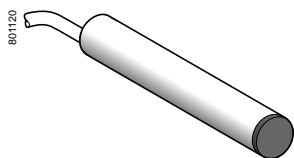


Inductive proximity sensors

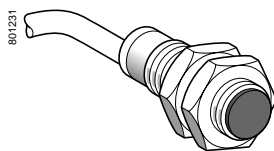
OsiSense XS, general purpose

Cylindrical, standard range, flush mountable

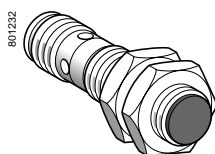
Three-wire DC, solid-state output



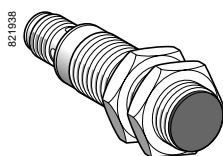
XS506B1●●L2



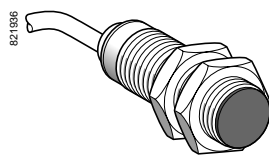
XS508B1●●L2



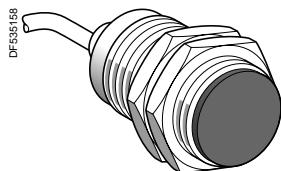
XS512B1●●M12



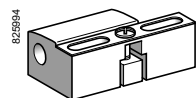
XS518B1●●M12



XS518B1●●L2



XS530B1●●L2



XSZB1●●

Sensors, 3-wire ~ 12-24 V, short case model

Sensing distance (Sn) mm	Function	Output	Connection	Reference	Weight kg
Ø 6.5, plain					
1.5	NO	PNP	Pre-cabled (L = 2 m) (1)	XS506B1PAL2	0.035
			M8 connector	XS506B1PAM8	0.025
			M12 connector	XS506B1PAM12	0.025
	NPN	PNP	Pre-cabled (L = 2 m) (1)	XS506B1NAL2	0.035
			M8 connector	XS506B1NAM8	0.025
			M12 connector	XS506B1NAM12	0.025
NC	PNP	Pre-cabled (L = 2 m) (1)	XS506B1PBL2	0.035	
		M8 connector	XS506B1PBM8	0.025	
		M12 connector	XS506B1PBM12	0.025	
1.5	NO	PNP	Pre-cabled (L = 2 m) (1)	XS508B1PAL2	0.035
			M8 connector	XS508B1PAM8	0.025
			M12 connector	XS508B1PAM12	0.025
	NPN	PNP	Pre-cabled (L = 2 m) (1)	XS508B1NAL2	0.035
			M8 connector	XS508B1NAM8	0.025
			M12 connector	XS508B1NAM12	0.025
NC	PNP	Pre-cabled (L = 2 m) (1)	XS508B1PBL2	0.035	
		M8 connector	XS508B1PBM8	0.025	
		M12 connector	XS508B1PBM12	0.025	
2	NO	PNP	Pre-cabled (L = 2 m) (1)	XS512B1PAL2	0.075
			M12 connector	XS512B1PAM12	0.035
			M12 connector	XS512B1NAM12	0.035
	NPN	PNP	Pre-cabled (L = 2 m) (1)	XS512B1NAL2	0.075
			M12 connector	XS512B1NAM12	0.035
			M12 connector	XS512B1NAM12	0.035
NC	PNP	Pre-cabled (L = 2 m) (1)	XS512B1PBL2	0.075	
		M12 connector	XS512B1PBM12	0.035	
		M12 connector	XS512B1PBM12	0.035	
5	NO	PNP	Pre-cabled (L = 2 m) (1)	XS518B1PAL2	0.120
			M12 connector	XS518B1PAM12	0.060
			M12 connector	XS518B1NAM12	0.060
	NPN	PNP	Pre-cabled (L = 2 m) (1)	XS518B1NAL2	0.120
			M12 connector	XS518B1NAM12	0.060
			M12 connector	XS518B1NAM12	0.060
NC	PNP	Pre-cabled (L = 2 m) (1)	XS518B1PBL2	0.120	
		M12 connector	XS518B1PBM12	0.060	
		M12 connector	XS518B1PBM12	0.060	
10	NO	PNP	Pre-cabled (L = 2 m) (1)	XS530B1PAL2	0.205
			M12 connector	XS530B1PAM12	0.145
			M12 connector	XS530B1NAM12	0.145
	NPN	PNP	Pre-cabled (L = 2 m) (1)	XS530B1NAL2	0.205
			M12 connector	XS530B1NAM12	0.145
			M12 connector	XS530B1NAM12	0.145
NC	PNP	Pre-cabled (L = 2 m) (1)	XS530B1PBL2	0.205	
		M12 connector	XS530B1PBM12	0.145	
		M12 connector	XS530B1PBM12	0.145	
Accessories (2)					
Description	For use with sensors	Reference	Weight kg		
Fixing clamps	Ø 6.5 (plain)	XSZB165	0.005		
	Ø 8	XSZB108	0.006		
	Ø 12	XSZB112	0.006		
	Ø 18	XSZB118	0.010		
	Ø 30	XSZB130	0.020		

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

Example: **XS508B1PAL2** becomes **XS508B1PAL5** with a 5 m cable.

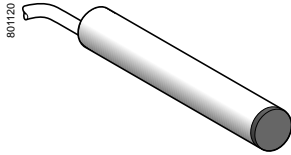
(2) For more information, see page 122.

Inductive proximity sensors

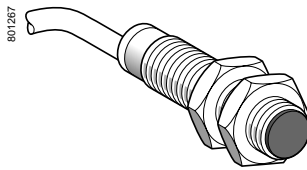
OsiSense XS, general purpose

Cylindrical, standard range, flush mountable

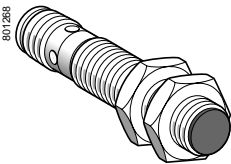
Three-wire DC, solid-state output



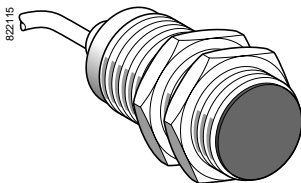
XS506BL●●L2



XS5●●BL●●L2



XS5●●BL●●M12



XS530BL●●L2

Sensors, 3-wire \overline{DC} 12-48 V, long case model

Sensing distance (Sn) mm	Function	Output	Connection	Reference	Weight kg
Ø 6.5, plain					
1.5	NO	PNP	Pre-cabled (L = 2 m) (1)	XS506BLPAL2	0.035
		NPN	Pre-cabled (L = 2 m) (1)	XS506BLNAL2	0.035

Ø 8, threaded M8 x 1

1.5	NO	PNP	Pre-cabled (L = 2 m) (1)	XS508BLPAL2	0.035
			M12 connector	XS508BLPAM12	0.025
	NPN	Pre-cabled (L = 2 m) (1)	XS508BLNAL2	0.035	
		M12 connector	XS508BLNAM12	0.025	
	NC	PNP	Pre-cabled (L = 2 m) (1)	XS508BLPBL2	0.035
			M12 connector	XS508BLPBM12	0.025
NPN	Pre-cabled (L = 2 m) (1)	XS508BLNBL2	0.035		
	M12 connector	XS508BLNBM12	0.025		

Ø 12, threaded M12 x 1

2	NO	PNP	Pre-cabled (L = 2 m) (1)	XS512BLPAL2	0.075
			M12 connector	XS512BLPAM12	0.035
	NPN	Pre-cabled (L = 2 m) (1)	XS512BLNAL2	0.075	
		M12 connector	XS512BLNAM12	0.035	
	NC	PNP	Pre-cabled (L = 2 m) (1)	XS512BLPBL2	0.075
			M12 connector	XS512BLPBM12	0.035
NPN	Pre-cabled (L = 2 m) (1)	XS512BLNBL2	0.075		
	M12 connector	XS512BLNBM12	0.035		

Ø 18, threaded M18 x 1

5	NO	PNP	Pre-cabled (L = 2 m) (1)	XS518BLPAL2	0.120
			M12 connector	XS518BLPAM12	0.060
	NPN	Pre-cabled (L = 2 m) (1)	XS518BLNAL2	0.120	
		M12 connector	XS518BLNAM12	0.060	
	NC	PNP	Pre-cabled (L = 2 m) (1)	XS518BLPBL2	0.120
			M12 connector	XS518BLPBM12	0.060
NPN	Pre-cabled (L = 2 m) (1)	XS518BLNBL2	0.120		
	M12 connector	XS518BLNBM12	0.060		

Ø 30, threaded M30 x 1.5

10	NO	PNP	Pre-cabled (L = 2 m) (1)	XS530BLPAL2	0.205
			M12 connector	XS530BLPAM12	0.145
	NPN	Pre-cabled (L = 2 m) (1)	XS530BLNAL2	0.205	
		M12 connector	XS530BLNAM12	0.145	
	NC	PNP	Pre-cabled (L = 2 m) (1)	XS530BLPBL2	0.205
			M12 connector	XS530BLPBM12	0.145
NPN	Pre-cabled (L = 2 m) (1)	XS530BLNBL2	0.205		
	M12 connector	XS530BLNBM12	0.145		

Accessories (2)

Description	For use with sensors	Reference	Weight kg
Fixing clamps	Ø 6.5 (plain)	XSZB165	0.005
	Ø 8	XSZB108	0.006
	Ø 12	XSZB112	0.006
	Ø 18	XSZB118	0.010
	Ø 30	XSZB130	0.020

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

Example: **XS508BLPAL2** becomes **XS508BLPAL5** with a 5 m cable.

(2) For more information, see page 122.

Inductive proximity sensors

OsiSense XS, general purpose

Cylindrical, standard range, flush mountable

Three-wire DC, solid-state output

Characteristics			
Sensor type		XS5●●B1●●M8, XS5●●B1●●M12 XS5●●BL●●M8, XS5●●BL●●M12	XS5●●B1●●L2 XS5●●BL●●L2
Product certifications		UL, CSA, CE, E2	
Connection	Connector	M8 on Ø 6.5 and Ø 8, M12 on Ø 8, Ø 12, Ø 18 and Ø 30	–
	Pre-cabled	–	Length: 2 m
Operating zone	Ø 6.5 and Ø 8	mm	0...1.2
	Ø 12	mm	0...1.6
	Ø 18	mm	0...4
	Ø 30	mm	0...8
Differential travel		%	1...15 of effective sensing distance (Sr)
Degree of protection	Conforming to IEC 60529	IP 65 and IP 67	
	Conforming to DIN 40050	IP 69K for Ø 12 to Ø 30	
Storage temperature		°C	-40...+85
Operating temperature		°C	-25...+70
Materials	Case	Nickel plated brass (except XS506 and XS508BL: stainless steel, grade 303)	
	Sensing face	PPS	
	Cable	–	PvR 3 x 0.34 mm ² except XS506 and XS508 : 3 x 0.11 mm ²
Vibration resistance	Conforming to IEC 60068-2-6	25 gn, amplitude ± 2 mm (f = 10 to 50 Hz)	
Shock resistance	Conforming to IEC 60068-2-27	50 gn, duration 11 ms	
Output state indication		Yellow LED: 4 viewing ports at 90°	
Rated supply voltage		V	--- 12...48 for XS5●●BL --- 12...24 for XS5●●B1 with protection against reverse polarity
Voltage limits (including ripple)		V	--- 10...58 for XS5●●BL --- 10...36 for XS5●●B1
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	XS506, XS508, XS512	Hz	5000
	XS518	Hz	2000
	XS530	Hz	1000
Delays	First-up	ms	≤ 10
	Response	ms	≤ 0.1: XS506 , XS508 and XS512 ≤ 0.15: XS518 ≤ 0.3: XS530
	Recovery	ms	≤ 0.1: XS506 , XS508 and XS512 ≤ 0.35: XS518 ≤ 0.7: XS530

Inductive proximity sensors

OsiSense XS, general purpose

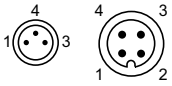
Cylindrical, standard range, flush mountable

Three-wire DC, solid-state output

Wiring schemes

Connector

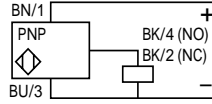
M8 M12



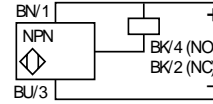
Pre-cabled

BU: Blue
BN: Brown
BK: Black

PNP



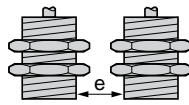
NPN



For M8 connector, NO and NC outputs on terminal 4

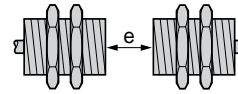
Setting-up

Minimum mounting distances (mm)



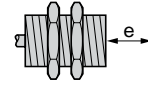
Side by side

$e \geq 3$
 $e \geq 3$
 $e \geq 4$
 $e \geq 10$
 $e \geq 20$



Face to face

$e \geq 18$
 $e \geq 18$
 $e \geq 24$
 $e \geq 60$
 $e \geq 120$



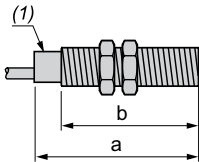
Facing a metal object

$e \geq 4.5$
 $e \geq 4.5$
 $e \geq 6$
 $e \geq 15$
 $e \geq 30$

Flush mountable sensors

$\varnothing 6.5$
 $\varnothing 8$
 $\varnothing 12$
 $\varnothing 18$
 $\varnothing 30$

Dimensions



(1) LED

Sensors		Pre-cabled (mm)		M8 connector (mm)		M12 connector (mm)	
Short case model		a	b	a	b	a	b
$\varnothing 6.5$	XS506B1	33	–	42	–	45	–
$\varnothing 8$	XS508B1	33	25	42	26	45	24
$\varnothing 12$	XS512B1	35	25	–	–	50	30
$\varnothing 18$	XS518B1	39	28	–	–	50	28
$\varnothing 30$	XS530B1	43	32	–	–	55	32

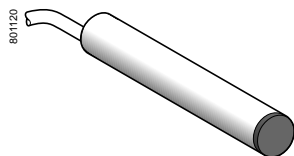
Sensors		Pre-cabled (mm)		M12 connector (mm)	
Long case model		a	b	a	b
$\varnothing 6.5$	XS506BL	51	–	–	–
$\varnothing 8$	XS508BL	51	42	62	40
$\varnothing 12$	XS512BL	53	42	62	42
$\varnothing 18$	XS518BL	62	52	74	52
$\varnothing 30$	XS530BL	62	52	74	52

Inductive proximity sensors

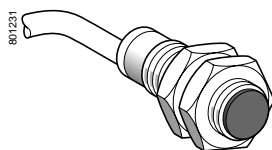
OsiSense XS, general purpose

Cylindrical, standard range, flush mountable

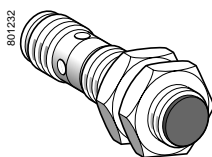
Two-wire DC



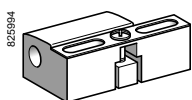
XS506BS●●L2



XS512BS●●L2



XS5●●BS●●M12



XSZB1●●

Sensors, 2-wire $\overline{\text{DC}}$ 12-24 V, short case model

Sensing distance (Sn) mm	Function	Connection	Reference	Weight kg
Ø 6.5, plain				
1.5	NO terminals 1 & 4 (2)	Pre-cabled (L = 2 m) (1)	XS506BSCAL2	0.035
		Remote M12 connector	XS506BSCAL01M12	0.050
	NC	Pre-cabled (L = 2 m) (1)	XS506BSCBL2	0.035
Ø 8, threaded M8 x 1				
1.5	NO terminals 1 & 4 (2)	Pre-cabled (L = 2 m) (1)	XS508BSCAL2	0.035
		Remote M12 connector	XS508BSCAL01M12	0.050
		Remote M12 connector	XS508BSCAL08M12	0.050
	NC	Pre-cabled (L = 2 m) (1)	XS508BSCBL2	0.035
		Remote M12 connector	XS508BSCBL01M12	0.050
Ø 12, threaded M12 x 1				
2	NO	Pre-cabled (L = 2 m) (1)	XS512BSDAL2	0.075
		M12 connector	XS512BSDAM12	0.035
	NO terminals 1 & 4 (2)	M12 connector	XS512BSCAM12	0.035
		Remote M12 connector	XS512BSCAL08M12	0.060
	NC	Pre-cabled (L = 2 m) (1)	XS512BSDBL2	0.075
	M12 connector	XS512BSDBM12	0.035	
Ø 18, threaded M18 x 1				
5	NO	Pre-cabled (L = 2 m) (1)	XS518BSDAL2	0.120
		M12 connector	XS518BSDAM12	0.060
	NO terminals 1 & 4 (2)	M12 connector	XS518BSCAM12	0.060
		Remote M12 connector	XS518BSCAL08M12	0.085
	NC	Pre-cabled (L = 2 m) (1)	XS518BSDBL2	0.120
	M12 connector	XS518BSDBM12	0.060	
Ø 30, threaded M30 x 1.5				
10	NO	Pre-cabled (L = 2 m) (1)	XS530BSDAL2	0.205
		M12 connector	XS530BSDAM12	0.145
	NO terminals 1 & 4 (2)	M12 connector	XS530BSCAM12	0.145
		Remote M12 connector	XS530BSCAL08M12	0.170
	NC	Pre-cabled (L = 2 m) (1)	XS530BSDBL2	0.205
	M12 connector	XS530BSDBM12	0.145	
Accessories (3)				
Description	For use with sensors	Reference	Weight kg	
Fixing clamps	Ø 6.5 (plain)	XSZB165	0.005	
	Ø 8	XSZB108	0.006	
	Ø 12	XSZB112	0.006	
	Ø 18	XSZB118	0.010	
	Ø 30	XSZB130	0.020	

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

Example: XS508BSCAL2 becomes XS508BSCAL5 with a 5 m cable.

(2) The NO output is connected to terminals 1 and 4 of the M12 connector.

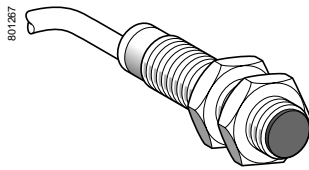
(3) For more information, see page 122.

Inductive proximity sensors

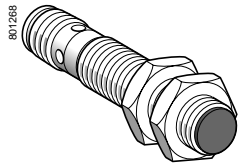
OsiSense XS, general purpose

Cylindrical, standard range, flush mountable

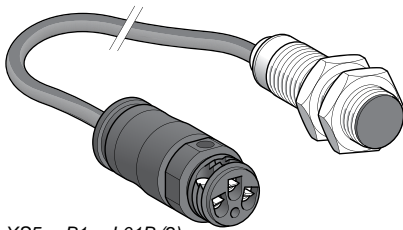
Two-wire DC



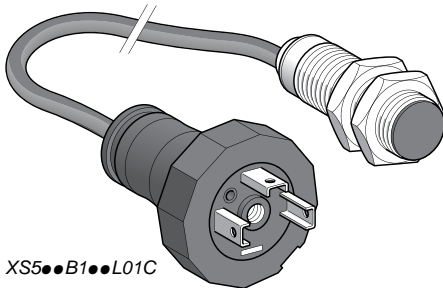
XS508B1L2



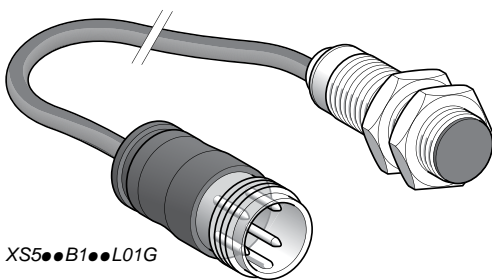
XS508B1M12



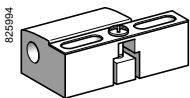
XS508B1L01B (2)



XS508B1L01C



XS508B1L01G



XSZB108

Sensors, 2-wire $\bar{\bar{}}$ 12-48 V, long case model

Sensing distance (Sn) mm	Function	Connection	Reference	Weight kg
Ø 8, threaded M8 x 1				
1.5	NO	Pre-cabled (L = 2 m) (1)	XS508B1DAL2	0.035
		Remote M12 connector	XS508B1DAL08M12	0.050
		M12 connector	XS508B1DAM12	0.025
NO terminals 1 & 4 (3)	M12 connector	XS508B1CAM12	0.025	
	Remote M12 connector	XS508B1CAL08M12	0.050	
NC		Pre-cabled (L = 2 m) (1)	XS508B1DBL2	0.035
		M12 connector	XS508B1DBM12	0.025
Ø 12, threaded M12 x 1				
2	NO	Pre-cabled (L = 2 m) (1)	XS512B1DAL2	0.075
		Remote 7/8" connector	XS512B1DAL08U78	0.050
		M12 connector	XS512B1DAM12	0.035
NO terminals 1 & 4 (3)	M12 connector	XS512B1CAM12	0.035	
	Remote M12 connector	XS512B1CAL08M12	0.060	
NC		Pre-cabled (L = 2 m) (1)	XS512B1DBL2	0.075
		M12 connector	XS512B1DBM12	0.035
		Remote M12 connector	XS512B1DBL08M12	0.060
Ø 18, threaded M18 x 1				
5	NO	Pre-cabled (L = 2 m) (1)	XS518B1DAL2	0.120
		Low temperature version (-40 °C)	XS518B1DAL2TF (5)	0.120
		Remote screw terminal connector (2)	XS518B1DAL01B	0.085
		Remote EN 175301-803-A connector	XS518B1DAL01C	0.085
		Remote M18 connector	XS518B1DAL01G	0.085
NO terminals 1 & 4 (3)	M12 connector	XS518B1DAM12	0.060	
	M12 connector	XS518B1CAM12	0.060	
NC		Remote M12 connector	XS518B1CAL08M12	0.085
		Pre-cabled (L = 2 m) (1)	XS518B1DBL2	0.120
		M12 connector	XS518B1DBM12	0.060
		Remote M12 connector	XS518B1DBL08M12	0.085
		Remote screw terminal connector (2)	XS518B1DBL01B	0.120
Ø 30, threaded M30 x 1.5				
10	NO	Pre-cabled (L = 2 m) (1)	XS530B1DAL2	0.205
		Low temperature version (-40 °C)	XS530B1DAL2TF (5)	0.205
		M12 connector	XS530B1DAM12	0.145
		Remote screw terminal connector (2)	XS530B1DAL01B	0.205
		Remote EN 175301-803-A connector	XS530B1DAL01C	0.205
NO terminals 1 & 4 (3)	Remote M18 connector	XS530B1DAL01G	0.205	
	M12 connector	XS530B1CAM12	0.145	
NC		Remote M12 connector	XS530B1CAL08M12	0.170
		Pre-cabled (L = 2 m) (1)	XS530B1DBL2	0.205
		M12 connector	XS530B1DBM12	0.145
Remote screw terminal connector (2)	XS530B1DBL01B	0.205		

Accessories (4)

Description	For use with sensors	Reference	Weight kg
Fixing clamps	Ø 8	XSZB108	0.006
	Ø 12	XSZB112	0.006
	Ø 18	XSZB118	0.010
	Ø 30	XSZB130	0.020

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

Example: XS508B1DAL2 becomes **XS508B1DAL5** with a 5 m cable.

(2) Protective cable gland included with sensor.

(3) The NO output is connected to terminals 1 and 4 of the M12 connector.

(4) For more information, see page 122.

(5) For a 5 m cable replace L2 by L5.

Example: XS518B1DAL2TF becomes **XS518B1DAL5TF** with a 5 m cable.

For a PUR cable, replace the letter L by P in the reference.

Example: XS518B1DAL2TF becomes **XS518B1DAP2TF**.

For a 5 m PUR cable, replace P2 by P5.

Example: XS518B1DAP2TF becomes **XS518B1DAP5TF** with a 5 m PUR cable.

Inductive proximity sensors

OsiSense XS, general purpose

Cylindrical, standard range, flush mountable

Two-wire DC

Characteristics			XS5●●B1●●M12, XS5●●BS●●M12	XS5●●B1D●L2, XS5●●BS●●L2
Sensor type			UL, CSA, CE	
Product certifications			UL, CSA, CE	
Connection	Connector		M12	–
	Pre-cabled		–	Length: 2 m
	Remote connector		M12 (L01M12), screw terminal (L01B), EN 175301-803-A (L01C) and M18 (L01G) remote connectors on 0.15 m flying lead M12 (L08M12) and 7/8" (L08U78) remote connectors on 0.80 m flying lead	
Operating zone	Ø 6.5	mm	0...1.2	
	Ø 8	mm	0...1.2	
	Ø 12	mm	0...1.6	
	Ø 18	mm	0...4	
	Ø 30	mm	0...8	
Differential travel		%	1...15 of effective sensing distance (Sr)	
Degree of protection		Conforming to IEC 60529	IP 65 and IP 67	IP 65 and IP 68, double insulation ☐ (except Ø 6.5 and Ø 8: IP 67)
Storage temperature		°C	-40...+85	
Operating temperature		°C	-25...+70; TF products: -40...+70	
Materials	Case		Nickel plated brass (except XS506 and XS508B1: stainless steel, grade 303)	
	Sensing face		PPS	
	Cable		–	PvR 2 x 0.34 mm ² (except XS506 and XS508: 2 x 0.11 mm ²) PUR available (1)
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		V	--- 12...48 non polarised for XS5●●B1● --- 12...24 non polarised for XS5●●BS (except Ø 6.5 short and Ø 8 short: polarised) with protection against reverse polarity	
Voltage limits (including ripple)		V	--- 10...58 for XS5●●B1● --- 10...36 for XS5●●BS	
Switching capacity		mA	1.5...100 with overload and short-circuit protection	
Voltage drop, closed state		V	≤ 4.2	
Residual current, open state		mA	≤ 0.5	
Maximum switching frequency	XS506, XS508	Hz	1000 for XS5●●BS, 1400 for XS5●●B1●	
	XS512	Hz	1000	
	XS518	Hz	1200	
	XS530	Hz	1300	
Delays	First-up	ms	≤ 10	
	Response	ms	≤ 0.5: XS506, XS508 and XS512 ≤ 0.6: XS518 ≤ 0.6: XS530	
	Recovery	ms	≤ 0.2 (except XS530 ≤ 0.4)	

(1) For PUR cable, replace the letter L in the reference by P. Example: XS506BSCAL2 becomes XS506BSCAP2 with a PUR cable.

Inductive proximity sensors

OsiSense XS, general purpose

Cylindrical, standard range, flush mountable

Two-wire DC

Wiring schemes

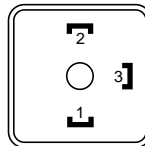
Connector	Pre-cabled	2-wire $\overline{\text{---}}$ non polarised		
M12	BU: Blue BN: Brown	NO output		NC output
		XS5...BxDA... 	XS5...B1CA... 	XS5...BxDB...
		2-wire $\overline{\text{---}}$ polarised		NC output
		NO output		XS5...BSCB...

Remote connectors L01B, L01C, L01G

Screw terminal (L01B)

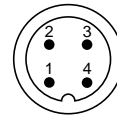
The terminal numbering differs according to the version (2-wire $\overline{\text{---}}$, 3-wire $\overline{\text{---}}$, 2-wire $\overline{\text{~}}$).

EN 175301-803-A (L01C)



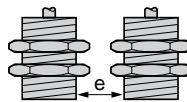
The NO or NC outputs are connected to terminal 2.

M18 (L01G)



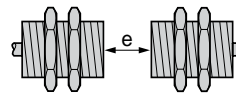
Setting-up

Minimum mounting distances (mm)



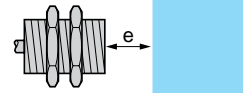
Side by side

Ø 6.5	$e \geq 3$
Ø 8	$e \geq 3$
Ø 12	$e \geq 4$
Ø 18	$e \geq 10$
Ø 30	$e \geq 20$



Face to face

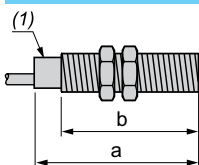
$e \geq 18$
$e \geq 18$
$e \geq 24$
$e \geq 60$
$e \geq 120$



Facing a metal object

$e \geq 4.5$
$e \geq 4.5$
$e \geq 6$
$e \geq 15$
$e \geq 30$

Dimensions



(1) LED

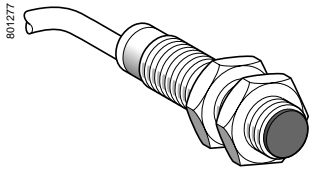
Sensors		Pre-cabled (mm)		M8 connector (mm)		M12 connector (mm)	
Short case model		a	b	a	b	a	b
Ø 6.5	XS506BS	33	–	42	–	45	–
Ø 8	XS508BS	33	25	42	26	45	24
Ø 12	XS512BS	35	25	–	–	50	30
Ø 18	XS518BS	39	28	–	–	50	28
Ø 30	XS530BS	43	32	–	–	55	32
Sensors		Pre-cabled (mm)		M12 connector (mm)			
Long case model		a	b	a	b		
Ø 8	XS508B1	51	42	62	40		
Ø 12	XS512B1	54	42	61	42		
Ø 18	XS518B1	56	44	64	44		
Ø 30	XS530B1	54	41	72	41		

Inductive proximity sensors

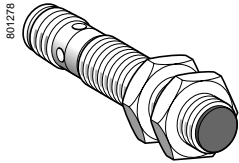
OsiSense XS, general purpose

Cylindrical, standard range, flush mountable

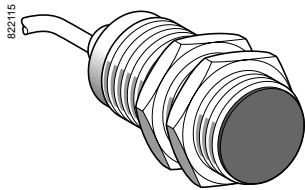
Two-wire AC or DC ⁽¹⁾



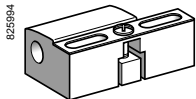
XS5●●B1M●L2



XS5●●B1M●U20



XS530B1●●L2



XSZB1●●

Sensors, 2-wire \sphericalangle 24-240 V, long case model

Ø 12, threaded M12 x 1

Sensing distance (Sn) mm	Function	Connection	Reference	Weight kg
2	NO	Pre-cabled (L = 2 m) (2)	XS512B1MAL2	0.075
		1/2"-20 UNF connector	XS512B1MAU20	0.025
	NC	Pre-cabled (L = 2 m) (2)	XS512B1MBL2	0.075
		1/2"-20 UNF connector	XS512B1MBU20	0.025

Ø 18, threaded M18 x 1

Sensing distance (Sn) mm	Function	Connection	Reference	Weight kg
5	NO	Pre-cabled (L = 2 m) (2)	XS518B1MAL2	0.100
		1/2"-20 UNF connector	XS518B1MAU20	0.060
	NC	Pre-cabled (L = 2 m) (2)	XS518B1MBL2	0.100
		1/2"-20 UNF connector	XS518B1MBU20	0.060

Ø 30, threaded M30 x 1.5

Sensing distance (Sn) mm	Function	Connection	Reference	Weight kg
10	NO	Pre-cabled (L = 2 m) (2)	XS530B1MAL2	0.205
		1/2"-20 UNF connector	XS530B1MAU20	0.145
	NC	Pre-cabled (L = 2 m) (2)	XS530B1MBL2	0.205
		1/2"-20 UNF connector	XS530B1MBU20	0.145

Accessories ⁽³⁾

Description	For use with sensors	Reference	Weight kg
Fixing clamps	Ø 12	XSZB112	0.006
	Ø 18	XSZB118	0.010
	Ø 30	XSZB130	0.020

⁽¹⁾ Ø8 plastic, double insulation version available (see page 66).

