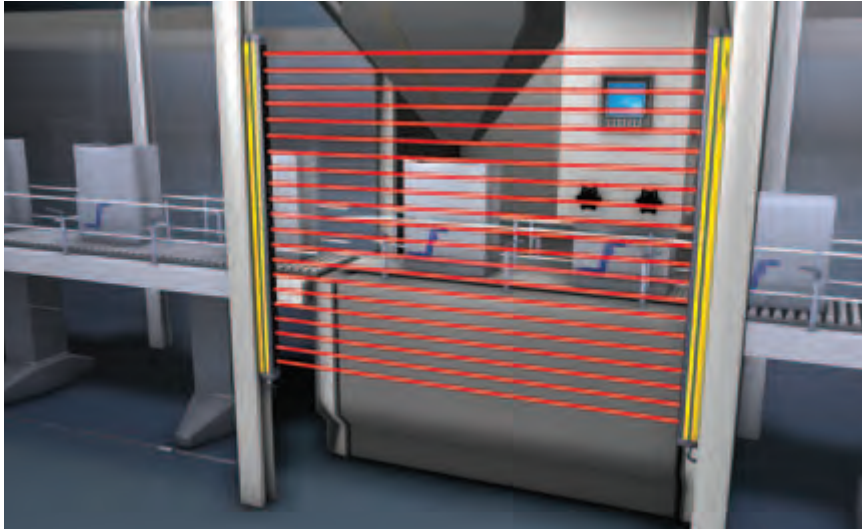


## SAFETY LIGHT CURTAINS

### COMPACT EX2



COMPACT EX2 Safety Light Curtain on a re-filling system

#### Typical areas of application

Can be used in zone 2 (gases) and zone 22 (flammable, non-conductive dusts)

- Re-filling systems for powdered substances
- Painting lines, e.g. in the automotive industry
- Chemical processes

Devices and protective systems must meet special requirements with use in explosion-risk areas. COMPACT EX2 devices with the "non-sparking" ignition protection type and special precautions on the transmitter and receiver housing are available in different models for these applications. COMPACT EX2 devices are suited for being used up to Ex zone 2 (gases) and Ex zone 22 (flammable, non-conductive dusts). They are especially impressive due to their high interference immunity and availability. In addition to the requirements of machine safety, COMPACT EX2 also satisfies the provisions of ATEX Directive 94/9/EC. Reinforced connecting front screens ensure that the housing remains sealed with mechanical influences, e.g. an impact or blow of some kind. Metal bushings enclose the cables suitable for explosion-risk areas, which are to be provided by the customer. COMPACT EX2 can be used in industrial applications, however it cannot be used in pits. The device complies as an electrical piece of apparatus of EX device group II, EX category 3.

# COMPACT EX2

## Important technical data, overview

Type in accordance with IEC/EN 61496	Type 4	
SIL in accordance with IEC 61508 and SILCL in accordance with IEC/EN 62061	SIL 3	
Performance Level (PL) in accordance with EN ISO 13849-1	PL e	
Category in accordance with EN ISO 13849	4	
Resolution	14 mm	30 mm
Range	0...6 m	0...18 m
SingleScan response time	17...33 ms	9...17 ms
Protective field height	750, 1050, 1500 mm	750, 1050, 1500 mm
Profile cross-section	52 mm x 55 mm	
Safety-related switching outputs (OSSDs)	2 pnp transistor outputs	
Connection system	Cable gland	
Ex device group	II	
Ex device category	3	
Temperature class, gases	T4	
Permissible ignition temperature	T > 135°C	
Ignition protection type	"nA" non-sparking	

COMPACT EX2 specification plate with info as electrical equipment:

- (Ex) II 3 G - EEx II nA T4 (gases)
- (Ex) II 3 D 135°C (flammable, non-conductive dusts)

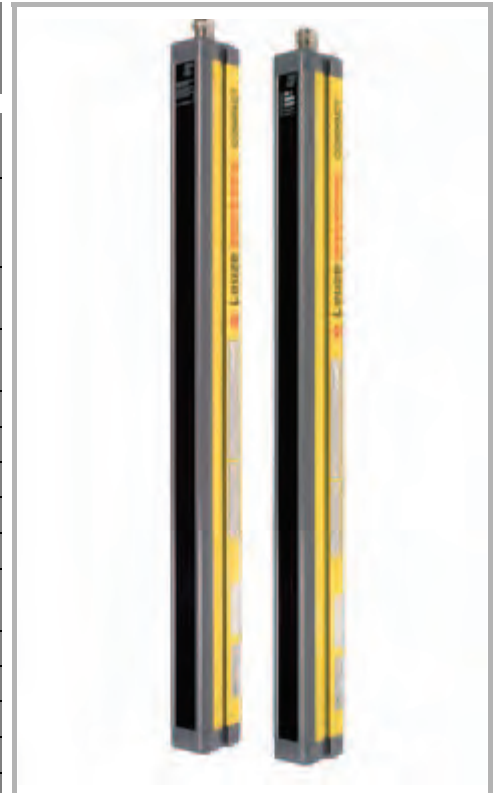
For explanations, see [www.leuze.com/atex](http://www.leuze.com/atex). Please note the additional information in the COMPACT Connecting and Operating Instructions and the supplementary COMPACT EX2 instructions at [www.leuze.com/compact](http://www.leuze.com/compact).

