PRODUCT OVERVIEW

OPTO-ELECTRONIC PROTECTIVE DEVICES

PRODUCTS AT A GLANCE

Safety laser scanners, safety light curtains, safety camera systems, multiple light beam safety devices, single-beam photoelectric safety switches, mirror columns and device columns

SICK
Sensor Intelligence.

OPTO-ELECTRONIC PROTECTIVE DEVICES

Opto-electronic protective devices from SICK are the first choice for maximum machine and system productivity. Unlike fences and doors, they do not disrupt handling or material transport and allow a better view into the machine room. SICK‘s comprehensive portfolio is ideal for hazardous point protection, access protection, and hazardous area protection. The SICK’s proprietary interface, EFI, offers additional process optimization.

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Applications

Whether for persons, machines or other objects, in automated production and logistics processes, safety is the highest priority. For decades, SICK has been producing pioneering products for the protection of hazardous areas and hazardous points as well as for access protection.

Use our Safety Solution assistant. It guides you from your safety task to a product recommendation for safety sensors and safe control solutions.

➜ www.sick.com/safetyplus-safety-solution-assisant

Hazardous point protection with finger or hand detection

The worker works very close to the hazardous point of the machine here. The stopping time is very short. With a detection capability of 14 mm, individual fingers are reliably detected.

Benefits

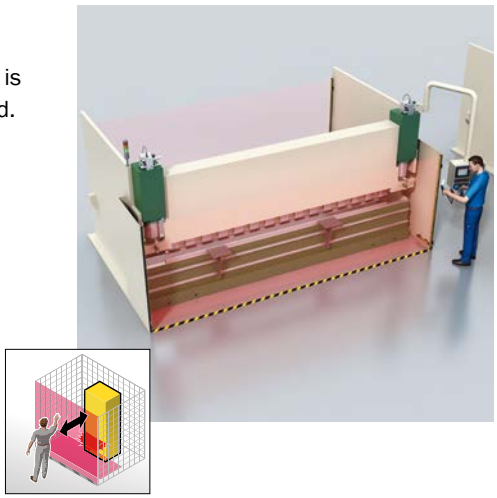
- Enables very frequent operator/machine interaction and an unimpeded view
- The distance to the hazardous point is reduced to a minimum
- Supports high productivity

Hazardous point protection with hand and person detection

The worker works close to the hazardous point of the machine. The stopping time is very short. With a detection capability of up to 40 mm, hands are reliably detected.

Benefits

- Enables unrestricted access, frequent interaction and an unimpeded view into the machine
- With presence detection, automatic restart can be initiated

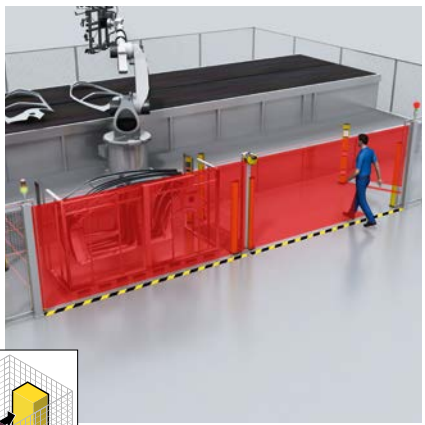


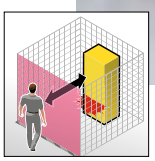
One-sided access protection with person detection

The worker interacts with the machine regularly, but not frequently.
Safety laser scanners or multiple-beam systems reliably detect persons when entering a hazardous area.

Benefits

- Enables unrestricted access and an unimpeded view into the machine



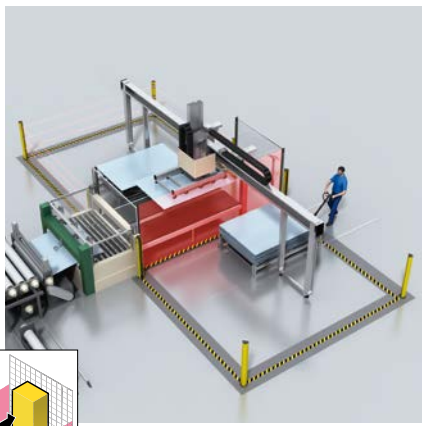


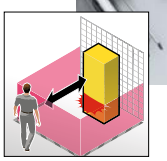
Multi-sided access protection with person detection

The worker interacts with the machine regularly, but not frequently.
Safety laser scanners or multiple-beam systems detect a person entering the hazardous area from several sides.

Benefits

- Enables unrestricted access to the machine from several sides and an unimpeded view into the machine





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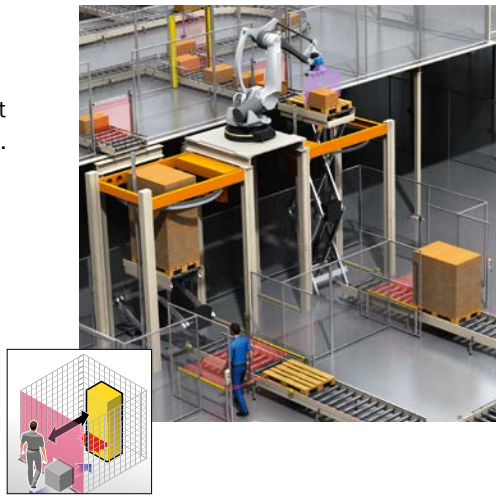
One-sided access protection with differentiation between persons and material

For muting, entry/exit monitoring and machines with automatic material transport systems. Safety laser scanners or multiple-beam systems reliably detect persons.

