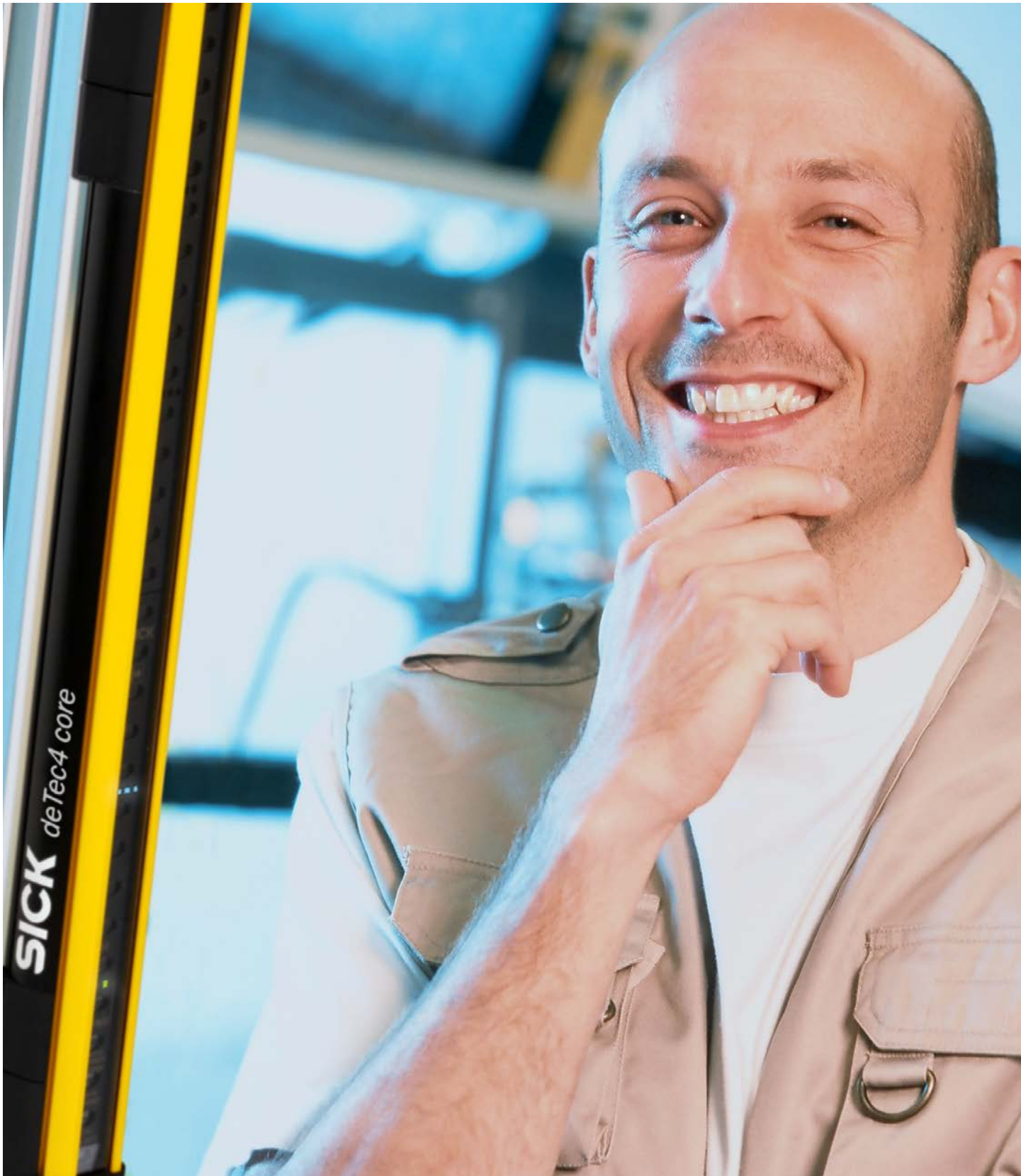




## Safety Light Curtains Photoelectric Safety Switches

Choose the right light for safety!  
Global. Economical. Trendsetting.



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# SICK Industrial Safety Systems



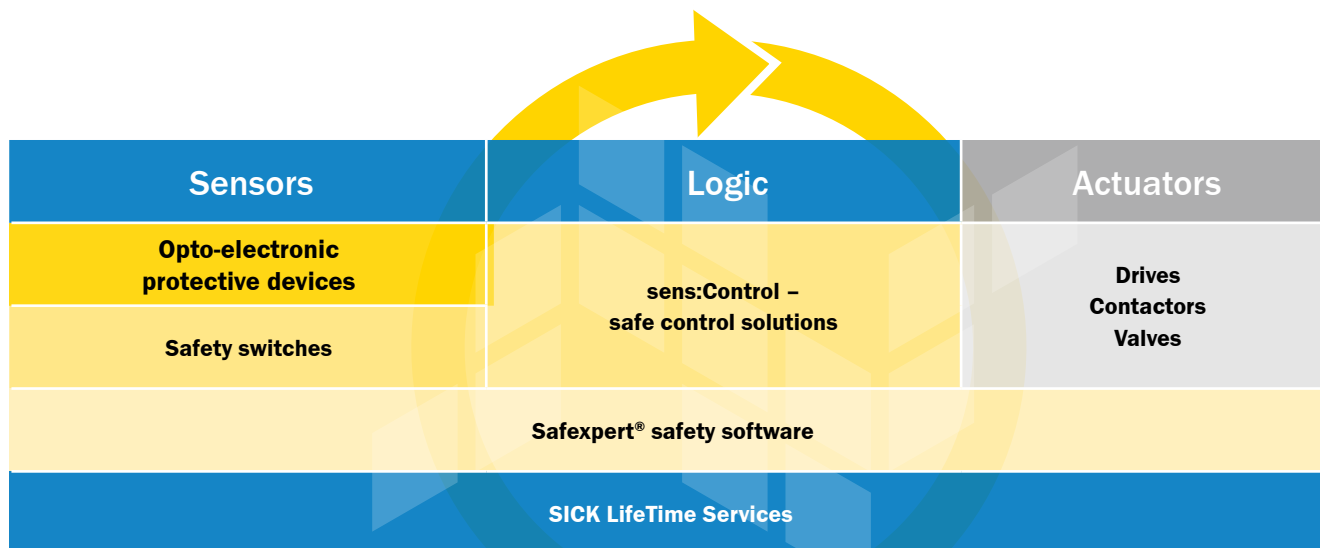
**SICK creates sensor solutions for industrial automation – from development to services – based on experience and customer requirements.**

This philosophy is reflected in the term “safety-PLUS®” in the Industrial Safety Systems sector.

- SICK is dedicated to seamlessly integrating solutions in safety and system environments
- Application-oriented functions and trendsetting products increase system efficiency
- Incorporating the current international standards support global business
- Services range from implementing your vision to regular maintenance
- Tools for safety engineering
- A full range of services to support the safety function on your machines and systems



For comprehensive information, see [www.sick-safetyplus.com](http://www.sick-safetyplus.com)



safetyPLUS® from SICK for an unbroken safety chain



Safety light curtains, Multiple- and Single-beam photoelectric safety switches, Safety camera systems



Safety laser scanners



Safety switches



sens:Control – safe control solutions

## Safety light curtains and photoelectric safety switches from SICK – Economical. Reliable. Safe.

SICK combines its expertise and experience to design safety light curtains, multiple and single beam photoelectric safety switches that are easy to use and offer maximum performance. A versatile range of solutions ensures productive machine and plant operation.

### Your benefits at a glance:

#### + Customized

- Compact size ensures flexible adaptation to the machine design
- Resistant and robust types for high system reliability, even in difficult ambient conditions

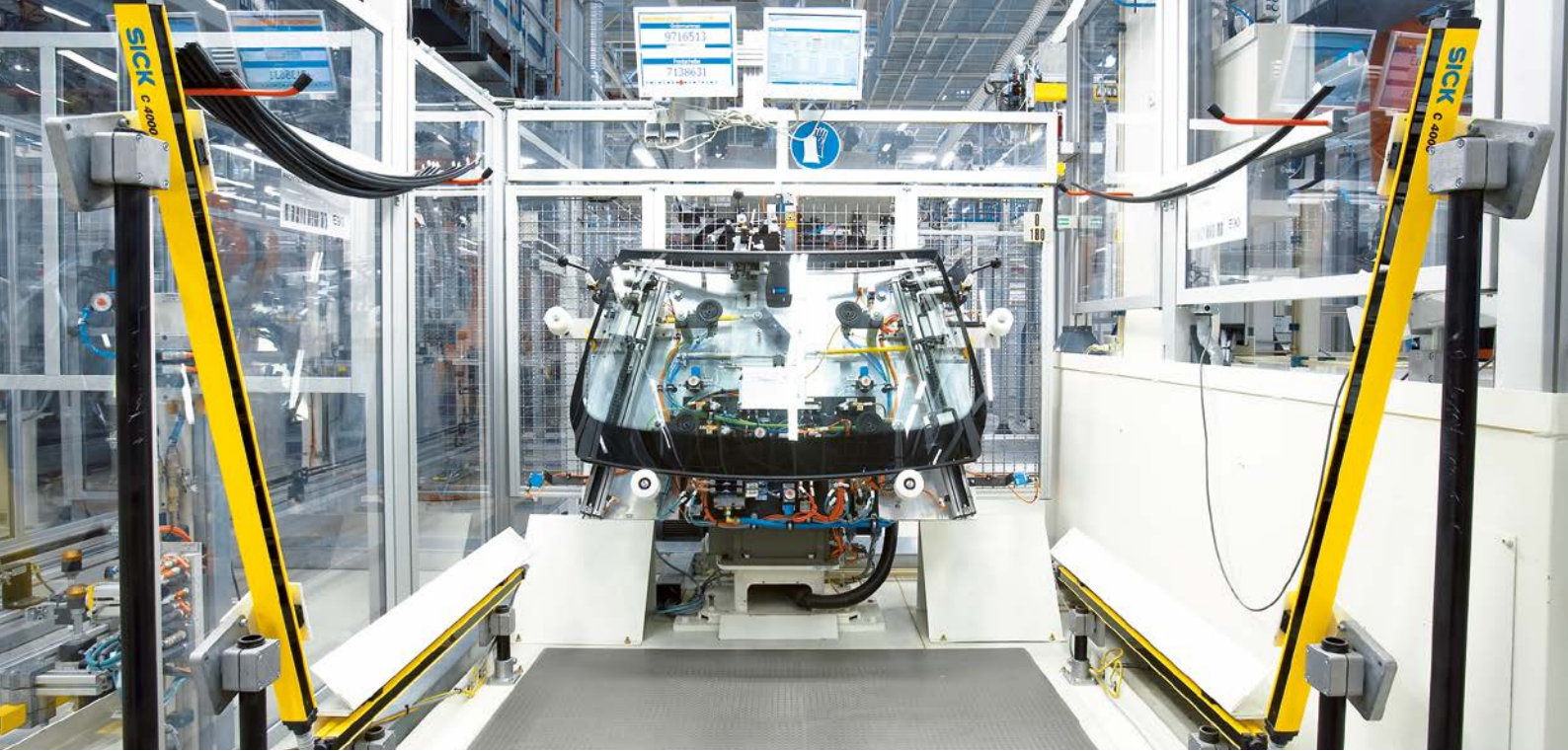
#### + Safety & quality

- Increased flexibility and reduced wiring complexity due to cascading
- Beam coding protects the systems against crosstalk and thus offers a high level of reliability
- Blanking functions enable flexible and reliable adjustment of protective fields or safe differentiation between people and material to ensure maximum productivity

#### + Easy to use

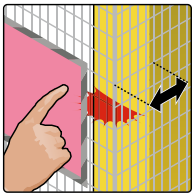
- Tried-and-tested display reduces downtime:  
Quick alignment, protective field visualization and simple diagnostics
- A wide range of versatile mounting adapters make flexible mounting possible



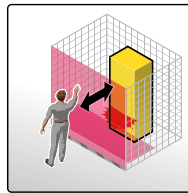


Safety light curtains, multiple- and single-beam photoelectric safety switches from SICK are ideal for the following safety tasks:

### Hazardous point protection

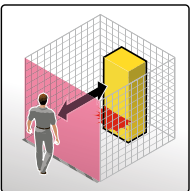


**Finger and hand detection**  
 Detects a human finger when workers operate very close to the hazardous point of the machine.

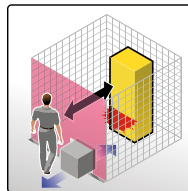


**Hand and person detection**  
 Detects hands and prevents start-up while a person is in the hazardous area

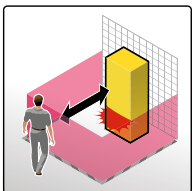
### Access protection



**Single-sided access protection**  
 Approaching persons are detected by identifying the person's body

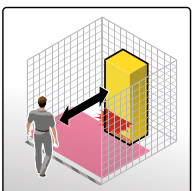


**With differentiation between person and material**  
 Approaching persons are detected by identifying a human body. A distinction is made between humans and material.



**Multi-sided access protection**  
 Approaching persons are detected by identifying the person's body

### Hazardous area protection



**Person detection**  
 Approaching and present persons are detected by identifying legs in the scanning range

**Safety light curtains and photoelectric safety switches from SICK – More performance. More variants. More solutions.**

**Whether a light curtain, single- or multi-beam photoelectric switch, SICK offers a broad range of safety solutions.**

Safety and productivity go hand-in-hand. With the most varied product range on the market and specific application expertise, SICK can offer customized solutions. Choose and decide for yourself which solution is suitable for your application.

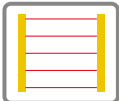
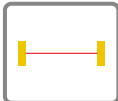
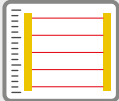
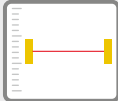
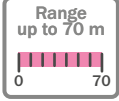
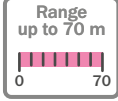
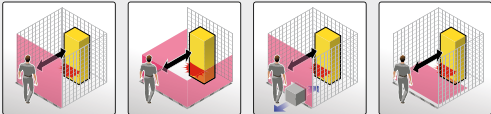
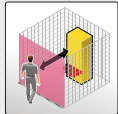


**Main features at a glance**

|   |   |  |
|---|---|--|
|   | <p><b>Safety light curtains</b></p>   |  |
|   | <p><b>Small, compact or extremely robust housing for individual application solutions</b></p> |  |
| <p><b>Resolution / beam separation</b><br/>The safety application determines the necessary resolution of the light curtain.</p> | <p><b>Resolution: 14 mm ... 40 mm</b></p>   |  |
| <p><b>Maximum protective field height</b><br/>Specifies the maximum detection height for the protective field.</p>              | <p><b>120 mm ... 2100 mm</b></p>  |  |
| <p><b>Maximum scanning range</b><br/>The scanning range indicates how far apart the sender and receiver can be.</p>             | <p><b>0 m ... 19 m</b></p>  |  |
| <p><b>Safety tasks</b></p>  |   |  |
| <p><b>Key features</b></p>  | <p>→ Page 26</p>  |  |

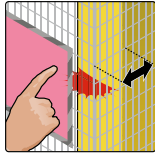




|   |   |
|---|---|
| <p><b>Multiple light beam safety devices</b></p> <p>M4000 M2000</p>   | <p><b>Single-beam photoelectric safety switches</b></p> <p>L2000 L4000 WSU WEU 26-3</p>                       |
| <p><b>Resistant and robust, even for difficult ambient conditions</b></p>   | <p><b>Simple integration due to small, compact designs with maximum scanning range</b></p>                    |
| <p><br/>Beam separation: 170 mm ... 600 mm</p> | <p><br/>Single beam</p>  |
| <p><br/>300 mm ... 1800 mm</p>                 | <p><br/>Single beam</p>  |
| <p><br/>0 m ... 70 m</p>                       | <p><br/>0 m ... 70 m</p> |
| <p></p>  | <p></p>                  |
| <p>→ Page 46</p>  | <p>→ Page 56</p>  |

# Safety in your industry – typical applications

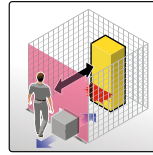
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“Hazardous point protection with finger and hand detection”

page 12

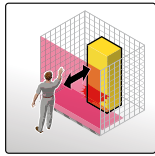
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“Access protection with differentiation between person and material”

page 18

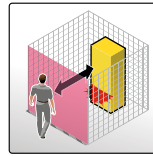
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“Hazardous point protection with hand and person detection”

page 16

4

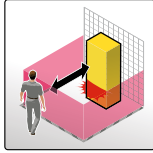


“Access protection with differentiation between person and material”

page 19



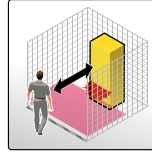
5



“Access protection, on one side and multiple sides”

page 20

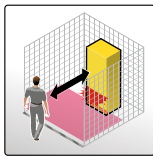
7



“Hazardous area protection with deflector mirrors”

page 23

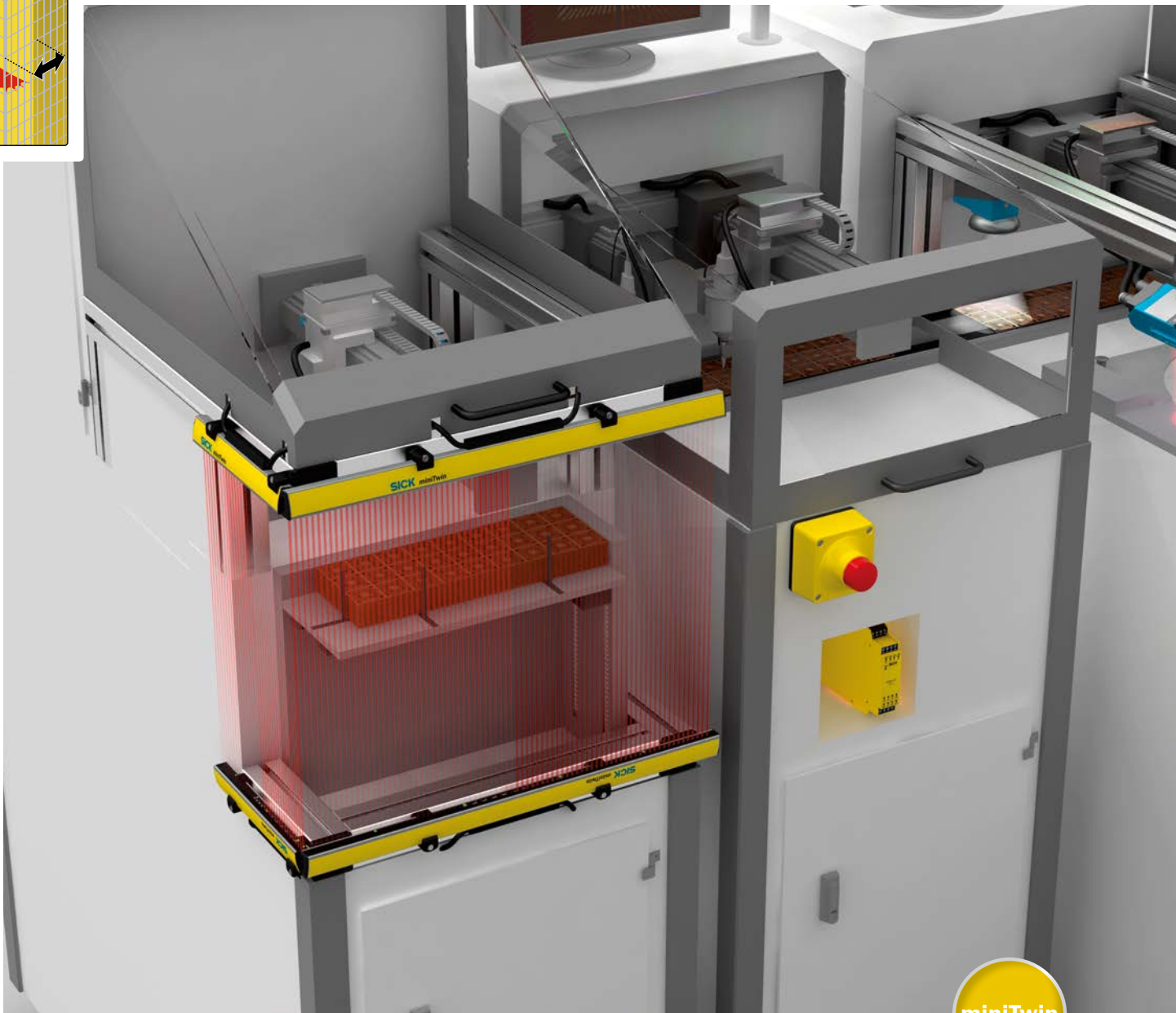
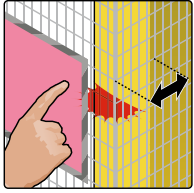
6



“Hazardous area protection – Detecting the presence of a person in the hazardous area”

page 22





## Efficiency and intelligence for machines with minimal space

The increasing use of openly accessible types of machines allows rapid material access. Small machine dimensions, short safety distances and flexible adaptation of the protective field are required.

- Thanks to fine adjustment and a small size, the miniTwin safety light curtain can be individually adjusted to the machine type. The variable bracket concept and the absence of blind zones guarantee great flexibility for integration in machines.
- LED displays, automatic coding and automatic function alignment ensure high machine reliability from the outset.

**+ Open access and minimized safety distances speed up processes and increase the availability of a production facility**

### Recommended product

|               |           |
|---------------|-----------|
| miniTwin      | → page 30 |
| Flexi Classic | → page 79 |



## Produce quality safely

Protecting machines with relatively low safety requirements: the machine operator can insert parts without obstructions.

- Standardized brackets for individual, simple and cost-effective mounting
- Integrated safety functions provide economic system solutions
- Functional industrial design with a 7-segment display for easy alignment and diagnostics

**+ Increase the productivity of the plant via open access during operation**

### Recommended product

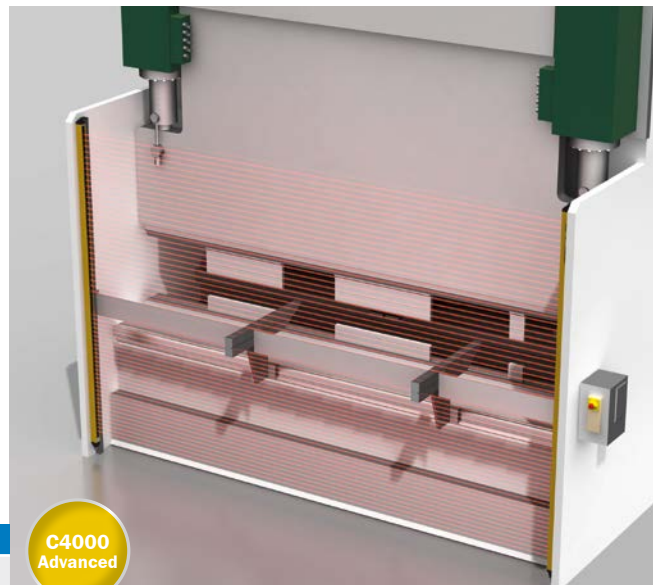
|             |           |
|-------------|-----------|
| C4000 Micro | → page 38 |
| C2000       | → page 44 |

## Safety and productivity go hand-in-hand

Protecting machines where objects such as cables or machine parts protrude into the protective field require special protective devices.

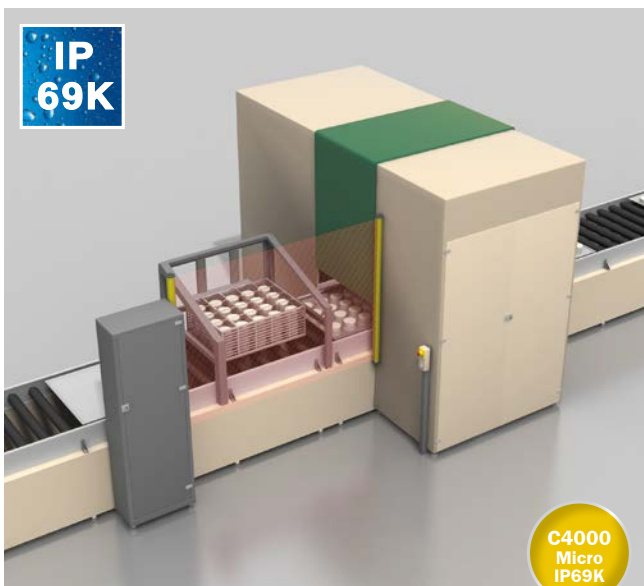
- Integrated blanking functions allow the presence of defined objects in the protective field, while ensuring the safety of the operator and significantly increasing the productivity of the plant.

