

Presence detection in food and beverage industries

-
- **Presentation** *pages 2 and 3*

Inductive proximity sensors Osiprox[®], food and beverage processing series

- **Cylindrical, stainless steel, non flush mountable**

- Three-wire, d.c. supply, solid-state output PNP or NPN *pages 4 and 5*
- Two-wire, a.c. or d.c. supply *pages 6 and 7*

- **Cylindrical, plastic, non flush mountable**

- Three-wire, d.c. supply, solid-state output PNP or NPN *pages 8 and 9*
- Two-wire, a.c. or d.c. supply *pages 10 and 11*

Photo-electric sensors Osiris[®], food and beverage processing series

- **Design 18, stainless steel,**

- Three-wire, d.c. supply, solid-state output PNP or NPN

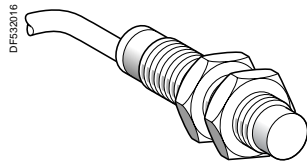
- Programmable version. *pages 12 and 13*
- Single function version. *pages 14 to 17*

Machine cabling accessories Application series

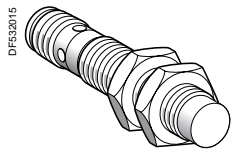
- **Pre-wire connectors, M12, 1/2" 20UNF and 7/8" 16UN.** *pages 18 and 19*
- **Jumper cables, M12-M12** *pages 20 and 21*

Inductive proximity sensors

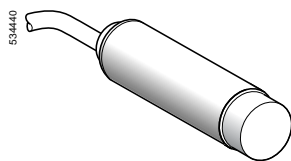
Osiprox® Application, food and beverage processing series
Cylindrical, stainless steel, non flush mountable
Three-wire, d.c. supply, solid-state output



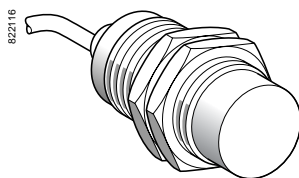
XS2 ●●SA●●L2



XS2 ●●SA●●M12



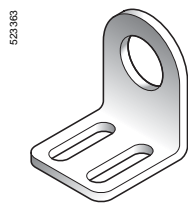
XS2 L2SA●●L2



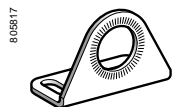
XS2 30SA●●L2



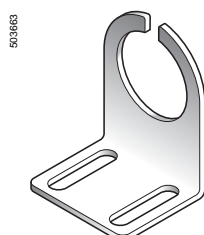
XUZ B2005



XSZ BS12



XUZ A118



XSZ BS30

Ø 12, threaded M12 x 1

Sensing dist. (Sn) mm	Function	Output	Connection	Reference	Weight kg
7	NO	PNP	Pre-cabled (L = 2 m) (1)	XS2 12SAPAL2	0.075
			M12 connector	XS2 12SAPAM12	0.035
		NPN	Pre-cabled (L = 2 m) (1)	XS2 12SANAL2	0.075
			M12 connector	XS2 12SANAM12	0.035

Ø 18, threaded M18 x 1

Sensing dist. (Sn) mm	Function	Output	Connection	Reference	Weight kg
12	NO	PNP	Pre-cabled (L = 2 m) (1)	XS2 18SAPAL2	0.120
			M12 connector	XS2 18SAPAM12	0.060
		NPN	Pre-cabled (L = 2 m) (1)	XS2 18SANAL2	0.120
			M12 connector	XS2 18SANAM12	0.060

Ø 18, plain

Sensing dist. (Sn) mm	Function	Output	Connection	Reference	Weight kg
12	NO	PNP	Pre-cabled (L = 2 m) (1)	XS2 L2SAPAL2	0.120
			M12 connector	XS2 L2SAPAM12	0.060
		NPN	Pre-cabled (L = 2 m) (1)	XS2 L2SANAL2	0.120
			M12 connector	XS2 L2SANAM12	0.060

Ø 30, threaded M30 x 1.5

Sensing dist. (Sn) mm	Function	Output	Connection	Reference	Weight kg
22	NO	PNP	Pre-cabled (L = 2 m) (1)	XS2 30SAPAL2	0.205
			M12 connector	XS2 30SAPAM12	0.145
		NPN	Pre-cabled (L = 2 m) (1)	XS2 30SANAL2	0.205
			M12 connector	XS2 30SANAM12	0.145

Accessories

Description	For use with	Reference	Weight kg
Plastic fixing clamp , 24.1 mm centres, with locking screw	Ø 18 sensor, plain case	XUZ B2005	0.007
Stainless steel fixing bracket	Ø 12 sensor	XSZ BS12	0.060
	Ø 18 sensor	XUZ A118	0.045
	Ø 30 sensor	XSZ BS30	0.080

Connecting cables (2)

Description	Type	Cable length m	Reference	Weight kg
Pre-wired M12 connectors Female, 4-pin, stainless steel clamping ring	Straight	2	XZC PA1141L2	0.090
		5	XZC PA1141L5	0.210
		10	XZC PA1141L10	0.410
	Elbowed	2	XZC PA1241L2	0.090
		5	XZC PA1241L5	0.210
		10	XZC PA1241L10	0.410
M12 jumper cable Male, 3-pin, stainless steel clamping ring	Straight	2	XZC RA151140A2	0.095
		5	XZC RA151140A5	0.200

(1) For a 5 m long cable replace L2 by L5; for a 10 m long cable replace L2 by L10.

Example: **XS2 12SAPAL2** becomes **XS2 12SAPAL5** with a 5 m long cable.


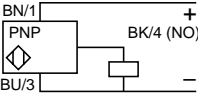
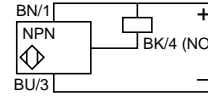
(2) For further information, see pages 18 to 21.

Characteristics

Sensor type		XS2 ●●SA●●M12	XS2 ●●SA●●L2
Product certifications/approvals		UL, CSA, CE	
Connection	Connector	M12	–
	Pre-cabled	–	Length: 2 m
Operating zone	∅ 12	mm	0...5.6
	∅ 18	mm	0...9.6
	∅ 30	mm	0...17.6
Differential travel		%	1...15 of real sensing distance (Sr)
Degree of protection	Conforming to IEC 60529	IP 67	IP 68, double insulation □
	DIN 40050	IP 69 K	
Storage temperature		°C	- 40...+ 85 (1)
Operating temperature		°C	- 25...+ 85
Materials	Case	Stainless steel, grade 316 L	
	Cable	–	Non-poisonous PVC, 3 x 0.34 mm ²
Vibration resistance		25 gn, amplitude ± 2 mm (f = 10 to 55 Hz)	
Shock resistance		50 gn, duration 11 ms	
Output state indication		Yellow LED: 4 viewing ports at 90°	Yellow LED: annular
Rated supply voltage		V	--- 12...24 with protection against reverse polarity
Voltage limits (including ripple)		V	--- 10...36
Switching capacity		mA	≤ 200 with overload and short-circuit protection
Voltage drop, closed state		V	≤ 2
Current consumption, no-load		mA	≤ 10
Maximum switching frequency	XS2 12SA●●●●	Hz	2500
	XS2 18SA●●●● and XS2 L2●●●●	Hz	1000
	XS2 30SA●●●●	Hz	500
Delays	First-up	ms	≤ 10
	Response	ms	≤ 0.2 ∅12, ≤ 0.3 ∅18, ≤ 0.6 ∅30
	Recovery	ms	≤ 0.2 ∅12, ≤ 0.7 ∅18, ≤ 1.4 ∅30

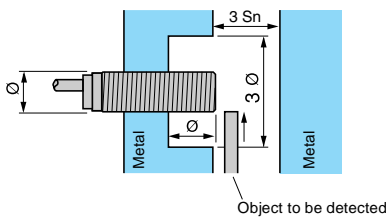
(1) + 100 °C for cleaning and sterilization phases whilst not in service.

