

Technical data sheet Safety sensor set

Part no.: 68602117 MLC520-S-24-1170



The Sensor People In der Braike 1, 73277 Owen

Leuze electronic GmbH + Co. KG info@leuze.com • www.leuze.com Phone: +49 7021 573-0 • Fax: +49 7021 573-199

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-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

1,170 mm

0.2 ... 6 m

Protective field data

Resolution Protective field height Operating range

Optical data

Number of beams	62 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	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 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

	Safety-related switching o	ulpul Z
	Assignment	Receiver device connection, pin 4
	Switching element	Transistor, PNP
Timin	g	
	nse time	13 ms
Conne	ection	
	er of connections	2 Piece(s)
Numbe		2 Field(3)
Cor	nnection 1	
Fun	ction	Transmitter device connection
Туре	e of connection	Cable with connector
Cab	le length	160 mm
	athing material	PUR
	ead size	M12
Mate	erial	Plastic
No.	of pins	5 -pin
Cor	nection 2	
	ction	Receiver device connection
	e of connection	Cable with connector
	le length	160 mm
	athing material	PUR
	-	1440
	ead size	M12
Thre	ead size erial	M12 Plastic
Thre Mate		
Three Mate	erial	Plastic
Thre Mate No. • Mecha	erial of pins	Plastic
Three Mate No. 4 Mecha Dimens Housin	erial of pins anical data sion (W x H x L) ng material	Plastic 5 -pin 15.4 mm x 1,170 mm x 32.6 mm Metal
Three Mate No. 4 Mecha Dimens Housin Metal h	erial of pins anical data sion (W x H x L) ng material nousing	Plastic 5 -pin 15.4 mm x 1,170 mm x 32.6 mm Metal Aluminum
Three Mate No. 4 Mecha Dimens Housin Metal h Lens c	erial of pins anical data sion (W x H x L) ng material nousing cover material	Plastic 5 -pin 15.4 mm x 1,170 mm x 32.6 mm Metal Aluminum Plastic / PMMA
Three Mate No. 4 Mecha Dimens Housin Metal h Lens c	erial of pins anical data sion (W x H x L) ng material nousing	Plastic 5 -pin 15.4 mm x 1,170 mm x 32.6 mm Metal Aluminum
Three Mate No. Mecha Dimens Housin Metal H Lens c Materia Net we	erial of pins anical data sion (W x H x L) ng material nousing sover material al of end caps sight	Plastic 5 -pin 15.4 mm x 1,170 mm x 32.6 mm Metal Aluminum Plastic / PMMA Plastic 5,900 g
Three Mate No. 1 Mecha Dimens Housin Metal H Lens c Materia Net we Housin	erial of pins anical data sion (W x H x L) ng material nousing sover material al of end caps sight ng color	Plastic 5 -pin 15.4 mm x 1,170 mm x 32.6 mm Metal Aluminum Plastic / PMMA Plastic 5,900 g Yellow, RAL 1021
Three Mate No Dimens Housin Metal H Lens c Materia Net we Housin	erial of pins anical data sion (W x H x L) ng material nousing sover material al of end caps sight	Plastic 5 -pin 15.4 mm x 1,170 mm x 32.6 mm Metal Aluminum Plastic / PMMA Plastic 5,900 g Yellow, RAL 1021 C-shaped mounting bracket
Three Mate No. 1 Mecha Dimens Housin Metal H Lens c Materia Net we Housin	erial of pins anical data sion (W x H x L) ng material nousing sover material al of end caps sight ng color	Plastic 5 -pin 15.4 mm x 1,170 mm x 32.6 mm Metal Aluminum Plastic / PMMA Plastic 5,900 g Yellow, RAL 1021 C-shaped mounting bracket L-shaped mounting bracket
Three Mate No. 1 Mecha Dimens Housin Metal H Lens c Materia Net we Housin	erial of pins anical data sion (W x H x L) ng material nousing sover material al of end caps sight ng color	Plastic 5 -pin 15.4 mm x 1,170 mm x 32.6 mm Metal Aluminum Plastic / PMMA Plastic 5,900 g Yellow, RAL 1021 C-shaped mounting bracket
Three Mate No. 7 Mecha Dimens Housir Metal H Lens c Materia Net we Housir Type o	erial of pins anical data sion (W x H x L) ng material nousing sover material al of end caps sight ng color	Plastic 5 -pin 15.4 mm x 1,170 mm x 32.6 mm Metal Aluminum Plastic / PMMA Plastic 5,900 g Yellow, RAL 1021 C-shaped mounting bracket L-shaped mounting bracket
Three Mate No Dimens Housin Metal H Lens c Materia Net we Housin Type o	erial of pins anical data sion (W x H x L) ng material nousing over material al of end caps oight ng color f fastening	Plastic 5 -pin 15.4 mm x 1,170 mm x 32.6 mm Metal Aluminum Plastic / PMMA Plastic 5,900 g Yellow, RAL 1021 C-shaped mounting bracket L-shaped mounting bracket
Three Mate No Dimens Housin Metal H Lens c Materia Net we Housin Type o	erial of pins anical data sion (W x H x L) ng material nousing sover material al of end caps bight ng color f fastening	Plastic 5 -pin 15.4 mm x 1,170 mm x 32.6 mm Metal Aluminum Plastic / PMMA Plastic 5,900 g Yellow, RAL 1021 C-shaped mounting bracket L-shaped mounting bracket O-shaped mounting bracket
