

# Product datasheet

Specifications



Ultrasonic sensors XX, ultrasonic sensor, plastic, cylindrical M30, straight, 1 m, 4...20 mA

XXS30P1AM12

EAN Code : 3389119644600

## Main

|                               |                                                                       |
|-------------------------------|-----------------------------------------------------------------------|
| Range of product              | Telemecanique Ultrasonic sensors XX                                   |
| Sensor type                   | Ultrasonic sensor                                                     |
| Series name                   | General purpose                                                       |
| Sensor name                   | XXS                                                                   |
| Sensor design                 | Cylindrical M30                                                       |
| Detection system              | Diffuse                                                               |
| [Sn] nominal sensing distance | 1 m adjustable with remote teach push-button<br>1 m software with kit |
| Material                      | Plastic                                                               |
| Type of output signal         | Analogue                                                              |
| Wiring technique              | 5-wire                                                                |
| Analogue output function      | 4...20 mA                                                             |
| [Us] rated supply voltage     | 12...24 V DC with reverse polarity protection                         |
| Electrical connection         | Male connector M12 5 pins                                             |
| [Sd] sensing range            | 0.105...1 m                                                           |
| IP degree of protection       | IP65 conforming to IEC 60529<br>IP67                                  |

## Complementary

|                                                   |                                                    |
|---------------------------------------------------|----------------------------------------------------|
| Enclosure material                                | PBT                                                |
| Front material                                    | Epoxy<br>Rubber<br>Resin                           |
| Supply voltage limits                             | 10...30 V DC                                       |
| Function available                                | With synchronisation mode<br>Software configurable |
| [Sa] assured operating distance                   | 0.105...1 m (teach mode)                           |
| Blind zone                                        | 105 mm                                             |
| Transmission frequency                            | 200 kHz                                            |
| Repeat accuracy                                   | 0.1 %                                              |
| Deviation angle from 90° of object to be detected | -10...10 °                                         |

|                                 |                                                                                    |
|---------------------------------|------------------------------------------------------------------------------------|
| Minimum size of detected object | Cylinder diameter 1 mm at 600 mm                                                   |
| Status LED                      | Output state: 1 LED (yellow)<br>Echo state: 1 LED (green)                          |
| Current consumption             | 30 mA                                                                              |
| Maximum switching capacity      | 250 Ohm with 12 V DC overload and short-circuit protection<br>850 Ohm with 24 V DC |
| Setting-up                      | Teach mode<br>Configurator software                                                |
| Maximum delay first up          | 180 ms                                                                             |
| Maximum delay recovery          | 100 ms                                                                             |
| Marking                         | CE                                                                                 |
| Threaded length                 | 39.95 mm                                                                           |
| Height                          | 30 mm                                                                              |
| Width                           | 30 mm                                                                              |
| Depth                           | 64.35 mm                                                                           |
| Net weight                      | 0.05 kg                                                                            |

## Environment

|                                       |                                                            |
|---------------------------------------|------------------------------------------------------------|
| Standards                             | EN/IEC 60947-5-2<br>CSA C22.2 No 14<br>UL 508              |
| Product certifications                | cULus<br>E2<br>EAC<br>RCM<br>Ecolab                        |
| Ambient air temperature for operation | -25...70 °C                                                |
| Ambient air temperature for storage   | -40...80 °C                                                |
| Vibration resistance                  | +/-1 mm conforming to IEC 60068-2-6 (f = 10...55 Hz)       |
| Shock resistance                      | 30 gn in all 3 axes for 11 ms conforming to IEC 60068-2-27 |
| Resistance to electrostatic discharge | 8 kV conforming to IEC 61000-4-2                           |
| Resistance to electromagnetic fields  | 10 V/m level 3 conforming to IEC 61000-4-3                 |
| Resistance to fast transients         | 2 kV conforming to IEC 61000-4-4                           |

## Packing Units

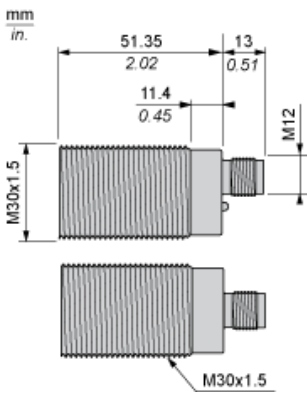
|                              |        |
|------------------------------|--------|
| Unit Type of Package 1       | PCE    |
| Number of Units in Package 1 | 1      |
| Package 1 Height             | 8.5 cm |
| Package 1 Width              | 4.0 cm |
| Package 1 Length             | 8.5 cm |
| Package 1 Weight             | 90.0 g |

## Offer Sustainability

|                          |                                                                                                   |
|--------------------------|---------------------------------------------------------------------------------------------------|
| Sustainable offer status | Green Premium product                                                                             |
| REACH Regulation         | <a href="#">REACH Declaration</a>                                                                 |
| EU RoHS Directive        | Pro-active compliance (Product out of EU RoHS legal scope)<br><a href="#">EU RoHS Declaration</a> |

