



the sensor people





Part no.: 68090910 MLC300T90-1050 Safety light curtain transmitter















Figure can vary

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## **Technical data**

Basic data		
Series	MLC 300	
Device type	Transmitter	
Contains	2x BT-NC sliding block	
Application	Access guarding Danger zone guarding	
Functions		
Functions	Range reduction	
	Transmission channel changeover	
Characteristic parameters		
Туре	2 , IEC/EN 61496	
SIL	1 , IEC 61508	
SILCL	1 , IEC/EN 62061	
Mission time T <sub>M</sub>	20 years , EN ISO 13849-1	
Protective field data		
Resolution	90 mm	
Protective field height	1,050 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	940 nm Pulsed	
LED group	Exempt group in acc. with EN 62471:2008	
ELD group	Example group in doc. with E14 02-77 1.2000	
Electrical data		
Protective circuit	Overvoltage protection	
	Short circuit protected	
Performance data		
Supply voltage U <sub>B</sub>	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	Connector	
Function Machine interface			
Thread size M12			
Material	Metal		
No. of pins	5 -pin	5 -pin	
Cable properties			
Permissible conductor cross section, typ.	0.25 mm²		
Length of connection cable, max.	100 m	100 m	
Permissible cable resistance to load, max.	200 Ω		

Mechanical data	
Dimension (W x H x L)	29 mm x 1,116 mm x 35.4 mm
Housing material	Metal , Aluminum
Lens cover material	Plastic / PMMA
Material of end caps	Diecast zinc
Net weight	1,200 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	0 55 °C	
Ambient temperature, storage	-30 70 °C	
Relative humidity (non-condensing)	0 95 %	

IP 65
III
c CSA US c TÜV NRTL US TÜV Süd
50 m/s²
100 m/s²
US 6,418,546 B

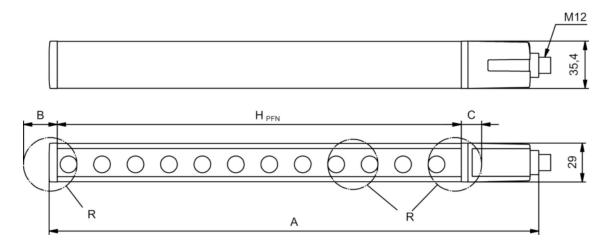
Classification		
Customs tariff number	85365019	
eCl@ss 8.0	27272704	
eCl@ss 9.0	27272704	
ETIM 5.0	EC002549	
ETIM 6.0	EC002549	



### **Dimensioned drawings**

All dimensions in millimeters

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



HPFE Effective protective field height = 1140 mm

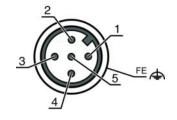
H<sub>PFN</sub> Nominal protective field height = 1050 mm

- A Total height = 1116 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	r housing FE/SHIELD		

Pin	Pin assignment	Conductor color
1	VIN1	Brown
2	n.c.	White
3	VIN2	Blue
4	RNG	Black
5	FE/SHIELD	Gray

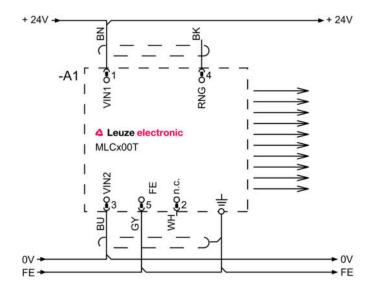


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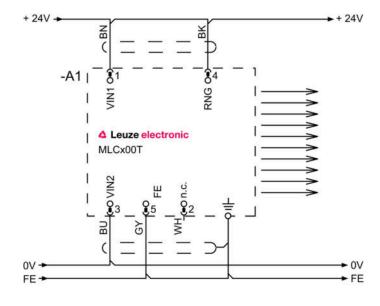
## **Circuit diagrams**

### Transmission channel C1, reduced range



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

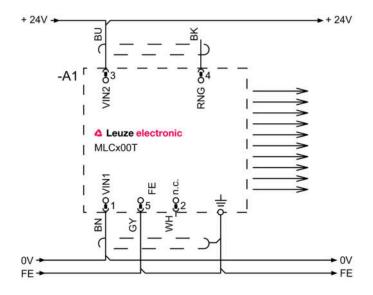
## Transmission channel C1, standard range



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

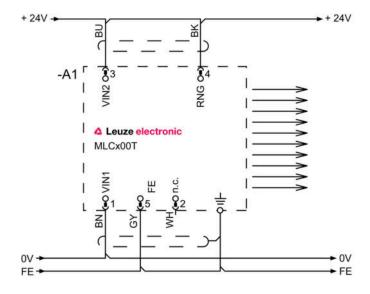


### Transmission channel C2, reduced range



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

#### Transmission channel C2, standard range



- 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	Reduced range selected by the wiring of pin 4	
	Off	Transmission channel C1	
	Green, continuous light	Transmission channel C2	

### Suitable receivers

Part no.	Designation	Article	Description
68091910	MLC310R90-1050	Safety light curtain receiver	Resolution: 90 mm Protective field height: 1,050 mm Response time: 4 ms Connection: Connector, M12, Metal, 5 -pin Function package: Basic
68092910	MLC320R90-1050	Safety light curtain receiver	Resolution: 90 mm Protective field height: 1,050 mm Response time: 4 ms Connection: Connector, M12, Metal, 8 -pin Function package: Standard

#### 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
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

# Alignment aids

	Part no.	Designation	Article	Description
1	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.

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	Part no.	Designation	Article	Description
	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.