



senSe

SAFETY, AVAILABILITY  
AND FLEXIBILITY FOR YOUR PRESS

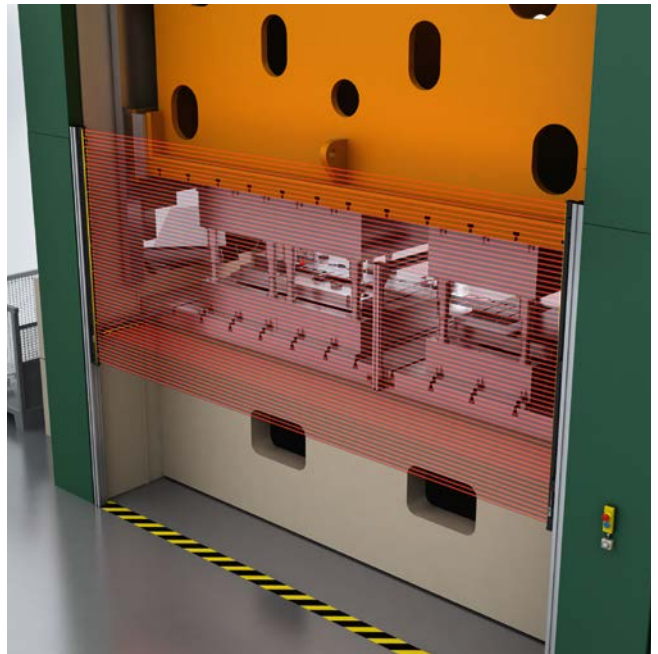
Safety light curtains

**SICK**  
Sensor Intelligence.

## SAFETY, AVAILABILITY AND FLEXIBILITY FOR YOUR PRESS

senSe, the new safety light curtain from SICK, features a proven and rugged industrial design. Developed to protect presses, it meets the safety requirements of the GB 4584 national standard. Only GB 4584 certified opto-electronic protective devices are permitted for use under the GB 27607 (mechanical presses) and GB 28241 (hydraulic presses) standards.

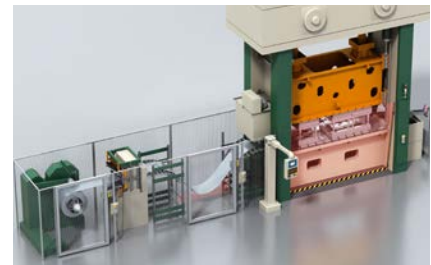
senSe delivers reliable performance under harsh industrial conditions that include dust, dirt and extremely tough demands in terms of vibration and shock resistance. This safety light curtain provides maximum protection – at a minimum cost for commissioning and maintenance.



**senSe****S**afe solution for presses**e**asy to implement**n**ew but based on proven expertise from SICK**S**trong and rugged housing, shock resistant**e**conomical**S**afe solution for presses

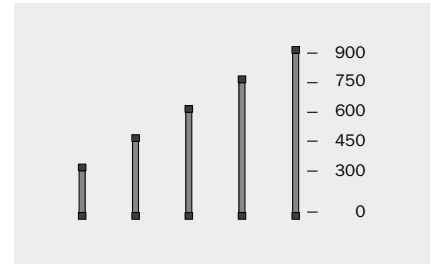
Under international standards, compliance with the national standards for mechanical (GB 27607) and hydraulic (GB 28241) presses is mandatory. Both of these documents reference GB 4584, which specifies the requirements for opto-electronic protective devices in regard to presses.

senSe was specially designed to protect the hazardous points found on presses and, thanks to its GB 4584 certification, is the ideal application solution.

**e**asy to implement

Hassle-free implementation: Simply order the sender and receiver. All required accessories are included.

Installation is a breeze, with plug and play as well as quick and easy commissioning thanks to connecting cables featuring standardized 5-pin M12 female connectors and practical alignment brackets.



## Simple selection

- Resolution: 30 mm
- Protective field height: 300 mm to 900 mm, in increments of 150 mm

## Convenient connection

- Compatible with all common safety controllers
- Cables: Connecting cable with M12 female connector, 5-pin
- Plug and play
- Optical synchronization



## Easy mounting

- Mounted using practical alignment brackets
- 360° range of rotation for versatile installation and alignment

All relevant technical data is available around the clock online → [www.sick.com/senSe](http://www.sick.com/senSe)

## New but based on proven expertise from SICK

For 65 years, the SICK name has stood for safety product and solution expertise in the field of presses. For various regions, having a partner in China with this know-how who can also deliver customer-specific solutions and services is critical. To meet this need, SICK has established itself as a global supplier with a local presence in China.



