

# Product data sheet

Specifications



## Photoelectric sensors XU, XUB, multi, Sn 0...20 m, 12...24 VDC, M12

XUB0BPSNM12

### Main

|                          |                                        |
|--------------------------|----------------------------------------|
| Range of product         | Telemecanique Photoelectric sensors XU |
| Series name              | General purpose multimode              |
| Electronic sensor type   | Photo-electric sensor                  |
| Sensor name              | XUB                                    |
| Sensor design            | Cylindrical M18                        |
| Detection system         | Multimode                              |
| Material                 | Metal                                  |
| Line of sight type       | Axial                                  |
| Type of output signal    | Discrete                               |
| Supply circuit type      | DC                                     |
| Wiring technique         | 3-wire                                 |
| Discrete output type     | PNP                                    |
| Discrete output function | 1 NO or 1 NC programmable              |
| Electrical connection    | 1 male connector M12, 4 pins           |
| Product specific appl    |                                        |

|                           |                                                   |
|---------------------------|---------------------------------------------------|
|                           | 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                                     |
| Diameter                  | 18 mm                                             |
| Length                    | 78 mm                                             |
| Product weight            | 0.055 kg                                          |

## Environment

|                                       |                                                                                                                                                     |
|---------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|
| Product certifications                | CSA<br>CE<br>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<br>IP67 double insulation conforming to IEC 60529<br>IP69K double insulation conforming to DIN 40050 |

## Packing Units

|                              |         |
|------------------------------|---------|
| Unit Type of Package 1       | PCE     |
| Number of Units in Package 1 | 1       |
| Package 1 Height             | 4.2 cm  |
| Package 1 Width              | 6.7 cm  |
| Package 1 Length             | 9.6 cm  |
| Package 1 Weight             | 67 g    |
| Unit Type of Package 2       | S01     |
| Number of Units in Package 2 | 22      |
| Package 2 Height             | 15 cm   |
| Package 2 Width              | 15 cm   |
| Package 2 Length             | 40 cm   |
| Package 2 Weight             | 1.78 kg |

## Offer Sustainability

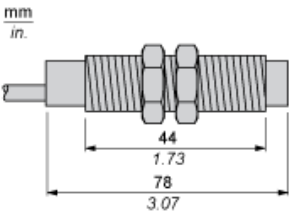
|                          |                                                                                                   |
|--------------------------|---------------------------------------------------------------------------------------------------|
| Sustainable offer status | Green Premium 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>                                                                                                                                                                                                                                                                                                                                           |
| 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

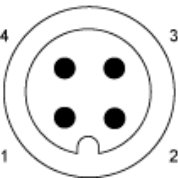
|          |           |
|----------|-----------|
| Warranty | 18 months |
|----------|-----------|

Dimensions



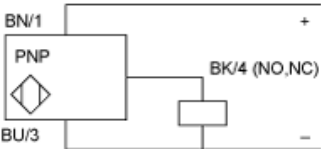
Wiring Schemes

M12 Connector



- 1 : (+)
- 2 : Beam break input (1)
- 3 : (-)
- 4 : OUT/Output
- (1) Beam break input on thru-beam transmitter only

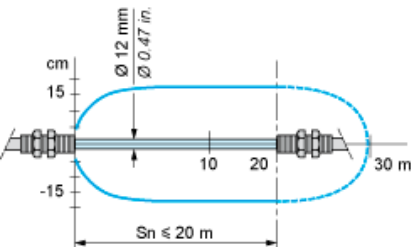
Receiver, PNP Output



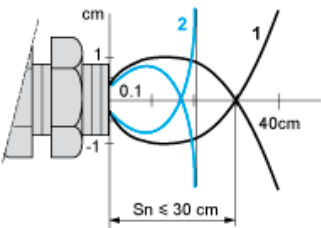
- BN : Brown
- BU : Blue
- BK : Black

Detection Curves

With Thru-beam Accessory (Thru-beam)

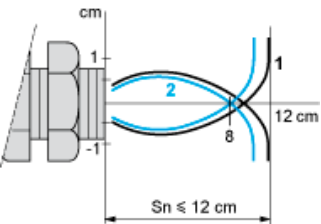


Without Accessory (Diffuse)



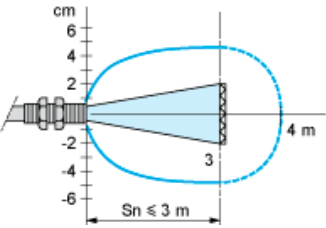
- 1 : White 90%  
2 : Grey 18%  
Object 10 x 10 cm

Without Accessory (Diffuse with background suppression)



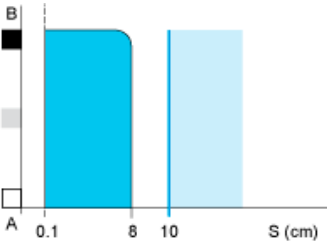
- 1 : White 90%  
2 : Grey 18%  
Object 10 x 10 cm

With reflector (Polarised reflex)

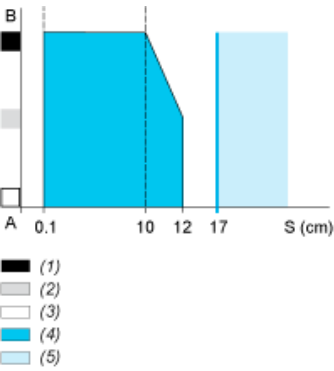


With reflector XUZC50

Variation of Usable Sensing Distance  $S_u$  (Without accessory, with adjustable background suppression)  
Teach Mode at Minimum



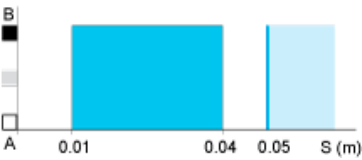
Teach Mode at Maximum



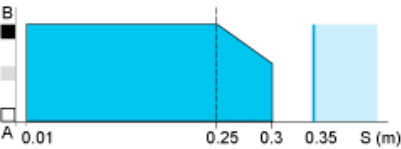
- A-B : Object reflection coefficient
- (1) Black 6%
  - (2) Grey 18%
  - (3) White 90%
  - (4) Sensing range
  - (5) Non sensing zone (matt surfaces)

Variation of Usable Sensing Distance

Minimum Setting



Maximum Setting



- Legend:
- (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)

Recommended replacement(s)