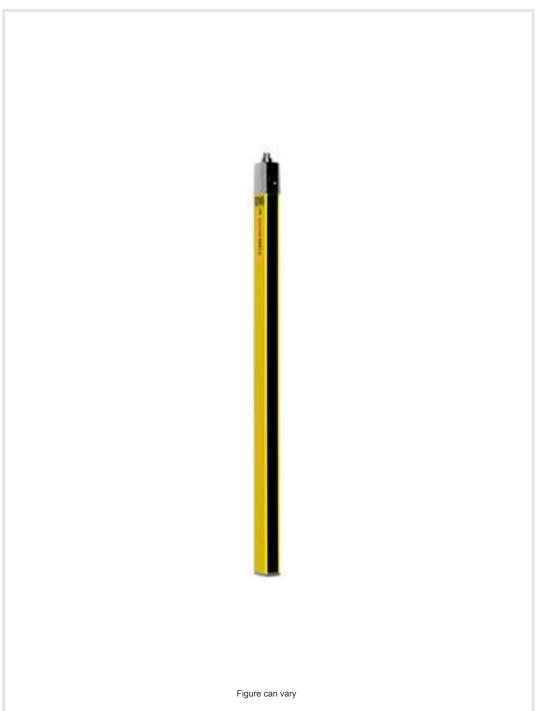


Technical data sheet Safety light curtain transmitter

Part no.: 68000402

MLC500T40-225



Contents

- Technical data
- Dimensioned drawings
- Electrical connection
- Circuit diagrams
- Operation and display
- Suitable receivers
- Part number code
- Notes
- Accessories



















Technical data



Basic data

Series	MLC 500
Device type	Transmitter
Contains	2x BT-NC sliding block
Application	Access guarding
	Danger zone guarding
	Hand 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 _M	20 years, EN ISO 13849-1

Protective field data

Resolution	40 mm
Protective field height	225 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 risk group	Exempt group (in acc. with EN 62471:2008)

Electrical data

Protective circuit	Overvoltage protection
	Short circuit protected

Performance data

Supply voltage U _B	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

1 Piece(s)

Connection

Number of connections

Connection 1	
Function	Machine interface
Type of connection	Connector
Thread size	M12
Material	Metal
No. of pins	5 -pin

Cable properties	
Permissible conductor cross	0.25 mm ²
section, typ.	
Longth of connection cable may	100 m

Permissible cable resistance to 200Ω load, max.

Mechanical data

Cable properties

Dimension (W x H x L)	29 mm x 291 mm x 35.4 mm
Housing material	Metal
Metal housing	Aluminum
Lens cover material	Plastic / PMMA
Material of end caps	Diecast zinc
Net weight	370 g
Housing color	Yellow, RAL 1021
Type of fastening	Groove mounting
	Mounting bracket
	Mounting on Device Column
	Swivel mount

Operation and display

Type of display	LED
Number 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	III
Certifications	c CSA US
	c TÜV NRTL US
	S Mark
	TÜV Süd
Vibration resistance	50 m/s ²
Shock resistance	100 m/s ²
US patents	US 6,418,546 B

Classification

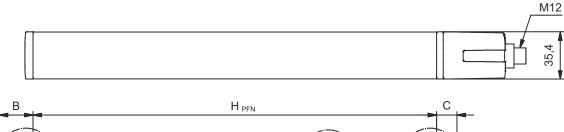
Customs tariff number	85365019	
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eCl@ss 9.0	27272704	
eCl@ss 10.0	27272704	
eCl@ss 11.0	27272704	
ETIM 5.0	EC002549	
ETIM 6.0	EC002549	
ETIM 7.0	FC002549	

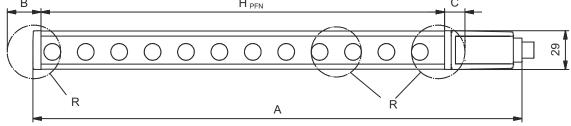
Dimensioned drawings



All dimensions in millimeters

Calculation of the effective protective field height H_{PFE} = H_{PFN} + B + C





 H_{PFE} Effective protective field height = 265 mm

 H_{PFN} Nominal protective field height = 225 mm

Total height = 291 mm

25 mm

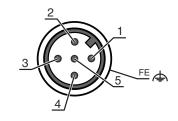
- С 15 mm
- Effective protective field height H_{PFE} goes beyond the dimensions of the optics area to the outer borders of the circles labeled with R.

