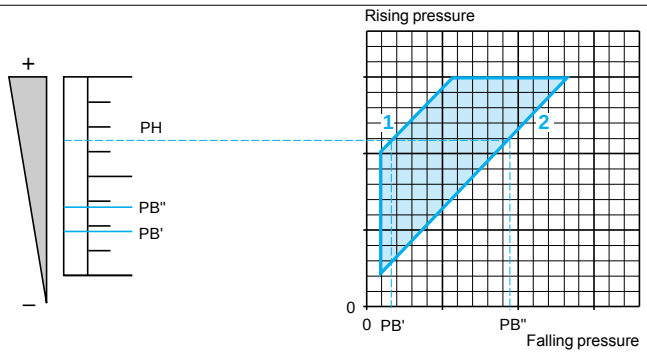
Switching point on rising pressure (PH)



The upper pressure setting at which the pressure or vacuum switch will actuate the contacts on rising pressure.

Adjustable throughout the range on rising pressure.

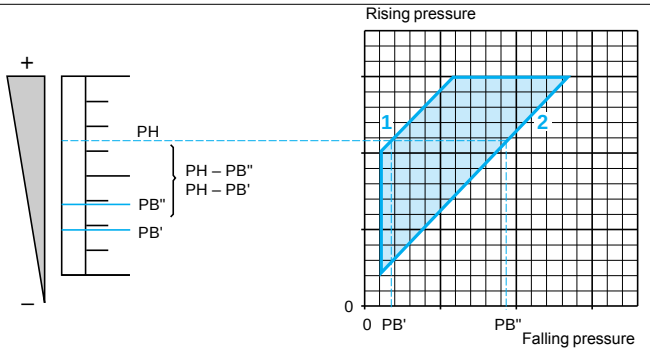
Switching point on falling pressure (PB)



The pressure at which the switch contact changes state on falling pressure.

The adjustable differential enables the independent setting of the lower point (PB).

Differential

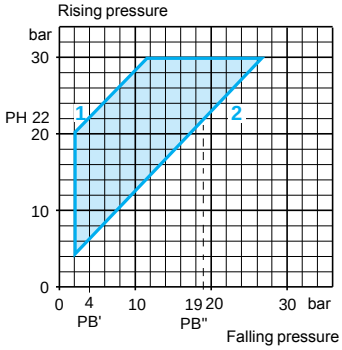


Low point < High point
PH - PB' = natural differential
PH - PB" = minimum differential

The difference between the switching point on rising pressure (PH) and the switching point on falling pressure (PB).

***Note:** the low point can be set at any value between PB' and PB".*

Example



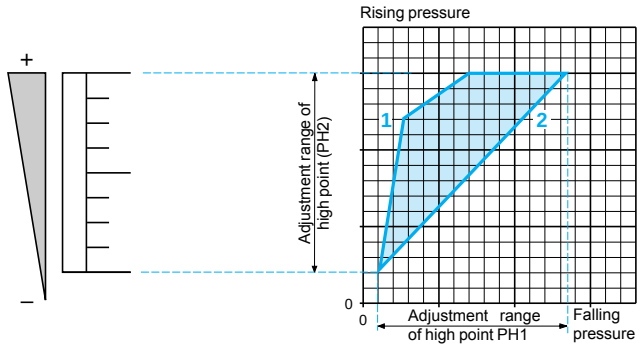
1 Maximum differential
2 Minimum differential

■ Consider a switching point on rising pressure (PH) of 22 bar (set value at which the contact will change state on rising pressure).
■ It can be seen that the switching point on falling pressure (PB) can be between 4 and 19 bar inclusive (set value at which the contact will return to its original state).
Conclusion:
□ the maximum differential will be: 22 - 4 = 18 bar,
□ the minimum differential will be: 22 - 19 = 3 bar.