Wiring schemes

Connector	Pre-cabled	PNP	NPN
M12 	BU: Blue BN: Brown BK: Black		

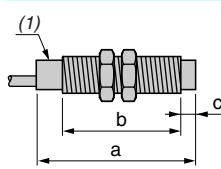
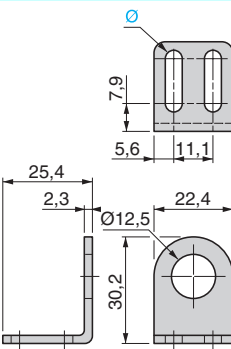
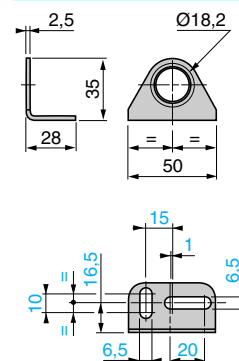
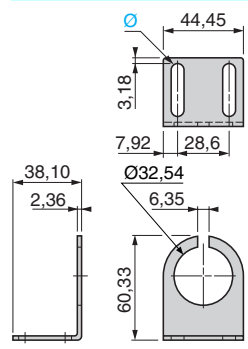
Setting-up

Minimum mounting distances (mm)



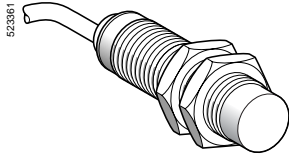
	Side by side	Face to face	Facing a metal object
∅ 12	e ≥ 48	e ≥ 84	e ≥ 21
∅ 18	e ≥ 72	e ≥ 144	e ≥ 36
∅ 30	e ≥ 120	e ≥ 264	e ≥ 66

Dimensions

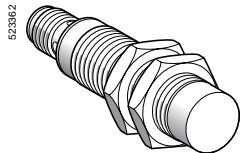
XS2	XSZ BS12	XUZ A118	XSZ BS30																													
																																
<table border="1"> <thead> <tr> <th rowspan="2">XS2</th> <th colspan="2">Pre-cabled (mm)</th> <th colspan="3">Connector (mm)</th> </tr> <tr> <th>a</th> <th>b</th> <th>a</th> <th>b</th> <th>c</th> </tr> </thead> <tbody> <tr> <td>∅ 12</td> <td>54.5</td> <td>38</td> <td>61</td> <td>37</td> <td>5</td> </tr> <tr> <td>∅ 18</td> <td>60</td> <td>40</td> <td>70</td> <td>42</td> <td>8</td> </tr> <tr> <td>∅ 30</td> <td>62.5</td> <td>41</td> <td>70</td> <td>36</td> <td>13</td> </tr> </tbody> </table>	XS2	Pre-cabled (mm)		Connector (mm)			a	b	a	b	c	∅ 12	54.5	38	61	37	5	∅ 18	60	40	70	42	8	∅ 30	62.5	41	70	36	13	<p>∅ : 2 elongated holes ∅ 7.14 x 29.36</p>		
XS2		Pre-cabled (mm)		Connector (mm)																												
	a	b	a	b	c																											
∅ 12	54.5	38	61	37	5																											
∅ 18	60	40	70	42	8																											
∅ 30	62.5	41	70	36	13																											

Inductive proximity sensors

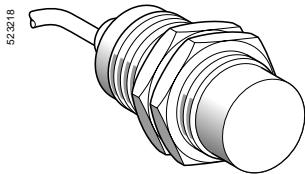
Osiprox® Application, food and beverage processing series
Cylindrical, stainless steel, non flush mountable
Two-wire, a.c. or d.c. supply



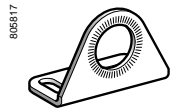
XS2 18SAM●L2



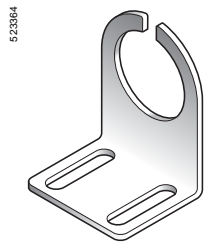
XS2 18SAM●U20



XS2 30SAM●L2



XUZ A118



XSZ BS30

Ø 18, threaded M18 x 1

Sensing distance (Sn) mm	Function	Connection	Reference	Weight kg
12	NO	Pre-cabled (L = 2 m) (1)	XS2 18SAMAL2	0.120
		1/2" - 20UNF connector	XS2 18SAMAU20	0.060

Ø 30, threaded M30 x 1.5

Sensing distance (Sn) mm	Function	Connection	Reference	Weight kg
22	NO	Pre-cabled (L = 2 m) (1)	XS2 30SAMAL2	0.205
		1/2" - 20UNF connector	XS2 30SAMAU20	0.145

Connecting cables (2)

Description	Type	Cable length m	Reference	Weight kg
Pre-wired connectors 1/2" - 20UNF 3-pin female, stainless steel clamping ring	Straight	5	XZC PA1865L5	0.210
		10	XZC PA1865L10	0.410
	Elbowed	5	XZC PA1965L5	0.250
		10	XZC PA1965L10	0.485

Accessories

Description	For use with	Reference	Weight kg
Stainless steel fixing bracket	Ø 18 sensor	XUZ A118	0.045
	Ø 30 sensor	XSZ BS30	0.080

(1) For a 5 m long cable replace L2 by L5; for a 10 m long cable replace L2 by L10.
Example: **XS2 18SAMAL2** becomes **XS2 18SAMAL5** with a 5 m long cable.

(2) For further information, see pages 18 to 21.

Characteristics		XS2 ●●SAM●U20	XS2 ●●SAM●L2
Sensor type		UL, CSA, CE	
Product certifications/approvals		UL, CSA, CE	
Connection	Connector	1/2" - 20UNF	–
	Pre-cabled	–	Length: 2 m
Operating zone	∅ 18	mm 0...9.6	
	∅ 30	mm 0...17.6	
Differential travel		%	
Degree of protection		IP 67	
Conforming to IEC 60529		IP 68, double insulation □	
DIN 40050		IP 69 K	
Storage temperature		°C - 40...+ 85 (1)	
Operating temperature		°C - 25...+ 85	
Materials	Case	Stainless steel, grade 316 L	
	Cable	–	Non-poisonous PVC, 2 x 0.34 mm ²
Vibration resistance		Conforming to IEC 60068-2-6	
Shock resistance		Conforming to IEC 60068-2-27	
Output state indication		Yellow LED: 4 viewing ports at 90°	
Rated supply voltage		V ~ or ≐ 24...240 (~ 50/60 Hz)	
Voltage limits (including ripple)		V ~ or ≐ 20...264	
Switching capacity		mA ~ 5...300 or ≐ 5...200 (2)	
Voltage drop, closed state		V ≤ 5.5	
Residual current, open state		mA ≤ 0.8	
Maximum switching frequency	XS2 18SAM●●●	Hz ~ 25 or ≐ 1000	
	XS2 30SAM●●●	Hz ~ 25 or ≐ 300	
Delays	First-up	ms ≤ 30	
	Response	ms ≤ 0.5	
	Recovery	ms ≤ 0.5 XS2 18SAM●●●, ≤ 2 XS2 30SAM●●●	

(1) + 100 °C for cleaning and sterilization phases whilst not in service.
(2) It is essential to connect a 0.4 A "quick-blow" fuse in series with the load.