Benefits

- Unimpeded material transport supports high productivity

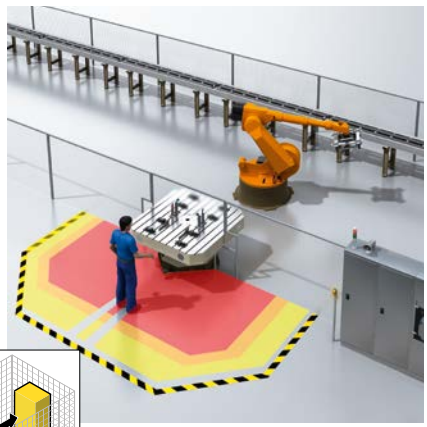


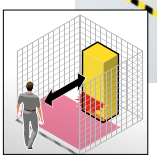
Stationary hazardous area protection with person detection in the presence

The worker interacts with the machine regularly, but not frequently. The view into the hazardous walk-through area can be restricted. With a detection capability of up to 70 mm and respective mounting height, human legs are reliably detected.

Benefits

- Combined approach and presence monitoring
- Enables unrestricted access to the machine



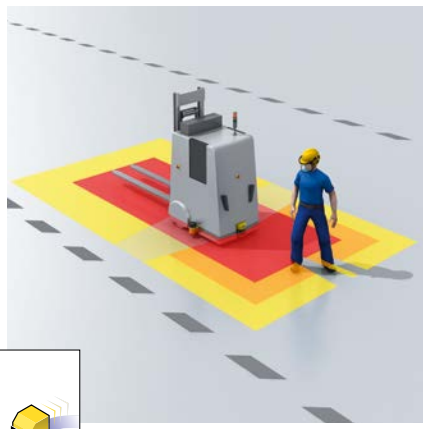


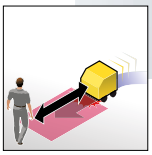
Mobile hazardous area protection with person detection when approaching

Protection of persons while vehicles are moving. With a detection capability of up to 70 mm and respective mounting height, human legs are reliably detected.

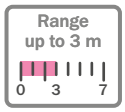
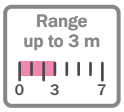
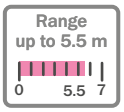
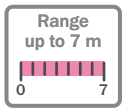
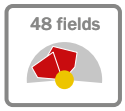
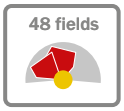
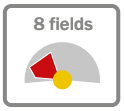
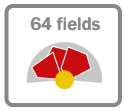
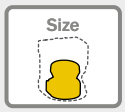
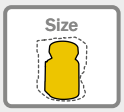
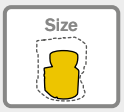
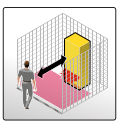
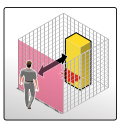
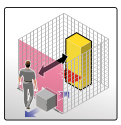
Benefits

- Reduced downtimes and wear caused by frequent braking
- The minimum distance can be automatically adjusted to the speed





AN OVERVIEW OF THE MOST IMPORTANT PROPERTIES OF OPTO-ELECTRONIC PROTECTIVE DEVICES

	Safety laser scanners			
	 S300 MINI + EFI GERÄT	 S300	 micro-Scan3	 S3000
	Ultra-compact - focused on the essentials	Compact - all functions in a single device	The new generation of safety laser scanners	Powerful and modular
Protective field range The protective field range describes the maximum range of the monitored field.				
Scanning angle The scanning angle describes the maximum viewing angle of the scanner.				
Fields The number of fields indicates how flexibly the scanner can be adapted to different process phases.				
Dimensions: **width x height x depth** The smaller the device, the simpler it is to integrate in a system.	 102 mm x 116 mm x 104 mm	 102 mm x 152 mm x 106 mm	 112 mm × 135 mm × 111 mm	 155 mm x 185 mm x 160 mm
Safety tasks				
Detailed information	→ 8	→ 8	→ 9	→ 10

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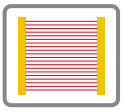
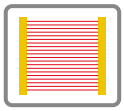
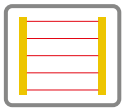
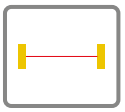
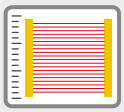
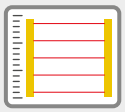
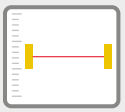
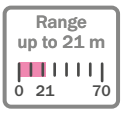
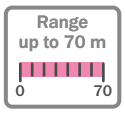
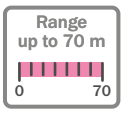
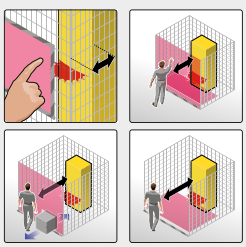
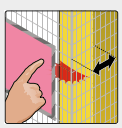
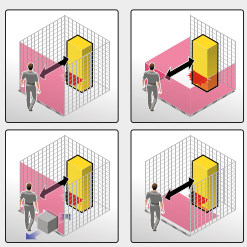
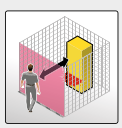
	Safety light curtains	Safety camera systems	Multiple light beam safety devices	Single-beam photoelectric safety switches
	 deTec, miniTwin, C4000, C2000	 V200, V300	 M4000, M2000	 L4000, L2000, WSU, WEU, 26-3
	Small, compact or extremely robust for individual application solutions	Simple commissioning thanks to self-teaching protective field	Resistant and robust, even for special ambient conditions	Easy integration due to small, compact designs with maximum scanning range
Resolution / Beam separation The safety task determines the necessary resolution of the application.	 Resolution: 14 mm ... 40 mm	 Resolution: 20 mm ... 30 mm	 Beam separation: 170 mm ... 600 mm	 Single-beam
Maximum protective field height Specifies the maximum detection height for the protective field.	 120 mm ... 2.100 mm	 0,4 m ... 1,5 m x 0,4 m ... 1,5 m	 300 mm ... 1.800 mm	 Single-beam
Maximum scanning range The scanning range indicates how far apart the sender and receiver can be.	 0 m ... 21 m	 0,4 m ... 1,5 m x 0,4 m ... 1,5 m	 0 m ... 70 m	 0 m ... 70 m
Safety tasks				
Detailed information	➜ 14	➜ 19	➜ 20	➜ 24