**+ Reliability of machines and plants is increased significantly**



### Recommended product

|                |           |
|----------------|-----------|
| C4000 Advanced | → page 38 |
|----------------|-----------|



## Maximum reliability in extreme situations

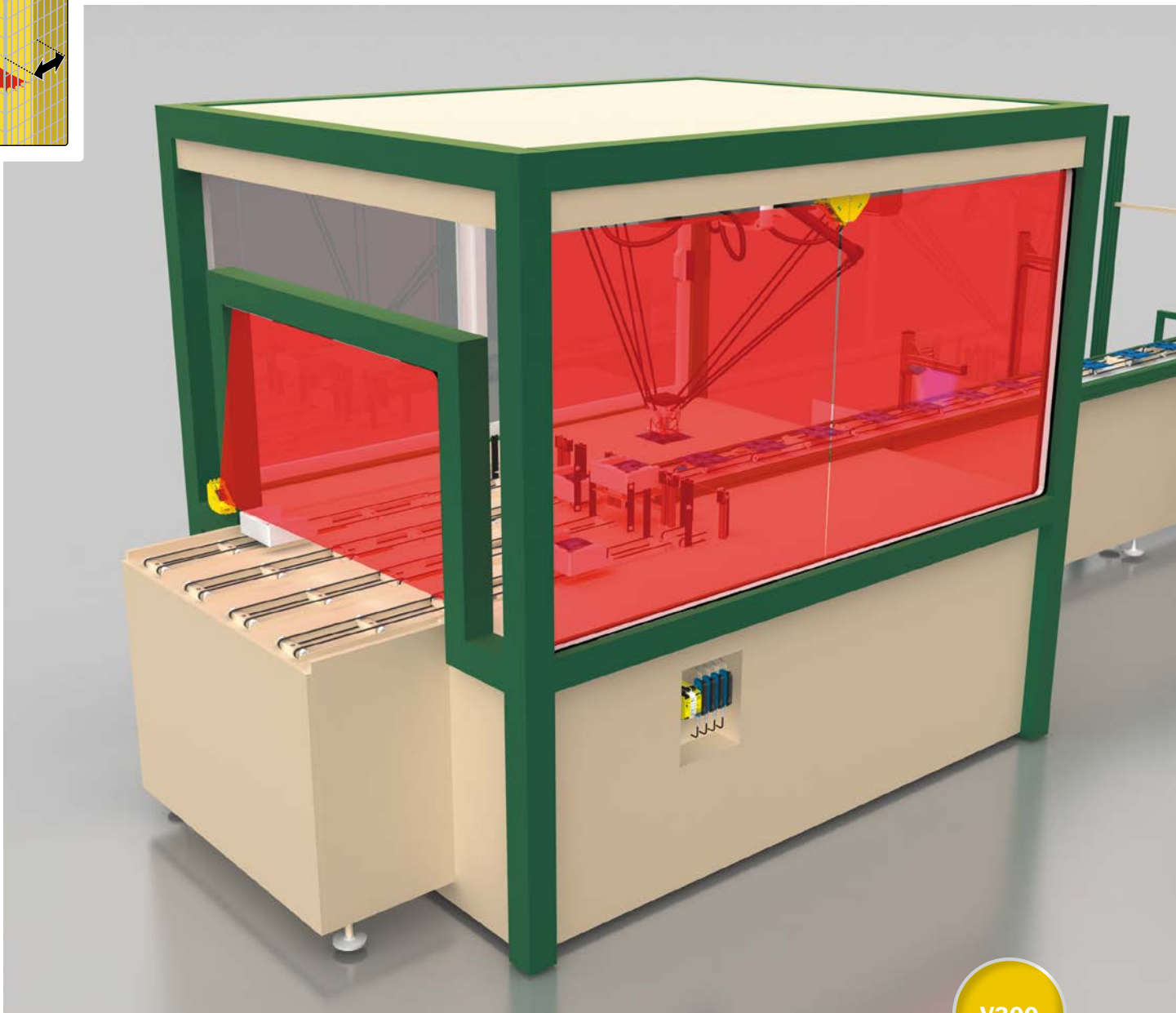
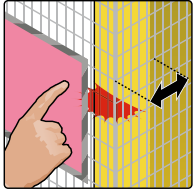
Tough ambient conditions, such as wet areas or wash down applications with high temperatures and the use of steam jets, require a solution with an IP 69K.

- The IP 69K housing can withstand corrosive cleaning agents or other aggressive chemicals
- The housing can withstand 100 bar of water pressure and significant temperature fluctuations

**+ Safety that can stand up to extreme ambient conditions**

### Recommended product

|                              |           |
|------------------------------|-----------|
| C4000 Micro in IP69K housing | → page 38 |
|------------------------------|-----------|



V300

## Partial supply opening protection

Defined conveyed products can pass through the hazardous area, but the machine switches off when a hand is detected.

- Protection of openings with variable sizes without blind zones and without an overhang of the device.
- The flexible positioning options of the V300 safety camera system and reflective tape allow the area that must be protected to be selected based on demand.
- Mechanical fine adjustment is not required since the V300 camera searches for the reflector in a broad field of vision during the teaching process, and thus also tolerates lateral offsetting.

### + Flexible design of the scanning range

#### Recommended product

V300 Extended

→ page 76

## Ergonomic workplace

Protects an ergonomic, semi-automatic corner workplace with barrier-free access.



- Two V300 cameras, positioned at right angles to one another, allow two areas to be protected without requiring installation of a mounting brace in the middle.
- The barrier-free design of workplaces ensures a comfortable work environment and makes transferring products from one workplace to another easy.
- The two devices synchronize automatically during the self-teaching process.

**+ Flexible workplace design allows ergonomic work processes to be implemented**

### Recommended product

V300 Extended

→ page 76

## Horizontal protection

Protects the hazardous area against access from above.

- The V300 safety camera system does not impede the interruption process. The device can be mounted safely and inconspicuously in the rear machine area.
- The perfect integration of the V300 safety camera system in the existing machine design prevents blind zones as the scanning range can be specified with variable sizes using the reflective tape.
- The cabling required is minimal since the sender and receiver are integrated in a single device.

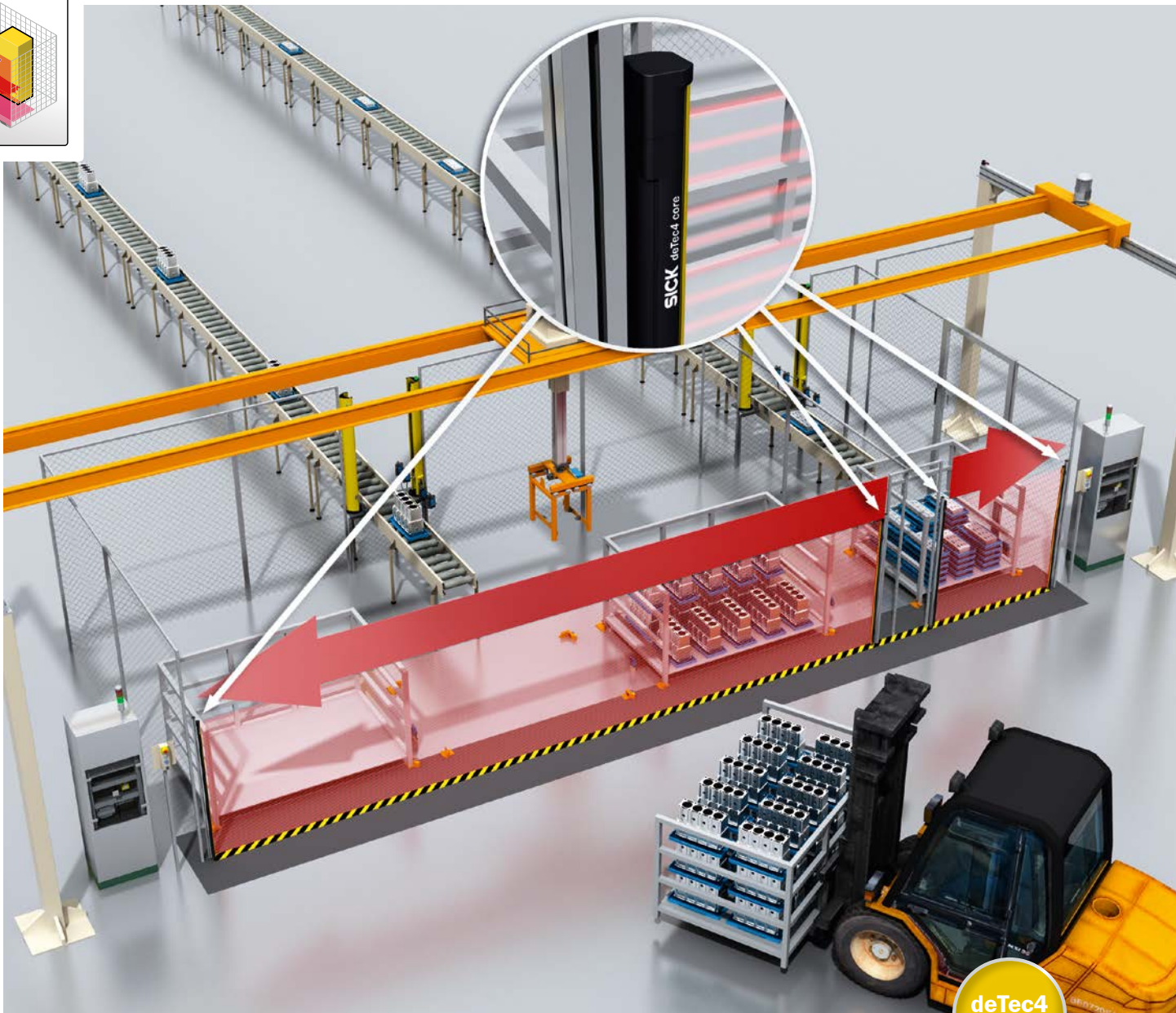
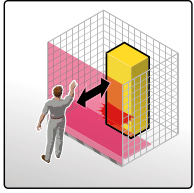
**+ The V300 safety camera system adapts to the application and does not impede the working process**



### Recommended product

V300 Extended

→ page 76



## Protecting machines and plants economically

All hazardous robot movements must be stopped in the event of access by persons in the transport rack depalletizing area. If the rack is changed, or if a person passes through the light curtain, the light curtain is interrupted and the robot is shut down. The restart interlock is implemented externally.

- Basis functions and an innovative system of brackets as well as rapid alignment and diagnostics with the help of integrated status indicators form the basis for economical protection of hazardous areas.

**+** Save time thanks to automatic range measurement.  
Safety and efficiency combined – for maximum availability.

### Recommended product

|             |           |
|-------------|-----------|
| deTec4 Core | → page 34 |
| Flexi-Soft  | → page 79 |





## More productivity with higher-level machine safety

Workers are able to pass through the vertically aligned safety light curtains. In order to ensure safe detection of persons standing behind the curtain, a second light curtain is fitted horizontally beneath the vertical light curtain (cascading).

- Any interruption of the protective fields stops the rotating movement of the table and prevents the system from starting.
- Presence detection increases productivity since manual resetting is no longer required.

**+ Reduced wiring complexity via cascading offers a high degree of flexibility and significantly simplifies machine integration.**

### Recommended product

C4000 Standard

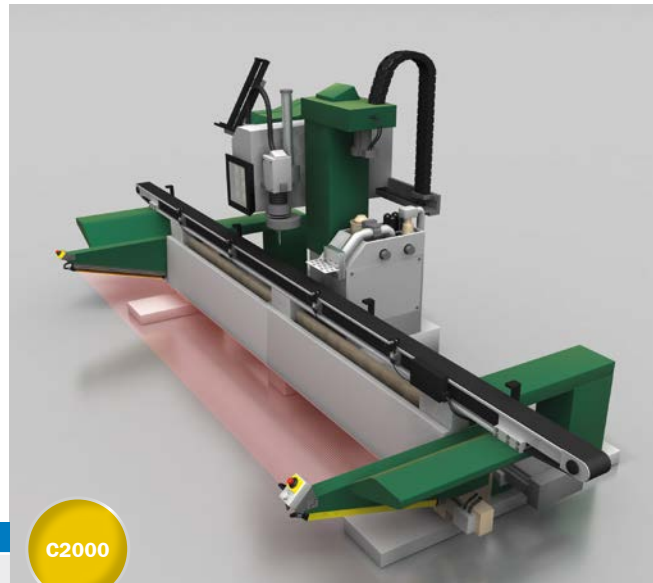
→ page 38

## Large scanning range enables more flexibility

Safe loading and unloading for machine operators in a machining center with an automatic conveyor belt.

- The safety light curtain offers a wide scanning range, and thus an ergonomic and efficient use of the machine.
- High signal reserves facilitate use even in difficult conditions

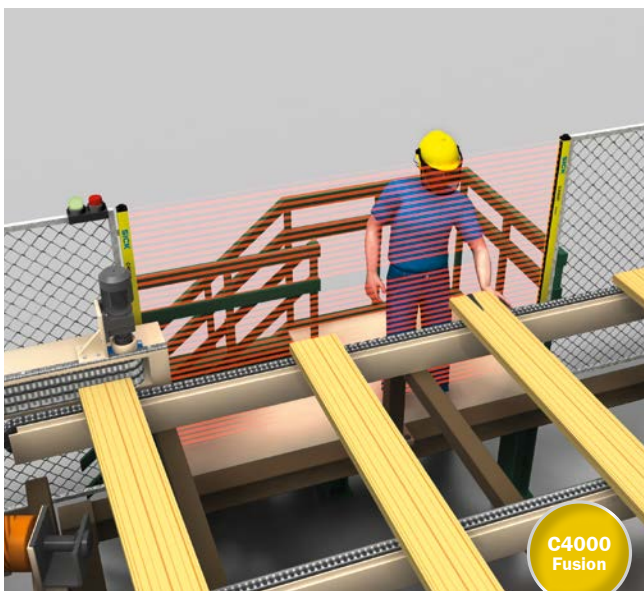
**+ Large scanning range allows standardization of types via flexible use on small and large machines**



### Recommended product

C2000

→ page 44



## Multifunctional and user-friendly with a high level of reliability and safety

Workers must reach into the system at irregular intervals to arrange the material.

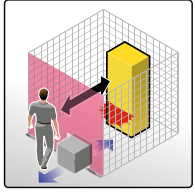
- The “reduced resolution” function and the intelligent multiscan function of the safety light curtain allow the worker to reach into the protective field without deactivating the system.
- The system is stopped as soon as the safety light curtain detects an upper body.

**+ Maximum operational safety combined with maximum productivity**

### Recommended product

C4000 Fusion

→ page 38



**M4000  
Advanced  
+ UE403**

## Intelligent and efficient: connection of the muting signals directly on site

Access to the machine must be protected to prevent interruptions of the feed of loaded pallets by the multiple light beam safety device, while reliably detecting when persons enter the hazardous area.

- The machine inlet is protected by a muting system, consisting of a photoelectric safety switch combined with four photoelectric reflex switches as muting sensors.
- A safety light curtain is used to reduce the safety distance - as an alternative, a multiple light beam safety device can be used.
- Due to the arrangement of the muting sensors, pallets with item transport are detected and the photoelectric safety switch is bypassed; persons are detected safely.

**+ Simple and flexible configuration of the muting functions and on-site connection of the muting signals guarantee maximum reliability and minimize the installation workload.**

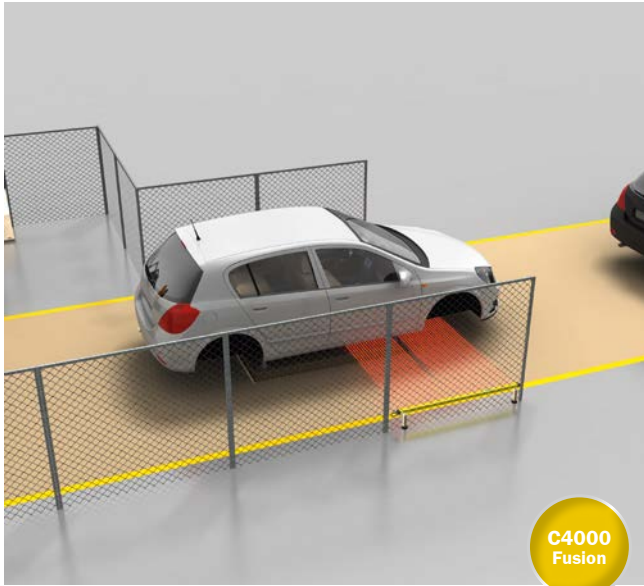
### Recommended product

M4000 Advanced + UE403

→ page 50

## Multifunctional and user-friendly with a high level of reliability and safety

Inlets and outlets must be secured to prevent access by people. However, automatic transport of unfinished car bodies, for example, into and out of the hazardous area must also be possible.



- A horizontal light curtain, which automatically recognizes object patterns offers great ease of installation and maintenance.
- Without additional secondary sensors, permitted object patterns are reliably distinguished from a person's legs, for example. This ensures maximum safety.
- Minor foreign objects, e. g., cables or film residue, which protrude into the protective field, are suppressed to maximize reliability.

- + **Initial savings.**  
Just one pair of sensors – no muting sensors, links or mechanical hinged doors

### Recommended product

C4000 Fusion

→ page 38

## Innovative access protection with no muting required

Pallet inlets and outlets are used to supply material or pallets. At the same time, workers must be protected against dangerous movements if they enter unintentionally. Material must enter and exit unimpeded, but a stop signal must be sent to the system control when a person enters the hazardous area.

- In this solution, only one pair of sensors is required. Muting sensors are not required, which simplifies integration into the control.
- With the dynamic and self-teaching blanking function, the safety light curtain can reliably differentiate between person and material – this provides maximum safety
- Innovative, cost-effective solution since no additional muting sensors or other protective measures are required

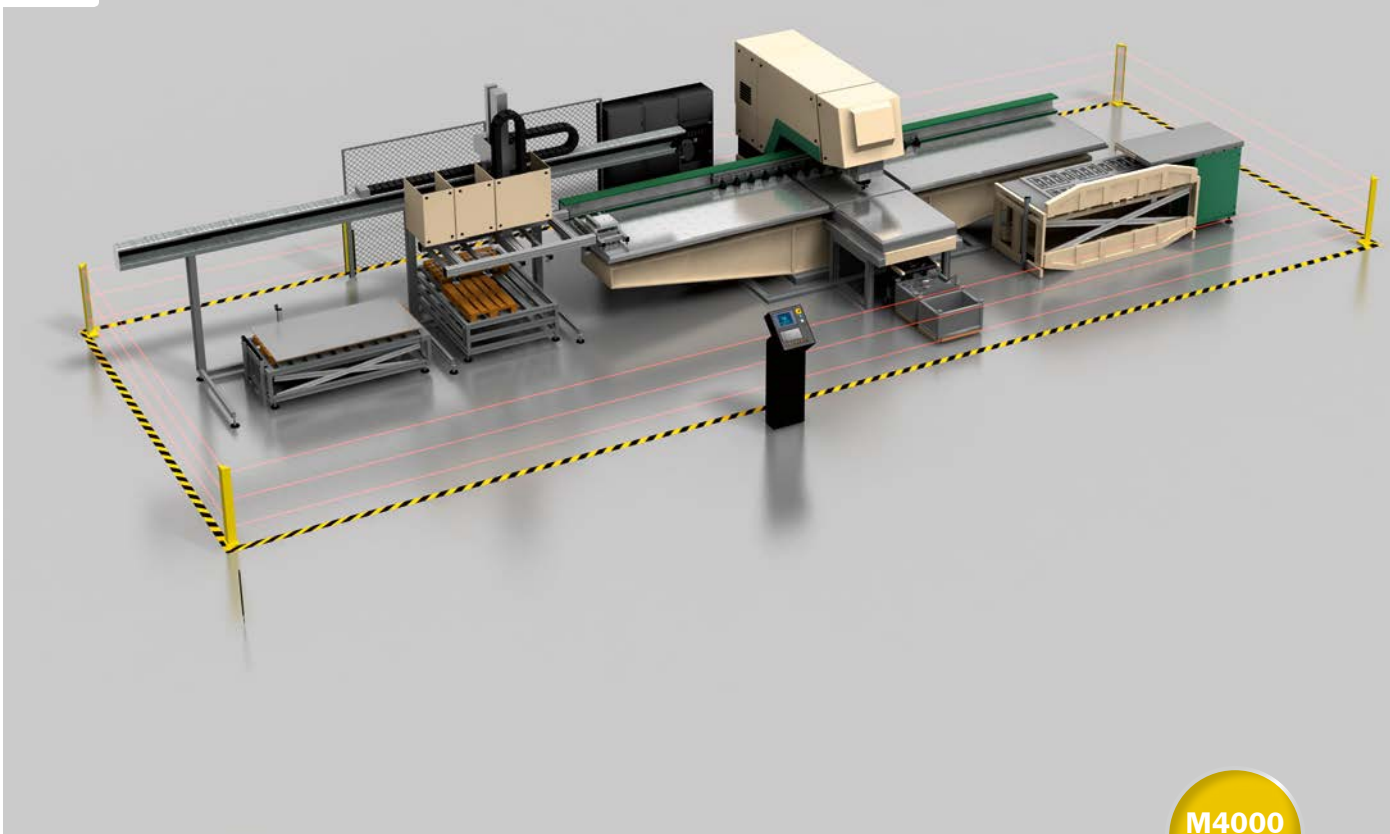
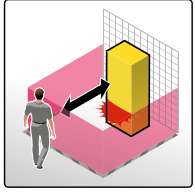
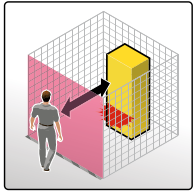
- + **Allowing various pallets or mesh boxes to pass through dangerous areas ensures maximum flexibility and productivity**



### Recommended product

C4000 Palletizer Advanced

→ page 38



## Highly efficient and maximum reliability

A machining center must be protected from multiple sides to prevent unintentional access by persons. However, simple access must also be possible for the machine operator when the machine is at a standstill due to mounting or retooling purposes.

- Use of a flexible system consisting of multiple light beam safety devices and deflector mirrors is an economical solution compared with mechanical fences.
- Just two components, which require electrical connections and easily adjustable deflector mirrors in sturdy columns, minimize the installation workload.
- Simple and rapid alignment of the entire system is made possible via an integrated laser alignment aid.

**+ Customer-friendly interfaces and status indicators simplify commissioning and maintenance**

### Recommended product

M4000 Standard

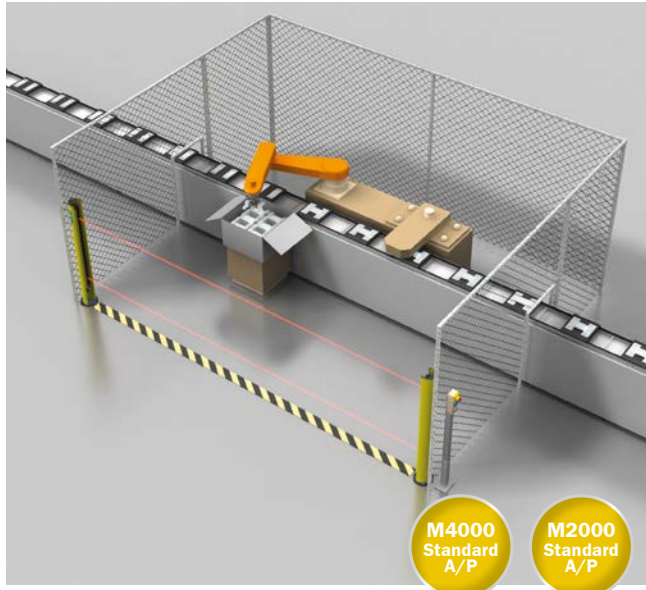
→ page 50

Mirror and device columns

→ page 70

## Intelligent wiring and maximum reliability

The loading station of an automatic robot must be accessed frequently from one side to insert or remove parts.



