

# OsiSense® XS Inductive sensors

General purpose  
with increased range





# Helping you to find the most efficient solution

## The inductive detection function that performs and lasts

A new offer to meet the demands of machine manufacturers for increased range in inductive sensing.

### > Easy to install

Contributes to machine compactness  
Wider adjustment range

### > Robust

Solutions that last

### > Readily available

Contributes to machine performance

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Cylindrical inductive proximity sensors

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Make the most of your energy<sup>SM</sup>

NOTE: Sensors described in this catalog are designed to be used for standard industrial presence sensing applications. These sensors do not include the self-checking redundant circuitry necessary to allow for their use in safety applications.

## > Contributes to machine compactness

### Easy to install:

Compact product (short), easier integration in the machine

- Increased range (x2), sensing distance easier to adjust
- All standard diameters (complete range, from Ø 6.5 to Ø 30 mm)
- Long and short product lengths to meet the most demanding dimension standards on the market
- DC and AC/DC versions available for maximum flexibility

# +100%

of the sensing distance for flush mountable models



## > Increase the reliability of your solution

### Quality by design:

- Subjected to climatic cycle tests: -25 to +70 °C (-13 to 158 °F) cycle, 95% RH for 3,000 hours under power to verify their ability to maintain specifications over time.
- Resistance to electromagnetic interference—immune to high levels of EMC
- Resistance to environment—IP 65, IP 67 and IP 68 for pre-cabled versions, IP 69K for 12 and 30 mm diameter sensors



## > Contributes to machine performance

### Readily available:

- Robust products to meet your needs
- Particularly well-suited for your machines used in sectors such as machine tooling, assembly, packaging, conveying and the automotive industry.



Packaging



Automotive



Materials handling



Machine Tooling

- Proven tried-and-tested performance with worldwide product availability
- You export your machines throughout the world. Schneider Electric has locations in 190 countries.



availability  
throughout  
the world

## General purpose flush or non-flush mountable, standard or increased range:

A global offer of high-performance inductive sensors to meet your individual needs



### XS6..B range

Metal AC or DC  
Increased range  
2.5 to 22 mm  
(0.10 to 0.87 in.)

**Flush or non-flush  
mountable**



### XS5..BL range

3-wire DC  
Metal  
Standard range  
1.5 to 10 mm  
(0.06 to 0.39 in.)

**Flush mountable**



### XS5..B1M range

2-wire AC or DC  
Metal  
Standard range  
2.0 to 10 mm  
(0.04 to 0.39 in.)

**Flush mountable**



### XS1... range

3-wire DC  
Metal  
Increased range  
2.5 to 15 mm  
(0.10 to 0.59 in.)

**Flush mountable**

# > Selection guide—General purpose inductive sensors

Flush mountable, standard range  
1.5 to 10 mm (0.06 to 0.39 in.)

Metal

3-wire DC



|                         |                           |  |                            |                            |                            |
|-------------------------|---------------------------|--|----------------------------|----------------------------|----------------------------|
| Format                  | Ø 6.5 mm plain            | Ø 8 mm                                     | Ø 12 mm                    | Ø 18 mm                    | Ø 30 mm                    |
| Sensing dist., mm (in.) | 1.5 (0.06)                | 1.5 (0.06)                                 | 2 (0.08)                   | 5 (0.20)                   | 10 (0.39)                  |
| Length Short case       | 33 (1.30)                 | 33 (1.30)                                  | 35 (1.38)                  | 39 (1.54)                  | 43 (1.69)                  |
| mm (in.) Long Case      | 51 (2.01)                 | 51 (2.01)                                  | 53 (2.09)                  | 62 (2.44)                  | 62 (2.44)                  |
| Connection              | 2 m cable<br>M8 connector | 2 m cable<br>M8 connector<br>M12 connector | 2 m cable<br>M12 connector | 2 m cable<br>M12 connector | 2 m cable<br>M12 connector |
| Supply, DC              | 12–24 V, 12–48 V          | 12–24 V, 12–48 V                           | 12–24 V, 12–48 V           | 12–24 V, 12–48 V           | 12–24 V, 12–48 V           |
| Output                  | PNP or NPN                | PNP or NPN                                 | PNP or NPN                 | PNP or NPN                 | PNP or NPN                 |
| Function                | NO or NC                  | NO or NC                                   | NO or NC                   | NO or NC                   | NO or NC                   |
| Short case model        | XS506B1***                | XS508B1***                                 | XS512B1***                 | XS518B1***                 | XS530B1***                 |
| Long case model         | XS506BL***                | XS508BL***                                 | XS512BL***                 | XS518BL***                 | XS530BL***                 |

Flush mountable, standard range  
1.5 to 10 mm (0.06 to 0.39 in.)

Metal

2-wire DC



|                         |                            |                            |                            |                            |                            |
|-------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| Format                  | Ø 6.5 mm                   | Ø 8 mm                     | Ø 12 mm                    | Ø 18 mm                    | Ø 30 mm                    |
| Sensing dist., mm (in.) | 1.5 (0.06)                 | 1.5 (0.06)                 | 2 (0.08)                   | 5 (0.20)                   | 10 (0.39)                  |
| Length Short Case       | 33 (1.30)                  | 33 (1.30)                  | 35 (1.38)                  | 39 (1.54)                  | 43 (1.69)                  |
| mm (in.) Long Case      | –                          | 51 (2.01)                  | 53 (2.09)                  | 62 (2.44)                  | 62 (2.44)                  |
| Connection              | 2 m cable<br>M12 connector | 2 m cable<br>M12 connector | 2 m cable<br>M12 connector | 2 m cable<br>M12 connector | 2 m cable<br>M12 connector |
| Supply, DC              | 12–24 V, 12–48 V           | 12–24 V, 12–48 V           | 12–24 V, 12–48 V           | 12–24 V, 12–48 V           | 12–24 V, 12–48 V           |
| Function                | NO or NC                   | NO or NC                   | NO or NC                   | NO or NC                   | NO or NC                   |
| Short case model        | XS506BS***                 | XS508BS***                 | XS512BS***                 | XS518BS***                 | XS530BS***                 |
| Long case model         | –                          | XS508B1***                 | XS512B1***                 | XS518B1***                 | XS530B1***                 |

Flush mountable, increased range  
2.5 to 15 mm (0.10 to 0.59 in.)

Metal

3-wire DC



|                         |                            |                            |                            |                            |                            |
|-------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| Format                  | Ø 6.5 mm                   | Ø 8 mm                     | Ø 12 mm                    | Ø 18 mm                    | Ø 30 mm                    |
| Sensing dist., mm (in.) | 2.5 (0.10)                 | 2.5 (0.10)                 | 4 (0.16)                   | 8 (0.31)                   | 15 (0.59)                  |
| Length Short Case       | 33 (1.30)                  | 33 (1.30)                  | 35 (1.38)                  | 39 (1.54)                  | 43 (1.69)                  |
| mm (in.) Long Case      | –                          | 51 (2.01)                  | 53 (2.09)                  | 62 (2.44)                  | 62 (2.44)                  |
| Connection              | 2 m cable<br>M12 connector | 2 m cable<br>M12 connector | 2 m cable<br>M12 connector | 2 m cable<br>M12 connector | 2 m cable<br>M12 connector |
| Supply, DC              | 12–24 V, 12–48 V           | 12–24 V, 12–48 V           | 12–24 V, 12–48 V           | 12–24 V, 12–48 V           | 12–24 V, 12–48 V           |
| Output                  | PNP or NPN                 | PNP or NPN                 | PNP or NPN                 | PNP or NPN                 | PNP or NPN                 |
| Function                | NO or NC                   | NO or NC                   | NO or NC                   | NO or NC                   | NO or NC                   |
| Short case model        | XS106B3•••                 | XS108B3•••                 | XS112B3•••                 | XS118B3•••                 | XS130B3•••                 |
| Long case model         | –                          | XS608B1•••                 | XS612B1•••                 | XS618B1•••                 | XS630B1•••                 |

Flush mountable, increased range  
2 to 15 mm (0.08 to 0.59 in.)

Metal

2-wire DC



|                         |                            |  |                            |                            |                            |
|-------------------------|----------------------------|--|----------------------------|----------------------------|----------------------------|
| Format                  | Ø 6.5 mm plain             | Ø 8 mm                                     | Ø 12 mm                    | Ø 18 mm                    | Ø 30 mm                    |
| Sensing dist., mm (in.) | 2.5 (0.10)                 | 2.5 (0.10)                                 | 4 (0.16)                   | 8 (0.31)                   | 15 (0.59)                  |
| Length Short case       | 33 (1.30)                  | 33 (1.30)                                  | 35 (1.38)                  | 39 (1.54)                  | 43 (1.69)                  |
| mm (in.) Long Case      | 51 (2.01)                  | 51 (2.01)                                  | 53 (2.09)                  | 62 (2.44)                  | 62 (2.44)                  |
| Connection              | 2 m cable<br>M12 connector | 2 m cable<br>M8 connector<br>M12 connector | 2 m cable<br>M12 connector | 2 m cable<br>M12 connector | 2 m cable<br>M12 connector |
| Supply, DC              | 12–24 V, 12–48 V           | 12–24 V, 12–48 V                           | 12–24 V, 12–48 V           | 12–24 V, 12–48 V           | 12–24 V, 12–48 V           |
| Function                | NO or NC                   | NO or NC                                   | NO or NC                   | NO or NC                   | NO or NC                   |
| Short case model        | XS606B3•••                 | XS608B3•••                                 | XS612B3•••                 | XS618B3•••                 | XS630B3•••                 |
| Long case model         | XS606B1•••                 | XS608B1•••                                 | XS612B1•••                 | XS618B1•••                 | XS630B1•••                 |

## > Selection guide—continued

Flush mountable, standard range  
2 to 10 mm (0.08 to 0.39 in.)

Metal

2-wire AC or DC



|                           |  |  |  |
|---------------------------|--|--|--|
| Format                    | Ø 12 mm plain                          | Ø 18 mm                                | Ø 30 mm                                |
| Sensing dist., mm (in.)   | 2 (0.08)                               | 5 (0.20)                               | 10 (0.39)                              |
| Length Long Case mm (in.) | 53 (2.09)                              | 62 (2.44)                              | 62 (2.44)                              |
| Connection                | 2 m cable<br>1/2" -20 UNF<br>connector | 2 m cable<br>1/2" -20 UNF<br>connector | 2 m cable<br>1/2" -20 UNF<br>connector |
| Supply, AC or DC          | 24–240                                 | 24–240                                 | 24–240                                 |
| Function                  | NO or NC                               | NO or NC                               | NO or NC                               |
| Long case model           | XS512B1M•••                            | XS518B1M•••                            | XS530B1M•••                            |

Non-flush mountable, increased range  
7 to 22 mm (0.28 to 0.87 in.)

Metal

3-wire DC



|                           |                            |                            |                            |
|---------------------------|----------------------------|----------------------------|----------------------------|
| Format                    | Ø 12 mm plain              | Ø 18 mm                    | Ø 30 mm                    |
| Sensing dist., mm (in.)   | 7 (0.28)                   | 12 (0.47)                  | 22 (0.87)                  |
| Length Long Case mm (in.) | 55 (2.17)                  | 60 (2.36)                  | 63 (2.48)                  |
| Connection                | 2 m cable<br>M12 connector | 2 m cable<br>M12 connector | 2 m cable<br>M12 connector |
| Output                    | PNP or NPN                 | PNP or NPN                 | PNP or NPN                 |
| Function                  | NO or NC                   | NO or NC                   | NO or NC                   |
| Long case model           | XS612B4•••                 | XS618B4•••                 | XS630B4•••                 |



Flush mountable, increased range  
4 to 15 mm (0.16 to 0.59 in.)

Metal

2-wire AC or DC



|                           |  |  |  |
|---------------------------|--|--|--|
| Format                    | Ø 12 mm plain                          | Ø 18 mm                                | Ø 30 mm                                |
| Sensing dist., mm (in.)   | 4 (0.16)                               | 8 (0.31)                               | 15 (0.59)                              |
| Length Long Case mm (in.) | 53 (2.09)                              | 62 (2.44)                              | 62 (2.44)                              |
| Connection                | 2 m cable<br>1/2" -20 UNF<br>connector | 2 m cable<br>1/2" -20 UNF<br>connector | 2 m cable<br>1/2" -20 UNF<br>connector |
| Supply, AC or DC          | 24-240                                 | 24-240                                 | 24-240                                 |
| Function                  | NO or NC                               | NO or NC                               | NO or NC                               |
| Long case model           | XS612B1M***                            | XS618B1M***                            | XS630B1M***                            |

Non-flush mountable, increased range  
12 to 22 mm (0.47 to 0.87 in.)

