Leuze

Technical data sheet Safety light curtain receiver

Part no.: 68091302 MLC310R30-225



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Technical data

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Basic data

During the second	
Device type Rece	eiver
Contains 2x B	T-NC sliding block
Application Hand	d 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

30 mm

225 mm

Protective field data

Resolution Protective field height

Optical data

Synchronization	Optical between transmitter and receiver

Electrical data

Protective circuit

Performance data Supply voltage U_B Current consumption, max. Fuse

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

Overvoltage protection Short circuit protected

Outputs

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		
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	3 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	5 -pin
Cable properties	
Permissible conductor cross section, typ.	0.25 mm²
Length of connection cable, max.	100 m
Permissible cable resistance to	200 Ω
load, max.	
Ioau, max.	
Mechanical data	
Mechanical data Dimension (W x H x L)	29 mm x 291 mm x 35.4 mm
Mechanical data Dimension (W x H x L) Housing material	Metal
Mechanical data Dimension (W x H x L) Housing material Metal housing	Metal Aluminum
Mechanical data Dimension (W x H x L) Housing material	Metal Aluminum Plastic / PMMA
Mechanical data Dimension (W x H x L) Housing material Metal housing	Metal Aluminum Plastic / PMMA Diecast zinc
Mechanical data Dimension (W x H x L) Housing material Metal housing Lens cover material Material of end caps Net weight	Metal Aluminum Plastic / PMMA Diecast zinc 370 g
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Mechanical data Dimension (W x H x L) Housing material Metal housing Lens cover material Material of end caps Net weight Housing color Type of fastening Operation and display	Metal Aluminum Plastic / PMMA Diecast zinc 370 g Yellow, RAL 1021 Groove mounting Mounting bracket Mounting on Device Column
Mechanical data Dimension (W x H x L) Housing material Metal housing Lens cover material Material of end caps Net weight Housing color Type of fastening	Metal Aluminum Plastic / PMMA Diecast zinc 370 g Yellow, RAL 1021 Groove mounting Mounting bracket Mounting on Device Column Swivel mount

Environmental data

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

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

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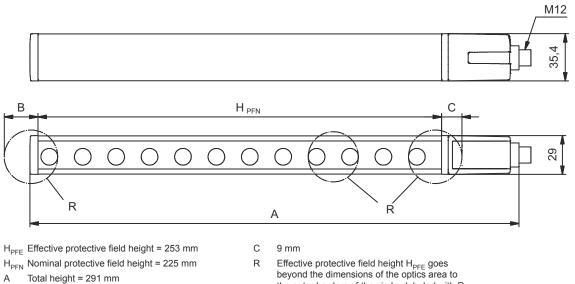
Technical data

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 $H_{PFF} = H_{PFN} + B + C$



В 19 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

3/6

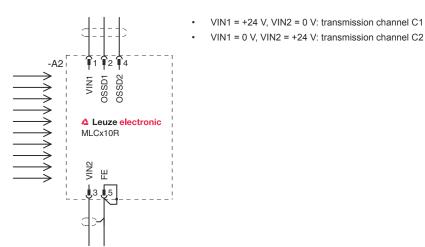
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Electrical connection

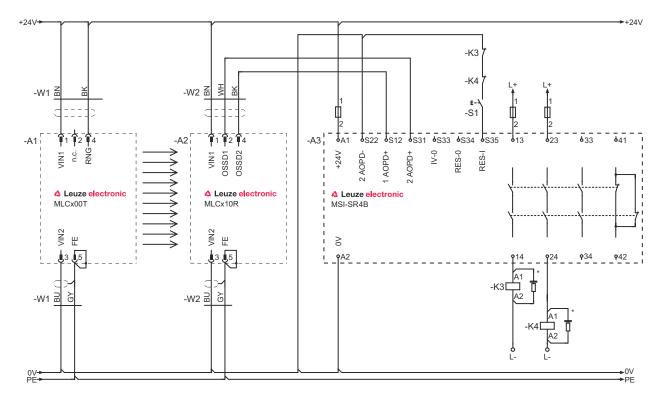
Pin	Pin assignment	Conductor color	2
1	VIN1	Brown	
2	OSSD1	White	
3	VIN2	Blue	3
4	OSSD2	Black	
5	FE/SHIELD	Gray	4

Circuit diagrams

Connection diagram receiver



Circuit diagram example with downstream MSI-SR4B safety relay



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Operation and display



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
68090302	MLC300T30-225	Safety light curtain transmitter	Resolution: 30 mm Protective field height: 225 mm Operating range: 0 10 m Connection: Connector, M12, Metal, 5 -pin

Part number code

Part designation: MLCxyy-za-hhhhei-ooo

MIC 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	Note
Market	

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

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Notes





Observe intended use!

 ${\ensuremath{\,\textcircled{\tiny \ensuremath{\,\Downarrow}}}}$ 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.

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

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