## Functions and function extensions

See chapter COMPACT EX1, page 125.

## Special features

- Type 4, suitable for safety category 4
- Complies with ATEX Directive 94/9/EC (ATEX Directive)
- Fault-free operation of adjacent devices with selection of different transmission channels
- Maintenance-free with safety transistor outputs (OSSDs)
- Ignition protection type "nA" non-sparking
- Temperature class, T4
- Integrated auto-diagnostics system



## Features



Further information	Page
● Ordering information	134
● Electrical connection	127
● Technical data	135
● Dimensional drawings	137
● Dimensional drawings: Accessories	138
● Accessories ordering information	138

# SAFETY LIGHT CURTAINS

## Ordering information

**COMPACT EX2**, consisting of transmitter and receiver.  
 Included in delivery: 4 sliding blocks, 2 bracket sets BT-S, 1 COMPACT connecting and operating instructions manual and a supplementary COMPACT EX2 connecting and operating instructions manual

**Functions:** Automatic start/restart, selectable transmission channels, selectable start/restart interlock, dynamic contactor monitoring, MultiScan

Protective field height in mm	COMPACT EX2			COMPACT EX2		
	Art. no.	Article	Description	Art. no.	Article	Description
750	Resolution: 14 mm					
	Range: 0 - 6 m					
750	569130	CT14-750-EX2	Transmitter	569134	CT30-750-EX2	Transmitter
	569131	CR14-750-EX2	Receiver	569135	CR30-750-EX2	Receiver
1050	Resolution: 30 mm					
	Range: 0 - 18 m					
1050	569132	CT14-1050-EX2	Transmitter	569136	CT30-1050-EX2	Transmitter
	569133	CR14-1050-EX2	Receiver	569137	CR30-1050-EX2	Receiver
1500	569074	CT14-1500-EX2	Transmitter	569076	CT30-1500-EX2	Transmitter
	569075	CR14-1500-EX2	Receiver	569077	CR30-1500-EX2	Receiver

Delivery time for EX2 devices, approx. 3 weeks

Test rod, 14/30 mm included in delivery

## Electrical connection

See COMPACT EX1 connection example, page 127.

## Technical data

General system data		
Type in accordance with IEC/EN 61496	Type 4	
SIL in accordance with IEC 61508 and SILCL in accordance with IEC/EN 62061	SIL 3	
Performance Level (PL) in accordance with EN ISO 13849-1	PL e	
Probability of a failure to danger per hour (PFH <sub>d</sub> )	For protective field height 750 mm	7.30 x 10 <sup>-9</sup> 1/h
	For protective field heights 1050 mm and 1500 mm	8.30 x 10 <sup>-9</sup> 1/h
Service life (T <sub>M</sub> ) in accordance with EN ISO 13849-1	20 years	
Category in accordance with EN ISO 13849	4	
Resolution	14 mm	30 mm
Range	0...6 m	0...18 m
SingleScan response time (length-dependent)	7...33 ms	9...17 ms
Protective field height	750, 1050, 1500 mm	750, 1050, 1500 mm
Synchronization	Optical via transmitter and receiver	
Supply voltage	24VDC ± 20%	
Connection cable length	Max. 100 m with 0.25 mm <sup>2</sup>	
Safety class	III	
Protection rating	IP 65	
Ambient temperature, operation	0...+55°C	
Ambient temperature, storage	-25...+70°C	
Relative humidity	15...95 %	
Profile cross-section	52 mm x 55 mm	
Weight per device (length-dependent)	1.20...8.3 kg	
Ex device group	II	
Ex device category	3	
Temperature class, gases	T4	
Permissible ignition temperature	T > 135°C	
Ignition protection type	"nA" non-sparking	
Transmitter		
Transmitter diodes, class in accordance with EN 60825	1	
Wavelength	880 nm	
Current consumption	75 mA	
Connection system	Cable gland	

