

# Preventa™ Light Curtains Type XUSL

Catalog Supplement to 9007CT0201

2009





## Light curtains

|  |    |
|--|----|
| <b>General</b> .....   | 2  |
| <b>Light curtains, type 4</b>  |    |
| <b>For finger or hand protection</b>   |    |
| ■ Characteristics .....  | 4  |
| ■ Light curtains optimum with solid-state output,<br>type XUSLB .....                        | 6  |
| ■ Light curtains universal with solid-state output,<br>type XUSLDM .....                     | 7  |
| ■ Segments for cascadable universal light curtains<br>type XUSLDS .....                      | 8  |
| ■ Accessories .....  | 10 |
| ■ Dimensions .....   | 12 |
| ■ Wiring Diagrams .....  | 14 |
| ■ Substitution Table .....   | 16 |
| ■ Connection module for muting function on light curtains type XUS LDM<br>type XPSLCM1 ..... | 18 |
| ■ Description, References, Dimensions .....  | 20 |
| ■ Wiring Diagrams .....  | 21 |
| ■ Functional Diagrams .....  | 22 |
| ■ Mirrors, protective covers, and mounting kits .....  | 24 |

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### Presentation

### Protection of personnel

Light curtains are electro-sensitive protection equipment (ESPE) designed for the protection of persons operating or working in the vicinity of machinery, by stopping the dangerous movement of parts as soon as one of the light beams is broken. In particular, they provide protection for the **safety of personnel** operating dangerous machinery (annex IV of 98/37/EC) but they are equally suitable for use with many other types of machines. They make it possible to protect personnel while allowing free access to machines.

The absence of a door or guard reduces the time required for loading, inspection or adjustment operations as well as making access easier.

### Directives and standards

### Conformity to standards

**These light curtains conform to:**

- European Machinery Safety Directive 98/37/EC and European Work Equipment Directive 89/655/EEC,
- Low Voltage Directives 73/23/EEC and 93/68/EEC and also, the Electromagnetic Compatibility Directive 89/336/EEC,
- Standard EN/IEC 61496-1, EN/IEC 61496-2 (electro-sensitive protection equipment: ESPE),
- Standard EN 60825 (emission power),
- Standard EN 999/ISO 13855 (installation positioning),

These light curtains are UL, CSA and TÜV certified.

### Applications

### Main applications

- Applications for type 2 products:
  - assembly and packaging lines,
  - conveying and handling lines,
  - warehousing and storage systems,
  - waste disposal skips.
- Types of machine requiring the use of type 4 products:
  - presses (all types), shears and trimmers,
  - hoisting equipment,
  - saws (all types),
  - machine tools (lathes, milling machines, machining centers),
  - woodworking machines (planing machines, lathes, spindle moulding machines, side and face milling cutters),
  - textile machinery (carding machines, weaving looms, steam rooms),
  - assembly machines,
  - assembly robots.

### Safety requirements

### Detection of anomalies

**Detection of anomalies liable to compromise safety and stopping of the machine**

The design of the machine and its control system must be to the same level of safety as that of the light curtain in order to provide the immediate stopping of the machines dangerous movement as soon as the hazardous zone, protected by the light curtain, is entered.

It must not be possible to enter the protected zone without breaking the protective light beams. The light curtain must therefore be installed in such a manner that the light beams cannot be avoided.

The machine can only be restarted if no danger exists and no personnel are present in the hazardous zone. The risk that persons might be inside the protected zone but out of the protective light beams must be addressed.

### Functions

#### Protection mode

AUTO/MAN (automatic/manual): this is what standard EN/IEC 61496 calls start (or restart) interlock of the light curtain:

- in AUTO mode: on power-up or after the beams have been cleared, the light curtain resets itself automatically (closing of the OSSD output safety circuits),
- in MANUAL mode: on power-up or after the beams have been cleared, the light curtain keeps its output safety circuits in the “open” position. Pressing (and releasing) the reset button will cause actual resetting of the light curtain (and closing of its OSSD output safety circuits).

**Note:** in all cases, a general start instruction for the machine will trigger its actual start-up.

#### Monitoring of external switching devices

Also called EDM (External Devices Monitoring) by standard EN/IEC 61496, this consists of monitoring the function (open or closed), together with the time taken to reach that condition, of the machines power switching components.

#### Auxiliary output

This is a low power solid-state output for signalling, when configurable (XUSLM/ XUSLP), to the automation system. This output closes when the light curtain switches to run mode.

#### Alarm

This is a low power solid-state output for signalling to the automation system. This output closes when the light curtain switches to alarm mode.

#### Signalling

LED display of operating modes and alarm.

#### Alignment aid

Display by visible infrared LED of each beam broken.

#### Muting (inhibition)

When activated, the “muting” function inhibits the detection function of the light curtain.

Activation (or deactivation) is achieved by means of standard sensors (photo-electric or other). When activated, a signal is sent to the automation system. This function is used to allow objects to access the hazardous zones during the process. Signalling informs the operator or operators that they are not protected.

#### Blanking

This function makes it possible to inhibit detection by a selected group of light beams in the light curtain (and not all the beams as with muting). This function (adapted to the size of the objects) allows the presence of objects during process operations. Blanking effectively increases the Minimum Object Sensitivity (MOS). This imposes a greater safety distance, increasing the minimum distance between the light curtain and the hazard. In addition, the use of additional protection each side of the object present must be included, in order to prevent any intrusion into the free areas.

#### Floating blanking

This function makes it possible to inhibit one or two light beams (adjacent or otherwise), anywhere in the light curtain. This configuration is used, for example, for metal plate feeding applications on folding presses or shears.

#### Blanking plus floating blanking

The Blanking (fixed inhibition of light beams) and Floating Blanking (moving inhibition of one or two light beams) functions can be combined.

# Safety detection solutions

## Safety light curtains, type 4

### Light curtains Optimum XUSLB and Universal XUSLDM with solid-state output

| Light curtain type  |                      | XUSLBQ6A●●●●<br>XUSLDMQ6A●●●●<br>0.55 in. (14 mm)  | XUSLBR5A●●●●<br>1.18 in. (30 mm)         | XUS LDMY5A●●●●<br>1.18 in. (30 mm)  |
|---|----------------------|--|--|---|
| <b>Environment characteristics</b>                                  |                      |  |  |   |
| <b>Conformity to standards</b>                                      |                      | ANSI/RIA R15.06, ANSI B11:19-1990, OSHA 1910.217(C), OSHA 1910.212, EN/IEC 61496-1 and EN/IEC 61496-2 and IEC 61508-1, 2 (Type 4 ESPE)   |  |   |
| <b>Certifications</b>   |                      | CE, TUV, UL, CSA   |  |   |
| <b>European directives</b>  |                      | Machinery directive 98/37/EC, Work equipment directive 89/655/EEC and EMC directive 89/336 EEC<br>ROHS directive 2002/95/EC  |  |   |
| <b>Ambient air temperature</b>                                      | Operating            | °F (°C)  | 14...+ 131 (- 10...+ 55)                 |   |
|   | For storage          | °F (°C)  | - 13...+ 167 (- 25...+ 75)               |   |
| <b>Relative humidity</b>  |                      | 95% maximum, without condensation  |  |   |
| <b>Degree of protection</b>   |                      | IP 65  |  |   |
| <b>Shock and vibration resistance</b>                               |                      | Conforming to IEC 61496-1<br>Shock resistance: 10 gn, impulse 16 ms<br>Vibration resistance: 10...55 Hz, amplitude: 0.35 ± 0.05 mm   |  |   |
| <b>Materials</b>  |                      | Casing: aluminium with electrostatically applied red (RAL 3000) polyester paint finish; end caps: 20% fiberglass impregnated polycarbonate.  |  |   |
| <b>Mounting</b>   |                      | End brackets (included)  |  |   |
| <b>Optical characteristics</b>                                      |                      |  |  |   |
| <b>Minimum detection capacity (MOS)</b>                             |                      | 0.55 in. (14 mm) (finger)   1.18 in. (30 mm) (hand)  |  |   |
| <b>Nominal sensing distance (Sn)</b>                                |                      | ft (m)   | 1...23 (0.3...7) or 9.8 (3) with PDM (1) | 1...26.2 (0.3...8) or 65.6 (20) with PDM (1)   1...65.6 (0.3...20) or 26.2 (8) with PDM (1) |
| <b>Protected height</b>   |                      | in (mm)  | 11...53.5 (280...1360)                   | 12.6...83.5 (320...2120)  |
| <b>Effective aperture angle (EAA)</b>                               |                      | 2.5° at 9.8ft. (3 m) (3° when used with IP 67 protection tube)   |  |   |
| <b>Light source</b>   |                      | GaAlAs LED, 880 nm   |  |   |
| <b>Immunity to ambient light</b>                                    |                      | Conforming to IEC/EN 61496-2   |  |   |
| <b>Electrical characteristics</b>                                   |                      |  |  |   |
| <b>Response time</b>  |                      | ms   | 23...41                                  | 23...32   |
| <b>Power supply</b>   |                      | --- 24 V ± 20% 2 A conforming to EN/IEC 61496 and EN/IEC 60204-1   |  |   |
| Transmitter   |                      | mA   | 285                                      |   |
| Receiver  |                      | A  | 1.8 (with maximum load)                  |   |
| <b>Maximum current consumption (no-load)</b>                        |                      | Transmitter  | mA                                       | 285   |
|   |                      | Receiver   | mA                                       | 450   |
| <b>Immunity to interference</b>                                     |                      | Conforming to EN 61496-1   |  |   |
| <b>Safety outputs OSSD (Output Signal Switching Devices)</b>        |                      | 2 solid-state PNP (N/O) outputs ≤ 625 mA, --- 24 V (Short-circuit protected)   |  |   |
| <b>Auxiliary output</b>   |                      | 1 solid-state output 100 mA, --- 24 V, PNP or NPN (depending on model)   |  |   |
| <b>Monitoring activation of output switching devices (MPCE/EDM)</b> |                      | 50 mA, --- 24 V and start/restart 10 mA  |  |   |
| <b>Signalling</b>   | Transmitter          | 1 LED (power supply)   |  |   |
|   | Receiver             | 4 LEDs (stop, run, interlock, ECS/B Blanking or FB Floating Blanking)  |  |   |
| <b>Connections (2)</b>  |                      |  |  |   |
| Light curtains  | Transmitter          | M12, 5-pin, female connector   |  |   |
|   | Receiver             | M12, 8-pin, female connector   |  |   |
| Segments XUSLDS   | Transmitter/Receiver | M12, 4-pin, female connector on flying lead  |  |   |
| XPSLCM1   | Receiver             | M12, 4-pin, female connector   |  |   |
| <b>Pre-wired connectors c.s.a.</b>                                  | Transmitter/Receiver | 22 AWG (0.32 mm <sup>2</sup> ) conductors with M12, 5-pin, male connector  |  |   |
|   | Receiver             | 22 AWG (0.32 mm <sup>2</sup> ) conductors with M12, 8-pin, male connector  |  |   |
| <b>Jumper cables c.s.a.</b>   | Transmitter/receiver | 22 AWG (0.32 mm <sup>2</sup> ) conductors with M12, 4-pin, male/female connectors  |  |   |
| <b>Cable resistance of pre-wired connectors</b>                     | Transmitter/receiver | Ω  | 0.1686 per ft. (0.05531 per m)           |   |
| <b>Cable lengths</b>  |                      | Pre-wired connectors with cable lengths of 16.4, 32.8, 49.2, and 98.4 ft (5, 10, 15 and 30 m) are available separately. The maximum cable length is 196.9 ft (60 m), depending on the load current and power supply. |  |   |

(1) PDM: Programming and Diagnostic Module, available as option, see page 10.

(2) Pre-wired connectors to be ordered separately, see page 10.

# Safety detection solutions

## Safety light curtains, type 4

### Light curtains Optimum XUSLB and Universal XUSLDM with solid-state output

| Light curtain type  |  | XUSLB●●●●●●   | XUSLDM●●●●●●  |
|---|--|---|---|
| <b>Functions</b>  |  |   |   |
| Functions   | Accessible by cabling alone (1)                  | <input type="checkbox"/> Automatic start<br><input type="checkbox"/> Auxiliary output (PNP, status signalling)<br><input type="checkbox"/> Test (MTS: Monitoring Test Signal)<br><input type="checkbox"/> Alignment aid by display of each light beam broken<br><input type="checkbox"/> LED display of operating modes and anomalies   |   |
|   | Accessible via programming and diagnostic module | <input type="checkbox"/> Auto/Manual<br><input type="checkbox"/> Monitoring of external switching devices (EDM: External Device Monitoring)<br><input type="checkbox"/> Light beam coding (A or B)<br><input type="checkbox"/> Sensing distance (short, long)<br><input type="checkbox"/> Programming and downloading of configuration settings, via programming and diagnostic module (PDM)<br><input type="checkbox"/> Display of operating modes and anomalies by LED and/or PDM (2) | <input type="checkbox"/> Auto/Manual, manual 1st cycle<br><input type="checkbox"/> Monitoring of external switching devices (EDM: External Device Monitoring)<br><input type="checkbox"/> Blanking (ECS/B)<br><input type="checkbox"/> Monitored Blanking<br><input type="checkbox"/> Floating Blanking (FB)<br><input type="checkbox"/> Reduction of resolution<br><input type="checkbox"/> Response time (normal, slow)<br><input type="checkbox"/> Light beam coding (A or B)<br><input type="checkbox"/> Sensing distance (short, long)<br><input type="checkbox"/> Auxiliary output (alarm or status signalling, PNP or NPN)<br><input type="checkbox"/> Start button (N/O or N/C, 0 V or 24 V)<br><input type="checkbox"/> Muting (see page 18)<br><input type="checkbox"/> Cascadable versions with up to 4 segments total (256 light beams max., modular finger/hand) using segments XUSLDS<br><input type="checkbox"/> Programming and downloading of configuration settings, via programming and diagnostic module (PDM)<br><input type="checkbox"/> Display of operating modes and anomalies by LED and/or PDM (2) |
| Monitoring of external switching devices (EDM = External Device Monitoring) |  | Monitoring of the function (open or closed) as well as the response time of the power components.   |   |
| "Test" function   |  | Instigates the stop instruction of the light curtain by opening the contact (simulated intrusion)   |   |
| "Muting" function (inhibition)  |  | <input type="checkbox"/> With external module XPSLCM1150  | <input type="checkbox"/> Integrated when using connection module XPSLCM1 for connecting sensors and "muting" indicator light<br><input type="checkbox"/> or with module XPSLCM1150  |

(1) Not requiring use of PDM.

(2) PDM: Programming and Diagnostic Module, available as option, see page 10.

# Safety detection solutions

## Safety light curtains, type 4

### Light curtains Optimum XUSLB with solid-state output



XUSLBQ6A.....



XUSLBR5A.....

#### Transmitter-receiver pairs for finger protection (1)

Detection capacity 0.55 in. (14 mm). Sensing distance 1 to 22.9 ft (0.3 to 7 m) (or 9.8 ft (3 m) with PDM).

■ 2 PNP safety outputs

| Protected height | Response time | Number of light beams | Auxiliary output | Reference (2) | Weight        |
|------------------|---------------|-----------------------|------------------|---------------|---------------|
| in (mm)          | ms            |                       |                  |               | lb. (kg)      |
| 11 (280)         | 23            | 24                    | PNP              | XUSLBQ6A0280  | 3.95 (1.790)  |
| 12.6 (320)       | 23            | 32                    | PNP              | XUSLBQ6A0320  | 4.34 (1.970)  |
| 14.2 (360)       | 23            | 36                    | PNP              | XUSLBQ6A0360  | 4.74 (2.150)  |
| 17.3 (440)       | 23            | 44                    | PNP              | XUSLBQ6A0440  | 5.51 (2.500)  |
| 20.5 (520)       | 23            | 52                    | PNP              | XUSLBQ6A0520  | 6.33 (2.870)  |
| 23.6 (600)       | 23            | 60                    | PNP              | XUSLBQ6A0600  | 7.10 (3.220)  |
| 28.3 (720)       | 32            | 72                    | PNP              | XUSLBQ6A0720  | 8.29 (3.760)  |
| 29.9 (760)       | 32            | 76                    | PNP              | XUSLBQ6A0760  | 8.69 (3.940)  |
| 34.6 (880)       | 32            | 88                    | PNP              | XUSLBQ6A0880  | 9.85 (4.470)  |
| 36.2 (920)       | 32            | 92                    | PNP              | XUSLBQ6A0920  | 10.25 (4.650) |
| 37.8 (960)       | 32            | 96                    | PNP              | XUSLBQ6A0960  | 10.65 (4.830) |
| 40.9 (1040)      | 32            | 104                   | PNP              | XUSLBQ6A1040  | 11.44 (5.190) |
| 44.1 (1120)      | 32            | 112                   | PNP              | XUSLBQ6A1120  | 12.21 (5.540) |
| 47.2 (1200)      | 32            | 120                   | PNP              | XUSLBQ6A1200  | 13.01 (5.900) |
| 53.5 (1360)      | 41            | 136                   | PNP              | XUSLBQ6A1360  | 13.62 (6.180) |

#### Transmitter-receiver pairs for hand protection (1)

Detection capacity 1.2 ft (30 mm). Sensing distance 1 to 26.2 ft (0.3 to 8 m) (or 65.6 ft (20 m) with PDM).

