

Technical data sheet

Multiple light beam safety device transceiver

Part no.: 66058100

MLD320-RT2M



For illustration purposes only

Contents

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



Technical data

Basic data	
Series	MLD 300
Device type	Transceiver

Special version	
Special version	Integrated status indicator

Functions	
Functions	Configuration by means of wiring Contactor monitoring (EDM), selectable Start/restart interlock (RES), selectable
Integrated laser alignment aid	No
Integrated muting indicator	No
Integrated status indicator	Yes

Characteristic parameters	
Type	2, IEC/EN 61496
SIL	1, IEC 61508
SILCL	1, IEC/EN 62061
Performance Level (PL)	c, EN ISO 13849-1
MTTF _d	204 years, EN ISO 13849-1
PFH _D	1.2E-08 per hour
Mission time T _M	20 years, EN ISO 13849-1
Category	3, EN ISO 13849

Protective field data	
Operating range	0.5 ... 8 m

Optical data	
Number of beams	2 Piece(s)
Beam spacing	500 mm
Light source	LED, Infrared
Wavelength	850 nm
Mean power of transmitter diode	1,369 µW
Transmitted-signal shape	Pulsed
LED group	1

Electrical data	
Protective circuit	Overvoltage protection Short circuit protected
Performance data	
Supply voltage U _B	24 V, DC, -20 ... 20 %
Current consumption, max.	150 mA, Without external load
Fuse	External with max. 3 A

Inputs	
Number of digital switching inputs	3 Piece(s)

Switching inputs	
Type	Digital switching input
Switching voltage high, min.	18.2 V
Switching voltage low, max.	2.5 V
Switching voltage, type.	23 V
Voltage type	DC

Digital switching input 1	
Assignment	Connection 1, pin 1
Function	Control input for start/restart interlock (RES)

Digital switching input 2	
Assignment	Connection 1, pin 3
Function	Control input for contactor monitoring (EDM)

Digital switching input 3	
Assignment	Connection 1, pin 4
Function	Control input for start/restart interlock (RES)

Outputs	
Number of safety-related switching outputs (OSSDs)	2 Piece(s)
Number of digital switching outputs	1 Piece(s)

Safety-related switching outputs	
Type	Safety-related switching output OSSD
Switching voltage high, min.	18.2 V
Switching voltage low, max.	2.5 V
Switching voltage, type.	23 V
Voltage type	DC
Current load, max.	380 mA
Load inductivity	2,200,000 µH
Load capacity	0.3 µF
Residual current, max.	0.2 mA
Residual current, type.	0.002 mA
Voltage drop	1 V

Safety-related switching output 1	
Assignment	Connection 1, pin 6
Switching element	Transistor, PNP

Safety-related switching output 2	
Assignment	Connection 1, pin 5
Switching element	Transistor, PNP

Switching outputs	
Type	Digital switching output
Switching voltage high, min.	18.2 V
Switching voltage low, max.	2.5 V
Switching voltage, type.	23 V
Voltage type	DC

Switching output 1	
Assignment	Connection 1, pin 1
Switching element	Transistor, PNP

Time behavior	
Response time	25 ms
Restart delay time	100 ms

Connection	
Number of connections	1 Piece(s)

Connection 1	
Function	Machine interface
Type of connection	Connector
Thread size	M12
Material	Metal
No. of pins	8 -pin

Technical data

Cable properties	
Permissible conductor cross section, type.	0.25 mm²
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 600 mm x 64.7 mm
Housing material	Metal
Metal housing	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

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

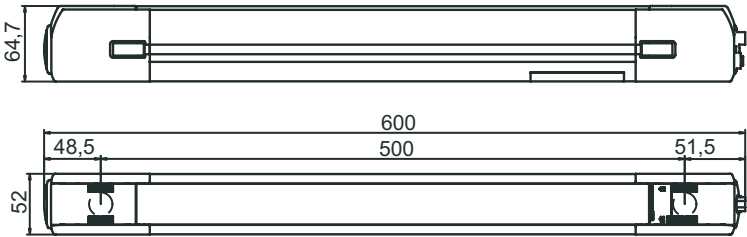
Environmental data	
Ambient temperature, operation	-30 ... 55 °C
Ambient temperature, storage	-40 ... 75 °C
Relative humidity (non-condensing)	0 ... 95 %

Certifications	
Degree of protection	IP 67
Protection class	III
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
ETIM 5.0	EC001832
ETIM 6.0	EC001832
ETIM 7.0	EC001832
ETIM 8.0	EC001832
ETIM 9.0	EC001832

Dimensioned drawings

All dimensions in millimeters

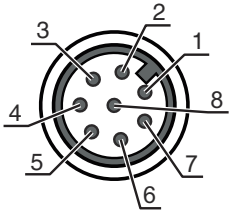


Electrical connection

Connection 1	
Function	Machine interface
Type of connection	Connector
Thread size	M12
Type	Male
Material	Metal
No. of pins	8 -pin
Encoding	A-coded

Electrical connection

Pin	Pin assignment	Conductor color
1	RES/OSSD status signal	White
2	+24 V	Brown
3	EDM	Green
4	MODE	Yellow
5	OSSD2	Gray
6	OSSD1	Pink
7	0 V	Blue
8	n.c.	Red



Operation and display

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.

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, Mounting on Device Column, Swivel mount

Part number code

Part designation: MLDxyy-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

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)
Note	
	A list with all available device types can be found on the Leuze website at www.leuze.com .

Accessories

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.