



# M4M-ZA04300D20

deTem

**SAFETY MULTIBEAM SENSORS**

**SICK**  
Sensor Intelligence.



### Ordering information

deTem4 LT Muting A/P

Scanning range	Number of beams	Beam separation	End cap with integrated LED	Type	Part no.
3.2 m	4	300 mm	✓	M4M-ZA04300D20	1096014

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



### Detailed technical data

#### Features

<b>Sub product family</b>	deTem4 LT Muting A/P
<b>Application</b>	Normal industrial environment
<b>Functional principle</b>	Active/passive
<b>System part</b>	Active unit
<b>Scanning range</b>	3.2 m
<b>Dimension of the light path</b>	Typical 0.5 m ... 3.2 m
<b>Number of beams</b>	4
<b>Beam separation</b>	300 mm
<b>Response time</b>	20 ms
<b>End cap with integrated LED</b>	✓
<b>Items supplied</b>	Active unit 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>	$6.8 \times 10^{-9}$
<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>Beam coding</b>	✓
<b>Restart interlock</b>	✓

<b>Differentiation between man and material (muting)</b>	✓
C1 muting release	✓
Concurrence monitoring	✓
Monitoring of total muting time	✓
Sensor gap monitoring	✓
Muting with override	✓
Exit monitoring	✓
End of muting by ESPE	✓

## Interfaces

<b>System connection</b>	Male connector M12, 8-pin
<b>Connection for reset/override pushbutton</b>	Female connector M12, 5-pin
<b>Connection for muting sensor</b>	2 × female connector, M12, 5-pin
<b>Configuration method</b>	Hard wired
<b>Display elements</b>	LEDs
<b>Alignment aid</b>	Alignment quality via diagnostic LEDs
<b>End cap with integrated LED</b>	✓
<b>Application diagnostic output (ADO)</b>	✓
<b>Near Field Communication (NFC)</b>	✓

## Electrical data

<b>Protection class</b>	III (IEC 61140) <sup>1)</sup>
<b>Supply voltage <math>V_S</math></b>	24 V DC (19.2 V DC ... 28.8 V DC) <sup>2)</sup>
<b>Residual ripple</b>	≤ 10 % <sup>3)</sup>
<b>Power consumption typical</b>	7 W (DC)
<b>Output signal switching devices (OSSDs)</b>	2 PNP semiconductors, short-circuit protected, cross-circuit monitored <sup>4)</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	≤ 500 mA
<b>Application diagnostic output (ADO)</b>	PNP semiconductor, short-circuit protected <sup>4)</sup>
Output voltage HIGH (active)	≥ $V_S - 3$ V
Output voltage LOW (deactivated)	High resistance
Current loading	≤ 100 mA

<sup>1)</sup> SELV/PELV safety/protective extra-low voltage.

<sup>2)</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>3)</sup> Within the limits of  $V_S$ .

<sup>4)</sup> Applies to the voltage range between -30 V and +30 V.

## Mechanical data

<b>Dimensions</b>	See dimensional drawing
<b>Material</b>	
Housing	Aluminum extruded profile
Front screen	Polycarbonate, scratch-resistant coating

<b>Weight</b>	925 g (± 50 g)
---------------	----------------

### Ambient data

<b>Enclosure rating</b>	IP65 (IEC 60529) IP67 (IEC 60529)
<b>Ambient operating temperature</b>	-30 °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

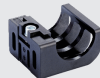

<b>Type of light</b>	Near-infrared (NIR), invisible
----------------------	--------------------------------

### Classifications


<b>ECLASS 5.0</b>	27272703
<b>ECLASS 5.1.4</b>	27272703
<b>ECLASS 6.0</b>	27272703
<b>ECLASS 6.2</b>	27272703
<b>ECLASS 7.0</b>	27272703
<b>ECLASS 8.0</b>	27272703
<b>ECLASS 8.1</b>	27272703
<b>ECLASS 9.0</b>	27272703
<b>ECLASS 10.0</b>	27272703
<b>ECLASS 11.0</b>	27272703
<b>ECLASS 12.0</b>	27272703
<b>ETIM 5.0</b>	EC001832
<b>ETIM 6.0</b>	EC001832
<b>ETIM 7.0</b>	EC001832
<b>ETIM 8.0</b>	EC001832
<b>UNSPSC 16.0901</b>	46171620

