PRODUCT INFORMATION

Safe Entry Exit

NEW WAY OF MUTING

Safety systems

SICK
Sensor Intelligence.

THE MODERN ALTERNATIVE TO CLASSIC MUTING

In order to ensure high productivity when safeguarding machines and plants, a reliable and at the same time efficient human-material differentiation is essential.

Classic muting relies on signal-emitting muting sensors to detect when transport goods are approaching a protective field. However, such systems are not only associated for taking up a lot of space, but also for a high installation effort.

The Safe Entry Exit system from SICK is the TÜV-certified alternative to classic muting in the intra-logistics, automotive, and packaging industry, as well as for automated guided vehicles (AGVs) and carts (AGCs). The system offers reliable differentiation between humans and materials without the need for additional signal sensors.

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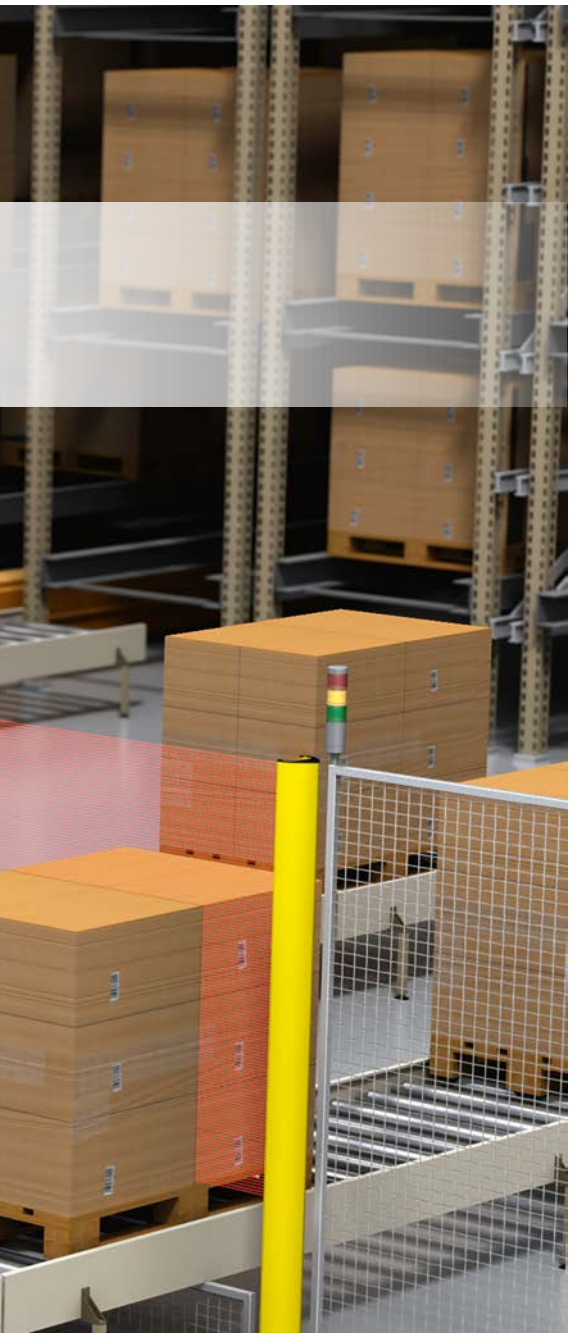


MUTING IS NOW EVEN MORE EFFICIENT

Guarantee safety

- Stay protected with the existing TÜV certification (EU-type examination) up to SILCL3 (EN 62061), PL e (EN ISO 13849)

Ensure high productivity

- Take advantage of the benefits of each type 4 electro-sensitive protective device (ESPE) and perform tasks e.g. measure the height at the same time
- Use an existing process signal instead of additional muting sensors to reduce machine downtimes

Save time, space and money

- Save time and money on integration and documentation thanks to the easy handling and use of preconfigured and certified software
- Stay flexible – since Safe Entry Exit can be integrated into almost every bus system, such as PROFINET or EtherCAT®
- Save space and take advantage of a compact system layout by eliminating the need for additional muting sensors and the option to use any type 4 ESPE

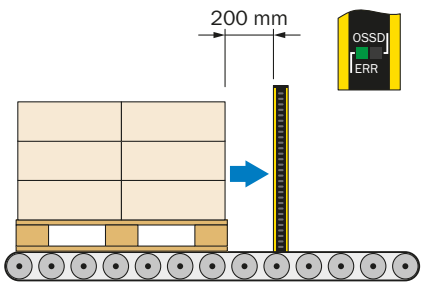
Future-proof investment

- Take a significant step towards Industry 4.0: Detailed diagnosis data is available for continuous process transparency and optimization of your application
- Take advantage of being independent of product innovations. Even in the future, every type 4 ESPE will still be suitable for the use in your plant

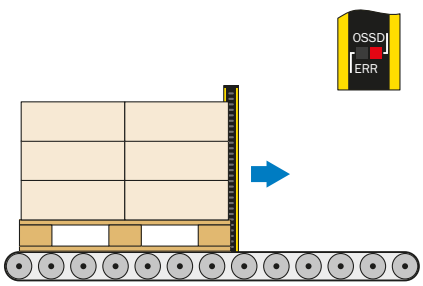
INDUSTRY 4.0 READY®

YOU CAN SAVE ON MUTING ARMS

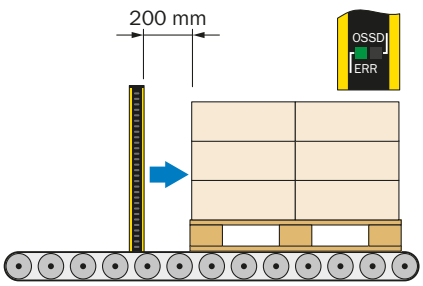
Safe Entry Exit uses existing process signals as a trigger, making additional muting sensors on any protruding brackets unnecessary. Always on the condition that the signal must not be easy to manipulate. As soon as the transport goods have passed the protective device, it is ready for use again to protect humans from hazards.



