



Figure can vary

**Part no.: 66537102**  
**MLD510-RT2E/A**  
**Multiple light beam safety device**  
**transceiver**



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## Technical data

<b>Basic data</b>	
Series	MLD 500
Device type	Transceiver
<b>Special design</b>	
Special design	Connection socket for external muting indicator
<b>Functions</b>	
Functions	Automatic restart
Integrated laser alignment aid	No
Integrated muting indicator	No
<b>Characteristic parameters</b>	
Type	4 , IEC/EN 61496
SIL	3 , IEC 61508
SILCL	3 , IEC/EN 62061
Performance Level (PL)	e , EN ISO 13849-1
MTTF <sub>d</sub>	204 years , EN ISO 13849-1
PFH <sub>D</sub>	6.6E-09 per hour
Mission time T <sub>M</sub>	20 years , EN ISO 13849-1
Category	4 , EN ISO 13849
<b>Protective field data</b>	
Operating range	0.5 ... 8 m
<b>Optical data</b>	
Number of beams	2 Piece(s)
Beam spacing	500 mm
Light source	LED , Infrared
LED light wavelength	850 nm
Mean power of transmitter diode	1.369 µW
Transmitted-signal shape	Pulsed
LED group	Exempt group in acc. with EN 62471:2008
<b>Electrical data</b>	
Protective circuit	Overvoltage protection Short circuit protected
<b>Performance data</b>	
Supply voltage U <sub>B</sub>	26.5 ... 31.6 V
Current consumption from AS-i circuit	140 mA

**Outputs**

Number of digital switching outputs 1 Piece(s)

**Switching outputs**

Type Digital switching output

Switching voltage high, min. 18.2 V

Switching voltage low, max. 2.5 V

Switching voltage, typ. 23 V

Voltage type DC

**Switching output 1**

Assignment Connection 2, pin 5

Switching element Transistor , PNP

Function "Muting state" signal output

**Timing**

Response time 30 ms

Restart delay time 100 ms

**Interface**

Type AS-Interface Safety at Work

**AS-i**

Function Process

AS-i profile S-7.B.1

Slave address 1..31 programmable, default=0

Cycle time acc. to AS-i specifications Max. 5 ms

**Connection**

Number of connections 2 Piece(s)

**Connection 1**

Type of connection Connector

Function Machine interface

Thread size M12

Material Metal

No. of pins 5 -pin

**Connection 2**

Type of connection Connector

Function External muting indicator

Thread size M12

Material Metal

No. of pins 5 -pin

**Mechanical data**

Dimension (W x H x L) 52 mm x 600 mm x 64.7 mm

Housing material Metal , Aluminum

Lens cover material Plastic / PMMA

Material of end caps Diecast zinc

Net weight 1,400 g

Housing color Yellow, RAL 1021

 Type of fastening Groove mounting  
Swivel mount

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#### Operation and display

Type of display	LED
Number of LEDs	2 Piece(s)

#### Environmental data

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

#### Certifications

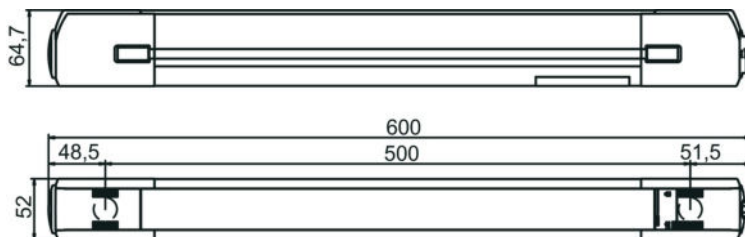
Degree of protection	IP 67
Protection class	III
Certifications	c CSA US c TÜV NRTL US TÜV Süd
US patents	US 6,418,546 B US 7,741,595 B

#### Classification

Customs tariff number	85365019
eCl@ss 8.0	27272703
eCl@ss 9.0	27272703
ETIM 5.0	EC001832
ETIM 6.0	EC001832

## Dimensioned drawings

All dimensions in millimeters

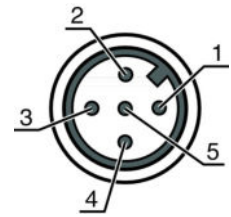


## Electrical connection

Connection 1	
Type of connection	Connector
Function	Machine interface
Thread size	M12
Type	Male
Material	Metal
No. of pins	5 -pin
Encoding	A-coded

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Pin	Pin assignment	Conductor color
1	AS-i+	Brown
2	n.c.	White
3	AS-i-	Blue
4	n.c.	Black
5	n.c.	Gray



Connection 2	
Type of connection	Connector
Function	External muting indicator
Thread size	M12
Type	Female
Material	Metal
No. of pins	5 -pin
Encoding	A-coded

Pin	Pin assignment
1	AS-i+
2	0 V (auxiliary supply)
3	AS-i-
4	+24 V DC (auxiliary supply)
5	n.c.


## Operation and display

### LEDs

LED	Display	Meaning
1	Red, continuous light	OSSD off.
	Green, continuous light	OSSD on
	Red, flashing, 1 Hz	External error
	Red, flashing, 10 Hz	Internal error
	Green, flashing, 1 Hz	Weak signal, device not optimally aligned or soiled.
2	Yellow, continuous light	Start/restart interlock locked.
	Off	No voltage on AS-i cable.
	Red, continuous light	AS-i slave not communicating with AS-i master
	Yellow, flashing	AS-i slave has invalid address 0
	Red/green, flashing alternately	AS-i slave device error or AS-i connection defective
	Green, continuous light, flashing red at the same time	Periphery error
	Green, continuous light	AS-i slave communicating with AS-i master

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## Suitable deflecting mirrors

	Part no.	Designation	Article	Description
	66500100	MLD-M002	Deflecting mirror	Number of beams: 2 Piece(s) Beam spacing: 500 mm Type of fastening: Groove mounting, Swivel mount, Mounting on Device Column

## Part number code

Part designation: **MLD**xxyy-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

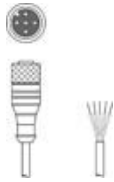
A list with all available device types can be found on the Leuze electronic website at [www.leuze.com](http://www.leuze.com).

## 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 Connection 2: Open end Shielded: Yes Cable length: 2,000 mm Sheathing material: PUR



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	Part no.	Designation	Article	Description
	50136146	KD S-M12-5A-P1-250	Connection cable	Connection 1: Connector, M12, Axial, Female, A-coded, 5 -pin Connection 2: Open end Shielded: Yes Cable length: 10,000 mm Sheathing material: PVC

## 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
	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

## Services

	Part no.	Designation	Article	Description
	S981050	CS40-I-140	Safety inspection "Safety light barriers"	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 electronic website in the Download tab of the article detailed page.