OsiSense® XS Inductive proximity sensors General purpose Cylindrical, increased range, flush mountable

Sensors, 3-wire 12-48 V ==, long case model

Three-wire DC, solid-state output

Fig.		Sensing dist. Function Output Connection Sn, mm			Catalog Number	Weight kg (lb)		
2.5 (0.10) NO						Number	Ng	(ID)
Mil. connector		Ø 8, thread	ded M8 x 1					
NPN		2.5 (0.10)	NO	PNP	Pre-cabled (L = 2 m) (1)	XS608B1PAL2	0.035	(0.08)
M12 connector	001280				M12 connector	XS608B1PAM12	0.015	(0.03)
NC				NPN			0.035	(80.0)
M12 connector								(0.03)
NPN Pre-cabled (L = 2m) (f) X560881NBLI2 0.035			NC	PNP				
M12 connector X56681NBM12 0.015 (0.03)								
12, htreaded M12 x1	VS600B10012			NPN	. , , , ,			
### A	X3000 B 100 L2	Ø 12 thros	adad M12 v	. 1	W12 connector	XS608BTNBW12	0.015	(0.03)
M12 connector	-				Pro cabled (I = 2 m) (1)	VC612D1DAL2	0.075	(0.17)
NPN Pre-cabled (L = 2 m) (f) X581281MAL 2 0.075 0.175 NC PNP Pre-cabled (L = 2 m) (f) X581281PBM 2 0.020 (0.04 NC PNP Pre-cabled (L = 2 m) (f) X581281PBM 2 0.020 (0.04 NPN Pre-cabled (L = 2 m) (f) X581281PBM 2 0.020 (0.04 NPN Pre-cabled (L = 2 m) (f) X581281PBM 2 0.020 (0.04 NPN Pre-cabled (L = 2 m) (f) X581281PBM 2 0.020 (0.04 M12 connector X581281PBM 2 0.020 (0.04 M12 connector X581281PBM 2 0.020 (0.04 Remote Screw termcome for Strike (L = 2 m) (f) X581881PAM 2 0.040 (0.09 Remote Screw termcome for Strike (L = 2 m) (f) X581881PAM 2 0.040 (0.09 Remote DIN 43690 connector X581881PAM 2 0.040 (0.09 Remote DIN 43690 connector X581881PAM 2 0.040 (0.09 Remote DIN 43690 connector X581881PAM 2 0.040 (0.09 NPN Pre-cabled (L = 2 m) (f) X581881PAM 2 0.040 (0.09 Remote Screw termcome for X581881PAM 2 0.040 (0.09 Remote DIN 43690 connector X581881PAM 2 0.040 (0.09 Remote DIN 43690 connector X581881PAM 2 0.040 (0.09 Remote DIN 43690 connector X581881PAM 2 0.040 (0.09 Remote Screw termcome for X581881PAM 2 0.040 (0.09 Remote Screw termcome for X581881PAM 2 0.040 (0.09 Remote DIN 43690 connector X581881PAM 2 0.040 (0.09 Remote DIN 43690 connector X581881PAM 2 0.040 (0.09 Remote DIN 43690 connector X58081PAM 2 0.09 (0.45 Remote Screw termcome for X58081PAM 2 0.09 (0.45 Remote Screw termcome for X58081PAM 2 0.09 (0.45 Remote DIN 43690 connector X58081PAM 2 0.09 (0.45 Remote		4 (0.10)	NO	FINE	. ,,,,			
M12 connector X561281HAM12 0.020 (0.45)				NPN				
NC PNP Pre-cabled (1-2 m) (f) XS61281PBL12 0.075 (0.17) (NPN Pre-cabled (1-2 m) (f) XS61281PBL12 0.075 (0.17) (NPN Pre-cabled (1-2 m) (f) XS61281BBL12 0.075 (0.17) (0.17								
M12 connector X561281PBM12 0.020 (0.04)			NC	PNP				
NPN Pire-cabled (L = 2 m) (1) X56128 NBIL2 0.075 (0.17)					. ,,,			
