

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

SICK
Sensor Intelligence.

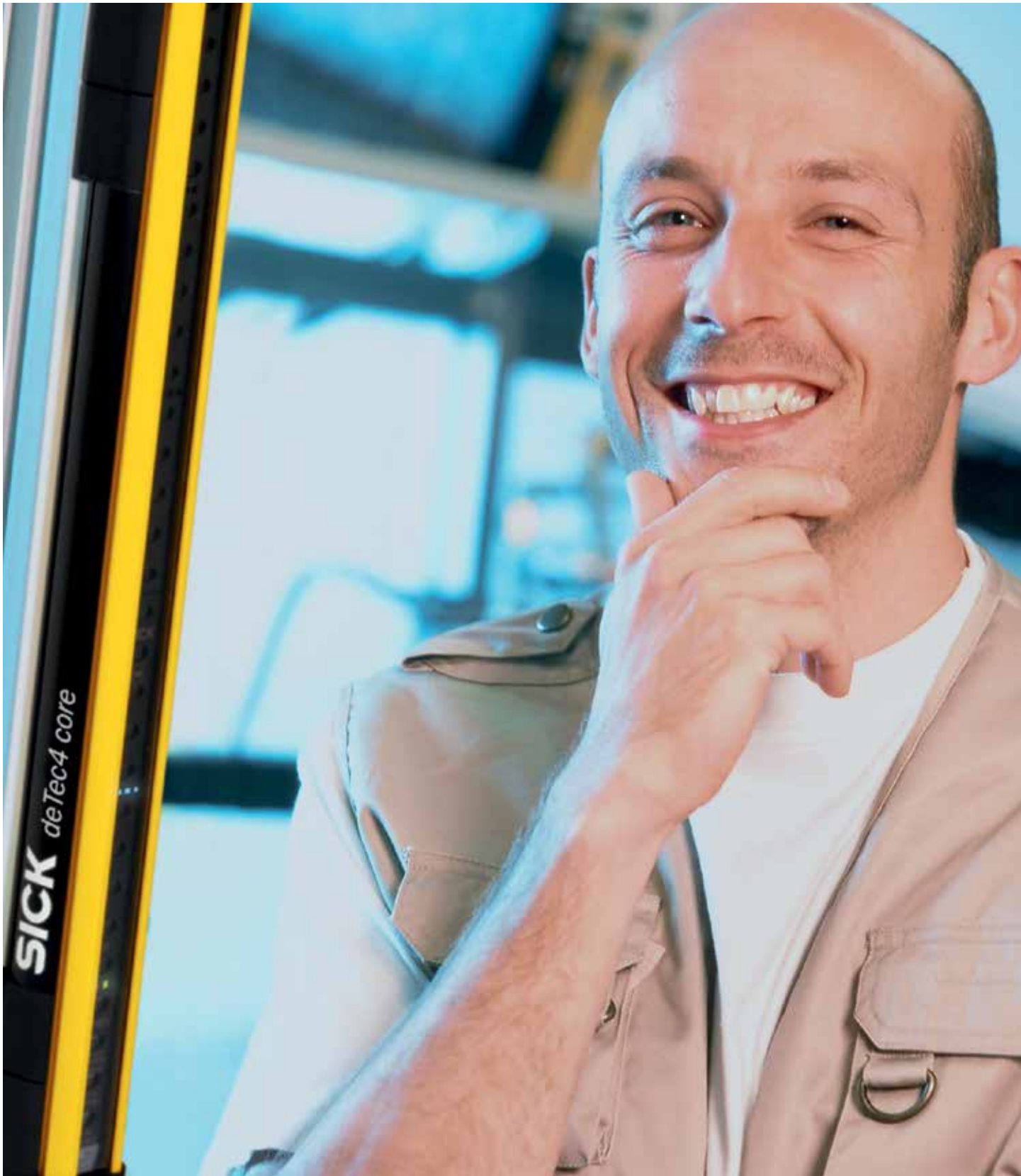


Table of contents

Introduction	SICK Industrial Safety Systems	4
	Safety light curtains, photoelectric safety switches	6
	Advantages at a glance	6
	Overview of features	8
Applications	Safety in your industry – typical applications	10
	Hazardous point protection with finger and hand detection	12
	Hazardous point protection with safety camera systems	14
	Hazardous point protection with hand and person detection	16
	Access protection with differentiation between person and material	18
	Access protection on one side and multiple sides	20
	Hazardous area protection – detecting the presence of a person in the hazardous area	22
Products	Functions in detail	24
	Safety light curtains	26
	Key features	26
	Product family overview	28
	miniTwin product details	30
	deTec4 Core product details	34
	C4000 product details	38
	C2000 product details	44
	Multiple light beam safety devices	46
	Key features	46
	Product family overview	48
	M4000 product details	50
	M2000 product details	54
	Single-beam photoelectric safety switches	56
	Key features	56
	L4000 product details	60
	L2000 product details	62
	WSU/WEU26-3 product details	64
	Mirror and device columns	66
	Key features	66
	Product family overview	68
	Product details	70
	Safety camera systems	74
	Product family overview	74
	Product details: V200/V300 Work Station Extended	76
	General accessories	78
	Enhanced system solutions	79
Info	SICK – your partner for machine safety	80
	Additional related literature	82

SICK Industrial Safety Systems



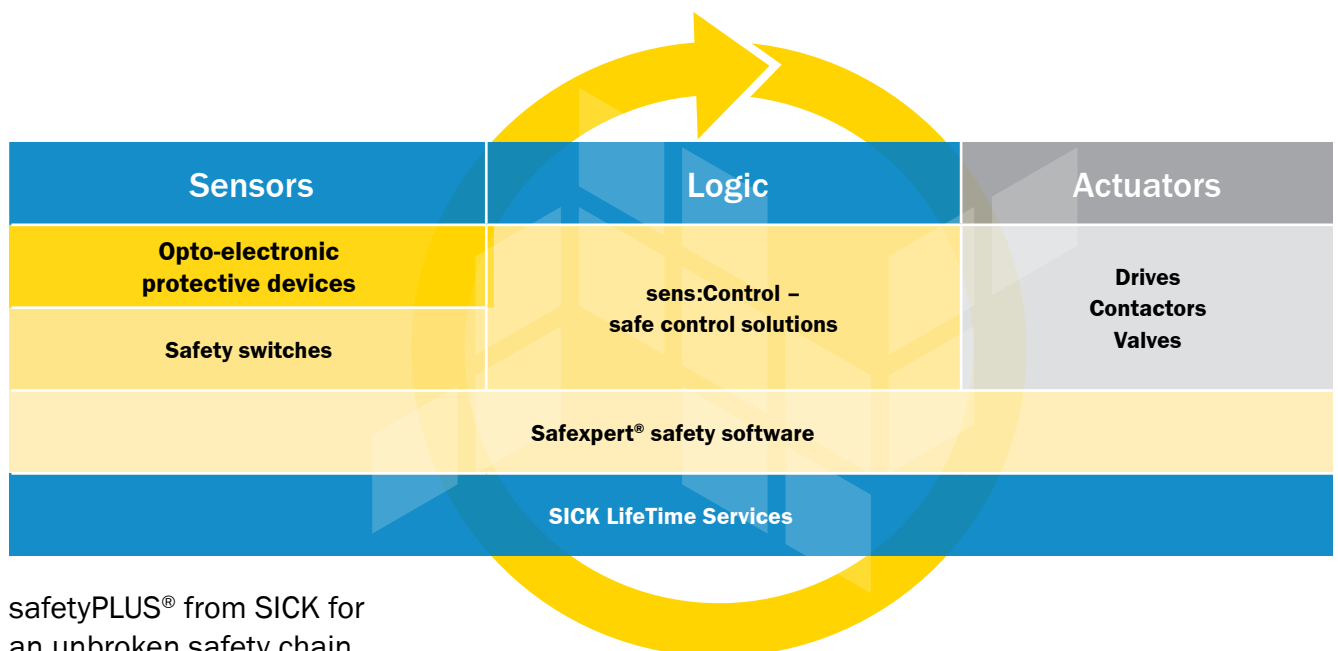
SICK creates sensor solutions for industrial automation – from development to services – based on experience and customer requirements.

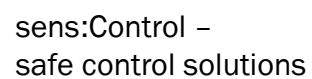
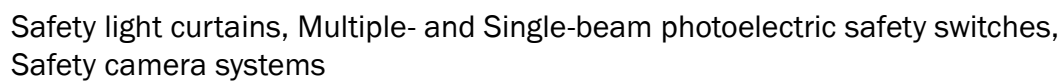
This philosophy is reflected in the term “safety-PLUS®” in the Industrial Safety Systems sector.

