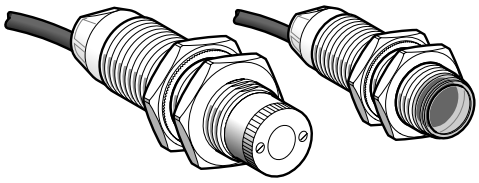
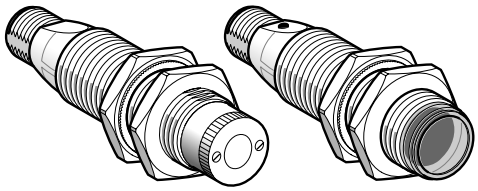
Photo-electric sensors

Osiris® Application, materials handling series

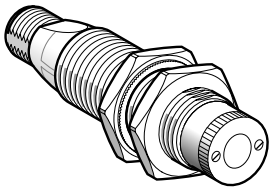
Laser transmission. Design 18, plastic or metal
Three-wire d.c. Solid-state output



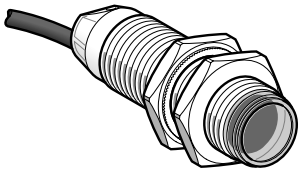
XUB L●●CNL2



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

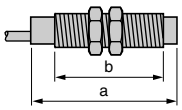
Description	Connection	Output	For use with	Reference	Weight kg
Plastic	Pre-cabled	PNP	XUB LAPCNL2	**XUB LAPCNL2R**	0.090
		NPN	XUB LANCNL2	**XUB LANCNL2R**	0.090
	M12 connector	PNP	XUB LAPCNM12	**XUB LAPCNM12R**	0.040
		NPN	XUB LANCNM12	**XUB LANCNM12R**	0.040
Metal	Pre-cabled	PNP	XUB LBPCNL2	**XUB LBPCNL2R**	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 1/160.

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*

Photo-electric sensors

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

Characteristics

Sensor type			XUB L●●●●M12	XUB L●●●●L2
Product certifications			UL, CSA, CE	
Connection	Connector		M12 (suitable female connectors, including pre-wired versions, see page 9/44)	–
	Pre-cabled		–	Length: 2 m
Nominal sensing distance Sn		**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

M12 connector



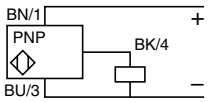
3 (-)
1 (+)
4 OUT/Output
2 Beam break input

See connection on page 9/44

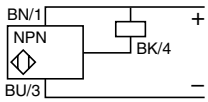
Pre-cabled

(-) BU (Blue)
(+) BN (Brown)
OUT/Output BK (Black)
Beam break input
VI (Violet)

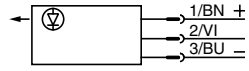
PNP



NPN



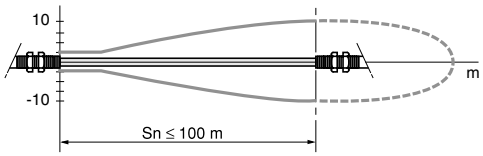
Transmitter



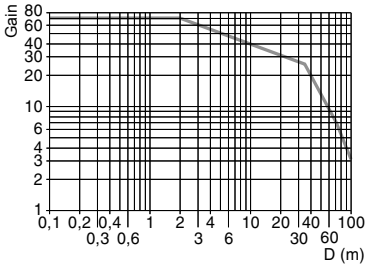
Input 2/VI:
- not connected: beam made
- connected to -: beam broken

Curves

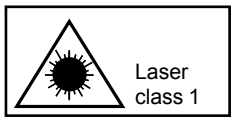
Detection curve (set to infinity)



Excess gain curve

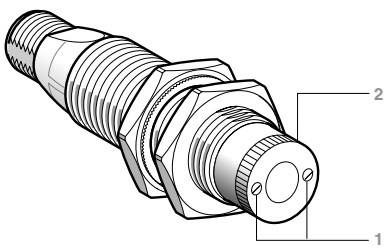


Operating precautions

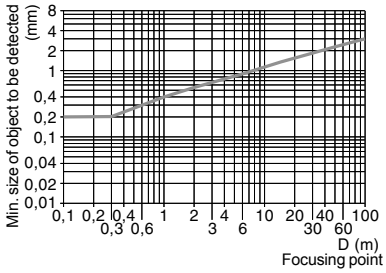


Laser class 1, conforming to IEC 825-1.

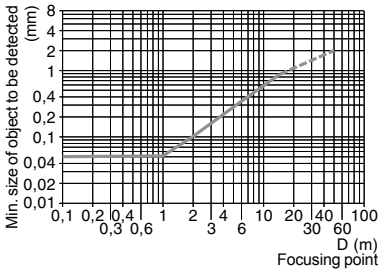
Adjustment



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 1/160).*