■ 2 PNP safety outputs

| Protected height | Response time | Number of light beams | Auxiliary output | Reference (2) | Weight         |
|------------------|---------------|-----------------------|------------------|---------------|----------------|
| in (mm)          | ms            |                       |                  |               | lb. (kg)       |
| 12.6 (320)       | 23            | 16                    | PNP              | XUSLBR5A0320  | 4.34 (1.970)   |
| 14.2 (360)       | 23            | 18                    | PNP              | XUSLBR5A0360  | 4.74 (2.150)   |
| 17.3 (440)       | 23            | 22                    | PNP              | XUSLBR5A0440  | 5.51 (2.500)   |
| 20.5 (520)       | 23            | 26                    | PNP              | XUSLBR5A0520  | 6.33 (2.870)   |
| 23.6 (600)       | 23            | 30                    | PNP              | XUSLBR5A0600  | 7.10 (3.220)   |
| 26.8 (680)       | 23            | 34                    | PNP              | XUSLBR5A0680  | 7.89 (3.580)   |
| 29.9 (760)       | 23            | 38                    | PNP              | XUSLBR5A0760  | 8.69 (3.940)   |
| 34.6 (880)       | 23            | 44                    | PNP              | XUSLBR5A0880  | 9.85 (4.470)   |
| 36.2 (920)       | 23            | 46                    | PNP              | XUSLBR5A0920  | 10.25 (4.650)  |
| 40.9 (1040)      | 23            | 52                    | PNP              | XUSLBR5A1040  | 11.44 (5.190)  |
| 47.2 (1200)      | 23            | 60                    | PNP              | XUSLBR5A1200  | 13.01 (5.900)  |
| 53.5 (1360)      | 23            | 68                    | PNP              | XUSLBR5A1360  | 14.59 (6.620)  |
| 55.1 (1400)      | 23            | 70                    | PNP              | XUSLBR5A1400  | 14.99 (6.800)  |
| 59.8 (1520)      | 32            | 76                    | PNP              | XUSLBR5A1520  | 16.16 (7.330)  |
| 61.4 (1560)      | 32            | 78                    | PNP              | XUSLBR5A1560  | 16.53 (7.500)  |
| 64.6 (1640)      | 32            | 82                    | PNP              | XUSLBR5A1640  | 17.35 (7.870)  |
| 67.7 (1720)      | 32            | 86                    | PNP              | XUSLBR5A1720  | 18.14 (8.230)  |
| 70.9 (1800)      | 32            | 88                    | PNP              | XUSLBR5A1800  | 18.94 (8.590)  |
| 75.6 (1920)      | 32            | 96                    | PNP              | XUSLBR5A1920  | 20.11 (9.120)  |
| 83.5 (2120)      | 32            | 106                   | PNP              | XUSLBR5A2120  | 22.09 (10.020) |

(1) Supplied with a test rod, 2 sets of 2 brackets with mounting hardware, user guide with certificate of conformity on CD-ROM and 1 arc suppressor set.

**Programming and Diagnostic Module (if required) and pre-wired connectors to be ordered separately, see page 10.**

(2) To order a receiver only, add the letter **R** to the end of the reference for the corresponding transmitter-receiver pair.

Example: reference XUSLBR5A0320 becomes XUSLBR5A0320R for the receiver only.

To order a transmitter only, add the letter **T** to the end of the reference for the corresponding transmitter-receiver pair.

Example: reference XUSLBR5A0320 becomes XUSLBR5A0320T for the transmitter only.

#### Other versions

Combining type 4 safety light curtains with external module for muting function.

See catalog MKTED208051EN pages 2/222 to 2/227.



# Safety detection solutions

## Safety light curtains, type 4

### Light curtains Universal XUSLDM with solid-state output



XUSLDMQ.....



XUSLDMY.....

#### Transmitter-receiver pairs for finger protection (1)

Detection capacity 0.55 in. (14 mm). Sensing distance 1 to 22.9 ft (0.3 to 7 m) (or 9.8 ft (3 m) with PDM).

##### ■ 2 PNP safety outputs

| Protected height | Response time |      | Number of light beams | Auxiliary output | Reference (2) | Weight        |
|------------------|---------------|------|-----------------------|------------------|---------------|---------------|
|                  | Normal        | Slow |                       |                  |               |               |
| in (mm)          | ms            | ms   |                       |                  |               | lb. (kg)      |
| 11 (280)         | 23            | 38   | 24                    | PNP/NPN          | XUSLDMQ6A0280 | 3.95 (1.790)  |
| 12.6 (320)       | 23            | 38   | 32                    | PNP/NPN          | XUSLDMQ6A0320 | 4.34 (1.970)  |
| 14.2 (360)       | 23            | 38   | 36                    | PNP/NPN          | XUSLDMQ6A0360 | 4.74 (2.150)  |
| 17.3 (440)       | 23            | 38   | 44                    | PNP/NPN          | XUSLDMQ6A0440 | 5.51 (2.500)  |
| 20.5 (520)       | 23            | 38   | 52                    | PNP/NPN          | XUSLDMQ6A0520 | 6.39 (2.900)  |
| 23.6 (600)       | 23            | 38   | 60                    | PNP/NPN          | XUSLDMQ6A0600 | 7.10 (3.220)  |
| 28.3 (720)       | 32            | 53   | 72                    | PNP/NPN          | XUSLDMQ6A0720 | 8.29 (3.760)  |
| 29.9 (760)       | 32            | 53   | 76                    | PNP/NPN          | XUSLDMQ6A0760 | 8.69 (3.940)  |
| 34.6 (880)       | 32            | 53   | 88                    | PNP/NPN          | XUSLDMQ6A0880 | 9.85 (4.470)  |
| 36.2 (920)       | 32            | 53   | 92                    | PNP/NPN          | XUSLDMQ6A0920 | 10.25 (4.650) |
| 37.8 (960)       | 32            | 53   | 96                    | PNP/NPN          | XUSLDMQ6A0960 | 10.65 (4.830) |
| 40.9 (1040)      | 32            | 53   | 104                   | PNP/NPN          | XUSLDMQ6A1040 | 11.44 (5.190) |
| 44.1 (1120)      | 32            | 53   | 112                   | PNP/NPN          | XUSLDMQ6A1120 | 12.21 (5.540) |
| 47.2 (1200)      | 32            | 53   | 120                   | PNP/NPN          | XUSLDMQ6A1200 | 13.01 (5.900) |
| 53.5 (1360)      | 41            | 68   | 136                   | PNP/NPN          | XUSLDMQ6A1360 | 14.59 (6.620) |

#### Transmitter-receiver pairs for hand protection (1)

Detection capacity 1.2 ft (30 mm). Sensing distance 1 to 65.6 ft (0.3 to 20 m) (or 26.2 ft (8 m) with PDM).

##### ■ 2 PNP safety outputs

| Protected height | Response time |      | Number of light beams | Auxiliary output | Reference (2) | Weight         |
|------------------|---------------|------|-----------------------|------------------|---------------|----------------|
|                  | Normal        | Slow |                       |                  |               |                |
| in (mm)          | ms            | ms   |                       |                  |               | lb. (kg)       |
| 12.6 (320)       | 23            | 38   | 16                    | PNP/NPN          | XUSLDMY5A0320 | 4.34 (1.970)   |
| 14.2 (360)       | 23            | 38   | 18                    | PNP/NPN          | XUSLDMY5A0360 | 4.74 (2.150)   |
| 17.3 (440)       | 23            | 38   | 22                    | PNP/NPN          | XUSLDMY5A0440 | 5.51 (2.500)   |
| 20.5 (520)       | 23            | 38   | 26                    | PNP/NPN          | XUSLDMY5A0520 | 6.33 (2.870)   |
| 23.6 (600)       | 23            | 38   | 30                    | PNP/NPN          | XUSLDMY5A0600 | 7.10 (3.220)   |
| 26.8 (680)       | 23            | 38   | 34                    | PNP/NPN          | XUSLDMY5A0680 | 7.89 (3.580)   |
| 29.9 (760)       | 23            | 38   | 38                    | PNP/NPN          | XUSLDMY5A0760 | 8.69 (3.940)   |
| 34.6 (880)       | 23            | 38   | 44                    | PNP/NPN          | XUSLDMY5A0880 | 9.85 (4.470)   |
| 36.2 (920)       | 23            | 38   | 46                    | PNP/NPN          | XUSLDMY5A0920 | 10.25 (4.650)  |
| 40.9 (1040)      | 23            | 38   | 52                    | PNP/NPN          | XUSLDMY5A1040 | 11.44 (5.190)  |
| 47.2 (1200)      | 23            | 38   | 60                    | PNP/NPN          | XUSLDMY5A1200 | 13.01 (5.900)  |
| 53.5 (1360)      | 23            | 38   | 68                    | PNP/NPN          | XUSLDMY5A1360 | 14.59 (6.620)  |
| 55.1 (1400)      | 23            | 38   | 70                    | PNP/NPN          | XUSLDMY5A1400 | 14.99 (6.800)  |
| 59.8 (1520)      | 32            | 53   | 76                    | PNP/NPN          | XUSLDMY5A1520 | 16.16 (7.330)  |
| 61.4 (1560)      | 32            | 53   | 78                    | PNP/NPN          | XUSLDMY5A1560 | 16.53 (7.500)  |
| 64.6 (1640)      | 32            | 53   | 82                    | PNP/NPN          | XUSLDMY5A1640 | 17.35 (7.870)  |
| 67.7 (1720)      | 32            | 53   | 86                    | PNP/NPN          | XUSLDMY5A1720 | 18.14 (8.230)  |
| 70.9 (1800)      | 32            | 53   | 88                    | PNP/NPN          | XUSLDMY5A1800 | 18.94 (8.590)  |
| 75.6 (1920)      | 32            | 53   | 96                    | PNP/NPN          | XUSLDMY5A1920 | 20.11 (9.120)  |
| 83.5 (2120)      | 32            | 53   | 106                   | PNP/NPN          | XUSLDMY5A2120 | 22.09 (10.020) |

(1) Supplied with a test rod, 2 sets of 2 brackets with mounting hardware, user guide with certificate of conformity on CD-ROM and 1 arc suppressor set.

Programming and Diagnostic Module (if required) and pre-wired connectors to be ordered separately, see page 10.

(2) To order a receiver only, add the letter **R** to the end of the reference for the corresponding transmitter-receiver pair.

Example: reference XUSLDMY5A0320 becomes **XUSLDMY5A0320R** for the receiver only.

To order a transmitter only, add the letter **T** to the end of the reference for the corresponding transmitter-receiver pair.

Example: reference XUSLDMY5A0320 becomes **XUSLDMY5A0320T** for the transmitter only.

#### Other versions

Combining type 4 safety light curtains with external module for muting function.

See catalog MKTED208051EN pages 2/222 to 2/225



XUSLDM + XUSLDS

#### Segments for cascadable Universal light curtains

Cascadable versions with up to 4 segments total (256 light beams max., modular finger/hand) using segments XUSLDS

#### Configuration of segments XUSLDS

##### Two segments

| Number of light beams | Response time |
|-----------------------|---------------|
|                       | ms            |
| 0 to 65               | 23            |
| 66 to 120             | 32            |
| 121 to 174            | 41            |
| 175 to 229            | 50            |
| 230 to 256            | 59            |

##### Three segments

| Number of light beams | Response time |
|-----------------------|---------------|
|                       | ms            |
| 0 to 59               | 23            |
| 60 to 114             | 32            |
| 115 to 168            | 41            |
| 169 to 223            | 50            |
| 224 to 256            | 59            |

##### Four segments

| Number of light beams | Response time |
|-----------------------|---------------|
|                       | ms            |
| 0 to 53               | 23            |
| 54 to 108             | 32            |
| 109 to 162            | 41            |
| 163 to 217            | 50            |
| 218 to 256            | 59            |

# Safety detection solutions

## Safety light curtains, type 4

### Segments XUSLDS for Universal XUSLDM light curtains



XUSLDSQ6A.....

#### Transmitter-receiver pairs for finger protection (1)

Detection capacity 0.55 in. (14 mm).. Sensing distance depending on XUSLDM light curtain used

■ Segments for cascadable Universal light curtains (2)

| Protected height | Number of light beams | Reference (3) | Weight        |
|------------------|-----------------------|---------------|---------------|
| in (mm)          |                       |               | lb. (kg)      |
| 11 (280)         | 24                    | XUSLDSQ6A0280 | 3.95 (1.790)  |
| 12.6 (320)       | 32                    | XUSLDSQ6A0320 | 4.34 (1.970)  |
| 14.2 (360)       | 36                    | XUSLDSQ6A0360 | 4.74 (2.150)  |
| 17.3 (440)       | 44                    | XUSLDSQ6A0440 | 5.51 (2.500)  |
| 20.5 (520)       | 52                    | XUSLDSQ6A0520 | 6.33 (2.870)  |
| 23.6 (600)       | 60                    | XUSLDSQ6A0600 | 7.10 (3.220)  |
| 28.3 (720)       | 72                    | XUSLDSQ6A0720 | 8.29 (3.760)  |
| 29.9 (760)       | 76                    | XUSLDSQ6A0760 | 8.69 (3.940)  |
| 34.6 (880)       | 88                    | XUSLDSQ6A0880 | 9.85 (4.470)  |
| 36.2 (920)       | 92                    | XUSLDSQ6A0920 | 10.25 (4.650) |
| 37.8 (960)       | 96                    | XUSLDSQ6A0960 | 10.65 (4.830) |
| 40.9 (1040)      | 104                   | XUSLDSQ6A1040 | 11.44 (5.190) |
| 44.1 (1120)      | 112                   | XUSLDSQ6A1120 | 12.21 (5.540) |
| 47.2 (1200)      | 120                   | XUSLDSQ6A1200 | 13.01 (5.900) |

#### Transmitter-receiver pairs for hand protection (1)

Detection capacity 1.2 ft (30 mm). Sensing distance depending on XUSLDM light curtain used

■ Segments for cascadable Universal light curtains (2)

| Protected height | Number of light beams | Reference (3) | Weight         |
|------------------|-----------------------|---------------|----------------|
| in (mm)          |                       |               | lb. (kg)       |
| 12.6 (320)       | 16                    | XUSLDSY5A0320 | 4.34 (1.970)   |
| 14.2 (360)       | 18                    | XUSLDSY5A0360 | 4.74 (2.150)   |
| 17.3 (440)       | 22                    | XUSLDSY5A0440 | 5.51 (2.500)   |
| 20.5 (520)       | 26                    | XUSLDSY5A0520 | 6.33 (2.870)   |
| 23.6 (600)       | 30                    | XUSLDSY5A0600 | 7.10 (3.220)   |
| 26.8 (680)       | 34                    | XUSLDSY5A0680 | 7.89 (3.580)   |
| 29.9 (760)       | 38                    | XUSLDSY5A0760 | 8.69 (3.940)   |
| 34.6 (880)       | 44                    | XUSLDSY5A0880 | 9.85 (4.470)   |
| 36.2 (920)       | 46                    | XUSLDSY5A0920 | 10.25 (4.650)  |
| 40.9 (1040)      | 52                    | XUSLDSY5A1040 | 11.44 (5.190)  |
| 47.2 (1200)      | 60                    | XUSLDSY5A1200 | 13.01 (5.900)  |
| 53.5 (1360)      | 68                    | XUSLDSY5A1360 | 14.59 (6.620)  |
| 55.1 (1400)      | 70                    | XUSLDSY5A1400 | 14.99 (6.800)  |
| 59.8 (1520)      | 76                    | XUSLDSY5A1520 | 16.16 (7.330)  |
| 61.4 (1560)      | 78                    | XUSLDSY5A1560 | 16.53 (7.500)  |
| 64.6 (1640)      | 82                    | XUSLDSY5A1640 | 17.35 (7.870)  |
| 67.7 (1720)      | 86                    | XUSLDSY5A1720 | 18.14 (8.230)  |
| 70.9 (1800)      | 88                    | XUSLDSY5A1800 | 18.94 (8.590)  |
| 75.6 (1920)      | 96                    | XUSLDSY5A1920 | 20.11 (9.120)  |
| 83.5 (2120)      | 106                   | XUSLDSY5A2120 | 22.09 (10.020) |



XUSLDSY5A.....

(1) Supplied with 2 sets of 2 brackets and hardware.

**Jumper cables to be ordered separately, see 9.**

(2) The segments are to be connected to the M12 4-pin connector on top of the XUSLDM light curtains.

(3) To order a receiver only, add the letter **R** to the end of the reference for the corresponding transmitter-receiver pair.

Example: reference XUSLDSY5A0320 becomes **XUSLDSY5A0320R** for the receiver only.

To order a transmitter only, add the letter **T** to the end of the reference for the corresponding transmitter-receiver pair.

Example: reference XUSLDSY5A0320 becomes **XUSLDSY5A0320T** for the transmitter only.

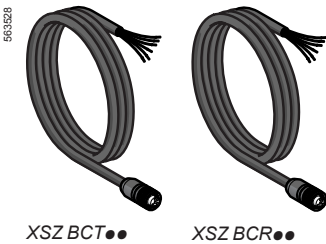
# Safety detection solutions

## Safety light curtains, type 4

### Light curtains Optimum XUSLB and Universal XUSLDM/LDS with solid-state output



XUSLPDM



XSZ BCT●●

XSZ BCR●●

#### Separate components

Power supplies, 90° mirror adaptors, protective covers, anti-vibration kit, mounting bases, laser alignment tool

See pages 1 to 8 of .