Wiring schemes

Connector	Pre-cabled	2-wire ~ or ≐
1/2" - 20UNF	BU: Blue BN: Brown	NO output
AC/DC : 2 ⊥ : 1 AC/DC : 3		⊥/1
		⊥: on connector models only

Setting-up

Minimum mounting distances (mm)

Configuration	∅ 18	∅ 30
Side by side	e ≥ 72	e ≥ 120
Face to face	e ≥ 144	e ≥ 264
Facing a metal object	e ≥ 36	e ≥ 66

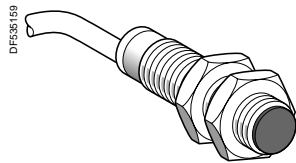
Dimensions

XS2	XSZ A118	XSZ BS30
(1) LED		

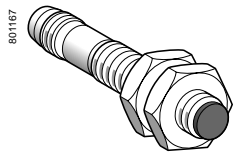
∅: 2 elongated holes ∅ 7.14 x 29.36

Inductive proximity sensors

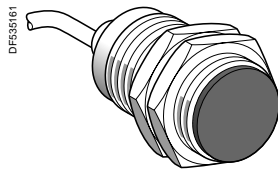
Osiprox® Application, food and beverage processing series
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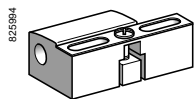
XS2 ●●AA●●L2



XS2 ●●AA●●M12



XS2 30AA●●L2



XSZ B●●●

Ø 12, threaded M12 x 1

Sensing dist. (Sn) mm	Function	Output	Connection	Reference	Weight kg
7	NO	PNP	Pre-cabled (L = 2 m) (1)	XS2 12AAPAL2	0.065
			M12 connector	XS2 12AAPAM12	0.030
		NPN	Pre-cabled (L = 2 m) (1)	XS2 12AANAL2	0.065
			M12 connector	XS2 12AANAM12	0.030

Ø 18, threaded M18 x 1

Sensing dist. (Sn) mm	Function	Output	Connection	Reference	Weight kg
12	NO	PNP	Pre-cabled (L = 2 m) (1)	XS2 18AAPAL2	0.100
			M12 connector	XS2 18AAPAM12	0.040
		NPN	Pre-cabled (L = 2 m) (1)	XS2 18AANAL2	0.100
			M12 connector	XS2 18AANAM12	0.040

Ø 30, threaded M30 x 1.5

Sensing dist. (Sn) mm	Function	Output	Connection	Reference	Weight kg
22	NO	PNP	Pre-cabled (L = 2 m) (1)	XS2 30AAPAL2	0.140
			M12 connector	XS2 30AAPAM12	0.080
		NPN	Pre-cabled (L = 2 m) (1)	XS2 30AANAL2	0.140
			M12 connector	XS2 30AANAM12	0.080

Accessories

Description	Reference	Weight kg
Fixing clamps	Ø 12	XSZ B112
	Ø 18	XSZ B118
	Ø 30	XSZ B130

Connecting cables (2)

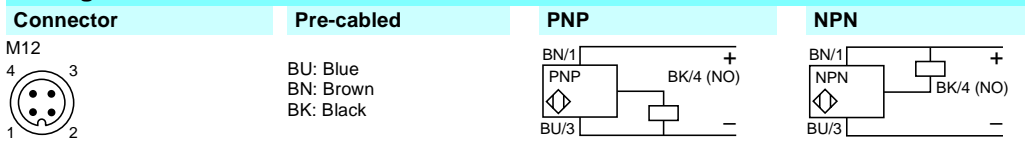
Description	Type	Cable length m	Reference	Weight kg
Pre-wired M12 connectors Female, 4-pin, stainless steel clamping ring	Straight	2	XZC PA1141L2	0.090
		5	XZC PA1141L5	0.190
		10	XZC PA1141L10	0.370
	Elbowed	2	XZC PA1241L2	0.090
		5	XZC PA1241L5	0.190
		10	XZC PA1241L10	0.370
M12 jumper cable Male, 3-pin, stainless steel clamping ring	Straight	2	XZC RA151140A2	0.090
		5	XZC RA151140A5	0.190

(1) For a 5 m long cable replace L2 by L5; for a 10 m long cable replace L2 by L10.
Example: **XS2 12AAPAL2** becomes **XS2 12AAPAL5** with a 5 m long cable.

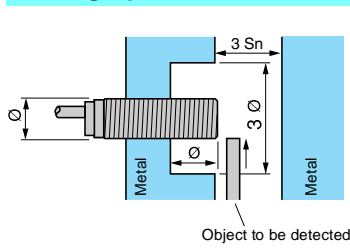
(2) For further information, see pages 18 to 21.

Characteristics		XS2 ●●AA●●M12	XS2 ●●AA●●L2
Sensor type		XS2 ●●AA●●M12	
Product certifications/approvals		UL, CSA, C€	
Connection	Connector	M12	–
	Pre-cabled	–	Length: 2 m
Operating zone	∅ 12	mm	0...5.6
	∅ 18	mm	0...9.6
	∅ 30	mm	0...17.6
Differential travel	%	1...15 of real sensing distance (Sr)	
Degree of protection	Conforming to IEC 60529	IP 67	IP 68, double insulation ☐
	DIN 40050	IP 69 K	
Storage temperature	°C	- 40...+ 85	
Operating temperature	°C	- 25...+ 85	
Materials	Case	PPS	
	Cable	–	PvR and 3 x 0.34 mm ²
Vibration resistance	Conforming to IEC 60068-2-6	25 gn, amplitude ± 2 mm (f = 10 to 55 Hz)	
Shock resistance	Conforming to IEC 60068-2-27	50 gn, duration 11 ms	
Output state indication		Yellow LED: annular	
Rated supply voltage		V	≐ 12...48 for T - 25...+ 70 °C
		V	≐ 12...24 for T + 70...+ 85 °C
Voltage limits (including ripple)		V	≐ 10...58 for T - 25...+ 70 °C
		V	≐ 10...36 for T + 70...+ 85 °C
Switching capacity		mA	≤ 200 with overload and short-circuit protection
Voltage drop, closed state		V	≤ 2
Current consumption, no-load		mA	≤ 10
Maximum switching frequency	XS2 12AA●●●●	Hz	2500
	XS2 18AA●●●●	Hz	1000
	XS2 30AA●●●●	Hz	500
Delays	First-up	ms	≤ 10
	Response	ms	≤ 0.2 ∅12, ≤ 0.3 ∅18, ≤ 0.6 ∅30
	Recovery	ms	≤ 0.2 ∅12, ≤ 0.7 ∅18, ≤ 1.4 ∅30

Wiring schemes



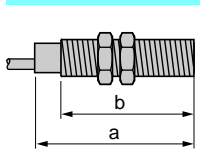
Setting-up



Minimum mounting distances (mm)

	Side by side	Face to face	Facing a metal object
∅ 12	e ≥ 48	e ≥ 84	e ≥ 21
∅ 18	e ≥ 72	e ≥ 144	e ≥ 36
∅ 30	e ≥ 120	e ≥ 264	e ≥ 66