⁽²⁾ For a 5 m cable replace L2 by L5; for a 10 m cable replace L2 by L10.

Example: **XS512B1MAL2** becomes **XS512B1MAL5** with a 5 m cable.

⁽³⁾ For more information, see page 122.

Inductive proximity sensors

OsiSense XS, general purpose

Cylindrical, standard range, flush mountable

Two-wire AC or DC

Characteristics		XS5●●B1M●U20	XS5●●B1M●L2
Sensor type			
Product certifications		UL, CSA, CE	
Connection	Connector	1/2"-20 UNF	
	Pre-cabled	-	
Operating zone	Ø 12	mm	0...1.6
	Ø 18	mm	0...4
	Ø 30	mm	0...8
Differential travel		%	
		1...15 of effective sensing distance (Sr)	
Degree of protection	Conforming to IEC 60529	IP 65 and IP 67	
	Conforming to DIN 40050	IP 69K	
Storage temperature		°C	
		-40...+85	
Operating temperature		°C	
		-25...+70	
Materials	Case	Nickel plated brass	
	Sensing face	PPS	
	Cable	-	
		PvR 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: 4 viewing ports at 90°	
		Yellow LED: annular	
Rated supply voltage		V	
		~ or --- 24...240 (~ 50/60 Hz)	
Voltage limits (including ripple)		V	
		~ or --- 20...264	
Switching capacity	XS512B1M●●●	mA	5...200 (1)
	XS518B1M●●●, XS530B1M●●●	mA	~ 5...300 or --- 5...200 (1)
Voltage drop, closed state		V	
		≤ 5.5	
Residual current, open state		mA	
		≤ 0.8	
Maximum switching frequency	XS512B1●●●, XS518B1M●●●	Hz	~ 25 or --- 1000
	XS530B1M●●●	Hz	~ 25 or --- 500
Delays	First-up	ms	≤ 20 XS512B1M●●●
			≤ 25 XS518B1M●●● and XS530B1M●●●
	Response	ms	≤ 0.5
Recovery	ms	≤ 0.2 XS512B1M●●●	
		≤ 0.5 XS518B1M●●●	
		≤ 2 XS518B1M●●●	

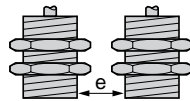
(1) It is essential to connect a 0.4 A "quick-blow" fuse in series with the load.

Wiring schemes

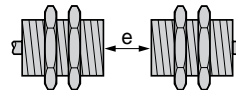
Connector	Pre-cabled	2-wire ~ or ---
1/2"-20 UNF	BU: Blue BN: Brown	NO or NC output
1: ~ 2 2: ⊕ 1 3: ~ 3		⊕: on connector models only

Setting-up

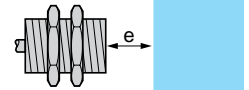
Minimum mounting distances (mm)



Sensor	Side by side
Ø 12	e ≥ 8
Ø 18	e ≥ 16
Ø 30	e ≥ 30

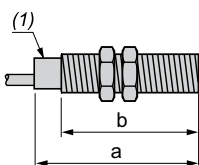


Sensor	Face to face
Ø 12	e ≥ 48
Ø 18	e ≥ 100
Ø 30	e ≥ 180



Sensor	Facing a metal object
Ø 12	e ≥ 12
Ø 18	e ≥ 25
Ø 30	e ≥ 45

Dimensions



(1) LED

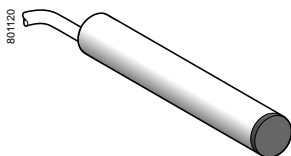
Sensor	XS6		Connector (mm)	
	Pre-cabled (mm)		a	b
XS512B1M	a	b	62	42
XS518B1M	62	52	73	52
XS530B1M	62	52	73	52

Inductive proximity sensors

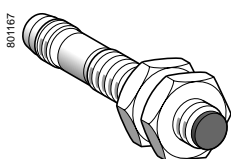
OsiSense XS, general purpose

Cylindrical, increased range, flush mountable

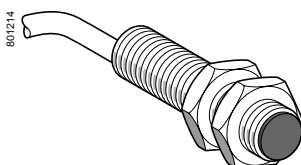
Three-wire DC, solid-state output



XS106B3●●L2



XS108B3●●M8



XS112B3●●L2

Sensors, 3-wire $\overline{\text{DC}}$ 12-24 V, short case model

Sensing distance (Sn) mm	Function	Output	Connection	Sold in lots of	Unit reference	Weight kg		
Ø 6.5, plain								
2.5	NO	PNP	Pre-cabled (L = 2 m) (1)	1	XS106B3PAL2	0.060		
			M8 connector	1	XS106B3PAM8	0.030		
			M12 connector	1	XS106B3PAM12	0.050		
		Pre-cabled (L = 2 m)	20	XS106B3PAL2TQ	0.980			
		M8 connector	20	XS106B3PAM8TQ	0.320			
		NPN	Pre-cabled (L = 2 m)	1	XS106B3NAL2	0.060		
	NC	PNP	Pre-cabled (L = 2 m) (1)	1	XS106B3PBL2	0.060		
			M8 connector	1	XS106B3PBM8	0.030		
			M12 connector	1	XS106B3PBM12	0.030		
		NPN	Pre-cabled (L = 2 m) (1)	1	XS106B3NBL2	0.060		
			M8 connector	1	XS106B3NBM8	0.030		
			M12 connector	1	XS106B3NBM12	0.030		
Ø 8, threaded M8 x 1								
2.5	NO	PNP	Pre-cabled (L = 2 m) (1)	1	XS108B3PAL2	0.070		
			M8 connector	1	XS108B3PAM8	0.030		
			M12 connector	1	XS108B3PAM12	0.060		
			Pre-cabled (L = 2 m)	20	XS108B3PAL2TQ	1.120		
			M8 connector	20	XS108B3PAM8TQ	0.460		
			M12 connector	20	XS108B3PAM12TQ	0.940		
		NPN	Pre-cabled (L = 2 m) (1)	1	XS108B3NAL2	0.070		
			M8 connector	1	XS108B3NAM8	0.030		
			M12 connector	1	XS108B3NAM12	0.060		
			Pre-cabled (L = 2 m)	20	XS108B3NAL2TQ	1.120		
			M8 connector	20	XS108B3NAM8TQ	0.460		
			M12 connector	20	XS108B3NAM12TQ	0.940		
	NC	PNP	Pre-cabled (L = 2 m) (1)	1	XS108B3PBL2	0.070		
			M8 connector	1	XS108B3PBM8	0.030		
			M12 connector	1	XS108B3PBM12	0.060		
		NPN	Pre-cabled (L = 2 m) (1)	1	XS108B3NBL2	0.070		
			M8 connector	1	XS108B3NBM8	0.030		
			M12 connector	1	XS108B3NBM12	0.060		
Ø 12, threaded M12 x 1								
4	NO	PNP	Pre-cabled (L = 2 m) (1)	1	XS112B3PAL2	0.090		
			M12 connector	1	XS112B3PAM12	0.030		
			Pre-cabled (L = 2 m)	20	XS112B3PAL2TQ	1.600		
			M12 connector	20	XS112B3PAM12TQ	0.470		
			NPN	Pre-cabled (L = 2 m) (1)	1	XS112B3NAL2	0.090	
				M12 connector	1	XS112B3NAM12	0.030	
		Pre-cabled (L = 2 m)		20	XS112B3NAL2TQ	1.600		
		M12 connector		20	XS112B3NAM12TQ	0.470		
		NC		PNP	Pre-cabled (L = 2 m) (1)	1	XS112B3PBL2	0.090
					M12 connector	1	XS112B3PBM12	0.030
			M12 connector		20	XS112B3PBM12TQ	0.470	
			NPN	Pre-cabled (L = 2 m) (1)	1	XS112B3NBL2	0.090	
	M12 connector			1	XS112B3NBM12	0.030		
	M12 connector			1	XS112B3NBM12	0.030		

(1) For a 5 m long cable replace L2 by L5.

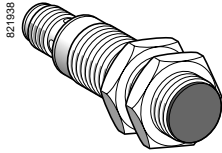
Example: XS106B3PAL2 becomes XS106B3PAL5 with a 5 m cable.

Inductive proximity sensors

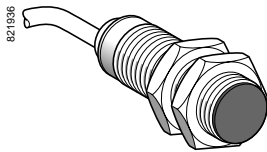
OsiSense XS, general purpose

Cylindrical, increased range, flush mountable

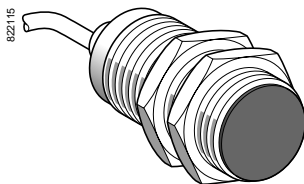
Three-wire DC, solid-state output



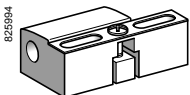
XS118B3●●M12



XS118B3●●L2



XS130B3●●L2



XSZB1●●

Sensors, 3-wire $\overline{\text{DC}}$ 12-24 V, short case model (continued)

Sensing distance (Sn) mm	Function	Output	Connection	Sold in lots of	Unit reference	Weight kg
Ø 18, threaded M18 x 1						
8	NO	PNP	Pre-cabled (L = 2 m) (1)	1	XS118B3PAL2	0.110
			M12 connector	1	XS118B3PAM12	0.060
			Pre-cabled (L = 2 m)	20	XS118B3PAL2TQ	2.000
	NPN	PNP	M12 connector	20	XS118B3PAM12TQ	1.140
			Pre-cabled (L = 2 m) (1)	1	XS118B3NAL2	0.110
			M12 connector	1	XS118B3NAM12	0.060
NC	PNP	PNP	Pre-cabled (L = 2 m)	20	XS118B3NAL2TQ	2.000
			M12 connector	20	XS118B3NAM12TQ	1.140
			Pre-cabled (L = 2 m) (1)	1	XS118B3PBL2	0.110
	NPN	PNP	M12 connector	1	XS118B3PBM12	0.060
			Pre-cabled (L = 2 m) (1)	1	XS118B3NBL2	0.110
			M12 connector	1	XS118B3NBM12	0.060

Ø 30, threaded M30 x 1.5

15	NO	PNP	Pre-cabled (L = 2 m) (1)	1	XS130B3PAL2	0.180
			M12 connector	1	XS130B3PAM12	0.130
			Pre-cabled (L = 2 m)	20	XS130B3PAL2TQ	3.360
	NPN	PNP	M12 connector	20	XS130B3PAM12TQ	2.000
			Pre-cabled (L = 2 m) (1)	1	XS130B3NAL2	0.180
			M12 connector	1	XS130B3NAM12	0.130
NC	PNP	PNP	M12 connector	20	XS130B3NAM12TQ	2.000
			Pre-cabled (L = 2 m) (1)	1	XS130B3PBL2	0.180
			M12 connector	1	XS130B3PBM12	0.130
	NPN	PNP	Pre-cabled (L = 2 m) (1)	1	XS130B3NBL2	0.180
			M12 connector	1	XS130B3NBM12	0.130

Accessories (2)

Description	For use with sensors	Reference	Weight kg
Fixing clamps	Ø 6.5 (plain)	XSZB165	0.005
	Ø 8 (M8 x1)	XSZB108	0.006
	Ø 12 (M12 x1)	XSZB112	0.006
	Ø 18 (M18 x1)	XSZB118	0.010
	Ø 30 (M30 x 1.5)	XSZB130	0.020

(1) For a 5 m cable, replace L2 by L5.

Example: XS118B3PAL2 becomes XS118B3PAL5 with a 5 m cable.

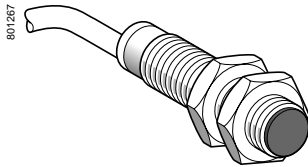
(2) For more information, see page 122.

Inductive proximity sensors

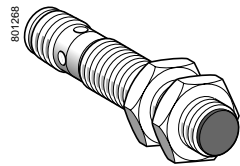
OsiSense XS, general purpose

Cylindrical, increased range, flush mountable

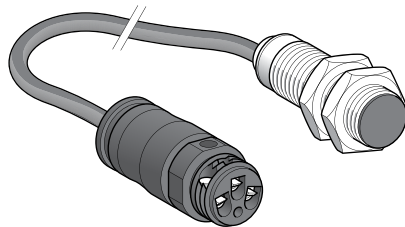
Three-wire DC, solid-state output



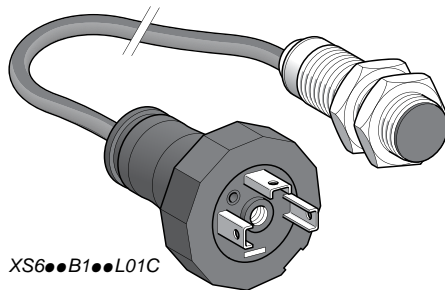
XS6...B1...L2



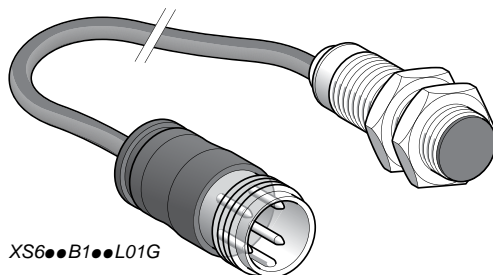
XS6...B1...M12



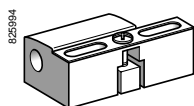
XS6...B1...L01B (2)



XS6...B1...L01C



XS6...B1...L01G



XSZB...

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

Sensing distance (Sn) mm	Function	Output	Connection	Reference	Weight kg		
Ø 8, threaded M8 x 1							
2.5	NO	PNP	Pre-cabled (L = 2 m) (1)	XS608B1PAL2	0.035		
			M12 connector	XS608B1PAM12	0.015		
		NPN	Pre-cabled (L = 2 m) (1)	XS608B1NAL2	0.035		
	NC	PNP	Pre-cabled (L = 2 m) (1)	XS608B1PBL2	0.035		
			M12 connector	XS608B1PBM12	0.015		
		NPN	Pre-cabled (L = 2 m) (1)	XS608B1NBL2	0.035		
			M12 connector	XS608B1NBM12	0.015		
Ø 12, threaded M12 x 1							
4	NO	PNP	Pre-cabled (L = 2 m) (1)	XS612B1PAL2	0.075		
			M12 connector	XS612B1PAM12	0.020		
		NPN	Pre-cabled (L = 2 m) (1)	XS612B1NAL2	0.075		
	NC	PNP	Pre-cabled (L = 2 m) (1)	XS612B1PBL2	0.020		
			M12 connector	XS612B1PBM12	0.020		
		NPN	Pre-cabled (L = 2 m) (1)	XS612B1NBL2	0.075		
			M12 connector	XS612B1NBM12	0.020		
Ø 18, threaded M18 x 1							
8	NO	PNP	Pre-cabled (L = 2 m) (1)	XS618B1PAL2	0.100		
			M12 connector	XS618B1PAM12	0.040		
			Remote screw terminal connector	XS618B1PAL01B (2)	0.100		
					Remote EN 175301-803-A connector	XS618B1PAL01C	0.100
					Remote M18 connector	XS618B1PAL01G	0.100
		NPN	Pre-cabled (L = 2 m) (1)	XS618B1NAL2	0.100		
			M12 connector	XS618B1NAM12	0.040		
			Remote screw terminal connector	XS618B1NAL01B (2)	0.100		
					Remote EN 175301-803-A connector	XS618B1NAL01C	0.100
	NC	PNP	Pre-cabled (L = 2 m) (1)	XS618B1PBL2	0.100		
			M12 connector	XS618B1PBM12	0.040		
			Remote screw terminal connector	XS618B1PBL01B (2)	0.100		
					Remote EN 175301-803-A connector	XS618B1PBL01C	0.100
		NPN	Pre-cabled (L = 2 m) (1)	XS618B1NBL2	0.100		
			M12 connector	XS618B1NBM12	0.040		
			Remote screw terminal connector	XS618B1NBL01B (2)	0.100		
					Remote EN 175301-803-A connector	XS618B1NBL01C	0.100
		Ø 30, threaded M30 x 1.5					
15	NO	PNP	Pre-cabled (L = 2 m) (1)	XS630B1PAL2	0.205		
			M12 connector	XS630B1PAM12	0.145		
			Remote screw terminal connector	XS630B1PAL01B (2)	0.205		
					Remote EN 175301-803-A connector	XS630B1PAL01C	0.205
					Remote M18 connector	XS630B1PAL01G	0.205
		NPN	Pre-cabled (L = 2 m) (1)	XS630B1NAL2	0.205		
			M12 connector	XS630B1NAM12	0.145		
			Remote screw terminal connector	XS630B1NAL01B (2)	0.205		
					Remote EN 175301-803-A connector	XS630B1NAL01C	0.205
	NC	PNP	Pre-cabled (L = 2 m) (1)	XS630B1PBL2	0.205		
			M12 connector	XS630B1PBM12	0.145		
			Remote screw terminal connector	XS630B1PBL01B (2)	0.205		
					Remote EN 175301-803-A connector	XS630B1PBL01C	0.205
		NPN	Pre-cabled (L = 2 m) (1)	XS630B1NBL2	0.205		
			M12 connector	XS630B1NBM12	0.145		
			Remote screw terminal connector	XS630B1NBL01B (2)	0.205		
					Remote EN 175301-803-A connector	XS630B1NBL01C	0.205

Accessories (3)

Description	For use with sensors	Reference	Weight kg
Fixing clamps	Ø 8	XSZB108	0.006
	Ø 12	XSZB112	0.006
	Ø 18	XSZB118	0.010
	Ø 30	XSZB130	0.020

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

(2) Protective cable gland included with sensor.


(3) For more information, see page 122.

Inductive proximity sensors

OsiSense XS, general purpose

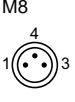
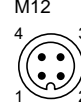
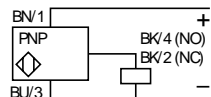
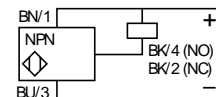
Cylindrical, increased range, flush mountable

Three-wire DC, solid-state output

Characteristics		XS1/XS6●●B●●M8	XS1/XS6●●B●●M12	XS1/XS6●●B●●L2
Sensor type		UL, CSA, CE, E2		
Product certifications		UL, CSA, CE, E2		
Connection	Connector	M8	M12	–
	Pre-cabled	–	–	Length 2 m
	Remote connector	Screw terminal (L01B), EN 175301-803-A (L01C) and M18 (L01G) remote connectors on 0.15 m flying lead		
Operating zone (1)	Ø 6.5 and Ø 8	mm	0...2	
	Ø 12	mm	0...3.2	
	Ø 18	mm	0...6.4	
	Ø 30	mm	0...12	
Differential travel		% 1...15 of effective sensing distance (Sr)		
Degree of protection	Conforming to IEC 60529	IP 65 and IP 67		IP 65 and IP 68, double insulation  except Ø 6.5 and Ø 8: IP 67
	Conforming to DIN 40050	IP 69K for Ø 12, 18 and 30 sensors		
Storage temperature		°C -40...+85		
Operating temperature		°C -25...+70		
Materials	Case	Nickel plated brass (except XS608: stainless steel, grade 303)		
	Sensing face	PPS		
	Cable	–	PvR 3 x 0.34 mm ² except Ø 6.5 and 8: 3 x 0.11 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, 4 viewing ports at 90°		Yellow LED, annular
Rated supply voltage		V XS1: ≍ 12...24 with protection against reverse polarity XS6: ≍ 12...48 with protection against reverse polarity		
Voltage limits (including ripple)		V XS1: ≍ 10...36; XS6: ≍ 10...58		
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	Ø 6.5, Ø 8 and Ø 12	Hz	2500	
	Ø 18	Hz	1000	
	Ø 30	Hz	500	
Delays	First-up	ms	≤ 10	
	Response	ms	≤ 0.2 for Ø 6.5, Ø 8 and Ø 12, ≤ 0.3 for Ø 18, ≤ 0.6 for Ø 30	
	Recovery	ms	≤ 0.2 for Ø 6.5, Ø 8 and Ø 12, ≤ 0.7 for Ø 18, ≤ 1.4 for Ø 30	

(1) Detection curves, see page 126.

Wiring schemes

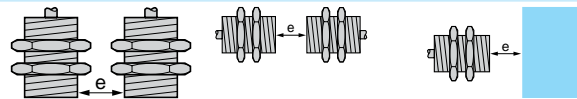
Connector (1)	Pre-cabled
M8 	M12 
	BU: Blue BN: Brown BK: Black
PNP 	NPN 

For M8 connector, NO and NC outputs on terminal 4

(1) For pin arrangement of remote connectors L01B, L01C and L01G, see page 31.

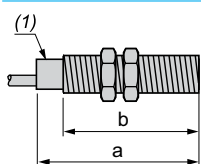
Setting-up

Minimum mounting distances (mm)



Sensors	Side by side	Face to face	Facing a metal object
Ø 6.5	e ≥ 5	e ≥ 30	e ≥ 8
Ø 8	e ≥ 5	e ≥ 30	e ≥ 8
Ø 12	e ≥ 8	e ≥ 50	e ≥ 12
Ø 18	e ≥ 16	e ≥ 100	e ≥ 25
Ø 30	e ≥ 30	e ≥ 180	e ≥ 45

Dimensions



(1) LED

Sensors		Pre-cabled (mm)		M8 connector (mm)		M12 connector (mm)	
Short case model		a	b	a	b	a	b
Ø 6.5	XS106B3	33	–	42	–	45	–
Ø 8	XS108B3	33	25	42	26	45	24
Ø 12	XS112B3	35	25	–	–	50	30
Ø 18	XS118B3	39	28	–	–	50	28
Ø 30	XS130B3	43	32	–	–	55	32

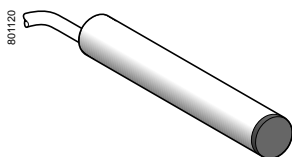
Sensors		Pre-cabled (mm)		M12 connector (mm)	
Long case model		a	b	a	b
Ø 8	XS608B1	51	42	62	40
Ø 12	XS612B1	53	42	62	42
Ø 18	XS618B1	62	52	74	52
Ø 30	XS630B1	62	52	74	52

Inductive proximity sensors

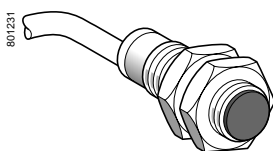
OsiSense XS, general purpose

Cylindrical, increased range, flush mountable

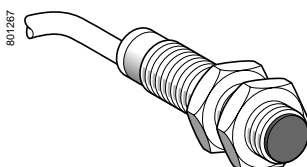
Two-wire DC, solid-state output



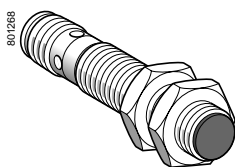
XS606B3●●L2



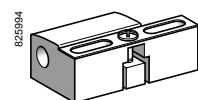
XS612B3●●L2



XS6●●B1●●L2



XS6●●B1●●M12



XSZB1●●

Sensors, 2-wire $\overline{\text{DC}}$ 12-24 V, short case model

Sensing distance (Sn) mm	Function	Connection	Reference	Weight kg
Ø 6.5, plain				
2.5	NO	Pre-cabled (L = 2 m) (1)	XS606B3CAL2	0.060
		Remote M12 connector	XS606B3CAL01M12	0.070
	NC	Pre-cabled (L = 2 m) (1)	XS606B3CBL2	0.060
Ø 8, threaded M8 x 1				
2.5	NO	Pre-cabled (L = 2 m) (1)	XS608B3CAL2	0.070
		Remote M12 connector	XS608B3CAL01M12	0.070
	NC	Pre-cabled (L = 2 m) (1)	XS608B3CBL2	0.070
		Remote M12 connector	XS608B3CBL01M12	0.070
Ø 12, threaded M12 x 1				
4	NO	Pre-cabled (L = 2 m) (1)	XS612B3DAL2	0.090
		M12 connector	XS612B3DAM12	0.030
	NC	Pre-cabled (L = 2 m) (1)	XS612B3DBL2	0.090
		M12 connector	XS612B3DBM12	0.030
Ø 18, threaded M18 x 1				
8	NO	Pre-cabled (L = 2 m) (1)	XS618B3DAL2	0.110
		M12 connector	XS618B3DAM12	0.060
	NC	Pre-cabled (L = 2 m) (1)	XS618B3DBL2	0.110
		M12 connector	XS618B3DBM12	0.060
Ø 30, threaded M30 x 1.5				
15	NO	Pre-cabled (L = 2 m) (1)	XS630B3DAL2	0.180
		M12 connector	XS630B3DAM12	0.130
	NC	Pre-cabled (L = 2 m) (1)	XS630B3DBL2	0.180
		M12 connector	XS630B3DBM12	0.180

Sensors, 2-wire $\overline{\text{DC}}$ 12-48 V, long case model

Sensing distance (Sn) mm	Function	Connection	Reference	Weight kg
Ø 6.5, plain				
2.5	NO	Pre-cabled (L = 2 m) (1)	XS606B1DAL2	0.060
		NC	XS606B1DBL2	0.060
Ø 8, threaded M8 x 1				
2.5	NO	Pre-cabled (L = 2 m) (1)	XS608B1DAL2	0.035
		M12 connector	XS608B1DAM12	0.015
	NC	Pre-cabled (L = 2 m) (1)	XS608B1DBL2	0.035
		M12 connector	XS608B1DBM12	0.015
Ø 12, threaded M12 x 1				
4	NO	Pre-cabled (L = 2 m) (1)	XS612B1DAL2	0.180
		M12 connector	XS612B1DAM12	0.020
	NC	Pre-cabled (L = 2 m) (1)	XS612B1DBL2	0.075
		M12 connector	XS612B1DBM12	0.020
Ø 18, threaded M18 x 1				
8	NO	Pre-cabled (L = 2 m) (1)	XS618B1DAL2	0.100
		M12 connector	XS618B1DAM12	0.040
	NC	Pre-cabled (L = 2 m) (1)	XS618B1DBL2	0.100
		M12 connector	XS618B1DBM12	0.040
Ø 30, threaded M30 x 1.5				
15	NO	Pre-cabled (L = 2 m) (1)	XS630B1DAL2	0.205
		M12 connector	XS630B1DAM12	0.145
	NC	Pre-cabled (L = 2 m) (1)	XS630B1DBL2	0.205
		M12 connector	XS630B1DBM12	0.145

Accessories (2)

Description	For use with sensors	Reference	Weight kg
Fixing clamps	Ø 6.5 (plain)	XSZB165	0.005
	Ø 8 (M8 x1)	XSZB108	0.006
	Ø 12 (M12 x1)	XSZB112	0.006
	Ø 18 (M18 x1)	XSZB118	0.010
	Ø 30 (M30 x 1.5)	XSZB130	0.020

(1) For a 5 m cable, replace L2 by L5.

Example: XS606B3CAL2 becomes XS606B3CAL5 with a 5 m cable.

(2) For more information, see page 122.

Inductive proximity sensors

OsiSense XS, general purpose

Cylindrical, increased range, flush mountable

Two-wire DC, solid-state output

Characteristics

Sensor type		XS6●●B3●●M12 XS6●●B1D●●M12	XS6●●B3●●L2 XS6●●B1D●●L2
Product certifications		UL, CSA, CE	
Connection	Connector	M12 or remote M12 connector (L01M12) on 0.15 m flying lead	
	Pre-cabled	Length 2 m	
Operating zone (1)	Ø 6.5 and Ø 8	mm	0...2
	Ø 12	mm	0...3.2
	Ø 18	mm	0...6.4
	Ø 30	mm	0...12
Differential travel		%	1...15 of effective sensing distance (Sr)
Degree of protection	Conforming to IEC 60529	IP 65 and IP 67	
	Conforming to DIN 40050	IP 69K	
Storage temperature		°C	-40...+85
Operating temperature		°C	-25...+70
Materials	Case	Nickel plated brass (except XS606B1D or XS608B1D: stainless steel, grade 303)	
	Sensing face	PPS	
	Cable	PvR 2 x 0.34 mm ² except Ø 6.5 and Ø 8: 2 x 0.11 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, 4 viewing ports at 90°	
Rated supply voltage		V	--- 12...48 non polarised for XS6●●B1D --- 12...24 non polarised for XS6●●B3● (except Ø 6.5 short and Ø 8 short: polarised), with protection against reverse polarity
Voltage limits (including ripple)		V	--- 10...58 for XS6●●B1D --- 10...36 for XS6●●B3●
Switching capacity		mA	≤ 100 with overload and short-circuit protection
Voltage drop, closed state		V	≤ 4.2
Residual current, open state		mA	≤ 0.5 mA
Maximum switching frequency	Ø 6.5, Ø 8	Hz	1400 for XS6●●B1D, 1100 for XS6●●B3●
	Ø 12	Hz	1300
	Ø 18	Hz	1500
	Ø 30	Hz	800
Delays	First-up	ms	≤ 10
	Response	ms	≤ 0.5
	Recovery	ms	≤ 0.2 for Ø 6.5, Ø 8 and Ø 12; 0.3 for Ø 18; 0.6 for Ø 30

(1) Detection curves, see page 126.