## Recommended accessories

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

	<b>Brief description</b>	<b>Type</b>	<b>Part no.</b>
<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
<b>Others</b>			
	<ul style="list-style-type: none"> <li><b>Connection type head A:</b> Female connector, M12, 8-pin, straight, A-coded</li> <li><b>Connection type head B:</b> Flying leads</li> <li><b>Signal type:</b> Sensor/actuator cable</li> </ul>	YF2A18-020UA5XLEAX	2095652

	Brief description	Type	Part no.
	<ul style="list-style-type: none"> <li><b>Cable:</b> 2 m, 8-wire, PUR, halogen-free</li> <li><b>Description:</b> Sensor/actuator cable, unshielded</li> <li><b>Application:</b> Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation</li> </ul>		
	<ul style="list-style-type: none"> <li><b>Connection type head A:</b> Female connector, M12, 8-pin, straight, A-coded</li> <li><b>Connection type head B:</b> Flying leads</li> <li><b>Signal type:</b> Sensor/actuator cable</li> <li><b>Cable:</b> 5 m, 8-wire, PUR, halogen-free</li> <li><b>Description:</b> Sensor/actuator cable, unshielded</li> <li><b>Application:</b> Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation</li> </ul>	YF2A18-050UA5XLEAX	2095653
	<ul style="list-style-type: none"> <li><b>Connection type head A:</b> Female connector, M12, 8-pin, straight, A-coded</li> <li><b>Connection type head B:</b> Flying leads</li> <li><b>Signal type:</b> Sensor/actuator cable</li> <li><b>Cable:</b> 10 m, 8-wire, PUR, halogen-free</li> <li><b>Description:</b> Sensor/actuator cable, unshielded</li> <li><b>Application:</b> Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation</li> </ul>	YF2A18-100UA5XLEAX	2095654
	<ul style="list-style-type: none"> <li><b>Connection type head A:</b> Female connector, M12, 5-pin, straight, A-coded</li> <li><b>Connection type head B:</b> Male connector, M12, 5-pin, straight, A-coded</li> <li><b>Signal type:</b> Sensor/actuator cable</li> <li><b>Cable:</b> 2 m, 5-wire, PUR, halogen-free</li> <li><b>Description:</b> Sensor/actuator cable, unshielded</li> <li><b>Application:</b> Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation</li> </ul>	YF2A15-020UB5M2A15	2096009
	<ul style="list-style-type: none"> <li><b>Connection type head A:</b> Female connector, M12, 5-pin, straight, A-coded</li> <li><b>Connection type head B:</b> Male connector, M12, 5-pin, straight, A-coded</li> <li><b>Signal type:</b> Sensor/actuator cable</li> <li><b>Cable:</b> 5 m, 5-wire, PUR, halogen-free</li> <li><b>Description:</b> Sensor/actuator cable, unshielded</li> <li><b>Application:</b> Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation</li> </ul>	YF2A15-050UB5M2A15	2096010
	<ul style="list-style-type: none"> <li><b>Connection type head A:</b> Female connector, M12, 5-pin, straight, A-coded</li> <li><b>Connection type head B:</b> Male connector, M12, 5-pin, straight, A-coded</li> <li><b>Signal type:</b> Sensor/actuator cable</li> <li><b>Cable:</b> 10 m, 5-wire, PUR, halogen-free</li> <li><b>Description:</b> Sensor/actuator cable, unshielded</li> <li><b>Application:</b> Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation</li> </ul>	YF2A15-100UB5M2A15	2096011
Reset pushbuttons and multiple pushbuttons			
	<ul style="list-style-type: none"> <li><b>Switch type:</b> Reset pushbutton</li> <li><b>N/O contacts:</b> 1</li> <li><b>Connection type Detail:</b> Plug connector, M12, 5-pin</li> <li><b>Suitable for muting applications (with UE403):</b> no</li> <li><b>Suitable for reset/override applications (with deTec4):</b> yes</li> <li><b>Suitable for muting applications (with DMM4):</b> yes</li> <li><b>Items supplied:</b> Including retaining clip, "RESET" cover and "RESET/OVERRIDE" cover</li> </ul>	ER12-SB3C5	6045316
Safety switching amplifier			
	<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)