

## Technical data sheet

### Single light beam safety device transmitter

Part no.: 66501000

MLD500-T1



For illustration purposes only

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Technical data

Basic data

Series	MLD 500
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Functions

Functions	Range reduction
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Characteristic parameters

Type	4, IEC/EN 61496
SIL	3, IEC 61508
SILCL	3, IEC/EN 62061
Performance Level (PL)	e, EN ISO 13849-1:2008
MTTF <sub>d</sub>	204 years, EN ISO 13849-1
Mission time T <sub>M</sub>	20 years, EN ISO 13849-1
Category	4, EN ISO 13849:2008

Protective field data

Operating range	0.5 ... 70 m
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Optical data

Light source	LED, Infrared
Wavelength	850 nm
Transmitted-signal shape	Pulsed
LED risk group	Exempt group (in acc. with EN 62471:2008)
Opening angle, max.	-2.5 ... 2.5 °

Electrical data

Protective circuit	Overvoltage protection Short circuit protected
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Performance data

Supply voltage U <sub>B</sub>	24 V, DC, -20 ... 20 %
Current consumption, max.	50 mA, Without external load
Fuse	External with max. 3 A

Connection

Number of connections	1 Piece(s)
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Connection 1

Function	Machine interface
Type of connection	Connector
Thread size	M12
Material	Metal
No. of pins	5 -pin

Cable properties

Permissible conductor cross section, type.	0.25 mm <sup>2</sup>
Length of connection cable, max.	100 m
Permissible cable resistance to load, max.	200 Ω

Mechanical data

Design	Cubic
Dimension (W x H x L)	52 mm x 193 mm x 64.7 mm
Housing material	Metal
Metal housing	Aluminum
Lens cover material	Plastic / PMMA
Material of end caps	Diecast zinc
Net weight	600 g
Housing color	Yellow, RAL 1021
Type of fastening	Groove mounting Swivel mount

Operation and display

Type of display	LED
Number of LEDs	1 Piece(s)

Environmental data

Ambient temperature, operation	-30 ... 55 °C
Ambient temperature, storage	-40 ... 75 °C
Relative humidity (non-condensing)	0 ... 95 %

Certifications

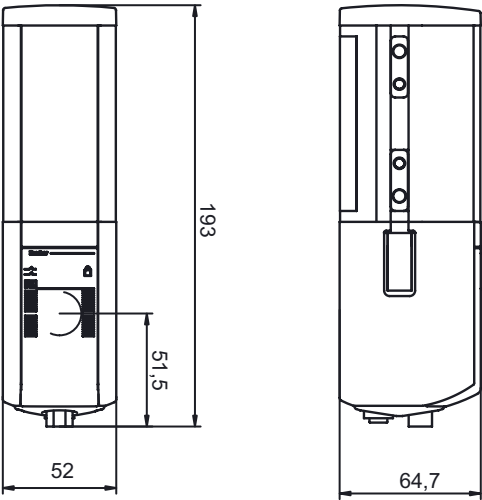
Degree of protection	IP 67
Protection class	III
Approvals	c TÜV NRTL US c UL US TÜV Süd
US patents	US 6,418,546 B US 7,741,595 B

Classification

Customs tariff number	85365019
ECLASS 5.1.4	27272701
ECLASS 8.0	27272701
ECLASS 9.0	27272701
ECLASS 10.0	27272701
ECLASS 11.0	27272701
ECLASS 12.0	27272701
ECLASS 13.0	27272701
ECLASS 14.0	27272701
ETIM 5.0	EC001831
ETIM 6.0	EC001831
ETIM 7.0	EC001831
ETIM 8.0	EC001831
ETIM 9.0	EC001831

Dimensioned drawings

All dimensions in millimeters

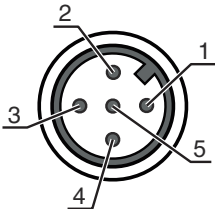


Electrical connection

Connection 1

Function	Machine interface
Type of connection	Connector
Thread size	M12
Type	Male
Material	Metal
No. of pins	5 -pin
Encoding	A-coded

Pin	Pin assignment	Conductor color
1	+24 V	Brown
2	n.c.	White
3	0 V	Blue
4	Transmitter range switching: 0 V = entire range, 24 V = reduced range	Black
5	n.c.	Gray




