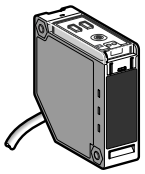
Photo-electric sensors

Osiris® Universal, **Osi**concept®*(1)*
Compact design 50 x 50
Five-wire, a.c. or d.c. supply, 1 NC/NO relay output
Three-wire, d.c. supply, solid-state output

805167

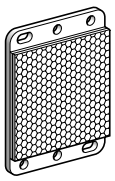


XUK 0AKSAL2

805166

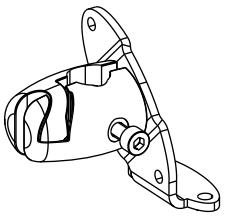
XUK 0AKSAM12

805799



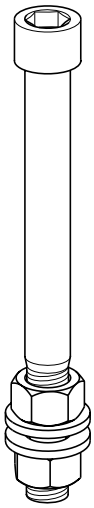
XUZ C50

550028



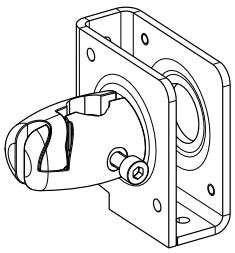
XUZ K2003

520312



XUZ 2001

550029



XUZ K2004

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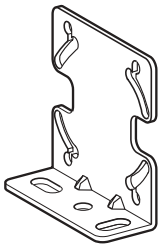
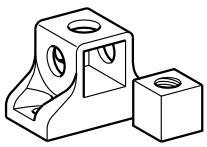


XUZ A51

520984



XUZ 2003

References

d.c. supply

Sensing distance (Sn) m	Function	Output	Connection (pre-cabled or connector)	Reference	Weight kg
0…30 depending on whether accessories are used	N/O or N/C, using **Osi**concept programming	PNP/NPN	Pre-cabled (L = 2 m) *(2)*	**XUK 0AKSAL2**	0.175
			M12 connector	**XUK 0AKSAM12**	0.090

Accessories

Description	Connection (pre-cabled or connector)	Reference	Weight kg
Thru-beam accessories	Pre-cabled (L = 2 m) *(2)*	**XUK 0AKSAL2T**	0.140
	M12 connector	**XUK 0AKSAM12T**	0.090
Reflector 50 x 50 mm	–	**XUZ C50**	0.020

d.c. or a.c. supply

Sensing distance (Sn) m	Function	Output	Connection (pre-cabled or connector)	Reference	Weight kg
0…30 depending on whether accessories are used	N/O or N/C, using **Osi**concept programming	Time delay relay	Pre-cabled (L = 2 m) *(2)*	**XUK 0ARCTL2**	0.175

Accessories

Description	Connection (pre-cabled or connector)	Reference	Weight kg
Thru-beam accessory	Pre-cabled (L = 2 m) *(2)*	**XUK 0ARCTL2T**	0.140
Reflector 50 x 50 mm	–	**XUZ C50**	0.020

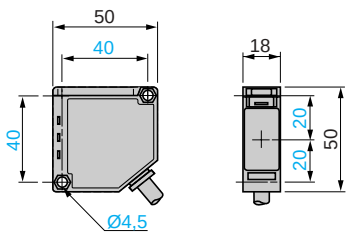
Fixing accessories *(3)*

Description	Reference	Weight kg
3D fixing kit for use on M12 rod for XUK or XUZ C50	**XUZ K2003**	0.170
3D fixing kit for use on M12 rod and with protective cover for XUK	**XUZ K2004**	0.270
M12 rod	**XUZ 2001**	0.050
Support for M12 rod	**XUZ 2003**	0.150
Mounting bracket	**XUZ A51**	0.050

(1) For further information, see page 37011/2.
*(2) For a 10 m long cable, replace L2 with **L10**.*
*Example: XUK 0AKSAL2 becomes **XUK 0AKSAL10.***
(3) For further information, see page 37012/2.

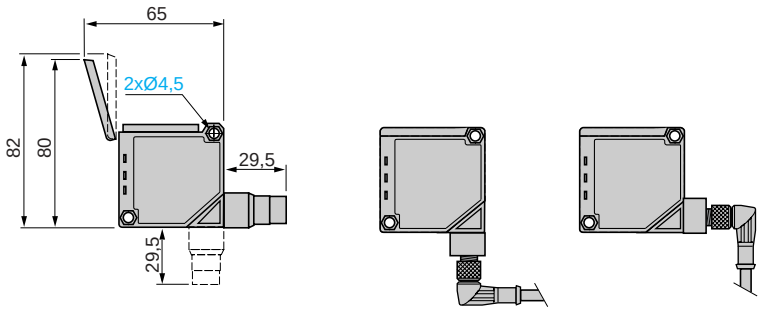
Dimensions

XUK 0A●●●L2



XUK 0A●●●M12

Indexation of the elbowed connector



Characteristics, schemes, curves

Photo-electric sensors

Osiris® Universal, **Osi**concept®(1)