- As a result of the low scanning range, an active/passive multiple light beam safety device can cost-effectively protect the entrance.
- The active/passive photoelectric switch system only has one component that requires electric wiring, which reduces the installation and maintenance workload.

**+ Cost savings via reduced wiring workload**

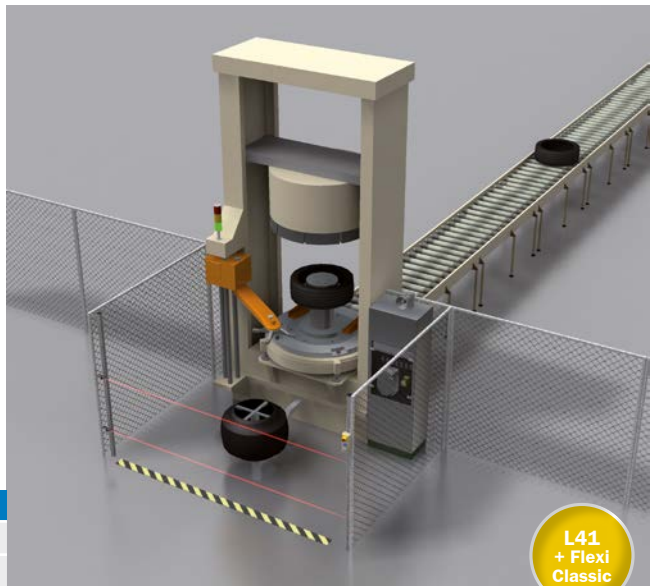
### Recommended product

|                    |           |
|--------------------|-----------|
| M4000 Standard A/P | → page 50 |
| M2000 Standard A/P | → page 54 |

## Complete system with high reliability and fast response times

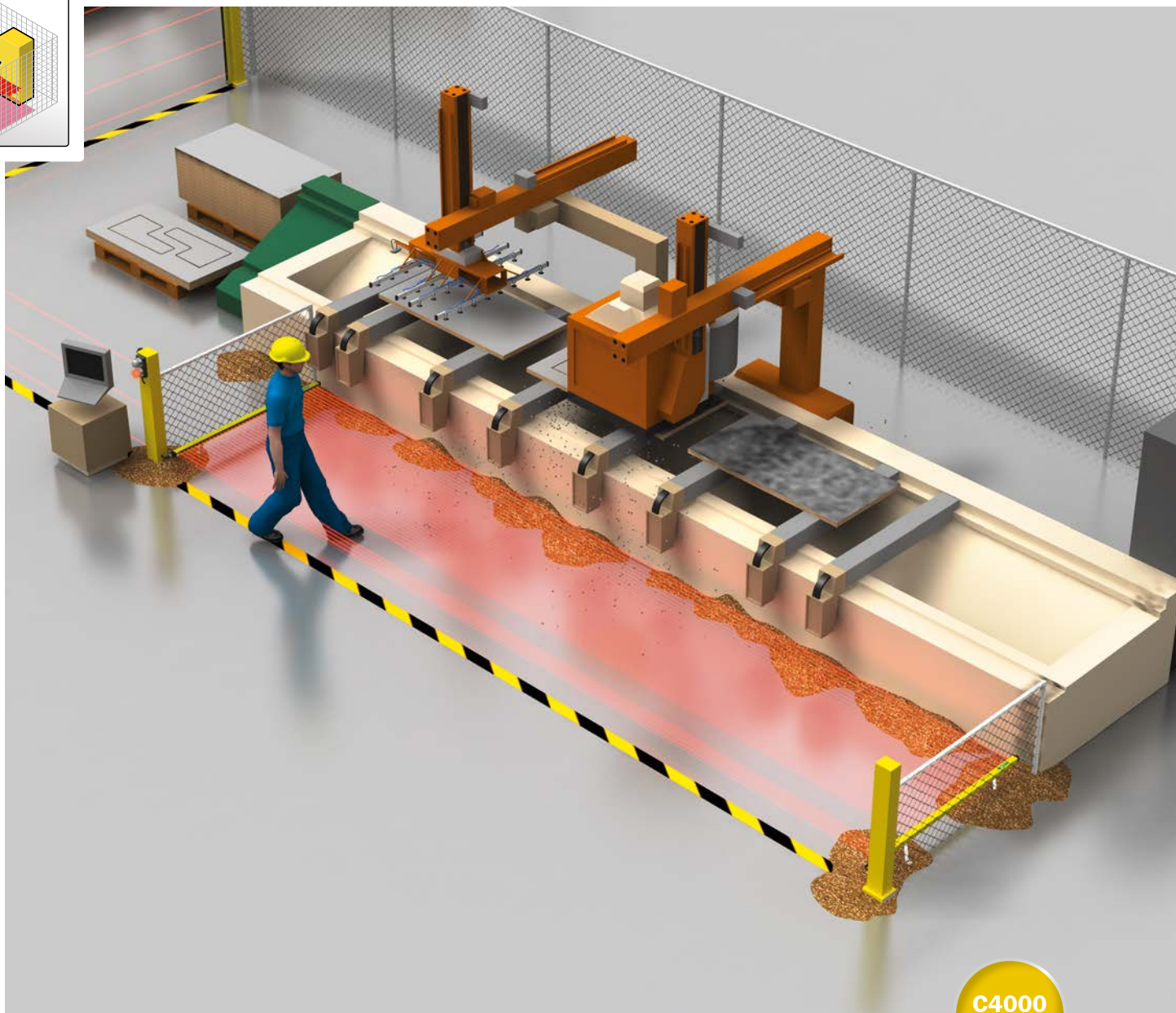
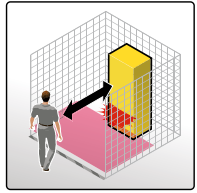
Worker must insert tires into the press cast. Access to the press is protected using two single-beam photoelectric safety switches to ensure that the press stops as soon as workers enter the hazardous area.

- Simple integration due to small, compact design with a maximum scanning range of up to 60 m
- + Optimally harmonized product range offers a promising price/performance ratio**



### Recommended product

|               |           |
|---------------|-----------|
| L4000         | → page 60 |
| Flexi Classic | → page 79 |



**C4000  
Fusion**

## Reliable - despite flying chips

Chips and pieces fall into the area of machining centers protected by safety light curtains.

- As a result of the multiscan function and reduced resolution, the safety light curtain offers a high degree of flexibility and does not deactivate.
- Designed for use in harsh ambient conditions, the light curtain has succeeded in combining maximum operational safety with optimal productivity, ergonomics, and cost efficiency. Contamination can be suppressed in the protective field and the resolution can be adjusted to protect hands or an entire person. This ensures maximum reliability of the protective device and minimizes the downtime of machines and plants.

**+ Less downtime and high system reliability**

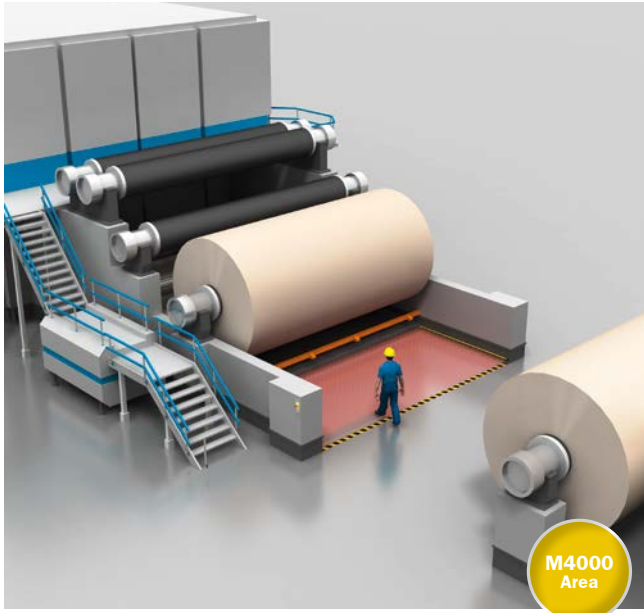
**Recommended product**

C4000 Fusion

→ page 38

## Broad scanning range for area protection or presence detection

The area in front of a paper roll machine must be protected when machine operators need to inspect the quality and rolling.



- The horizontal multiple light beam safety device detects unintentional entry into the hazardous area when the machine is running, offering maximum safety.
- It offers straightforward configuration, a menu driven via PC, and broad scanning ranges to ensure maximum flexibility.
- Integrated functions as well as status and diagnostics information allow quick commissioning and prevent unnecessary machine downtime.

**+ Broad scanning ranges and a robust housing ensure high system reliability**

### Recommended product

M4000 Area

→ page 50

## Easy to integrate in the machine and control even under extreme application conditions

Case packing machine is to be equipped with a protective device which monitors all seven protective doors at the same time.

- In order to monitor the machine from three sides, the light beam is diverted by reflectors on two sides. The safety evaluation device evaluates the information. If the light beams from the photoelectric switch are interrupted by opening a safety door, the evaluation device generates a deactivation signal for packaging machine control.
- Using a single-beam photoelectric safety switch with two deflector mirrors means that only one device is required instead of individual protection for every door.

**+ The mounting workload is reduced significantly. The evaluation device can process additional signals, e.g., "Emergency Stop"**



### Recommended product

L2000

→ page 62

Flexi Classic

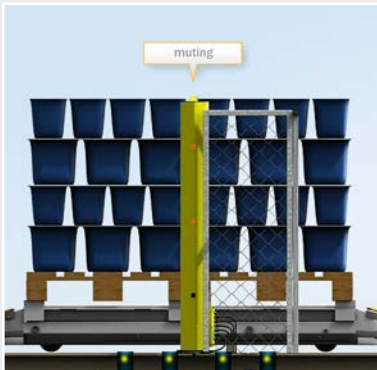
→ page 79

L21  
+ Flexi  
Classic

## Optical protection – for maximum freedom of movement and productivity

Innovative safety technology is required to make machines faster, more economical and more productive. SICK safety light curtains are used wherever hazardous points and hazardous areas need to be reliably and cost-effectively safeguarded. Depending on the variant, different machine functions are integrated or can be selected via safe control solutions.

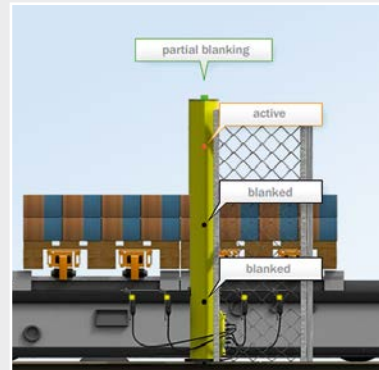
### Muting



Muting bypasses protective devices temporarily. In this case, the ESPE (electro-sensitive protective equipment) must be bypassed while the pallet passes. The muting system must therefore be able to distinguish between humans and material.

**+ Your benefits: continuous flow of material maximizes productivity**

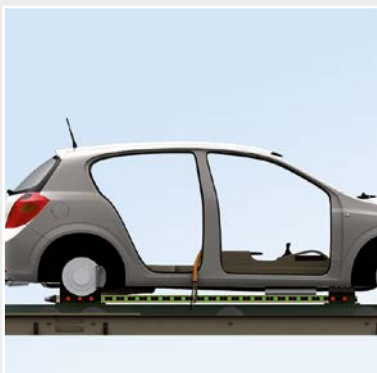
### Partial blanking



Muting bypasses the ESPE if the muting condition is valid. The safety can be increased using the partial blanking function, by only blanking a sub-area of the ESPE when the muting condition is valid. One or more light beams remain permanently active.

**+ Your benefits: maximum safety, even for half-height loads**

### Reduced resolution



The safety light curtain allows the interruption of multiple adjacent beams. Objects that are smaller can move through the safety light curtain without triggering it. For example, foreign objects like strapping bands, wood chips or cables are suppressed.

**+ Your benefits: greater availability**

### Multiple sampling (Multiscan)

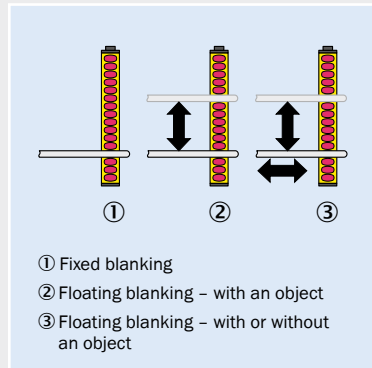
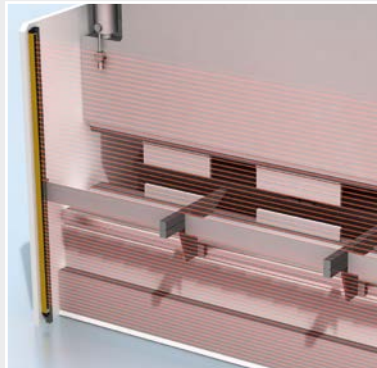


If multiple sampling is set, the safety light curtain must detect an object repeatedly before it deactivates its output signal switching devices. This reduces the probability that objects falling through the protective field, such as wood chips, welding sparks or other particles cause a system to shut down.

**+ Your benefits: increased productivity**



## Blanking



This function allows objects that are in the protective field of the light curtain to be blanked, which prevents the machine from shutting down. A blanked area is basically a hole in the protective field. This must be taken into consideration when calculating the minimum distance.

**+ Your benefits: high flexibility and rapid commissioning**

## Object pattern detection



This form of blanking permits access protection without muting, where inherently rigid objects can access a system or machine (e.g., pallets or skids for vehicle bodies). Depending on the length of the protective field, multiple objects can be blanked dynamically in the protective field at the same time. The system monitors whether the objects are larger or smaller than the minimum or maximum configured size. If moving objects, in particular human legs, enter the protective field, the safety light curtain deactivates its output signal switching devices.

**+ Your benefits: alternative to muting – additional muting sensors are unnecessary**



### Easy to configure with intuitive software

Smart SICK safety sensors are configured using the CDS configuration and diagnostic software. Its intuitive user interface permits simple and quick design and implementation of the application. CDS provides users with all configuration and diagnostic data for rapid commissioning or effective troubleshooting. Standard communication interfaces (TCI, FDT/DTM) can be used to integrate CDS simply and effectively into your automation environment.

**+ Your benefits: you can configure and diagnose the system during commissioning or maintenance via the standard protocol used.**

## Pure safety from the market leader



### Efficient integration

- No blind zones thanks to high-resolution protective field up to end of housing
- Space-saving, protective field heights from 300 mm up to 2,100 mm reduce additional allowances for reaching under and reaching over



### Quick installation

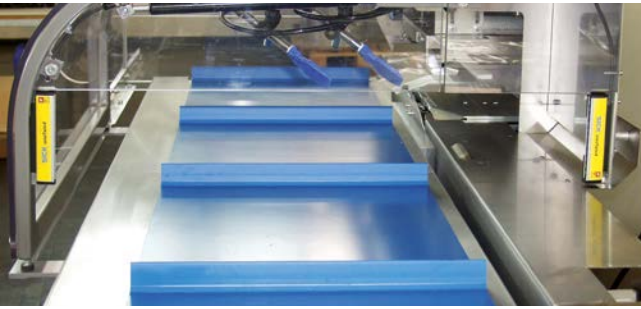
- Simple alignment thanks to +/-15 ° rotatable innovative brackets
- Fast commissioning thanks to integrated LED displays and diagnostic functions
- Cost-saving thanks to standardized M12 connection



### Simply Safe

- Rugged and compact thanks to newly developed housing
- Reliable in harsh environmental conditions, thanks to enclosure rating IP 67 and an ambient operating temperature down to -30 °C





## Optimal safety solutions for demanding tasks



### Safe even under extreme conditions

- High reliability with the IP 69K housing
  - Aggressive cleaning agents, permanent moisture or harsh hygienic regulations require the IP 69K enclosure rating
- ATEX II 3G/3D with the C4000 safety light curtain
  - Total flexibility – even in explosive atmospheres



### Added value via integrated functions

- Safety light curtain automatically distinguishes between people and material, ensuring maximum safety



### Minivation – minimized format, integrated intelligence

- Miniaturisation optimises machine integration without any blind zones for productivity due to more ergonomic workflows
- Easy to use – via LED-guided start-up, automatic configuration and visualized protective field



### Robust and reliable

- Durable materials and mounting systems guarantee higher production quality under difficult conditions







### Thinking beyond the product

- Wide variety of accessories
  - Mounting brackets, connecting cables, system plugs, etc.
- Info service
  - Multi-language operating instructions, dimensional drawings and CAD models, connection diagrams, sample applications, animations, tutorials and quick starts
  - After-Sales support, e.g., for subsequent system expansions



[www.sick.com/service](http://www.sick.com/service)

### Product family overview

|  |   |   |   |   |  |
|--|---|---|---|---|--|
|  |  |  |  |  |  |
|  | <b>miniTwin4</b>  | <b>deTec4 Core</b>  | <b>C4000 Micro</b>  | <b>C4000 Micro in IP69K</b>   |  |
|  | The smallest light curtain with the highest protection level, PL e                | Efficient integration. Quick installation. Simply safe.                           | Small and compact, cost-effective and convenient                                    | Highly durable – for extremely high standards of hygiene and cleaning               |  |

| Technical specifications       |                   |                   |                   |                         |  |
|--------------------------------|-------------------|-------------------|-------------------|-------------------------|--|
| Protective field height        | 120 ... 1200 mm   | 300 ... 2100 mm   | 150 ... 1200 mm   | 150 ... 1200 mm         |  |
| Resolution                     | 14 mm/24 mm/34 mm | 14 mm/30 mm       | 14 mm/30 mm       | 14 mm/30 mm             |  |
| Scanning range                 | 4 m/5 m           | 7 m/10 m          | 2.5 m/5 m/6 m     | 4 m/14.5 m              |  |
| Enclosure rating               | IP 65             | IP 65/IP 67       | IP 65             | IP 69K                  |  |
| Housing dimensions             | 15 mm x 32 mm     | 34 mm x 30.7 mm   | 28.5 mm x 33.5 mm | 60.5 mm (round housing) |  |
| System connection              | M12 x 5           | M12 x 5           | M12 x 8           | M12 x 8                 |  |
| Extension connection           | M12 x 5           | -                 | -                 | -                       |  |
| Ambient operating temperature  | -20 °C ... +55 °C | -30 °C ... +55 °C | -30 °C ... +55 °C | -30 °C ... +55 °C       |  |
| Response times, type-dependent | ≤ 17 ms           | ≤ 22 ms           | ≤ 20 ms           | ≤ 20 ms                 |  |






| Functions                        |                          |                          |                          |                          |  |
|----------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--|
| Restart interlock (RES)          | ✓                        | -                        | ✓                        | ✓                        |  |
| External device monitoring (EDM) | ✓                        |                          | ✓                        | ✓                        |  |
| Cascadable                       | Via extension connection | -                        | -                        | -                        |  |
| Beam coding                      | Automatic                | -                        | -                        | -                        |  |
| Alignment/Diagnostics            | LED display              | LED display              | 7-segment display        | 7-segment display        |  |
| Blanking                         | -                        | -                        | -                        | -                        |  |
| PSDI mode                        | Flexi Soft               | Flexi Soft               | Flexi Soft               | Flexi Soft               |  |
| Muting                           | Flexi Classic/Flexi Soft | Flexi Classic/Flexi Soft | Flexi Classic/Flexi Soft | Flexi Classic/Flexi Soft |  |
| Configurable with                | Fixed wiring             | -                        | Fixed wiring             | Fixed wiring             |  |
| EFI communication                | -                        | -                        | -                        | -                        |  |

| Certifications  |                      |                      |                      |                      |  |
|---|----------------------|----------------------|----------------------|----------------------|--|
| Type (EN 61496-1) / Safety integrity level (IEC 61508) / Performance Level (EN ISO 13849-1) | Type 4 / SIL3 / PL e | Type 4 / SIL3 / PL e | Type 4 / SIL3 / PL e | Type 4 / SIL3 / PL e |  |
| uL/cuLus certification  | ✓                    | ✓                    | ✓                    | ✓                    |  |
| General certifications  | -                    | -                    | -                    | ECOLAB/Diversey      |  |

| Advanced system solutions with sens:Control – safe control solutions |   |   |   |   |  |
|--|---|---|---|---|--|
| Evaluation unit  |   |   |   |   |  |
| UE402  | - | - | - | - |  |
| Safety relay   |   |   |   |   |  |
| UE10-30S   | ● | ○ | ● | ● |  |
| UE48   | ● | ● | ● | ● |  |
| Safety controllers   |   |   |   |   |  |
| Flexi Classic  | ● | ● | ● | ● |  |
| Flexi Soft   | ● | ● | ● | ● |  |
| Network solutions  |   |   |   |   |  |
| EFI gateways   | - | - | - | - |  |

● = Recommended; ○ = Possible; ○ = On request; - = Not available

|                      |           |           |           |           |  |
|----------------------|-----------|-----------|-----------|-----------|--|
| Detailed information | → page 30 | → page 34 | → page 38 | → page 38 |  |
|----------------------|-----------|-----------|-----------|-----------|--|

|  |   |   |   |                                |   |
|--|--|--|--|---|--|
|  | <b>C4000 Standard / Advanced</b>   | <b>C4000 Palletizer Advanced</b>   | <b>C4000 Fusion</b>  | <b>miniTwin2</b>  | <b>C2000</b>   |
|  | Large scanning range for even more flexibility   | Innovative access protection with no muting required   | Innovative access protection with a high level of reliability and safety   | Small design, great flexibility, and universal possibilities  | Small and compact, cost-effective and flexible   |
|  | 300 ... 1800 mm<br>14 mm / 20 mm / 30 mm / 40 mm<br>8 m / 19 m<br>IP 65<br>40 mm x 48 mm   | 750 ... 1800 mm<br>30 mm / 40 mm<br>6 m<br>IP 65<br>40 mm x 48 mm  | 300 ... 1800 mm<br>20 mm<br>19 m<br>IP 65<br>40 mm x 48 mm   | 120 ... 1200 mm<br>14 mm / 24 mm / 34 mm<br>6 m<br>IP 65<br>15 mm x 32 mm   | 300 ... 1800 mm<br>20 mm / 30 mm / 40 mm<br>6 m / 19 m<br>IP 65<br>34 mm x 29 mm (300 ... 1200 mm protective field height)<br>40 mm x 48 mm (1350 ... 1800 mm protective field height) |
|  | M26 x 12<br>M26 x 12<br>0 °C ... +55 °C  | M26 x 12<br>For Bypass, RES, Teach<br>0 °C ... +55 °C  | M26 x 12<br>For Bypass, RES, Teach<br>0 °C ... +55 °C  | M12 x 5<br>M12 x 5<br>-20 °C ... +55 °C   | M12 x 8<br>M12 x 8<br>0 °C ... +55 °C  |
|  | ≤ 26 ms  | ≤ 14 ms  | ≤ 21 ms  | ≤ 17 ms   | ≤ 34 ms  |
|  | ✓<br>✓   | ✓<br>✓   | ✓<br>✓   | ✓<br>✓  | ✓<br>✓   |
|  | Via extension connection<br>Configured via CDS<br>7-segment display<br>Configurable via CDS (only C4000 Advanced)<br>UE402<br>Flexi Classic / Flexi Soft<br>CDS (included)<br>Integrated | -<br>Configured via CDS<br>7-segment display<br>Configured via CDS<br>-<br>Integrated muting alternative<br>CDS (included)<br>Integrated | -<br>Configured via CDS<br>7-segment display<br>Configured via CDS<br>-<br>Integrated muting alternative<br>CDS (included)<br>Integrated | Via extension connection<br>Automatic<br>LED display<br>-<br>-<br>Flexi Classic / Flexi Soft<br>Fixed wiring<br>- | Via extension connection<br>-<br>7-segment display<br>-<br>-<br>Flexi Classic / Flexi Soft<br>-<br>-   |
|  | Type 4 / SIL3 / PL e   | Type 4 / SIL3 / PL e   | Type 4 / SIL3 / PL e   | Type 2 / SIL1 / PL c  | Type 2 / SIL1 / PL c   |
|  | ✓<br>ATEX II (3G/3D)   | ✓<br>ATEX II (3G/3D)   | ✓<br>ATEX II (3G/3D)   | ✓<br>-  | ✓<br>-   |
|  | ●  | -  | -  | -   | -  |
|  | ●<br>●   | ●<br>●   | ●<br>●   | ●<br>●  | ○<br>●   |
|  | ●<br>●   | ●<br>●   | ●<br>●   | ●<br>●  | ●<br>●   |
|  | ●  | ●  | ●  | -   | -  |
|  | ● = Recommended; ○ = Possible; ○ = On request; - = Not available   |  |  |   |  |
|  | → page 38  | → page 38  | → page 38  | → page 30   | → page 44  |