Operation and display

LEDs per light axis

Meaning

Green, continuous light	Transmitted beam active
Off	Transmitted beam not active

Suitable receivers

	Part no.	Designation	Article	Description
	66533000	MLD510-R1	Single light beam safety device receiver	Response time: 25 ms Connection: Connector, M12, Metal, 5 -pin
	66553000	MLD520-R1	Single light beam safety device receiver	Response time: 25 ms Connection: Connector, M12, Metal, 8 -pin
	66563000	MLD530-R1	Single light beam safety device receiver	Response time: 50 ms Connection: Connector, M12, Metal, 8 -pin

Part number code

Part designation: MLDxxy-zab/t


MLD	Multiple light beam safety device
x	<b>Series</b> 3: MLD 300 5: MLD 500
yy	<b>Function classes</b> 00: transmitter 10: automatic restart 12: external testing 20: EDM/RES 30: muting 35: timing controlled 4-sensor muting
z	<b>Device type</b> T: transmitter R: receiver RT: transceiver xT: transmitter with high range xR: receiver for high range
a	Number of beams
b	<b>Option</b> L: integrated laser alignment aid (for transmitter/receiver) M: integrated status indicator (MLD 320, MLD 520) or integrated status and muting indicator (MLD 330, MLD 335, MLD 510/A, MLD 530, MLD 535) E: Connection socket for external muting indicator (AS-i models only)
/t	<b>Safety-related switching outputs (OSSDs), connection technology</b> -: transistor output, M12 plug A: Integrated AS-i interface, M12 plug, (safety bus system)

Note


	A list with all available device types can be found on the Leuze website at <a href="http://www.leuze.com">www.leuze.com</a> .
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## Accessories


### Connection technology - Connection cables

	Part no.	Designation	Article	Description
	50133859	KD S-M12-5A-P1-020	Connection cable	Connection 1: Connector, M12, Axial, Female, A-coded, 5 -pin Connector, LED: No Connection 2: Open end Shielded: Yes Cable length: 2.000 mm Sheathing material: PUR
	50133860	KD S-M12-5A-P1-050	Connection cable	Connection 1: Connector, M12, Axial, Female, A-coded, 5 -pin Connector, LED: No Connection 2: Open end Shielded: Yes Cable length: 5.000 mm Sheathing material: PUR
	50137014	KD S-M12-5A-P1-150	Connection cable	Connection 1: Connector, M12, Axial, Female, A-coded, 5 -pin Connector, LED: No Connection 2: Open end Shielded: Yes Cable length: 15.000 mm Sheathing material: PUR
	50136146	KD S-M12-5A-P1-250	Connection cable	Connection 1: Connector, M12, Axial, Female, A-coded, 5 -pin Connector, LED: No Connection 2: Open end Shielded: Yes Cable length: 25.000 mm Sheathing material: PUR

### Mounting technology - Other



	Part no.	Designation	Article	Description
	424421	BT-SB10	Mounting bracket set	Design of mounting device: Mounting clamp Fastening, at system: Through-hole mounting Mounting bracket, at device: Clampable Type of mounting device: Swiveling Swivel range: -8 ... 8 ° Material: Metal

### Muting - Mounting systems



	Part no.	Designation	Article	Description
	424421	BT-SB10	Mounting bracket set	Design of mounting device: Mounting clamp Fastening, at system: Through-hole mounting Mounting bracket, at device: Clampable Type of mounting device: Swiveling Swivel range: -8 ... 8 ° Material: Metal

Accessories


Alignment aids

	Part no.	Designation	Article	Description
	520023	LA-78M	Alignment aid	Light source: Laser, Red Housing material: Metal
	520024	LA-78M-UDC	Alignment aid	Light source: Laser, Red Housing material: Metal

Services

	Part no.	Designation	Article	Description
	S981050	CS40-I-140	Safety inspection	Details: Checking of a safety light barrier application in accordance with current standards and guidelines. Inclusion of the device and machine data in a database, production of a test log per application. Conditions: It must be possible to stop the machine, support provided by customer's employees and access to the machine for Leuze employees must be ensured.
	S981046	CS40-S-140	Start-up support	Details: For safety devices including stopping time measurement and initial inspection. Conditions: Devices and connection cables are already mounted, price not including travel costs and, if applicable, accommodation expenses.

Note

	A list with all available accessories can be found on the Leuze website in the Download tab of the article detailed page.
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