	 **S300 Mini Standard**	 **S300 Mini Remote**	 **S300 Standard**	
	Economical yet reliable	Very high functionality in mini format	Economical yet reliable	
Technical data overview				
Protective field range	1 m / 2 m / 3 m	2 m / 3 m	2 m / 3 m	
Warning field range	8 m	8 m	8 m	
Scan angle	270°	270°	270°	
Number of fields	3	48	3	
Number of monitoring cases	1	32	1	
Resolution	30 mm, 40 mm, 50 mm, 70 mm, 150 mm, configurable	30 mm, 40 mm, 50 mm, 70 mm, 150 mm, configurable	30 mm, 40 mm, 50 mm, 70 mm, 150 mm, configurable	
OSSD pairs	1	–	1	
Response time	80 ms	80 ms	80 ms	
Safe device communication	–	EFI	EFI	
At a glance				
	• Ultra-compact design • 1 field set • Selectable resolution for hand, leg or body detection • Contour as reference for vertical applications • Integrated external device monitoring (EDM) • Easy-to-configure fields and functions	• Can only be used in EFI system network, e.g., with a Flexi Soft safety controller or another safety laser scanner • Ultra-compact design • Up to 16 switchable field sets • Selectable resolution for hand, leg or body detection • Extended system solutions in combination with Flexi Soft safety controller	• Compact design • 1 field set • Configuration memory integrated in the system plug • EFI interface for safe SICK device communication • Selectable resolution for hand, leg or body detection • Contour as reference for vertical applications	
Detailed information	**➜ www.sick.com/ S300_Mini_Standard**	**➜ www.sick.com/ S300_Mini_Remote**	**➜ www.sick.com/ S300_Standard**	

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	S300 Advanced	S300 Professional	S300 Expert	microScan3 Core
				
	Optimize production processes safely	High-performance – the right protection for any speed	Flexible and pioneering – for challenging applications	The new generation of safety laser scanners
	2 m / 3 m	2 m / 3 m	2 m / 3 m	4 m / 5.5 m
	8 m	8 m	8 m	40 m
	270°	270°	270°	275°
	12	24	48	8
	4	32	32	2
	30 mm, 40 mm, 50 mm, 70 mm, 150 mm, configurable	30 mm, 40 mm, 50 mm, 70 mm, 150 mm, configurable	30 mm, 40 mm, 50 mm, 70 mm, 150 mm, configurable	30 mm, 40 mm, 50 mm, 70 mm, 150 mm, 200 mm, configurable
	1	1	1	1
	80 ms	80 ms	80 ms	70 ms
	EFI	EFI	EFI	–
	• Compact design • 4 switchable field sets • Configuration memory integrated in the system plug • EFI interface for safe SICK device communication • Selectable resolution for hand, leg or body detection • Contour as reference for vertical applications	• Compact design • 8 switchable field sets • Configuration memory integrated in the system plug • EFI interface for safe SICK device communication • Incremental encoder inputs for speed-dependent field switching • Measured data output via RS-422	• Compact design • 16 switchable field sets • Configuration memory integrated in the system plug • EFI interface for safe SICK device communication • Incremental encoder inputs for speed-dependent field switching • Extended measured data output via RS-422 with landmark recognition	• Innovative scanning technology safeHDDM™ • Compact, rugged metal housing • High reliability against dust and ambient light • System plug M12, 8-pin, with configuration memory • Intuitive configuration using the Safety Designer software • Brilliant multicolor display
	→ www.sick.com/S300_Advanced	→ www.sick.com/S300_Professional	→ www.sick.com/S300_Expert	→ www.sick.com/microScan3_Core

	 **S3000 Standard**	 **S3000 Advanced**	 **S3000 Professional**
	Economical yet reliable	Optimize production processes safely	Flexible high-performance - the right protection for any speed
Technical data overview			
Protective field range	4 m / 5.5 m / 7 m	4 m / 5.5 m / 7 m	4 m / 5.5 m / 7 m
Warning field range	49 m	49 m	49 m
Scan angle	190°	190°	190°
Number of fields	4	12	24
Number of monitoring cases	1	4	16
Resolution	30 mm, 40 mm, 50 mm, 70 mm, 150 mm, configurable	30 mm, 40 mm, 50 mm, 70 mm, 150 mm, configurable	30 mm, 40 mm, 50 mm, 70 mm, 150 mm, configurable
OSSD pairs	1	1	1
Response time	60 ms	60 ms	60 ms
Safe device communication	EFI	EFI	EFI
At a glance			
	• 1 field set • Configuration memory integrated in the system plug • Interface (EFI) for reliable SICK device communication • Selectable resolution for hand, leg or body detection • Simultaneous monitoring of up to 4 protective fields • Contour as reference for vertical applications • Integrated external device monitoring (EDM)	• 4 switchable field sets • Configuration memory integrated in the system plug • Interface (EFI) for reliable SICK device communication • Selectable resolution for hand, leg or body detection • Simultaneous monitoring of up to 4 protective fields • Contour as reference for vertical applications • Integrated external device monitoring (EDM)	• 8 switchable field sets • Configuration memory integrated in the system plug • Interface (EFI) for reliable SICK device communication • Incremental encoder inputs for speed-dependent field switching • Measured data output via RS-422 • Simultaneous monitoring of up to 4 protective fields • Monitoring of the maximum speed of an AGV
Detailed information	→ www.sick.com/S3000_Standard	→ www.sick.com/S3000_Advanced	→ www.sick.com/S3000_Professional

