

Electronic pressure sensors, Pressure sensors  
XM, Display & switch ZMLP, 24 VDC, 4...20  
mA, NPN, hysteresis, M12



## Main

|                           |                             |
|---------------------------|-----------------------------|
| Range of product          | OsiSense XM                 |
| Product or component type | Electronic pressure sensors |
| Device short name         | ZMLP                        |

## Complementary

|                                                         |                                                                                               |
|---------------------------------------------------------|-----------------------------------------------------------------------------------------------|
| Display range                                           | -14.5...6000                                                                                  |
| [Us] rated supply voltage                               | 24 V DC SELV (voltage limits: 17...33 V)                                                      |
| Current consumption                                     | ≤ 50 mA                                                                                       |
| Electrical connection                                   | Female connector M12, 2 pins<br>Male connector M12, 4 pins                                    |
| Type of output signal                                   | Analogue + discrete                                                                           |
| Analogue output function                                | 4...20 mA                                                                                     |
| Discrete output type                                    | Solid state NPN, NO/NC programmable                                                           |
| Switching function                                      | Hysteresis                                                                                    |
| Maximum switching current                               | 200 mA                                                                                        |
| Maximum voltage drop                                    | 2 V                                                                                           |
| Adjustable range of switching point on rising pressure  | 5...98 % of selected display range                                                            |
| Adjustable range of switching point on falling pressure | 2...95 % of selected display range                                                            |
| Minimum differential travel                             | 3 % of selected display range                                                                 |
| Marking                                                 | CE                                                                                            |
| Front material                                          | Polyester                                                                                     |
| Housing material                                        | PBT Valox                                                                                     |
| Operating position                                      | Any position                                                                                  |
| Protection type                                         | Short-circuit protection<br>Overload protection<br>Reverse polarity<br>Overvoltage protection |
| Response time on output                                 | ≤ 3 ms for analog output<br>≤ 3 ms for discrete output                                        |
| Display type                                            | 4 digits 7 segments                                                                           |
| Local signalling                                        | 1 LED (yellow) for light ON when switch is actuated                                           |
| Response time                                           | 300 ms                                                                                        |
| Maximum delay first up                                  | 100 ms                                                                                        |
| Accuracy                                                | ≤ - 0.1 % of the measuring range                                                              |
| Measurement accuracy                                    | ≤ 1 % of the measuring range                                                                  |
| Display accuracy                                        | ≤ 1 % of the measuring range                                                                  |
| Mechanical durability                                   | 10000000 cycles                                                                               |
| Depth                                                   | 42 mm                                                                                         |

The information provided in this documentation contains general descriptions and/or technical characteristics of the performance of the products contained herein. 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. Neither TWSS Holding nor any of its affiliates or subsidiaries shall be responsible or liable for misuse of the information contained herein.

|                                        |           |
|----------------------------------------|-----------|
| Height                                 | 77 mm     |
| Width                                  | 41 mm     |
| Net weight                             | 0.103 kg  |
| [Uimp] rated impulse withstand voltage | 0.5 kV DC |

## Environment

|                                       |                                                                                                                                                                                                                                                                                                                                                                                                                              |
|---------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Product certifications                | cULus                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Standards                             | IEC 61000-6-4<br>UL 508<br>IEC 61000-6-2                                                                                                                                                                                                                                                                                                                                                                                     |
| Ambient air temperature for operation | -25...70 °C                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Ambient air temperature for storage   | -30...80 °C                                                                                                                                                                                                                                                                                                                                                                                                                  |
| IP degree of protection               | IP67 conforming to IEC 60529<br>IP65 conforming to IEC 60529<br>IP69K conforming to DIN 40050                                                                                                                                                                                                                                                                                                                                |
| Vibration resistance                  | 5 gn (f= 10...2000 Hz) conforming to IEC 60068-2-6                                                                                                                                                                                                                                                                                                                                                                           |
| Shock resistance                      | 25 gn conforming to IEC 60068-2-27                                                                                                                                                                                                                                                                                                                                                                                           |
| Electromagnetic compatibility         | Immunity to conducted RF disturbances: 10 V 0.15...80 MHz conforming to IEC 61000-4-6<br>Surge immunity test: 1 kV conforming to IEC 61000-4-5<br>Electrical fast transient/burst immunity test: 2 kV conforming to IEC 61000-4-4<br>Susceptibility to electromagnetic fields: 10 V/m 80...2000 MHz conforming to IEC 61000-4-3<br>Electrostatic discharge immunity test: 8 kV air, 4 kV contact conforming to IEC 61000-4-2 |

