

OsiSense® XS

Inductive proximity sensors

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

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

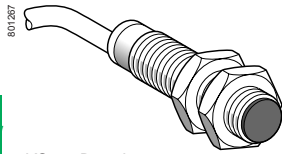
| Sensing dist. Sn, mm (in.) | Function | Output | Connection | Catalog Number | Weight kg (lb) |
|----------------------------------|----------|------------------------------|------------------------------|--------------------------|----------------------|
| Ø 8, threaded M8 x 1 | | | | | |
| 2.5 (0.10) | NO | PNP | Pre-cabled (L = 2 m) (1) | XS608B1PAL2 | 0.035 (0.08) |
| | | | M12 connector | XS608B1PAM12 | 0.015 (0.03) |
| | NPN | PNP | Pre-cabled (L = 2 m) (1) | XS608B1NAL2 | 0.035 (0.08) |
| | | | M12 connector | XS608B1NAM12 | 0.015 (0.03) |
| | NC | PNP | Pre-cabled (L = 2 m) (1) | XS608B1PBL2 | 0.035 (0.08) |
| | | | M12 connector | XS608B1PBM12 | 0.015 (0.03) |
| NPN | PNP | Pre-cabled (L = 2 m) (1) | XS608B1NBL2 | 0.035 (0.08) | |
| | | M12 connector | XS608B1NBM12 | 0.015 (0.03) | |
| Ø 12, threaded M12 x 1 | | | | | |
| 4 (0.16) | NO | PNP | Pre-cabled (L = 2 m) (1) | XS612B1PAL2 | 0.075 (0.17) |
| | | | M12 connector | XS612B1PAM12 | 0.020 (0.04) |
| | NPN | PNP | Pre-cabled (L = 2 m) (1) | XS612B1NAL2 | 0.075 (0.17) |
| | | | M12 connector | XS612B1NAM12 | 0.020 (0.04) |
| | NC | PNP | Pre-cabled (L = 2 m) (1) | XS612B1PBL2 | 0.075 (0.17) |
| | | | M12 connector | XS612B1PBM12 | 0.020 (0.04) |
| NPN | PNP | Pre-cabled (L = 2 m) (1) | XS612B1NBL2 | 0.075 (0.17) | |
| | | M12 connector | XS612B1NBM12 | 0.020 (0.04) | |
| Ø 18, threaded M18 x 1 | | | | | |
| 8 (0.31) | NO | PNP | Pre-cabled (L = 2 m) (1) | XS618B1PAL2 | 0.100 (0.22) |
| | | | M12 connector | XS618B1PAM12 | 0.040 (0.09) |
| | | | Remote screw term. connector | XS618B1PAL01B (2) | 0.100 (0.22) |
| | | | Remote DIN 43650 connector | XS618B1PAL01C | 0.100 (0.22) |
| | | | Remote M18 connector | XS618B1PAL01G | 0.100 (0.22) |
| | | | M12 connector | XS618B1NAM12 | 0.040 (0.09) |
| | NPN | PNP | Pre-cabled (L = 2 m) (1) | XS618B1NAL2 | 0.100 (0.22) |
| | | | M12 connector | XS618B1NAM12 | 0.040 (0.09) |
| | | | Remote screw term. connector | XS618B1NAL01B (2) | 0.100 (0.22) |
| | | | Remote DIN 43650 connector | XS618B1NAL01C | 0.100 (0.22) |
| | | | Remote M18 connector | XS618B1NAL01G | 0.100 (0.22) |
| | | | M12 connector | XS618B1NBM12 | 0.040 (0.09) |
| | NC | PNP | Pre-cabled (L = 2 m) (1) | XS618B1PBL2 | 0.100 (0.22) |
| | | | M12 connector | XS618B1PBM12 | 0.040 (0.09) |
| | | | Remote screw term. connector | XS618B1PBL01B (2) | 0.100 (0.22) |
| | | | Remote DIN 43650 connector | XS618B1PBL01C | 0.100 (0.22) |
| | | | Remote M18 connector | XS618B1PBL01G | 0.100 (0.22) |
| | | | M12 connector | XS618B1NBM12 | 0.040 (0.09) |
| NPN | PNP | Pre-cabled (L = 2 m) (1) | XS618B1NBL2 | 0.100 (0.22) | |
| | | M12 connector | XS618B1NBM12 | 0.040 (0.09) | |
| | | Remote screw term. connector | XS618B1NBL01B (2) | 0.100 (0.22) | |
| | | Remote DIN 43650 connector | XS618B1NBL01C | 0.100 (0.22) | |
| | | Remote M18 connector | XS618B1NBL01G | 0.100 (0.22) | |
| | | M12 connector | XS618B1NBM12 | 0.040 (0.09) | |
| Ø 30, threaded M30 x 1.5 | | | | | |
| 15 (0.59) | NO | PNP | Pre-cabled (L = 2 m) (1) | XS630B1PAL2 | 0.205 (0.45) |
| | | | M12 connector | XS630B1PAM12 | 0.145 (0.32) |
| | | | Remote screw term. connector | XS630B1PAL01B (2) | 0.205 (0.45) |
| | | | Remote DIN 43650 connector | XS630B1PAL01C | 0.205 (0.45) |
| | | | Remote M18 connector | XS630B1PAL01G | 0.205 (0.45) |
| | | | M12 connector | XS630B1NAM12 | 0.145 (0.32) |
| | NPN | PNP | Pre-cabled (L = 2 m) (1) | XS630B1NAL2 | 0.205 (0.45) |
| | | | M12 connector | XS630B1NAM12 | 0.145 (0.32) |
| | | | Remote screw term. connector | XS630B1NAL01B (2) | 0.205 (0.45) |
| | | | Remote DIN 43650 connector | XS630B1NAL01C | 0.205 (0.45) |
| | | | Remote M18 connector | XS630B1NAL01G | 0.205 (0.45) |
| | | | M12 connector | XS630B1NBM12 | 0.145 (0.32) |
| | NC | PNP | Pre-cabled (L = 2 m) (1) | XS630B1PBL2 | 0.205 (0.45) |
| | | | M12 connector | XS630B1PBM12 | 0.145 (0.32) |
| | | | Remote screw term. connector | XS630B1PBL01B (2) | 0.205 (0.45) |
| | | | Remote DIN 43650 connector | XS630B1PBL01C | 0.205 (0.45) |
| | | | Remote M18 connector | XS630B1PBL01G | 0.205 (0.45) |
| | | | M12 connector | XS630B1NBM12 | 0.145 (0.32) |
| NPN | PNP | Pre-cabled (L = 2 m) (1) | XS630B1NBL2 | 0.205 (0.45) | |
| | | M12 connector | XS630B1NBM12 | 0.145 (0.32) | |
| | | Remote screw term. connector | XS630B1NBL01B (2) | 0.205 (0.45) | |
| | | Remote DIN 43650 connector | XS630B1NBL01C | 0.205 (0.45) | |
| | | Remote M18 connector | XS630B1NBL01G | 0.205 (0.45) | |
| | | M12 connector | XS630B1NBM12 | 0.145 (0.32) | |

