

Technical data sheet Safety light curtain receiver

Part no.: 68001219

MLC510R20-1950



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 500
Device type	Receiver
Contains	2x BT-NC sliding block
Application	Hand protection

Functions

Function package	Basic
Functions	Automatic start/restart
	Transmission channel changeover

Characteristic parameters

Туре	4, IEC/EN 61496
SIL	3, IEC 61508
SILCL	3, IEC/EN 62061
Performance Level (PL)	e, EN ISO 13849-1
PFH _D	7.73E-09 per hour
Mission time T _M	20 years, EN ISO 13849-1
Category	4, EN ISO 13849

Protective field data

Resolution	20 mm
Protective field height	1,950 mm

Optical data

Synchronization	Optical between transmitter and receiver
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Electrical data

Protective circuit	Overvoltage protection
	Short circuit protected

remonitative 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

Salety-related Switching out	Juls
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 μΗ
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

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Assignment	Connection 1, pin 2
Switching element	Transistor, PNP

Safety-related switching output 2

outcity related switching output E	
Assignment	Connection 1, pin 4
Switching element	Transistor, PNP

Timing

Response time	34 ms
Restart delay time	100 ms

Connection

Number of connections

Function	Machine interface	
Type of connection	Connector	
Thread size	M12	
Material	Metal	
No. of pins	5 -pin	

1 Piece(s)

0.25 mm²

100 m

200 Ω

Mechanical data

load, max.

section, typ.

Permissible conductor cross

Length of connection cable, max.

Permissible cable resistance to

Dimension (W x H x L)	29 mm x 2,016 mm x 35.4 mm
Housing material	Metal
Metal housing	Aluminum
Lens cover material	Plastic / PMMA
Material of end caps	Diecast zinc
Net weight	2,100 g
Housing color	Yellow, RAL 1021
Type of fastening	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	-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/s ²
Shock resistance	100 m/s ²
US patents	US 6,418,546 B

Technical data

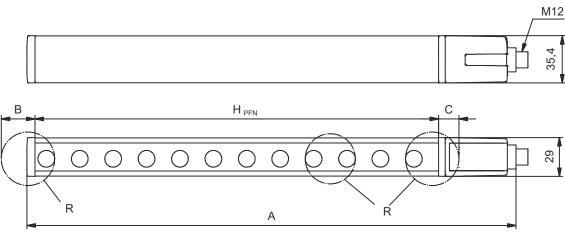


Customs tariff number	85365019
eCl@ss 5.1.4	27272704
eCl@ss 8.0	27272704
eCl@ss 9.0	27272704
eCl@ss 10.0	27272704
eCl@ss 11.0	27272704
ETIM 5.0	EC002549
ETIM 6.0	EC002549
ETIM 7.0	EC002549

Dimensioned drawings

All dimensions in millimeters

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



 H_{PFE} Effective protective field height = 1967 mm H_{PFN} Nominal protective field height = 1950 mm

A Total height = 2016 mm

B 7 mm

- C 10 mm
- R 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

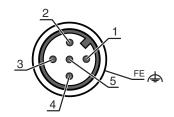
Connection 1

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

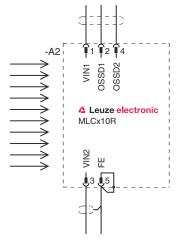


Pin	Pin assignment	Conductor color
1	VIN1	Brown
2	OSSD1	White
3	VIN2	Blue
4	OSSD2	Black
5	FE/SHIELD	Grav



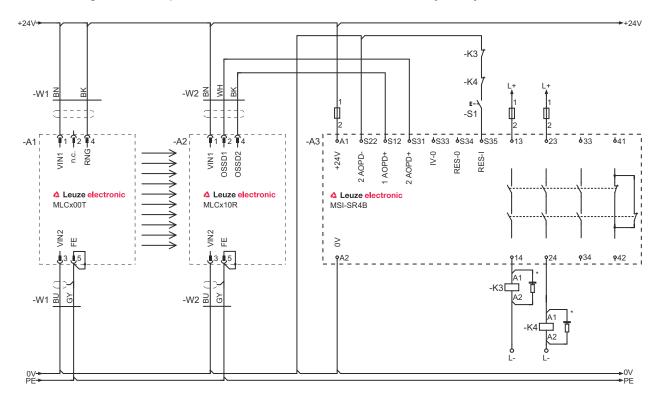
Circuit diagrams

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
68000219	MLC500T20-1950	Safety light curtain transmitter	Resolution: 20 mm Protective field height: 1,950 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
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 //: 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

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	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.