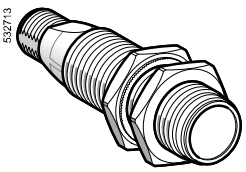
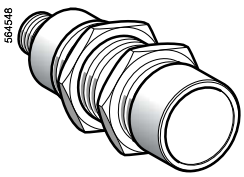
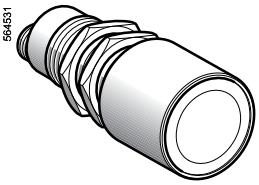
Ultrasonic sensors
OsiSense XX
Plastic case, cylindrical type and flat format
Sensors with analogue output signal 0…10 V or 4-20 mA



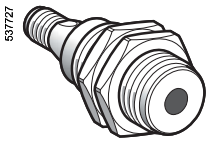
XX9 18A3●●M12



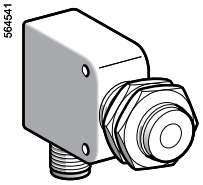
XX9 30A1A●M12



XX9 30A3A●M12



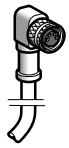
XX9 V3A1●●M12

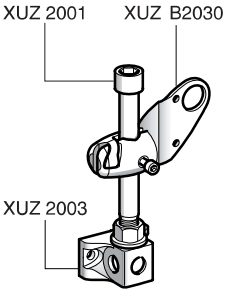


XX9 V1A1●●M12

XXZ PB100


XZ CC12FD●40B


XZ CP1041L●



3D xing kit example

Cylindrical sensors

Sensors	Sensing distance (Sn) m	Analogue output (Slope selection using teach button)	Reference	Weight kg
Ø 18	0.5	4-20 mA	XX9 18A3C2M12	0.033
		0-10 V	XX9 18A3F1M12	0.033
Ø 30	1 (adjustable)	4-20 mA	XX9 30A1A2M12	0.095
			XX9 30S1A2M12 (1)	0.095
		0-10 V	XX9 30A1A1M12	0.095
			XX9 30S1A1M12 (1)	0.095
		4-20mA	XX9 V3A1C2M12	0.090
		0-10 V	XX9 V3A1F1M12	0.090
	8 (adjustable)	4-20 mA	XX9 30A3A2M12	0.115
		0-10 V	XX9 30A3A1M12	0.115

(1) Stainless steel 303 case.

Flat format sensors

Sensors	Sensing distance (Sn) m	Analogue output (Slope selection using teach button)	Reference	Weight kg
18 x 33 x 60 + Ø 18	0.5 (adjustable)	4-20 mA	XX9 V1A1C2M12	0.090
		0-10 V	XX9 V1A1F1M12	0.060

Accessories

Teach pushbuttons

Teach pushbuttons	For use with sensors	Reference	Weight kg
Selection of detection window Input: M12 female connector Output: M12 male connector	XX9 18A●, XX9 V3A●	XXZ PB100	0.035

Cabling accessories

Connectors	Type		Reference	Weight kg
M12	Metal clamping ring	Straight	XZ CC12FDM40B	0.020
		Elbowed	XZ CC12FCM40B	0.020
	Plastic clamping ring	Straight	XZ CC12FDP40B	0.020
		Elbowed	XZ CC12FCP40B	0.020

Pre-wired connectors	Type	Cable length m	Reference	Weight kg
M12	Straight	2	XZ CP1141L2	0.090
		5	XZ CP1141L5	0.190
		10	XZ CP1141L10	0.370
	Elbowed	2	XZ CP1241L2	0.090
		5	XZ CP1241L5	0.190
		10	XZ CP1241L10	0.370

Fixing accessories

Description	For use with sensor	Reference	Weight kg
90° xing bracket	Ø 18	XUZ A118	0.038
	Ø 30	XXZ 30	0.115
Fixing clamp	Ø 80	XSZ BD10	0.065
3D xing kit (2) M12 rod		XUZ 2001	0.050
Support for M12 rod		XUZ 2003	0.160
Ball-joint mounted fixing bracket		XUZ B2030	0.160

