



# SEGMENTS



PEDESTRIAN SENSING SOLUTIONS



INDUSTRIAL AUTOMATION SOLUTIONS



VEHICLE SENSING SOLUTIONS



PUBLIC TRANSPORTATION SOLUTIONS



PEOPLE COUNTING SOLUTIONS



SECURITY & ACCESS SOLUTIONS

# TECHNOLOGIES

*Our R&D department commits its energy to stretch the limits of the technology. The 3 majors technologies used are :*



**Radar**



**Active infrared**



**Laser**



- **LZR FLATSCAN RS 305**

## PRODUCT RANGE

### SAFETY SENSORS



#### Features

- **LASER** Time of Flight Technology
- 90 degree opening angle
- **2D safety** Curtain with **400** detection **beams**
- Protect Door threshold for upto **4m** diagonally
- Rugged industrial design with **IP66** housing.
- Self monitoring with 2 outputs.
- Compact and easy installation and an effective **alternate to Light curtains.**

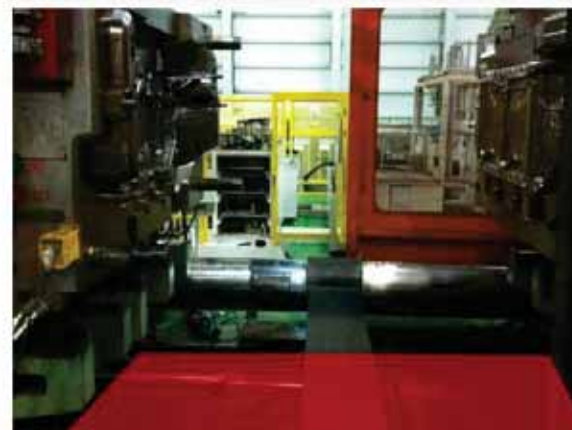
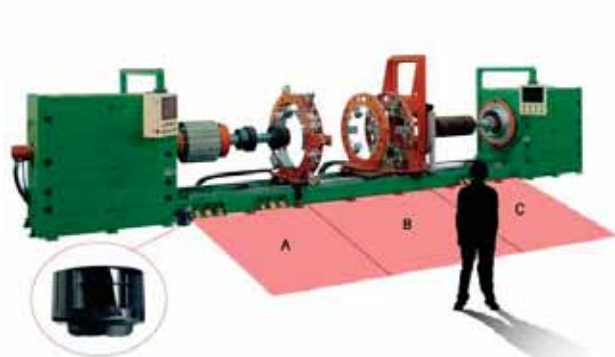
- **LZR –I100, H100, I110**



#### Features

- **LASER** Time of Flight Technology
- 96 degree opening angle
- **4** Curtain with **274** detection **beams** in each curtain
- **3D safety** for optimum threshold safety for upto **9m**
- Rugged industrial design with **IP65** housing.
- Self monitoring with 2 outputs.
- Auto safety field correction for flexible doors.
- Compact and easy installation and an effective **alternate to Light curtains.**

# PROCESS AUTOMATION – MACHINE SAFETY

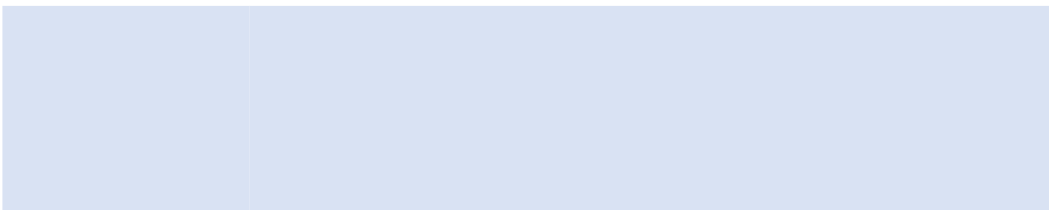


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*Product:* LZR-H110

*Application:* Machine safety

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# Safety light curtains

## Preventa XUSL

### Catalogue



Simply easy!™

# Safety detection solutions Preventa

Safety light curtains, type 4  
Standard sensing distance



XUSL4E14F016N

XUSL4E14F031N

### Transmitter-receiver pairs for finger detection (1) (2)

Resolution 14 mm. Sensing distance 0...3 or 1...6 m, selectable by wiring

- 2 PNP outputs
- Operating temperature range: -10 °C...+55 °C
- TM (mission time): 20 years

Protected height	Total height	Number of light beams	Response time (t1)	PFHd IEC 61508	Reference	Weight
mm	mm		ms			kg
160	213	15	4	1.03 x 10 <sup>-8</sup>	XUSL4E14F016N	0.400
310	363	30	5.5	1.27 x 10 <sup>-8</sup>	XUSL4E14F031N	0.700
460	513	45	7.5	1.52 x 10 <sup>-8</sup>	XUSL4E14F046N	1.000
610	663	60	9	1.75 x 10 <sup>-8</sup>	XUSL4E14F061N	1.200
760	813	75	11	2.00 x 10 <sup>-8</sup>	XUSL4E14F076N	1.500
910	963	90	13	2.24 x 10 <sup>-8</sup>	XUSL4E14F091N	1.700
1,060	1,113	105	14.5	2.49 x 10 <sup>-8</sup>	XUSL4E14F106N	2.000
1,210	1,263	120	16.5	2.73 x 10 <sup>-8</sup>	XUSL4E14F121N	2.300
1,360	1,413	135	18	2.98 x 10 <sup>-8</sup>	XUSL4E14F136N	2.500
1,510	1,563	150	20	3.22 x 10 <sup>-8</sup>	XUSL4E14F151N	2.800
1,660	1,713	165	22	3.48 x 10 <sup>-8</sup>	XUSL4E14F166N	3.000
1,810	1,863	180	23.5	3.71 x 10 <sup>-8</sup>	XUSL4E14F181N	3.300

