

# XUB0BNSNM12

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	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	3 M polarised reflex need reflector XUZC50 20 M thru beam need a transmitter XUB0BKSNM12T 0.12 M diffuse with background suppression 0.3 m diffuse

## Complementary

Enclosure material	Nickel plated brass
Lens material	PMMA
Maximum sensing distance	0.12 M diffuse with background suppression 0.4 M diffuse 30 M thru beam 4.5 m polarised reflex
Output type	Solid state
Add on output	Without
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
Diameter	18 mm
Length	78 mm
Net weight	0.055 kg

## Environment

Product certifications	CE[RETURN]UL[RETURN]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 IP67 double insulation conforming to IEC 60529 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	4.200 cm
Package 1 Width	6.500 cm
Package 1 Length	9.500 cm
Package 1 Weight	72.000 g
Unit Type of Package 2	S01
Number of Units in Package 2	22
Package 2 Height	15.000 cm
Package 2 Width	15.000 cm
Package 2 Length	40.000 cm
Package 2 Weight	1.761 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>

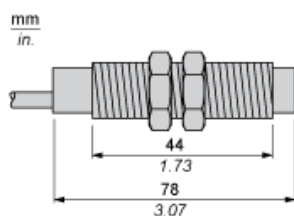
## Contractual warranty

Warranty	18 months
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Dimensions

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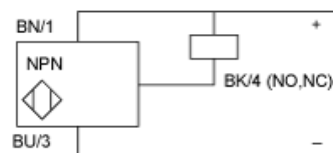
## Wiring Schemes

### M12 Connector



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

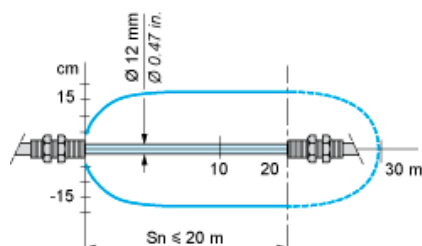
### Receiver, NPN Output



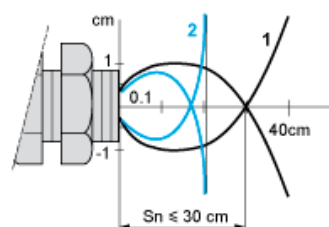
BN : Brown  
BU : Blue  
BK : Black

## Detection Curves

### With Thru-beam Accessory (Thru-beam)



### Without Accessory (Diffuse)

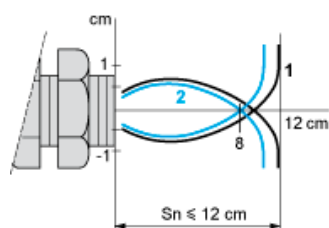


1 : White 90%

2 : Grey 18%

Object 10 x 10 cm

### Without Accessory (Diffuse with background suppression)

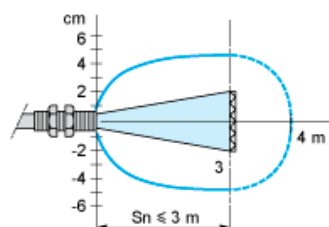


1 : White 90%

2 : Grey 18%

Object 10 x 10 cm

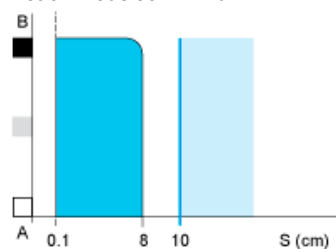
### With reflector (Polarised reflex)



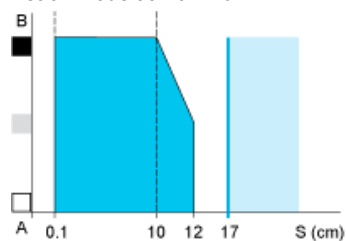
With reflector XU50

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

Teach Mode at Minimum



Teach Mode at Maximum



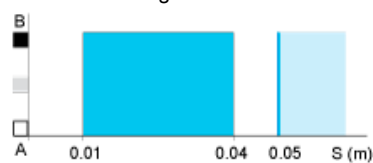
- (1) Black 6%
- (2) Grey 18%
- (3) White 90%
- (4) Sensing range
- (5) Non sensing zone (matt surfaces)

A-B : Object reflection coefficient

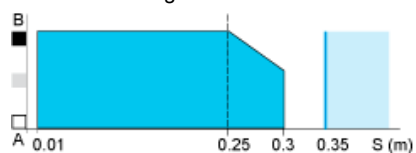
- (1) Black 6%
- (2) Grey 18%
- (3) White 90%
- (4) Sensing range
- (5) Non sensing zone (matt surfaces)

## Variation of Usable Sensing Distance

Minimum Setting



Maximum Setting



- (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)