Compact design 50 x 50

Five-wire, a.c. or d.c. supply, 1 NC/NO relay output

Three-wire, d.c. supply, solid-state output

Characteristics

Sensor type			XUK ●●●●●M12	XUK ●●●●●L2
Product certifications			UL, CSA, CE	
Connection			M12 connector	Pre-cabled L: 2 m
Sensing distance **nominal Sn / maximum** (excess gain = 2) (excess gain = 1)		**m**	**0.28 / 0.28 without accessory (diffuse system with adjustable background suppression)**	
		m	**0.8 / 1.2 without accessory (diffuse system)**	
		m	**4 / 5.7 with reflector (polarised reflex)**	
		m	**30 / 35 with thru-beam accessory (thru-beam)**	
Type of transmission			Infrared, except for polarised reflex (red)	
Degree of protection	Conforming to IEC 60529		IP 65, double insulation ⧈	
Storage temperature range		**°C**	- 40…+ 70	
Operating temperature range		**°C**	- 25…+ 55	
Materials	Case		PBT	
	Lens		PMMA	
	Cable		–	PvR
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		Yellow LED (transmission present for **XUK 0●●●●●●T**)	
	Supply on		Green LED	
	Instability		Red LED (except for **XUK 0●●●●●●T**)	
Alarm output		**mA**	⩽ 50 mA with overload and short-circuit protection	
Rated supply voltage	PNP/NPN	**V**	12…24 ⎓ with protection against reverse polarity	
	Relay output	**V**	–	24…240 ∿ or ⎓
Voltage limits (including ripple)	PNP/NPN	**V**	10…36 ⎓	
	Relay output	**V**	–	10.8…264 ∿ or ⎓
Current consumption, no-load	PNP/NPN	**mA**	⩽ 10; 20 for **XUK 0AK●●●●T**	
Power consumption	Relay output	**W**	–	3 ∿ or ⎓
Switching capacity	PNP/NPN	**mA**	⩽ 100 mA with overload and short-circuit protection	
	Relay output	**A**	–	3 ∿ or ⎓
Voltage drop, closed state		**V**	⩽ 1.5	
Relay output time delay		**s**	On closing and opening or monostable 0…10	
Maximum switching frequency	PNP/NPN	**Hz**	250	
	Relay output	**Hz**	–	20
Delays	First-up	**ms**	< 300 (PNP/NPN); < 200 (relay output)	
	Response	**ms**	< 2 (PNP/NPN); < 25 (relay output)	
	Recovery	**ms**	< 2 (PNP/NPN); < 25 (relay output)	

Connections

M12 connector

3 (-)
1 (+)
4 OUT/Output
2 alarm or beam break test

See connection on page 30210/2.

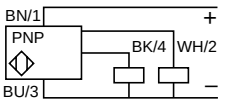
Pre-cabled

(-) BU (Blue)
(+) BN (Brown)
OUT/Output BK (Black)
Alarm/WH (White)
Beam break test VI (Violet)

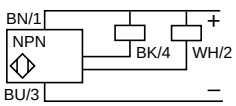
Pre-cabled, relay output

(≂) BU (Blue)
(≂) BN (Brown)
Relay common/GY (Grey)
N/O BK (Black)
N/C WH (White)

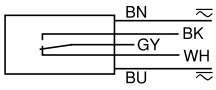
PNP



NPN

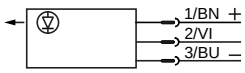


Relay output

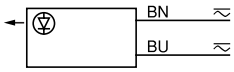


Transmitter ≂

Thru-beam accessory ⎓

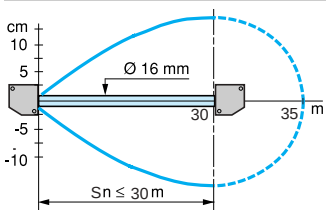


Thru-beam accessory ≂

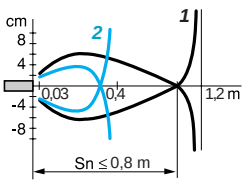


Detection curves

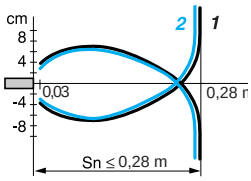
With thru-beam accessory (thru-beam)



Without accessory (diffuse system)

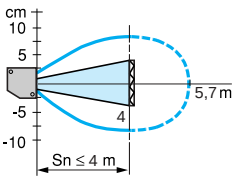


Without accessory (diffuse system with background suppression)



*Object 10 x 10 cm; **1** White 90%; **2** Grey 18%*

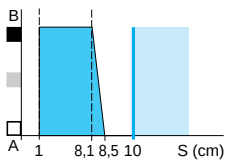
With reflector (polarised reflex)



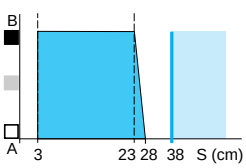
With reflector XUZ C50

Variation of usable sensing distance Su (without accessory with adjustable background suppression)

Teach mode at minimum



Teach mode at maximum



A-B: *object reflection coefficient*
Black 6%
Grey 18%
White 90%
Sensing range
Non sensing zone (matt surfaces)