Product data sheet
Characteristics

XMLR400M1P25
Pressure sensors XMLR 400bar - G 1/4 - 24VDC - 4..20 mA - PNP - M12



Main

Range of product	OsiSense XM
Product or component type	Electronic pressure sensors
Pressure switch type of operation	Pressure transmitter with 1 switching output
Device short name	XMLR
Pressure sensor size	400 bar 5800 psi 40 MPa
Maximum permissible accidental pressure	1200 bar 17400 psi 120 MPa
Destruction pressure	2400 bar 34800 psi 240 MPa
Controlled fluid	Refrigeration fluid (-20...80 °C) Hydraulic oil (-20...80 °C) Air (-20...80 °C) Fresh water (0...80 °C)
Fluid connection type	G 1/4 (female) conforming to DIN 3852-Y
[Us] rated supply voltage	24 V DC SELV, voltage limits: 17...33 V

Complementary

Current consumption	<= 50 mA
Electrical connection	4 pins M12 male connector
Type of output signal	Analogue + discrete
Analogue output function	4...20 mA
Discrete output type	Solid state PNP, NO/NC programmable
Maximum switching current	250 mA
Voltage drop	<= 2 V
Adjustable range of switching point on rising pressure	32...400 bar 464...5800 psi 3.2...40 MPa
Adjustable range of switching point on falling pressure	20...388 bar 290...5626 psi 2...38.8 MPa
Minimum differential travel	12 bar 174 psi 1.2 MPa
Materials in contact with fluid	316L stainless steel
Front material	Polyester
Housing material	Polyacrylamide 316L stainless steel
Operating position	Any position, but disposals can falsified the measurement in case of upside down mounting
Protection type	Overload protection Overvoltage protection Reverse polarity Short-circuit protection
Response time on output	<= 5 ms for discrete output <= 10 ms for analog output
Switching output time delay	0...50 s in steps of 1 second
Display type	4 digits 7 segments

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This documentation is not intended as a substitute for and is not to be used for determining suitability or reliability of these products for specific user applications.
It is the duty of any such user or integrator to perform the appropriate and complete risk analysis, evaluation and testing of the products with respect to the relevant specific application or use thereof.
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Local signalling	1 LED yellow for light ON when switch is actuated
Display response time type	Slow 600 ms Normal 200 ms Fast 50 ms
Delay first up	<= 300 ms
Overall accuracy	<= 1 % of the measuring range
Linearity error on analogue output	<= 0.5 % of the measuring range
Hysteresis on analogue output	<= 0.2 % of the measuring range
Measurement accuracy on switching output	<= 0.6 % of the measuring range
Repeat accuracy	<= 0.2 % of the measuring range
Drift of the sensitivity	+/- 0.03 % of measuring range/°C
Drift of the zero point	+/- 0.1 % of measuring range/°C
Display accuracy	<= 1 % of the measuring range
Mechanical durability	>= 10000000 cycles
Depth	42 mm
Height	88 mm
Width	41 mm
Product weight	0.186 kg
[Uimp] rated impulse withstand voltage	0.5 kV DC
Electromagnetic compatibility	Electrostatic discharge immunity test - test level 8 kV air, 4 kV contact conforming to EN/IEC 61000-4-2 Electrical fast transient/burst immunity test - test level 2 kV conforming to EN/IEC 61000-4-4 Surge immunity test - test level 1 kV conforming to EN/IEC 61000-4-5 Immunity to conducted RF disturbances - test level 10 V (0.15...80 MHz) conforming to EN/IEC 61000-4-6 Susceptibility to electromagnetic fields - test level 10 V/m (80...2000 MHz) conforming to EN/IEC 61000-4-3

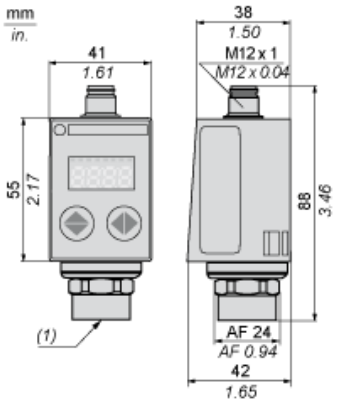
Environment

Marking	CE
Product certifications	CULus EAC
Standards	UL 61010-1 EN/IEC 61326-2-3
Ambient air temperature for operation	-20...80 °C
Ambient air temperature for storage	-40...80 °C
IP degree of protection	IP67 conforming to EN/IEC 60529 IP65 conforming to EN/IEC 60529
Vibration resistance	20 gn (f = 10...2000 Hz) conforming to EN/IEC 60068-2-6
Shock resistance	50 gn conforming to EN/IEC 60068-2-27

Offer Sustainability

Sustainable offer status	Not Green Premium product
RoHS (date code: YYWW)	Compliant - since 1351 - Schneider Electric declaration of conformity
REACh	Reference not containing SVHC above the threshold