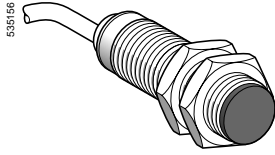
Dimensions



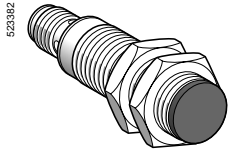
XS2	Pre-cabled (mm)		Connector (mm)	
	a	b	a	b
∅ 12	50	42	61	43
∅ 18	60	51	70	52
∅ 30	60	51	70	52

Inductive proximity sensors

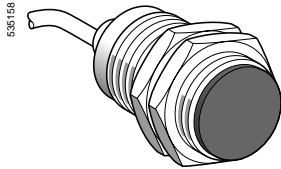
Osiprox® Application, food and beverage processing series
Cylindrical, plastic, non flush mountable
Two-wire, a.c. or d.c. supply



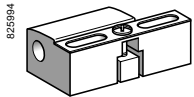
XS2 ●●AAM●L2



XS2 ●●AAM●U20



XS2 30AAM●L2



XSZ B1●●

Ø 18, threaded M18 x 1

Sensing distance (Sn) mm	Function	Connection	Reference	Weight kg
12	NO	Pre-cabled (L = 2 m) (1)	XS2 18AAMAL2	0.100
		1/2" - 20UNF connector	XS2 18AAMAU20	0.040

Ø 30, threaded M30 x 1.5

Sensing distance (Sn) mm	Function	Connection	Reference	Weight kg
22	NO	Pre-cabled (L = 2 m) (1)	XS2 30AAMAL2	0.140
		1/2" - 20UNF connector	XS2 30AAMAU20	0.080

Accessories

Description		Reference	Weight kg
Fixing clamps	Ø 18	XSZ B118	0.010
	Ø 30	XSZ B130	0.020

Connecting cables (2)

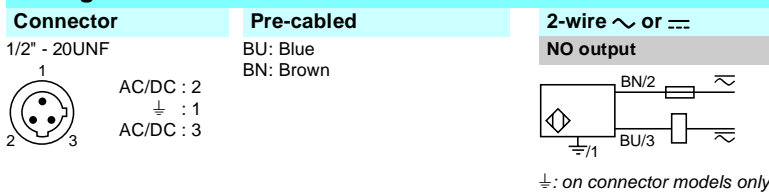
Description	Type	Cable length m	Reference	Weight kg
Pre-wired connectors 1/2" - 20UNF 3-pin female, stainless steel 316 L clamping ring	Straight	5	XZC PA1865L5	0.180
		10	XZC PA1865L10	0.350
	Elbowed	5	XZC PA1965L5	0.180
		10	XZC PA1965L10	0.350

(1) For a 5 m long cable replace L2 by L5; for a 10 m long cable replace L2 by L10.
Example: **XS2 18AAMAL2** becomes **XS2 18AAMAL5** with a 5 m long cable.
(2) For further information, see pages 18 to 21.

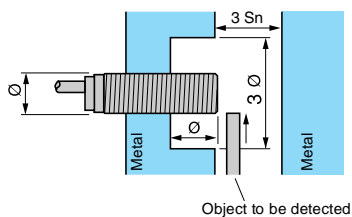
Characteristics		XS2 ●●AAM●U20	XS2 ●●AAM●L2
Sensor type		UL, CSA, CE	
Product certifications/approvals		UL, CSA, CE	
Connection	Connector	1/2" - 20UNF	–
	Pre-cabled	–	Length: 2 m
Operating zone	∅ 18	mm 0...9.6	
	∅ 30	mm 0...17.6	
Differential travel		% 1...15 of real sensing distance (Sr)	
Degree of protection	Conforming to IEC 60529	IP 67	IP 68, double insulation □
	DIN 40050	IP 69K	
Storage temperature		°C - 40...+ 85	
Operating temperature		°C - 25...+ 85	
Materials	Case	PPS	
	Cable	–	PvR and 2 x 0.34 mm ²
Vibration resistance	Conforming to IEC 60068-2-6	25 gn, amplitude ± 2 mm (f = 10 to 55 Hz)	
Shock resistance	Conforming to IEC 60068-2-27	50 gn, duration 11 ms	
Output state indication		Yellow LED: annular	
Rated supply voltage		V ~ or = 24...240 (~ 50/60 Hz)	
Voltage limits (including ripple)		V ~ or = 20...264	
Switching capacity		mA ~ 5...300 or = 5...200 (1)	
Voltage drop, closed state		V ≤ 5.5	
Residual current, open state		mA ≤ 0.8	
Maximum switching frequency	XS2 18AAM●●●	Hz ~ 25 or = 1000	
	XS2 30AAM●●●	Hz ~ 25 or = 300	
Delays	First-up	ms ≤ 30	
	Response	ms ≤ 0.5	
	Recovery	ms ≤ 0.5 XS2 18AAM●●●, ≤ 2 XS2 30AAM●●●	

(1) It is essential to connect a 0.4 A "quick-blow" fuse in series with the load.

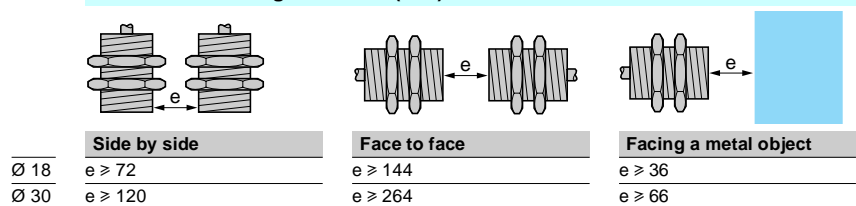
Wiring schemes



Setting-up

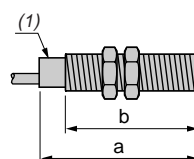


Minimum mounting distances (mm)



Dimensions

XS2

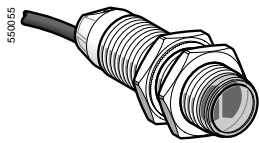


(1) LED

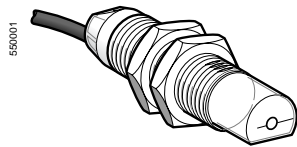
XS2	Pre-cabled (mm)		Connector (mm)	
	a	b	a	b
∅ 18	60	51	70	52
∅ 30	60	51	70	52

Photo-electric sensors

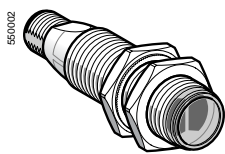
Osiris® Application,
food and beverage processing series
Design 18, metal, stainless steel, programmable version
Three-wire, d.c. supply, solid-state output



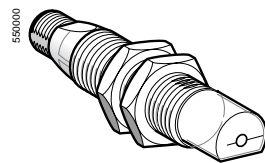
XUB 0...NL2



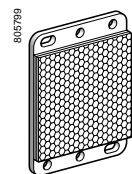
XUB 0...WL2



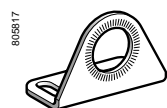
XUB 0...NM12



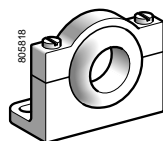
XUB 0...WM12



XUZ C50



XUZ A118



XUZ A218



XUZ B2005

Ø 18 stainless steel

Pre-cabled (1)

Sensing distance (Sn) m	Function	Output	Line of sight	Reference	Weight kg
0...15 depending on whether accessories are used	NO or NC, using programming button	PNP	Along case axis	XUB 0SPSNL2	0.105
			90° to case axis	XUB 0SPSWL2	0.110
		NPN	Along case axis	XUB 0SNSNL2	0.105
			90° to case axis	XUB 0SNSWL2	0.110