#### Accessories

| Description  | For use with                                 | Length<br>ft (m) | Reference             | Weight<br>lb. (kg)     |
|--|--|------------------|-----------------------|------------------------|
| <b>Programming and Diagnostic Module (PDM)</b>   | Light curtains XUSLB/LDM                     | –                | XUSLPDM               | 0.62 (0.280)           |
| <b>Holder mount</b>  | Programming and diagnostic module XUSLPDM    | –                | XUSLZPDM              | 0.09 (0.040)           |
| <b>Pre-wired connectors for light curtains XUSLB/XUSLDM</b>  | Transmitter type                             | 16.4 (5)         | <b>XSZBCT05</b>       | 0.86 (0.390)           |
|  |  | 32.8 (10)        | <b>XSZBCT10</b>       | 1.52 (0.690)           |
|  |  | 49.2 (15)        | <b>XSZBCT15</b>       | 2.27 (1.030)           |
|  |  | 98.4 (30)        | <b>XSZBCT30</b>       | 4.25 (1.930)           |
|  | Receiver type                                | 16.4 (5)         | <b>XSZBCR05</b>       | 0.99 (0.450)           |
|  |  | 32.8 (10)        | <b>XSZBCR10</b>       | 1.72 (0.780)           |
|  |  | 49.2 (15)        | <b>XSZBCR15</b>       | 2.43 (1.100)           |
|  |  | 98.4 (30)        | <b>XSZBCR30</b>       | 5.03 (2.280)           |
| <b>Jumper cables for segments XUSLDS</b><br>M12 male/female, 4-pin, straight   | Transmitter type                             | 1 (0.3)          | <b>XSZDCT003</b>      | 0.11 (0.050)           |
|  |  | 1.6 (0.5)        | <b>XSZDCT005</b>      | 0.15 (0.070)           |
|  |  | 3.3 (1)          | <b>XSZDCT010</b>      | 0.24 (0.110)           |
|  |  | 6.6 (2)          | <b>XSZDCT020</b>      | 0.46 (0.210)           |
|  |  | 9.9 (3)          | <b>XSZDCT030</b>      | 0.66 (0.300)           |
|  |  | 16.4 (5)         | <b>XSZDCT050</b>      | 1.08 (0.490)           |
|  |  | 32.8 (10)        | <b>XSZDCT100</b>      | 2.09 (0.950)           |
|  | Receiver type                                | 1 (0.3)          | <b>XSZDCR003</b>      | 0.11 (0.050)           |
|  |  | 1.6 (0.5)        | <b>XSZDCR005</b>      | 0.15 (0.070)           |
|  |  | 3.3 (1)          | <b>XSZDCR010</b>      | 0.24 (0.110)           |
|  |  | 6.6 (2)          | <b>XSZDCR020</b>      | 0.46 (0.210)           |
|  |  | 9.9 (3)          | <b>XSZDCR030</b>      | 0.66 (0.300)           |
|  |  | 16.4 (5)         | <b>XSZDCR050</b>      | 1.08 (0.490)           |
|  |  | 32.8 (10)        | <b>XSZDCR100</b>      | 2.12 (0.960)           |
| <b>Jumpers for replacement of light curtains XUSLT by XUSLB or XUSLDM</b>  | Transmitter type Male/Female 5 pins          | 1 (0.3)          | <b>XSZTBMCT003</b>    | 0.13 (0.060)           |
|  | Receiver type Male/Female 8 pins             | 1 (0.3)          | <b>XSZTBMCR003</b>    | 0.13 (0.060)           |
| <b>Description</b>   | <b>For use with</b>                          |                  | <b>Unit reference</b> | <b>Weight lb. (kg)</b> |
| <b>Replacement caps for M12 connector (Sold in lots of 10)</b>   | Light curtains XUSLDM and segments XUSLDS    |                  | <b>XUSLZ600</b>       | 0.002 (0.001)          |
| <b>Replacement caps for M8 connector (programming and diagnostic module XUSLPDM connection to light curtains) (Sold in lots of 10)</b> | Light curtains XUSLB/LDM and segments XUSLDS |                  | <b>XUSLZ610</b>       | 0.02 (0.010)           |
| <b>mounting kit (2 brackets)</b>   | Light curtains XUSLB/LDM and segments XUSLDS |                  | <b>XUSLZ228</b>       | 0.22 (0.100)           |
| <b>Sliding nuts (4 nuts) for rear or side mounting with XUSLZ228</b>   | Light curtains XUSLB/LDM                     |                  | <b>XUSLZ330</b>       | 0.09 (0.040)           |
| <b>Arc suppressor (pair)</b>   | All types of light curtain                   |                  | <b>XUSLZ500</b>       | 0.04 (0.020)           |
| <b>IP 67 protection tube (see page 10)</b>   |  |                  |                       | –                      |
| <b>User guide on CD-ROM</b>  | All types of light curtain                   |                  | <b>XUSLZ450</b>       | 0.02 (0.010)           |
| <b>Connection module for sensors and Muting indicator light (see page 18)</b>  | Light curtains XUSLDM                        |                  | <b>XPPLCM1</b>        | 0.42 (0.190)           |

|  |               |                               |                            |
|--|---------------|-------------------------------|----------------------------|
| IP 67 protection tubes for light curtains XUSLB/XUSLDM and segments XUSLDS |               | XUSLZD7●●●●                   |                            |
| <b>Environment characteristics</b>   |               |                               |                            |
| Air temperature  | For operation | °F (°C)                       | 32...+ 104 (0...+ 40)      |
|  | For storage   | °F (°C)                       | - 13...+ 158 (- 25...+ 70) |
| Degree of protection   |               | IP 67 conforming to IEC 60529 |                            |
| Material   |               | Acrylic                       |                            |
| Sensing distance (Sn) reduction coefficient                                |               | 0.90                          |                            |

|                                |                                      |  |                    |
|--------------------------------|--------------------------------------|--|--------------------|
| <b>Environmental chemicals</b> |                                      |  |                    |
| Chemical resistance            | Aliphatic hydrocarbons               |  | Resistant          |
|                                | Alkalis                              |  |                    |
|                                | Aqueous solutions                    |  |                    |
|                                | Detergents and cleaners              |  |                    |
|                                | Inorganic diluted acids              |  |                    |
|                                | Chlorinated or aromatic hydrocarbons |  | Limited resistance |
|                                | Esters                               |  |                    |
|                                | Ketones                              |  |                    |
| Environmental resistance       | Adverse weather, sunlight (UV)       |  | Resistant          |
|                                | Humidity                             |  |                    |
|                                | Immersion in water                   |  |                    |

### References of IP 67 protection tubes

109048



XUSLZD7●●●●

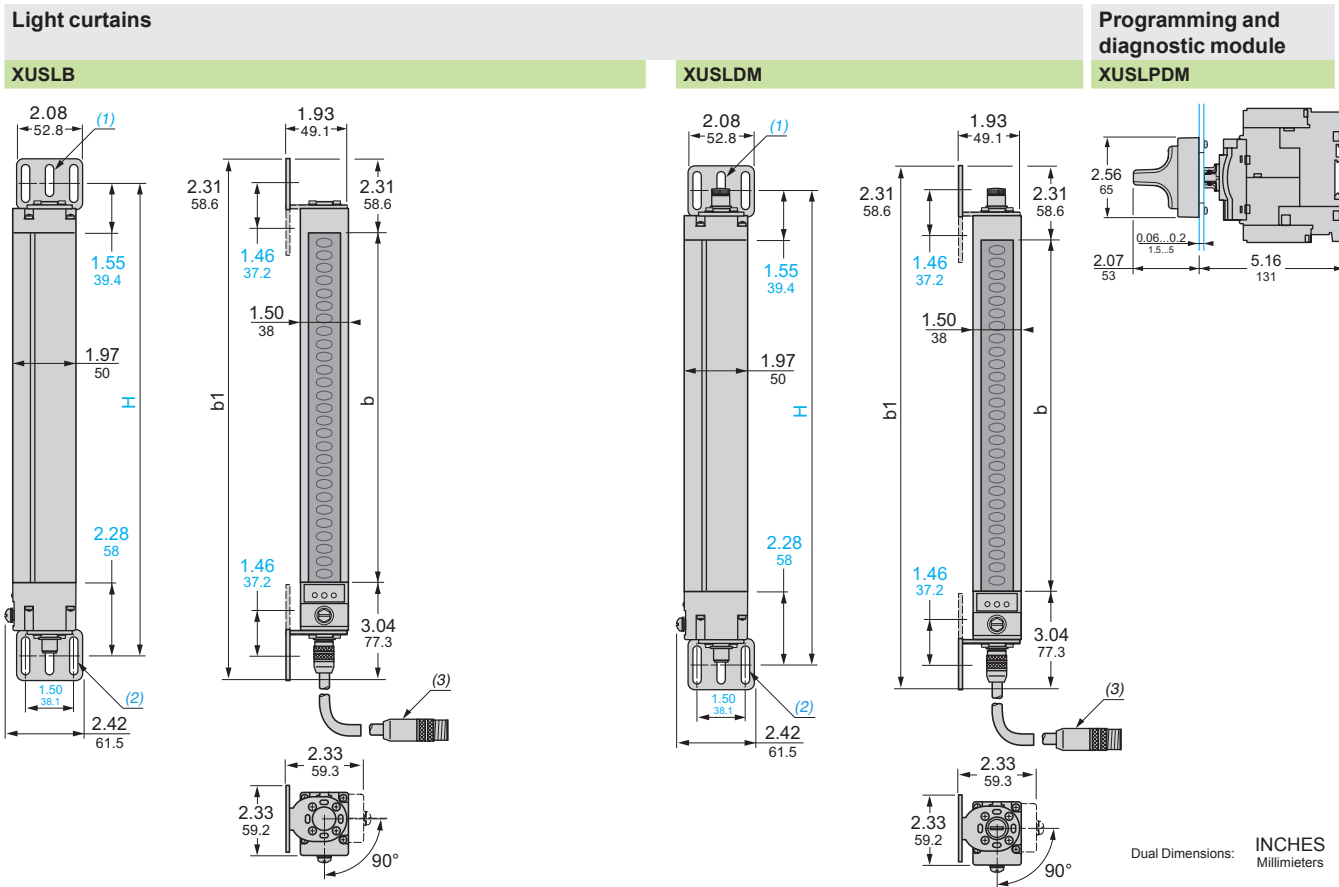
| Description  | For use with  | Height in (mm) | Reference     | Weight lb. (kg) |
|--|---------------|----------------|---------------|-----------------|
| IP 67 protection tubes for XUSLB/LDM transmitter-receiver pair and segments XUSLDS●●● (0.90 Sn) (1)<br>(Sold in lots of 2) | XUSL●●6A0280  | 11.2 (284.4)   | XUSLZD70280   | 5.84 (2.650)    |
|  | XUSL●●●A0320  | 12.8 (324.8)   | XUSLZD70320   | 6.19 (2.810)    |
|  | XUSL●●●A0360  | 14.4 (364.5)   | XUSLZD70360   | 6.53 (2.960)    |
|  | XUSL●●●A0440  | 17.5 (443.9)   | XUSLZD70440   | 7.21 (3.270)    |
|  | XUSL●●●A0520  | 20.6 (523.4)   | XUSLZD70520   | 7.89 (3.580)    |
|  | XUSL●●●A0600  | 23.8 (604.1)   | XUSLZD70600   | 8.58 (3.890)    |
|  | XUSL●●5A0680  | 26.9 (683.6)   | XUSLZD70680   | 9.24 (4.190)    |
|  | XUSL●●6A0720  | 28.5 (724)     | XUSLZD70720   | 9.59 (4.350)    |
|  | XUSL●●●A0760  | 30 (763)       | XUSLZD70760   | 9.92 (4.500)    |
|  | XUSL●●●A0880  | 34.8 (882.8)   | XUSLZD70880   | 10.93 (4.960)   |
|  | XUSL●●●A0920  | 36.3 (922.5)   | XUSLZD70920   | 11.28 (5.120)   |
|  | XUSL●●6A0960  | 37.9 (963.6)   | XUSLZD70960   | 11.62 (5.270)   |
|  | XUSL●●●A1040  | 41.1 (1042.9)  | XUSLZD71040   | 12.30 (5.580)   |
|  | XUSL●●6A1120  | 44.2 (1122.3)  | XUSLZD71120   | 12.99 (5.890)   |
|  | XUSL●●●A1200  | 47.4 (1203.8)  | XUSLZD71200   | 13.67 (6.200)   |
|  | XUSL●●●A1360  | 53.6 (1362)    | XUSLZD71360   | 15.01 (6.810)   |
|  | XUSL●●5A1400  | 55.2 (1401.7)  | XUSLZD71400   | 15.37 (6.970)   |
|  | XUSL●●5A1520  | 59.9 (1521.5)  | XUSLZD71520   | 16.38 (7.430)   |
|  | XUSL●●5A1560  | 61.5 (1563.3)  | XUSLZD71560   | 16.71 (7.580)   |
|  | XUSL●●5A1640  | 64.6 (1641.3)  | XUSLZD71640   | 17.89 (7.890)   |
| XUSL●●5A1720   | 67.7 (1720.8) | XUSLZD71720    | 18.08 (8.200) |                 |
| XUSL●●5A1800   | 71 (1802.9)   | XUSLZD71800    | 18.76 (8.510) |                 |
| XUSL●●5A1920   | 75.7 (1922.8) | XUSLZD71920    | 19.78 (8.970) |                 |
| XUSL●●5A2120   | 83.5 (2120.7) | XUSLZD72120    | 21.47 (9.740) |                 |

(1) Sensing distance reduction coefficient to be taken into account for each pair of IP 67 protection tubes used.

# Safety detection solutions

## Preventa™

Safety light curtains, type 4  
Light curtains Optimum XUSLB and  
Universal XUSLDM with solid-state output



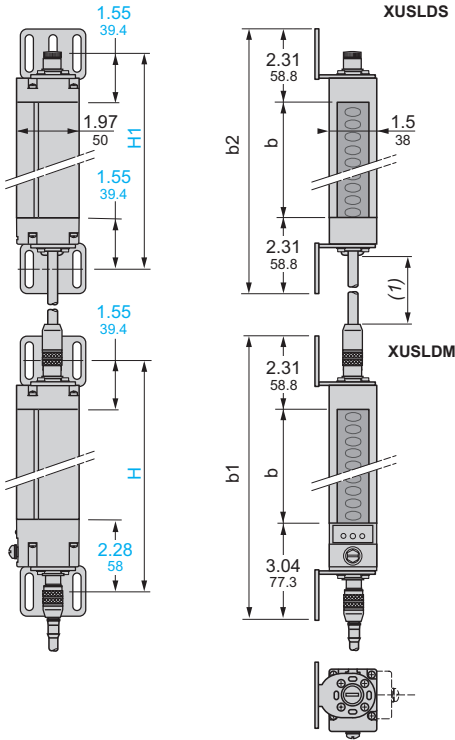
| XUS       | b             | b1            | H             | Protected height |
|-----------|---------------|---------------|---------------|------------------|
| LB●●●0280 | 11.2 (284.4)  | 16.6 (420.4)  | 15 (381.7)    | 11 (280)         |
| LB●●●0320 | 12.8 (324.8)  | 18.1 (460.8)  | 16.6 (422.1)  | 12.6 (320)       |
| LB●●●0360 | 14.4 (364.5)  | 19.7 (500.5)  | 18.2 (461.8)  | 14.2 (360)       |
| LB●●●0440 | 17.5 (443.9)  | 22.8 (579.9)  | 21.3 (541.2)  | 17.3 (440)       |
| LB●●●0520 | 20.6 (523.4)  | 26 (659.4)    | 24.4 (620.7)  | 20.5 (520)       |
| LB●●●0600 | 23.8 (604.1)  | 29.1 (740.1)  | 27.6 (701.4)  | 23.6 (600)       |
| LB●●●0680 | 26.9 (683.6)  | 32.3 (819.6)  | 30.7 (780.9)  | 26.8 (680)       |
| LB●●●0720 | 28.5 (724)    | 33.9 (860)    | 32.3 (821.3)  | 28.3 (720)       |
| LB●●●0760 | 30 (763)      | 35.4 (899)    | 33.9 (860.3)  | 29.9 (760)       |
| LB●●●0880 | 34.8 (882.8)  | 40.1 (1018.8) | 38.6 (980.1)  | 34.6 (880)       |
| LB●●●0920 | 36.3 (922.5)  | 41.7 (1058.5) | 40.1 (1019.8) | 36.2 (920)       |
| LB●●●0960 | 37.9 (963.6)  | 43.3 (1099.6) | 41.8 (1060.9) | 37.8 (960)       |
| LB●●●1040 | 41.1 (1042.9) | 46.4 (1178.9) | 44.9 (1140.2) | 40.9 (1040)      |
| LB●●●1120 | 44.2 (1122.3) | 49.5 (1258.3) | 48 (1219.6)   | 44.1 (1120)      |
| LB●●●1200 | 47.4 (1203.8) | 52.7 (1339.8) | 51.2 (1301.1) | 47.2 (1200)      |
| LB●●●1360 | 53.6 (1362)   | 59 (1498)     | 57.5 (1459.3) | 53.5 (1360)      |
| LB●●●1400 | 55.2 (1401.7) | 60.5 (1537.7) | 59 (1499)     | 55.1 (1400)      |
| LB●●●1520 | 59.9 (1521.5) | 65.3 (1657.5) | 63.7 (1618.8) | 59.8 (1520)      |
| LB●●●1560 | 61.5 (1563.3) | 66.9 (1699.3) | 65.4 (1660.6) | 61.4 (1560)      |
| LB●●●1640 | 64.6 (1641.3) | 70 (1777.3)   | 68.4 (1738.6) | 64.6 (1640)      |
| LB●●●1720 | 67.7 (1720.8) | 73.1 (1856.8) | 71.6 (1818.1) | 67.7 (1720)      |
| LB●●●1800 | 71 (1802.9)   | 76.3 (1938.9) | 74.8 (1900.2) | 70.9 (1800)      |
| LB●●●1920 | 75.7 (1922.8) | 81.1 (2058.8) | 79.5 (2020.1) | 75.6 (1920)      |
| LB●●●2120 | 83.5 (2120.7) | 88.8 (2256.7) | 87.3 (2217.3) | 83.5 (2120)      |

