

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

Part no.: 68006212 MLC500T20-1200/A



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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

#### **Characteristic parameters**

Туре	
SIL	
SILCL	
Mission time T <sub>M</sub>	

4, IEC/EN 61496
3, IEC 61508
3, IEC/EN 62061
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**

Pr	otective circuit	Overvoltage protection
		Short circuit protected
	Performance data	
	Supply voltage U <sub>B</sub>	26.5 31.6 V
	Current consumption from AS-i circuit	50 mA
	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
In	terface	
Tv	ne	AS-Interface Safety at Work

## Ir

AS-Interface Safety at Work

```
AS-i
Function
AS-i profile
Slave address
Cycle time acc. to AS-i specifica-
tions
```

S-0.B.F 1..31 programmable, default=0 Max. 5 ms ms

#### Connection

Number of connections

1 Piece(s)

Process

Connection 1	
Function	Machine interface
Type of connection	Connector
Thread size	M12
Material	Metal
No. of pins	5 -pin
Cable properties	0.05
Permissible conductor cross section, typ.	0.25 mm <sup>2</sup>
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 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	
Operation and display Type of display	LED
	LED 2 Piece(s)
Type of display	
Type of display Number of LEDs Environmental data	2 Piece(s)
Type of display Number of LEDs Environmental data Ambient temperature, operation	
Type of display Number of LEDs Environmental data Ambient temperature, operation Ambient temperature, storage	2 Piece(s) 0 55 °C
Type of display Number of LEDs Environmental data Ambient temperature, operation	2 Piece(s) 0 55 °C -30 70 °C
Type of display Number of LEDs Environmental data Ambient temperature, operation Ambient temperature, storage	2 Piece(s) 0 55 °C -30 70 °C
Type of display Number of LEDs Environmental data Ambient temperature, operation Ambient temperature, storage Relative humidity (non-condensing)	2 Piece(s) 0 55 °C -30 70 °C
Type of display Number of LEDs Environmental data Ambient temperature, operation Ambient temperature, storage Relative humidity (non-condensing) Certifications	2 Piece(s) 0 55 °C -30 70 °C 0 95 %
Type of display Number of LEDs Environmental data Ambient temperature, operation Ambient temperature, storage Relative humidity (non-condensing) Certifications Degree of protection	2 Piece(s) 0 55 °C -30 70 °C 0 95 % IP 65
Type of display Number of LEDs Environmental data Ambient temperature, operation Ambient temperature, storage Relative humidity (non-condensing) Certifications Degree of protection Protection class	2 Piece(s) 0 55 °C -30 70 °C 0 95 % IP 65 III
Type of display Number of LEDs Environmental data Ambient temperature, operation Ambient temperature, storage Relative humidity (non-condensing) Certifications Degree of protection Protection class	2 Piece(s) 0 55 °C -30 70 °C 0 95 % IP 65 III c CSA US
Type of display Number of LEDs Environmental data Ambient temperature, operation Ambient temperature, storage Relative humidity (non-condensing) Certifications Degree of protection Protection class	2 Piece(s) 0 55 °C -30 70 °C 0 95 % IP 65 III c CSA US c TÜV NRTL US
Type of display Number of LEDs Environmental data Ambient temperature, operation Ambient temperature, storage Relative humidity (non-condensing) Certifications Degree of protection Protection class Certifications	2 Piece(s) 0 55 °C -30 70 °C 0 95 % IP 65 III c CSA US c TÜV NRTL US TÜV Süd
Type of display Number of LEDs Environmental data Ambient temperature, operation Ambient temperature, storage Relative humidity (non-condensing) Certifications Degree of protection Protection class Certifications	2 Piece(s) 0 55 °C -30 70 °C 0 95 % IP 65 III c CSA US c TÜV NRTL US TÜV Süd 50 m/s <sup>2</sup>
Type of display Number of LEDs Environmental data Ambient temperature, operation Ambient temperature, storage Relative humidity (non-condensing) Certifications Degree of protection Protection class Certifications	2 Piece(s) 0 55 °C -30 70 °C 0 95 % IP 65 III c CSA US c TÜV NRTL US TÜV Süd 50 m/s <sup>2</sup> 100 m/s <sup>2</sup>
Type of display Number of LEDs Environmental data Ambient temperature, operation Ambient temperature, storage Relative humidity (non-condensing) Certifications Degree of protection Protection class Certifications Vibration resistance Shock resistance US patents	2 Piece(s) 0 55 °C -30 70 °C 0 95 % IP 65 III c CSA US c TÜV NRTL US TÜV Süd 50 m/s <sup>2</sup> 100 m/s <sup>2</sup>
Type of display Number of LEDs Environmental data Ambient temperature, operation Ambient temperature, storage Relative humidity (non-condensing) Certifications Degree of protection Protection class Certifications Vibration resistance Shock resistance US patents Classification	2 Piece(s) 0 55 °C -30 70 °C 0 95 % IP 65 III c CSA US c TÜV NRTL US TÜV Süd 50 m/s <sup>2</sup> 100 m/s <sup>2</sup> US 6,418,546 B
Type of display Number of LEDs Environmental data Ambient temperature, operation Ambient temperature, storage Relative humidity (non-condensing) Certifications Degree of protection Protection class Certifications Vibration resistance Shock resistance US patents Classification Customs tariff number	2 Piece(s) 0 55 °C -30 70 °C 0 95 % IP 65 III c CSA US c TÜV NRTL US TÜV Süd 50 m/s <sup>2</sup> 100 m/s <sup>2</sup> US 6,418,546 B 85365019
Type of display         Number of LEDs         Environmental data         Ambient temperature, operation         Ambient temperature, storage         Relative humidity (non-condensing)         Certifications         Degree of protection         Protection class         Certifications         Vibration resistance         Shock resistance         US patents         Classification         Customs tariff number         eCl@ss 5.1.4	2 Piece(s) 0 55 °C -30 70 °C 0 95 % IP 65 III c CSA US c TÜV NRTL US TÜV Süd 50 m/s <sup>2</sup> 100 m/s <sup>2</sup> US 6,418,546 B 85365019 27272704
Type of display Number of LEDs Environmental data Ambient temperature, operation Ambient temperature, storage Relative humidity (non-condensing) Certifications Degree of protection Protection class Certifications Vibration resistance Shock resistance US patents Classification Customs tariff number eCl@ss 5.1.4 eCl@ss 8.0	2 Piece(s) 0 55 °C -30 70 °C 0 95 % IP 65 III c CSA US c TÜV NRTL US TÜV Süd 50 m/s <sup>2</sup> 100 m/s <sup>2</sup> US 6,418,546 B 85365019 27272704 27272704
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**ETIM 6.0** 

