## SMART SENSOR BUSINESS

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Part no.: 68090302 MLC300T30-225 Safety light curtain transmitter



Figure can vary

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## Part no.: 68090302 – MLC300T30-225 – Safety light curtain transmitter

### **Technical data**

Pagia data		
Basic data	MLC 300	
Series	Transmitter	
Device type Contains	2x BT-NC sliding block	
	-	
Application	Hand protection	
Functions		
Functions	Range reduction	
	Transmission channel changeover	
Characteristic parameters		
Characteristic parameters Type	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	
	20 years, EN 130 130+3-1	
Protective field data		
Resolution	30 mm	
Protective field height	225 mm	
Operating range	0 10 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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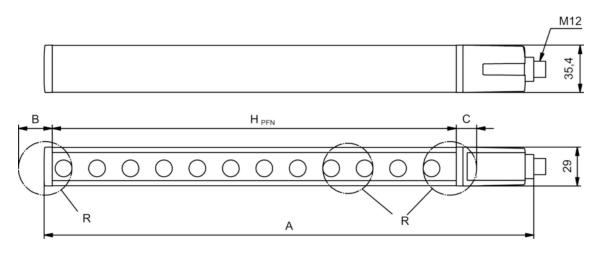
Connection 1         Type of connection         Function         Thread size         Material	
Function Thread size	Compositor
Thread size	Connector
	Machine interface
Material	M12
	Metal
No. of pins	5 -pin
Cable properties	
Permissible conductor cross section, typ.	0.25 mm <sup>2</sup>
Length of connection cable, max.	100 m
Permissible cable resistance to load, max.	200 Ω
Nechanical data	
Dimension (W x H x L)	29 mm x 291 mm x 35.4 mm
lousing material	Metal , Aluminum
ens cover material	Plastic / PMMA
Naterial of end caps	Diecast zinc
Net weight	370 g
lousing color	Yellow, RAL 1021
Type of fastening	Groove mounting Mounting bracket Mounting on Device Column Swivel mount
<b>Operation and display</b> 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 %
Certifications	
Degree of protection	IP 65
Protection class	III
	c CSA US c TÜV NRTL US TÜV Süd
Certifications	TUV Suu
/ibration resistance	50 m/s <sup>2</sup>
/ibration resistance	50 m/s²
/ibration resistance Shock resistance	50 m/s² 100 m/s²
/ibration resistance Shock resistance JS patents	50 m/s² 100 m/s²
/ibration resistance Shock resistance JS patents Classification Customs tariff number	50 m/s² 100 m/s² US 6,418,546 B
/ibration resistance Shock resistance JS patents Classification Customs tariff number eCl@ss 8.0	50 m/s <sup>2</sup> 100 m/s <sup>2</sup> US 6,418,546 B 85365019
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#### **Dimensioned drawings**

All dimensions in millimeters

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



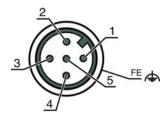
 $H_{\text{PFE}}$  Effective protective field height = 253 mm

- $H_{PFN}$  Nominal protective field height = 225 mm
- A Total height = 291 mm
- B 19 mm
- C 9 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

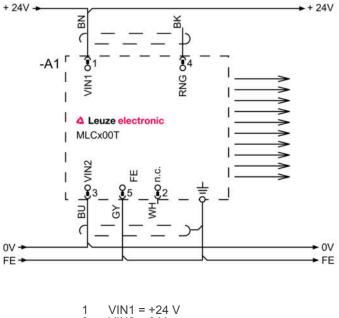
Pin	Pin assignment	Conductor color
1	VIN1	Brown
2	n.c.	White
3	VIN2	Blue
4	RNG	Black
5	FE/SHIELD	Gray



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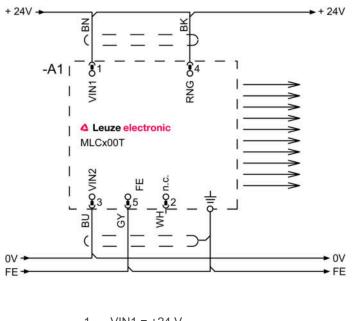
### **Circuit diagrams**

Transmission channel C1, reduced range



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

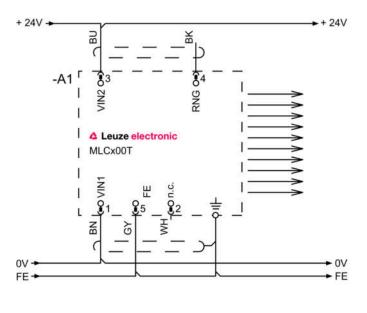
#### Transmission channel C1, standard range



1	VIN1 = +24	V
3	VIN2 = 0 V	
Λ	$DNC = \pm 24$	١/

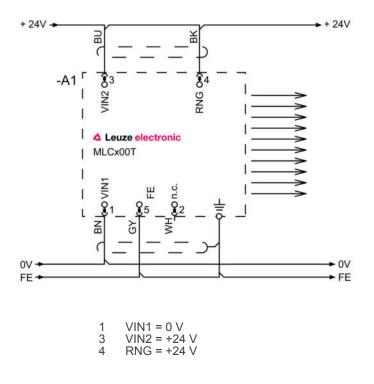
### Part no.: 68090302 – MLC300T30-225 – Safety light curtain transmitter

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

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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
68091302	MLC310R30-225	Safety light curtain receiver	Resolution: 30 mm Protective field height: 225 mm Response time: 3 ms Connection: Connector, M12, Metal, 5 -pin Function package: Basic
68092302	MLC320R30-225	Safety light curtain receiver	Resolution: 30 mm Protective field height: 225 mm Response time: 3 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

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#### 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 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.G.	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

### Services

	Part no.	Designation	Article	Description
$\bigcirc$	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.