### Transmitter-receiver pairs for hand detection (1) (2)

Resolution 30 mm. Sensing distance 0...4 or 0...12 m, selectable by wiring

- 2 PNP outputs
- Operating temperature range: -10 °C...+55 °C
- TM (mission time): 20 years

Protected height	Total height	Number of light beams	Response time (t1)	PFHd IEC 61508	Reference	Weight
mm	mm		ms			kg
160	213	8	4	7.08 x 10 <sup>-9</sup>	XUSL4E30H016N	0.400
260	313	13	5	8.06 x 10 <sup>-9</sup>	XUSL4E30H026N	0.600
310	363	16	5.5	8.20 x 10 <sup>-9</sup>	XUSL4E30H031N	0.700
460	513	23	7.5	9.47 x 10 <sup>-9</sup>	XUSL4E30H046N	1.000
610	663	31	9	1.06 x 10 <sup>-8</sup>	XUSL4E30H061N	1.200
760	813	38	10.5	1.19 x 10 <sup>-8</sup>	XUSL4E30H076N	1.500
910	963	46	12.5	1.30 x 10 <sup>-8</sup>	XUSL4E30H091N	1.700
1,060	1,113	53	14	1.43 x 10 <sup>-8</sup>	XUSL4E30H106N	2.000
1,210	1,263	61	15.5	1.54 x 10 <sup>-8</sup>	XUSL4E30H121N	2.300
1,360	1,413	68	17	1.67 x 10 <sup>-8</sup>	XUSL4E30H136N	2.500
1,510	1,563	76	19	1.78 x 10 <sup>-8</sup>	XUSL4E30H151N	2.800
1,660	1,713	83	20.5	1.90 x 10 <sup>-8</sup>	XUSL4E30H166N	3.000
1,810	1,863	91	22	2.02 x 10 <sup>-8</sup>	XUSL4E30H181N	3.300

### Transmitter-receiver pairs for body detection (1) (2)

2, 3, or 4 beams. Sensing distance 0...4 or 0...12 m, selectable by wiring

- 2 PNP outputs
- Operating temperature range: -10 °C...+55 °C
- TM (mission time): 20 years

Protected height	Total height	Light beams Number/spacing	Response time (t1)	PFHd IEC 61508	Reference	Weight
mm	mm		ms			kg
510	677	2 / 500 mm	2.5	6.89 x 10 <sup>-9</sup>	XUSL4E2BB051N	1.100
810	977	3 / 400 mm	3	7.55 x 10 <sup>-9</sup>	XUSL4E3BB081N	1.600
910	1,077	4 / 300 mm	3	8.21 x 10 <sup>-9</sup>	XUSL4E4BB091N	1.700

(1) The safety light curtains are supplied with mounting brackets and screws.

(2) Connection cables and test rods must be ordered separately (see pages 22 and 23).



# Safety detection solutions

## Preventa

Safety light curtains, type 4  
Increased sensing distance



XUSL4E30H016L

XUSL4E30H031L

### Transmitter-receiver pairs for hand detection (1) (2)

Resolution 30 mm. Sensing distance 0...10 or 3...20 m, selectable by wiring

- 2 PNP outputs
- Operating temperature range: -10 °C...+55 °C
- TM (mission time): 20 years

Protected height	Total height	Number of light beams	Response time (t1)	PFHd IEC 61508	Reference	Weight
mm	mm		ms			kg
160	213	8	3	$9.13 \times 10^{-9}$	XUSL4E30H016L	0.400
310	363	16	4	$1.04 \times 10^{-8}$	XUSL4E30H031L	0.700
460	513	23	5	$1.16 \times 10^{-8}$	XUSL4E30H046L	1.000
610	663	31	6	$1.28 \times 10^{-8}$	XUSL4E30H061L	1.200
760	813	38	6.5	$1.41 \times 10^{-8}$	XUSL4E30H076L	1.500
910	963	46	7.5	$1.53 \times 10^{-8}$	XUSL4E30H091L	1.700
1,060	1,113	53	8.5	$1.66 \times 10^{-8}$	XUSL4E30H106L	2.000
1,210	1,263	61	9.5	$1.78 \times 10^{-8}$	XUSL4E30H121L	2.300
1,360	1,413	68	10	$1.91 \times 10^{-8}$	XUSL4E30H136L	2.500
1,510	1,563	76	11	$2.03 \times 10^{-8}$	XUSL4E30H151L	2.800
1,660	1,713	83	12	$2.16 \times 10^{-8}$	XUSL4E30H166L	3.000
1,810	1,863	91	13	$2.29 \times 10^{-8}$	XUSL4E30H181L	3.300

### Transmitter-receiver pairs for body detection (1) (2)

2, 3, or 4 beams. Sensing distance 0...10 or 3...20 m, selectable by wiring

- 2 PNP outputs
- Operating temperature range: -10 °C...+55 °C
- TM (mission time): 20 years

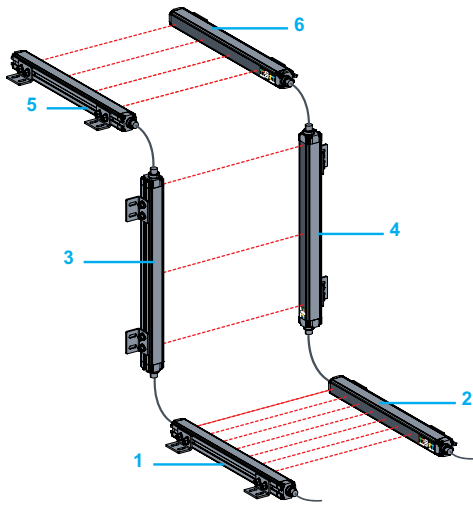
Protected height	Total height	Light beams Number/spacing	Response time (t1)	PFHd IEC 61508	Reference	Weight
mm	mm		ms			kg
510	677	2 / 500 mm	2.5	$9.15 \times 10^{-9}$	XUSL4E2BB051L	1.100
810	977	3 / 400 mm	2.5	$9.99 \times 10^{-9}$	XUSL4E3BB081L	1.600
910	1,077	4 / 300 mm	2.5	$1.08 \times 10^{-8}$	XUSL4E4BB091L	1.700

(1) The safety light curtains are supplied with mounting brackets and screws.

