

Safety detection solutions

Preventa

Safety light curtains, type 2

Slim, compact light curtains XUSL N with solid-state output

Light curtain type		XUSLNG●●●● (30 mm)	
Environmental characteristics			
Conformity to standards			IEC 61496-1 and IEC 61496-2 (Type 2 ESPE)
Certifications			CE, TUV, UL, CSA
European directives			Machinery directive 2006/42/EC, Use of work equipment directive 2009/104EC and EMC directive 2004/108/EC
Maximum safety level (1)			PL = c/category 2 conforming to EN/ISO 13849-1 SIL 2 conforming to EN/IEC 61508
Reliability data			PFH _d = 2.29E ⁻⁷ 1/h conforming to EN/IEC 61508
Ambient air temperature	Operating	°C	0...+ 55
	For storage	°C	- 25...+ 75
Relative humidity			95 % maximum, without condensation
Degree of protection			IP 65
Shock and vibration resistance	Conforming to IEC 61496-1		Shock resistance: 10 gn, impulse 16 ms, Vibration resistance: 10...55 Hz, amplitude: 0.35 ± 0.05 mm
Materials			Casing: aluminium with electrostatically applied red (RAL 3000) polyester paint finish; end caps: 30 % fibreglass impregnated nylon; front face: acrylic.
Fixings			End brackets (included)
Optical characteristics			
Minimum detection capacity		mm	30 (Hand)
Nominal sensing distance (Sn)		m	0.3...15
Height protected		mm	150...1500
Effective aperture angle (EAA)			5° at 3 m conforming to IEC 61496-1 and IEC 61496-2 (Type 2 ESPE)
Light source			GaAlAs LED, 880 nm
Immunity to ambient light			Conforming to IEC/EN 61496-2
Electrical characteristics			
Response time		ms	14...24
Power supply			--- 24 V ± 20 % 2 A conforming to IEC 61496 and IEC 60204-1 (- 10 % using the EDM function)
	Transmitter	mA	50 (SELV: Safety Extra Low Voltage)
	Receiver	A	1.09 (with maximum load)
Maximum current consumption (no-load)	Transmitter	mA	50
	Receiver	mA	90
Immunity to interference			Conforming to EN 61496-1 and EN 61496-2
Safety outputs OSSD (Output Signal Switching Devices)			2 solid-state PNP (N/O) outputs ≤ 500 mA, --- 24 V (Short-circuit protection)
Signalling	Transmitter		2 LEDs (power supply and diagnostic)
	Receiver		4 LEDs (stop, run, top alignment and bottom alignment)
Connections (2)	Transmitter		M12, 4-pin, male connector
	Receiver		M12, 5-pin, male connector
Pre-wired connectors c.s.a.	Transmitter-receiver	mm²	0.25. Tinned wires.
Cable resistance	Transmitter-receiver	Ω	0.093 per metre for 0.25 mm² c.s.a. cable
Cable lengths		m	Pre-wired connectors with cable lengths of 3, 10 and 30 m are available separately. The maximum cable length is 50 m, depending on the load current and power supply.
Functions			
Functions			■ Start: □ Automatic: model XUSLNG5C●● □ Manual: model XUSLNG5D●● ■ Alignment aid using 2 LEDs ■ LED display of operating modes ■ Monitoring of external switching devices EDM/MPCE
“Muting” function (inhibition)			Possible with external module XPSLCM1150

(1) Using an appropriate and correctly connected control system.

(2) Pre-wired female connectors to be ordered separately, see page 37.

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Transmitter-receiver system for hand protection (1)

Detection capacity 30 mm. Sensing distance 0.3 to 15 m.

