

## **Technical data sheet** Safety light curtain receiver

Part no.: 68001312 MLC510R30-1200



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

We reserve the right to make technical changes eng • 2021-01-28

## **Technical data**

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#### **Basic data**

Device type Receiv	
	ver
Contains 2x BT-	-NC sliding block
Application Hand	protection

#### **Functions**

Function package Functions

Basic Automatic start/restart Transmission channel changeover

#### **Characteristic parameters**

4, IEC/EN 61496
3, IEC 61508
3, IEC/EN 62061
e, EN ISO 13849-1
7.73E-09 per hour
20 years, EN ISO 13849-1
4, EN ISO 13849

30 mm

1,200 mm

#### **Protective field data**

Resolution Protective field height

#### **Optical data**

Synchronization	Optical between transmitter and receiver

#### **Electrical data**

Protective circuit Overvoltage protection Short circuit protected Performance data Supply voltage U<sub>B</sub>

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

#### Outputs

Fuse

Current consumption, max.

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

#### Timina

Timing		
Response time	12 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 load, max.	200 Ω	
Mechanical data		
Dimension (W x H x L)	29 mm x 1,266 mm x 35.4 mm	
Housing material Metal		
Metal housing	Aluminum	
Lens cover material Plastic / PMMA		
Material of end caps	Diecast zinc	
Net weight	1,350 g	
Housing color	Yellow, RAL 1021	
Type of fastening	Groove mounting	

#### **Operation and display**

#### Type of display I FD Number of LEDs 2 Piece(s)

Mounting bracket

Swivel mount

Mounting on Device Column

#### **Environmental data**

Ambient temperature, operation	-30 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
	S Mark
	TÜV Süd
Vibration resistance	50 m/s²
Shock resistance	100 m/s²
US patents	US 6,418,546 B

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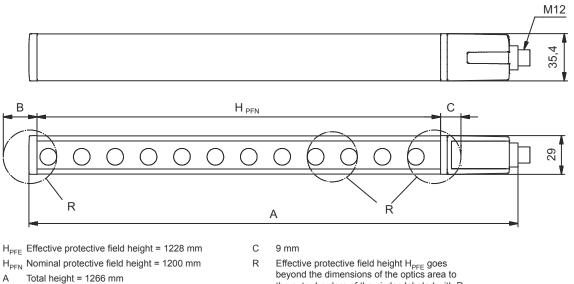
## **Technical data**

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<sub>PFE</sub> 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

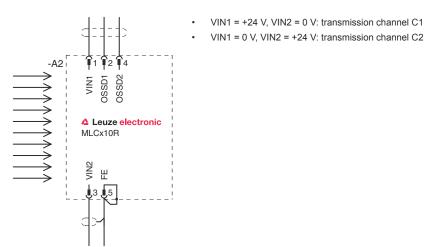
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## **Electrical connection**

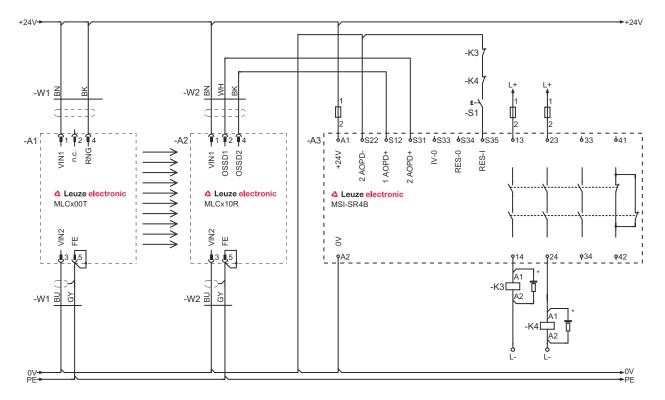
Pin	Pin assignment	Conductor color	2
1	VIN1	Brown	
2	OSSD1	White	
3	VIN2	Blue	3
4	OSSD2	Black	
5	FE/SHIELD	Gray	4

## **Circuit diagrams**

Connection diagram receiver



Circuit diagram example with downstream MSI-SR4B safety relay





## **Operation and display**

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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
68000312	MLC500T30-1200	Safety light curtain transmitter	Resolution: 30 mm Protective field height: 1,200 mm Operating range: 0 10 m Connection: Connector, M12, Metal, 5 -pin
68008312	MLC502T30-1200	Safety light curtain transmitter	Resolution: 30 mm Protective field height: 1,200 mm Operating range: 0 10 m Connection: Connector, M12, Metal, 5 -pin

### Part number code

#### Part designation: MLCxyy-za-hhhhei-ooo

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
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
e	Host/Guest (optional) H: Host MG: Middle Guest G: Guest

## Part number code

MLC	Safety light curtain
i	Interface (optional) /A: AS-i
000	Option /V: high Vibration-proof EX2: explosion protection (zones 2 + 22) SPG: Smart Process Gating Note
6	♣ A list with all available device types can be found on the Leuze website at www.leuze.com.

## Notes

Observe intended use!			
<ul> <li>№ The product may only be put into operation by competent persons.</li> <li>№ Only use the product in accordance with its intended use.</li> </ul>			

## 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
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

### Accessories

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