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	S3000 Expert	**S3000 Remote**	**S3000 PROFINET IO Advanced**	**S3000 PROFINET IO Professional**
	Safety gaps have no chance – with 64 fields	The scanner for more safety	Always available – safety technology in your network	Always available - safety technology in your network
	4 m / 5.5 m / 7 m	4 m / 5.5 m / 7 m	4 m / 5.5 m / 7 m	4 m / 5.5 m / 7 m
	49 m	49 m	49 m	49 m
	190°	190°	190°	190°
	64	64	8	16
	32	32	4	16
	30 mm, 40 mm, 50 mm, 70 mm, 150 mm, configurable	30 mm, 40 mm, 50 mm, 70 mm, 150 mm, configurable	30 mm, 40 mm, 50 mm, 70 mm, 150 mm, configurable	30 mm, 40 mm, 50 mm, 70 mm, 150 mm, configurable
	1	1	–	–
	60 ms	60 ms	60 ms	60 ms
	EFI	EFI	PROFINET PROFIsafe	PROFINET PROFIsafe
	• 32 switchable field sets • Configuration memory integrated in the system plug • Interface (EFI) for reliable SICK device communication • Incremental encoder inputs for speed-dependent field switching • Extended measured data output via RS-422 with field marker detection • Simultaneous monitoring of up to 4 protective fields	• Can be used only in the EFI system network, e.g. with a Flexi Soft safety controller or another safety laser scanner • Up to 32 switchable field sets • Configuration memory integrated in the system plug • Measured data output via RS-422 • Simultaneous monitoring of up to 4 protective fields • Contour as reference for vertical applications	• Direct integration in PROFINET IO safe bus system • 4 switchable field sets • Managed 2-Port switch for copper or optical fiber based conductors • Configuration memory integrated in the system plug • Remote diagnostics and configuration through safety controller • Simultaneous monitoring of 2 protective fields	• Direct integration in PROFINET IO safe bus system • 8 switchable field sets • Managed 2-Port switch for copper or optical fiber based conductors • Configuration memory integrated in the system plug • Remote diagnostics and configuration through safety controller • Simultaneous monitoring of 2 protective fields
				
	→ www.sick.com/ S3000_Expert	→ www.sick.com/ S3000_Remote	→ www.sick.com/S3000_ PROFINET_IO_Advanced	→ www.sick.com/S3000_ PROFINET_IO_Professional

		
	S3000 Anti Collision	**S3000 Cold Store**
	Maximum productivity by safe collision protection of up to 15 meters	Reliable safety for tough requirements in cold storage
Technical data overview		
Protective field range	7 m	7 m
Warning field range	–	49 m
Scan angle	190°	180°
Number of fields	32	12
Number of monitoring cases	32	4
Resolution	30 mm, 40 mm, 50 mm, 70 mm, 150 mm, configurable	30 mm, 40 mm, 50 mm, 70 mm, 150 mm, configurable
OSSD pairs	1	1
Response time	120 ms	60 ms
Safe device communication	EFI	EFI
At a glance		
	• Collision protection of up to 15 m and person protection of up to 7 m in one device • Can only be used in EFI system network with modular Flexi Soft safety controller • Up to 16 switchable field sets • Configuration memory integrated in the system plug • Extended measurement data output via RS-422 with landmark recognition	• Designed and certified for temperatures down to –30 °C • Modified housing with integrated temperature controller • IP 67 enclosure rating • 4 switchable field sets • Interface (EFI) for reliable SICK device communication • Selectable resolution for hand, leg or body detection • Contour as reference for vertical applications
Detailed information	➜ www.sick.com/S3000_Anti_Collision	➜ www.sick.com/S3000_Cold_Store