Electromechanical pressure and vacuum switches

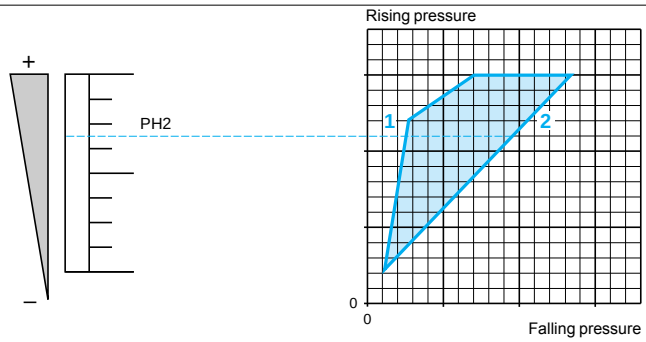
Dual stage, fixed differential switches, for detection at each threshold

Adjustment ranges of the switching points PH1 and PH2 on rising pressure



Defined by the difference between the minimum and maximum high point setting values of each stage (PH1 and PH2).

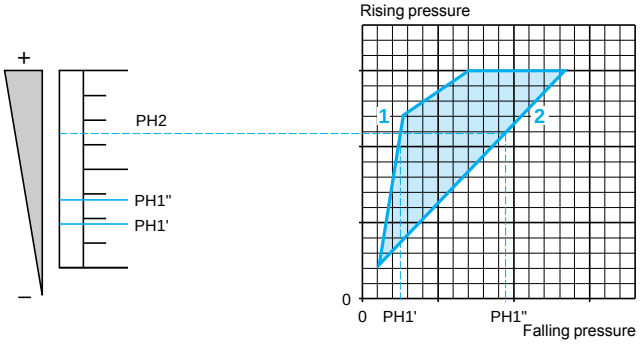
Switching point PH2 on rising pressure



The upper pressure setting at which the pressure or vacuum switch will actuate the contacts on rising pressure.

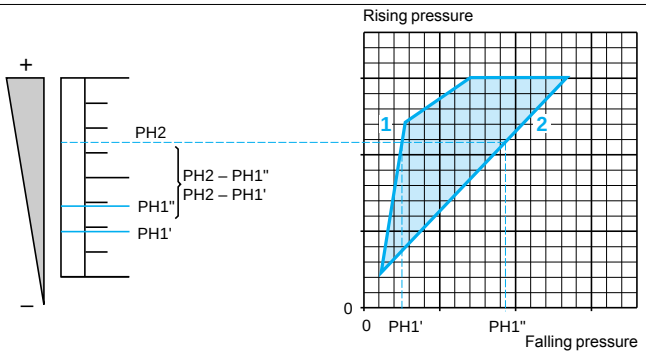
Adjustable throughout the range on rising pressure.

Switching point PH1 on rising pressure



The upper pressure setting at which the pressure or vacuum switch will actuate contact 1 on rising pressure.

Spread

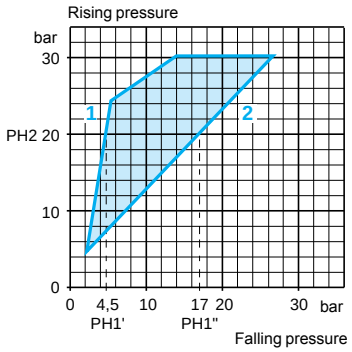


PH1 < PH2
PH2 - PH1' = maximum spread
PH2 - PH1" = minimum spread

The difference between switching points PH2 and PH1 on rising pressure.

