

Technical data sheet Safety light curtain receiver

Part no.: 68091921

MLC310R90-2100



Contents

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











Technical data



Basic data

Series	MLC 300
Device type	Receiver
Contains	2x BT-NC sliding block
Application	Access guarding
	Danger zone guarding

Functions

Function package	Basic
	Automatic start/restart
	Transmission channel changeover

Characteristic parameters

Туре	2, IEC/EN 61496
SIL	1, IEC 61508
SILCL	1, IEC/EN 62061
Performance Level (PL)	c, EN ISO 13849-1
PFH _D	5.06E-08 per hour
Mission time T _M	20 years, EN ISO 13849-1
Category	2, EN ISO 13849

Protective field data

Resolution	90 mm
Protective field height	2,100 mm

Optical data

Synchronization O	ptical between transmitter and receiver

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
Fuse	2 A semi time-lag

Outputs

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

Safety-related switching outputs

Safety-related switching output OSSD
18 V
2.5 V
22.5 V
DC
380 mA
2,000 μΗ
0.3 μF
0.2 mA
0.002 mA
1.5 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	7 ms
Restart delay time	100 ms

Connection

Number of connections

Connection 1	
Function	Machine interface
Type of connection	Connector
Thread size	M12
Material	Metal
No. of pins	5 -pin
Cable properties	
Permissible conductor cross	0.25 mm ²

100 m

200 Ω

1 Piece(s)

Mechanical data

load, max.

Length of connection cable, max.

Permissible cable resistance to

29 mm x 2,166 mm x 35.4 mm
Metal
Aluminum
Plastic / PMMA
Diecast zinc
2,250 g
Yellow, RAL 1021
Groove mounting
Mounting bracket
Mounting on Device Column
Swivel mount

Operation and display

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

Environmental data

Ambient temperature, operation	0 55 °C
Ambient temperature, storage	-30 70 °C
Relative humidity (non-condensing)	0 95 %

Certifications

Phone: +49 7021 573-0 • Fax: +49 7021 573-199

Degree of protection	IP 65	
Protection class	III	
Certifications	c CSA US	
	c TÜV NRTL US	
	TÜV Süd	
Vibration resistance	50 m/s²	
Shock resistance	100 m/s ²	
US patents	US 6,418,546 B	

Technical data

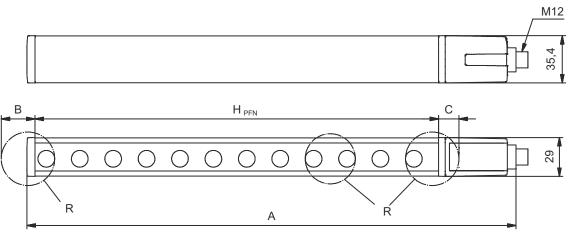


Customs tariff number	85365019
eCI@ss 5.1.4	27272704
eCI@ss 8.0	27272704
eCI@ss 9.0	27272704
eCI@ss 10.0	27272704
eCI@ss 11.0	27272704
ETIM 5.0	EC002549
ETIM 6.0	EC002549
ETIM 7.0	EC002549

Dimensioned drawings

All dimensions in millimeters

Calculation of the effective protective field height $H_{PFF} = H_{PFN} + B + C$



 H_{PFE} Effective protective field height = 2190 mm H_{PFN} Nominal protective field height = 2100 mm

Total height = 2166 mm

50 mm

- С 40 mm
- Effective protective field height H_{PFE} goes beyond the dimensions of the optics area to the outer borders of the circles labeled with R.

Electrical connection

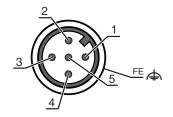
Connection 1

Function	Machine interface
Type of connection	Connector
Thread size	M12
Туре	Male
Material	Metal
No. of pins	5 -pin
Encoding	A-coded
Connector housing	FE/SHIELD

Electrical connection

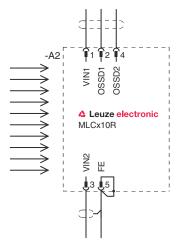


Pin	Pin assignment	Conductor color
1	VIN1	Brown
2	OSSD1	White
3	VIN2	Blue
4	OSSD2	Black
5	FE/SHIELD	Grav



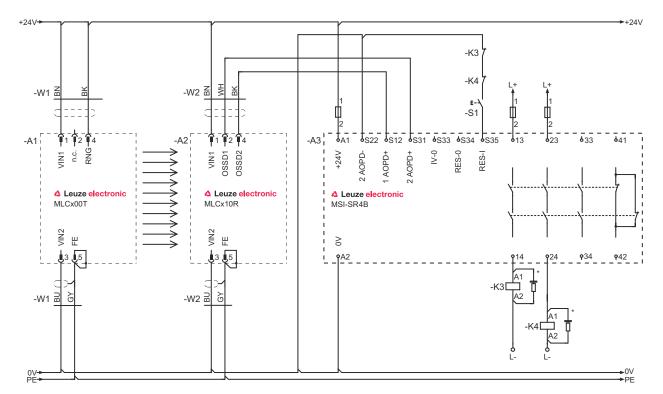
Circuit diagrams

Connection diagram receiver



- VIN1 = +24 V, VIN2 = 0 V: transmission channel C1
- VIN1 = 0 V, VIN2 = +24 V: transmission channel C2

Circuit diagram example with downstream MSI-SR4B safety relay







LED	Display	Meaning
1	Off	Device switched off
	Red, continuous light	OSSD off.
	Red, flashing, 1 Hz	External error
	Red, flashing, 10 Hz	Internal error
	Green, flashing, 1 Hz	OSSD on, weak signal
	Green, continuous light	OSSD on
2	Off	Transmission channel C1
	Red, continuous light	OSSD off, transmission channel C2

Suitable transmitters

Part no.	Designation	Article	Description
68090921	MLC300T90-2100	Safety light curtain transmitter	Resolution: 90 mm Protective field height: 2,100 mm Operating range: 0 20 m Connection: Connector, M12, Metal, 5 -pin

Part number code

Part designation: MLCxyy-za-hhhhei-ooo

MLC	Safety light curtain
х	Series 3: MLC 300 5: MLC 500
уу	Function classes 00: transmitter 01: transmitter (AIDA) 02: transmitter with test input 10: basic receiver - automatic restart 11: basic receiver - automatic restart (AIDA) 20: standard receiver - EDM/RES selectable 30: extended receiver - blanking/muting
z	Device type T: transmitter R: receiver
a	Resolution 14: 14 mm 20: 20 mm 30: 30 mm 40: 40 mm 90: 90 mm
hhhh	Protective field height 150 3000: from 150 mm to 3000 mm
е	Host/Guest (optional) H: Host MG: Middle Guest G: Guest
i	Interface (optional) /A: AS-i
000	Option /V: high Vibration-proof EX2: explosion protection (zones 2 + 22) SPG: Smart Process Gating

Note



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

Notes





Observe intended use!



Accessories

Connection technology - Connection cables

Part no.	Designation	Article	Description
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

Mounting technology - Swivel mounts

	Part no.	Designation	Article	Description
Paga	429393	BT-2HF	Mounting bracket set	Fastening, at system: Through-hole mounting Mounting bracket, at device: Clampable Type of mounting device: Turning, 360° 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 website in the Download tab of the article detailed page.