

Technical data sheet Safety light curtain receiver

Part no.: 68001422 MLC510R40-2250



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

Basic data

Series	MLC 500
Device type	Receiver
Contains	2x BT-NC sliding block
Application	Access guarding
	Danger zone guarding
	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

R	esolution	40 mm
Ρ	rotective field height	2,250 mm
С	optical data	
s	ynchronization	Optical between transmitter and receiver
E	lectrical data	
Р	rotective circuit	Overvoltage protection
		Short circuit protected
	Performance 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 outputs (OSSDs)	2 Piece(s)
	Safety-related switching outp	
	Туре	Safety-related switching output OSSD
	Switching voltage high, min.	18 V
	Switching voltage low max	251/

omitoning vontago mgn, mm	
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 Switching element Connection 1, pin 2 Transistor, PNP

Safety-related switching output 2 Assignment Connection 1, pin 4 Switching element Transistor, PNP Timing 20 ms Response time Restart delay time 100 ms Connection Number of connections 1 Piece(s) **Connection 1** Machine interface Function Type of connection Connector Thread size M12 Material Metal No. of pins 5 -pin **Cable properties** Permissible conductor cross 0.25 mm² 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 2,316 mm x 35.4 mm Housing material Metal Metal housing Aluminum Plastic / PMMA Lens cover material Diecast zinc Material of end caps Net weight 2,400 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 Ш 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

Leuze



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

2/6

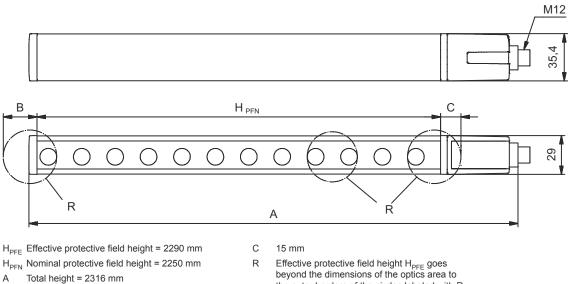
Technical data

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 25 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

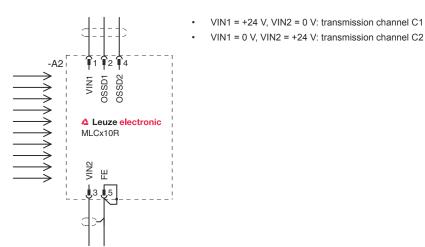
Leuze

Electrical connection

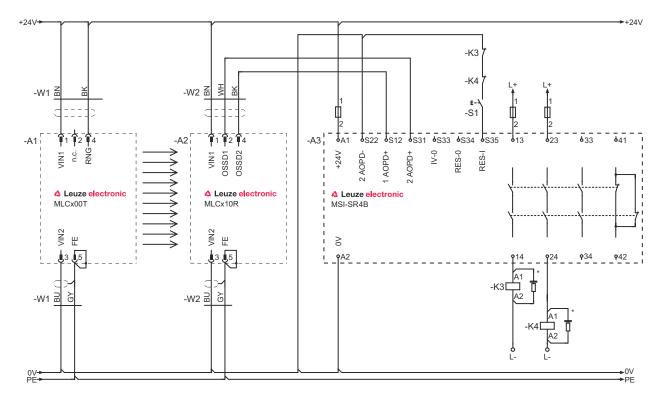
Pin	Pin assignment	Conductor color	2
1	VIN1	Brown	
2	OSSD1	White	
3	VIN2	Blue	3
4	OSSD2	Black	
5	FE/SHIELD	Gray	4

Circuit diagrams

Connection diagram receiver



Circuit diagram example with downstream MSI-SR4B safety relay



Leuze

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
68000422	MLC500T40-2250	Safety light curtain transmitter	Resolution: 40 mm Protective field height: 2,250 mm Operating range: 0 20 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
M	

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

 The Sensor People
 In der Braike 1, 73277 Owen
 Phone: +49 7021 573-0 • Fax: +49 7021 573-199
 eng • 2021-01-28

Leuze electronic GmbH + Co. KG info@leuze.com • www.leuze.com

We reserve the right to make technical changes

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.

	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.

The Sensor People In der Braike 1, 73277 Owen

Leuze electronic GmbH + Co. KG info@leuze.com • www.leuze.com In der Braike 1, 73277 Owen Phone: +49 7021 573-0 • Fax: +49

 info@leuze.com • www.leuze.com
 We reserve the rig

 Phone: +49 7021 573-0 • Fax: +49 7021 573-199
 eng • 2021-01-28