

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

Part no.: 68007402 MLC510R40-225/A



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### **Technical data**



#### Basic data

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

#### **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 <sub>D</sub>	7.73E-09 per hour
Mission time T <sub>M</sub>	20 years, EN ISO 13849-1
Category	4, EN ISO 13849

#### Protective field data

Resolution	40 mm
Protective field height	225 mm

#### **Optical data**

Synchronization	Optical between transmitter and receiver
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#### **Electrical data**

Protective circuit	Overvoltage protection
	Short circuit protected

#### Performance data

Supply voltage U <sub>B</sub>	26.5 31.6 V
Current consumption from AS-i	50 mA

#### **Timing**

Response time	3 ms
Restart delay time	100 ms

#### Interface

Ţ	уре	AS-Interface Safety at Work
	AS-i	
	Function	Process
	AS-i profile	S-0.B.F
	Slave address	131 programmable, default=0
	Cycle time acc. to AS-i specifications	Max. 5 ms ms

#### Connection

Number of connections	1 Piece(s
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#### Connection 1

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 mm <sup>2</sup>
Length of connection cable, max.	100 m
Permissible cable resistance to	200 Ω

#### **Mechanical data**

load, max.

29 mm x 291 mm x 53 mm
Metal
Aluminum
Plastic / PMMA
Diecast zinc
375 g
Yellow, RAL 1021
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	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/s <sup>2</sup>
US patents	US 6,418,546 B

#### Classification

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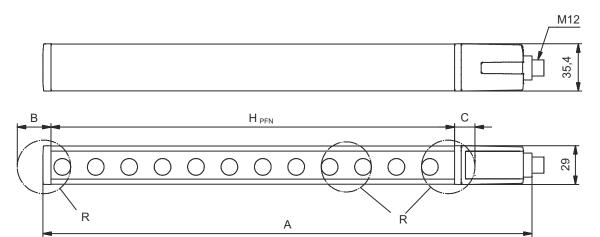
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eCI@ss 10.0	27272704
eCI@ss 11.0	27272704
ETIM 5.0	EC002549
ETIM 6.0	EC002549
ETIM 7.0	EC002549

# **Dimensioned drawings**



All dimensions in millimeters

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



 $H_{\mathrm{PFE}}$  Effective protective field height = 265 mm

 $H_{\mathsf{PFN}}$  Nominal protective field height = 225 mm

- A Total height = 291 mm
- B 25 mm

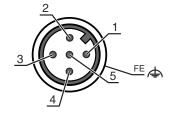
- C 15 mm
- R Effective protective field height H<sub>PFE</sub> goes beyond the dimensions of the optics area to the outer borders of the circles labeled with R.

### **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

Pin	Pin assignment
1	AS-i+
2	n.c.
3	AS-i-
4	n.c.
5	n.c.



# Operation and display

LED	Display	Meaning
1	Off	Device switched off
	Red, continuous light	Protective field interrupted
	Red, flashing, 1 Hz	External error
	Red, flashing, 10 Hz	Internal error
	Green, flashing, 1 Hz	Protective field free, weak signal
	Green, continuous light	Protective field free
2	Off	No voltage
	On	OSSD off, transmission channel C2
	Green, continuous light	AS-i slave communicating with AS-i master
	Red, continuous light	AS-i slave not communicating with AS-i master

# **Operation and display**



LED	Display	Meaning
2	Yellow, flashing	AS-i slave has invalid address 0
	Red, flashing	AS-i slave device error or AS-i connection defective
	Red/green, flashing alternately	Periphery error

# Suitable transmitters

Part	no. De	esignation	Article	Description
68000	06402 MI		transmitter	Resolution: 40 mm Protective field height: 225 mm Operating range: 0 20 m Interface: AS-Interface Safety at Work 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  /V: high Vibration-proof  EX2: explosion protection (zones 2 + 22)  SPG: Smart Process Gating

#### Note



### **Notes**





#### Observe intended use!



# **Accessories**

# 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

### 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.