Note: *switching point PH1 can be set at any value between PH1' and PH1".*

Example: Determining switching points on rising pressure for the 2 stages



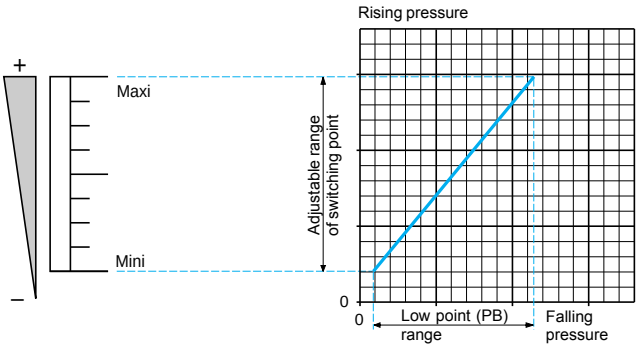
1 Maximum spread
2 Minimum spread

■ Consider a 2nd stage switching point on rising pressure (PH2) of 20 bar (set value at which contact 2 will change state on rising pressure).
■ It can be seen that the 1st stage switching point (PH1) can be set between 4.5 and 17 bar on rising pressure.
Conclusion:
□ the maximum spread will be:
20 - 4.5 = 15.5 bar,
□ the minimum spread will be:
20 - 17 = 3 bar.

Electromechanical pressure and vacuum switches

Dual stage, fixed differential switches, for detection at each threshold

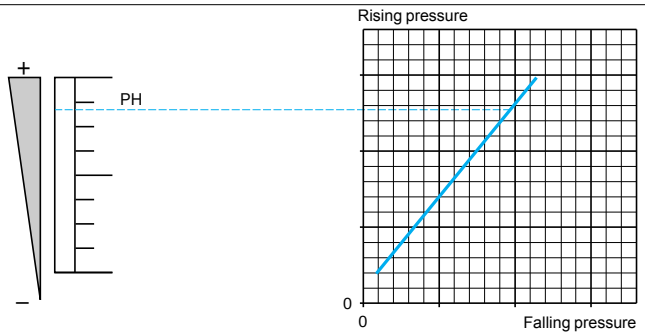
Adjustment range of high point (PH1 or PH2)



Defined by the difference between the minimum and maximum high point (PH1 or PH2) setting values for each stage.

For a high set point (PH), the lower point (PB) is fixed and cannot be adjusted.
For a low set point (PB1 or PB2), the higher point (PH1 or PH2) is fixed and cannot be adjusted.

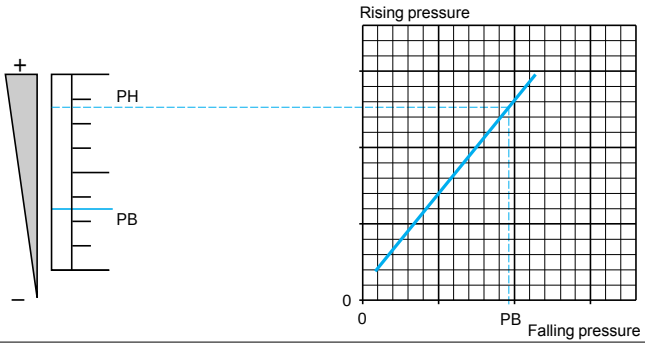
Switching point on rising pressure (PH1 or PH2)



The upper pressure setting at which the pressure or vacuum switch will actuate the contact, for each stage, on rising pressure.

Adjustable throughout the range on rising pressure.

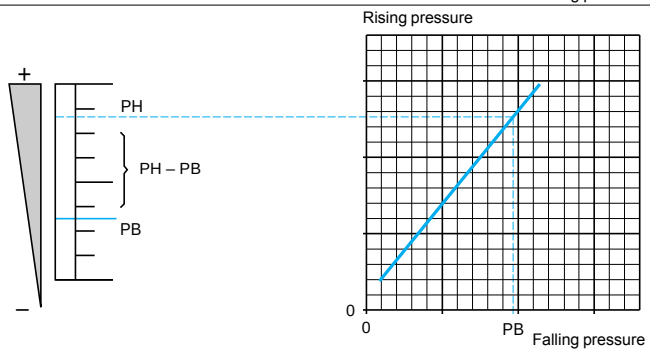
Switching point on falling pressure (PB1 or PB2)



The pressure at which the switch contact changes state, for each stage, on falling pressure.

The lower point (PB) is not adjustable and is entirely dependent on the high point setting (PH) and the natural differential of the switch.

