



# M4C-EX02500A10

deTem

SAFETY MULTIBEAM SENSORS

**SICK**  
Sensor Intelligence.



### Ordering information

deTem4 Core Ex II 3GD

Number of beams	Beam separation	System part	Type	Part no.
2	500 mm	Receiver	M4C-EX02500A10	1092041

Other models and accessories → [www.sick.com/deTem](http://www.sick.com/deTem)

Illustration may differ



### Detailed technical data

#### Features

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

#### Safety-related parameters

<b>Type</b>	Type 4 (IEC 61496-1)
<b>Safety integrity level</b>	SIL 3 (IEC 61508)
<b>Category</b>	Category 4 (ISO 13849-1)
<b>Performance level</b>	PL e (ISO 13849-1)
<b>PFH<sub>D</sub> (mean probability of a dangerous failure per hour)</b>	$3 \times 10^{-9}$
<b>T<sub>M</sub> (mission time)</b>	20 years (ISO 13849-1)
<b>Safe state in the event of a fault</b>	At least one OSSD is in the OFF state.

## Functions

<b>Protective operation</b>	✓
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## Interfaces

<b>System connection</b>	Male connector M12, 5-pin
<b>Display elements</b>	LEDs

## Electrical data

<b>Protection class</b>	III (IEC 61140)
<b>Supply voltage <math>V_S</math></b>	24 V DC (19.2 V DC ... 28.8 V DC) <sup>1)</sup>
<b>Residual ripple</b>	≤ 10 % <sup>2)</sup>
<b>Power consumption</b>	≤ 150 mA
<b>Power consumption</b>	≤ 4.32 W (DC)
<b>Output signal switching devices (OSSDs)</b>	2 PNP semiconductors, short-circuit protected, cross-circuit monitored <sup>3)</sup>
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

<sup>1)</sup> 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.

<sup>2)</sup> Within the limits of  $V_S$ .

<sup>3)</sup> Applies to the voltage range between -30 V and +30 V.

## Mechanical data

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

## Ambient data

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

## Other information

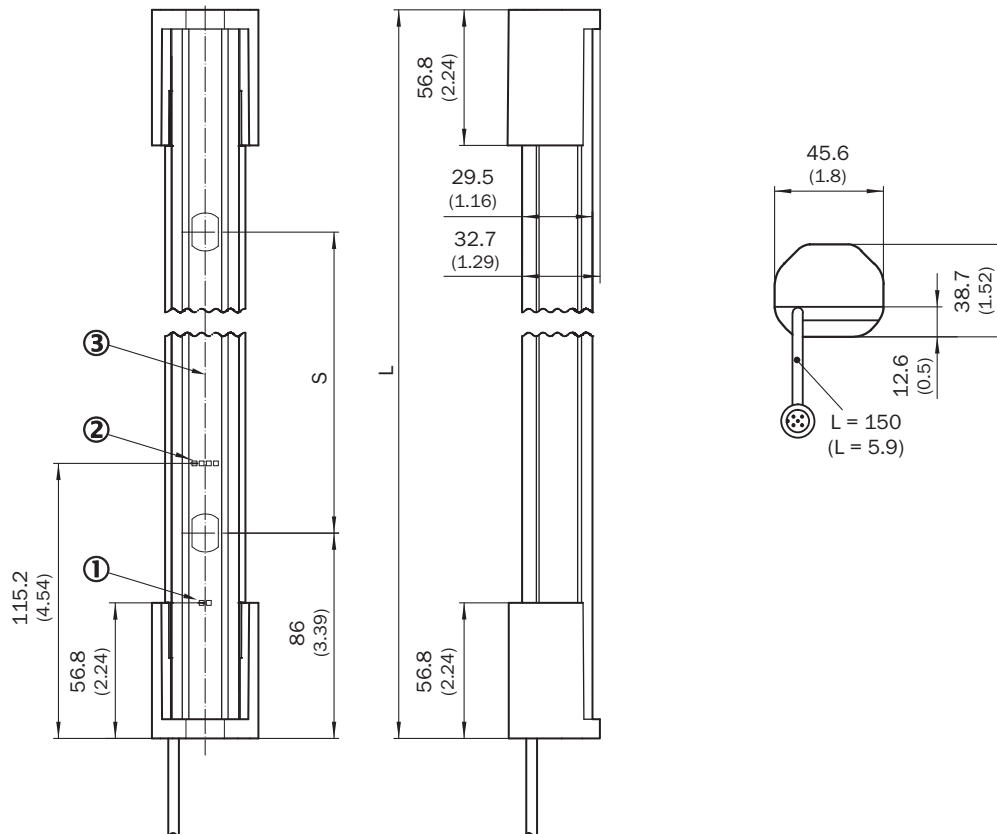
<b>Type of light</b>	Near-infrared (NIR), invisible
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## Classifications