### At a glance

- Very compact, blind-zone-free device concept
- Sender and receiver in a single housing – twin-stick
- Alignment and diagnostics via color LEDs
- Automatic beam coding
- External device monitoring and reset function
- Intelligent configuration without software
- M12 connecting device, 5-pin

### Your benefits

- The miniature design, cascading and fine adjustment of the protective field lengths enable flexible adjustment to the machine design
- Standardization saves time and resources by making logistics, order entry and service more straightforward
- Exemplary handling: software-free, almost fully automatic commissioning and intuitive operation using the LED display
- A continuous protective field for cascadable applications eliminates blind spots, reduces the safety distance, and thereby increases productivity
- Application-specific brackets increase mounting flexibility, while reducing the mounting time

### Ordering information

#### miniTwin4

For additional variants and accessories, see: [www.mysick.com/en/miniTwin4](http://www.mysick.com/en/miniTwin4)

- Type: Type 4 (as per IEC 61496)
- Stand-alone device or cascade terminal

| Resolution | Scanning range | Length of connecting cable | Protective field height | Model name         | Part no.           |
|------------|----------------|----------------------------|-------------------------|--------------------|--------------------|
| 14 mm      | 0 m ... 5 m    | 160 mm                     | 120 mm                  | C4MT-01214ABB03BE0 | 1207094            |
|            |                |                            | 180 mm                  | C4MT-01814ABB03BE0 | 1207097            |
|            |                | 350 mm                     | 240 mm                  | C4MT-02414ABB03DE0 | 1207098            |
|            |                |                            | 300 mm                  | C4MT-03014ABB03DE0 | 1207099            |
|            |                |                            | 360 mm                  | C4MT-03614ABB03DE0 | 1207100            |
|            |                |                            | 420 mm                  | C4MT-04214ABB03DE0 | 1207101            |
|            |                |                            | 480 mm                  | C4MT-04814ABB03DE0 | 1207102            |
|            |                |                            | 540 mm                  | C4MT-05414ABB03DE0 | 1207103            |
|            |                | 700 mm                     | 600 mm                  | C4MT-06014ABB03FE0 | 1207104            |
|            |                |                            | 660 mm                  | C4MT-06614ABB03FE0 | 1207105            |
|            |                |                            | 720 mm                  | C4MT-07214ABB03FE0 | 1207106            |
|            |                |                            | 780 mm                  | C4MT-07814ABB03FE0 | 1207107            |
|            |                |                            | 840 mm                  | C4MT-08414ABB03FE0 | 1207108            |
|            |                |                            |                         | 900 mm             | C4MT-09014ABB03FE0 |

| Resolution | Scanning range | Length of connecting cable | Protective field height | Model name         | Part no. |
|------------|----------------|----------------------------|-------------------------|--------------------|----------|
| 24 mm      | 0 m ... 5 m    | 350 mm                     | 240 mm                  | C4MT-02424ABB03DE0 | 1207224  |
|            |                |                            | 300 mm                  | C4MT-03024ABB03DE0 | 1207225  |
|            |                |                            | 360 mm                  | C4MT-03624ABB03DE0 | 1207227  |
|            |                |                            | 480 mm                  | C4MT-04824ABB03DE0 | 1207229  |
|            |                | 700 mm                     | 600 mm                  | C4MT-06024ABB03FE0 | 1207231  |
|            |                |                            | 720 mm                  | C4MT-07224ABB03FE0 | 1207233  |
|            |                |                            | 900 mm                  | C4MT-09024ABB03FE0 | 1207236  |
|            |                |                            | 1020 mm                 | C4MT-10224ABB03FE0 | 1207238  |
|            |                |                            | 1200 mm                 | C4MT-12024ABB03FE0 | 1207241  |

- Cascade device (host or guest)

| Resolution | Scanning range | Length of connecting cable | Protective field height | Model name         | Part no.           |
|------------|----------------|----------------------------|-------------------------|--------------------|--------------------|
| 14 mm      | 0 m ... 5 m    | 160 mm                     | 180 mm                  | C4MT-01814ABB04BE0 | 1207116            |
|            |                |                            | 240 mm                  | C4MT-02414ABB04DE0 | 1207117            |
|            |                | 350 mm                     | 300 mm                  | C4MT-03014ABB04DE0 | 1207118            |
|            |                |                            | 480 mm                  | C4MT-04814ABB04DE0 | 1207121            |
|            |                |                            | 700 mm                  | 600 mm             | C4MT-06014ABB04FE0 |
|            |                | 720 mm                     |                         | C4MT-07214ABB04FE0 | 1207125            |
|            |                | 900 mm                     |                         | C4MT-09014ABB04FE0 | 1207128            |

miniTwin2

For additional variants and accessories, see: [www.mysick.com/en/miniTwin2](http://www.mysick.com/en/miniTwin2)

- **Type:** Type 2 (as per IEC 61496)
- Stand-alone device or cascade terminal

| Resolution | Scanning range     | Length of connecting cable | Protective field height | Model name         | Part no. |
|------------|--------------------|----------------------------|-------------------------|--------------------|----------|
| 14 mm      | 0 m ... 8 m        | 160 mm                     | 120 mm                  | C2MT-01214BBC03BE0 | 1207793  |
|            |                    |                            | 180 mm                  | C2MT-01814BBC03BB0 | 1207794  |
|            |                    | 350 mm                     | 240 mm                  | C2MT-02414BBC03DE0 | 1207795  |
|            |                    |                            | 300 mm                  | C2MT-03014BBC03DE0 | 1207796  |
|            |                    |                            | 360 mm                  | C2MT-03614BBC03DE0 | 1207797  |
|            |                    |                            | 420 mm                  | C2MT-04214BBC03DE0 | 1207798  |
|            |                    |                            | 480 mm                  | C2MT-04814BBC03DE0 | 1207799  |
|            |                    |                            | 540 mm                  | C2MT-05414BBC03DE0 | 1207800  |
|            |                    | 700 mm                     | C2MT-06014BBC03FE0      | 1207801            |          |
|            |                    | 24 mm                      | 0 m ... 8 m             | 350 mm             | 240 mm   |
| 300 mm     | C2MT-03024BBC03DE0 |                            |                         |                    | 1207825  |
| 360 mm     | C2MT-03624BBC03DE0 |                            |                         |                    | 1207832  |
| 480 mm     | C2MT-04824BBC03DE0 |                            |                         |                    | 1207834  |
| 700 mm     | 600 mm             |                            |                         | C2MT-06024BBC03FE0 | 1207836  |
|            | 720 mm             |                            |                         | C2MT-07224BBC03FE0 | 1207838  |
|            | 900 mm             |                            |                         | C2MT-09024BBC03FE0 | 1207841  |
|            | 1020 mm            |                            |                         | C2MT-10224BBC03FE0 | 1207843  |
|            | 1200 mm            |                            |                         | C2MT-12024BBC03FE0 | 1207846  |

- Cascade device (host or guest)

| Resolution | Scanning range | Length of connecting cable | Protective field height | Model name         | Part no. |
|------------|----------------|----------------------------|-------------------------|--------------------|----------|
| 24 mm      | 0 m ... 8 m    | 160 mm                     | 180 mm                  | C2MT-01824BBC04BE0 | 1207886  |
|            |                |                            | 240 mm                  | C2MT-02424BBC04DE0 | 1207887  |
|            |                | 350 mm                     | 300 mm                  | C2MT-03024BBC04DE0 | 1207888  |
|            |                |                            | 480 mm                  | C2MT-04824BBC04DE0 | 1207891  |
|            |                |                            | 600 mm                  | C2MT-06024BBC04FE0 | 1207893  |
|            |                | 700 mm                     | 720 mm                  | C2MT-07224BBC04FE0 | 1207895  |
|            |                |                            | 900 mm                  | C2MT-09024BBC04FE0 | 1207898  |

Accessories required for commissioning

| Description                                    | Number    | miniTwin2 | miniTwin4 |
|--|-----------|-----------|-----------|
| Mounting kit <sup>1)</sup>                     | 1         | ●         | ●         |
| Connecting cables                              | 2         | ●         | ●         |
| Operating instructions on CD-ROM <sup>1)</sup> | Re-usable | ●         | ●         |
| Test rod <sup>1)</sup>                         | 1         | ●         | ●         |


<sup>1)</sup> Included.




## Recommended accessories for miniTwin

For additional accessories, see: [www.mysick.com/products](http://www.mysick.com/products)



## System connection

| Figure  | Description      | Type of connection | Direction of cable outlet | Length of cable | Model name    | Part no. |
|---|------------------|--------------------|---------------------------|-----------------|---------------|----------|
|  | Connecting cable | M12 x 4 + FE       | Straight                  | 5 m             | DOL-1205-G05M | 6009868  |
|   |                  |                    |                           | 10 m            | DOL-1205-G10M | 6010544  |




## Extension connection

| Figure  | Description                             | Type of connection | Direction of cable outlet | Length of cable | Model name     | Part no. |
|---|---|--------------------|---------------------------|-----------------|----------------|----------|
|  | Cascade connection cables (socket/plug) | M12 x 4 + FE       | Straight                  | 1 m             | DSL-1205-G01MC | 6029280  |
|   |   |                    |                           | 2 m             | DSL-1205-G02MC | 6025931  |

## System plug

| Figure  | Description  | Type of connection | Direction of cable outlet | Length of cable | Model name              | Part no. |
|---|--|--------------------|---------------------------|-----------------|-------------------------|----------|
|  | System plug with 1 connecting cable, prepared for stripping  | M12 x 4 + FE       | -                         | 10 m            | Stand-alone system plug | 2051290  |
|  | System plug with 2 connecting cables and 1 plug and 1 socket | M12 x 4 + FE       | -                         | 160 mm          | Cascade system plug     | 2046452  |
|   |  |                    |                           | 350 mm          |                         | 2046454  |
|   |  |                    |                           | 700 mm          |                         | 2046456  |

## Mounting systems

| Figure  | Description  | Model name       | Part no. |
|---|--|------------------|----------|
|  | C-Fix bracket with L-Fix bracket, left and right (2 each)                                  | BEF-3AAA0MKU2S04 | 2045843  |
|  | C-Fix Flex bracket, pivoting +4°/-4°, metal version, for flat and plug-side mounting (2 x) | BEF-1SHABMAL2    | 2056598  |
|  | O-Fix bracket, left and right (2 x)  | BEF-3SHAEMKU2    | 2045835  |

For general accessories, see page 78.



Enhanced system solutions, see page 79.



## At a glance

- Type 4 (IEC 61496), PL e (EN ISO 13849)
- Protective operation
- Absence of blind zones
- Resolution of 14 mm or 30 mm
- Protective field height of 300 mm to 2,100 mm
- Automatic range measurement up to 10 m
- Ambient operating temperature of  $-30\text{ }^{\circ}\text{C}$  to  $+55\text{ }^{\circ}\text{C}$
- Enclosure rating IP 65 / IP 67

## Your benefits

- Simple assembly with innovative mounting and no blind zones
- Quick commissioning thanks to integrated LED display and automatic range measurement of up to 10 m
- Simply safe: rugged and reliable thanks to enclosure rating IP 67 and an ambient operating temperature down to  $-30\text{ }^{\circ}\text{C}$ , enabling use in harsh ambient conditions
- Intelligently standardized: M12, 5-pin provide cost reductions
- Basic function without configuration effort enables quick replacement when servicing is required

## Ordering information

- **Resolution:** 14 mm
- **Protective field range:** 0 m ... 7 m

| Protective field height | Sender            |          | Receiver          |          |
|-------------------------|-------------------|----------|-------------------|----------|
|                         | Model name        | Part no. | Model name        | Part no. |
| 300 mm                  | C4C-SA03010A10000 | 1211450  | C4C-EA03010A10000 | 1211463  |
| 450 mm                  | C4C-SA04510A10000 | 1211469  | C4C-EA04510A10000 | 1211470  |
| 600 mm                  | C4C-SA06010A10000 | 1211471  | C4C-EA06010A10000 | 1211472  |
| 750 mm                  | C4C-SA07510A10000 | 1211473  | C4C-EA07510A10000 | 1211474  |
| 900 mm                  | C4C-SA09010A10000 | 1211475  | C4C-EA09010A10000 | 1211515  |
| 1,050 mm                | C4C-SA10510A10000 | 1211476  | C4C-EA10510A10000 | 1211477  |
| 1,200 mm                | C4C-SA12010A10000 | 1211478  | C4C-EA12010A10000 | 1211479  |
| 1,350 mm                | C4C-SA13510A10000 | 1211480  | C4C-EA13510A10000 | 1211481  |
| 1,500 mm                | C4C-SA15010A10000 | 1211482  | C4C-EA15010A10000 | 1211483  |
| 1,650 mm                | C4C-SA16510A10000 | 1211484  | C4C-EA16510A10000 | 1211485  |
| 1,800 mm                | C4C-SA18010A10000 | 1211486  | C4C-EA18010A10000 | 1211487  |
| 1,950 mm                | C4C-SA19510A10000 | 1211488  | C4C-EA19510A10000 | 1211489  |
| 2,100 mm                | C4C-SA21010A10000 | 1211490  | C4C-EA21010A10000 | 1211491  |

- **Resolution:** 30 mm
- **Protective field range:** 0 m ... 10 m

| Protective field height | Sender            |          | Receiver          |          |
|-------------------------|-------------------|----------|-------------------|----------|
|                         | Model name        | Part no. | Model name        | Part no. |
| 300 mm                  | C4C-SA03030A10000 | 1211462  | C4C-EA03030A10000 | 1211464  |
| 450 mm                  | C4C-SA04530A10000 | 1211492  | C4C-EA04530A10000 | 1211493  |
| 600 mm                  | C4C-SA06030A10000 | 1211494  | C4C-EA06030A10000 | 1211495  |
| 750 mm                  | C4C-SA07530A10000 | 1211496  | C4C-EA07530A10000 | 1211497  |
| 900 mm                  | C4C-SA09030A10000 | 1211498  | C4C-EA09030A10000 | 1211516  |
| 1,050 mm                | C4C-SA10530A10000 | 1211499  | C4C-EA10530A10000 | 1211500  |
| 1,200 mm                | C4C-SA12030A10000 | 1211501  | C4C-EA12030A10000 | 1211502  |
| 1,350 mm                | C4C-SA13530A10000 | 1211503  | C4C-EA13530A10000 | 1211504  |
| 1,500 mm                | C4C-SA15030A10000 | 1211505  | C4C-EA15030A10000 | 1211506  |
| 1,650 mm                | C4C-SA16530A10000 | 1211507  | C4C-EA16530A10000 | 1211508  |
| 1,800 mm                | C4C-SA18030A10000 | 1211509  | C4C-EA18030A10000 | 1211510  |
| 1,950 mm                | C4C-SA19530A10000 | 1211511  | C4C-EA19530A10000 | 1211512  |
| 2,100 mm                | C4C-SA21030A10000 | 1211513  | C4C-EA21030A10000 | 1211514  |

## Accessories required for commissioning

| Description                                    | Number    |
|--|-----------|
| Mounting kit <sup>1)</sup>                     | 1         |
| Connecting cables                              | 2         |
| Operating instructions on CD-ROM <sup>1)</sup> | Re-usable |
| Test rod <sup>1)</sup>                         | 1         |




<sup>1)</sup> Included.

## Recommended Accessories for deTec4 Core



### Terminal and alignment brackets

| Figure  | Brief description                       | Model name    | Part no. |
|---|---|---------------|----------|
|  | Flex-Fix-bracket (Packing unit 4 pcs.)  | BEF-1SHABPKU4 | 2066614  |
|  | Quick-Fix-bracket (Packing unit 2 pcs.) | BEF-3SHABPKU2 | 2066048  |



### Plug connectors and cables

| Figure  | Connection type                           | Cable length | Model name     | Part no. |
|---|---|--------------|----------------|----------|
|    | Female connector, M12, 5-pin, straight    | 2 m          | DOL-1205-G02MC | 6025906  |
|   |   | 5 m          | DOL-1205-G05MC | 6025907  |
|   |   | 10 m         | DOL-1205-G10MC | 6025908  |
|   |   | 20 m         | DOL-1205-G20MC | 6050247  |
|   |   | 30 m         | DOL-1205-G30MC | 6050248  |
|  | Female connector, M12, 5-pin, angled      | 2 m          | DOL-1205-W02MC | 6025909  |
|   |   | 5 m          | DOL-1205-W05MC | 6025910  |
|   |   | 10 m         | DOL-1205-W10MC | 6025911  |
|  | M12, 5-pin, plug straight/socket straight | 2 m          | DSL-1205-G02MC | 6025931  |
|   |   | 5 m          | DSL-1205-G05MC | 6029282  |
|   |   | 10 m         | DSL-1205-G10MC | 6038954  |
|   |   | 15 m         | DSL-1205-G15MC | 6038956  |

## Alignment aids

| Figure  | Brief description  | Model name                      | Part no. |
|---|--|---------------------------------|----------|
|  | Laser alignment aid for various sensors, laser class 2 (IEC 60825):<br>Never look into the beam. | AR60                            | 1015741  |
|  | Adapter for alignment aid AR60   | Adapter AR60 for<br>deTec4 Core | 4070854  |

## Test and monitoring tools

| Figure  | Brief description | Model name    | Part no. |
|---|-------------------|---------------|----------|
|  | 14 mm diameter    | Test rod      | 2022599  |
|   | 30 mm diameter    | Test rod      | 2022602  |
|  | Test rod holder   | BEF-3WNAAAAL1 | 2052249  |

For general accessories, see page 78.



Enhanced system solutions, see page 79.



### At a glance

- Cascadable up to three systems
- External device monitoring (EDM) and restart interlock (RES)
- Tried-and-tested 7-segment display for diagnostics
- Beam coding for precise system allocation
- Reduced resolution
- Blanking functions
- EFI/SDL interface
- Standardized and comprehensive connection and mounting systems

### Your benefits

- Small, compact design simplifies machine integration
- Resistant and robust design ensures high system reliability, even under difficult ambient conditions
- Time-saving alignment and diagnostics due to a 7-segment display
- Increased flexibility and reduced wiring workload via cascading up to three systems
- Beam coding protects the systems against mutual interference and thus offers a high level of reliability
- Blanking functions enable flexible and reliable adjustment of protective fields or reliable differentiation between people and material to ensure maximum productivity
- Convenient configuration and diagnostics enable increased reliability
- The clone plug allows simple and quick duplication of configurations, saving time and costs

### Ordering information

#### C4000 Micro

For additional variants and accessories see: [www.mysick.com/en/C4000 Micro](http://www.mysick.com/en/C4000%20Micro)

| Resolution | Scanning range | Protective field height | Sender         |          | Receiver       |          |
|------------|----------------|-------------------------|----------------|----------|----------------|----------|
|            |                |                         | Model name     | Part no. | Model name     | Part no. |
| 14 mm      | 0 m ... 2.5 m  | 300 mm                  | C41S-0301AA300 | 1023458  | C41E-0301AG300 | 1023459  |
|            |                | 450 mm                  | C41S-0401AA300 | 1023460  | C41E-0401AG300 | 1023461  |
|            |                | 600 mm                  | C41S-0601AA300 | 1023462  | C41E-0601AG300 | 1023463  |
|            |                | 750 mm                  | C41S-0701AA300 | 1023464  | C41E-0701AG300 | 1023465  |
|            |                | 900 mm                  | C41S-0901AA300 | 1023466  | C41E-0901AG300 | 1023467  |
| 30 mm      | 0 m ... 6 m    | 300 mm                  | C41S-0303AA300 | 1023472  | C41E-0303AG300 | 1023473  |
|            |                | 450 mm                  | C41S-0403AA300 | 1023474  | C41E-0403AG300 | 1023475  |
|            |                | 600 mm                  | C41S-0603AA300 | 1023476  | C41E-0603AG300 | 1023477  |
|            |                | 750 mm                  | C41S-0703AA300 | 1023478  | C41E-0703AG300 | 1023479  |
|            |                | 900 mm                  | C41S-0903AA300 | 1023480  | C41E-0903AG300 | 1023481  |

## C4000 Micro in IP69K Housing

For additional variants and accessories see:  
[www.mysick.com/en/C4000 Micro in IP69K Housing](http://www.mysick.com/en/C4000%20Micro%20in%20IP69K%20Housing)

- IP69K Housing with integrated sender / receiver unit C4000 Micro incl. 15 m PVC cable

| Resolution | Scanning range | Protective field height | Sender         |          | Receiver       |          |
|------------|----------------|-------------------------|----------------|----------|----------------|----------|
|            |                |                         | Model name     | Part no. | Model name     | Part no. |
| 14 mm      | 0 m ... 1.8 m  | 300 mm                  | C45S-0301AA220 | 1025722  | C45E-0301AG220 | 1025723  |
|            |                | 600 mm                  | C45S-0601AA220 | 1025732  | C45E-0601AG220 | 1025733  |
|            |                | 900 mm                  | C45S-0901AA220 | 1025742  | C45E-0901AG220 | 1025743  |
|            |                | 1200 mm                 | C45S-1201AA220 | 1025753  | C45E-1201AG220 | 1025754  |
|            |                | 1500 mm                 | C45S-1501AA220 | 1055511  | C45E-1501AG220 | 1055512  |
|            |                | 1800 mm                 | C45S-1801AA220 | 1055521  | C45E-1801AG220 | 1055522  |
| 30 mm      | 0 m ... 4.5 m  | 300 mm                  | C45S-0303AA220 | 1025724  | C45E-0303AG220 | 1025725  |
|            |                | 600 mm                  | C45S-0603AA220 | 1025734  | C45E-0603AG220 | 1025735  |
|            |                | 900 mm                  | C45S-0903AA220 | 1025744  | C45E-0903AG220 | 1025745  |
|            |                | 1200 mm                 | C45S-1203AA220 | 1025755  | C45E-1203AG220 | 1025756  |
|            |                | 1500 mm                 | C45S-1503AA220 | 1055513  | C45E-1503AG220 | 1055514  |
|            |                | 1800 mm                 | C45S-1803AA220 | 1055523  | C45E-1803AG220 | 1055524  |
| 30 mm      | 4 m ... 14.5 m | 300 mm                  | C45S-0303BA220 | 1055627  | C45E-0303AG220 | 1025725  |
|            |                | 600 mm                  | C45S-0603BA220 | 1055629  | C45E-0603AG220 | 1025735  |
|            |                | 900 mm                  | C45S-0903BA220 | 1055631  | C45E-0903AG220 | 1025745  |
|            |                | 1200 mm                 | C45S-1203BA220 | 1055633  | C45E-1203AG220 | 1025756  |
|            |                | 1500 mm                 | C45S-1503BA220 | 1055635  | C45E-1503AG220 | 1055514  |
|            |                | 1800 mm                 | C45S-1803BA220 | 1055637  | C45E-1803AG220 | 1055524  |

