deTem
More efficiency with safety

SICK
Sensor Intelligence.

Advantages

Intelligent solution – from connection to data use

Whether in intralogistics, consumer good production, mechanical engineering or other areas: wherever multiple light beam safety devices deliver process-relevant data, production processes can be made much more efficient. This is also the case with our smart deTem products, which enable process optimization in real time with their innovative diagnostic functions. In addition, deTem products are quick and easy to connect, align, configure and implement into your machine design.

NFC and IO-Link: these innovative technologies support fast configuration and extensive diagnostics

The integrated alignment and status display with multi-colored status LEDs and a top LED is especially user-friendly

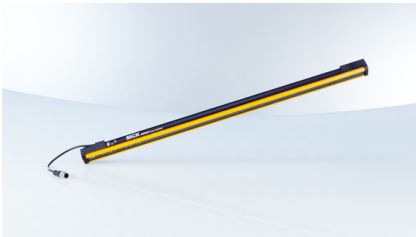Housing, connections and accessories are standardized for all deTem and deTec variants

➕ Smart, fast and future-proof: for smooth production processes

Impressive flexibility: deTem A/P

With the deTem A/P series, you remain flexible for access protection and muting applications. The photoelectric sensor consists of two parts, whereby "A" stands for the active part and "P" for the passive part. In the active part, the sender and receiver unit are integrated in one compact standard housing. The cable-free passive part – the deflection unit – reduces the effort needed for cabling and installation to a minimum, therefore increasing cost efficiency. The passive side with the scepter design is particularly innovative. It can be used to achieve a scanning range of up to 8 m by deflecting the light beam of the sender unit and guiding it back to the receiver unit using prisms.

The **deTem Core A/P** is the especially economical variant for simple access protection up to 8 m.

The **deTem4 A/P** is impressive in its flexibility and intelligence: it ensures safe access and an uninterrupted material flow with 2-signal muting. With IO-Link, data can be read out in real time.

Install, connect, get started – the **deTem4 LT Muting A/P** is the plug and play solution for safe human-material differentiation for automated pallet conveyor systems.

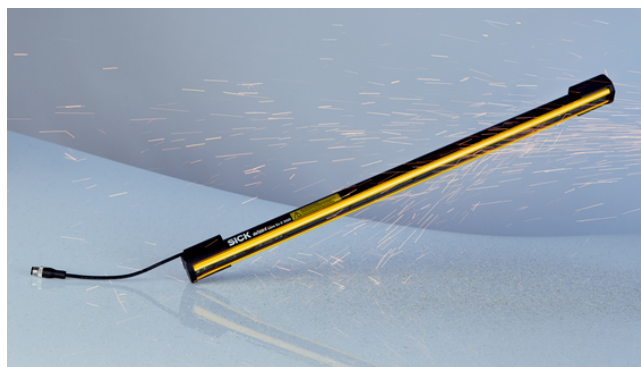## Low installation effort and customized to your application

For specific environments: special deTem variants

The requirements on multiple light beam safety devices are different depending on the industry. For example, they have to comply with hygiene standards in food production and processing. In explosion-hazardous areas, on the other hand, multiple light beam safety devices must comply with explosion protection standards, for example regarding very high resistance. For this reason, SICK has developed various deTem variants that meet the respective requirements of different industries, but always offer you maximum flexibility and productivity.

Access protection for areas with high hygiene standards is provided by the **IP69K variants**: the housings of the photoelectric sensors are easy to clean and are made of food-friendly plastic and stainless steel

For Zone 1 and 21: deTem4 Core Ex in a fully assembled and pressure-resistant, explosion-proof enclosure (**Ex II 2GD**)
For Zone 2 and 22: deTem variants **Ex II 3GD** with special mechanical resilience

+ **For the individual requirements of your industry: reliable protection for specific environments**

Technical data overview

Safety level	PL c, SIL 1, Type 2 PL e, SIL 3, Type 4
Scanning range	3.2 m ... 90 m (depending on type)
Number of beams	2 ... 4 (depending on type)
Beam separation	300 mm ... 500 mm (depending on type)
End cap with integrated LED	✓
Enclosure rating	IP65 IP67 IP66 IP69K (depending on type)
Ambient operating temperature	−30 °C ... +55 °C (depending on type)

Product description

The deTem multiple light beam safety devices offer high flexibility and efficiency for access protection as well as for entry and exit monitoring with muting. The deTem features a compact housing and stands out not only due to its smart functions, but also thanks to its innovative diagnostic options. These ensure high machine availability and enable process optimization. Housing design and connectivity are standardized and therefore reduce installation work. Thanks to this standardization, numerous SICK accessories are also compatible with the deTem. SICK also offers deTem variants for explosion-hazardous areas and for applications which require enclosure rating IP69K.