- 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





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

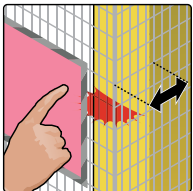
- Tried-and-tested display reduces downtime:
Quick alignment, protective field visualization and simple diagnostics
- A wide range of versatile mounting adapters make flexible mounting possible





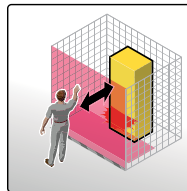
Safety light curtains, multiple- and single-beam photoelectric safety switches from SICK are ideal for the following safety tasks:

Hazardous point protection



Finger and hand detection

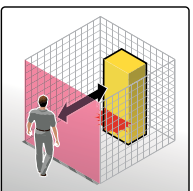
Detects a human finger when workers operate very close to the hazardous point of the machine.



Hand and person detection

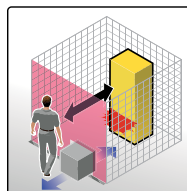
Detects hands and prevents start-up while a person is in the hazardous area

Access protection



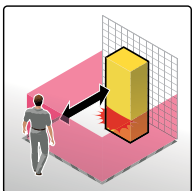
Single-sided access protection

Approaching persons are detected by identifying the person's body



With differentiation between person and material

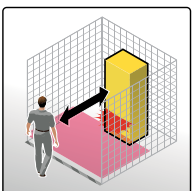
Approaching persons are detected by identifying a human body. A distinction is made between humans and material.



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.



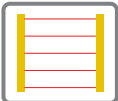
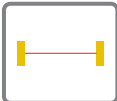
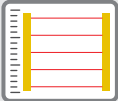
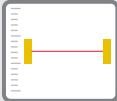
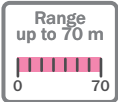
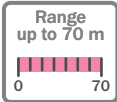
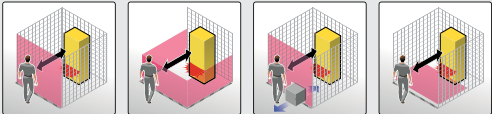
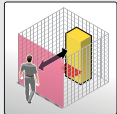
Safety and productivity go hand-in-hand. With the most varied product range on the market and specific application expertise, SICK can offer customized solutions. Choose and decide for yourself which solution is suitable for your application.



Main features at a glance

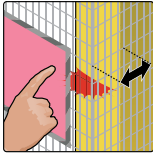
	Safety light curtains <div> </div>	
	Small, compact or extremely robust housing for individual application solutions	
Resolution / beam separation The safety application determines the necessary resolution of the light curtain.	 Resolution: 14 mm ... 40 mm	
Maximum protective field height Specifies the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



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

Safety in your industry – typical applications

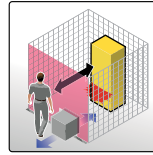
1



“Hazardous point protection with finger and hand detection”

page 12

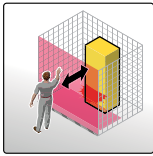
3



“Access protection with differentiation between person and material”

page 18

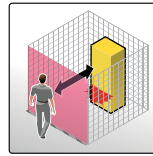
2



“Hazardous point protection with hand and person detection”

page 16

4

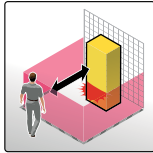


“Access protection with differentiation between person and material”

page 19



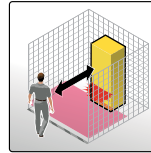
5



“Access protection, on one side and multiple sides”

page 20

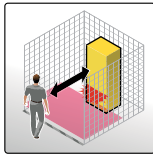
7



“Hazardous area protection with deflector mirrors”

page 23

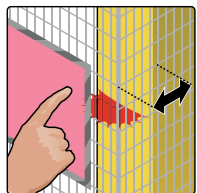
6



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

page 22





miniTwin

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

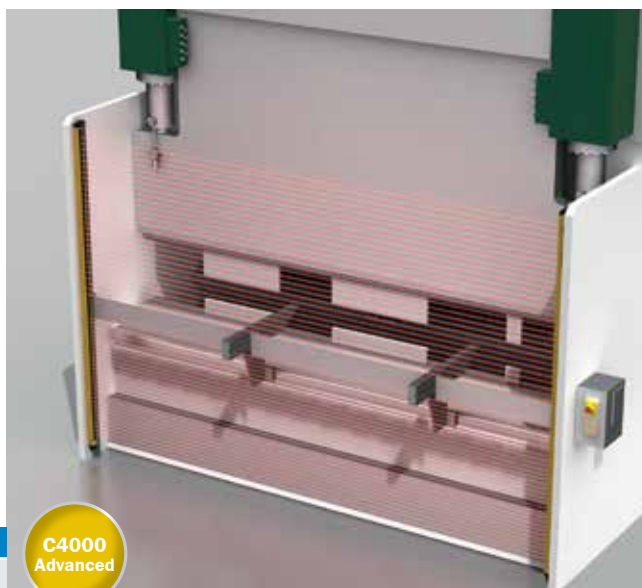
C4000 Micro	page 38
C2000	page 44

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

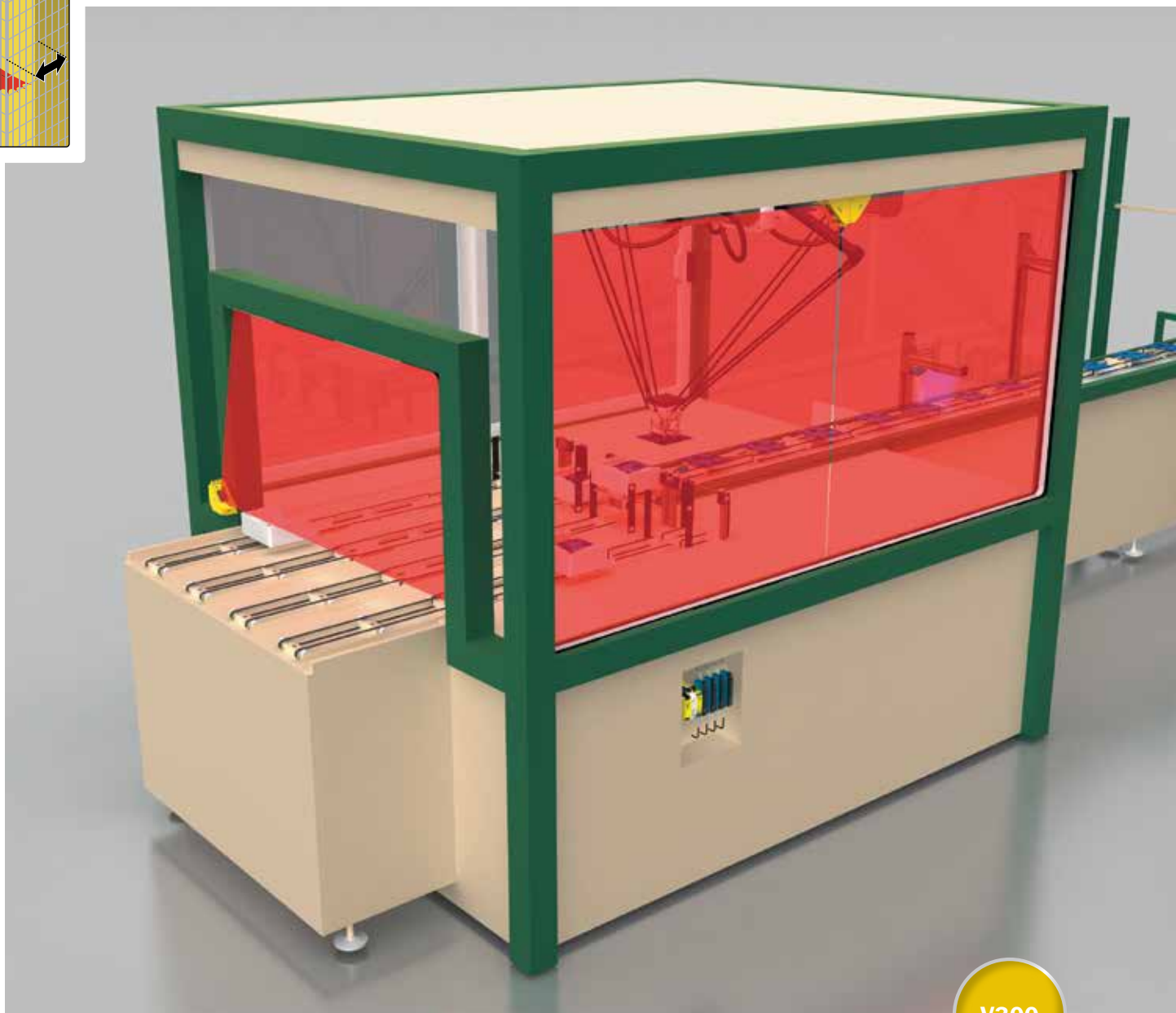
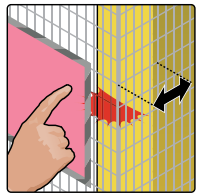
Tough ambient conditions, such as wet areas or wash down applications with high temperatures and the use of steam jets, require a solution with an IP 69K.