A manipulation-proof process signal, which is typically already available in every plant, is used as the first trigger signal according to the requirement of max. 200 mm in front of the protective device (distance may vary based on the risk assessment).



The safe switching signal of the protective device initiates the muting function as the second signal.



The muting function is terminated no more than 200 mm after leaving the protective field (may vary based on the risk assessment) and the safeguarding of the machine is active again.

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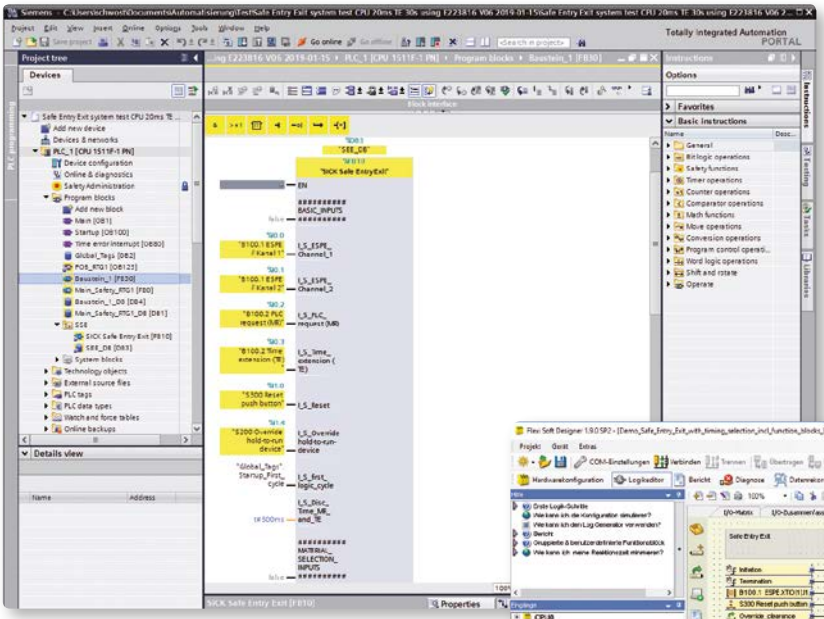
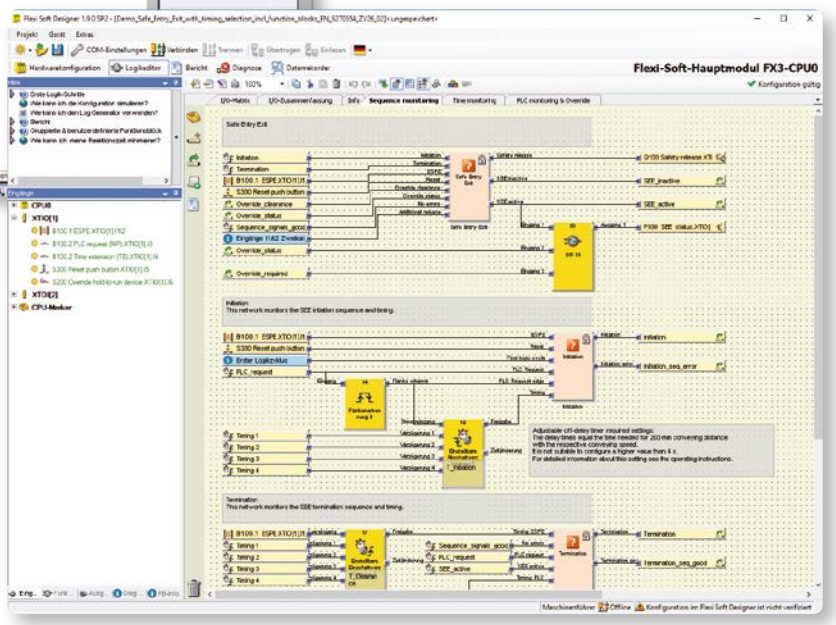
THE KEY COMPONENT IS THE CERTIFIED SOFTWARE

SICK offers a pre-assembled and TÜV-certified system with a logic module or an example project. Depending on the variant (➜ see page 6), you can configure them in a user-friendly way according to your specific requirements for various lengths of transport goods and conveying speeds. In the case of the function block for Siemens S7 controls, this takes place via the Siemens TIA portal (version 14 and higher), whereas the license-free Flexi Soft Designer software is available for the Flexi Soft variant.



The function block for Siemens S7 controls is configured via the **Siemens TIA portal**



The Flexi Soft variant is configured via the **Flexi Soft Designer**

Try it for yourself by how Safe Entry Exit can support you with reliable differentiation between humans and materials. We are happy to offer a test version free of charge for Siemens S7 controls. The Flexi Soft example project is available as a free download from
➜ www.sick.com/Safe_Entry_Exit

FREE SELECTION OF ANY TYPE 4 ELECTRO-SENSITIVE PROTECTIVE DEVICES

Safe Entry Exit works reliably with a combination of any type 4 safety light curtain or multiple light beam safety device and a TÜV-certified software. Two variants are available for reliable differentiation between humans and materials, saving you any extra time and effort with handling documentation and validation.