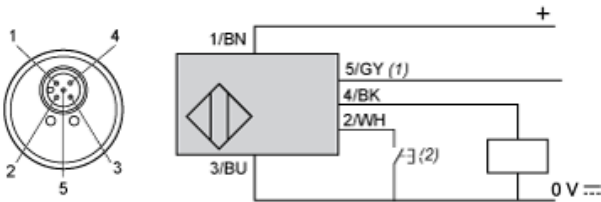
|                             |                                               |
|-----------------------------|-----------------------------------------------|
| Mercury free                | Yes                                           |
| RoHS exemption information  | <a href="#">Yes</a>                           |
| Environmental Disclosure    | <a href="#">Product Environmental Profile</a> |
| <b>Contractual warranty</b> |                                               |
| Warranty                    | 18 months                                     |

Dimensions



Connections

Connector Wiring



- (1) : Synchronization
- (2) : External setting pushbutton or XXZPB100 remote teach pushbutton.

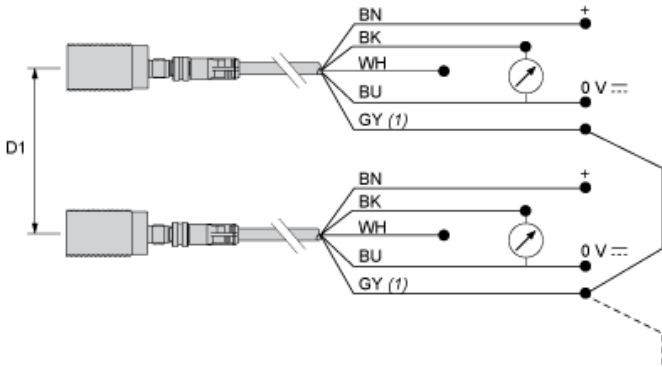
| Pin number | Wire color | Description     |
|------------|------------|-----------------|
| 1          | BN: Brown  | +12...24VDC     |
| 2          | WH: White  | Input teach     |
| 3          | BU: Blue   | 0 VDC           |
| 4          | BK: Black  | Output          |
| 5          | GY: Grey   | Synchronization |

Wiring Scheme. Analog Output



- (1) : Synchronization
- 4-20 mA For 12 VDC, load ≤ 250 Ω
- For 24 VDC, load ≤ 850 Ω

Wiring for the Synchronization Function (Side by Side Application)

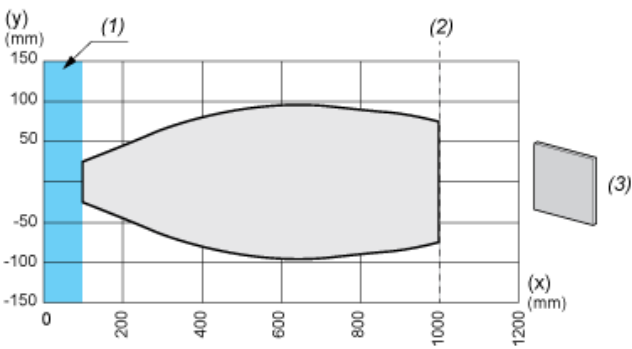


- (1) : Synchronization
- D1 : 1/8 Sn
- BN : Brown
- WH : White
- BU : Blue
- BK : Black
- GY : Grey

**NOTE:** Up to 8 sensors can be synchronized to operate side by side by electrically connecting all pin no.5 (grey) wires together.  
To synchronize more than 8 sensors, a PLC output can be used (the pins no.5 must be simultaneously driven by the rising edge of a pulse).

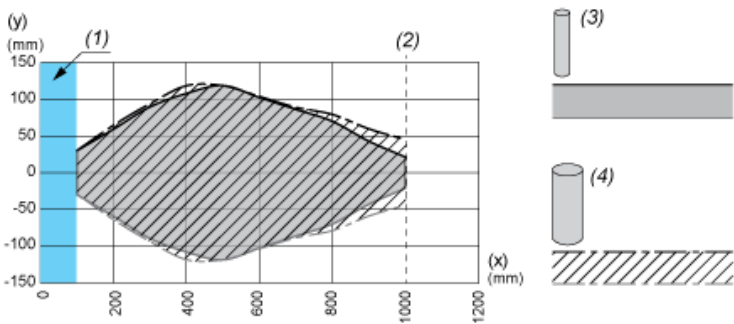
Performance Curves

Detection Curve with 100 x 100 mm / 3.94 x 3.94 inches Square Target



- (X) : Target distance
- (Y) : Detection limit
- (1) : Blind zone: 105 mm / 4.13 inches
- (2) : Sn max.
- (3) : 100 x 100 mm / 3.94 x 3.94 inches stainless steel plate

Detection Curve with Round Bar



- (X) : Target distance
- (Y) : Detection limit
- (1) : Blind zone: 105 mm / 4.13 inches
- (2) : Sn max.
- (3) : Ø 10 mm / 0.394 inches stainless steel cylinder
- (4) : Ø 25 mm / 0.984 inches stainless steel cylinder

Recommended replacement(s)