

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

Part no.: 68000330 MLC500T30-3000



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

# **Technical data**

#### **Basic data**

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

Functions

#### Range reduction Transmission channel changeover

#### **Characteristic parameters**

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

30 mm 3,000 mm

0 ... 10 m

#### **Protective field data**

Resolution Protective field height Operating range

#### **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	
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

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

Dimension (W x H x L)	29 mm x 3,066 mm x 35.4 mm
Housing material	Metal
Metal housing	Aluminum
U U U U U U U U U U U U U U U U U U U	
Lens cover material	Plastic / PMMA
Material of end caps	Diecast zinc
Net weight	3,150 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/s²
Shock resistance	100 m/s²
US patents	US 6,418,546 B

#### Classification

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

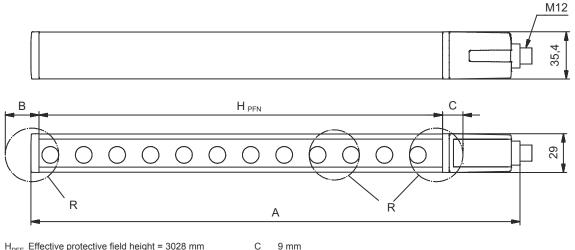


# **Dimensioned drawings**



All dimensions in millimeters

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



 $H_{PFE}$  Effective protective field height = 3028 mm

9 mm

 $H_{PFN}$  Nominal protective field height = 3000 mm

А Total height = 3066 mm

В 19 mm R

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

# **Electrical connection**

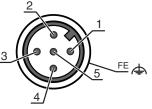
#### **Connection 1**

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

#### Pin **Pin assignment**

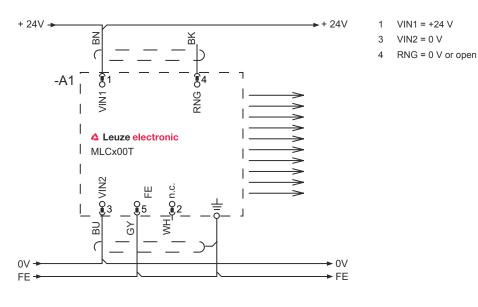
#### **Conductor color**

1	VIN1	Brown	
2	n.c.	White	
3	VIN2	Blue	3
4	RNG	Black	
5	FE/SHIELD	Gray	
			4

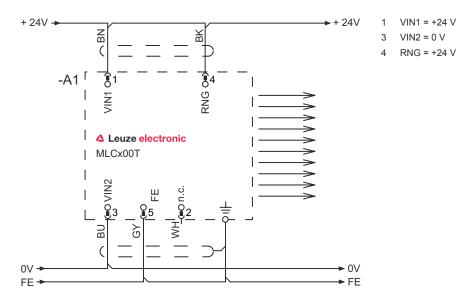


# **Circuit diagrams**

#### Transmission channel C1, reduced range



#### Transmission channel C1, standard range



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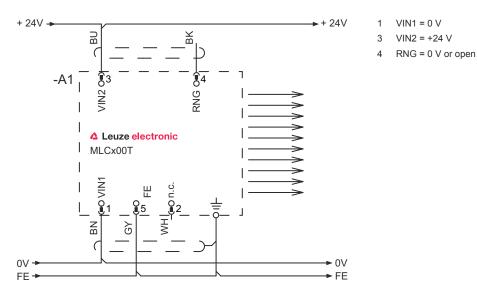
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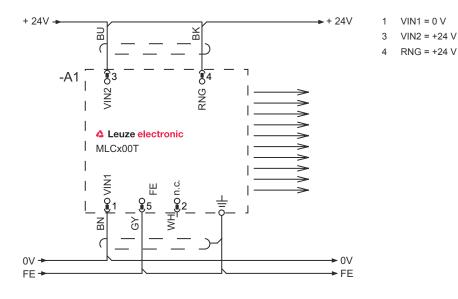
# **Circuit diagrams**

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Transmission channel C2, reduced range



#### Transmission channel C2, standard range



# 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	Reduced range selected by the wiring of pin 4
	Off	Transmission channel C1
	Green, continuous light	Transmission channel C2

## Suitable receivers

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 Part no.	Designation	Article	Description
68001330	MLC510R30-3000	Safety light curtain receiver	Resolution: 30 mm Protective field height: 3,000 mm Response time: 26 ms Connection: Connector, M12, Metal, 5 -pin Function package: Basic
68002330	MLC520R30-3000	Safety light curtain receiver	Resolution: 30 mm Protective field height: 3,000 mm Response time: 26 ms Connection: Connector, M12, Metal, 8 -pin Function package: Standard
68003330	MLC530R30-3000	Safety light curtain receiver	Resolution: 30 mm Protective field height: 3,000 mm Response time: 26 ms Connection: Connector, M12, Metal, 8 -pin Function package: Extended
68009330	MLC530R30-3000- SPG	Safety light curtain receiver	Resolution: 30 mm Protective field height: 3,000 mm Response time: 100 ms Connection: Connector, M12, Metal, 8 -pin Function package: Smart Process Gating

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

# Notes

Observe intended use!
<ul> <li>№ The product may only be put into operation by competent persons.</li> <li>№ Only use the product in accordance with its intended use.</li> </ul>

# 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
P.a.	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

Alignment aid	Housing material: 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.
ц. С	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.