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Part no.: 68040213 MLC500T20-1350-EX2 Safety light curtain transmitter











Figure can vary

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Technical data

Series MLC 500 Device type Transmitter Contains 2x BT-NC sliding block Application Hand protection Functions Functions Functions Functions Functions Range reduction Transmission channel changeover Characteristic parameters Type 4, IEC/EN 61496 SIL 3, IEC 61508 SILC 3, IEC/EN 62061 Mission time T _M 20 years , EN ISO 13849-1 Protective field data Resolution 20 mm Protective field height 1,350 mm Operating range 0 9 m Chical data Synchronization Optical between transmitter and receiver Light source LED , Infrared LED light wavelength 940 nm Transmitted-signal shape	Basic data	
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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 Connection	Number of digital switching inputs	1 Piece(s)
Switching voltage high, min. Switching voltage low, max. Switching voltage, typ. 22.5 V Voltage type DC Connection	Switching inputs	
Switching voltage low, max. Switching voltage, typ. Voltage type DC Connection	Туре	Digital switching input
Switching voltage, typ. 22.5 V Voltage type DC Connection	Switching voltage high, min.	18 V
Voltage type DC Connection	Switching voltage low, max.	2.5 V
Connection	Switching voltage, typ.	22.5 V
	Voltage type	DC
Number of connections 1 Piece(s)		4 Pinar(s)
	Number of connections	1 Piece(s)



Cable properties					
Permissible conductor cross section, typ.	0.25 mm ²				
Length of connection cable, max.	100 m				
	100 111				
Connection 1 Function	Machina interface				
	Machine interface				
Type of connection Thread size	Connector M12				
Material	Metal				
No. of pins	5 -pin				
Cable properties	200 Ω				
Permissible cable resistance to load, max.	200 (2				
Mechanical data					
Dimension (W x H x L)	30.7 mm x 1,416 mm x 40.3 mm				
lousing material	Metal , Aluminum				
ens cover material	Plastic/PC				
laterial of end caps	Diecast zinc				
let weight	1,500 g				
lousing color	Silver				
ype of fastening	Groove mounting				
	Mounting bracket Mounting on Device Column Swivel mount				
Operation and display Type of display Tumber of LEDs	LED 2 Piece(s)				
unibel of LLDs	2 Fieue(5)				
Environmental data					
Environmental data Embient temperature, operation	0 55 °C				
	0 55 °C -30 70 °C				
mbient temperature, operation					
ambient temperature, operation ambient temperature, storage delative humidity (non-condensing)	-30 70 °C				
Ambient temperature, operation Ambient temperature, storage Relative humidity (non-condensing)	-30 70 °C 0 95 %				
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Ambient temperature, operation Ambient temperature, storage Relative humidity (non-condensing) Ex specification Ex device category Ex-zone	-30 70 °C 0 95 % 3D 3G 2 2				
Ambient temperature, operation Ambient temperature, storage Relative humidity (non-condensing) Ex specification Ex device category Ex-zone Ex device group	-30 70 °C 0 95 % 3D 3G 2 22				
Ambient temperature, operation Ambient temperature, storage Relative humidity (non-condensing) Ex specification Ex device category Ex-zone Ex device group Permissible surface temperature Ignition protection type	-30 70 °C 0 95 % 3D 3G 2 22 II T<85° (T4) °C "nA" non-sparking				
Ambient temperature, operation Ambient temperature, storage Relative humidity (non-condensing) Ex specification Ex device category Ex-zone Ex device group Permissible surface temperature Ignition protection type Certifications	-30 70 °C 0 95 % 3D 3G 2 22 II T<85° (T4) °C "nA" non-sparking "tc" protection through housing				
Ambient temperature, operation Ambient temperature, storage Relative humidity (non-condensing) Ex specification Ex device category Ex-zone Ex device group Permissible surface temperature Ignition protection type Certifications Degree of protection	-30 70 °C 0 95 % 3D 3G 2 22 II T<85° (T4) °C "nA" non-sparking "tc" protection through housing				
Ambient temperature, operation Ambient temperature, storage Relative humidity (non-condensing) Ex specification Ex device category Ex-zone Ex device group Permissible surface temperature Ignition protection type Certifications Regree of protection Protection class	-30 70 °C 0 95 % 3D 3G 2 22 II T<85° (T4) °C "nA" non-sparking "tc" protection through housing				
Ambient temperature, operation Ambient temperature, storage Relative humidity (non-condensing) Ex specification Ex device category Ex-zone Ex device group Permissible surface temperature Ignition protection type Certifications Degree of protection	-30 70 °C 0 95 % 3D 3G 2 22 II T<85° (T4) °C "nA" non-sparking "tc" protection through housing				
Ambient temperature, operation Ambient temperature, storage Relative humidity (non-condensing) Ex specification Ex device category Ex-zone Ex device group Permissible surface temperature Ignition protection type Certifications Regree of protection Protection class	-30 70 °C 0 95 % 3D 3G 2 22 II T<85° (T4) °C "nA" non-sparking "tc" protection through housing IP 65 III c TÜV NRTL US				
Ambient temperature, operation Ambient temperature, storage Relative humidity (non-condensing) Ex specification Ex device category Ex-zone Ex device group Permissible surface temperature Ignition protection type Recruitications Regree of protection Protection class Recruitications	-30 70 °C 0 95 % 3D 3G 2 22 22 II T<85° (T4) °C "nA" non-sparking "tc" protection through housing IP 65 III c TÜV NRTL US TÜV Süd				