Metal

2-wire AC or DC



|                            |  |                            |
|----------------------------|--|----------------------------|
| Format                     | Ø 18 mm                                    | Ø 30 mm                    |
| Sensing dist., mm (in.)    | 12 (0.47)                                  | 22 (0.87)                  |
| Length Long case, mm (in.) | 60 (2.36)                                  | 63 (2.48)                  |
| Connection                 | 2 m cable<br>M8 connector<br>M12 connector | 2 m cable<br>M12 connector |
| Supply                     | 3-wire 12-24 V                             | 3-wire 12-24 V             |
| Output                     | PNP or NPN                                 | PNP or NPN                 |
| Function                   | NO or NC                                   | NO or NC                   |
| Long case model            | XS618B4M***                                | XS630B4M***                |

# OsiSense® Inductive proximity sensors

General purpose

Cylindrical, standard range, flush mountable

Three-wire DC, solid-state output



XS506B1●●L2



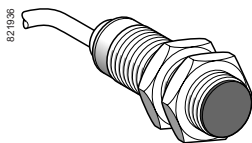
XS508B1●●L2



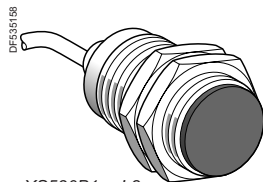
XS512B1●●M12



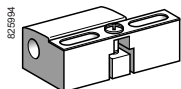
XS518B1●●M12



XS518B1●●L2



XS530B1●●L2



XSZB1●●

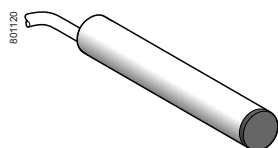
## Sensors, 3-wire 12–24 V $\bar{\text{DC}}$ , short case model

| Sensing dist. Sn, mm (in.)      | Function             | Output         | Connection     | Catalog Number | Weight (kg) | Weight (lb) |
|---------------------------------|----------------------|----------------|----------------|----------------|-------------|-------------|
| <b>Ø 6.5, plain</b>             |                      |                |                |                |             |             |
| 1.5 (0.06)                      | NO                   | PNP            | Pre-cabled (1) | XS506B1PAL2    | 0.035       | (0.08)      |
|                                 |                      |                | M8 connector   | XS506B1PAM8    | 0.025       | (0.06)      |
|                                 |                      |                | M12 connector  | XS506B1PAM12   | 0.025       | (0.06)      |
|                                 | NPN                  | PNP            | Pre-cabled (1) | XS506B1NAL2    | 0.035       | (0.08)      |
|                                 |                      |                | M8 connector   | XS506B1NAM8    | 0.025       | (0.06)      |
|                                 |                      |                | M12 connector  | XS506B1NAM12   | 0.025       | (0.06)      |
|                                 | NC                   | PNP            | Pre-cabled (1) | XS506B1PBL2    | 0.035       | (0.08)      |
|                                 |                      |                | M8 connector   | XS506B1PBM8    | 0.025       | (0.06)      |
|                                 |                      |                | M12 connector  | XS506B1PBM12   | 0.025       | (0.06)      |
|                                 | NPN                  | PNP            | Pre-cabled (1) | XS506B1NBL2    | 0.035       | (0.08)      |
|                                 |                      |                | M8 connector   | XS506B1NBM8    | 0.025       | (0.06)      |
|                                 |                      |                | M12 connector  | XS506B1NBM12   | 0.025       | (0.06)      |
| <b>Ø 8, threaded M8 x 1</b>     |                      |                |                |                |             |             |
| 1.5 (0.06)                      | NO                   | PNP            | Pre-cabled (1) | XS508B1PAL2    | 0.035       | (0.08)      |
|                                 |                      |                | M8 connector   | XS508B1PAM8    | 0.025       | (0.06)      |
|                                 |                      |                | M12 connector  | XS508B1PAM12   | 0.025       | (0.06)      |
|                                 | NPN                  | PNP            | Pre-cabled (1) | XS508B1NAL2    | 0.035       | (0.08)      |
|                                 |                      |                | M8 connector   | XS508B1NAM8    | 0.025       | (0.06)      |
|                                 |                      |                | M12 connector  | XS508B1NAM12   | 0.025       | (0.06)      |
|                                 | NC                   | PNP            | Pre-cabled (1) | XS508B1PBL2    | 0.035       | (0.08)      |
|                                 |                      |                | M8 connector   | XS508B1PBM8    | 0.025       | (0.06)      |
|                                 |                      |                | M12 connector  | XS508B1PBM12   | 0.025       | (0.06)      |
|                                 | NPN                  | PNP            | Pre-cabled (1) | XS508B1NBL2    | 0.035       | (0.08)      |
|                                 |                      |                | M8 connector   | XS508B1NBM8    | 0.025       | (0.06)      |
|                                 |                      |                | M12 connector  | XS508B1NBM12   | 0.025       | (0.06)      |
| <b>Ø 12, threaded M12 x 1</b>   |                      |                |                |                |             |             |
| 2 (0.08)                        | NO                   | PNP            | Pre-cabled (1) | XS512B1PAL2    | 0.075       | (0.17)      |
|                                 |                      |                | M12 connector  | XS512B1PAM12   | 0.035       | (0.08)      |
|                                 |                      |                | M12 connector  | XS512B1NAM12   | 0.035       | (0.08)      |
|                                 | NPN                  | PNP            | Pre-cabled (1) | XS512B1NAL2    | 0.075       | (0.17)      |
|                                 |                      |                | M12 connector  | XS512B1NAM12   | 0.035       | (0.08)      |
|                                 |                      |                | M12 connector  | XS512B1NAM12   | 0.035       | (0.08)      |
|                                 | NC                   | PNP            | Pre-cabled (1) | XS512B1PBL2    | 0.075       | (0.17)      |
|                                 |                      |                | M12 connector  | XS512B1PBM12   | 0.035       | (0.08)      |
|                                 |                      |                | M12 connector  | XS512B1PBM12   | 0.035       | (0.08)      |
|                                 | NPN                  | PNP            | Pre-cabled (1) | XS512B1NBL2    | 0.075       | (0.17)      |
|                                 |                      |                | M12 connector  | XS512B1NBM12   | 0.035       | (0.08)      |
|                                 |                      |                | M12 connector  | XS512B1NBM12   | 0.035       | (0.08)      |
| <b>Ø 18, threaded M18 x 1</b>   |                      |                |                |                |             |             |
| 5 (0.20)                        | NO                   | PNP            | Pre-cabled (1) | XS518B1PAL2    | 0.120       | (0.26)      |
|                                 |                      |                | M12 connector  | XS518B1PAM12   | 0.060       | (0.13)      |
|                                 |                      |                | M12 connector  | XS518B1NAM12   | 0.060       | (0.13)      |
|                                 | NPN                  | PNP            | Pre-cabled (1) | XS518B1NAL2    | 0.120       | (0.26)      |
|                                 |                      |                | M12 connector  | XS518B1NAM12   | 0.060       | (0.13)      |
|                                 |                      |                | M12 connector  | XS518B1NAM12   | 0.060       | (0.13)      |
|                                 | NC                   | PNP            | Pre-cabled (1) | XS518B1PBL2    | 0.120       | (0.26)      |
|                                 |                      |                | M12 connector  | XS518B1PBM12   | 0.060       | (0.13)      |
|                                 |                      |                | M12 connector  | XS518B1PBM12   | 0.060       | (0.13)      |
|                                 | NPN                  | PNP            | Pre-cabled (1) | XS518B1NBL2    | 0.120       | (0.26)      |
|                                 |                      |                | M12 connector  | XS518B1NBM12   | 0.060       | (0.13)      |
|                                 |                      |                | M12 connector  | XS518B1NBM12   | 0.060       | (0.13)      |
| <b>Ø 30, threaded M30 x 1.5</b> |                      |                |                |                |             |             |
| 10 (0.39)                       | NO                   | PNP            | Pre-cabled (1) | XS530B1PAL2    | 0.205       | (0.45)      |
|                                 |                      |                | M12 connector  | XS530B1PAM12   | 0.145       | (0.32)      |
|                                 |                      |                | M12 connector  | XS530B1NAM12   | 0.145       | (0.32)      |
|                                 | NPN                  | PNP            | Pre-cabled (1) | XS530B1NAL2    | 0.205       | (0.45)      |
|                                 |                      |                | M12 connector  | XS530B1NAM12   | 0.145       | (0.32)      |
|                                 |                      |                | M12 connector  | XS530B1NAM12   | 0.145       | (0.32)      |
|                                 | NC                   | PNP            | Pre-cabled (1) | XS530B1PBL2    | 0.205       | (0.45)      |
|                                 |                      |                | M12 connector  | XS530B1PBM12   | 0.145       | (0.32)      |
|                                 |                      |                | M12 connector  | XS530B1PBM12   | 0.145       | (0.32)      |
|                                 | NPN                  | PNP            | Pre-cabled (1) | XS530B1NBL2    | 0.205       | (0.45)      |
|                                 |                      |                | M12 connector  | XS530B1NBM12   | 0.145       | (0.32)      |
|                                 |                      |                | M12 connector  | XS530B1NBM12   | 0.145       | (0.32)      |
| <b>Accessories</b>              |                      |                |                |                |             |             |
| Description                     | For use with sensors | Catalog Number | Weight (kg)    | Weight (lb)    |             |             |
| Mounting clamps                 | Ø 6.5 (plain)        | XSZB165        | 0.005          | (0.01)         |             |             |
|                                 | 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)         |             |             |

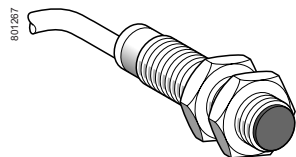
(1) For a 5 m long cable replace L2 with L5; for a 10 m cable replace L2 with L10.  
Example: XS508B1PAL2 becomes XS508B1PAL5 with a 5 m cable.

# OsiSense® Inductive proximity sensors

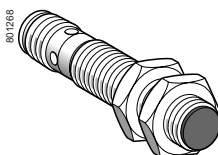
General purpose  
Cylindrical, standard range, flush mountable  
Three-wire DC, solid-state output



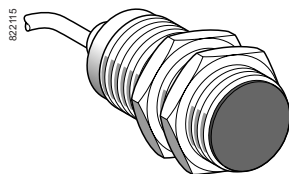
XS506BL●●L2



XS5●●BL●●L2



XS5●●BL●●M12



XS5 30BL●●L2

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

| Sensing dist. Sn, mm (in.) | Function | Output | Connection     | Catalog Number | Weight kg | Weight (lb) |
|----------------------------|----------|--------|----------------|----------------|-----------|-------------|
| <b>Ø 6.5, plain</b>        |          |        |                |                |           |             |
| 1.5 (0.06)                 | NO       | PNP    | Pre-cabled (1) | XS506BLPAL2    | 0.035     | (0.08)      |
|                            |          | NPN    | Pre-cabled (1) | XS506BLNAL2    | 0.035     | (0.08)      |

### Ø 8, threaded M8 x 1

|            |                |                |                |              |        |        |
|------------|----------------|----------------|----------------|--------------|--------|--------|
| 1.5 (0.06) | NO             | PNP            | M12 connector  | XS508BLPAL2  | 0.035  | (0.08) |
|            |                |                | Pre-cabled (1) | XS508BLPAM12 | 0.025  | (0.06) |
|            | NPN            | Pre-cabled (1) | M12 connector  | XS508BLNAL2  | 0.035  | (0.08) |
|            |                |                | Pre-cabled (1) | XS508BLNAM12 | 0.025  | (0.06) |
|            | NC             | PNP            | M12 connector  | XS508BLPBL2  | 0.035  | (0.08) |
|            |                |                | Pre-cabled (1) | XS508BLPBM12 | 0.025  | (0.06) |
| NPN        | Pre-cabled (1) | M12 connector  | XS508BLNBL2    | 0.035        | (0.08) |        |
|            |                | Pre-cabled (1) | XS508BLNBM12   | 0.025        | (0.06) |        |

### Ø 12, threaded M12 x 1

|          |                |                |                |              |        |        |
|----------|----------------|----------------|----------------|--------------|--------|--------|
| 2 (0.08) | NO             | PNP            | M12 connector  | XS512BLPAL2  | 0.075  | (0.17) |
|          |                |                | Pre-cabled (1) | XS512BLPAM12 | 0.035  | (0.08) |
|          | NPN            | Pre-cabled (1) | M12 connector  | XS512BLNAL2  | 0.075  | (0.17) |
|          |                |                | Pre-cabled (1) | XS512BLNAM12 | 0.035  | (0.08) |
|          | NC             | PNP            | M12 connector  | XS512BLPBL2  | 0.075  | (0.17) |
|          |                |                | Pre-cabled (1) | XS512BLPBM12 | 0.035  | (0.08) |
| NPN      | Pre-cabled (1) | M12 connector  | XS512BLNBL2    | 0.075        | (0.17) |        |
|          |                | Pre-cabled (1) | XS512BLNBM12   | 0.035        | (0.08) |        |

### Ø 18, threaded M18 x 1

|          |                |                |                |              |        |        |
|----------|----------------|----------------|----------------|--------------|--------|--------|
| 5 (0.20) | NO             | PNP            | M12 connector  | XS518BLPAL2  | 0.120  | (0.26) |
|          |                |                | Pre-cabled (1) | XS518BLPAM12 | 0.060  | (0.13) |
|          | NPN            | Pre-cabled (1) | M12 connector  | XS518BLNAL2  | 0.120  | (0.26) |
|          |                |                | Pre-cabled (1) | XS518BLNAM12 | 0.060  | (0.13) |
|          | NC             | PNP            | M12 connector  | XS518BLPBL2  | 0.120  | (0.26) |
|          |                |                | Pre-cabled (1) | XS518BLPBM12 | 0.060  | (0.13) |
| NPN      | Pre-cabled (1) | M12 connector  | XS518BLNBL2    | 0.120        | (0.26) |        |
|          |                | Pre-cabled (1) | XS518BLNBM12   | 0.060        | (0.13) |        |

### Ø 30, threaded M30 x 1.5

|           |                |                |                |              |        |        |
|-----------|----------------|----------------|----------------|--------------|--------|--------|
| 10 (0.39) | NO             | PNP            | M12 connector  | XS530BLPAL2  | 0.205  | (0.45) |
|           |                |                | Pre-cabled (1) | XS530BLPAM12 | 0.145  | (0.32) |
|           | NPN            | Pre-cabled (1) | M12 connector  | XS530BLNAL2  | 0.205  | (0.45) |
|           |                |                | Pre-cabled (1) | XS530BLNAM12 | 0.145  | (0.32) |
|           | NC             | PNP            | M12 connector  | XS530BLPBL2  | 0.205  | (0.45) |
|           |                |                | Pre-cabled (1) | XS530BLPBM12 | 0.145  | (0.32) |
| NPN       | Pre-cabled (1) | M12 connector  | XS530BLNBL2    | 0.205        | (0.45) |        |
|           |                | Pre-cabled (1) | XS530BLNBM12   | 0.145        | (0.32) |        |

## Accessories

| Description     | For use with sensors | Catalog Number | Weight kg | Weight (lb) |
|-----------------|----------------------|----------------|-----------|-------------|
| Mounting clamps | Ø 6.5 (plain)        | XSZ B165       | 0.005     | (0.01)      |
|                 | 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     | (0.04)      |

(1) For a 5 m cable replace L2 with L5; for a 10 m cable replace L2 with L10.  
Example: XS508BLPAL2 becomes XS508BLPAL5 with a 5 m cable.

