

# XXW54P3APL05

Ultrasonic sensor, plastic, Wide Beam Ø54, 3m, 4...20mA+PNP, 0.5m cable



## Main

|                               |                                                                                               |
|-------------------------------|-----------------------------------------------------------------------------------------------|
| Range of product              | Telemecanique Ultrasonic sensors XX                                                           |
| Sensor type                   | Ultrasonic sensor                                                                             |
| Series name                   | Application                                                                                   |
| Sensor name                   | XXS                                                                                           |
| Sensor design                 | Ø 54 mm                                                                                       |
| Detection system              | Diffuse                                                                                       |
| [Sn] nominal sensing distance | 3 m software with kit                                                                         |
| Material                      | Plastic                                                                                       |
| Type of output signal         | Analogue + discrete                                                                           |
| Discrete output function      | 1 NO or 1 NC programmable                                                                     |
| Wiring technique              | 5-wire                                                                                        |
| Discrete output type          | PNP                                                                                           |
| Analogue output function      | 4...20 mA                                                                                     |
| [Us] rated supply voltage     | 12...24 V DC with reverse polarity protection                                                 |
| Electrical connection         | Cable 5 pins, 0.5 m cable length                                                              |
| [Sd] sensing range            | 0.425...3 m                                                                                   |
| Beam angle                    | 50 °                                                                                          |
| IP degree of protection       | IP65 conforming to IEC 60529<br>IP67 conforming to IEC 60529<br>IP69K conforming to DIN 40050 |

## Complementary

|                                 |                                                                                    |
|---------------------------------|------------------------------------------------------------------------------------|
| Enclosure material              | Valox                                                                              |
| Front material                  | Ultem                                                                              |
| Supply voltage limits           | 9...32 V DC                                                                        |
| Function available              | Software configurable                                                              |
| [Sa] assured operating distance | 0.425...3 m (configurator software)                                                |
| Maximum differential travel     | 20 mm                                                                              |
| Blind zone                      | 425 mm                                                                             |
| Transmission frequency          | 48 kHz                                                                             |
| Repeat accuracy                 | 0.1 %                                                                              |
| Minimum size of detected object | Cylinder diameter 12 mm at 3 m                                                     |
| Status LED                      | Output state: 1 LED (yellow)<br>Echo state and power ON: 1 LED (green/white)       |
| Current consumption             | 30 mA                                                                              |
| Maximum switching current       | 100 mA with overload and short-circuit protection                                  |
| Maximum switching capacity      | 250 Ohm with 12 V DC overload and short-circuit protection<br>850 Ohm with 24 V DC |
| Maximum voltage drop            | 2 V                                                                                |
| Switching frequency             | <= 1.6 Hz                                                                          |
| Setting-up                      | Configurator software                                                              |
| Maximum delay first up          | 400 ms                                                                             |
| Maximum delay response          | 300 ms                                                                             |
| Maximum delay recovery          | 300 ms                                                                             |
| Marking                         | CE                                                                                 |
| Height                          | 54 mm                                                                              |

|            |          |
|------------|----------|
| Width      | 79 mm    |
| Depth      | 32.5 mm  |
| Net weight | 0.115 kg |




## Environment

|                                       |                                                            |
|---------------------------------------|------------------------------------------------------------|
| Standards                             | EN/IEC 60947-5-2<br>CSA C22.2 No 14<br>UL 508              |
| Product certifications                | CULus<br>E2                                                |
| Ambient air temperature for operation | -40...70 °C                                                |
| Ambient air temperature for storage   | -40...85 °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 8 kV air, 4 kV contact 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             | 5.3 cm  |
| Package 1 Width              | 7.8 cm  |
| Package 1 Length             | 13.0 cm |
| Package 1 Weight             | 151.0 g |
| Unit Type of Package 2       | S01     |
| Number of Units in Package 2 | 4       |
| Package 2 Height             | 15.0 cm |
| Package 2 Width              | 15.0 cm |
| Package 2 Length             | 40.0 cm |
| Package 2 Weight             | 799.0 g |

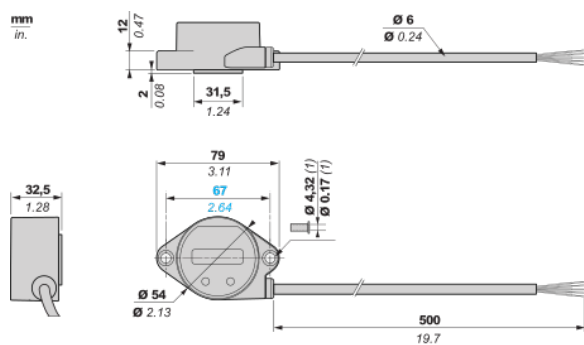
## Offer Sustainability

|                            |                                                                                                                                                                                                                                                                                                                                                                                   |
|----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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 |  Yes                                                                                                                                                                                                                                                                                           |
| WEEE                       | The product must be disposed on European Union markets following specific waste collection and never end up in rubbish bins                                                                                                                                                                                                                                                       |
| 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> |

## Contractual warranty

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

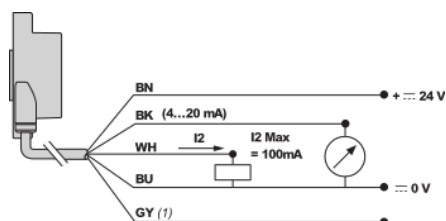
## Dimensions



(1): The sensor is supplied with 2 stainless steel inserts and 2 silicone washers. M4 screws not provided.

