

# **Technical data sheet** Safety sensor set

Part no.: 68602045

MLC520-S-24-450



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## **Technical data**



#### Basic data

Series	MLC 520S
Device type	Set (transmitter and receiver)
Contains	4x BT-MLC-S-C mounting brackets
	4x BT-MLC-S-O 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 <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	24 mm
Protective field height	450 mm
Operating range	0.2 6 m

#### **Optical data**

Numb	er of beams	24 Piece(s)
Synch	ronization	Optical between transmitter and receiver
Light	source	LED, Infrared
LED I	ight wavelength	850 nm
Trans	mitted-signal shape	Pulsed
LED r	isk 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

#### **Timing**

Response time	9 ms

#### 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

Plastic

5 -pin

2 Piece(s)

#### Connection 2

Material

No. of pins

COMMECTION 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 -pin

#### **Mechanical data**

Dimension (W x H x L)	15.4 mm x 450 mm x 32.6 mm	
Housing material	Metal	
Metal housing	Aluminum	
Lens cover material	Plastic / PMMA	
Material of end caps	Plastic	
Net weight	2,300 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/s <sup>2</sup>
Shock resistance	98.1 m/s <sup>2</sup>
US patents	US 6,418,546 B

## **Technical data**

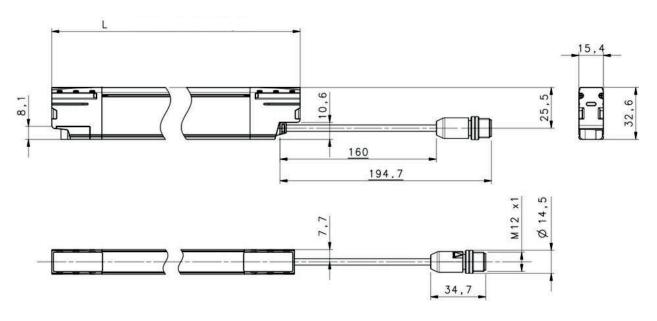


Customs tariff number	85365019
eCI@ss 5.1.4	27272704
eCI@ss 8.0	27272704
eCI@ss 9.0	27272704
eCI@ss 10.0	27272704
eCI@ss 11.0	27272704
ETIM 5.0	EC002549
ETIM 6.0	EC002549
ETIM 7.0	EC002549

## **Dimensioned drawings**

All dimensions in millimeters

### Dimensions of transmitter and receiver



L Length/protective field height

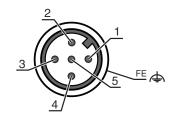
## **Electrical connection**

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

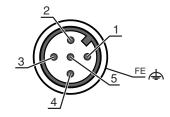


Con	nection	2

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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
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	





♦ 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.