(2) To obtain a 3D xing kit, order:
rod support XUZ 2003, M12 rod XUZ 2001 and ball-joint mounted xing bracket XUZ B2030

6

General: page 6/4
Characteristics: page 6/21
Dimensions: page 6/22
Schemes: page 6/23

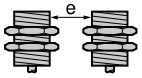
Ultrasonic sensors
OsiSense XX
Plastic case, cylindrical type and flat format
Sensors with analogue output signal 0…10 V or 4-20 mA

Sensor type			XX9 18A3	XX9 V1A1	XX9 30A1	XX9 V3A1	XX9 30A3
Characteristics							
Product certi cations			CE, UL	CE, UL, CSA			
Conformity to standards			IEC 60947-5-2, UL508 pending and CSA C22-2 n° 14 pending				
Connection	Connector		M12, 4-pin				
Sensing range		mm	51…508	51…508	51…991	100…1000	203…8000
			Adjustable using teach mode				
Nominal sensing distance (Sn)		m	0.5	0.5	1	1	8
Operating distance		mm	Adjustable using teach mode				
Blind zone (no object must pass through this zone whilst the sensor is operating)		mm	0…51			0…100	0…203
Transmission frequency		kHz	300		200	180	75
Repeat accuracy		mm	1.27		± 0.9	± 0.9	± 2.54
Overall beam angle (see detection lobe)			6°		10°	7°	16°
Minimum size of object to be detected			Cylinder Ø 1.6 mm	Cylinder Ø 2.5 mm or flat bar 1 mm wide for a sensing distance of 150 mm	Cylinder Ø 1.6 mm up to a sensing distance of 635 mm	Cylinder Ø 50 mm up to a sensing distance of 1000 mm	Cylinder Ø 50.68 mm up to a sensing distance of 4732 mm
Degree of protection	Conforming to IEC 60529 and IEC 60947-5-2		IP 67		IP 67		IP 65
Storage temperature		°C	- 40…+ 80				
Operating temperature		°C	- 20…+ 65		0…+ 50	0…+ 70	- 20…+ 60
Materials	Case		Valox®		ULTEM®	Valox®	ULTEM®
	Sensing face		Epoxy		Silicone	Epoxy	
Vibration resistance	Conforming to IEC 60068-2-6		Amplitude ± 1 mm (f = 10…55 Hz)				
Mechanical shock resistance	Conforming to IEC 60068-2-27		30 gn, duration 11 ms, in all 3 axes				
Resistance to electromagnetic interference							
Electrostatic discharges	Conforming to IEC 61000-4-2	kV	8, level 4				
Radiated electromagnetic fields	Conforming to IEC 61000-4-3	V/m	10, level 3				
Fast transients	Conforming to IEC 61000-4-4	kV	1, level 3				
LED indicators	Output state		Yellow LED				
	Power on		Green LED				
	Setting-up assistance		Dual colour LED				
Rated supply voltage (With protection against reverse polarity)		V	⎓ 12…24 V		⎓ 15…24 V	⎓ 15…24 V	⎓ 15…24 V
Voltage limits (including ripple)		V	⎓ 10…28 V				
Current consumption, no-load		mA	40	40	60	60	60
Switching capacity			Analogue output 4-20 mA: resistive load from 10 to 500 Ω max. (except for XX9 V3A1● and XX9 D1A1●: 350 Ω) Analogue output 0-10 V: resistive load from 1 kΩ to unlimited (except for XX9 V3A1● and XX9 D1A1●: 2 kΩ) Overload and short-circuit protection Slope selection using teach button				
Delays	First-up	ms	100		720	75	1200
	Response	ms	15		25	30	250
	Recovery	ms	10		25	30	250
Deviation angle from 90° of the object to be detected			± 7°		± 8°	± 5°	± 5°

Setting-up

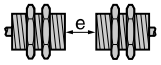
Minimum mounting distances

Side by side



e: respect the distances indicated on the detection curves shown on page 6/23.