### Machine safety pioneer

In 1952, SICK built the first light curtain for accident protection (LVU). Since then, we have continued to set new standards in machine safety. The senSe safety light curtain is a combined product of SICK's extensive knowledge and impressive experience.



### Product portfolio and knowledge

SICK offers a wide-ranging portfolio of safety products in China: from individual components to system solutions, including service and support. Thanks to their excellent compatibility, our products can be flexibly combined with safety components from other manufacturers.



### Complete hassle-free package

From consultation to inspection, there are a number of aspects that demand customer attention. SICK provides local service and support to help with the search for an ideal solution to your application needs. At SICK, we consider this an essential part of working together to meet your specific requirements.

## Strong and rugged housing, shock resistant

During the development phase, senSe underwent extensive testing on presses under real conditions to ensure that the machines could be operated reliably and safely over long periods of time. At our test center, we conducted tests with application-relevant parameters to evaluate the product's rugged industrial design in terms of both its durability and its resistance to shocks and vibrations.



Vibration and shock resistant



Flexible material



Rugged aluminum housing

## Economical

Safe and reliable press operation is a fundamental requirement for attaining maximum profitability. Using this protective device ensures that employees can safely continue their work unhindered, something that is critical to their comfort level and motivation on the job. The senSe safety light curtain's tested technology has proven extremely resistant to disturbances and very easy to use. senSe thus promotes high machine availability, which in turn leads to higher press productivity. By using a recognized safety standard, SICK enhances the image of our customers, thereby unlocking new business opportunities.

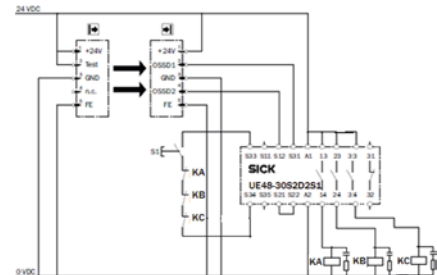
## JUST ONE STEP AWAY FROM A SAFE PRESS

Aside from sensors, a complete safety solution also requires evaluation devices. The senSe safety light curtain is compatible with controllers made by a host of different manufacturers. Additionally, SICK also offers in-house solutions.

### 1. PSC (press safety controller)

The PSC includes virtually every function normally called for by local press concepts.

- **Protective function:**  
The safety light curtain can be combined with a PSC. If the light path is blocked, the PSC transmits a cut-off signal that can be used to stop the dangerous movement on the press.
- **Bypass function:**  
Service personnel can override the protective function using two key-operated switches – for example, to perform a tool change or maintenance work on the press. LEDs indicate the current operating mode.
- **External device monitoring (EDM):**  
This monitoring feature ensures that contactors/relays remain in proper working order as part of the safe cut-off path.



### 2. Safety relay

The external device monitoring safety function can be implemented by connecting the senSe safety light curtain to a UE48 safety relay.