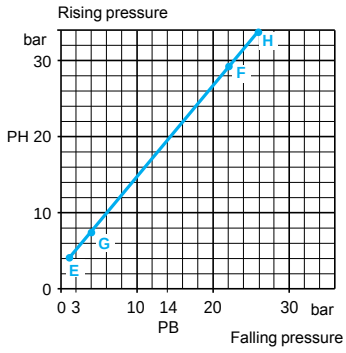
Differential



PH - PB = natural differential
The difference between the switching point on rising pressure (PH) and the switching point on falling pressure (PB), for each stage.

This point is not adjustable and therefore, the value of the differential is fixed.
It is the natural differential of the switch (contact differential, friction, etc.), for each of its 2 stages.

Example: stage 1 = segment EF stage 2 = segment GH



1 Maximum spread
2 Minimum spread

For stage 2 (segment GH):
■ Consider a switching point on rising pressure (PH2) of 20 bar (set value at which contact 2 will change state on rising pressure).
■ It can be seen that the switching point on falling pressure (PB2) is 14 bar (fixed value at which contact 2 will return to its original state).
Conclusion:
for stage 2, the differential will be:
20 - 14 = 6 bar.
Repeat the same procedure for stage 1 (segment EF).

Depending on the climatic and environmental conditions in which the equipment is placed, Telemecanique Sensors can offer specially adapted products to meet your requirements.

In order to make the correct choice of protective finish, two points should be remembered:
- the prevailing climate of the country is never the only criterion,
- only the atmosphere in the immediate vicinity of the equipment need be considered.

All climates treatment “TC”

This is the standard treatment for Telemecanique Sensors brand equipment and is suitable for the vast majority of applications. It is the equivalent of treatments described as “Klimafest”, “Climateproof”.
In particular, it meets the requirements specified in the following publications:
- Publication UTE C 63-100 (method I), successive cycles of humid heat at:
+ 40 °C and 95 % relative humidity.
- DIN 50016 - Variations of ambient conditions within a climatic chamber:
+ 23 °C and 83 % relative humidity,
+ 40 °C and 92 % relative humidity.

It also meets the requirements of the following marine classification societies:
BV-LR-GL-DNV-RINA.

Characteristics

- Steel components are usually treated with zinc. When they have a mechanical function, they may also be painted.
- Insulating materials are selected for their high electrical, dielectric and mechanical characteristics.
- Metal enclosures have a stoved paint finish, applied over a primary phosphate protective coat, or are galvanised (e.g. some prefabricated busbar trunking components).

Limits for use of “TC” (All climates) treatment

- “TC” treatment is suitable for the following temperatures and humidity:

Temperature (°C)	**Relative humidity** (%)
20	95
40	80
50	50

“TC” treatment is therefore suitable for all latitudes and in particular tropical and equatorial regions where the equipment is mounted in normally ventilated industrial premises. Being sheltered from external climatic conditions, temperature variations are small, the risk of condensation is minimised and the risk of dripping water is virtually non-existent.

Extension of use of “TC” (All climates) treatment

In cases where the humidity around the equipment exceeds the conditions described above, or in equatorial regions if the equipment is mounted outdoors, or if it is placed in a very humid location (laundries, sugar refineries, steam rooms, etc.), “TC” treatment can still be used if the following precautions are taken:
- The enclosure in which the equipment is mounted must be protected with a “TH” finish (see next page) and must be well ventilated to avoid condensation and dripping water (e.g. enclosure base plate mounted on spacers).
- Components mounted inside the enclosure must have a “TC” finish.
- If the equipment is to be switched off for long periods, a heater must be provided (0.2 to 0.5 kW per square decimetre of enclosure), that switches on automatically when the equipment is turned off. This heater keeps the inside of the enclosure at a temperature slightly higher than the outside surrounding temperature, thereby avoiding any risk of condensation and dripping water (the heat produced by the equipment itself during normal running is sufficient to provide this temperature difference).
- Special considerations for “Operator dialog” and “Detection” products:
for certain pilot devices, the use of “TC” treatment can be extended to outdoor use provided their enclosure is made of light alloys, zinc alloys or plastic material. In this case, it is also essential to ensure that the degree of protection against penetration of liquids and solid objects is suitable for the applications involved.