## Connection and schema

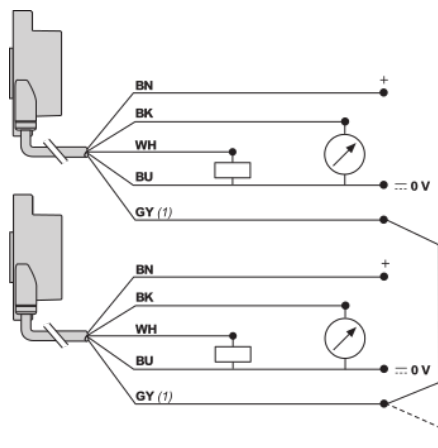
### Wiring diagram



(1): Synchronization

Analog output load:  $\leq 250 \Omega$  (■12 V),  $\leq 850 \Omega$  (■24 V)

### Synchronization function diagram (side by side application)

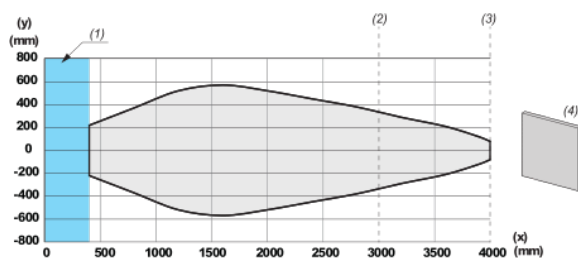


(1): Synchronization

Note: Up to 8 sensors can be synchronized to operate side by side by electrically connecting all pin no.6 (grey) wires together. All sensors must be the same model and have the same cycle time setting.

## Performance Curves

### Detection curve with 100 x 100 mm / 3.94 x 3.94 inches square target



(X): Target distance

(Y): Detection limit

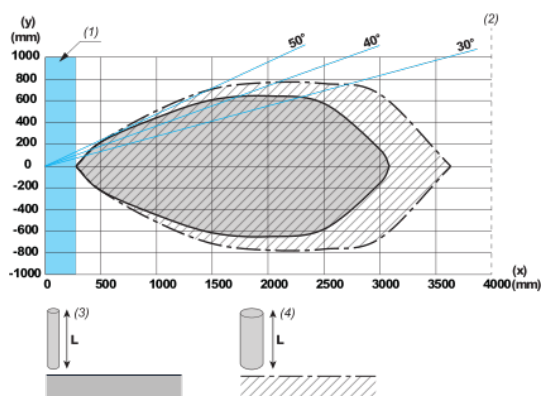
(1): Blind zone: 425 mm / 16.7 inches

(2): Far limit

(3): Sn max.

(4): 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: 425 mm / 16.7 inches

(2): Sn max.

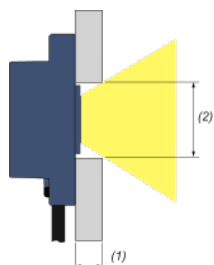
(3): Ø 10 mm / 0.394 inches stainless steel cylinder

(4): Ø 25 mm / 0.984 inches stainless steel cylinder

L: 1 m / 3.28 ft.

## Mounting and Clearance

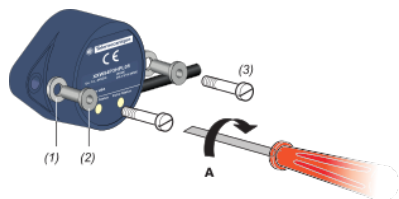
### Flush mounting recommendations



(1): E max: 10 mm / 0.39 in.

(2): Ø min: 33 mm / 1.3 in.

### Tightening torque



$A \leq 3 \text{ Nm} / 26.6 \text{ lb-in}$

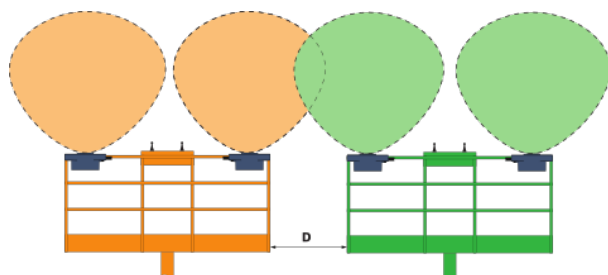
(1): 2 silicone washers provided with the sensor

(2): 2 stainless steel inserts provided with the sensor

(3): 2 M4 screws (not provided)

### Mutual interference between two separate pieces of mobile equipment, side by side

Sensors in the same mobile equipment must be synchronized, but sensors in two separate pieces of mobile equipment cannot be synchronized



D min: 2,5 m / 8.2 ft.

Note: For the side by side use, consider the machine manufacturer's prescriptions without ever going below the 2,5 m / 8.2 ft.