Three Mate No Dimens Housin Metal H Lens c Materia Net we Housin Type o Enviro Ambiel Ambiel	erial of pins anical data sion (W x H x L) ng material nousing sover material al of end caps sight ng color f fastening	Plastic 5 -pin 15.4 mm x 1,170 mm x 32.6 mm Metal Aluminum Plastic / PMMA Plastic 5,900 g Yellow, RAL 1021 C-shaped mounting bracket L-shaped mounting bracket -shaped mounting bracket -10 55 °C
Three Mater No Dimens Housin Metal H Lens c Materia Net we Housin Type o Enviro Ambien Relativ	erial of pins anical data sion (W x H x L) ng material nousing sover material al of end caps bight ng color f fastening onmental data nt temperature, operation nt temperature, storage	Plastic 5 -pin 15.4 mm x 1,170 mm x 32.6 mm Metal Aluminum Plastic / PMMA Plastic 5,900 g Yellow, RAL 1021 C-shaped mounting bracket L-shaped mounting bracket C-shaped mounting bracket -shaped mounting bracket -10 55 °C -30 70 °C
Three Mate No. 1 Mecha Dimens Housin Metal H Lens c Materia Net we Housin Type o Enviro Ambiei Relativ	erial of pins anical data sion (W x H x L) ng material nousing sover material al of end caps sight ng color f fastening onmental data nt temperature, operation nt temperature, storage re humidity (non-condensing)	Plastic 5 -pin 15.4 mm x 1,170 mm x 32.6 mm Metal Aluminum Plastic / PMMA Plastic / PMMA Plastic 5,900 g Yellow, RAL 1021 C-shaped mounting bracket L-shaped mounting bracket C-shaped mounting bracket -shaped mounting bracket
Three Mate No. Dimens Housin Metal H Lens c Materia Net we Housin Type o Enviro Ambiei Relativ Certifi Degree	erial of pins anical data sion (W x H x L) ng material nousing over material al of end caps bight ng color f fastening onmental data nt temperature, operation nt temperature, storage re humidity (non-condensing) ications	Plastic 5 -pin 15.4 mm x 1,170 mm x 32.6 mm Metal Aluminum Plastic / PMMA Plastic 5,900 g Yellow, RAL 1021 C-shaped mounting bracket L-shaped mounting bracket O-shaped mounting bracket -10 55 °C -30 70 °C 15 95 %
Three Mate No. Dimens Housin Metal H Lens c Materia Net we Housin Type o Enviro Ambiel Ambiel Relativ Certifi Degree Protec	erial of pins anical data sion (W x H x L) ng material nousing over material al of end caps right ng color f fastening onmental data nt temperature, operation nt temperature, storage re humidity (non-condensing) ications e of protection	Plastic 5 -pin 15.4 mm x 1,170 mm x 32.6 mm Metal Aluminum Plastic / PMMA Plastic 5,900 g Yellow, RAL 1021 C-shaped mounting bracket L-shaped mounting bracket C-shaped mounting bracket -10 55 °C -30 70 °C 15 95 %
Three Mate No. Dimens Housin Metal P Lens c Materia Net we Housin Type o Enviro Ambiel Relativ Certific	erial of pins anical data sion (W x H x L) ng material nousing over material al of end caps hight ng color f fastening onmental data nt temperature, operation nt temperature, storage re humidity (non-condensing) ications e of protection tion class	Plastic 5 -pin 15.4 mm x 1,170 mm x 32.6 mm Metal Aluminum Plastic / PMMA Plastic 5,900 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
Three Mate No. Dimens Housin Metal P Lens c Materia Net we Housin Type o Enviro Ambiel Relativ Certific Degree Protec: Certific	erial of pins anical data sion (W x H x L) ng material housing over material al of end caps hight ng color f fastening onmental data nt temperature, operation nt temperature, storage re humidity (non-condensing) ications e of protection tion class cations	Plastic 5 -pin 15.4 mm x 1,170 mm x 32.6 mm Metal Aluminum Plastic / PMMA Plastic 5,900 g Yellow, RAL 1021 C-shaped mounting bracket L-shaped mounting bracket L-shaped mounting bracket O-shaped mounting bracket -10 55 °C -30 70 °C 15 95 % IP 65 III TÜV Süd

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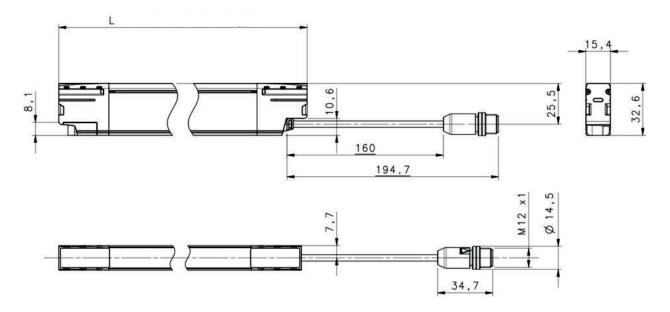
Technical data

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

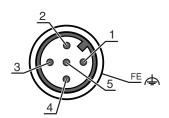
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Pin Pin assignment 1 +24 V DC 2 RESTART SELECTION 3 0 V

RESTART SELECTION

n.c.

Conductor color



Connection 2

4

5

Receiver

Brown

White

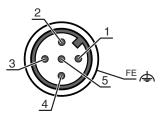
Blue

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

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



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	Second Se