| XUS        | b             | b1            | H             | Protected height |
|------------|---------------|---------------|---------------|------------------|
| LDM●●●0280 | 11.2 (284.4)  | 16.6 (420.4)  | 15 (381.7)    | 11 (280)         |
| LDM●●●0320 | 12.8 (324.8)  | 18.1 (460.8)  | 16.6 (422.1)  | 12.6 (320)       |
| LDM●●●0360 | 14.4 (364.5)  | 19.7 (500.5)  | 18.2 (461.8)  | 14.2 (360)       |
| LDM●●●0440 | 17.5 (443.9)  | 22.8 (579.9)  | 21.3 (541.2)  | 17.3 (440)       |
| LDM●●●0520 | 20.6 (523.4)  | 26 (659.4)    | 24.4 (620.7)  | 20.5 (520)       |
| LDM●●●0600 | 23.8 (604.1)  | 29.1 (740.1)  | 27.6 (701.4)  | 23.6 (600)       |
| LDM●●●0680 | 26.9 (683.6)  | 32.3 (819.6)  | 30.7 (780.9)  | 26.8 (680)       |
| LDM●●●0720 | 28.5 (724)    | 33.9 (860)    | 32.3 (821.3)  | 28.3 (720)       |
| LDM●●●0760 | 30 (763)      | 35.4 (899)    | 33.9 (860.3)  | 29.9 (760)       |
| LDM●●●0880 | 34.8 (882.8)  | 40.1 (1018.8) | 38.6 (980.1)  | 34.6 (880)       |
| LDM●●●0920 | 36.3 (922.5)  | 41.7 (1058.5) | 40.1 (1019.8) | 36.2 (920)       |
| LDM●●●0960 | 37.9 (963.6)  | 43.3 (1099.6) | 41.8 (1060.9) | 37.8 (960)       |
| LDM●●●1040 | 41.1 (1042.9) | 46.4 (1178.9) | 44.9 (1140.2) | 40.9 (1040)      |
| LDM●●●1120 | 44.2 (1122.3) | 49.5 (1258.3) | 48 (1219.6)   | 44.1 (1120)      |
| LDM●●●1200 | 47.4 (1203.8) | 52.7 (1339.8) | 51.2 (1301.1) | 47.2 (1200)      |
| LDM●●●1360 | 53.6 (1362)   | 59 (1498)     | 57.5 (1459.3) | 53.5 (1360)      |
| LDM●●●1400 | 55.2 (1401.7) | 60.5 (1537.7) | 59 (1499)     | 55.1 (1400)      |
| LDM●●●1520 | 59.9 (1521.5) | 65.3 (1657.5) | 63.7 (1618.8) | 59.8 (1520)      |
| LDM●●●1560 | 61.5 (1563.3) | 66.9 (1699.3) | 65.4 (1660.6) | 61.4 (1560)      |
| LDM●●●1640 | 64.6 (1641.3) | 70 (1777.3)   | 68.4 (1738.6) | 64.6 (1640)      |
| LDM●●●1720 | 67.7 (1720.8) | 73.1 (1856.8) | 71.6 (1818.1) | 67.7 (1720)      |
| LDM●●●1800 | 71 (1802.9)   | 76.3 (1938.9) | 74.8 (1900.2) | 70.9 (1800)      |
| LDM●●●1920 | 75.7 (1922.8) | 81.1 (2058.8) | 79.5 (2020.1) | 75.6 (1920)      |
| LDM●●●2120 | 83.5 (2120.7) | 88.8 (2256.7) | 87.3 (2217.3) | 83.5 (2120)      |

(1) 2 elongated holes 0.73 x 0.27 in (18.5 x 6.8 mm).  
(2) 4 elongated holes 0.91 x 0.27 in (23.2 x 6.8 mm).  
(3) M12 male connector on 10.6 in. (0.27 m) pigtail.

**Cascadable segments**

**XUSLDS**

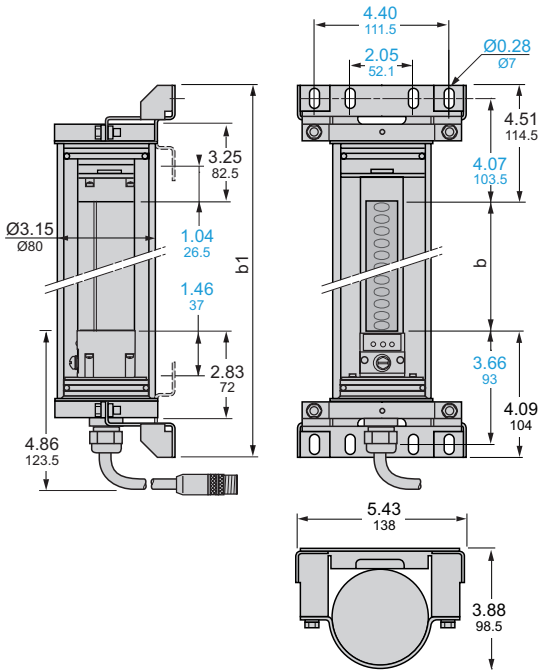


| XUS        | b             | b1            | b2            | H             | H1            | Protected height |
|------------|---------------|---------------|---------------|---------------|---------------|------------------|
| LDS●●●0280 | 11.2 (284.4)  | 16.6 (420.4)  | 15.8 (401.5)  | 15 (381.7)    | 14.3 (363.1)  | 11 (280)         |
| LDS●●●0320 | 12.8 (324.8)  | 18.1 (460.8)  | 17.4 (442.3)  | 16.6 (422.1)  | 15.9 (403.5)  | 12.6 (320)       |
| LDS●●●0360 | 14.4 (364.5)  | 19.7 (500.5)  | 19 (482)      | 18.2 (461.8)  | 17.4 (443.2)  | 14.2 (360)       |
| LDS●●●0440 | 17.5 (443.9)  | 22.8 (579.9)  | 22.1 (561.4)  | 21.3 (541.2)  | 20.6 (522.6)  | 17.3 (440)       |
| LDS●●●0520 | 20.6 (523.4)  | 26 (659.4)    | 25.2 (640.9)  | 24.4 (620.7)  | 23.7 (602.1)  | 20.5 (520)       |
| LDS●●●0600 | 23.8 (604.1)  | 29.1 (740.1)  | 28.4 (721.6)  | 27.6 (701.4)  | 26.9 (682.8)  | 23.6 (600)       |
| LDS●●●0680 | 26.9 (683.6)  | 32.3 (819.6)  | 31.5 (801.1)  | 30.7 (780.9)  | 30 (762.3)    | 26.8 (680)       |
| LDS●●●0720 | 28.5 (724)    | 33.9 (860)    | 33.1 (841.5)  | 32.3 (821.3)  | 31.6 (802.7)  | 28.3 (720)       |
| LDS●●●0760 | 30 (763)      | 35.4 (899)    | 34.7 (880.5)  | 33.9 (860.3)  | 33.1 (841.7)  | 29.9 (760)       |
| LDS●●●0880 | 34.8 (882.8)  | 40.1 (1018.8) | 39.4 (1000.3) | 38.6 (980.1)  | 37.9 (961.5)  | 34.6 (880)       |
| LDS●●●0920 | 36.3 (922.5)  | 41.7 (1058.5) | 40.9 (1040)   | 40.1 (1019.8) | 39.4 (1001.2) | 36.2 (920)       |
| LDS●●●0960 | 37.9 (963.6)  | 43.3 (1099.6) | 42.6 (1081.1) | 41.8 (1060.9) | 41 (1042.3)   | 37.8 (960)       |
| LDS●●●1040 | 41.1 (1042.9) | 46.4 (1178.9) | 45.7 (1160.4) | 44.9 (1140.2) | 44.2 (1121.6) | 40.9 (1040)      |
| LDS●●●1120 | 44.2 (1122.3) | 49.5 (1258.3) | 48.8 (1239.8) | 48 (1219.6)   | 47.3 (1201)   | 44.1 (1120)      |
| LDS●●●1200 | 47.4 (1203.8) | 52.7 (1339.8) | 52 (1321.3)   | 51.2 (1301.1) | 50.5 (1282.5) | 47.2 (1200)      |
| LDS●●●1360 | 53.6 (1362)   | 59 (1498)     | 58.2 (1479.5) | 57.5 (1459.3) | 56.7 (1440.7) | 53.5 (1360)      |
| LDS●●●1400 | 55.2 (1401.7) | 60.5 (1537.7) | 59.8 (1519.2) | 59 (1499)     | 58.3 (1480.4) | 55.1 (1400)      |
| LDS●●●1520 | 59.9 (1521.5) | 65.3 (1657.5) | 64.5 (1639)   | 63.7 (1618.8) | 63 (1600.2)   | 59.8 (1520)      |
| LDS●●●1560 | 61.5 (1563.3) | 66.9 (1699.3) | 66.2 (1680.8) | 65.4 (1660.6) | 66.1 (1679.2) | 61.4 (1560)      |
| LDS●●●1640 | 64.6 (1641.3) | 70 (1777.3)   | 69.2 (1758.8) | 68.4 (1738.6) | 67.7 (1720)   | 64.6 (1640)      |
| LDS●●●1720 | 67.7 (1720.8) | 73.1 (1856.8) | 72.4 (1838.3) | 71.6 (1818.1) | 70.8 (1799.5) | 67.7 (1720)      |
| LDS●●●1800 | 71 (1802.9)   | 76.3 (1938.9) | 75.6 (1920.4) | 74.8 (1900.2) | 74.1 (1881.6) | 70.9 (1800)      |
| LDS●●●1920 | 75.7 (1922.8) | 81.1 (2058.8) | 80.3 (2040.3) | 79.5 (2020.1) | 78.8 (2001.5) | 75.6 (1920)      |
| LDS●●●2120 | 83.5 (2120.7) | 88.8 (2256.7) | 88.1 (2237.5) | 87.3 (2217.3) | 86.6 (2198.7) | 83.5 (2120)      |

(1) Flexible 4.33 in (0.11 m) long cable.

**Protection tube for light curtains XUSLB/XUSLDM and segments XUSLDS**

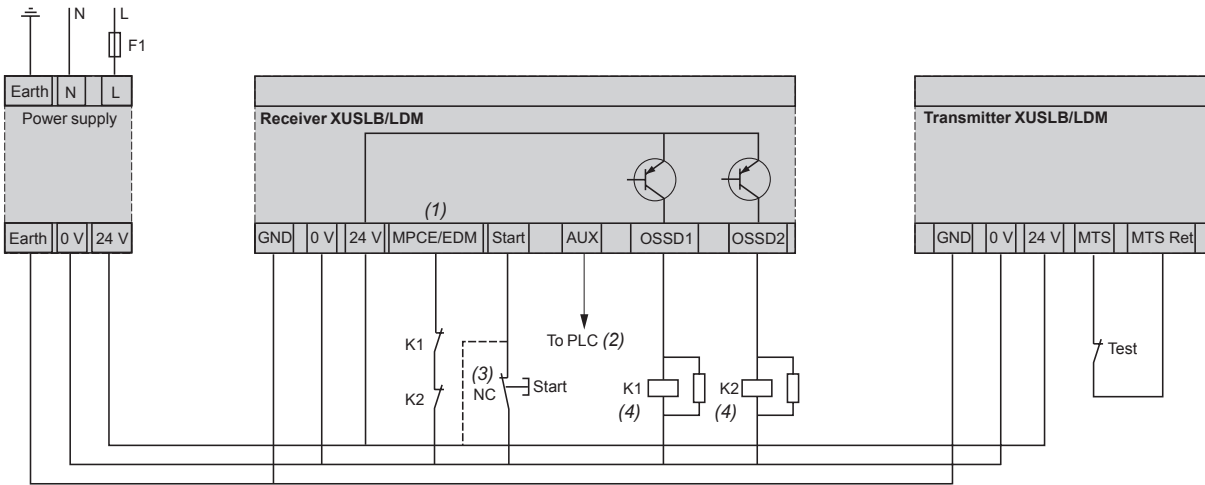
**XUSLZD7●●●●**



| XUS      | b            | b1            | XUS      | b             | b1            |
|----------|--------------|---------------|----------|---------------|---------------|
| LZD70280 | 11.2 (284.4) | 19.8 (502.8)  | LZD71040 | 41.1 (1042.9) | 49.7 (1261.3) |
| LZD70320 | 12.8 (324.8) | 21.4 (543.2)  | LZD71120 | 44.2 (1122.3) | 52.8 (1340.7) |
| LZD70360 | 14.4 (364.5) | 22.9 (582.9)  | LZD71200 | 47.4 (1203.8) | 56 (1422.2)   |
| LZD70440 | 17.5 (443.9) | 26.1 (662.3)  | LZD71360 | 53.6 (1362)   | 62.2 (1580.4) |
| LZD70520 | 20.6 (523.4) | 29.2 (741.8)  | LZD71400 | 55.2 (1401.7) | 63.8 (1620.1) |
| LZD70600 | 23.8 (604.1) | 32.4 (822.5)  | LZD71520 | 59.9 (1521.5) | 68.5 (1739.9) |
| LZD70680 | 26.9 (683.6) | 35.5 (902)    | LZD71560 | 61.5 (1563.3) | 70.1 (1781.7) |
| LZD70720 | 28.5 (724)   | 37.1 (942.4)  | LZD71640 | 64.6 (1641.3) | 73.2 (1859.2) |
| LZD70760 | 30 (763)     | 38.6 (981.4)  | LZD71720 | 67.7 (1720.8) | 76.3 (1939.2) |
| LZD70880 | 34.8 (882.8) | 43.4 (1101.2) | LZD71800 | 71 (1802.9)   | 79.6 (2021.2) |
| LZD70920 | 36.3 (922.5) | 44.9 (1140.9) | LZD71920 | 75.7 (1922.8) | 84.3 (2141.2) |
| LZD70960 | 37.9 (963.6) | 46.5 (1182)   | LZD72120 | 83.5 (2120.7) | 92.1 (2338.4) |

Dual Dimensions: INCHES  
Millimeters

#### Direct connection with XUSLB/LDM●●●



(1) For testing prior to installation, the user can select MPCE/EDM OFF (default factory setting). In this case, the MPCE/EDM line must be connected to the 0 V line of the system.

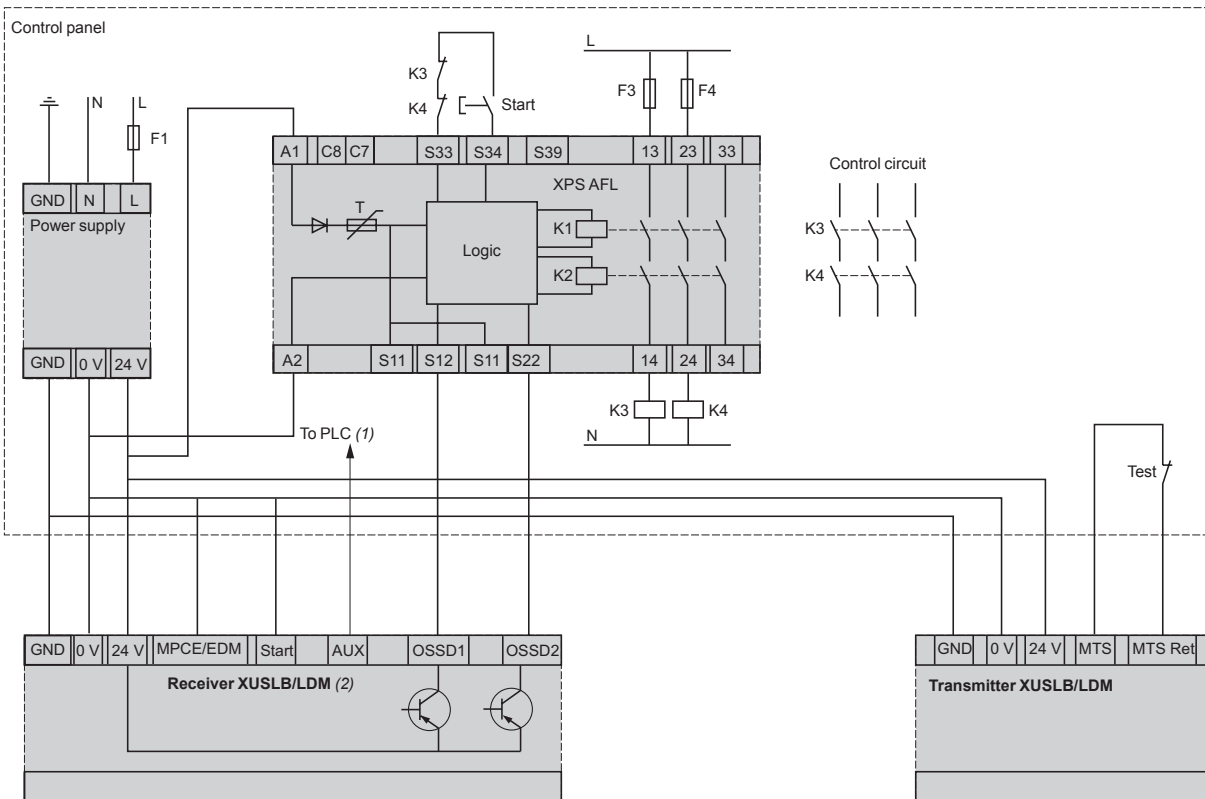
(2) The auxiliary output connects to a PLC (optional).

