

# XXS30B1AM12

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



## 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                      | 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                                | Nickel plated brass                                                                |
| 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                                        | 0.18 kg                                                                            |

## Environment

|                                       |                                                            |
|---------------------------------------|------------------------------------------------------------|
| Standards                             | IEC 60947-5-2<br>CSA C22.2 No 14<br>UL 508                 |
| Product certifications                | cULus[RETURN]E2[RETURN]RCM[RETURN]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             | 13.0 cm |
| Package 1 Width              | 4.1 cm  |
| Package 1 Length             | 9.5 cm  |
| Package 1 Weight             | 235.0 g |

## Offer Sustainability

|                                            |                                                                                                                                                                                                                                                                                                                                                                                  |
|--------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Sustainable offer status                   | Green Premium product                                                                                                                                                                                                                                                                                                                                                            |
| Circularity Profile                        | No need of specific recycling operations                                                                                                                                                                                                                                                                                                                                         |
| 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 Diisodecyl 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

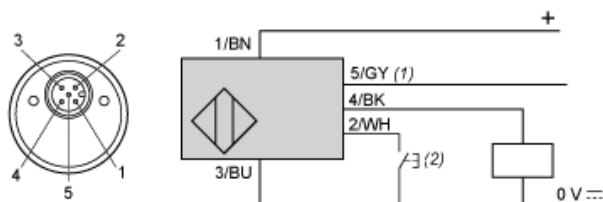
|          |           |
|----------|-----------|
| Warranty | 18 months |
|----------|-----------|

## 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 |

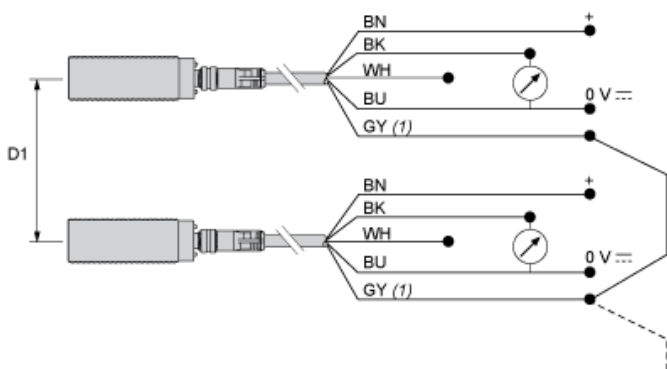
### Wiring Scheme. Analog Output



(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).

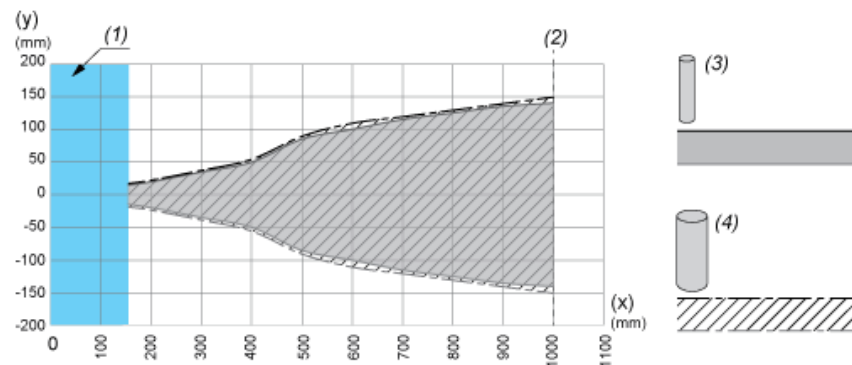
## Performance Curves

### 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