



M2C-EX02500A10

deTem

SAFETY MULTIBEAM SENSORS

SICK
Sensor Intelligence.



Ordering information

deTem2 Core Ex II 3GD

Number of beams	Beam separation	System part	Type	Part no.
2	500 mm	Receiver	M2C-EX02500A10	1093899

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

Illustration may differ



Detailed technical data

Features

Sub product family	deTem2 Core Ex II 3GD
Application	Explosive areas
Ex-approvals	ATEX for gas: II 3G Ex ec op is IIC T4 Gc ATEX for dust: II 3D Ex tc IIIC T135°C Dc
Functional principle	Sender/receiver
System part	Receiver
Number of beams	2
Beam separation	500 mm
Response time	20 ms
Synchronization	Optical synchronization
Items supplied	Receiver “Notes for explosion protection” label(s) Safety instruction Mounting instructions Operating instructions for download

Safety-related parameters

Type	Type 2 (IEC 61496-1)
Safety integrity level	SIL 1 (IEC 61508)
Category	Category 2 (ISO 13849-1)
Performance level	PL c (ISO 13849-1)
PFH_D (mean probability of a dangerous failure per hour)	3×10^{-9}
T_M (mission time)	20 years (ISO 13849-1)
Safe state in the event of a fault	At least one OSSD is in the OFF state.

Interfaces

System connection	Male connector M12, 5-pin
Display elements	LEDs

Electrical data

Protection class	III (IEC 61140)
Supply voltage V_S	24 V DC (19.2 V DC ... 28.8 V DC) ¹⁾
Residual ripple	$\leq 10\%$ ²⁾
Power consumption	≤ 150 mA
Power consumption	≤ 4.32 W (DC)
Output signal switching devices (OSSDs)	2 PNP semiconductors, short-circuit protected, cross-circuit monitored ³⁾
ON state, switching voltage HIGH	24 V DC ($V_S - 2.25$ V DC ... V_S)
OFF state, switching voltage LOW	≤ 2 V DC
Current-carrying capacity per OSSD	≤ 300 mA

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.

²⁾ Within the limits of V_S .

³⁾ Applies to the voltage range between -30 V and $+30$ V.

Mechanical data

Dimensions	See dimensional drawing
Housing cross-section	38.7 mm x 45.6 mm
Material	
Housing	Aluminum extruded profile
Weight	560 g (± 50 g)
Cable bend radius	
Stationary position	> 12 x cable diameter
Flexible use	> 15 x cable diameter

Ambient data

Enclosure rating	IP65 (IEC 60529) IP67 (IEC 60529)
Ambient operating temperature	0 °C ... +55 °C
Storage temperature	-30 °C ... +70 °C
Air humidity	15 % ... 95 %, Non-condensing
Vibration resistance	5 g, 10 Hz ... 55 Hz (IEC 60068-2-6)
Shock resistance	10 g, 16 ms (IEC 60068-2-27)

Other information

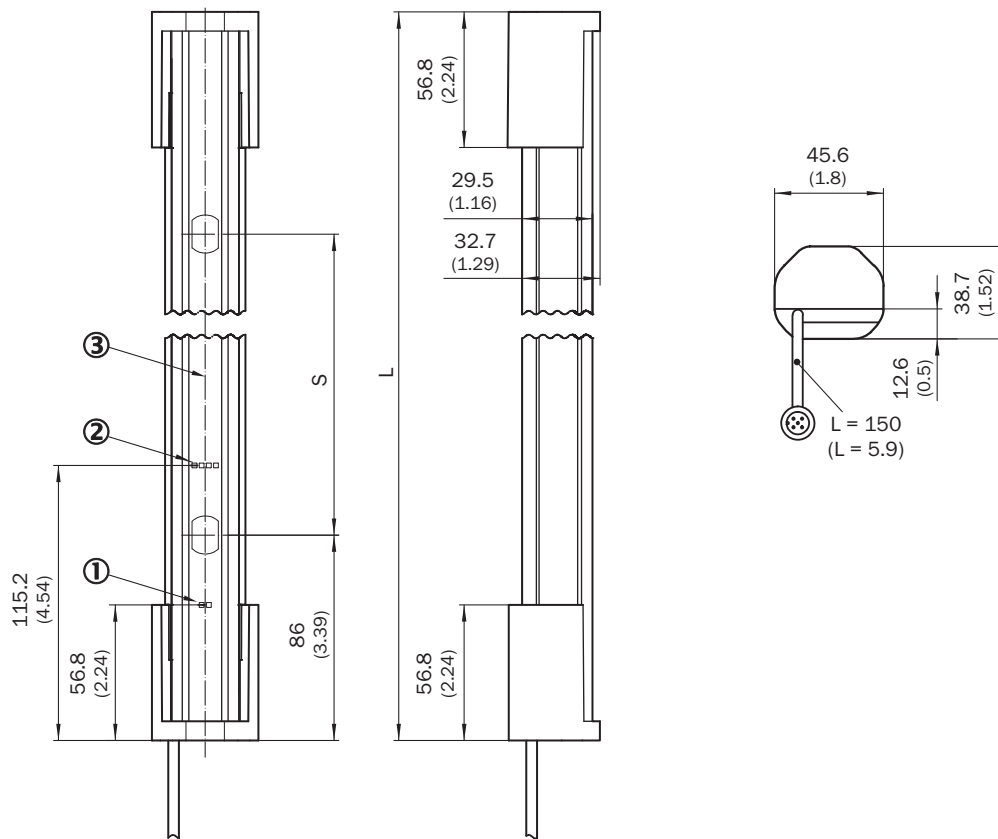
Type of light	Near-infrared (NIR), invisible
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Classifications