■ 2 PNP safety outputs - Automatic start

Height protected mm	Response time ms	Number of light beams	Alarm output	Reference (2)	Weight kg
150	14	7	PNP	XUSLNG5C0150	2.700
300	15	14	PNP	XUSLNG5C0300	2.900
450	16	21	PNP	XUSLNG5C0450	3.200
600	17	28	PNP	XUSLNG5C0600	3.400
750	18	35	PNP	XUSLNG5C0750	3.600
900	19	42	PNP	XUSLNG5C0900	3.900
1050	20	49	PNP	XUSLNG5C1050	4.100
1200	21	56	PNP	XUSLNG5C1200	4.300
1350	22	63	PNP	XUSLNG5C1350	4.500
1500	23	70	PNP	XUSLNG5C1500	4.800

■ 2 PNP safety outputs - Manual start

Height protected mm	Response time ms	Number of light beams	Alarm output	Reference (2)	Weight kg
150	14	7	PNP	XUSLNG5D0150	2.700
300	15	14	PNP	XUSLNG5D0300	2.900
450	16	21	PNP	XUSLNG5D0450	3.200
600	17	28	PNP	XUSLNG5D0600	3.400
750	18	35	PNP	XUSLNG5D0750	3.600
900	19	42	PNP	XUSLNG5D0900	3.900
1050	20	49	PNP	XUSLNG5D1050	4.100
1200	21	56	PNP	XUSLNG5D1200	4.300
1350	22	63	PNP	XUSLNG5D1350	4.500
1500	23	70	PNP	XUSLNG5D1500	4.800

(1) Supplied with a test rod, 2 sets of 2 brackets with fixings and a user guide with certificate of conformity and 1 arc suppressor set.

Pre-wired female connectors to be ordered separately, see below.

(2) To order a transmitter only, replace the letter C or D by E and add the letter T to the end of the reference for the corresponding transmitter-receiver pair.

Example: reference XUSLNG5C0150 becomes XUSLNG5E0150T for the transmitter only.

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

Example: reference XUSLNG5C0150 becomes XUSLNG5C0150R for the receiver only.

Other versions

Combining type 2 safety light curtains with external module for muting function and monitoring 2 to 4 light curtains. See pages 56 to 63.

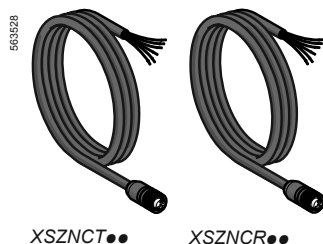
Accessories

Description		For use with	Length m	Reference	Weight kg
Fixings kit (2 brackets)		Light curtains XUSLN	—	XUSLZ218	0.450
Pre-wired female connectors	Transmitter type	Light curtains XUSLN	3	XSZNCT03	0.680
			10	XSZNCT10	0.910
			30	XSZNCT30	1.360
	Receiver type	Light curtains XUSLN	3	XSZNCR03	0.680
			10	XSZNCR10	0.910
			30	XSZNCR30	1.360
Arc suppressor (pair)		All types of light curtain	—	XUSLZ500	0.020
User guide on CD-ROM		All types of light curtains and accessories	—	XUSLZ450	0.020

Separate components

Power supplies, 90° mirror adaptors, anti-vibrations kits and fixing bases

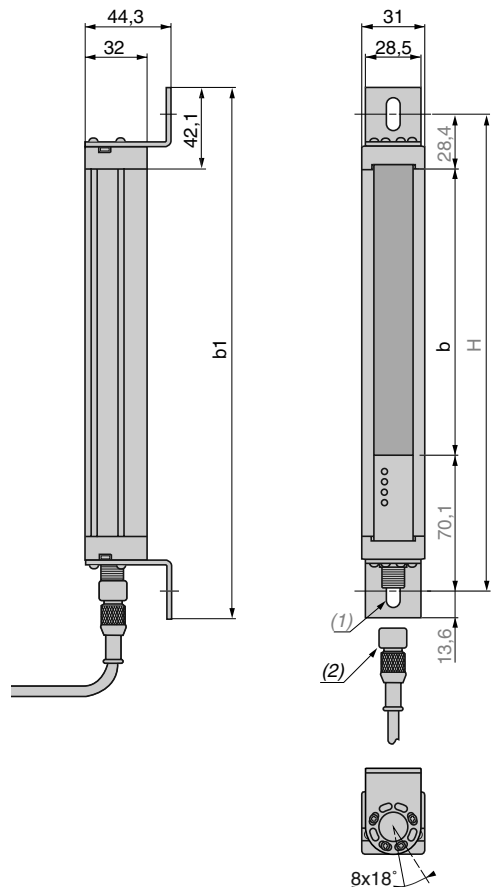
See pages 40 to 47.