- 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.

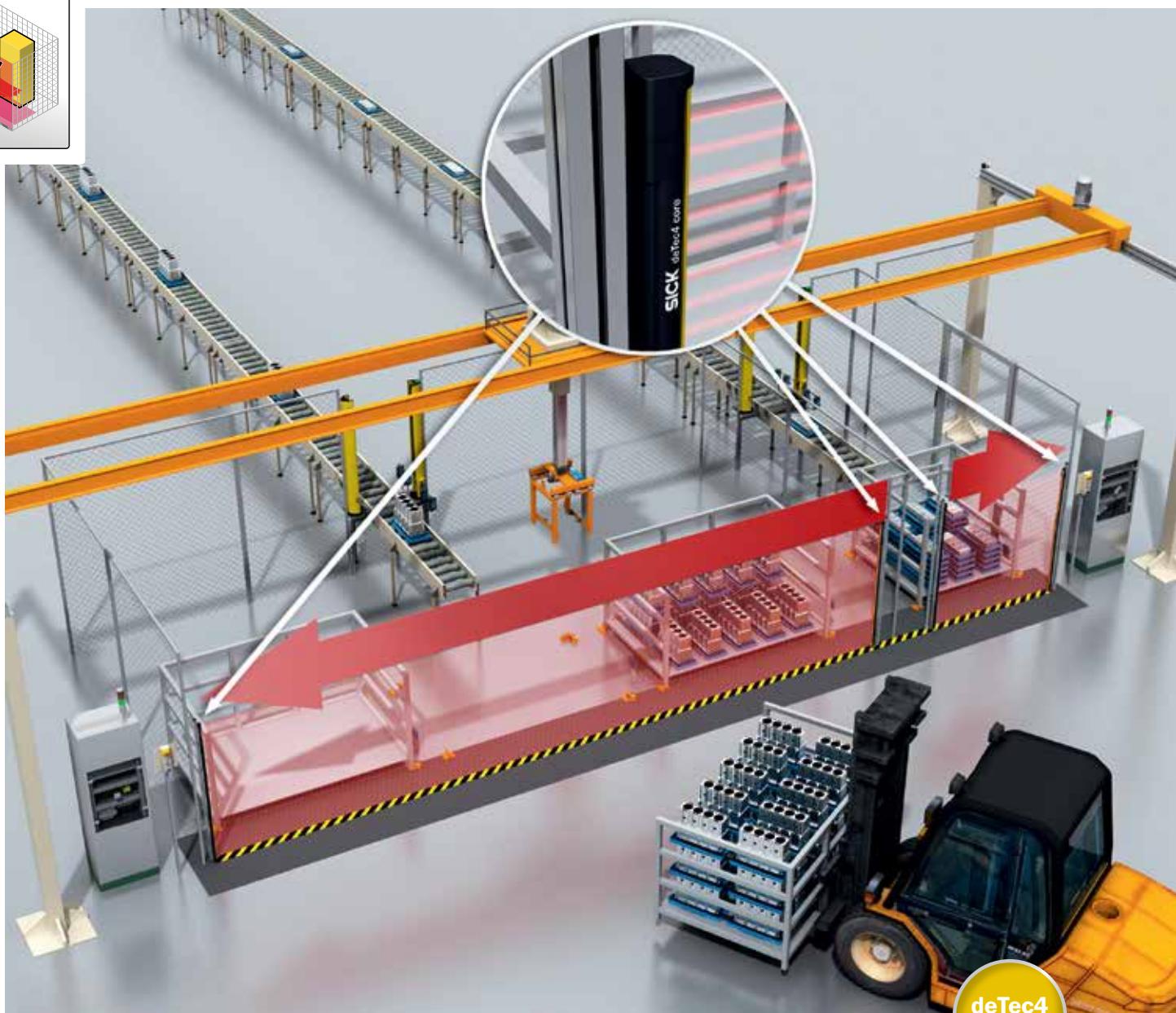
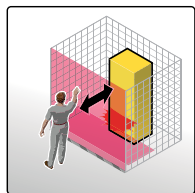
+ The V300 safety camera system adapts to the application and does not impede the working process



Recommended product

V300 Extended

page 76



**deTec4
Core**

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.

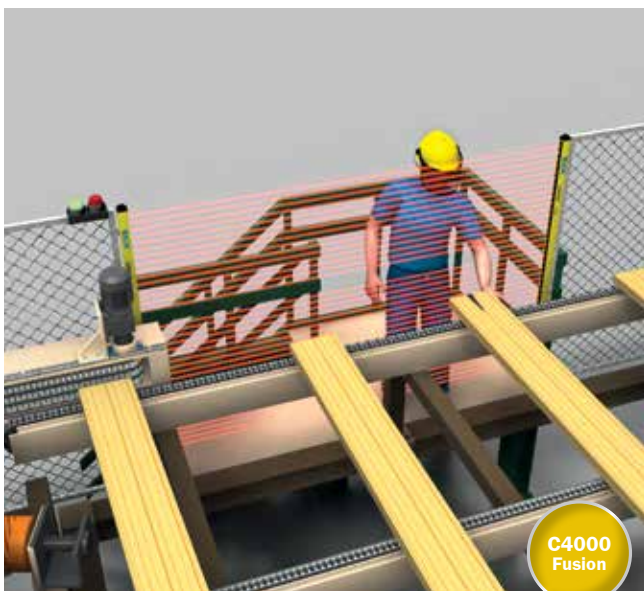
- The safety light curtain offers a wide scanning range, and thus an ergonomic and efficient use of the machine.
- High signal reserves facilitate use even in difficult conditions

+ 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.

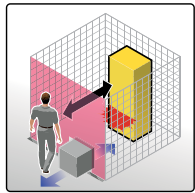
- The “reduced resolution” function and the intelligent multiscan function of the safety light curtain allow the worker to reach into the protective field without deactivating the system.
- The system is stopped as soon as the safety light curtain detects an upper body.

+ 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.