(2) Connection cables and test rods must be ordered separately (see pages 22 and 23).

# Safety detection solutions Preventa

Safety light curtains, type 4  
Master/slave. Standard sensing distance



Example of daisy-chained function

- 1 Master (transmitter)
- 2 Master (receiver)
- 3 Slave 2 (transmitter)
- 4 Slave 2 (receiver)
- 5 Slave 1 (transmitter)
- 6 Slave 1 (receiver)



XUSL4E.....NM  
XUSL4E.....NS2

### Master transmitter-receiver pairs (1) (2)

- 2 PNP outputs
- Operating temperature range: -10 °C...+55 °C
- TM (mission time): 20 years

Protected height	Total height	Light beams Number/spacing	Response time (3)	PFHd IEC 61508	Reference	Weight
mm	mm					kg
<b>For finger detection</b>						
<b>Resolution 14 mm. Sensing distance 0...3 or 1...6 m, selectable by wiring</b>						
310	387	30	5.5	1.27 x 10 <sup>-8</sup>	XUSL4E14F031NM	0.720
460	537	45	7.5	1.52 x 10 <sup>-8</sup>	XUSL4E14F046NM	1.020
610	687	60	9	1.75 x 10 <sup>-8</sup>	XUSL4E14F061NM	1.220
760	837	75	11	2.00 x 10 <sup>-8</sup>	XUSL4E14F076NM	1.520

### For hand detection

Resolution 30 mm. Sensing distance 0...4 or 0...12 m, selectable by wiring

460	537	16	7.5	9.47 x 10 <sup>-9</sup>	XUSL4E30H046NM	1.020
610	687	23	9	1.06 x 10 <sup>-8</sup>	XUSL4E30H061NM	1.220
760	837	31	10.5	1.19 x 10 <sup>-8</sup>	XUSL4E30H076NM	1.520
910	987	38	12.5	1.30 x 10 <sup>-8</sup>	XUSL4E30H091NM	1.720
1,060	1,137	46	14	1.43 x 10 <sup>-8</sup>	XUSL4E30H106NM	2.020

### For body detection

2, 3, or 4 beams. Sensing distance 0...4 or 0...12 m, selectable by wiring

510	677	2 / 500 mm	2.5	6.89 x 10 <sup>-9</sup>	XUSL4E2BB051NM	1.100
810	977	3 / 400 mm	3	7.55 x 10 <sup>-9</sup>	XUSL4E3BB081NM	1.600
910	1,077	4 / 300 mm	3	8.21 x 10 <sup>-9</sup>	XUSL4E4BB091NM	1.700

### Slave 2 transmitter-receiver pairs (1) (2)

#### For finger detection

Resolution 14 mm. Sensing distance 0...3 or 1...6 m, selectable by wiring

460	537	45	7.5	1.52 x 10 <sup>-8</sup>	XUSL4E14F046NS2	1.020
610	687	60	9	1.75 x 10 <sup>-8</sup>	XUSL4E14F061NS2	1.220
760	837	75	11	2.00 x 10 <sup>-8</sup>	XUSL4E14F076NS2	1.520

#### For hand detection

Resolution 30 mm. Sensing distance 0...4 or 0...12 m, selectable by wiring

460	537	23	7.5	9.47 x 10 <sup>-9</sup>	XUSL4E30H046NS2	1.020
610	687	31	9	1.06 x 10 <sup>-8</sup>	XUSL4E30H061NS2	1.220
760	837	38	10.5	1.19 x 10 <sup>-8</sup>	XUSL4E30H076NS2	1.520
910	987	46	12.5	1.30 x 10 <sup>-8</sup>	XUSL4E30H091NS2	1.720
1,060	1,137	53	14	1.43 x 10 <sup>-8</sup>	XUSL4E30H106NS2	2.020

#### For body detection

2, 3, or 4 beams. Sensing distance 0...4 or 0...12 m, selectable by wiring

510	677	2 / 500 mm	2.5	6.89 x 10 <sup>-9</sup>	XUSL4E2BB051NS2	1.100
810	977	3 / 400 mm	3	7.55 x 10 <sup>-9</sup>	XUSL4E3BB081NS2	1.600
910	1,077	4 / 300 mm	3	8.21 x 10 <sup>-9</sup>	XUSL4E4BB091NS2	1.700

(1) The safety light curtains are supplied with mounting brackets and screws.

(2) Connection cables and test rods must be ordered separately (see pages 22 and 23).

(3) The response time of a daisy-chained function must include the response time of each of the component segments (see the calculation table on the next page).

**Other versions:** Master/slave light curtains can be ordered for other protection heights than those listed above.  
Please contact our Customer Care Center.