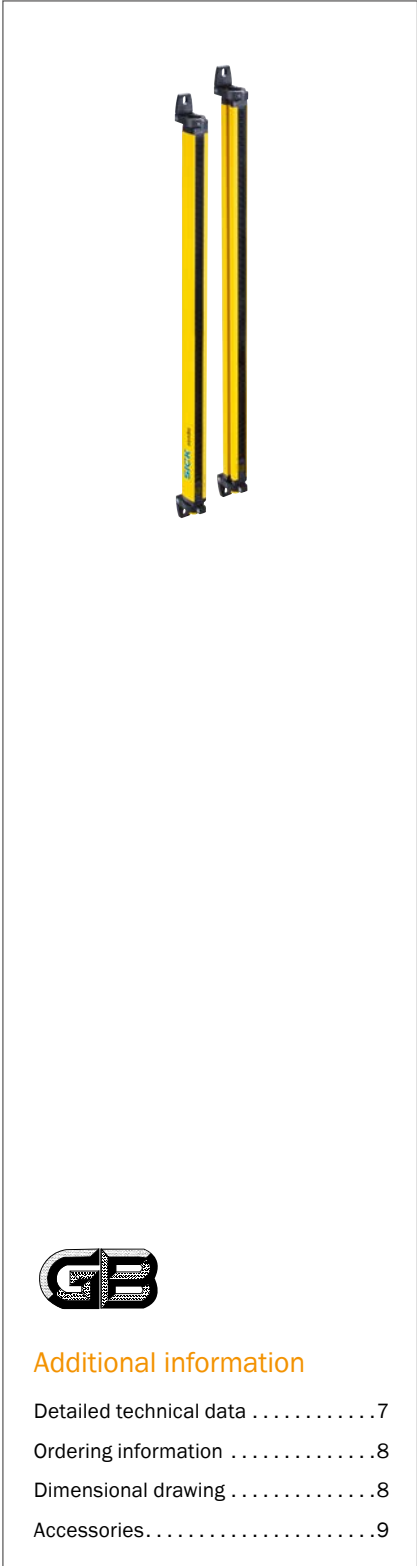
### 3. Safety controllers

The Flexi Classic and Flexi Soft safety controllers feature sophisticated functions designed specifically for presses, giving you even better performance and increased productivity.

Additional information is available from your SICK contact.

All relevant technical data is available around the clock online → [www.sick.com/senSe](http://www.sick.com/senSe)

# SAFETY, AVAILABILITY AND FLEXIBILITY FOR PRESSES



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## Product description

Strict safety requirements prevail for mechanical and hydraulic presses in rough industrial environments. Thanks to the rugged device concept with the heavy-duty design, the senSe safety light curtain is well-suited for use in presses. Certified in accordance with GB 4584, the senSe fulfills the requirements for protecting presses both reliably and economically. The safety light

curtain can work together flexibly with safety components of other manufacturers. The integrated error detection system and the dual-channel output design ensure a reliable safe operating mode. SICK is your capable partner for press applications: Safe products, experience and know-how in the press industry, service and consulting on-site.

## At a glance

- Rugged device concept with the heavy-duty design
- Bracket concept designed for 360° alignment
- Interoperability with controls from other manufacturers
- Integrated error detection system and dual-channel output design
- Certified in accordance with GB 4584
- Unbreakable and resistant front screen

## Your benefits

- High machine availability due to interference-free sensor design
- Quick and easy alignment of the safety light curtain reduces downtimes
- The combination with safe control components from different manufacturers offers flexibility for the machine manufacturer
- Increased productivity thanks to reliable safety function and internal sensor self-test
- Certified in accordance with GB 4584 for use in mechanical and hydraulic presses in China
- High resistance and long service life thanks to high-quality components

→ [www.sick.com/senSe](http://www.sick.com/senSe)

For more information, simply enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples, and much more.



## Detailed technical data

## Features

<b>Resolution</b>	30 mm
<b>Protective field height</b>	300 mm ... 900 mm (depending on type)
<b>Scanning range</b>	0 m ... 6 m
<b>Response time</b>	8.5 ms ... 15 ms (depending on type)
<b>Synchronization</b>	Optical synchronisation
<b>Certification</b>	GB 4584

## Safety-related parameters

<b>Safe state in the event of a fault</b>	At least one OSSD is in the OFF state.
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## Interfaces

<b>System connection</b>	Connection type	Male connector M12, 5-pin
	Permitted cable length	≤ 15 m
	Permitted cross-section	≥ 0.25 mm <sup>2</sup>
<b>Status display</b>	LEDs	

## Electrical data

	Sender	Receiver
<b>Protection class</b>	III	
<b>Supply voltage <math>V_s</math></b>	24 V DC (19.2 V DC ... 28.8 V DC)	
<b>Ripple</b>	≤ 5 %	
<b>Power consumption</b>	≤ 6.2 W (DC)	≤ 8 W (DC)
<b>Safety outputs (OSSD)</b>	Type of output	2 PNP semiconductors, short-circuit protected, cross-circuit monitored
	Switching voltage HIGH	24 V DC ( $V_s - 2.25$ V DC ... $V_s$ )
	Switching voltage LOW	≤ 1 V DC
	Switching current	≤ 500 mA

## Mechanical data

<b>Housing cross-section</b>	34 mm x 29 mm
<b>Weight</b>	380 g ... 910 g (± 50 g)

