

## Product data sheet

### Characteristics

# XUB0BNSWM12

photo-electric sensor - XUB - multi - 90° - Sn  
0..7m - 12..24VDC - M12



### Main

|                               |  |
|-------------------------------|--|
| Range of product              | OsiSense 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            | 90° lateral  |
| Type of output signal         | Discrete   |
| Supply circuit type           | DC   |
| Wiring technique              | 3-wire   |
| Discrete output type          | NPN  |
| 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 | 1.5 M polarised reflex need reflector XUZC50<br>7 M thru beam need a transmitter XUB0BKSWM12T<br>0.11 M diffuse with background suppression<br>0.2 m diffuse |

### Complementary

|                           |   |
|---------------------------|---|
| Enclosure material        | Nickel plated brass   |
| Lens material             | PMMA  |
| Maximum sensing distance  | 2 M polarised reflex<br>0.11 M diffuse with background suppression<br>0.3 M diffuse<br>10 m thru beam |
| 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   | 92 mm |

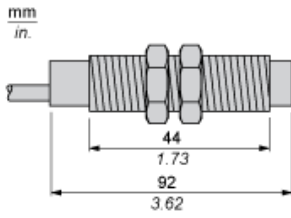
## Environment

|                                       |   |
|---------------------------------------|---|
| Product certifications                | CE<br>UL<br>CSA   |
| 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 |

## Contractual warranty

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

Dimensions



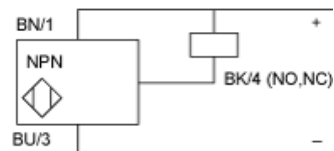
## Wiring Schemes

### M12 Connector



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

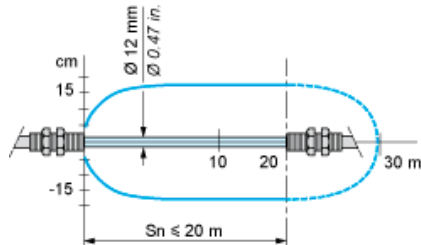
### Receiver, NPN Output



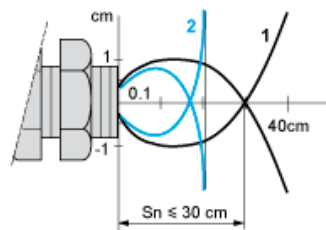
- BN : Brown
- BU : Blue
- BK : Black

Detection Curves

With Thru-beam Accessory (Thru-beam)

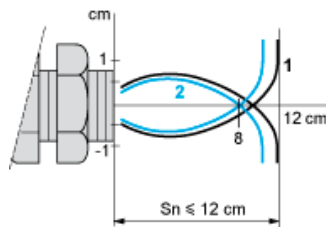


Without Accessory (Diffuse)



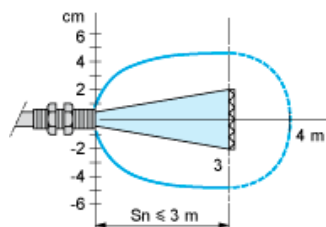
- 1 : White 90%
  - 2 : Grey 18%
- Object 10 x 10 cm

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



- (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)

## Variation of Usable Sensing Distance

Minimum Setting



Maximum Setting



- (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)