Accessories

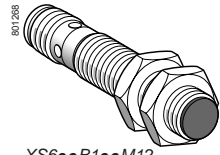
| Description | For use with sensors | Catalog Number | Weight kg (lb) |
|--------------------|-------------------------|-------------------|----------------------|
| Mounting clamps | Ø 8 | XSZB108 | 0.006 (0.01) |
| | Ø 12 | XSZB112 | 0.006 (0.01) |
| | Ø 18 | XSZB118 | 0.010 (0.02) |
| | Ø 30 | XSZB130 | 0.020 (0.02) |

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

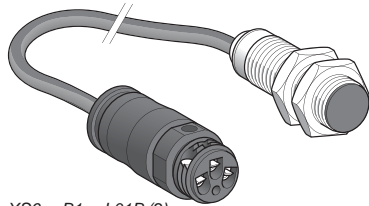
(2) Protective cable gland included with remote screw terminal connector.



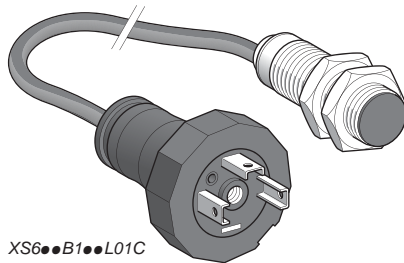
XS6●●B1●●L2



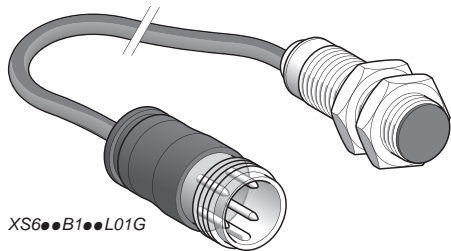
XS6●●B1●●M12



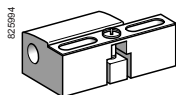
XS6●●B1●●L01B (2)



XS6●●B1●●L01C







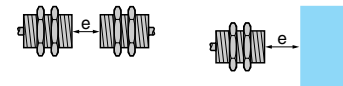
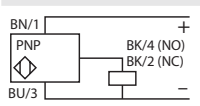
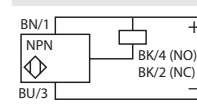
XS6●●B1●●L01G