8 (0.31) NO PNP Pre-cabled (L = 2 m) (1) XS61881PALD (2) 0.100 (0.22) M12 connector XS61881PALD1 (2) 0.100 (0.22) Remote screw term. connector XS61881PALD1 (2) 0.100 (0.22) Remote M13 4550 connector XS61881PALD1 (2) 0.100 (0.22) Remote M13 4550 connector XS61881PALD1 (2) 0.100 (0.22) M12 connector XS61881PALD1 (2) 0.100 (0.22) M12 connector XS61881PALD1 (2) 0.100 (0.22) Remote D1N 43650 connector XS61881PALD1 (2) 0.100 (0.22) Remote D1N 43650 connector XS61881PALD1 (2) 0.100 (0.22) Remote D1N 43650 connector XS61881PBLD1 (2) 0.100 (0.22) Remote screw term. connector XS61881PBLD1 (2) 0.100 (0.22) Remote D1N 43650 connector XS61881PBLD1 (2) 0.100 (0.22) Remote Screw term. connector XS63081PALD1 (2) 0.205 (0.45) Remote Screw term. connector XS63081PBLD1 (2) 0.205 (0.45) Remote Screw term. connector XS63081PBLD1 (2) 0.205 (0.45) Remote Screw term. connector	XS6••B1••M12			NPN	Pre-cabled (L = 2 m) (1)	XS612B1NBL2	0.075	
No. No. PNP Pre-cabled (= 2 m) (f) XS618B1PAL2 0.100 0.22					M12 connector	XS612B1NBM12	0.020	(0.04)
M12 connector		Ø 18, threa	aded M18 x	c1				
Remote DIN 43650 connector XS618B1PAL01B (2) 0.100 0.22		8 (0.31)	NO	PNP	Pre-cabled (L = 2 m) (1)	XS618B1PAL2	0.100	(0.22)
Remote DIM 43650 connector X5618B1PALDIG 0.100 0.22					M12 connector	XS618B1PAM12	0.040	(0.09)
Remote M18 connector X5618B1PALDIG 0.100 0.22								(0.22)
NPN								
M12 connector XS618B1NAM12 0.040 0.09] Remote screw term. connector XS618B1NAL016 0.100 0.22] Remote DIN 43650 connector XS618B1NAL016 0.100 0.22] Remote DIN 43650 connector XS618B1PBL2 0.100 0.22] Remote DIN 43650 connector XS618B1PBL12 0.040 0.09] Remote screw term. connector XS618B1PBL10 0.100 0.22] Remote DIN 43650 connector XS618B1PBL10 0.100 0.22] Remote DIN 43650 connector XS618B1PBL10 0.100 0.22] M12 connector XS630B1PBL10 0.205 0.45] Remote DIN 43650 connector XS630B1PBL10 0.205 0.45] M12 connector XS630B1PBL10 0.205 0.45] M12 connector XS630B1PBL10 0.205 0.45] M12 connector XS630B1PBL10 0.205 0.45] Remote DIN 43650 connector XS630B1PBL10 0.205 0.45] M12 connector XS630B1PBL10 0.205 0.45] M12 connector XS630B1PBL10 0.205 0.45] Remote DIN 43650 connector XS630B1PBL10 0.205 0.45] Remote DIN 43650 connector XS630B1PBL10 0.205 0.45] M12 connector XS630B1PBL10 0.205 0.45] Remote DIN 43650 connector XS630B1PBL10 0.205 0.45] Remote								
Remote screw term. connector XS618B1NALD1B Z) 0.100 0.22				NPN				
Remote DIN 43650 connector X5618B1NALD1C 0.100 0.22	VS6 P11 01P (2)							
NC	XS000B100L01B(2)							
M12 connector X5618B1PBM12 0.040 0.09)			NC.	PNP				
Remote screw term. connector XS618B1PBL01B (2) 0.100 (0.22)			110					
Remote DIN 43650 connector X5618B1PBL01C 0.100 (0.22)								(0.22)
M12 connector XS618B1NBM12 0.040 (0.09)								(0.22)
Remote screw term. connector				NPN	Pre-cabled (L = 2 m) (1)	XS618B1NBL2	0.100	(0.22)
Remote DIN 43650 connector X5618B1NBL01C 0.100 (0.22)					M12 connector	XS618B1NBM12	0.040	(0.09)
					Remote screw term. connector	XS618B1NBL01B (2)	0.100	(0.22)
15 (0.59) NO					Remote DIN 43650 connector	XS618B1NBL01C	0.100	(0.22)
M12 connector X5630B1PAL01B (2) 0.205 (0.45)		,						
Remote screw term. connector X5630B1PAL01B (2) 0.205 (0.45)		15 (0.59)	NO	PNP				
Remote DIN 43650 connector X5630B1PAL01C 0.205 (0.45)	XS6••B1••L01C							. ,
