

Photo-electric sensors
Osiris
Laser thru-beam

Catalogue
May

07



Simply Smart !

Leveraging
ingenuity
and intelligence
for ease of use

Simplified ultra-detection

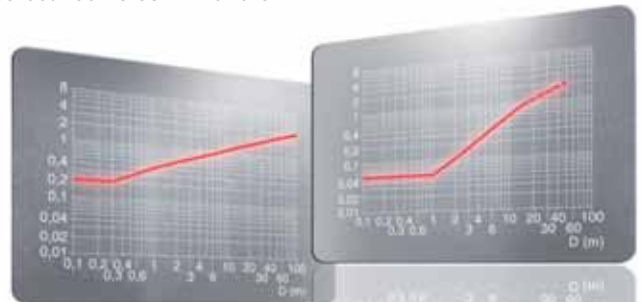
Ultra-fine detection becomes **ultra-simple** by pressing the teach button, following the Osiconcept principle. The thru-beam **XUBL laser** sensor is to the standard Ø18 mm cylindrical format which is recognized for its compactness (transmitter 52 mm and receiver 62 mm).

High precision at short range

Originally used for long range detection in the materials handling sector, this thru-beam laser sensor is also very efficient at short range. Effectively, it enables very precise object and position detection using a beam that can be adjusted in fineness between 0.05 mm and 0.2 mm.



1/100th
mm



Standard adjustment
with a single teach:
Size of object to be
detected: 0.2 mm at 0
to 30 cm and 3 or 4 mm
object at up to 100 m.

With focusing adjustment
and 2nd teach:
Size of object to be
detected: 0.05 mm at 0
to 1 m and 1 mm object
at 15 m.

1/100th
mm

Easy adjustment

The dynamic instant teaching using the "teach" button and the visible red beam enable simple alignment and environment adjustment by using a single teach.

A 2nd push on the "teach" button registers the sensor for very precise detection of the object at up to 1 metre.

The Osiconcept principle optimises the adjustment and avoids any saturation when detecting at close range.

Ultra-résistant!

Metal versions to complement the plastic versions. Intended for severe environments and, in particular, the materials handling sector, these metal products have excellent mechanical resistance.

Exceptional *adaptability*

■ Materials handling

Laser detection has a major advantage in difficult or dusty environments due to its enormous amount of reserve access gain.

The precision of the beam enables close proximity mounting of the sensors without the risk of interference.

■ Packaging

The precision of laser detection enables very precise positioning of objects on packaging machines to be achieved.

■ Assembly

With its very high precision at short range, together with the availability of pre-cabled or connector and metal or plastic versions, Osiris laser sensors are ideally suited to this particular environment.



Excess gain curve:
Up to 2 m, no loss and
maintaining of considerable
access gain reserve up
to 40 m.

Instant installation

In addition to the standard fixing brackets, a specific fixing bracket with micrometric adjustment and clamping by 6 screws is available in order to provide a higher degree of alignment accuracy.



1/100th
mm

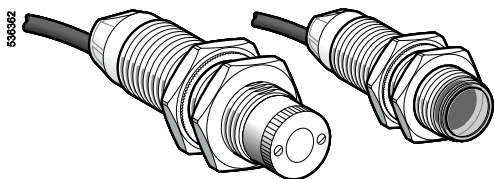


Case	Plastic		Metal	
Connection	Pre-cabled, L = 2 m	M12 connector	Pre-cabled, L = 2 m	M12 connector
Sensing distance (m)	0 to 100 m			
Function	NO or NC via programming on the sensor			
Supply	DC 12 ... 24 V with protection against reverse polarity			
Reference, PNP*	XUBLAPCNL2	XUBLAPCNM12	XUBLBPCNL2	XUBLBPCNM12
Reference, NPN*	XUBLANCNL2	XUBLANCNM12	XUBLBNCNL2	XUBLBNCNM12

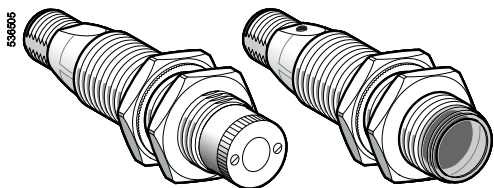
*Reference for both transmitter and receiver.