# OsiSense® Inductive proximity sensors

General purpose

Cylindrical, standard range, flush mountable

Three-wire DC, solid-state output

| Specifications                    |                         |          |   |
|-----------------------------------|-------------------------|----------|---|
| Sensor type                       |                         |          | XS5●●B1●●M8, XS5●●B1●●M12<br>XS5●●BL●●M8, XS5●●BL●●M12                                  |
|                                   |                         |          | XS5●●B1●●L2<br>XS5●●BL●●L2  |
| Product certifications            |                         |          |   |
| Connection                        | Connector               |          | M8 on Ø 6.5 and Ø 8,<br>M12 on Ø 8, Ø 12, Ø 18 and Ø 30                                 |
|                                   | Pre-cabled              |          | –   |
| Operating zone                    | Ø 6.5 and Ø 8           | mm       | 0–1.2 (0–0.05 in.)  |
|                                   | Ø 12                    | mm       | 0–1.6 (0–0.06 in.)  |
|                                   | Ø 18                    | mm       | 0–4 (0–0.28 in.)  |
|                                   | Ø 30                    | mm       | 0–8 (0–0.31 in.)  |
| 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 65 and IP 68, double insulation ☐<br>(except Ø 6.5 and Ø 8: IP 67)                   |
| 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 XS5 06 and XS5 08BL: stainless steel, grade 303)            |
|                                   | Sensing face            |          | PPS   |
|                                   | Cable                   |          | –   |
| Vibration resistance              |                         |          | 25 gn, amplitude ± 2 mm (f = 10 to 50 Hz)   |
| Shock resistance                  |                         |          | 50 gn, duration 11 ms   |
| Output state indication           |                         |          | Yellow LED: 4 viewing ports at 90°  |
| Rated supply voltage              |                         | V        | – 12–48 for XS5●●BL,<br>– 12–24 for XS5●●B1<br>with protection against reverse polarity |
| Voltage limits (including ripple) |                         | V        | – 10–58 for XS5●●BL,<br>– 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<br>≤ 0.15 : XS518<br>≤ 0.3 : XS530                       |
|                                   |                         | Recovery | ms  |

# OsiSense® Inductive proximity sensors

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

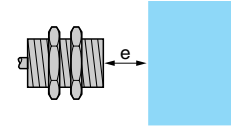
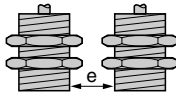
## Wiring diagrams



For M8 connector, NO and NC outputs on terminal 4

## Setup

### Minimum mounting distances (mm)



| Sensors | Side by side | Face to face | Facing a metal object |
|---------|--------------|--------------|-----------------------|
| Ø 6.5   | e ≥ 3        | e ≥ 18       | e ≥ 4.5               |
| Ø 8     | e ≥ 3        | e ≥ 18       | e ≥ 4.5               |
| Ø 12    | e ≥ 4        | e ≥ 24       | e ≥ 6                 |
| Ø 18    | e ≥ 10       | e ≥ 60       | e ≥ 15                |
| Ø 30    | e ≥ 20       | e ≥ 120      | e ≥ 30                |

## Dimensions (mm)



(1) LED

| Sensors                 |         | Pre-cabled (mm) |    | M8 connector (mm) |    | M12 connector (mm) |    |
|-------------------------|---------|-----------------|----|-------------------|----|--------------------|----|
|                         |         | a               | b  | a                 | b  | a                  | b  |
| <b>Short case model</b> |         |                 |    |                   |    |                    |    |
| Ø 6.5                   | XS506B1 | 33              | –  | 42                | –  | 45                 | –  |
| Ø 8                     | XS508B1 | 33              | 25 | 42                | 26 | 45                 | 24 |
| Ø 12                    | XS512B1 | 35              | 25 | –                 | –  | 50                 | 30 |
| Ø 18                    | XS518B1 | 39              | 28 | –                 | –  | 50                 | 28 |
| Ø 30                    | XS530B1 | 43              | 32 | –                 | –  | 55                 | 32 |
| <b>Long case model</b>  |         |                 |    |                   |    |                    |    |
| Ø 6.5                   | XS506BL | 51              | –  | –                 | –  | –                  | –  |
| Ø 8                     | XS508BL | 51              | 42 | 62                | 40 | –                  | –  |
| Ø 12                    | XS512BL | 53              | 42 | 62                | 42 | –                  | –  |
| Ø 18                    | XS518BL | 62              | 52 | 74                | 52 | –                  | –  |
| Ø 30                    | XS530BL | 62              | 52 | 74                | 52 | –                  | –  |

# OsiSense® Inductive proximity sensors

General purpose

Cylindrical, standard range, flush mountable

Two-wire DC



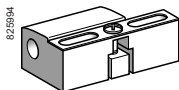
XS506BS●●L2



XS512BS●●L2



XS5●●BS●●M12



XSZB1●●

## Sensors, 2-wire 12–24 V $\bar{\square}$ , short case model

| Sensing dist.<br>Sn, mm (in.)   | Function               | Connection           | Catalog<br>Number      | Weight<br>kg (lb) |
|---------------------------------|------------------------|----------------------|------------------------|-------------------|
| <b>Ø 6.5, plain</b>             |                        |                      |                        |                   |
| 1.5 (0.06)                      | NO terminals 1 & 4 (2) | Pre-cabled (1)       | <b>XS506BSCAL2</b>     | 0.035 (0.08)      |
|                                 |                        | Remote M12 connector | <b>XS506BSCAL01M12</b> | 0.050 (0.11)      |
|                                 | NC                     | Pre-cabled (1)       | <b>XS506BSCBL2</b>     | 0.035 (0.08)      |
| <b>Ø 8, threaded M8 x 1</b>     |                        |                      |                        |                   |
| 1.5 (0.06)                      | NO terminals 1 & 4 (2) | Pre-cabled (1)       | <b>XS508BSCAL2</b>     | 0.035 (0.08)      |
|                                 |                        | Remote M12 connector | <b>XS508BSCAL01M12</b> | 0.050 (0.11)      |
|                                 |                        | Remote M12 connector | <b>XS508BSCAL08M12</b> | 0.050 (0.11)      |
|                                 | NC                     | Pre-cabled (1)       | <b>XS508BSCBL2</b>     | 0.035 (0.08)      |
|                                 |                        | Remote M12 connector | <b>XS508BSCBL01M12</b> | 0.050 (0.11)      |
| <b>Ø 12, threaded M12 x 1</b>   |                        |                      |                        |                   |
| 2 (0.08)                        | NO terminals 1 & 4 (2) | Pre-cabled (1)       | <b>XS512BSDAL2</b>     | 0.075 (0.17)      |
|                                 |                        | M12 connector        | <b>XS512BSDAM12</b>    | 0.035 (0.08)      |
|                                 | NO terminals 1 & 4 (2) | M12 connector        | <b>XS512BSCAM12</b>    | 0.035 (0.08)      |
|                                 |                        | Remote M12 connector | <b>XS512BSCAL08M12</b> | 0.060 (0.13)      |
|                                 | NC                     | Pre-cabled (1)       | <b>XS512BSDBL2</b>     | 0.075 (0.17)      |
|                                 | M12 connector          | <b>XS512BSDBM12</b>  | 0.035 (0.08)           |                   |
| <b>Ø 18, threaded M18 x 1</b>   |                        |                      |                        |                   |
| 5 (0.20)                        | NO terminals 1 & 4 (2) | Pre-cabled (1)       | <b>XS518BSDAL2</b>     | 0.120 (0.26)      |
|                                 |                        | M12 connector        | <b>XS518BSDAM12</b>    | 0.060 (0.13)      |
|                                 | NO terminals 1 & 4 (2) | M12 connector        | <b>XS518BSCAM12</b>    | 0.060 (0.13)      |
|                                 |                        | Remote M12 connector | <b>XS518BSCAL08M12</b> | 0.085 (0.19)      |
|                                 | NC                     | Pre-cabled (1)       | <b>XS518BSDBL2</b>     | 0.120 (0.26)      |
|                                 | M12 connector          | <b>XS518BSDBM12</b>  | 0.060 (0.13)           |                   |
| <b>Ø 30, threaded M30 x 1.5</b> |                        |                      |                        |                   |
| 10 (0.39)                       | NO terminals 1 & 4 (2) | Pre-cabled (1)       | <b>XS530BSDAL2</b>     | 0.205 (0.45)      |
|                                 |                        | M12 connector        | <b>XS530BSDAM12</b>    | 0.145 (0.32)      |
|                                 | NO terminals 1 & 4 (2) | M12 connector        | <b>XS530BSCAM12</b>    | 0.145 (0.32)      |
|                                 |                        | Remote M12 connector | <b>XS530BSCAL08M12</b> | 0.170 (0.37)      |
|                                 | NC                     | Pre-cabled (1)       | <b>XS530BSDBL2</b>     | 0.205 (0.45)      |
|                                 | M12 connector          | <b>XS530BSDBM12</b>  | 0.145 (0.32)           |                   |

## Accessories

| Description        | For use with<br>sensors | Catalog<br>Number | Weight<br>kg (lb) |
|--------------------|-------------------------|-------------------|-------------------|
| Mounting<br>clamps | Ø 6.5 (plain)           | <b>XSZ B165</b>   | 0.005 (0.01)      |
|                    | Ø 8                     | <b>XSZB108</b>    | 0.006 (0.01)      |
|                    | Ø 12                    | <b>XSZB112</b>    | 0.006 (0.01)      |
|                    | Ø 18                    | <b>XSZB118</b>    | 0.010 (0.02)      |
|                    | Ø 30                    | <b>XSZB130</b>    | 0.020 (0.04)      |

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

# OsiSense® Inductive proximity sensors

General purpose  
Cylindrical, standard range, flush mountable  
Two-wire DC



XS5●●B1●●L2



XS5●●B1●●M12



XS5●●B1●●L01B (2)



XS5●●B1●●L01C



XS5●●B1●●L01G



XSZB1●●

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

| Sensing distance<br>Sn, mm<br>(in.) | Function             | Connection                          | Catalog Number           | Weight<br>kg<br>(lb) |
|-------------------------------------|----------------------|-------------------------------------|--------------------------|----------------------|
| <b>Ø 8, threaded M8 x 1</b>         |                      |                                     |                          |                      |
| 1.5 (0.06)                          | NO                   | Pre-cabled (1)                      | <b>XS508B1DAL2</b>       | 0.035 (0.08)         |
|                                     |                      | Remote M12 connector                | <b>XS508B1DAL08M12</b>   | 0.050 (0.11)         |
|                                     | NO                   | M12 connector                       | <b>XS508B1DAM12</b>      | 0.025 (0.06)         |
|                                     |                      | Remote M12 connector                | <b>XS508B1CAL08M12</b>   | 0.050 (0.11)         |
|                                     | NC                   | Pre-cabled (1)                      | <b>XS508B1DBL2</b>       | 0.035 (0.08)         |
|                                     |                      | M12 connector                       | <b>XS508B1DBM12</b>      | 0.025 (0.06)         |
| <b>Ø 12, threaded M12 x 1</b>       |                      |                                     |                          |                      |
| 2 (0.08)                            | NO                   | Pre-cabled (1)                      | <b>XS512B1DAL2</b>       | 0.075 (0.17)         |
|                                     |                      | Remote 7/8" connector               | <b>XS512B1DAL08U78</b>   | 0.050 (0.11)         |
|                                     | NO                   | M12 connector                       | <b>XS512B1DAM12</b>      | 0.035 (0.08)         |
|                                     |                      | Remote M12 connector                | <b>XS512B1CAL08M12</b>   | 0.060 (0.13)         |
|                                     | NC                   | Pre-cabled (1)                      | <b>XS512B1DBL2</b>       | 0.075 (0.17)         |
|                                     |                      | M12 connector                       | <b>XS512B1DBM12</b>      | 0.035 (0.08)         |
|                                     |                      | Remote M12 connector                | <b>XS512B1DBL08M12</b>   | 0.060 (0.13)         |
|                                     |                      |                                     |                          |                      |
| <b>Ø 18, threaded M18 x 1</b>       |                      |                                     |                          |                      |
| 5 (0.20)                            | NO                   | Pre-cabled (1)                      | <b>XS518B1DAL2</b>       | 0.120 (0.26)         |
|                                     |                      | Low temperature version (-40 °C)    | <b>XS518B1DAL2TF (4)</b> | 0.120 (0.26)         |
|                                     | NO                   | Remote screw terminal connector (2) | <b>XS518B1DAL01B</b>     | 0.085 (0.19)         |
|                                     |                      | Remote DIN 43650A connector         | <b>XS518B1DAL01C</b>     | 0.085 (0.19)         |
|                                     | NO                   | Remote M18 connector                | <b>XS518B1DAL01G</b>     | 0.085 (0.19)         |
|                                     |                      | M12 connector                       | <b>XS518B1DAM12</b>      | 0.060 (0.13)         |
|                                     | NO                   | Remote M12 connector                | <b>XS518B1CAL08M12</b>   | 0.060 (0.13)         |
|                                     |                      | Remote M12 connector                | <b>XS518B1CAM12</b>      | 0.060 (0.13)         |
|                                     | NC                   | Pre-cabled (1)                      | <b>XS518B1DBL2</b>       | 0.120 (0.26)         |
|                                     |                      | M12 connector                       | <b>XS518B1DBM12</b>      | 0.060 (0.13)         |
|                                     |                      | Remote M12 connector                | <b>XS518B1DBL08M12</b>   | 0.085 (0.19)         |
|                                     |                      | Remote screw terminal connector (2) | <b>XS518B1DBL01B</b>     | 0.120 (0.26)         |
| <b>Ø 30, threaded M30 x 1.5</b>     |                      |                                     |                          |                      |
| 10 (0.39)                           | NO                   | Pre-cabled (1)                      | <b>XS530B1DAL2</b>       | 0.205 (0.45)         |
|                                     |                      | Low temperature version (-40 °C)    | <b>XS530B1DAL2TF (4)</b> | 0.120 (0.26)         |
|                                     | NO                   | M12 connector                       | <b>XS530B1DAM12</b>      | 0.145 (0.32)         |
|                                     |                      | Remote screw terminal connector (2) | <b>XS530B1DAL01B</b>     | 0.205 (0.45)         |
|                                     | NO                   | Remote DIN 43650A connector         | <b>XS530B1DAL01C</b>     | 0.205 (0.45)         |
|                                     |                      | Remote M18 connector                | <b>XS530B1DAL01G</b>     | 0.205 (0.45)         |
|                                     | NO                   | M12 connector                       | <b>XS530B1CAM12</b>      | 0.145 (0.32)         |
|                                     |                      | Remote M12 connector                | <b>XS530B1CAL08M12</b>   | 0.170 (0.37)         |
|                                     | NC                   | Pre-cabled (1)                      | <b>XS530B1DBL2</b>       | 0.205 (0.45)         |
|                                     |                      | M12 connector                       | <b>XS530B1DBM12</b>      | 0.145 (0.32)         |
|                                     |                      | Remote screw terminal connector (2) | <b>XS530B1DBL01B</b>     | 0.205 (0.37)         |
|                                     |                      |                                     |                          |                      |
| <b>Accessories</b>                  |                      |                                     |                          |                      |
| Description                         | For use with sensors | Catalog Number                      | Weight<br>kg<br>(lb)     |                      |
| Mounting clamps                     | Ø 8                  | <b>XSZB108</b>                      | 0.006 (0.01)             |                      |
|                                     | Ø 12                 | <b>XSZB112</b>                      | 0.006 (0.01)             |                      |
|                                     | Ø 18                 | <b>XSZB118</b>                      | 0.010 (0.02)             |                      |
|                                     | Ø 30                 | <b>XSZB130</b>                      | 0.020 (0.04)             |                      |

