



the sensor people





Figure can vary

Part no.: 68012115 MLC520R14-1500H Safety light curtain receiver











Contents

- · Technical data
- Dimensioned drawings
- Electrical connection
- Circuit diagrams
- Operation and display
- Suitable transmitters
- · Part number code
- Notes
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Technical data

Mic 500	Pagia data			
Device type	Basic data Society	MI C 500		
Host				
Contains 2x BT-NC sliding block Application Finger protection Functions Functions Function package Standard Functions Contactor monitoring (EDM) Startfrestart interlock (RES) Transmission channel changeover Characteristic parameters Type 4, IEC/EN 61498 SIL 3, IEC/EN 61598 SILC 3, IEC/EN 62061 Performance Level (PL) e, EN ISO 13849-1 PFHb 7,73E-09 per hour Mission time TM 20 years, EM ISO 13849-1 Category 4, EN ISO 13849-1 Protective field data Resolution 14 mm Protective field height 1,500 mm Protective field height 1,500 mm Protective field height 1,500 mm Protective field height 1,500 mm Protective circuit Operation Optical petween transmitter and receiver Electrical data Protective circuit Overvoltage protection Short circuit protected Performance dats Supply voltage Us 24 V. DC, -20 20 % Current consumption, max. 150 mA Fuse 2 A semi time-lag Ilipus Number of digital switching inputs 3 Piece(s) Switching voltage logh, min. 18 V Switching voltage logh, min. 18 V Switching voltage (byp. mix. 2.5 V				
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Switching voltage, typ. 22.5 V	Switching voltage high, min.	18 V		
	Switching voltage low, max.	2.5 V		
Voltage type DC	Switching voltage, typ.	22.5 V		
	Voltage type	DC		



umber of safety-related switching outputs (OSSDs)	2 Piece(s)		
Safety-related switching outputs			
Туре	Safety-related switching output OSSD		
Switching voltage high, min.	18 V		
Switching voltage low, max.	2.5 V		
Switching voltage, typ.	22.5 V		
Voltage type	DC		
Current load, max.	380 mA		
Load inductivity	2,000 μΗ		
Load capacity	0.3 µF		
Residual current, max.	0.2 mA		
Residual current, typ.	0.002 mA		
Voltage drop	1.5 V		
Safety-related switching output 1	Connection 4 nin 5		
Assignment Switching element	Connection 1, pin 5 Transistor , PNP		
	Halloiolui , FINF		
Safety-related switching output 2 Assignment	Connection 1, pin 6		
Switching element	Transistor , PNP		
10			
	33 ms		
onse time art delay time	33 ms 100 ms		
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Metal, Aluminum

Housing material



Lens cover material	Plastic / PMMA	
Material of end caps	Diecast zinc	
Net weight	1,725 g	
Housing color	Yellow, RAL 1021	
Type of fastening	Groove mounting Mounting bracket Swivel mount	
Operation and display		

Operation and display	
Type of display	7-segment 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	

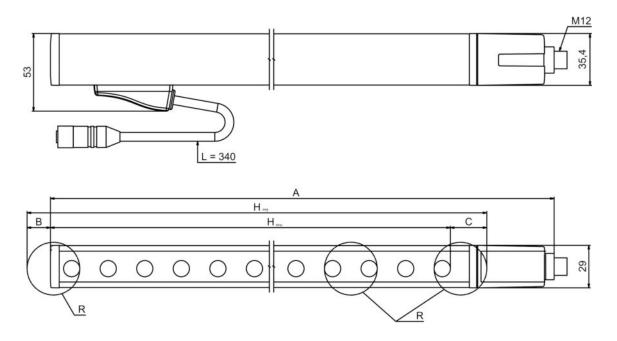
Classification	
Customs tariff number	85365019
eCl@ss 8.0	27272704
eCl@ss 9.0	27272704
ETIM 5.0	EC002549
ETIM 6.0	EC002549

Dimensioned drawings

All dimensions in millimeters



Calculation of the effective protective field height Hpfe = Hpfn + B + C



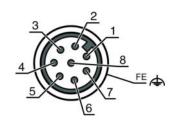
HPFE Effective protective field height = 1512 mm HPFN Nominal protective field height = 1500 mm

- A Total height = 1566 mm
- B 6 mm
- C 6 mm
- R Effective protective field height HPFE 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	
Туре	Male	
Material	Metal	
No. of pins	8 -pin	
Encoding	A-coded	
Connector housing	FE/SHIELD	

Pin	Pin assignment	Conductor color
1	IO1	White
2	VIN1	Brown
3	IN3	Green
4	IN4	Yellow
5	OSSD1	Gray
6	OSSD2	Pink
7	VIN2	Blue
8	IN8	Red



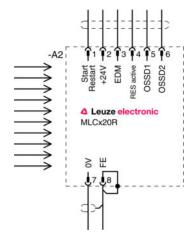
Leuze electronic GmbH + Co. KG, In der Braike 1, 73277 Owen Phone: +49 7021 573-0, Fax: +49 7021 573-199



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
Туре	Female
Material	Plastic
No. of pins	8 -pin
Encoding	A-coded

Circuit diagrams

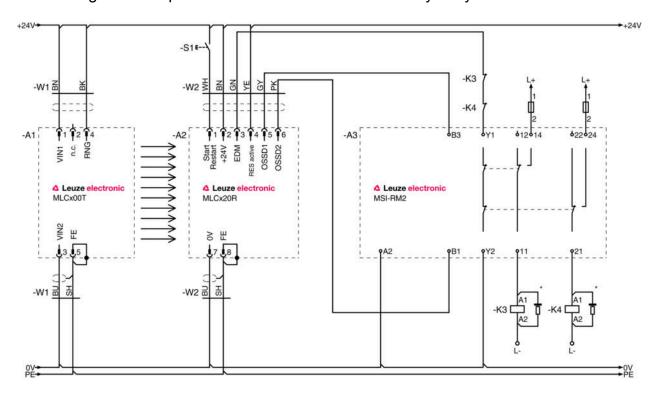
Connection diagram receiver



- VIN1 = +24 V, VIN2 = 0 V: transmission channel C1 VIN1 = 0 V, VIN2 = +24 V: transmission channel C2



Circuit diagram example with downstream MSI-RM2 safety relay



Operation and display

LEDs

LED	Display	Meaning
1	Off	Device switched off
	Red, continuous light	OSSD off
	Red, flashing, 1 Hz	External error
	Red, flashing, 10 Hz	Internal error
	Green, flashing, 1 Hz	OSSD on, weak signal
	Green, continuous light	OSSD on
2	Off	RES deactivated or RES activated and enabled or RES blocked and protective field interrupted
	Yellow, continuous light	RES activated and blocked but ready to be unlocked - protective field free and linked sensor is enabled if applicable

Suitable transmitters

Pa	Part no.	Designation	Article	Description
680	010115	MLC500T14-1500H	curtain transmitter	Resolution: 14 mm Protective field height: 1,500 mm Operating range: 0 6 m Connection: Connector, M12, Metal, 5 -pin



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				
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				
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 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 - Connection cables

Part no.	Designation	Article	Description
50135128	KD S-M12-8A- P1-050	Connection cable	Connection 1: Connector, M12, Axial, Female, A-coded, 8 -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.C.	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.

Note

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