## SMART SENSOR BUSINESS

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Part no.: 68000927 MLC500T90-2700 Safety light curtain transmitter



Figure can vary

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## Part no.: 68000927 – MLC500T90-2700 – Safety light curtain transmitter

#### **Technical data**

Basic data			
Series	MLC 500		
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	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	90 mm		
Protective field height	2,700 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 UB	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)		

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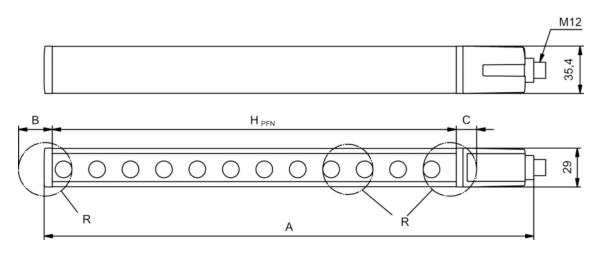
Connection 1	
Type of connection	Connector
Function	Machine interface
Thread size	M12
Material	Metal
No. of pins	5 -pin
Cable properties	
Permissible conductor cross section, typ.	0.25 mm <sup>2</sup>
Length of connection cable, max.	100 m
Permissible cable resistance to load, max.	200 Ω
lechanical data	
Dimension (W x H x L)	29 mm x 2,766 mm x 35.4 mm
lousing material	Metal, Aluminum
ens cover material	Plastic / PMMA
laterial of end caps	Diecast zinc
let weight	2,850 g
lousing color	Yellow, RAL 1021
ype of fastening	Groove mounting Mounting bracket Mounting on Device Column Swivel mount
Operation and display	
ype of display	LED
lumber 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
Protection class	
Certifications	c CSA US c TÜV NRTL US S Mark TÜV Süd
/ibration resistance	50 m/s²
Shock resistance	100 m/s²
JS patents	US 6,418,546 B
Classification	
Customs tariff number	85365019
Cl@ss 8.0	27272704
Cl@ss 9.0	27272704
TIM 5.0	EC002549
TIM 5.0	EC002549 EC002549
. I IIVI 0.0	

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#### **Dimensioned drawings**

All dimensions in millimeters

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



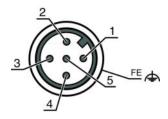
 $H_{PFE}$  Effective protective field height = 2790 mm

- HPFN Nominal protective field height = 2700 mm
- A Total height = 2766 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
Thread size	M12
Туре	Male
Material	Metal
No. of pins	5 -pin
Encoding	A-coded
Connector housing	FE/SHIELD

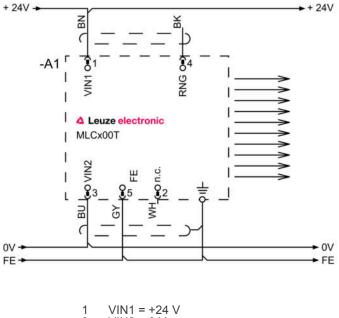
Pin	Pin assignment	Conductor color
1	VIN1	Brown
2	n.c.	White
3	VIN2	Blue
4	RNG	Black
5	FE/SHIELD	Gray



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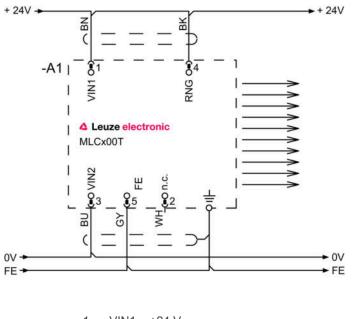
#### **Circuit diagrams**

Transmission channel C1, reduced range



3 VIN2 = 0 V 4 RNG = 0 V or open

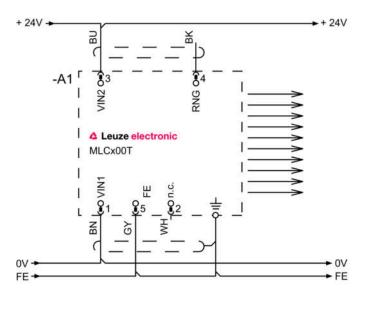
#### Transmission channel C1, standard range



1	VIN1 = +24 \	Ι
3	VIN2 = 0 V	
4	RNG = +24 \	/

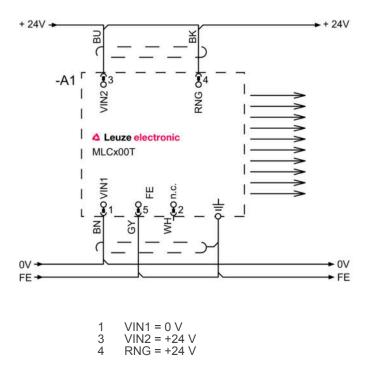
### Part no.: 68000927 – MLC500T90-2700 – Safety light curtain transmitter

Transmission channel C2, reduced range



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

#### Transmission channel C2, standard range



#### **Operation and display**

#### LEDs

	LED	Display	Meaning
1		Off	Device switched off

## Part no.: 68000927 – MLC500T90-2700 – Safety light curtain transmitter

LED	Display	Meaning
	Red, continuous light	Device error
	Green, continuous light	Normal operation
2	Green, flashing, 10 s long after switching on	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
68001927	MLC510R90-2700	Safety light curtain receiver	Resolution: 90 mm Protective field height: 2,700 mm Response time: 9 ms Connection: Connector, M12, Metal, 5 -pin Function package: Basic
68002927	MLC520R90-2700	Safety light curtain receiver	Resolution: 90 mm Protective field height: 2,700 mm Response time: 9 ms Connection: Connector, M12, Metal, 8 -pin Function package: Standard
68003927	MLC530R90-2700	Safety light curtain receiver	Resolution: 90 mm Protective field height: 2,700 mm Response time: 9 ms Connection: Connector, M12, Metal, 8 -pin Function package: Extended
68009927	MLC530R90-2700-SPG	Safety light curtain receiver	Resolution: 90 mm Protective field height: 2,700 mm Response time: 100 ms Connection: Connector, M12, Metal, 8 -pin Function package: Smart Process Gating

#### 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 no.: 68000927 – MLC500T90-2700 – Safety light curtain transmitter

MLC	Safety light curtain	
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
R. C.	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

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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.

Note

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