Wiring schemes

M12 connector

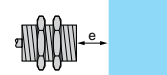
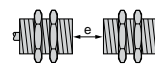
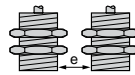


Pre-cabled

BU: Blue
BN: Brown

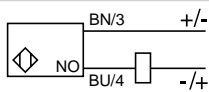
Setting-up

Minimum mounting distances (mm)

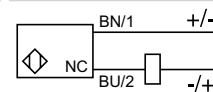


2-wire --- non polarised

NO output

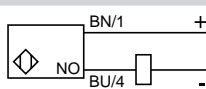


NC output

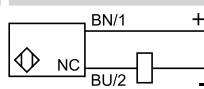


2-wire --- polarised

XS6●●B3CA



XS6●●B3CB



Sensors

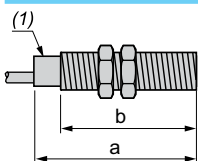
Side by side

Face to face

Facing a metal object

Ø 6.5	e ≥ 5	e ≥ 30	e ≥ 8
Ø 8	e ≥ 5	e ≥ 30	e ≥ 8
Ø 12	e ≥ 8	e ≥ 50	e ≥ 12
Ø 18	e ≥ 16	e ≥ 100	e ≥ 25
Ø 30	e ≥ 30	e ≥ 180	e ≥ 45

Dimensions



(1) LED

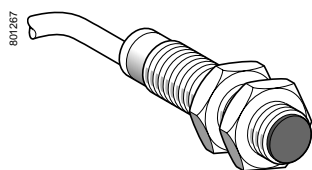
Sensors		Pre-cabled (mm)		M12 connector (mm)	
		a	b	a	b
Short case model					
Ø 6.5	XS606B3C	33	–	–	–
Ø 8	XS608B3C	33	25	–	24
Ø 12	XS612B3D	35	25	50	30
Ø 18	XS618B3D	40	28	50	28
Ø 30	XS630B3D	44	32	55	32
Long case model					
Ø 6.5	XS606B1D	51	–	–	–
Ø 8	XS608B1D	51	42	62	40
Ø 12	XS612B1D	53	42	61	42
Ø 18	XS618B1D	62	52	74	52
Ø 30	XS630B1D	62	52	74	52

Inductive proximity sensors

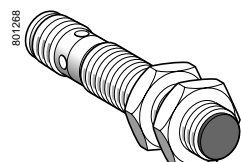
OsiSense XS, general purpose

Cylindrical, increased range, flush mountable

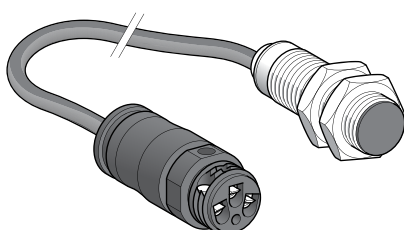
Two-wire AC or DC ⁽¹⁾



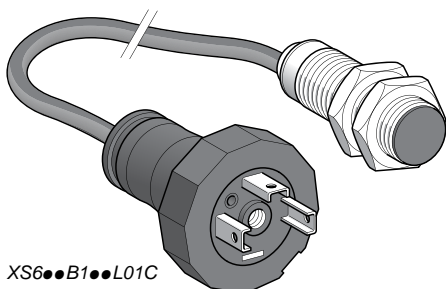
XS612B1MAL2



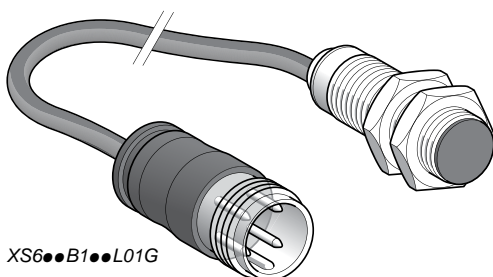
XS618B1MAL2



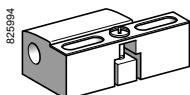
XS630B1MAL2



XS612B1MAL01B



XS618B1MAL01B



XSZB112

Sensors, 2-wire ~ 24-240 V, long case model

Sensing distance (Sn) mm	Function	Connection	Reference	Weight kg
Ø 12, threaded M12 x 1				
4	NO	Pre-cabled (L = 2 m) (2)	XS612B1MAL2	0.075
		1/2"-20 UNF connector	XS612B1MAU20	0.025
	NC	Pre-cabled (L = 2 m) (2)	XS612B1MBL2	0.075
		1/2"-20 UNF connector	XS612B1MBU20	0.025

Ø 18, threaded M18 x 1				
8	NO	Pre-cabled (L = 2 m) (2)	XS618B1MAL2	0.100
		1/2"-20 UNF connector	XS618B1MAU20	0.060
		Remote screw terminal connector	XS618B1MAL01B (3)	0.100
		Remote EN 175301-803-A connector	XS618B1MAL01C	0.100
		Remote M18 connector	XS618B1MAL01G	0.100
	NC	Pre-cabled (L = 2 m) (2)	XS618B1MBL2	0.100
		1/2"-20 UNF connector	XS618B1MBU20	0.060
		Remote screw terminal connector	XS618B1MBL01B (3)	0.100
		Remote EN 175301-803-A connector	XS618B1MBL01C	0.100
		Remote M18 connector	XS618B1MBL01G	0.100

Ø 30, threaded M30 x 1.5				
15	NO	Pre-cabled (L = 2 m) (2)	XS630B1MAL2	0.205
		1/2"-20 UNF connector	XS630B1MAU20	0.145
		Remote screw terminal connector	XS630B1MAL01B (3)	0.205
		Remote EN 175301-803-A connector	XS630B1MAL01C	0.205
		Remote M18 connector	XS630B1MAL01G	0.205
	NC	Pre-cabled (L = 2 m) (2)	XS630B1MBL2	0.205
		1/2"-20 UNF connector	XS630B1MBU20	0.145
		Remote screw terminal connector	XS630B1MBL01B (3)	0.205
		Remote EN 175301-803-A connector	XS630B1MBL01C	0.205
		Remote M18 connector	XS630B1MBL01G	0.205

Accessories (4)

Description	For use with sensors	Reference	Weight kg
Fixing clamps	Ø 12	XSZB112	0.006
	Ø 18	XSZB118	0.010
	Ø 30	XSZB130	0.020

(1) Ø8 plastic, double insulation version available (see page 66).

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

Example: XS612B1MAL2 becomes **XS612B1MAL5** with a 5 m cable.

(3) Protective cable gland included with sensor.

(4) For more information, see page 122.

Inductive proximity sensors

OsiSense XS, general purpose

Cylindrical, increased range, flush mountable

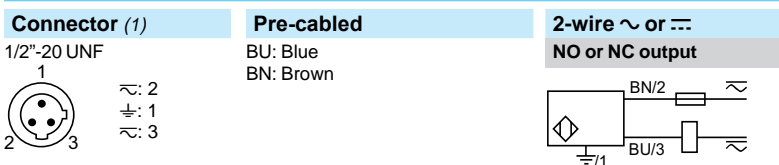
Two-wire AC or DC

Characteristics		XS6...B1M●U20	XS6...B1M●L
Sensor type		UL, CSA, CÉ	
Product certifications		UL, CSA, CÉ	
Connection	Connector	1/2" - 20 UNF	—
	Pre-cabled	—	Length 2 m
	Remote connector	Screw terminal (L01B), EN 175301-803-A (L01C) and M18 (L01G) remote connectors on 0.15 m flying lead	
Operating zone (1)	∅ 12	mm	0... 3.2
	∅ 18	mm	0... 6.4
	∅ 30	mm	0...12
Differential travel		%	
Degree of protection		1...15 of effective sensing distance (Sr)	
Conforming to IEC 60529	IP 65, IP 67		IP 65 and IP 68, double insulation □
	Conforming to DIN 40050		IP 69K
Storage temperature		°C	
Operating temperature		-40...+85	
Materials	Case	Nickel plated brass	
	Sensing face	PPS	
	Cable	PvR 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 on pre-cabled version Yellow LED with 4 viewing ports at 90° on connector version	
Rated supply voltage		V	
Voltage limits (including ripple)		≈ 24...240 (~ 50/60 Hz)	
Switching capacity	XS612B1M●●●	mA	
	XS618B1M●●●	5...200 (2)	
	XS630B1M●●●	~ 5...300 or ~ 5...200 (2)	
Voltage drop, closed state		V	
Residual current, open state		≤ 5.5	
Maximum switching frequency (DC/AC)		mA	
Delays	∅ 12	≤ 0.8	
	∅ 18	Hz	
	∅ 30	~ 1000 / ~ 25	
First-up	ms		~ 1000 / ~ 25
	ms		~ 500 / ~ 25
	ms		~ 500 / ~ 25
Response	ms		≤ 25 for ∅ 18 and ∅ 30; ≤ 20 for ∅ 12
	ms		≤ 0.5
	ms		≤ 0.2 for ∅ 12; ≤ 0.5 for ∅ 18; ≤ 2 for ∅ 30

(1) Detection curves, see page 126.

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

Wiring schemes

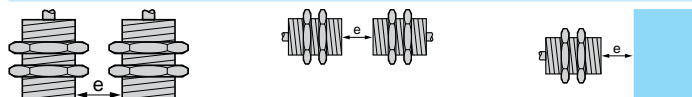


±: on connector models only

(1) For pin arrangement of remote connectors L01B, L01C and L01G, see page 31.

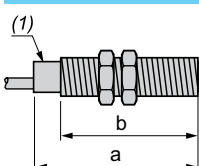
Setting-up

Minimum mounting distances (mm)



Sensors	Side by side	Face to face	Facing a metal object
∅ 12	e ≥ 8	e ≥ 50	e ≥ 12
∅ 18	e ≥ 16	e ≥ 100	e ≥ 25
∅ 30	e ≥ 30	e ≥ 180	e ≥ 45

Dimensions



Sensors	Pre-cabled (mm)		Connector (mm)	
	a	b	a	b
∅ 12 XS612B1M●	53	42	62	42
∅ 18 XS618B1M●	62	52	73	52
∅ 30 XS630B1M●	62	52	73	52

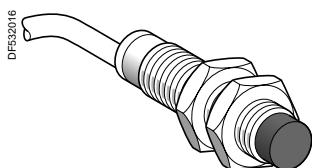
(1) LED

Inductive proximity sensors

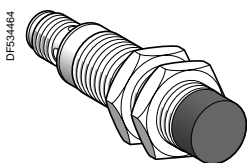
OsiSense XS, general purpose

Cylindrical, increased range, non flush mountable

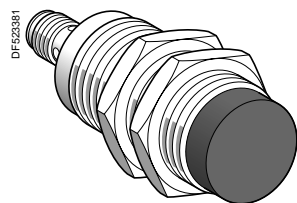
Three-wire DC, solid-state output



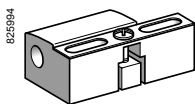
XS612B4●●L2



XS618B4●●M12



XS630B5●●M12



XSZB●●●

Sensors, 3-wire $\bar{\square}$ 12...48 V, long case model

Ø 12, threaded M12 x 1

Sensing distance (Sn) mm	Function	Output	Connection	Reference	Weight kg
7	NO	PNP	Pre-cabled (L = 2 m) (1)	XS612B4PAL2	0.075
			M12 connector	XS612B4PAM12	0.020
	NPN	PNP	Pre-cabled (L = 2 m) (1)	XS612B4NAL2	0.075
			M12 connector	XS612B4NAM12	0.020
	NC	PNP	Pre-cabled (L = 2 m) (1)	XS612B4PBL2	0.075
			M12 connector	XS612B4PBM12	0.020
NPN	PNP	Pre-cabled (L = 2 m) (1)	XS612B4NBL2	0.075	
		M12 connector	XS612B4NBM12	0.020	

Ø 18, threaded M18 x 1

Sensing distance (Sn) mm	Function	Output	Connection	Reference	Weight kg
12	NO	PNP	Pre-cabled (L = 2 m) (1)	XS618B4PAL2	0.100
			M12 connector	XS618B4PAM12	0.040
	NPN	PNP	Pre-cabled (L = 2 m) (1)	XS618B4NAL2	0.100
			M12 connector	XS618B4NAM12	0.040
	NC	PNP	Pre-cabled (L = 2 m) (1)	XS618B4PBL2	0.100
			M12 connector	XS618B4PBM12	0.040
NPN	PNP	Pre-cabled (L = 2 m) (1)	XS618B4NBL2	0.100	
		M12 connector	XS618B4NBM12	0.040	

Ø 30, threaded M30 x 1.5

Sensing distance (Sn) mm	Function	Output	Connection	Reference	Weight kg
30	NO	PNP	Pre-cabled (L = 2 m) (1)	XS630B5PAL2	0.205
			M12 connector	XS630B5PAM12	0.145
	NPN	PNP	Pre-cabled (L = 2 m) (1)	XS630B5NAL2	0.205
			M12 connector	XS630B5NAM12	0.145
	NC	PNP	Pre-cabled (L = 2 m) (1)	XS630B5PBL2	0.205
			M12 connector	XS630B5PBM12	0.145
NPN	PNP	Pre-cabled (L = 2 m) (1)	XS630B5NBL2	0.205	

Accessories (2)

Description	For use with sensors	Reference	Weight kg
Fixing clamps	Ø 12	XSZB112	0.006
	Ø 18	XSZB118	0.010
	Ø 30	XSZB130	0.020

(1) For a 5 m long cable replace L2 by L5; for a 10 m long cable replace L2 by L10.
Example: XS612B4PAL2 becomes **XS612B4PAL5** with a 5 m cable.

(2) For more information, see page 122.

Inductive proximity sensors

OsiSense XS, general purpose

Cylindrical, increased range, non flush mountable

Three-wire DC, solid-state output

Characteristics			XS6●●B●●●M12	XS6●●B●●●L2
Sensor type			XS6●●B●●●M12	XS6●●B●●●L2
Product certifications			UL, CSA, CE, E2	
Connection	Connector		M12	–
	Pre-cabled		–	Length: 2 m
Operating zone	Ø 12	mm	0...5.6	
	Ø 18	mm	0...9.6	
	Ø 30	mm	0...24	
Differential travel		%	1...15 of effective sensing distance (Sr)	
Degree of protection	Conforming to IEC 60529		IP 65 and IP 67	IP 65 and IP 68, double insulation □
	Conforming to DIN 40050		IP 69K	–
Storage temperature		°C	-40...+85	
Operating temperature		°C	-25...+70	
Materials	Case		Nickel plated brass	
	Sensing face		PPS	
	Cable		–	PvR 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: 4 viewing ports at 90°	Yellow LED: annular
Rated supply voltage		V	≐ 12...48 with protection against reverse polarity	
Voltage limits (including ripple)		V	≐ 10...58	
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	XS612B4●●●●	Hz	2500	
	XS618B4●●●●	Hz	1000	
	XS630B5●●●●	Hz	500	
Delays	First-up	ms	≤ 10 for Ø 12 and Ø 18; ≤ 15 for Ø 30	
	Response	ms	≤ 0.2 for Ø 12; ≤ 0.3 for Ø 18; ≤ 0.6 for Ø 30	
	Recovery	ms	≤ 0.2 for Ø 12; ≤ 0.7 for Ø 18; ≤ 1.4 for Ø 30	

Wiring schemes

Connector	Pre-cabled	PNP	NPN
M12 4 3 1 2	BU: Blue BN: Brown BK: Black		

Setting-up

Minimum mounting distances (mm)

	Side by side	Face to face	Facing a metal object	Mounted in a metal support
Ø 12	e ≥ 48	e ≥ 84	e ≥ 21	d ≥ 36, h ≥ 12
Ø 18	e ≥ 72	e ≥ 144	e ≥ 36	d ≥ 54, h ≥ 18
Ø 30	e ≥ 300	e ≥ 300	e ≥ 90	d ≥ 90, h ≥ 35

Dimensions

XS6	Pre-cabled (mm)			Connector (mm)		
	a	b	c	a	b	c
Ø 12	54	42	5	66	42	5
Ø 18	60	44	8	72	44	8
Ø 30	64	39	13	74	39	13

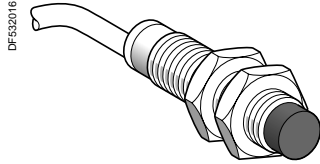
(1) LED

Inductive proximity sensors

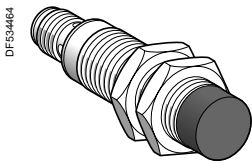
OsiSense XS, general purpose

Cylindrical, increased range, non flush mountable

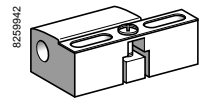
Three-wire DC, solid-state output



XS212B4●●L●



XS218B4●●M12



XSZB1●●

Sensors, 3-wire $\overline{\text{DC}}$ 12-24 V, short case model

Ø 12, threaded M12 x 1

Sensing distance (Sn) mm	Function	Output	Connection	Reference	Weight kg
8	NO	PNP	Pre-cabled (L = 2 m)	XS212B4PAL2	0.086
			Pre-cabled (L = 5 m)	XS212B4PAL5	0.160
			M12 connector	XS212B4PAM12	0.032
	NPN	PNP	Pre-cabled (L = 2 m)	XS212B4NAL2	0.086
			M12 connector	XS212B4NAM12	0.032
			NC	PNP	Pre-cabled (L = 2 m)
M12 connector	XS212B4PBM12	0.032			
NPN	PNP	Pre-cabled (L = 2 m)	XS212B4NBL2	0.086	

Ø 18, threaded M18 x 1

Sensing distance (Sn) mm	Function	Output	Connection	Reference	Weight kg
16	NO	PNP	Pre-cabled (L = 2 m)	XS218B4PAL2	0.105
			Pre-cabled (L = 5 m)	XS218B4PAL5	0.190
			M12 connector	XS218B4PAM12	0.052
	NPN	PNP	Pre-cabled (L = 2 m)	XS218B4NAL2	0.105
			M12 connector	XS218B4NAM12	0.052
			NC	PNP	Pre-cabled (L = 2 m)
M12 connector	XS218B4PBM12	0.052			

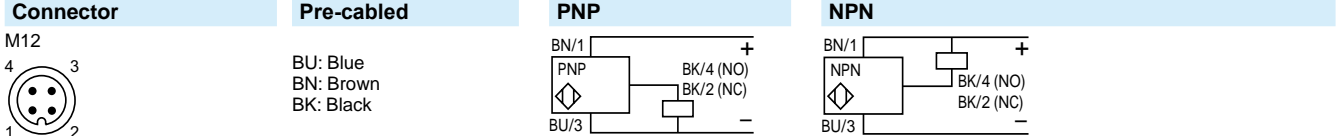
Accessories (1)

Description	For use with sensors	Reference	Weight kg
Fixing clamps	Ø 12	XSZB112	0.006
	Ø 18	XSZB118	0.010

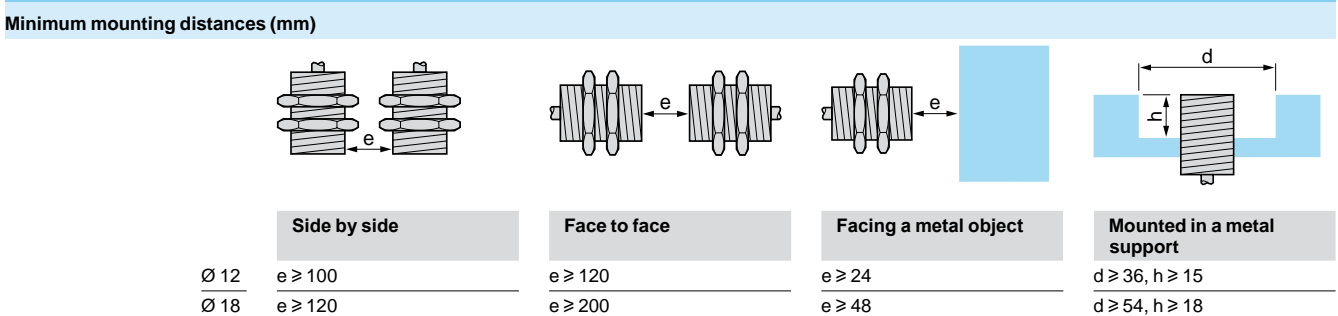
(1) For further information, see page 122.

Characteristics			XS21●B4●●M12	XS21●B4●●L●
Sensor type			UL, CSA, CE, E2	
Product certifications			UL, CSA, CE, E2	
Connection	Connector		M12	–
	Pre-cabled		–	Length: 2 or 5 m
Operating zone	Ø 12	mm	0...6.4	
	Ø 18	mm	0...12.8	
Differential travel		%	1...15 of effective sensing distance (Sr)	
Degree of protection	Conforming to IEC 60529		IP 65 and IP 67	
	Conforming to DIN 40050		IP 69K	
Storage temperature		°C	- 40...+ 85	
Operating temperature		°C	- 25...+ 70	
Materials	Case		Brass	
	Sensing face		PPS	
	Cable		–	PvR 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, 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	XS212B4●●●●	Hz	2000	
	XS218B4●●●●	Hz	1000	
Delays	First-up	ms	≤ 15	
	Response	ms	≤ 0.2 for Ø 12 ≤ 0.3 for Ø 18	
	Recovery	ms	≤ 0.2 for Ø 12 ≤ 0.7 for Ø 18	

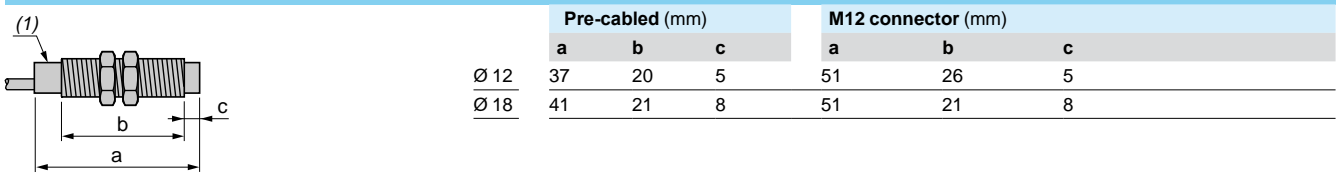
Wiring schemes



Setting-up



Dimensions



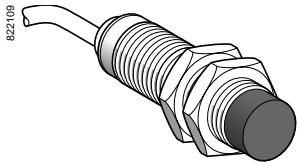
(1) LED

Inductive proximity sensors

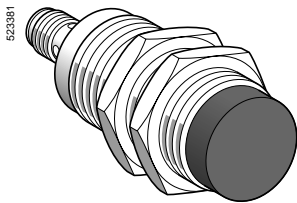
OsiSense XS, general purpose

Cylindrical, increased range, non flush mountable

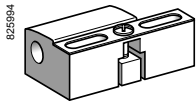
Two-wire AC or DC



XS6●●B4M●L2



XS6●●B4M●U20



XSZB1●●

Sensors, 2-wire \approx 24... 240 V, long case model

Ø 18, threaded M18 x 1

Sensing distance (Sn) mm	Function	Connection	Reference	Weight kg
12	NO	Pre-cabled (L = 2 m) (1)	XS618B4MAL2	0.120
		1/2"-20 UNF connector	XS618B4MAU20	0.060
	NC	Pre-cabled (L = 2 m) (1)	XS618B4MBL2	0.120
		1/2"-20 UNF connector	XS618B4MBU20	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)	XS630B4MAL2	0.205
		1/2"-20 UNF connector	XS630B4MAU20	0.145
	NC	Pre-cabled (L = 2 m) (1)	XS630B4MBL2	0.205
		1/2"-20 UNF connector	XS630B4MBU20	0.145

Accessories (2)

Description	For use with sensors	Reference	Weight kg
Fixing clamps	Ø 18	XSZB118	0.010
	Ø 30	XSZB130	0.020

(1) For a 5 m cable replace L2 by **L5**; for a 10 m cable replace L2 by **L10**.
Example: XS618B4MAL2 becomes **XS618B4MAL5** with a 5 m cable.

(2) For more information, see page 122.

Inductive proximity sensors

OsiSense XS, general purpose

Cylindrical, increased range, non flush mountable

Two-wire AC or DC

Characteristics			XS6●●B4M●U20	XS6●●B4M●L2
Sensor type				
Product certifications			UL, CSA, CE	
Connection	Connector		1/2"-20 UNF	-
	1/2"-20 UNF Pre-cabled		-	Length: 2 m
Operating zone	Ø 18	mm	0...9.6	
	Ø 30	mm	0...17.6	
Differential travel		%	1...15 of effective sensing distance (Sr)	
Degree of protection	Conforming to IEC 60529		IP 65 and IP 67	IP 65 and IP 68, double insulation □
Storage temperature		°C	-40...+85	
Operating temperature		°C	-25...+70	
Materials	Case		Nickel plated brass	
	Sensing face		PPS	
	Cable		-	PvR 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: 4 viewing ports at 90°	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	XS618B4M●●●	Hz	~ 25 or --- 1000	
	XS630B4M●●●	Hz	~ 25 or --- 300	
Delays	First-up	ms	≤ 30 XS618B4M●●● and XS630B4M●●●	
	Response	ms	≤ 0.5	
	Recovery	ms	≤ 0.5 XS618B4M●●●, ≤ 2 XS630B4M●●●	

(1) 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"-20 UNF	BU: Blue BN: Brown	NO or NC output
		⚡: on connector models only

Setting-up

Minimum mounting distances (mm)

	Side by side	Face to face	Facing a metal object	Mounted in a metal support
Ø 18	e ≥ 72	e ≥ 144	e ≥ 36	d ≥ 54, h ≥ 18
Ø 30	e ≥ 120	e ≥ 264	e ≥ 66	d ≥ 90, h ≥ 30

Dimensions

	Pre-cabled (mm)			Connector (mm)		
	a	b	c	a	b	c
Ø 18	60	44	8	72	44	8
Ø 30	63	41	13	74	41	13

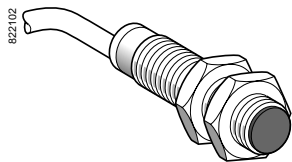
(1) LED

Inductive proximity sensors

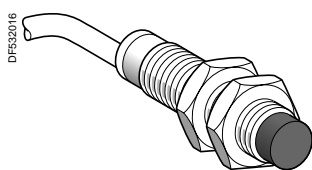
OsiSense XS, general purpose

Multivoltage sensor, cylindrical, flush mountable and non flush mountable

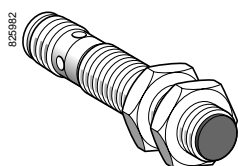
Two-wire AC or DC, short-circuit protection



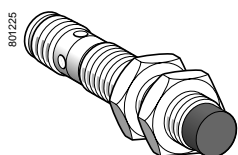
XS1M●●●●250



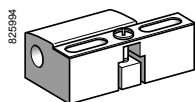
XS2M●●●●250



XS1M●●●●250K



XS2M●●●●250K



XSZB1●●

Sensing distance (Sn) mm	Function	Connection	Reference	Weight kg
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Ø 12, threaded M12 x 1

Flush mountable

2	NO	Pre-cabled (L = 2 m) (1)	XS1M12MA250	0.075
		1/2"-20UNF connector	XS1M12MA250K	0.025
	NC	Pre-cabled (L = 2 m) (1)	XS1M12MB250	0.075
		1/2"-20UNF connector	XS1M12MB250K	0.025

Non flush mountable

4	NO	Pre-cabled (L = 2 m) (1)	XS2M12MA250	0.075
		1/2"-20UNF connector	XS2M12MA250K	0.025
	NC	Pre-cabled (L = 2 m) (1)	XS2M12MB250	0.075

Ø 18, threaded M18 x 1

Flush mountable

5	NO	Pre-cabled (L = 2 m) (1)	XS1M18MA250	0.120
		1/2"-20UNF connector	XS1M18MA250K	0.060
	NC	Pre-cabled (L = 2 m) (1)	XS1M18MB250	0.120
		1/2"-20UNF connector	XS1M18MB250K	0.060

Non flush mountable

8	NO	Pre-cabled (L = 2 m) (1)	XS2M18MA250	0.120
		1/2"-20UNF connector	XS2M18MA250K	0.060
	NC	Pre-cabled (L = 2 m) (1)	XS2M18MB250	0.120
		1/2"-20UNF connector	XS2M18MB250K	0.060

Ø 30, threaded M30 x 1.5

Flush mountable

10	NO	Pre-cabled (L = 2 m) (1)	XS1M30MA250	0.205
		1/2"-20UNF connector	XS1M30MA250K	0.145
	NC	Pre-cabled (L = 2 m) (1)	XS1M30MB250	0.205
		1/2"-20UNF connector	XS1M30MB250K	0.145

Non flush mountable

15	NO	Pre-cabled (L = 2 m) (1)	XS2M30MA250	0.205
		1/2"-20UNF connector	XS2M30MA250K	0.145
	NC	Pre-cabled (L = 2 m) (1)	XS2M30MB250	0.205
		1/2"-20UNF connector	XS2M30MB250K	0.145

Accessories (2)

Description mm		Reference	Weight kg
Fixing clamps	Ø 12	XSZB112	0.006
	Ø 18	XSZB118	0.010
	Ø 30	XSZB130	0.020

(1) For a 5 m long cable add L1 to the reference; for a 10 m long cable add L2 to the reference.
Example: XS1M18MA250 becomes XS1M18MA250L1 with a 5 m long cable.

(2) For further information, see page 122.

Inductive proximity sensors

OsiSense XS, general purpose

Multivoltage sensor, cylindrical, flush mountable and non flush mountable

Two-wire AC or DC, short-circuit protection

Characteristics			XS●M●●M●250K	XS●M●●M●250
Sensor type			UL, CSA, CE	
Product certifications			UL, CSA, CE	
Connection			1/2"-20UNF connector	Pre-cabled, length: 2 m
Operating zone	Ø 12 flush mountable	mm	0...1.6	
	Ø 12 non flush mountable	mm	0...3.2	
	Ø 18 flush mountable	mm	0...4	
	Ø 18 non flush mountable	mm	0...6.4	
	Ø 30 flush mountable	mm	0...8	
	Ø 30 non flush mountable	mm	0...12	
Differential travel		%	1...15 of effective sensing distance (Sr)	
Degree of protection		Conforming to IEC 60529	IP 67	IP 68, double insulation
Storage temperature		°C	- 40...+ 85	
Operating temperature		°C	- 25...+ 70	
Materials		Case	Nickel plated brass	
		Cable		PvR 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	
Indicators		Output state	Yellow LED, 4 viewing ports at 90°	Yellow LED
		Supply on	–	Green LED (only on Ø 18 and Ø 30)
Rated supply voltage		V	~ 24...240 (50/60 Hz) or --- 24...210	
Voltage limits (including ripple)		V	~ or --- 20...264	
Switching capacity		mA	~ 5...300 or --- 5...200 (except Ø 12: ~ or --- 5...200) with overload and short-circuit protection	
Voltage drop, closed state		V	≤ 5.5	
Current consumption, no-load		mA	–	
Residual current, open state		mA	≤ 1.5	
Maximum switching frequency		Hz	Ø 12	~ 25 or --- 4000
		Hz	Ø 18	~ 25 or --- 2000
		Hz	Ø 30 flush mountable	~ 25 or --- 2000
		Hz	Ø 30 non flush mountable	~ 25 or --- 1000
Delays		ms	First-up	≤ 70
		ms	Response	≤ 0.2 for Ø 12, ≤ 2 for Ø 18 and Ø 30
		ms	Recovery	≤ 0.2 for Ø 12, ≤ 4 for Ø 18, ≤ 5 for Ø 30 flush mountable, ≤ 10 for Ø 30 non flush mountable

Wiring schemes

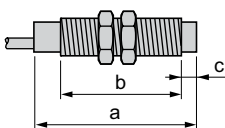
1/2"-20UNF connector	Pre-cabled	2-wire ~ or ---
	BU: Blue BN: Brown	NO or NC output
⚡ : on connector models only.		