M12 connector

0...15 depending on whether accessories are used	NO or NC, using Osiconcept programming	PNP	Along case axis	XUB 0SPSNM12	0.055
			90° to case axis	XUB 0SPSWM12	0.060
		NPN	Along case axis	XUB 0SNSNM12	0.055
			90° to case axis	XUB 0SNSWM12	0.060

Accessories

Description	Connection	Line of sight	Reference	Weight kg
Thru-beam accessories (transmitter)	Pre-cabled (1)	Along case axis	XUB 0SKSNL2T	0.105
		90° to case axis	XUB 0SKSWL2T	0.110
	M12 connector	Along case axis	XUB 0SKSNM12T	0.055
		90° to case axis	XUB 0SKSWM12T	0.060
Reflector 50 x 50 mm	–	–	XUZ C50	0.020

Fixing accessories

Description	Reference	Weight kg
Stainless steel fixing bracket	XUZ A118	0.045
Plastic fixing bracket with adjustable ball-joint	XUZ A218	0.035
Plastic fixing clamp, 24.1 mm centres with locking screw	XUZ B2005	0.007

(1) For a 5 m long cable, replace L2 by L5.
Example: XUB 0SPSNL2 becomes **XUB 0SPSNL5**.


Photo-electric sensors

Osiris® Application,
food and beverage processing series
Design 18, metal, stainless steel, programmable version
Three-wire, d.c. supply, solid-state output

Characteristics		XUB 0●●●●M12, XUB 0●●●●M12T	XUB 0●●●●L2, XUB 0●●●●L2T
Sensor type		UL, CSA, CE	
Product certifications		M12	
Connection		Connector	–
		Pre-cabled	Length: 2 m
Sensing distance nominal S_n / maximum (excess gain = 2) (excess gain = 1)		Line of sight along case axis	Line of sight 90° to case axis
		m	0.12 / 0.12
		m	0.11 / 0.11
		m	0.3 / 0.4
		m	0.2 / 0.3
		m	2 / 3
		m	1.5 / 2
		m	15 / 20
		m	10 / 14
Type of transmission		Infrared, except for polarised reflex (red)	
Degree of protection		IP 65, IP 67 conforming to IEC 60529; IP69 K to DIN 40050; double insulation □	
Storage temperature		°C - 40...+ 70	
Operating temperature		°C - 25...+ 55	
Materials		Case: stainless steel, grade 304CU; Lens: PMMA; Cable: PvR	
Vibration resistance		Conforming to IEC 60068-2-6	
Shock resistance		Conforming to IEC 60068-2-27	
Indicator lights		Output state	
		Supply on	
		Stability	
		Yellow LED (transmission present for XUB 0●●●●●●T)	
		Green LED	
		Red LED (except for XUB 0●●●●●●T)	
Rated supply voltage		V --- 12...24 with protection against reverse polarity	
Voltage limits (including ripple)		V --- 10...36	
Current consumption, no-load		mA 35 (20 for XUB 0●●●●●●T)	
Switching capacity		mA ≤ 100 with overload and short-circuit protection	
Voltage drop, closed state		V 1.5	
Maximum switching frequency		Hz 250	
Delays		First-up	
		Response	
		Recovery	
		ms < 200	
		ms < 2	
		ms < 2	

Connections

M12 connector

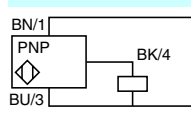


4 3 3 (-)
1 1 (+)
2 4 OUT/Output
3 Beam break input (1)

Pre-cabled

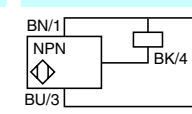
(-) BU (Blue)
(+) BN (Brown)
OUT/Output BK (Black)
Beam break input (1) VI (Violet)

PNP



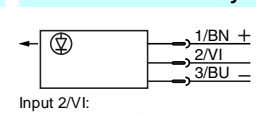
BN/1
PNP
BU/3
BK/4

NPN



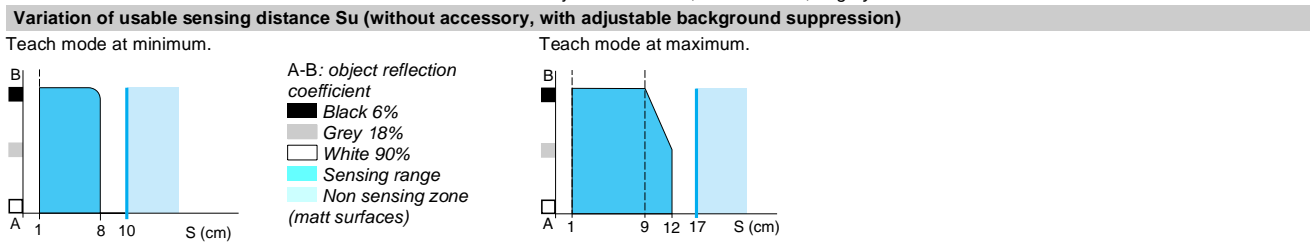
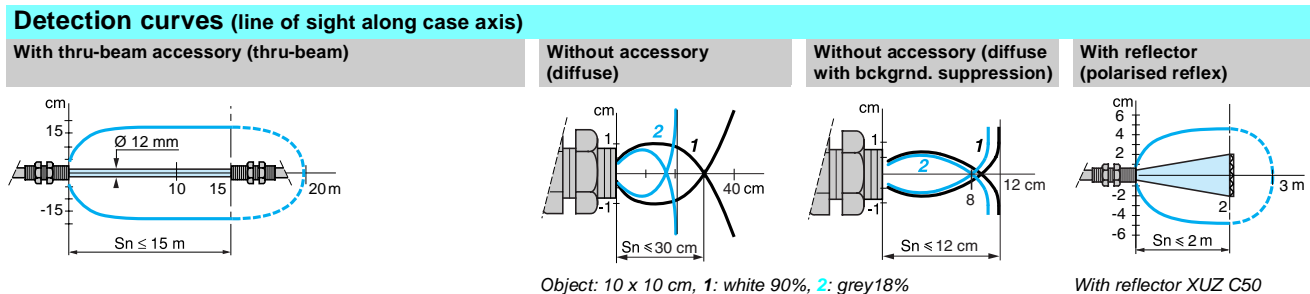
BN/1
NPN
BU/3
BK/4

Thru-beam accessory



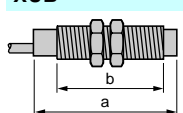
1/BN +
2/VI
3/BU -

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



Dimensions

XUB



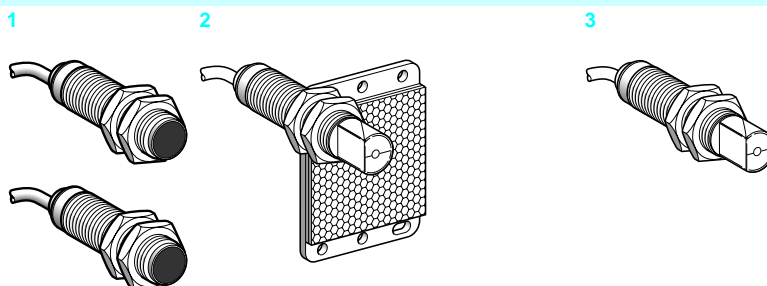
	Pre-cabled (mm)		Plug-in connector (mm)	
	a	b	a	b
Line of sight along case axis	64 (2)	44	78 (2)	44
Line of sight 90° to case axis	78	44	92	44

(1) Beam break input on thru-beam transmitter only.
 (2) For XUB 0●●●●●●T, 64 becomes 62 mm and 78 becomes 76 mm.