ECLASS 5.0	27272703
ECLASS 5.1.4	27272703
ECLASS 6.0	27272703
ECLASS 6.2	27272703
ECLASS 7.0	27272703

ECLASS 8.0	27272703
ECLASS 8.1	27272703
ECLASS 9.0	27272703
ECLASS 10.0	27272703
ECLASS 11.0	27272703
ECLASS 12.0	27272703
ETIM 5.0	EC001832
ETIM 6.0	EC001832
ETIM 7.0	EC001832
ETIM 8.0	EC001832
UNSPSC 16.0901	46171620

Dimensional drawing (Dimensions in mm (inch))






- ① Operating indicator
- ② Alignment indicator
- ③ Optical axis

Number of beams	Beam separation S	Length L
2	500 (19.69)	672 (26.46)
3	400 (15.75)	972 (38.27)
4	300 (11.81)	1,072 (42.2)

Recommended accessories

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

	Brief description	Type	Part no.
Terminal and alignment brackets			
	4 pieces, FlexFix bracket for 2 devices (e.g. sender and receiver), can be aligned $\pm 15^\circ$, including M5 screw, plastic	BEF-1SHABPKU4	2066614
	4 pieces, QuickFix bracket for 2 devices (e.g. sender and receiver), plastic	BEF-3SHABPKU4	2098710
Others			
	<ul style="list-style-type: none"> Connection type head A: Female connector, M12, 5-pin, A-coded Connection type head B: Male connector, M12, 5-pin, A-coded Connection type head C: Female connector, M12, 5-pin, A-coded Description: T-piece for simultaneous connection to sender and receiver, splits the cable from the control cabinet to the sender and receiver Note: 5-pin 	DSC-1205T000025KM0	6030664
	<ul style="list-style-type: none"> Connection type head A: Female connector, M12, 5-pin, straight, A-coded Connection type head B: Male connector, M12, 5-pin, straight, A-coded Signal type: Sensor/actuator cable Cable: 2 m, 5-wire, PUR, halogen-free Description: Sensor/actuator cable, unshielded Application: Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation 	YF2A15-020UB5M2A15	2096009
	<ul style="list-style-type: none"> Connection type head A: Female connector, M12, 5-pin, straight, A-coded Connection type head B: Male connector, M12, 5-pin, straight, A-coded Signal type: Sensor/actuator cable Cable: 5 m, 5-wire, PUR, halogen-free Description: Sensor/actuator cable, unshielded Application: Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation 	YF2A15-050UB5M2A15	2096010
	<ul style="list-style-type: none"> Connection type head A: Female connector, M12, 5-pin, straight, A-coded Connection type head B: Male connector, M12, 5-pin, straight, A-coded Signal type: Sensor/actuator cable Cable: 10 m, 5-wire, PUR, halogen-free Description: Sensor/actuator cable, unshielded Application: Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation 	YF2A15-100UB5M2A15	2096011
	<ul style="list-style-type: none"> Connection type head A: Female connector, M12, 5-pin, straight, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 2 m, 5-wire, PUR, halogen-free Description: Sensor/actuator cable, unshielded Application: Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation 	YF2A15-020UB5XLEAX	2095617
	<ul style="list-style-type: none"> Connection type head A: Female connector, M12, 5-pin, straight, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 5 m, 5-wire, PUR, halogen-free Description: Sensor/actuator cable, unshielded Application: Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation 	YF2A15-050UB5XLEAX	2095618

	Brief description	Type	Part no.
	<ul style="list-style-type: none"> • Connection type head A: Female connector, M12, 5-pin, straight, A-coded • Connection type head B: Flying leads • Signal type: Sensor/actuator cable • Cable: 10 m, 5-wire, PUR, halogen-free • Description: Sensor/actuator cable, unshielded • Application: Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation 	YF2A15-100UB5XLEAX	2095619
Safety switching amplifier			
	<ul style="list-style-type: none"> • Applications: Evaluation unit • Compatible sensor types: Safety sensors with OSSDs • Connection type: Front connector with spring terminals • Restart interlock: yes • External device monitoring (EDM): Integrated • Outputs: 2 enabling current paths (safe), 2 application diagnostic outputs (not safe), 1 test pulse output (not safe) • Housing width: 18 mm 	RLY3-OSSD200	1085344
	<ul style="list-style-type: none"> • Applications: Evaluation unit • Compatible sensor types: Safety sensors with OSSDs • Connection type: Front connector with spring terminals • Restart interlock: yes • External device monitoring (EDM): Integrated • Outputs: 3 enabling current paths (safe), 2 application diagnostic outputs (not safe), 1 test pulse output (not safe) • Housing width: 18 mm 	RLY3-OSSD300	1099969

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