## C4000 Standard

For additional variants and accessories see: [www.mysick.com/en/C4000 Standard](http://www.mysick.com/en/C4000%20Standard)

| Resolution | Scanning range | Protective field height | Sender         |          | Receiver       |          |
|------------|----------------|-------------------------|----------------|----------|----------------|----------|
|            |                |                         | Model name     | Part no. | Model name     | Part no. |
| 14 mm      | 0 m ... 8 m    | 300 mm                  | C40S-0301CA010 | 1018591  | C40E-0301CA010 | 1018592  |
|            |                | 450 mm                  | C40S-0401CA010 | 1018347  | C40E-0401CA010 | 1018348  |
|            |                | 600 mm                  | C40S-0601CA010 | 1018593  | C40E-0601CA010 | 1018594  |
|            |                | 750 mm                  | C40S-0701CA010 | 1018595  | C40E-0701CA010 | 1018596  |
|            |                | 900 mm                  | C40S-0901CA010 | 1018597  | C40E-0901CA010 | 1018598  |
|            |                | 1050 mm                 | C40S-1001CA010 | 1018599  | C40E-1001CA010 | 1018600  |
|            |                | 1200 mm                 | C40S-1201CA010 | 1018601  | C40E-1201CA010 | 1018602  |
|            |                | 1350 mm                 | C40S-1301CA010 | 1018603  | C40E-1301CA010 | 1018604  |
|            |                | 1500 mm                 | C40S-1501CA010 | 1018605  | C40E-1501CA010 | 1018606  |
|            |                | 1650 mm                 | C40S-1601CA010 | 1018607  | C40E-1601CA010 | 1018608  |
|            |                | 1800 mm                 | C40S-1801CA010 | 1018609  | C40E-1801CA010 | 1018610  |

| Resolution | Scanning range | Protective field height | Sender         |          | Receiver       |          |
|------------|----------------|-------------------------|----------------|----------|----------------|----------|
|            |                |                         | Model name     | Part no. | Model name     | Part no. |
| 30 mm      | 0 m ... 19 m   | 300 mm                  | C40S-0303CA010 | 1018635  | C40E-0303CA010 | 1018636  |
|            |                | 450 mm                  | C40S-0403CA010 | 1018637  | C40E-0403CA010 | 1018638  |
|            |                | 600 mm                  | C40S-0603CA010 | 1018639  | C40E-0603CA010 | 1018640  |
|            |                | 750 mm                  | C40S-0703CA010 | 1018641  | C40E-0703CA010 | 1018642  |
|            |                | 900 mm                  | C40S-0903CA010 | 1018643  | C40E-0903CA010 | 1018644  |
|            |                | 1050 mm                 | C40S-1003CA010 | 1018645  | C40E-1003CA010 | 1018646  |
|            |                | 1200 mm                 | C40S-1203CA010 | 1018647  | C40E-1203CA010 | 1018648  |
|            |                | 1350 mm                 | C40S-1303CA010 | 1018649  | C40E-1303CA010 | 1018650  |
|            |                | 1500 mm                 | C40S-1503CA010 | 1018651  | C40E-1503CA010 | 1018652  |
|            |                | 1650 mm                 | C40S-1603CA010 | 1018653  | C40E-1603CA010 | 1018654  |
|            |                | 1800 mm                 | C40S-1803CA010 | 1018655  | C40E-1803CA010 | 1018656  |

## C4000 Advanced

For additional variants and accessories see: [www.mysick.com/en/C4000 Advanced](http://www.mysick.com/en/C4000%20Advanced)

| Resolution | Scanning range | Protective field height | Sender         |          | Receiver       |          |
|------------|----------------|-------------------------|----------------|----------|----------------|----------|
|            |                |                         | Model name     | Part no. | Model name     | Part no. |
| 14 mm      | 0 m ... 8 m    | 300 mm                  | C40S-0301CA010 | 1018591  | C40E-0301CB010 | 1018781  |
|            |                | 450 mm                  | C40S-0401CA010 | 1018347  | C40E-0401CB010 | 1018782  |
|            |                | 600 mm                  | C40S-0601CA010 | 1018593  | C40E-0601CB010 | 1018783  |
|            |                | 750 mm                  | C40S-0701CA010 | 1018595  | C40E-0701CB010 | 1018784  |
|            |                | 900 mm                  | C40S-0901CA010 | 1018597  | C40E-0901CB010 | 1018785  |
|            |                | 1050 mm                 | C40S-1001CA010 | 1018599  | C40E-1001CB010 | 1018786  |
|            |                | 1200 mm                 | C40S-1201CA010 | 1018601  | C40E-1201CB010 | 1018787  |
|            |                | 1350 mm                 | C40S-1301CA010 | 1018603  | C40E-1301CB010 | 1018788  |
|            |                | 1500 mm                 | C40S-1501CA010 | 1018605  | C40E-1501CB010 | 1018789  |
|            |                | 1650 mm                 | C40S-1601CA010 | 1018607  | C40E-1601CB010 | 1018790  |
|            |                | 1800 mm                 | C40S-1801CA010 | 1018609  | C40E-1801CB010 | 1018791  |
| 30 mm      | 0 m ... 19 m   | 300 mm                  | C40S-0303CA010 | 1018635  | C40E-0303CB010 | 1018803  |
|            |                | 450 mm                  | C40S-0403CA010 | 1018637  | C40E-0403CB010 | 1018804  |
|            |                | 600 mm                  | C40S-0603CA010 | 1018639  | C40E-0603CB010 | 1018805  |
|            |                | 750 mm                  | C40S-0703CA010 | 1018641  | C40E-0703CB010 | 1018806  |
|            |                | 900 mm                  | C40S-0903CA010 | 1018643  | C40E-0903CB010 | 1018807  |
|            |                | 1050 mm                 | C40S-1003CA010 | 1018645  | C40E-1003CB010 | 1018809  |
|            |                | 1200 mm                 | C40S-1203CA010 | 1018647  | C40E-1203CB010 | 1018810  |
|            |                | 1350 mm                 | C40S-1303CA010 | 1018649  | C40E-1303CB010 | 1018811  |
|            |                | 1500 mm                 | C40S-1503CA010 | 1018651  | C40E-1503CB010 | 1018812  |
|            |                | 1650 mm                 | C40S-1603CA010 | 1018653  | C40E-1603CB010 | 1018813  |
|            |                | 1800 mm                 | C40S-1803CA010 | 1018655  | C40E-1803CB010 | 1018814  |

C4000 Palletizer Advanced <sup>\*)</sup>For additional variants and accessories see: [www.mysick.com/en/C4000 Palletizer](http://www.mysick.com/en/C4000%20Palletizer)

| Resolution | Scanning range | Protective field height | Sender         |          | Receiver       |          |
|------------|----------------|-------------------------|----------------|----------|----------------|----------|
|            |                |                         | Model name     | Part no. | Model name     | Part no. |
| 30 mm      | 0.5 m ... 6 m  | 750 mm                  | C40S-0703CD010 | 1041900  | C40E-0703FK010 | 1043155  |
|            |                | 900 mm                  | C40S-0903CD010 | 1041901  | C40E-0903FK010 | 1043156  |
|            |                | 1350 mm                 | C40S-1303CA010 | 1041904  | C40E-1303FK010 | 1043159  |

<sup>\*)</sup> IP 69K variants available upon request



C4000 Fusion

For additional variants and accessories see: [www.mysick.com/en/C4000](http://www.mysick.com/en/C4000) Fusion

| Resolution | Scanning range | Protective field height | Sender         |          | Receiver       |          |
|------------|----------------|-------------------------|----------------|----------|----------------|----------|
|            |                |                         | Model name     | Part no. | Model name     | Part no. |
| 20 mm      | 1.5 m ... 19 m | 300 mm                  | C40S-0302FY010 | 1043224  | C40E-0302FY010 | 1043225  |
|            |                | 450 mm                  | C40S-0402FY010 | 1043226  | C40E-0402FY010 | 1043227  |
|            |                | 600 mm                  | C40S-0602FY010 | 1043228  | C40E-0602FY010 | 1043229  |
|            |                | 750 mm                  | C40S-0702FY010 | 1043183  | C40E-0702FY010 | 1043184  |
|            |                | 900 mm                  | C40S-0902FY010 | 1043185  | C40E-0902FY010 | 1043186  |
|            |                | 1050 mm                 | C40S-1002FY010 | 1043187  | C40E-1002FY010 | 1043189  |
|            |                | 1200 mm                 | C40S-1202FY010 | 1043190  | C40E-1202FY010 | 1043191  |
|            |                | 1350 mm                 | C40S-1302FY010 | 1043192  | C40E-1302FY010 | 1043193  |
|            |                | 1500 mm                 | C40S-1502FY010 | 1043194  | C40E-1502FY010 | 1043195  |
|            |                | 1650 mm                 | C40S-1602FY010 | 1043196  | C40E-1602FY010 | 1043197  |
| 1800 mm    | C40S-1802FY010 | 1043198                 | C40E-1802FY010 | 1043199  |                |          |

Accessories required for commissioning

| Description   | Number    | C4000 Eco | C4000 Micro | C4000 Micro IP 69K | C4000 Standard | C4000 Advanced | C4000 Palletizer Advanced | C4000 Fusion |
|---|-----------|-----------|-------------|--------------------|----------------|----------------|---------------------------|--------------|
|   |           |           |             |                    |                |                |                           |              |
| Mounting brackets (4 x)                                   | 1         | ●         | ●           | ●                  | ●              | ●              | ●                         | ●            |
| Connecting cables   | 2         | ●         | ●           | -                  | ●              | ●              | ●                         | ●            |
| Cascade connection cables <sup>1)</sup>                   | 2         | -         | -           | -                  | ●              | ●              | -                         | -            |
| Operating instructions on CD-ROM <sup>2)</sup>            | Re-usable | ●         | ●           | ●                  | -              | -              | -                         | -            |
| CDS (configuration and diagnostic software) <sup>2)</sup> | Re-usable | -         | -           | -                  | ●              | ●              | ●                         | ●            |
| Test rod <sup>2)</sup>                                    | 1         | ●         | ●           | ●                  | ●              | ●              | ●                         | ●            |




<sup>1)</sup> Only required for cascade connection.

<sup>2)</sup> Included.





## Recommended accessories for C4000

For additional accessories see: [www.mysick.com/products](http://www.mysick.com/products)

### Connection cables

| Figure  | Description  | Type of connection | Direction of cable outlet            | Length of cable | Model name         | Part no. |
|---|--|--------------------|--------------------------------------|-----------------|--------------------|----------|
|  | Connecting cables for C4000 Micro  | M12 x 7 + FE       | Straight                             | 5 m             | DOL-127SG05ME25KM0 | 6020354  |
|   |  |                    |                                      | 10 m            | DOL-127SG10ME25KM0 | 6020352  |
|  | Connecting cables for C4000 Standard<br>C4000 Advanced C4000 Palletizer Advanced<br>C4000 Fusion       | M26 x 11 + FE      | Straight                             | 5 m             | DOL-0612G05M075KM0 | 2022545  |
|   |  |                    |                                      | 10 m            | DOL-0612G10M075KM0 | 2022547  |
|   |  |                    |                                      | 15 m            | DOL-0612G15M075KM0 | 2022548  |
|   |  |                    |                                      | 20 m            | DOL-0612G20M075KM0 | 2022549  |
|  | Connection cables for C4000 Standard<br>C4000 Advanced<br>C4000 Palletizer<br>Advanced<br>C4000 Fusion | M26 x 11 + FE      | Plug straight/<br>socket<br>straight | 0.5 m           | DSL-0612G0M5075KM0 | 2021838  |
|   |  |                    |                                      | 1 m             | DSL-0612G01M075KM0 | 2022279  |
|   |  |                    |                                      | 2.5 m           | DSL-0612G2M5075KM0 | 2022282  |


### Connection plugs

| Figure  | Description   | Type of connection | Direction of cable outlet | Model name         | Part no. |
|---|---|--------------------|---------------------------|--------------------|----------|
|   | Cable plugs for C4000 Standard<br>C4000 Advanced C4000 Palletizer Advanced<br>C4000 Fusion  | M26 x 11 + FE      | Straight                  | STE-0312G000GA3KM0 | 6021191  |
|  | Cable plugs for C4000 Standard<br>C4000 Advanced C4000 Palletizer Advanced<br>C4000 Fusion  | M26 x 11 + FE      | Angled                    | STE-0312W000GA3KM0 | 6021192  |
|  | Cable socket for C4000 Standard<br>C4000 Advanced C4000 Palletizer Advanced<br>C4000 Fusion | M26 x 11 + FE      | Straight                  | DOS-0612G000GA3KM0 | 6020757  |
|  | Cable socket for C4000 Standard<br>C4000 Advanced C4000 Palletizer Advanced<br>C4000 Fusion | M26 x 11 + FE      | Angled                    | DOS-0612W000GA3KM0 | 6020758  |

## Mounting brackets/plates

| Figure  | Description   | Packing unit | Model name    | Part no. |
|---|---|--------------|---------------|----------|
|  | Swivel-mount mounting brackets pivoting for C4000 Micro<br>C4000 Micro in IP69K Housing                               | 4 x          | BEF-2SMKEAKU4 | 2019649  |
|  | Stainless steel mounting brackets pivoting for C4000 Micro<br>C4000 Micro in IP69K Housing                            | 4 x          | BEF-2SMMEAES4 | 2023708  |
|  | Swivel-mount mounting bracket pivoting for C4000 Standard<br>C4000 Advanced C4000 Palletizer Advanced<br>C4000 Fusion | 4 x          | BEF-2SMKEAKU4 | 2019659  |
|  | Side bracket pivoting for C4000 Micro C4000 Standard<br>C4000 Advanced C4000 Palletizer Advanced C4000 Fusion         | 4 x          | BEF-1SHABAZN4 | 2019506  |

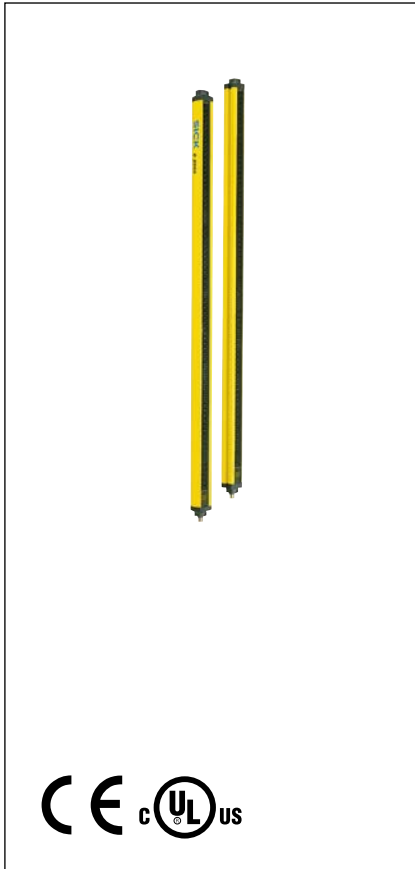
## UE402 switching amplifier

| Figure   | Description   | Model name | Part no. |
|--|---|------------|----------|
|  | Extends C4000 Standard Advanced Palletizer Entry/Exit and Fusion with functions<br>e.g. bypass operating mode switching or additional PSDI mode | UE402      | 1023577  |

For general accessories, see page 78.



Enhanced system solutions, see page 79.



## At a glance

- Tried-and-tested 7-segment display for diagnostics
- Robust housing with an industrial design
- Impact- and scratch-resistant front screen
- Standardized and comprehensive connection and mounting systems
- Cascadable up to three systems
- External device monitoring (EDM) and restart interlock (RES)
- Special variants for washed down areas available (IP 69K)
- Beam coding protects against interfering light

## Your benefits

- Customer-friendly interfaces and status indicators simplify commissioning and maintenance
- High-quality industrial design for reliable and durable continuous operation
- Time-saving alignment and diagnostics due to a 7-segment display
- Resistant and robust design ensures high system reliability, even under difficult ambient conditions
- A multitude of intelligent mounting adapters enable flexible mounting
- Increased flexibility and reduced wiring complexity due to cascading
- Additional integrated functions: reset and EDM provide short cable paths and connection to cost-optimized, positively guided relays

## Ordering information

### C2000

For additional variants and accessories, see: [www.mysick.com/en/C2000](http://www.mysick.com/en/C2000) Standard

| Resolution | Scanning range | Protective field height | Sender         |          | Receiver       |          |
|------------|----------------|-------------------------|----------------|----------|----------------|----------|
|            |                |                         | Model name     | Part no. | Model name     | Part no. |
| 20 mm      | 0 ... 6 m      | 150 mm                  | C20S-015102A11 | 1016563  | C20E-015302A11 | 1016564  |
|            |                | 300 mm                  | C20S-030102A11 | 1016448  | C20E-030302A11 | 1016449  |
|            |                | 450 mm                  | C20S-045102A11 | 1016573  | C20E-045302A11 | 1016459  |
|            |                | 600 mm                  | C20S-060102A11 | 1016574  | C20E-060302A11 | 1016575  |
| 30 mm      | 0 ... 6 m      | 300 mm                  | C20S-030103A11 | 1016568  | C20E-030303A11 | 1016569  |
|            |                | 450 mm                  | C20S-045103A11 | 1016454  | C20E-045303A11 | 1016455  |
|            |                | 600 mm                  | C20S-060103A11 | 1016477  | C20E-060303A11 | 1016478  |
|            |                | 750 mm                  | C20S-075103A11 | 1016479  | C20E-075303A11 | 1016480  |
|            |                | 900 mm                  | C20S-090103A11 | 1016481  | C20E-090303A11 | 1016482  |
|            |                | 1050 mm                 | C20S-105103A11 | 1016483  | C20E-105303A11 | 1016484  |
|            |                | 1200 mm                 | C20S-120103A11 | 1016594  | C20E-120303A11 | 1016595  |
|            |                | 1350 mm                 | C20S-135103A12 | 1016600  | C20E-135303A12 | 1016601  |
|            |                | 1500 mm                 | C20S-150103A12 | 1016605  | C20E-150303A12 | 1016606  |
|            |                | 1650 mm                 | C20S-165103A12 | 1016610  | C20E-180303A12 | 1016611  |
| 40 mm      | 0 ... 6 m      | 300 mm                  | C20S-030104A11 | 1016570  | C20E-030304A11 | 1016571  |
|            |                | 450 mm                  | C20S-045104A11 | 1016456  | C20E-045304A11 | 1016457  |
|            |                | 600 mm                  | C20S-060104A11 | 1016576  | C20E-060304A11 | 1016577  |
|            |                | 750 mm                  | C20S-075104A11 | 1016581  | C20E-075304A11 | 1016582  |

| Resolution | Scanning range | Protective field height | Sender         |          | Receiver       |          |
|------------|----------------|-------------------------|----------------|----------|----------------|----------|
|            |                |                         | Model name     | Part no. | Model name     | Part no. |
| 40 mm      | 0 ... 6 m      | 900 mm                  | C20S-090104A11 | 1016586  | C20E-090304A11 | 1016587  |
|            |                | 1050 mm                 | C20S-105104A11 | 1016591  | C20E-105304A11 | 1016592  |
|            |                | 1200 mm                 | C20S-120104A11 | 1016596  | C20E-120304A11 | 1016597  |
|            |                | 1350 mm                 | C20S-135104A12 | 1016603  | C20E-135304A12 | 1016604  |
|            |                | 1500 mm                 | C20S-150104A12 | 1016608  | C20E-150304A12 | 1016609  |
|            |                | 1650 mm                 | C20S-165104A12 | 1016613  | C20E-165304A12 | 1016614  |
|            |                | 1800 mm                 | C20S-180104A12 | 1016618  | C20E-180304A12 | 1016619  |

### Accessories required for commissioning

| Description                                    | Number    | C2000 Standard | C2000 RES/EDM | C2000 Cascadable |
|--|-----------|----------------|---------------|------------------|
| Mounting kit                                   | 1         | ●              | ●             | ●                |
| Connecting cables                              | 2         | ●              | ●             | ●                |
| Cascade connection cables <sup>1)</sup>        | 2         | -              | ●             | ●                |
| Operating instructions on CD-ROM <sup>2)</sup> | Re-usable | ●              | ●             | ●                |
| Test rod <sup>2)</sup>                         | 1         | ●              | ●             | ●                |



<sup>1)</sup> Only required for cascade connection.

<sup>2)</sup> Included.


### Recommended accessories for C2000

For additional accessories, see: [www.mysick.com/products](http://www.mysick.com/products)

#### Mounting systems

| Figure  | Description                             | Packing unit | Model name    | Part no. |
|---|---|--------------|---------------|----------|
|  | Swivel-mount mounting bracket, pivoting | 4 x          | BEF-2SMKEAKU4 | 2019649  |
|  | Side bracket, pivoting                  | 4 x          | BEF-1SHABAZN4 | 2019506  |

#### Connecting cables

| Figure  | Description      | Type of connection | Direction of cable outlet | Length of cable | Model name         | Part no. |
|---|------------------|--------------------|---------------------------|-----------------|--------------------|----------|
|  | Connecting cable | M12 x 7 + FE       | Straight                  | 5 m             | DOL-127SG05ME25KM0 | 6020354  |
|   |                  |                    |                           | 10 m            | DOL-127SG10ME25KM0 | 6020352  |

For general accessories, see page 78.



Enhanced system solutions, see page 79.

#### Complete safety exactly to your requirements

Multiple light beam safety devices are used for access protection with and without muting. Wide scanning ranges and high signal reserves allow a wide range of application possibilities even under harsh ambient conditions. The comprehensive functions are easy to understand and can be set by means of menus. The broad scanning range permits standardization of just one device for a wide range of applications and thus implements machine safety cost-effectively.