Setting-up

Sensor	Minimum mounting distances (mm)			
	Side by side	Face to face	Facing a metal object	Mounted in a metal support
Ø 12 flush mountable	e ≥ 4	e ≥ 24	e ≥ 6	d ≥ 12 h ≥ 0
Ø 12 non flush mountable	e ≥ 16	e ≥ 48	e ≥ 12	d ≥ 36 h ≥ 8
Ø 18 flush mountable	e ≥ 10	e ≥ 60	e ≥ 15	d ≥ 18 h ≥ 0
Ø 18 non flush mountable	e ≥ 16	e ≥ 96	e ≥ 24	d ≥ 54 h ≥ 16
Ø 30 flush mountable	e ≥ 20	e ≥ 120	e ≥ 30	d ≥ 30 h ≥ 0
Ø 30 non flush mountable	e ≥ 60	e ≥ 180	e ≥ 45	d ≥ 90 h ≥ 30

Dimensions

Sensor	Flush mountable in metal					Non flush mountable in metal				
	Pre-cabled		Connector		c	Pre-cabled		Connector		c
	a	b	a	b		a	b	a	b	
Ø 12	57	42	66	48	5	57	42	66	42	5
Ø 18	60	51	72	51	8	60	44	72	44	8
Ø 30	60	51	72	51	13	63	41	75	41	13



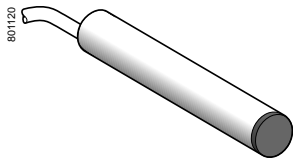
Inductive proximity sensors

OsiSense XS, general purpose

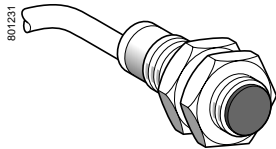
Cylindrical, metal and plastic, flush mountable

and non flush mountable

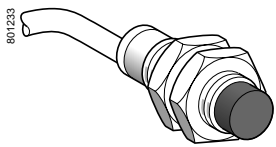
Four-wire DC, solid-state NO + NC output



XS1L06●C410



XS1●●●●C410



XS2●●●●C410



XS1N●●●C410D

Sensing distance (Sn) mm	Function	Output	Connection	Reference	Weight kg
Ø 6.5 plain					
Stainless steel case, flush mountable					
1.5	NO + NC	PNP	Pre-cabled (L = 2 m)	XS1L06PC410	0.025
		NPN	Pre-cabled (L = 2 m)	XS1L06NC410	0.025
Ø 8, threaded M8 x 1					
Stainless steel case, flush mountable					
1.5	NO + NC	PNP	Pre-cabled (L = 2 m)	XS1M08PC410	0.035
			M12 connector	XS1M08PC410D	0.025
		NPN	Pre-cabled (L = 2 m)	XS1M08NC410	0.035
			M12 connector	XS1M08NC410D	0.025
Stainless steel case, non flush mountable					
2.5	NO + NC	PNP	Pre-cabled (L = 2 m) (1)	XS2M08PC410	0.035
			M12 connector	XS2M08PC410D	0.025
		NPN	Pre-cabled (L = 2 m)	XS2M08NC410	0.035
			M12 connector	XS2M08NC410D	0.025
Plastic case, non flush mountable					
2.5	NO + NC	PNP (3)	Pre-cabled (L = 2 m) (1)	XS4P08PC410	0.035
Ø 12, threaded M12 x 1					
Brass case, flush mountable					
2	NO + NC	PNP	Pre-cabled (L = 2 m) (1) (2)	XS1N12PC410	0.070
			M12 connector	XS1N12PC410D	0.020
		NPN	Pre-cabled (L = 2 m) (1)	XS1N12NC410	0.070
			M12 connector	XS1N12NC410D	0.020
Plastic case, non flush mountable					
4	NO + NC	PNP (3)	Pre-cabled (L = 2 m) (1)	XS4P12PC410	0.070
			M12 connector	XS4P12PC410D	0.020

(1) For a 5 m long cable add **L1** to the reference. Example: **XS1N12PC410** becomes **XS1N12PC410L1** with a 5 m long cable.

(2) For a 10 m long cable add **L2** to the reference. Example: **XS1N12PC410** becomes **XS1N12PC410L2** with a 10 m long cable.

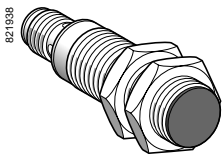
(3) These sensors can be supplied in NPN versions. Please contact our Customer Care Centre.

Inductive proximity sensors

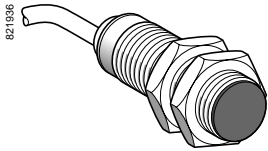
OsiSense XS, general purpose

Cylindrical, metal and plastic, flush mountable and non flush mountable

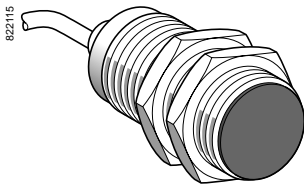
Four-wire DC, solid-state NO + NC output



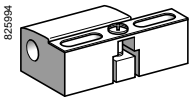
XS●●18●C410



XS●●18●C410D



XS●●30●C410



XSZB1●●

Sensing distance (Sn) mm	Function	Output	Connection	Reference	Weight kg	
Ø 18, threaded M18 x 1						
Brass case, flush mountable						
5	NO + NC	PNP	Pre-cabled (L = 2 m) (1) (2)	XS1N18PC410	0.100	
			M12 connector	XS1N18PC410D	0.040	
			NPN	Pre-cabled (L = 2 m)	XS1N18NC410	0.100
				M12 connector	XS1N18NC410D	0.040
Plastic case, non flush mountable						
8	NO + NC	PNP (3)	Pre-cabled (L = 2 m)	XS4P18PC410	0.100	
				M12 connector	XS4P18PC410D	0.040
Ø 30, threaded M30 x 1.5						
Brass case, flush mountable						
10	NO + NC	PNP	Pre-cabled (L = 2 m) (1) (2)	XS1N30PC410	0.160	
				M12 connector	XS1N30PC410D	0.100
			NPN	Pre-cabled (L = 2 m)	XS1N30NC410	0.160
				M12 connector	XS1N30NC410D	0.100
Plastic case, non flush mountable						
15	NO + NC	PNP (3)	Pre-cabled (L = 2 m)	XS4P30PC410	0.160	
				M12 connector	XS4P30PC410D	0.100
Accessories (4)						
Description				Reference	Weight kg	
Fixing clamps		Ø 8		XSZB108	0.006	
		Ø 12		XSZB112	0.006	
		Ø 18		XSZB118	0.010	
		Ø 30		XSZB130	0.020	

(1) For a 5 m long cable add **L1** to the reference. Example: **XS1N18PC410** becomes **XS1N18PC410L1** with a 5 m long cable.

(2) For a 10 m long cable add **L2** to the reference. Example: **XS1N18PC410** becomes **XS1N18PC410L2** with a 10 m long cable.

(3) These sensors can be supplied in NPN versions. Please contact our Customer Care Centre.

(4) For further information, see page 122.

Inductive proximity sensors

OsiSense XS, general purpose

Cylindrical, metal and plastic, flush mountable

and non flush mountable

Four-wire DC, solid-state NO + NC output

Characteristics		XS●●●●PC410D	XS●●●●NC410D	XS●●●●PC410	XS●●●●NC410
Sensor type					
Product certifications	Ø 6.5 and Ø 8	UL, CSA, CE			
	Ø 12, Ø 18 and Ø 30	UL, CSA, CE, E2 (1)	UL, CSA, CE	UL, CSA, CE, E2 (2)	UL, CSA, CE
Conformity to safety standards	Ø 6.5 and Ø 8	-			
	Ø 12, Ø 18 and Ø 30	EN/IEC 61508: SIL 2 EN/ISO 13849-1: PL=d IEC 62061: SILcl2 (3)	-	EN/IEC 61508: SIL 2 EN/ISO 13849-1: PL=d IEC 62061: SILcl2 (4)	-
Reliability data	Ø 12, Ø 18 and Ø 30	MTTFd = 1810 years, PFHd = 69.9 10 ⁻⁹ 1/h, SFF > 92 %, DC > 75 % (with a safety controller) (3)	-	MTTFd = 1810 years, PFHd = 69.9 10 ⁻⁹ 1/h, SFF > 92 %, DC > 75 % (with a safety controller) (4)	-
Connection		M12 connector		Pre-cabled, length: 2 m	
Operating zone	Ø 6.5 and Ø 8 flush mountable	mm	0...1.2		
	Ø 8 non flush mountable	mm	0...2		
	Ø 12 flush mountable	mm	0...1.6		
	Ø 12 non flush mountable	mm	0...3.2		
	Ø 18 flush mountable	mm	0...4		
	Ø 18 non flush mountable	mm	0...6.4		
	Ø 30 flush mountable	mm	0...8		
	Ø 30 non flush mountable	mm	0...12		
Differential travel		%	1...15 of effective sensing distance (Sr)		
Degree of protection	Conforming to IEC 60529		IP 65 and IP 67	IP 67	IP 67, double insulation (Ø 6.5 and Ø 8) IP 68, double insulation (Ø 12, Ø 18 and Ø 30)
	Conforming to DIN 40050		IP 69K (Ø 12, Ø 18 and Ø 30)	-	-
Storage temperature		°C	- 40...+ 85		
Operating temperature		°C	- 25...+ 70 (5)		
Materials	Case		Nickel plated brass for XS1N●●●. Stainless steel 303 for XS1M08●●● and XS2M08●●●. Plastic, PPS, for XS4P●●●.		
	Cable				PvR 4 x 0.08 mm ² (Ø 6.5 and Ø 8) PvR 4 x 0.22 mm ² (Ø 12, Ø 18 and Ø 30)
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		V	≡ 12...24 with protection against reverse polarity		
Voltage limits (including ripple)		V	≡ 9...36 (≡ 10...36 for XS4P●●●)	≡ 10...36	≡ 9...36 (≡ 10...36 for XS4P18●●●)
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	Ø 6.5, Ø 8 and Ø 12	Hz	5000		
	Ø 18	Hz	2000		
	Ø 30	Hz	1000		
Delays	First-up	ms	≤ 5		
	Response	ms	≤ 0.1 for Ø 8 and Ø 12, ≤ 0.15 for Ø 18, ≤ 0.3 for Ø 30		
	Recovery	ms	≤ 0.1 for Ø 8 and Ø 12, ≤ 0.35 for Ø 18, ≤ 0.7 for Ø 30		

(1) Except XS4P●●●: UL, CSA and CE.

(2) Except XS4P18●●●: UL, CSA and CE.

(3) Except XS4P●●●.

(4) Except XS4P18●●●.

(5) Sensors are available for very low temperatures (suffix TF: -40°C, + 70°C) or very high temperatures (suffix TT: - 25°C, + 85°C). Please consult our Customer Care Centre.

Inductive proximity sensors

OsiSense XS, general purpose

Cylindrical, metal and plastic, flush mountable
and non flush mountable

Four-wire DC, solid-state NO + NC output

Four-wire DC, solid-state NO + NC output

Wiring schemes

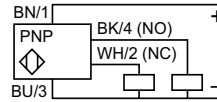
M12 connector



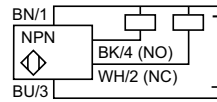
Pre-cabled

BU: Blue
BN: Brown
BK: Black
WH: White

PNP 4-wire



NPN 4-wire

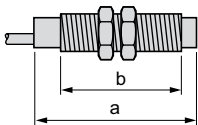


Setting-up

Minimum mounting distances (mm)

Sensor	Side by side	Face to face	Facing a metal object	Mounted in a metal support
Ø 6.5 flush mountable XS1L06	$e \geq 3$	$e \geq 18$	$e \geq 4.5$	$d \geq 6.5$ $h \geq 0$
Ø 8 flush mountable XS1M08	$e \geq 3$	$e \geq 18$	$e \geq 4.5$	$d \geq 8$ $h \geq 0$
Ø 8 non flush mountable XS4P08	$e \geq 10$	$e \geq 30$	$e \geq 7.5$	$d \geq 24$ $h \geq 5$
Ø 12 flush mountable XS1N12	$e \geq 4$	$e \geq 24$	$e \geq 6$	$d \geq 12$ $h \geq 0$
Ø 12 non flush mountable XS4P12	$e \geq 16$	$e \geq 48$	$e \geq 12$	$d \geq 36$ $h \geq 8$
Ø 18 flush mountable XS1N18	$e \geq 10$	$e \geq 60$	$e \geq 15$	$d \geq 18$ $h \geq 0$
Ø 18 non flush mountable XS4P18	$e \geq 16$	$e \geq 96$	$e \geq 24$	$d \geq 54$ $h \geq 16$
Ø 30 flush mountable XS1N30	$e \geq 20$	$e \geq 120$	$e \geq 30$	$d \geq 30$ $h \geq 0$
Ø 30 non flush mountable XS4P30	$e \geq 60$	$e \geq 180$	$e \geq 45$	$d \geq 90$ $h \geq 30$

Dimensions



Flush mountable in metal

Sensor	Pre-cabled (mm)		M12 connector (mm)	
	a	b	a	b
Ø 6.5 XS1L06 stainless steel	50	-	-	-
Ø 8 XS1M08 stainless steel	51	42	62	40
Ø 12 XS1N12 brass	37	25	50	31
Ø 18 XS1N18 brass	41	29	51	28
Ø 30 XS1N30 brass	45	33	54	33

Non flush mountable in metal

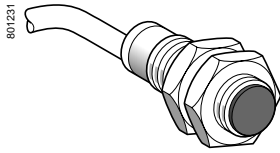
Sensor	Pre-cabled (mm)		M12 connector (mm)	
	a	b	a	b
Ø 8 XS2M08 stainless steel	54	42	65	40
Ø 8 XS4P08 plastic	34	25	-	-
Ø 12 XS4P12 plastic	37	25	50	31
Ø 18 XS4P18 plastic	41	29	51	28
Ø 30 XS4P30 plastic	45	33	54	33

Inductive proximity sensors

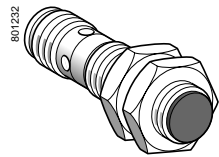
OsiSense XS, general purpose

Cylindrical, metal, increased range, flush mountable

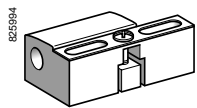
Four-wire DC, solid-state NO + NC output



XS1●●B3PCL2



XS112B3PCM12



XSZB●●●

Sensors, 4-wire

Sensing distance (Sn) mm	Function	Output	Connection	Reference	Weight kg
Ø 12, threaded M12 x 1					
4	NO + NC	PNP	Pre-cabled (L = 2 m)	XS112B3PCL2	0.070
			M12 connector	XS112B3PCM12	0.020

Ø 18, threaded M18 x 1					
8	NO + NC	PNP	Pre-cabled (L = 2 m)	XS118B3PCL2	0.100
			M12 connector	XS118B3PCM12	0.040

Ø 30, threaded M30 x 1.5					
15	NO + NC	PNP	Pre-cabled (L = 2 m)	XS130B3PCL2	0.160
			M12 connector	XS130B3PCM12	0.100

Accessories (1)

Description	For use with sensors	Reference	Weight kg
Fixing clamps	Ø 12	XSZB112	0.006
	Ø 18	XSZB118	0.010
	Ø 30	XSZB130	0.020

(1) For further information, see page 122.

Inductive proximity sensors

OsiSense XS, general purpose

Cylindrical, metal, increased range, flush mountable

Four-wire DC, solid-state NO + NC output

Characteristics		XS1●●B3PCM12	XS1●●B3PCL2
Sensor type		XS1●●B3PCM12	XS1●●B3PCL2
Product certifications		UL, CSA, CE, E2	
Conformity to safety standards		EN/IEC 61508: SIL 2 EN/ISO 13849-1: PL =d IEC 62061: SILcl2	
Reliability data		MTTFd = 1810 years, PFHd = 69.9 10 ⁻⁹ 1/h, SFF > 92 %, DC > 75 % (with a safety controller)	
Connection	Connector	M12	–
	Pre-cabled	–	Length 2 m
Operating zone (1)	Ø 12	mm	0...3.2
	Ø 18	mm	0...6.4
	Ø 30	mm	0...12
Differential travel		% 1...15 of effective sensing distance (Sr)	
Degree of protection	Conforming to IEC 60529	IP 65 and IP 67	IP 65 and IP 68, double insulation □
	Conforming to DIN 40050	IP 69K	–
Storage temperature		°C - 40...+ 85	
Operating temperature		°C - 25...+ 70 (2)	
Materials	Case	Nickel plated brass	
	Sensing face	PPS	
	Cable	–	PvR 4 x 0.22 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, 4 viewing ports at 90°	Yellow LED, annular
Tension assignée d'alimentation		V --- 12...24 with protection against reverse polarity	
Voltage limits (including ripple)		V --- 9...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	Ø 12	Hz	2500
	Ø 18	Hz	1000
	Ø 30	Hz	500
Delays	First-up	ms	≤ 10
	Response	ms	≤ 0.2 for Ø 12, ≤ 0.3 for Ø 18, ≤ 0.6 for Ø 30
	Recovery	ms	≤ 0.2 for Ø 12, ≤ 0.7 for Ø 18, ≤ 1.4 for Ø 30

Wiring schemes

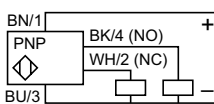
M12 connector



Pre-cabled

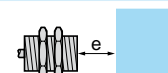
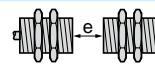
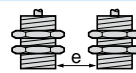
BU: Blue
BN: Brown
BK: Black
WH: White

PNP 4-wire



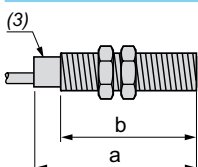
Setting-up

Minimum mounting distances (mm)



Sensors	Side by side	Face to face	Facing a metal object
Ø 12	e ≥ 8	e ≥ 50	e ≥ 12
Ø 18	e ≥ 16	e ≥ 100	e ≥ 25
Ø 30	e ≥ 30	e ≥ 180	e ≥ 45

Dimensions



Sensors	Pre-cabled (mm)		M12 connector (mm)	
	a	b	a	b
Ø 12	37	25	50	31
Ø 18	41	29	51	28
Ø 30	45	33	54	33

(1) Detection curves, see page 126.

(2) Sensors are available for very low temperatures (suffix **TF**: -40°C, + 70°C) or very high temperatures (suffix **TT**: - 25°C, + 85°C). Please consult our Customer Care Centre.

(3) LED.

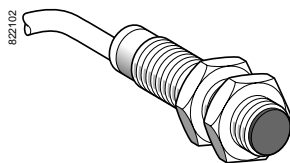
Inductive proximity sensors

OsiSense XS, general purpose

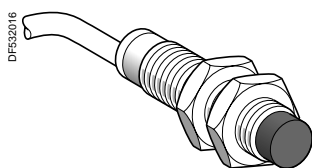
Cylindrical, metal and plastic, flush and non flush mountable

Four-wire DC, solid-state PNP + NPN NO/NC

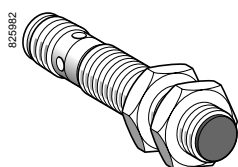
programmable output



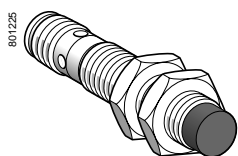
XS1M●●KP340
XS4P●●KP340



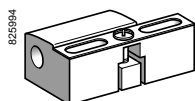
XS2M●●KP340



XS1M●●KP340D
XS4P●●KP340D



XS2M●●KP340D



XSZB1●●

Sensing distance (Sn) mm	Function	Output	Connection	Reference	Weight kg
Ø 12, threaded M12 x 1					
Metal case, flush mountable					
2	NO/NC programmable	PNP + NPN	Pre-cabled (L = 2 m) (1) M12 connector	XS1M12KP340 XS1M12KP340D	0.075 0.025
Metal case, non flush mountable					
4	NO/NC programmable	PNP + NPN	Pre-cabled (L = 2 m) (1) M12 connector	XS2M12KP340 XS2M12KP340D	0.075 0.025
Plastic case, non flush mountable					
4	NO/NC programmable	PNP + NPN	Pre-cabled (L = 2 m) (1) M12 connector	XS4P12KP340 XS4P12KP340D	0.075 0.025
Ø 18, threaded M18 x 1					
Metal case, flush mountable					
5	NO/NC programmable	PNP + NPN	Pre-cabled (L = 2 m) (1) M12 connector	XS1M18KP340 XS1M18KP340D	0.120 0.060
Metal case, non flush mountable					
8	NO/NC programmable	PNP + NPN	Pre-cabled (L = 2 m) (1) M12 connector	XS2M18KP340 XS2M18KP340D	0.120 0.060
Plastic case, non flush mountable					
8	NO/NC programmable	PNP + NPN	Pre-cabled (L = 2 m) (1) M12 connector	XS4P18KP340 XS4P18KP340D	0.120 0.060
Ø 30, threaded M30 x 1.5					
Metal case, flush mountable					
10	NO/NC programmable	PNP + NPN	Pre-cabled (L = 2 m) (1) M12 connector	XS1M30KP340 XS1M30KP340D	0.205 0.145
Metal case, non flush mountable					
15	NO/NC programmable	PNP + NPN	Pre-cabled (L = 2 m) (1) M12 connector	XS2M30KP340 XS2M30KP340D	0.205 0.145
Plastic case, non flush mountable					
15	NO/NC programmable	PNP + NPN	Pre-cabled (L = 2 m) (1) M12 connector	XS4P30KP340 XS4P30KP340D	0.205 0.145
Accessories (2)					
Description mm				Reference	Weight kg
Fixing clamps	Ø 12			XSZB112	0.006
	Ø 18			XSZB118	0.010
	Ø 30			XSZB130	0.020

(1) For a 5 m long cable add **L1** to the reference; for a 10 m long cable add **L2** to the reference.
Example: **XS1M12KP340** becomes **XS1M12KP340L1** with a 5 m long cable.

(2) For further information, see page 122.

Inductive proximity sensors

OsiSense XS, general purpose

Cylindrical, metal and plastic, flush and non flush mountable

Four-wire DC, solid-state PNP + NPN NO/NC

programmable output

Characteristics		XS●M●●KP340D	XS●M●●KP340
Sensor type			
Product certifications		UL, CSA, CE	
Connection		M12 connector	Pre-cabled, length: 2 m
Operating zone	Ø 12 flush mountable	mm	0...1.6
	Ø 12 non flush mountable	mm	0...3.2
	Ø 18 flush mountable	mm	0...4
	Ø 18 non flush mountable	mm	0...6.4
	Ø 30 flush mountable	mm	0...8
	Ø 30 non flush mountable	mm	0...12
Differential travel		%	1...15 of effective sensing distance (Sr)
Degree of protection		Conforming to IEC 60529	IP 67 IP 68, double insulation
Storage temperature		°C	- 40...+ 85
Operating temperature		°C	- 25...+ 70
Materials		Case	Nickel plated brass for XS1M and XS2M, PPS for XS4P
	Cable	-	PvR 4 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, 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	≤ 2.6
Current consumption, no-load		mA	≤ 10
Maximum switching frequency	Ø 12	Hz	5000
	Ø 18	Hz	2000
	Ø 30 flush mountable	Hz	1000
	Ø 30 non flush mountable	Hz	1000
Delays	First-up	ms	≤ 5
	Response	ms	≤ 0.1 for Ø 12, ≤ 0.15 for Ø 18, ≤ 0.3 for Ø 30
	Recovery	ms	≤ 0.1 for Ø 12, ≤ 0.35 for Ø 18, ≤ 0.7 for Ø 30

Wiring schemes

M12 connector



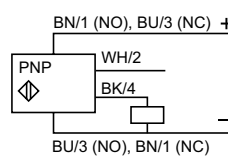
Pre-cabled

BU: Blue
BN: Brown
BK: Black
WH: White

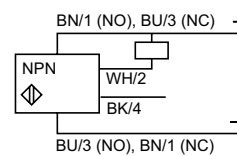
PNP + NPN

4-wire programmable, NO or NC output

PNP



NPN

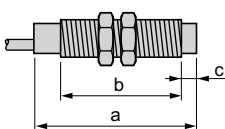


Setting-up

Minimum mounting distances (mm)

Sensor	Side by side	Face to face	Facing a metal object	Mounted in a metal support
Ø 12 flush mountable XS1M12	$e \geq 4$	$e \geq 24$	$e \geq 6$	$d \geq 12 h \geq 0$
Ø 12 non flush mountable XS2M12 and XS4P12	$e \geq 16$	$e \geq 48$	$e \geq 12$	$d \geq 36 h \geq 8$
Ø 18 flush mountable XS1M18	$e \geq 10$	$e \geq 60$	$e \geq 15$	$d \geq 18 h \geq 0$
Ø 18 non flush mountable XS2M18 and XS4P18	$e \geq 16$	$e \geq 96$	$e \geq 24$	$d \geq 54 h \geq 16$
Ø 30 flush mountable XS1M30	$e \geq 20$	$e \geq 120$	$e \geq 30$	$d \geq 30 h \geq 0$
Ø 30 non flush mountable XS2M30 and XS4P30	$e \geq 60$	$e \geq 180$	$e \geq 45$	$d \geq 90 h \geq 30$

Dimensions



Sensor	Flush mountable in metal				Non flush mountable in metal				
	Pre-cabled		Connector		Pre-cabled		Connector		c
	a	b	a	b	a	b	a	b	
Ø 12 metal	54	42	61	42	55	42	66	42	5
Ø 12 plastic	-	-	-	-	54	42	61	43	0
Ø 18 metal	60	51	72	51	60	44	72	44	8
Ø 18 plastic	-	-	-	-	60	51	70	51	0
Ø 30 metal	60	51	72	51	63	41	75	41	13
Ø 30 plastic	-	-	-	-	60	51	70	51	0

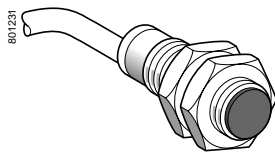
Inductive proximity sensors

OsiSense XS, general purpose

Plastic, cylindrical, non flush mountable

Two-wire AC or DC

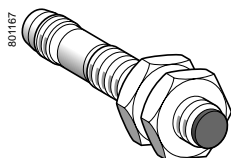
Three-wire DC, solid-state output



XS4P●●●●340
XS4P●●●●370
XS4P●●●●230



XS4P●●●●340D
XS4P●●●●370D
XS4P●●●●230K



XS4P08●●340S

Sensing dist. (Sn) mm	Function	Output	Connection	Reference	Weight kg
Ø 8, threaded M8 x 1					
Three-wire ~ 12-24 V					
2.5	NO	PNP	Pre-cabled (L = 2 m) (1) (2)	XS4P08PA340	0.025
		NPN	Pre-cabled (L = 2 m) (1) (2)	XS4P08NA340	0.025
	NC	PNP	Pre-cabled (L = 2 m) (1) (2)	XS4P08PB340	0.025
		NPN	Pre-cabled (L = 2 m) (1) (2)	XS4P08NB340	0.025
Three-wire ~ 12-48 V					
2.5	NO	PNP	Pre-cabled (L = 2 m) (1)	XS4P08PA370	0.030
		NPN	Pre-cabled (L = 2 m)	XS4P08NA370	0.030
	NC	PNP	Pre-cabled (L = 2 m)	XS4P08PB370	0.030
		NPN	Pre-cabled (L = 2 m)	XS4P08NB370	0.030
Two-wire ~ or ~ 24-240 V					
2.5	NO		Pre-cabled (L = 2 m) (1)	XS4P08MA230	0.030
			1/2"-20UNF connector	XS4P08MA230K	0.020
	NC		Pre-cabled (L = 2 m) (1)	XS4P08MB230	0.030
			1/2"-20UNF connector	XS4P08MB230K	0.020
Ø 12, threaded M12 x 1					
Three-wire ~ 12-24 V					
4	NO	PNP	Pre-cabled (L = 2 m) (1) (3)	XS4P12PA340	0.060
		NPN	Pre-cabled (L = 2 m) (1) (3)	XS4P12NA340	0.060
	NC	PNP	Pre-cabled (L = 2 m) (1) (3)	XS4P12PB340	0.060
		NPN	Pre-cabled (L = 2 m) (1) (3)	XS4P12NB340	0.060
Three-wire ~ 12-48 V					
4	NO	PNP	Pre-cabled (L = 2 m) (1) (3)	XS4P12PA370	0.065
		NPN	Pre-cabled (L = 2 m) (1) (3)	XS4P12NA370	0.065
	NC	PNP	Pre-cabled (L = 2 m) (1) (3)	XS4P12PB370	0.065
		NPN	Pre-cabled (L = 2 m) (3)	XS4P12NB370	0.065
Two-wire ~ or ~ 24-240 V					
4	NO		Pre-cabled (L = 2 m) (1)	XS4P12MA230	0.065
			1/2"-20UNF connector	XS4P12MA230K	0.030
	NC		Pre-cabled (L = 2 m) (1)	XS4P12MB230	0.065
			1/2"-20UNF connector	XS4P12MB230K	0.030
Ø 18, threaded M18 x 1					
Three-wire ~ 12-24 V					
8	NO	PNP	Pre-cabled (L = 2 m) (1) (3)	XS4P18PA340	0.090
		NPN	Pre-cabled (L = 2 m) (1) (3)	XS4P18NA340	0.090
	NC	PNP	Pre-cabled (L = 2 m) (1) (3)	XS4P18PB340	0.090
		NPN	Pre-cabled (L = 2 m) (1) (3)	XS4P18NB340	0.090
Three-wire ~ 12-48 V					
8	NO	PNP	Pre-cabled (L = 2 m) (1) (3)	XS4P18PA370	0.100
		NPN	Pre-cabled (L = 2 m) (1) (3)	XS4P18NA370	0.100
	NC	PNP	Pre-cabled (L = 2 m) (1) (3)	XS4P18PB370	0.100
		NPN	Pre-cabled (L = 2 m) (3)	XS4P18NB370	0.100
Two-wire ~ or ~ 24-240 V					
8	NO		Pre-cabled (L = 2 m) (1)	XS4P18MA230	0.100
			1/2"-20UNF connector	XS4P18MA230K	0.040
	NC		Pre-cabled (L = 2 m) (1)	XS4P18MB230	0.100
			1/2"-20UNF connector	XS4P18MB230K	0.040
Ø 30, threaded M30 x 1.5					
Three-wire ~ 12-24 V					
15	NO	PNP	Pre-cabled (L = 2 m) (1) (3)	XS4P30PA340	0.120
		NPN	Pre-cabled (L = 2 m) (1) (3)	XS4P30NA340	0.120
	NC	PNP	Pre-cabled (L = 2 m) (1) (3)	XS4P30PB340	0.120
		NPN	Pre-cabled (L = 2 m) (1) (3)	XS4P30NB340	0.120
Three-wire ~ 12-48 V					
15	NO	PNP	Pre-cabled (L = 2 m) (1) (3)	XS4P30PA370	0.140
		NPN	Pre-cabled (L = 2 m) (1) (3)	XS4P30NA370	0.140
	NC	PNP	Pre-cabled (L = 2 m) (3)	XS4P30PB370	0.140
		NPN	Pre-cabled (L = 2 m) (3)	XS4P30NB370	0.140
Two-wire ~ or ~					
15	NO		Pre-cabled (L = 2 m) (1)	XS4P30MA230	0.140
			1/2"-20UNF connector	XS4P30MA230K	0.080
	NC		Pre-cabled (L = 2 m) (1)	XS4P30MB230	0.140
			1/2"-20UNF connector	XS4P30MB230K	0.080

(1) For a 5 m long cable add **L1** to the reference; for a 10 m long cable add **L2** to the reference. Example: **XS4P08PA340** becomes **XS4P08PA340L1** with a 5 m long cable.

