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**Part no.: 66002300**  
**MLD300-T4L**  
**Multiple light beam safety device**  
**transmitter**



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## Technical data

<b>Basic data</b>	
Series	MLD 300
Device type	Transmitter
<b>Special design</b>	
Special design	Integrated laser alignment aid
<b>Functions</b>	
Functions	Range reduction
<b>Characteristic parameters</b>	
Type	2, IEC/EN 61496
SIL	1, IEC 61508
SILCL	1, 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
<b>Protective field data</b>	
Operating range	0.5 ... 50 m
<b>Optical data</b>	
Number of beams	4 Piece(s)
Beam spacing	300 mm
Light source	LED, Infrared
LED light wavelength	850 nm
Mean power of transmitter diode	1.369 µW
Transmitted-signal shape	Pulsed
LED group	1
<b>Electrical data</b>	
Protective circuit	Short circuit protected Overvoltage protection
<b>Performance data</b>	
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
<b>Connection</b>	
Number of connections	1 Piece(s)
<b>Connection 1</b>	
Type of connection	Connector
Function	Machine interface
Thread size	M12
Material	Metal
No. of pins	5 -pin

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### 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 1,000 mm x 64.7 mm
Housing material	Metal, 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
Certifications	TÜV Süd c CSA US c TÜV NRTL US
US patents	US 7,741,595 B US 6,418,546 B






### Classification

eCl@ss 8.0	27272703
eCl@ss 9.0	27272703
ETIM 5.0	EC001832

## Suitable receivers

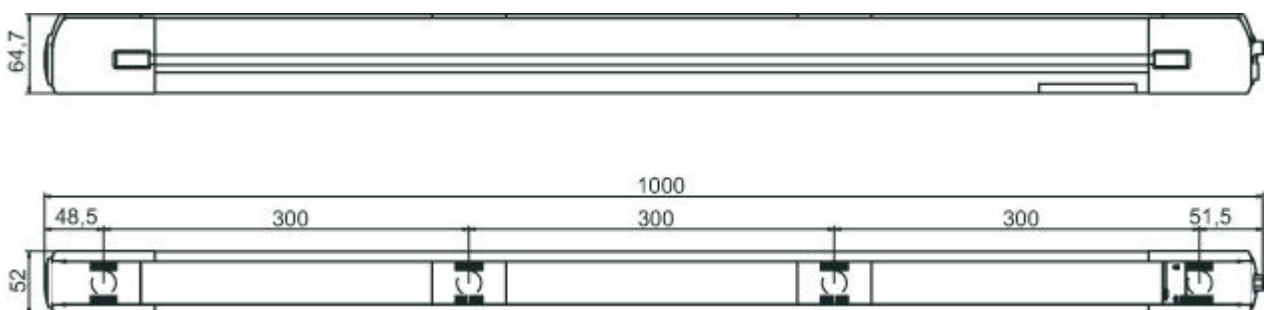
	Part no.	Designation	Article	Description
	66036300	MLD310-R4L	Multiple light beam safety device receiver	Number of beams: 4 Piece(s) Beam spacing: 300 mm Response time: 25 ms Connection: Connector, M12, Metal, 5 -pin Special design: Reflective element for laser alignment aid

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	Part no.	Designation	Article	Description
	66046300	MLD312-R4L	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 Special design: Reflective element for laser alignment aid
	66056300	MLD320-R4L	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 Special design: Reflective element for laser alignment aid
	66065300	MLD330-R4LM	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 Special design: Integrated muting indicator, Integrated status indicator, Reflective element for laser alignment aid
	66066300	MLD330-R4L	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 Special design: Reflective element for laser alignment aid
	66075300	MLD335-R4LM	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 Special design: Integrated muting indicator, Integrated status indicator, Reflective element for laser alignment aid
	66076300	MLD335-R4L	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 Special design: Reflective element for laser alignment aid
	66055300	MLD320-R4LM	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 Special design: Integrated status indicator, Reflective element for laser alignment aid

## Dimensioned drawings

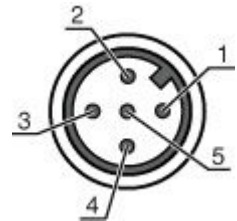
All dimensions in millimeters



## 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

Pin	Pin assignment	Conductor color
1	+24V	Brown
2	n.c.	White
3	0 V	Blue
4	n.c.	Black
5	n.c.	Gray