(3) If remote start is not used, connect the start line to the 0 V line.

(4) The K1 and K2 coils must be protected using the arc suppressors included in the documentation kit.

**Note:** Relays K1 and K2 must have mechanically linked contacts.

#### Connection via a Preventa™ XPSAFL module



(1) The auxiliary output connects to a PLC (optional).

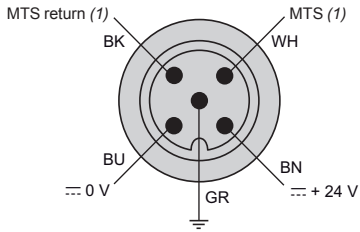
(2) The light curtain must be configured with MPCE/EDM OFF and with automatic start.

**Note:** Relays K1 and K2 must have mechanically linked contacts.



### Transmitter

#### Transmitter connector



#### Transmitter status indicator

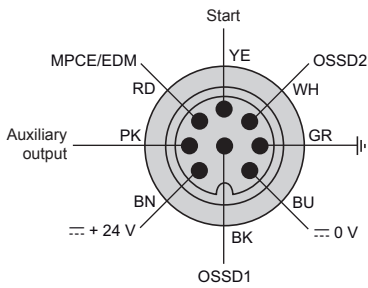


(1) Light curtain test input.

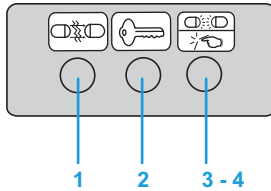
1 Yellow LED

### Receiver

#### Receiver connector



#### Receiver status indicator

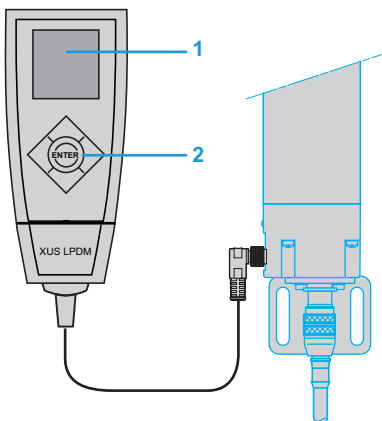


1 Blanking: Orange LED  
 2 Interlock or Alarm: Yellow LED  
 3-4 Machine run: Green LED  
 Machine stop: Red LED

### Programming and diagnostic module

#### Description and connection to light curtains XUSLB/LDM

#### XUSLPDM



1 Screen  
 2 Navigation button for displaying menus and selecting functions

## Substitution table

Light curtains with closest functionalities

## Safety detection solutions

Safety light curtains, type 4

Light curtains Optimum XUSLB and

Universal XUSLDM with solid-state output

| Light curtains Optimum                                    |   |
|---|---|
| Detection capacity 0.55 in. (14 mm).                      |   |
| Old light curtain   | New light curtain                           |
| XUSLTQ6A0260, XUSLTQ6B0260                                | XUSLBQ6A0280                                |
| XUSLTQ6A0350, XUSLTQ6B0350                                | XUSLBQ6A0320, XUSLBQ6A0360                  |
| XUSLTQ6A0435, XUSLTQ6B0435                                | XUSLBQ6A0440                                |
| XUSLTQ6A0520, XUSLTQ6B0520                                | XUSLBQ6A0520                                |
| XUSLTQ6A0610, XUSLTQ6B0610                                | XUSLBQ6A0600                                |
| XUSLTQ6A0700, XUSLTQ6B0700                                | XUSLBQ6A0720                                |
| XUSLTQ6A0785, XUSLTQ6B0785                                | XUSLBQ6A0760                                |
| XUSLTQ6A0870, XUSLTQ6B0870                                | XUSLBQ6A0880, XUSLBQ6A0920                  |
| XUSLTQ6A0955, XUSLTQ6B0955                                | XUSLBQ6A0960                                |
| XUSLTQ6A1045, XUSLTQ6B1045                                | XUSLBQ6A1040                                |
| XUSLTQ6A1130, XUSLTQ6B1130                                | XUSLBQ6A1120                                |
| XUSLTQ6A1215, XUSLTQ6B1215                                | XUSLBQ6A1200                                |
| XUSLTQ6A1305, XUSLTQ6B1390,<br>XUSLTQ6A1390, XUSLTQ6B1390 | XUSLBQ6A1360                                |
| Detection capacity 1.2 ft (30 mm)                         |   |
| Old light curtain   | New light curtain                           |
| XUSLTR5A0350, XUSLTR5B0350                                | XUSLBR5A0320, XUSLBR5A0360,<br>XUSLBR5A0440 |
| XUSLTR5A0520, XUSLTR5B0520                                | XUSLBR5A0520, XUSLBR5A0600                  |
| XUSLTR5A0700, XUSLTR5B0700                                | XUSLBR5A0680, XUSLBR5A0760                  |
| XUSLTR5A0870, XUSLTR5A0870,                               | XUSLBR5A0880, XUSLBR5A0920                  |
| XUSLTR5A1045, XUSLTR5B1045                                | XUSLBR5A1040                                |
| XUSLTR5A1215, XUSLTR5B1215                                | XUSLBR5A1200, XUSLBR5A1360                  |
| XUSLTR5A1390, XUSLTR5B1390                                | XUSLBR5A1400, XUSLBR5A1520                  |
| XUSLTR5A1570, XUSLTR5B1570                                | XUSLBR5A1560, XUSLBR5A1640                  |
| XUSLTR5A1745, XUSLTR5B1745                                | XUSLBR5A1720, XUSLBR5A1800                  |
| XUSLTR5A1920, XUSLTR5B1920                                | XUSLBR5A1920                                |
| XUSLTR5A2095, XUSLTR5B2095                                | XUSLBR5A2120                                |

Note: the characteristics of the ranges (optics, connections, dimensions, mounting, functions, etc.) are not exactly the same.

Please refer to the detailed characteristics of the XUSLB●●●●●● and XUSLD●●●●●● ranges and associated accessories when replacing a light curtain from the XUSLT●●●●●● range.

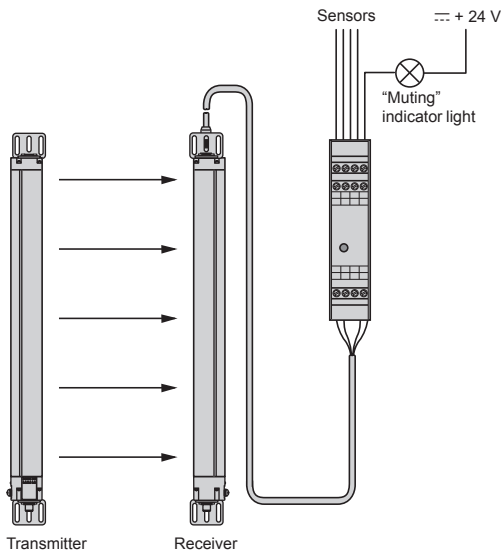
| <b>Light curtains Universal</b>          |   |
|--|---|
| <b>Detection capacity 1.2 ft (30 mm)</b> |   |
| <i>Old light curtain</i>                 | <b>New light curtain</b>                    |
| XUSLTY5A0350, XUSLTY5B0350               | XUSLDMY5A0320, XUSLDMY5A0360, XUSLDMY5A0440 |
| XUSLTY5A0520, XUSLTY5B0520               | XUSLDMY5A0520, XUSLDMY5A0600                |
| XUSLTY5A0700, XUSLTY5B0700               | XUSLDMY5A0680, XUSLDMY5A0760                |
| XUSLTY5A0870, XUSLTY5B0870               | XUSLDMY5A0880, XUSLDMY5A0920                |
| XUSLTY5A1045, XUSLTY5B1045               | XUSLDMY5A1040                               |
| XUSLTY5A1215, XUSLTY5B1215               | XUSLDMY5A1200, XUSLDMY5A1360                |
| XUSLTY5A1390, XUSLTY5B1390               | XUSLDMY5A1400, XUSLDMY5A1520                |
| XUSLTY5A1570, XUSLTY5B1570               | XUSLDMY5A1560, XUSLDMY5A1640                |
| XUSLTY5A1745, XUSLTY5B1745               | XUSLDMY5A1720, XUSLDMY5A1800                |
| XUSLTY5A1920, XUSLTY5B1920               | XUSLDMY5A1920                               |
| XUSLTY5A2095, XUSLTY5B2095               | XUSLDMY5A2120                               |

*Note: Caution, the characteristics of the ranges (optics, connections, dimensions, mounting, functions, etc.) are not exactly the same.  
 Please refer to the detailed characteristics of the XUSLB●●●●●● and XUSLD●●●●●● ranges and associated accessories when replacing a light curtain from the XUSLT●●●●●● range.*

## Safety detection solutions

### Connection module Preventa™ XPSPCM1

#### For “muting” function on light curtains type XUSLDM



### Operating principle

Universal XUSLDM light curtains have an integrated “muting” function that is configurable using the programming and diagnostic module XUSLPDM. This function enables the automatic passage of parts for machining or loaded pallets, without interrupting the transportation movement within the zone protected by the electro-sensitive protection equipment (ESPE) system. In addition to the safety light curtain, a connection module XPSPCM1, which is connected directly to the top of the light curtain receiver, enables the cabling of 2 to 4 “muting” sensors as well as an indicator light. In the event of a sequence error the “muting” indicator light flashes (1 second interval) and turning the Start key switch off and back on restarts the system.

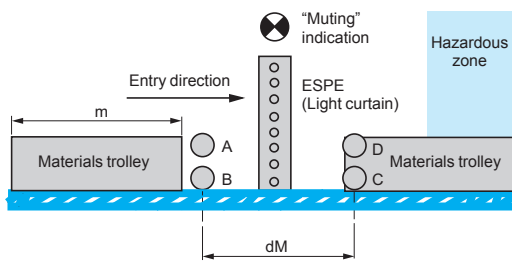
When the system is switched on by the start command and the light curtain protection not interrupted, the main circuit is closed by the safety outputs of the XUSLDM light curtain (solid-state safety outputs). In addition to the safety outputs, the light curtain incorporates signalling LEDs and an auxiliary output (alarm or status signalling) for sending system status information to the PLC. Four LEDs on the light curtain and one on the front face of connection module XPSPCM1 provide information on the safety circuit status.

An interruption of the protection field monitored by the electro-sensitive protection equipment causes instantaneous opening of the safety outputs; the process PLC receives a stop command and the LED display mounted on the front face indicates the change of state of the safety circuits. The “open” state is maintained until the light beams are unobstructed and, if included in the light curtain configuration, the Start key switch operated.

The “muting” function cannot be activated by supplying the “muting” sensors unless the safety outputs have been closed beforehand. To trigger the “muting” function, the “muting” devices must be activated within the configurable time interval (50 milliseconds to 5 seconds in increments of 50 milliseconds). During the activated “muting” phase, materials can be transported through the protection field without deactivating the safety outputs. In the event of intrusion into the hazardous zone, a person cannot activate the “muting” sensors in the same way and the system stops. While the “muting” function is activated, a “muting” status indicator light is controlled by the connection module XPSPCM1. A fault at indicator light level (short-circuit, open circuit) is immediately recognized and deactivates the “muting” function. The indicator light only illuminates when a “muting” signal is generated and indicates the inhibition of the protection function.

### Conditions to be observed for the “Muting” function

- The “muting” sensors must either be
  - thru-beam: XUK 0ARCTL2 (sensing distance 98.4 ft (30 m)) + XUK 0ARCTL2T
  - polarised reflex: XUK 0ARCTL2 (sensing distance 16.4 ft (5 m)) + reflector XUJ C50 or mechanical limit switches with contacts.
- $dM \leq m$  to obtain continuous validation of the “muting” function.
- Avoid the intrusion of persons during the “muting” phase. This phase is indicated by the indicator light connected to the “muting” indicator output of connection module XPSPCM1.
- A materials trolley must provide the “muting” signal before entering the protection field and cease it once it has cleared all the sensors of the protection field on exiting.



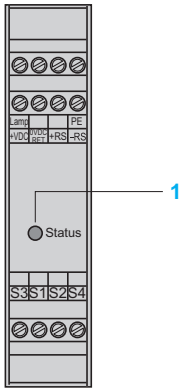
ESPE: electro-sensitive protection equipment (light curtain).  
A, B, D, C: “muting” sensors.  
 $m$ : trolley length and  $dM$  = distance between A, B and D, C.

# Safety detection solutions

## Connection module Preventa™ XPSTLCM1

### For “muting” function on light curtains type XUSLDM

| Characteristics   |                                    |  |   |
|---|------------------------------------|--|---|
| Connection module type  |                                    | XPSTLCM1   |   |
| <b>Certifications</b>   |                                    | CE, TÜV, CSA, UL   |   |
| <b>Product designed for max. use in safety related parts of control systems</b> | Conforming to EN 954-1/ISO 13849-1 | Category 4   |   |
| <b>Ambient air temperature</b>  | For operation                      | °F (°C)  | 32...+ 131 (0...+ 55)   |
|   | For storage                        | °F (°C)  | - 13...+ 167 (- 25...+ 75)  |
| <b>Degree of protection</b><br>conforming to IEC 529                            | Terminals                          | IP 20  |   |
|   | Enclosure                          | IP 20  |   |
| <b>Power supply by light curtain XUSLDM</b>                                     | Voltage                            | <b>V</b>   | ≐ 24 (- 20...+ 20%)   |
|   | Maximum current                    | <b>mA</b>  | 30  |
| <b>Maximum consumption</b>  |                                    | <b>W</b>   | 0.7   |
| <b>Rated insulation voltage (Ui)</b>  |                                    | <b>V</b>   | 500   |
| <b>Rated impulse withstand voltage (Uimp)</b>                                   |                                    | <b>kV</b>  | 1.1   |
| <b>Shock resistance</b>   | Conforming to IEC 68-2-6           | <b>gn</b>  | 6 (10...55 Hz)  |
| <b>Vibration resistance</b>   | Conforming to IEC 68-2-29          | <b>gn</b>  | 10 (16 ms)  |
| <b>Number of light curtains that can be connected</b>                           |                                    | 1 transmitter-receiver pair  |   |
| <b>Inputs for “muting” sensors</b>  |                                    |  |   |
| - number of inputs to be monitored  |                                    | 2 to 4 per “muting” function   |   |
| - supply voltage of sensors   |                                    | <b>V</b>   | ≐ 24  |
| - output current of each sensor   |                                    | <b>mA</b>  | < 20  |
| <b>Type of “muting” sensors</b>   |                                    | Thru-beam, polarized reflex or sensors with volt-free contacts             |   |
| <b>Synchronization time of “muting” sensors</b>                                 |                                    | <b>ms</b>  | 50 to 500 (configurable in light curtain XUSLDM in increments of 50 ms) |
| <b>Maximum “muting” time</b>  |                                    | <b>min</b>   | 2 or unlimited  |
| <b>Safety outputs</b>   |                                    |  |   |
| - number and type   |                                    | 2 PNP (terminals 1 and 2)  |   |
| - breaking capacity of outputs  |                                    | <b>mA</b>  | 30 V/100  |
| <b>“Muting” indicator light output</b>  |                                    | 1 NPN  |   |
| <b>“Muting” indicator light power</b>   |                                    | <b>W</b>   | 1 to 7 max.   |
| <b>“Muting” indicator light type</b>  |                                    | LED or filament bulb   |   |
| <b>Signalling</b>   |                                    | 1 LED  |   |
| <b>Connection</b>   | Type                               | Captive screw clamp terminals, non removable                               |   |
| 1-wire connection   | Without cable end                  | Solid or flexible cable: 26-14 AWG (0.14...2.5 mm <sup>2</sup> )           |   |
|   | With cable end                     | Without bezel, flexible cable: 24-14 AWG (0.25...2.5 mm <sup>2</sup> )     |   |
|   | With cable end                     | With bezel, flexible cable: 24-16 AWG (0.25...1.5 mm <sup>2</sup> )        |   |
| 2-wire connection   | Without cable end                  | Without bezel, flexible cable: 24-18 AWG (0.25...1.0 mm <sup>2</sup> )     |   |
|   | Without cable end                  | Double, with bezel, flexible cable: 22-16 AWG (0.5...1.5 mm <sup>2</sup> ) |   |



## Description

### XPSLCM1

To aid diagnostics, the connection module has 1 LED on the front face 1.