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	 **deTec4 Prime**	 **deTec4 Core**	 **deTec2 Core**	
	Easy commissioning, intuitive wiring, and proven reliability	Efficient integration. Quick installation. Simply safe.	Simply safe: easily operated and rugged in everyday use	
Technical data overview				
Scanning range	0.15 m ... 21 m	0 m ... 10 m	0 m ... 10 m	
Protective field height	300 mm ... 2,100 mm	300 mm ... 2,100 mm	300 mm ... 2,100 mm	
Resolution	14 mm / 30mm	14 mm / 30 mm	14 mm / 30 mm	
Type	Type 4 (IEC 61496)	Type 4 (IEC 61496)	Type 2 (IEC 61496)	
Safety integrity level	SIL3 (IEC 61508) SILCL3 (EN 62061)	SIL3 (IEC 61508) SILCL3 (EN 62061)	SIL1 (IEC 61508) SILCL1 (EN 62061)	
Performance level	PL e (EN ISO 13849)	PL e (EN ISO 13849)	PL c (EN ISO 13849)	
Enclosure rating	IP 65 (EN 60529) IP 67 (EN 60529)	IP 65 (EN 60529) IP 67 (EN 60529)	IP 65 (EN 60529) IP 67 (EN 60529)	
Ambient operating temperature	–30 °C ... +55 °C	–30 °C ... +55 °C	–30 °C ... +55 °C	
At a glance				
	• Option of cascading up to three deTec4 Prime safety light curtains, beam coding • Restart interlock, external device monitoring, status output • Integrated laser alignment aid • Flexi-Loop-ready	• Absence of blind zones • Automatic calibration on the protective field width • Flexi-Loop-ready	• Absence of blind zones • Automatic calibration on the protective field width • Flexi-Loop-ready	
Detailed information	→ www.sick.com/deTec4_Prime	→ www.sick.com/deTec4_Core	→ www.sick.com/deTec2_Core	

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	 **miniTwin4**	 **miniTwin2**	 **C4000 Advanced**
	The smallest light curtain with the highest protection level, PL e	Small design, great flexibility, and universal possibilities	Increase productivity with greater machine safety
	0 m ... 4 m	0 m ... 6 m	0 m ... 19 m
	120 mm ... 1,200 mm	120 mm ... 1,200 mm	150 mm ... 1,800 mm
	14 mm / 24 mm / 34 mm	14 mm / 24 mm / 34 mm	14 mm ... 40 mm
	Type 4 (IEC 61496)	Type 2 (IEC 61496)	Type 4 (IEC 61496)
	SIL3 (IEC 61508) SILCL3 (EN 62061)	SIL1 (IEC 61508) SILCL1 (EN 62061)	SIL3 (IEC 61508) SILCL3 (EN 62061)
	PL e (EN ISO 13849)	PL c (EN ISO 13849)	PL e (EN ISO 13849)
	IP 65 (EN 60529)	IP 65 (EN 60529)	IP 65 (EN 60529)
	–20 °C ... +55 °C	–20 °C ... +55 °C	0 °C ... +55 °C
	• Compact cross section (15 mm x 32 mm) with no dead zones • Twin stick: sender and receiver in a single housing – cascadable • Intelligent, software-free configuration of external device monitoring and reset function • M12, 5-pin device connection	• Compact cross section (15 mm x 32 mm) with no dead zones • Twin stick: sender and receiver in a single housing – cascadable • Intelligent, software-free configuration of external device monitoring and reset function • M12 connecting device, 5-pin	• 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
	→ www.sick.com/miniTwin4	→ www.sick.com/miniTwin2	→ www.sick.com/C4000_Advanced

				
	C4000 Fusion	**C4000 Palletizer**	**C4000 Entry/Exit**	
	Multifunctional and user friendly, high-level of availability and safe	Innovative muting alternative for access protection	Revolutionary access protection that differentiates between people and material	
Technical data overview				
Scanning range	1.5 m ... 19 m	0.5 m ... 6 m	0.5 m ... 19 m	
Protective field height	300 mm ... 1,800 mm	750 mm ... 1,800 mm	900 mm ... 1,500 mm	
Resolution	20 mm	30 mm / 40 mm	20 mm	
Type	Type 4 (IEC 61496)	Type 4 (IEC 61496)	Type 4 (IEC 61496)	
Safety integrity level	SIL3 (IEC 61508) SILCL3 (EN 62061)	SIL3 (IEC 61508) SILCL3 (EN 62061)	SIL3 (IEC 61508) SILCL3 (EN 62061)	
Performance level	PL e (EN ISO 13849)	PL e (EN ISO 13849)	PL e (EN ISO 13849)	
Enclosure rating	IP 65 (EN 60529)	IP 65 (EN 60529)	IP 65 (IEC 60529)	
Ambient operating temperature	0 °C ... +55 °C	0 °C ... +55 °C	0 °C ... +55 °C	
At a glance				
	• Self-teaching, dynamic blanking for application-specific access protection • Hand and area protection in dirty environments • Multiple sampling • Reduced resolution • Fixed blanking • Two virtual photoelectric sensors • Integrated laser alignment	• Self-teaching, dynamic blanking detects goods and pallets • Direction recognition • Multiple sampling • Reduced resolution • Muting alternative • Beam coding • Object gap suppression	• Self-teaching, dynamic blanking • 7-segment display • Multiscan function increases availability • External device monitoring (EDM), restart interlock • Beam coding • Configuration and diagnostics via PC	
Detailed information	→ www.sick.com/C4000_Fusion	→ www.sick.com/C4000_Palletizer	→ www.sick.com/C4000_Entry_Exit	

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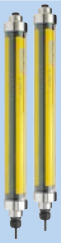
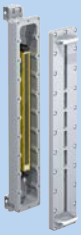
		
	C4000 Micro in IP69K Housing	**C2000 Standard in IP69K Housing**
	Comprehensive safety for stringent hygiene and cleaning requirements	Cost efficient solution for industries with high wash-down requirements
	0 m ... 14.5 m	0 m ... 4.5 m / 2.5 m ... 14.5 m
	150 mm ... 1,800 mm	150 mm ... 1,200 mm
	14 mm / 30 mm	30 mm
	Type 4 (IEC 61496)	Type 2 (IEC 61496)
	SIL3 (IEC 61508) SILCL3 (EN 62061)	SIL1 (IEC 61508) SILCL1 (EN 62061)
	PL e (EN ISO 13849)	PL c (EN ISO 13849)
	IP 69K, IP 67, IP 66, IP 65 (IEC 60529)	IP 69K, IP 67, IP 66, IP 65 (EN 60529)
	–30 °C ... +55 °C	0 °C ... +55 °C
	• 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 • Compact design up to 1,800 mm protective field height	• 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 • Compact design
	→ www.sick.com/ C4000_Micro_in_IP69K_Housing	→ www.sick.com/ C2000_Standard_in_IP69K_Housing

