

# XXS30S1AM12

Ultrasonic sensor, stainless steel, cylindrical  
M30, straight, 1 m, 4...20 mA



## Main

|                               |                                                                       |
|-------------------------------|-----------------------------------------------------------------------|
| Range of product              | OsiSense 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                      | Metal                                                                 |
| 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            | 0.155...1 m                                                           |
| IP degree of protection       | IP65 conforming to IEC 60529<br>IP67                                  |

## Complementary

|                                                   |                                                                                    |
|---------------------------------------------------|------------------------------------------------------------------------------------|
| Enclosure material                                | Stainless steel 316L                                                               |
| 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                   | 0.155...1 m (teach mode)                                                           |
| Blind zone                                        | 155 mm                                                                             |
| Transmission frequency                            | 120 kHz                                                                            |
| Repeat accuracy                                   | 0.1 %                                                                              |
| Deviation angle from 90° of object to be detected | -15...15 °                                                                         |
| Minimum size of detected object                   | Cylinder diameter 1 mm at 1 m                                                      |
| Status LED                                        | Output state: 1 LED (yellow)<br>Echo state: 1 LED (green)                          |
| Current consumption                               | 65 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                                   | 75.75 mm                                                                           |
| Height                                            | 30 mm                                                                              |
| Width                                             | 30 mm                                                                              |
| Depth                                             | 102.15 mm                                                                          |
| Net weight                                        | 0.17 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 Weight             | 225 g  |
| Package 1 Height             | 13 cm  |
| Package 1 width              | 4.1 cm |
| Package 1 Length             | 9.5 cm |

## 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)  <a href="#">EU RoHS Declaration</a> |
| Mercury free               | Yes                                                                                                                                                                                  |
| RoHS exemption information |  <a href="#">Yes</a>                                                                              |
| Environmental Disclosure   |  <a href="#">Product Environmental Profile</a>                                                    |

## Contractual warranty

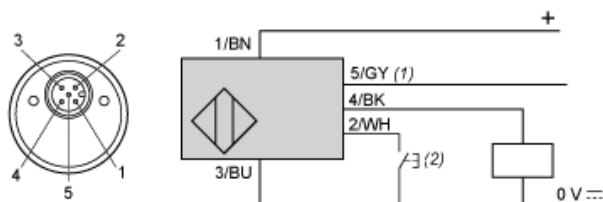
|          |           |
|----------|-----------|
| Warranty | 18 months |
|----------|-----------|

## 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 |

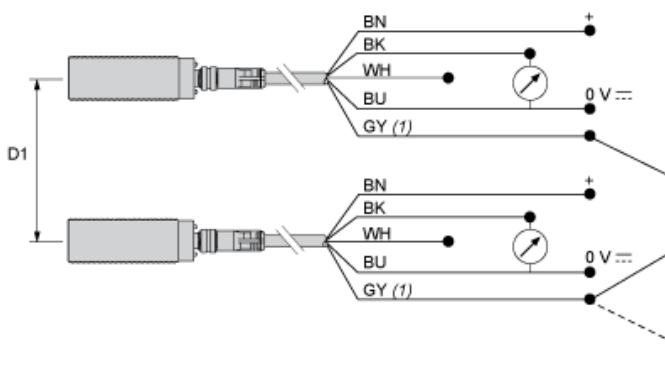
### Wiring Scheme. Analog Output



(1) : Synchronization

4-20 mA: For 12 VDC, load  $\leq 250 \Omega$   
For 24 VDC, load  $\leq 850 \Omega$

### 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).

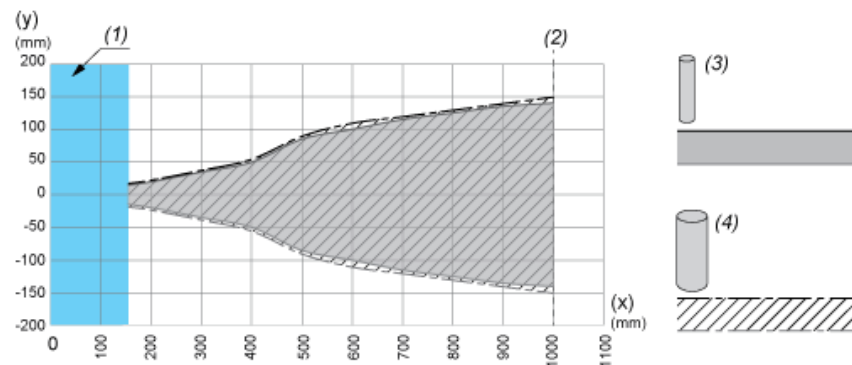
## Performance Curves

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



- (X) : Target distance  
(Y) : Detection limit  
(1) : Blind zone: 155 mm / 6.10 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: 155 mm / 6.10 inches  
(2) : Sn max.  
(3) : Ø 10 mm / 0.394 inches stainless steel cylinder  
(4) : Ø 25 mm / 0.984 inches stainless steel cylinder