Face to face

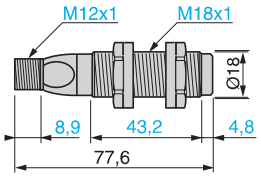


e = 4 x Sn max.

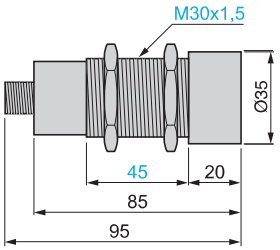
Ultrasonic sensors
OsiSense XX
Plastic case, cylindrical type and flat format
Sensors with analogue output signal 0…10 V or 4-20 mA

Dimensions

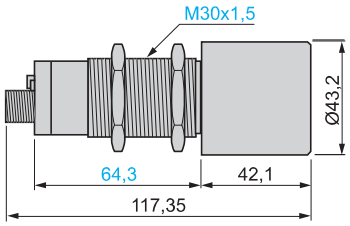
XX9 18A3●●●M12



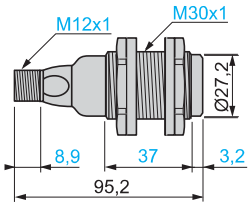
XX9 30A1A●M12



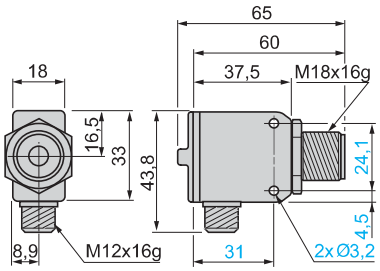
XX9 30A3A●M12



XX9 V3A1●●M12



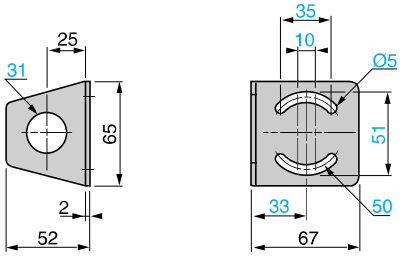
XX9 V1A1●●M12



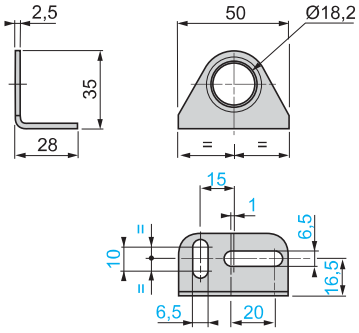
Accessories

XXZ 30

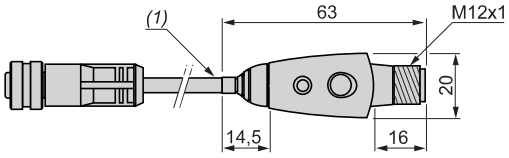
90° fixing bracket



XUZ A118



XXZ PB100



(1) Cable, length: 152.4 mm.

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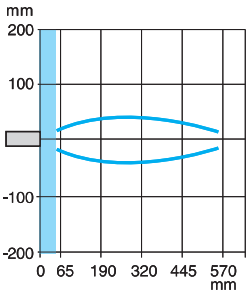
Ultrasonic sensors
OsiSense XX
Plastic case, cylindrical type and flat format
Sensors with analogue output signal 0…10 V or 4-20 mA

