



the sensor people





Part no.: 68008909 MLC502T90-900 Safety light curtain transmitter















Figure can vary

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Technical data

Dania data			
Basic data	MLC 500		
Series			
Device type	Transmitter		
Contains	2x BT-NC sliding block		
Application	Access guarding Danger zone guarding		
Functions			
Functions	Test signal input		
	Transmission channel changeover		
Characteristic parameters			
Туре	4 , IEC/EN 61496		
SIL	3 , IEC 61508		
SILCL	3 , IEC/EN 62061		
Mission time T _M	20 years , EN ISO 13849-1		
Protective field data			
Resolution	90 mm		
Protective field height	900 mm		
Operating range	0 20 m		
Optical data			
Synchronization	Optical between transmitter and receiver		
Light source	LED , Infrared		
LED light wavelength	940 nm		
Transmitted-signal shape	Pulsed		
LED group	Exempt group in acc. with EN 62471:2008		
Electrical data			
Protective circuit	Overvoltage protection		
	Short circuit protected		
Performance data			
Supply voltage U _B	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	
Type of connection	Connector
Function	Machine interface
Thread size	M12
Material	Metal
No. of pins	5 -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 966 mm x 35.4 mm
Housing material	Metal , Aluminum
Lens cover material	Plastic / PMMA
Material of end caps	Diecast zinc
Net weight	1,050 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	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		

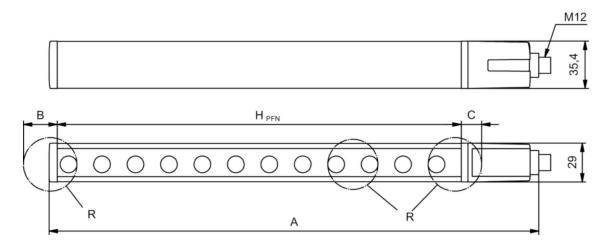
Classification		
Customs tariff number	85365019	
eCl@ss 8.0	27272704	
eCl@ss 9.0	27272704	
ETIM 5.0	EC002549	
ETIM 6.0	EC002549	



Dimensioned drawings

All dimensions in millimeters

Calculation of the effective protective field height HPFE = HPFN + B + C



HPFE Effective protective field height = 990 mm

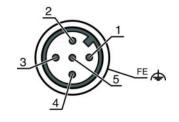
H_{PFN} Nominal protective field height = 900 mm

- A Total height = 966 mm
- B 50 mm
- C 40 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	Machine interface	
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
4	Test in	Black
5	FE/SHIELD	Gray

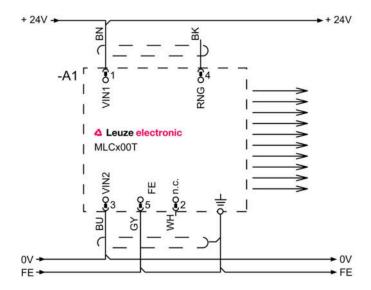


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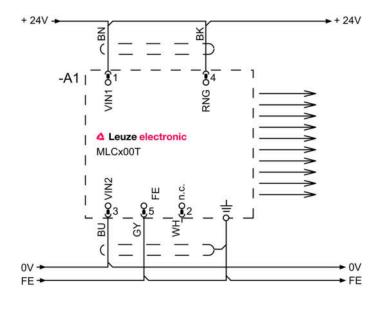
Circuit diagrams

Transmission channel C1, OSSDs deactivated on the receiver



- 1 VIN1 = +24 V
- 3 VIN2 = 0 V
- 4 RNG = 0 V or open

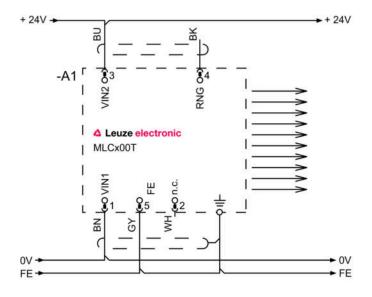
Transmission channel C1, OSSDs activated on the receiver



- 1 VIN1 = +24 V
- 3 VIN2 = 0 V
- 4 RNG = +24 V

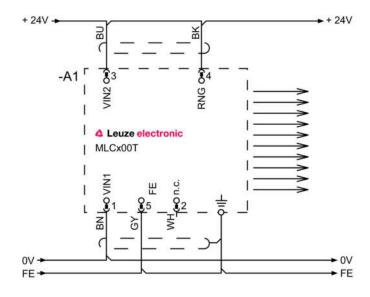


Transmission channel C2, OSSDs deactivated on the receiver



- 1 VIN1 = 0 V
- 3 VIN2 = +24 V 4 RNG = 0 V or open

Transmission channel C2, OSSDs activated on the receiver



- 1 VIN1 = 0 V
- 3 VIN2 = +24 V
- 4 RNG = +24 V

Operation and display

LEDs

LED	Display	Meaning
1	Off	Device switched off



LED	Display	Meaning
	Red, continuous light	Device error
	Green, continuous light	Normal operation
2	Green, flashing, 10 s long after switching on	Test input activated
	Off	Transmission channel C1
	Green, continuous light	Transmission channel C2

Suitable receivers

Part no.	Designation	Article	Description
68001909	MLC510R90-900		Resolution: 90 mm Protective field height: 900 mm Response time: 4 ms Connection: Connector, M12, Metal, 5 -pin Function package: Basic

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
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. Co.	429393	BT-2HF	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

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