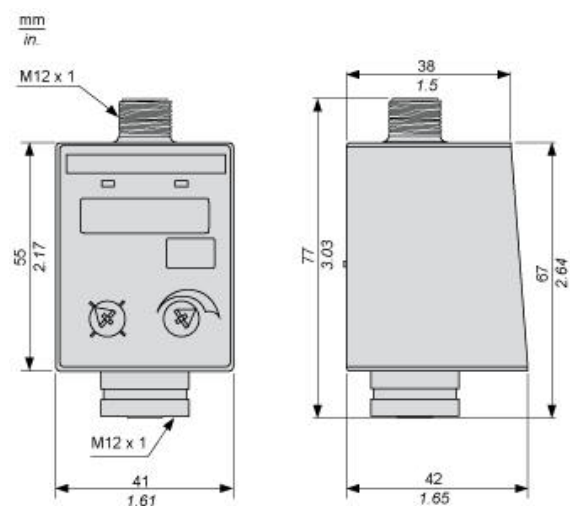
## Packing Units

|                              |          |
|------------------------------|----------|
| Unit Type of Package 1       | PCE      |
| Number of Units in Package 1 | 1        |
| Package 1 Height             | 4.3 cm   |
| Package 1 Width              | 4.7 cm   |
| Package 1 Length             | 8.7 cm   |
| Package 1 Weight             | 105.0 g  |
| Unit Type of Package 2       | S01      |
| Number of Units in Package 2 | 24       |
| Package 2 Height             | 15.0 cm  |
| Package 2 Width              | 15.0 cm  |
| Package 2 Length             | 40.0 cm  |
| Package 2 Weight             | 2.706 kg |

## Offer Sustainability

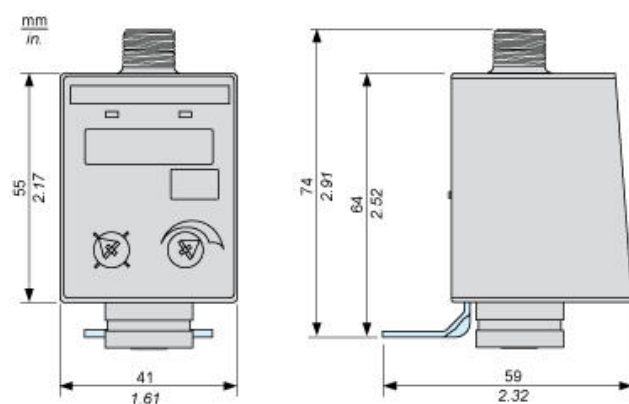
|                                            |                                                                                                                                                                                                                                                                                                                                                                                   |
|--------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Sustainable offer status                   | Green Premium product                                                                                                                                                                                                                                                                                                                                                             |
| California proposition 65                  | WARNING: This product can expose you to chemicals including: Diisononyl phthalate (DINP), which is known to the State of California to cause cancer, and Di-isodecyl phthalate (DIDP), which is known to the State of California to cause birth defects or other reproductive harm. For more information go to <a href="http://www.P65Warnings.ca.gov">www.P65Warnings.ca.gov</a> |
| For all Reach Rohs enquiries contact us at | <a href="mailto:sustainability@tesensors.com">sustainability@tesensors.com</a>                                                                                                                                                                                                                                                                                                    |