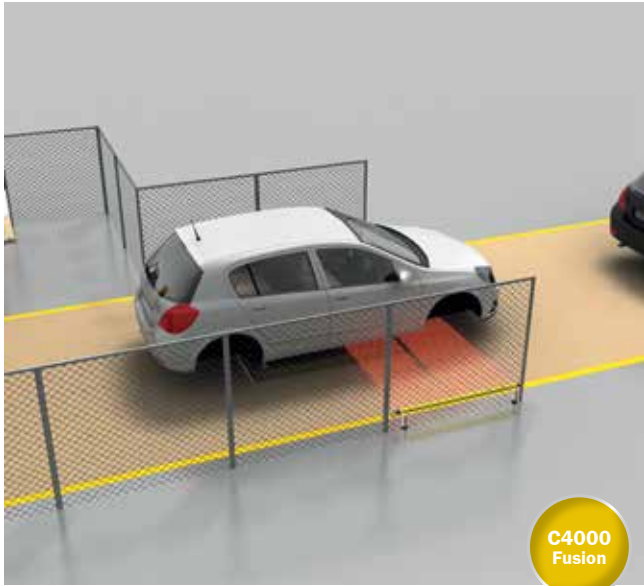
Recommended product

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**

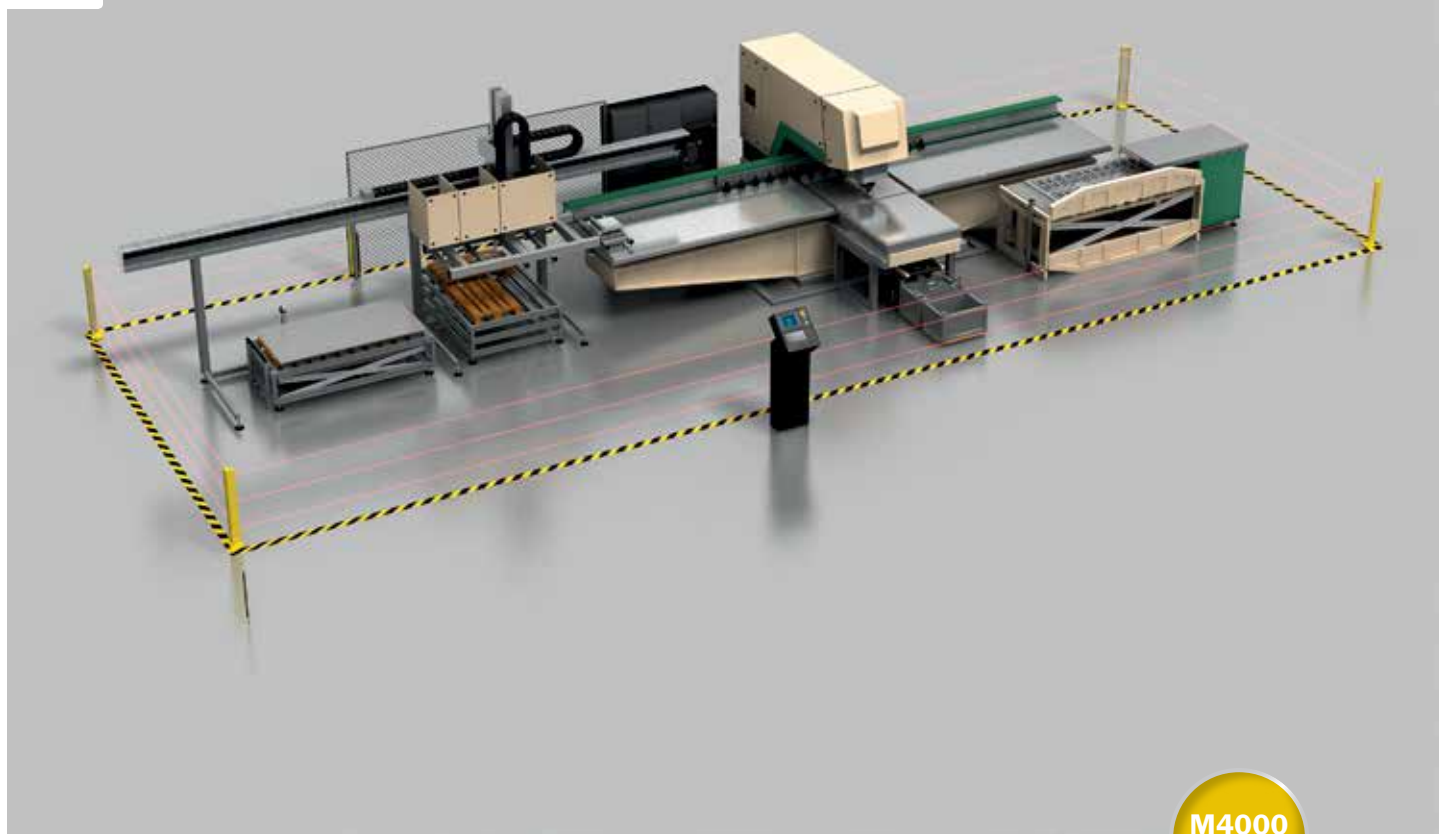
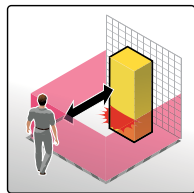
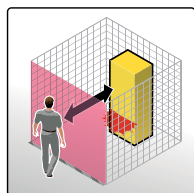


Recommended product

C4000 Palletizer Advanced

page 38

**C4000
Palletizer
Advanced**



**M4000
Standard**

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.

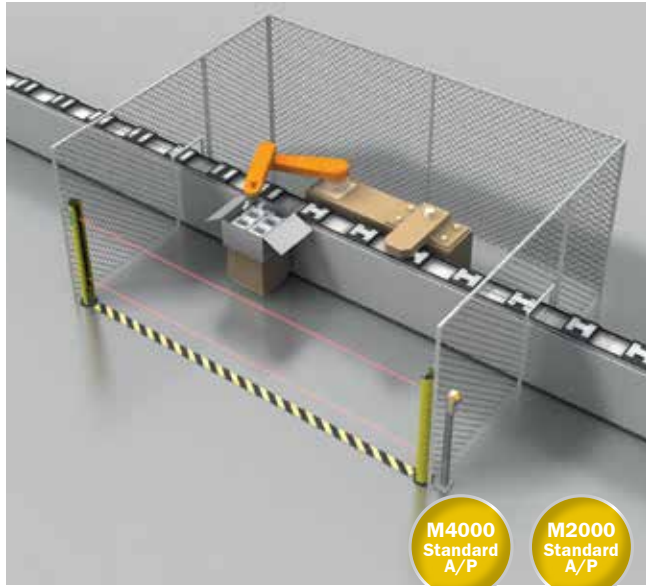
**+ Customer-friendly interfaces and status indicators
simplify commissioning and maintenance**

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

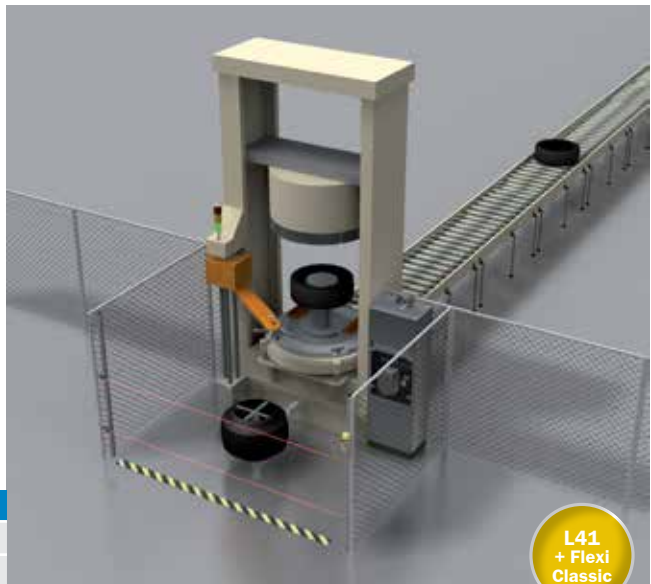
Recommended product

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.

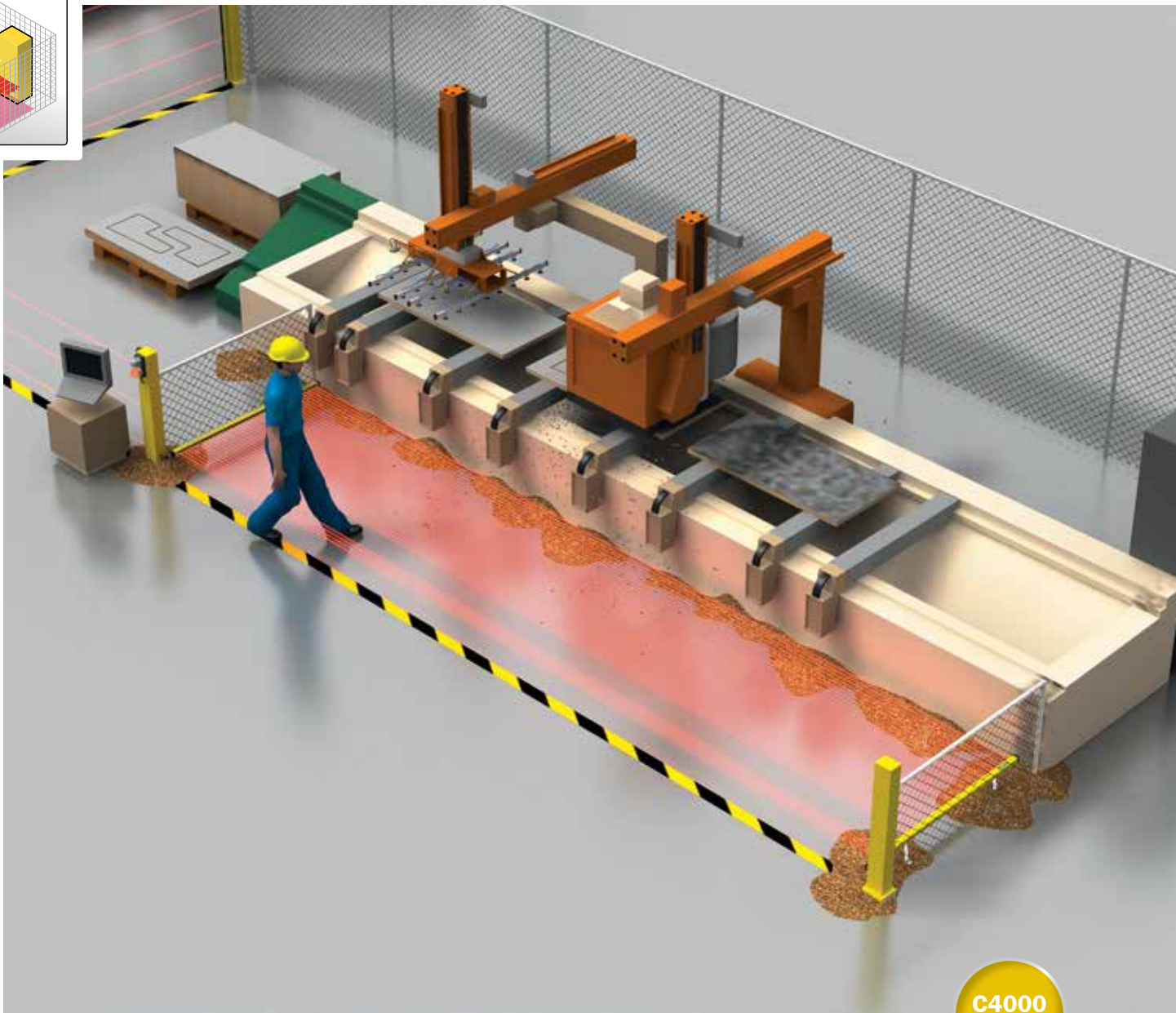
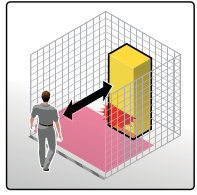
- Simple integration due to small, compact design with a maximum scanning range of up to 60 m
- + Optimally harmonized product range offers a promising price/performance ratio**



