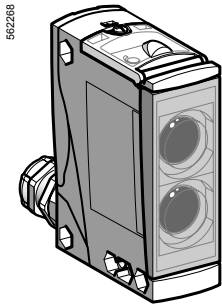
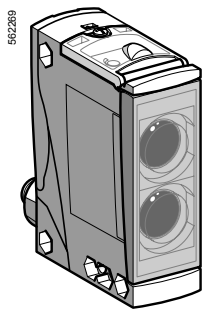


# Photo-electric sensors

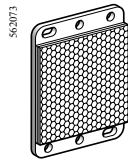
OsiSense XU, general purpose, single mode function. Compact design  
 Five-wire AC or DC, 1 CO relay output  
 Three-wire DC, solid-state output



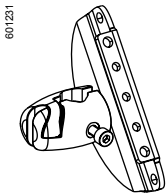
XUX●A●●●T16



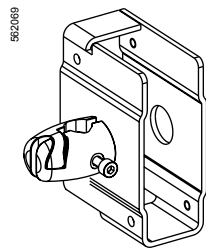
XUX●A●●●M12



XUZC50



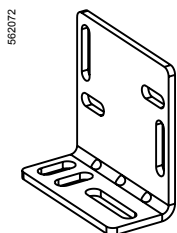
XUZX2003



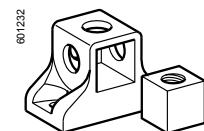
XUZX2004



XUZ2001



XUZX2000



XUZ2003

| Sensing distance (Sn) m   | Function | Output              | Connection          | Reference           | Weight kg           |                     |       |
|---|----------|---------------------|---------------------|---------------------|---------------------|---------------------|-------|
| <b>Diffuse system (1)</b>                                       |          |                     |                     |                     |                     |                     |       |
| <b>DC</b>   |          |                     |                     |                     |                     |                     |       |
| 2.1   | NO       | PNP                 | Screw terminals (3) | <b>XUX5APANT16</b>  | 0.200               |                     |       |
|   |          |                     | M12 connector       | <b>XUX5APANM12</b>  | 0.200               |                     |       |
|   | NC       | NPN                 | Screw terminals (3) | <b>XUX5ANANT16</b>  | 0.200               |                     |       |
|   |          |                     | M12 connector       | <b>XUX5ANANM12</b>  | 0.200               |                     |       |
|   | NC       | PNP                 | Screw terminals (3) | <b>XUX5APBNT16</b>  | 0.200               |                     |       |
|   |          |                     | M12 connector       | <b>XUX5APBNM12</b>  | 0.200               |                     |       |
| NC  | NPN      | Screw terminals (3) | <b>XUX5ANBNT16</b>  | 0.200               |                     |                     |       |
|   |          | M12 connector       | <b>XUX5ANBNM12</b>  | 0.200               |                     |                     |       |
| <b>AC or DC</b>   |          |                     |                     |                     |                     |                     |       |
| 2.1   | NO + NC  | Relay               | Screw terminals (3) | <b>XUX5ARCNT16</b>  | 0.200               |                     |       |
| <b>Polarised reflex system (1)</b>                              |          |                     |                     |                     |                     |                     |       |
| <b>DC</b>   |          |                     |                     |                     |                     |                     |       |
| 11  | NO       | PNP                 | Screw terminals (3) | <b>XUX9APANT16</b>  | 0.200               |                     |       |
|   |          |                     | M12 connector       | <b>XUX9APANM12</b>  | 0.200               |                     |       |
|   | NC       | NPN                 | Screw terminals (3) | <b>XUX9ANANT16</b>  | 0.200               |                     |       |
|   |          |                     | M12 connector       | <b>XUX9ANANM12</b>  | 0.200               |                     |       |
|   | NC       | PNP                 | Screw terminals (3) | <b>XUX9APBNT16</b>  | 0.200               |                     |       |
|   |          |                     | M12 connector       | <b>XUX9APBNM12</b>  | 0.200               |                     |       |
| NC  | NPN      | Screw terminals (3) | <b>XUX9ANBNT16</b>  | 0.200               |                     |                     |       |
|   |          | M12 connector       | <b>XUX9ANBNM12</b>  | 0.200               |                     |                     |       |
| <b>AC or DC</b>   |          |                     |                     |                     |                     |                     |       |
| 11  | NO + NC  | Relay               | Screw terminals (3) | <b>XUX9ARCNT16</b>  | 0.200               |                     |       |
| Reflector 50 x 50 mm (2)  |          |                     |                     |                     | <b>XUZC50</b>       | 0.020               |       |
| <b>Reflex system (1)</b>  |          |                     |                     |                     |                     |                     |       |
| <b>DC</b>   |          |                     |                     |                     |                     |                     |       |
| 14  | NO       | PNP                 | Screw terminals (3) | <b>XUX1APANT16</b>  | 0.200               |                     |       |
|   |          |                     | M12 connector       | <b>XUX1APANM12</b>  | 0.200               |                     |       |