(1) For a 5 m cable replace L2 with L5; for a 10 m long cable replace L2 with L10.  
Example: XS508B1DAL2 becomes XS508B1DAL5 with a 5 m long cable.

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

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

(4) For a 5 m long cable replace L2 with L5.

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

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

Example: XS518B1DAL2TF becomes XS518B1DAP2TF with PUR cable.

For a 5 m long PUR cable replace P2 with P5.

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

# OsiSense® Inductive proximity sensors

General purpose

Cylindrical, standard range, flush mountable

Two-wire DC

| Specifications                    |                              |   |   |
|-----------------------------------|------------------------------|---|---|
| Sensor type                       |                              | XS5●●B1●●M12, XS5●●BS●●M12  | XS5●●B1D●L2, XS5●●BSD●L2  |
| Product certifications            |                              | UL, CSA, CE   |   |
| Connection                        | Connector                    | M12   | –   |
|                                   | Pre-cabled                   | –   | Length 2 m  |
|                                   | Remote connector             | Remote M12 connector (L01M12), screw terminal (L01B), DIN 43650A (L01C) and remote M18 connector (L01G) on 0.15 m flying lead.<br>Remote M12 (L08M12) or 7/8" (L08U78) connector on 0.80 m flying lead. |   |
| Operating zone                    | Ø 6.5                        | mm  | 0–1.2 (0–0.05 in.)  |
|                                   | Ø 8                          | mm  | 0–1.2 (0–0.05 in.)  |
|                                   | Ø 12                         | mm  | 0–1.6 (0–0.06 in.)  |
|                                   | Ø 18                         | mm  | 0–4 (0–0.16 in.)  |
|                                   | Ø 30                         | mm  | 0–8 (0–0.31 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 Ø 6.5 and Ø 8: IP 67)  |
| Storage temperature               |                              | °C  | -40 to +85 (-40 to +185 °F)   |
| Operating temperature             |                              | °C  | -25 to +70 (-13 to +158 °F) ; TF products: -40 to +70 (-40 to +158 °F)  |
| Materials                         | Case                         | Nickel plated brass (except XS506 and XS508B1: stainless steel, grade 303)  |   |
|                                   | Sensing face                 | PPS   |   |
|                                   | Cable                        | –   | PvR 2 x 0.34 mm <sup>2</sup> (22 AWG) except XS506 and XS508: 2 x 0.11 mm <sup>2</sup> (27 AWG) 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°  |   |
| Rated supply voltage              |                              | V   | --- 12–48 non-polarized for XS5●●B1D,<br>--- 12–24 non-polarized for XS5●●BS (except Ø 6.5 and Ø 8 short case models, which are polarized) with protection against reverse polarity |
| Voltage limits (including ripple) |                              | V   | --- 10–58 for XS5●●B1D,<br>--- 10–36 for XS5●●BS  |
| Switching capacity                |                              | mA  | 1.5–100 with overload and short-circuit protection  |
| Voltage drop, closed state        |                              | V   | ≤ 4   |
| Residual current, open state      |                              | mA  | ≤ 0.5   |
| Maximum switching frequency       | XS506, XS508, XS512          | Hz  | 4000  |
|                                   | XS518                        | Hz  | 3000  |
|                                   | XS530                        | Hz  | 2000  |
| Delays                            | First-up                     | ms  | ≤ 10  |
|                                   | Response                     | ms  | ≤ 0.2 : XS506, XS508 and XS512<br>≤ 0.15 : XS518<br>≤ 0.3 : XS530   |
|                                   | Recovery                     | ms  | ≤ 0.2 (except XS530B1: ≤ 0.3)   |

(1) For PUR cable, replace the letter L in the reference with P. Example: XS506BSDAL2 becomes XS5 06BSDAP2 with PUR cable.



## Wiring diagrams

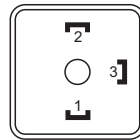
| Connector | Pre-cabled            | 2-wire $\overline{\text{---}}$ non-polarized   | NC output                             |
|-----------|-----------------------|--|---------------------------------------|
| M12       | BU: Blue<br>BN: Brown | <b>NO output</b><br>XS5...B1DA...<br>  | <b>NC output</b><br>XS5...B1DB...<br> |
|           |                       | <b>NO output</b><br>XS5...B1CA...<br>  | <b>NC output</b><br>XS508BSC...<br>   |
|           |                       | <b>2-wire <math>\overline{\text{---}}</math> polarized</b><br><b>NO output</b><br>XS508BSCA...<br> | <b>NC output</b><br>XS508BSCB...<br>  |

## Remote connectors LO1B, LO1C, LO1G

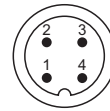
### Screw terminal (LO1B)

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

### DIN 43650 A (LO1C)



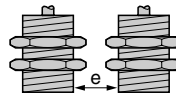
### M18 (LO1G)



The NO or NC outputs are connected to terminal 2.

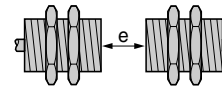
## Setup

### Minimum mounting distances (mm)



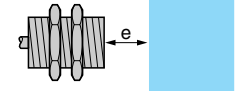
#### Side by side

|       |             |
|-------|-------------|
| 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

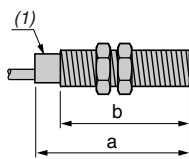
|              |
|--------------|
| $e \geq 18$  |
| $e \geq 18$  |
| $e \geq 24$  |
| $e \geq 60$  |
| $e \geq 120$ |



#### Facing a metal object

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

## Dimensions (mm)



(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 | 53              | 42 | 62                 | 42 |                    |    |
| Ø 18             | XS518B1 | 62              | 52 | 74                 | 52 |                    |    |
| Ø 30             | XS530B1 | 62              | 52 | 74                 | 52 |                    |    |

# OsiSense® Inductive proximity sensors

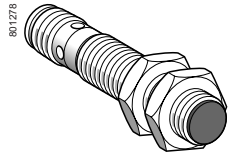
General purpose

Cylindrical, standard range, flush mountable

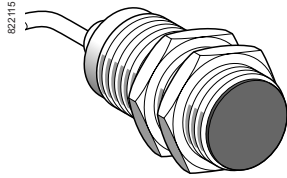
Two-wire AC or DC <sup>(1)</sup>



XS5●●B1M●L2



XS5●●B1M●U20



XS530B1●●L2



XSZB1●●

## Sensors, 2-wire 24–240 V $\bar{\sim}$ , long case model

### Ø 12, threaded M12 x 1

| Sensing distance<br>Sn, mm (in.) | Function | Connection                | Catalog<br>Number   | Weight<br>kg (lb) |
|----------------------------------|----------|---------------------------|---------------------|-------------------|
| 2 (0.08)                         | NO       | Pre-cabled <sup>(1)</sup> | <b>XS512B1MAL2</b>  | 0.075 (0.17)      |
|                                  |          | 1/2"-20UNF connector      | <b>XS512B1MAU20</b> | 0.025 (0.06)      |
|                                  | NC       | Pre-cabled <sup>(1)</sup> | <b>XS512B1MBL2</b>  | 0.075 (0.17)      |
|                                  |          | 1/2"-20UNF connector      | <b>XS512B1MBU20</b> | 0.025 (0.06)      |

### Ø 18, threaded M18 x 1

| Sensing distance<br>Sn, mm (in.) | Function | Connection                | Catalog<br>Number   | Weight<br>kg (lb) |
|----------------------------------|----------|---------------------------|---------------------|-------------------|
| 5 (0.20)                         | NO       | Pre-cabled <sup>(1)</sup> | <b>XS518B1MAL2</b>  | 0.100 (0.22)      |
|                                  |          | 1/2"-20UNF connector      | <b>XS518B1MAU20</b> | 0.060 (0.13)      |
|                                  | NC       | Pre-cabled <sup>(1)</sup> | <b>XS518B1MBL2</b>  | 0.100 (0.22)      |
|                                  |          | 1/2"-20UNF connector      | <b>XS518B1MBU20</b> | 0.060 (0.13)      |

### Ø 30, threaded M30 x 1.5

| Sensing distance<br>Sn, mm (in.) | Function | Connection                | Catalog<br>Number   | Weight<br>kg (lb) |
|----------------------------------|----------|---------------------------|---------------------|-------------------|
| 10 (0.39)                        | NO       | Pre-cabled <sup>(1)</sup> | <b>XS530B1MAL2</b>  | 0.205 (0.45)      |
|                                  |          | 1/2"-20UNF connector      | <b>XS530B1MAU20</b> | 0.145 (0.32)      |
|                                  | NC       | Pre-cabled <sup>(1)</sup> | <b>XS530B1MBL2</b>  | 0.205 (0.45)      |
|                                  |          | 1/2"-20UNF connector      | <b>XS530B1MBU20</b> | 0.145 (0.32)      |

## Accessories

| Description     | For use with<br>sensors | Catalog<br>Number | Weight<br>kg (lb) |
|-----------------|-------------------------|-------------------|-------------------|
| Mounting clamps | Ø 12                    | <b>XSZB112</b>    | 0.006 (0.01)      |
|                 | Ø 18                    | <b>XSZB118</b>    | 0.010 (0.02)      |
|                 | Ø 30                    | <b>XSZB130</b>    | 0.020 (0.04)      |

<sup>(1)</sup> For a 5 m long cable replace L2 with L5; for a 10 m cable replace L2 with L10.

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

# OsiSense® Inductive proximity sensors

General purpose  
Cylindrical, standard range, flush mountable  
Two-wire AC or DC

| Specifications                    |                              |   |   |                                       |  |
|-----------------------------------|------------------------------|---|---|---------------------------------------|--|
| Sensor type                       |                              | XS5●●B1M●U20                              |   | XS5●●B1M●L2                           |  |
| Product certifications            |                              | UL, CSA, CE                               |   |                                       |  |
| Connection                        | Connector                    | 1/2"-20UNF                                |   | -                                     |  |
|                                   | Pre-cabled                   | -   |   | Length 2 m                            |  |
| Operating zone                    | Ø 12                         | mm  | 0-1.6 (0-0.05 in.)  |                                       |  |
|                                   | Ø 18                         | mm  | 0-4 (0-0.16 in.)  |                                       |  |
|                                   | Ø 30                         | mm  | 0-8 (0-0.31 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 ☐  |  |
|                                   | Conforming to DIN 40050      | IP 69K                                    |   |                                       |  |
| 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                       |   |                                       |  |
|                                   | Sensing face                 | PPS                                       |   |                                       |  |
|                                   | Cable                        | -   |   | PvR 2 x 0.34 mm <sup>2</sup> (22 AWG) |  |
| 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: circular                  |  |
| 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●●●,<br>≤ 25 XS518B1M●●● and XS530B1M●●●       |                                       |  |
|                                   | Response                     | ms  | ≤ 0.5   |                                       |  |
|                                   | Recovery                     | ms  | ≤ 0.2 XS512B1M●●●,<br>≤ 0.5 XS518B1M●●●,<br>≤ 2 XS530B1M●●● |                                       |  |

(1) A 0.4 A "fast-acting" fuse must be connected in series with the load.