"TH" treatment for hot and humid environments

This treatment is suitable for hot and humid atmospheres where installations are regularly subject to condensation, dripping water and the risk of fungi.

In addition, plastic insulating components are resistant to attacks from insects such as termites and cockroaches. These properties have often led to this treatment being described as "Tropical Finish", but this does not mean that all equipment installed in tropical and equatorial regions must systematically have undergone "TH" treatment. On the other hand, certain operating conditions in temperate climates may well require the use of "TH" treated equipment (see limitations for use of "TC" treatment).

Special characteristics of "TH" treatment

■ All insulating components are made of materials which are either resistant to fungi or treated with a fungicide, and which have increased resistance to creepage (Standards IEC 60112, NF C 26-220, DIN 5348).
■ Metal enclosures receive a top-coat of stoved, fungicidal paint, applied over a rust inhibiting undercoat. Components with "TH" treatment may be subject to a surcharge *(1)*. Please consult your Customer Care Centre.

Protective treatment selection guide

Surrounding environment	Duty cycle	Internal heating of enclosure when not in use	Type of climate	Protective treatment of equipment	Protective treatment of enclosure
Indoors					
No dripping water or condensation	Unimportant	Not necessary	Unimportant	"TC"	"TC"
Presence of dripping water or condensation	Frequent switching off for periods of more than 1 day	No	Temperate	"TC"	"TH"
			Equatorial	"TH"	"TH"
		Yes	Unimportant	"TC"	"TH"
	Continuous	Not necessary	Unimportant	"TC"	"TH"
Outdoors (sheltered)					
No dripping water or dew	Unimportant	Not necessary	Temperate	"TC"	"TC"
			Equatorial	"TH"	"TH"
Exposed outdoors or near the sea					
Frequent and regular presence of dripping water or dew	Frequent switching off for periods of more than 1 day	No	Temperate	"TC"	"TH"
			Equatorial	"TH"	"TH"
		Yes	Unimportant	"TC"	"TH"
	Continuous	Not necessary	Unimportant	"TC"	"TH"

These treatments cover, in particular, the applications defined by methods I and II of guide UTE C 63-100.

Special precautions for electronic equipment

Electronic products always meet the requirements of "TC" treatment. A number of them are "TH" treated as standard.

Some electronic products (for example: programmable controllers, flush mountable controllers CCX and flush mountable operator terminals XBT) require the use of an enclosure providing a degree of protection to at least IP 54, as defined by standards IEC 60664 and NF C 20 040, for use in industrial applications or in environmental conditions requiring "TH" treatment.

These electronic products, including flush mountable products, must have a degree of protection to at least IP 20 (provided either by their own enclosure or by their installation method) for restricted access locations where the degree of pollution does not exceed 2 (a test booth not containing machinery or other dust producing activities, for example).

Special treatments

For particularly harsh industrial environments, Telemecanique Sensors is able to offer special protective treatments. Please consult your Customer Care Centre.

(1) A large number of the Telemecanique Sensors brand products are "TH" treated as standard and are, therefore, not subject to a surcharge.

Standardisation

Conformity to standards

Telemecanique Sensors products satisfy, in the majority of cases, national (for example: BS in Great Britain, NF in France, DIN in Germany), European (for example: CENELEC) or international (IEC) standards. These product standards precisely define the performance of the designated products (such as IEC 60947 for low voltage equipment).
When used correctly, as designated by the manufacturer and in accordance with regulations and correct practices, these products will allow users to build equipment, machine systems or installations that conform to their appropriate standards (for example: IEC 60204-1, relating to electrical equipment used on industrial machines).
Telemecanique Sensors is able to provide proof of conformity of its production to the standards it has chosen to comply with, through its quality assurance system.
On request, and depending on the situation, Telemecanique Sensors can provide the following:
- a declaration of conformity,
- a certificate of conformity (ASEFA/LOVAG),
- a homologation certificate or approval, in the countries where this procedure is required or for particular specifications, such as those existing in the merchant navy.

