

# Technical data sheet Safety light curtain transmitter

Part no.: 68008212

MLC502T20-1200



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## **Technical data**



#### Basic data

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

#### **Functions**

Functions	Test signal input
	Transmission channel changeover

## **Characteristic parameters**

Туре	4, IEC/EN 61496
SIL	3, IEC 61508
SILCL	3, IEC/EN 62061
Mission time T	20 years, EN ISO 13849-1

#### Protective field data

Resolution	20 mm
Protective field height	1,200 mm
Operating range	0 15 m

#### **Optical data**

Synchronization	Optical between transmitter and receiver
Light source	LED, Infrared
LED light wavelength	940 nm
Transmitted-signal shape	Pulsed
LED risk group	Exempt group (in acc. with EN 62471:2008)

#### **Electrical data**

Protective circuit	Overvoltage protection
	Short circuit protected
Daufaussanaa data	

## Performance data

Supply voltage U <sub>B</sub>	24 V, DC, -20 20 %
Current consumption, max.	50 mA
Fuse	2 A semi time-lag

# Inputs Number of digital switching inputs 1 Piece(s)

Switching inputs	
Туре	Digital switching input
Switching voltage high, min.	18 V
Switching voltage low, max.	2.5 V
Switching voltage, typ.	22.5 V
Voltage type	DC

## Connection

**Number of connections** 

Connection 1	
Function	Machine interface
Type of connection	Connector
Thread size	M12
Material	Metal
No. of pins	5 -pin

1 Piece(s)

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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		
	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
	TÜV Süd
Vibration resistance	50 m/s²
Shock resistance	100 m/s <sup>2</sup>
US patents	US 6,418,546 B

### Classification

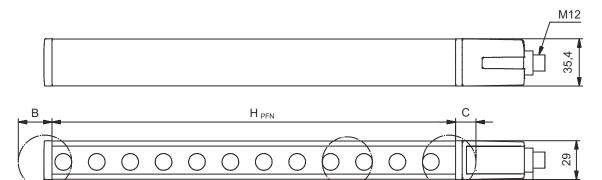
Customs tariff number	85365019
eCI@ss 5.1.4	27272704
eCI@ss 8.0	27272704
eCI@ss 9.0	27272704
eCI@ss 10.0	27272704
eCI@ss 11.0	27272704
ETIM 5.0	EC002549
ETIM 6.0	EC002549
ETIM 7.0	EC002549

# **Dimensioned drawings**



All dimensions in millimeters

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



 $H_{\mathsf{PFE}}$  Effective protective field height = 1217 mm

 $H_{\mathrm{PFN}}$  Nominal protective field height = 1200 mm

Total height = 1266 mm

R

7 mm

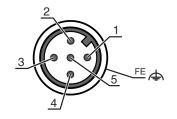
- С 10 mm
- Effective protective field height  $H_{\mathsf{PFE}}$  goes beyond the dimensions of the optics area to the outer borders of the circles labeled with R.

## **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

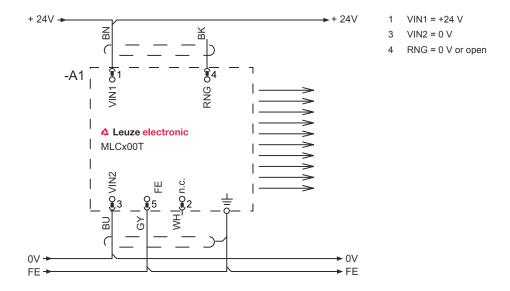
Pin	Pin assignment	Conductor color
1	VIN1	Brown
2	n.c.	White
3	VIN2	Blue
4	Test in	Black
5	FE/SHIELD	Gray



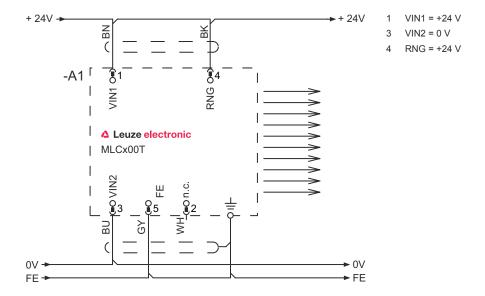
# **Circuit diagrams**



Transmission channel C1, OSSDs deactivated on the receiver



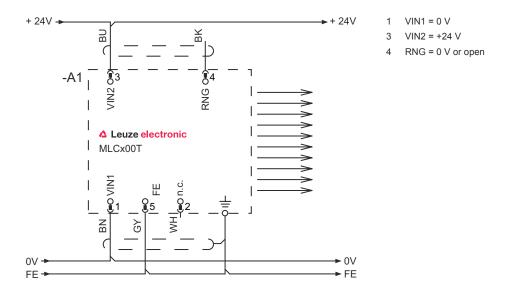
Transmission channel C1, OSSDs activated on the receiver



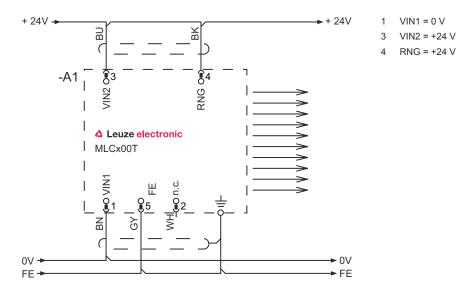
# **Circuit diagrams**



Transmission channel C2, OSSDs deactivated on the receiver



Transmission channel C2, OSSDs activated on the receiver



# Operation and display

LED	Display	Meaning
1	Off	Device switched off
	Red, continuous light	Device error
	Green, continuous light	Normal operation
2	Green, flashing, 10 s long after switching on	Test input activated
	Off	Transmission channel C1
	Green, continuous light	Transmission channel C2

## Suitable receivers



 Part no.	Designation	Article	Description
68001212	MLC510R20-1200	Safety light curtain receiver	Resolution: 20 mm Protective field height: 1,200 mm Response time: 22 ms Connection: Connector, M12, Metal, 5 -pin Function package: Basic

## 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



🖔 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

	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

# Alignment aids

	Part no.	Designation	Article	Description
1	520101	AC-ALM-M	Alignment aid	Housing material: 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.