



Figure can vary

**Part no.: 544040**  
**MLC500T30-300-IP-25**  
**Safety light curtain transmitter**



## Contents

- Technical data
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- Electrical connection
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## Technical data

<b>Basic data</b>	
Series	MLC 500
Device type	Transmitter
Contains	2x BT-IP swivel mount
Application	Hand protection
<b>Functions</b>	
Functions	Range reduction Transmission channel changeover
<b>Characteristic parameters</b>	
Type	4 , IEC/EN 61496
SIL	3 , IEC 61508
SILCL	3 , IEC/EN 62061
Mission time $T_M$	20 years , EN ISO 13849-1
<b>Protective field data</b>	
Resolution	30 mm
Protective field height	300 mm
Operating range	0 ... 8 m
<b>Optical data</b>	
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
<b>Electrical data</b>	
Protective circuit	Overvoltage protection Short circuit protected
<b>Performance data</b>	
Supply voltage $U_B$	24 V , DC , -20 ... 20 %
Current consumption, max.	50 mA
Fuse	2 A semi time-lag
<b>Inputs</b>	
Number of digital switching inputs	1 Piece(s)
<b>Switching inputs</b>	
Type	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
<b>Connection</b>	
Number of connections	1 Piece(s)

**Part no.: 544040 – MLC500T30-300-IP-25 – Safety light curtain transmitter**
**Connection 1**

Type of connection	Cable with connector
Function	Machine interface
Cable length	25,000 mm
Sheathing material	PVC
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

**Mechanical data**

Dimension	500 mm 52.5 mm
Housing material	Metal , Aluminum
Lens cover material	Plastic / PMMA
Material of end caps	Diecast zinc
Net weight	450 g
Housing color	Yellow, RAL 1021
Type of fastening	Swivel mount

**Protective tube**

Material	PMMA, clear
Material of end caps	V4A stainless steel (1.4404)
Material of clamping cylinder	PA 6
Material of pressure-equalization membrane	PA 6
Cable gland material	PA 6

**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 %

**Certifications**

Degree of protection	IP 65 IP 66 IP 67 IP 69K
Protection class	III
Certifications	c CSA US c TÜV NRTL US S Mark TÜV Süd
US patents	US 6,418,546 B

**Classification**

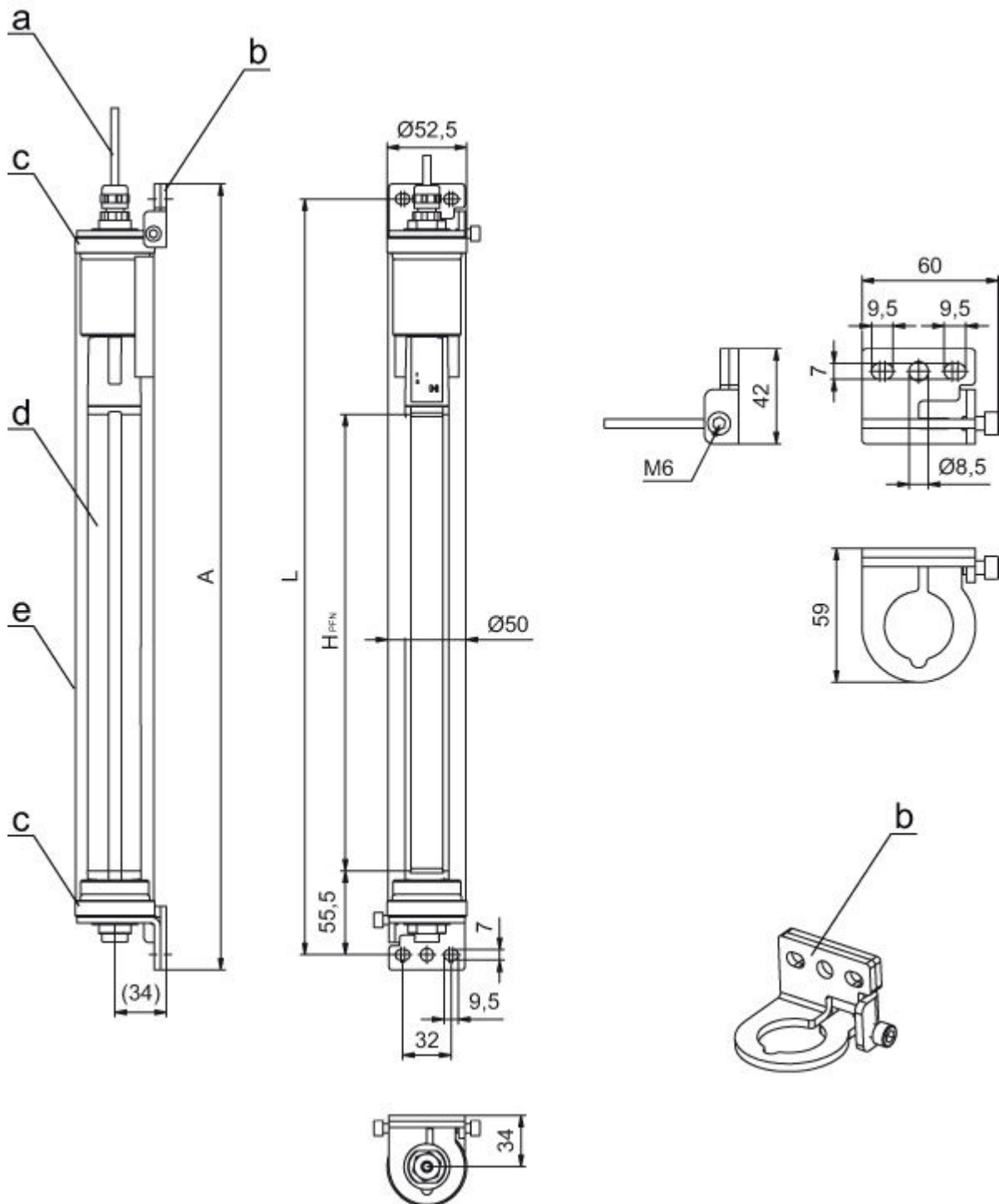
Customs tariff number	85365019
eCl@ss 8.0	27272704

