



## Main

Range of Product	Telemecanique Photoelectric sensors XU
Series name	General purpose single mode
Electronic sensor type	Photo-electric sensor
Sensor name	XUX
Sensor design	Compact 92 x 71
Detection system	Diffuse with background suppression
Material	Plastic
Type of output signal	Discrete
Supply circuit type	DC
Wiring Technique	3-wire
Discrete output type	PNP or NPN
Discrete output function	1 NO or 1 NC programmable
Electrical connection	1 male connector M12, 4 pins
Product Specific Application	Long sensing distance with high accuracy
Emission	Infrared
[Sn] nominal sensing distance	6.56 ft (2 m)

## Complementary

Enclosure Material	PC
Lens material	PMMA
Output Type	Solid state
Status LED	Supply on 1 LED green) Instability 1 LED red) Output state 1 LED yellow)
[Us] rated supply voltage	12...24 V DC reverse polarity protection
Supply voltage limits	10...36 V DC
Switching capacity in mA	<= 100 mA overload and short-circuit protection)
Switching frequency	150 Hz
Maximum voltage drop	<1.5 V closed state)
Current consumption	35 mA no-load
Maximum delay first up	200 ms
Maximum delay response	3.5 ms
Maximum delay recovery	2.5 ms
Net Weight	0.44 lb(US) (0.2 kg)

## Environment

Product Certifications	CE CSA UL
Ambient Air Temperature for Operation	-13...131 °F (-25...55 °C)
Ambient Air Temperature for Storage	-40...158 °F (-40...70 °C)
Vibration resistance	7 gn 10...55 Hz) IEC 60068-2-6
Shock resistance	10 gn 11 ms) IEC 60068-2-27
IP degree of protection	IP30 IEC 60529 with cover open) IP65 IEC 60529 double insulation) IP67 IEC 60529 double insulation)

## Ordering and shipping details

Category	22481-SENSORS, PHOTOELECTRIC
Discount Schedule	DS2
GTIN	3389119039888
Nbr. of units in pkg.	1
Package weight(Lbs)	6.77 oz (192.0 g)
Returnability	No
Country of origin	FR

## Packing Units

Unit Type of Package 1	PCE
Package 1 Height	5.20 in (13.2 cm)
Package 1 width	3.70 in (9.4 cm)
Package 1 Length	1.65 in (4.2 cm)
Unit Type of Package 2	S02
Number of Units in Package 2	22
Package 2 Weight	10.41 lb(US) (4.724 kg)
Package 2 Height	5.91 in (15 cm)
Package 2 width	11.81 in (30 cm)
Package 2 Length	15.75 in (40 cm)

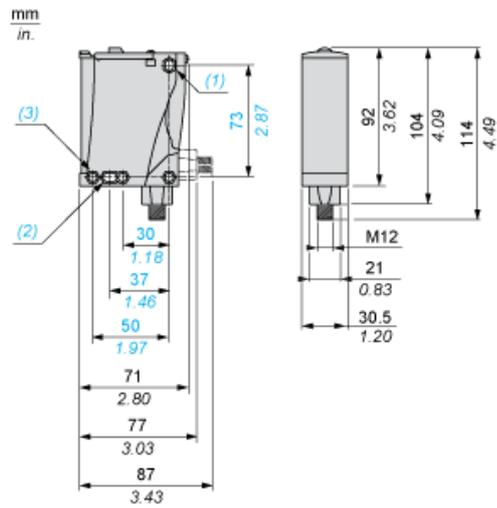
## Offer Sustainability

Sustainable offer status	Green Premium product
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>
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>
Circularity Profile	<a href="#">End Of Life Information</a>

## Contractual warranty

Warranty	18 months
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## Dimensions