Recommended product

L4000	page 60
Flexi Classic	page 79

Hazardous area protection – detecting the presence of a person in the hazardous area



**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

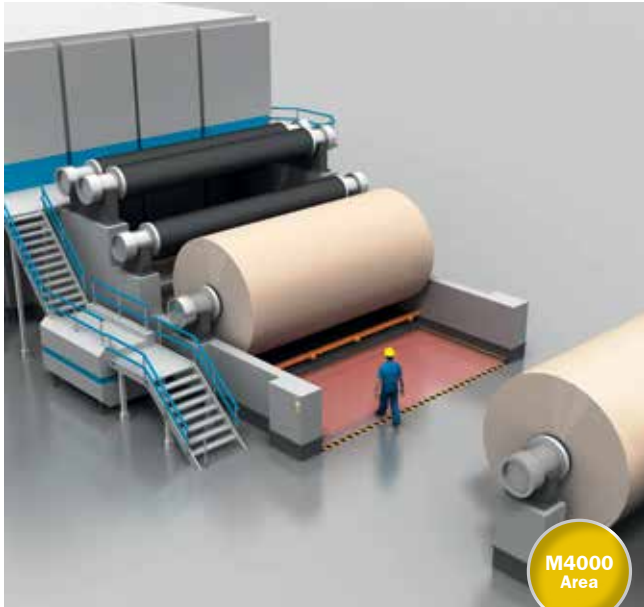
Recommended product

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

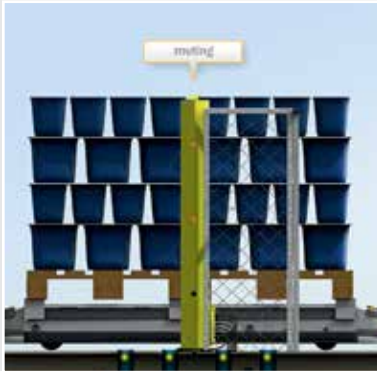
Flexi Classic

page 79

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

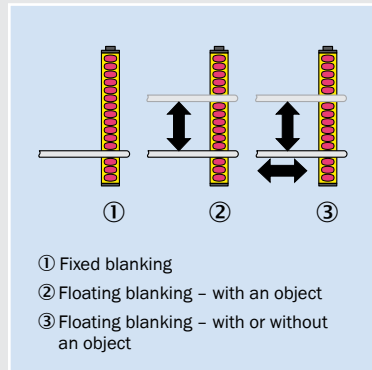
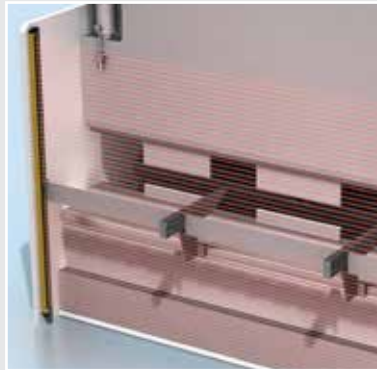
Multiple sampling (Multiscan)



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

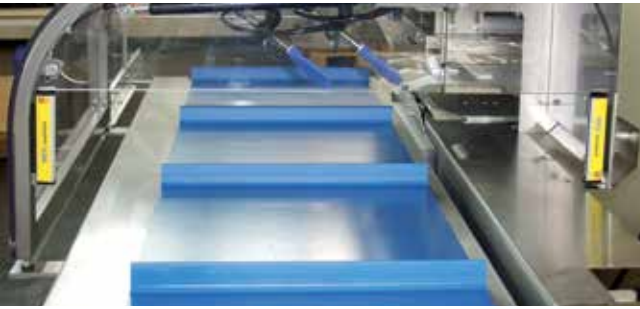
- Simple alignment thanks to $\pm 15^\circ$ rotatable innovative brackets
- Fast commissioning thanks to integrated LED displays and diagnostic functions
- Cost-saving thanks to standardized M12 connection



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




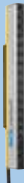
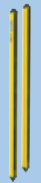
- Wide variety of accessories
 - Mounting brackets, connecting cables, system plugs, etc.
- Info service
 - Multi-language operating instructions, dimensional drawings and CAD models, connection diagrams, sample applications, animations, tutorials and quick starts
 - After-Sales support, e.g., for subsequent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



www.sick.com/service

Product family overview

					
	miniTwin4	deTec4 Core	C4000 Micro	C4000 Micro in IP69K	
	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	

				
C4000 Standard / Advanced	C4000 Palletizer Advanced	C4000 Fusion	miniTwin2	C2000
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 14 mm / 20 mm / 30 mm / 40 mm 8 m / 19 m IP 65 40 mm x 48 mm	750 ... 1800 mm 30 mm / 40 mm 6 m IP 65 40 mm x 48 mm	300 ... 1800 mm 20 mm 19 m IP 65 40 mm x 48 mm	120 ... 1200 mm 14 mm / 24 mm / 34 mm 6 m IP 65 15 mm x 32 mm	300 ... 1800 mm 20 mm / 30 mm / 40 mm 6 m / 19 m IP 65 34 mm x 29 mm (300 ... 1200 mm protective field height) 40 mm x 48 mm (1350 ... 1800 mm protective field height)
M26 x 12 M26 x 12 0 °C ... +55 °C	M26 x 12 For Bypass, RES, Teach 0 °C ... +55 °C	M26 x 12 For Bypass, RES, Teach 0 °C ... +55 °C	M12 x 5 M12 x 5 -20 °C ... +55 °C	M12 x 8 M12 x 8 0 °C ... +55 °C
≤ 26 ms	≤ 14 ms	≤ 21 ms	≤ 17 ms	≤ 34 ms
✓ ✓	✓ ✓		✓ ✓	✓ ✓
Via extension connection Configured via CDS 7-segment display Configurable via CDS (only C4000 Advanced) UE402 Flexi Classic / Flexi Soft CDS (included) Integrated	- Configured via CDS 7-segment display Configured via CDS - Integrated muting alternative CDS (included) Integrated	- Configured via CDS 7-segment display Configured via CDS - Integrated muting alternative CDS (included) Integrated	Via extension connection Automatic LED display - - Flexi Classic / Flexi Soft Fixed wiring -	Via extension connection - 7-segment display - - Flexi Classic / Flexi Soft - -
Type 4 / SIL3 / PL e	Type 4 / SIL3 / PL e	Type 4 / SIL3 / PL e	Type 2 / SIL2 / PL d ¹⁾	Type 2 / SIL2 / PL d ¹⁾
✓ ATEX II (3G/3D)	✓ ATEX II (3G/3D)	ATEX II (3G/3D)	✓ -	✓ -
●	-	-	-	-
●	●	●	●	○
●	●	●	●	●
●	●	●	●	●
●	●	●	●	●
●	●	●	-	-
● = Recommended; ○ = Possible; ○ = On request; - = Not available ¹⁾ The performance level does not contain any specific requirements of the optical features etc..				
→ 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

- 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	1207109

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
		350 mm	240 mm	C4MT-02414ABB04DE0	1207117
			300 mm	C4MT-03014ABB04DE0	1207118
			480 mm	C4MT-04814ABB04DE0	1207121
		700 mm	600 mm	C4MT-06014ABB04FE0	1207123
			720 mm	C4MT-07214ABB04FE0	1207125
			900 mm	C4MT-09014ABB04FE0	1207128

miniTwin2

For additional variants and accessories, see: 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	600 mm	C2MT-06014BBC03FE0	1207801
			240 mm	C2MT-02424BBC03DE0	1207824
24 mm	0 m ... 8 m	350 mm	300 mm	C2MT-03024BBC03DE0	1207825
			360 mm	C2MT-03624BBC03DE0	1207832
			480 mm	C2MT-04824BBC03DE0	1207834
			600 mm	C2MT-06024BBC03FE0	1207836
		700 mm	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 ¹⁾	1	●	●
Connecting cables	2	●	●
Operating instructions on CD-ROM ¹⁾	Re-usable	●	●
Test rod ¹⁾	1	●	●

¹⁾ Included.


