

# Product datasheet

Specifications



## photo-electric laser sensor - XUK - BGS - Sn 1m - 12..24VDC - cable 2m

XUK8AKSNL2

### Main

|                               |                                                                       |
|-------------------------------|-----------------------------------------------------------------------|
| Range of product              | Telemecanique Photoelectric sensors XU                                |
| Series name                   | General purpose single mode                                           |
| Electronic sensor type        | Photo-electric sensor                                                 |
| Sensor name                   | XUK                                                                   |
| Sensor design                 | Compact 50 x 50                                                       |
| 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         | Cable                                                                 |
| Cable length                  | 2 m                                                                   |
| Product specific application  | -                                                                     |
| Emission                      | Infrared laser, modulated diffuse with background suppression class 1 |
| [Sn] nominal sensing distance | 1 m diffuse with background suppression                               |

### Complementary

|                                       |                                                              |
|---------------------------------------|--------------------------------------------------------------|
| Enclosure material                    | PC                                                           |
| Lens material                         | PMMA                                                         |
| Maximum sensing distance              | 1 m diffuse with background suppression                      |
| Minimum object diameter for detection | 2 mm                                                         |
| Output type                           | Solid state                                                  |
| Add on output                         | Without, <= 50 mA with overload and short-circuit protection |
| Cable composition                     | 5 x 0.34 mm²                                                 |
| Wire insulation material              | PVC                                                          |
| Cable outer diameter                  | 6 mm                                                         |
| Status LED                            | 1 LED (green) for supply on                                  |

|                           |                                                                         |
|---------------------------|-------------------------------------------------------------------------|
|                           | 1 LED (yellow) for output state<br>1 LED (red) for alignment assistance |
| [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    | 300 ms                                                                  |
| Maximum delay response    | 2 ms                                                                    |
| Maximum delay recovery    | 2 ms                                                                    |
| Setting-up                | Sensitivity adjustment by potentiometer                                 |
| Depth                     | 50 mm                                                                   |
| Height                    | 50 mm                                                                   |
| Width                     | 18 mm                                                                   |
| Product weight            | 0.19 kg                                                                 |
| Kit composition           | With XUZA51 bracket fixing                                              |

## Environment

|                                       |                                                       |
|---------------------------------------|-------------------------------------------------------|
| Product certifications                | CE                                                    |
| Ambient air temperature for operation | -25...55 °C                                           |
| Ambient air temperature for storage   | -30...70 °C                                           |
| Vibration resistance                  | 7 gn (f = 10...55 Hz) conforming to IEC 60068-2-6     |
| Shock resistance                      | 10 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 Height             | 4.2 cm  |
| Package 1 Width              | 9.7 cm  |
| Package 1 Length             | 13.2 cm |
| Package 1 Weight             | 228 g   |
| Unit Type of Package 2       | S02     |
| Number of Units in Package 2 | 12      |
| Package 2 Height             | 15 cm   |
| Package 2 Width              | 30 cm   |
| Package 2 Length             | 40 cm   |
| Package 2 Weight             | 3.2 kg  |

## 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)<br><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**

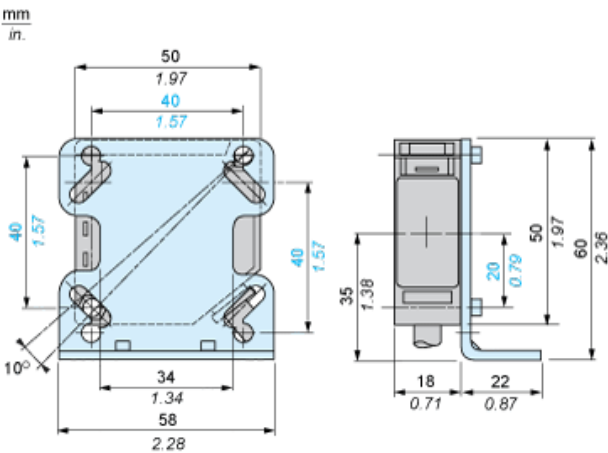
|          |           |
|----------|-----------|
| Warranty | 18 months |
|----------|-----------|

