SMART SENSOR BUSINESS

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Part no.: 68090916 MLC300T90-1650 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 _M	20 years , EN ISO 13849-1
Protective field data	
Resolution	90 mm
Protective field height	1,650 mm
Operating range	0 20 m
Ordinal data	
Optical data Synchronization	Optical between transmitter and receiver
	LED , Infrared
Light source	940 nm
Transmitted-signal shape	Pulsed
LED group	Exempt group in acc. with EN 62471:2008
Electrical data	Overveltage protection
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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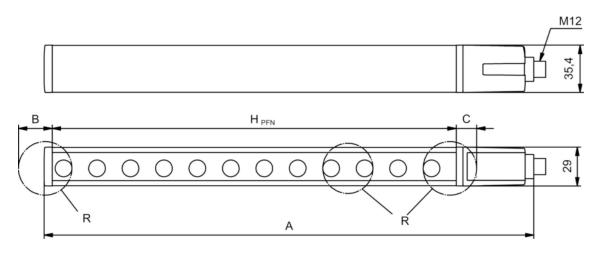
Connection 1				
Type of connection	Connector			
Function	Machine interface			
Thread size	M12			
Material	Mitz			
No. of pins	5 -pin			
Cable properties				
Permissible conductor cross section, typ.	0.25 mm ²			
Length of connection cable, max.	100 m			
Permissible cable resistance to load, max.	200 Ω			
Nechanical data				
Dimension (W x H x L)	29 mm x 1,716 mm x 35.4 mm			
lousing material	Metal , Aluminum			
ens cover material	Plastic / PMMA			
Naterial of end caps	Diecast zinc			
let weight	1,800 g			
lousing color	Yellow, RAL 1021			
ype of fastening	Groove mounting Mounting bracket Mounting on Device Column Swivel mount			
Operation and display				
⊽pe 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				
Certifications	c CSA US c TÜV NRTL US 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			
ETIM 5.0 ETIM 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



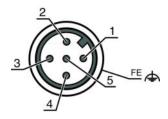
HPFE Effective protective field height = 1740 mm

- HPFN Nominal protective field height = 1650 mm
- A Total height = 1716 mm
- B 50 mm
- C 40 mm
- R Effective protective field height H_{PFE} 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

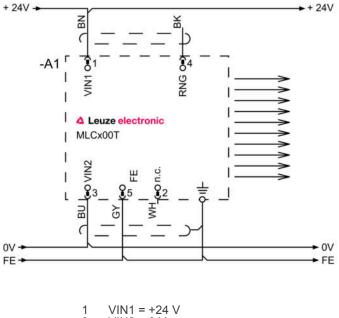
Pin	Pin assignment	Conductor color
1	VIN1	Brown
2	n.c.	White
3	VIN2	Blue
4	RNG	Black
5	FE/SHIELD	Gray



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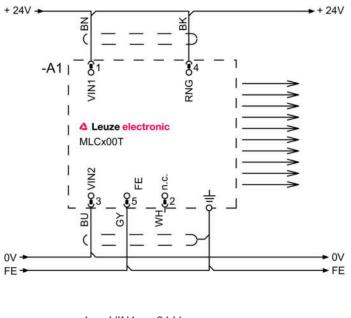
Circuit diagrams

Transmission channel C1, reduced range



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

Transmission channel C1, standard range

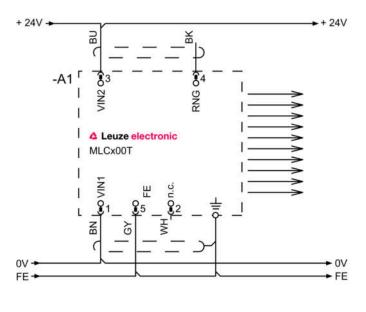


1	VIN1 = +24 V
3	VIN2 = 0 V
4	RNG = +24 V

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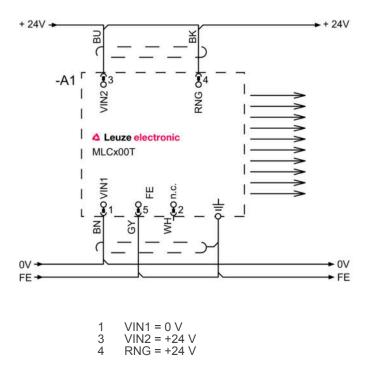
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Transmission channel C2, reduced range



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	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
68091916	MLC310R90-1650	Safety light curtain receiver	Resolution: 90 mm Protective field height: 1,650 mm Response time: 6 ms Connection: Connector, M12, Metal, 5 -pin Function package: Basic
68092916	MLC320R90-1650	Safety light curtain receiver	Resolution: 90 mm Protective field height: 1,650 mm Response time: 6 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.