Recommended accessories for miniTwin

For additional accessories, see: 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 °C to +55 °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 °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

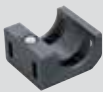

Accessories required for commissioning

Description	Number
Mounting kit ¹⁾	1
Connecting cables	2
Operating instructions on CD-ROM ¹⁾	Re-usable
Test rod ¹⁾	1




¹⁾ 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): Never look into the beam.	AR60	1015741
	Adapter for alignment aid AR60	Adapter AR60 for 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 ^{*)}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

^{*)} IP 69K variants available upon request

C4000 Fusion

For additional variants and accessories see: 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 ¹⁾	2	-	-	-	●	●	-	-
Operating instructions on CD-ROM ²⁾	Re-usable	●	●	●	-	-	-	-
CDS (configuration and diagnostic software) ²⁾	Re-usable	-	-	-	●	●	●	●
Test rod ²⁾	1	●	●	●	●	●	●	●

¹⁾ Only required for cascade connection.²⁾ Included.





Recommended accessories for C4000

For additional accessories see: 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 C4000 Advanced C4000 Palletizer Advanced 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 C4000 Advanced C4000 Palletizer Advanced C4000 Fusion	M26 x 11 + FE	Plug straight/ socket 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 C4000 Advanced C4000 Palletizer Advanced C4000 Fusion	M26 x 11 + FE	Straight	STE-0312G000GA3KM0	6021191
	Cable plugs for C4000 Standard C4000 Advanced C4000 Palletizer Advanced C4000 Fusion	M26 x 11 + FE	Angled	STE-0312W000GA3KM0	6021192
	Cable socket for C4000 Standard C4000 Advanced C4000 Palletizer Advanced C4000 Fusion	M26 x 11 + FE	Straight	DOS-0612G000GA3KM0	6020757
	Cable socket for C4000 Standard C4000 Advanced C4000 Palletizer Advanced 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 C4000 Micro in IP69K Housing	4 x	BEF-2SMKEAKU4	2019649
	Stainless steel mounting brackets pivoting for C4000 Micro C4000 Micro in IP69K Housing	4 x	BEF-2SMMEAES4	2023708
	Swivel-mount mounting bracket pivoting for C4000 Standard C4000 Advanced C4000 Palletizer Advanced C4000 Fusion	4 x	BEF-2SMKEAKU4	2019659
	Side bracket pivoting for C4000 Micro C4000 Standard C4000 Advanced C4000 Palletizer Advanced C4000 Fusion	4 x	BEF-1SHABAZN4	2019506

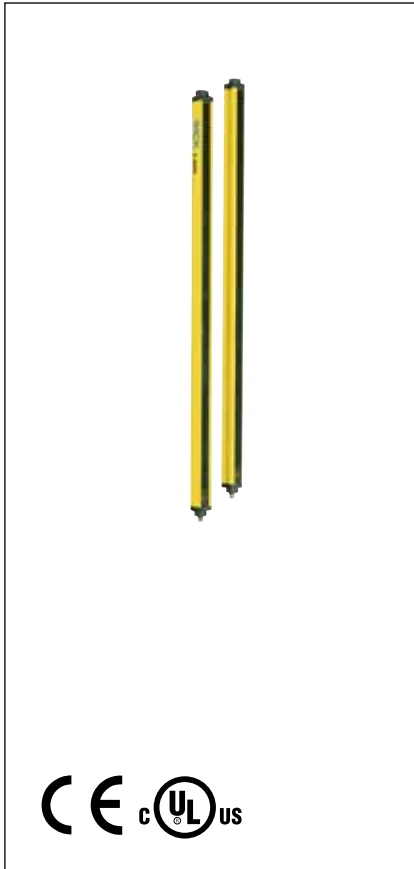
UE402 switching amplifier

Figure	Description	Model name	Part no.
	Extends C4000 Standard Advanced Palletizer Entry/Exit and Fusion with functions 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 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	1800 mm	C20S-180103A12	1016615	C20E-180303A12	1016616
		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 ¹⁾	2	-	●	●
Operating instructions on CD-ROM ²⁾	Re-usable	●	●	●
Test rod ²⁾	1	●	●	●



¹⁾ Only required for cascade connection.

²⁾ Included.


Recommended accessories for C2000

For additional accessories, see: 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°C to $+55^{\circ}\text{C}$



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

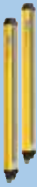




- Wide variety of accessories
 - Mounting brackets, connecting cables, system plugs, etc.
- Info service
 - Multi-language operating instructions, dimensional drawings and CAD models, connection diagrams, sample applications, animations, tutorials and quick starts
 - After-Sales support, e.g., for subsequent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



www.sick.com/service

Product family overview

				
	M4000 Standard	M4000 Standard A/P	M4000 Advanced (UE403)	
	High efficiency and maximum reliability without a PC	Intelligent wiring and maximum reliability	Intelligent and efficient: on-site connection of the muting signals	
Technical specifications				
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	
Functions				
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	
Certification				
uL/cuLus certification			✓	
Advanced system solutions with sens:Control – safe control solutions				
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	

				
M4000 Advanced Curtain	M4000 Advanced A/P (UE403)	M4000 Area	M2000 Standard	M2000 A/P
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 / SIL2 / PL d ¹⁾	Type 2 / SIL2 / PL d ¹⁾
–	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 0 m ... 6 m / 5 m ... 19 m	0.5 m ... 7.5 m	0 m ... 6 m/5 m ... 19 m/ 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 ¹⁾ The performance level does not contain any specific requirements of the optical features.				
→ 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-025000AR0	1200000	M40E-025000RR0	1200017
3	400 mm	0.5 ... 20 m	M40S-034000AR0	1200003	M40E-034000RR0	1200020
4	300 mm	0.5 ... 20 m	M40S-043000AR0	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-025010AR0	1200011	M40E-025030RR0	1200038
3	400 mm	0.5 ... 20 m	M40S-034010AR0	1200013	M40E-034030RR0	1200040
4	300 mm	0.5 ... 20 m	M40S-043010AR0	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 Curtain](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 ¹⁾	1	-	-	●	●	●	-
Muting switching amplifier UE403	1	-	-	●	●	●	-
Operating instructions on CD-ROM ²⁾	Re-usable	●	●	-	-	-	-
CDS (configuration and diagnostic software) ²⁾	Re-usable	-	-	●	●	●	●
Test rod ²⁾	1	-	-	-	-	●	-

¹⁾ For use with UE403.²⁾ Included.



Recommended accessories for M4000

For additional accessories, see: 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: 2 x muting arms, active: 4 x WL100-P1429, pre-assembled in a fixed position, with 2 m cable and M12 angled plugs, 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: 2 x muting arms, active: 2 x WL100-P1429, pre-assembled in a fixed position, with 2 m cable and M12 angled plugs, 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: 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

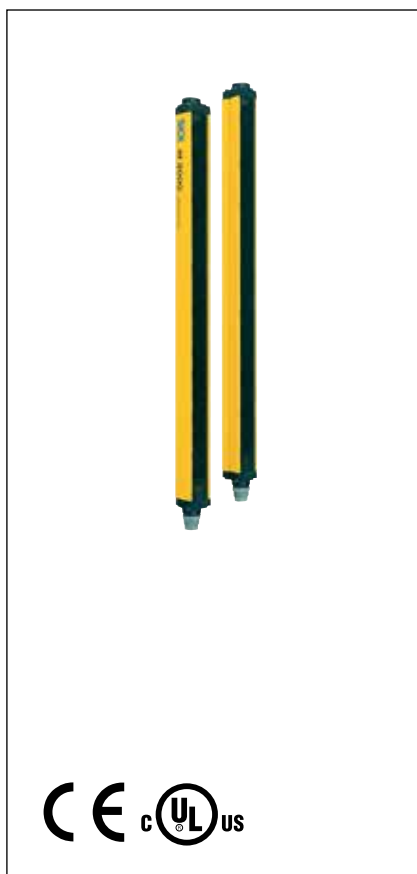
Muting switching amplifiers

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 ¹⁾	Re-usable	●	●

¹⁾ Included.