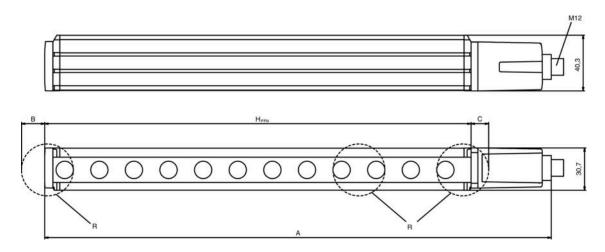


Classification	
Customs tariff number	85365019
eCl@ss 8.0	27272704
eCl@ss 9.0	27272704
ETIM 5.0	EC002549
ETIM 6.0	EC002549

Dimensioned drawings

All dimensions in millimeters

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

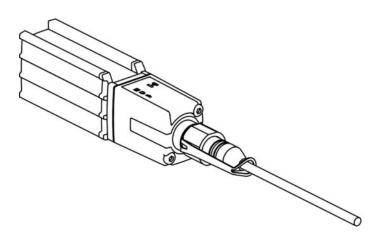


HPFE Effective protective field height = 1367 mm

HPFN Nominal protective field height = 1350 mm

- A Total height = 1416 mm
- B 7 mm
- C 10 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.

K-VM12-Ex interlocking guard

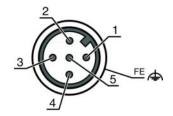




Electrical connection

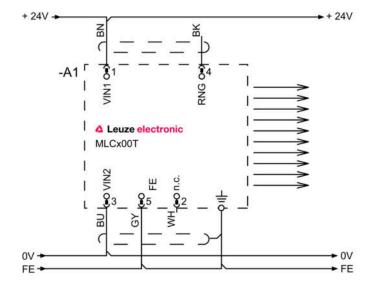
Connection 1	
Function	Machine interface
Type of connection	Connector
Thread size	M12
Туре	Male
Material	Metal
No. of pins	5 -pin
Encoding	A-coded
Connector housing	FE/SHIELD

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



Circuit diagrams

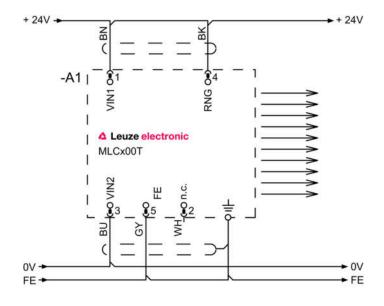
Transmission channel C1, reduced range



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

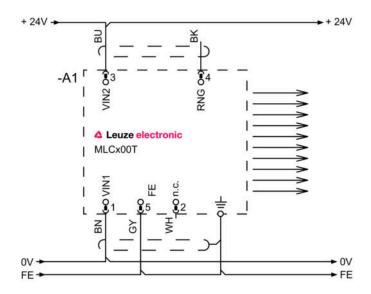


Transmission channel C1, standard range



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

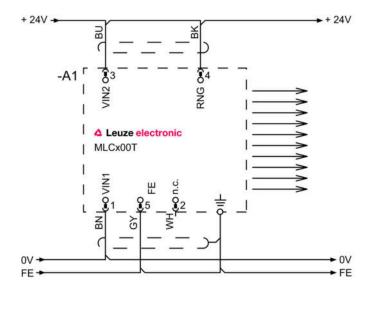
Transmission channel C2, reduced range



- VIN1 = 0 V
- 3
- VIN2 = +24 V 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
	68042213	MLC520R20-1350-EX2	curtain receiver	Resolution: 20 mm Protective field height: 1,350 mm Response time: 24 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

Note
A list with all available device types can be found on the Leuze 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

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Mounting technology - Swivel mounts

	Part no.	Designation	Article	Description
P.C.	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
1	520101	AC-ALM-M	Alignment aid	Housing material: Plastic

General

Part no.	Designation	Article	Description
50109217	K-V M12-Ex	Safety locking device	Housing material: Plastic, PA

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.