(2) For an M8 connector, add **S** to the reference. Example: **XS4P08PA340** becomes **XS4P08PA340S** with an M8 connector.

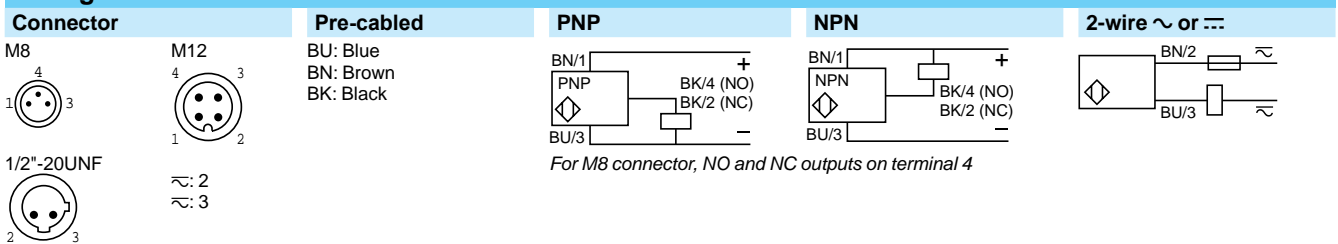
(3) For an M12 connector, add **D** to the reference. Example: **XS4P12PA370** becomes **XS4P12PA370D** with an M12 connector.

Inductive proximity sensors

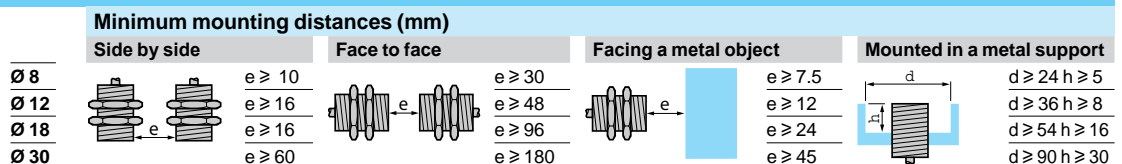
OsiSense XS, general purpose
Plastic, cylindrical, non flush mountable
Two-wire AC or DC
Three-wire DC, solid-state output

Characteristics		XS4P●●●●340●	XS4P●●●●370●	XS4P●●M●230●
Sensor type		UL, CSA, CE, ECOLAB		
Product certifications		UL, CSA, CE, ECOLAB		
Connection	Pre-cabled	Length: 2 m		
	Connector	M8 on Ø 8 M12 on Ø 12, Ø 18 and Ø 30		1/2"-20UNF
Operating zone	Ø 6.5 and Ø 8	mm	0...2	
	Ø 12	mm	0...3.2	
	Ø 18	mm	0...6.4	
	Ø 30	mm	0...12	
Differential travel		%	1...15 of effective sensing distance (Sr)	
Degree of protection		Conforming to IEC 60529	IP 68, double insulation for pre-cabled version (except Ø 8: IP 67) IP 67 for connector version	
Storage temperature		°C	- 40...+ 85	
Operating temperature		°C	- 25...+ 70	
Materials	Case	PPS		
	Cable	PvR 3 x 0.34 mm ² except Ø 6.5 and 8: 3 x 0.11 mm ²		PvR 2 x 0.34 mm ² except Ø 8: 2 x 0.11 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 on pre-cabled version Yellow LED: 4 viewing ports at 90° on connector version		
Rated supply voltage		V	~ 12...24 with protection against reverse polarity	~ 12...48 with protection against reverse polarity ~ or ~ 24...240 (50/60 Hz)
Voltage limits (including ripple)		V	~ 10...36	~ 10...58 ~ or ~ 20...264
Switching capacity		mA	≤ 200 with overload and short-circuit protection	5...100 for Ø 8, 5...200 for Ø 12, 5...200 ~ and 5...300 ~ for Ø 18 and 30
Voltage drop, closed state		V	≤ 2	≤ 5.5
Residual current, open state		mA	-	≤ 0.6
Current consumption, no-load		mA	≤ 10	-
Maximum switching frequency	Ø 6.5, Ø 8 and Ø 12	Hz	5000	~ 3000, ~ 25
	Ø 18	Hz	2000	~ 2000, ~ 25
	Ø 30	Hz	1000	~ 1000, ~ 25
Delays	First-up	ms	≤ 10	≤ 40
	Response	ms	≤ 0.1 for Ø 8 and Ø 12, ≤ 0.15 for Ø 18, ≤ 0.3 for Ø 30	≤ 0.2
	Recovery	ms	≤ 0.1 for Ø 8 and Ø 12, ≤ 0.35 for Ø 18, ≤ 0.7 for Ø 30	≤ 0.2 for Ø 8, Ø 12 and Ø 18, ≤ 0.4 for Ø 30

Wiring schemes



Setting-up



Dimensions

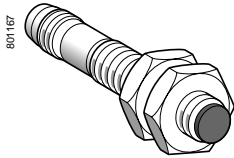
XS4P	3-wire ~ 12-24 V				3-wire ~ 12-48 V or 2-wire ~/~ 24-240 V			
	Pre-cabled (mm)		Connector (mm)		Pre-cabled (mm)		Connector (mm)	
	a	b	a	b	a	b	a	b
Ø 8	33	26	42	26	50	42	61	40
Ø 12	35	25	48	27	54	42	61	42
Ø 18	36	25	48	29	62	52	70	52
Ø 30	43	32	50	34	62	52	70	52

Inductive proximity sensors

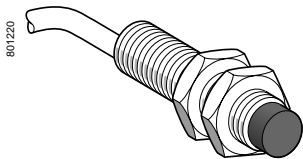
OsiSense XS, general purpose

Basic, cylindrical, metal, flush and non flush mountable

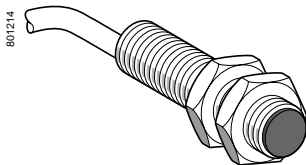
Three-wire DC, solid-state output



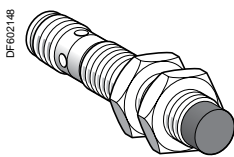
XS108BLPAM8



XS208BLAL



XS112BL



XS212BLAM12

Sensing distance (Sn)	Function	Output	Connection	Reference	Weight	
mm						
kg						
Ø 8, threaded M8 x 1						
Three-wire 12-24 V, flush mountable						
1.5	NO	PNP	Pre-cabled (L = 2 m)	XS108BLPAL2	0.035	
			Pre-cabled (L = 5 m)	XS108BLPAL5	0.105	
			M8 connector	XS108BLPAM8	0.008	
			M12 connector	XS108BLPAM12	0.015	
	NPN	Pre-cabled (L = 2 m)	XS108BLNAL2	0.035		
		M12 connector	XS108BLNAM12	0.015		
		Three-wire 12-24 V, non flush mountable				
		2.5	NO	PNP	Pre-cabled (L = 2 m)	XS208BLPAL2
Pre-cabled (L = 5 m)	XS208BLPAL5				0.105	
M8 connector	XS208BLPAM8				0.008	
M12 connector	XS208BLPAM12				0.015	
NPN	Pre-cabled (L = 2 m)		XS208BLNAL2	0.035		
	M12 connector		XS208BLNAM12	0.015		
	Ø 12, threaded M12 x 1					
	Three-wire 12-24 V, flush mountable					
2	NO	PNP	Pre-cabled (L = 2 m)	XS112BLPAL2	0.070	
			Pre-cabled (L = 3 m)	XS112BLPAL3	0.095	
			Pre-cabled (L = 5 m)	XS112BLPAL5	0.140	
			M12 connector	XS112BLPAM12	0.015	
			NPN	Pre-cabled (L = 2 m)	XS112BLNAL2	0.070
	M12 connector	XS112BLNAM12		0.015		
	NC	PNP		Pre-cabled (L = 2 m)	XS112BLPBL2	0.070
				M12 connector	XS112BLPBM12	0.015
	Three-wire 12-24 V, non flush mountable					
	4	NO	PNP	Pre-cabled (L = 2 m)	XS212BLPAL2	0.070
Pre-cabled (L = 5 m)				XS212BLPAL5	0.140	
M12 connector				XS212BLPAM12	0.015	
NPN				Pre-cabled (L = 2 m)	XS212BLNAL2	0.070
				Pre-cabled (L = 7 m)	XS212BLNAL7	0.185
		M12 connector	XS212BLNAM12	0.015		
NC		PNP	Pre-cabled (L = 2 m)	XS212BLPBL2	0.070	
			Pre-cabled (L = 5 m)	XS212BLPBL5	0.140	
		NPN	Pre-cabled (L = 2 m)	XS212BLNBL2	0.070	

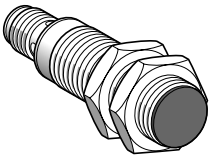
Inductive proximity sensors

OsiSense XS, general purpose

Basic, cylindrical, metal, flush and non flush mountable

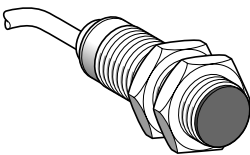
Three-wire DC, solid-state output

821938



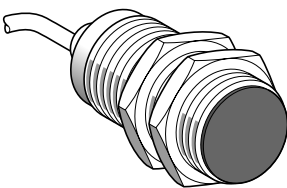
XS118BL●●M12

821938



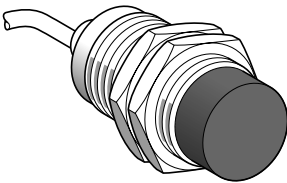
XS118BL●●L2●

822115



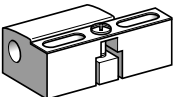
XS130BL●●L●

822116



XS230BL●●L●

825984



XSZB1●●

DF532604



XZCPV1141L●●

Sensing distance (Sn)	Function	Output	Connection	Reference	Weight			
mm					kg			
Ø 18, threaded M18 x 1								
Three-wire : 12-24 V, flush mountable								
5	NO	PNP	Pre-cabled (L = 2 m)	XS118BLPAL2	0.105			
			Pre-cabled (L = 5 m)	XS118BLPAL5	0.175			
			M12 connector	XS118BLPAM12	0.035			
	NPN	PNP	Pre-cabled (L = 2 m)	XS118BLNAL2	0.105			
			Pre-cabled (L = 5 m)	XS118BLNAL5	0.175			
			M12 connector	XS118BLNAM12	0.035			
NC	PNP	Pre-cabled (L = 2 m)	XS118BLPBL2	0.105				
		M12 connector	XS118BLPBM12	0.035				
Three-wire : 12-24 V, non flush mountable								
8	NO	PNP	Pre-cabled (L = 2 m)	XS218BLPAL2	0.105			
			Pre-cabled (L = 5 m)	XS218BLPAL5	0.175			
			M12 connector	XS218BLPAM12	0.035			
			NPN	PNP	Pre-cabled (L = 2 m)	XS218BLNAL2	0.105	
					Pre-cabled (L = 5 m)	XS218BLNAL5	0.175	
					Pre-cabled (L = 7 m)	XS218BLNAL7	0.220	
	NC	PNP	M12 connector	XS218BLNAM12	0.035			
			Pre-cabled (L = 2 m)	XS218BLPBL2	0.105			
			NPN	Pre-cabled (L = 2 m)	XS218BLNBL2	0.105		
	Ø 30, threaded M30 x 1.5							
	Three-wire : 12-24 V, flush mountable							
	10	NO	PNP	Pre-cabled (L = 2 m)	XS130BLPAL2	0.165		
M12 connector				XS130BLPAM12	0.075			
NPN				PNP	Pre-cabled (L = 2 m)	XS130BLNAL2	0.165	
					Pre-cabled (L = 3 m)	XS130BLNAL3	0.190	
NC		PNP	M12 connector	XS130BLNAM12	0.075			
			Pre-cabled (L = 2 m)	XS130BLPBL2	0.165			
			M12 connector	XS130BLPBM12	0.075			
			Three-wire : 12-24 V, non flush mountable					
15	NO	PNP	Pre-cabled (L = 2 m)	XS230BLPAL2	0.155			
			Pre-cabled (L = 5 m)	XS230BLPAL5	0.225			
			M12 connector	XS230BLPAM12	0.085			
			NPN	PNP	Pre-cabled (L = 2 m)	XS230BLNAL2	0.155	
					Pre-cabled (L = 7 m)	XS230BLNAL7	0.225	
					M12 connector	XS230BLNAM12	0.085	
	NC	PNP	Pre-cabled (L = 2 m)	XS230BLPBL2	0.155			
			Fixing accessories (1)					
			Description		For use with sensors	Reference	Weight	
					kg			
Fixing clamps			Ø 8	XSZB108	0.006			
			Ø 12	XSZB112	0.006			
			Ø 18	XSZB118	0.010			
			Ø 30	XSZB130	0.020			
Cabling accessories								
Description		Length of cable	Reference	Weight				
		m		kg				
Pre-wired connectors		5	XZCPV1141L5	0.210				
female straight								
M12 connector, 4 pins		10	XZCPV1141L10	0.390				
PVC cable								

(1) For further information, see page 122.

Inductive proximity sensors

OsiSense XS, general purpose

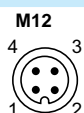
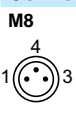
Basic, cylindrical, metal, flush and non flush mountable

Three-wire DC, solid-state output

Characteristics			XS1●●BLP●L● XS1●●BLN●L●	XS1●●BLP●M● XS1●●BLN●M●	XS2●●BLP●L XS2●●BLN●L	XS2●●BLP●M● XS2●●BLN●M●	
Sensor type							
Product certifications			UL, CSA, CE				
Connection	Pre-cabled		Length 2, 3 or 5 m, depending on model	–	Length 2, 5 or 7m, depending on model	–	
	Connector		–	M8 on Ø 8 M12 on Ø 8, Ø 12, Ø 18 and Ø 30	–	M8 on Ø 8 M12 on Ø 8, Ø 12, Ø 18 and Ø 30	
Operating zone (1)	Ø 8	mm	0...1.2		0...2		
	Ø 12	mm	0...1.6		0...3.2		
	Ø 18	mm	0...4		0...6.4		
	Ø 30	mm	0...8		0...12		
Differential travel		%	1...15 of effective sensing distance (Sr)				
Degree of protection		Conforming to IEC 60529	IP 65 and IP 67				
Storage temperature		°C	- 40...+ 85				
Operating temperature		°C	- 25...+ 70				
Materials	Case		Nickel plated brass				
	Cable		PVC 3 x 0.14 mm ² except Ø 8 : 3 x 0.11 mm ²	–	PVC 3 x 0.14 mm ² except Ø 8 : 3 x 0.11 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, on rear	Yellow LED: 2 viewing ports at 180°	Yellow LED, on rear	Yellow LED: 2 viewing ports at 180°	
Rated supply voltage		V	≐ 12...24 with protection against reverse polarity				
Voltage limits (including ripple)		V	≐ 10...36				
Switching capacity		mA	≤ 200 (except Ø 8: ≤ 50) with overload and short-circuit protection (2)				
Voltage drop, closed state		V	≤ 2				
Current consumption, no-load		mA	≤ 10				
Residual current, open state		mA	–				
Maximum switching frequency	Ø 8	Hz	1000		1000		
	Ø 12	Hz	2500		1200		
	Ø 18	Hz	1200		500		
	Ø 30	Hz	500		300		
Delays	First-up		ms		≤ 15		
		Response	Ø 8	ms	≤ 5		
	Recovery	Ø 12	ms	≤ 0.1		≤ 0.1	
		Ø 18	ms	≤ 0.1		≤ 0.1	
		Ø 30	ms	≤ 0.1		≤ 0.2	
		Ø 8	ms	≤ 0.3		≤ 0.3	
		Ø 12	ms	≤ 0.15		≤ 0.4	
		Ø 18	ms	≤ 0.3		≤ 1	
Ø 30	ms	≤ 1		≤ 1.4			

Wiring schemes

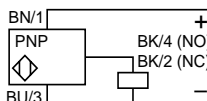
Connector



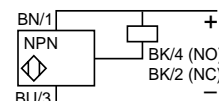
Pre-cabled

BU: Blue
BN: Brown
BK: Black

PNP



NPN



(1) Detection curves, see page 126.

(2) These sensors do not incorporate overload or short-circuit protection and therefore, it is essential to connect a 0.4 A "quick-blow" fuse in series with the load, see page 122.

Inductive proximity sensors

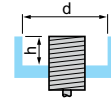
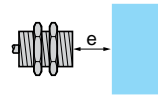
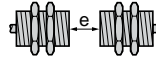
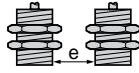
OsiSense XS, general purpose

Basic, cylindrical, metal, flush and non flush mountable

Three-wire DC, solid-state output

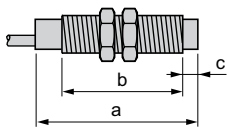
Setting-up

Minimum mounting distances (mm)



Sensors		Side by side	Face to face	Facing a metal object	Mounted in a metal support
Ø 8 flush mountable	XS108	$e \geq 3$	$e \geq 18$	$e \geq 4.5$	$d \geq 8$ $h \geq 0$
Ø 8 non flush mountable	XS208	$e \geq 10$	$e \geq 30$	$e \geq 7.5$	$d \geq 24$ $h \geq 5$
Ø 12 flush mountable	XS112	$e \geq 4$	$e \geq 24$	$e \geq 6$	$d \geq 12$ $h \geq 0$
Ø 12 non flush mountable	XS212	$e \geq 16$	$e \geq 48$	$e \geq 12$	$d \geq 36$ $h \geq 8$
Ø 18 flush mountable	XS118	$e \geq 10$	$e \geq 60$	$e \geq 15$	$d \geq 18$ $h \geq 0$
Ø 18 non flush mountable	XS218	$e \geq 16$	$e \geq 96$	$e \geq 24$	$d \geq 54$ $h \geq 16$
Ø 30 flush mountable	XS130	$e \geq 20$	$e \geq 120$	$e \geq 30$	$d \geq 30$ $h \geq 0$
Ø 30 non flush mountable	XS230	$e \geq 60$	$e \geq 180$	$e \geq 45$	$d \geq 90$ $h \geq 30$

Dimensions



Flush mountable in metal

Sensors	Pre-cabled (mm)		M8 connector (mm)		M12 connector (mm)	
	a	b	a	b	a	b
Ø 8 XS108	42	40	53	42	62	39
Ø 12 XS112	44	31	–	–	55	34
Ø 18 XS118	53	41	–	–	64	43
Ø 30 XS130	57	44	–	–	68	47

Non flush mountable in metal

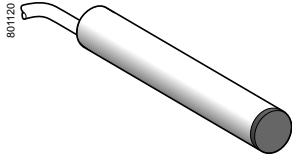
Sensors	Pre-cabled (mm)			M8 connector (mm)			M12 connector (mm)		
	a	b	c	a	b	c	a	b	c
Ø 8 XS208	42	36	4	53	38	4	62	36	4
Ø 12 XS212	44	26	5	–	–	–	55	29	5
Ø 18 XS218	53	33	8	–	–	–	64	35	8
Ø 30 XS230	57	32	13	–	–	–	68	34	13

Inductive proximity sensors

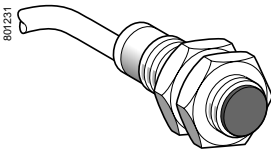
OsiSense XS, general purpose

Cylindrical, almost flush mountable, increased range

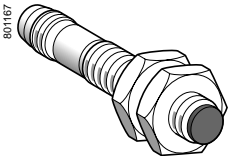
Three-wire DC, solid-state output



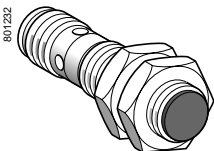
XS1L06●A349



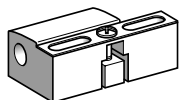
XS1N●●●●349



XS1N08●●349S



XS1N●●●●349D



XSZB1●●

Sensing distance (Sn) (mm)	Function	Output	Connection	Reference	Weight kg
Ø 6.5, plain					
2.5	NO	PNP	Pre-cabled (L = 2 m)	XS1L06PA349	0.025
			M8 connector	XS1L06PA349S	0.010
			M12 connector	XS1L06PA349D	0.015
		NPN	Pre-cabled (L = 2 m)	XS1L06NA349	0.025
			M8 connector	XS1L06NA349S	0.010
			M12 connector	XS1L06NA349D	0.015
	NC	PNP	Pre-cabled (L = 2 m)	XS1L06PB349	0.025
			M8 connector	XS1L06PB349S	0.010
			M12 connector	XS1L06PB349D	0.015
		NPN	Pre-cabled (L = 2 m)	XS1L06NB349	0.025
			M8 connector	XS1L06NB349S	0.010
			M12 connector	XS1L06NB349D	0.015

Ø 8, threaded M8 x 1					
2.5	NO	PNP	Pre-cabled (L = 2 m)	XS1N08PA349	0.035
			M8 connector	XS1N08PA349S	0.015
			M12 connector	XS1N08PA349D	0.020
		NPN	Pre-cabled (L = 2 m)	XS1N08NA349	0.035
			M8 connector	XS1N08NA349S	0.015
			M12 connector	XS1N08NA349D	0.020
	NC	PNP	Pre-cabled (L = 2 m)	XS1N08PB349	0.035
			M8 connector	XS1N08PB349S	0.015
			M12 connector	XS1N08PB349D	0.020
		NPN	Pre-cabled (L = 2 m)	XS1N08NB349	0.035
			M8 connector	XS1N08NB349S	0.015
			M12 connector	XS1N08NB349D	0.020

Ø 12, threaded M12 x 1					
4	NO	PNP	Pre-cabled (L = 2 m)	XS1N12PA349	0.070
			M12 connector	XS1N12PA349D	0.020
		NPN	Pre-cabled (L = 2 m)	XS1N12NA349	0.070
			M12 connector	XS1N12NA349D	0.020
	NC	PNP	Pre-cabled (L = 2 m)	XS1N12PB349	0.070
			M12 connector	XS1N12PB349D	0.020
		NPN	Pre-cabled (L = 2 m)	XS1N12NB349	0.070
			M12 connector	XS1N12NB349D	0.020

Ø 18, threaded M18 x 1					
10	NO	PNP	Pre-cabled (L = 2 m)	XS1N18PA349	0.100
			M12 connector	XS1N18PA349D	0.040
		NPN	Pre-cabled (L = 2 m)	XS1N18NA349	0.100
			M12 connector	XS1N18NA349D	0.040
	NC	PNP	Pre-cabled (L = 2 m)	XS1N18PB349	0.100
			M12 connector	XS1N18PB349D	0.040
		NPN	Pre-cabled (L = 2 m)	XS1N18NB349	0.100
			M12 connector	XS1N18NB349D	0.040

Ø 30, threaded M30 x 1.5					
20	NO	PNP	Pre-cabled (L = 2 m)	XS1N30PA349	0.160
			M12 connector	XS1N30PA349D	0.100
		NPN	Pre-cabled (L = 2 m)	XS1N30NA349	0.160
			M12 connector	XS1N30NA349D	0.100
	NC	PNP	Pre-cabled (L = 2 m)	XS1N30PB349	0.160
			M12 connector	XS1N30PB349D	0.100
		NPN	Pre-cabled (L = 2 m)	XS1N30NB349	0.160
			M12 connector	XS1N30NB349D	0.100

Accessories (1)			
Description mm		Reference	Weight kg
Fixing clamps	Ø 6.5 (plain)	XSZB165	0.005
	Ø 8	XSZB108	0.006
	Ø 12	XSZB112	0.006
	Ø 18	XSZB118	0.010
	Ø 30	XSZB130	0.020

(1) For further information, see page 122.

Inductive proximity sensors

OsiSense XS, general purpose

Cylindrical, almost flush mountable, increased range

Three-wire DC, solid-state output

Characteristics		XS1.....349D	XS1.....349S	XS1.....349
Sensor type		UL, CSA, CE		
Product certifications		UL, CSA, CE		
Connection		M12 connector	M8 connector	Pre-cabled, length: 2 m
Operating zone	Ø 6.5 and Ø 8	mm	0...2	
	Ø 12	mm	0...3.2	
	Ø 18	mm	0...8	
	Ø 30	mm	0...16	
Differential travel		%	1...15 of effective sensing distance (Sr)	
Degree of protection	Conforming to IEC 60529	IP 67		IP 68, double insulation (except Ø 6.5 and Ø 8: IP 67)
	Conforming to DIN 40050	IP 69K for Ø 12 to Ø 30		
Storage temperature		°C	- 40...+ 85	
Operating temperature		°C	- 25...+ 70	
Materials	Case	Nickel plated brass		
	Cable	-		
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		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	Ø 6.5, Ø 8 and Ø 12	Hz	2500	
	Ø 18	Hz	1000	
	Ø 30	Hz	500	
Delays	First-up	ms	≤ 5	
	Response	ms	≤ 0.2 for Ø 8 and Ø 12, ≤ 0.3 for Ø 18, ≤ 0.6 for Ø 30	
	Recovery	ms	≤ 0.2 for Ø 8 and Ø 12, ≤ 0.7 for Ø 18, ≤ 1.4 for Ø 30	

Wiring schemes

Connector	Pre-cabled	PNP 3-wire	NPN 3-wire
M8	BU: Blue BN: Brown BK: Black		
M12			

For M8 connector, NO and NC outputs on terminal 4

Setting-up precautions

Sensor	Minimum mounting distances (mm)			
	Side by side	Face to face	Facing a metal object	Mounted in a metal support
Ø 6.5	e ≥ 5	e ≥ 30	e ≥ 7.5	d ≥ 10 h ≥ 1.6
Ø 8	e ≥ 5	e ≥ 30	e ≥ 7.5	d ≥ 10 h ≥ 1.6
Ø 12	e ≥ 8	e ≥ 48	e ≥ 12	d ≥ 14 h ≥ 2.4
Ø 18	e ≥ 20	e ≥ 96	e ≥ 30	d ≥ 28 h ≥ 3.6
Ø 30	e ≥ 40	e ≥ 240	e ≥ 60	d ≥ 50 h ≥ 6

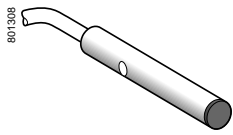
Dimensions

Sensor	Flush mountable in metal					
	Pre-cabled		M8 connector		M12 connector	
	a	b	a	b	a	b
Ø 6.5	33	-	42	-	45	-
Ø 8	33	25	42	26	45	23
Ø 12	35	25	-	-	50	30
Ø 18	39	28	-	-	50	28
Ø 30	43	32	-	-	55	32

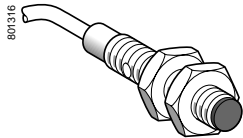
Inductive proximity sensors

OsiSense XS, general purpose

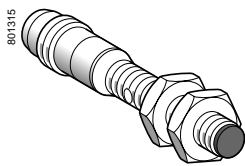
Miniature, cylindrical, flush and non flush mountable
Three-wire DC, solid-state output



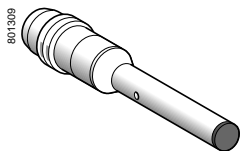
XS1L04●●310



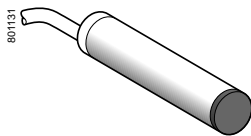
XS1N05●●310



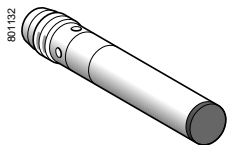
XS1N05●●311S



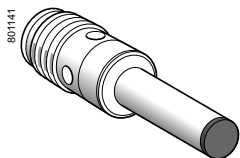
XS1L04●●310S



XS●L06●●340



XS●L06●●340S
XS●L06●●349S



XS●L06●●340D

Ø 4 plain (1)

Sensing distance (Sn) mm	Function	Output	Connection (2)	Reference	Weight kg
Brass case, flush mountable					
1	NO	PNP	Pre-cabled (L = 2 m)	XS1L04PA310	0,025
			M8 connector	XS1L04PA310S	0,010
	NPN	PNP	Pre-cabled (L = 2 m)	XS1L04NA310	0,025
			M8 connector	XS1L04NA310S	0,010
	NC	PNP	Pre-cabled (L = 2 m)	XS1L04PB310	0,025
			M8 connector	XS1L04PB310S	0,010
NPN	PNP	Pre-cabled (L = 2 m)	XS1L04NB310	0,025	
		M8 connector	XS1L04NB310S	0,010	

Stainless steel case, flush mountable

0,8	NO	PNP	Pre-cabled (L = 2 m)	XS1L04PA311	0,025
			M8 connector	XS1L04PA311S	0,010
	NPN	PNP	Pre-cabled (L = 2 m)	XS1L04NA311	0,025
			M8 connector	XS1L04NA311S	0,010
	NC	PNP	Pre-cabled (L = 2 m)	XS1L04PB311	0,025
			M8 connector	XS1L04PB311S	0,010
NPN	PNP	Pre-cabled (L = 2 m)	XS1L04NB311	0,025	
		M8 connector	XS1L04NB311S	0,010	

Ø 5, threaded M5 x 0.5 (1)

Sensing distance (Sn) mm	Function	Output	Connection (2)	Reference	Weight kg
Brass case, flush mountable					
1	NO	PNP	Pre-cabled (L = 2 m)	XS1N05PA310	0,030
			NPN	Pre-cabled (L = 2 m)	XS1N05NA310
	NC	PNP	Pre-cabled (L = 2 m)	XS1N05PB310	0,030
			NPN	Pre-cabled (L = 2 m)	XS1N05NB310
Stainless steel case, flush mountable					
0,8	NO	PNP	Pre-cabled (L = 2 m)	XS1N05PA311	0,030
			M8 connector	XS1N05PA311S	0,015
	NPN	PNP	Pre-cabled (L = 2 m)	XS1N05NA311	0,030
			M8 connector	XS1N05NA311S	0,015
	NC	PNP	Pre-cabled (L = 2 m)	XS1N05PB311	0,030
			M8 connector	XS1N05PB311S	0,015
NPN	PNP	Pre-cabled (L = 2 m)	XS1N05NB311	0,030	
		M8 connector	XS1N05NB311S	0,015	

Ø 6.5 plain (1)

Sensing distance (Sn) mm	Function	Output	Connection (2)	Reference	Weight kg	
Stainless steel case, non flush mountable						
2,5	NO	PNP	Pre-cabled (L = 2 m)	XS2L06PA340	0,025	
			M8 connector	XS2L06PA340S	0,010	
			M12 connector	XS2L06PA340D	0,015	
			NPN	Pre-cabled (L = 2 m)	XS2L06NA340	0,025
				M8 connector	XS2L06NA340S	0,010
				M12 connector	XS2L06NA340D	0,015
	NC	PNP	Pre-cabled (L = 2 m)	XS2L06PB340	0,025	
			M8 connector	XS2L06PB340S	0,010	
			M12 connector	XS2L06PB340D	0,015	
			NPN	Pre-cabled (L = 2 m)	XS2L06NB340	0,025
				M8 connector	XS2L06NB340S	0,010
				M12 connector	XS2L06NB340D	0,015

(1) For accessories, see page 122.