Recommended accessories for M2000

For additional accessories, see: 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

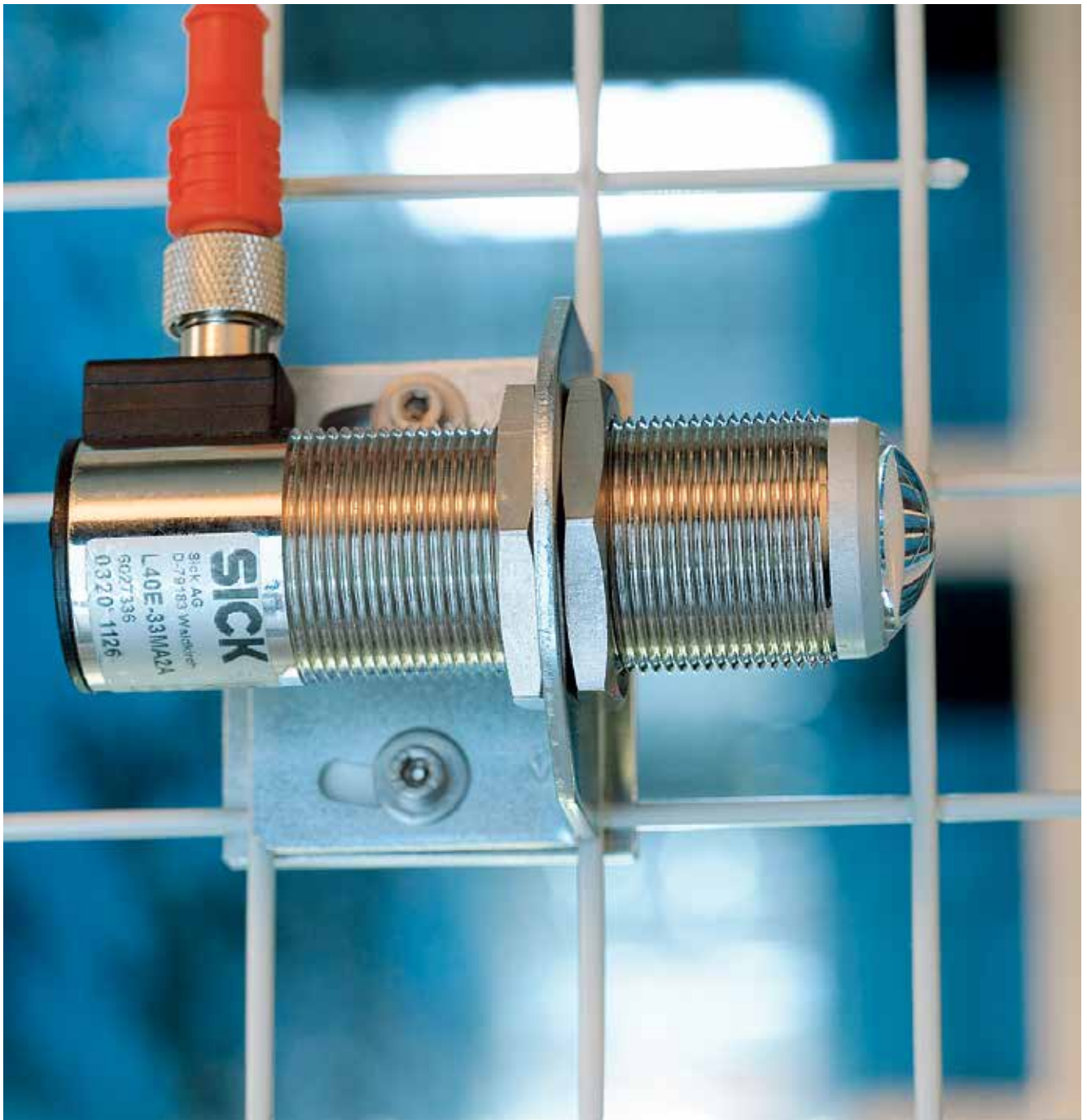
For general accessories, see page 78.



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

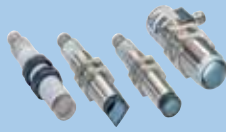
- Wide variety of accessories
 - Mounting brackets, connecting cables, system plugs, etc.
- Info service
 - Multi-language operating instructions, dimensional drawings and CAD models, connection diagrams, sample applications, animations, tutorials and quick starts
 - After-Sales support, e.g., for subsequent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



www.sick.com/service

Product family overview

				
	L2000/L21	L2000/L27	L2000/L28	
	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	
Technical specifications				
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	
Functions				
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	
Certification				
Certification	cTUVus	cTUVus	cTUVus	
Advanced system solutions with sens:Control – safe control solutions				
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 ● = Recommended; ○ = Possible; ◐ = On request; – = Not available			
Detailed information	→ page 62	→ page 62	→ page 62	



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

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 ¹⁾	Re-usable	●	●

¹⁾ Included.



Recommended accessories for L4000

For additional accessories, see: 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

L21¹⁾

For additional variants and accessories, see: 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

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

L27¹⁾

For additional variants and accessories, see: 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

¹⁾ 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

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

¹⁾ 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 ¹⁾	Re-usable	●	●	●

¹⁾ Included.



Recommended accessories for L2000

For additional accessories, see: 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

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 ¹⁾

Description	Number
Mounting bracket	2
Operating instructions ²⁾	Re-usable

¹⁾ PG connector – connecting cable implemented by the customer.²⁾ Included.



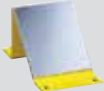
Recommended accessories for WSU/WEU26-3

For additional accessories, see: 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

Product family overview

			
	Mirror columns with continuous reflectors	Mirror columns with individual reflectors	
Technical specifications			
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	
Suitable for			
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	
Detailed information	→ page 70	→ page 70	

	
	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 ¹⁾

Description	Suitable for		Reflector length	Column height	Model name	Part no.
	Maximum protective field height ²⁾	Number of beams/beam separation ³⁾				
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

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

²⁾ Safety light curtains.

³⁾ 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 ¹⁾

Description	Suitable for	Number of beams	Beam separation (mm)	Model name	Part no.
Horizontal deflection	M40#-0250##### M20S-02#50##### M20E-02#50#####	2	500	PM3S96-00240020	1040619
	M40#-03400##### M40#-03401##### M20#-03#40#1##	3	400	PM3S11-00330030	1040625
	M40#-0430##### 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##### M20Z-02#####	2	500	PM2Z96-30240020	1027265

¹⁾ Warning, reduction of the scanning range!

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

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

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 ¹⁾ (mm)	Protective field height (mm)	Max. installation length (mm)	Column height (mm)	Model name	Part no.
M4000/M2000, 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

¹⁾ 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 in a large housing	2 x	BEF-2SMMEAAL2	2045883
		C2000/C4000 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: 2 x muting arms, active: 4 x WL100-P1429, pre-assembled in a fixed position, with 2 m cable and M12 angled plugs, 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: 2 x muting arms, active: 2 x WL100-P1429, pre-assembled in a fixed position, with 2 m cable and M12 angled plugs, 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: 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

	<div>  </div> <div>V300 Work Station Extended</div> <div>Perfect protection for tight spaces</div>
	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°
	→ page 76



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

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

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


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, 2 x 1.0 m reflector tape, test rod	40 cm x 40 cm ... 100 cm x 100 cm	20 mm resolution set	2051336
	Resolution set, 24 mm, 2 x 1.2 m reflector tape, test rod	40 cm x 40 cm ... 120 cm x 120 cm	24 mm resolution set	2051338
	Resolution set, 30 mm, 2 x 1.5 m reflector tape, test rod	60 cm x 60 cm ... 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	6026136
		Flexi Classic extension unit	UE410-XU3T5	6032470
		Flexi Classic input expansion unit	UE410-8DI3	6026139

SICK – your partner for machine safety

SICK safety solutions allow you to create efficiency today and in the future.

Customer-oriented – efficient – innovative

Safety devices should not prevent increases in the productivity of your machines and systems. This is why SICK surveys customers before making new product developments.

In addition to the technological developments, SICK adapts the customer's requirements and needs. This has led to trendsetting products like safety laser scanners, miniTwin safety light curtains and the Flexi Soft modular safety controller.

Expertise and experience in machine safety: Information on system integration, standards and laws, and FAQs can be found at www.sick-safetyplus.com



Intelligent networking allows you to cover all safety functions with just a few SICK devices.

