

Technical data sheet Safety sensor set

Part no.: 68601027 MLC520-S-14-270



The Sensor People In der Braike 1, 73277 Owen

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

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	Finger protection
Functions	
Functions	Automatic start/restart

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

Functions

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

14 mm 270 mm 0.2 ... 6 m

Protective field data

Resolution
Protective field height
Operating range

Optical data

Number of beams	27 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_B

24 V, DC, -20 ... 20 %

Outputs

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

Safety-related switching or	utputs	

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 µH
Load capacity	1 µF
Residual current, max.	200 mA
Residual current, typ.	2 mA

Safety-related switching output 1

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

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Safety-related switching o	utput 2
Assignment	Receiver device connection, pin 4
Switching element	Transistor, PNP
Timing	
Response time	8 ms
Connection	
Number of connections	
	2 Piece(s)
Connection 1	
Function	Transmitter device connection
Type of connection	Cable with connector
Cable length	160 mm
Sheathing material	PUR M12
Thread size	
Material	Plastic 5. pin
No. of pins	5 -pin
Connection 2	
Function	Receiver device connection
Type of connection	Cable with connector
Cable length	160 mm
•	PUR
Sheathing material	
Sheathing material Thread size	M12
-	M12 Plastic
Thread size	
Thread size Material No. of pins Mechanical data	Plastic 5 -pin
Thread size Material No. of pins Mechanical data Dimension (W x H x L)	Plastic 5 -pin 15.4 mm x 270 mm x 32.6 mm
Thread size Material No. of pins Mechanical data Dimension (W x H x L) Housing material	Plastic 5 -pin 15.4 mm x 270 mm x 32.6 mm Metal
Thread size Material No. of pins Mechanical data Dimension (W x H x L) Housing material Metal housing	Plastic 5 -pin 15.4 mm x 270 mm x 32.6 mm Metal Aluminum
Thread size Material No. of pins Mechanical data Dimension (W x H x L) Housing material Metal housing Lens cover material	Plastic 5 -pin 15.4 mm x 270 mm x 32.6 mm Metal Aluminum Plastic / PMMA
Thread size Material No. of pins Mechanical data Dimension (W x H x L) Housing material Metal housing Lens cover material Material of end caps	Plastic 5 -pin 15.4 mm x 270 mm x 32.6 mm Metal Aluminum Plastic / PMMA Plastic
Thread size Material No. of pins Mechanical data Dimension (W x H x L) Housing material Metal housing Lens cover material Material of end caps Net weight	Plastic 5 -pin 15.4 mm x 270 mm x 32.6 mm Metal Aluminum Plastic / PMMA Plastic 1,400 g
Thread size Material No. of pins Mechanical data Dimension (W x H x L) Housing material Metal housing Lens cover material Material of end caps Net weight Housing color	Plastic 5 -pin 15.4 mm x 270 mm x 32.6 mm Metal Aluminum Plastic / PMMA Plastic 1,400 g Yellow, RAL 1021
Thread size Material No. of pins Mechanical data Dimension (W x H x L) Housing material Metal housing Lens cover material Material of end caps Net weight Housing color	Plastic 5 -pin 15.4 mm x 270 mm x 32.6 mm Metal Aluminum Plastic / PMMA Plastic 1,400 g Yellow, RAL 1021 C-shaped mounting bracket
Thread size Material No. of pins Mechanical data Dimension (W x H x L) Housing material Metal housing Lens cover material Material of end caps Net weight Housing color	Plastic 5 -pin 15.4 mm x 270 mm x 32.6 mm Metal Aluminum Plastic / PMMA Plastic 1,400 g Yellow, RAL 1021 C-shaped mounting bracket L-shaped mounting bracket
Thread size Material No. of pins Mechanical data Dimension (W x H x L) Housing material Metal housing Lens cover material Material of end caps Net weight Housing color	Plastic 5 -pin 15.4 mm x 270 mm x 32.6 mm Metal Aluminum Plastic / PMMA Plastic 1,400 g Yellow, RAL 1021 C-shaped mounting bracket
Thread size Material No. of pins Mechanical data Dimension (W x H x L) Housing material Metal housing Lens cover material Material of end caps Net weight Housing color Type of fastening	Plastic 5 -pin 15.4 mm x 270 mm x 32.6 mm Metal Aluminum Plastic / PMMA Plastic 1,400 g Yellow, RAL 1021 C-shaped mounting bracket L-shaped mounting bracket
Thread size Material No. of pins Mechanical data Dimension (W x H x L) Housing material Metal housing Lens cover material Material of end caps Net weight Housing color Type of fastening	Plastic 5 -pin 15.4 mm x 270 mm x 32.6 mm Metal Aluminum Plastic / PMMA Plastic 1,400 g Yellow, RAL 1021 C-shaped mounting bracket L-shaped mounting bracket O-shaped mounting bracket -10 55 °C
Thread size Material No. of pins Mechanical data Dimension (W x H x L) Housing material Metal housing Lens cover material Material of end caps Net weight Housing color Type of fastening Environmental data Ambient temperature, operation	Plastic 5 -pin 15.4 mm x 270 mm x 32.6 mm Metal Aluminum Plastic / PMMA Plastic 1,400 g Yellow, RAL 1021 C-shaped mounting bracket L-shaped mounting bracket O-shaped mounting bracket
