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Technical data sheet Safety light curtain receiver

Part no.: 68001409 MLC510R40-900



The Sensor People In der Braike 1, 73277 Owen

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We reserve the right to make technical changes eng • 2021-02-23

Technical data

Basic data

Series	MLC 500
Device type	Receiver
Contains	2x BT-NC sliding block
Application	Access guarding
	Danger zone guarding
	Hand protection

Functions

Function package	Basic
Functions	Automatic start/restart
	Transmission channel changeover

Characteristic parameters

Туре	4, IEC/EN 61496
SIL	3, IEC 61508
SILCL	3, IEC/EN 62061
Performance Level (PL)	e, EN ISO 13849-1
PFH _D	7.73E-09 per hour
Mission time T _M	20 years, EN ISO 13849-1
Category	4, EN ISO 13849

Protective field data

R	lesolution		40 mm
Ρ	rotective field h	eight	900 mm
0	Optical data		
S	ynchronization		Optical between transmitter and receiver
E	ectrical data		
Ρ	rotective circuit		Overvoltage protection
			Short circuit protected
	Performance	data	
	Supply voltage	U _B	24 V, DC, -20 20 %
	Current consu	mption, max.	150 mA
	Fuse		2 A semi time-lag
	Outputs		
	Number of safe outputs (OSSD	ety-related switching (s)	2 Piece(s)
	Safety-rela	ted switching outp	uts
	Туре		Safety-related switching output OSSD
	Switching ve	oltage high, min.	18 V
	Switching ve	oltage low, max.	2.5 V

Switching voltage high, min.	18 V
Switching voltage low, max.	2.5 V
Switching voltage, typ.	22.5 V
Voltage type	DC
Current load, max.	380 mA
Load inductivity	2,000 µH
Load capacity	0.3 µF
Residual current, max.	0.2 mA
Residual current, typ.	0.002 mA
Voltage drop	1.5 V

Safety-related switching output 1

Assignment Switching element Connection 1, pin 2 Transistor, PNP

	Safety-related switching ou	itnut 2
	Assignment	Connection 1, pin 4
	Switching element	Transistor, PNP
Timing	1	
Respor	ise time	9 ms
Restart	delay time	100 ms
Conne	oction	
Numbe	r of connections	1 Piece(s)
Con	nection 1	
Fund	tion	Machine interface
Туре	of connection	Connector
	ad size	M12
Mate		Metal
No. o	of pins	5 -pin
Cab	le properties	
Pern	nissible conductor cross on, typ.	0.25 mm ²
Leng	th of connection cable, max.	100 m
	nissible cable resistance to , max.	200 Ω
Mecha	nical data	
Dimens	sion (W x H x L)	29 mm x 966 mm x 35.4 mm
Housin	g material	Metal
Metal h	ousing	Aluminum
	over material	Plastic / PMMA
	l of end caps	Diecast zinc
Net wei	-	1,050 g
	g color fastening	Yellow, RAL 1021
Type of	lastening	Groove mounting Mounting bracket
		Mounting on Device Column
		Swivel mount
Opera	tion and display	
Type of	display	LED
	r of LEDs	2 Piece(s)
Enviro	nmental data	
Ambier	nt temperature, operation	-30 55 °C
Ambier	nt temperature, storage	-30 70 °C
Relativ	e humidity (non-condensing)	0 95 %
Certifi	cations	
Degree	of protection	IP 65
Protect	ion class	Ш
Certific	ations	c CSA US
		c TÜV NRTL US
		S Mark
		TÜV Süd
	on resistance	50 m/s ²
	resistance	100 m/s ²
US pate	ents	US 6,418,546 B

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2/7

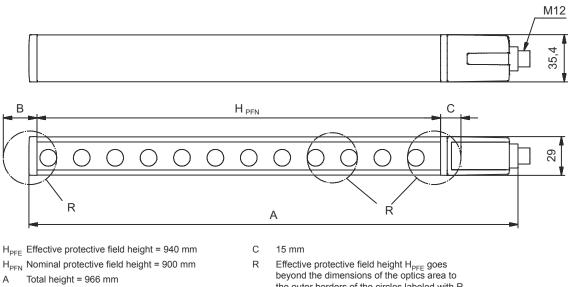
Technical data

Customs tariff number	85365019
eCl@ss 5.1.4	27272704
eCl@ss 8.0	27272704
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	EC002549

Dimensioned drawings

All dimensions in millimeters

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



В 25 mm 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

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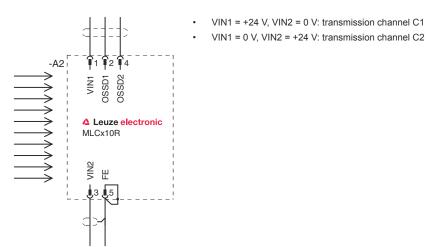
Electrical connection

Pin	Pin assignment	Conductor color	2
1	VIN1	Brown	
2	OSSD1	White	
3	VIN2	Blue	3
4	OSSD2	Black	
5	FE/SHIELD	Gray	4

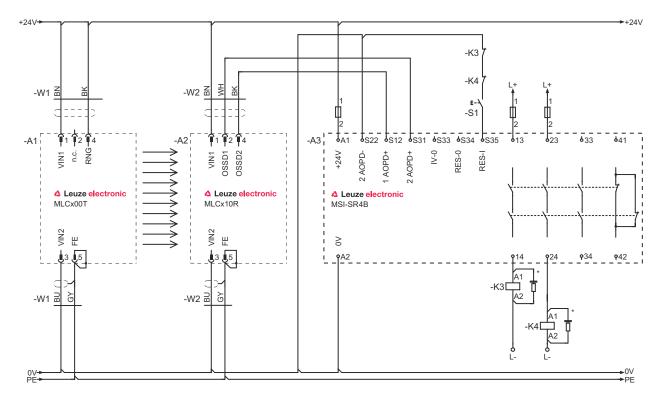
Circuit diagrams

Connection diagram receiver

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Circuit diagram example with downstream MSI-SR4B safety relay



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4/7

Operation and display

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LED	Display	Meaning
1	Off	Device switched off
	Red, continuous light	OSSD off.
	Red, flashing, 1 Hz	External error
	Red, flashing, 10 Hz	Internal error
	Green, flashing, 1 Hz	OSSD on, weak signal
	Green, continuous light	OSSD on
2	Off	Transmission channel C1
	Red, continuous light	OSSD off, transmission channel C2

Suitable transmitters

Part no.	Designation	Article	Description
68000409	MLC500T40-900	Safety light curtain transmitter	Resolution: 40 mm Protective field height: 900 mm Operating range: 0 20 m Connection: Connector, M12, Metal, 5 -pin
68008409	MLC502T40-900	Safety light curtain transmitter	Resolution: 40 mm Protective field height: 900 mm Operating range: 0 20 m Connection: Connector, M12, Metal, 5 -pin

Part number code

Part designation: MLCxyy-za-hhhhei-ooo

MLC	Safety light curtain
x	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
e	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 /V: high Vibration-proof EX2: explosion protection (zones 2 + 22) SPG: Smart Process Gating Note
1	✤ A list with all available device types can be found on the Leuze website at www.leuze.com.

Notes

Observe intended use!
 If the product may only be put into operation by competent persons. If 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

Mounting technology - Swivel mounts

 Part no.	Designation	Article	Description
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

Accessories

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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.
ц. С	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
0	A list with all available accessories can be found on the Leuze website in the Download tab of the article detailed page.