### Hot or cold: M4000

- Permanent safety function even at negative temperatures guarantees higher production quality
  - Ambient operating temperatures of  $-30\text{ }^{\circ}\text{C}$  to  $+55\text{ }^{\circ}\text{C}$



### Muting with M4000 Advanced

- On-site connection for 2 and 4 sensor muting with the UE403
- Minimized wiring workload, simplified commissioning and maintenance
- Fault monitoring for use of just 2 muting sensors in the hazardous area
- Pre-mounted muting accessories



### Complete solutions with columns

- “Optical fence” via multiple light beam safety devices and reflector columns
  - Allows safe access to the machine from all sides



### Reduced safety distances with M4000 Advanced Curtain

- High resolution (14/30 mm) reduces the safety distances for access protection with and without muting

#### Active/passive variants

- The passive unit does not require an electrical connection
  - Cost savings
  - Reduced wiring effort






### Thinking beyond the product

- Wide variety of accessories
  - Mounting brackets, connecting cables, system plugs, etc.
- Info service
  - Multi-language operating instructions, dimensional drawings and CAD models, connection diagrams, sample applications, animations, tutorials and quick starts
  - After-Sales support, e.g., for subsequent system expansions

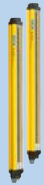






[www.sick.com/service](http://www.sick.com/service)

### Product family overview

|   |  |  |  |
|---|---|---|---|
|   | <b>M4000 Standard</b>   | <b>M4000 Standard A/P</b>   | <b>M4000 Advanced (UE403)</b>   |
|   | High efficiency and maximum reliability without a PC                              | Intelligent wiring and maximum reliability  | Intelligent and efficient: on-site connection of the muting signals                 |
| <b>Technical specifications</b>   |   |   |   |
| Type (EN 61496-1) / Safety integrity level (IEC 61508) / Performance level (EN ISO 13849-1) | Type 4 / SIL3 / PL e  | Type 4 / SIL3 / PL e  | Type 4 / SIL3 / PL e  |
| Number of beams   | 2 ... 8   | 2/4   | 2 ... 8   |
| Beam separation   | 220 mm ... 600 mm   | 500 mm/300 mm   | 220 mm ... 600 mm   |
| Protective field  | -   | -   | -   |
| Resolution  | -   | -   | -   |
| Configurable scanning range (low/high)  | 0.5 m ... 20 m/9 m ... 70 m   | 0.5 m ... 7.5 m   | 0.5 m ... 20 m/9 m ... 70 m   |
| Enclosure rating  | IP 65   | IP 65   | IP 65   |
| Housing dimensions  | 52 mm x 55 mm   | 52 mm x 55 mm   | 52 mm x 55 mm   |
| System connection   | M12 x 8   | M12 x 8   | M26 x 12/M12 x 5  |
| Extension connection (only UE403)   | -   | -   | M12 x 5   |
| Ambient operating temperature   | -30 °C ... +55 °C   | -30 °C ... +55 °C   | -30 °C ... +55 °C   |
| Response times, type-dependent  | ≤ 11 ms   | ≤ 10 ms   | ≤ 11 ms   |
| <b>Functions</b>  |   |   |   |
| Restart interlock (RES)   | ✓   | ✓   | ✓   |
| External device monitoring (EDM)  | ✓   | ✓   | ✓   |
| Beam coding   | With configuration buttons  | With configuration buttons  | With CDS  |
| Alignment/Diagnostics   | LED display/7-segment display   | 7-segment display   | 7-segment display   |
| Muting, decentral with  | -   | -   | UE403/UE4155  |
| Muting in the control cabinet   | Flexi Classic/Flexi Soft  | Flexi Classic/Flexi Soft  | Flexi Classic/Flexi Soft  |
| Configurable with   | Configuration buttons   | Configuration buttons   | CDS (included)  |
| EFI communication   | -   | -   | Integrated  |
| <b>Certification</b>  |   |   |   |
| uL/cuLus certification  | ✓   | ✓   | ✓   |
| <b>Advanced system solutions with sens:Control – safe control solutions</b>                 |   |   |   |
| Evaluation unit   |   |   |   |
| UE403   | -   | -   | ●   |
| Safety relay  |   |   |   |
| UE10-30S  | ●   | ●   | ●   |
| UE48  | ●   | ●   | ●   |
| Safety controllers  |   |   |   |
| Flexi Classic   | ●   | ●   | ●   |
| Flexi Soft  | ●   | ●   | ●   |
| Network solutions   |   |   |   |
| EFI gateways  | -   | -   | ●   |
|   | ● = Recommended; ○ = Possible; ○ = On request; - = Not available                  |   |   |
| Detailed information  | → page 50   | → page 50   | → page 50   |



|  |  |  |  |  |  |
|--|---|---|---|---|---|
|  | <b>M4000 Advanced Curtain</b>   | <b>M4000 Advanced A/P (UE403)</b>   | <b>M4000 Area</b>   | <b>M2000 Standard</b>   | <b>M2000 A/P</b>  |
|  | High resolution permits a short safety distance                                   | Economical and intelligent: connection of the muting signals directly on site     | Broad scanning range for area protection or presence detection                    | Sturdy industrial design and user-friendliness without a PC                         | Intelligent wiring and maximum reliability with a proven industrial design          |
|  | Type 4 / SIL3 / PL e  | Type 4 / SIL3 / PL e  | Type 4 / SIL3 / PL e  | Type 2 / SIL1 / PL c  | Type 2 / SIL1 / PL c  |
|  | -   | 2/4   | -   | 2 ... 9   | 2   |
|  | -   | 500 mm/300 mm   | -   | 170 mm ... 500 mm   | 500 mm  |
|  | 300 mm ... 1800 mm  | -   | 300 mm (600 mm) ... 1800 mm   | -   | -   |
|  | 14 mm / 30 mm   | -   | 60 mm and 80 mm   | -   | -   |
|  | 0 m ... 2.5 m / 2 m ... 8 m<br>0 m ... 6 m / 5 m ... 19 m                         | 0.5 m ... 7.5 m   | 0 m ... 6 m/5 m ... 19 m/<br>0.5 m ... 20 m/9 m ... 70 m                          | 0 m ... 20 m/0 m ... 70 m   | 0 m ... 6 m   |
|  | IP 65   | IP 65   | IP 65   | IP 65   | IP 65   |
|  | 52 mm x 55 mm   | 52 mm x 55 mm   | 52 mm x 55 mm   | 40 mm x 48 mm   | 40 mm x 48 mm   |
|  | M26 x 11 + FE   | M26 x 12/M12 x 5  | M26 x 12  | M26 x 7/M12 x 8   | M26 x 7/M12 x 8   |
|  | M12 x 5   | M12 x 5   | -   | -   | -   |
|  | -30 °C ... +55 °C   | -30 °C ... +55 °C   | -10 °C ... +55 °C   | 0 °C ... +55 °C   | 0 °C ... +55 °C   |
|  | ≤ 26 ms   | ≤ 10 ms   | ≤ 11 ms   | ≤ 8 ms  | ≤ 7 ms  |
|  | ✓   | ✓   | ✓   | M2000 Standard RES/EDM  | M2000 A/P RES/EDM   |
|  | ✓   | ✓   | ✓   | ✓ with M12 x 8  | ✓ with M12 x 8  |
|  | With CDS  | With CDS  | With CDS  | Fixed wiring  | Code 1  |
|  | LED display / 7-segment display   | 7-segment display   | 7-segment display   | -   | -   |
|  | UE403 / UE4155  | UE403/UE4155  | -   | -   | -   |
|  | Flexi Classic/Flexi Soft  | Flexi Classic/Flexi Soft  | Flexi Classic/Flexi Soft  | Flexi Classic/Flexi Soft  | Flexi Classic/Flexi Soft  |
|  | CDS (included)  | CDS (included)  | CDS (included)  | Fixed wiring  | Fixed wiring  |
|  | Integrated  | Integrated  | Integrated  | -   | -   |
|  | ✓   | ✓   | ✓   | ✓   | ✓   |
|  | ●   | ●   | -   | -   | -   |
|  | ●   | ●   | ●   | ●   | ●   |
|  | ●   | ●   | ●   | ●   | ●   |
|  | ●   | ●   | ●   | ●   | ●   |
|  | ●   | ●   | ●   | ●   | ●   |
|  | ●   | ●   | ●   | ●   | ●   |
|  | ●   | ●   | ●   | -   | -   |
|  | ● = Recommended; ○ = Possible; □ = On request; - = Not available                  |   |   |   |   |
|  | → page 50   | → page 50   | → page 50   | → page 54   | → page 54   |



## At a glance

- Wide scanning range of up to 70 m
- External device monitoring (EDM), restart interlock (RES) and application diagnostic output (ADO)
- Robust housing with three mounting grooves
- Simple device configuration and quick diagnostics
- Tried-and-tested 7-segment display for diagnostics
- Beam coding for precise system allocation
- Integrated as an option: laser alignment aid, LED
- Active/passive variants for inexpensive wiring

## Your benefits

- The broad scanning range allows the device to be standardized for multiple applications
- Resistant and robust type for high system reliability, even under difficult ambient conditions
- Mounting grooves on three housing sides ensure more flexibility during mounting and simplify machine integration
- Customer-friendly interfaces and status indicators simplify commissioning and maintenance
- Advanced variant: for 2-sensor and 4-sensor muting, the on-site connection of the muting signals minimizes the wiring effort considerably and simplifies commissioning and maintenance
- Active/passive variants minimize the wiring and installation workload, since only one side has to be wired

## Ordering information

### M4000 Standard

For additional variants and accessories, see: [www.mysick.com/en/M4000 Standard](http://www.mysick.com/en/M4000%20Standard)

| Number of beams | Beam separation | Scanning range | Sender         |          | Receiver       |          |
|-----------------|-----------------|----------------|----------------|----------|----------------|----------|
|                 |                 |                | Model name     | Part no. | Model name     | Part no. |
| 2               | 500 mm          | 0.5 ... 20 m   | M40S-025000ARO | 1200000  | M40E-025000RR0 | 1200017  |
| 3               | 400 mm          | 0.5 ... 20 m   | M40S-034000ARO | 1200003  | M40E-034000RR0 | 1200020  |
| 4               | 300 mm          | 0.5 ... 20 m   | M40S-043000ARO | 1200006  | M40E-043000RR0 | 1200023  |

- With an integrated alignment aid and end cap with integrated LED (receiver only)

| Number of beams | Beam separation | Scanning range | Sender         |          | Receiver       |          |
|-----------------|-----------------|----------------|----------------|----------|----------------|----------|
|                 |                 |                | Model name     | Part no. | Model name     | Part no. |
| 2               | 500 mm          | 0.5 ... 20 m   | M40S-025010ARO | 1200011  | M40E-025030RR0 | 1200038  |
| 3               | 400 mm          | 0.5 ... 20 m   | M40S-034010ARO | 1200013  | M40E-034030RR0 | 1200040  |
| 4               | 300 mm          | 0.5 ... 20 m   | M40S-043010ARO | 1200015  | M40E-043030RR0 | 1200042  |

### M4000 Standard A/P

For additional variants and accessories, see: [www.mysick.com/en/M4000 Standard](http://www.mysick.com/en/M4000%20Standard)

| Number of beams | Beam separation | Scanning range | Sender/receiver unit |          | Deflection unit |          |
|-----------------|-----------------|----------------|----------------------|----------|-----------------|----------|
|                 |                 |                | Model name           | Part no. | Model name      | Part no. |
| 2               | 500 mm          | 0.5 ... 7.5 m  | M40Z-025000RR0       | 1200120  | PSD01-1501      | 1027906  |
|                 |                 | 0.5 ... 4.5 m  | M40Z-025000TR0       | 1200122  | PSD01-2501      | 1027907  |
| 4               | 300 mm          | 0.5 ... 4.5 m  | M40Z-043000TR0       | 1200123  | PSD02-2301      | 1027908  |

- With end cap with integrated LED

| Number of beams | Beam separation | Scanning range | Sender/receiver unit |          | Deflection unit |          |
|-----------------|-----------------|----------------|----------------------|----------|-----------------|----------|
|                 |                 |                | Model name           | Part no. | Model name      | Part no. |
| 2               | 500 mm          | 0.5 ... 7.5 m  | M40Z-025020RR0       | 1200124  | PSD01-1501      | 1027906  |
|                 |                 | 0.5 ... 4.5 m  | M40Z-025020TR0       | 1200129  | PSD01-2501      | 1027907  |
| 4               | 300 mm          | 0.5 ... 4.5 m  | M40Z-043020TR0       | 1200130  | PSD02-2301      | 1027908  |

## M4000 Advanced

For additional variants and accessories, see: [www.mysick.com/en/M4000 Advanced](http://www.mysick.com/en/M4000%20Advanced)

| Number of beams | Beam separation | Scanning range | Sender         |          | Receiver       |          |
|-----------------|-----------------|----------------|----------------|----------|----------------|----------|
|                 |                 |                | Model name     | Part no. | Model name     | Part no. |
| 2               | 500 mm          | 0.5 ... 20 m   | M40S-025003AA0 | 1200060  | M40E-025003RB0 | 1200065  |
| 3               | 400 mm          | 0.5 ... 20 m   | M40S-034003AA0 | 1200061  | M40E-034003RB0 | 1200064  |
| 4               | 300 mm          | 0.5 ... 20 m   | M40S-043003AA0 | 1200073  | M40E-043003RB0 | 1200100  |

- With an integrated alignment aid and end cap with integrated LED (receiver only)

| Number of beams | Beam separation | Scanning range | Sender         |          | Receiver       |          |
|-----------------|-----------------|----------------|----------------|----------|----------------|----------|
|                 |                 |                | Model name     | Part no. | Model name     | Part no. |
| 2               | 500 mm          | 0.5 ... 20 m   | M40S-025013AA0 | 1200057  | M40E-025033RB0 | 1200110  |
| 3               | 400 mm          | 0.5 ... 20 m   | M40S-034013AA0 | 1200069  | M40E-034033RB0 | 1200068  |
| 4               | 300 mm          | 0.5 ... 20 m   | M40S-043013AA0 | 1200080  | M40E-043033RB0 | 1200113  |

## M4000 Advanced A/P

For additional variants and accessories, see: [www.mysick.com/en/M4000 Advanced](http://www.mysick.com/en/M4000%20Advanced)

| Number of beams | Beam separation | Scanning range | Sender/receiver unit |          | Deflection unit |          |
|-----------------|-----------------|----------------|----------------------|----------|-----------------|----------|
|                 |                 |                | Model name           | Part no. | Model name      | Part no. |
| 2               | 500 mm          | 0.5 ... 7.5 m  | M40Z-025003RB0       | 1200115  | PSD01-1501      | 1027906  |
|                 |                 | 0.5 ... 4.5 m  | M40Z-025003TB0       | 1200128  | PSD01-2501      | 1027907  |
| 4               | 300 mm          | 0.5 ... 4.5 m  | M40Z-043003TB0       | 1200127  | PSD02-2301      | 1027908  |

- With end cap with integrated LED

| Number of beams | Beam separation | Scanning range | Sender/receiver unit |          | Deflection unit |          |
|-----------------|-----------------|----------------|----------------------|----------|-----------------|----------|
|                 |                 |                | Model name           | Part no. | Model name      | Part no. |
| 2               | 500 mm          | 0.5 ... 7.5 m  | M40Z-025023RB0       | 1200126  | PSD01-1501      | 1027906  |
|                 |                 | 0.5 ... 4.5 m  | M40Z-025023TB0       | 1200125  | PSD01-2501      | 1027907  |
| 4               | 300 mm          | 0.5 ... 4.5 m  | M40Z-043023TB0       | 1200131  | PSD02-2301      | 1027908  |

## M4000 Advanced Curtain

For additional variants and accessories, see: [www.mysick.com/en/M4000 Advanced](http://www.mysick.com/en/M4000%20Advanced)

- With an integrated LED (receiver only)

| Resolution | Scanning range | Protective field height | Sender         |          | Receiver       |          |
|------------|----------------|-------------------------|----------------|----------|----------------|----------|
|            |                |                         | Model name     | Part no. | Model name     | Part no. |
| 30 mm      | 0 ... 19 m     | 900 mm                  | M40S-64A303AA0 | 1201441  | M40E-64A323RB0 | 1204680  |
|            |                | 1050 mm                 | M40S-65A303AA0 | 1201482  | M40E-65A323RB0 | 1205632  |
|            |                | 1200 mm                 | M40S-66A303AA0 | 1201036  | M40E-66A323RB0 | 1204764  |
|            |                | 1350 mm                 | M40S-67A303AA0 | 1203236  | M40E-67A323RB0 | 1205633  |
|            |                | 1500 mm                 | M40S-68A303AA0 | 1203237  | M40E-68A323RB0 | 1204598  |
|            |                | 1650 mm                 | M40S-69A303AA0 | 1203238  | M40E-69A323RB0 | 1205634  |
|            |                | 1800 mm                 | M40S-70A303AA0 | 1203239  | M40E-70A323RB0 | 1204829  |

## M4000 Area

For additional variants and accessories, see: [www.mysick.com/en/M4000 Area](http://www.mysick.com/en/M4000%20Area)

| Resolution | Scanning range | Protective field height | Sender         |          | Receiver       |          |
|------------|----------------|-------------------------|----------------|----------|----------------|----------|
|            |                |                         | Model name     | Part no. | Model name     | Part no. |
| 80 mm      | 0.5 ... 70 m   | 900 mm                  | M40S-64A105AA0 | 1201655  | M40E-64A105RA0 | 1201656  |
|            |                | 1050 mm                 | M40S-65A105AA0 | 1200586  | M40E-65A105RA0 | 1200587  |
|            |                | 1200 mm                 | M40S-66A105AA0 | 1201046  | M40E-66A105RA0 | 1201045  |
|            |                | 1350 mm                 | M40S-67A105AA0 | 1200604  | M40E-67A105RA0 | 1200605  |
|            |                | 1500 mm                 | M40S-68A105AA0 | 1200588  | M40E-68A105RA0 | 1200589  |
|            |                | 1650 mm                 | M40S-69A105AA0 | 1200686  | M40E-69A105RA0 | 1200687  |
|            |                | 1800 mm                 | M40S-70A105AA0 | 1200149  | M40E-70A105RA0 | 1200148  |

## Accessories required for commissioning



| Description   | Number    | M4000 Standard | M4000 Standard A/P | M4000 Advanced | M4000 Advanced A/P | M4000 Advanced Curtain | M4000 Area |
|---|-----------|----------------|--------------------|----------------|--------------------|------------------------|------------|
|   |           |                |                    |                |                    |                        |            |
| Mounting kit  | 1         | ●              | ●                  | ●              | ●                  | ●                      | ●          |
| Connecting cables   | 2         | ●              | ●                  | ●              | ●                  | ●                      | ●          |
| Connection cables with UE403 <sup>1)</sup>                | 1         | -              | -                  | ●              | ●                  | ●                      | -          |
| Muting switching amplifier UE403                          | 1         | -              | -                  | ●              | ●                  | ●                      | -          |
| Operating instructions on CD-ROM <sup>2)</sup>            | Re-usable | ●              | ●                  | -              | -                  | -                      | -          |
| CDS (configuration and diagnostic software) <sup>2)</sup> | Re-usable | -              | -                  | ●              | ●                  | ●                      | ●          |
| Test rod <sup>2)</sup>                                    | 1         | -              | -                  | -              | -                  | ●                      | -          |

<sup>1)</sup> For use with UE403.<sup>2)</sup> Included.



## Recommended accessories for M4000

For additional accessories, see: [www.mysick.com/products](http://www.mysick.com/products)



## Connection cables

| Figure  | Description  | Type of connection | Direction of cable outlet | Length of cable | Model name         | Part no. |
|---|--|--------------------|---------------------------|-----------------|--------------------|----------|
|  | Connecting cables  | M26 x 11 + FE      | Straight                  | 5 m             | DOL-0612G05M075KM0 | 2022545  |
|   |  |                    |                           | 10 m            | DOL-0612G10M075KM0 | 2022547  |
|  | Connection cables for connecting muting sensors to UE403 | M12 x 4 + FE       | Straight                  | 0.6 m           | DSL-1205-G0M6C     | 6025930  |
|   |  |                    |                           | 2 m             | DSL-1205-G02MC     | 6025931  |




## Connection plugs

| Figure  | Description  | Type of connection | Direction of cable outlet | Model name         | Part no. |
|---|--------------|--------------------|---------------------------|--------------------|----------|
|  | Cable socket | M26 x 11 + FE      | Straight                  | DOS-0612G000GA3KM0 | 6020757  |
|  | Cable socket | M26 x 11 + FE      | Angled                    | DOS-0612W000GA3KM0 | 6020758  |


## Mounting systems

| Figure  | Description                             | Packing unit | Model name    | Part no. |
|---|---|--------------|---------------|----------|
|  | Swivel-mount mounting bracket, pivoting | 4 x          | BEF-2SMGEAKU4 | 2030510  |
|  | Side bracket, pivoting                  | 4 x          | BEF-1SHABAZN4 | 2019506  |

## Muting arm kits

| Figure  | Description  | Model name     | Part no. |
|---|--|----------------|----------|
|  | 4 sensors for parallel muting, consisting of:<br>2 x muting arms, active: 4 x WL100-P1429, pre-assembled in a fixed position, with 2 m cable and M12 angled plugs,<br>2 x muting arms, passive: 4 x P250 reflectors, pre-assembled in a fixed position | Muting arm KIT | 2046170  |
|  | 2 sensors for cross muting, consisting of:<br>2 x muting arms, active: 2 x WL100-P1429, pre-assembled in a fixed position, with 2 m cable and M12 angled plugs,<br>2 x muting arms, passive: 2 x P250 reflectors, pre-assembled in a fixed position    | Muting arm KIT | 2046171  |
|  | 2 sensors, for parallel muting consisting of:<br>1 x muting arm, active: 2 x WL100-P1429, pre-assembled in a fixed position, and M12 angled plugs, 1 x muting arm, passive: 2 x P250 reflectors, pre-assembled in a fixed position                     | Muting arm KIT | 2060156  |

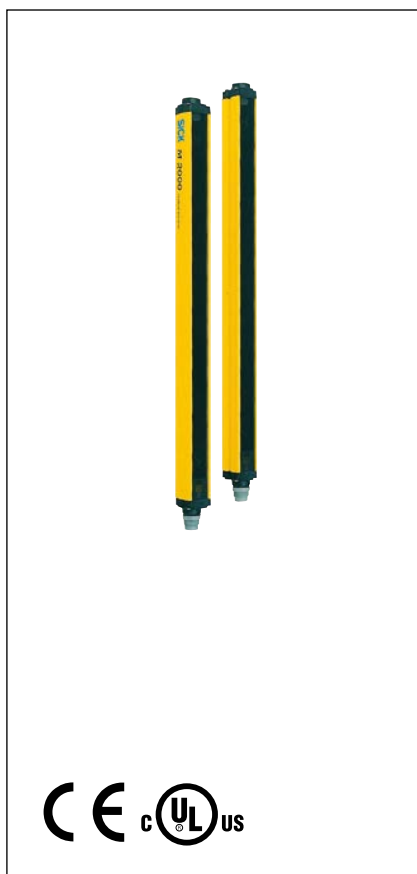
## Muting switching amplifiers

| Figure  | Description  | Model name  | Part no. |
|---|--|-------------|----------|
|  | UE403 switching amplifier for muting with M4000 Advanced | UE403-A0930 | 1026287  |

For general accessories, see page 78.



Enhanced system solutions, see page 79.



### At a glance

- Wide scanning range of up to 70 m
- External device monitoring (EDM) and restart interlock (RES)
- Robust housing with an industrial design
- Internal self-testing configurable without a PC
- Tried-and-tested 7-segment display for diagnostics
- Beam coding for precise system allocation
- Active/passive variants for cost-effective wiring
- Special IP-69K variants for wash down areas

### Your benefits

- High-quality industrial design for reliable and durable continuous operation
- Resistant and robust design ensures high system reliability, even under difficult ambient conditions
- Reduced installation workload due to flexible protective field adjustment using deflector mirrors
- The broad scanning range allows the device to be standardized for multiple applications
- Customer-friendly interfaces and status indicators simplify commissioning and maintenance
- Additional integrated functions: reset and EDM provide short cable paths and connection to cost-optimized, positively guided relays
- Economical active/passive variants minimize the wiring and installation workload.
- Special variants for wet areas available

### Ordering information

#### M2000 Standard

- External device monitoring

| Number of beams | Beam separation | Scanning range | Sender         |          | Receiver       |          |
|-----------------|-----------------|----------------|----------------|----------|----------------|----------|
|                 |                 |                | Model name     | Part no. | Model name     | Part no. |
| 2               | 500 mm          | 0 ... 25 m     | M20S-02150A122 | 1018186  | M20E-02150A122 | 1018187  |
| 3               | 400 mm          | 0 ... 25 m     | M20S-03140A122 | 1018188  | M20E-03140A122 | 1018189  |
| 4               | 300 mm          | 0 ... 25 m     | M20S-04130A122 | 1018190  | M20E-04130A122 | 1018191  |
| 2               | 500 mm          | 0 ... 25 m     | M20S-02250A122 | 1018174  | M20E-02250A122 | 1018175  |
| 3               | 400 mm          | 0 ... 25 m     | M20S-03240A122 | 1018178  | M20E-03240A122 | 1018179  |

#### M2000 Standard A/P

- External device monitoring

| Number of beams | Beam separation | Scanning range | Sender/receiver unit |          | Deflection unit |          |
|-----------------|-----------------|----------------|----------------------|----------|-----------------|----------|
|                 |                 |                | Model name           | Part no. | Model name      | Part no. |
| 1               | 500 mm          | 0 ... 6 m      | M20Z-02550A122       | 1018361  | PSR01-1501      | 1016677  |

## Accessories required for commissioning


| Description                                    | Number    |                |                    |
|--|-----------|----------------|--------------------|
|  |           | M2000 Standard | M2000 Standard A/P |
| Mounting kit                                   | 1         | ●              | ●                  |
| Connecting cables                              | 2         | ●              | ●                  |
| Operating instructions on CD-ROM <sup>1)</sup> | Re-usable | ●              | ●                  |

<sup>1)</sup> Included.



