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Part no.: 68017212
MLC510R20-1200H/A
Safety light curtain receiver

Contents

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Part no.: 68017212 – MLC510R20-1200H/A – Safety light curtain receiver

Technical data

Basic data	
Series	MLC 500
Device type	Receiver
Cascading	Host
Contains	2x BT-NC sliding block
Application	Hand protection

Characteristic parameters	
Type	4 , IEC/EN 61496
SIL	3 , IEC 61508
SILCL	3 , IEC/EN 62061
Performance Level (PL)	e , EN ISO 13849-1
PFH_D	7.73E-09 per hour
Mission time T_M	20 years , EN ISO 13849-1
Category	4 , EN ISO 13849

Protective field data	
Resolution	20 mm
Protective field height	1,200 mm

Optical data	
Number of beams	96 Piece(s)
Synchronization	Optical between transmitter and receiver

Electrical data	
Protective circuit	Overvoltage protection Short circuit protected
Performance data	
Supply voltage U_B	26.5 ... 31.6 V
Current consumption from AS-i circuit	150 mA

Timing	
Response time	22 ms
Restart delay time	100 ms

Interface	
Type	AS-Interface Safety at Work
AS-i	
Function	Process
AS-i profile	S-0.B.F
Slave address	1..31 programmable, default=0
Cycle time acc. to AS-i specifications	Max. 5 ms

Connection	
Number of connections	2 Piece(s)

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Connection 1	
Type of connection	Connector
Function	Machine interface
Thread size	M12
Material	Metal
No. of pins	5 -pin
Connection 2	
Type of connection	Cable with connector
Function	Cascade, Guest Out Cascade, Middle Guest Out
Cable length	330 mm
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 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 , Aluminum
Lens cover material	Plastic / PMMA
Material of end caps	Diecast zinc
Net weight	1,425 g
Housing color	Yellow, RAL 1021
Type of fastening	Groove mounting Mounting bracket 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/s²
US patents	US 6,418,546 B

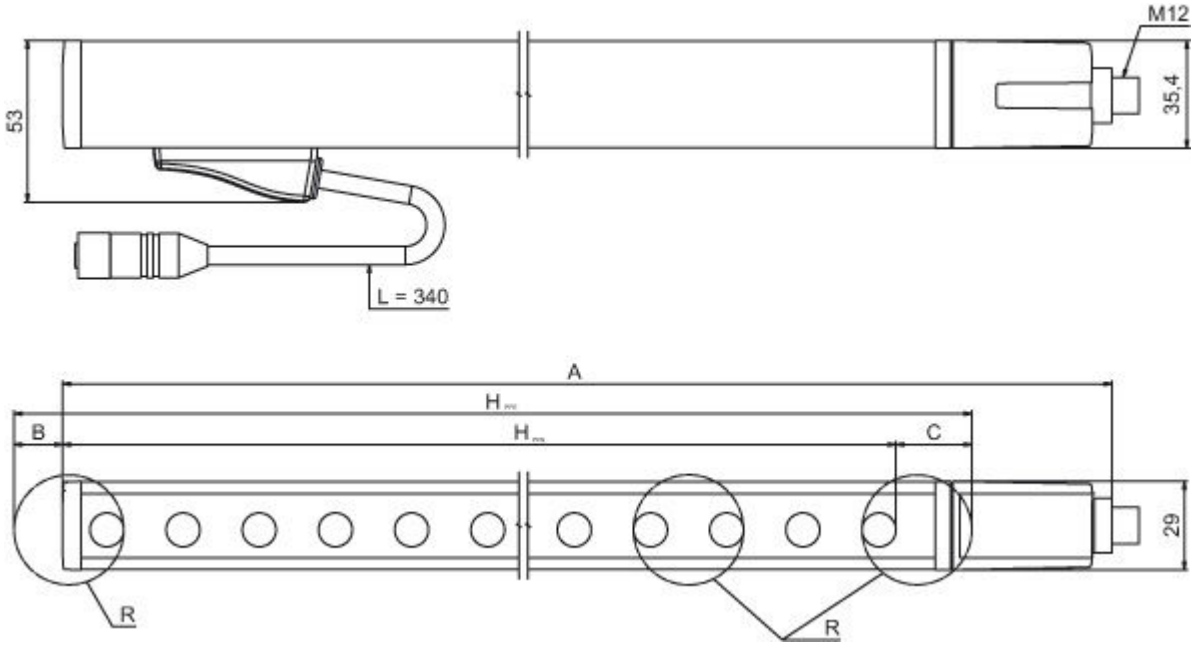
Classification

Customs tariff number	85365019
eCl@ss 8.0	27272704
eCl@ss 9.0	27272704
ETIM 5.0	EC002549
ETIM 6.0	EC002549

Dimensioned drawings

All dimensions in millimeters

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

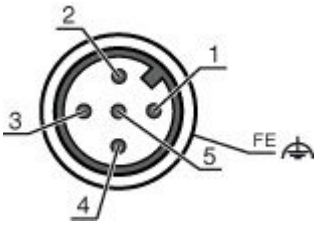


H_{PFE} Effective protective field height = 1217 mm
H_{PFN} Nominal protective field height = 1200 mm
A Total height = 1266 mm
B 7 mm
C 10 mm
R Effective protective field height H_{PFE} goes beyond the dimensions of the optics area to the outer borders of the circles labeled with R.

Electrical connection

Connection 1	
Type of connection	Connector
Function	Machine interface
Thread size	M12
Type	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.



Connection 2	
Type of connection	Cable with connector
Function	Cascade, Guest Out Cascade, Middle Guest Out
Cable length	330 mm
Sheathing material	PUR
Cable color	Black
Wire cross section	0.14 mm²
Type of stranding	Pair stranding (twisted pair)
Thread size	M12
Type	Female
Material	Plastic
No. of pins	8 -pin
Encoding	A-coded

Operation and display

LEDs

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
	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

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Suitable transmitters

	Part no.	Designation	Article	Description
	68016212	MLC500T20-1200H/A	Safety light curtain transmitter	Resolution: 20 mm Protective field height: 1,200 mm Operating range: 0 ... 15 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
x	**Series:** 3: MLC 300 5: MLC 500
yy	**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
ooo	**Option:** /V: high Vibration-proof EX2: explosion protection (zones 2 + 22) SPG: Smart Process Gating

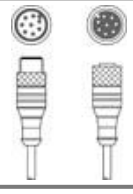
Note
A list with all available device types can be found on the Leuze electronic website at www.leuze.com.

Notes

Observe intended use!
• The product may only be put into operation by competent persons.
• Only use the product in accordance with its intended use.

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
	429393	BT-2HF	Mounting bracket set	Contains: 2x BT-HF swivel mount, 1 cylinder for mounting on the light curtain 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.