Function Block for Siemens S7 controls

The TÜV-certified function block, which can be used in conjunction with any type 4 electro-sensitive protective device, can be easily integrated into existing Siemens S7 controls.

- **Save time and money** – the TÜV-certified function block not only saves time but also makes the use of an additional safety controller redundant
- **Safe productivity** – thanks to simultaneous monitoring, diagnostics, and visualization options for the muting stations directly in your Siemens control

Flexi Soft variant

This variant of the modern safety system from SICK combines the tried-and-tested Flexi Soft safety controller with any type 4 electro-sensitive protective device.

- **Everything from a single source** – with decades of experience in the field of industrial safety technology and a global service network, SICK is offering a comprehensive solution with the Flexi Soft variant of Safe Entry Exit
- **Easy integration** – the combination of perfectly harmonized safety components makes it possible to integrate the safety system easily into existing plants and quickly put it into operation

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deTec4
Safety light curtains
➜ www.sick.com/deTec4

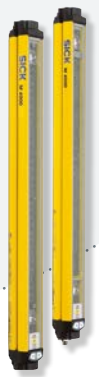
miniTwin4
Safety light curtains
➜ www.sick.com/miniTwin4

deTem4
Multiple light beam safety devices
➜ www.sick.com/deTem4_Core

Our comprehensive portfolio of type 4 electro-sensitive protective devices along with the appropriate services can be found on ➜ page 8

We will be happy to assist you with making your selection.

C4000 Advanced
Safety light curtains
➜ www.sick.com/C4000_Advanced



M4000
Multiple light beam safety devices
➜ www.sick.com/M4000_Standard

NEW WAY OF MUTING

Product description

The Safe Entry Exit safety system from SICK is the TÜV-certified alternative to classic muting: It reliably differentiates between humans and materials without additional muting sensor technology. Only a signal from the process controller is needed. As soon as the transport goods have passed the protective device, it is immediately ready again to protect humans from hazards. Depending on requirements, any type 4 electro-sensitive protective device (ESPE) can be combined with the software for the Flexi Soft safety controller from SICK or for Siemens S7 controllers. Thereby, the respective controller evaluates multiple material gates and provides the relevant diagnostic data for Industry 4.0 applications.

At a glance

- Can be combined with any type 4 electro-sensitive protective device
- TÜV-certified alternative to classic muting up to SILCL3 and PL e
- Human/material differentiation without additional muting sensors
- Available as software for Siemens S7 or Flexi Soft
- Multiple material gates can be evaluated by one controller

Your benefits

- A safety system that can be flexibly adapted to individual safety requirements and minimum distances
- Time and cost savings when documenting and validating your plant
- Increased productivity of your plant and space savings as no additional muting sensors are required
- Easy to integrate via the ready-to-use software
- Diagnostic data offer process transparency and optimization for your Industry 4.0 applications

Additional information

→ **www.sick.com/Safe_Entry_Exit**

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

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Detailed technical data

Features

	Flexi Soft variant	Function block for Siemens S7
Safety task	Access protection with differentiation between persons and material	
Supply voltage	24 V DC (16.8 V DC ... 28.8 V DC) [1]	–

[1] The external voltage supply must be capable of buffering brief mains voltage failures of 20 ms as specified in EN 60204-1. Suitable power supplies are available as accessories from SICK.

Safety-related parameters

	Flexi Soft variant	Function block for Siemens S7
Performance level		
For process controller with $MTTF_d$ value of at least 10 a	PL d (ISO 13849-1)	
For process controller with $MTTF_d$ value of at least 100 a [1]	PL e (ISO 13849-1)	
Category	Category 3 (ISO 13849-1)	
Safety integrity level		
For process controller with $MTTF_d$ value of at least 10 a	SILCL2 (EN 62061)	
For process controller with $MTTF_d$ value of at least 100 a [1]	SILCL3 (EN 62061)	
Safe state in the event of a fault	The safety-related semiconductor outputs are in the OFF state.	

[1] If PL e is required, the higher-level controller and signal source must also correspond to PL e and have a $MTTF_d$ value of at least 100 a.

Ordering information

- **Note:** A type 4 electro-sensitive protective device from SICK can be ordered separately.

Variant	Items supplied	Type	Part no.
Flexi Soft variant	1 Flexi Soft main module FX3-CPU0 1 Flexi Soft I/O module FX3-XTIO 1 Flexi Soft system plug FX3-MPL0	SAPPD3E-05X0032	1090293
Function block for Siemens S7 [1]	Software, Operating Instructions, Wiring Example, SISTEMA file	SAPPD3E-05XS001	1613431

[1] System requirements: The function block requires a Siemens SIMATIC S7-15xxF and the TIA-Portal V14 SP1 or higher.

