

# XUB0BPSNM12

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



## 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 application  | -                                                                                                                                                           |
| Emission                      | Infrared diffuse<br>Infrared diffuse with background suppression<br>Infrared thru beam<br>Red polarised reflex                                              |
| [Sn] nominal sensing distance | 3 M polarised reflex need reflector XUZC50<br>20 M thru beam need a transmitter XUB0BKSNM12T<br>0.12 M diffuse with background suppression<br>0.3 m diffuse |

## Complementary

|                           |                                                                                                         |
|---------------------------|---------------------------------------------------------------------------------------------------------|
| Enclosure material        | Nickel plated brass                                                                                     |
| Lens material             | PMMA                                                                                                    |
| Maximum sensing distance  | 0.12 M diffuse with background suppression<br>0.4 M diffuse<br>30 M thru beam<br>4.5 m polarised reflex |
| Output type               | Solid state                                                                                             |
| Add on output             | Without                                                                                                 |
| Status LED                | 1 LED (green) for supply<br>1 LED (red) for instability<br>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                                                                                                   |
| Net weight                | 0.055 kg                                                                                                |

## Environment

|                                       |                                                                                                                                                     |
|---------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|
| Product certifications                | CSA[RETURN]CE[RETURN]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                                                                                                                                                                                                                                                                                                                                                            |
| 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 Diisodecyl 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>                                                                                                                                                                                                                                                                                                   |

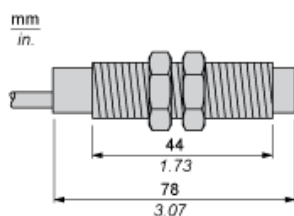
## Contractual warranty

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

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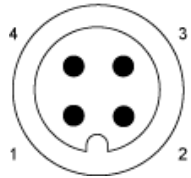
Dimensions

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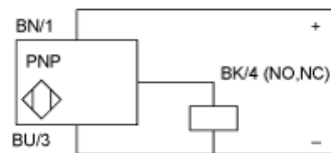
## Wiring Schemes

### 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 XU50

## Variation of Usable Sensing Distance $S_u$ (Without accessory, with adjustable background suppression)

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

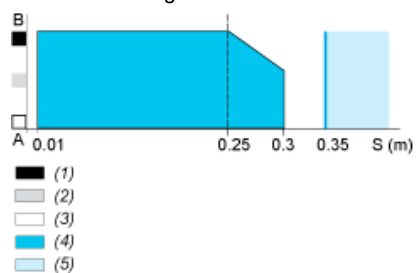
- (1) Black 6%
- (2) Grey 18%
- (3) White 90%
- (4) Sensing range
- (5) Non sensing zone (matt surfaces)

## Variation of Usable Sensing Distance

Minimum Setting



Maximum Setting



A-B : Object reflection coefficient

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