Photo-electric sensors

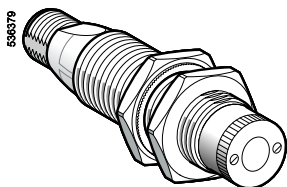
Osiris® Application, materials handling series
Laser transmission. Design 18, plastic or metal
Three-wire d.c. Solid-state output



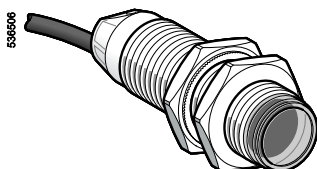
XUB L●●CNL2



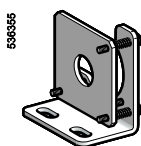
XUB L●●CNM12



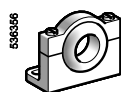
XUB L●●CNM12T



XUB L●●CNL2R



XUZ A318



XUZ A218

Ø 18, plastic, thru-beam system with teaching, laser transmission (Transmitter + receiver)

Sensing dist. (Sn) m	Function	Connection	Output	Reference	Weight kg
0...100	NO or NC via programming	Pre-cabled	PNP	XUB LAPCNL2	0.180
			NPN	XUB LANCNL2	0.180
		M12 connector	PNP	XUB LAPCNM12	0.078
			NPN	XUB LANCNM12	0.078

Ø 18, metal, thru-beam system with teaching, laser transmission (Transmitter + receiver)

Sensing dist. (Sn) m	Function	Connection	Output	Reference	Weight kg
0...100	NO or NC via programming	Pre-cabled	PNP	XUB LBPCNL2	0.230
			NPN	XUB LBNCNL2	0.230
		M12 connector	PNP	XUB LBPCNM12	0.130
			NPN	XUB LBNCNM12	0.130

Separate components

Ø 18 transmitter

Description	Connection	Output	For use with	Reference	Weight kg
Plastic	Pre-cabled	–	XUB LA●●CNL2	XUB LAKCNL2T	0.090
	M12 connector	–	XUB LA●●CNM12	XUB LAKCNM12T	0.040
Metal	Pre-cabled	–	XUB LB●●CNL2	XUB LBKCNL2T	0.110
	M12 connector	–	XUB LB●●CNM12	XUB LBKCNM12T	0.060

Ø 18 receiver

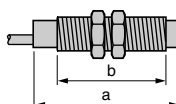
Description	Connection	Output	For use with	Reference	Weight kg
Plastic	Pre-cabled	PNP	XUB LAPCNL2	XUB LAPCNL2R	0.090
		NPN	XUB LANCNL2	XUB LANCNL2R	0.090
	M12 connector	PNP	XUB LAPCNM12	XUB LAPCNM12R	0.040
		NPN	XUB LANCNM12	XUB LANCNM12R	0.040
Metal	Pre-cabled	PNP	XUB LBPCNL2	XUB LBPCNL2R	0.120
		NPN	XUB LBNCNM12	XUB LBNCNL2R	0.120
	M12 connector	PNP	XUB LBPCNM12	XUB LBPCNM12R	0.070
		NPN	XUB LBNCNM12	XUB LBNCNM12R	0.070

Fixing accessories for XUBL● (1)

Description	Reference	Weight kg
Precision fixing bracket with micrometric adjustment	XUZ A318	0.170
Plastic fixing bracket with adjustable ball-joint	XUZ A218	0.035

(1) For further information, see page 37012/2.

Dimensions



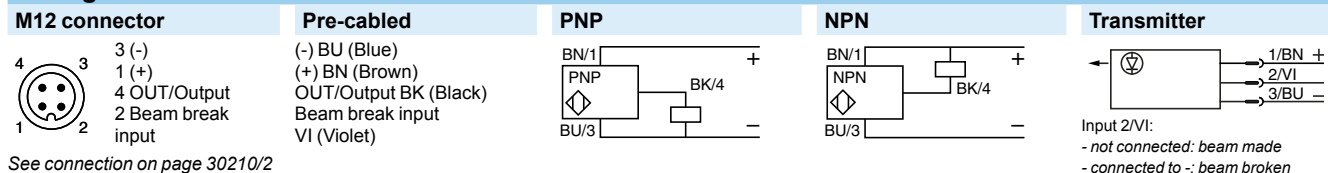
	Pre-cabled (mm)		Connector (mm)	
	a	b	a	b
Receiver (1)	62	44	76	44
Transmitter (2)	52	28	66	28