## Operation and display

### LEDs

LEDs per light axis	Meaning
Green, continuous light	Transmitted beam active
Off	Transmitted beam not active
















## Part number code

Part designation: **MLDxyy-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)

**Accessories**

## Connection technology - Connection cables


	Part no.	Designation	Article	Description
  	678058	CB-M12-25000E-5GF	Connection cable	Connection 1: Connector, M12, Axial, Female, A-coded, 5 -pin Connection 2: Open end Shielded: Yes Cable length: 25,000 mm Sheathing material: PUR
  	50133860	KD S-M12-5A-P1-050	Connection cable	Connection 1: Connector, M12, Axial, Female, A-coded, 5 -pin Connection 2: Open end Shielded: Yes Cable length: 5,000 mm Sheathing material: PUR
  	50133861	KD S-M12-5A-P1-100	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: PUR
  	50137014	KD S-M12-5A-P1-150	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
  	50137013	KD S-M12-5A-P1-500	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
 	560342	BT-SET-240BCS	Mounting bracket set	Fastening, at system: Through-hole mounting Mounting bracket, at device: Clampable Type of mounting device: Turning, 240°, Shock absorber Material: Metal Shock absorber: Yes
 	540352	BT-SET-240BCS-E	Mounting bracket set	Fastening, at system: Through-hole mounting Mounting bracket, at device: Clampable Type of mounting device: Shock absorber, Turning, 240° Material: Metal, Plastic Shock absorber: Yes

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## Mounting technology - Other

	Part no.	Designation	Article	Description
	424417	BT-2P40	Mounting bracket set	Contains: 2x BT-P40 clamp bracket Design of mounting device: Mounting clamp Fastening, at system: Groove mounting Mounting bracket, at device: Groove mounting Type of mounting device: Clampable Material: Metal

## Alignment aids


	Part no.	Designation	Article	Description
	520071	AC-MK1	Adapter	Dimensions: 23.3 mm x 17.5 mm x 24 mm Net weight: 20 g Housing color: Black Functions: Activation of the laser alignment aid

## Device columns

	Part no.	Designation	Article	Description
	549852	UDC-1300-S2	Device column	Dimensions: 160 mm x 1,360 mm x 149 mm Column height without foot: 1,300 mm Functions: Mounting and protection of light curtains and multiple light beam devices, Adjustable, 3 directions
	549853	UDC-1600-S2	Device column	Dimensions: 160 mm x 1,660 mm x 149 mm Column height without foot: 1,600 mm Functions: Mounting and protection of light curtains and multiple light beam devices, Adjustable, 3 directions
	549854	UDC-1900-S2	Device column	Dimensions: 160 mm x 1,960 mm x 149 mm Column height without foot: 1,900 mm Functions: Mounting and protection of light curtains and multiple light beam devices, Adjustable, 3 directions
	549867	UDC-2100-S2	Device column	Dimensions: 160 mm x 2,160 mm x 149 mm Column height without foot: 2,100 mm Functions: Adjustable, 3 directions, Mounting and protection of light curtains and multiple light beam devices
	549857	UDC-2500-S2	Device column	Dimensions: 160 mm x 2,560 mm x 149 mm Column height without foot: 2,500 mm Functions: Adjustable, 3 directions, Mounting and protection of light curtains and multiple light beam devices
	549865	UDC-3100-S2	Device column	Dimensions: 160 mm x 3,160 mm x 149 mm Column height without foot: 3,100 mm Functions: Mounting and protection of light curtains and multiple light beam devices, Adjustable, 3 directions

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## Deflecting mirror columns

	Part no.	Designation	Article	Description
	549793	UMC-1304-S2	Mirror column	Number of individual mirrors: 4 Piece(s) Dimensions: 160 mm x 1,360 mm x 149 mm Column height without foot: 1,300 mm Center-to-center spacing of individual mirrors: 300 mm Functions: Easy axial alignment, Simple height adjustment of the mirrors, Automatic resetting after mechanical impacts with special spring elements, Adjustable, 3 directions, Robust profile construction in high quality design, Precise alignment of the individual mirrors in all 3 axes