# Safety detection solutions

## Preventa

### Safety light curtains, type 4

Master/slave. Standard sensing distance



XUSL4E●●●●●●●●NS1

Slave 1 transmitter-receiver pairs (1) (2)						
Protected height	Total height	Light beams Number/spacing	Response time (3)	PFHd IEC 61508	Reference	Weight
mm	mm					kg
<b>For finger detection</b>						
<b>Resolution 14 mm. Sensing distance 0...3 or 1...6 m, selectable by wiring</b>						
310	363	30	5.5	$1.27 \times 10^{-8}$	XUSL4E14F031NS1	0.720
460	513	45	7.5	$1.52 \times 10^{-8}$	XUSL4E14F046NS1	1.020
610	663	60	9	$1.75 \times 10^{-8}$	XUSL4E14F061NS1	1.220
760	813	75	11	$2.00 \times 10^{-8}$	XUSL4E14F076NS1	1.520
<b>For hand detection</b>						
<b>Resolution 30 mm. Sensing distance 0...4 or 0...12 m, selectable by wiring</b>						
460	513	23	7.5	$9.47 \times 10^{-9}$	XUSL4E30H046NS1	1.020
610	663	31	9	$1.06 \times 10^{-8}$	XUSL4E30H061NS1	1.220
760	813	38	10.5	$1.19 \times 10^{-8}$	XUSL4E30H076NS1	1.520
910	963	46	12.5	$1.30 \times 10^{-8}$	XUSL4E30H091NS1	1.720
1,060	1,113	53	14	$1.43 \times 10^{-8}$	XUSL4E30H106NS1	2.020
<b>For body detection</b>						
<b>2, 3, or 4 beams. Sensing distance 0...4 or 0...12 m, selectable by wiring</b>						
510	653	2 / 500 mm	2.5	$6.89 \times 10^{-9}$	XUSL4E2BB051NS1	1.100
810	953	3 / 400 mm	3	$7.55 \times 10^{-9}$	XUSL4E3BB081NS1	1.600
910	1,053	4 / 300 mm	3	$8.21 \times 10^{-9}$	XUSL4E4BB091NS1	1.700

(1) The safety light curtains are supplied with mounting brackets and screws.

(2) Connection cables and test rods must be ordered separately (see pages 22 and 23).

(3) The response time of a daisy-chained function must include the response time of each of the component segments. See the calculation table below:

#### Calculation of response time for Master/slave light curtains, type 4, standard sensing distance

**Resolution 14 mm**  $R_{t_{tot}} = [0.06 \times (No_{slave1} + No_{mater}) + 0.9636] \times 2$

$$R_{t_{tot}} = [0.06 \times (No_{slave1} + No_{slave2} + No_{mater}) + 1.0036] \times 2$$

**Resolution 30 mm and multi-beam**  $R_{t_{tot}} = [0.11 \times (No_{slave1} + No_{mater}) + 0.9376] \times 2$

$$R_{t_{tot}} = [0.11 \times (No_{slave1} + No_{slave2} + No_{mater}) + 1.0508] \times 2$$

No.: Number of light beams

$R_{t_{tot}}$ : Total response time

**Other versions:** Master/slave light curtains can be ordered for other protection heights than those listed above.  
Please contact our Customer Care Center.

# Safety detection solutions Preventa

Safety light curtains, type 2  
Standard sensing distance



### Transmitter-receiver pairs for hand detection (1) (2)

Resolution 30 mm. Sensing distance 0...4 or 0...12 m, selectable by wiring

- 2 PNP outputs
- Operating temperature range: -10 °C...+55 °C
- TM (mission time): 20 years

Pro- tected height	Total height	Number of light beams	Response time (t1)	PFHd IEC 61508	Reference	Weight
mm	mm		ms			kg
160	213	8	4.5	$2.04 \times 10^{-8}$	XUSL2E30H016N	0.400
260	313	13	5.5	$2.55 \times 10^{-8}$	XUSL2E30H026N	0.600
310	363	16	6	$2.66 \times 10^{-8}$	XUSL2E30H031N	0.700
460	513	23	8	$3.30 \times 10^{-8}$	XUSL2E30H046N	1.000
610	663	31	10	$3.92 \times 10^{-8}$	XUSL2E30H061N	1.200
760	813	38	11	$4.57 \times 10^{-8}$	XUSL2E30H076N	1.500
910	963	46	13	$5.19 \times 10^{-8}$	XUSL2E30H091N	1.700
1,060	1,113	53	14.5	$5.83 \times 10^{-8}$	XUSL2E30H106N	2.000
1,210	1,263	61	16	$6.45 \times 10^{-8}$	XUSL2E30H121N	2.300
1,360	1,413	68	17.5	$7.09 \times 10^{-8}$	XUSL2E30H136N	2.500
1,510	1,563	76	19.5	$7.71 \times 10^{-8}$	XUSL2E30H151N	2.800
1,660	1,713	83	21	$8.35 \times 10^{-8}$	XUSL2E30H166N	3.000
1,810	1,863	91	22.5	$8.98 \times 10^{-8}$	XUSL2E30H181N	3.300

### Transmitter-receiver pairs for body detection (1) (2)

Sensing distance 0...4 or 0...12 m, selectable by wiring

- 2 PNP outputs
- Operating temperature range: -10 °C...+55 °C
- TM (mission time): 20 years

Pro- tected height	Total height	Light beams Number/ spacing	Response time (t1)	PFHd IEC 61508	Reference	Weight
mm	mm		ms			kg
510	677	2 / 500 mm	3	$1.71 \times 10^{-8}$	XUSL2E2BB051N	1.120
810	977	3 / 400 mm	3.5	$1.87 \times 10^{-8}$	XUSL2E3BB081N	1.620
910	1,077	4 / 300 mm	3.5	$2.02 \times 10^{-8}$	XUSL2E4BB091N	1.720

(1) The safety light curtains are supplied with mounting brackets and screws.

(2) Connection cables and test rods must be ordered separately (see pages 22 and 23).

