

Technical data sheet Safety sensor set

Part no.: 68602114 MLC520-S-24-1140



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Technical data

Basic data

Series	MLC 520S
Device type	Set (transmitter and receiver)
Contains	4x BT-MLC-S-O mounting brackets
	6x BT-MLC-S-C mounting brackets
Application	Hand protection
Functions	

Functions

Automatic start/restart Contactor monitoring (EDM) Start/restart interlock (RES)

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	2,64E-09 per hour
Mission time T _M	20 years, EN ISO 13849-1
Category	4, EN ISO 13849

24 mm

1,140 mm

0.2 ... 6 m

Protective field data

Resolution Protective field height Operating range

Optical data

Number of beams	60 Piece(s)
Synchronization	Optical between transmitter and receiver
Light source	LED, Infrared
Wavelength	850 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 %

Outputs

Number of safety-related switching 2 Piece(s) outputs (OSSDs)

Safety-related	switching	outputs	
		-	

Туре	Safety-related switching output OSSD
Switching voltage high, min.	18 V
Switching voltage low, max.	2.5 V
Switching voltage, type.	22.5 V
Voltage type	DC
Load inductivity	2,000 µH
Load capacity	1 µF
Residual current, max.	200 mA
Residual current, type.	2 mA

Safety-related switching output 1 Assignment

Switching element

Receiver device connection, pin 2 Transistor, PNP

Safety-related switching output 2		
	ssignment	Receiver device connection, pin 4
s	witching element	Transistor, PNP
Time be		
Respons	e time	12 ms
Connec	tion	
Number	of connections	2 Piece(s)
C	antion A	
Functi	ection 1	Transmitter device connection
	f connection	Cable with connector
Cable		160 mm
	ning material	PUR
Thread	•	M12
Materia	al	Plastic
No. of		5 -pin
		· · · · · · · · · · · · · · · · · · ·
Conn	ection 2	
Functi	on	Receiver device connection
Туре о	f connection	Cable with connector
Cable	length	160 mm
Sheath	ning material	PUR
Thread	d size	M12
Materi	al	Plastic
No. of	pins	5 -pin
Mechan	ical data	
Dimensio	on (W x H x L)	15.4 mm x 1,140 mm x 32.6 mm
Housing		Metal
Metal hou	using	Aluminum
Lens cov	er material	Plastic / PMMA
Material of	of end caps	Plastic
Net weig	ht	5,750 g
Housing	color	Yellow, RAL 1021
Type of fa	astening	C-shaped mounting bracket
		L-shaped mounting bracket
		O-shaped mounting bracket
Environ	mental data	
Ambient	temperature, operation	-10 55 °C
	temperature, storage	-30 70 °C
	humidity (non-condensing)	15 95 %
Certifica	ations	
Degree	f protection	IP 65
Protectio	•	IP 05
Approval		TÜV Süd
	resistance	50 m/s ²
Shock re		98.1 m/s ²
US paten		US 6,418,546 B
		,

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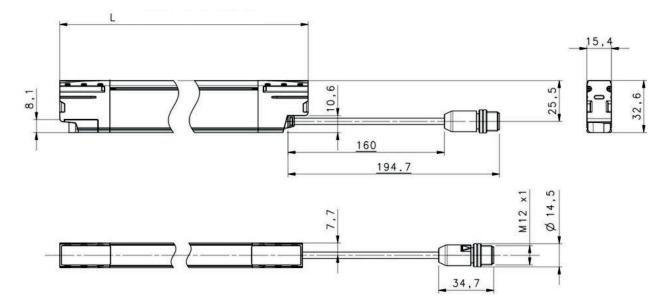
Technical data

Customs tariff number	85365019
ECLASS 5.1.4	27272704
ECLASS 8.0	27272704
ECLASS 9.0	27272704
ECLASS 10.0	27272704
ECLASS 11.0	27272704
ECLASS 12.0	27272704
ECLASS 13.0	27272704
ECLASS 14.0	27272704
ECLASS 15.0	27272704
ETIM 5.0	EC002549
ETIM 6.0	EC002549
ETIM 7.0	EC002549
ETIM 8.0	EC002549
ETIM 9.0	EC002549
ETIM 10.0	EC002549

Dimensioned drawings

All dimensions in millimeters

Dimensions of transmitter and receiver



L Length/protective field height

Electrical connection

Connection 1	Transmitter
Function	Transmitter device connection
Type of connection	Cable with connector
Cable length	160 mm
Sheathing material	PUR
Cable color	Black

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Electrical connection

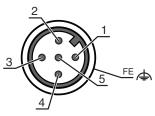
Connection 1	Transmitter
Thread size	M12
Туре	Male
Material	Plastic
No. of pins	5 -pin
Encoding	A-coded
Connector housing	FE/SHIELD

Pin Pin assignment 1 2 3 4

-				
Cor	ıdu	ictor	CO	lor

+24 V DC	Brown
RESTART SELECTION	White
0 V	Blue
n.c.	Black
RESTART SELECTION	Gray

Receiver



Connection 2

5

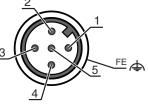
Function	Receiver device connection
Type of connection	Cable with connector
Cable length	160 mm
Sheathing material	PUR
Cable color	Black
Thread size	M12
Туре	Male
Material	Plastic
No. of pins	5 -pin
Encoding	A-coded
Connector housing	FE/SHIELD

Pin	Pin assignment	Conductor color	2
1	EDM	Brown	
2	OSSD1	White	
3	0 V	Blue	3 1 FF
4	OSSD2	Black	
5	EDM FBK/SELECTION	Gray	

Part number code

Part designation: MLCxxx-ooo-aa-hhhh

MLC	Safety light curtain
xxx	Series 520: MLC 520S
aa	Resolution 14: 14 mm 24: 24 mm
hhhh	Protective field height 150 1200: from 150 mm to 1200 mm
000	Option S: Slimline version
Ν	Note



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Accessories



Connection technology - Connection cables

 Part no.	Designation	Article	Description
50133841	KD U-M12-5A-P1- 050	Connection cable	Connection 1: Connector, M12, Axial, Female, A-coded, 5 -pin Connector, LED: No Connection 2: Open end Shielded: No Cable length: 5.000 mm Sheathing material: PUR

Services

	Part no.	Designation	Article	Description
()	S981050	CS40-I-140	Safety inspection	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.
с. 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.

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