## References

### Connection module

| Description                             | Type of terminal block connection | “Muting” indicator light output | Supply | Reference | Weight oz (kg) |
|---|-----------------------------------|---------------------------------|--------|-----------|----------------|
| Connection module for “muting” function | Non removable                     | 1 NPN                           | ≡ 24 V | XPSLCM1   | 6.70 (0.190)   |

### Spare parts

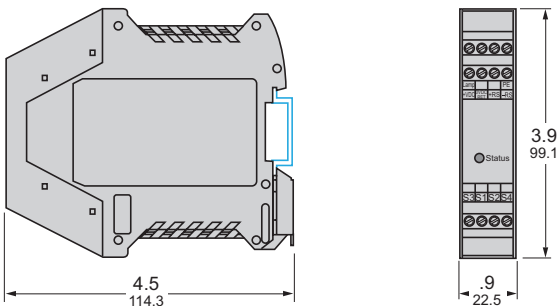
| Description  | Power W | Reference | Weight oz (kg) |
|--|---------|-----------|----------------|
| “Muting” indicator light kit (1)   | 5       | XSZCM01   | 0.42 (0.012)   |
| Replacement bulbs for “muting” indicator light kit comprising one lot of 10 replacement bulbs and 1 removal/insertion tool XBF X13 | 1 to 7  | XSZCM02   | 0.56 (0.016)   |

(1) XVB or XVD with steady light LED or filament bulb can also be used.

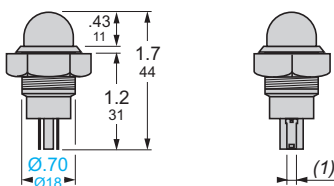
## Dimensions

### XPSLCM1

Mounting on 35 mm rail



### “Muting” indicator light kit XSZ CM01



(1) Faston connector 4.7.

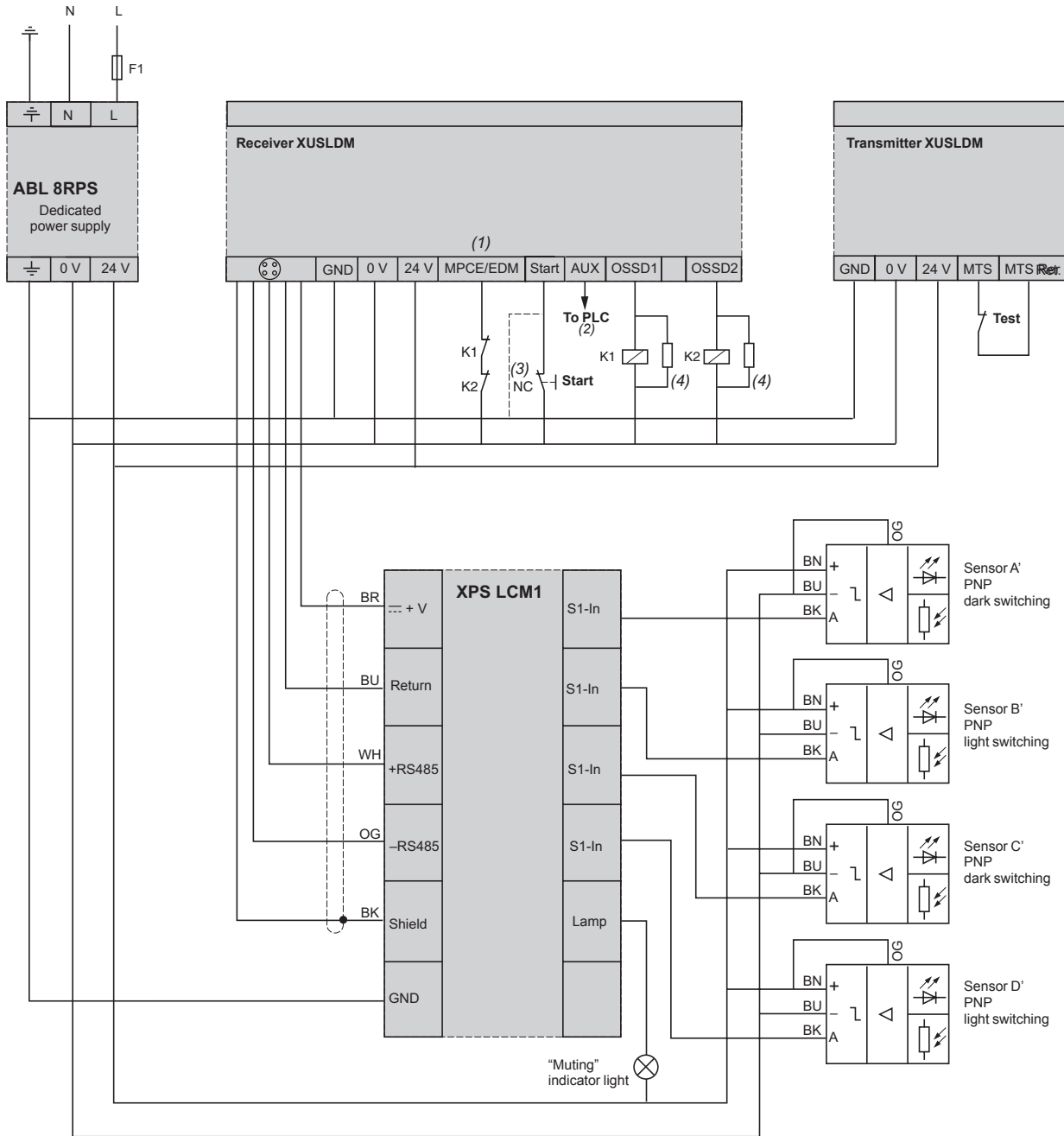
Dual Dimensions: INCHES  
Millimeters

# Safety detection solutions

Connection module Preventa™ XPSLCM1  
For “muting” function on light curtains  
type XUSLDM

## Connection of light curtains XUSLDM with connection module XPSLCM1

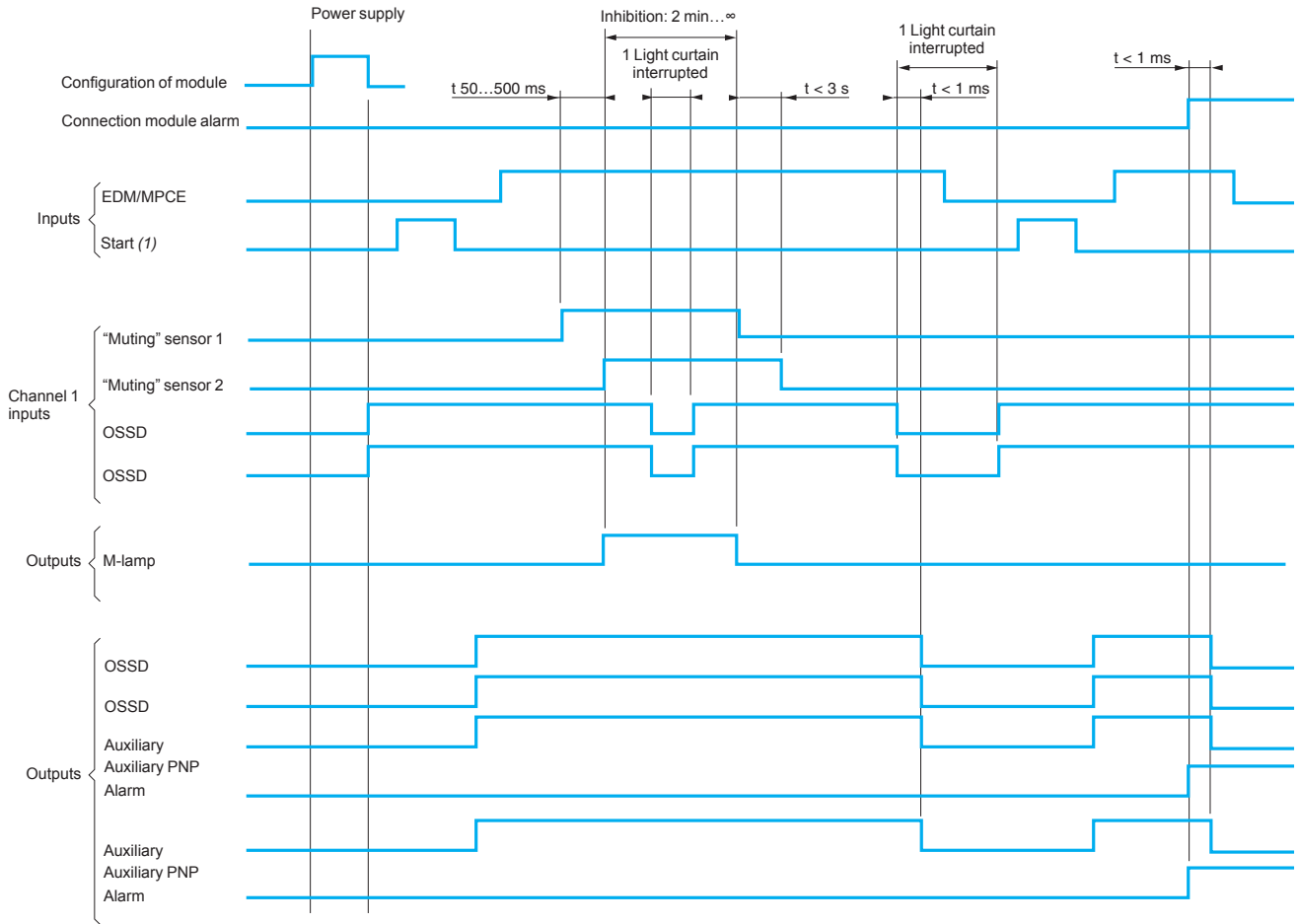
Example: configuration with light curtains XUSLDM



- (1) For testing prior to installation, the user can select MPCE/EDM OFF (default factory setting). In this case, the MPCE/EDM line must be connected to the 0 V line of the system.
- (2) The auxiliary output connects to a PLC (optional).
- (3) If remote start is not used, connect the start line to the 0 V line.
- (4) The K1 and K2 coils must be protected using the arc suppressors included in the documentation kit.

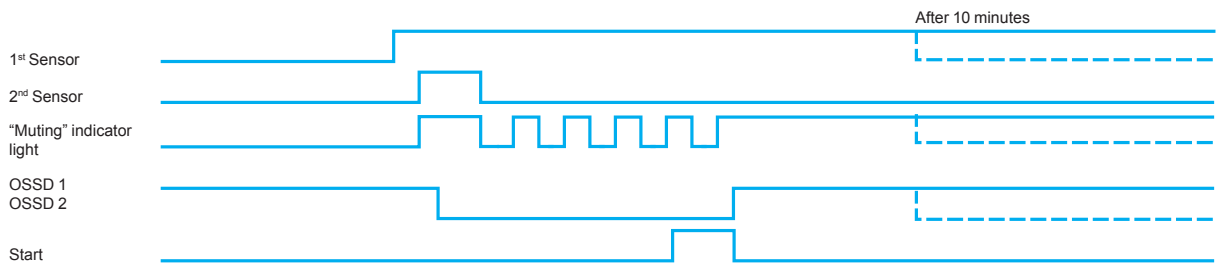
**Functional diagram of light curtain XUSLDM with connection module XPSLCM1**

“Start/restart interlock” mode with 2 sensors



(1) Press Start button.

**Override function**

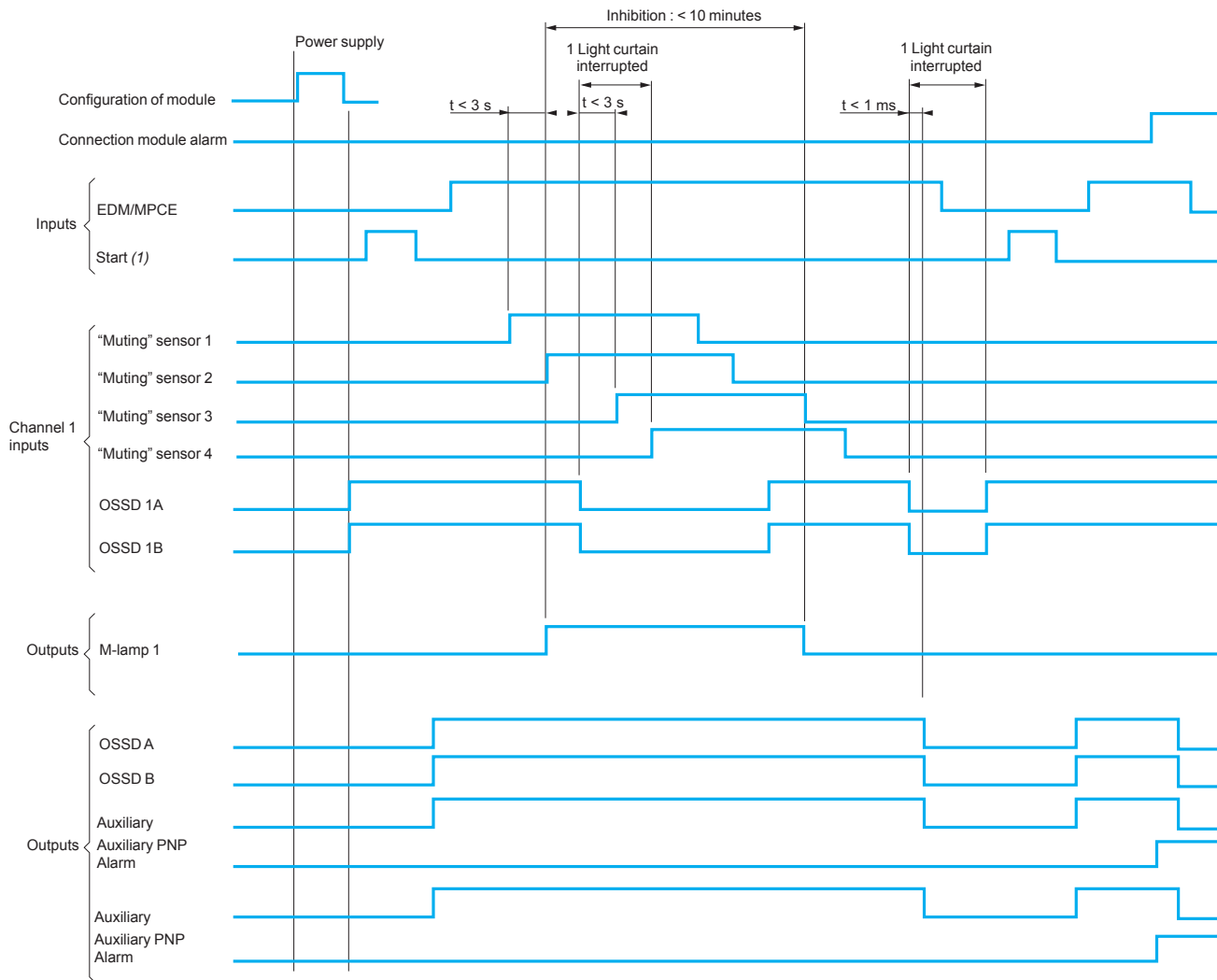


Key 0 1



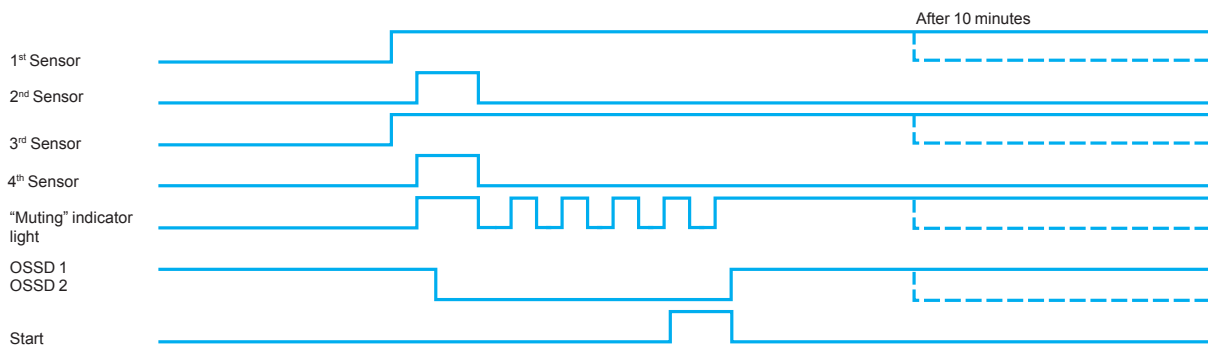
## Functional diagram of light curtain XUSLDM with connection module XPSLCM1

“Start/restart interlock” mode with 4 sensors



(1) Press Start button.

