



Figure can vary

Part no.: 66502301
MLD500-T4L/A
Multiple light beam safety device
transmitter



Contents

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

Part no.: 66502301 – MLD500-T4L/A – Multiple light beam safety device

Technical data

Basic data	
Series	MLD 500
Device type	Transmitter
Special design	
Special design	Integrated laser alignment aid
Functions	
Functions	Range reduction
Integrated laser alignment aid	Yes
Characteristic parameters	
Type	4, IEC/EN 61496
SIL	3, IEC 61508
SILCL	3, IEC/EN 62061
MTTF _d	204 years, EN ISO 13849-1
Mission time T _M	20 years, EN ISO 13849-1
Protective field data	
Operating range	0.5 ... 50 m
Optical data	
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	Exempt group in acc. with EN 62471:2008
Electrical data	
Performance data	
Supply voltage	26.5 ... 31.6 V
Current consumption from AS-i circuit	50 mA
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	1 Piece(s)

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Connection 1

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

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	Swivel mount Groove mounting

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	c TÜV NRTL US TÜV Süd c CSA US
US patents	US 6,418,546 B US 7,741,595 B



Classification

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

Suitable receivers

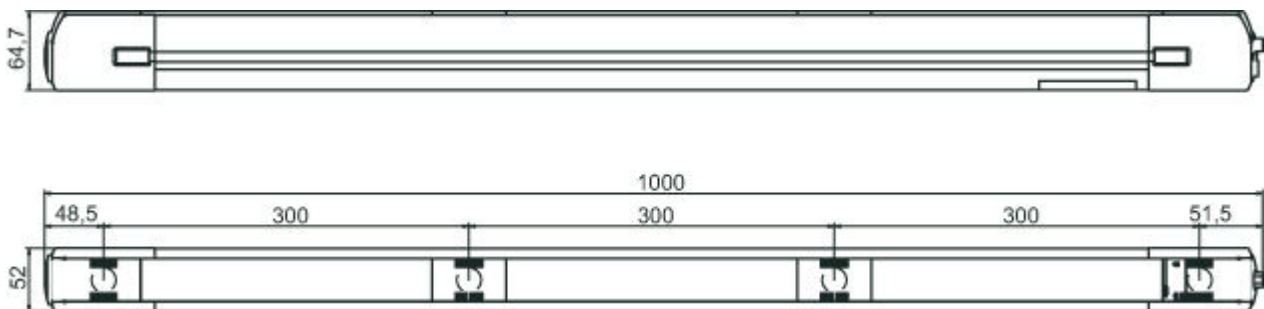
	Part no.	Designation	Article	Description
	66536301	MLD510-R4L/A	Multiple light beam safety device receiver	Number of beams: 4 Piece(s) Beam spacing: 300 mm Response time: 30 ms Type of interface: AS-Interface Safety at Work Connection: Connector, M12, Metal, 5 -pin Special design: Reflective element for laser alignment aid

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	Part no.	Designation	Article	Description
	66535301	MLD510-R4LM/A	Multiple light beam safety device receiver	Number of beams: 4 Piece(s) Beam spacing: 300 mm Response time: 30 ms Type of interface: AS-Interface Safety at Work Connection: Connector, M12, Metal, 5 -pin Special design: Integrated muting indicator, Integrated status indicator, Reflective element for laser alignment aid
	66536302	MLD510-R4LE/A	Multiple light beam safety device receiver	Number of beams: 4 Piece(s) Beam spacing: 300 mm Response time: 30 ms Type of interface: AS-Interface Safety at Work Connection: Connector, M12, Metal, 5 -pin Special design: Reflective element for laser alignment aid, Connection socket for external muting indicator

Dimensioned drawings

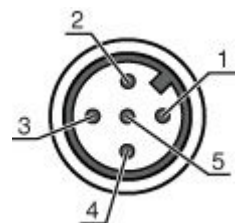
All dimensions in millimeters



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	AS-i+	Brown
2	n.c.	White
3	AS-i-	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: **MLD**xxy-zab/t


MLD	Multiple light beam safety device
x	Series: 3: MLD 300 5: MLD 500
yy	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
a	Number of beams
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)

Accessories


Mounting technology - Swivel mounts

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


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	Part no.	Designation	Article	Description
	540352	BT-SET-240BCS-E	Mounting bracket set	Mounting bracket, at system: Through-hole mounting Mounting bracket, at device: Clampable Type of mounting device: Shock absorber, Turning, 240° Material: Metal, Plastic Shock absorber: Yes





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 Mounting bracket, 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

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	Part no.	Designation	Article	Description
	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

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