

Technical data sheet Safety light curtain receiver

Part no.: 68001318 MLC510R30-1800



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

Technical data

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Basic data

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

Functions

Function package Functions

Basic 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

30 mm

1,800 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

Timina

Iming		
Response time	17 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. Length of connection cable, max. Permissible cable resistance to load, max. Mechanical data	0.25 mm² 100 m 200 Ω	
Dimension (W x H x L)	29 mm x 1,866 mm x 35.4 mm	
Housing material	Metal	
Metal housing	Aluminum	
Lens cover material	Plastic / PMMA	
Material of end caps	Diecast zinc	
Net weight	1,950 g	
Housing color	Yellow, RAL 1021	
Type of fastening	Groove mounting	
	Mounting bracket	

Operation and display

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

Mounting on Device Column

Swivel mount

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

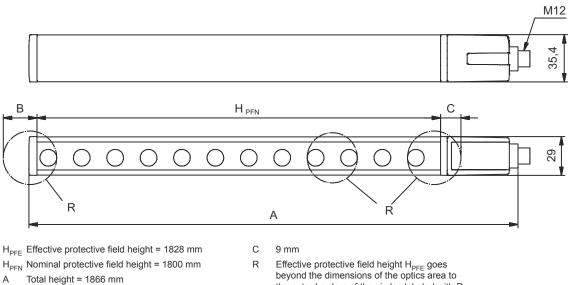
Technical data

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



А 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

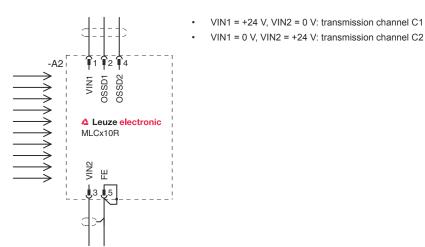
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Electrical connection

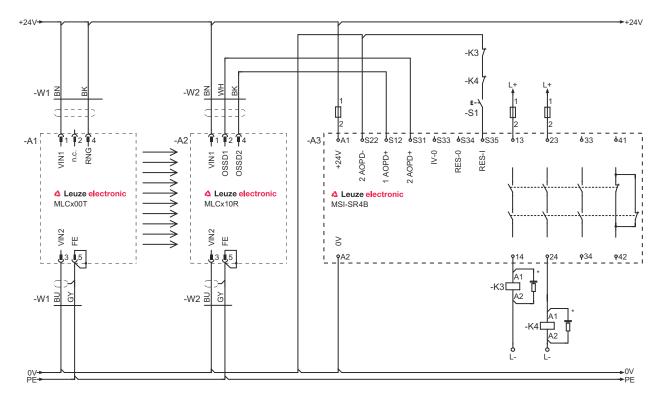
Pin	Pin assignment	Conductor color	2
1	VIN1	Brown	
2	OSSD1	White	
3	VIN2	Blue	3
4	OSSD2	Black	
5	FE/SHIELD	Gray	4

Circuit diagrams

Connection diagram receiver



Circuit diagram example with downstream MSI-SR4B safety relay



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Operation and display

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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
68000318	MLC500T30-1800	Safety light curtain transmitter	Resolution: 30 mm Protective field height: 1,800 mm Operating range: 0 10 m Connection: Connector, M12, Metal, 5 -pin
68008318	MLC502T30-1800	Safety light curtain transmitter	Resolution: 30 mm Protective field height: 1,800 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
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

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

Notes

Observe intended use!
 ✤ The product may only be put into operation by competent persons. ✤ Only use the product in accordance with its 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
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.