### Wiring diagrams

| Connector  | Pre-cabled            | 2-wire ~ or ---             |
|------------|-----------------------|-----------------------------|
| 1/2"-20UNF | BU: Blue<br>BN: Brown | <b>NO or NC output</b>      |
|            |                       |                             |
|            |                       | ±: on connector models only |

### Setup

Minimum mounting distances (mm)

| Sensor | Side by side | Face to face | Facing a metal object |
|--------|--------------|--------------|-----------------------|
| Ø 12   | e ≥ 8        | e ≥ 48       | e ≥ 12                |
| Ø 18   | e ≥ 16       | e ≥ 100      | e ≥ 25                |
| Ø 30   | e ≥ 30       | e ≥ 180      | e ≥ 45                |

### Dimensions (mm)

| Sensor   | Pre-cabled (mm) |    | Connector (mm) |    |
|----------|-----------------|----|----------------|----|
|          | a               | b  | a              | b  |
| XS512B1M | 53              | 42 | 62             | 42 |
| XS518B1M | 62              | 52 | 73             | 52 |
| XS530B1M | 62              | 52 | 73             | 52 |

(1) LED

# OsiSense® Inductive proximity sensors

General purpose

Cylindrical, increased range, flush mountable

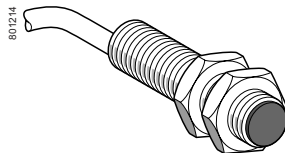
Three-wire DC, solid-state output



XS106B3●●L2



XS108B3●●M8



XS112B3●●L2

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

| Sensing distance<br>Sn, mm<br>(in.) | Function | Output        | Connection     | Sold in<br>lots of | Catalog<br>Number | Weight<br>kg   | Weight<br>(lb) |        |
|-------------------------------------|----------|---------------|----------------|--------------------|-------------------|----------------|----------------|--------|
| <b>Ø 6.5, plain</b>                 |          |               |                |                    |                   |                |                |        |
| 2.5 (0.10)                          | NO       | PNP           | Pre-cabled (1) | 1                  | XS106B3PAL2       | 0.060          | (0.13)         |        |
|                                     |          |               | M8 connector   | 1                  | XS106B3PAM8       | 0.030          | (0.07)         |        |
|                                     |          |               | M12 connector  | 1                  | XS106B3PAM12      | 0.050          | (0.11)         |        |
|                                     |          | Pre-cabled    | 20             | XS106B3PAL2TQ      | 0.980             | (2.16)         |                |        |
|                                     |          | M8 connector  | 20             | XS106B3PAM8TQ      | 0.320             | (0.71)         |                |        |
|                                     |          | NPN           | Pre-cabled     | 1                  | XS106B3NAL2       | 0.060          | (0.13)         |        |
|                                     | NC       | PNP           | Pre-cabled (1) | 1                  | XS106B3PBL2       | 0.060          | (0.13)         |        |
|                                     |          |               | M8 connector   | 1                  | XS106B3PBM8       | 0.030          | (0.07)         |        |
|                                     |          |               | M12 connector  | 1                  | XS106B3PBM12      | 0.030          | (0.07)         |        |
|                                     |          | NPN           | Pre-cabled     | 1                  | XS106B3NBL2       | 0.060          | (0.13)         |        |
|                                     |          | M8 connector  | 1              | XS106B3NBM8        | 0.030             | (0.07)         |                |        |
|                                     |          | M12 connector | 1              | XS106B3NBM12       | 0.030             | (0.07)         |                |        |
| <b>Ø 8, threaded M8 x 1</b>         |          |               |                |                    |                   |                |                |        |
| 2.5 (0.10)                          | NO       | PNP           | Pre-cabled (1) | 1                  | XS108B3PAL2       | 0.070          | (0.15)         |        |
|                                     |          |               | M8 connector   | 1                  | XS108B3PAM8       | 0.030          | (0.07)         |        |
|                                     |          |               | M12 connector  | 1                  | XS108B3PAM12      | 0.060          | (0.13)         |        |
|                                     |          |               | Pre-cabled     | 20                 | XS108B3PAL2TQ     | 1.120          | (2.47)         |        |
|                                     |          |               | M8 connector   | 20                 | XS108B3PAM8TQ     | 0.460          | (1.01)         |        |
|                                     |          |               | M12 connector  | 20                 | XS108B3PAM12TQ    | 0.940          | (2.07)         |        |
|                                     |          | NPN           | Pre-cabled (1) | 1                  | XS108B3NAL2       | 0.070          | (0.15)         |        |
|                                     |          |               | M8 connector   | 1                  | XS108B3NAM8       | 0.030          | (0.07)         |        |
|                                     |          |               | M12 connector  | 1                  | XS108B3NAM12      | 0.060          | (0.13)         |        |
|                                     |          |               | Pre-cabled     | 20                 | XS108B3NAL2TQ     | 1.120          | (2.47)         |        |
|                                     |          |               | M8 connector   | 20                 | XS108B3NAM8TQ     | 0.460          | (1.01)         |        |
|                                     |          |               | M12 connector  | 20                 | XS108B3NAM12TQ    | 0.940          | (2.07)         |        |
|                                     | NC       | PNP           | Pre-cabled (1) | 1                  | XS108B3PBL2       | 0.070          | (0.15)         |        |
|                                     |          |               | M8 connector   | 1                  | XS108B3PBM8       | 0.030          | (0.07)         |        |
|                                     |          |               | M12 connector  | 1                  | XS108B3PBM12      | 0.060          | (0.13)         |        |
|                                     |          |               | Pre-cabled     | 20                 | XS108B3PBL2TQ     | 1.120          | (2.47)         |        |
|                                     |          |               | M8 connector   | 20                 | XS108B3PBM8TQ     | 0.460          | (1.01)         |        |
|                                     |          |               | M12 connector  | 20                 | XS108B3PBM12TQ    | 0.940          | (2.07)         |        |
|                                     |          | NPN           | Pre-cabled (1) | 1                  | XS108B3NBL2       | 0.070          | (0.15)         |        |
|                                     |          |               | M8 connector   | 1                  | XS108B3NBM8       | 0.030          | (0.07)         |        |
|                                     |          |               | M12 connector  | 1                  | XS108B3NBM12      | 0.060          | (0.13)         |        |
|                                     |          |               | Pre-cabled     | 20                 | XS108B3NBL2TQ     | 1.120          | (2.47)         |        |
|                                     |          |               | M8 connector   | 20                 | XS108B3NBM8TQ     | 0.460          | (1.01)         |        |
|                                     |          |               | M12 connector  | 20                 | XS108B3NBM12TQ    | 0.940          | (2.07)         |        |
| <b>Ø 12, threaded M12 x 1</b>       |          |               |                |                    |                   |                |                |        |
| 4 (0.16)                            | NO       | PNP           | Pre-cabled (1) | 1                  | XS112B3PAL2       | 0.090          | (0.20)         |        |
|                                     |          |               | M12 connector  | 1                  | XS112B3PAM12      | 0.030          | (0.07)         |        |
|                                     |          |               | Pre-cabled     | 20                 | XS112B3PAL2TQ     | 1.600          | (3.53)         |        |
|                                     |          | NPN           | Pre-cabled (1) | 1                  | XS112B3NAL2       | 0.090          | (0.20)         |        |
|                                     |          |               | M12 connector  | 1                  | XS112B3NAM12      | 0.030          | (0.07)         |        |
|                                     |          |               | Pre-cabled     | 20                 | XS112B3NAL2TQ     | 1.600          | (3.53)         |        |
|                                     |          | NC            | PNP            | Pre-cabled (1)     | 1                 | XS112B3PBL2    | 0.090          | (0.20) |
|                                     |          |               |                | M12 connector      | 1                 | XS112B3PBM12   | 0.030          | (0.07) |
|                                     |          |               |                | M12 connector      | 20                | XS112B3PBM12TQ | 0.470          | (1.04) |
|                                     | NPN      |               | Pre-cabled (1) | 1                  | XS112B3NBL2       | 0.090          | (0.20)         |        |
|                                     |          |               | M12 connector  | 1                  | XS112B3NBM12      | 0.030          | (0.07)         |        |
|                                     |          |               | M12 connector  | 1                  | XS112B3NBM12      | 0.030          | (0.07)         |        |

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

Example: XS106B3PAL2 becomes XS106B3PAL5 with a 5 m cable.

# OsiSense® Inductive proximity sensors

General purpose

Cylindrical, increased range, flush mountable

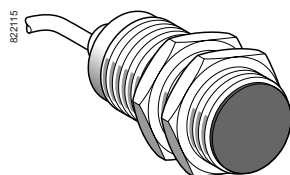
Three-wire DC, solid-state output



XS118B3●●M12



XS118B3●●L2



XS130B3●●L2



XSZB1●●

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

| Sensing distance<br>Sn, mm<br>(in.) | Function | Output         | Connection     | Sold in lots of | Catalog Number | Weight<br>kg | Weight<br>(lb) |
|-------------------------------------|----------|----------------|----------------|-----------------|----------------|--------------|----------------|
| <b>Ø 18, threaded M18 x 1</b>       |          |                |                |                 |                |              |                |
| 8 (0.31)                            | NO       | PNP            | Pre-cabled (1) | 1               | XS118B3PAL2    | 0.110        | (0.24)         |
|                                     |          |                | M12 connector  | 1               | XS118B3PAM12   | 0.060        | (0.13)         |
|                                     |          |                | Pre-cabled     | 20              | XS118B3PAL2TQ  | 2.000        | (4.41)         |
|                                     | NPN      | PNP            | M12 connector  | 20              | XS118B3PAM12TQ | 1.140        | (2.51)         |
|                                     |          |                | Pre-cabled (1) | 1               | XS118B3NAL2    | 0.110        | (0.24)         |
|                                     |          |                | M12 connector  | 1               | XS118B3NAM12   | 0.060        | (0.13)         |
| NC                                  | PNP      | Pre-cabled     | 20             | XS118B3NAL2TQ   | 2.000          | (4.41)       |                |
|                                     |          | M12 connector  | 20             | XS118B3NAM12TQ  | 1.140          | (2.51)       |                |
|                                     |          | Pre-cabled (1) | 1              | XS118B3PBL2     | 0.110          | (0.24)       |                |
| NPN                                 | PNP      | M12 connector  | 1              | XS118B3PBM12    | 0.060          | (0.13)       |                |
|                                     |          | Pre-cabled (1) | 1              | XS118B3NBL2     | 0.110          | (0.24)       |                |
|                                     |          | M12 connector  | 1              | XS118B3NBM12    | 0.060          | (0.13)       |                |
| <b>Ø 30, threaded M30 x 1.5</b>     |          |                |                |                 |                |              |                |
| 15 (0.59)                           | NO       | PNP            | Pre-cabled (1) | 1               | XS130B3PAL2    | 0.180        | (0.40)         |
|                                     |          |                | M12 connector  | 1               | XS130B3PAM12   | 0.130        | (0.29)         |
|                                     |          |                | Pre-cabled     | 20              | XS130B3PAL2TQ  | 3.360        | (7.41)         |
|                                     | NPN      | PNP            | M12 connector  | 20              | XS130B3PAM12TQ | 2.000        | (4.41)         |
|                                     |          |                | Pre-cabled (1) | 1               | XS130B3NAL2    | 0.180        | (0.40)         |
|                                     |          |                | M12 connector  | 1               | XS130B3NAM12   | 0.130        | (0.29)         |
| NC                                  | PNP      | Pre-cabled     | 20             | XS130B3NAM12TQ  | 2.000          | (4.41)       |                |
|                                     |          | M12 connector  | 1              | XS130B3PBL2     | 0.180          | (0.40)       |                |
|                                     |          | M12 connector  | 1              | XS130B3PBM12    | 0.130          | (0.29)       |                |
| NPN                                 | PNP      | Pre-cabled (1) | 1              | XS130B3NBL2     | 0.180          | (0.40)       |                |
|                                     |          | M12 connector  | 1              | XS130B3NBM12    | 0.130          | (0.29)       |                |

### Accessories

| Description     | For use with sensors | Catalog Number | Weight<br>kg | Weight<br>(lb) |
|-----------------|----------------------|----------------|--------------|----------------|
| Mounting clamps | Ø 6.5 (plain)        | XSZB165        | 0.005        | (0.01)         |
|                 | Ø 8 (M8 x 1)         | XSZB108        | 0.006        | (0.01)         |
|                 | Ø 12 (M12 x 1)       | XSZB112        | 0.006        | (0.01)         |
|                 | Ø 18 (M18 x 1)       | XSZB118        | 0.010        | (0.02)         |
|                 | Ø 30 (M30 x 1.5)     | XSZB130        | 0.020        | (0.04)         |

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

Example: XS118B3PAL2 becomes XS118B3PAL5 with a 5 m long cable.