## SAFETY LIGHT CURTAINS

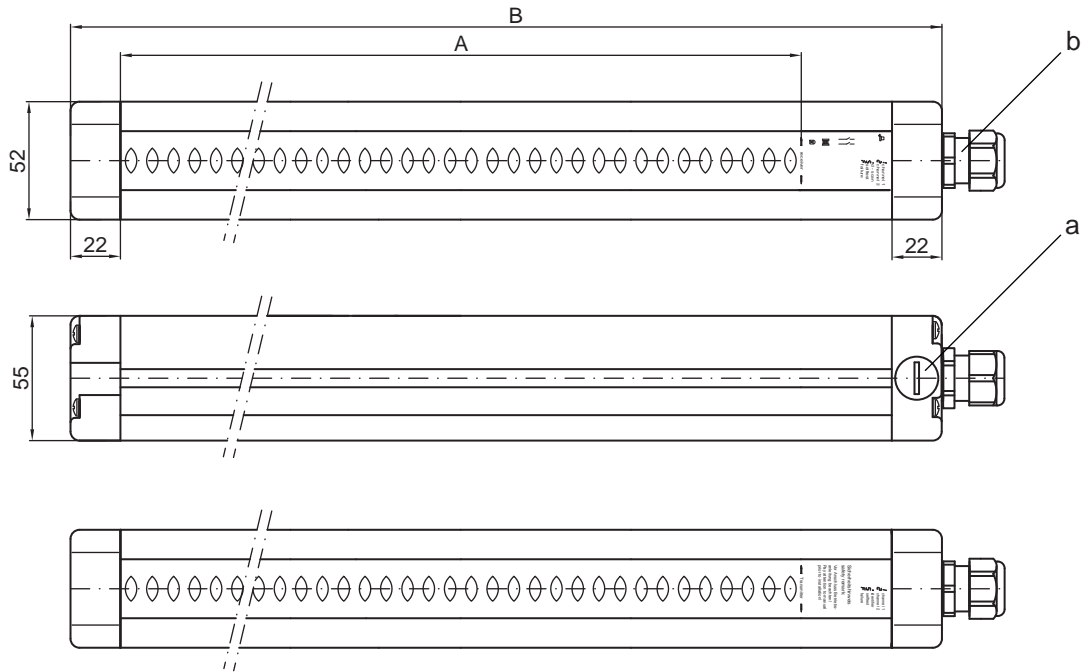
### Technical data

Receiver	
Current consumption	100 mA without external load
Safety-related switching outputs (OSSDs)	2 pnp transistor outputs (short circuit-proof, cross-circuit monitored) AS-i Safety Interface
Switching voltage high active	Min. U <sub>v</sub> -2.2 V
Switching voltage low	Max. 2.8 V
Switching current	Typical, 250 mA
Connection system	Cable gland

Please note the additional information in the COMPACT connecting and operating instructions at [www.leuze.com/compact](http://www.leuze.com/compact).

**Dimensional drawings**

**Standard model, C14, C30, C50, C90 series**



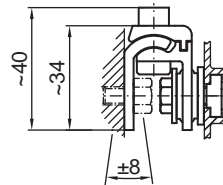
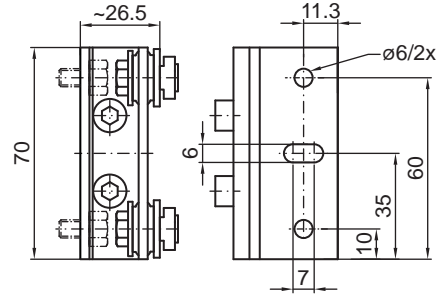
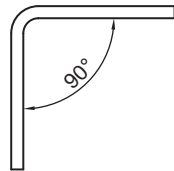
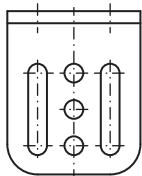
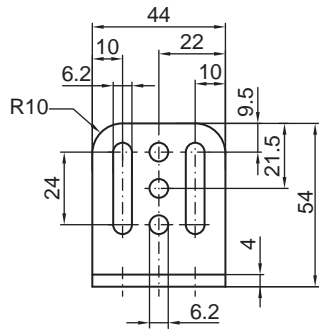
A = Protective field height according to ordering information    a = PG9, both sides  
 B = A + 84 mm    b = PG13.5

Dimensions in mm

Our 3D CAD models can be found under: [www.leuze.com/3d-cad-models](http://www.leuze.com/3d-cad-models).

**Dimensional drawings: Accessories**

**Brackets**



*L-mounting bracket*

*Mounting bracket, swiveling with shock absorber, BT-SSD*

Dimensions in mm

## Accessories ordering information

Art. no.	Article	Description	Length, design
<b>Installation accessories</b>			
560300	BT-SSD	Swiveling support with shock absorber incl. 2 screws and 2 sliding blocks	
560120	BT-S	Mounting set consisting of 2 L-type brackets incl. 2 screws	
425720	BT-NC	Sliding block	
<b>Connection system</b>			
426040	AC-LDH-T7/GF	Hirschmann cable socket, encoded for CT, 7-pin, incl. crimp contacts	Straight
426041	AC-LDH-R7/GF	Hirschmann cable socket, encoded for CR, 7-pin, incl. crimp contacts	Straight
426050	AC-LDH-T7/WF	Hirschmann cable socket, encoded for CT, 7-pin, incl. crimp contacts	Angled
426051	AC-LDH-R7/WF	Hirschmann cable socket, encoded for CR, 7-pin, incl. crimp contacts	Angled
<b>Protective screens, see accessories, page 494</b>			

Machine Safety

Machine Safety Services

Safety Engineering Software

Safety Laser Scanners

Safety Light Curtains

Multiple Light Beam Safety Devices

Safety Sensor Sets

Single Light Beam Safety Devices

AS-Interface Safety at Work

PROFIsafe Sensors