Dimensions

Slim, compact light curtains

XUSLN...



XUS	b	b1	H	Height protected
LN...0150	147	272	245.6	150
LN...0300	294	419	392.6	300
LN...0450	441	566	539.5	450
LN...0600	588	713	686.6	600
LN...0750	735	860	833.6	750
LN...0900	882	1007	980.6	900
LN...1050	1029	1154	1127.6	1050
LN...1200	1176	1301	1274.6	1200
LN...1350	1323	1448	1421.6	1350
LN...1500	1470	1595	1568.6	1500

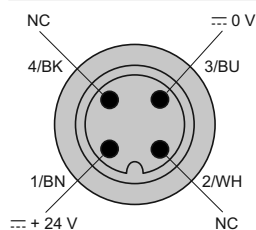
(1) 1 elongated hole $\varnothing 6.75 \times 16.75$ mm.

(2) M12 male connector.

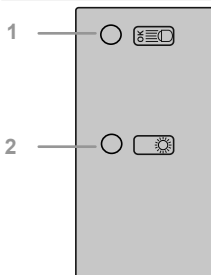
Connections

Transmitter

Pre-wired connector of transmitter XSZNCT



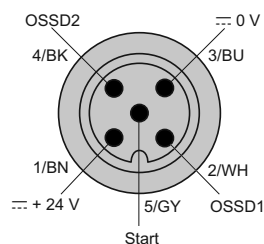
Transmitter status indicator



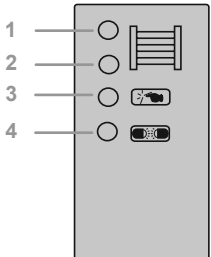
- 1 Interlock or Alarm
yellow LED
- 2 Switch-on/Machine run
green LED

Receiver

Pre-wired connector of receiver XSZNCR



Receiver status indicator



- 1 Top alignment
yellow LED
- 2 Bottom alignment
yellow LED
- 3 Stop
red LED
- 4 Run
green LED

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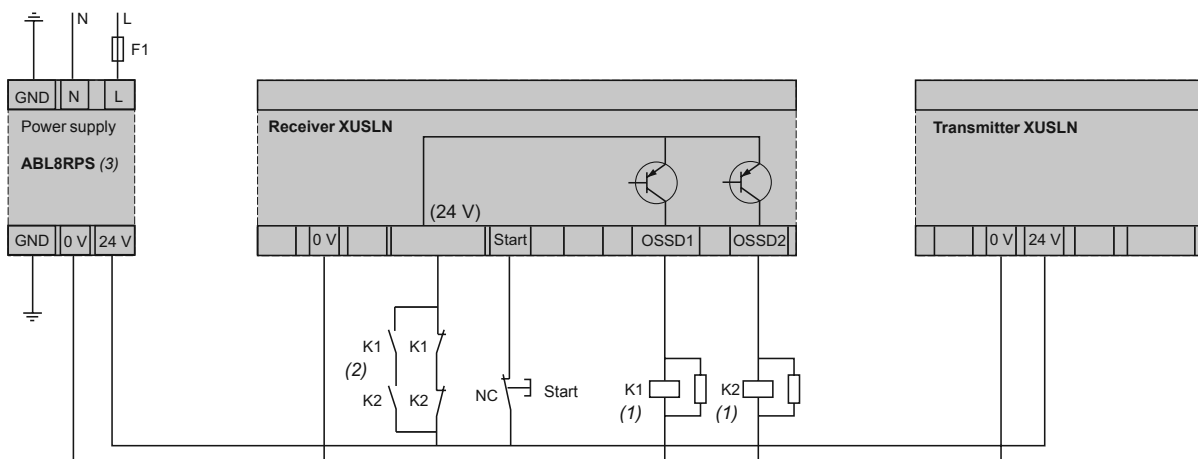
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Connections (continued)