At a glance

- Smart Sensor: diagnostic data via IO-Link or NFC and the SICK Safety Assistant app
- Compact housing, standardized connectivity, compatible accessories
- Integrated alignment aid with status LEDs directly on the device
- Configuration of all functions without software
- Variants for explosion-hazardous areas as well as enclosure rating IP69K

Your benefits

- Increase productivity in access protection as well as entry and exit monitoring with muting thanks to the processing of sensor data
- Minimize installation work and profit from standardized implementation of the deTem into your machine design
- Take advantage of the benefits of quick and easy device alignment
- Save time and money thanks to easy commissioning and configuration
- You can also count on the deTem in harsh environments

Fields of application

- One-sided and multi-sided access protection
- Entry and exit monitoring with muting
- Key industries: intralogistics, mobile automation, packaging industry, machine building

Ordering information

Other models and accessories ➜ www.sick.com/deTem

deTem2 Core

- Normal industrial environment
- PL c, SIL 1, Type 2
- deTem Core (protective operation)
- Male connector M12, 5-pin
- IP65, IP67

Scanning range	Number of beams	Beam separation	System part	Type	Part no.
17 m	2	500 mm	Receiver	M2C-EA02500A10	1085564
			Sender	M2C-SA0250LA10	1085562
	3	400 mm	Receiver	M2C-EA03400A10	1085567
			Sender	M2C-SA0340LA10	1085565
	4	300 mm	Receiver	M2C-EA04300A10	1085570
			Sender	M2C-SA0430LA10	1085568
90 m	2	500 mm	Receiver	M2C-EA02500A10	1085564
			Sender	M2C-SA0250HA10	1085563
	3	400 mm	Receiver	M2C-EA03400A10	1085567
			Sender	M2C-SA0340HA10	1085566
	4	300 mm	Receiver	M2C-EA04300A10	1085570
			Sender	M2C-SA0430HA10	1085569

deTem4 Core

- Normal industrial environment
- PL e, SIL 3, Type 4
- deTem Core (protective operation)
- Male connector M12, 5-pin
- IP65, IP67

Scanning range	Number of beams	Beam separation	System part	Type	Part no.
17 m	2	500 mm	Receiver	M4C-EA02500A10	1082686
			Sender	M4C-SA0250LA10	1082684
	3	400 mm	Receiver	M4C-EA03400A10	1082689
			Sender	M4C-SA0340LA10	1082687
	4	300 mm	Receiver	M4C-EA04300A10	1082692
			Sender	M4C-SA0430LA10	1082690
90 m	2	500 mm	Receiver	M4C-EA02500A10	1082686
			Sender	M4C-SA0250HA10	1082685
	3	400 mm	Receiver	M4C-EA03400A10	1082689
			Sender	M4C-SA0340HA10	1082688
	4	300 mm	Receiver	M4C-EA04300A10	1082692
			Sender	M4C-SA0430HA10	1082691

deTem2 Core A/P

- Normal industrial environment
- PL c, SIL 1, Type 2
- deTem Core (protective operation)
- Male connector M12, 5-pin
- IP65, IP67

Scanning range	Number of beams	Beam separation	System part	Type	Part no.
3.2 m	2	500 mm	Passive unit	PSN01-2501	1101921
	4	300 mm	Passive unit	PSN02-2301	1102144
			Active unit	M2C-ZA04300C10	1102647
7 m	4	300 mm	Active unit	M2C-ZA04300C10	1102647
			Passive unit	PSN02-3301	1103067
3.2 m	2	500 mm	Active unit	M2C-ZA02500C10	1102646
8 m	2	500 mm	Active unit	M2C-ZA02500C10	1102646
			Passive unit	PSN01-3501	1103066

deTem4 Core A/P

- Normal industrial environment
- PL e, SIL 3, Type 4
- deTem Core (protective operation)
- Male connector M12, 5-pin
- IP65, IP67