Accessories

Connection systems

Plug connectors and cables

- **Description:** For connecting the configuration connection to the USB interface on the PC

Figure	Connection type		Length of cable	Type	Part no.
	Male connector, M8, 4-pin, straight	Male connector, USB-A, straight	2 m	DSL-8U04G02M025KM1	6034574

Safety command devices

Figure	Description	Items supplied	Type	Part no.
	Emergency stop pushbutton	Including retaining clip and “RESET” cover	ES11-SC4D8	6051329

Safety controllers

Flexi Soft gateways

Figure	Communication interface	Type	Part no.
	CANopen	FX0-GCAN00000	1044076
	DeviceNet™	FX0-GDEV00000	1044077
	EtherNet/IP™	FX0-GENT00000	1044072
	EtherCAT®	FX0-GETC00000	1051432
	Modbus TCP	FX0-GMOD00000	1044073
	PROFINET	FX0-GPNT00000	1044074
	PROFIBUS DP	FX0-GPR000000	1044075

Flexi Soft I/O modules

Figure	Description	Type	Part no.
	Flexi Soft input/output extension: 6 inputs 6 outputs 2 switchable inputs or outputs	FX0-STIO68002	1061778
	Flexi Soft input extension: 8 safety inputs 8 test pulse outputs	FX3-XTDI80002	1044124
	Flexi Soft input/output extension: 8 safety inputs 4 standard outputs 2 switchable outputs or test pulse outputs	FX3-XTDS84002	1061777
	Flexi Soft input/output extension: 8 safety inputs 4 safety outputs	FX3-XTIO84002	1044125

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deTec4 – At a glance

- NFC diagnosis and smartphone app
- Diagnostics and automation via IO-Link
- Smart presence detection
- 2-signal-muting
- Reduced resolution: 1 or 2 beams
- Dynamic protective field widths
- Configuration of all functions without software

Your benefits

- Increased productivity and short downtimes thanks to extensive and innovative diagnostic options
- Safety and automation combined: IO-Link makes cost-effective system design possible
- Muting provides maximum productivity and safety in differentiating between people and material
- High availability: smart presence detection prevents unwanted switch-offs
- Flexibility and safety for dynamic applications during machine operation
- Easy commissioning and configuration without the need for software, saving time and money

→ **www.sick.com/deTec**

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

deTec4 Core – At a glance

- Type 4 (IEC 61496), SIL3 (IEC 61508), PL e (EN ISO 13849)
- No blind zones
- Resolution of 14 mm or 30 mm
- Protective field height of 300 mm to 2,100 mm
- Automated calibration of the protective field width of up to 15 m scanning range
- Ambient operating temperature of –30 °C to +55 °C
- IP65 and IP67 enclosure rating
- Flexi Loop compatible M12 male connector

Your benefits

- Simple assembly with innovative mounting and no blind zones
- Quick commissioning thanks to integrated LED display and automated calibration of the protective field width of up to 15 m scanning range
- Simply safe: rugged and reliable thanks to enclosure rating IP67 and an ambient operating temperature down to –30 °C, enabling use in harsh ambient conditions
- Intelligently standardized: M12 connectivity, 5-pin, reduces costs and enables safe series connection with Flexi Loop
- Basic function with minimal configuration effort enables quick replacement when servicing is required

→ **www.sick.com/deTec**

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

deTem4 Core – At a glance

- Typical scanning range of up to 90 m
- 2 versions: small and wide scanning range
- Compact design
- The same housing as deTec
- Versions with 2, 3, and 4 light beams
- Ambient operating temperature of –30 °C to +55 °C
- Enclosure ratings IP65 and IP67

Your benefits

- Protection of large access areas with multiple beam deflections as well
- Little space required
- The same quick and easy mounting and commissioning as the deTec: the same accessories and connectivity
- Reduced variant diversity
- Reliable in challenging environments

→ **www.sick.com/deTem4_Core**

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

M4000 Standard – At a glance

- Type 4 (IEC 61496), SIL3 (IEC 61508), PL e (EN ISO 13849)
- Robust housing with three mounting grooves
- Wide scanning range, up to 70 m
- External device monitoring (EDM), restart interlock and application diagnostic output
- Standardized M12 connectivity
- 7-segment display
- Configuration keys located directly on the device
- Optional integration features: laser alignment aid, LED or AS-i interface

Your benefits

- The wide scanning range allows the device to be customized according to the application
- Robust design with a high level of resistance to environmental changes ensures high machine availability, even under special ambient conditions
- Customized protection field adaption with deflection mirror reduces installation costs
- Customer-friendly interfaces and status display simplify commissioning and maintenance
- Mounting grooves on three housing sides ensure more flexibility during mounting and simplify machine integration
- Fast start-up times due to easy alignment, using the optional laser alignment aid and performing configuration directly on the device
- Reduced downtime through 360° visible LED and diagnostics displays

→ **www.sick.com/M4000_Standard**

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M4000 Standard A/P – At a glance

- Type 4 (IEC 61496), SIL3 (IEC 61508), PL e (EN ISO 13849)
- Sender/receiver in a single housing, scanning range up to 7.5 m
- External device monitoring (EDM), restart interlock and application diagnostic output
- Standardized M12 connectivity
- 7-segment display
- Configuration keys for setting directly on the device
- Beam coding for correct system allocation
- Optional integrated: LED, AS-i interface

Your benefits

- Economical active/passive variants minimize the wiring and installation workload.
- Resilient and rugged design for high system throughput, even under special ambient conditions
- Mounting grooves on three housing sides ensure greater mounting flexibility and facilitate integration with the machine
- User-friendly interfaces and status indicators simplify commissioning and maintenance
- Fast startup times due to configuration directly on the device, without the need for a PC
- Reduced downtimes thanks to all-around-visible LEDs and diagnostics displays