# OsiSense® Inductive proximity sensors

General purpose

Cylindrical, increased range, flush mountable

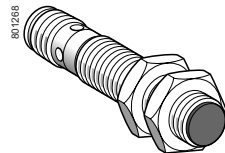
Three-wire DC, solid-state output

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

| Sensing dist.<br>Sn, mm (in.) | Function | Output         | Connection          | Catalog Number      | Weight<br>kg (lb) |
|-------------------------------|----------|----------------|---------------------|---------------------|-------------------|
| <b>Ø 8, threaded M8 x 1</b>   |          |                |                     |                     |                   |
| 2.5 (0.10)                    | NO       | PNP            | Pre-cabled (1)      | <b>XS608B1PAL2</b>  | 0.035 (0.08)      |
|                               |          |                | M12 connector       | <b>XS608B1PAM12</b> | 0.015 (0.03)      |
|                               | NPN      | PNP            | Pre-cabled (1)      | <b>XS608B1NAL2</b>  | 0.035 (0.08)      |
|                               |          |                | M12 connector       | <b>XS608B1NAM12</b> | 0.015 (0.03)      |
|                               | NC       | PNP            | Pre-cabled (1)      | <b>XS608B1PBL2</b>  | 0.035 (0.08)      |
|                               |          |                | M12 connector       | <b>XS608B1PBM12</b> | 0.015 (0.03)      |
| NPN                           | PNP      | Pre-cabled (1) | <b>XS608B1NBL2</b>  | 0.035 (0.08)        |                   |
|                               |          | M12 connector  | <b>XS608B1NBM12</b> | 0.015 (0.03)        |                   |



XS608B1L2



XS612B1L12

|                               |     |                |                     |                     |              |
|-------------------------------|-----|----------------|---------------------|---------------------|--------------|
| <b>Ø 12, threaded M12 x 1</b> |     |                |                     |                     |              |
| 4 (0.16)                      | NO  | PNP            | Pre-cabled (1)      | <b>XS612B1PAL2</b>  | 0.075 (0.17) |
|                               |     |                | M12 connector       | <b>XS612B1PAM12</b> | 0.020 (0.04) |
|                               | NPN | PNP            | Pre-cabled (1)      | <b>XS612B1NAL2</b>  | 0.075 (0.17) |
|                               |     |                | M12 connector       | <b>XS612B1NAM12</b> | 0.020 (0.04) |
|                               | NC  | PNP            | Pre-cabled (1)      | <b>XS612B1PBL2</b>  | 0.075 (0.17) |
|                               |     |                | M12 connector       | <b>XS612B1PBM12</b> | 0.020 (0.04) |
| NPN                           | PNP | Pre-cabled (1) | <b>XS612B1NBL2</b>  | 0.075 (0.17)        |              |
|                               |     | M12 connector  | <b>XS612B1NBM12</b> | 0.020 (0.04)        |              |

|                               |     |                              |                              |                          |              |
|-------------------------------|-----|------------------------------|------------------------------|--------------------------|--------------|
| <b>Ø 18, threaded M18 x 1</b> |     |                              |                              |                          |              |
| 8 (0.31)                      | NO  | PNP                          | Pre-cabled (1)               | <b>XS618B1PAL2</b>       | 0.100 (0.22) |
|                               |     |                              | M12 connector                | <b>XS618B1PAM12</b>      | 0.040 (0.09) |
|                               |     |                              | Remote screw term. connector | <b>XS618B1PAL01B (2)</b> | 0.100 (0.22) |
|                               |     |                              | Remote DIN 43650 connector   | <b>XS618B1PAL01C</b>     | 0.100 (0.22) |
|                               |     |                              | Remote M18 connector         | <b>XS618B1PAL01G</b>     | 0.100 (0.22) |
|                               |     |                              | M12 connector                | <b>XS618B1NAM12</b>      | 0.040 (0.09) |
|                               | NPN | PNP                          | Pre-cabled (1)               | <b>XS618B1NAL2</b>       | 0.100 (0.22) |
|                               |     |                              | M12 connector                | <b>XS618B1NAM12</b>      | 0.040 (0.09) |
|                               |     |                              | Remote screw term. connector | <b>XS618B1NAL01B (2)</b> | 0.100 (0.22) |
|                               |     |                              | Remote DIN 43650 connector   | <b>XS618B1NAL01C</b>     | 0.100 (0.22) |
|                               |     |                              | Remote M18 connector         | <b>XS618B1NAL01G</b>     | 0.100 (0.22) |
|                               |     |                              | M12 connector                | <b>XS618B1NBM12</b>      | 0.040 (0.09) |
| NC                            | PNP | Pre-cabled (1)               | <b>XS618B1PBL2</b>           | 0.100 (0.22)             |              |
|                               |     | M12 connector                | <b>XS618B1PBM12</b>          | 0.040 (0.09)             |              |
|                               |     | Remote screw term. connector | <b>XS618B1PBL01B (2)</b>     | 0.100 (0.22)             |              |
|                               |     | Remote DIN 43650 connector   | <b>XS618B1PBL01C</b>         | 0.100 (0.22)             |              |
|                               |     | Remote M18 connector         | <b>XS618B1PBL01G</b>         | 0.100 (0.22)             |              |
|                               |     | M12 connector                | <b>XS618B1NBL2</b>           | 0.100 (0.22)             |              |
| NPN                           | PNP | Pre-cabled (1)               | <b>XS618B1NBL2</b>           | 0.100 (0.22)             |              |
|                               |     | M12 connector                | <b>XS618B1NBM12</b>          | 0.040 (0.09)             |              |
|                               |     | Remote screw term. connector | <b>XS618B1NBL01B (2)</b>     | 0.100 (0.22)             |              |
|                               |     | Remote DIN 43650 connector   | <b>XS618B1NBL01C</b>         | 0.100 (0.22)             |              |
|                               |     | Remote M18 connector         | <b>XS618B1NBL01G</b>         | 0.100 (0.22)             |              |
|                               |     | M12 connector                | <b>XS618B1NBM12</b>          | 0.040 (0.09)             |              |



XS618B1L01B (2)



XS618B1L01C



XS618B1L01G

|                                 |     |                              |                              |                          |              |
|---------------------------------|-----|------------------------------|------------------------------|--------------------------|--------------|
| <b>Ø 30, threaded M30 x 1.5</b> |     |                              |                              |                          |              |
| 15 (0.59)                       | NO  | PNP                          | Pre-cabled (1)               | <b>XS630B1PAL2</b>       | 0.205 (0.45) |
|                                 |     |                              | M12 connector                | <b>XS630B1PAM12</b>      | 0.145 (0.32) |
|                                 |     |                              | Remote screw term. connector | <b>XS630B1PAL01B (2)</b> | 0.205 (0.45) |
|                                 |     |                              | Remote DIN 43650 connector   | <b>XS630B1PAL01C</b>     | 0.205 (0.45) |
|                                 |     |                              | Remote M18 connector         | <b>XS630B1PAL01G</b>     | 0.205 (0.45) |
|                                 |     |                              | M12 connector                | <b>XS630B1NAM12</b>      | 0.145 (0.32) |
|                                 | NPN | PNP                          | Pre-cabled (1)               | <b>XS630B1NAL2</b>       | 0.205 (0.45) |
|                                 |     |                              | M12 connector                | <b>XS630B1NAM12</b>      | 0.145 (0.32) |
|                                 |     |                              | Remote screw term. connector | <b>XS630B1NAL01B (2)</b> | 0.205 (0.45) |
|                                 |     |                              | Remote DIN 43650 connector   | <b>XS630B1NAL01C</b>     | 0.205 (0.45) |
|                                 |     |                              | Remote M18 connector         | <b>XS630B1NAL01G</b>     | 0.205 (0.45) |
|                                 |     |                              | M12 connector                | <b>XS630B1NBM12</b>      | 0.145 (0.32) |
| NC                              | PNP | Pre-cabled (1)               | <b>XS630B1PBL2</b>           | 0.205 (0.45)             |              |
|                                 |     | M12 connector                | <b>XS630B1PBM12</b>          | 0.145 (0.32)             |              |
|                                 |     | Remote screw term. connector | <b>XS630B1PBL01B (2)</b>     | 0.205 (0.45)             |              |
|                                 |     | Remote DIN 43650 connector   | <b>XS630B1PBL01C</b>         | 0.205 (0.45)             |              |
|                                 |     | Remote M18 connector         | <b>XS630B1PBL01G</b>         | 0.205 (0.45)             |              |
|                                 |     | M12 connector                | <b>XS630B1NBL2</b>           | 0.205 (0.45)             |              |
| NPN                             | PNP | Pre-cabled (1)               | <b>XS630B1NBL2</b>           | 0.205 (0.45)             |              |
|                                 |     | M12 connector                | <b>XS630B1NBM12</b>          | 0.145 (0.32)             |              |
|                                 |     | Remote screw term. connector | <b>XS630B1NBL01B (2)</b>     | 0.205 (0.45)             |              |
|                                 |     | Remote DIN 43650 connector   | <b>XS630B1NBL01C</b>         | 0.205 (0.45)             |              |
|                                 |     | Remote M18 connector         | <b>XS630B1NBL01G</b>         | 0.205 (0.45)             |              |
|                                 |     | M12 connector                | <b>XS630B1NBM12</b>          | 0.145 (0.32)             |              |



XSZB108

| Accessories     |                      |                |                   |  |  |
|-----------------|----------------------|----------------|-------------------|--|--|
| Description     | For use with sensors | Catalog Number | Weight<br>kg (lb) |  |  |
| Mounting clamps | Ø 8                  | <b>XSZB108</b> | 0.006 (0.01)      |  |  |
|                 | Ø 12                 | <b>XSZB112</b> | 0.006 (0.01)      |  |  |
|                 | Ø 18                 | <b>XSZB118</b> | 0.010 (0.02)      |  |  |
|                 | Ø 30                 | <b>XSZB130</b> | 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.

# OsiSense® Inductive proximity sensors

General purpose

Cylindrical, increased range, flush mountable

Three-wire DC, solid-state output

| Specifications                    |                              | XS1/XS6●●B●●M8   | XS1/XS6●●B●●M12  | XS1/XS6●●B●●L2   |
|-----------------------------------|------------------------------|--|--|--|
| Sensor type                       |                              |  |  |  |
| Product certifications            |                              | UL, CSA, CE  |  |  |
| Connection                        | 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 flying lead |  |  |
| Operating zone                    | Ø 6.5 and Ø 8                | mm   | 0–2 (0–0.08 in.)   |  |
|                                   | Ø 12                         | mm   | 0–3.2 (0–0.13 in.)   |  |
|                                   | Ø 18                         | mm   | 0–6.4 (0–0.25 in.)   |  |
|                                   | Ø 30                         | mm   | 0–12 (0–0.47 in.)  |  |
| Differential travel               |                              | %  | 1–15 of effective sensing 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 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 <sup>2</sup> (22 AWG) except Ø 6.5 and 8: 3 x 0.11 mm (27 AWG) <sup>2</sup>                    |  |
| 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, circular   |
| Rated supply voltage              |                              | V  | XS1: ∴ 12–24 with protection against reverse polarity<br>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  |  |

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

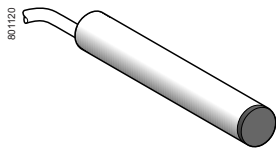
| Dimensions (mm)  |                         | Sensors         |    |                    |    |                    |    |    |
|--|-------------------------|-----------------|----|--------------------|----|--------------------|----|----|
| <br>(1) LED | <b>Short case model</b> | Pre-cabled (mm) |   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

# OsiSense® Inductive proximity sensors

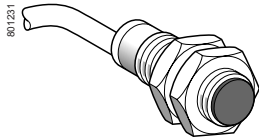
General purpose

Cylindrical, increased range, flush mountable

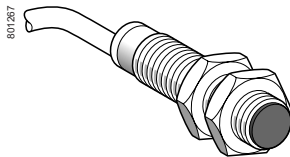
Two-wire DC, solid-state output



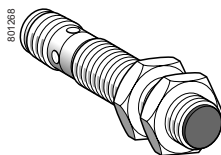
XS606B3●●L2



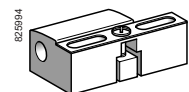
XS612B3●●L2



XS6●●B1●●L2



XS6●●B1●●M12



XSZB1●●

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

| Sensing dist.<br>Sn, mm (in.)   | Function | Connection           | Catalog<br>Number | Weight<br>kg (lb) |
|---------------------------------|----------|----------------------|-------------------|-------------------|
| <b>Ø 6.5, plain</b>             |          |                      |                   |                   |
| 2.5 (0.10)                      | NO       | Pre-cabled (1)       | XS606B3CAL2       | 0.060 (0.13)      |
|                                 |          | Remote M12 connector | XS606B3CAL01M12   | 0.070 (0.15)      |
|                                 | NC       | Pre-cabled (1)       | XS606B3CBL2       | 0.060 (0.13)      |
| <b>Ø 8, threaded M8 x 1</b>     |          |                      |                   |                   |
| 2.5 (0.10)                      | NO       | Pre-cabled (1)       | XS608B3CAL2       | 0.070 (0.15)      |
|                                 |          | Remote M12 connector | XS608B3CAL01M12   | 0.070 (0.15)      |
|                                 | NC       | Pre-cabled (1)       | XS608B3CBL2       | 0.070 (0.15)      |
|                                 |          | Remote M12 connector | XS608B3CBL01M12   | 0.070 (0.15)      |
| <b>Ø 12, threaded M12 x 1</b>   |          |                      |                   |                   |
| 4 (0.16)                        | NO       | Pre-cabled (1)       | XS612B3DAL2       | 0.090 (0.20)      |
|                                 |          | M12 connector        | XS612B3DAM12      | 0.030 (0.07)      |
|                                 | NC       | Pre-cabled (1)       | XS612B3DBL2       | 0.090 (0.20)      |
|                                 |          | M12 connector        | XS612B3DBM12      | 0.030 (0.07)      |
| <b>Ø 18, threaded M18 x 1</b>   |          |                      |                   |                   |
| 8 (0.31)                        | NO       | Pre-cabled (1)       | XS618B3DAL2       | 0.110 (0.24)      |
|                                 |          | M12 connector        | XS618B3DAM12      | 0.060 (0.13)      |
|                                 | NC       | Pre-cabled (1)       | XS618B3DBL2       | 0.110 (0.24)      |
|                                 |          | M12 connector        | XS618B3DBM12      | 0.060 (0.13)      |
| <b>Ø 30, threaded M30 x 1.5</b> |          |                      |                   |                   |
| 15 (0.59)                       | NO       | Pre-cabled (1)       | XS630B3DAL2       | 0.180 (0.40)      |
|                                 |          | M12 connector        | XS630B3DAM12      | 0.130 (0.29)      |
|                                 | NC       | Pre-cabled (1)       | XS630B3DBL2       | 0.180 (0.40)      |
|                                 |          | M12 connector        | XS630B3DBM12      | 0.180 (0.40)      |