## Recommended accessories for M2000

For additional accessories, see: [www.mysick.com/products](http://www.mysick.com/products)

### Connecting cables

| Figure  | Description      | Type of connection | Direction of cable outlet | Length of cable | Model name         | Part no. |
|---|------------------|--------------------|---------------------------|-----------------|--------------------|----------|
|  | Connecting cable | M12 x 7 + FE       | Straight                  | 10 m            | DOL-127SG10ME25KM0 | 6020352  |
|   |                  |                    |                           | 15 m            | DOL-127SG15ME25KM0 | 6020872  |

### Mounting systems

| Figure  | Description                             | Packing unit | Model name    | Part no. |
|---|---|--------------|---------------|----------|
|  | Swivel-mount mounting bracket, pivoting | 4 x          | BEF-2SMKEAKU4 | 2019659  |
|  | Side bracket, pivoting                  | 4 x          | BEF-1SHABAZN4 | 2019506  |

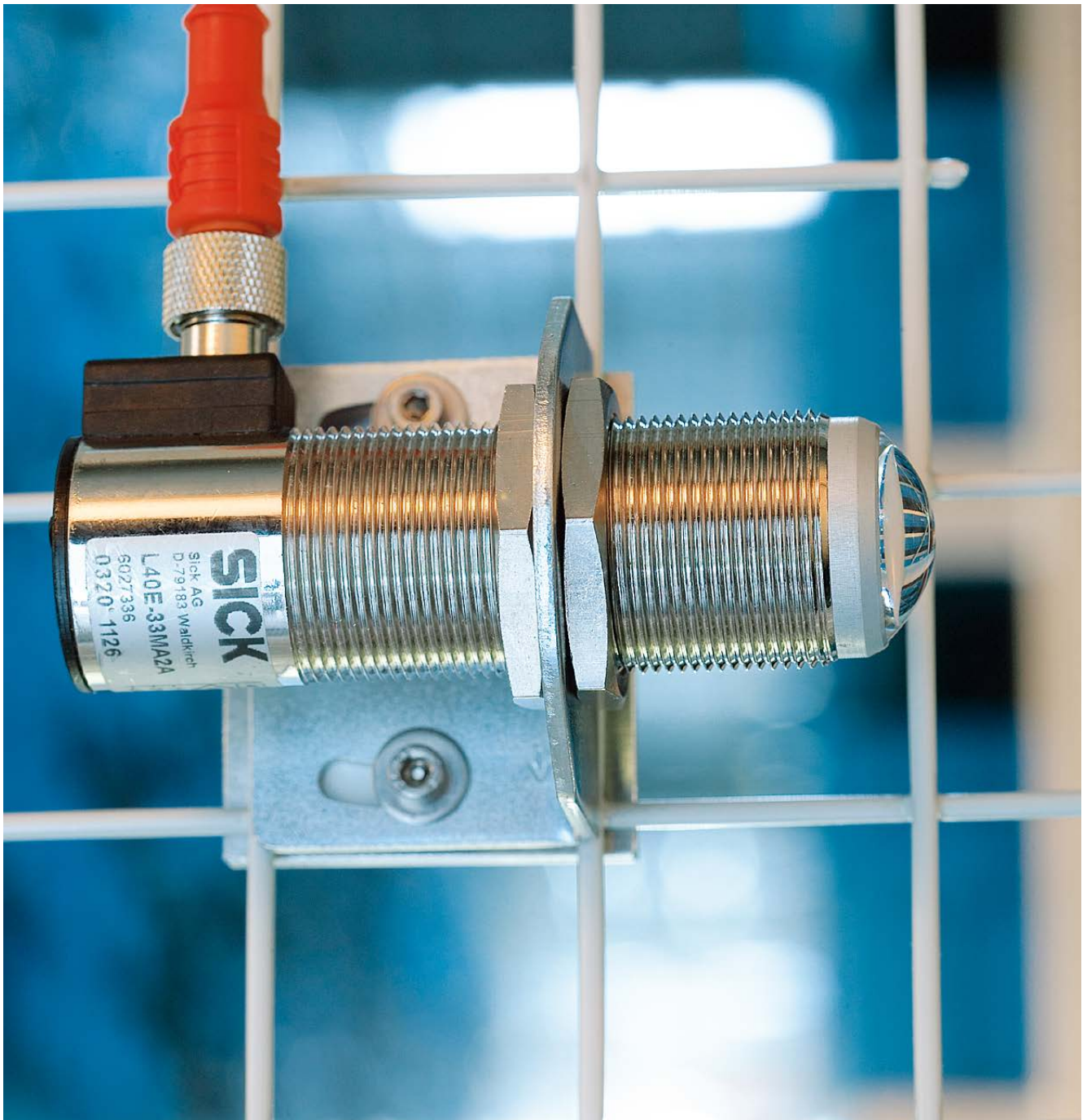
For general accessories, see page 78.



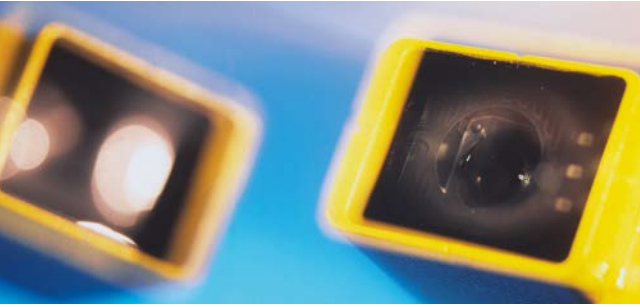
Enhanced system solutions, see page 79.

#### Safe solutions – smart and simple

Single-beam photoelectric safety switches from SICK either comprise self-testing senders and receivers or testable senders and receivers in combination with an evaluation unit. They are ideal for a variety of applications due to their long ranges and different types and sizes available. They also only offer the best in safety, as they comply with safety categories Type 2 and Type 4 in accordance with EN 61496.







### Safe, even in extreme cases

- Enclosure rating IP 67 for all single-beam photoelectric safety switches by SICK
  - Ideally suited for extreme applications



### Safety in freezing environments

- Permanent safety function even at negative temperatures guarantees higher production quality
- Particularly compact and robust
- With integrated heating (type-independent)



### Flexible technology which adapts itself

- Wide range of types and sizes
  - Allows optimal selection for integration in your machine



### Winning price and performance

- Just one photoelectric switch for safety and automation tasks
  - Two-in-one solution reduces warehousing costs
  - Longer service life than any mechanical solution






### Thinking beyond the product

- Wide variety of accessories
  - Mounting brackets, connecting cables, system plugs, etc.
- Info service
  - Multi-language operating instructions, dimensional drawings and CAD models, connection diagrams, sample applications, animations, tutorials and quick starts
  - After-Sales support, e.g., for subsequent system expansions



[www.sick.com/service](http://www.sick.com/service)

### Product family overview

|   | <br><b>L2000/L21</b>   | <br><b>L2000/L27</b> | <br><b>L2000/L28</b> |  |
|---|---|--|---|--|
|   | Cylindrical design for special safety applications up to type 2   | Standard type and long scanning ranges for safety applications up to type 2                            | Compact type for optimum integration into safety applications up to type 2                              |  |
| <b>Technical specifications</b>   |   |  |   |  |
| Type (IEC 61496)/PL (EN ISO13849)   | 2/c *)  | 2/c *)   | 2/c *)  |  |
| Light sender/light type   | -   | LED/visible red light  | LED/visible red light   |  |
| Optical axis  | Axial/radial  | -  | -   |  |
| Scanning range, type-dependent  | 5 m/16 m/60 m   | 25 m/35 m  | 12 m/18 m   |  |
| Enclosure rating  | IP 67   | IP 67  | IP 67   |  |
| Type  | Cylindrical   | Rectangular  | Rectangular   |  |
| Housing dimensions  | M18/M30   | 80.6 mm x 24.6 mm x 54 mm  | 75.5 mm x 17.6 mm x 33.5 mm   |  |
| Housing material  | Metal/Plastic   | Plastic (ABS)  | Plastic (ABS)   |  |
| Front screen heating  | -   | ✓  | -   |  |
| Type of connection/system connection  | M12 x 4   | M12 x 4  | M12 x 4   |  |
| Ambient operating temperature   | -40 °C ... +55 °C   | -40 °C ... +60 °C  | -10 °C ... +55 °C   |  |
| Response times, type-dependent  | Max. 200 µs   | Max. 540 µs  | Max. 500 µs   |  |
| <b>Functions</b>  |   |  |   |  |
| Restart interlock (RES)   | Flexi Classic   | Flexi Classic  | Flexi Classic   |  |
| External device monitoring (EDM)  | Flexi Classic   | Flexi Classic  | Flexi Classic   |  |
| Muting  | Flexi Classic   | Flexi Classic  | Flexi Classic   |  |
| Cascading (number of sensors)   | 4   | 4  | 4   |  |
| <b>Certification</b>  |   |  |   |  |
| Certification   | cTUVus  | cTUVus   | cTUVus  |  |
| <b>Advanced system solutions with sens:Control – safe control solutions</b> |   |  |   |  |
| Evaluation unit   |   |  |   |  |
| UE401   | -   | -  | -   |  |
| Safety relay  |   |  |   |  |
| UE10-30S  | -   | -  | -   |  |
| UE48  | -   | -  | -   |  |
| Safety controllers  |   |  |   |  |
| Flexi Classic   | ●   | ●  | ●   |  |
| Flexi Soft  | ●   | ●  | ●   |  |
|   | *) Only in combination with an appropriate test device, e.g., Flexi Classic, DeviceNet Safety<br>● = Recommended; ○ = Possible; ◯ = On request; - = Not available |  |   |  |
| Detailed information  | → page 62   | → page 62  | → page 62   |  |

# Product family overview

## Single-beam photoelectric safety switches



**L4000/L41**

Simple integration due to small, compact variants with a maximum scanning range



**L4000 system**

Complete system with high reliability and fast response times



**WSU/WEU26-3**

Robust design withstands extreme ambient conditions

|  |                       |                   |                         |
|--|-----------------------|-------------------|-------------------------|
|  | 4/e *)                | 4/e               | 4/e                     |
|  | LED/visible red light | -                 | IR                      |
|  | Axial/radial          | Axial/radial      | -                       |
|  | 5 m/10 m/60 m         | 5 m/10 m/60 m     | 20 m/70 m               |
|  | IP 67                 | IP 67             | IP 67                   |
|  | Cylindrical           | Cylindrical       | Rectangular             |
|  | M18/M30               | M18/M30           | 156 mm x 50 mm x 116 mm |
|  | Metal/Plastic         | Metal/Plastic     | Aluminum die cast       |
|  | -                     | -                 | ✓                       |
|  | M12 x 4               | M12 x 4           | PG connector            |
|  | -40 °C ... +55 °C     | -20 °C ... +55 °C | -20 °C ... +55 °C       |
|  | Max. 200 µs           | ≤ 30 ms           | ≤ 22 ms                 |
|  | Flexi Classic         | UE401             | -                       |
|  | Flexi Classic         | UE401             | -                       |
|  | Flexi Classic         | -                 | -                       |
|  | -                     | 8                 | -                       |
|  | cTUVus                | cULus             | cTUVus                  |
|  | -                     | ●                 | -                       |
|  | -                     | ●                 | ○                       |
|  | -                     | ○                 | ●                       |
|  | ●                     | ●                 | ●                       |
|  | ●                     | ●                 | ●                       |
|  | → page 60             | → page 60         | → page 64               |



### At a glance

- Small M18 sensors with scanning ranges of up to 10 m
- Compact M30 sensors with scanning ranges of up to 60 m
- Universal use up to type 4, with safe control solutions from SICK
- Up to 8 sensors can be cascaded
- Slim evaluation device (22.5 mm) with external device monitoring and restart interlock (EDM/RES)
- Temperature range of -40 °C ... + 55 °C
- IP 67 enclosure rating

### Your benefits

- Simple integration due to small, compact variants with maximum scanning range
- Flexible device integration makes it possible to set up individual protective fields
- Withstands extreme ambient conditions such as heat, cold or moisture
- Direct connection to a safe control saves costs – without a separate test box

### Ordering information

#### L4000

#### L4000 System

For additional variants and accessories, see: [www.mysick.com/en/L4000 Systems](http://www.mysick.com/en/L4000%20Systems)

| Scanning range | Optical axis | Housing material | Size | Type of output | System part | Model name  | Part no. |
|----------------|--------------|------------------|------|----------------|-------------|-------------|----------|
| 0 ... 60 m     | Axial        | Metal            | M30  | PNP, Q         | Receiver    | L40E-33MA2A | 6027336  |
|                |              |                  |      | -              | Sender      | L40S-33MA2A | 6027335  |
| 0 ... 10 m     | Axial        | Plastic          | M18  | PNP, Q         | Receiver    | L40E-21KA1A | 6027338  |
|                |              |                  |      | -              | Sender      | L40S-21KA1A | 6027337  |
|                |              | Metal            | M18  | PNP, Q         | Receiver    | L40E-21MA1A | 6027340  |
|                |              |                  |      | -              | Sender      | L40S-21MA1A | 6027339  |
| 0 ... 5 m      | Radial       | Metal            | M18  | PNP, Q         | Receiver    | L40E-11MA1A | 6027342  |
|                |              |                  |      | -              | Sender      | L40S-11MA1A | 6027341  |

#### Evaluation unit

| System part     | Model name  | Part no. |
|-----------------|-------------|----------|
| Evaluation unit | UE401-A0010 | 6027343  |

## L41

For additional variants and accessories, see: [www.mysick.com/en/L41](http://www.mysick.com/en/L41)

| Scanning range | Optical axis | Housing material | Size | Type of output | System part | Model name  | Part no. |
|----------------|--------------|------------------|------|----------------|-------------|-------------|----------|
| 0 ... 60 m     | Axial        | Metal            | M30  | PNP, Q         | Receiver    | L41E-33MA2A | 6034862  |
|                |              |                  |      | -              | Sender      | L41S-33MA2A | 6034863  |
| 0 ... 10 m     | Axial        | Plastic          | M18  | PNP, Q         | Receiver    | L41E-21KA1A | 6034865  |
|                |              |                  |      | -              | Sender      | L41S-21KA1A | 6034864  |
|                |              | Metal            | M18  | PNP, Q         | Receiver    | L41E-21MA1A | 6034867  |
|                |              |                  |      | -              | Sender      | L41S-21MA1A | 6034866  |
| 0 ... 5 m      | Radial       | Metal            | M18  | PNP, Q         | Receiver    | L41E-11MA1A | 6034869  |
|                |              |                  |      | -              | Sender      | L41S-11MA1A | 6034868  |

## Accessories required for commissioning

| Description                              | Number    | L4000 system | L41 |
|--|-----------|--------------|-----|
| Mounting bracket                         | 2         | ●            | ●   |
| Connecting cables                        | 2         | ●            | ●   |
| Evaluation unit UE401                    | 1         | ●            | -   |
| External test device, e.g. Flexi Classic | 1         | -            | ●   |
| Operating instructions <sup>1)</sup>     | Re-usable | ●            | ●   |

<sup>1)</sup> Included.



## Recommended accessories for L4000

For additional accessories, see: [www.mysick.com/products](http://www.mysick.com/products)

## Mounting systems

| Figure  | Description                                 | Packing unit | Model name | Part no. |
|---|---|--------------|------------|----------|
|  | Mounting bracket for M18 type of connection | 1 x          | BEF-WN-M18 | 5308446  |
|   | Mounting bracket for M30 type of connection | 1 x          | BEF-WN-M30 | 5308445  |

## Plug connectors and cables

| Figure  | Description       | Type of connection | Direction of cable outlet | Length of cable | Model name    | Part no. |
|---|-------------------|--------------------|---------------------------|-----------------|---------------|----------|
|  | Cable socket      | M12 x 4            | Straight                  | -               | DOS-1204-G    | 6007302  |
|   |                   |                    | Angled                    | -               | DOS-1204W     | 6007303  |
|  | Connecting cables | M12 x 4            | Straight                  | 5 m             | DOL-1204-G05M | 6009866  |
|   |                   |                    | Angled                    | 5 m             | DOL-1204-W05M | 6009867  |

For general accessories, see page 78.



Enhanced system solutions, see page 79.



### At a glance

- Compact variants
- Scanning ranges of up to 60 m
- Universal use up to type 2, with safe control solutions from SICK
- Temperature range of -40 °C ... + 55 °C
- IP 67 enclosure rating
- Simple diagnostics and service

### Your benefits

- Simple integration due to small, compact variants with maximum scanning range
- Direct connection to a safe control saves costs – without a separate test box
- Flexible device integration makes it possible to set up individual protective fields
- Withstands extreme ambient conditions such as heat, cold or moisture

### Ordering information

#### L2000

#### L21<sup>1)</sup>

For additional variants and accessories, see: [www.mysick.com/en/L21](http://www.mysick.com/en/L21)

| Scanning range | Optical axis | Housing material | Size | Type of output | System part | Model name  | Part no. |
|----------------|--------------|------------------|------|----------------|-------------|-------------|----------|
| 0 ... 60 m     | Axial        | Metal            | M30  | PNP, Q         | Receiver    | L21E-33MA2A | 6034871  |
|                |              |                  |      | -              | Sender      | L21S-33MA2A | 6034870  |
| 0 ... 10 m     | Axial        | Plastic          | M18  | PNP, Q         | Receiver    | L21E-21KA1A | 6034873  |
|                |              |                  |      | -              | Sender      | L21S-21KA1A | 6034872  |
| 0 ... 16 m     | Axial        | Metal            | M18  | PNP, Q         | Receiver    | L21E-21MA1A | 6034875  |
|                |              |                  |      | -              | Sender      | L21S-21MA1A | 6034874  |
| 0 ... 5 m      | Radial       | Metal            | M18  | PNP, Q         | Receiver    | L21E-11MA1A | 6034877  |
|                |              |                  |      | -              | Sender      | L21S-11MA1A | 6034876  |

<sup>1)</sup> Only in combination with an appropriate test device, e.g. Flexi Classic, DeviceNet Safety.

#### L27<sup>1)</sup>

For additional variants and accessories, see: [www.mysick.com/en/L27](http://www.mysick.com/en/L27)

| Scanning range | Front screen heating | Housing material | Size    | Type of output     | System part | Model name  | Part no. |
|----------------|----------------------|------------------|---------|--------------------|-------------|-------------|----------|
| 0 ... 25 m     | -                    | Plastic (ABS)    | Compact | PNP, Q + $\bar{Q}$ | Receiver    | L27E-3P2430 | 2043904  |
|                |                      |                  |         | -                  | Sender      | L27S-3D2430 | 2043906  |
|                | ✓                    | Plastic (ABS)    | Compact | PNP, Q + $\bar{Q}$ | Receiver    | L27E-3P2450 | 2043876  |
|                |                      |                  |         | -                  | Sender      | L27S-3D2450 | 2043877  |

<sup>1)</sup> Only in combination with an appropriate test device, e.g. Flexi Classic, DeviceNet Safety.

## L28

For additional variants and accessories, see: [www.mysick.com/en/L28](http://www.mysick.com/en/L28)

| Scanning range | Front screen heating | Housing material | Size    | Type of output     | System part | Model name  | Part no. |
|----------------|----------------------|------------------|---------|--------------------|-------------|-------------|----------|
| 0 ... 12 m     | -                    | Plastic (ABS)    | Compact | PNP, Q + $\bar{Q}$ | Receiver    | L28E-3P2431 | 2044516  |
|                |                      |                  |         | -                  | Sender      | L28S-3D2431 | 2044515  |

<sup>1)</sup> Only in combination with an appropriate test device, e.g. Flexi Classic, DeviceNet Safety

## Accessories required for commissioning


| Description                              | Number    | L21 | L27 | L28 |
|--|-----------|-----|-----|-----|
| Mounting bracket                         | 2         | ●   | ●   | ●   |
| Connecting cables                        | 2         | ●   | ●   | ●   |
| External test device, e.g. Flexi Classic | 1         | ●   | ●   | ●   |
| Operating instructions <sup>1)</sup>     | Re-usable | ●   | ●   | ●   |

<sup>1)</sup> Included.



## Recommended accessories for L2000

For additional accessories, see: [www.mysick.com/products](http://www.mysick.com/products)

## Mounting systems

| Figure  | Description                                 | Packing unit | Model name | Part no. |
|---|---|--------------|------------|----------|
|  | Mounting bracket for M18 type of connection | 1 x          | BEF-WN-M18 | 5308446  |
|   | Mounting bracket for M30 type of connection | 1 x          | BEF-WN-M30 | 5308445  |
|   | Mounting brackets for L27                   | 1 x          | BEF-WN-W27 | 2009122  |
|   | Mounting brackets for L28                   | 1 x          | BEF-WN-W18 | 2009317  |

## Plug connectors and cables

| Figure  | Description      | Type of connection | Direction of cable outlet | Length of cable | Model name    | Part no. |
|---|------------------|--------------------|---------------------------|-----------------|---------------|----------|
|  | Cable socket     | M12 x 4            | Straight                  | -               | DOS-1204-G    | 6007302  |
|   |                  |                    | Angled                    | -               | DOS-1204W     | 6007303  |
|  | Connecting cable | M12 x 4            | Straight                  | 5 m             | DOL-1204-G05M | 6009866  |
|   |                  |                    | Angled                    | 5 m             | DOL-1204-W05M | 6009867  |

For general accessories, see page 78.



Enhanced system solutions, see page 79.



### At a glance

- Universal application possibilities
- Robust construction
- Scanning ranges up to 70 m
- Relay outputs
- Front screen heating

### Your benefits

- Extreme robust housing ensures high system reliability
- Withstands extreme ambient conditions such as heat, cold or moisture
- Fewer variants because of a uniform sender
- Straightforward electrical integration due to a cable gland and relay outputs

### Ordering information

WSU/WEU26-3

For additional variants and accessories, see: [www.mysick.com/de/WSU\\_WEU26-3](http://www.mysick.com/de/WSU_WEU26-3)

| Scanning range | Front screen heating | Housing material  | Type of connection | System part | Model name     | Part no. |
|----------------|----------------------|-------------------|--------------------|-------------|----------------|----------|
| 0.5 ... 20 m   | ✓                    | Aluminum die cast | PG connector       | Receiver    | WEU26/3-103A00 | 1047985  |
|                |                      |                   |                    | Sender      | WSU26/3-103A00 | 1047984  |
| 15 ... 70 m    | ✓                    | Aluminum die cast | PG connector       | Receiver    | WEU26/3-203A00 | 1048379  |
|                |                      |                   |                    | Sender      | WSU26/3-103A00 | 1047984  |

### Accessories required for commissioning <sup>1)</sup>

| Description                          | Number    |
|--------------------------------------|-----------|
| Mounting bracket                     | 2         |
| Operating instructions <sup>2)</sup> | Re-usable |

<sup>1)</sup> PG connector – connecting cable implemented by the customer.




<sup>2)</sup> Included.



**Recommended accessories for WSU/WEU26-3**For additional accessories, see: [www.mysick.com/products](http://www.mysick.com/products)**Mounting systems**

| Figure | Description                      | Packing unit | Model name    | Part no. |
|--------|----------------------------------|--------------|---------------|----------|
|        | Mounting bracket for WSU/WEU26-3 | 1 x          | BEF-4WNAEFAL1 | 2007900  |
|        | Spring connection for PSK1       | 1 x          | BEF-4AAAAHST3 | 2012473  |
|        | Bracket for PSK1                 | 1 x          | BEF-4GHAAHAL1 | 2009292  |

**Deflector mirror**

| Figure  | Reflecting surface | Description                                | Model name | Part no. |
|---|--------------------|--|------------|----------|
|  | 75 mm x 80 mm      | Incl. mounting kit                         | PNS-75-008 | 1026647  |
|  | 96 mm x 124 mm     | -  | PSK1       | 1005229  |
|  | 80 mm x 97 mm      | Incl. mounting kit for 90° beam deflection | PSK45      | 5306053  |

For general accessories, see page 78.



Enhanced system solutions, see page 79.

Mirror and device columns are used wherever there are no mounting options for opto-electronic protective devices. In machining centers or material locks, the opto-electronic protective devices must be free-standing in the room.