eCl@ss 9.0	27272704
ETIM 5.0	EC002549
ETIM 6.0	EC002549

### Dimensioned drawings

All dimensions in millimeters

MLC safety light curtains pre-mounted in the IP protective tube



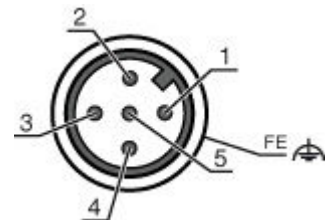
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- a Connection cable
- b Mounting brackets for mounting
- c End caps, stainless steel V4A
- d MLC transmitter
- e IP protective tube
- A Total height incl. mounting brackets = 520 mm
- L Spacing of drilled holes for mounting brackets = 500 mm
- HPFN Effective protective field height = 300 mm

## Electrical connection

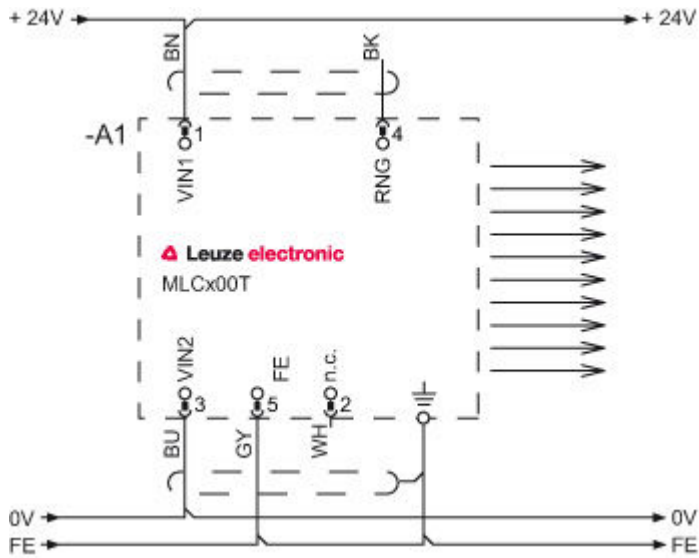
Connection 1	
Type of connection	Cable with connector
Function	Machine interface
Cable length	25,000 mm
Sheathing material	PVC
Cable color	Black
Wire cross section	
Thread size	M12
Type	Male
Material	Metal
No. of pins	5 -pin
Encoding	A-coded
Connector housing	FE/SHIELD