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

| Sensing dist.<br>Sn, mm (in.)   | Function | Connection     | Catalog<br>Number | Weight<br>kg (lb) |
|---------------------------------|----------|----------------|-------------------|-------------------|
| <b>Ø 6.5, plain</b>             |          |                |                   |                   |
| 2.5 (0.10)                      | NO       | Pre-cabled (1) | XS606B1DAL2       | 0.060 (0.13)      |
|                                 |          | NC             | Pre-cabled (1)    | XS606B1DBL2       |
| <b>Ø 8, threaded M8 x 1</b>     |          |                |                   |                   |
| 2.5 (0.10)                      | NO       | Pre-cabled (1) | XS608B1DAL2       | 0.035 (0.08)      |
|                                 |          | M12 connector  | XS608B1DAM12      | 0.015 (0.03)      |
|                                 | NC       | Pre-cabled (1) | XS608B1DBL2       | 0.035 (0.08)      |
|                                 |          | M12 connector  | XS608B1DBM12      | 0.015 (0.03)      |
| <b>Ø 12, threaded M12 x 1</b>   |          |                |                   |                   |
| 4 (0.16)                        | NO       | Pre-cabled (1) | XS612B1DAL2       | 0.180 (0.40)      |
|                                 |          | M12 connector  | XS612B1DAM12      | 0.020 (0.44)      |
|                                 | NC       | Pre-cabled (1) | XS612B1DBL2       | 0.075 (0.17)      |
|                                 |          | M12 connector  | XS612B1DBM12      | 0.020 (0.44)      |
| <b>Ø 18, threaded M18 x 1</b>   |          |                |                   |                   |
| 8 (0.31)                        | NO       | Pre-cabled (1) | XS618B1DAL2       | 0.100 (0.22)      |
|                                 |          | M12 connector  | XS618B1DAM12      | 0.040 (0.09)      |
|                                 | NC       | Pre-cabled (1) | XS618B1DBL2       | 0.100 (0.22)      |
|                                 |          | M12 connector  | XS618B1DBM12      | 0.040 (0.09)      |
| <b>Ø 30, threaded M30 x 1.5</b> |          |                |                   |                   |
| 15 (0.59)                       | NO       | Pre-cabled (1) | XS630B1DAL2       | 0.205 (0.45)      |
|                                 |          | M12 connector  | XS630B1DAM12      | 0.145 (0.32)      |
|                                 | NC       | Pre-cabled (1) | XS630B1DBL2       | 0.205 (0.45)      |
|                                 |          | M12 connector  | XS630B1DBM12      | 0.145 (0.32)      |

### Accessories

| Description     | For use with<br>sensors | Catalog<br>Number | Weight<br>kg (lb) |
|-----------------|-------------------------|-------------------|-------------------|
| Mounting clamps | Ø 6.5 (plain)           | XSZB165           | 0.005 (0.01)      |
|                 | Ø 8 (M8 x 1)            | XSZB108           | 0.006 (0.01)      |
|                 | Ø 12 (M12 x 1)          | XSZB112           | 0.006 (0.01)      |
|                 | Ø 18 (M18 x 1)          | XSZB118           | 0.010 (0.02)      |
|                 | Ø 30 (M30 x 1.5)        | XSZB130           | 0.020 (0.04)      |

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

Example: XS606B3CAL2 becomes XS606B3CAL5 with a 5 m cable.



# OsiSense® Inductive proximity sensors

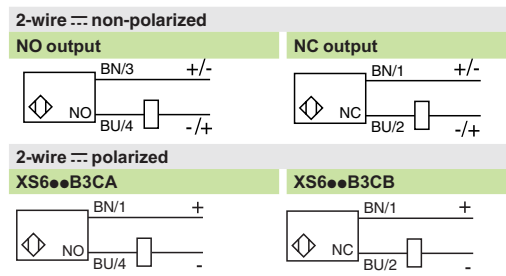
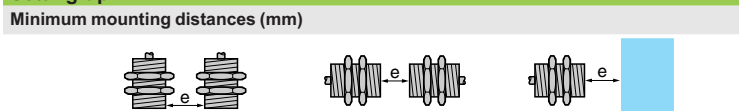
General purpose

Cylindrical, increased range, flush mountable

Two-wire DC, solid-state output

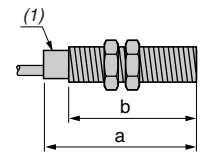
| Specifications                    |                              |   |   |
|-----------------------------------|------------------------------|---|---|
| Sensor type                       |                              | XS6●●B3D●M12, XS6●●B1D●M12  | XS6●●B3D●L2, XS6●●B1D●L2  |
| Product certifications            |                              | UL, CSA, CE   |   |
| Connection                        | Connector                    | M12 or remote M12 connector (L01M12) on 0.15 m flying lead  |   |
|                                   | Pre-cabled                   | Length 2 m  |   |
| Operating zone                    | ∅ 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 isolation ☐<br>(except ∅ 6.5 and ∅ 8: IP 67) |
|                                   | Conforming to DIN 40050      | IP 69K  |   |
| 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 XS606B1D or XS608B1D: stainless steel, grade 303)   |   |
|                                   | Sensing face                 | PPS   |   |
|                                   | Cable                        | PvR 2 x 0.34 mm <sup>2</sup> (22 AWG) except ∅ 6.5 and ∅ 8: 2 x 0.11 mm <sup>2</sup> (27 AWG)   |   |
| 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-polarized for XS6●●B1D,<br>--- 12–24 non-polarized for XS6●●B3D (except ∅ 6.5 and ∅ 8 short case models, which are polarized), with protection against reverse polarity |   |
| Voltage limits (including ripple) | V                            | --- 10–58 for XS6●●B1D<br>--- 10–36 for XS6●●B3D  |   |
| Switching capacity                | mA                           | ≤ 100 with overload and short-circuit protection  |   |
| Voltage drop, closed state        | V                            | 4   |   |
| Current consumption, no-load      | mA                           | ≤ 0.5 mA  |   |
| Maximum switching frequency       | ∅ 6.5, ∅ 8                   | Hz  | 3000  |
|                                   | ∅ 12                         | Hz  | 2000  |
|                                   | ∅ 18                         | Hz  | 1000  |
|                                   | ∅ 30                         | Hz  | 500   |
| Delays                            | First-up                     | ms  | ≤ 10  |
|                                   | Response                     | ms  | ≤ 0.3   |
|                                   | Recovery                     | ms  | ≤ 0.3   |

## Wiring diagrams Setting-up



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

## Dimensions (mm)



| Sensors                 | Pre-cabled (mm) |    | M12 connector (mm) |    |
|-------------------------|-----------------|----|--------------------|----|
|                         | a               | b  | a                  | b  |
| <b>Short case model</b> |                 |    |                    |    |
| ∅ 6.5                   | XS606B3D        | 33 | –                  | –  |
| ∅ 8                     | XS608B3D        | 33 | 25                 | 24 |
| ∅ 12                    | XS612B3D        | 35 | 25                 | 50 |
| ∅ 18                    | XS618B3D        | 39 | 28                 | 50 |
| ∅ 30                    | XS630B3D        | 43 | 32                 | 55 |
| <b>Long case model</b>  |                 |    |                    |    |
| ∅ 6.5                   | XS606B1D        | 51 | –                  | –  |
| ∅ 8                     | XS608B1D        | 51 | 42                 | 62 |
| ∅ 12                    | XS612B1D        | 53 | 42                 | 62 |
| ∅ 18                    | XS618B1D        | 62 | 52                 | 74 |
| ∅ 30                    | XS630B1D        | 62 | 52                 | 74 |

# OsiSense® Inductive proximity sensors

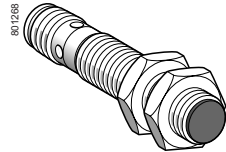
General purpose

Cylindrical, increased range, flush mountable

Two-wire AC or DC <sup>(1)</sup>



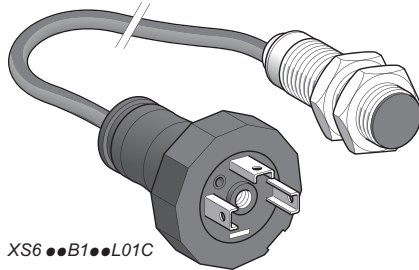
XS6●●B1M●L2



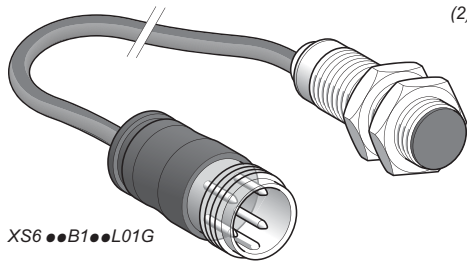
XS6●●B1●●U20



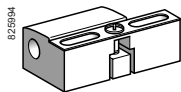
XS6●●B1●●L01B (2)



XS6●●B1●●L01C



XS6●●B1●●L01G



XSZB1●●

## Sensors, 2-wire 24–240 V $\bar{\sim}$ , long case model

| Sensing distance<br>Sn, mm (in.) | Function | Connection                | Catalog Number      | Weight<br>kg (lb) |
|----------------------------------|----------|---------------------------|---------------------|-------------------|
| <b>Ø 12, threaded M12 x 1</b>    |          |                           |                     |                   |
| 4 (0.16)                         | NO       | Pre-cabled <sup>(1)</sup> | <b>XS612B1MAL2</b>  | 0.075 (0.17)      |
|                                  |          | 1/2"-20UNF connector      | <b>XS612B1MAU20</b> | 0.025 (0.06)      |
|                                  | NC       | Pre-cabled <sup>(1)</sup> | <b>XS612B1MBL2</b>  | 0.075 (0.17)      |
|                                  |          | 1/2"-20UNF connector      | <b>XS612B1MBU20</b> | 0.025 (0.06)      |

## Ø 18, threaded M18 x 1

|          |    |                                 |                          |              |
|----------|----|---------------------------------|--------------------------|--------------|
| 8 (0.31) | NO | Pre-cabled <sup>(1)</sup>       | <b>XS618B1MAL2</b>       | 0.100 (0.22) |
|          |    | 1/2"-20UNF connector            | <b>XS618B1MAU20</b>      | 0.060 (0.13) |
|          |    | Remote screw terminal connector | <b>XS618B1MAL01B (2)</b> | 0.100 (0.22) |
|          |    | Remote DIN 43650A connector     | <b>XS618B1MAL01C</b>     | 0.100 (0.22) |
|          | NC | Pre-cabled <sup>(1)</sup>       | <b>XS618B1MBL2</b>       | 0.100 (0.22) |
|          |    | 1/2"-20UNF connector            | <b>XS618B1MBU20</b>      | 0.060 (0.13) |
|          |    | Remote screw terminal connector | <b>XS618B1MBL01B (2)</b> | 0.100 (0.22) |
|          |    | Remote DIN 43650A connector     | <b>XS618B1MBL01C</b>     | 0.100 (0.22) |
|          |    | Remote M18 connector            | <b>XS618B1MBL01G</b>     | 0.100 (0.22) |

## Ø 30, threaded M30 x 1.5

|           |    |                                 |                           |              |
|-----------|----|---------------------------------|---------------------------|--------------|
| 15 (0.59) | NO | Pre-cabled <sup>(2)</sup>       | <b>XS630B1MAL2</b>        | 0.205 (0.45) |
|           |    | 1/2"-20UNF connector            | <b>XS630B1MAU20</b>       | 0.145 (0.32) |
|           |    | Remote screw terminal connector | <b>XS630B1MAL01B (2)</b>  | 0.205 (0.45) |
|           |    | Remote DIN 43650A connector     | <b>XS630B1MAL01C</b>      | 0.205 (0.45) |
|           | NC | Pre-cabled <sup>(2)</sup>       | <b>XS630B1MBL2</b>        | 0.205 (0.45) |
|           |    | 1/2"-20UNF connector            | <b>XS630B1MBU20</b>       | 0.145 (0.32) |
|           |    | Remote screw terminal connector | <b>XS6 30B1MBL01B (2)</b> | 0.205 (0.45) |
|           |    | Remote DIN 43650A connector     | <b>XS6 30B1MBL01C</b>     | 0.205 (0.45) |
|           |    | Remote M18 connector            | <b>XS6 30B1MBL01G</b>     | 0.205 (0.45) |

## Accessories

| Description     | For use with sensors | Catalog Number | Weight<br>kg (lb) |
|-----------------|----------------------|----------------|-------------------|
| Mounting clamps | Ø 12                 | <b>XSZB112</b> | 0.006 (0.01)      |
|                 | Ø 18                 | <b>XSZB118</b> | 0.010 (0.02)      |
|                 | Ø 30                 | <b>XSZB130</b> | 0.020 (0.04)      |

<sup>(1)</sup> For a 5 m cable replace L2 with L5; for a 10 m cable replace L2 with L10.  
Example: XS612B1MAL2 becomes **XS612B1MAL5** with a 5 m cable.  
<sup>(2)</sup> Protective cable gland included with remote screw terminal connector.