### Maximum productivity

- Since there are only two active sides with mirror columns, the wiring workload is significantly reduced
- Unimpeded access makes loading and changing tools and programs easier



### Mounting and operation of muting stations is easy

- Few components are required:
  - Easy mounting
  - Active/passive variants
  - Pre-assembled kits for cross muting and parallel muting





### Thinking beyond the product

- Wide variety of accessories
  - Mounting brackets, connecting cables, system plugs, etc.
- Info service
  - Multi-language operating instructions, dimensional drawings and CAD models, connection diagrams, sample applications, animations, tutorials and quick starts
  - After-Sales support, e. g., for subsequent system expansions



[www.sick.com/service](http://www.sick.com/service)

Product family overview

|                                    | <br>Mirror columns with continuous reflectors | <br>Mirror columns with individual reflectors |  |
|------------------------------------|--|--|--|
| <b>Technical specifications</b>    |  |  |  |
| Reflector length                   | 900 mm ... 1800 mm   | 90 mm  |  |
| Reflector width                    | 125 mm   | 100 mm   |  |
| Column height                      | 1285 mm ... 2200 mm  | 985 mm ... 1285 mm   |  |
| Maximum installation length        | -  | -  |  |
| Distance of 1st beam from floor    | 300 mm / 400 mm  | 300 mm / 400 mm  |  |
| <b>Suitable for</b>                |  |  |  |
| Safety light curtains              |  |  |  |
| Protective field height            | 150 mm ... 1800 mm   | -  |  |
| Multiple light beam safety devices |  |  |  |
| Number of beams                    | As required  | 2 / 3 / 4  |  |
| Beam separation                    | As required  | 300 mm ... 600 mm  |  |
| <b>Detailed information</b>        | <a href="#">→ page 70</a>  | <a href="#">→ page 70</a>  |  |



Device columns with external grooves

|  |                    |
|--|--------------------|
|  | -                  |
|  | -                  |
|  | 985 mm ... 2420 mm |
|  | 965 mm ... 2400 mm |
|  | 300 mm / 400 mm    |
|  |                    |
|  | 150 mm ... 1800 mm |
|  |                    |
|  | As required        |
|  | As required        |
|  | → page 70          |



## At a glance

- Free-standing mounting solution wherever there are no mounting options
- Device protection against external influences
- Compact, robust type and extreme stability
- Simple mounting and adjustment
- Large reflector surface for efficient multi-sided protection via beam deflection
- Universal application for:
  - Multiple light beam safety devices
  - Safety light curtains

## Your benefits

- Reliable and rigid device protection
- Free-standing mounting solution with external grooves enables mounting of additional device accessories
- High reliability for complete protection due to large reflector surfaces
- Multi-sided protection with deflector mirrors eliminates the need for additional active devices
- Protection of large areas with deflector mirrors still allows unimpeded access of the system

## Ordering information

### Mirror columns with protective field height mirror <sup>1)</sup>

| Description                     | Suitable for                                  |   | Reflector length | Column height | Model name      | Part no. |
|---------------------------------|---|---|------------------|---------------|-----------------|----------|
|                                 | Maximum protective field height <sup>2)</sup> | Number of beams/beam separation <sup>3)</sup> |                  |               |                 |          |
| For C4000/C2000 and M4000/M2000 | 900 mm  | As required                                   | 900 mm           | 1285 mm       | PM3C13-00030000 | 1043453  |
|                                 | 1350 mm                                       |   | 1350 mm          | 1720 mm       | PM3C17-00030000 | 1043454  |
|                                 | 1650 mm                                       |   | 1650 mm          | 2000 mm       | PM3C19-00030000 | 1043455  |
|                                 | 1800 mm                                       |   | 1800 mm          | 2200 mm       | PM3C20-00030000 | 1043456  |

<sup>1)</sup> Range reduction type-dependent, see corresponding device operating instructions ("Scanning range, PNS125 List" chapter).

<sup>2)</sup> Safety light curtains.

<sup>3)</sup> Multiple light beam safety devices, distance from the first beam from the floor 300 mm or 400 mm (depending on the standard height).

Mirror columns with individual mirrors for multiple light beam safety devices <sup>1)</sup>

| Description           | Suitable for   | Number of beams | Beam separation (mm) | Model name      | Part no. |
|-----------------------|--|-----------------|----------------------|-----------------|----------|
| Horizontal deflection | M40#-0250#####<br>M20S-02#50#####<br>M20E-02#50##### | 2               | 500                  | PM3S96-00240020 | 1040619  |
|                       | M40#-03400#####<br>M40#-03401#####<br>M20#-03#40#1## | 3               | 400                  | PM3S11-00330030 | 1040625  |
|                       | M40#-0430#####<br>M20#-04#30#####                    | 4               | 300                  | PM3S13-00430040 | 1040626  |
|                       | M40#-0260#####                                       | 2               | 600                  | PM3S96-00230060 | 1040620  |
|                       | M40#-0345#####                                       | 3               | 450                  | PM3S13-00330050 | 1040624  |
| Vertical deflection   | M40Z-0250#####<br>M20Z-02#####                       | 2               | 500                  | PM2Z96-30240020 | 1027265  |

<sup>1)</sup> Warning, reduction of the scanning range!

For each mirror deflection (n), the scanning range is reduced in accordance with the following formula:

$$\text{Scanning range (with mirror deflection)} = \text{Scanning range (photoelectric switch without mirror deflection)} \times \sqrt{0.8^n}$$

Example: M2000 with a scanning range of 25 m is deflected three times. The scanning range is now  $25 \text{ m} \times \sqrt{0.8^3} = 17.8 \text{ m}$

Device columns with external grooves

| Suitable for                | Number of beams | Height of 1st beam from the floor <sup>1)</sup> (mm) | Protective field height (mm) | Max. installation length (mm) | Column height (mm) | Model name      | Part no. |
|-----------------------------|-----------------|--|------------------------------|-------------------------------|--------------------|-----------------|----------|
| M4000/M2000,<br>C4000/C2000 | 2               | 400  | 150 ... 600                  | 965                           | 985                | PU3H96-00000000 | 2045490  |
|                             | 3               | 300  | 150 ... 900                  | 1165                          | 1185               | PU3H11-00000000 | 2045641  |
|                             | 4               | 300  | 150 ... 1050                 | 1265                          | 1285               | PU3H13-00000000 | 2045642  |
|                             | -               | -  | 150 ... 1350                 | 1720                          | 1740               | PU3H17-00000000 | 2045643  |
|                             | -               | -  | 150 ... 1650                 | 2020                          | 2040               | PU3H21-00000000 | 2045644  |
|                             | -               | -  | 150 ... 1800                 | 2250                          | 2270               | PU3H22-00000000 | 2045645  |
|                             | -               | -  | 150 ... 1800                 | 2400                          | 2400               | PU3H24-00000000 | 2045646  |

<sup>1)</sup> Standard height


## Accessories

### Mounting systems

#### For mirror and device columns

| Figure  | Description        | Packing unit | Model name      | Part no. |
|---|--------------------|--------------|-----------------|----------|
|  | For floor mounting | 1 x          | Adjusting plate | 4031053  |
|  | For floor mounting | 1 x          | Steel plugs     | 5308961  |








#### For device columns with external grooves

| Figure  | Description   | Suitable for                            | Packing unit | Model name    | Part no. |
|---|---------------|---|--------------|---------------|----------|
|  | Omega bracket | M4000                                   | 2 x          | BEF-2SMGEAAL2 | 2045736  |
|   |               | C2000/C4000/M2000<br>in a large housing | 2 x          | BEF-2SMMEAAL2 | 2045883  |
|   |               | C2000/C4000<br>in a small housing       | 2 x          | BEF-2SMKEAAL2 | 2045884  |

### Muting mechanics accessories



#### For device columns with external grooves

- Partially/pre-assembled muting arm kits for device column mounting, incl. fixing accessories
- For PU3H column profile and M4000 device profile




| Figure  | Description  | Part no. |
|---|--|----------|
|  | Round steel arm 400 mm, incl. 1 x universal bracket  | 2045506  |
|  | Round steel arm 400 mm, incl. 2 x universal bracket  | 2045507  |
|  | Round steel arm 400 mm, incl. 1 x universal bracket with a mounted reflector P250  | 2045513  |
|  | Round steel arm 400 mm, incl. 2 x universal bracket with mounted reflectors P250   | 2045512  |
|  | Round steel arm 400 mm, incl. 1 x universal bracket with a mounted sensor WL280P132, 2 m cable with M12 plug   | 2045729  |
|  | Round steel arm 400 mm, incl. 2 x universal bracket with mounted sensors WL280P132, 2 m cable with M12 plug  | 2045730  |
|  | 2 x round steel arms 400 mm, incl. 2 x universal brackets with mounted sensors WL280P132, M12 plug for connection to the UE403 and 2 P250 reflectors | 2060157  |



- Muting mechanics components for device column mounting, incl. fixing accessories

| Figure  | Description   | Part no. |
|---|---|----------|
|  | Round steel arm 400 mm, for fixing universal brackets, for PU3H column profile and M4000 device profile | 2045879  |
|  | Universal bracket for mounting sensors/reflectors, for 400 mm round steel arm                           | 2044953  |
|  | Muting sensor protection for the right side for 400 mm round steel arm                                  | 2045737  |
|   | Muting sensor protection for the left side for 400 mm round steel arm                                   | 2045738  |



- M4000 muting arm kits

| Figure   | Description  | Model name     | Part no. |
|--|--|----------------|----------|
|   | 4 sensors for parallel muting, consisting of:<br>2 x muting arms, active: 4 x WL100-P1429, pre-assembled in a fixed position, with 2 m cable and M12 angled plugs,<br>2 x muting arms, passive: 4 x P250 reflectors, pre-assembled in a fixed position | Muting arm KIT | 2046170  |
|   | 2 sensors for cross muting, consisting of:<br>2 x muting arms, active: 2 x WL100-P1429, pre-assembled in a fixed position, with 2 m cable and M12 angled plugs,<br>2 x muting arms, passive: 2 x P250 reflectors, pre-assembled in a fixed position    | Muting arm KIT | 2046171  |
|  | 2 sensors, for parallel muting consisting of:<br>1 x muting arm, active: 2 x WL100-P1429, pre-assembled in a fixed position, and M12 angled plugs, 1 x muting arm, passive: 2 x P250 reflectors, pre-assembled in a fixed position                     | Muting arm KIT | 2060156  |

## Other muting accessories


### For device columns with external grooves

- Muting indicators

| Figure  | Type of muting indicator | Type of connection | Length of cable | Comment                                 | Part no. |
|---|--------------------------|--------------------|-----------------|---|----------|
|  | LED                      | Plug connection    | 2 m             | Incl. mounting bracket and mounting kit | 2033118  |
|   |                          |                    | 10 m            | Incl. mounting bracket                  | 2033119  |
|  | Bulb                     | Plug connection    | 2 m             | Incl. mounting bracket and mounting kit | 2033116  |
|   |                          |                    | 10 m            | Incl. mounting bracket                  | 2033117  |

## Other accessories

- For reflector columns

| Figure  | Description              | Comment             | Packing unit | Model name          | Part no. |
|---|--------------------------|---------------------|--------------|---------------------|----------|
|  | For rear area monitoring | Incl. spacing bolts | 1 x          | Rear area reflector | 2034938  |

Product family overview



**V200 Work Station Extended**  
Perfect protection for tight spaces

**Technical specifications**

|                               |                     |
|-------------------------------|---------------------|
| Minimum protective field size | 40 cm x 40 cm       |
| Maximum protective field size | 150 cm x 150 cm     |
| Resolution                    | 20 mm, 24 mm, 30 mm |
| Response time                 | 20 ms               |
| Type                          | Type 2 (IEC 61496)  |
| Safety integrity level        | SIL1 (IEC 61508)    |
| Performance level             | PL c (EN ISO 13849) |
| Enclosure rating              | IP 54               |
| Ambient operating temperature | 0 °C ... 50 °C      |
| Angle of vision               | 103° ± 3°           |

**Detailed information**

→ page 76



**V300 Work Station Extended**  
Perfect protection for tight spaces

|  |                           |
|--|---------------------------|
|  | 40 cm x 40 cm             |
|  | 150 cm x 150 cm           |
|  | 20 mm, 24 mm, 30 mm       |
|  | 20 ms                     |
|  | Type 3 (IEC 61496)        |
|  | SIL2 (IEC 61508)          |
|  | PL d (EN ISO 13849)       |
|  | IP 54                     |
|  | 0 °C ... 50 °C            |
|  | 103° ± 3°                 |
|  | <a href="#">→ page 76</a> |



### At a glance

- Protective field size of 0.4 m x 0.4 m to 1.5 m x 1.5 m
- Resolution of 20 mm, 24 mm and 30 mm
- One device only: integrated sender and receiver
- Intuitive one-button teach-in
- Automatic alignment
- Synchronization of 2 systems
- Restart/reset, EDM integrated
- SIL2 (IEC 61508, EN 62061) and PL d (EN ISO 13849)

### Your benefits

- Flexible and individual design of protective fields
- Quick and easy commissioning without additional software
- Intuitive, time-saving operation
- No variants: one-device concept for all aperture sizes
- Universal and flexible: increased machine design flexibility
- Reduced storage, logistics and commissioning costs
- No expert knowledge required for commissioning
- High machine reliability due to quick and easy maintenance

### Ordering information

#### V200 Work Station Extended

For additional variants and accessories, see [www.mysick.com/en/V200\\_Work\\_Station\\_Extended](http://www.mysick.com/en/V200_Work_Station_Extended)

| Variant                    | Performance level | Protective field opening size | Model name   | Part no. |
|----------------------------|-------------------|-------------------------------|--------------|----------|
| V200 Work Station Extended | PL c              | 1.5 m x 1.5 m                 | V20W-0101000 | 1042027  |

#### V300 Work Station Extended



For additional variants and accessories, see [www.mysick.com/en/V300\\_Work\\_Station\\_Extended](http://www.mysick.com/en/V300_Work_Station_Extended)

| Variant                    | Performance level | Protective field opening size | Model name   | Part no. |
|----------------------------|-------------------|-------------------------------|--------------|----------|
| V300 Work Station Extended | PL d              | 1.5 m x 1.5 m                 | V30W-0101000 | 1041542  |


## Recommended accessories for V200/V300

For additional accessories, see: [www.mysick.com/products](http://www.mysick.com/products)


### Connecting cables (M12 x 8)

| Figure  | Description                        | Direction of cable outlet | Length of cable | Model name         | Part no. |
|---|------------------------------------|---------------------------|-----------------|--------------------|----------|
|  | Cable socket with connecting cable | Straight                  | 2.5 m           | DOL-127SG2M5E25KM0 | 6020537  |
|   | Cable socket with connecting cable | Straight                  | 5 m             | DOL-127SG05ME25KM0 | 6020354  |
|   | Cable socket with connecting cable | Straight                  | 7.5 m           | DOL-127SG7M5E25KM0 | 6020353  |
|  | Cable socket with connecting cable | Angled                    | 5 m             | DOL-127SW05ME25KM0 | 6021342  |

### Resolution sets

| Figure  | Description  | Protective field size                | Model name           | Part no. |
|---|--|--------------------------------------|----------------------|----------|
|  | Resolution set 20 mm,<br>2 x 1.0 m reflector tape, test rod  | 40 cm x 40 cm ...<br>100 cm x 100 cm | 20 mm resolution set | 2051336  |
|   | Resolution set, 24 mm,<br>2 x 1.2 m reflector tape, test rod | 40 cm x 40 cm ...<br>120 cm x 120 cm | 24 mm resolution set | 2051338  |
|   | Resolution set, 30 mm,<br>2 x 1.5 m reflector tape, test rod | 60 cm x 60 cm ...<br>150 cm x 150 cm | 30 mm resolution set | 2051339  |

### Mounting systems

| Figure  | Description   | Packing unit | Model name   | Part no. |
|---|---|--------------|--------------|----------|
|  | Mounting kit for mounting the sensor on the profile frame | 1 x          | Mounting kit | 2045375  |

### Other accessories

#### Teach-in pin


| Figure  | Description  | Model name | Part no. |
|---|--------------|------------|----------|
|  | Teach-in pin | -          | 4052939  |

#### Test rods


| Figure  | Description    | Model name | Part no. |
|---|----------------|------------|----------|
|  | Test rod 20 mm | -          | 2043725  |
|   | Test rod 24 mm | -          | 2045592  |
|   | Test rod 30 mm | -          | 2022602  |

## General accessories


### Lens cloths

| Figure  | Description                                      | Model name | Part no. |
|---|--|------------|----------|
|  | Cloth for cleaning the optical hood/front screen | Lens cloth | 4003353  |


### Cleaning agent

| Figure  | Description                                      | Model name      | Part no. |
|---|--|-----------------|----------|
|  | Plastic cleaner and polish, anti-static, 1 liter | Plastic cleaner | 5600006  |

### Software

| Figure  | Description                                 | Model name | Part no. |
|---|---|------------|----------|
|  | CDS (configuration and diagnostic software) | CDS        | 2032314  |

### Service cables

| Figure  | Description   | Type of connection      | Length of cable | Model name | Part no. |
|---|---|-------------------------|-----------------|------------|----------|
|  | For connecting the configuration connection to the serial interface of the PC | M8 x 4, SUB-D 9-pin     | 2 m             |            | 6021195  |
|   |   |                         | 10 m            |            | 2027649  |
|   | For connecting the configuration connection to the USB interface of the PC    | M8 x 4-pin / USB-A plug | 2 m             |            | 6034574  |
|   |   |                         | 10 m            |            | 6034575  |

Enhanced system solutions

| Figure  | Description   | Technical details  | Model name              | Part no.    |
|---|---|--|-------------------------|-------------|
|    | Safety relay UE10 – the simplest solution for integrating the contact outputs                     | With removable terminals, 2 contact outputs  | UE10F2FG3               | 1043916     |
|   |   | With removable terminals, 3 safety outputs, 1 application diagnostic output                      | UE10F30S3               | 6024918     |
|    | Safety relay UE48 – the simplest solution for integrating the contact outputs                     | With removable terminals, 2 safety outputs, 1 application diagnostic output and 3 safety outputs | UE48-20S3D2             | 6024916     |
|   |   |  | UE48-30S3D2             | 6025097     |
|    | Flexi Soft safety controller – with software (Flexi Soft Designer) configurable safety controller | Flexi Soft CPU0 main unit, without EFI connections, two-level spring terminals                   | FX3-CPU000000           | 1043783     |
|    |   | Flexi Soft CPU1 main unit, 2 EFI connections, Two-level spring terminals                         | FX3-CPU130002           | 1043784     |
|    |   | Flexi Soft XTIO extension unit, 8 inputs/4 outputs. Two-level spring terminals                   | FX3-XTIO84002           | 1044125     |
|   |   | Flexi Soft XTDI input expansion unit, 8 inputs, Two-level spring terminals                       | FX3-XTDI80002           | 1044124     |
|  |   | Flexi Soft system plug   | FX3-MPL000001           | 1043700     |
|  |   | Flexi Classic safety controller – safety controller configurable with a screwdriver              | Flexi Classic main unit | UE410-MU3T5 |
|  | Flexi Classic extension unit  |  | UE410-XU3T5             | 6032470     |
|  | Flexi Classic input expansion unit  |  | UE410-8DI3              | 6026139     |

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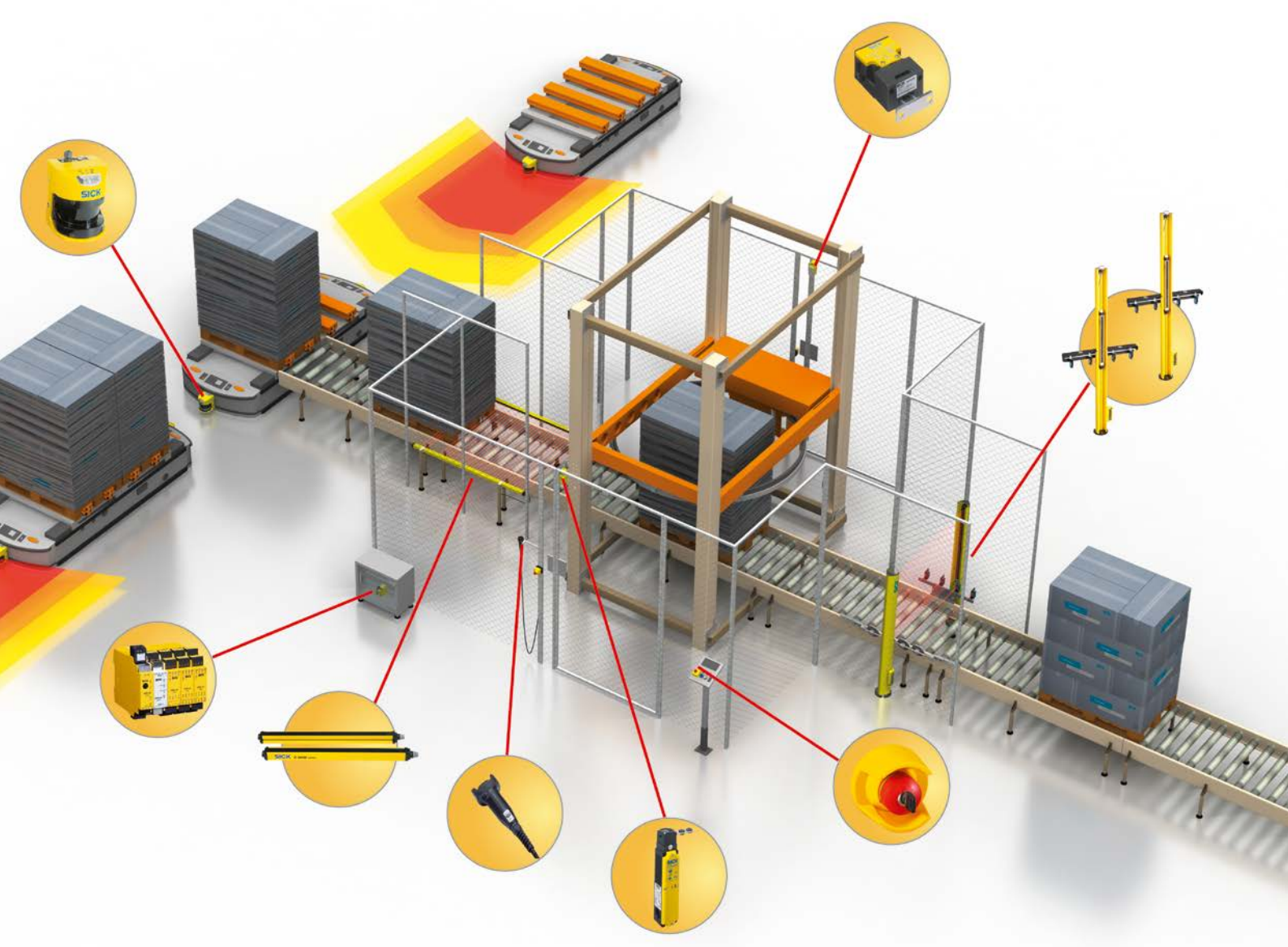
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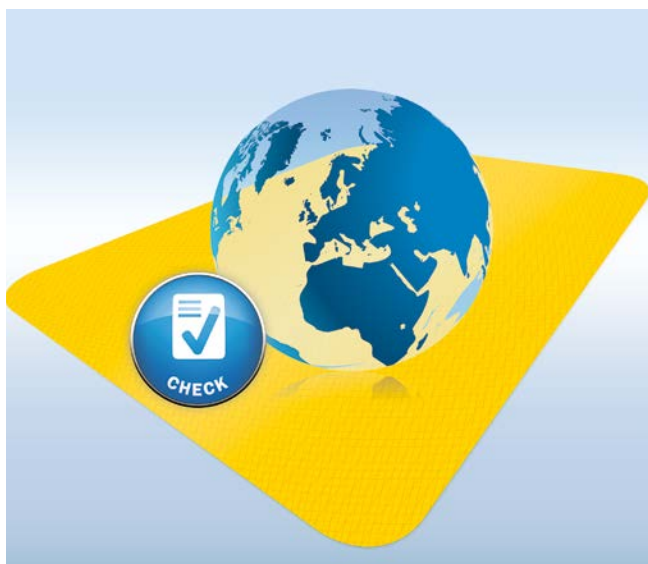
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- Selection and application of safety devices
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- Examples of the application of the new standards EN ISO 13849-1 and EN 62061 to determine the PL or SIL



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Item numbers of the European editions:

**8008007 German, 8007988 English**

Item number of the North American edition:

**7028282 English**

## “Industrial Safety Systems” product catalog

The catalog contains information about our safety products, including accessories and services with order numbers.



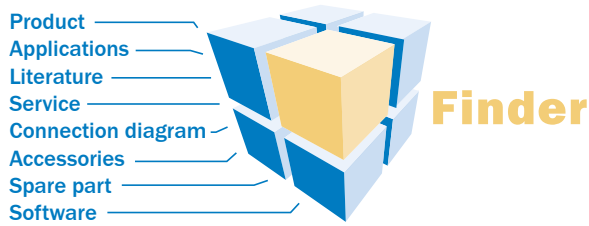
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