



Main

|                                    |   |
|------------------------------------|---|
| Range of product                   | Telemecanique Inductive proximity sensors XS                          |
| Series name                        | General purpose   |
| Sensor type                        | Inductive proximity sensor  |
| Device application                 | Mobile equipment  |
| Sensor name                        | XS1   |
| Sensor design                      | Cylindrical M12   |
| Size                               | 50 mm   |
| Body type                          | Fixed   |
| Detector flush mounting acceptance | Flush mountable   |
| Material                           | Metal   |
| Type of output signal              | Discrete  |
| Wiring technique                   | 4-wire  |
| [Sn] nominal sensing distance      | 2 mm  |
| Discrete output function           | 1 NO + 1 NC   |
| Output circuit type                | DC  |
| Discrete output type               | PNP   |
| Electrical connection              | Male connector M12, 4 pins  |
| [Us] rated supply voltage          | 12...24 V DC with reverse polarity protection                         |
| Switching capacity in mA           | <= 200 mA with overload and short-circuit protection                  |
| IP degree of protection            | IP69K conforming to DIN 40050<br>IP65 conforming to IEC 60529<br>IP67 |

Complementary

|                         |  |
|-------------------------|--|
| Safety level            | SIL 2 conforming to IEC 61508<br>PL = d conforming to ISO 13849-1<br>SILCL 2 conforming to IEC 62061   |
| Safety reliability data | MTTFd = 1810 years<br>PFHd = 62.9E-9 1/h<br>SFF = 92 %<br>DC = 74 % with appropriate safety controller |
| Service life            | 20 year(s)   |
| Thread type             | M12 x 1  |
| Detection face          | Frontal  |
| Front material          | PPS  |
| Enclosure material      | Nickel plated brass  |
| Operating zone          | 0...1.6 mm   |
| Differential travel     | 1...15% of Sr  |
| Status LED              | Output state: 1 LED (yellow)   |
| Supply voltage limits   | 9...36 V DC  |
| Switching frequency     | <= 5000 Hz   |
| Maximum voltage drop    | <2 V (closed)  |
| Current consumption     | 0...10 mA no-load  |
| Maximum delay first up  | 5 ms   |
| Maximum delay response  | 0.1 ms   |
| Maximum delay recovery  | 0.1 ms   |

|                 |         |
|-----------------|---------|
| Marking         | CE      |
| Threaded length | 31 mm   |
| Length          | 50 mm   |
| Net weight      | 0.02 kg |

## Environment

|                                       |   |
|---------------------------------------|---|
| Standards                             | IEC 62061<br>ISO 13849-1  |
| Product certifications                | E2[RETURN]CSA[RETURN]TÜV[RETURN]JUL                                     |
| Ambient air temperature for operation | -25...70 °C   |
| Ambient air temperature for storage   | -40...85 °C   |
| Vibration resistance                  | 25 gn amplitude = +/- 2 mm (f = 10...55 Hz) conforming to IEC 60068-2-6 |
| Shock resistance                      | 50 gn for 11 ms conforming to IEC 60068-2-27                            |

## Packing Units

|                              |         |
|------------------------------|---------|
| Unit Type of Package 1       | PCE     |
| Number of Units in Package 1 | 1       |
| Package 1 Height             | 1.7 cm  |
| Package 1 Width              | 14.8 cm |
| Package 1 Length             | 20.6 cm |
| Package 1 Weight             | 34.0 g  |
| Unit Type of Package 2       | S01     |
| Number of Units in Package 2 | 22      |
| Package 2 Height             | 15 cm   |
| Package 2 Width              | 15 cm   |
| Package 2 Length             | 40 cm   |
| Package 2 Weight             | 1.1 kg  |

## Offer Sustainability

|  |   |
|--|---|
| Sustainable offer status                   | Green Premium product   |
| Circularity Profile                        |  <a href="#">End of Life Information</a>   |
| California proposition 65                  | WARNING: This product can expose you to chemicals including: Diisobutyl 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>  |

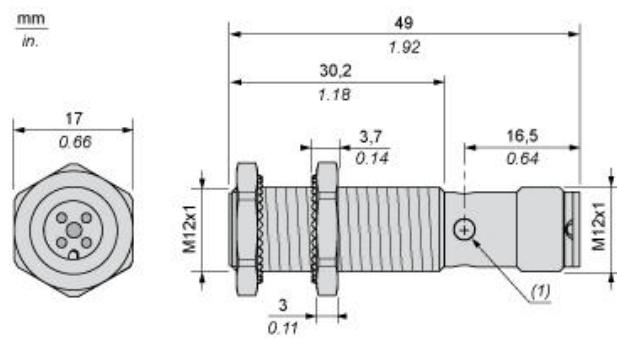
## Contractual warranty

|          |           |
|----------|-----------|
| Warranty | 18 months |
|----------|-----------|

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Dimensions

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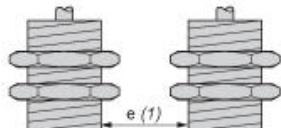


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### Minimum Mounting Distances

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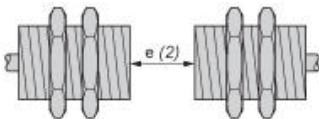
Side by side



$e (1)$  4 mm/0.16 in.

$\geq$

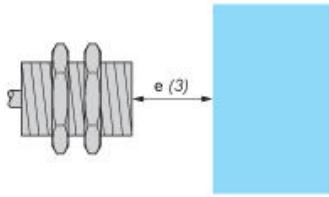
Face to face



$e (2)$  24 mm/0.94 in.

$\geq$

Facing a metal object



$e (3)$  6 mm/0.24 in.

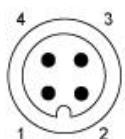
$\geq$

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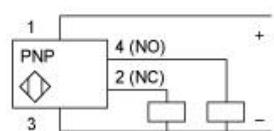
### Wiring Schemes

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M12 connector



PNP 4-wire

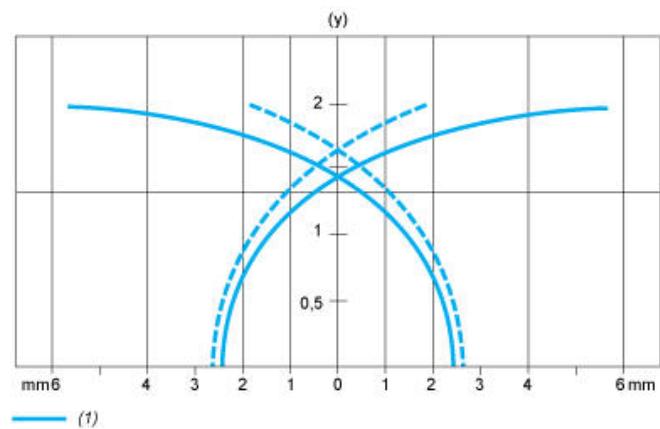


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Performance Curves

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Standard Steel Target : 12x12x1 mm



(1) Pick-up points  
(2) Drop-out points (object approaching from the side)  
(y) Sensing distance in mm