(1) Yellow, green and red LED on receiver
(2) Green LED on transmitter

Note: fixing nut tightening torque: < 4 Nm

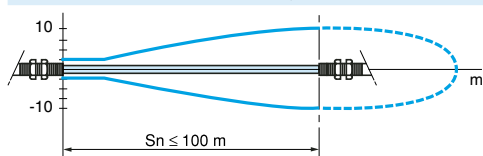
Characteristics		XUB L●●●●M12	XUB L●●●●L2
Sensor type			
Product certifications		UL, CSA, CE	
Connection	Connector	M12 (suitable female connectors, including pre-wired versions, see page 30210/2)	—
	Pre-cabled	—	Length: 2 m
Nominal sensing distance S_n	m	0...100, excess gain 70...3	
Blind zone		0	
Preferred object approach direction		Any	
Type of transmission		Red laser, wavelength 670 nm	
Transmission power		Power < 1 mW, class 1 conforming to IEC 825-1	
Degree of protection	Conforming to IEC 60529	IP 67, double insulation	
Temperature	Storage	°C - 40... + 70	
	Operation	°C - 10... + 45	
Materials	Case	XUB LA●●●●●: PBT; XUB LB●●●●●: nickel plated brass	
	Lens	PMMA	
Vibration resistance	Conforming to IEC 60068-2-6	7 gn, amplitude ± 1.5 mm (f = 10 to 55 Hz)	
Shock resistance	Conforming to IEC 60068-2-27	30 gn, duration 11 ms	
Indicator lights	Output state and alignment aid	Yellow LED	
	Supply on and teaching	Green LED	
	Stability	Red LED	
Rated supply voltage	V	— 12...24 with protection against reverse polarity	
Voltage limits (including ripple)	V	— 10...30	
Current consumption, no-load	mA	25 for transmitter or receiver	
Switching capacity per output	mA	≤ 100 with overload and short-circuit protection	
Voltage drop, closed state	V	≤ 1.5	
Maximum switching frequency	Hz	1500	
Delays	First-up	ms < 80	
	Response and recovery	ms < 0.4	

Wiring schemes

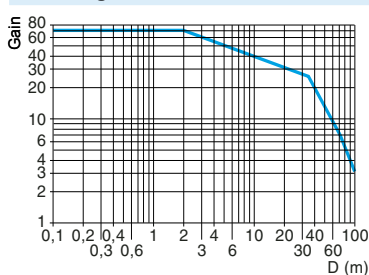


Curves

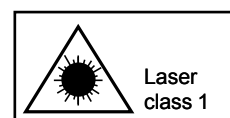
Detection curve (set to infinity)



Excess gain curve

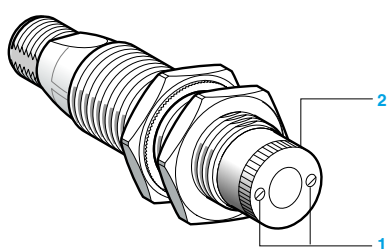


Operating precautions

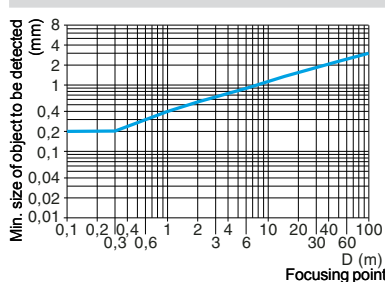


Laser class 1, conforming to IEC 825-1.

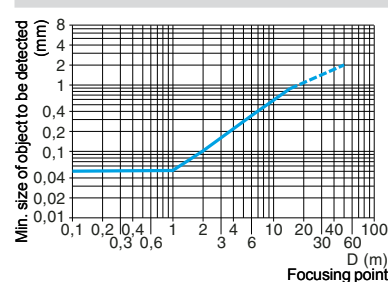
Adjustment



Standard curve



Detection limit curve



The adjustment of the focusing point enables the detection of objects down to a size of < 0.2 mm.

After slackening the fixing screws 1, adjust the focusing point of the laser beam by rotating the serrated sleeve 2 located on the face of the sensor. Re-tighten the fixing screws following adjustment.

Note: saddle clamp XUZ A218 with ball-joint and, in particular, bracket XUZ A318 with precise micrometric adjustment and locking by 6 screws, are specially suited for mounting the sensor and adjusting beam alignment when the sensing range is several tens of metres (see page 37012/2).

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Photos: Schneider Electric

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