	 **deTec4 Core Ex**	 **C4000 Advanced Ex**	 **C4000 Advanced ATEX II 3G/3D**
	Safety in explosive environments	Safety in explosive environments	Total flexibility – even in explosive environments
Technical data overview			
Scanning range	0 m ... 8 m	0 m ... 16 m	0 m ... 19 m
Protective field height	600 mm ... 1,500 mm	600 mm / 900 mm / 1,200 mm	450 mm ... 1,800 mm
Resolution	30 mm	30 mm	14 mm / 30 mm / 40 mm
Type	Type 4 (IEC 61496)	Type 4 (IEC 61496)	Type 4 (IEC 61496)
Safety integrity level	SIL3 (IEC 61508) SILCL3 (EN 62061)	SIL3 (IEC 61508) SILCL3 (EN 62061)	SIL3 (IEC 61508) SILCL3 (EN 62061)
Performance level	PL e (EN ISO 13849)	PL e (EN ISO 13849)	PL e (EN ISO 13849)
Enclosure rating	IP 66 (EN 60529)	IP 66 (EN 60529)	IP 65 (EN 60529)
Ambient operating temperature	–20 °C ... +55 °C	0 °C ... +55 °C	0 °C ... +55 °C
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	• 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	• ATEX II 3G/3D (2/22 zones) • Labelling Gas: Ex nA op is IIC T4 0°C<Ta<55°C Gc X • Labelling Dust: Ex tD A22 IP65 T123°C X • 7-segment display • External device monitoring (EDM) and restart interlock (RES) • Beam coding for correct system allocation • Configuration and diag-nostics via PC
Detailed information	→ www.sick.com/deTec4_Core_Ex	→ www.sick.com/C4000_Advanced_Ex	→ www.sick.com/C4000_Advanced_ATEX_II_3G_3D

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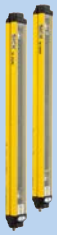
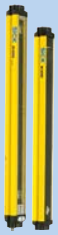
	 **V300 Work Station Extended**	 **V200 Work Station Extended**
	Perfect protection with minimal space requirements	Perfect protection with minimal space requirements
Technical data overview		
Type	Type 3 (IEC 61496)	Type 2 (IEC 61496)
Safety integrity level	SIL2 (IEC 61508) SILCL2 (EN 62061)	SIL1 (IEC 61508) SILCL1 (EN 62061)
Category	Category 3 (EN ISO 13849)	Category 2 (EN ISO 13849)
Performance level	PL d (EN ISO 13849)	PL c (EN ISO 13849)
Resolution	20 mm, 24 mm, 30 mm	20 mm, 24 mm, 30 mm
Maximum protective field range	1.41 m, 1.7 m, 2.12 m	1.41 m, 1.7 m, 2.12 m
Optical field of view size	1 m x 1 m 1.2 m x 1.2 m 1.5 m x 1.5 m	1 m x 1 m 1.2 m x 1.2 m 1.5 m x 1.5 m
Response time	≤ 20 ms	≤ 20 ms
At a glance		
	• One device only: integrated sender and receiver • Intuitive one-button operation • Automatic alignment • Synchronization of 2 systems • Restart/Reset, EDM integrated	• One device only: integrated sender and receiver • Intuitive one-button operation • Automatic alignment • Synchronization of 2 systems • Restart/Reset, EDM integrated
Detailed information	➜ www.sick.com/ V300_Work_Station_Extended	➜ www.sick.com/ V200_Work_Station_Extended

	 **M4000 Standard**	 **M4000 Standard A/P**	
	High efficient solutions with maximum availability	Intelligent wiring and maximum availability	
Technical data overview			
Type	Type 4 (IEC 61496)	Type 4 (IEC 61496)	
Safety integrity level	SIL3 (IEC 61508) SILCL3 (EN 62061)	SIL3 (IEC 61508) SILCL3 (EN 62061)	
Performance level	PL e (EN ISO 13849)	PL e (EN ISO 13849)	
Scanning range	0.5 m ... 70 m	0.5 m ... 7.5 m	
Number of beams	2 ... 8	2 / 4	
Beam separation or resolution	220 mm ... 600 mm	500 mm / 300 mm	
Length of the monitored area	–	–	
Integrated laser alignment aid	✔ (depending on type)	–	
End cap with integrated LED	✔ (depending on type)	✔ (depending on type)	
Enclosure rating	IP 65 (EN 60529)	IP 65 (EN 60529)	
At a glance			
	• Robust housing with three mounting grooves • External device monitoring (EDM), restart interlock and application diagnostic output • Standardized M12 connectivity • 7-segment display • Configuration keys located directly on the device	• 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	
Detailed information	➜ www.sick.com/M4000_Standard	➜ www.sick.com/M4000_Standard_A_P	