## Ambient data

<b>Ambient operating temperature</b>	0 °C ... +55 °C
<b>Storage temperature</b>	-25 °C ... +70 °C
<b>Air humidity</b>	15 % ... 95 %, Non-condensing
<b>Vibration resistance</b>	5 g, 10 Hz ... 55 Hz (IEC 60068-2-6)
<b>Shock resistance</b>	10 g, 16 ms (IEC 60068-2-29)

## Other information

	Sender	Receiver
<b>Wave length</b>	950 nm	-

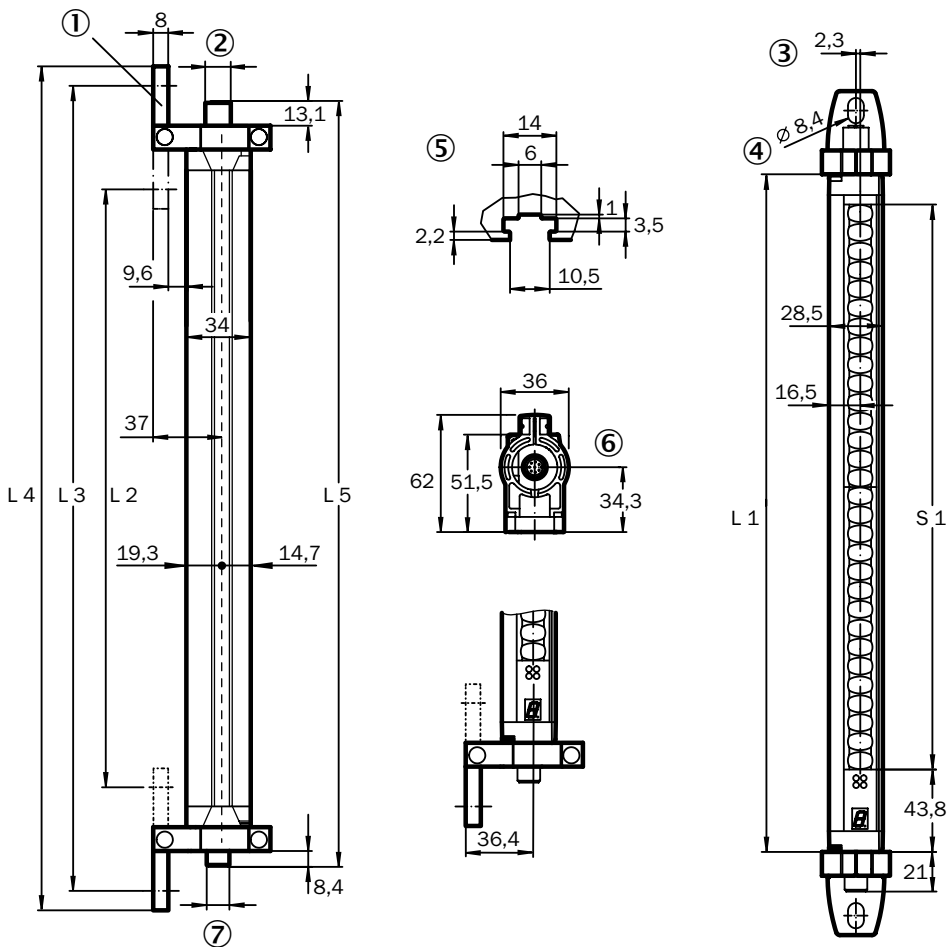
Ordering information

Items supplied senSe:

- Safety light curtain consisting of a sender and a receiver, each with 1 connecting cable M12, 5-pin, 5 m
- 4 swivel mount brackets (in the delivery with the receiver)
- Test rod with diameter corresponding to the resolution of the safety light curtain
- Operating instructions for download → [www.sick.com/senSe](http://www.sick.com/senSe)

Protective field height	Sender		Receiver	
	Type	Part no.	Type	Part no.
300 mm	C20S-030103D51	1085110	C20E-030303D51	1085111
450 mm	C20S-045103D51	1085112	C20E-045303D51	1085113
600 mm	C20S-060103D51	1085114	C20E-060303D51	1085115
750 mm	C20S-075103D51	1085116	C20E-075303D51	1085117
900 mm	C20S-090103D51	1085118	C20E-090303D51	1085119

Dimensional drawing (Dimensions in mm (inch))