Photo-electric sensors

Osiris® Application, food and beverage processing series
Stainless steel case M18 x 1
d.c. supply. Solid-state output

Design 18



System	Thru-beam 1	Reflex 2	Polarised reflex 2	Diffuse 3	
Type of transmission	Infrared	Infrared	Red	Infrared	
Sensing distance	Nominal, Sn (excess gain = 2)	15 m	4 m	2 m	0.10 m
	Maximum (excess gain = 1)	20 m	5.5 m (with 50 x 50 mm reflector)	3 m (with 50 x 50 mm reflector)	0.15 m

References of pre-cabled versions (1)

3-wire, PNP NO or NC programmable	Line of sight along case axis	XU2 N18PP341 (2)	XU1 N18PP341 (3)	XU9 N18PP341 (3)	XU5 N18PP341
	Line of sight 90° to case axis	XU2 N18PP341W (2)	XU1 N18PP341W (3)	XU9 N18PP341W (3)	XU5 N18PP341W
3-wire, NPN NO or NC programmable	Line of sight along case axis	XU2 N18NP341 (2)	XU1 N18NP341 (3)	XU9 N18NP341 (3)	XU5 N18NP341
	Line of sight 90° to case axis	XU2 N18NP341W (2)	XU1 N18NP341W (3)	XU9 N18NP341W (3)	XU5 N18NP341W
Weight (kg)		0.270	0.155	0.155	0.135

References of plug-in connector versions

3-wire, PNP NO or NC programmable	Line of sight along case axis	XU2 N18PP341D (2)	XU1 N18PP341D (3)	XU9 N18PP341D (3)	XU5 N18PP341D
	Line of sight 90° to case axis	XU2 N18PP341WD (2)	XU1 N18PP341WD (3)	XU9 N18PP341WD (3)	XU5 N18PP341WD
3-wire, NPN NO or NC programmable	Line of sight along case axis	XU2 N18NP341D (2)	XU1 N18NP341D (3)	XU9 N18NP341D (3)	XU5 N18NP341D
	Line of sight 90° to case axis	XU2 N18NP341WD (2)	XU1 N18NP341WD (3)	XU9 N18NP341WD (3)	XU5 N18NP341WD
Weight (kg)		0.130	0.085	0.085	0.065

(1) Sensors available with 5 m cable: To order, add the suffix **L5** to the reference selected from above.

Example: sensor **XU1 N18PP341** with 5 m cable becomes **XU1 N18PP341L5**.

(2) Reference for both transmitter and receiver for thru-beam system sensors.

(3) 50 x 50 mm reflector included with reflex system sensors.

References of fixing accessories

Description	Reference	Weight kg
Stainless steel fixing bracket	XUZ A118	0.045
Plastic fixing bracket	XUZ A218	0.035
Set of 2 stainless steel nuts	XSZ E318	0.020
Set of 2 plastic nuts	XSZ E218	0.004

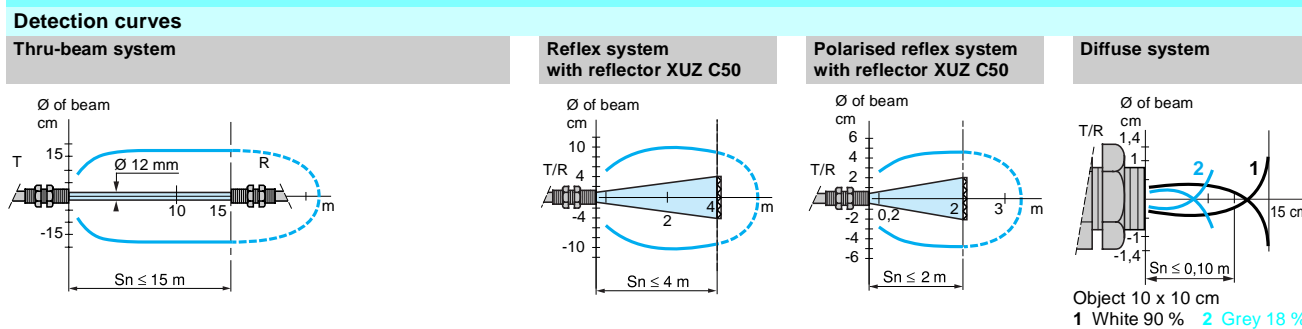
Photo-electric sensors

Osiris® Application, food and beverage processing series
Stainless steel case M18 x 1
d.c. supply. Solid-state output

Characteristics		
Product certifications		CE, UL, CSA
Ambient air temperature		Operation: - 25...+ 55 °C. Storage: - 40...+ 70 °C
Vibration resistance	Conforming to IEC 60068-2-6	25 gn, amplitude ± 1.5 mm (f = 10...55 Hz)
Shock resistance	Conforming to IEC 60068-2-27	30 gn, duration 11 ms
Degree of protection	Conforming to IEC 60529	IP 67
Connection	Pre-cabled	Pre-cabled, diameter 4.2 mm, length 2 m (3), wire c.s.a.: 4 x 0.34 mm ²
	Connector	M12 male connector, 4-pin (suitable female connectors, including pre-wired versions, see page 30210/2)
Materials	Case	Food and beverage processing stainless steel, grade 304 Cu
	Lenses	PMMA
	Cable	PvR
Rated supply voltage		12...24 V with protection against reverse polarity
Voltage limits		10...30 V (including ripple)
Switching capacity (sealed)		≤ 100 mA with overload and short-circuit protection
Voltage drop, closed state		≤ 1.5 V
Current consumption, no-load		≤ 30 mA (reflex and diffuse), ≤ 50 mA (thru-beam)
Maximum switching frequency		500 Hz
Delays	First-up	≤ 15 ms
	Response	≤ 1 ms
	Recovery	≤ 1 ms
	Output state	Yellow LED, on receiver only
Indicator lights	Supply on	Green LED, on transmitter only
	Output state	Yellow LED, on receiver only

(1) Sensors available with 5 m cable: To order, add the suffix L5 to the reference selected from above.
Example: sensor XU1 N18PP341 with 5 m cable becomes XU1 N18PP341L5.

Curves



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

Excess gain curves (ambient temperature: + 25 °C)