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	 **M4000 Advanced**	 **M4000 Advanced A/P**	 **M4000 Area**
	Intelligent and efficient: connection of the muting signals directly on site	Intelligent and efficient: connection of the muting signals directly on site	Large scanning ranges protect hazardous areas
	Type 4 (IEC 61496)	Type 4 (IEC 61496)	Type 4 (IEC 61496)
	SIL3 (IEC 61508) SILCL3 (EN 62061)	SIL3 (IEC 61508) SILCL3 (EN 62061)	SIL3 (IEC 61508) SILCL3 (EN 62061)
	PL e (EN ISO 13849)	PL e (EN ISO 13849)	PL e (EN ISO 13849)
	0.5 m ... 70 m	0.5 m ... 7.5 m	0.5 m ... 70 m
	2 ... 8	2 / 4	–
	220 mm ... 600 mm	500 mm / 300 mm	60 mm / 80 mm
	–	–	300 mm ... 1,800 mm
	✔ (depending on type)	–	–
	✔ (depending on type)	✔ (depending on type)	–
	IP 65 (EN 60529)	IP 65 (EN 60529)	IP 65 (EN 60529)
	• 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	• 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	• Robust housing with three mounting grooves • Wide scanning range, up to 70 m • Resolution 60 mm or 80 mm • External device monitoring (EDM), restart interlock, application diagnostic output, SDL interface • 7-segment display • Configuration and diagnostics via PC • Beam coding for correct system allocation
	→ www.sick.com/M4000_Advanced	→ www.sick.com/M4000_Advanced_A_P	→ www.sick.com/M4000_Area

	 **M2000 Standard**	 **M2000 Standard A/P**	
	Economical solution for one-sided or multi-sided protection	Intelligent wiring and maximum availability with a proven industrial design	
Technical data overview			
Type	Type 2 (IEC 61496)	Type 2 (IEC 61496)	
Safety integrity level	SIL1 (IEC 61508) SILCL1 (EN 62061)	SIL1 (IEC 61508) SILCL1 (EN 62061)	
Performance level	PL c (EN ISO 13849)	PL c (EN ISO 13849)	
Scanning range	0 m ... 70 m	0 m ... 6 m	
Number of beams	2 ... 9	2	
Beam separation or resolution	116 mm ... 500 mm	500 mm	
Enclosure rating	IP 65 (EN 60529)	IP 65 (EN 60529)	
At a glance			
	• Robust, industrial housing • External device monitoring (EDM) and internal self-testing configurable without PC • Standardized M12 connectivity available • 7-segment display • Beam coding for correct system allocation	• Robust, industrial housing • External device monitoring (EDM) and internal self-testing configurable without PC • Standardized M12 connectivity is available • 7-segment display • Unique A/P version minimize the wiring costs	
Detailed information	→ www.sick.com/ M2000_Standard	→ www.sick.com/ M2000_Standard_A_P	

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			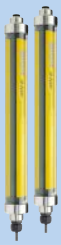
	M4000 Standard in IP69K Housing	**M4000 Standard A/P in IP69K Housing**	**M2000 Standard in IP69K Housing**
	For stringent requirements in terms of hygiene and cleaning	For stringent requirements in terms of hygiene and cleaning	Cost efficient solution for industries with high wash-down requirements
	Type 4 (IEC 61496)	Type 4 (IEC 61496)	Type 2 (IEC 61496)
	SIL3 (IEC 61508) SILCL3 (EN 62061)	SIL3 (IEC 61508) SILCL3 (EN 62061)	SIL1 (IEC 61508) SILCL1 (EN 62061)
	PL e (EN ISO 13849)	PL e (EN ISO 13849)	PL c (EN ISO 13849)
	0.5 m ... 53 m	0.5 m ... 4 m	0 m ... 19 m
	3	4	2 / 3 / 4
	400 mm	300 mm	500 mm / 400 mm / 300 mm
	IP 69K, IP 67, IP 66, IP 65 (EN 60529)	IP 69K, IP 67, IP 66, IP 65 (EN 60529)	IP 69K, IP 67, IP 66, IP 65 (EN 60529)
	• 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	• 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	• 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 • Compact design
	➜ www.sick.com/ M4000_Standard_in_IP69K_Housing	➜ www.sick.com/ M4000_Standard_A_P_in_IP69K_Housing	➜ www.sick.com/ M2000_Standard_in_IP69K_Housing

				
	WSU/WEU26-3	**L4000 Systems**	**L41**	
	Rugged, ensures reliability under extreme ambient conditions	Complete system with high availability and short response times	Universal use up to type 4 with safe control solutions from SICK	
Technical data overview				
Scanning range	0.5 m ... 70 m	0 m ... 60 m	0 m ... 60 m	
Light sender/type of light	Infrared light	LED / visible red light	LED / visible red light	
Construction size	50 mm x 156 mm x 116 mm	M18 / M30	M18 / M30	
Supply voltage	24 V DC	24 V DC	24 V DC	
Enclosure rating	IP 67 (EN 60529)	IP 67 (EN 60529)	IP 67 (EN 60529)	
Ambient operating temperature	–25 °C ... +55 °C	–20 °C ... +55 °C	–40 °C ... +55 °C	
Type	Type 4 (IEC 61496)	Type 4 (IEC 61496)	Type 4 (IEC 61496)	
Performance level	PL e (EN ISO 13849)	PL e (EN ISO 13849)	PL e (EN ISO 13849)	
At a glance				
	• Rugged construction • Universal application possibilities • Relay outputs • Front screen heating	• Small M18 sensors with ranges up to 10 m • Compact M30 sensors with ranges up to 60 m • Narrow evaluation device (22.5 mm) with external device monitoring (EDM) and restart interlock (RES) • Fast response time of max. 30 ms • Up to 8 sensors can be cascaded	• Small M18 sensors with ranges up to 10 m • Compact M30 sensors with ranges up to 60 m • Radial optics (90° deflector mirror)	
Detailed information	→ www.sick.com/WSU_WEU26-3	→ www.sick.com/L4000_Systems	→ www.sick.com/L41	