**ETIM 7.0** 

EC002549

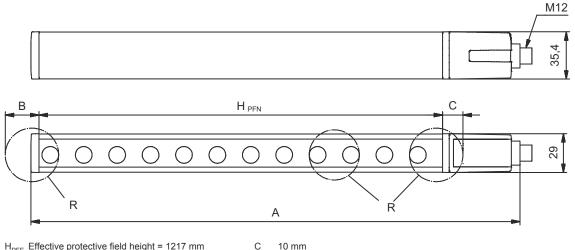
EC002549

# **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 = 1217 mm

10 mm

R

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

А Total height = 1266 mm

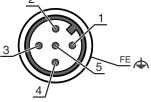
В 7 mm Effective protective field height  $\rm H_{PFE}$  goes beyond the dimensions of the optics area to the outer borders of the circles labeled with R.

# **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

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	Device error
	Green, continuous light	Normal operation

# Suitable receivers

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Part	rt no. I	Designation	Article	Description
6800	07212 I		receiver	Resolution: 20 mm Protective field height: 1,200 mm Response time: 22 ms Interface: AS-Interface Safety at Work Connection: Connector, M12, Metal, 5 -pin

## Part number code

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					
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					
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	ote					

## Notes

 Observe intended use!

 Image: Serve intended use!

 Image: Serve intended use into operation by competent persons.

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# Accessories

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# Mounting technology - Swivel mounts

	Part no.	Designation	Article	Description
P.G.	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
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

the A list with all available accessories can be found on the Leuze website in the Download tab of the article detailed page.