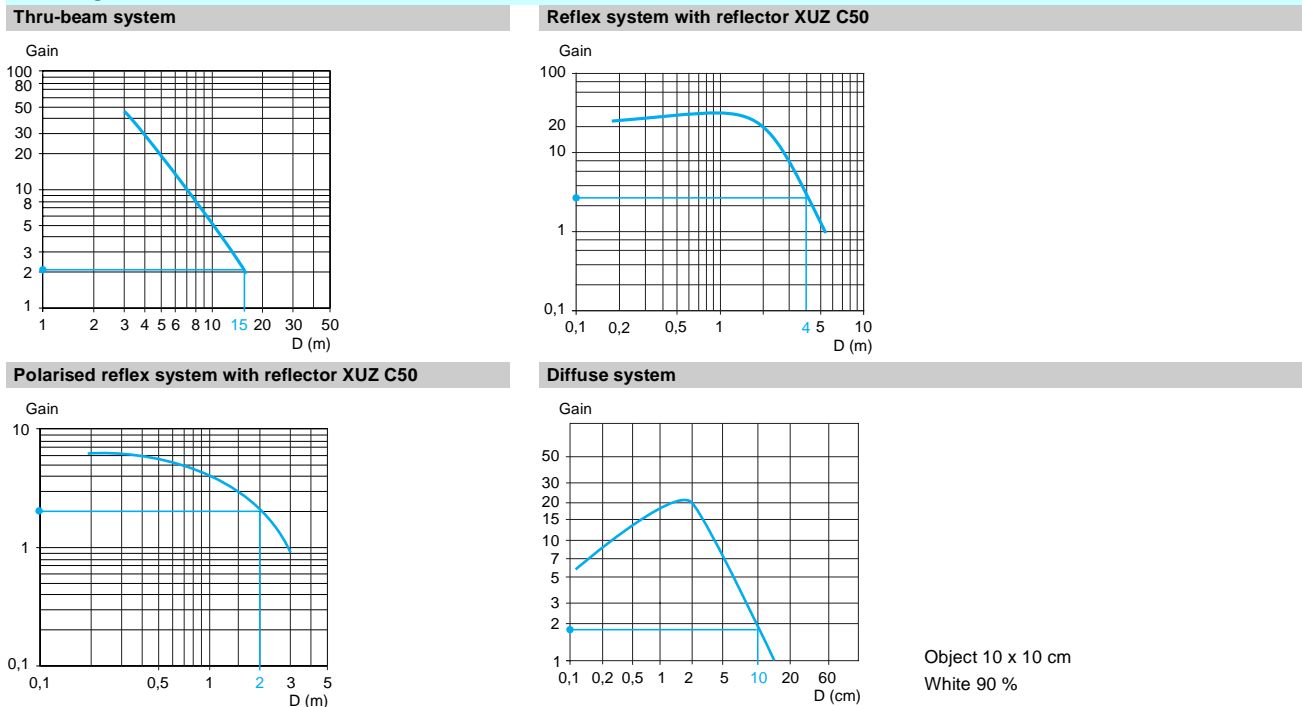


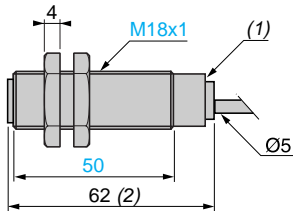
Photo-electric sensors

Osiris® Application, food and beverage processing series

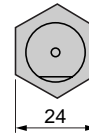
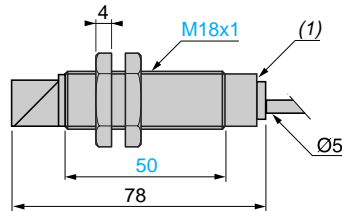
Stainless steel case M18 x 1
d.c. supply. Solid-state output

Dimensions

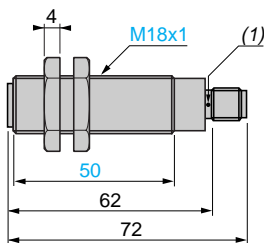
XU● N18●●341



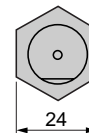
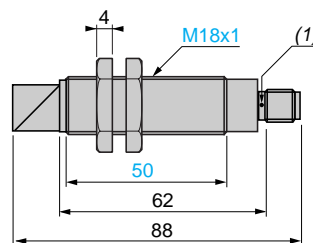
XU● N18●●341W



XU● N18●●341D



XU● N18●●341WD



(1) LED

(2) 64 for XU9 N18●●341

Fixing nut tightening torque: < 15 N.m

Connector tightening torque: 2 N.m

Photo-electric sensors

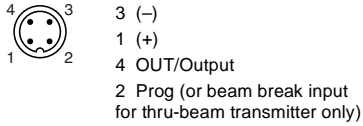
Osiris® Application, food and beverage processing series

Stainless steel case M18 x 1

d.c. supply. Solid-state output

Connections

M12 connector scheme



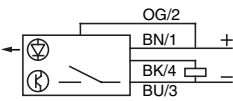
Cable connections

(-) BU (Blue)
(+) BN (Brown)
(OUT/Output) BK (Black)
(Prog) OG (Orange)
(Beam break input) VI (Violet) on thru-beam transmitter only

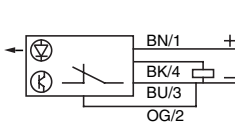
See connection on page 30210/2.

Wiring schemes - diffuse

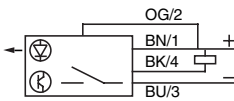
PNP NO



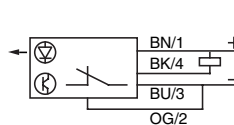
PNP NC



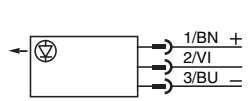
NPN NO



NPN NC

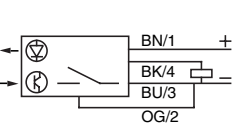


Transmitter

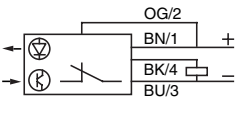


Wiring schemes - reflex and thru-beam

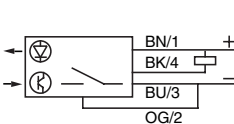
PNP NO



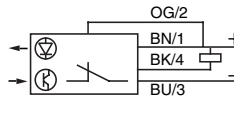
PNP NC



NPN NO

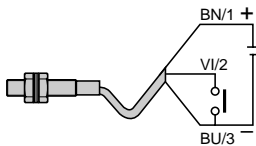


NPN NC

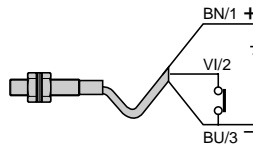


Beam break input on thru-beam transmitter only

Beam made



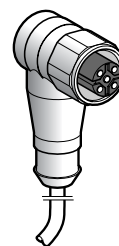
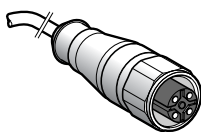
Beam broken



Machine cabling accessories

Pre-wired connectors, Application series

M12, 1/2" 20UNF and 7/8" 16UN



Connector type	Female, M12, straight	Female, M12, elbowed	Female, M12, elbowed
Number of pins	4	4	5
References			
PVC cable (see page 30208/3)	L = 2 m	XZ CPA1141L2	XZ CPA1241L2
	L = 5 m	XZ CPA1141L5	XZ CPA1241L5
	L = 10 m	XZ CPA1141L10	XZ CPA1241L10
Weight (kg)	L = 2 m	0.090	0.090
	L = 5 m	0.210	0.210
	L = 10 m	0.410	0.410

Characteristics

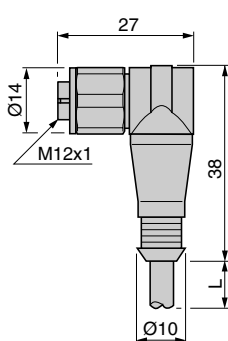
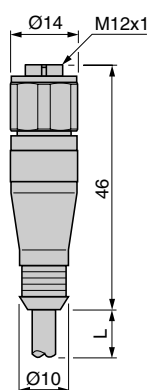
Connection type	Screw threaded, smooth, hexagonal, stainless steel 316L clamping ring (1)		
Clamping ring dimension	14 mm		
Maximum tightening torque	0.6 - 0.8 N.m		
Degree of protection	IP 69K		
Ambient air temperature	Static cable usage	- 25...+ 85 °C	
Cabling	Cable	Ø 5.3 mm	Ø 5.3 mm
	Conductor c.s.a.	4 x 0.34 mm ²	5 x 0.34 mm ²
Nominal voltage	~ 250 V, --- 300 V		
Nominal current	4 A		
Insulation resistance	> 10 ⁹ Ω		
Contact resistance	≤ 5 mΩ		

