

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

## Part no.: 68016202 MLC500T20-225H/A



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We reserve the right to make technical changes eng • 2021-02-02

### **Technical data**

#### Basic data

Series	MLC 500
Device type	Transmitter
Cascading	Host
Application	Finger protection

#### **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

#### **Protective field data**

Resolution	20 mm
Protective field height	225 mm
Operating range	0 6 m

#### **Optical data**

Number of beams	18 Piece(s)
Synchronization	Optical between transmitter and receiver
Light source	LED, Infrared
LED light wavelength	940 nm
Transmitted-signal shape	Pulsed

#### **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 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

#### Interface

Туре
------

AS-i	
Function	Process
AS-i profile	S-0.B.F
Slave address	131 programmable, default=0
Cycle time acc. to AS-i specifica- tions	Max. 5 ms ms

#### Connection

Number of connections

2 Piece(s)

AS-Interface Safety at Work

Leuze Machine interface Connector M12 Metal

No. of pins5 - pinConnection 2FunctionCascade, Guest Out Cascade, Middle Guest OutType of connectionCable with connectorCable length330 mmSheathing materialPURThread sizeM12MaterialPlasticNo. of pins8 - pinCable propertiesPermissible conductor cross section, typ.0.25 mm²Length of connection cable, max.100 m		
Function       Cascade, Guest Out         Type of connection       Cable with connector         Cable length       330 mm         Sheathing material       PUR         Thread size       M12         Material       Plastic         No. of pins       8 -pin         Cable properties       0.25 mm²         Section, typ.       100 m         Length of connection cable, max.       200 Ω	No. of pins	5 -pin
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Sheathing material     PUR       Thread size     M12       Material     Plastic       No. of pins     8 -pin       Cable properties       Permissible conductor cross section, typ.     0.25 mm²       Length of connection cable, max.     100 m       Permissible cable resistance to     200 Ω	Type of connection	Cable with connector
Thread size     M12       Material     Plastic       No. of pins     8 -pin       Cable properties       Permissible conductor cross section, typ.     0.25 mm²       Length of connection cable, max.     100 m       Permissible cable resistance to     200 Ω	Cable length	330 mm
Material     Plastic       No. of pins     8 -pin       Cable properties       Permissible conductor cross section, typ.     0.25 mm²       Length of connection cable, max.     100 m       Permissible cable resistance to     200 Ω	Sheathing material	PUR
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section, typ.     100 m       Length of connection cable, max.     100 m       Permissible cable resistance to     200 Ω	Cable properties	
Permissible cable resistance to 200 Ω		0.25 mm <sup>2</sup>
	Length of connection cable, max.	100 m
		200 Ω

#### **Mechanical data**

**Connection 1** Function

Thread size

Material

Type of connection

Dimension (W x H x L)	29 mm x 291 mm x 53 mm
Housing material	Metal
Metal housing	Aluminum
Lens cover material	Plastic / PMMA
Material of end caps	Diecast zinc
Net weight	450 g
Housing color	Yellow, RAL 1021
Type of fastening	Groove mounting
	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	111	
Certifications	c CSA US	
	c TÜV NRTL US	
	TÜV Süd	
US patents	US 6,418,546 B	

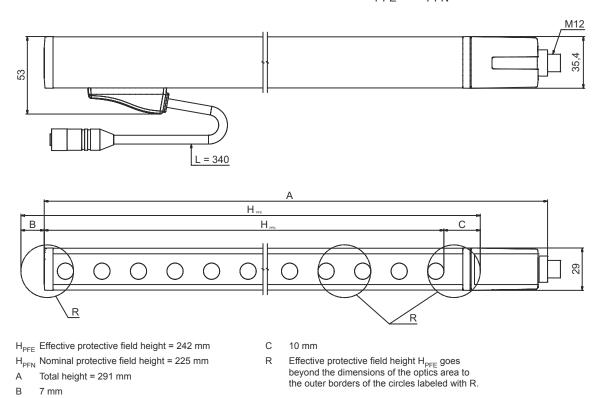
## Technical data

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  $H_{PFE}$  =  $H_{PFN}$  + B + C



### **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

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## **Electrical connection**

Pin assignment

AS-i+

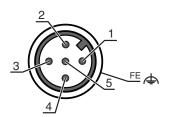
n.c.

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AS-i-

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#### **Connection 2**

Pin

1 2

3

4

5

Function	Cascade, Guest Out
	Cascade, Middle Guest Out
Type of connection	Cable with connector
Cable length	330 mm
Sheathing material	PUR
Cable color	Black
Wire cross section	0.14 mm <sup>2</sup>
Type of stranding	Pair stranding (twisted pair)
Thread size	M12
Туре	Female
Material	Plastic
No. of pins	8 -pin
Encoding	A-coded

### **Operation and display**

LED	Display	Meaning
1	Off	Device switched off
	Red, continuous light	Device error
	Green, continuous light	Normal operation

### Suitable receivers

 Part no.	Designation	Article	Description
68017202	MLC510R20-225H/A	Safety light curtain receiver	Resolution: 20mm Protective field height: 225mm Response time: 5ms 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
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

### Part number code

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MLC	Safety light curtain
a	<b>Resolution</b> 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
No	ote
<b>()</b>	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 - Interconnection cables

	Part no.	Designation	Article	Description
	429278	CB-M12-2000E-8TP	Interconnection cable	Connection 1: Connector, M12, Axial, Female, A-coded, 8 -pin Connection 2: Connector, M12, Axial, Male, A-coded, 8 -pin Shielded: Yes Cable length: 2,000 mm Sheathing material: PUR

## Mounting technology - Swivel mounts

	Part no.	Designation	Article	Description
P. P. Q.	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

### Accessories

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### 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.

# **A**

Note

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