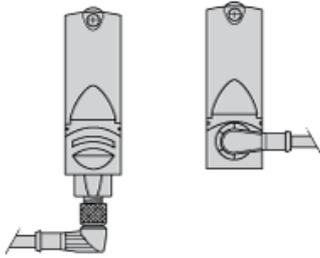
- (1) Elongated hole  $\text{\O} 5.5 \times 7$
- (2) Elongated hole  $\text{\O} 5.5 \times 9$
- (3)  $\text{\O} 5.5$  hole

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## Mounting and Clearance

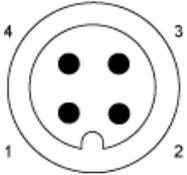
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### Possible Orientation of Elbowed Connector (Rear View)



Wiring Schemes

M12 Connector



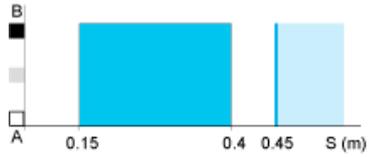
PNP/NPN DC

M12		Terminals		
1	●	1	⊘	+
3	●	2	⊘	-
4	●	3	⊘	Output
2	●	4	⊘	Alarm inactive

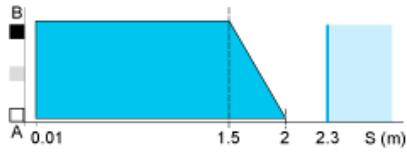
Detection Curves

Variation of Usable Sensing Distance  $S_u$

Teach Mode at Minimum



Teach Mode at Maximum

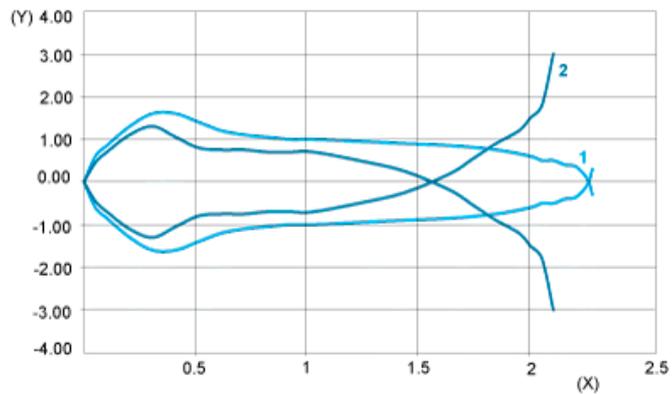


- (1) Black 6%
- (2) Grey 18%
- (3) White 90%
- (4) Sensing range
- (5) Non sensing zone (matt surfaces)

A-B : Object reflection coefficient

- (1) Black 6%
- (2) Grey 18%
- (3) White 90%
- (4) Sensing range
- (5) Non sensing zone (matt surfaces)

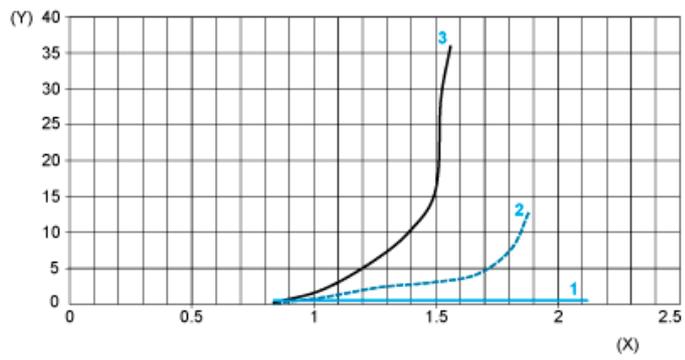
Detection Curves



- 1 : White 90%
- 2 : Grey 18%
- (Y) Detection lobe (cm)
- (X) Object distance (m)

Object 10 x 10 cm

## Relative Difference in Sensing Distances According to Object Colour



- 1 : White 90%
  - 2 : Grey 18%
  - 3 : Black 6%
  - (Y) Relative error (%)
  - (X) Object distance (m)
- Object 10 x 10 cm