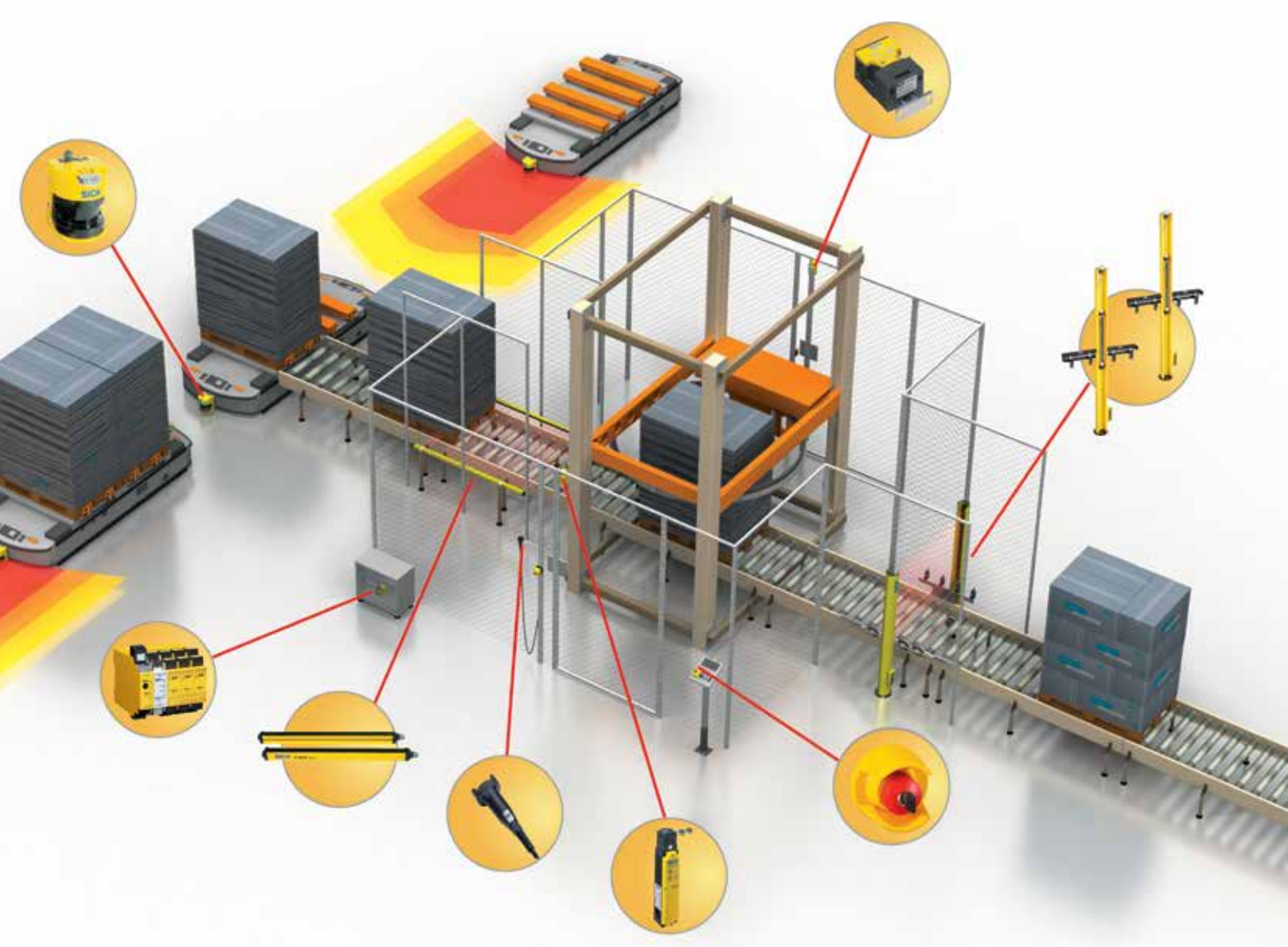


Space-saving – rapid – transparent

Simple system integration plays a key role in the commissioning and ongoing operation of your machines. With the SICK-specific interface (EFI), our products permit rapid communication for automatic operation and convenient configuration and diagnostic functions for setup and maintenance work. Higher speed of safe communication also means decreasing the minimum distances and thus saving expensive machine space.

You are given full transparency of the sensors in your industrial network, e. g., PROFINET with PROFIsafe.

Integrated, intelligent functions and coordinated interfaces make additional hardware unnecessary, reducing the number of devices and wires required for your machines.



Complete safety solution from SICK: foil wrapping machine with automatic material transport

Global sales successes with your machines via conformity with international safety solutions and globally available service.



Worldwide – available – legally secure

SICK ensures that the safety solutions conform with the international safety standards. Our experts are members of 65 standards committees worldwide. That means that we and you are always a step ahead.

Our service network consists of 120 employees in almost 50 countries. No matter where you deliver or produce your machines: SICK service technicians understand your problems and offer a rapid solution to ensure high reliability of your machines.

To ensure that you always receive expert support, SICK has established an international training program for its machine safety specialists.

Benefit from our expertise.

“Safe machine guide” brochure

The “Safe machine guide – Six steps to a safe machine” combines our many years of practical experience into a comprehensive brochure. We designed it to help you keep your machines safe.



It contains structured information on:

- Legal requirements for machines
- Safety-relevant directives, regulations and standards
- Selection and application of safety devices
- Examples of how to protect machines and persons against accidents
- Examples of the application of the new standards EN ISO 13849-1 and EN 62061 to determine the PL or SIL



“Safe machine guide – Six steps to a safe machine” is available for download at **www.mysick.com** in the SICK Literature Finder (publication type brochure) or for order as a printed brochure from your SICK representative.

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.



“Industry Safety Systems” available for download at

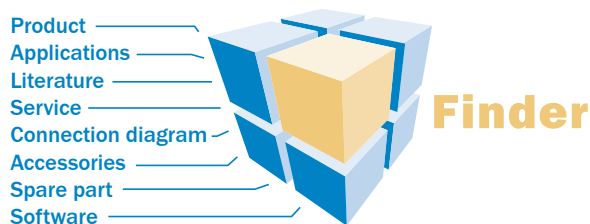
www.mysick.com in the SICK Literature Finder (publication type: product catalog) or for order as a printed brochure from your SICK partner.

Item numbers of the editions:

8010888 German, 8010889 English

www.mysick.com – search online and order

Search online quickly and safely – with the SICK “Finders”



Product Finder: We can help you to quickly target the product that best matches your application.

Applications Finder: Select the application description on the basis of the challenge posed, industrial sector, or product group.

Literature Finder: Go directly to the operating instructions, technical information, and other literature on all aspects of SICK products.

Efficiency – with the e-commerce tools from SICK



Partner Portal
www.mysick.com

Find out prices and availability: Determine the price and possible delivery date of your desired product simply and quickly at any time.

Request or view a quote: You can have a quote generated online here. Every quote is confirmed to you via e-mail.

Order online: You can go through the ordering process in just a few steps.

For safety and productivity: SICK LifeTime Services

SICK LifeTime Services is a comprehensive set of high-quality services provided to support the entire life cycle of products and applications from system design all the way to upgrades. These services increase the safety of people, boost the productivity of machines and serve as the basis for our customers' sustainable business success.



Consulting & Design

Globally available experts for cost-effective solutions



Product & System Support

Fast and reliable, by telephone or on location



Verification & Optimization

Checks and recommendations for increased availability



Upgrade & Retrofits

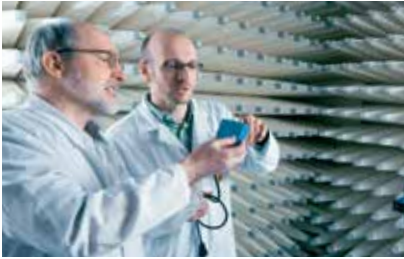
Uncovers new potential for machines and systems



Training & Education

Employee qualification for increased competitiveness

SICK at a glance



Leading technologies

With a staff of more than 5,800 and nearly 50 subsidiaries and representations worldwide, SICK is one of the leading and most successful manufacturers of sensor technology. The power of innovation and solution competency have made SICK the global market leader. No matter what the project and industry may be, talking with an expert from SICK will provide you with an ideal basis for your plans – there is no need to settle for anything less than the best.



Unique product range

- Non-contact detecting, counting, classifying, positioning and measuring of any type of object or media
- Accident and operator protection with sensors, safety software and services
- Automatic identification with bar code and RFID readers
- Laser measurement technology for detecting the volume, position and contour of people and objects
- Complete system solutions for analysis and flow measurement of gases and liquids



Comprehensive services

- SICK LifeTime Services – for safety and productivity
- Application centers in Europe, Asia and North America for the development of system solutions under real-world conditions
- E-Business Partner Portal www.mysick.com – price and availability of products, requests for quotation and online orders

Worldwide presence with subsidiaries in the following countries:

Australia
Belgium/Luxembourg
Brasil
Česká Republika
Canada
China
Danmark
Deutschland
España
France
Great Britain
India
Israel
Italia
Japan

México
Nederland
Norge
Österreich
Polska
România
Russia
Schweiz
Singapore
Slovenija
South Africa
South Korea
Suomi
Sverige
Taiwan
Türkiye
United Arab Emirates
USA

Please find detailed addresses and additional representatives and agencies in all major industrial nations at www.sick.com