

# **Technical data sheet** Multiple light beam safety device transmitter

Part no.: 66501200

MLD500-T3



### Contents

- Technical data
- Dimensioned drawings
- Electrical connection
- Operation and display
- Suitable receivers
- Part number code
- Accessories











### **Technical data**



#### Basic data

Series	MLD 500
Device type	Transmitter
Functions	

**Functions** Range reduction

#### **Characteristic parameters**

Туре	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

### **Optical data**

Number of beams	3 Piece(s)
Beam spacing	400 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)
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, typ.	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 900 mm x 64.7 mm
Housing material	Metal
Metal housing	Aluminum
Lens cover material	Plastic / PMMA
Material of end caps	Diecast zinc
Net weight	2,000 g
Housing color	Yellow, RAL 1021
Type of fastening	Groove mounting
	Swivel mount

### **Operation and display**

Type of display	LED
Number of LEDs	3 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
Certifications	c CSA US
	c TÜV NRTL US
	TÜV Süd
US patents	US 6,418,546 B
	LIS 7 741 595 B

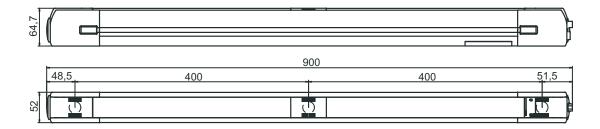
### Classification

Customs tariff number	85365019
ECLASS 5.1.4	27272703
ECLASS 8.0	27272703
ECLASS 9.0	27272703
ECLASS 10.0	27272703
ECLASS 11.0	27272703
ECLASS 12.0	27272703
ECLASS 13.0	27272703
ETIM 5.0	EC001832
ETIM 6.0	EC001832
ETIM 7.0	EC001832
ETIM 8.0	EC001832

## **Dimensioned drawings**



All dimensions in millimeters

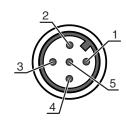


### **Electrical connection**

### **Connection 1**

Function	Machine interface
Type of connection	Connector
Thread size	M12
Туре	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
66533200	MLD510-R3	Multiple light beam safety device receiver	Number of beams: 3 Piece(s) Beam spacing: 400 mm Response time: 25 ms Connection: Connector, M12, Metal, 5 -pin

## Suitable receivers



Part no.	Designation	Article	Description
66553200	MLD520-R3	Multiple light beam safety device receiver	Number of beams: 3 Piece(s) Beam spacing: 400 mm Response time: 25 ms Connection: Connector, M12, Metal, 8 -pin
66554200	MLD520-R3M	Multiple light beam safety device receiver	Special version: Integrated status indicator Number of beams: 3 Piece(s) Beam spacing: 400 mm Response time: 25 ms Connection: Connector, M12, Metal, 8 -pin
66563200	MLD530-R3	Multiple light beam safety device receiver	Number of beams: 3 Piece(s) Beam spacing: 400 mm Response time: 50 ms Connection: Connector, M12, Metal, 8 -pin
66564200	MLD530-R3M	Multiple light beam safety device receiver	Special version: Integrated muting indicator, Integrated status indicator Number of beams: 3 Piece(s) Beam spacing: 400 mm Response time: 50 ms Connection: Connector, M12, Metal, 8 -pin
66573200	MLD535-R3	Multiple light beam safety device receiver	Number of beams: 3 Piece(s) Beam spacing: 400 mm Response time: 50 ms Connection: Connector, M12, Metal, 8 -pin

### Part number code

Part designation: MLDxyy-zab/t

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

### Part number code



MLD	Multiple light beam safety device
b	Option 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	Safety-related switching outputs (OSSDs), connection technology -: transistor output, M12 plug A: Integrated AS-i interface, M12 plug, (safety bus system)

Not	t



 $\ ^{\mbox{\tiny $b$}}\ \mbox{A list with all available device types can be found on the Leuze website at www.leuze.com.}$ 

### **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
	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 - 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.  Restrictions: Travel costs and accommodation expenses charged separately and according to expenditure.
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.  Restrictions: Max. 2 h., no mechanical (mounting) and electrical (wiring) work performed, no changes (attachments, wiring, programming) to third-party components in the nearby environment.

### Note



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