Direct connection with XUSLNG5D●●●



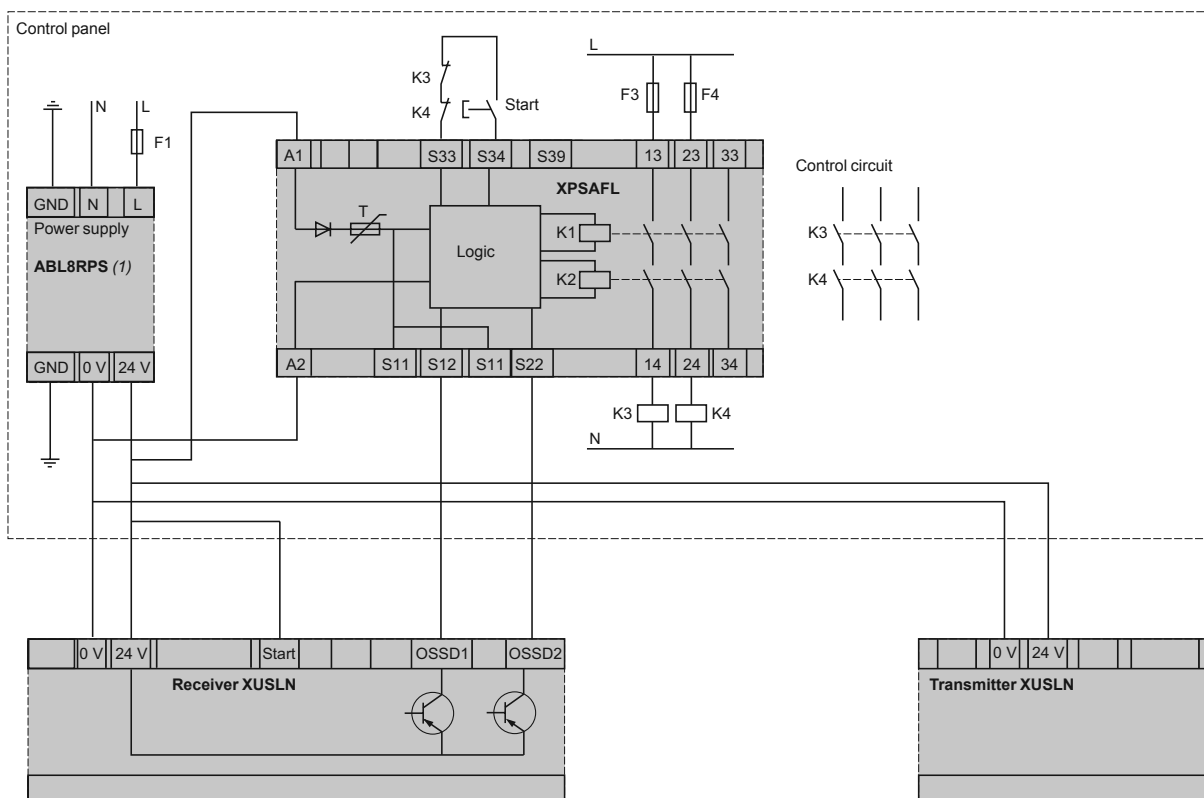
(1) The K1 and K2 coils must be protected using the arc suppressors included in the mounting kit.

(2) For the EDM function, contactors LC1D●●BD and control relays CAD●●BD, CA4KN●●BW3 and CA3KN●●BD are recommended (for more information on contactors and control relays, please refer to our "Motor starter solutions" catalogue).

(3) The power supply must conform to EN/IEC 61496 and EN/IEC 60204-1 standards.

Note: Never connect the 0 V dc to earth ground.

Connection of light curtain XUSLN5C●●● via a Preventa XPSAFL module



(1) The power supply must conform to EN/IEC 61496 and EN/IEC 60204-1 standards.

Note: Never connect the 0 V dc to earth ground.