Remote M18 connector XS630B1PAL01G 0.205 (0.45) NPN Pre-cabled (L = 2 m) (1) XS630B1NAL2 0.205 (0.45) M12 connector XS630B1NAM12 0.145 (0.32) Remote DIN 43650 connector XS630B1NAL01B (2) 0.205 (0.45) Remote DIN 43650 connector XS630B1NAL01C 0.205 (0.45) Remote DIN 43650 connector XS630B1PBL01C 0.205 (0.45) M12 connector XS630B1PBL01B (2) 0.205 (0.45) Remote DIN 43650 connector XS630B1PBL01B (2) 0.205 (0.45) Remote DIN 43650 connector XS630B1PBL01B (2) 0.205 (0.45) Remote M18 connector XS630B1PBL01G 0.205 (0.45) Remote DIN 43650 connector XS630B1NBL01C 0.205 (0.45) M12 connector XS630B1NBL01B (2) 0.205 (0.45) M12 connector XS630B1NBL01B (2) 0.205 (0.45) M12 connector XS630B1NBL01B (2) 0.205 (0.45) Remote DIN 43650 connector XS630B1NBL0						. ,		
NPN								
M12 connector XS630B1NAM12 0.145 (0.32)				NPN				
Remote screw term. connector X5630B1NAL01B (2) 0.205 (0.45)				141 14				
Remote DIN 43650 connector XS630B1NAL01C 0.205 (0.45)		1						
NC PNP Pre-cabled (L = 2 m) (1) XS630B1PBL2 0.205 (0.45) M12 connector XS630B1PBM12 0.145 (0.32) Remote screw term. connector XS630B1PBL01B (2) 0.205 (0.45) Remote DIN 43650 connector XS630B1PBL01G 0.205 (0.45) Remote M18 connector XS630B1PBL01G 0.205 (0.45) NPN Pre-cabled (L = 2 m) (1) XS630B1NBL0 0.205 (0.45) M12 connector XS630B1NBM12 0.145 (0.32) Remote screw term.connector XS630B1NBL01B (2) 0.205 (0.45) Remote screw term.connector XS630B1NBL01B (2) 0.205 (0.45) Remote screw term.connector XS630B1NBL01B (2) 0.205 (0.45) Remote DIN 43650 connector XS630B1NBL01C 0.205 (0.45) Remote DIN 43650 connector XS630B1NBL01B (2) 0.2						. ,		
Remote screw term. connector XS630B1PBL01B (2) 0.205 (0.45)			NC	PNP				(0.45)
Remote DIN 43650 connector XS630B1PBL01C 0.205 (0.45)					M12 connector	XS630B1PBM12	0.145	(0.32)
Remote M18 connector XS630B1PBL01G 0.205 (0.45) NPN					Remote screw term. connector	XS630B1PBL01B (2)	0.205	(0.45)
NPN	XS6••B1••L01G				Remote DIN 43650 connector		0.205	(0.45)
M12 connector XS630B1NBM12 0.145 (0.32) Remote screw term.connector Remote DIN 43650 connector XS630B1NBL01B (2) 0.205 (0.45) (
Remote screw term.connector Remote Screw term.connector Remote DIN 43650 connector XS630B1NBL01B (2) 0.205 (0.45)	4 _			NPN	. ,,,,			
Accessories Description For use with sensors Number Wigner Number Num	85228							
Accessories Description For use with sensors Catalog Number Weight kg (lb) Mounting clamps Ø 8 XSZB108 0.006 (0.01) Ø 12 XSZB112 0.006 (0.01) Ø 18 XSZB118 0.010 (0.02) Ø 30 XSZB130 0.020 (0.02)						. ,		, ,
Description For use with Sensors Number Weight (lb)		Accessori	06		MEHIOLE DIN 43000 CONNECTOR	A3030D INBLUIC	0.205	(0.45)
sensors Number kg (lb) Mounting clamps Ø 8 XSZB108 0.006 (0.01) Ø 12 XSZB112 0.006 (0.01) Ø 18 XSZB118 0.010 (0.02) Ø 30 XSZB130 0.020 (0.02)	XSZB•••			Forus	with	Catalog	Waist	ht
Mounting clamps Ø 8 XSZB108 0.006 (0.01) Ø 12 XSZB112 0.006 (0.01) Ø 18 XSZB118 0.010 (0.02) Ø 30 XSZB130 0.020 (0.02)		Descriptio	"					
clamps Ø 12 XSZB112 0.006 (0.01) Ø 18 XSZB118 0.010 (0.02) Ø 30 XSZB130 0.020 (0.02)		Mounting		Ø8				
Ø 30 XSZB130 0.020 (0.02)		clamps		Ø 12			0.006	(0.01)
						XSZB118	0.010	(0.02)
							0.020	(0.02)