→ **www.sick.com/M4000_Standard_A_P**

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

M4000 Advanced – At a glance

- Type 4 (IEC 61496), SIL3 (IEC 61508), PL e (EN ISO 13849)
- Robust housing with three mounting grooves
- Wide scanning range, up to 70 m
- External device monitoring (EDM), restart interlock, application diagnostic output, SDL interface
- Muting in combination with the UE403 muting switching amplifier
- 7-segment display
- Configuration and diagnostics via PC
- Optional integration features: laser alignment aid, LED

Your benefits

- The wide scanning range allows the device to be customized according to the application
- Robust design with a high level of resistance to environmental changes ensures high machine availability, even under special ambient conditions
- Mounting grooves on three housing sides ensure more mounting flexibility and simplify machine integration
- Customer-friendly interfaces and status display simplify commissioning and maintenance
- For 2- and 4-sensor muting, the on-site connection of the muting signals significantly minimizes wiring costs and simplifies commissioning and maintenance
- Reduced downtime due to 360° visible LED, diagnostics displays and configuration memory in the UE403 muting switching amplifier

→ **www.sick.com/M4000_Advanced**

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

M4000 Advanced A/P – At a glance

- Type 4 (IEC 61496), SIL3 (IEC 61508), PL e (EN ISO 13849)
- Sender/receiver in a single housing, scanning range up to 7.5 m
- External device monitoring (EDM), restart interlock, application diagnostic output, SDL interface
- Muting in combination with the UE403 muting switching amplifier
- 7-segment display
- Configuration and diagnostics via PC
- Optional integrated: LED

Your benefits

- The wide scanning range allows the device to be customized according to the application
- Robust design with a high level of resistance to environmental changes ensures high machine availability, even under special ambient conditions
- Mounting grooves on three housing sides ensure more mounting flexibility and simplify machine integration
- Customer-friendly interfaces and status display simplify commissioning and maintenance
- For 2- and 4-sensor muting, the on-site connection of the muting signals significantly minimizes wiring costs and simplifies commissioning and maintenance
- Reduced downtime due to 360° visible LED, diagnostics displays and configuration memory in the UE403 muting switching amplifier

→ www.sick.com/M4000_Advanced_A_P

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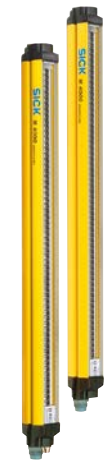

M4000 Advanced Curtain – At a glance

- Type 4 (IEC 61496), SIL3 (IEC 61508), PL e (EN ISO 13849)
- Rugged housing with three mounting grooves
- 7-segment display
- Resolution 14 mm or 30 mm, scanning range up to 19 m
- External device monitoring (EDM), restart interlock (RES), application diagnostic output (ADO), and SDL interface
- Beam coding for correct system allocation
- Muting: on-site connection and processing in combination with the UE403 muting switching amplifier
- Configuration and diagnostics via PC

Your benefits

- High resolution (14 mm/30 mm) reduces the safety distances for access protection – both with and without muting
- The robust housing and high power reserve enable reliable use, even in harsh ambient conditions
- Mounting grooves on three housing sides ensure more flexibility in the installation and simplify machine integration
- User-friendly interfaces and status indicators facilitate commissioning and maintenance
- On-site connection of the muting signals on the UE403 muting switching amplifier minimizes the time spent laying cables and facilitates commissioning procedures and maintenance
- Reduced downtimes through all-around-visible LED and diagnostics displays as well as configuration memory in the UE403 muting switching amplifier

→ www.sick.com/M4000_Advanced_Curtain

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C4000 Advanced – At a glance

- Type 4 (IEC 61496), SIL3 (IEC 61508), PL e (EN ISO 13849)
- Various options for blanking objects: fixed, floating, or teach-in
- 7-segment display
- PSDI mode with the UE402 switching amplifier
- External device monitoring (EDM) and restart interlock (RES)
- Beam coding for correct system allocation
- Configuration and diagnostics via PC
- Cascade up to three systems

Your benefits

- Blanking functions enable reliable and safe object detection and thus increase productivity
- Time-saving alignment and diagnostics by means of 7-segment display
- Beam coding protects the systems against mutual interference and thus offers a high level of availability
- The clone plug can duplicate configurations quickly and easily, thus saving time and money
- Increased flexibility and reduced wiring complexity via cascading of up to a maximum of three systems
- Convenient configuration anddiagnostics ensure increased availability

→ **www.sick.com/C4000_Advanced**

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

miniTwin4 – At a glance

- Type 4 (IEC 61496), SIL3 (IEC 61508), PL e (EN ISO 13849)
- Compact cross section (15 mm x 32 mm) with no dead zones
- Cascadable twin stick design – sender and receiver in a single housing
- Customized protective field heights in 60-mm increments from 120 mm to 1,200 mm
- Typical scanning ranges 0 m ... 5 m
- Intelligent, software-free configuration of external device monitoring (EDM) and reset function (RES)
- M12, 5-pin device connection

Your benefits

- Cost-effective machine integration: the miniature design, cascading, and fine stepping of the protective field lengths enable flexible adaptation to the machine design
- Standardization saves time and resources by making logistics, order processing, and service more straightforward
- Exemplary handling: software-free, almost fully automatic commissioning and intuitive operation with sustainable optics
- LED-guided start-up together with colored LEDs for quick alignment and unequivocal protective field visualization ensure rapid diagnostics
- A continuous protective field for cascade applications eliminates blind zones, reduces the safety distance, and thereby increases productivity
- Application-specific brackets increase mounting flexibility, while reducing the mounting time