Code	Certification authority		Country
	Name	Abbreviation	
ANSI	American National Standards Institute	ANSI	USA
BS	British Standards Institution	BSI	Great Britain
CEI	Comitato Elettrotecnico Italiano	CEI	Italy
DIN/VDE	Verband Deutscher Electrotechniker	VDE	Germany
EN	Comité Européen de Normalisation Electrotechnique	CENELEC	Europe
GOST	Gosudarstvenne Komitet Standartov	GOST	Russia
IEC	International Electrotechnical Commission	IEC	Worldwide
JIS	Japanese Industrial Standards Committee	JISC	Japan
NBN	Institut Belge de Normalisation	IBN	Belgium
NEN	Nederlands Normalisatie Institut	NNI	Netherlands
NF	Union Technique de l'Electricité	UTE	France
SAA	Standards Association of Australia	SAA	Australia
UNE	Asociacion Española de Normalizacion y Certificacion	AENOR	Spain

European EN standards

These are technical specifications established in conjunction with, and with approval of, the relative bodies within the various CENELEC member countries (European Union, European Free Trade Association and many central and eastern European countries having «member» or «affiliated» status). Prepared in accordance with the principle of consensus, the European standards are the result of a weighted majority vote. Such adopted standards are then integrated into the national collection of standards, and contradictory national standards are withdrawn.
European standards incorporated within the French collection of standards carry the prefix NF EN. At the 'Union Technique de l'Electricité' *(Technical Union of Electricity)* (UTE), the French version of a corresponding European standard carries a dual number: European reference (NF EN …) and classification index (C …).
Therefore, the standard NF EN 60947-4-1 relating to motor contactors and starters, effectively constitutes the French version of the European standard EN 60947-4-1 and carries the UTE classification C 63-110.
This standard is identical to the British standard BS EN 60947-4-1 or the German standard DIN EN 60947-4-1.
Whenever reasonably practical, European standards reflect the international standards (IEC).
With regard to automation system components and distribution equipment, in addition to complying with the requirements of French NF standards, Telemecanique Sensors brand components conform to the standards of all other major industrial countries.

Regulations

European Directives

Opening up of European markets assumes harmonisation of the regulations pertaining to each of the member countries of the European Union.
The purpose of the European Directive is to eliminate obstacles hindering the free circulation of goods within the European Union, and it must be applied in all member countries. Member countries are obliged to transcribe each Directive into their national legislation and to simultaneously withdraw any contradictory regulations. The Directives, in particular those of a technical nature which concern us, only establish the objectives to be achieved, referred to as "essential requirements".
The manufacturer must take all the necessary measures to ensure that his products conform to the requirements of each Directive applicable to his production.
As a general rule, the manufacturer certifies conformity to the essential requirements of the Directive(s) for his product by affixing the CE mark.
The CE mark is affixed to Telemecanique Sensors brand products concerned, in order to comply with French and European regulations.

Significance of the CE mark
- The CE mark affixed to a product signifies that the manufacturer certifies that the product conforms to the relevant European Directive(s) which concern it; this condition must be met to allow free distribution and circulation within the countries of the European Union of any product subject to one or more of the E.U. Directives.
- The CE mark is intended solely for national market control authorities.
- The CE mark must not be confused with a conformity marking.

European Directives (continued)

For electrical equipment, only conformity to standards signifies that the product is suitable for its designated function, and only the guarantee of an established manufacturer can provide a high level of quality assurance.
For Telemecanique Sensors brand products, one or several Directives are likely to be applicable, depending on the product, and in particular:

- the Low Voltage Directive 2006/95/EC: the CE mark relating to this Directive has been compulsory since 16th January 2007.
- the Electromagnetic Compatibility Directive 89/336/EEC, amended by Directives 92/31/EEC and 93/68/EEC: the CE mark on products covered by this Directive has been compulsory since 1st January 1996.

