

## Technical data sheet

### Multiple light beam safety device transmitter

Part no.: 66501300

MLD500-T4

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For illustration purposes only



## Technical data

### Basic data

Series	MLD 500
Device type	Transmitter

### Functions

Functions	Range reduction
Integrated laser alignment aid	No

### Characteristic parameters

Type	4, IEC/EN 61496
SIL	3, IEC 61508
SILCL	3, IEC/EN 62061
MTTF <sub>d</sub>	204 years, EN ISO 13849-1
Mission time T <sub>M</sub>	20 years, EN ISO 13849-1

### Protective field data

Operating range	0.5 ... 50 m
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### Optical data

Number of beams	4 Piece(s)
Beam spacing	300 mm
Light source	LED, Infrared
Wavelength	850 nm
Mean power of transmitter diode	1.369 µW
Transmitted-signal shape	Pulsed
LED risk group	Exempt group (in acc. with EN 62471:2008)

### Electrical data

Protective circuit	Overvoltage protection
	Short circuit protected

### 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

Dimension (W x H x L)	52 mm x 1,000 mm x 64.7 mm
Housing material	Metal
Metal housing	Aluminum
Lens cover material	Plastic / PMMA
Material of end caps	Diecast zinc
Net weight	2,200 g
Housing color	Yellow, RAL 1021
Type of fastening	Groove mounting
	Swivel mount

### Operation and display

Type of display	LED
Number of LEDs	4 Piece(s)

### Environmental data

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

### Certifications

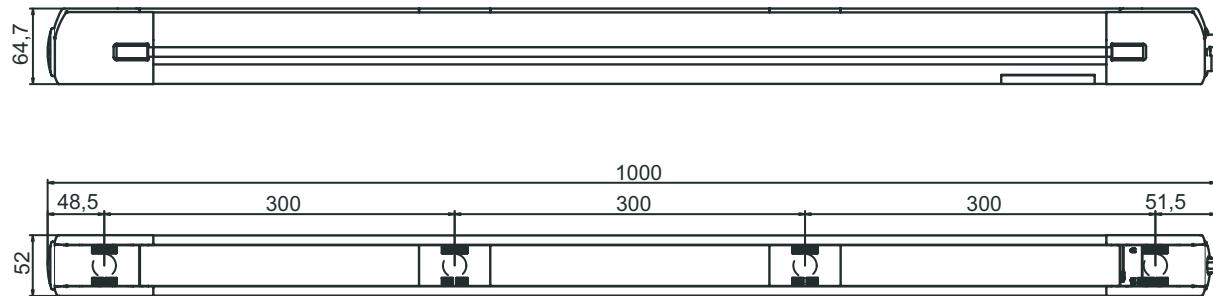
Degree of protection	IP 67
Protection class	III
Approvals	c TÜV NRTL US
	c UL US
	TÜV Süd
US patents	US 6,418,546 B
	US 7,741,595 B

### Classification

Customs tariff number	85365019
ECLASS 5.1.4	27272703
ECLASS 8.0	27272703
ECLASS 9.0	27272703
ECLASS 10.0	27272703
ECLASS 12.0	27272703
ECLASS 13.0	27272703
ECLASS 14.0	27272703
ECLASS 15.0	27272703
ECLASS 16.0	27272703
ETIM 5.0	EC001832
ETIM 6.0	EC001832
ETIM 7.0	EC001832
ETIM 8.0	EC001832
ETIM 9.0	EC001832
ETIM 10.0	EC001832

## Dimensioned drawings

All dimensions in millimeters

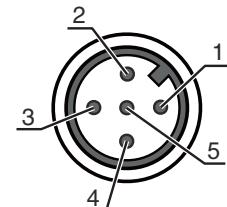


## Electrical connection

### 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
	66533300	MLD510-R4	Multiple light beam safety device receiver Number of beams: 4 Piece(s) Beam spacing: 300 mm Response time: 25 ms Connection: Connector, M12, Metal, 5 -pin

## Suitable receivers

Part no.	Designation	Article	Description
	66553300 MLD520-R4	Multiple light beam safety device receiver	Number of beams: 4 Piece(s) Beam spacing: 300 mm Response time: 25 ms Connection: Connector, M12, Metal, 8 -pin
	66554300 MLD520-R4M	Multiple light beam safety device receiver	Special version: Integrated status indicator Number of beams: 4 Piece(s) Beam spacing: 300 mm Response time: 25 ms Connection: Connector, M12, Metal, 8 -pin
	66563300 MLD530-R4	Multiple light beam safety device receiver	Number of beams: 4 Piece(s) Beam spacing: 300 mm Response time: 50 ms Connection: Connector, M12, Metal, 8 -pin
	66564300 MLD530-R4M	Multiple light beam safety device receiver	Special version: Integrated muting indicator, Integrated status indicator Number of beams: 4 Piece(s) Beam spacing: 300 mm Response time: 50 ms Connection: Connector, M12, Metal, 8 -pin
	66573300 MLD535-R4	Multiple light beam safety device receiver	Number of beams: 4 Piece(s) Beam spacing: 300 mm Response time: 50 ms Connection: Connector, M12, Metal, 8 -pin

## Part number code

Part designation: **MLD<sup>xyy</sup>-zab/t**

<b>MLD</b>	<b>Multiple light beam safety device</b>
<b>x</b>	<b>Series</b> 3: MLD 300 5: MLD 500
<b>yy</b>	<b>Function classes</b> 00: transmitter 10: automatic restart 12: external testing 20: EDM/RES 30: muting 35: timing controlled 4-sensor muting
<b>z</b>	<b>Device type</b> T: transmitter R: receiver RT: transceiver xT: transmitter with high range xR: receiver for high range
<b>a</b>	<b>Number of beams</b>

## Part number code

MLD	Multiple light beam safety device
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)
<b>Note</b>	
	↳ 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> .

## Accessories

### Connection technology - Connection cables

Part no.	Designation	Article	Description
	50133859	KD S-M12-5A-P1-020	Connection cable  Application: Oil and lubricant resistant 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  Application: Oil and lubricant resistant 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
	50136146	KD S-M12-5A-P1-250	Connection cable  Application: Oil and lubricant resistant 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 - Swivel mounts

Part no.	Designation	Article	Description
	560340	BT-SET-240BC	Mounting bracket set  Fastening, at system: Through-hole mounting Mounting bracket, at device: Clampable Type of mounting device: Turning, 240° Material: Metal Shock absorber: No
	540350	BT-SET-240BC-E	Mounting bracket set  Fastening, at system: Through-hole mounting Mounting bracket, at device: Clampable Type of mounting device: Turning, 240° Material: Metal, Plastic Shock absorber: No

## 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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