## Override function



Key 0 1

### 90° mirror adaptor for light curtains

#### Glass mirror (0.88 Sn) (1)

| Description                                      | For use with light curtains |               |              | Height (2)<br>in (mm) | Reference    | Weight<br>lb (kg) |
|--|-----------------------------|---------------|--------------|-----------------------|--------------|-------------------|
|  | XUSLB/LDM                   | XUSLP         | XUSLN        |                       |              |                   |
| 90° mirror adaptor<br>with rotatable<br>mounting | -                           | XUSLPZ1A●     | -            | 5.5 (140)             | XUSZM0102    | 2.3 (1.040)       |
|  | -                           | -             | -            | 7.5 (191)             | XUSZM0152    | 2.9 (1.300)       |
|  | XUSLB/LDM0280               | -             | XUSLN●●●0150 | 13.5 (343)            | XUSZM0305    | 4.2 (1.900)       |
|  | XUSLB/LDM0320               | -             | XUSLN●●●0300 | 19.5 (495)            | XUSZM0457    | 5.5 (2.500)       |
|  | XUSLB/LDM0360               | -             | -            | -                     | -            | -                 |
|  | XUSLB/LDM0440               | -             | XUSLN●●●0450 | 21.5 (546)            | XUSZM0508    | 6.2 (2.800)       |
|  | XUSLB/LDM0520               | XUSLP●2A500●  | -            | 25.5 (648)            | XUSZM0610    | 7.1 (3.200)       |
|  | XUSLB/LDM0600/0680          | XUSLP●2A0600● | XUSLN●●●0600 | 29.5 (749)            | XUSZM0711    | 8.2 (3.700)       |
|  | XUSLB/LDM0720               | -             | -            | 31.5 (800)            | XUSZM0762    | 8.4 (3.800)       |
|  | XUSLB/LDM0760               | -             | XUSLN●●●0750 | 33.5 (851)            | XUSZM0813    | 8.8 (4.000)       |
|  | XUSLB/LDM0880               | XUSLPZ3A0400● | -            | 37.5 (953)            | XUSZM0914    | 9.9 (4.500)       |
|  | XUSLB/LDM0920/0960          | -             | XUSLN●●●0900 | 41.5 (1054)           | XUSZM1016    | 11 (5.000)        |
|  | XUSLB/LDM1040               | XUSLPZ3A0500● | -            | 43.5 (1105)           | XUSZM1067    | 11.5 (5.200)      |
|  | XUSLB/LDM1120               | XUSLPZ4A0300● | XUSLN●●●1050 | 49.5 (1257)           | XUSZM1219    | 13 (5.900)        |
|  | XUSLB/LDM1200               | XUSLPZ5A0300● | XUSLN●●●1200 | 53.5 (1359)           | XUSZM1321    | 13.9 (6.300)      |
|  | XUSLB/LDM1360               | -             | XUSLN●●●1350 | 55.5 (1410)           | XUSZM1372    | 14.3 (6.500)      |
|  | XUSLB/LDM1400               | -             | -            | 57.5 (1461)           | XUSZM1422    | 14.8 (6.700)      |
|  | XUSLB/LDM1520               | -             | XUSLN●●●1500 | 61.5 (1562)           | XUSZM1524    | 15.9 (7.200)      |
|  | XUSLB/LDM1560               | XUSLPZ6A0300● | -            | 65.5 (1664)           | XUSZM1626    | 16.8 (7.600)      |
|  | XUSLB/LDM1640/1720          | -             | -            | 73.5 (1867)           | XUSZM1830    | 18.7 (8.500)      |
| XUSLB/LDM1800                                    | -                           | -             | 73.5 (1867)  | XUSZM1830             | 18.7 (8.500) |                   |
| XUSLB/LDM1920/2120                               | -                           | -             | 85.5 (2172)  | XUSZM2134             | 21.6 (9.800) |                   |

#### Stainless steel mirror (0.82 Sn) (1)

| Description                                      | For use with light curtains |               |              | Height (2)<br>in (mm) | Reference     | Weight<br>lb (kg) |
|--|-----------------------------|---------------|--------------|-----------------------|---------------|-------------------|
|  | XUSLB/LDM                   | XUSLP         | XUSLN        |                       |               |                   |
| 90° mirror adaptor<br>with rotatable<br>mounting | -                           | XUSLPZ1A●     | -            | 5.5 (140)             | XUSZA0102     | 2.4 (1.090)       |
|  | -                           | -             | -            | 7.5 (191)             | XUSZA0152     | 2.9 (1.300)       |
|  | XUSLB/LDM0280               | -             | XUSLN●●●0150 | 13.5 (343)            | XUSZA0305     | 4.4 (2.000)       |
|  | XUSLB/LDM0320               | -             | XUSLN●●●0300 | 19.5 (495)            | XUSZA0457     | 6 (2.700)         |
|  | XUSLB/LDM0360               | -             | -            | -                     | -             | -                 |
|  | XUSLB/LDM0440               | -             | XUSLN●●●0450 | 21.5 (546)            | XUSZA0508     | 6.6 (3.000)       |
|  | XUSLB/LDM0520               | XUSLP●2A500●  | -            | 25.5 (648)            | XUSZA0610     | 7.7 (3.500)       |
|  | XUSLB/LDM0600/0680          | XUSLP●2A0600● | XUSLN●●●0600 | 29.5 (749)            | XUSZA0711     | 8.6 (3.900)       |
|  | XUSLB/LDM0720               | -             | -            | 31.5 (800)            | XUSZA0762     | 9.3 (4.200)       |
|  | XUSLB/LDM0760               | -             | XUSLN●●●0750 | 33.5 (851)            | XUSZA0813     | 9.7 (4.400)       |
|  | XUSLB/LDM0880               | XUSLPZ3A0400● | -            | 37.5 (953)            | XUSZA0914     | 9.9 (4.500)       |
|  | XUSLB/LDM0920/0960          | -             | XUSLN●●●0900 | 41.5 (1054)           | XUSZA1016     | 11.9 (5.400)      |
|  | XUSLB/LDM1040               | XUSLPZ3A0500● | -            | 43.5 (1105)           | XUSZA1067     | 12.3 (5.600)      |
|  | XUSLB/LDM1120               | XUSLPZ4A0300● | XUSLN●●●1050 | 49.5 (1257)           | XUSZA1219     | 14.1 (6.400)      |
|  | XUSLB/LDM1200               | XUSLPZ5A0300● | XUSLN●●●1200 | 53.5 (1359)           | XUSZA1321     | 15 (6.800)        |
|  | XUSLB/LDM1360               | -             | XUSLN●●●1350 | 55.5 (1410)           | XUSZA1372     | 15.4 (7.000)      |
|  | XUSLB/LDM1400               | -             | -            | 57.5 (1461)           | XUSZA1422     | 16.1 (7.300)      |
|  | XUSLB/LDM1520               | -             | XUSLN●●●1500 | 61.5 (1562)           | XUSZA1524     | 17.2 (7.800)      |
|  | XUSLB/LDM1560               | XUSLPZ6A0300● | -            | 65.5 (1664)           | XUSZA1626     | 18.3 (8.300)      |
|  | XUSLB/LDM1640/1720          | -             | -            | 73.5 (1867)           | XUSZA1830     | 20.3 (9.200)      |
| XUSLB/LDM1800                                    | -                           | -             | 73.5 (1867)  | XUSZA1830             | 20.3 (9.200)  |                   |
| XUSLB/LDM1920/2120                               | -                           | -             | 85.5 (2172)  | XUSZA2134             | 23.4 (10.600) |                   |

(1) Sensing distance reduction coefficient to be taken into account for each 90° mirror adaptor used.

(2) Usable reflective height.

### Accessories

| Description          | Usage                      | Reference | Weight<br>lb (kg) |
|----------------------|----------------------------|-----------|-------------------|
| Laser alignment tool | All types of light curtain | XUSLAT1   | 0.75 (0.340)      |

### Power supplies for light curtains XUSL●

| Input voltage   | Secondary      |               |                 | Reset     | Conforming to standard EN 61000-3-2 | Reference    | Weight<br>lb (kg) |
|---|----------------|---------------|-----------------|-----------|-------------------------------------|--------------|-------------------|
|   | Output voltage | Nominal power | Nominal current |           |                                     |              |                   |
| ~ 100...120 V - 200...500 V<br>- 15 %, + 10 %<br>50/60 Hz | ---            | 72 W          | 3 A             | Auto/manu | Yes                                 | ABL8RPS24030 | 0.7 (0.300)       |
|   | 24...28,8 V    | 120 W         | 5 A             | Auto/manu | Yes                                 | ABL8RPS24050 | 1.5 (0.700)       |
|   |                | 240 W         | 10 A            | Auto/manu | Yes                                 | ABL8RPS24100 | 2.2 (1.000)       |

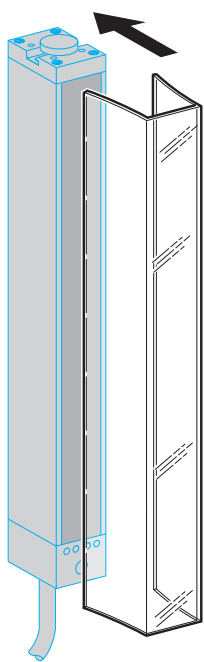
#### Single phase (N-L1) or 2-phase (L1-L2) connection



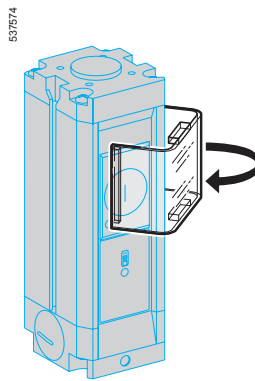
ABL8RPS24050

|  |  |                   |                              |
|--|--|-------------------|------------------------------|
| <b>Protective covers for light curtains<br/>XUSLB/XUSLDM/XUSLP</b> |  | <b>XUSZWS●●●●</b> |                              |
| <b>Environmental characteristics</b>                               |  |                   |                              |
| <b>Air temperature</b>   | For operation  | <b>°F (°C)</b>    | 32 ... + 131 (0...+ 55)      |
|  | For storage  | <b>°F (°C)</b>    | - 13... + 158 (- 25... + 70) |
| <b>Material</b>  |  |                   | polycarbonate                |
| <b>Sensing distance (Sn) reduction coefficient</b>                 |  |                   | 0.91 (1)                     |
| <b>Environmental chemicals</b>                                     |  |                   |                              |
| <b>Chemical resistance</b>   | Acids, aliphatic hydrocarbons                              |                   | Resistant                    |
|  | Alcohols, Alkalis  |                   | Limited resistance           |
|  | Detergents and cleaners                                    |                   |                              |
|  | Greases and oils   |                   |                              |
|  | Silicone oils and greases not containing alkaline products |                   |                              |
|  | Amines   |                   | Not resistant                |
|  | Aromatic hydrocarbons                                      |                   |                              |
|  | Detergents and cleaners containing alkaline                |                   |                              |
|  | Esters   |                   |                              |
|  | Halogenated hydrocarbons                                   |                   |                              |
|  | Ketones  |                   |                              |
|  | Silicone oils and greases containing alkaline products     |                   |                              |

### References of protective covers



XUSLZWB●●●●



XUSZWSP

| Description   | For use with | Height in (mm)     | Reference          | Weight lb (kg) |
|---|--------------|--------------------|--------------------|----------------|
| <b>polycarbonate protective covers for transmitter-receiver pair (0.91 Sn) (1)</b><br>(Sold in sets of 2) | XUSLB/DM280  | 12.2 (310)         | <b>XUSLZWB0280</b> | 0.6 (0.282)    |
|   | XUSLB/DM320  | 13.8 (350)         | <b>XUSLZWB0320</b> | 0.7 (0.318)    |
|   | XUSLB/DM360  | 15.4 (390)         | <b>XUSLZWB0360</b> | 0.8 (0.354)    |
|   | XUSLB/DM440  | 18.5 (470)         | <b>XUSLZWB0440</b> | 0.9 (0.426)    |
|   | XUSLB/DM520  | 21.7 (550)         | <b>XUSLZWB0520</b> | 1.1 (0.497)    |
|   | XUSLB/DM600  | 24.8 (630)         | <b>XUSLZWB0600</b> | 1.3 (0.569)    |
|   | XUSLB/DM680  | 28 (710)           | <b>XUSLZWB0680</b> | 1.4 (0.641)    |
|   | XUSLB/DM720  | 29.5 (750)         | <b>XUSLZWB0720</b> | 1.5 (0.677)    |
|   | XUSLB/DM760  | 31.1 (790)         | <b>XUSLZWB0760</b> | 1.6 (0.713)    |
|   | XUSLB/DM880  | 35.8 (910)         | <b>XUSLZWB0880</b> | 1.8 (0.821)    |
|   | XUSLB/DM920  | 37.4 (950)         | <b>XUSLZWB0920</b> | 1.9 (0.857)    |
|   | XUSLB/DM960  | 39 (990)           | <b>XUSLZWB0960</b> | 2.0 (0.893)    |
|   | XUSLB/DM1040 | 42.1 (1070)        | <b>XUSLZWB1040</b> | 2.1 (0.965)    |
|   | XUSLB/DM1120 | 45.3 (1150)        | <b>XUSLZWB1120</b> | 2.3 (1.037)    |
|   | XUSLB/DM1200 | 48.4 (1230)        | <b>XUSLZWB1200</b> | 2.4 (1.108)    |
|   | XUSLB/DM1360 | 54.7 (1390)        | <b>XUSLZWB1360</b> | 2.8 (1.252)    |
|   | XUSLB/DM1400 | 56.3 (1430)        | <b>XUSLZWB1400</b> | 2.8 (1.288)    |
|   | XUSLB/DM1520 | 61 (1550)          | <b>XUSLZWB1520</b> | 3.1 (1.396)    |
|   | XUSLB/DM1560 | 62.6 (1590)        | <b>XUSLZWB1560</b> | 3.2 (1.432)    |
|   | XUSLB/DM1640 | 65.7 (1670)        | <b>XUSLZWB1640</b> | 3.3 (1.504)    |
| XUSLB/DM1720  | 68.9 (1750)  | <b>XUSLZWB1720</b> | 3.5 (1.576)        |                |
| XUSLB/DM1800  | 72 (1830)    | <b>XUSLZWB1800</b> | 3.6 (1.648)        |                |
| XUSLB/DM1920  | 76.8 (1950)  | <b>XUSLZWB1920</b> | 3.9 (1.756)        |                |
| XUSLB/DM2120  | 84.6 (2150)  | <b>XUSLZWB2120</b> | 4.3 (1.935)        |                |

| Description  | For use with | Height in (mm) | Reference      | Weight lb (kg) |
|--|--------------|----------------|----------------|----------------|
| <b>polycarbonate protective covers for single beam device (0.91 Sn) (1)</b><br>(Sold in sets of 2) | XUSLP        | 2.5 (62.48)    | <b>XUSZWSP</b> | 2.2 (0.100)    |

(1) Sensing distance reduction coefficient to be taken into account for each pair of polycarbonate protective covers used.

### Anti-vibration kit

#### Selection according to weight and application

##### Weight classes

| Light curtain type           | Height in (mm)            | Weight class |   |   |   | Type of mirror adaptors | Height in (mm)       | Weight class |   |   |   |
|------------------------------|---------------------------|--------------|---|---|---|-------------------------|----------------------|--------------|---|---|---|
|                              |                           | 1            | 2 | 3 | 4 |                         |                      | 1            | 2 | 3 | 4 |
| XUSLN                        | 5.9...23.6 (150...600)    | ●            |   |   |   | XUSZM (1)               | 4 (102)              | ●            |   |   |   |
|                              | 29.5...59.1 (750...1500)  |              | ● |   |   |                         | 12...18 (305...457)  |              | ● |   |   |
| XUSLB/LDMQ/LDSQ              | 11...40.9 (280...1040)    |              | ● |   |   | XUSZA                   | 20...28 (508...711)  |              |   | ● |   |
|                              | 44.1...53.5 (1120...1360) |              |   | ● |   |                         | 32...40 (813...1016) |              |   |   | ● |
| XUSLBR/LDMY/LDSY             | 12.6...40.9 (320...1040)  |              | ● |   |   |                         | 4 (102)              |              | ● |   |   |
|                              | 44.1...83.5 (1120...2120) |              |   | ● |   | 12...42 (305...1067)    |                      |              | ● |   |   |
| XUSLPZ1A                     | –                         |              |   | ● |   | 48...64 (1219...1626)   |                      |              |   | ● |   |
| XUSLPZ2A0500 et XUSLPZ2A0600 | –                         |              |   | ● |   | 72...84 (1830...2134)   |                      |              |   | ● |   |
| XUSLPZ3A0400                 | –                         |              |   | ● |   |                         |                      |              |   |   |   |
| XUSLPZ3A0500                 | –                         |              |   |   | ● |                         |                      |              |   |   |   |
| XUSLPZ4A0300                 | –                         |              |   |   | ● |                         |                      |              |   |   |   |
| XUSLPZ5A0300 et XUSLPZ6A0300 | –                         |              |   |   | ● |                         |                      |              |   |   |   |
| XUSLPB2A500 et XUSLPB2A600   | –                         |              |   |   | ● |                         |                      |              |   |   |   |

(1) Use of the anti-vibration kit is not recommended for mirror adaptors greater than 40 in (1016 mm) in height.

##### Applications

| Weight class | Anti-shock applications (1)      |           |                                  |           | Anti-vibration applications (2)  |           |                                  |           |
|--------------|----------------------------------|-----------|----------------------------------|-----------|----------------------------------|-----------|----------------------------------|-----------|
|              | Shear mounted                    |           | Compression mounted              |           | Shear mounted                    |           | Compression mounted              |           |
|              | Number of mountings per head (3) | Reference | Number of mountings per head (3) | Reference | Number of mountings per head (3) | Reference | Number of mountings per head (3) | Reference |
| 1            | 2                                | XSZSMK    | Not recommended                  |           | 2 or 4                           | XSZSMK    | 2                                | XSZSMK1   |
|              | 2                                | XSZSMK1   |                                  |           | 2 or 4                           | XSZSMK1   |                                  |           |
| 2            | 2 or 4                           | XSZSMK    | 2                                | XSZSMK1   | 2 or 4                           | XSZSMK    | 2                                | XSZSMK    |
|              | 2 or 4                           | XSZSMK1   |                                  |           | 2 or 4                           | XSZSMK1   | 2 or 4                           | XSZSMK1   |
| 3            | 4                                | XSZSMK    | 2 or 4                           | XSZSMK    | 2                                | XSZSMK2   | 2 or 4                           | XSZSMK    |
|              | 4                                | XSZSMK1   |                                  |           | 4                                | XSZSMK1   |                                  |           |
|              | 2 or 4                           | XSZSMK2   |                                  |           | 2 or 4                           | XSZSMK2   |                                  |           |
| 4            | 4                                | XSZSMK    | 2                                | XSZSMK    | 4                                | XSZSMK    | 2                                | XSZSMK    |
|              | 4                                | XSZSMK1   |                                  |           | 4                                | XSZSMK1   |                                  |           |
|              | 2                                | XSZSMK2   |                                  |           | 2 or 4                           | XSZSMK2   |                                  |           |

(1) Low frequency, high amplitude applications, such as punching presses where a powerful shock can exist.