<b>eCl@ss 5.0</b>	27272703
<b>eCl@ss 5.1.4</b>	27272703

eCl@ss 6.0	27272703
eCl@ss 6.2	27272703
eCl@ss 7.0	27272703
eCl@ss 8.0	27272703
eCl@ss 8.1	27272703
eCl@ss 9.0	27272703
eCl@ss 10.0	27272703
eCl@ss 11.0	27272703
eCl@ss 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)

Number of beams	Beam separation S	Length L
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](http://www.sick.com/deTem)

	Brief description	Type	Part no.
<b>Distributors</b>			
	Head A: female connector, M12, 5-pin, A-coded Head B: male connector, M12, 5-pin, A-coded 5-pin	DSC-1205T000025KM0	6030664
<b>Plug connectors and cables</b>			
	Head A: female connector, M12, 5-pin, straight, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 2 m	YF2A15-020UB5XLEAX	2095617
	Head A: female connector, M12, 5-pin, straight, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 5 m	YF2A15-050UB5XLEAX	2095618
	Head A: female connector, M12, 5-pin, straight, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 10 m	YF2A15-100UB5XLEAX	2095619
	Head A: female connector, M12, 5-pin, straight, A-coded Head B: male connector, M12, 5-pin, straight, A-coded Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 2 m	YF2A15-020UB5M2A15	2096009
	Head A: female connector, M12, 5-pin, straight, A-coded Head B: male connector, M12, 5-pin, straight, A-coded Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 5 m	YF2A15-050UB5M2A15	2096010
	Head A: female connector, M12, 5-pin, straight, A-coded Head B: male connector, M12, 5-pin, straight, A-coded Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 10 m	YF2A15-100UB5M2A15	2096011
<b>Terminal and alignment brackets</b>			
	4 pieces, FlexFix bracket for 2 devices (e.g. sender and receiver), can be aligned ± 15°, including M5 screw, plastic	BEF-1SHABPKU4	2066614
	4 pieces, QuickFix bracket for 2 devices (e.g. sender and receiver), plastic	BEF-3SHABPKU4	2098710
<b>Safety switching amplifier</b>			
	<ul style="list-style-type: none"> <li>• <b>Applications:</b> Evaluation unit</li> <li>• <b>Compatible sensor types:</b> Safety sensors with OSSDs</li> <li>• <b>Connection type:</b> Front connector with spring terminals</li> <li>• <b>Restart interlock:</b> yes</li> <li>• <b>External device monitoring (EDM):</b> Integrated</li> <li>• <b>Outputs:</b> 2 enabling current paths (safe), 2 application diagnostic outputs (not safe), 1 test pulse output (not safe)</li> <li>• <b>Housing width:</b> 18 mm</li> </ul>	RLY3-OSSD200	1085344

	Brief description	Type	Part no.
	<ul style="list-style-type: none"><li>• <b>Applications:</b> Evaluation unit</li><li>• <b>Compatible sensor types:</b> Safety sensors with OSSDs</li><li>• <b>Connection type:</b> Front connector with spring terminals</li><li>• <b>Restart interlock:</b> yes</li><li>• <b>External device monitoring (EDM):</b> Integrated</li><li>• <b>Outputs:</b> 3 enabling current paths (safe), 2 application diagnostic outputs (not safe), 1 test pulse output (not safe)</li><li>• <b>Housing width:</b> 18 mm</li></ul>	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](http://www.sick.com)