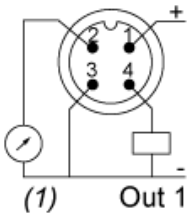
Dimensions



(1) Fluid entry: G 1/4 A female

Connections and Schema

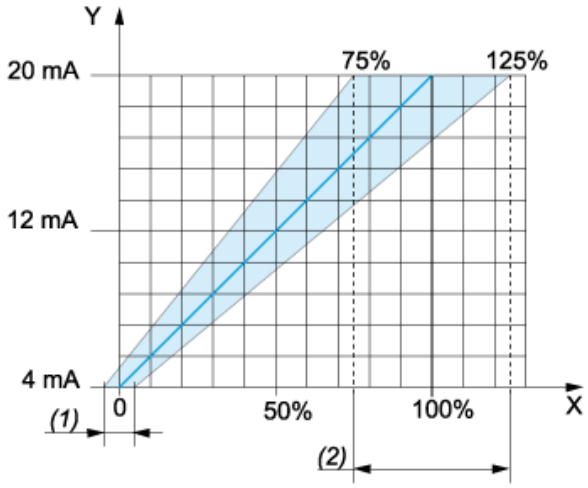
Connector Wiring



(1) I Out or V Out

Analogue Output Description

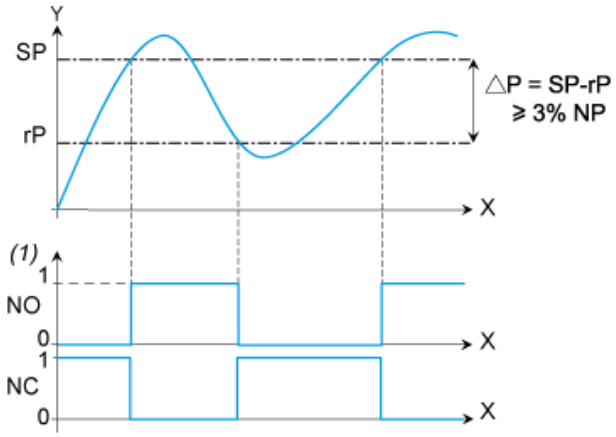
Analogue Output Signal



X : Pressure
Y : Analogue output signal
(1) An offset of +/-5% of nominal pressure can be compensated (with Cof Configuration menu. Cof: Offset Compensation)
(2) The analogue curve can be adjusted from -25% to +25% of nominal pressure (with AEP Configuration menu. AEP: analogue end point).

Switching Output Description. Hysteresis Mode

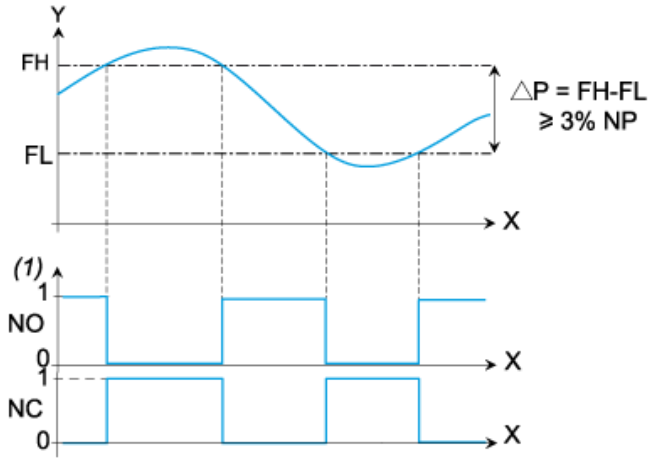
The hysteresis switching mode is typically used for the “pumping and/or emptying applications”.



X : Time
Y : Pressure
(1) Output
NP : Nominal Pressure
SP : Set point (adjustable from 8 % to 100 % NP)
rP : Reset point (adjustable from 5 % to 97 % NP)

Switching Output Description. Window Mode

The window switching mode is typically used for the “pressure regulation applications”

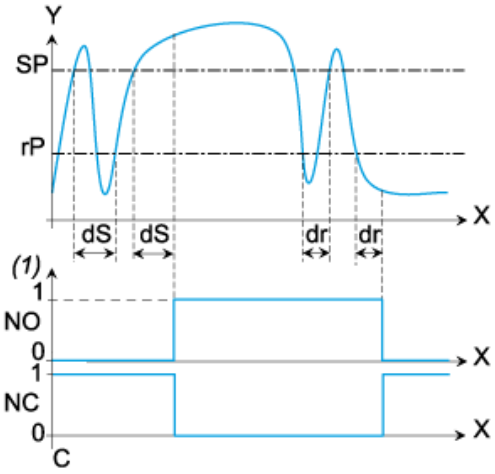


X : Time
Y : Pressure
(1) Output
NP : Nominal pressure
FH : High switching point (adjustable from 8 % to 100 % NP)
FL : Low switching point (adjustable from 5 % to 97 % NP)

Switching Output Description. Time Delay

The Time Delay is typically used to filter out the fast pressure transients.

The output only switches after a time “dS” and “dr” adjustable from 0 to 50 seconds.



X : Time
Y : Pressure
(1) Output
SP : Set point
rP : Reset point
dS : Time delay on the set point
dr : Time delay on the reset point