→ **www.sick.com/miniTwin4**

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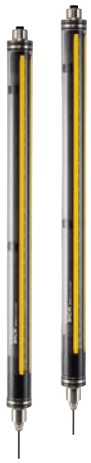

deTec4 Core IP69K – At a glance

- The entire system satisfies enclosure rating IP69K
- Resistance certified in accordance with Ecolab and Diversey
- Easy-to-clean design without edges and gaps
- Protective housing designed to be replaceable
- Breathable membrane prevents protective housing from steaming up

Your benefits

- Enclosure rating IP69K offers high resistance and long service life, making it more economical
- Certified material resistance for maximum reliability
- The ideal design for efficient cleaning in the food industry – it ensures high process and production quality while reducing the risk of contamination
- Replaceable protective housing offers flexibility and saves money in the event that service is needed
- Breathable membrane ensures the highest availability
- Reduction of cleaning times and costs compared to a mechanical protective device

→ www.sick.com/deTec

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

deTem4 Core IP69K – At a glance

- Type 4 (IEC 61496), SIL3 (IEC 61508), PL e (EN ISO 13849)
- The entire system satisfies enclosure rating IP69K
- Resistance certified in accordance with Ecolab and Diversey
- Easy-to-clean design without edges and gaps
- Protective housing designed to be replaceable
- Breathable membrane prevents protective housing from steaming up

Your benefits

- Enclosure rating IP69K offers high resistance and long service life, making it more economical
- Certified material resistance for maximum reliability
- The ideal design for efficient cleaning in the food industry – it ensures high process and production quality while reducing the risk of contamination
- Replaceable protective housing offers flexibility and saves money in the event that service is needed
- Breathable membrane ensures the highest availability
- Reduction of cleaning times and costs compared to a mechanical protective device

→ www.sick.com/deTem4_Core_IP69K

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

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M4000 Standard in IP69K Housing – At a glance

- Type 4 (IEC 61496), SIL3 (IEC 61508), PL e (EN ISO 13849)
- IP 69K, IP 67, IP 66 and IP 65 enclosure ratings incl. cable
- Withstands wash-down pressure up to 100 bar and water temperature up to 80 °C
- ECOLAB and Diversey certified
- Resistant steel materials
- Ventilation valve prevents fogging of the front screen
- Smooth surfaces prevent accumulation of bacteria

Your benefits

- High resistance reduces risk of contamination and increases the production quality
- Cost reduction through long-lasting products, enclosure rating IP 69K for all materials including cable
- Replacement for mechanical guards, with the following advantages:
- Fast access for personnel and service increases productivity
- Saving potential for cleaning time and use of detergents

→ **www.sick.com/M4000_Standard_in_IP69K_Housing**

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

M4000 Standard A/P in IP69K Housing – At a glance

- Type 4 (IEC 61496), SIL3 (IEC 61508), PL e (EN ISO 13849)
- IP 69K, IP 67, IP 66 and IP 65 enclosure ratings incl. cable
- Withstands wash-down pressure up to 100 bar and water temperature up to 80 °C
- ECOLAB and Diversey certified
- Resistant steel materials
- Ventilation valve prevents fogging of the front screen
- Smooth surfaces prevent accumulation of bacteria
- Unique A/P version for comfortable integration

Your benefits

- High resistance reduces risk of contamination and increases the production quality
- Cost reduction through long-lasting products, enclosure rating IP 69K for all materials including cable
- Replacement for mechanical guards, with the following advantages:
- Fast access for personnel and service increases productivity
- Saving potential for cleaning time and use of detergents

→ **www.sick.com/M4000_Standard_A_P_in_IP69K_Housing**

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

deTec4 Ex II 3GD – At a glance

- Ex II 3GD classification thanks to modified deTec4housing
- NFC diagnostics and mobile app
- Diagnostics and automation via IO-Link
- 2-signal-muting
- Reduced resolution: 1 or 2 beams
- Dynamic protective field width
- Configuration of all functions without software

Your benefits

- Maximum safety and automation in explosive atmospheres thanks to compliance with stringent regulations and strict safety requirements
- Less downtime thanks to comprehensive, innovative diagnostic options
- Differentiation between personnel and materials (muting) to maximize productivity
- Flexibility and safety for dynamic applications
- Easy commissioning and configuration without the need for software, plus a standardized housing design and accessories concept to save time and money

→ www.sick.com/deTec

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

deTec4 Ex – At a glance

- Pre-assembled and pre-wired safety light curtain in anexplosion-proof enclosure
- Certified for use in explosive atmospheres in accordance with ATEX, IECEx and NEC thanks to explosion-proof enclosure
- Available in protective field heights 450 mm, 600 mm,900 mm, 1,200 mm and 1,500 mm

Your benefits

- The way the device is assembled – complete with cable and pre-installed within the explosion-proof enclosure – not only saves on installation time but also on certification costs
- Maximum safety and automation in explosive atmospheres thanks to compliance with stringent regulations and strict safety requirements
- Straightforward installation and alignment
- LEDs offer a quick overview of the device status to reduce downtime and maximize productivity