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



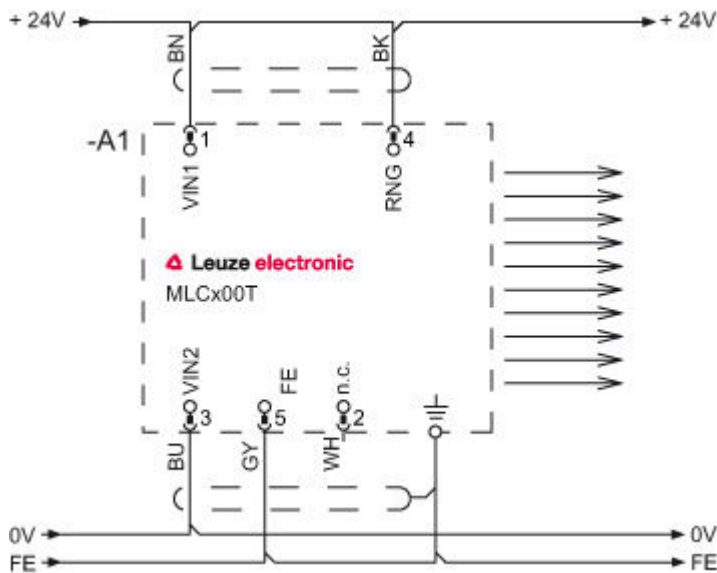
**Circuit diagrams**

Transmission channel C1, reduced range



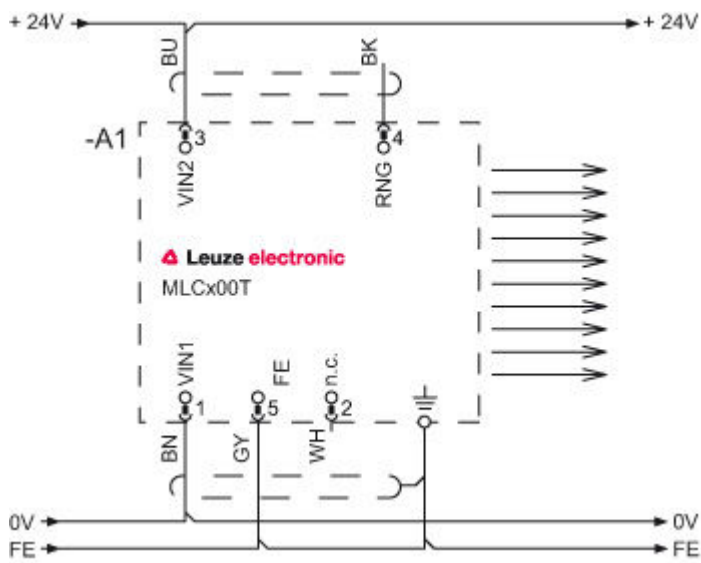
- 1 VIN1 = +24 V
- 3 VIN2 = 0 V
- 4 RNG = 0 V or open

Transmission channel C1, standard range



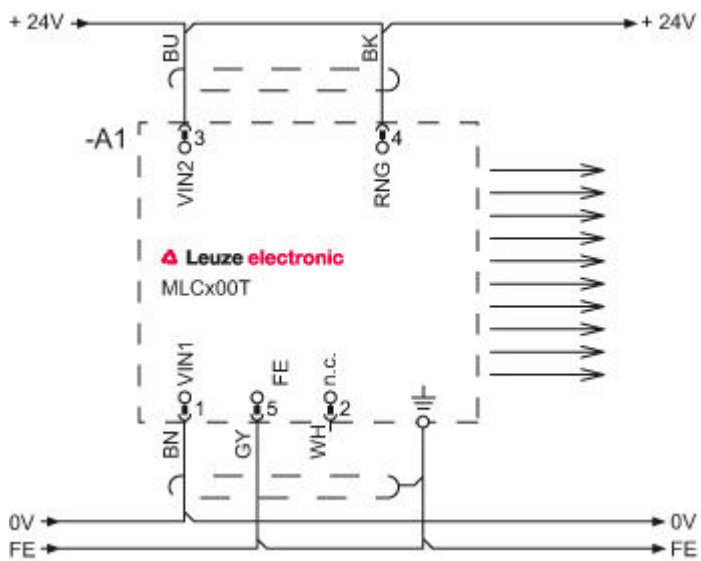
- 1 VIN1 = +24 V
- 3 VIN2 = 0 V
- 4 RNG = +24 V

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
	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
	544021	MLC510R30-300-IP	Safety sensor/ receiver set	Resolution: 30 mm Protective field height: 300 mm Response time: 4 ms Connection: Cable with connector, M12, Metal, 5 -pin, 15,000 mm, PVC Function package: Basic

## Part number code

Part designation: MLCxyy-za-hhhhei-ooo

MLC	Safety light curtain
x	<b>Series:</b> 3: MLC 300 5: MLC 500
yy	<b>Function classes:</b> 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	<b>Device type:</b> T: transmitter R: receiver
a	<b>Resolution:</b> 14: 14 mm 20: 20 mm 30: 30 mm 40: 40 mm 90: 90 mm
hhh	<b>Protective field height:</b> 150 ... 3000: from 150 mm to 3000 mm
e	<b>Host/Guest (optional):</b> H: Host MG: Middle Guest G: Guest
i	<b>Interface (optional):</b> /A: AS-i
ooo	<b>Option:</b> /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](http://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.