

# Product data sheet

Specifications



## Photoelectric sensors XU, XUK, multi, Sn 0...30 m, 12...24 VDC, M12

XUK0AKSAM12

### Main

Range of product	Telemecanique Photoelectric sensors XU
Series name	General purpose multimode
Electronic sensor type	Photo-electric sensor
Sensor name	XUK
Sensor design	Compact 50 x 50
Detection system	Multimode
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	-
Emission	Infrared diffuse Infrared diffuse with background suppression Infrared thru beam Red polarised reflex
[Sn] nominal sensing distance	4 m polarised reflex need reflector XUZC50 30 m thru beam need a transmitter XUK0AKSAM12T 0.28 m diffuse with background suppression 0.8 m diffuse

### Complementary

Enclosure material	PBT
Lens material	PMMA
Maximum sensing distance	35 m thru beam 0.28 m diffuse with background suppression 1.2 m diffuse 5.7 m polarised reflex
Output type	Solid state
Add on output	With alarm output, <= 50 mA with overload and short-circuit protection
Status LED	1 LED (green) for supply 1 LED (red) for instability 1 LED (yellow) for output state

[Us] rated supply voltage	12...24 V DC with reverse polarity protection
Supply voltage limits	10...36 V DC
Switching capacity in mA	<= 100 mA (overload and short-circuit protection)
Switching frequency	<= 250 Hz
Maximum voltage drop	<1.5 V (closed state)
Current consumption	<= 35 mA no-load
Maximum delay first up	200 ms
Maximum delay response	2 ms
Maximum delay recovery	2 ms
Setting-up	Self-teaching
Depth	50 mm
Height	50 mm
Width	18 mm
Net weight	0.09 kg

### Environment

Product certifications	CE CSA UL
Ambient air temperature for operation	-25...55 °C
Ambient air temperature for storage	-40...70 °C
Vibration resistance	7 gn, amplitude = +/- 1.5 mm (f = 10...55 Hz) conforming to IEC 60068-2-6
Shock resistance	30 gn (duration = 11 ms) conforming to IEC 60068-2-27
IP degree of protection	IP65 double insulation conforming to IEC 60529

### Packing Units

Unit Type of Package 1	PCE
Number of Units in Package 1	1
Package 1 Weight	69.0 g
Package 1 Height	5 cm
Package 1 width	7 cm
Package 1 Length	10 cm
Unit Type of Package 2	S01
Number of Units in Package 2	22
Package 2 Weight	1.836 kg
Package 2 Height	15 cm
Package 2 width	15 cm
Package 2 Length	40 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>
Circularity Profile	<a href="#">End of Life Information</a>
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>

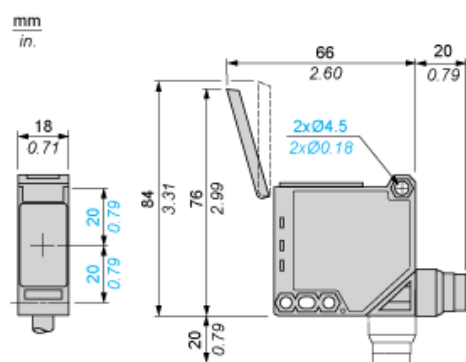
Contractual warranty

Warranty	18 months
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## Dimensions Drawings

**XUK0AKSAM12**

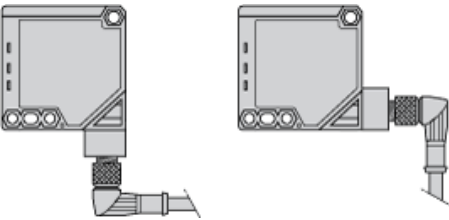
## Dimensions



Mounting and Clearance

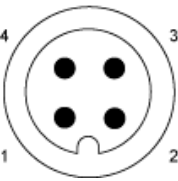
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Possible Orientation of Elbowed Connector



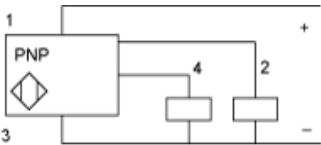
Wiring Schemes

M12 Connector

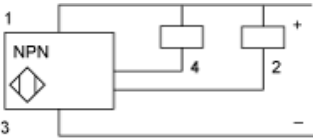


- 1 : (+)
- 2 : Alarm input
- 3 : (-)
- 4 : OUT/Output

PNP Output

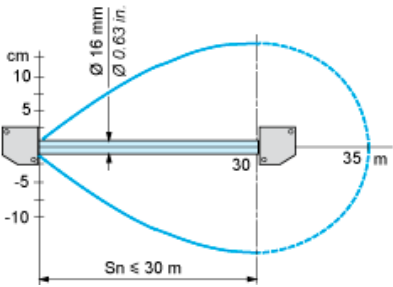


NPN Output

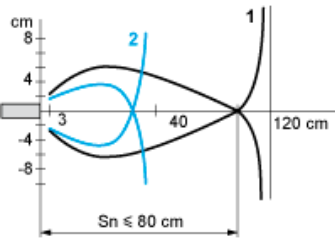


Detection Curves

With Thru-beam Accessory (Thru-beam)

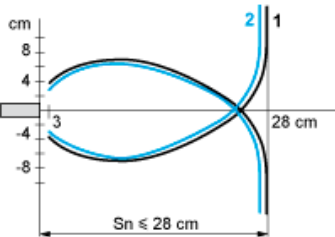


Without Accessory (Diffuse)



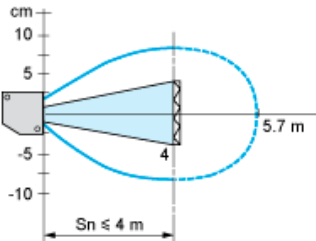
- 1 : White 90%
  - 2 : Grey 18%
- Object 10 x 10 cm

Without Accessory (Diffuse with background suppression)



- 1 : White 90%
  - 2 : Grey 18%
- Object 10 x 10 cm

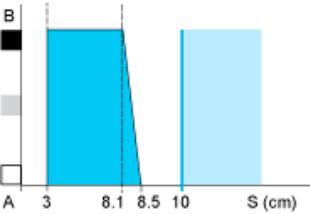
With reflector (Polarised reflex)



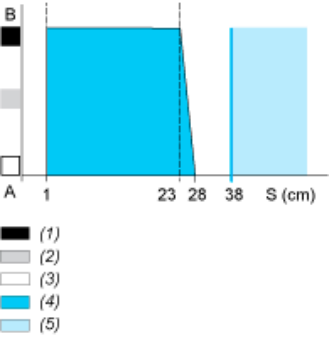
With reflector XUZC50

Variation of Usable Sensing Distance Su (Without accessory, with adjustable background suppression)

Teach Mode at Minimum



Teach Mode at Maximum



- A-B :** Object reflection coefficient
- (1) Black 6%
  - (2) Grey 18%
  - (3) White 90%
  - (4) Sensing range
  - (5) Non sensing zone (matt surfaces)