# Safety detection solutions

Preventa module XPSLCMUT1160

For the muting function on type 2 and type 4

Preventa XUSL light curtains

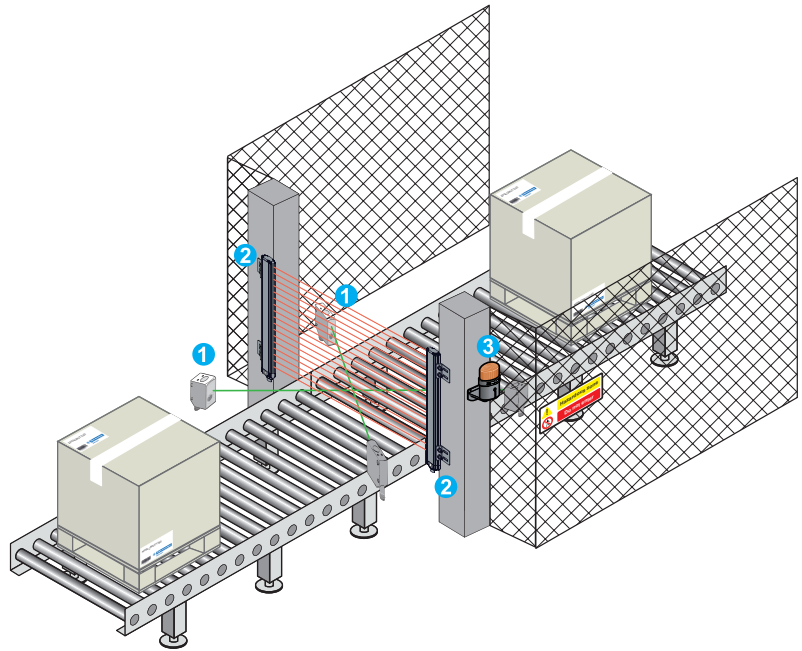
## Presentation

Muting is a temporary suspension of the protection function provided by the safety light curtain.

The function is activated or deactivated by means of standard sensors (OsiSense XU "dark on" photo-electric sensors with PNP output).

On activation, a signal is sent to the control system.

This function is used to allow objects to access the hazardous zone during the process. Signaling informs the operator(s) that they are not protected.



- 1 Inhibition sensor (or muting sensor).
- 2 Safety light curtain.
- 3 Muting indicator light.

The muting function (inhibition) effectively ignores the protective function on safety related control systems during a predetermined non-hazardous portion of the machine operation.

Muting mode is only active once the correct sequence of input signals on the inhibition (muting) sensors has occurred.

The purpose of selecting and orienting the inhibition sensors is to recognize the presence of a given part as the means of starting or stopping the inhibition sequence.

Any penetration of animate or inanimate objects into the sensing zone generating a different muting sensor sequence to the one defined, sends a stop signal to the guarded machine.

When the system is in muting mode, an indicator light must be on. This indicator must be visible to all personnel in the vicinity of the machine.

The XPSLCMUT1160 module can be used with a type 2 or type 4 light curtain system.

If the XPSLCMUT1160 module is connected to a **type 4** safety light curtain, with two self-checking solid-state outputs, the system thus created conforms to type 4 (IEC 61496-1) SILCL3 (IEC 62061) and category PLe - Cat. 4 (EN ISO 13849-1:2008).

If the XPSLCMUT1160 module is connected to a **type 2** safety light curtain, with two self-checking solid-state outputs, the system thus created conforms to type 2 (IEC 61496-1) SILCL1 (IEC 62061) and category PLc - Cat. 2 (EN ISO 13849-1:2008).

**Note:** The muting module response time should be added to that of the associated light curtain system.

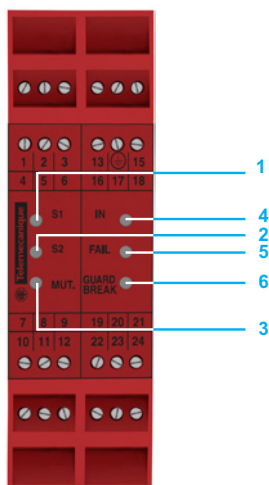


XPSLCMUT1160

# Safety detection solutions

## Preventa module XPSLCMUT1160

For the muting function on type 2 and type 4  
Preventa XUSL light curtains



### Description

#### Status LEDs

- 1 **S1**: status of muting sensor 1.
- 2 **S2**: status of muting sensor 2.
- 3 **MUT.**: status of muting function.
- 4 **IN**: status of safety light curtain OSSD outputs.
- 5 **FAIL**: absence or presence of failure.
- 6 **GUARD BREAK**: status of output relay/fault code.

### References

#### Muting module

- Type 4 level of safety conforming to EN/IEC 61496-1 and EN/IEC 61496-2, SILCL3 conforming to EN/IEC 62061. Category 4, PLe conforming to EN ISO 13849-1: 2008.
- Supply voltage: 24 V  $\overline{\text{DC}}$ .
- 2 safety relays (NO contacts):
  - Switching capacity conforming to IEC 60947-5-1:
    - AC-15 utilization category: 230 V  $\sim$ /2 A, DC-13 utilization category: 24 V  $\overline{\text{DC}}$ /2 A.
- B10d (safety relay outputs): 800 000
- Operating temperature range: 0°C...+ 55°C.
- Number of photo-electric sensors that can be connected: 2 (24 V  $\overline{\text{DC}}$ , PNP "dark on").
- TM (mission time): 20 years.

Description	Connection type	Response time (t <sub>r</sub> )	PFHd (1) IEC 61508	Reference	Weight
		ms			kg
Module for muting function	Screw terminals	20 ms max.	6.42 x 10 <sup>-9</sup> to 5.03 x 10 <sup>-8</sup>	<b>XPSLCMUT1160</b>	0.150

#### Cabling accessories

Female extensions with 8-pin M12 connector, used to connect the **XPSLCMUT1160** module to the light curtain (receiver) (see page 23).

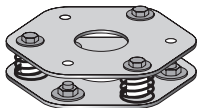
(1) PFHd: Probability of dangerous failure per hour (depends on the load controlled via output relays and the sorties and the frequency of demand).