# OsiSense® Inductive proximity sensors

General purpose  
Cylindrical, increased range, flush mountable  
Two-wire AC or DC

| Specifications                                    |                             | XS6●●B1M●U20  | XS6●●B1M●L●  |
|---|-----------------------------|---|--|
| Sensor type                                       |                             |   |  |
| Product certifications                            |                             | UL, CSA, CE   |  |
| Connection  | Connector                   | 1/2" - 20 UNF   | –  |
|   | Pre-cabled                  | –   | Length 2 m   |
|   | Remote connector            | Remote screw terminal (L01B), DIN 43650A (L01C) or M18 connector (L01G) on 0.15 m flying lead             |  |
| Operating zone                                    | Ø 12                        | mm  | 0–3.2 (0–0.13 in.)   |
|   | Ø 18                        | mm  | 0–6.4 (0–0.25 in.)   |
|   | Ø 30                        | mm  | 0–12 (0–0.47 in.)  |
| Differential travel                               |                             | %   | 1–15 of effective sensing distance (Sr)                              |
| Degree of protection                              | Conforming to IEC 60529     | IP 65 and IP 67   |  |
|   | Conforming to DIN 40050     | IP 69K  |  |
| 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   |  |
|   | Sensing face                | PPS   |  |
|   | Cable                       | PvR 2 x 0.34 mm <sup>2</sup> (22 AWG)   |  |
| Vibration resistance                              | To IEC 60068-2-6            | 25 gn, amplitude ± 2 mm (f = 10 to 55 Hz)   |  |
| Shock resistance                                  | To IEC 60068-2-27           | 50 gn, duration 11 ms   |  |
| Output state indication                           |                             | Yellow LED: circular on pre-cabled version<br>Yellow LED with 4 viewing ports at 90° on connector version |  |
| Rated supply voltage                              |                             | V   | ≈ 24–240 (~ 50/60 Hz)  |
| Voltage limits (including ripple)                 |                             | V   | ≈ 20–264   |
| Switching capacity                                | XS612B1M●●●                 | mA  | 5–200 (2)  |
|   | XS618B1M●●●,<br>XS630B1M●●● | mA  | ~ 5–300 or ~ 5–200 (1)   |
|   |                             |   |  |
| Voltage drop, closed state                        |                             | V   | ≤ 5.5  |
| Current consumption, no-load                      |                             | mA  | ≤ 0.8  |
| Maximum switching frequency<br>(a.c./d.c. supply) | Ø 12                        | Hz  | ~ 1000 / ~ 25  |
|   | Ø 18                        | Hz  | ~ 1000 / ~ 25  |
|   | Ø 30                        | Hz  | ~ 500 / ~ 25   |
| Delays  | First-up                    | ms  | ≤ 25 for Ø 18 and Ø 30 sensors; ≤ 20 for Ø 12 sensors                |
|   | Response                    | ms  | ≤ 0.5  |
|   | Recovery                    | ms  | ≤ 0.2 for Ø 12 sensors; ≤ 0.5 for Ø 18 sensors; ≤ 2 for Ø 30 sensors |

(1) A 0.4 A "fast-acting" fuse must be connected in series with the load.

## Wiring diagrams



## Setup

### 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 (mm)



(1) LED

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

# OsiSense® Inductive proximity sensors

General purpose

Cylindrical, increased range, non-flush mountable

Three-wire DC, solid-state output



XS612B4...L2



XS618B4...M12



XS630B4...M12



XSZB...

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

#### Ø 12, threaded M12 x 1

| Sensing distance<br>Sn, mm (in.) | Function | Output         | Connection     | Catalog Number | kg     | Weight (lb) |
|----------------------------------|----------|----------------|----------------|----------------|--------|-------------|
| 7 (0.28)                         | NO       | PNP            | Pre-cabled (1) | XS612B4PAL2    | 0.075  | (0.17)      |
|                                  |          |                | M12 connector  | XS612B4PAM12   | 0.020  | (0.04)      |
|                                  | NPN      | PNP            | Pre-cabled (1) | XS612B4NAL2    | 0.075  | (0.17)      |
|                                  |          |                | M12 connector  | XS612B4NAM12   | 0.020  | (0.04)      |
|                                  | NC       | PNP            | Pre-cabled (1) | XS612B4PBL2    | 0.075  | (0.17)      |
|                                  |          |                | M12 connector  | XS612B4PBM12   | 0.020  | (0.04)      |
| NPN                              | PNP      | Pre-cabled (1) | XS612B4NBL2    | 0.075          | (0.17) |             |
|                                  |          | M12 connector  | XS612B4NBM12   | 0.020          | (0.04) |             |

#### Ø 18, threaded M18 x 1

| Sensing distance<br>Sn, mm (in.) | Function | Output         | Connection     | Catalog Number | kg     | Weight (lb) |
|----------------------------------|----------|----------------|----------------|----------------|--------|-------------|
| 12 (0.47)                        | NO       | PNP            | Pre-cabled (1) | XS618B4PAL2    | 0.100  | (0.22)      |
|                                  |          |                | M12 connector  | XS618B4PAM12   | 0.040  | (0.09)      |
|                                  | NPN      | PNP            | Pre-cabled (1) | XS618B4NAL2    | 0.100  | (0.22)      |
|                                  |          |                | M12 connector  | XS618B4NAM12   | 0.040  | (0.09)      |
|                                  | NC       | PNP            | Pre-cabled (1) | XS618B4PBL2    | 0.100  | (0.22)      |
|                                  |          |                | M12 connector  | XS618B4PBM12   | 0.040  | (0.09)      |
| NPN                              | PNP      | Pre-cabled (1) | XS618B4NBL2    | 0.100          | (0.22) |             |
|                                  |          | M12 connector  | XS618B4NBM12   | 0.040          | (0.09) |             |

#### Ø 30, threaded M30 x 1.5

| Sensing distance<br>Sn, mm (in.) | Function | Output         | Connection     | Catalog Number | kg     | Weight (lb) |
|----------------------------------|----------|----------------|----------------|----------------|--------|-------------|
| 22 (0.87)                        | NO       | PNP            | Pre-cabled (1) | XS630B4PAL2    | 0.205  | (0.45)      |
|                                  |          |                | M12 connector  | XS630B4PAM12   | 0.145  | (0.32)      |
|                                  | NPN      | PNP            | Pre-cabled (1) | XS630B4NAL2    | 0.205  | (0.45)      |
|                                  |          |                | M12 connector  | XS630B4NAM12   | 0.145  | (0.32)      |
|                                  | NC       | PNP            | Pre-cabled (1) | XS630B4PBL2    | 0.205  | (0.45)      |
|                                  |          |                | M12 connector  | XS630B4PBM12   | 0.145  | (0.32)      |
| NPN                              | PNP      | Pre-cabled (1) | XS630B4NBL2    | 0.205          | (0.45) |             |
|                                  |          | M12 connector  | XS630B4NBM12   | 0.145          | (0.32) |             |

### Accessories

| Description     | For use with sensors | Catalog Number | kg    | Weight (lb) |
|-----------------|----------------------|----------------|-------|-------------|
| Mounting clamps | Ø 12                 | XSZB112        | 0.006 | (0.01)      |
|                 | Ø 18                 | XSZB118        | 0.010 | (0.02)      |
|                 | Ø 30                 | XSZB130        | 0.020 | (0.04)      |

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

# OsiSense® Inductive proximity sensors

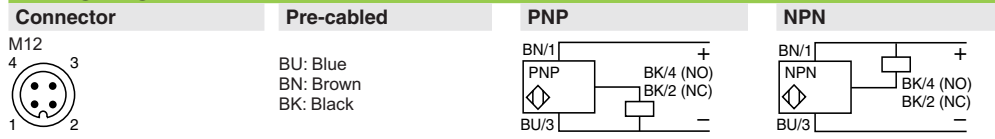
General purpose

Cylindrical, increased range, non-flush mountable

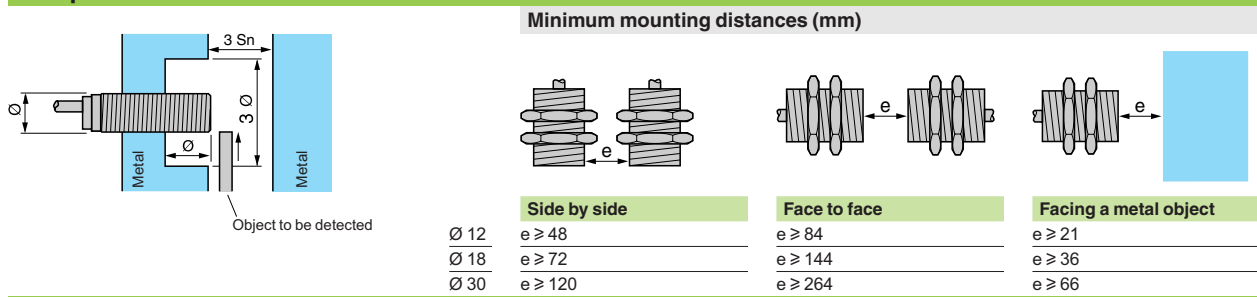
Three-wire DC, solid-state output

| Specifications                    |                              | XS6●●B4●●M12                              | XS6●●B4●●L2   |
|-----------------------------------|------------------------------|---|---|
| Sensor type                       |                              |   |   |
| Product certifications            |                              | UL, CSA, CE                               |   |
| Connection                        | Connector                    | M12                                       | —   |
|                                   | Pre-cabled                   | —   | Length 2 m  |
| Operating zone                    | ∅ 12                         | mm  | 0–5.6 (0–0.22 in.)  |
|                                   | ∅ 18                         | mm  | 0–9.6 (0–0.38 in.)  |
|                                   | ∅ 30                         | mm  | 0–17.6 (0–0.69 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 <input type="checkbox"/> |
| 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                       |   |
|                                   | Sensing face                 | PPS                                       |   |
|                                   | Cable                        | —   | PvR 3 x 0.34 mm <sup>2</sup> (22 AWG)                       |
| 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: circular  |
| 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  |
|                                   | XS630B4●●●●                  | Hz  | 500   |
| Delays                            | First-up                     | ms  | ≤ 10  |
|                                   | Response                     | ms  | ≤ 0.2 for ∅ 12, ≤ 0.3 for ∅ 18, ≤ 0.6 for ∅ 30              |
|                                   | Recovery                     | ms  | ≤ 0.2 for ∅ 12, ≤ 0.7 for ∅ 18, ≤ 1.4 for ∅ 30              |

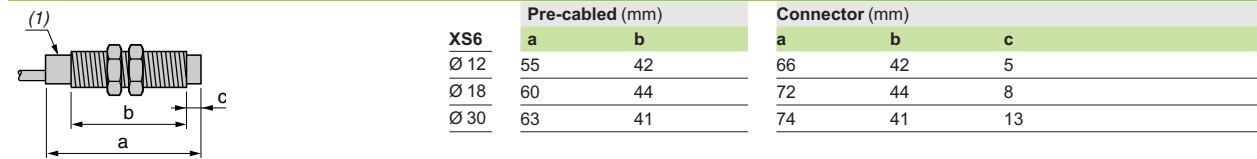
## Wiring diagrams



## Setup



## Dimensions (mm)



(1) LED

# OsiSense® Inductive proximity sensors

General purpose

Cylindrical, increased range, non-flush mountable

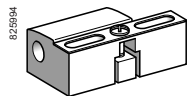
Two-wire AC or DC



XS6●●B4M●L2



XS6●●B4M●U20



XSZB1●●

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

### Ø 18, threaded M18 x 1

| Sensing distance<br>Sn, mm (in.) | Function | Connection           | Catalog Number      | kg    | Weight (lb) |
|----------------------------------|----------|----------------------|---------------------|-------|-------------|
| 12 (0.47)                        | NO       | Pre-cabled (1)       | <b>XS618B4MAL2</b>  | 0.120 | (0.26)      |
|                                  |          | 1/2"-20UNF connector | <b>XS618B4MAU20</b> | 0.060 | (0.13)      |
|                                  | NC       | Pre-cabled (1)       | <b>XS618B4MBL2</b>  | 0.120 | (0.26)      |
|                                  |          | 1/2"-20UNF connector | <b>XS618B4MBU20</b> | 0.060 | (0.13)      |

### Ø 30, threaded M30 x 1.5

| Sensing distance<br>Sn, mm (in.) | Function | Connection           | Catalog Number      | kg    | Weight (lb) |
|----------------------------------|----------|----------------------|---------------------|-------|-------------|
| 22 (0.87)                        | NO       | Pre-cabled (1)       | <b>XS630B4MAL2</b>  | 0.205 | (0.45)      |
|                                  |          | 1/2"-20UNF connector | <b>XS630B4MAU20</b> | 0.145 | (0.32)      |
|                                  | NC       | Pre-cabled (1)       | <b>XS630B4MBL2</b>  | 0.205 | (0.45)      |
|                                  |          | 1/2"-20UNF connector | <b>XS630B4MBU20</b> | 0.145 | (0.32)      |

## Accessories

| Description     | For use with sensors | Catalog Number | kg    | Weight (lb) |
|-----------------|----------------------|----------------|-------|-------------|
| Mounting clamps | Ø 18                 | <b>XSZB118</b> | 0.010 | (0.02)      |
|                 | Ø 30                 | <b>XSZB130</b> | 0.020 | (0.04)      |

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

| Specifications                    |                              | XS6●●B4M●U20                              | XS6●●B4M●L2                           |
|-----------------------------------|------------------------------|---|---------------------------------------|
| Sensor type                       |                              |   |                                       |
| Product certifications            |                              | UL, CSA, CE                               |                                       |
| Connection                        | Connector                    | 1/2"-20UNF                                | —                                     |
|                                   | Pre-cabled                   | —   | Length 2 m                            |
| Operating zone                    | Ø 18                         | mm 0–9.6 (0–0.38 in.)                     |                                       |
|                                   | Ø 30                         | mm 0–17.6 (0–0.69 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 □  |
| 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                       |                                       |
|                                   | Sensing face                 | PPS                                       |                                       |
|                                   | Cable                        | —   | PvR 2 x 0.34 mm <sup>2</sup> (22 AWG) |
| 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: circular                  |
| 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) A 0.4 A "fast-acting" fuse must be connected in series with the load.

## Wiring diagrams

| Connector  | Pre-cabled            | 2-wire ~ or —               |
|------------|-----------------------|-----------------------------|
| 1/2"-20UNF | BU: Blue<br>BN: Brown | NO or NC output             |
|            |                       |                             |
|            |                       | ±: on connector models only |

## Setup

**Minimum mounting distances (mm)**

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

## Dimensions (mm)

| XS6  | Pre-cabled (mm) |    | Connector (mm) |    |    |
|------|-----------------|----|----------------|----|----|
|      | a               | b  | a              | b  | c  |
| Ø 18 | 60              | 44 | 72             | 44 | 8  |
| Ø 30 | 63              | 41 | 74             | 41 | 13 |

(1) LED

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The information and dimensions in this catalog are provided for the convenience of our customers. While this information is believed to be accurate, Schneider Electric reserves the right to make updates and changes without prior notification and assumes no liability for any errors or omissions.

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