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

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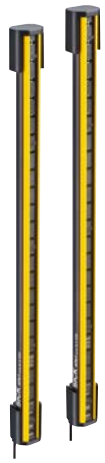

deTec4 Core Ex II 3GD – At a glance

- ATEX for gas:
  II 3G Ex nA op is IIB T4 Gc X
- ATEX for dust:
  II 3D Ex tc IIIB T 135°C Dc
- Innovative bracket concept
- No blind zones
- Automated calibration of the protective field width
- LEDs with alignment quality display
- Standardized connectivity: M12 male connector, 5-pin connection, compatible with Flexi Loop
- Enclosure ratings: IP65 and IP67

Your benefits

- Uniform housing and accessory concept for standard and special industrial environments saves time and money when planning systems.
- Innovative bracket concept for easy mounting saves installation time and costs
- No blind zones for very high flexibility and space-saving machine design
- Quick installation thanks to integrated LED display and automated calibration of the protective field width save time and money
- Standardized connectivity for Flexi Loop integration saves time and money when it comes to installation
- Enclosure ratings IP65, IP67 and temperature resistance offer long sensor life times and therefore even more efficiency

→ **www.sick.com/deTec**

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

deTec – At a glance

- ATEX for gas:
  II 2 G Ex d IIB T6 Gb
- ATEX for dust:
  II 2 D Ex tb IIIC T56°C Db
- NFPA 70/NEC 500 Class I, Div. 1, Groups C and D
- NFPA 70/NEC 500 Class II, Div. 1, Groups E, F and G
- NFPA 70/NEC 500 Class III, Div. 1
- Available in protective field heights of 600 mm, 900 mm, 1,200 mm and 1,500 mm
- Resolution of 30 mm
- Scanning range of 8 m

Your benefits

- Compatibility with numerous SICK safety light curtains means high flexibility in application solutions
- Durable housing
- Easy installation and alignment with the special mounting system
- Quick commissioning of the premounted system consisting of light curtain and housing
- Short downtimes thanks to resistance to water and dust based on IP66 enclosure rating
- Easily visible LED status indicators for rapid fault diagnosis
- The entire safety solution is available for delivery and benefits from support all over the world

→ **www.sick.com/deTec**

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

deTem4 Core Ex II 3GD – At a glance

- ATEX for gas:
  II 3G EX nA op is IIB T4 GC X
- ATEX for dust:
  II 3D Ex tc IIIB T135 °C Dc
- Innovative bracket
- LED alignment and status display
- Standardized connectivity: M12 male connector, 5-pin connection, compatible with Flexi Loop
- Enclosure ratings: IP65 and IP67

Your benefits

- Uniform housing and accessory concept for standard and special industrial environments saves time and money when planning systems
- Innovative bracket concept for easy mounting saves installation time and costs
- Fast installation thanks to integrated LED display saves time and money
- Standardized connectivity for Flexi Loop integration saves installation time and costs
- Enclosure ratings IP65, IP67 and temperature resistance offer long sensor life times and therefore even more efficiency

→ www.sick.com/deTem4_Core_Ex_II_3GD

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

deTem4 Core Ex – At a glance

- Wide scanning range up to 70 m
- External device monitoring (EDM), restart interlock (RES) and application diagnostic output (ADO)
- Robust housing
- Simple device configuration and quick diagnostics
- 7-segment display for diagnostics
- Beam coding for correct system allocation
- Laser alignment aid and optional LED integration
- Economical active/passive variants minimize the wiring costs

Your benefits

- The wide scanning range allows the device to be customized according to the application
- Robust design with a high level of resistance to environmental changes ensures high machine availability, even under special ambient conditions
- Customized protection field adaption with deflection mirror reduces installation costs
- Customer-friendly interfaces and status display simplify commissioning and maintenance
- Intelligent muting solution: For 2- and 4-sensor muting, the on-site connection of the muting signals significantly minimizes wiring costs and simplifies commissioning and maintenance
- Reduced downtime through 360° visible LED and diagnostics displays
- Economical active/passive variants minimize the wiring costs and installation time

→ www.sick.com/deTem4_Core_Ex

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

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C4000 Advanced ATEX II 3G/3D – At a glance

- Type 4 (IEC 61496), SIL3 (IEC 61508), PL e (EN ISO 13849)
- ATEX II 3G/3D (2/22 zones)
- ATEX for gas: II 3G Ex nA op is IIC T4 Gc X
- ATEX for dust: II 3D Ex tc IIIC T135°C Dc
- 7-segment display
- External device monitoring (EDM) and restart interlock (RES)
- Beam coding for correct system allocation
- Configuration and diagnostics via PC

Your benefits

- ATEX II 3G/3D for use in zones 2/22
- Large sensing ranges up to 19 m and sufficient power reserve for use in paint finishing lines, for example
- Time-saving alignment and diagnostics by means of 7-segment display
- Beam coding protects the systems against mutual interference and thus offers a high level of availability
- Quick and easy commissioning by means of pre-configuration of the systems or clone plug
- Convenient configuration anddiagnostics ensure increased availability

→ **www.sick.com/C4000_Advanced_ATEX_II_3G_3D**

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

C4000 Advanced Ex – At a glance

- ATEX for gas: II 2 G Ex d IIB T6 Gb
- ATEX for dust: II 2 D Ex tb IIIC T56°C Db
- NFPA 70/NEC 500 Class I, Div. 1, Groups C and D
- NFPA 70/NEC 500 Class II, Div. 1, Groups E, F and G
- NFPA 70/NEC 500 Class III, Div. 1
- Available in protective field heights of 600 mm, 900 mm and 1,200 mm
- Resolution of 30 mm
- Scanning range of 16 m