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	L21	L27	L28	L29
				
	Cylindrical design for safety applications up to type 2	Standard type and long ranges for safety applications up to type 2	Compact type for optimum integration into safety applications up to type 2	Small type for optimum integration into safety applications up to type 2
	0 m ... 60 m	0 m ... 25 m	0 m ... 12 m	0 m ... 6 m
	LED / visible red light	LED / visible red light	LED / visible red light	LED / visible red light
	M18 / M30	24.6 mm x 92.8 mm x 54 mm	17.6 mm x 87.5 mm x 33.5 mm	12.2 mm x 50 mm x 23.6 mm
	24 V DC	24 V DC	24 V DC	24 V DC
	IP 67 (EN 60529)	IP 67 (EN 60529)	IP 67 (EN 60529)	IP 65, IP 66, IP 67, IP 69K (EN 60529)
	–40 °C ... +55 °C	–40 °C ... +60 °C	–40 °C ... +60 °C	–40 °C ... +60 °C
	Type 2 (IEC 61496)	Type 2 (IEC 61496)	Type 2 (IEC 61496)	Type 2 (IEC 61496)
	PL c (EN ISO 13849)	PL c (EN ISO 13849)	PL c (EN ISO 13849)	PL c (EN ISO 13849)
	• Small M18 sensors with ranges up to 10 m • Compact M30 sensors with ranges up to 60 m • Metal and plastic version • Radial optics (90° deflector mirror) • Straightforward diagnostics and service	• Compact size with ranges up to 35 m • Integrated heating	• Compact size with ranges up to 18 m • Plastic housing, ABS	• Very small housing dimensions (50 mm x 23,6 mm x 12,2 mm) • Ultra-rugged VISTAL™ housing • Ecolab tested material resistance
	→ www.sick.com/L21	→ www.sick.com/L27	→ www.sick.com/L28	→ www.sick.com/L29

			
	Mirror columns with protective field height mirror	**Mirror columns with separate mirrors**	
	Smart multi-sided protection of the area around hazardous points	Smart multi-sided protection of the area around hazardous points	
Technical data overview			
Model	Mirror columns with protective field height mirror	Mirror columns with up to 4 adjustable individual mirrors	
Suitable for	Safety light curtains Multiple light beam safety devices	Multiple light beam safety devices	
Suitable for protective field height	≤ 1,800 mm	–	
Suitable for number of beams	Any	2 / 3 / 4	
Suitable for beam separation	Any	300 mm ... 600 mm	
Mirror length	1,082 mm ... 1,832 mm	90 mm	
Mirror width	125 mm	100 mm	
Column height	1,281.5 mm ... 2,216.5 mm	985 mm / 1,185 mm / 1,285 mm	
At a glance			
	• Free-standing mounting solution • Compact, rugged design and extremely high stability • Simple mounting and adjustment • Large reflector surface for efficient multi-sided protection via beam deflection and high availability • Mirror columns in various lengths	• Free-standing mounting solution • Compact, rugged design and extremely high stability • Easy mounting and adjustment • Large reflector surface for efficient multi-sided protection via beam deflection and high availability • Mirror columns in various lengths	
Detailed information	➜ www.sick.com/Mirror_columns_with_protective_field_height_mirror	➜ www.sick.com/Mirror_columns_with_separate_mirrors	

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	Device columns with external grooves	**Device columns for outdoor use**
	Smart solutions for access and area protection	Heatable front screen for a clear view
	Device columns with two external mounting grooves	Device columns with front screen heating for outdoor use
	Safety light curtains Multiple light beam safety devices	Multiple light beam safety devices
	≤ 2,100 mm	–
	Any	3 / 2
	Any	400 mm / 500 mm
	–	–
	–	–
	985 mm ... 2,420 mm	1,223 mm
	• Free-standing mounting solution • Compact, rugged design and extremely high stability • Simple mounting and adjustment • Device protection against external influences	• Use of heatable front screen in outdoor areas • Free-standing mounting solution • Compact, rugged design and extremely high stability • Easy mounting and adjustment • Device protection against external influences • Applicable for multiple light beam safety devices
	→ www.sick.com/Device_columns_with_external_grooves	→ www.sick.com/Device_columns_for_outdoor_use

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- ☑ Conveniently export quotations and orders to work with your systems.

SERVICES FOR MACHINES AND SYSTEMS: SICK LifeTime Services

Our comprehensive and versatile LifeTime Services are the perfect addition to the comprehensive range of products from SICK. The services range from product-independent consulting to traditional product services.

Consulting and design
Safe and professional

Product and system support
Reliable, fast and on-site

Verification and optimization
Safe and regularly inspected

Upgrade and retrofits
Easy, safe and economical

Training and education
Practical, focused and professional

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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 7,400 employees and over 50 subsidiaries and equity investments as well as numerous agencies worldwide, we are always close to our customers. A unique range of products and services creates the perfect basis for controlling processes securely and efficiently, protecting individuals from accidents and preventing damage to the environment.

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

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

For us, that is "Sensor Intelligence."

Worldwide presence:

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

Detailed addresses and further locations → www.sick.com

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