# Product datasheet

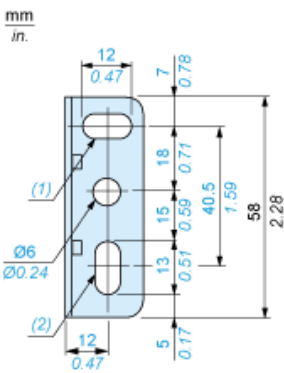
## Dimensions Drawings

**XUK8AKSNL2**

## Dimensions



## Bracket fixing

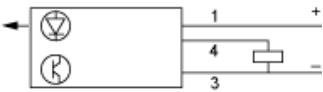


- (1) 1 elongated hole Ø 6 x 12
- (2) 1 elongated hole Ø 6 x 13

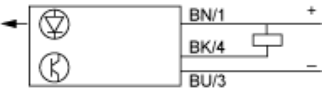
Wiring Schemes

NO/NC Programming

PNP Output



NPN Output

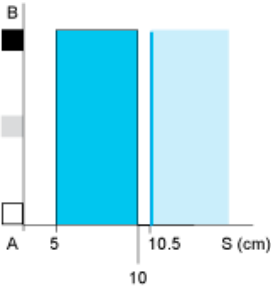


- BN : Brown
- BU : Blue
- BK : Black

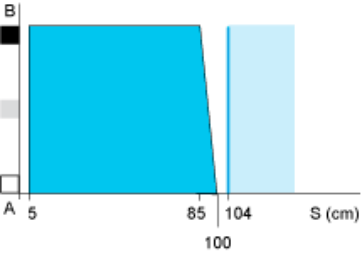
Detection Curves

Variation of Usable Sensing Distance Su

Adjustment at 10 cm



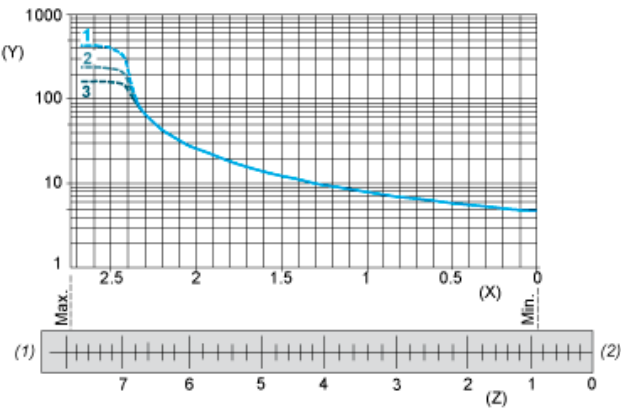
Adjustment at 1 m



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

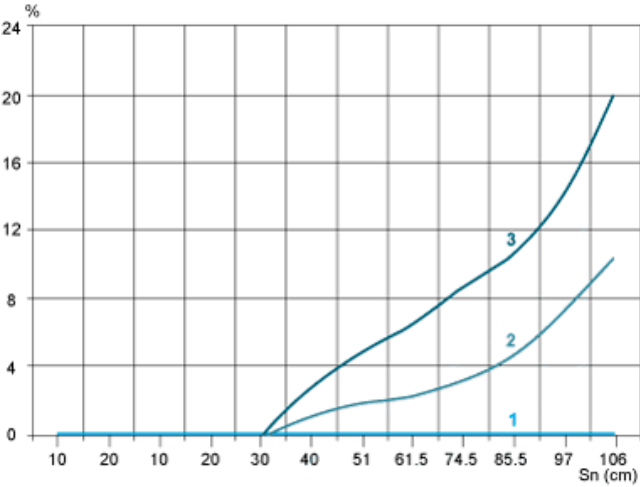
**A-B :** Object reflection coefficient  
(1) Black 6%  
(2) Grey 18%  
(3) White 90%  
(4) Sensing range  
(5) Non sensing zone (matt surfaces)

Sensing Distance Adjustment



1 : White 90%  
2 : Grey 18%  
3 : Black 6%  
(Y) Sensing distance (cm)  
(X) Number of turns on potentiometer  
(Z) Setting indicator position (mm)

Relative Difference in Sensing Distances According to Object Colour



- 1 : White 90%
- 2 : Grey 18%
- 3 : Black 6%

Recommended replacement(s)