Electrical connection

Connection 1

Function	Machine interface
Type of connection	Connector
Thread size	M12
Туре	Male
Material	Metal
No. of pins	5 -pin
Encoding	A-coded
Connector housing	FE/SHIELD

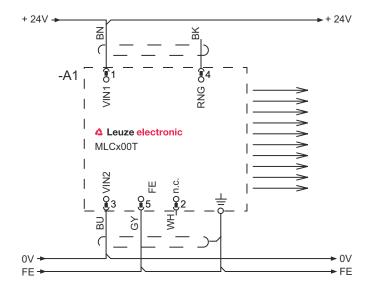
Pin	Pin assignment	Conductor color
1	VIN1	Brown
2	n.c.	White
3	VIN2	Blue
4	RNG	Black
5	FE/SHIELD	Gray



Circuit diagrams

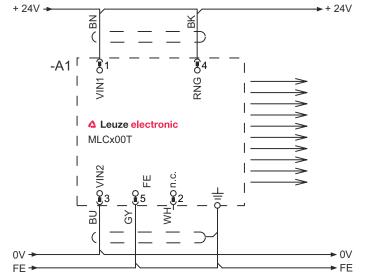


Transmission channel C1, reduced range



- VIN1 = +24 V
- VIN2 = 0 V
- RNG = 0 V or open

Transmission channel C1, standard range

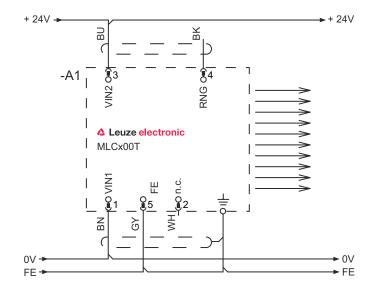


- VIN1 = +24 V
- VIN2 = 0 V
- RNG = +24 V

Circuit diagrams

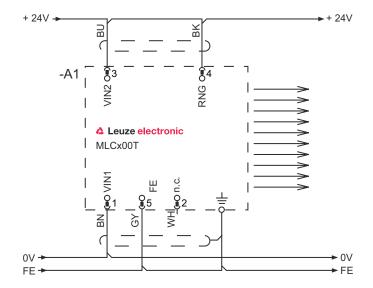


Transmission channel C2, reduced range



- VIN1 = 0 V
- VIN2 = +24 V
- RNG = 0 V or open

Transmission channel C2, standard range



- VIN1 = 0 V
- VIN2 = +24 V
- RNG = +24 V

Operation and display

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
68001402	MLC510R40-225	Safety light curtain receiver	Resolution: 40 mm Protective field height: 225 mm Response time: 3 ms Connection: Connector, M12, Metal, 5 -pin Function package: Basic
68002402	MLC520R40-225	Safety light curtain receiver	Resolution: 40 mm Protective field height: 225 mm Response time: 3 ms Connection: Connector, M12, Metal, 8 -pin Function package: Standard
68003402	MLC530R40-225	Safety light curtain receiver	Resolution: 40 mm Protective field height: 225 mm Response time: 3 ms Connection: Connector, M12, Metal, 8 -pin Function package: Extended
68009402	MLC530R40-225- SPG	Safety light curtain receiver	Resolution: 40 mm Protective field height: 225 mm Response time: 100 ms Connection: Connector, M12, Metal, 8 -pin Function package: Smart Process Gating

Part number code

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
a	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

Part number code



MLC	Safety light curtain			
i	Interface (optional) /A: AS-i			
000	Option //: high Vibration-proof EX2: explosion protection (zones 2 + 22) SPG: Smart Process Gating			

Note



Notes



Observe intended use!



\$ The product may only be put into operation by competent persons.

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
Paga	429393	BT-2HF	Mounting bracket set	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

Accessories



Services

 Part no.	Designation	Article	Description
S981050	CS40-l-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 website in the Download tab of the article detailed page.