Scanning range	Number of beams	Beam separation	System part	Type	Part no.
3.2 m	2	500 mm	Passive unit	PSN01-2501	1101921
	4	300 mm	Passive unit	PSN02-2301	1102144
			Active unit	M4C-ZA04300C10	1102645
7 m	4	300 mm	Active unit	M4C-ZA04300C10	1102645
			Passive unit	PSN02-3301	1103067
3.2 m	2	500 mm	Active unit	M4C-ZA02500C10	1102644
8 m	2	500 mm	Active unit	M4C-ZA02500C10	1102644
			Passive unit	PSN01-3501	1103066

deTem2 Core IP69K

- Areas with special hygiene requirements
- PL c, SIL 1, Type 2
- deTem Core (protective operation)
- Connecting cable, 5-wire
- IP65, IP66, IP67, IP69K, IP65, IP66, IP67, IP69K, IP65, IP66, IP67, IP69K, IP65, IP66, IP67, IP69K

Scanning range	Number of beams	Beam separation	System part	Type	Part no.
15.5 m	2	500 mm	Receiver	M2C-EB02500A10	1089985
			Sender	M2C-SB0250LA10	1089984
	3	400 mm	Receiver	M2C-EB03400A10	1089987
			Sender	M2C-SB0340LA10	1089986
	4	300 mm	Receiver	M2C-EB04300A10	1089989
			Sender	M2C-SB0430LA10	1089988

deTem4 Core IP69K

- Areas with special hygiene requirements
- PL e, SIL 3, Type 4
- deTem Core (protective operation)
- Connecting cable, 5-wire
- IP65, IP66, IP67, IP69K, IP65, IP66, IP67, IP69K, IP65, IP66, IP67, IP69K, IP65, IP66, IP67, IP69K

Scanning range	Number of beams	Beam separation	System part	Type	Part no.
15.5 m	2	500 mm	Receiver	M4C-EB02500A10	1089978
			Sender	M4C-SB0250LA10	1089977
	3	400 mm	Receiver	M4C-EB03400A10	1089980
			Sender	M4C-SB0340LA10	1089979
	4	300 mm	Receiver	M4C-EB04300A10	1089982
			Sender	M4C-SB0430LA10	1089981

deTem2 Core Ex II 3GD

- Explosive areas
- PL c, SIL 1, Type 2
- deTem Core (protective operation)
- Male connector M12, 5-pin
- IP65, IP67
- ATEX for gas: II 3G Ex ec op is IIC T4 Gc, ATEX for dust: II 3D Ex tc IIIC T135°C Dc, ATEX for gas: II 3G Ex ec op is IIC T4 Gc, ATEX for dust: II 3D Ex tc IIIC T135°C Dc

Scanning range	Number of beams	Beam separation	System part	Type	Part no.
17 m	2	500 mm	Receiver	M2C-EX02500A10	1093899
			Sender	M2C-SX0250LA10	1093813
	3	400 mm	Receiver	M2C-EX03400A10	1093903
			Sender	M2C-SX0340LA10	1093900
	4	300 mm	Receiver	M2C-EX04300A10	1093909
			Sender	M2C-SX0430LA10	1093904
90 m	2	500 mm	Receiver	M2C-EX02500A10	1093899
			Sender	M2C-SX0250HA10	1093898
	3	400 mm	Receiver	M2C-EX03400A10	1093903
			Sender	M2C-SX0340HA10	1093902
	4	300 mm	Receiver	M2C-EX04300A10	1093909
			Sender	M2C-SX0430HA10	1093906

deTem4 Core Ex II 3GD

- Explosive areas
- PL e, SIL 3, Type 4
- deTem Core (protective operation)
- Male connector M12, 5-pin
- IP65, IP67
- ATEX for gas: II 3G Ex ec op is IIC T4 Gc, ATEX for dust: II 3D Ex tc IIIC T135°C Dc, ATEX for gas: II 3G Ex ec op is IIC T4 Gc, ATEX for dust: II 3D Ex tc IIIC T135°C Dc

Scanning range	Number of beams	Beam separation	System part	Type	Part no.
17 m	2	500 mm	Receiver	M4C-EX02500A10	1092041
			Sender	M4C-SX0250LA10	1092039
	3	400 mm	Receiver	M4C-EX03400A10	1092044
			Sender	M4C-SX0340LA10	1092042
	4	300 mm	Receiver	M4C-EX04300A10	1092047
			Sender	M4C-SX0430LA10	1092045
90 m	2	500 mm	Receiver	M4C-EX02500A10	1092041
			Sender	M4C-SX0250HA10	1092040
	3	400 mm	Receiver	M4C-EX03400A10	1092044
			Sender	M4C-SX0340HA10	1092043
	4	300 mm	Receiver	M4C-EX04300A10	1092047
			Sender	M4C-SX0430HA10	1092046

