## SMART SENSOR BUSINESS

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Part no.: 68000128 MLC500T14-2850 Safety light curtain transmitter



Figure can vary

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## Part no.: 68000128 – MLC500T14-2850 – Safety light curtain transmitter

### **Technical data**

Pagia data			
Basic data Series	MLC 500		
	Transmitter		
Device type Contains	2x BT-NC sliding block		
Application	Finger protection		
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	14 mm		
Protective field height	2,850 mm		
Operating range	0 6 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 <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)		

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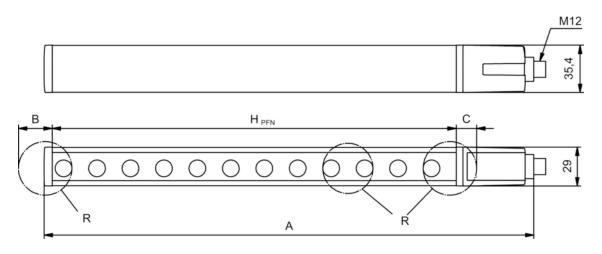
Connection 1				
Type of connection	Connector			
Function	Machine interface			
Thread size	M12			
Material	Metal			
No. of pins	5 -pin			
	5 -pili			
Cable properties	0.25 mm <sup>2</sup>			
Permissible conductor cross section, typ. Length of connection cable, max.	100 m			
Permissible cable resistance to load, max.	200 Ω			
	200 12			
Aechanical data				
Dimension (W x H x L)	29 mm x 2,916 mm x 35.4 mm			
lousing material	Metal , Aluminum			
ens cover material	Plastic / PMMA			
laterial of end caps	Diecast zinc			
let weight	3,000 g			
lousing color	Yellow, RAL 1021			
ype of fastening	Groove mounting Mounting bracket Mounting on Device Column Swivel mount			
Dperation and display				
ype of display	LED			
lumber of LEDs	2 Piece(s)			
Environmental data				
mbient temperature, operation	-30 55 °C			
mbient 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			
hock resistance	100 m/s²			
IS 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 6.0	EC002549 EC002549			
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#### **Dimensioned drawings**

All dimensions in millimeters

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



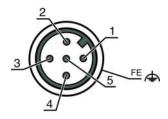
 $H_{\text{PFE}}$  Effective protective field height = 2862 mm

- HPFN Nominal protective field height = 2850 mm
- A Total height = 2916 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	5 -pin
Encoding	A-coded
Connector housing	FE/SHIELD

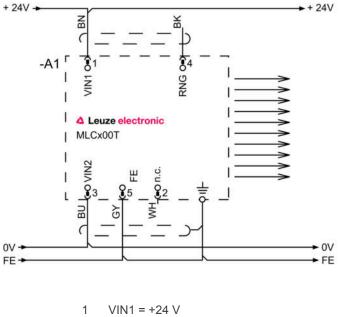
Pin	Pin assignment	Conductor color
1	VIN1	Brown
2	n.c.	White
3	VIN2	Blue
4	RNG	Black
5	FE/SHIELD	Gray



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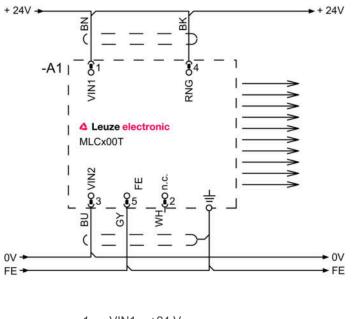
### **Circuit diagrams**

Transmission channel C1, reduced range



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

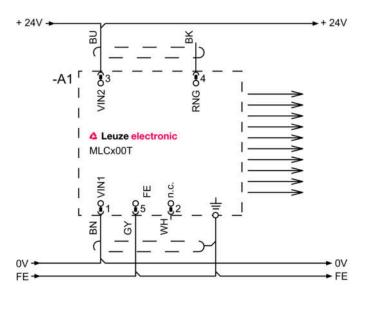
#### Transmission channel C1, standard range



1	VIN1 = +24	V
3	VIN2 = 0 V	
Λ	DNO = 124	1

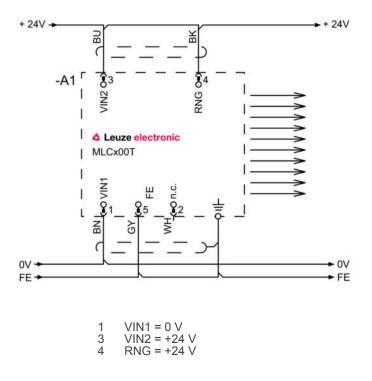
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Transmission channel C2, reduced range



VIN1 = 0 V1 VIN2 = +24 VRNG = 0 V or open 3 4

#### Transmission channel C2, standard range



### **Operation and display**

#### LEDs

	LED	Display	Meaning
1		Off	Device switched off

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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
68001128	MLC510R14-2850	Safety light curtain receiver	Resolution: 14 mm Protective field height: 2,850 mm Response time: 61 ms Connection: Connector, M12, Metal, 5 -pin Function package: Basic
68002128	MLC520R14-2850	Safety light curtain receiver	Resolution: 14 mm Protective field height: 2,850 mm Response time: 61 ms Connection: Connector, M12, Metal, 8 -pin Function package: Standard
68003128	MLC530R14-2850	Safety light curtain receiver	Resolution: 14 mm Protective field height: 2,850 mm Response time: 61 ms Connection: Connector, M12, Metal, 8 -pin Function package: Extended

### 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
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
e	Host/Guest (optional): H: Host MG: Middle Guest G: Guest

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MLC	Safety light curtain		
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
<b>PPQ</b>	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
520101	AC-ALM-M	Alignment aid	Housing material: Plastic

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## 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.	1