## Dimensions



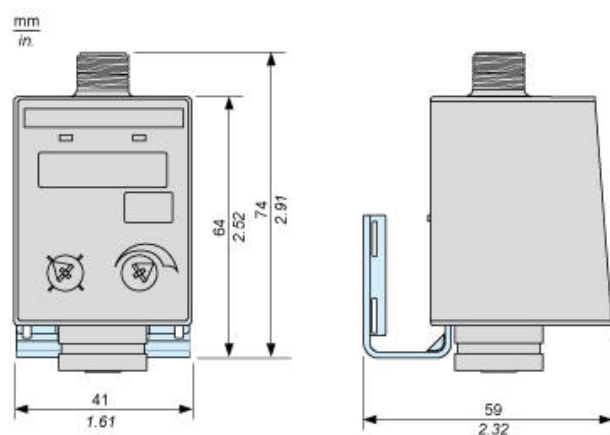
## Dimensions

### Switch with Metal Bracket for Fixing Horizontally



## Dimensions

### Switch with Metal Bracket for Fixing Vertically or on an Inlet Pipe

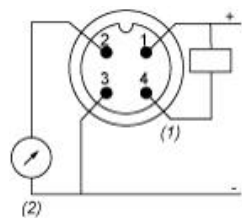


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## Connections and Schema

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### Output M12 Male Connector Wiring



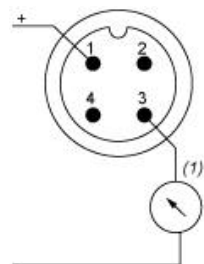
- (1) Out  
(2) I Out

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## Connections and Schema

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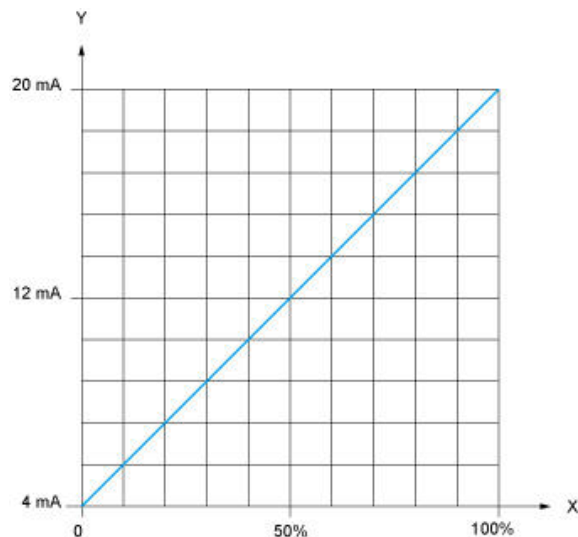
### Input M12 Female Connector Wiring



- (1) I in = 4-20 mA

## Analog Output Description

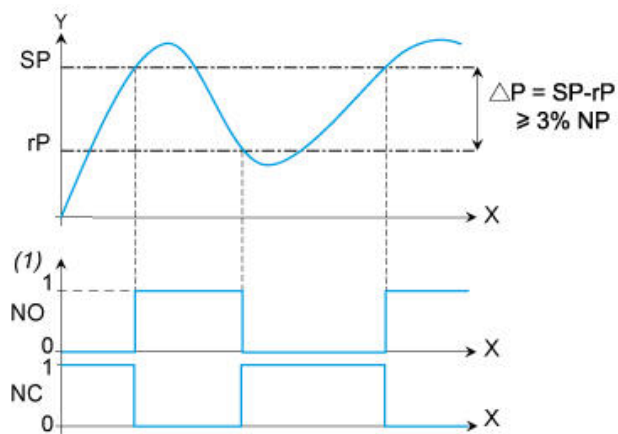
The 4...20 mA analog output is strictly the image of the pressure transmitter output signal.



X : Pressure  
Y : Analog output signal

## Switching Output Description. Hysteresis Mode

The hysteresis switching mode is typically used for the pumping applications.



X : Time  
Y : Pressure  
(1) Output  
NP : Nominal Pressure  
SP : Set point (adjustable from 5 % to 98 % NP)  
rP : Reset point (adjustable from 2 % to 95 % NP)