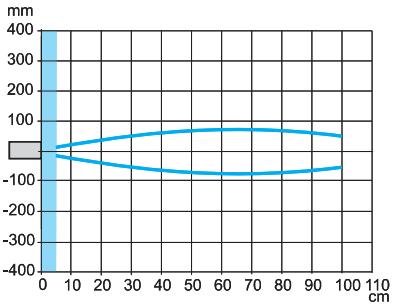
Curves

Detection curves

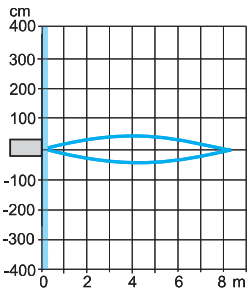
XX9 18A3●●M12, XX9V3A1●●M12



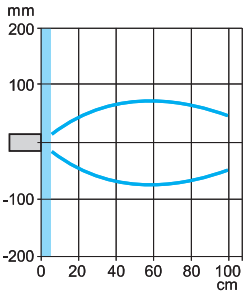
XX9 30A1●●M12



XX9 30A3●●M12

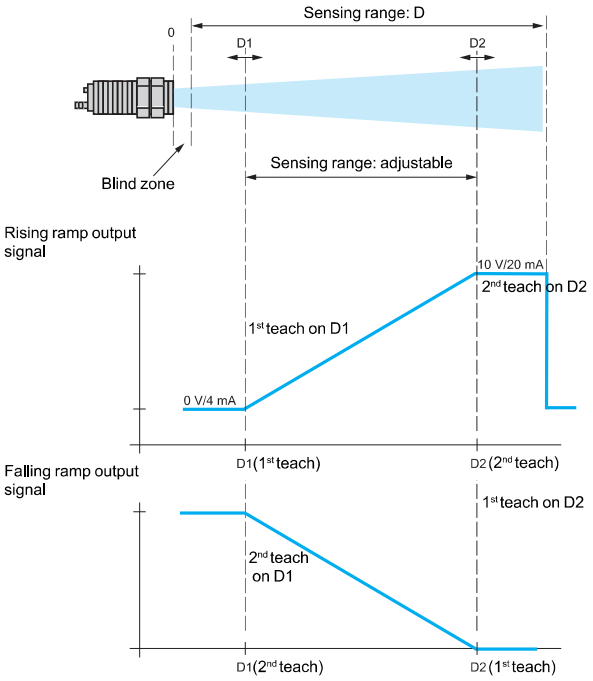


XX9 V3A1●●M12



Blind zone

Output signal curves



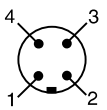
The direction of the slope of the signal is obtained by teaching the first limit:
- D1 for rising ramp
- D2 for falling ramp

Maximum deviation < 0.5%

Wiring schemes

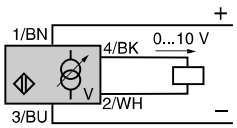
M12 connector

4-wire type

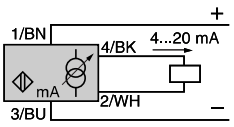


1 (+)
2 Signal return
3 (-)
4 Output signal

XX9 30A●/XX9 30S●

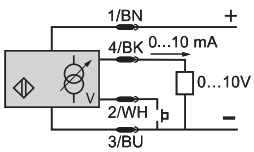


(-) BU (Blue)
(+) BN (Brown)
WH (White)
BK (Black)

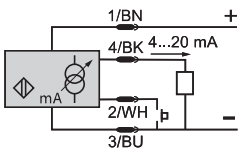


(-) BU (Blue)
(+) BN (Brown)
WH (White)
BK (Black)

XX9 18A●/XX9 V1A●/XX9 V3A●



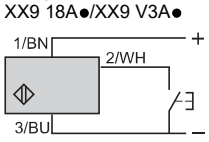
(-) BU (Blue)
(+) BN (Brown)
WH (White)
BK (Black)



(-) BU (Blue)
(+) BN (Brown)
WH (White)
BK (Black)

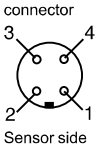
Wiring for teaching of detection window

Using external contact
XX9 18A●/XX9 V3A●

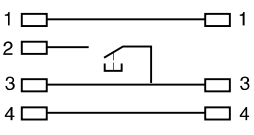


Using XXZ PB100

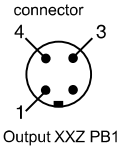
M12 female connector



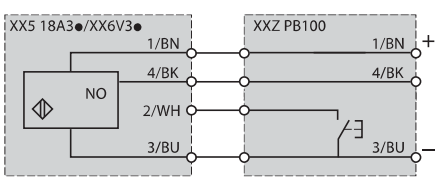
Sensor side



M12 male connector



Output XXZ PB100



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