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Part no.: 66036100
MLD310-R2L
Multiple light beam safety device receiver



Contents

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

Technical data

Basic data	
Series	MLD 300
Device type	Receiver

Special design	
Special design	Reflective element for laser alignment aid

Functions	
Functions	Automatic restart

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

Optical data	
Number of beams	2 Piece(s)
Beam spacing	500 mm

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

Part no.: 66036100 – MLD310-R2L – Multiple light beam safety device receiver

Outputs

Number of safety-related switching outputs (OSSDs) 2 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, typ. 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, typ. 0.002 mA

Voltage drop 1 V

Safety-related switching output 1

Assignment Connection 1, pin 2

Switching element Transistor , PNP

Safety-related switching output 2

Assignment Connection 1, pin 4

Switching element Transistor , PNP

Timing

Response time 25 ms

Restart delay time 100 ms

Connection

Number of connections 1 Piece(s)

Connection 1

Type of connection Connector

Function Machine interface

Thread size M12

Material Metal

No. of pins 5 -pin

Cable properties

Permissible conductor cross section, typ. 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 , 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

Part no.: 66036100 – MLD310-R2L – Multiple light beam safety device receiver

Number of LEDs	1 Piece(s)
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Environmental data

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

Certifications

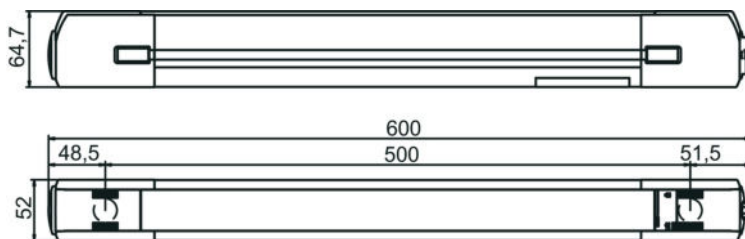
Degree of protection	IP 67
Protection class	III
Certifications	c CSA US c TÜV NRTL US TÜV Süd
US patents	US 6,418,546 B US 7,741,595 B

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

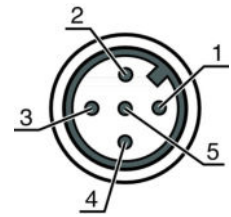


Electrical connection

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

Part no.: 66036100 – MLD310-R2L – Multiple light beam safety device receiver

Pin	Pin assignment	Conductor color
1	+24V	Brown
2	OSSD1	White
3	0 V	Blue
4	OSSD2	Black
5	n.c.	Gray




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.

Suitable transmitters

	Part no.	Designation	Article	Description
	66002100	MLD300-T2L	Multiple light beam safety device transmitter	Operating range: 0.5 ... 50 m Number of beams: 2 Piece(s) Beam spacing: 500 mm Connection: Connector, M12, Metal, 5 -pin Special design: Integrated laser alignment aid

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

Part no.: 66036100 – MLD310-R2L – Multiple light beam safety device receiver




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


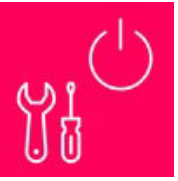
A list with all available device types can be found on the Leuze electronic website at www.leuze.com.

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 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 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 Connection 2: Open end Shielded: Yes Cable length: 10,000 mm Sheathing material: PVC

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.

Part no.: 66036100 – MLD310-R2L – Multiple light beam safety device receiver

Note

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