

Technical data sheet Safety light curtain receiver

Part no.: 68091410 MLC310R40-1050



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Technical data

Basic data

Series	MLC 300
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	2, IEC/EN 61496
SIL	1, IEC 61508
SILCL	1, IEC/EN 62061
Performance Level (PL)	c, EN ISO 13849-1
PFH _D	5.06E-08 per hour
Mission time T _M	20 years, EN ISO 13849-1
Category	2, EN ISO 13849

Protective field data

R	esolution	40 mm
Ρ	rotective field height	1,050 mm
С	Optical data	
s	ynchronization	Optical between transmitter and receiver
E	lectrical data	
Ρ	rotective circuit	Overvoltage protection
		Short circuit protected
	Performance data	
	Supply voltage U _B	24 V, DC, -20 20 %
	Current consumption, max.	150 mA
	Fuse	2 A semi time-lag
	Outputs	
	Number of safety-related switching outputs (OSSDs)	2 Piece(s)
	Safety-related switching outp	uts
	Туре	Safety-related switching output OSSD
	Switching voltage high, min.	18 V
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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 output 2 Assignment Connection 1, pin 4 Switching element Transistor, PNP Timing 10 ms Response time Restart delay time 100 ms Connection Number of connections 1 Piece(s) **Connection 1** Machine interface Function Type of connection Connector Thread size M12 Material Metal No. of pins 5 -pin **Cable properties** Permissible conductor cross 0.25 mm² section, typ. Length of connection cable, max. 100 m Permissible cable resistance to 200 Ω load, max. Mechanical data Dimension (W x H x L) 29 mm x 1,116 mm x 35.4 mm Housing material Metal Metal housing Aluminum Plastic / PMMA Lens cover material Diecast zinc Material of end caps Net weight 1,200 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 0 ... 55 °C Ambient temperature, storage -30 ... 70 °C Relative humidity (non-condensing) 0 ... 95 % Certifications Degree of protection IP 65 Protection class Ш Certifications c CSA US c TÜV NRTL US TÜV Süd Vibration resistance 50 m/s² Shock resistance 100 m/s² US 6,418,546 B **US** patents

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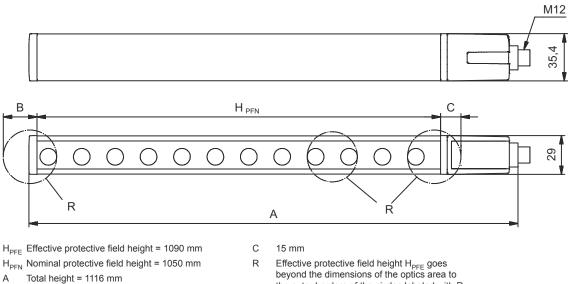
Technical data

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 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

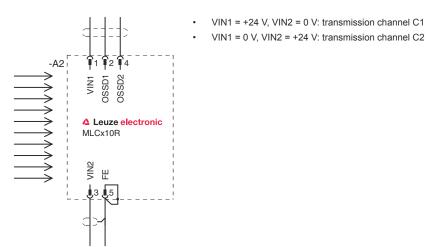
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Electrical connection

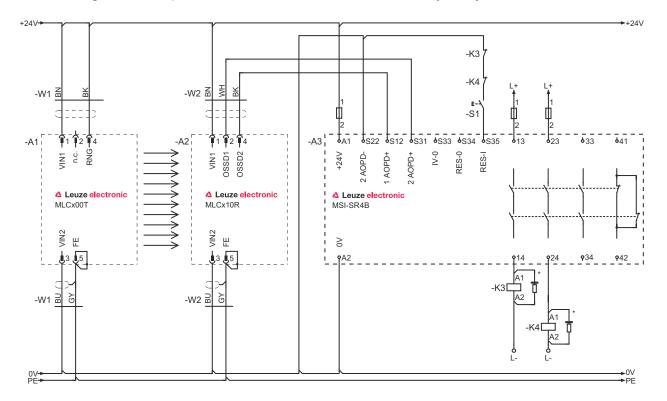
Pin	Pin assignment	Conductor color	2
1	VIN1	Brown	
2	OSSD1	White	
3	VIN2	Blue	3 FE 1
4	OSSD2	Black	
5	FE/SHIELD	Gray	4

Circuit diagrams

Connection diagram receiver



Circuit diagram example with downstream MSI-SR4B safety relay



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Operation and display



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
Î	68090410	MLC300T40-1050	Safety light curtain transmitter	Resolution: 40 mm Protective field height: 1,050 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 х Series 3: MLC 300 5: MLC 500 **Function classes** уу 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 Device type z 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 Host/Guest (optional) е H: Host MG: Middle Guest G: Guest Interface (optional) i. /A: AS-i Option 000 N: 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.

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Notes





Observe intended use!

 $\ensuremath{^{\textcircled{\tiny b}}}$ 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
R. R. GA	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

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

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