Thread size Material No. of pins Mechanical data Dimension (W x H x L) Housing material Metal housing Lens cover material Material of end caps Net weight Housing color Type of fastening Environmental data Ambient temperature, operation Ambient temperature, storage	Plastic 5 -pin 15.4 mm x 270 mm x 32.6 mm Metal Aluminum Plastic / PMMA Plastic 1,400 g Yellow, RAL 1021 C-shaped mounting bracket L-shaped mounting bracket O-shaped mounting bracket -10 55 °C
Thread size Material No. of pins Mechanical data Dimension (W x H x L) Housing material Metal housing Lens cover material Material of end caps Net weight Housing color Type of fastening Environmental data Ambient temperature, operation Ambient temperature, storage Relative humidity (non-condensing)	Plastic 5 -pin 15.4 mm x 270 mm x 32.6 mm Metal Aluminum Plastic / PMMA Plastic / PMMA Plastic 1,400 g Yellow, RAL 1021 C-shaped mounting bracket L-shaped mounting bracket C-shaped mounting bracket -shaped mounting bracket -shaped mounting bracket -shaped mounting bracket -shaped mounting bracket
Thread size Material No. of pins Mechanical data Dimension (W x H x L) Housing material Metal housing Lens cover material Material of end caps Net weight Housing color Type of fastening Environmental data Ambient temperature, operation Ambient temperature, storage Relative humidity (non-condensing) Certifications	Plastic 5 -pin 15.4 mm x 270 mm x 32.6 mm Metal Aluminum Plastic / PMMA Plastic / PMMA Plastic 1,400 g Yellow, RAL 1021 C-shaped mounting bracket L-shaped mounting bracket C-shaped mounting bracket -shaped mounting bracket -shaped mounting bracket -shaped mounting bracket -shaped mounting bracket
Thread size Material No. of pins Mechanical data Dimension (W x H x L) Housing material Metal housing Lens cover material Material of end caps Net weight Housing color Type of fastening Environmental data Ambient temperature, operation Ambient temperature, storage Relative humidity (non-condensing) Certifications Degree of protection	Plastic 5 -pin 15.4 mm x 270 mm x 32.6 mm Metal Aluminum Plastic / PMMA Plastic 1,400 g Yellow, RAL 1021 C-shaped mounting bracket L-shaped mounting bracket O-shaped mounting bracket -10 55 °C -30 70 °C 15 95 %
Thread size Material No. of pins Mechanical data Dimension (W x H x L) Housing material Metal housing Lens cover material Material of end caps Net weight Housing color Type of fastening Environmental data Ambient temperature, operation	Plastic 5 -pin 15.4 mm x 270 mm x 32.6 mm Metal Aluminum Plastic / PMMA Plastic 1,400 g Yellow, RAL 1021 C-shaped mounting bracket L-shaped mounting bracket O-shaped mounting bracket -10 55 °C -30 70 °C 15 95 %
Thread size Material No. of pins Mechanical data Dimension (W x H x L) Housing material Metal housing Lens cover material Material of end caps Net weight Housing color Type of fastening Environmental data Ambient temperature, operation Ambient temperature, storage Relative humidity (non-condensing) Certifications Degree of protection Protection class	Plastic 5 -pin 15.4 mm x 270 mm x 32.6 mm Metal Aluminum Plastic / PMMA Plastic 1,400 g Yellow, RAL 1021 C-shaped mounting bracket L-shaped mounting bracket O-shaped mounting bracket -10 55 °C -30 70 °C 15 95 % IP 65 III
Thread size Material No. of pins Mechanical data Dimension (W x H x L) Housing material Metal housing Lens cover material Material of end caps Net weight Housing color Type of fastening Environmental data Ambient temperature, operation Ambient temperature, storage Relative humidity (non-condensing) Certifications Degree of protection Protection class Certifications	Plastic 5 -pin 15.4 mm x 270 mm x 32.6 mm Metal Aluminum Plastic / PMMA Plastic 1,400 g Yellow, RAL 1021 C-shaped mounting bracket L-shaped mounting bracket C-shaped mounting bracket -10 55 °C -30 70 °C 15 95 % IP 65 III TÜV Süd

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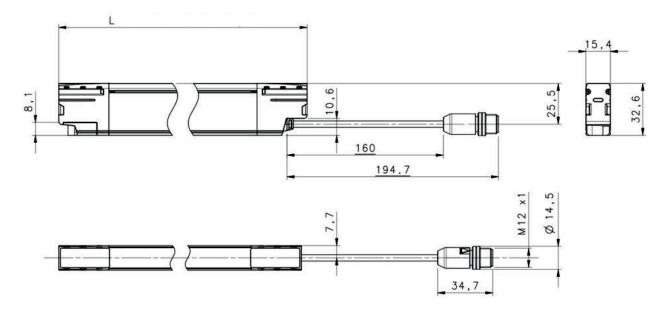
Technical data

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

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

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Electrical connection

RESTART SELECTION

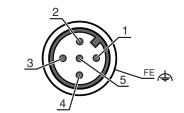
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Pin Pin assignment +24 V DC 1 2 RESTART SELECTION 3

0 V

n.c.

Conductor color



Connection 2

4

5

Receiver

Brown

White

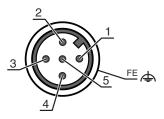
Blue

Black

Gray

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: N	LCxxx-ooo-aa-hhhh
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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				



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

Accessories

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