Leuze

Technical data sheet Safety light curtain receiver

Part no.: 68091203 MLC310R20-300



The Sensor People In der Braike 1, 73277 Owen

Leuze electronic GmbH + Co. KG info@leuze.com • www.leuze.com Phone: +49 7021 573-0 • Fax: +49 7021 573-199

Technical data

Leuze

Basic data

MLC 300
Receiver
2x BT-NC sliding block
Hand protection
Hand protection

Functions

Function package Functions

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

20 mm

300 mm

Protective field data

Resolution Protective field height

Optical data

Synchronization	Optical between transmitter and receiver

Electrical data

Supply voltage U_B

Current consumption, max.

Protective circuit Performance data

24 V, DC, -20 ... 20 % 150 mA 2 A semi time-lag

Overvoltage protection Short circuit protected

Outputs

Fuse

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

Safety-related switching outputs			
Туре	Safety-related switching output OSSD		
Switching voltage high, min.	18 V		
Switching voltage low, max.	2.5 V		
Switching voltage, typ.	22.5 V		
Voltage type	DC		
Current load, max.	380 mA		
Load inductivity	2,000 µH		
Load capacity	0.3 µF		
Residual current, max.	0.2 mA		
Residual current, typ.	0.002 mA		
Voltage drop	1.5 V		

Safety-related switching output 1 Connection 1, pin 2 Assignment 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	1 Piece(s)
Connection 1	
Function	Machine interface Connector
Type of connection	M12
Thread size Material	Metal
No. of pins	5 -pin
Cable properties	
Permissible conductor cross	0.25 mm ²
section, typ.	
Length of connection cable, max.	100 m
Permissible cable resistance to	200 Ω
load, max.	
Mechanical data	
Dimension (W x H x L)	29 mm x 366 mm x 35.4 mm
Housing material	Metal
Metal housing	Aluminum
Lens cover material	Plastic / PMMA
Material of end caps	
	Diecast zinc
Net weight	450 g
Housing color	450 g Yellow, RAL 1021
•	450 g Yellow, RAL 1021 Groove mounting
Housing color	450 g Yellow, RAL 1021 Groove mounting Mounting bracket
Housing color	450 g Yellow, RAL 1021 Groove mounting Mounting bracket Mounting on Device Column
Housing color	450 g Yellow, RAL 1021 Groove mounting Mounting bracket
Housing color	450 g Yellow, RAL 1021 Groove mounting Mounting bracket Mounting on Device Column
Housing color Type of fastening	450 g Yellow, RAL 1021 Groove mounting Mounting bracket Mounting on Device Column
Housing color Type of fastening Operation and display	450 g Yellow, RAL 1021 Groove mounting Mounting bracket Mounting on Device Column Swivel mount
Housing color Type of fastening Operation and display Type of display	450 g Yellow, RAL 1021 Groove mounting Mounting bracket Mounting on Device Column Swivel mount
Housing color Type of fastening Operation and display Type of display Number of LEDs	450 g Yellow, RAL 1021 Groove mounting Mounting bracket Mounting on Device Column Swivel mount
Housing color Type of fastening Operation and display Type of display Number of LEDs Environmental data	450 g Yellow, RAL 1021 Groove mounting Mounting bracket Mounting on Device Column Swivel mount LED 2 Piece(s)

Certifications

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/s²
US patents	US 6,418,546 B

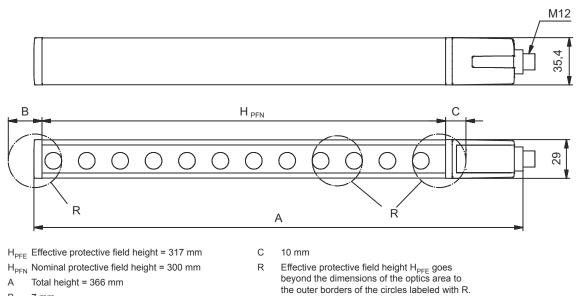
Technical data

Customs tariff number	85365019
eCl@ss 5.1.4	27272704
eCl@ss 8.0	27272704
eCl@ss 9.0	27272704
eCl@ss 10.0	27272704
eCl@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 $H_{PFF} = H_{PFN} + B + C$



B 7 mm

Electrical connection

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

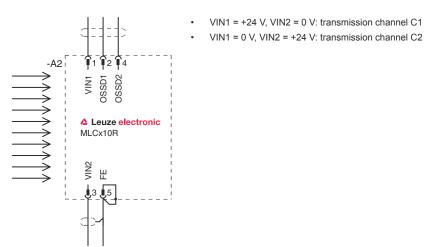
Leuze

Electrical connection

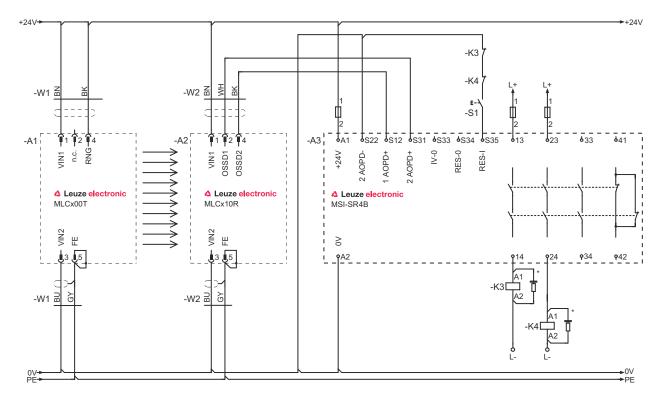
Pin	Pin assignment	Conductor color	2
1	VIN1	Brown	
2	OSSD1	White	
3	VIN2	Blue	3
4	OSSD2	Black	
5	FE/SHIELD	Gray	

Circuit diagrams

Connection diagram receiver



Circuit diagram example with downstream MSI-SR4B safety relay



Leuze

Operation and display

Leuze

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
4	68090203	MLC300T20-300	Safety light curtain transmitter	Resolution: 20 mm Protective field height: 300 mm Operating range: 0 15 m Connection: Connector, M12, Metal, 5 -pin

Part number code

Part designation: MLCxyy-za-hhhhei-ooo

MLC Safety light curtain

MLC	Safety light curtain
x	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
а	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
e	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
N	lote
M	

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

 Leuze electronic GmbH + Co. KG
 info@leuze.com • www.leuze.com
 We reserve the rig

 In der Braike 1, 73277 Owen
 Phone: +49 7021 573-0 • Fax: +49 7021 573-199
 eng • 2021-02-02

Notes





Observe intended use!

 $\ensuremath{^{\textcircled{\tiny b}}}$ The product may only be put into operation by competent persons.

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
Ra	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
6	∜ A li

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

 Leuze electronic GmbH + Co. KG
 info@leuze.com • www.leuze.com
 We reserve the rig

 In der Braike 1, 73277 Owen
 Phone: +49 7021 573-0 • Fax: +49 7021 573-199
 eng • 2021-02-02