

# Technical data sheet Safety sensor set

Part no.: 68601096

MLC520-S-14-960



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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	Finger 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 <sub>D</sub>	2,64E-09 per hour
Mission time T <sub>M</sub>	20 years, EN ISO 13849-1
Category	4, EN ISO 13849

#### Protective field data

Resolution	14 mm
Protective field height	960 mm
Operating range	0.2 6 m

#### **Optical data**

Number of beams	96 Piece(s)
Synchronization	Optical between transmitter and receiver
Light source	LED, Infrared
LED light 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 <sub>B</sub>	24 V, DC, -20 20 %
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#### 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, typ.	22.5 V
Voltage type	DC
Load inductivity	2,000 μΗ
Load capacity	1 μF
Residual current, max.	200 mA
Residual current, typ.	2 mA

## Safety-related switching output 1

Assignment	Receiver device connection, pin 2
Switching element	Transistor, PNP

Safety-related switching output 2

Assignment Receiver device connection, pin 4

Switching element Transistor, PNP

2 Piece(s)

## Timing

Response time	15 ms
tesponse time	10 1110

#### Connection

Number of connections

Connection 1	
Function	Transmitter device connection
Type of connection	Cable with connector
Cable length	160 mm
Sheathing material	PUR
Thread size	M12
Material	Plastic
No of nins	5 -nin

#### **Connection 2**

Function	Receiver device connection
Type of connection	Cable with connector
Cable length	160 mm
Sheathing material	PUR
Thread size	M12
Material	Plastic
No. of pins	5 -nin

#### **Mechanical data**

Dimension (W x H x L)	15.4 mm x 960 mm x 32.6 mm
Housing material	Metal
Metal housing	Aluminum
Lens cover material	Plastic / PMMA
Material of end caps	Plastic
Net weight	4,850 g
Housing color	Yellow, RAL 1021
Type of fastening	C-shaped mounting bracket
	L-shaped mounting bracket
	O-shaped mounting bracket

#### **Environmental data**

Ambient temperature, operation	-10 55 °C
Ambient temperature, storage	-30 70 °C
Relative humidity (non-condensing)	15 95 %

#### Certifications

Degree of protection	IP 65
Protection class	III
Certifications	TÜV Süd
Vibration resistance	50 m/s²
Shock resistance	98.1 m/s²
US patents	US 6,418,546 B

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

## **Technical data**

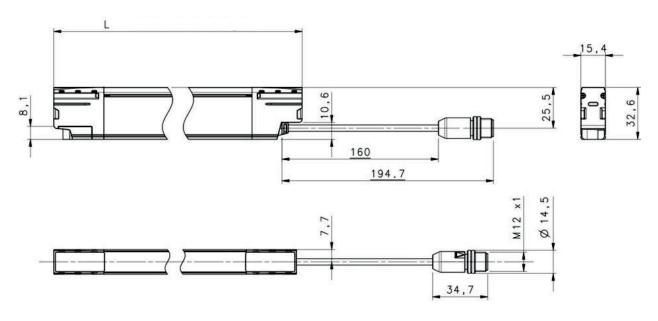


Customs tariff number	85365019
eCl@ss 5.1.4	27272704
eCl@ss 8.0	27272704
eCl@ss 9.0	27272704
eCl@ss 10.0	27272704
eCl@ss 11.0	27272704
ETIM 5.0	EC002549
ETIM 6.0	EC002549
ETIM 7.0	EC002549

## **Dimensioned drawings**

All dimensions in millimeters

## Dimensions of transmitter and receiver



L Length/protective field height

## **Electrical connection**

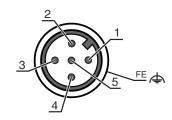
Connection 1	Transmitter
Function	Transmitter device connection
Type of connection	Cable with connector
Cable length	160 mm
Sheathing material	PUR
Cable color	Black
Thread size	M12
Туре	Male
Material	Plastic
No. of pins	5 -pin
Encoding	A-coded
Connector housing	FE/SHIELD

## **Electrical connection**



Pin	Pin assignment	Conductor color
1	+24 V DC	Brown
2	RESTART SELECTION	White
3	0 V	Blue
4	n.c.	Black
5	RESTART SELECTION	Gray

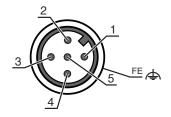
Receiver



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Type of connection Cable length 160 mm Sheathing material PUR Cable color Black Thread size M12 Type Male Material Plastic No. of pins Encoding Cable with connector Cable with connector Made with connector		
Cable length160 mmSheathing materialPURCable colorBlackThread sizeM12TypeMaleMaterialPlasticNo. of pins5 -pinEncodingA-coded	Function	Receiver device connection
Sheathing materialPURCable colorBlackThread sizeM12TypeMaleMaterialPlasticNo. of pins5 -pinEncodingA-coded	Type of connection	Cable with connector
Cable colorBlackThread sizeM12TypeMaleMaterialPlasticNo. of pins5 -pinEncodingA-coded	Cable length	160 mm
Thread size         M12           Type         Male           Material         Plastic           No. of pins         5 -pin           Encoding         A-coded	Sheathing material	PUR
Type         Male           Material         Plastic           No. of pins         5 -pin           Encoding         A-coded	Cable color	Black
Material     Plastic       No. of pins     5 -pin       Encoding     A-coded	Thread size	M12
No. of pins         5 -pin           Encoding         A-coded	Туре	Male
Encoding A-coded	Material	Plastic
	No. of pins	5 -pin
Connector housing FE/SHIELD	Encoding	A-coded
	Connector housing	FE/SHIELD

Pin	Pin assignment	Conductor color
1	EDM	Brown
2	OSSD1	White
3	0 V	Blue
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				

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#### Note



♦ A list with all available device types can be found on the Leuze website at www.leuze.com.

## **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 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 "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.