(2) For a 5 m long cable add **L1** to the reference; for a 10 m long cable add **L2** to the reference.
Example: **XS1L04PA310** becomes **XS1L04PA310L1** with a 5 m long cable.

Inductive proximity sensors

OsiSense XS, general purpose

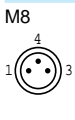

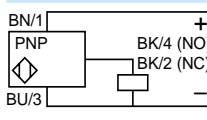
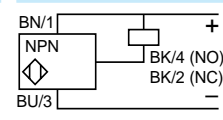
Miniature, cylindrical, flush and non flush mountable

Three-wire DC, solid-state output

Characteristics		Sensor type	
Sensor type		XS1●●●●●●●●S, XS1●●●●●●●●D, XS2L06●A340●	XS1●●●●●●●●, XS2L06●A340
Product certifications		UL, CSA, CE	
Connection (1)	Connector	M8 on XS1●●●●●●●●S and M12 on XS1●●●●●●●●D	–
	Pre-cabled	–	Length: 2 m
Operating zone	∅ 4	mm	0...0.8 (brass), 0...0.6 (stainless steel)
	∅ 5	mm	0...0.8 (brass), 0...0.6 (stainless steel)
	∅ 6.5 non flush mountable	mm	0...2 (stainless steel)
Degree of protection	Conforming to IEC 60529	IP 67	
Storage temperature		°C	- 40...+ 85
Operating temperature		°C	- 25...+ 70
Materials	Case	Nickel plated brass or stainless steel 303	
	Cable	PvR 3 x 0.11 mm ² or 4 x 0.08 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, 4 viewing ports at 90°	Yellow LED, annular
Rated supply voltage		V	--- 5...24 for XS1L04●●●●●●●● and XS1N05●●●●●●●● --- 12...24 for XS2L06●●●●●●●●
Voltage limits (including ripple)		V	--- 5...30 for XS1L04●●●●●●●● and XS1N05●●●●●●●● --- 10...38 for XS2L06●●●●●●●●
Current consumption, no-load		mA	≤ 10
Switching capacity	3-wire PNP/NPN	mA	≤ 100 with overload and short-circuit protection ≤ 200 for XS2L06 with overload and short-circuit protection
Voltage drop, closed state		V	≤ 2
Maximum switching frequency		kHz	5
Delays	First-up	ms	≤ 5
	Response	ms	≤ 0.1
	Recovery	ms	≤ 0.1

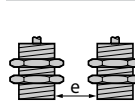
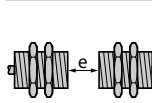
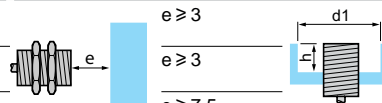
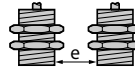
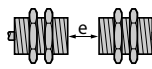
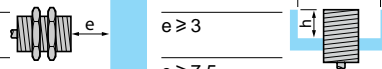
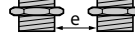
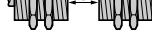
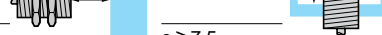
(1) Detection curves, see page 126

Wiring schemes

Connector	Pre-cabled	PNP 3-wire	NPN 3-wire
M8 	M12 		
BU: Blue BN: Brown BK: Black WH: White			

For M8 connector, NO and NC outputs on terminal 4.

Setting-up

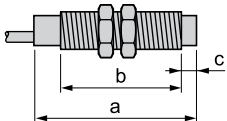
Sensor	Side by side	Face to face	Facing a metal object
∅ 4	 e ≥ 2	 e ≥ 12	 e ≥ 3, d1 ≥ 4, h ≥ 0
∅ 5	 e ≥ 2	 e ≥ 12	 e ≥ 3, d1 ≥ 5, h ≥ 0
∅ 6.5	 e ≥ 5	 e ≥ 30	 e ≥ 7.5, d1 ≥ 10, h ≥ 4

Tightening torque

Stainless steel: 2.2 N.m. Brass: 1.6 N.m (values obtained with washers mounted)

Dimensions

Sensor	Pre-cabled			M8 connector			M12 connector		
	a	b	c	a	b	c	a	b	c
∅ 4	28	–	–	42	–	–	–	–	–
∅ 5	28	24	–	42	24	–	–	–	–
∅ 6.5	33	–	4	46	–	4	49	–	4



Inductive proximity sensors

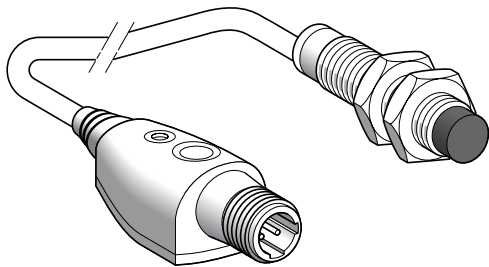
OsiSense XS Application

Adjustable range sensors

Cylindrical, flush mountable and non flush mountable

Three-wire DC, solid-state output

520030



XS6●●B2●●L01M12

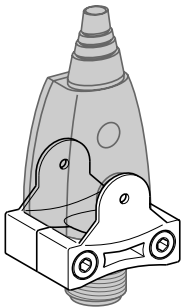
Ø 12, threaded M12 x 1

Sensing distance (Sn) mm	Function	Output	Connection	Reference	Weight kg
5	NO	PNP	Remote M12 connector on 0.15 m flying lead	XS612B2PAL01M12	0.100
		NPN	Remote M12 connector on 0.15 m flying lead	XS612B2NAL01M12	0.100
	NC	PNP	Remote M12 connector on 0.15 m flying lead	XS612B2PBL01M12	0.100
		NPN	Remote M12 connector on 0.15 m flying lead	XS612B2NBL01M12	0.100

Ø 18, threaded M18 x 1

Sensing distance (Sn) mm	Function	Output	Connection	Reference	Weight kg
9	NO	PNP	Remote M12 connector on 0.15 m flying lead	XS618B2PAL01M12	0.140
		NPN	Remote M12 connector on 0.15 m flying lead	XS618B2NAL01M12	0.140
	NC	PNP	Remote M12 connector on 0.15 m flying lead	XS618B2PBL01M12	0.140
		NPN	Remote M12 connector on 0.15 m flying lead	XS618B2NBL01M12	0.140

520031

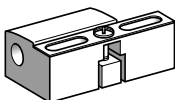


XSZBPM12

Ø 30, threaded M30 x 1.5

Sensing distance (Sn) mm	Function	Output	Connection	Reference	Weight kg
18	NO	PNP	Remote M12 connector on 0.15 m flying lead	XS630B2PAL01M12	0.220
		NPN	Remote M12 connector on 0.15 m flying lead	XS630B2NAL01M12	0.220
	NC	PNP	Remote M12 connector on 0.15 m flying lead	XS630B2PBL01M12	0.220
		NPN	Remote M12 connector on 0.15 m flying lead	XS630B2NBL01M12	0.220

825994



XSZB●●●

Accessories (1)

Description	Reference	Weight kg
Remote control fixing clamp	XSZBPM12	0.015
Sensor fixing clamps	Ø 12	XSZB112
	Ø 18	XSZB118
	Ø 30	XSZB130

(1) For further information, see page 122.

Inductive proximity sensors

OsiSense XS Application

Adjustable range sensors

Cylindrical, flush mountable and non flush mountable

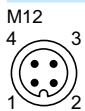
Three-wire DC, solid-state output

Characteristics

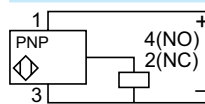
Sensor type		XS6●●B2●●L01M12	
Product certifications		UL, CSA, CE	
Connection	Connector	Remote M12 connector on 0.15 m flying lead	
Sensing distance and adjustment zone	Ø 12	Nominal sensing distance (Sn)	mm 0...5 non flush mounted / 0...3.4 flush mounted
		Precision adjustment zone	mm 1.7...5 non flush mounted / 1.7...3.4 flush mounted
	Ø 18	Nominal sensing distance (Sn)	mm 0...9 non flush mounted / 0...6 flush mounted
		Precision adjustment zone	mm 3...9 non flush mounted / 3...6 flush mounted
	Ø 30	Nominal sensing distance (Sn)	mm 0...18 non flush mounted / 0...11 flush mounted
		Precision adjustment zone	mm 6...18 non flush mounted / 6...11 flush mounted
Differential travel		%	
Degree of protection		Conforming to IEC 60529 IP 67, \square	
Storage temperature		°C -40...+85	
Operating temperature		°C -25...+70	
Materials	Case	Nickel plated brass	
	Remote control	PBT	
	Cable	PvR - Ø 4.2 mm	
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	
Indicators	Output state	Yellow LED	
	Supply on and teach mode	Green LED	
Rated supply voltage		V $\overline{\text{---}}$ 12...24 with protection against reverse polarity	
Voltage limits (including ripple)		V $\overline{\text{---}}$ 10...36	
Switching capacity		mA \leq 100 with overload and short-circuit protection	
Voltage drop, closed state		V \leq 2	
Current consumption, no-load		mA \leq 10	
Maximum switching frequency		Hz 1000	
Delays	First-up	ms \leq 10	
	Response	ms \leq 0.3	
	Recovery	ms \leq 0.7	

Wiring schemes

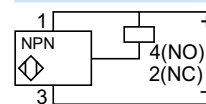
Connector



PNP

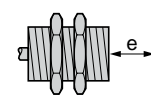
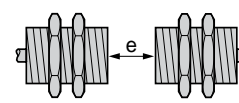
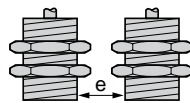


NPN



Setting-up

Minimum mounting distances (mm)



Side by side

	flush mounted	not flush mounted
Ø 12	e ≥ 14	50
Ø 18	e ≥ 28	100
Ø 30	e ≥ 48	180

Face to face

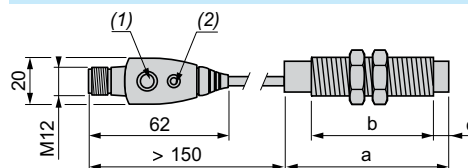
	flush mounted	not flush mounted
Ø 12	e ≥ 50	100
Ø 18	e ≥ 100	200
Ø 30	e ≥ 180	360

Facing a metal object

Ø 12	e ≥ 3.4
Ø 18	e ≥ 6
Ø 30	e ≥ 11

Dimensions

XS6



(1) Teach mode button
(2) LED

Connector (mm)

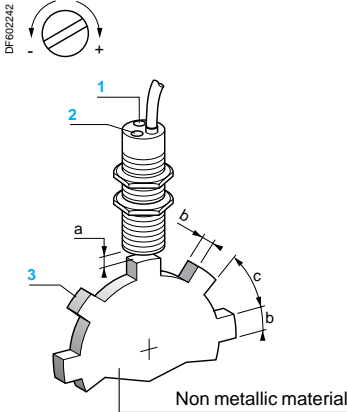
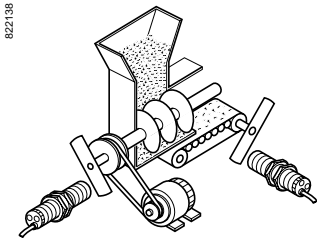
	a	b	c
Ø 12	59	42	5
Ø 18	64	44	8
Ø 30	62.6	41	13

Inductive proximity sensors

OsiSense XS Application

Sensors for rotation monitoring, slip detection, shaft overload detection
Cylindrical form

Example:
Coupling breakage monitoring



Functions

These self-contained rotation speed monitoring sensors have the special feature of incorporating, in the same case, the pulse sensing and processing electronics as well as the output switching amplifier that are required to establish an integrated rotation monitoring device.

The unit provides an economical solution for detecting slip, belt breakage, drive shaft shear and overloading, etc., in the following applications: conveyor belts, bucket elevators, Archimedian screws, grinders, crushers, pumps, centrifugal driers, mixers, etc.

Operating principle

The output signal of this type of sensor is processed by an impulse comparator incorporated in the sensor. The impulse frequency F_c generated by the moving part to be monitored is compared to the frequency F_r preset on the sensor. The output switching circuit of the sensor is in the closed state for $F_c > F_r$ and the open state for $F_c < F_r$.

Sensors XSAV are particularly suitable for the detection of underspeed: when the speed of the moving part F_c falls below a preset threshold F_r , this causes the output circuit of the sensor to switch off.

Note: Following power-up, the operational status of the sensor is subject to a delay of 9 seconds in order for the moving part being monitored to run-up to its nominal speed. During this time, the output of the sensor remains in the closed state.

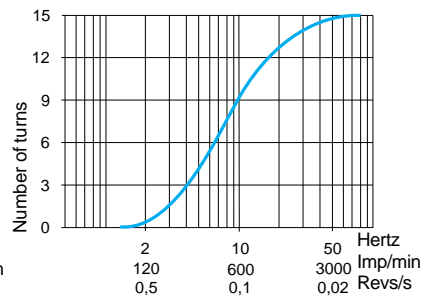
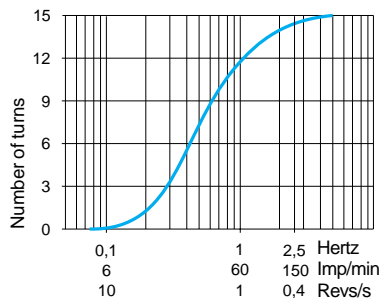
Adjustment of frequency threshold

- Adjustment of sensor's frequency threshold: using potentiometer, 15 turns approximately.
- To increase the frequency threshold: turn the adjustment screw clockwise (+).
- To decrease the frequency threshold: turn the adjustment screw anti-clockwise (-).

1: Potentiometer	Diameter of sensor		
2: LED	a	b	c
3: Metal target	M30	4...6 mm	30 mm
			60 mm

Potentiometer adjustment curves (for XSAV1●801, 2-wire ~ or --- sensors)

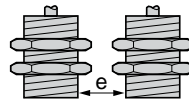
Low speed version (6...150 impulses/minute) High speed version (120...3000 impulses/minute)



Setting-up

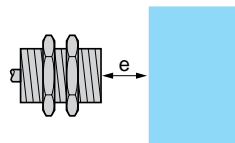
Minimum distances (mm)

Side by side



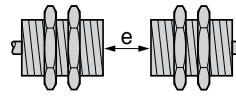
$e \geq 20$

Facing a metal object



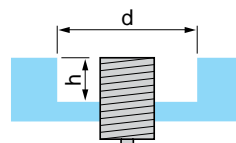
$e \geq 30$

Face to face



$e \geq 120$

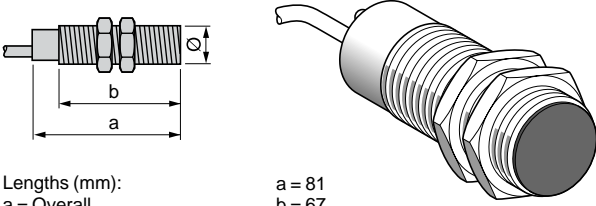
Mounted in a metal support



$d \geq 30, h \geq 0$

Fixing nut tightening torque: < 50 N.m

Flush mountable in metal



Lengths (mm):
a = Overall
b = Threaded section

a = 81
b = 67
Ø = M30

	DC	DC	AC/DC	AC/DC
Nominal sensing distance (Sn)	10 mm	10 mm	10 mm	10 mm
Adjustable frequency range	6...150 impulses/min	120...3000 impulses/min	6...150 impulses/min	120...3000 impulses/min

References

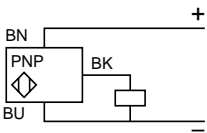
3-wire $\overline{\text{---}}$	PNP / NC	XSAV11373	XSAV12373	–	–
2-wire $\overline{\text{---}}$ or \sim / NC	–	–	–	XSAV11801	XSAV12801
Weight (kg)	0.300				

Characteristics

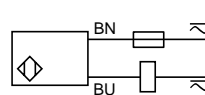
Connection	Pre-cabled, 3 x 0.34 mm ² , length 2 m (1)	Pre-cabled, 2 x 0.34 mm ² , length 2 m (1)
Degree of protection conforming to IEC 60529	IP 67	
Operating zone	0...8 mm	
Repeat accuracy	3 % of Sr	
Differential travel	3...15 % of Fr	
Operating temperature	-25...+70 °C	
Output state indication	Red LED	
Rated supply voltage	$\overline{\text{---}}$ 12...48 V with protection against reverse polarity	\sim 24...240 V (50/60 Hz) or $\overline{\text{---}}$ 24...210 V
Voltage limits (including ripple)	$\overline{\text{---}}$ 10...58 V	\sim or $\overline{\text{---}}$ 20...264 V
Switching capacity	≤ 200 mA with overload and short-circuit protection	\sim 5...350 mA or $\overline{\text{---}}$ 5...200 mA (2)
Voltage drop, closed state	≤ 1.8 V	≤ 5.7 V
Residual current, open state	–	≤ 1.5 mA
Current consumption, no-load	≤ 15 mA	–
Maximum switching frequency	6000 impulses/min (for XSAV11●●●); 48,000 impulses/min (for XSAV12●●●)	
“Run-up” delay following power-up	9 seconds ± 20 % + 1/Fr (3)	

Wiring schemes

3-wire $\overline{\text{---}}$
XSAV1●373



2-wire \sim or $\overline{\text{---}}$
XSAV1●801



(1) For a 5 m long cable add L05 to the reference, for a 10 m long cable add L10 to the reference.

Example: XSAV11373 becomes XSAV11373L05 with a 5 m long cable.

(2) These sensors do not incorporate overload or short-circuit protection and therefore, it is essential to connect a 0.4 A “quick-blow” fuse in series with the load, see page 122.

(3) For a sensor without a “run-up” delay following power-up, replace XSAV1 in the reference by XSAV0. Example: XSAV11801 becomes XSAV01801 without a “run-up” delay. For a reduced “run-up” delay of 3 s, replace XSAV1 in the reference by XSAV3.

Inductive proximity sensors

OsiSense XS Application

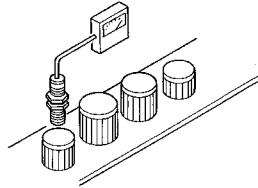
Sensors with analogue output signal 0...10 V ⁽¹⁾

or 4...20 mA

For position, displacement and deformation control/monitoring

Functions

Example:
Sorting parts



These analogue output proximity sensors are solid-state sensors designed for monitoring displacement. They are not measuring sensors. They are suitable for use in many sectors, particularly for applications involving:

- deformation and displacement monitoring,
- vibration amplitude and frequency monitoring,
- control of dimensional tolerances,
- position control,
- concentricity or eccentricity monitoring.

Operating principle

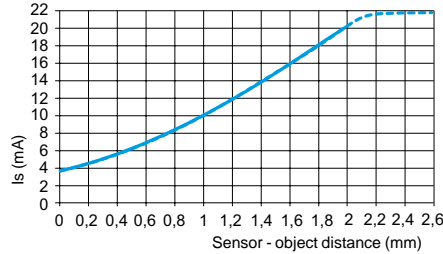
The operating principle of the sensor is that of a damped oscillator. The degree of damping will depend on the distance of an object from the sensing face. The sensor will sense the distance and produce an output current with a value directly proportional to this distance.

Output curves 4..0.20 mA, 2-wire connection

XS1M12AB120

Sn = 0.2...2 mm

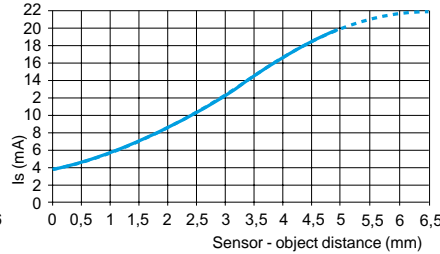
Ø 12 mm



XS1M18AB120

Sn = 0.5...5 mm

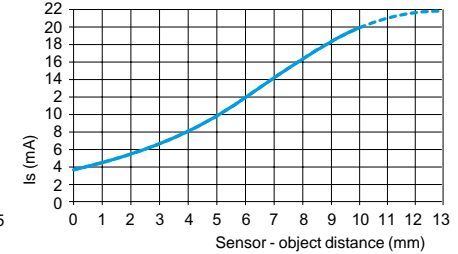
Ø 18 mm



XS1M30AB120

Sn = 1...10 mm

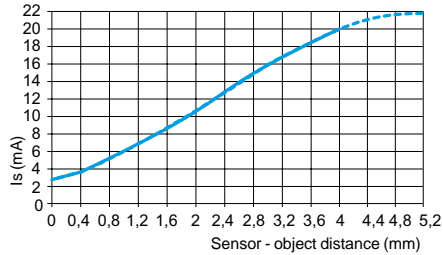
Ø 30 mm



XS4P12AB120

Sn = 0.4...4 mm

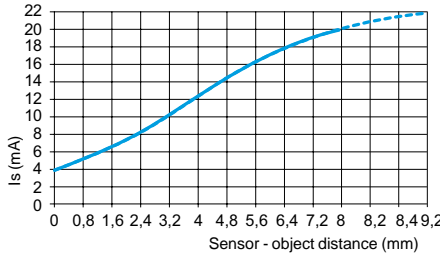
Ø 12 mm



XS4P18AB120

Sn = 0.8...8 mm

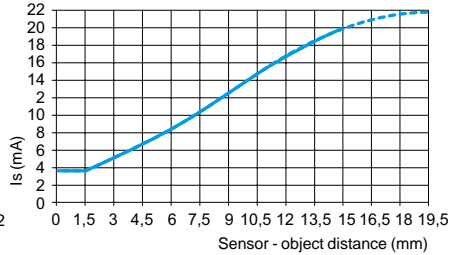
Ø 18 mm



XS4P30AB120

Sn = 1.5...15 mm

Ø 30 mm

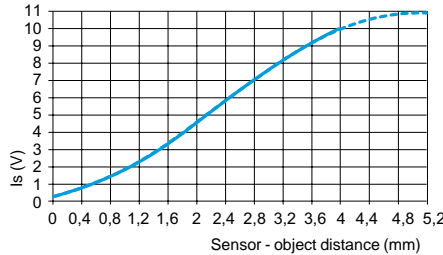


Output curves 0...10 V, 3-wire connection

XS4P12AB110

Sn = 0.4...4 mm

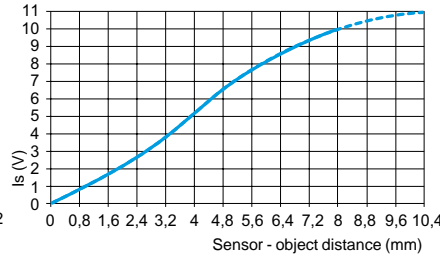
Ø 12 mm



XS4P18AB110

Sn = 0.8...8 mm

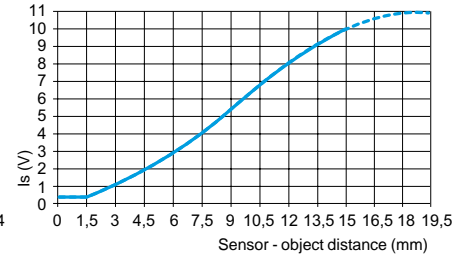
Ø 18 mm



XS4P30AB110

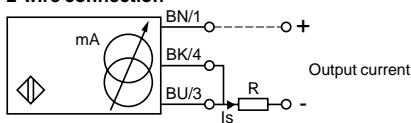
Sn = 1.5...15 mm

Ø 30 mm

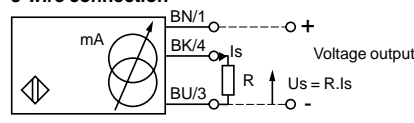


Wiring schemes

2-wire connection



3-wire connection



Output current	Load impedance value
12 V	4...20 mA
24 V	4...20 mA
	$R \leq 8.2 \Omega$
	$R \leq 470 \Omega$

Ensure a minimum of 10 V between the + and the - (terminal 3) of the sensor.

Output current	Load impedance value	Output voltage	Load impedance value
24 V	0...10 mA	0...10 V	$R = 1000 \Omega$
48 V	0...10 mA	0...10 V	$R = 1000 \Omega$

Ensure a minimum of 5 V between the + and the sensor output (terminal 4).

(1) Voltage range only obtained with a load impedance of 1000 Ω.

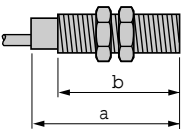
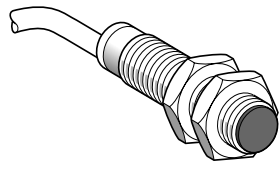
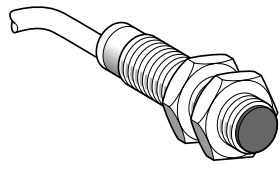
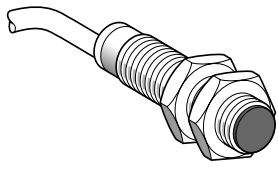
Inductive proximity sensors

OsiSense XS Application

Sensors with analogue output signal 0...10 V ⁽¹⁾

or 4...20 mA

For position, displacement and deformation control/monitoring

Sensor	Flush mountable in metal	Non flush mountable in metal	
			
Lengths (mm): a = Overall b = Threaded section	a = 50 b = 42	a = 50 b = 42	a = 54 b = 42
Nominal sensing distance (Sn)	Metal case 2 mm	Plastic case 4 mm	Plastic case 4 mm

References

3-wire --- Output 0...10 V (2)	–	–	XS4P12AB110
2-wire --- Output 4...20 mA (2)	XS1M12AB120	XS4P12AB120	–
Weight (kg)	0.075	0.065	0.065

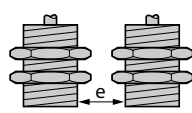
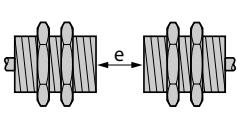
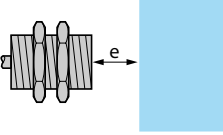
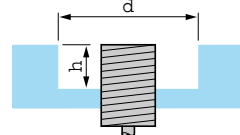
Characteristics

Product certifications	CE, UL, CSA		
Connection	Pre-cabled, PvR 3 x 0.34 mm ² , length 2 m		
Degree of protection Conforming to IEC 60529	IP 67		
Operating zone	0.2...2 mm	0.4...4 mm	0.4...4 mm
Repeat accuracy	± 3 %		
Linearity error	± 2 mA		± 1 V
Ambient air temperature	For operation: - 25...+ 70 °C		
Rated supply voltage	--- 12...24 V	--- 12...24 V	--- 24...48 V
Voltage limits (including ripple)	--- 10...36 V	--- 10...36 V	--- 15...58 V
Output current drift Ambient temperature: - 25...+ 70 °C	≤ 10 %		
Current consumption, no-load	4 mA		
Maximum operating rate	1500 Hz		

(1) Voltage range only obtained with a load impedance of 1000 Ω.

(2) Output current range Is, see page 84.

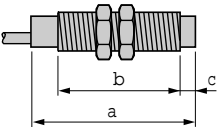
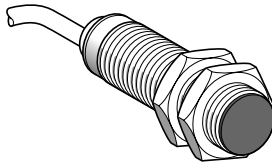
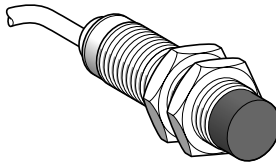
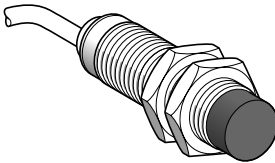
Setting-up

Minimum mounting distances (mm)	Side by side	Face to face	Facing a metal object	Mounted in a metal support
				
XS1M12AB120 flush mountable	e ≥ 4	e ≥ 24	e ≥ 6	d ≥ 12, h ≥ 0
XS4P12AB110 non flush mountable	e ≥ 16	e ≥ 48	e ≥ 12	d ≥ 36, h ≥ 8
XS4P12AB120 non flush mountable	e ≥ 16	e ≥ 48	e ≥ 12	d ≥ 36, h ≥ 8
Fixing nut tightening torque	< 6 N.m (metal case), < 2 N.m (plastic case)			
Other versions	Please consult our Customer Care Centre.			