deTem4 Core Ex

- Explosive areas
- PL e, SIL 3, Type 4
- deTem Core (protective operation)
- Connecting cable, 5-wire
- IP65, IP66
- ATEX for gas: II 2 G Ex db IIB T6, ATEX for dust: II 2 D Ex tb IIIC T56°C Db IP6X, 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 db IIB T6, ATEX for dust: II 2 D Ex tb IIIC T56°C Db IP6X, 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 db IIB T6, ATEX for dust: II 2 D Ex tb IIIC T56°C Db IP6X, 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 db IIB T6, ATEX for dust: II 2 D Ex tb IIIC T56°C Db IP6X, 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 db IIB T6, ATEX for dust: II 2 D Ex tb IIIC T56°C Db IP6X, 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
- Sensor pre-assembled in explosion-proof enclosure including connecting cable (30 m, 5-wire, flying leads). Depending on national regulations and requirements, a cable gland may have to be installed. The cable gland is available as an accessory.

Scanning range	Number of beams	Beam separation	System part	Type	Part no.
14.2 m	2	500 mm	Receiver	EXE-06D0250A020	1097716
			Sender	EXS-06D0250A020	1097717
	3	400 mm	Receiver	EXE-09D0340A020	1097719
			Sender	EXS-09D0340A020	1097720
	4	300 mm	Receiver	EXE-12D0430A020	1097722
			Sender	EXS-12D0430A020	1097723

- Explosive areas
- PL e, SIL 3, Type 4
- deTem Core (protective operation)
- Connecting cable, 5-wire
- IP65, IP66
- ATEX for gas: II 2 G Ex db IIB T6, ATEX for dust: II 2 D Ex tb IIIC T56°C Db IP6X, 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
- Sensor pre-assembled in explosion-proof enclosure including connecting cable (30 m, 5-wire, flying leads). Depending on national regulations and requirements, a cable gland may have to be installed. The cable gland is available as an accessory.
- **System part:** pair

Scanning range	Number of beams	Beam separation	Type	Part no.
14.2 m	2	500 mm	EXP-06D0250A020	1097715
	3	400 mm	EXP-09D0340A020	1097718
	4	300 mm	EXP-12D0430A020	1097721

deTem4 A/P

- Normal industrial environment
- PL e, SIL 3, Type 4
- deTem4 (protective operation, beam coding, restart interlock, external device monitoring (EDM), muting)
- Depending on system plug (M12 male connector, 5-pin or 8-pin)
- IP65, IP67
- The system plug has to be ordered separately. For details, see "Accessories".

Scanning range	Number of beams	Beam separation	End cap with integrated LED	System part	Type	Part no.
3.2 m	2	500 mm	✔	Passive unit	PSN01-2501	1101921
			–	Passive unit	PSN01-2501	1101921
	4	300 mm	✔	Passive unit	PSN02-2301	1102144
			–	Passive unit	PSN02-2301	1102144
			✔	Active unit	M4P-ZA04300D00	1102636
7 m	4	300 mm	✔	Active unit	M4P-ZA04300D00	1102636
				Passive unit	PSN02-3301	1103067
3.2 m	4	300 mm	–	Active unit	M4P-ZA04300C00	1102634
7 m	4	300 mm	–	Active unit	M4P-ZA04300C00	1102634
				Passive unit	PSN02-3301	1103067
3.2 m	2	500 mm	✔	Active unit	M4P-ZA02500D00	1102635
8 m	2	500 mm	✔	Active unit	M4P-ZA02500D00	1102635
				Passive unit	PSN01-3501	1103066
3.2 m	2	500 mm	–	Active unit	M4P-ZA02500C00	1102633
8 m	2	500 mm	–	Active unit	M4P-ZA02500C00	1102633
				Passive unit	PSN01-3501	1103066

deTem4 LT Muting A/P

- Normal industrial environment
- PL e, SIL 3, Type 4
- deTem4 LT muting A/P (protective operation, beam coding, restart interlock, muting, C1 muting release)
- Male connector M12, 8-pin
- IP65, IP67
- Certificates and other downloads can be found with the components included with delivery: M4M-ZA04300D20 active unit (1096014) and GL6-P0311S94 muting sensors (1102710).

Scanning range	Number of beams	Beam separation	End cap with integrated LED	Type	Part no.
3.2 m	4	300 mm	✓	L-muting left	1108692
				L-muting right	1108691
				T-muting	1110584

SICK AT A GLANCE

SICK is one of the leading manufacturers of intelligent sensors and sensor solutions for industrial applications. 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 a wide range of 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 complete 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:

Contacts and other locations –**www.sick.com**

SICK AG | Waldkirch | Germany | www.sick.com

SICK
Sensor Intelligence.