(1) Tightening by hand recommended

Dimensions

XZ CPA1141L●

XZ CPA1241L●, XZ CPA1164L●

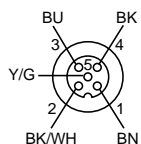
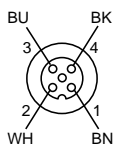


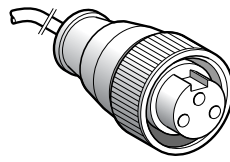
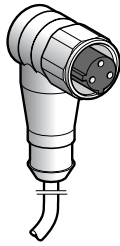
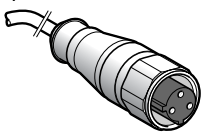
L = 2, 5 or 10 m

Connections

XZ CPA1141L●, XZ CPA1241L●

XZ CPA1164L●





Female, 1/2" 20UNF, straight	Female, 1/2" 20UNF, elbowed	Female, 7/8" 16UN, straight	Female, 7/8" 16UN, straight
3	3	3	3
XZ CPA1865L5	XZ CPA1965L5	XZ CPA1662L5	XZ CPA1670L5
XZ CPA1865L10	XZ CPA1965L10	XZ CPA1662L10	XZ CPA1670L10
0.210	0.250	0.280	0.280
0.410	0.485	0.530	0.530

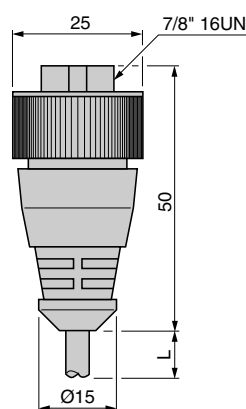
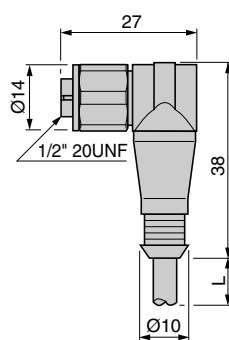
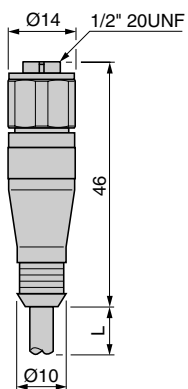
Screw threaded, smooth, hexagonal, stainless steel 316L clamping ring (1)		Screw threaded knurled clamping ring	
14 mm		-	
0.6 - 0.8 N.m		1.2 - 1.5 N.m	
IP 69K		IP 67	
- 25...+ 85 °C		- 25...+ 85 °C	
Ø 5.0 mm		Ø 5.0 mm	
3 x 0.34 mm ²	3 x 0.34 mm ²	3 x 0.5 mm ²	3 x 0.5 mm ²
~ 250 V, ~ 300 V	~ 250 V, ~ 300 V	~ 250 V	~ 250 V
4 A	4 A	6 A	6 A
> 10 ⁹ Ω	> 10 ⁹ Ω	> 10 ⁹ Ω	> 10 ⁹ Ω
≤ 5 mΩ	≤ 5 mΩ	≤ 5 mΩ	≤ 5 mΩ

(1) Tightening by hand recommended

XZ CPA1865L●

XZ CPA1965L●

XZ CPA1662L●, XZ CPA1670L●

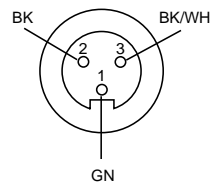
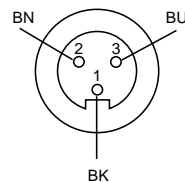
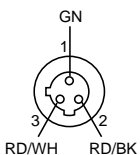


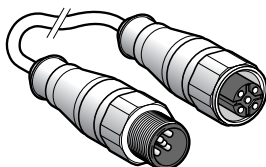
L = 5 or 10 m

XZ CPA1865L●, XZ CPA1965L●

XZ CPA1662L●

XZ CPA1670L●





Male connector type	M12, 3-pin, straight
Female connector type	M12, 3-pin, straight
Number of conductors	3

References

PVC cable (see page 30208/3)	L = 2 m	XZ CRA151140A2
	L = 5 m	XZ CRA151140A5
Weight (kg)	L = 2 m	0.095
	L = 5 m	0.200

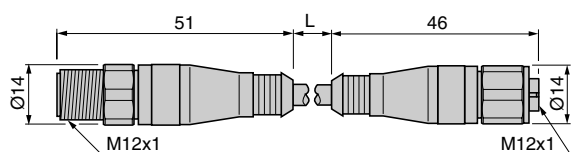
Characteristics

Connection type	Screw threaded, smooth, hexagonal, stainless steel 316L clamping ring (1)	
Clamping ring dimension	14 mm	
Maximum tightening torque	06 - 0.8 N.m	
Degree of protection	IP 69	
Ambient air temperature	Static cable usage	- 25...+ 85 °C
Cabling	Cable	Ø 5 mm
	Conductor c.s.a.	3 x 0.34 mm ²
Nominal voltage	~ 250 V, = 300 V	
Nominal current	4 A	
Insulation resistance	> 10 ⁹ Ω	
Contact resistance	≤ 5 mΩ	

(1) Tightening by hand recommended

Dimensions

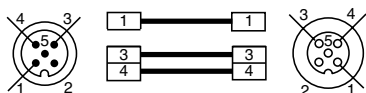
XZ CRA151140A●

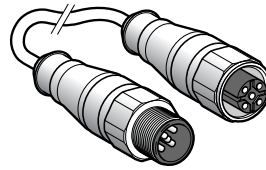
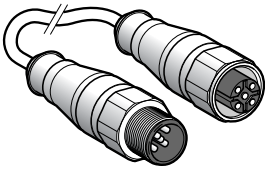


L = 2 or 5 m

Connections

XZ CRA151140A●



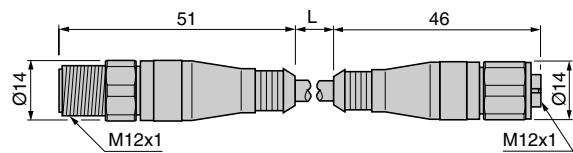
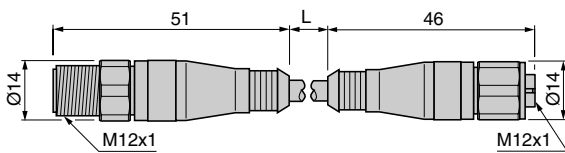


M12, 4-pin, straight	M12, 5-pin, straight
M12, 4-pin, straight	M12, 5-pin, straight
4	5
XZ CRA151141C2	XZ CRA151164D2
XZ CRA151141C5	XZ CRA151164D5
0.105	0.120
0.220	0.260
Screw threaded, smooth, hexagonal, stainless steel 316L clamping ring (1)	
14 mm	
0.6 - 0.8	
IP 69K	
- 25...+ 85 °C	
Ø 5.3 mm	Ø 5.7 mm
4 x 0.34 mm ²	5 x 0.34 mm ²
~ 250 V, ~ 300 V	
4 A	
> 10 ⁹ Ω	
≤ 5 mΩ	

(1) Tightening by hand recommended

XZ CRA151141C●

XZ CRA151164D●



L = 2 or 5 m

XZ CRA151141C●

XZ CRA151164D●