|   | NC       | NPN                 | Screw terminals (3) | <b>XUX1ANANT16</b>  | 0.200               |                     |       |
|   |          |                     | M12 connector       | <b>XUX1ANANM12</b>  | 0.200               |                     |       |
|   | NC       | PNP                 | Screw terminals (3) | <b>XUX1APBNT16</b>  | 0.200               |                     |       |
|   |          |                     | M12 connector       | <b>XUX1APBNM12</b>  | 0.200               |                     |       |
| NC  | NPN      | Screw terminals (3) | <b>XUX1ANBNT16</b>  | 0.200               |                     |                     |       |
|   |          | M12 connector       | <b>XUX1ANBNM12</b>  | 0.200               |                     |                     |       |
| <b>AC or DC</b>   |          |                     |                     |                     |                     |                     |       |
| 14  | NO + NC  | Relay               | Screw terminals (3) | <b>XUX1ARCNT16</b>  | 0.200               |                     |       |
| Reflector 50 x 50 mm (2)  |          |                     |                     |                     | <b>XUZC50</b>       | 0.020               |       |
| <b>Thru-beam system (1)</b>                                     |          |                     |                     |                     |                     |                     |       |
| <b>DC</b>   |          |                     |                     |                     |                     |                     |       |
| <b>Transmitter 40</b>   |          |                     | Screw terminals (3) | <b>XUX0AKSAT16T</b> | 0.200               |                     |       |
|   |          |                     | M12 connector       | <b>XUX0AKSAM12T</b> | 0.200               |                     |       |
| <b>Receiver 40</b>  | NO       | PNP                 | Screw terminals (3) | <b>XUX2APANT16R</b> | 0.200               |                     |       |
|   |          |                     | M12 connector       | <b>XUX2APANM12R</b> | 0.200               |                     |       |
|   | NC       | NPN                 | Screw terminals (3) | <b>XUX2ANANT16R</b> | 0.200               |                     |       |
|   |          |                     | M12 connector       | <b>XUX2ANANM12R</b> | 0.200               |                     |       |
|   | NC       | PNP                 | Screw terminals (3) | <b>XUX2APBNT16R</b> | 0.200               |                     |       |
|   |          |                     | M12 connector       | <b>XUX2APBNM12R</b> | 0.200               |                     |       |
| NC  | NPN      | Screw terminals (3) | <b>XUX2ANBNT16R</b> | 0.200               |                     |                     |       |
|   |          | M12 connector       | <b>XUX2ANBNM12R</b> | 0.200               |                     |                     |       |
| <b>AC or DC</b>   |          |                     |                     |                     |                     |                     |       |
| <b>Transmitter 40</b>   |          |                     | Screw terminals (3) | <b>XUX0ARCTT16T</b> | 0.200               |                     |       |
| <b>Receiver 40</b>  |          |                     | NO + NC             | Relay               | Screw terminals (3) | <b>XUX2ARCNT16R</b> | 0.200 |
| <b>Fixing accessories (2)</b>                                   |          |                     |                     |                     |                     |                     |       |
| <b>Description</b>  |          |                     |                     | <b>Reference</b>    | <b>Weight kg</b>    |                     |       |
| 3D fixing kit for use on M12 rod, for XUX or XUZC50             |          |                     |                     | <b>XUZX2003</b>     | 0.220               |                     |       |
| 3D fixing kit for use on M12 rod, with protective cover for XUX |          |                     |                     | <b>XUZX2004</b>     | 0.420               |                     |       |
| M12 rod   |          |                     |                     | <b>XUZ2001</b>      | 0.050               |                     |       |
| Support for M12 rod   |          |                     |                     | <b>XUZX2003</b>     | 0.150               |                     |       |
| Fixing bracket  |          |                     |                     | <b>XUZX2000</b>     | 0.120               |                     |       |

(1) With adjustable sensitivity.

(2) For further information, see page 164.

(3) Screw terminals with ISO 16 cable gland for cable Ø 7 to 10 mm.

# Photo-electric sensors

OsiSense XU, general purpose,  
single mode function. Compact design  
Five-wire AC or DC, 1 CO relay output  
Three-wire DC, solid-state output