# Safety detection solutions Preventa

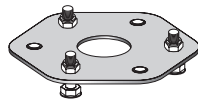
Accessories for safety light curtains  
types 2 and 4



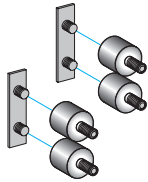
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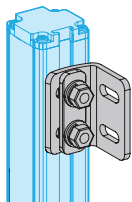
XUSZFB2



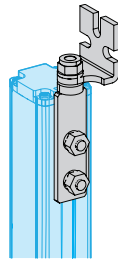
XUSZFB1



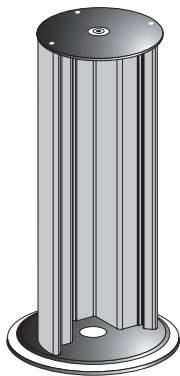
XUSZVA4



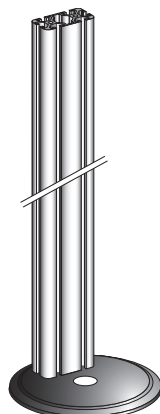
XUSZBSC



XUSZBSS4



XUSZSC



XUSZSS125

## Power supplies (1)

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

Input voltage	Secondary		Reference	Weight kg
	Output voltage	Nominal power Nominal current		
100...120 V ~ 200...500 V ~ -15%, +10% 50/60 Hz	24...28.8 V	72 W 3 A	ABL8RPS24030	0.300
		120 W 5 A	ABL8RPS24050	0.700
		240 W 10 A	ABL8RPS24100	1.000

## Floor mounting bases for columns and rails

Description	Height	Reference	Weight kg
Double base with springs for level adjustment	47 mm	XUSZFB2	2.200
Single base	26 mm	XUSZFB1	1.000

## Anti-vibration kits

Kit contents	Protected height	For use with	Reference	Weight kg
	mm			
<ul style="list-style-type: none"> <li>■ 4 shock absorbers</li> <li>■ 2 mounting inserts</li> </ul>	160	XUSLE000016	XUSZVA4	0.050
<ul style="list-style-type: none"> <li>■ 8 shock absorbers</li> <li>■ 4 mounting inserts</li> </ul>	260...1,060	XUSLE000026 to XUSLE000106	XUSZVA8	0.100
<ul style="list-style-type: none"> <li>■ 12 shock absorbers</li> <li>■ 6 mounting inserts</li> </ul>	1,210...1,810	XUSLE000121 to XUSLE000181	XUSZVA12	0.150

## Mounting accessories

Description	Protected height	For use with	Reference	Weight kg
	mm			
Pack of 4 curved brackets (14° rotation of light curtain)	160...1,060	XUSLE000016 to XUSLE000106	XUSZBSC4	0.200
Pack of 6 curved brackets (14° rotation of light curtain)	1,060...1,810	XUSLE000106 to XUSLE000181	XUSZBSC6	0.300
Pack of 4 adjustable brackets (180° rotation of light curtain)	160...1,810	XUSLE000016 to XUSLE000181	XUSZBSS4 (2)	0.150

## Aluminum mounting columns and rails for light curtains

Height of column	Protected height	For use with	Reference	Weight kg
mm	mm			
<b>Without mirror adapter, with built-in spirit level</b>				
1,000	610	XUSLE000016 to XUSLE000061	XUSZSC105	3.500
1,330	1,060	XUSLE000076 to XUSLE000106	XUSZSC138	4.400
1,670	1,360	XUSLE000121 to XUSLE000136	XUSZSC172	5.300
1,970	1,810	XUSLE000151 to XUSLE000181	XUSZSC202	6.000
<b>Without mirror adapter, with built-in spirit level and cable gland Pg 11</b>				
1,000	610	XUSLE000016 to XUSLE000061	XUSZSC105R	3.700
1,330	1,060	XUSLE000076 to XUSLE000106	XUSZSC138R	4.500
1,670	1,360	XUSLE000121 to XUSLE000136	XUSZSC172R	5.500
1,970	1,810	XUSLE000151 to XUSLE000181	XUSZSC202R	6.200
<b>Aluminum mounting rail</b>				
1,200	1,210	XUSLE000016 to XUSLE000121	XUSZSS125	1.300

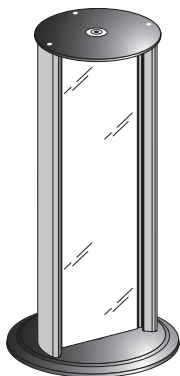
(1) Manual or automatic reset power supplies compliant with EN 61000-3-2. For more information, visit our website [www.schneider-electric.com](http://www.schneider-electric.com).

(2) XUSZBSS4 adjustable brackets are not compatible with XUSZWPE protective covers and XUSZWPEFC mounting clamps.

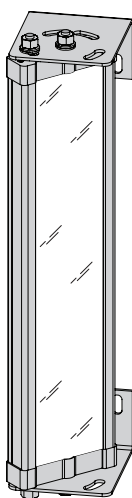
# Safety detection solutions

## Preventa

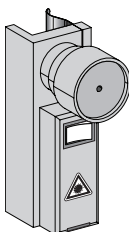
Accessories for safety light curtains  
types 2 and 4



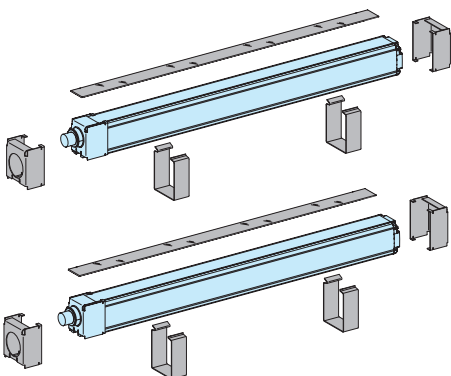
XUSZMF●●●



XUSZMD●●●



XUSZLPE



XUSZWPE●●● + XUSZWPEFC

### Aluminum mounting columns with mirror adapters

Height of column mm	Protected height mm	For use with	Reference	Weight kg
1,200	910	XUSL●E●●●016 to XUSL●E●●●091	XUSZMF125	5.800
1,330	1,060	XUSL●E●●●091 to XUSL●E●●●106	XUSZMF138	6.400
1,670	1,360	XUSL●E●●●106 to XUSL●E●●●136	XUSZMF172	8.000
1,970	1,810	XUSL●E●●●136 to XUSL●E●●●181	XUSZMF202	9.000