Inductive proximity sensors

OsiSense Application

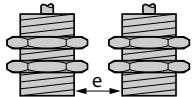
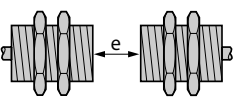
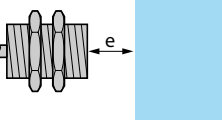
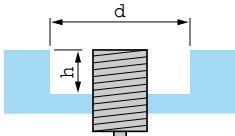
Sensors with analogue output signal 0...10 V ⁽¹⁾
or 4...20 mA

Sensor	Flush mountable in metal	Non flush mountable in metal	
			
Lengths (mm): a = Overall b = Threaded section c = For non flush mountable sensors	a = 53 b = 44 c = 0	a = 41 b = 26 c = 8	a = 41 b = 26 c = 8
Nominal sensing distance (Sn)	Metal case 5 mm	Plastic case 8 mm	Plastic case 8 mm

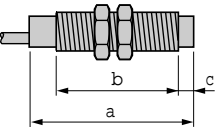
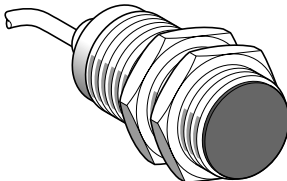
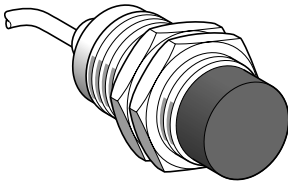
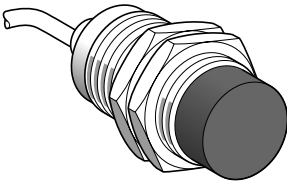
References			
3-wire $\overline{\text{---}}$ Output 0...10 V (2)	–	–	XS4P18AB110
2-wire $\overline{\text{---}}$ Output 4...20 mA (2)	XS1M18AB120	XS4P18AB120	–
Weight (kg)	0.120	0.080	0.080

Characteristics			
Product certifications	CE, UL, CSA		
Connection	Pre-cabled, PvR 3 x 0.34 mm ² , length 2 m		
Degree of protection Conforming to IEC 60529	IP 67		
Operating zone	0.5...5 mm	0.8...8 mm	0.8...8 mm
Repeat accuracy	± 3 %		
Linearity error	± 2 mA		± 1 V
Ambient air temperature	For operation: - 25...+ 70 °C		
Rated supply voltage	$\overline{\text{---}}$ 12...24 V	$\overline{\text{---}}$ 12...24 V	$\overline{\text{---}}$ 24...48 V
Voltage limits (including ripple)	$\overline{\text{---}}$ 10...36 V	$\overline{\text{---}}$ 10...36 V	$\overline{\text{---}}$ 15...58 V
Output current drift Ambient temperature: - 25...+ 70 °C	≤ 10 %		
Current consumption, no-load	4 mA		
Maximum operating rate	500 Hz		

(1) Voltage range only obtained with a load impedance of 1000 Ω.
(2) Output current range is, see page 84.

Setting-up				
Minimum mounting distances (mm)	Side by side	Face to face	Facing a metal object	Mounted in a metal support
				
XS1M18AB120 flush mountable	e ≥ 10	e ≥ 60	e ≥ 15	d ≥ 18, h ≥ 0
XS4P18AB110 non flush mountable	e ≥ 32	e ≥ 96	e ≥ 24	d ≥ 54, h ≥ 16
XS4P18AB120 non flush mountable	e ≥ 32	e ≥ 96	e ≥ 24	d ≥ 54, h ≥ 16

Fixing nut tightening torque	< 15 N.m (metal case), < 5 N.m (plastic case)
Other versions	Please consult our Customer Care Centre.

Sensor	Flush mountable in metal	Non flush mountable in metal	
			
Lengths (mm): a = Overall b = Threaded section c = For non flush mountable sensors	a = 50 b = 42 c = 0	a = 53 b = 32 c = 13	a = 53 b = 32 c = 13
Nominal sensing distance (Sn)	Metal case 10 mm	Plastic case 15 mm	Plastic case 15 mm

References

3-wire --- Output 0...10 V (2)	–	–	XS4P30AB110
2-wire --- Output 4...20 mA (2)	XS1M30AB120	XS4P30AB120	–
Weight (kg)	0.200	0.100	0.100

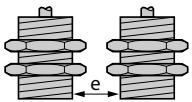
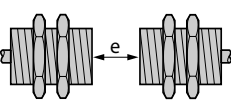
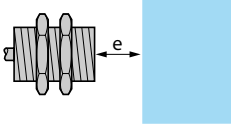
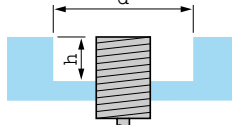
Characteristics

Product certifications	CE, UL, CSA		
Connection	Pre-cabled, PvR 3 x 0.34 mm ² , length 2 m		
Degree of protection Conforming to IEC 60529	IP 67		
Operating zone	1...10 mm	1.5...15 mm	1.5...15 mm
Repeat accuracy	± 3 %		
Linearity error	± 2 mA		± 1 V
Ambient air temperature	For operation: - 25...+ 70 °C		
Rated supply voltage	--- 12...24 V	--- 12...24 V	--- 24...48 V
Voltage limits (including ripple)	--- 10...36 V	--- 10...36 V	--- 15...58 V
Output current drift Ambient temperature: - 25...+ 70 °C	≤ 10 %		
Current consumption, no-load	4 mA		
Maximum operating rate	300 Hz		

(1) Voltage range only obtained with a load impedance of 1000 Ω.

(2) Output current range Is, see page 84.

Setting-up

Minimum mounting distances (mm)	Side by side	Face to face	Facing a metal object	Mounted in a metal support
				
XS1M30AB120 flush mountable	e ≥ 20	e ≥ 120	e ≥ 30	d ≥ 30, h ≥ 0
XS4P30AB110 non flush mountable	e ≥ 60	e ≥ 180	e ≥ 45	d ≥ 90, h ≥ 30
XS4P30AB120 non flush mountable	e ≥ 60	e ≥ 180	e ≥ 45	d ≥ 90, h ≥ 30

Fixing nut tightening torque < 40 N.m (metal case), < 20 N.m (plastic case)

Other versions Please consult our Customer Care Centre.

Inductive proximity sensors

OsiSense XS Application

Sensors with analogue output signal 0...10 V (1)

For position, displacement and deformation control/monitoring

Functions

These analogue output proximity sensors are solid-state sensors designed for monitoring displacement. They are not measuring sensors.

They are suitable for use in many sectors, particularly for applications involving:

- deformation and displacement monitoring,
- vibration amplitude and frequency monitoring,
- control of dimensional tolerances,
- position control,
- concentricity or eccentricity monitoring.

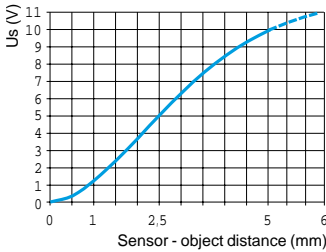
Operating principle

The operating principle of the sensor is that of a damped oscillator. The degree of damping will depend on the distance of an object from the sensing face. The sensor will sense the distance and produce an output current with a value directly proportional to this distance.

Output curves 0...10 V, 3-wire connection

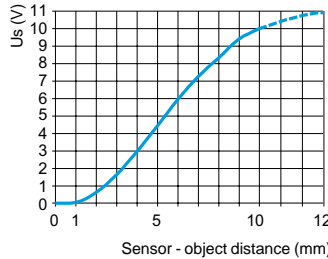
XS9F

Sn = 1...5 mm



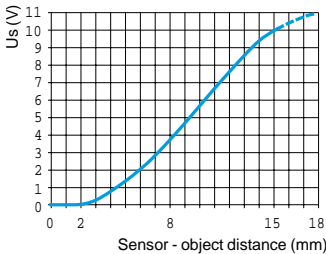
XS9E

Sn = 1...10 mm



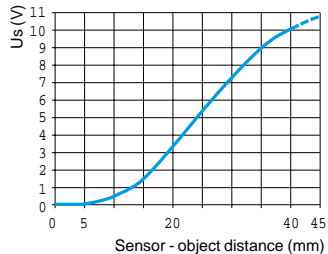
XS9C

Sn = 2...15 mm



XS9D

Sn = 5...40 mm



Wiring schemes

Connector

M8



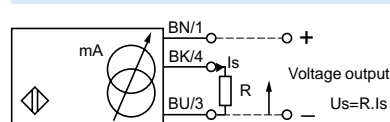
M12



Pre-cabled

BN: Brown
BU: Blue
BK: Black

3-wire connection



	Output current	Load impedance value	Output voltage	Load impedance value
24 V	0...10 mA	$R \leq 1400 \Omega$	0...10 V	$R = 1000 \Omega$

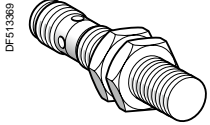
Note: Ensure a minimum of 5 V between the + (terminal 1) and the sensor output (terminal 4).

(1) Voltage range only obtained with a load impedance of 1000 Ω .

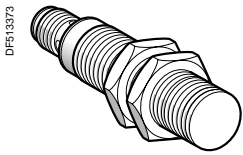
Inductive proximity sensors

OsiSense XS Application

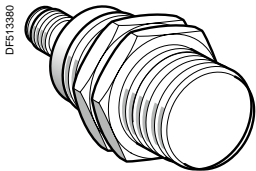
Cylindrical, stainless steel 316L front face for food and beverage applications and harsh industrial environments. Three-wire DC, solid-state output



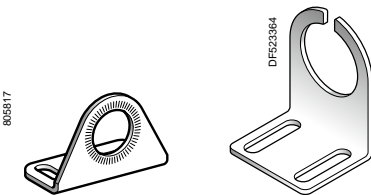
XS912●1PAM12



XS918●1PAM12

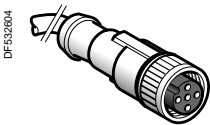


XS930●1PAM12

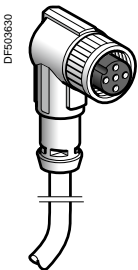


XUZA118

XSZBS30



XZCP1141L●



XZCP1241L●

Ø 12 mm, threaded M12 x 1

Sensing distance (Sn) mm	Function	Output	Connection	Reference	Weight kg
Three-wire 12-24V DC, flush mountable					
6	NO	PNP	M12	XS912S1PAM12	0.024

Three-wire 12-24V DC, non flush mountable

10	NO	PNP	M12	XS912S4PAM12	0.023
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Ø 18 mm, threaded M18 x 1

Sensing distance (Sn) mm	Function	Output	Connection	Reference	Weight kg
Three-wire 12-24V DC, flush mountable					
10	NO	PNP	M12	XS918S1PAM12	0.051

Three-wire 12-24V DC, non flush mountable

20	NO	PNP	M12	XS918S4PAM12	0.051
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Ø 30 mm, threaded M30 x 1.5

Sensing distance (Sn) mm	Function	Output	Connection	Reference	Weight kg
Three-wire 12-24V DC, flush mountable					
20	NO	PNP	M12	XS930S1PAM12	0.140

Three-wire 12-24V DC, non flush mountable

40	NO	PNP	M12	XS930S4PAM12	0.145
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Accessories

Description	For use with sensor	Reference	Weight kg
Stainless steel mounting bracket	Ø 12	XSZBS12	0.090
	Ø 18	XUZA118	0.190
	Ø 30	XSZBS30	0.370

Connecting cables (PVC) (1)

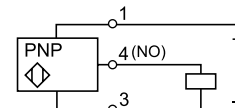
Description	Type	Length m	Reference	Weight kg
Pre-wired M12 connectors Female, 4-pin Stainless steel clamping ring	Straight	2	XZCPA1141L2	0.090
		5	XZCPA1141L5	0.190
		10	XZCPA1141L10	0.370
	Elbowed	2	XZCPA1241L2	0.090
		5	XZCPA1241L5	0.190
		10	XZCPA1241L10	0.370

Wiring schemes

M12 connector



PNP



(1) For further information, please consult the catalogue "Cabling accessories OsiSense XZ" on our site www.tesensors.com.

Inductive proximity sensors

OsiSense XS Application
Cylindrical, stainless steel 316L front face
for food and beverage applications and harsh industrial
environments. Three-wire DC, solid-state output

Characteristics					
Sensor type	Flush		XS912S1PAM12	XS918S1PAM12	XS930S1PAM12
	Non flush		XS912S4PAM12	XS918S4PAM12	XS930S4PAM12
Product certifications			CE, cULus, ECOLAB		
Connection	Connector		M12		
Operating zone	Flush	mm	0...4.8	0...8	0...16
	Non flush	mm	0...8	0...16	0...32
Differential travel		%	1...15 (real sensing distance Sr)		
Degree of protection	Conforming to IEC 60529		IP 68 (5 meters underwater for 1 month)		
	Conforming to DIN 40050		IP 69K		
Storage temperature		°C	-25...+85 (-13...185°F)		
Operating temperature		°C	-25...+85 (-13...185°F)		
Materials	Case		Stainless steel 316L		
Front face thickness		mm	0.4	0.6	1.0
Mechanical shock resistance	Conforming to EN 50102		IK10		
Vibration resistance	Conforming to IEC 60068-2-6		25 gn, amplitude ± 1 mm (f = 10 to 55 Hz)		
Shock resistance	Conforming to IEC 60068-2-27		30 gn, duration 11 ms		
Output state indication			Yellow LED, 4 viewing points at 90° (blinking from 0.8 Sr and Sr)		
Rated supply voltage		V	12...24 with protection against reverse polarity		
Voltage limits (including ripple)		V	10...30		
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	Flush	Hz	600	300	100
	Non flush	Hz	400	200	90
Delays	First set-up	ms	40		
	Response	µs	0.06		
	Recovery	µs	15		

Setting-up

Minimum mounting distances in mm, flush version

Side by side		Face to face	Facing a metal object	Mounted in a metal support
$\frac{\varnothing 12}{\varnothing 18}$	$\frac{e \geq 38}{e \geq 42}$	$\frac{e \geq 30}{e \geq 40}$	$\frac{e \geq 20}{e \geq 30}$	$\frac{d \geq 24}{d \geq 50}$
$\frac{\varnothing 30}{e \geq 80}$	$\frac{e \geq 80}{e \geq 80}$	$\frac{e \geq 70}{e \geq 70}$	$\frac{e \geq 60}{e \geq 60}$	$\frac{d \geq 90}{d \geq 90}$

Minimum mounting distances in mm, non flush version

Side by side		Face to face	Facing a metal object	Mounted in a metal support
$\frac{\varnothing 12}{\varnothing 18}$	$\frac{e \geq 108}{e \geq 182}$	$\frac{e \geq 40}{e \geq 70}$	$\frac{e \geq 30}{e \geq 60}$	$\frac{d \geq 30}{d \geq 60}$
$\frac{\varnothing 30}{e \geq 270}$	$\frac{e \geq 270}{e \geq 270}$	$\frac{e \geq 130}{e \geq 130}$	$\frac{e \geq 120}{e \geq 120}$	$\frac{h \geq 22}{h \geq 34}$
				$\frac{d \geq 120}{d \geq 120}$

Dimensions

	Flush sensor			Non flush sensor		
	M12	M18	M30	M12	M18	M30
a (mm)	60	63.5	63.5	60	63.5	63.5
b (mm)	41	42	42	36	35	32
c (mm)	0	0	0	5	7	10

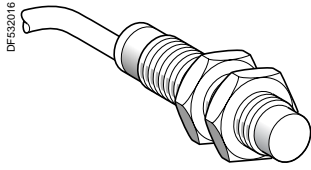
Lengths (mm):
a = overall
b = threaded
c = for non flush mountable sensors

Reduction coefficient

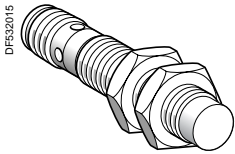
Flush-non mounted	Flush sensor			Non flush sensor		
	M12	M18	M30	M12	M18	M30
Steel	1	1	1	1	1	1
Aluminum	1	1	1	1	1	1
Brass	1.3	1.2	1.3	1.4	1.35	1.2
Copper	0.85	0.8	0.9	0.8	0.9	0.9
Stainless steel	Thickness 1 mm	0.5	0.5	0.35	(1)	(1)
	Thickness 2 mm	0.9	0.9	0.7	0.66	0.6
Flush mounted	M12	M18	M30	(1) No detection.		
Steel	0.7	0.75	0.9			
Aluminum	1.15	0.9	0.7			
Brass	1.05	0.75	0.6			
Stainless steel	0.8	0.8	1.3			

Inductive proximity sensors

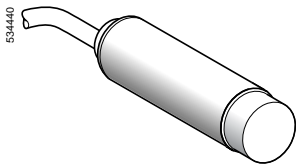
OsiSense XS Application, food and beverage processing series
Cylindrical, stainless steel, non flush mountable
Three-wire DC, solid-state output



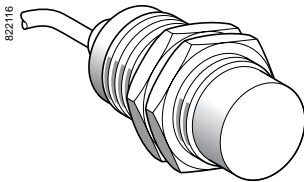
XS212SA●●L2



XS212SA●●M12



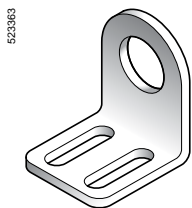
XS2L2SA●●L2



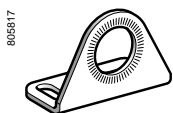
XS230SA●●L2



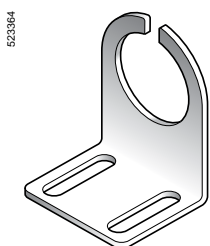
XUZB2005



XSZBS12



XUZA118



XSZBS30

Ø 12, threaded M12 x 1

Sensing distance (Sn) mm	Function	Output	Connection	Reference	Weight kg
7	NO	PNP	Pre-cabled (L = 2 m) (1)	XS212SAPAL2	0.075
			M12 connector	XS212SAPAM12	0.035
		NPN	Pre-cabled (L = 2 m) (1)	XS212SANAL2	0.075
			M12 connector	XS212SANAM12	0.035

Ø 18, threaded M18 x 1

Sensing distance (Sn) mm	Function	Output	Connection	Reference	Weight kg
12	NO	PNP	Pre-cabled (L = 2 m) (1)	XS218SAPAL2	0.120
			M12 connector	XS218SAPAM12	0.060
		NPN	Pre-cabled (L = 2 m) (1)	XS218SANAL2	0.120
			M12 connector	XS218SANAM12	0.060

Ø 18, plain

Sensing distance (Sn) mm	Function	Output	Connection	Reference	Weight kg
12	NO	PNP	Pre-cabled (L = 2 m) (1)	XS2L2SAPAL2	0.120
			M12 connector	XS2L2SAPAM12	0.060
		NPN	Pre-cabled (L = 2 m) (1)	XS2L2SANAL2	0.120
			M12 connector	XS2L2SANAM12	0.060

Ø 30, threaded M30 x 1.5

Sensing distance (Sn) mm	Function	Output	Connection	Reference	Weight kg
22	NO	PNP	Pre-cabled (L = 2 m) (1)	XS230SAPAL2	0.205
			M12 connector	XS230SAPAM12	0.145
		NPN	Pre-cabled (L = 2 m) (1)	XS230SANAL2	0.205
			M12 connector	XS230SANAM12	0.145

Accessories (2)

Description	For use with	Reference	Weight kg
Plastic fixing clamp, 24.1 mm centres, with locking screw	Ø 18 sensor, plain case	XUZB2005	0.007
Stainless steel fixing bracket	Ø 12 sensor	XSZBS12	0.060
	Ø 18 sensor	XUZA118	0.045
	Ø 30 sensor	XSZBS30	0.080

Connecting cables

Description	Type	Length m	Reference	Weight kg
Pre-wired M12 connectors Female, 4-pin, stainless steel clamping ring	Straight	2	XZCPA1141L2	0.090
		5	XZCPA1141L5	0.210
		10	XZCPA1141L10	0.410
	Elbowed	2	XZCPA1241L2	0.090
		5	XZCPA1241L5	0.210
		10	XZCPA1241L10	0.410
M12 jumper cable Male, 3-pin, stainless steel clamping ring	Straight	2	XZCRA151140A2	0.095
		5	XZCRA151140A5	0.200

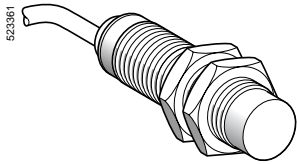
(1) For a 5 m long cable replace L2 by L5; for a 10 m long cable replace L2 by L10.

Example: **XS212SAPAL2** becomes **XS212SAPAL5** with a 5 m long cable.

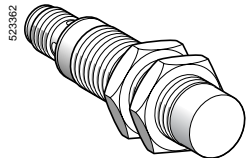
(2) For further information, see page 122.

Inductive proximity sensors

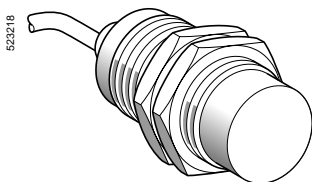
OsiSense Application, food and beverage processing series
Cylindrical, stainless steel, non flush mountable
Two-wire AC or DC



XS218SAM•L2



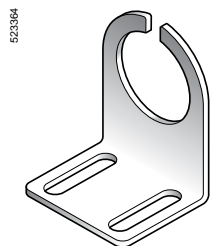
XS218SAM•U20



XS230SAM•L2



XUZA118



XSZBS30

Ø 18, threaded M18 x 1

Sensing distance (Sn) mm	Function	Connection	Reference	Weight kg
12	NO	Pre-cabled (L = 2 m) (1)	XS218SAMAL2	0.120
		1/2"-20UNF connector	XS218SAMAU20	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)	XS230SAMAL2	0.205
		1/2"-20UNF connector	XS230SAMAU20	0.145

Connecting cables

Description	Type	Length m	Reference	Weight kg
Pre-wired connectors 1/2"-20UNF 3-pin female, stainless steel clamping ring	Straight	5	XZCPA1865L5	0.210
		10	XZCPA1865L10	0.410
	Elbowed	5	XZCPA1965L5	0.250
		10	XZCPA1965L10	0.485

Accessories

Description	For use with	Reference	Weight kg
Stainless steel fixing brackets	Ø 18 sensor	XUZA118	0.045
	Ø 30 sensor	XSZBS30	0.080

(1) For a 5 m long cable replace L2 by L5; for a 10 m long cable replace L2 by L10.
Example: **XS218SAMAL2** becomes **XS218SAMAL5** with a 5 m long cable.

Characteristics

Sensor type		XS2●●SAM●U20	XS2●●SAM●L2
Product certifications/approvals		UL, CSA, CE	
Connection	Connector	1/2"-20UNF	-
	Pre-cabled	-	Length: 2 m
Operating zone	Ø 18	mm 0...9.6	
	Ø 30	mm 0...17.6	
Differential travel		%	
		1...15 of effective 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 (1)	
Operating temperature		°C -25...+85	
Materials	Case	Stainless steel 316 L	
	Cable	-	Non-poisonous PVC, 2 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 ~ 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	XS218SAM●●●	Hz ~ 25 or - 1000	
	XS230SAM●●●	Hz ~ 25 or - 300	
Delays	First-up	ms ≤ 30	
	Response	ms ≤ 0.5	
	Recovery	ms ≤ 0.5 XS218SAM●●●, ≤ 2 XS230SAM●●●	

(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

1/2"-20UNF



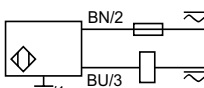
AC/DC: 2
⊕ : 1
AC/DC: 3

Pre-cabled

BU: Blue
BN: Brown

2-wire ~ or -

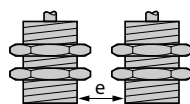
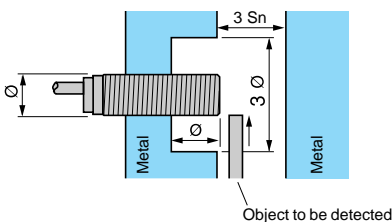
NO output



⊕ : on connector models only

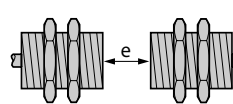
Setting-up

Minimum mounting distances (mm)



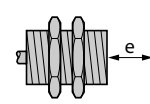
Side by side

Ø 18 e ≥ 72
Ø 30 e ≥ 120



Face to face

e ≥ 144
e ≥ 264

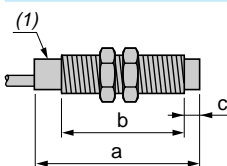


Facing a metal object

e ≥ 36
e ≥ 66

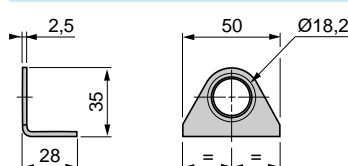
Dimensions

XS2

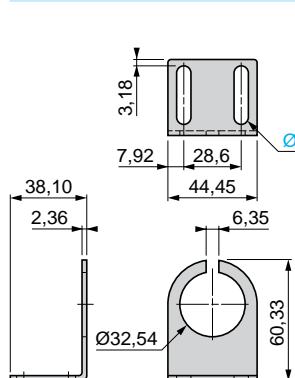


(1) LED

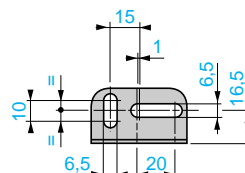
XSZA118



XSZBS30



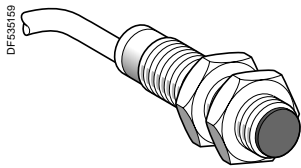
XS2	Pre-cabled (mm)		Connector (mm)		
	a	b	a	b	c
Ø 18	60	40	72	44	8
Ø 30	62.5	41	74	40	13



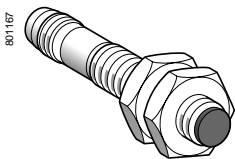
Ø: 2 elongated holes Ø 7.14 x 29.36

Inductive proximity sensors

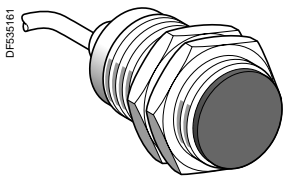
OsiSense Application, food and beverage processing series
Cylindrical, plastic, non flush mountable
Three-wire DC, solid-state output



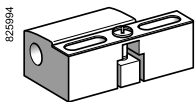
XS2●●AA●●L2



XS2●●AA●●M12



XS230AA●●L2



XSZB●●●

Ø 12, threaded M12 x 1

Sensing distance (Sn) mm	Function	Output	Connection	Reference	Weight kg
7	NO	PNP	Pre-cabled (L = 2 m) (1)	XS212AAPAL2	0.065
			M12 connector	XS212AAPAM12	0.030
		NPN	Pre-cabled (L = 2 m) (1)	XS212AANAL2	0.065
			M12 connector	XS212AANAM12	0.030

Ø 18, threaded M18 x 1

Sensing distance (Sn) mm	Function	Output	Connection	Reference	Weight kg
12	NO	PNP	Pre-cabled (L = 2 m) (1)	XS218AAPAL2	0.100
			M12 connector	XS218AAPAM12	0.040
		NPN	Pre-cabled (L = 2 m) (1)	XS218AANAL2	0.100
			M12 connector	XS218AANAM12	0.040

Ø 30, threaded M30 x 1.5

Sensing distance (Sn) mm	Function	Output	Connection	Reference	Weight kg
22	NO	PNP	Pre-cabled (L = 2 m) (1)	XS230AAPAL2	0.140
			M12 connector	XS230AAPAM12	0.080
		NPN	Pre-cabled (L = 2 m) (1)	XS230AANAL2	0.140
			M12 connector	XS230AANAM12	0.080

Accessories (2)

Description		Reference	Weight kg
Fixing clamps	Ø 12	XSZB112	0.006
	Ø 18	XSZB118	0.010
	Ø 30	XSZB130	0.020

Connecting cables

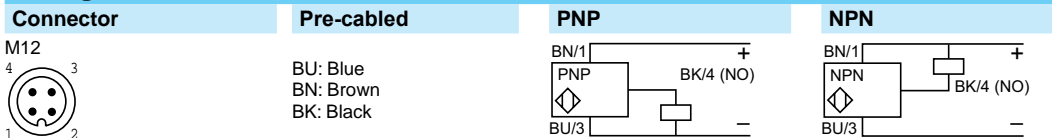
Description	Type	Length m	Reference	Weight kg
Pre-wired M12 connectors Female, 4-pin, stainless steel clamping ring	Straight	2	XZCPA1141L2	0.090
		5	XZCPA1141L5	0.190
		10	XZCPA1141L10	0.370
	Elbowed	2	XZCPA1241L2	0.090
		5	XZCPA1241L5	0.190
		10	XZCPA1241L10	0.370
M12 jumper cable Male, 3-pin, stainless steel clamping ring	Straight	2	XZCRA151140A2	0.090
		5	XZCRA151140A5	0.190

(1) For a 5 m long cable replace L2 by L5; for a 10 m long cable replace L2 by L10.
Example: **XS212AAPAL2** becomes **XS212AAPAL5** with a 5 m long cable.

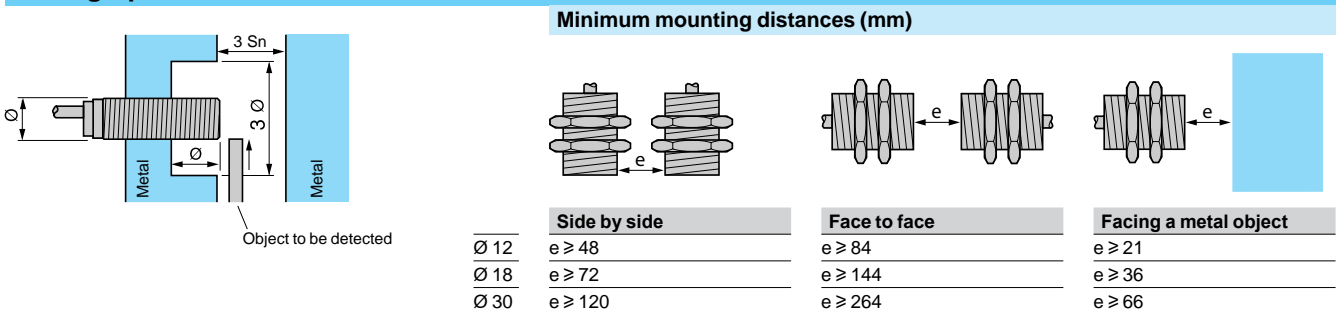
(2) For further information, see page 122.

