

Ultrasonic sensor, plastic, cylindrical M30,  
straight, 8 m, 4...20 mA+PNP



## 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	8 M adjustable with teach push-button 8 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	Male connector M12 5 pins
[Sd] sensing range	0.290...8 m
IP degree of protection	IP65 conforming to IEC 60529 IP67

## Complementary

Enclosure material	PBT
Front material	Epoxy Rubber Resin
Thread type	M30 x 1.5
Supply voltage limits	10...30 V DC
Function available	With synchronisation mode Software configurable
[Sa] assured operating distance	0.290...8 m (teach mode)
Blind zone	290 mm
Transmission frequency	75 kHz
Repeat accuracy	0.1 %
Deviation angle from 90° of object to be detected	-4...12 °
Minimum size of detected object	Cylinder diameter 12 mm at 1.8 m
Status LED	Output state: 1 LED (green/yellow) Output state: 1 LED (multi-colour) Echo state: 1 LED (green)
Current consumption	50 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 850 Ohm with 24 V DC
Maximum voltage drop	2 V
Switching frequency	<= 2 Hz
Setting-up	Teach mode Configurator software
Maximum delay first up	600 ms
Maximum delay recovery	500 ms

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Marking	CE CULus
Threaded length	43.2 mm
Height	30 mm
Width	43.2 mm
Depth	116.3 mm
Net weight	0.14 kg

## Environment

Standards	IEC 60947-5-2 CSA C22.2 No 14 UL 508
Product certifications	cULus[RETURN]E2[RETURN]Ecolab
Ambient air temperature for operation	-25...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 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	6.7 cm
Package 1 Width	9.5 cm
Package 1 Length	13.3 cm
Package 1 Weight	204.12 g

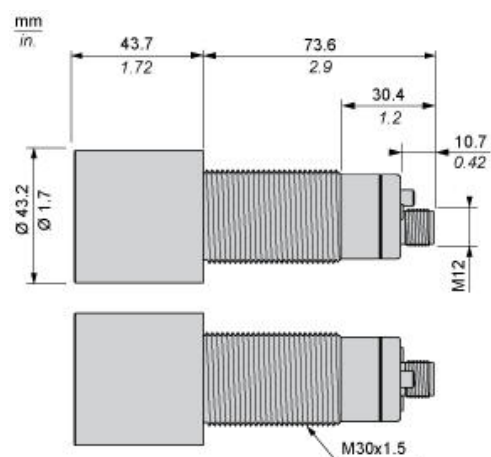
## Offer Sustainability

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>
For all Reach Rohs enquiries contact us at	<a href="mailto:sustainability@tesensors.com">sustainability@tesensors.com</a>

## Contractual warranty

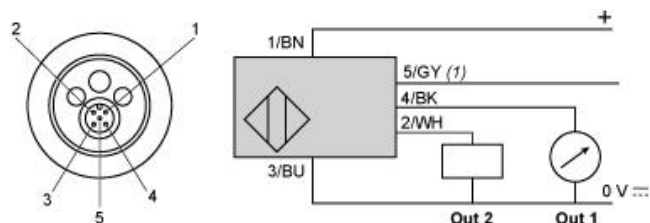
Warranty	18 months
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## Dimensions



## Connections

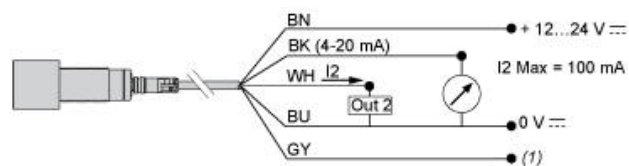
### Connector Wiring



(1) : Synchronization

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

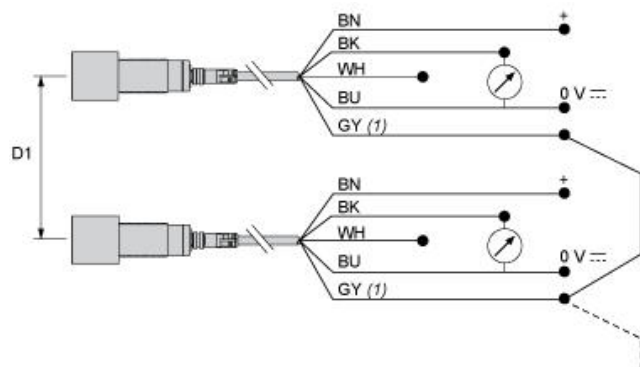
### Wiring Scheme. Analog Output



(1) : Synchronization

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

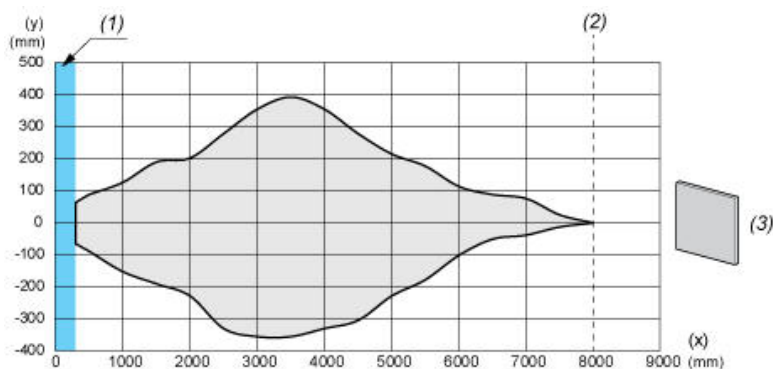
GY: Grey

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).

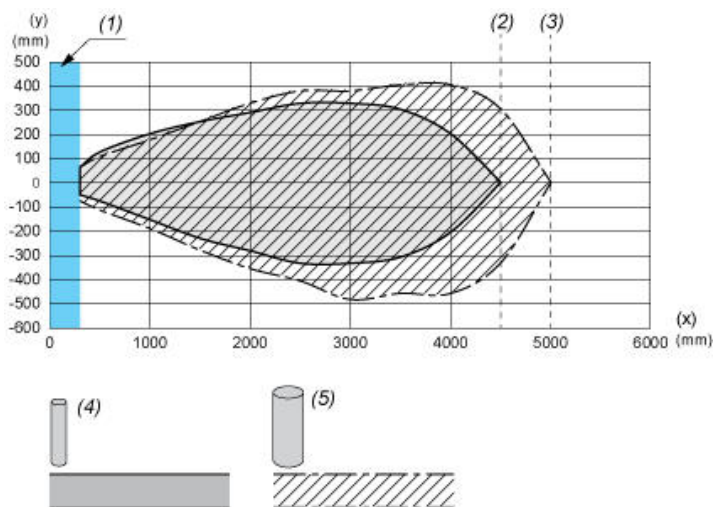
## Performance Curves

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



- (X) : Target distance  
(Y) : Detection limit  
(1) : Blind zone: 290 mm / 11.41 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: 290 mm / 11.41 inches  
(2) : Sn max. with  $\varnothing$  10 mm / 0.394 inches cylinder  
(3) : Sn max. with  $\varnothing$  25 mm / 0.984 inches cylinder  
(4) :  $\varnothing$  10 mm / 0.394 inches stainless steel cylinder  
(5) :  $\varnothing$  25 mm / 0.984 inches stainless steel cylinder