ASEFA-LOVAG certification

The function of ASEFA (Association des Stations d'Essais Française d'Appareils électriques - *Association of French Testing Stations for Low Voltage Industrial Electrical Equipment)* is to carry out tests of conformity to standards and to issue certificates of conformity and test reports.
ASEFA laboratories are authorised by the French authorisation committee (COFRAC).
ASEFA is now a member of the European agreement group LOVAG (Low Voltage Agreement Group). This means that any certificates issued by LOVAG/ASEFA are recognised by all the authorities which are members of the group and carry the same validity as those issued by any of the member authorities.

Quality labels

When components can be used in domestic and similar applications, it is sometimes recommended that a "Quality label" be obtained, which is a form of certification of conformity.

Code	Quality label	Country
CEBEC	Comité Electrotechnique Belge	Belgium
KEMA-KEUR	Keuring van Electrotechnische Materialen	Netherlands
NF	Union Technique de l'Electricité	France
ÖVE	Österreichischer Verband für Electrotechnik	Austria
SEMKO	Svenska Electriska Materiel Kontrollanatalten	Sweden

Product certifications

In some countries, the certification of certain electrical components is a legal requirement. In this case, a certificate of conformity to the standard is issued by the official test authority.
Each certified device must bear the relevant certification symbols when these are mandatory:

Code	Certification authority	Country
CSA	Canadian Standards Association	Canada
UL	Underwriters Laboratories	USA
CCC	China Compulsory Certification	China

Note on certifications issued by the Underwriters Laboratories (UL). There are two levels of approval:

"Recognized" ( ) The component is fully approved for inclusion in equipment built in a workshop, where the operating limits are known by the equipment manufacturer and where its use within such limits is acceptable by the Underwriters Laboratories.
The component is not approved as a "Product for general use" because its manufacturing characteristics are incomplete or its application possibilities are limited.
A "Recognized" component does not necessarily carry the certification symbol.

"Listed" (UL) The component conforms to all the requirements of the classification applicable to it and may therefore be used both as a "Product for general use" and as a component in assembled equipment. A "Listed" component must carry the certification symbol.

Marine classification societies

Prior approval (= certification) by certain marine classification societies is generally required for electrical equipment which is intended for use on board merchant vessels.

Code	Classification authority	Country
BV	Bureau Veritas	France
DNV	Det Norske Veritas	Norway
GL	Germanischer Lloyd	Germany
LR	Lloyd's Register	Great Britain
NKK	Nippon Kaiji Kyokaï	Japan
RINA	Registro Italiano Navale	Italy
RRS	Register of Shipping	Russia

Note

For further details on a specific product, please refer to the "Characteristics" pages in this catalogue or consult your Customer Care Centre.

Degrees of protection against the penetration of solid bodies, water and personnel access to live parts

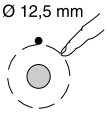
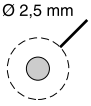
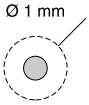
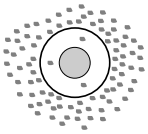
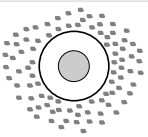
The European standard EN 60529 dated October 1991, IEC publication 529 (2nd edition - November 1989), defines a coding system (IP code) for indicating the degree of protection provided by electrical equipment enclosures against accidental direct contact with live parts and against the ingress of solid foreign objects or water. This standard does not apply to protection against the risk of explosion or conditions such as humidity, corrosive gasses, fungi or vermin.
Certain equipment is designed to be mounted on an enclosure which will contribute towards achieving the required degree of protection (example : control devices mounted on an enclosure).
Different parts of an equipment can have different degrees of protection (example : enclosure with an opening in the base).
Standard NF C 15-100 (May 1991 edition), section 512, table 51 A, provides a cross-reference between the various degrees of protection and the environmental conditions classification, relating to the selection of equipment according to external factors.
Practical guide UTE C 15-103 shows, in the form of tables, the characteristics required for electrical equipment (including minimum degrees of protection), according to the locations in which they are installed.