Characteristics		XS2●●AA●●M12	XS2●●AA●●L2
Sensor type			
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 effective sensing distance (Sr)
Degree of protection	Conforming to IEC 60529	IP 67	
	DIN 40050	IP 69K	
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...+ 85 °C
Voltage limits (including ripple)		V	≈ 10...58 for T - 25...+ 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	XS212AA●●●●	Hz	2500
	XS218AA●●●●	Hz	1000
	XS230AA●●●●	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

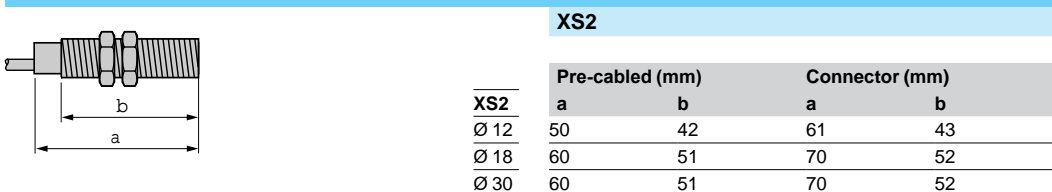
Wiring schemes



Setting-up

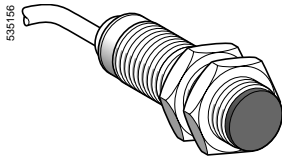


Dimensions

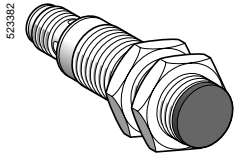


Inductive proximity sensors

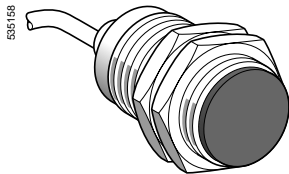
OsiSense XS Application, food and beverage processing series
Cylindrical, plastic, non flush mountable
Two-wire AC or DC



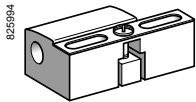
XS218AAM L2



XS230AAM U20



XS230AAM L2



XSZB1

Ø 18, threaded M18 x 1

Sensing distance (Sn) mm	Function	Connection	Reference	Weight kg
12	NO	Pre-cabled (L = 2 m) (1)	XS218AAMAL2	0.100
		1/2"-20UNF connector	XS218AAMAU20	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)	XS230AAMAL2	0.140
		1/2"-20UNF connector	XS230AAMAU20	0.080

Accessories (2)

Description		Reference	Weight kg
Fixing clamps	Ø 18	XSZB118	0.010
	Ø 30	XSZB130	0.020

Connecting cables

Description	Type	Length m	Reference	Weight kg
Pre-wired connectors 1/2"-20UNF 3-pin female, stainless steel 316 L clamping ring	Straight	5	XZCPA1865L5	0.180
		10	XZCPA1865L10	0.350
	Elbowed	5	XZCPA1965L5	0.180
		10	XZCPA1965L10	0.350

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

Example: **XS218AAMAL2** becomes **XS218AAMAL5** with a 5 m long cable.

(2) For further information, see page 122.

Inductive proximity sensors

OsiSense XS Application, food and beverage processing series

Cylindrical, plastic, non flush mountable

Two-wire AC or DC

Characteristics

Sensor type		XS2●●AAM●U20	XS2●●AAM●L2
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 effective 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	XS218AAM●●●	Hz ~ 25 or ≡ 1000	
	XS230AAM●●●	Hz ~ 25 or ≡ 300	
Delays	First-up	ms ≤ 30	
	Response	ms ≤ 0.5	
	Recovery	ms ≤ 0.5 XS218AAM●●●, ≤ 2 XS230AAM●●●	

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

Wiring schemes

Connector

1/2"-20UNF

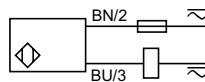


Pre-cabled

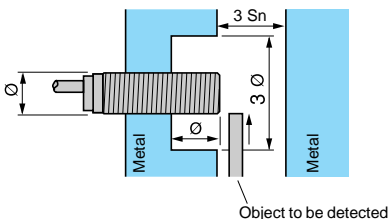
BU: Blue
BN: Brown

2-wire ~ or ≡

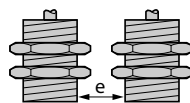
NO output



Setting-up



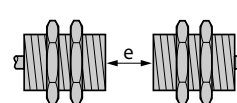
Minimum mounting distances (mm)



Side by side

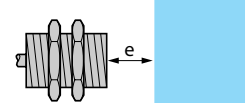
∅ 18
∅ 30

e ≥ 72
e ≥ 120



Face to face

e ≥ 144
e ≥ 264

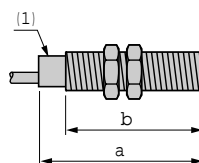


Facing a metal object

e ≥ 36
e ≥ 66

Dimensions

XS2



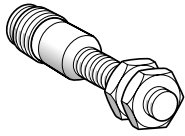
(1) LED

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

Inductive proximity sensors

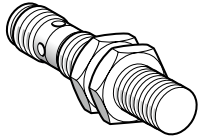
OsiSense XS Application
Cylindrical, stainless steel 303 front face
for harsh industrial environments
Three-wire DC, solid-state output

DF513376



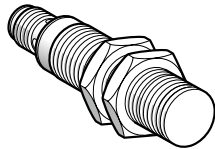
XS908●1PAM12

DF513369



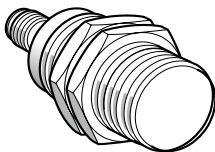
XS912●1PAM12

DF513373



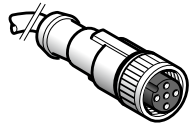
XS918●1PAM12

DF513380



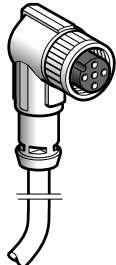
XS930●1PAM12

DF532604



XZCP1141L●

DF503630



XZCP1241L●

Ø 8 mm, threaded M8 x 1

Sensing distance (Sn) mm	Function	Output	Connection	Reference	Weight kg
Three-wire 12-24V \overline{DC}, flush mountable					
3	NO	PNP	M12	XS908R1PAM12	0.018

Three-wire 12-24V \overline{DC} , non flush mountable

6	NO	PNP	M12	XS908R4PAM12	0.018
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Ø 12 mm, threaded M12 x 1

Sensing distance (Sn) mm	Function	Output	Connection	Reference	Weight kg
Three-wire 12-24V \overline{DC}, flush mountable					
6	NO	PNP	M12	XS912R1PAM12	0.024

Three-wire 12-24V \overline{DC} , non flush mountable

10	NO	PNP	M12	XS912R4PAM12	0.023
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Ø 18 mm, threaded M18 x 1

Sensing distance (Sn) mm	Function	Output	Connection	Reference	Weight kg
Three-wire 12-24V \overline{DC}, flush mountable					
10	NO	PNP	M12	XS918R1PAM12	0.044

Three-wire 12-24V \overline{DC} , non flush mountable

20	NO	PNP	M12	XS918R4PAM12	0.051
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Ø 30 mm, threaded M30 x 1.5

Sensing distance (Sn) mm	Function	Output	Connection	Reference	Weight kg
Three-wire 12-24V \overline{DC}, flush mountable					
20	NO	PNP	M12	XS930R1PAM12	0.140

Three-wire 12-24V \overline{DC} , non flush mountable

40	NO	PNP	M12	XS930R4PAM12	0.144
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Connecting cables (PUR) (1)

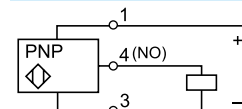
Description	Type	Length m	Reference	Weight kg
Pre-wired M12 connectors Female, 4-pin Metal clamping	Straight	2	XZCP1141L2	0.090
		5	XZCP1141L5	0.190
		10	XZCP1141L10	0.370
	Elbowed	2	XZCP1241L2	0.090
		5	XZCP1241L5	0.190
		10	XZCP1241L10	0.370

Wiring schemes

M12 connector



PNP



(1) For further information, please consult the catalogue "Cabling accessories OsiSense XZ", on our site www.tesensors.com.

Inductive proximity sensors

OsiSense XS Application
Cylindrical, stainless steel 303 front face
for harsh industrial environments
Three-wire DC, solid-state output

Characteristics						
Sensor type	Flush		XS908R1PAM12	XS912R1PAM12	XS918R1PAM12	XS930R1PAM12
	Non flush		XS908R4PAM12	XS912R4PAM12	XS918R4PAM12	XS930R4PAM12
Product certifications			CE, cULus			
Connection	Connector		M12			
Operating zone	Flush	mm	0...2.4	0...4.8	0...8	0...16
	Non flush	mm	0...4.8	0...8	0...16	0...32
Differential travel		%	1...15 (real sensing distance Sr)			
Degree of protection	Conforming to IEC 60529		IP 67	IP 68 (5 meters underwater for 1 month)		
	Conforming to DIN 40050		IP 69K			
Storage temperature		°C	-25...+70 (-13...158°F)			
Operating temperature		°C	-25...+70 (-13...158°F)			
Materials	Case		Stainless steel, 303 grade			
Front face thickness		mm	0.25	0.4	0.6	1.0
Mechanical shock resistance	Conforming to EN 50102		IK10			
Vibration resistance	Conforming to IEC 60068-2-6		25 gn, amplitude ± 1 mm (f = 10 to 55 Hz)			
Shock resistance	Conforming to IEC 60068-2-27		30 gn, duration 11 ms			
Output state indication			Yellow LED, 4 viewing points at 90° (blinking from 0.8 Sr and Sr)			
Rated supply voltage		V	12...24 with protection against reverse polarity			
Voltage limits (including ripple)		V	10...30			
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	Flush	Hz	1000	600	300	100
	Non flush	Hz	700	400	200	90
Delays	First set-up	ms	40			
	Response	µs	0.05	0.06		
	Recovery	µs	23	15		

Setting-up

Minimum mounting distances in mm, flush version

Side by side		Face to face	Facing a metal object	Mounted in a metal support
∅ 8	e ≥ 14	e ≥ 15	e ≥ 10	d ≥ 12
∅ 12	e ≥ 38	e ≥ 30	e ≥ 20	d ≥ 24
∅ 18	e ≥ 42	e ≥ 40	e ≥ 30	d ≥ 50
∅ 30	e ≥ 80	e ≥ 70	e ≥ 60	d ≥ 90

Minimum mounting distances in mm, non flush version

Side by side		Face to face	Facing a metal object	Mounted in a metal support
∅ 8	e ≥ 52	e ≥ 25	e ≥ 20	d ≥ 20 h ≥ 15
∅ 12	e ≥ 108	e ≥ 40	e ≥ 30	d ≥ 30 h ≥ 22
∅ 18	e ≥ 182	e ≥ 70	e ≥ 60	d ≥ 60 h ≥ 34
∅ 30	e ≥ 270	e ≥ 130	e ≥ 120	d ≥ 120 h ≥ 34

Dimensions

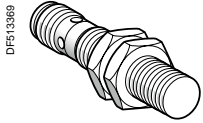
Lengths (mm): a = overall b = threaded c = for non flush mountable sensors	Flush sensor				Non flush sensor			
	M8	M12	M18	M30	M8	M12	M18	M30
a (mm)	66	60	63.5	63.5	66	60	63.5	63.5
b (mm)	46	41	42	42	42	36	35	32
c (mm)	0	0	0	0	4	5	7	10

Reduction coefficient

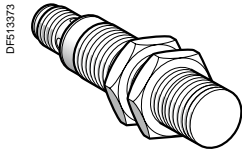
Non flush mounted		Flush sensor				Non flush sensor			
		M8	M12	M18	M30	M8	M12	M18	M30
Steel		1	1	1	1	1	1	1	1
Aluminum		1	1	1	1	1	1	1	1
Brass		1.35	1.3	1.2	1.3	1.4	1.4	1.35	1.2
Copper		0.9	0.85	0.8	0.9	0.85	0.8	0.9	0.9
Stainless steel	Thickness 1 mm	0.3	0.5	0.5	0.35	0.3	(1)	0.3	(1)
	Thickness 2 mm	0.6	0.9	0.9	0.7	0.9	0.66	0.6	0.25
Flush mounted		M8	M12	M18	M30	(1) No detection.			
Steel		1	0.7	0.75	0.9				
Aluminum		0.9	1.15	0.9	0.7				
Brass		0.9	1.05	0.75	0.6				
Stainless steel		1	0.8	0.8	1.3				

Inductive proximity sensors

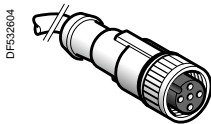
OsiSense XS Application
Cylindrical, stainless steel 303 front face
for welding environments
Three-wire DC, solid-state output



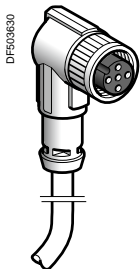
XS912RWPAM12



XS918RWPAM12



XZCP1141L●



XZCP1241L●

Ø 12 mm, threaded M12 x 1

Sensing distance (Sn) mm	Function	Output	Connection	Reference	Weight kg
Three-wire 12-24V $\overline{\text{DC}}$, flush mountable					
6	NO	PNP	M12	XS912RWPAM12	0.024

Ø 18 mm, threaded M18 x 1

Sensing distance (Sn) mm	Function	Output	Connection	Reference	Weight kg
Three-wire 12-24V $\overline{\text{DC}}$, flush mountable					
10	NO	PNP	M12	XS918RWPAM12	0.051

Connecting cables (PUR) (1)

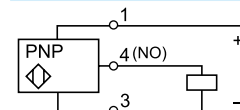
Description	Type	Length m	Reference	Weight kg
Pre-wired M12 connectors Female, 4-pin Metal clamping ring	Straight	2	XZCP1141L2	0.090
		5	XZCP1141L5	0.190
		10	XZCP1141L10	0.370
	Elbowed	2	XZCP1241L2	0.090
		5	XZCP1241L5	0.190
		10	XZCP1241L10	0.370

Wiring schemes

M12 connector



PNP



(1) For further information, please consult the catalogue "Cabling accessories OsiSense XZ" on our site www.tesensors.com.

Inductive proximity sensors

OsiSense XS Application
Cylindrical, stainless steel 303 front face
for welding environments
Three-wire DC, solid-state output

Characteristics

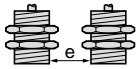
Sensor type	Flush	XS912RWPAM12	XS918RWPAM12
Product certifications		CE, cULus	
Connection	Connector	M12	
Operating zone		mm	0...4.8
Differential travel		%	1...15 (real sensing distance Sr)
Degree of protection	Conforming to IEC 60529	IP 68 (5 meters underwater for 1 month)	
	Conforming to DIN 40050	IP 69K	
Storage temperature		°C	-25...+70 (-13...158°F)
Operating temperature		°C	-25...+70 (-13...158°F)
Materials	Case	Stainless steel, 303 grade	
Front face thickness		mm	0.4
Mechanical shock resistance	Conforming to EN 50102	IK10	
Vibration resistance	Conforming to IEC 60068-2-6	25 gn, amplitude ± 1 mm (f = 10 to 55 Hz)	
Shock resistance	Conforming to IEC 60068-2-27	30 gn, duration 11 ms	
Output state indication		Yellow LED, 4 viewing points at 90° (blinking from 0.8 Sr and Sr)	
Rated supply voltage		V	12...24 with protection against reverse polarity
Voltage limits (including ripple)		V	10...30
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		Hz	15
Delays	First set-up	ms	80
	Response	µs	100
	Recovery	µs	15

Setting-up

Minimum mounting distances in mm, flush version

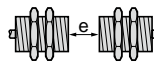
Side by side

$$\frac{\varnothing 12}{\varnothing 18} \quad \begin{matrix} e \geq 38 \\ e \geq 42 \end{matrix}$$



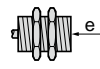
Face to face

$$\begin{matrix} e \geq 30 \\ e \geq 40 \end{matrix}$$



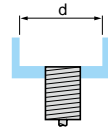
Facing a metal object

$$\begin{matrix} e \geq 20 \\ e \geq 30 \end{matrix}$$

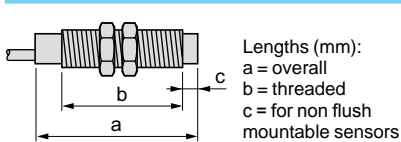


Mounted in a metal support

$$\begin{matrix} d \geq 24 \\ d \geq 50 \end{matrix}$$



Dimensions



	Flush sensor	
	M12	M18
a (mm)	60	63.5
b (mm)	41	42
c (mm)	0	0

Reduction coefficient

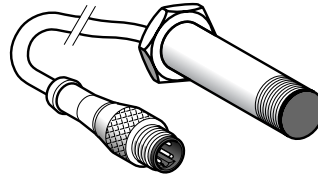
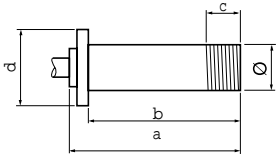
Non flush mounted

	Flush sensor	
	M12	M18
Steel	1	1
Aluminum	1	1
Brass	1.3	1.2
Copper	0.85	0.8
Stainless steel	Thickness 1 mm	0.5
	Thickness 2 mm	0.9

Flush mounted

	M12	M18
Steel	0.7	0.75
Aluminum	1.15	0.9
Brass	1.05	0.75
Stainless steel	0.8	0.8

Flush mountable in metal



Lengths (mm):
a = Overall
b = To shoulder
c = Removal
d = Shoulder

$\varnothing = 12$
a = 55
b = 50
c = 9 (threaded end)
d = 15 hexagonal

Nominal sensing distance (Sn)	3 mm	3 mm	3 mm
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References

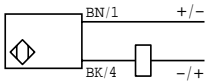
2-wire $\overline{\text{---}}$ (non polarised) Terminal connections	1-4	NO	XSLC1401393L1	XSLC1401393L3	XSLC1401393L4
Weight (kg)			0.050	0.065	0.050

Characteristics

Connection	Remote M12 connector on 1.2 m flying lead	Remote M12 connector on 0.8 m flying lead	Remote M12 connector on 0.15 m flying lead
Degree of protection conforming to IEC 60529	IP 67		
Operating zone	0...2.4 mm		
Repeat accuracy	$\leq 3\%$ of Sr		
Differential travel	1...15 % of Sr		
Operating temperature	- 25...+ 80 °C		
Output state indication	Yellow LED, annular		
Rated supply voltage	$\overline{\text{---}}$ 12...48 V		
Voltage limits (including ripple)	$\overline{\text{---}}$ 10...58 V		
Switching capacity	1.5...100 mA with overload and short-circuit protection		
Voltage drop, closed state	≤ 4 V		
Residual current, open state	≤ 0.5 mA		
Current consumption, no-load	-		
Maximum switching frequency	800 Hz		
Delays	First-up: ≤ 5 ms; response: ≤ 05 ms; recovery: ≤ 0.5 ms		

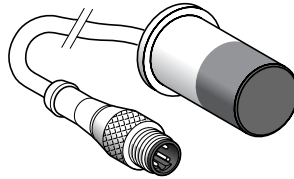
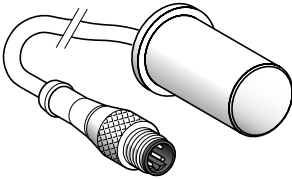
Wiring schemes

2-wire $\overline{\text{---}}$, non polarised, NO output



Flush mountable in metal

Non flush mountable in metal



Ø = 18
a = 40
b = 35
c = 0 (PPS front face)
d = Ø 22

Ø = 18
a = 45
b = 35
c = 20 (Teflon front face and case)
d = Ø 22

6.3 mm

10 mm

10 mm

XSLC1401392L1

XSLC1401405L3

XSLC1401405L4

0.100

0.065

0.050

Remote M12 connector on 1.2 m flying lead

Remote M12 connector on 0.8 m flying lead

Remote M12 connector on 0.15 m flying lead

IP 67

0...5 mm

0...8 mm

3 % of Sr

1...15 % of Sr

- 25...+ 70 °C

Yellow LED, annular

~ 12...48 V

~ 10...58 V

1.5...100 mA with overload and short-circuit protection

≤ 4 V

≤ 0.5 mA

-

100 Hz

First-up: ≤ 10 ms; response: ≤ 10 ms; recovery: ≤ 2 ms

Setting-up

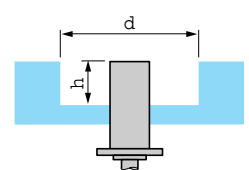
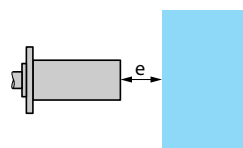
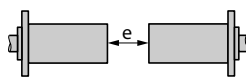
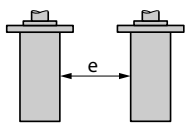
Minimum mounting distances (mm)

Side by side

Face to face

Facing a metal object

Mounted in a metal support



XSLC Ø 12 (flush mountable)

e ≥ 10

e ≥ 60

e ≥ 15

d = 12, h = 0

Ø 18 (non flush mountable)

e ≥ 16

e ≥ 96

e ≥ 24

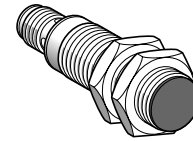
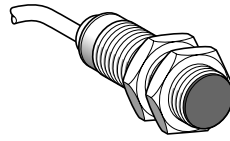
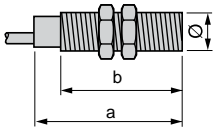
d = 54, h = 16

Inductive proximity sensors

OsiSense XS

Detection at fixed sensing distance. Factor 1 (Fe/Nfe) sensors ⁽¹⁾ for ferrous and non ferrous materials
Solid-state output

Flush mountable in metal



Lengths (mm):
a = Overall
b = Threaded section

a = 60
b = 51.5
Ø = M18 x 1

a = 70
b = 51.5
Ø = M18 x 1

	Brass case	Brass case
Nominal sensing distance (Sn)	5 mm	5 mm

References

4-wire ☐	PNP/PNP programmable NO/NC	XS1M18KPM40	XS1M18KPM40D
Weight (kg)		0.120	0.060

Characteristics

Product certifications	CE, UL, CSA	
Connection	Pre-cabled, PvR 4 x 0.34 mm ² , length 2 m ⁽²⁾	M12 connector
Degree of protection	Conforming to IEC 60529	IP 68
Operating zone	0...4 mm	
Repeat accuracy	3 % of Sr	
Differential travel	1...15 % of Sr	
Operating temperature	0...+50 °C	
Output state indication	Yellow LED, annular	Yellow LED, 4 viewing ports at 90°
Rated supply voltage	☐ 12...24 V with protection against reverse polarity	
Voltage limits (including ripple)	☐ 10...38 V	
Switching capacity	0...200 mA with overload and short-circuit protection	
Voltage drop, closed state	≤ 2.6 V	
Current consumption, no-load	≤ 15 mA	
Maximum switching frequency	1000 Hz	
Delays	First-up	≤ 10 ms
	Response	≤ 0.3 ms
	Recovery	≤ 0.7 ms

Wiring schemes

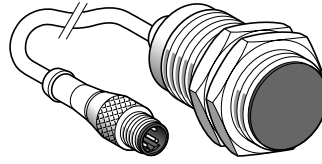
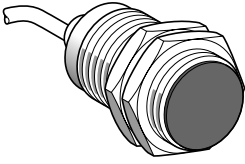
M12 connector	Pre-cabled	4-wire ☐, PNP/NPN, NO or NC output
	BN: brown BU: blue BK: black WH: white	<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p>PNP</p> </div> <div style="text-align: center;"> <p>NPN</p> </div> </div>

⁽¹⁾ The variation in sensing distance between ferrous and non ferrous materials is typically less than 5 %.
⁽²⁾ Sensors available with other cable lengths: please consult our Customer Care Centre.

Inductive proximity sensors

OsiSense XS

Detection at fixed sensing distance. Factor 1 (Fe/Nfe) sensors ⁽¹⁾ for ferrous and non ferrous materials
Solid-state output



a = 60
b = 51.5
Ø = M30 x 1.5

a = 60
b = 51.5
Ø = M30 x 1.5

Stainless steel case
10 mm

Stainless steel case
10 mm

References

XS1M30KPM40

XS1M30KPM40LD

0.205

0.145

Characteristics

C€, UL, CSA

Pre-cabled, PvR 4 x 0.34 mm², length 2 m ⁽²⁾

M12 connector on 0.8 m flying lead

IP 68

IP 67

0...8 mm

3 % of Sr

1...15 % of Sr

0...+ 50 °C

Yellow LED, annular

--- 12...24 V with protection against reverse polarity

--- 10...38 V

0...200 mA with overload and short-circuit protection

≤ 2.6 V

≤ 15 mA

1000 Hz

≤ 5 ms

≤ 0.3 ms

≤ 0.7 ms

Setting-up

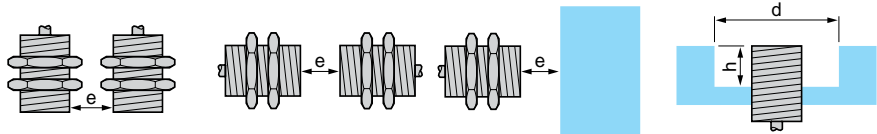
Minimum mounting distances (mm)

Side by side

Face to face

Facing a metal object

Mounted in a metal support



XS1M18 flush mountable

$e \geq 10$

$e \geq 60$

$e \geq 15$

$d \geq 18, h \geq 0$

XS1M30 flush mountable

$e \geq 20$

$e \geq 120$

$e \geq 30$

$d \geq 30, h \geq 0$

Fixing nut tightening torque: XS1M18: < 35 N.m, XS1M30: < 100 N.m

⁽¹⁾ The variation in sensing distance between ferrous and non ferrous materials is typically less than 5 %.

⁽²⁾ Sensors available with other cable lengths: please consult our Customer Care Centre.

Inductive proximity sensors

OsiSense XS Application

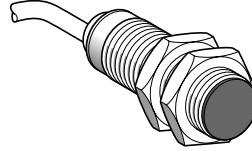
Selective detection of ferrous materials

Selective detection of non ferrous materials

Cylindrical type, solid-state output

Flush mountable

Stainless steel case



Nominal sensing distance (Sn) 5 mm

References

3-wire, ferrous version Insensitive to non ferrous materials	PNP NO	XS1M18PAS40
3-wire, non ferrous version Insensitive to ferrous materials	PNP NO	XS1M18PAS20
Weight (kg)		0.120

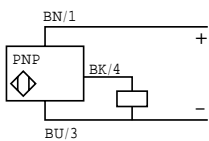
Characteristics

Product certifications	UL, CSA, CE
Connection	Pre-cabled, PvR, 3 x 0.34 mm ² , length 2 m (1)
Operating zone	0...4 mm
Degree of protection conforming to IEC 60529	IP 68
Operating temperature	- 25...+ 70 °C
Output state indication	Yellow LED, annular
Rated supply voltage	DC 12...24 V with protection against reverse polarity
Voltage limits (including ripple)	DC 10...38 V
Switching capacity	0...200 mA with overload and short-circuit protection
Voltage drop, closed state	≤ 2.6 V
Residual current, open state	–
Current consumption, no-load	≤ 15 mA
Maximum switching frequency	1000 Hz
Delays	First-up ≤ 10 ms Response ≤ 0.3 ms Recovery ≤ 0.7 ms

(1) Sensors available with other cable lengths: please consult our Customer Care Centre.

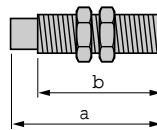
Wiring schemes

3-wire DC PNP



Dimensions

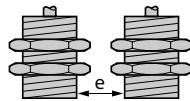
XS1M



a (mm)	b (mm)
60	51.5

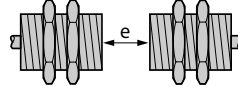
Setting-up

Minimum mounting distances (mm)



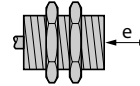
Side by side

$e \geq 10$



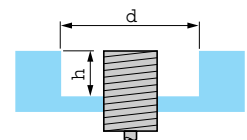
Face to face

$e \geq 60$



Facing a metal object

$e \geq 15$



Mounted in a metal support

$d \geq 18, h \geq 0$ (ferrous metal)
 $d \geq 18, h \geq 5$ (non ferrous metal)

XS1M18

Inductive proximity sensors

OsiSense XS Application

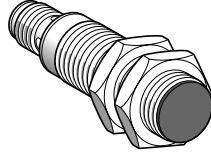
Selective detection of ferrous materials

Selective detection of non ferrous materials

Cylindrical type, solid-state output

Flush mountable

Stainless steel case



Nominal sensing distance (Sn) 5 mm

References

3-wire, ferrous version Insensitive to non ferrous materials	PNP NO	XS1M18PAS40D
3-wire, non ferrous version Insensitive to ferrous materials	PNP NO	XS1M18PAS20D
Weight (kg)		0.060

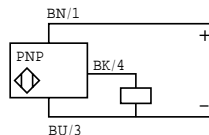
Characteristics

Product certifications	UL, CSA, CE
Connection	M12 connector
Degree of protection conforming to IEC 60529	IP 67
Operating zone	0...4 mm
Operating temperature	-25...+70 °C
Output state indication	Yellow LED, 4 viewing ports at 90°
Rated supply voltage	12...24 V with protection against reverse polarity
Voltage limits (including ripple)	10...38 V
Switching capacity	0...200 mA with overload and short-circuit protection
Voltage drop, closed state	≤ 2.6 V
Residual current, open state	–
Current consumption, no-load	≤ 15 mA
Maximum switching frequency	1000 Hz
Delays	
First-up	≤ 10 ms
Response	≤ 0.3 ms
Recovery	≤ 0.7 ms

Wiring schemes

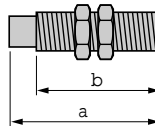
M12 connector

3-wire PNP



Dimensions

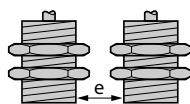
XS1M



a (mm)	b (mm)
70	51.5

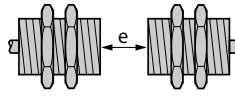
Setting-up

Minimum mounting distances (mm)



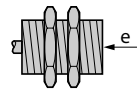
Side by side

$e \geq 10$



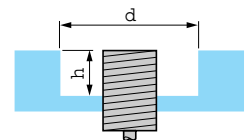
Face to face

$e \geq 60$



Facing a metal object

$e \geq 15$



Mounted in a metal support

$d \geq 18, h \geq 0$ (ferrous metal)

$d \geq 18, h \geq 5$ (non ferrous metal)

XS1M18