⁽¹⁾ For a 5 m cable replace L2 with L5; for a 10 m cable replace L2 with L10. Example: XS608B1PAL2 becomes XS608B1PAL5 with a 5 m cable.

^{. (2)} Protective cable gland included with remote screw terminal connector.

Specifications, Wiring Diagrams, Setup, Dimensions

OsiSense® XS Inductive proximity sensors

General purpose

Cylindrical, increased range, flush mountable Three-wire DC, solid-state output

Sensor type			XS1/XS6eeBeeeM8	XS1/XS6eeBeeeM12	XS1/XS6eeBeeeL2			
Product certifications			UL, CSA, C€					
Connection	Connector		M8	M12	-			
	Pre-cabled		-	-	Length 2 m			
	Remote connector		Remote screw terminal (L01B), DIN 43650 (L01C) or M18 connector (L01G) on 0. pigtail connector					
Operating zone	Ø 6.5 and Ø 8	mm	0–2 (0–0.08 in.)					
	Ø 12	mm	0–3.2 (0–0.13 in.)					
	Ø 18	mm	0–6.4 (0–0.25 in.)					
	Ø 30	mm	0–12 (0–0.47 in.)					
Differential travel		%	1–15 of effective sensing dis	tance (Sr)				
Degree of protection Conforming to IEC 6052			IP 65 and IP 67 IP 65 and IP 66 insulation □ except Ø 6.5 a					
	Conforming to DIN 40050		IP 69K for Ø 12, 18 and 30 sensors					
Storage temperature		°C	-40 to +85 (-40 to +185 °F)					
Operating temperature			-25 to +70 (-13 to +158 °F)					
Materials	Case		Nickel-plated brass (except XS608: stainless steel, grade 303)					
	Sensing face		PPS					
	Cable		-		PvR 3 x 0.34 mm ² (22 AWG) except Ø 6.5 and 8: 3 x 0.11 mm (27 AWG) 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, 4 viewing ports at 90° Yellow LED, annular					
Rated supply voltage			XS1 == 12–24 with protection against reverse polarity XS6 == 12–48 with protection against reverse polarity					
Voltage limits (including ripple)			XS1 10–36; XS6 10–58					
Switching capacity		mA	≤ 200 with overload and short-circuit protection					
Voltage drop, closed state			≤2					
Current consumption, no-load			≤10					
Maximum switching frequency	Ø 6.5, Ø 8 and Ø 12	Hz	2 2500					
	Ø 18	Hz	1000					
	Ø 30	Hz	z 500					
Delays	First-up	ms	ns ≤10					
	Response	ms	s ≤ 0.2 for Ø 6.5, Ø 8 and Ø 12, ≤ 0.3 for Ø 18, ≤ 0.6 for Ø 30					
	Recovery	ms	ns ≤ 0.2 for Ø 6.5, Ø 8 and Ø 12, ≤ 0.7 for Ø 18, ≤ 1.4 for Ø 30					

Wiring diagrams

Connector M8



Pre-cabled BU: Blue BN: Brown

BK: Black

Setup

Minimum mounting distances (mm)







PNP	NPN	Sensors	Side by side	Face to face	Facing a metal object
BN/1 +	BN/1 +	Ø 6.5	e≥5	e ≥ 30	e≥8
PNP BK/4 (NO)	NPN BK/4 (NO)	Ø8	e≥5	e ≥ 30	e ≥ 8
BK/2 (NC)	BK/2 (NC)	Ø 12	e≥8	e ≥ 50	e ≥ 12
BU/3	BU/3	Ø 18	e ≥ 16	e ≥ 100	e ≥ 24
For M8 connector, NO and NC outp	outs are on terminal 4	Ø 30	e ≥ 30	e ≥ 180	e ≥ 45

Dimensions (mm)										
<u>(1)</u>	Sensors			Pre-cabled (mm)		M8 con	M8 connector (mm)		M12 connector (mm)	
	Short case	case model			b	а	b	а	b	
		Ø 6.5	XS106B3	33	-	42	-	45	-	
		Ø8	XS108B3	33	25	42	26	45	24	
 		Ø 12 XS112B3		35	25		-	50	30	
→ a →		Ø 18	XS118B3	39	28		-	50	28	
(1) LED		Ø 30	XS130B3	43	32	-	_	55	32	
	Sensors			Pre-cabled (mm) M12 connector (mm)						
	Long case model			а	b	а	b			
		Ø8	XS6 08B1	51	42	62	40			
		Ø 12	XS612B1	53	42	62	42			
		Ø 18	XS618B1	62	52	74	52			
		Ø 30	XS630B1	62	52	74	52			