### Adjustable mirror adapters (1)

Height of mirror mm	Protected height mm	For use with	Reference	Weight kg
250	160	XUSL●E●●●016	XUSZMD016	0.900
400	310	XUSL●E●●●026 and XUSL●E●●●031	XUSZMD031	1.400
540	460	XUSL●E●●●046	XUSZMD046	1.800
715	610	XUSL●E●●●061 and 2-beam light curtains	XUSZMD061	2.400
885	760	XUSL●E●●●076	XUSZMD076	2.800
1,060	910	XUSL●E●●●091 and 3-beam light curtains	XUSZMD091	3.300
1,230	1,060	XUSL●E●●●106 and 4-beam light curtains	XUSZMD106	3.800
1,400	1,210	XUSL●E●●●121	XUSZMD121	4.400
1,450	1,360	XUSL●E●●●136	XUSZMD136	4.500
1,600	1,510	XUSL●E●●●151	XUSZMD151	5.000
1,750	1,660	XUSL●E●●●166	XUSZMD166	5.500
1,900	1,810	XUSL●E●●●181	XUSZMD181	6.000

### Laser alignment tool

Description	Reference	Weight kg
For aligning transmitters and receivers when used with or without a mirror	XUSZLPE (2)	0.800

### Polycarbonate protective covers (3)

Height mm	For use with	Reference	Weight kg
195	XUSL●E●●●016	XUSZWPE015 (4)	0.080
345	XUSL●E●●●031	XUSZWPE030 (4)	0.140
495	XUSL●E●●●046	XUSZWPE045 (4)	0.200
635	XUSL●E2BB051	XUSZWPE050 (4)	0.210
645	XUSL●E●●●061	XUSZWPE060 (4)	0.260
795	XUSL●E●●●076	XUSZWPE075 (4)	0.310
935	XUSL●E3BB081	XUSZWPE080 (4)	0.330
945	XUSL●E●●●091	XUSZWPE090 (4)	0.380
1,035	XUSL●E4BB091	XUSZWPE091 (4)	0.410
1,095	XUSL●E●●●106	XUSZWPE105 (4)	0.440
1,245	XUSL●E●●●121	XUSZWPE120 (4)	0.500
1,395	XUSL●E●●●136	XUSZWPE135 (4)	0.560
1,545	XUSL●E●●●151	XUSZWPE150 (4)	0.620
1,695	XUSL●E●●●166	XUSZWPE165 (4)	0.680
1,845	XUSL●E●●●181	XUSZWPE180 (4)	0.740

### Pack of mounting clamps for protective covers

Description	Reference	Weight kg
Stainless steel clamps for XUSZWPE●●● for light curtain pair (transmitter + receiver) ■ 4 end clamps ■ 4 retaining clamps	XUSZWPEFC	0.150

(1) Supplied with 2 mounting brackets.

(2) Suitable for all light curtains except for those mounted in IP 69K sealed protection tube.

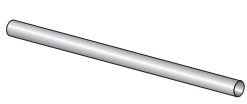
(3) The protective covers are not compatible with XUSZBSS4 adjustable brackets.

(4) Sold in lots of 4.

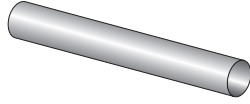


# Safety detection solutions Preventa

Accessories for safety light curtains  
types 2 and 4



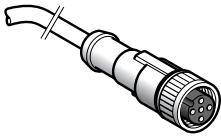
XUSZTR14



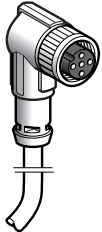
XUSZTR30

### Test rods for checking safety light curtains

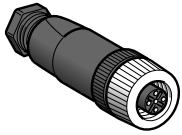
Ø mm	For use with	Reference	Weight kg
14	XUSL4E14F●●	XUSZTR14 (1)	0.020
30	XUSL4E30H●● and XUSL2E30H●●	XUSZTR30 (1)	0.070



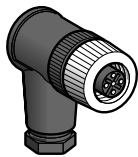
XZCP1164L●



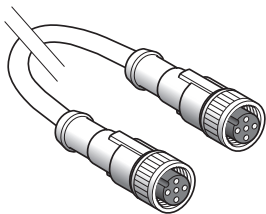
XZCP1264L●



XZCC12FDM50B



XZCC12FCM50B



XZCR1111064D●

### M12, 5-pin connection accessories (transmitter)

#### Pre-wired connectors

Connection	Type	Cable length	Reference	Weight kg
		m		
M12 female connector, PUR cable	Straight	2	XZCP1164L2	0.050
		5	XZCP1164L5	0.250
		10	XZCP1164L10	0.500
		15	XZCP1164L15	0.750
		25	XZCP1164L25	1.250
	Angled	2	XZCP1264L2	0.100
		5	XZCP1264L5	0.250
		10	XZCP1264L10	0.500
		15	XZCP1264L15	0.750
		25	XZCP1264L25	1.250

### Connectors for screw terminal connections

Description	Type	Cable length	Reference	Weight kg
		m		
M12 female connectors, metal clamping ring, 7 mm plastic cable gland (Pg 7)	Straight	–	XZCC12FDM50B	0.030
	Angled	–	XZCC12FCM50B	0.030

### M12, 5-pin connection accessories (transmitter and receiver)

#### Connection cables for master/slave segments

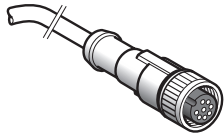
Description	Type	Cable length	Reference	Weight kg
		m		
2 x M12 female connectors, PUR cable	Straight	0.3	XZCR1111064D03	0.060
		3	XZCR1111064D3	0.180
		5	XZCR1111064D5	0.300
		10	XZCR1111064D10	0.600
		25	XZCR1111064D25	1.500

(1) The test rods are not supplied with the safety light curtains; they must be ordered separately.