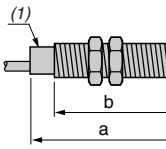


XSZB●●●

2

| Specifications | | XS1/XS6●●B●●M8 | XS1/XS6●●B●●M12 | XS1/XS6●●B●●L2 |
|-----------------------------------|------------------------------|--|--|--|
| Sensor type | | UL, CSA, CĈ | | |
| Product certifications | Connector | M8 | M12 | – |
| | Pre-cabled | – | – | Length 2 m |
| | Remote connector | Remote screw terminal (L01B), DIN 43650 (L01C) or M18 connector (L01G) on 0.15 m pigtail connector | | |
| Operating zone | ∅ 6.5 and ∅ 8 | mm | 0–2 (0–0.08 in.) | |
| | ∅ 12 | mm | 0–3.2 (0–0.13 in.) | |
| | ∅ 18 | mm | 0–6.4 (0–0.25 in.) | |
| | ∅ 30 | mm | 0–12 (0–0.47 in.) | |
| 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 ∅ 6.5 and ∅ 8: IP 67 |
| | Conforming to DIN 40050 | | IP 69K for ∅ 12, 18 and 30 sensors | |
| Storage temperature | | °C | –40 to +85 (–40 to +185 °F) | |
| Operating temperature | | °C | –25 to +70 (–13 to +158 °F) | |
| Materials | Case | | Nickel-plated brass (except XS608: stainless steel, grade 303) | |
| | Sensing face | | PPS | |
| | Cable | | – | PvR 3 x 0.34 mm ² (22 AWG) except ∅ 6.5 and 8: 3 x 0.11 mm (27 AWG) ² |
| Vibration resistance | Conforming to IEC 60068-2-6 | | 25 gn, amplitude ± 2 mm (f = 10 to 55 Hz) | |
| Shock resistance | Conforming to IEC 60068-2-27 | | 50 gn, duration 11 ms | |
| Output state indication | | | Yellow LED, 4 viewing ports at 90° | Yellow LED, annular |
| Rated supply voltage | | 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 | ∅ 6.5, ∅ 8 and ∅ 12 | Hz | 2500 | |
| | ∅ 18 | Hz | 1000 | |
| | ∅ 30 | Hz | 500 | |
| Delays | First-up | ms | ≤ 10 | |
| | Response | ms | ≤ 0.2 for ∅ 6.5, ∅ 8 and ∅ 12, ≤ 0.3 for ∅ 18, ≤ 0.6 for ∅ 30 | |
| | Recovery | ms | ≤ 0.2 for ∅ 6.5, ∅ 8 and ∅ 12, ≤ 0.7 for ∅ 18, ≤ 1.4 for ∅ 30 | |

| Wiring diagrams | | Setup | | | |
|--|--|---|--|---|--|
| Connector M8  M12  BU: Blue BN: Brown BK: Black | Pre-cabled  | Minimum mounting distances (mm)  | | | |
| PNP  | NPN  | Sensors ∅ 6.5 ∅ 8 ∅ 12 ∅ 18 ∅ 30 | Side by side e ≥ 5 e ≥ 5 e ≥ 8 e ≥ 16 e ≥ 30 | Face to face e ≥ 30 e ≥ 30 e ≥ 50 e ≥ 100 e ≥ 180 | Facing a metal object e ≥ 8 e ≥ 8 e ≥ 12 e ≥ 24 e ≥ 45 |
| <i>For M8 connector, NO and NC outputs are on terminal 4</i> | | | | | |

| Dimensions (mm) | | Sensors | | | | | | |
|--|---|-----------------|----------|--------------------|----|--------------------|----|--|
|  (1) LED | Sensors Short case model | Pre-cabled (mm) | | M8 connector (mm) | | M12 connector (mm) | | |
| | | a | b | a | b | a | b | |
| | ∅ 6.5 | XS106B3 | 33 | – | 42 | – | 45 | |
| | ∅ 8 | XS108B3 | 33 | 25 | 42 | 26 | 45 | |
| | ∅ 12 | XS112B3 | 35 | 25 | – | – | 50 | |
| | ∅ 18 | XS118B3 | 39 | 28 | – | – | 50 | |
| | ∅ 30 | XS130B3 | 43 | 32 | – | – | 55 | |
| | Sensors Long case model | Pre-cabled (mm) | | M12 connector (mm) | | | | |
| | | a | b | a | b | | | |
| | | ∅ 8 | XS6 08B1 | 51 | 42 | 62 | 40 | |
| | | ∅ 12 | XS612B1 | 53 | 42 | 62 | 42 | |
| | | ∅ 18 | XS618B1 | 62 | 52 | 74 | 52 | |
| | ∅ 30 | XS630B1 | 62 | 52 | 74 | 52 | | |