Protective field height S1	L1	L2	L3	L4	L5
300	364	322	432	452	411
450	515	473	582	603	562
600	666	623	733	754	712
750	816	774	884	904	863
900	967	924	1,034	1,055	1,013




## Accessories

### Mounting systems

Terminal and alignment brackets

Alignment brackets

Figure	Description	Packing unit	Type	Part no.
	Mounting kit 1, rotatable, swivel mount, Plastic	4 pieces	BEF-2SMKEAKU4	2019649


Dimensional drawings → [page 11](#)

### Connection systems

Plug connectors and cables

Connecting cables with female connector

- **Model:** PUR, halogen-free, unshielded


Figure	Connection type		Conductor cross-section	Cable length	Type	Part no.
	Female connector, M12, 5-pin, straight	Cable	0.34 mm <sup>2</sup>	2 m	DOL-1205-G02MC	6025906
				5 m	DOL-1205-G05MC	6025907
				10 m	DOL-1205-G10MC	6025908
				15 m	DOL-1205-G15MC	6051946

Adapters and distributors

T-junctions



Figure	Description	Type	Part no.
	T-piece, 5-pin	DSC-1205T000025KM0	6030664

Power supply units and power cord connectors

Figure	Input voltage	Output voltage	Output current	Type	Part no.
 Illustration may differ	100 V AC ... 240 V AC	24 V DC	≤ 2.1 A	PS50WE24V	7028789
			≤ 3.9 A	PS95WE24V	7028790

## Reflectors and optics

### Alignment aids

Figure	Description	Type	Part no.
	Laser alignment aid for various sensors, laser class 2 (IEC 60825). Do not look into the beam!	AR60	1015741
	Adapter AR60 for housing cross-section 34 mm x 29 mm	AR60 adapter, 34x29	4032462

### Optics cloths


Figure	Description	Type	Part no.
	Cloth for cleaning the front screen	Lens cloth	4003353

## Further accessories

### Test and monitoring tools

Figure	Description	Type	Part no.
	30 mm diameter	Test rod 30 mm	2022602
	Test rod holder	BEF-3WNAAAAL1	2052249

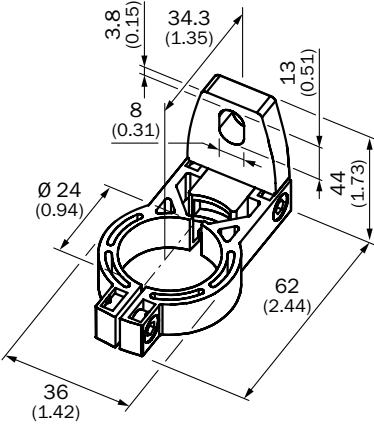
### Cleaning agent

Figure	Description	Type	Part no.
	Plastic cleaner and care product, anti-static, 0.5 liter	Plastic cleaner	5600006

Dimensional drawings for accessories (Dimensions in mm (inch))

Terminal and alignment brackets

BEF-2SMKEAKU4



## SICK AT A GLANCE

SICK is a leading manufacturer of intelligent sensors and sensor solutions for industrial applications. With more than 7,400 employees and over 50 subsidiaries and equity investments as well as numerous agencies worldwide, we are always close to our customers. A unique range of products and services creates the perfect basis for controlling processes securely and efficiently, protecting individuals from accidents and preventing damage to the environment.

We have extensive experience in various industries and understand their processes and requirements. With intelligent sensors, we can deliver exactly what our customers need. In application centers in Europe, Asia and North America, system solutions are tested and optimized in accordance with customer specifications. All this makes us a reliable supplier and development partner.

Comprehensive services round out our offering: SICK LifeTime Services provide support throughout the machine life cycle and ensure safety and productivity.

**For us, that is “Sensor Intelligence.”**

### **Worldwide presence:**

Australia, Austria, Belgium, Brazil, Canada, Chile, China, Czech Republic, Denmark, Finland, France, Germany, Great Britain, Hungary, India, Israel, Italy, Japan, Malaysia, Mexico, Netherlands, New Zealand, Norway, Poland, Romania, Russia, Singapore, Slovakia, Slovenia, South Africa, South Korea, Spain, Sweden, Switzerland, Taiwan, Thailand, Turkey, United Arab Emirates, USA, Vietnam.

Detailed addresses and further locations → [www.sick.com](http://www.sick.com)