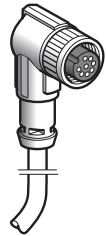
# Safety detection solutions

## Preventa

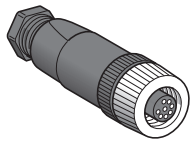
Accessories for safety light curtains  
types 2 and 4



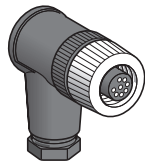
XZCP29P11L●●



XZCP53P11L●●



XZCC12FDM80B



XZCC12FCM80B

### M12, 8-pin connection accessories (receiver)

#### Pre-wired connectors

Connection	Type	Cable length	Reference	Weight
		m		kg
M12 female connector, PUR cable	Straight	2	XZCP29P11L2	0.100
		5	XZCP29P11L5	0.250
		10	XZCP29P11L10	0.500
		15	XZCP29P11L15	0.750
		25	XZCP29P11L25	1.250
	Angled	2	XZCP53P11L2	0.100
		5	XZCP53P11L5	0.250
		10	XZCP53P11L10	0.500
		15	XZCP53P11L15	0.750
		25	XZCP53P11L25	1.250

#### Connectors for screw terminal connections

Description	Type	Cable length	Reference	Weight
		m		kg
M12 female connectors, metal clamping ring, 7 mm plastic cable gland (Pg 7)	Straight	–	XZCC12FDM80B	0.030
	Angled	–	XZCC12FCM80B	0.030

# Safety detection solutions

Preventa safety modules and associated single-beam photo-electric sensors with a test input, with built-in muting function

## Operating principle

XPSCM safety modules combined with XU2S single-beam photo-electric sensors (regularly tested) form a category 2 light curtain conforming to EN/IEC 61496 parts 1 and 2.

The connection of 1 to 4 pairs of XU2S photo-electric sensors makes it possible to create a protected zone up to 1,200 mm high conforming to EN 999/ISO 13855 and 8 m long.

The built-in muting function allows the automatic passage of parts to be machined or loaded pallets, without interrupting the transportation movement.

When the system is switched on by the start command (in series with the main circuit feedback loop) and the light protection is not interrupted, the main circuit is closed by the two safety relays in the XPSCM module.

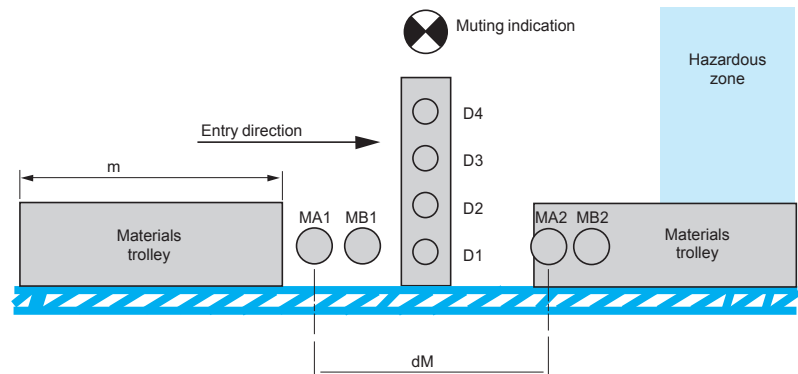
Interruption of the protection field causes the safety outputs to open instantaneously, and the process PLC receives a stop command. The LED on the XPSCM front panel changes from green to red. The "open" state is maintained until the module is restarted using the start button.

The muting function allows the light curtain protection to be inhibited. This can be used to authorize the passage of a materials trolley through the light curtain without tripping the main circuit. The muting function can only be activated by supplying the inhibition sensors if the safety outputs have been switched on beforehand.

To trigger the muting function, activate the inhibition devices within the 3-second time interval. This synchronization time for the two inhibition inputs can be deactivated by connecting two configuration terminals. The muting cycle lasts for a maximum of 60 seconds. During this period, materials can be transported through the protection field without deactivating the safety outputs. The 60-second limit value of the muting cycle can be made infinite by connecting two configuration terminals.

During the muting process, a light indicating the muting status is controlled by the XPSCM module. A fault at indicator light level (short-circuit, open circuit) will be recognized immediately and will deactivate the muting function. The indicator light comes on when a muting signal is generated and indicates inhibition of the protection function.

D1, D2, D3, D4: monitoring photo-electric sensors.  
MA1, MB1, MA2, MB2: muting photo-electric sensors.  
m = trolley length. dM = distance between MA1, MB1 and MA2, MB2.



## Conditions to be observed for the muting function

- The muting sensors must either be:
  - Thru-beam type, sensing distance 8 m: XU2S18PP340L5 (or XU2S18PP340D).
  - Thru-beam type, sensing distance 15 m: XUB2BKSNL2T (or XUB2BKSNM12T) + XUB2BPANL2R (or XUB2BPANM12R).
  - Polarized reflex type, sensing distance 2 m: XUB9BPANL2 (or XUB9BPANM12) + XUZC50.
  - Polarized reflex type, sensing distance 5 m: XUM9APCNL2 (or XUM9APCNM8) or XUM9BPANL2 + XUZC50.
  - Mechanical limit switches.
- $dM \leq m$  to obtain continuous validation of the muting function.
- Avoid the intrusion by people during the muting phase. This phase is indicated by the indicator light connected to the muting indicator output of the XPSCM module.
- A materials trolley should generate the muting signal before entering the protection field and cease it once it has cleared all the sensors in the protection field on exiting.