Your benefits

- Compatibility with numerous SICK safety light curtains makes high flexibility in the application solution possible
- Durable housing
- Simple installation and alignment with the special mounting system
- Quick commissioning of pre-mounting systems, comprises light curtain and housing
- Low downtimes thanks to resistance to water and dust as a result of enclosure rating IP 66
- Well visible LED status indicator for quick fault diagnosis
- Global availability and support for the entire safety solution

→ **www.sick.com/C4000_Advanced_Ex**

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

TWINOX4 – At a glance

- Media resistance due to stainless-steel housing
- Easy-to-clean design with rounded edges and without undercuts
- Twin concept: Sender and receiver in a single housing
- Restart interlock, external device monitoring (EDM), beam coding
- Enclosure ratings IP65 and IP67

Your benefits

- The small, elegant stainless-steel housing saves space, enables optimum integration into the machine design, and offers great flexibility
- Highest level of media resistance for maximum reliability
- Efficient cleaning ensures high process and production quality and a low risk of contamination
- Efficient ordering process and cost savings due to reduced storage needs and spare parts maintenance
- Adjustable brackets ensure the highest availability
- Quick on-site diagnostics with LED status indicators over the entire protective field height

→ **www.sick.com/TWINOX4**

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

deTec4 HG – At a glance

- Front screen made of chemically hardened float glass
- NFC diagnosis and smartphone app
- Diagnostics and automation via IO-Link
- Smart presence detection
- 2-signal-muting
- Reduced resolution: 1 or 2 beams
- Dynamic protective field widths
- Configuration of all functions without software

Your benefits

- The hardened glass front screen offers high resistance to coolants, lubricants and cleaning agents and therefore maximum reliability
- Increased productivity and short downtimes thanks to extensive and innovative diagnostic options
- Safety and automation combined: IO-Link makes cost-effective system design possible
- Muting provides maximum productivity and safety in differentiating between people and material
- High availability: smart presence detection prevents unwanted switch-offs
- Easy commissioning and configuration without the need for software, saving time and money

→ **www.sick.com/deTec**

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

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Machine safeguarding evaluation – At a glance

- Identification of electrical and mechanical hazards
- Risk assessment of identified hazards
- Evaluation of existing protective measures
- Recommendation of new or improvement of existing protective measures
- Consideration of valid provisions and regulations
- Service can be retrieved worldwide

Your benefits

- Detailed knowledge of the safety status of the machines
- Concrete statements on the urgency of improvement measures
- High flexibility thanks to product-neutral perspective
- Economic, well-thought-out recommendations for reducing detected risks
- Reduced effort when drafting safety concepts
- Enables simple and standard-compliant implementation of the recommended protective measures for safety technology
- Foundation for fulfilling due diligence with documented inspection of the machine
- Guaranteed quality thanks to standardized processes and sustainable competence management

→ www.sick.com/machine_safeguarding_evaluation

Commissioning – At a glance

- Configuration and parameter setting of components or systems, optimized for each application
- Final functional testing of components or systems
- Documentation of the configuration and parameter setting in the acceptance report
- Briefing of operating personnel

Your benefits

- High productivity: via application-optimized components and system settings
- Cost savings: quick transition to normal operation under professional supervision
- Planning reliability: via effective cooperation between SICK, the system integrator and the customer

→ www.sick.com/commissioning

Periodic inspection – At a glance

- Evaluation of the optical protective devices to ensure they have been installed correctly and according to the specification
- Inspection of whether the protective device is operating according to current machine usage
- Identification of operational changes and manipulations
- Readjustment of the optical protective devices and removal of contamination
- Production of an inspection report and issuance of a test seal

Your benefits

- Safety is determined and corresponding documentation is provided in the inspection report as proof that the legal obligation for testing has been fulfilled
- High testing quality through certification and periodic inspections in accordance with IEC 17020 is carried out by independent bodies and with on-going competency management
- Quick identification of the safety status and the period of validity by means of test seals as proof to regulators of current inspections
- Safety is ensured due to early detection of changes to application conditions and manipulations
- High machine reliability due to periodic checking and, if necessary, removal of contamination or readjustment
- Automatic reminder of required testing periods within the framework of the service contracts to ensure equipment is working properly

→ www.sick.com/inspection

Stop time measurement – At a glance

- Performance of stop time measurement
- Calculation of the required safety distance between the hazardous point and the non-physical guard according to EN ISO 13855
- Generation of a report with the measurement results

Your benefits

- Guaranteed measurement quality using calibrated measuring instruments
- Generation of a report with measurement results for the machine documentation
- Hazardous risks caused by non-compliance with the required safety distances can be determined
- High testing quality through certification and periodic inspections in accordance with IEC 17020 is carried out by independent bodies and with on-going competency management

→ www.sick.com/stop_time_measurement

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SICK AT A GLANCE

SICK is a leading manufacturer of intelligent sensors and sensor solutions for industrial applications. With more than 9,700 employees and over 50 subsidiaries and equity investments as well as numerous agencies worldwide, SICK is always close to its customers. A unique range of products and services creates the perfect basis for controlling processes securely and efficiently, protecting individuals from accidents, and preventing damage to the environment.

SICK has extensive experience in various industries and understands their processes and requirements. With intelligent sensors, SICK delivers exactly what the customers need. In application centers in Europe, Asia, and North America, system solutions are tested and optimized in accordance with customer specifications. All this makes SICK a reliable supplier and development partner.

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

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