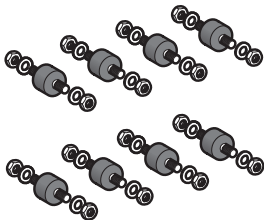

(2) High frequency, low amplitude applications, such as offset printing machines where constant vibration can exist.

(3) Head: transmitter, receiver or mirror.

##### Shock absorber characteristics

| Characteristics per shock absorber |         | Compression mounted |                |                   | Shear mounted |               |                   |
|------------------------------------|---------|---------------------|----------------|-------------------|---------------|---------------|-------------------|
|                                    |         | Maximum load        | Torque         | Natural frequency | Maximum load  | Torque        | Natural frequency |
|                                    |         | lb (kg)             | lb-in (N-m)    | Hz                | lb (kg)       | lb-in (N-m)   | Hz                |
| For anti-vibration kit             | XSZSMK  | 18.0 (8.16)         | 222.5 (25.16)  | 11                | 3.0 (1.36)    | 27.7 (3.13)   | 9.5               |
|                                    | XSZSMK1 | 4.8 (2.177)         | 96.1 (10.86)   | 14                | 2.5 (1.13)    | 20.7 (2.34)   | 9                 |
|                                    | XSZSMK2 | 55.0 (24.94)        | 949.7 (107.39) | 13                | 23.0 (10.43)  | 132.2 (14.94) | 7.5               |

#### References of anti-vibration kits

|   | Description  | For use with       | Reference       | Weight lb (kg) |
|---|--|--------------------|-----------------|----------------|
|  | <b>Anti-vibration kit</b><br>All types of light curtain and kit consisting of 8 shock absorbers, 90° mirror adaptors stud fixing.<br>16 washers and 16 nuts included with kit. | Anti-vibration kit | <b>XSZSMK</b>   | 0.07 (0.030)   |
|   |  |                    | <b>XSZSMK1</b>  | 0.04 (0.020)   |
|   |  |                    | <b>XSZSMK2</b>  | 0.1 (0.045)    |
|  | <b>Mounting kit for XUSLN (2 brackets)</b>   | Anti-vibration kit | <b>XUSLZ227</b> | 1.0 (0.450)    |

537570 XSZ SMK●

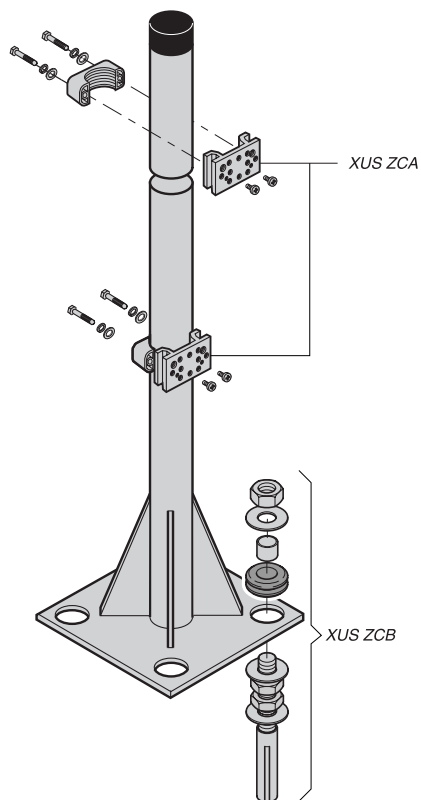
XUSLZ227

# Safety detection solutions Preventa™

Accessories for safety light curtains types 2 and 4

|   |             |   |                            |
|---|-------------|---|----------------------------|
| <b>Mounting base for light curtains and mirrors</b> |             | <b>XUSZC●●●●</b>  |                            |
| <b>Environmental characteristics</b>                |             |   |                            |
| Ambient air temperature                             | Operating   | °F (°C)   | - 13...+ 158 (- 25...+ 70) |
|   | For storage | °F (°C)   | - 13...+ 158 (- 25...+ 70) |
| Materials   |             | Mounting base: steel<br>End protection: black polycarbonate, 20% fiberglass |                            |

## References



XUSZC●●●●

### Mounting bases

| Désignation                        | For use with                        |                               |                                 | Protected height<br>in (mm) | Reference        | Weight<br>lb (kg) |
|------------------------------------|-------------------------------------|-------------------------------|---------------------------------|-----------------------------|------------------|-------------------|
|                                    | Light curtains<br>Height<br>in (mm) | Mirrors<br>Height<br>in (mm)  | IP 67 tube<br>Height<br>in (mm) |                             |                  |                   |
| <b>Mounting base<br/>XUSZC●●●●</b> | 5.9 ...35.4<br>(150...900)          | 7.2 ...35.2<br>(182...894)    | 19.8 ...38.6<br>(503...981)     | 47.2<br>(1200)              | <b>XUSZC1200</b> | 25<br>(11.340)    |
|                                    | 36.2 ...59.1<br>(920...1500)        | 39.2 ...59.2<br>(995...1503)  | 43.4 ...63.8<br>(1102...1620)   | 70.9<br>(1800)              | <b>XUSZC1800</b> | 35<br>(15.880)    |
|                                    | 59.8 ...70.9<br>(1520...1800)       | 63.2 ...67.2<br>(1605...1706) | 68.5 ...76.3<br>(1740...1939)   | 82.7<br>(2100)              | <b>XUSZC2100</b> | 45<br>(20.410)    |
|                                    | 75.6 ...82.5<br>(1920...2095)       | 75.2<br>(1910)                | 79.6 ...84.3<br>(2021...2141)   | 94.5<br>(2400)              | <b>XUSZC2400</b> | 60<br>(27.220)    |
|                                    | —                                   | 88.2<br>(2240)                | 92<br>(2336)                    | 122<br>(3100)               | <b>XUSZC3100</b> | 66<br>(29.940)    |

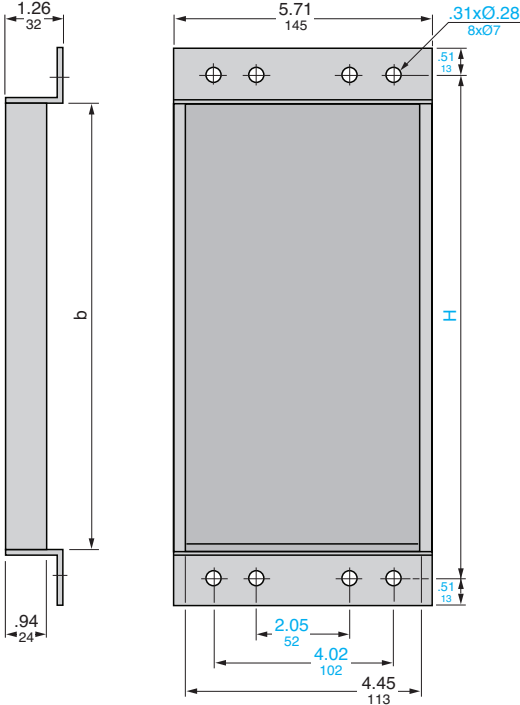
### Accessories

| Description  | For use with            | Reference     | Weight<br>lb (kg) |
|--|-------------------------|---------------|-------------------|
| <b>Mounting kit</b><br>(sold in lots of 2)   | Mounting base XUSZC●●●● | <b>XUSZCA</b> | 1.0<br>(0.450)    |
| <b>Floor mounting kit</b><br>Consisting of: 4 bolts,<br>4 rawplugs, 12 washers,<br>8 standard nuts, 4 lock nuts, 4<br>rubber insulators,<br>4 spacers (tube) | Mounting base XUSZC●●●● | <b>XUSZCB</b> | 1.0<br>(0.450)    |

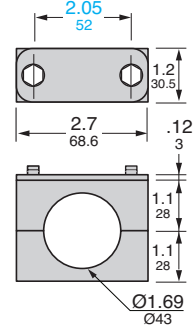
90° mirror adaptors + Mounting clamps

XUSZM●●●●/XUSZA●●●●

Mounting clamp (quantity 2)



| XUS    |                 |             |             |
|--------|-----------------|-------------|-------------|
| Glass  | Stainless steel | b           | H           |
| ZM0102 | ZA102           | 5.5 (140)   | 0.7 (182)   |
| ZM0152 | ZA152           | 7.5 (191)   | 9.2 (233)   |
| ZM0305 | ZA0305          | 13.5 (343)  | 15.2 (386)  |
| ZM0457 | ZA0457          | 19.5 (495)  | 21.2 (538)  |
| ZM0508 | ZA0508          | 21.5 (546)  | 23.2 (589)  |
| ZM0610 | ZA0610          | 25.5 (648)  | 27.2 (690)  |
| ZM0711 | ZA0711          | 29.5 (749)  | 31.2 (792)  |
| ZM0762 | ZA0762          | 31.5 (800)  | 33.2 (843)  |
| ZM0813 | ZA0813          | 33.5 (851)  | 35.2 (894)  |
| ZM0914 | ZA0914          | 37.5 (953)  | 39.2 (995)  |
| ZM1016 | ZA1016          | 41.5 (1054) | 43.2 (1097) |
| ZM1067 | ZA1067          | 43.5 (1105) | 45.2 (1148) |
| ZM1219 | ZA1219          | 49.5 (1257) | 51.2 (1300) |
| ZM1321 | ZA1321          | 53.5 (1359) | 55.2 (1402) |
| ZM1372 | ZA1372          | 55.5 (1410) | 57.2 (1452) |
| ZM1422 | ZA1422          | 57.5 (1461) | 59.2 (1503) |
| ZM1524 | ZA1524          | 61.5 (1562) | 63.2 (1605) |
| ZM1626 | ZA1626          | 65.5 (1664) | 67.2 (1706) |
| ZM1830 | ZA1830          | 73.5 (1867) | 75.2 (1910) |
| ZM2134 | ZA2134          | 85.5 (2172) | 87.2 (2214) |



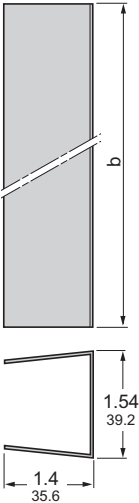
Dual Dimensions: INCHES  
Millimeters

Protective cover

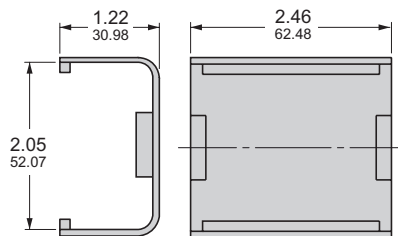
XUSZW●●● for XUL B/D

XUS b

XUSZWSP for XUSLP

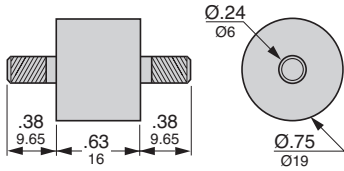


|          |             |
|----------|-------------|
| LZWB0280 | 12.2 (310)  |
| LZWB0320 | 13.8 (350)  |
| LZWB0360 | 15.4 (390)  |
| LZWB0440 | 18.5 (470)  |
| LZWB0520 | 21.7 (550)  |
| LZWB0600 | 24.8 (630)  |
| LZWB0680 | 28 (710)    |
| LZWB0720 | 29.5 (750)  |
| LZWB0760 | 31.1 (790)  |
| LZWB0880 | 35.8 (910)  |
| LZWB0920 | 37.4 (950)  |
| LZWB0960 | 39 (990)    |
| LZWB1040 | 42.1 (1070) |
| LZWB1120 | 45.3 (1150) |
| LZWB1200 | 48.4 (1230) |
| LZWB1360 | 54.7 (1390) |
| LZWB1400 | 56.3 (1430) |
| LZWB1520 | 61 (1550)   |
| LZWB1560 | 62.6 (1590) |
| LZWB1640 | 65.7 (1670) |
| LZWB1720 | 68.9 (1750) |
| LZWB1800 | 72 (1830)   |
| LZWB1920 | 76.8 (1950) |
| LZWB2120 | 84.6 (2150) |

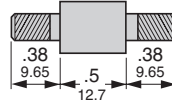


## Anti-vibration kits (1)

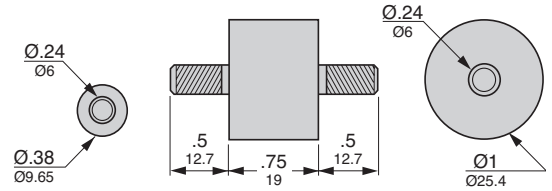
### XSZ SMK



### XSZ SMK1



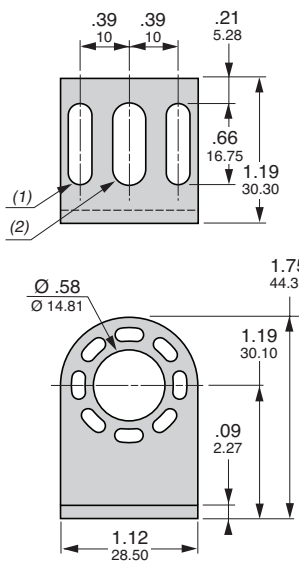
### XSZ SMK2



(1) The anti-vibration kit consists of 8 shock absorbers, 16 washers and 16 nuts.

## Mounting brackets for anti-vibration kit

### XUSLZ227 and XUSLN



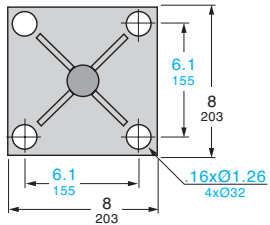
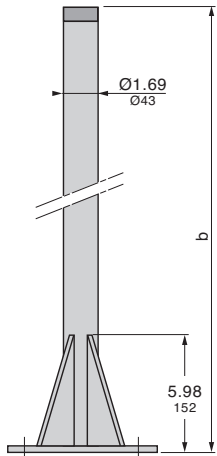
Dual Dimensions: INCHES  
Millimeters

(1) 2 elongated holes  $\varnothing 0.2 \times 0.7$  in ( $\varnothing 5.10 \times 16.75$  mm).

(2) 1 elongated hole  $\varnothing 0.3 \times 0.7$  in ( $\varnothing 6.75 \times 16.75$  mm).

### Mounting base

XUSZC●●●●

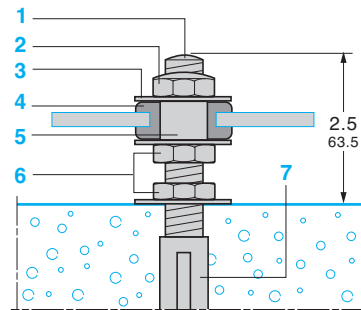


| XUS    | b<br>in (mm) |
|--------|--------------|
| ZC1200 | 47.3 (1200)  |
| ZC1800 | 70.9 (1800)  |
| ZC2100 | 82.7 (2100)  |
| ZC2400 | 94.5 (2400)  |
| ZC3100 | 122 (3100)   |

### Floor mounting kit (quantity 4) for mounting base XUSZC●●●●

XUSZCB

Echelle 2,5



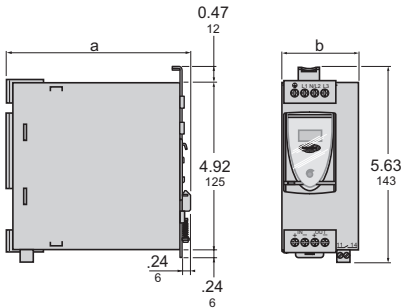
- 1 Bolt,
- 2 1 lock nut,
- 3 3 washers,
- 4 Rubber insulator,
- 5 Spacer (tube),
- 6 2 standard nuts,
- 7 Rawplug.

Dual Dimensions: INCHES  
Millimeters



## Dimensions

**ABL8RPS24●●●**  
common side view



| ABL8     | a<br>in (mm) | b<br>in (mm) |
|----------|--------------|--------------|
| RPS24030 | 4.7 (120)    | 1.7 (44)     |
| RPS24050 | 4.7 (120)    | 2.2 (56)     |
| RPS24100 | 5.5 (140)    | 3.3 (85)     |

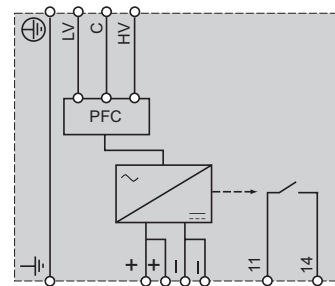
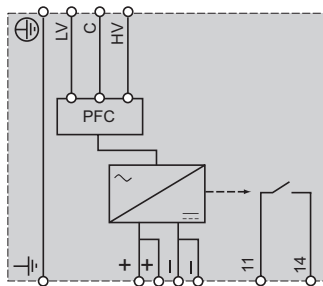
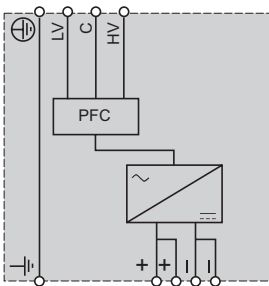
Dual Dimensions: INCHES  
Millimeters

## Internal wiring diagrams

**ABL8RPS24030**

**ABL8RPS24050**

**ABL8RPS24100**



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