IP ●●● code

The IP code comprises **2 characteristic numerals** (e.g. **IP 55**) and may include **an additional letter** when the actual protection of personnel against direct contact with live parts is better than that indicated by the first numeral (e.g. IP 20C).
Any characteristic numeral which is unspecified is replaced by an X (e.g. IP XXB).

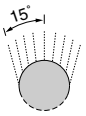
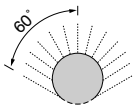
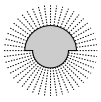
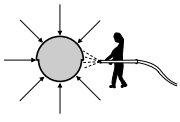
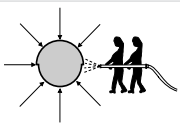
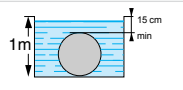
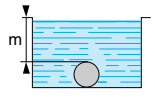
1st characteristic numeral:

corresponds to protection of the equipment against penetration of solid objects and protection of personnel against direct contact with live parts.

	Protection of the equipment		Protection of personnel
0	Non-protected		Non-protected
1	Ø 50 mm 	Protected against the penetration of solid objects having a diameter greater than or equal to 50 mm	Protected against direct contact with the back of the hand (accidental contacts).
2	Ø 12,5 mm 	Protected against the penetration of solid objects having a diameter greater than or equal to 12.5 mm.	Protected against direct finger contact.
3	Ø 2,5 mm 	Protected against the penetration of solid objects having a diameter greater than or equal to 2.5 mm.	Protected against direct contact with a Ø 2.5 mm tool.
4	Ø 1 mm 	Protected against the penetration of solid objects having a diameter greater than or equal to 1 mm.	Protected against direct contact with a Ø 1 mm wire.
5		Dust protected (no harmful deposits).	Protected against direct contact with a Ø 1 mm wire.
6		Dust tight.	Protected against direct contact with a Ø 1 mm wire.

2nd characteristic numeral:

corresponds to protection of the equipment against penetration of water with harmful effects.

0	Non-protected	
1		Protected against vertical dripping water, (condensation).
2		Protected against dripping water at an angle of up to 15°.
3		Protected against rain at an angle of up to 60°.
4		Protected against splashing water in all directions.
5		Protected against water jets in all directions.
6		Protected against powerful jets of water and waves.
7		Protected against the effects of temporary immersion.
8		Protected against the effects of prolonged immersion under specified conditions.

Additional letter:

corresponds to protection of personnel against direct contact with live parts.

A	With the back of the hand.
B	With the finger.
C	With a Ø 2.5 mm tool.
D	With a Ø 1 mm wire.

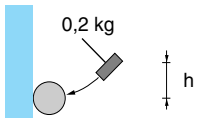
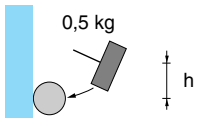
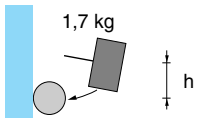
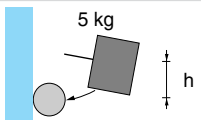
Degrees of protection against mechanical impact

The European standard EN 50102 dated March 1995 defines a coding system (IK code) for indicating the degree of protection provided by electrical equipment enclosures against external mechanical impact.
Standard NF C 15-100 (May 1991 edition), section 512, table 51 A, provides a cross-reference between the various degrees of protection and the environmental conditions classification, relating to the selection of equipment according to external factors.
Practical guide UTE C 15-103 shows, in the form of tables, the characteristics required for electrical equipment (including minimum degrees of protection), according to the locations in which they are installed.

IK ●● code

The IK code comprises **2 characteristic numerals** (e.g. **IK 05**).

2 characteristic numerals:
corresponding to a value of impact energy.

		h (cm)	Energy (J)
00	Non-protected		
01		7.5	0.15
02		10	0.2
03		17.5	0.35
04		25	0.5
05		35	0.7
06		20	1
07		40	2
08		30	5
09		20	10
10		40	20

Product reference index

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