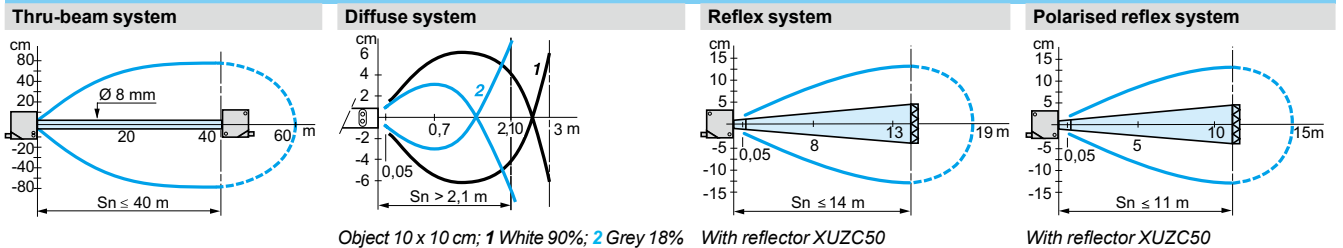
| Characteristics   |                              | XUX●●●●●M12  | XUX●AN●NT16, ●AP●NT16                            | XUX●ARC●T16  |
|---|------------------------------|--|--|--|
| Sensor type   |                              |  |  |  |
| Product certifications  |                              | UL, CSA, CE  |  |  |
| Connection  |                              | M12 connector  | Screw terminals, ISO 16 cable gland              |  |
| Sensing distance<br>nominal Sn / maximum<br>(excess gain = 2) (excess gain = 1) | m                            | 2.1 / 3 diffuse with adjustable sensitivity                                  |  |  |
|   | m                            | 11 / 15 polarised reflex with adjustable sensitivity (with reflector XUZC50) |  |  |
|   | m                            | 14 / 19 reflex with adjustable sensitivity                                   |  |  |
|   | m                            | 40 / 60 thru-beam with adjustable sensitivity                                |  |  |
| Type of transmission  |                              | Infrared, except polarised reflex (red)                                      |  |  |
| Degree of protection  | Conforming to IEC 60529      | IP 65, IP 67, double insulation  |  |  |
| Storage temperature   |                              | °C -40...+70   |  |  |
| Operating temperature   |                              | °C -25...+55   |  |  |
| Materials   | Case                         | PBT  |  |  |
|   | Lens                         | PMMA   |  |  |
| Vibration resistance  | Conforming to IEC 60068-2-6  | 7 gn, amplitude ± 1.5 mm (f = 10 to 55 Hz)                                   |  |  |
| Shock resistance  | Conforming to IEC 60068-2-27 | 30 gn, duration 11 ms  |  |  |
| Indicator lights  | Output state                 | Yellow LED (transmission present for XUX0●●●●●T ---)                         |  |  |
|   | Supply on                    | Green LED  |  |  |
|   | Instability                  | Red LED (for XUX9ARCNT16)  |  |  |
| Rated supply voltage  | PNP/NPN                      | 12...24 with protection against reverse polarity                             |  |  |
|   | Relay output                 | V  | –  | 24...240 ~ or ---  |
| Voltage limits (including ripple)   | PNP/NPN                      | V  | –  | –  |
|   | Relay output                 | V  | –  | 20...264 ~ or ---  |
| Current consumption, no-load  | PNP/NPN                      | mA   | ≤ 35 (20 for XUX0●●●●●T)                         |  |
| Power consumption   | Relay output                 | W  | –  | 2 ~ or ---   |
| Switching capacity  | PNP/NPN                      | mA   | ≤ 100 with overload and short-circuit protection |  |
|   | Relay output                 | A  | –  | 500 000 operating cycles<br>3A: cos φ = 1/0.5 A: cos φ = 0.4 |
| Voltage drop, closed state  |                              | V  | ≤ 1.5  |  |
| Maximum switching frequency   | PNP/NPN                      | Hz   | 250  |  |
|   | Relay output                 | Hz   | –  | 20   |
| Delays  | First-up                     | ms   | < 15 (PNP/NPN); < 60 (relay output)              |  |
|   | Response                     | ms   | < 2 (PNP/NPN); < 25 (relay output)               |  |
|   | Recovery                     | ms   | < 2 (PNP/NPN); < 25 (relay output)               |  |

## Wiring schemes

| M12 connector | Relay output ~   | PNP/NPN ---  | Transmitter ---   | Transmitter ~                      |
|---------------|--|--|---|------------------------------------|
|               | <b>Terminals</b><br>1 ⊗ ~<br>2 ⊗ ~<br>3 ⊗ NO<br>4 ⊗ Relay common<br>5 ⊗ NC | <b>M12 Terminals</b><br>1 ● 1 ⊗ +<br>3 ● 2 ⊗ -<br>4 ● 3 ⊗ Output | <b>M12 Terminals</b><br>1 ● 1 ⊗ +<br>3 ● 2 ⊗ -<br>2 ● 3 ⊗ Beam break input (1)<br><i>(1) Input not connected: beam made.<br/>Input connected to -: beam broken.</i> | <b>Terminals</b><br>1 ⊗ ~<br>2 ⊗ ~ |

Maximum permissible conductor c.s.a.: 1 x 1.5 mm<sup>2</sup> or 1 x 0.75 mm<sup>2</sup> with cable end.

## Detection curves



## Dimensions

