



Figure can vary

**Part no.: 50137194**  
**LS3CL1/XX-M8**  
**Throughbeam photoelectric sensor transmitter**



## Contents

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- Suitable receivers
- Dimensioned drawings
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## Technical data

<b>Basic data</b>	
Series	3C
Operating principle	Throughbeam principle
Device type	Transmitter
<b>Optical data</b>	
Operating range	Guaranteed operating range
Operating range	0 ... 5 m
Operating range limit	Typical operating range
Operating range limit	0 ... 10 m
Beam profile	Collimated
Light source	Laser, Red
Laser light wavelength	650 nm
Laser class	1, IEC / EN 60825-1:2014
Transmitted-signal shape	Pulsed
Light-spot size [at sensor distance]	2.5 mm x 2 mm [1,000 mm]
Type of light-spot geometry	elliptic
<b>Electrical data</b>	
Protective circuit	Polarity reversal protection Short circuit protected
<b>Performance data</b>	
Supply voltage	10 ... 30 V, DC, Incl. residual ripple
Residual ripple	0 ... 15 %, From $U_B$
Open-circuit current	0 ... 20 mA
<b>Timing</b>	
Readiness delay	300 ms
<b>Connection</b>	
<b>Connection 1</b>	
Type of connection	Connector
Function	Voltage supply
Thread size	M8
Type	Male
Material	Metal
No. of pins	4 -pin
<b>Mechanical data</b>	
Dimension (W x H x L)	11.4 mm x 34.2 mm x 18.3 mm
Housing material	Plastic, PC-ABS
Lens cover material	Plastic / PMMA
Net weight	10 g
Housing color	Red
Type of fastening	Through-hole mounting Via optional mounting device
Compatibility of materials	ECOLAB

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### Operation and display

Type of display	LED
Number of LEDs	2 Piece(s)

### Environmental data

Ambient temperature, operation	-40 ... 55 °C
Ambient temperature, storage	-40 ... 70 °C




### Certifications

Degree of protection	IP 67 IP 69K
Protection class	III
Certifications	c UL US
Standards applied	IEC 60947-5-2

### Classification

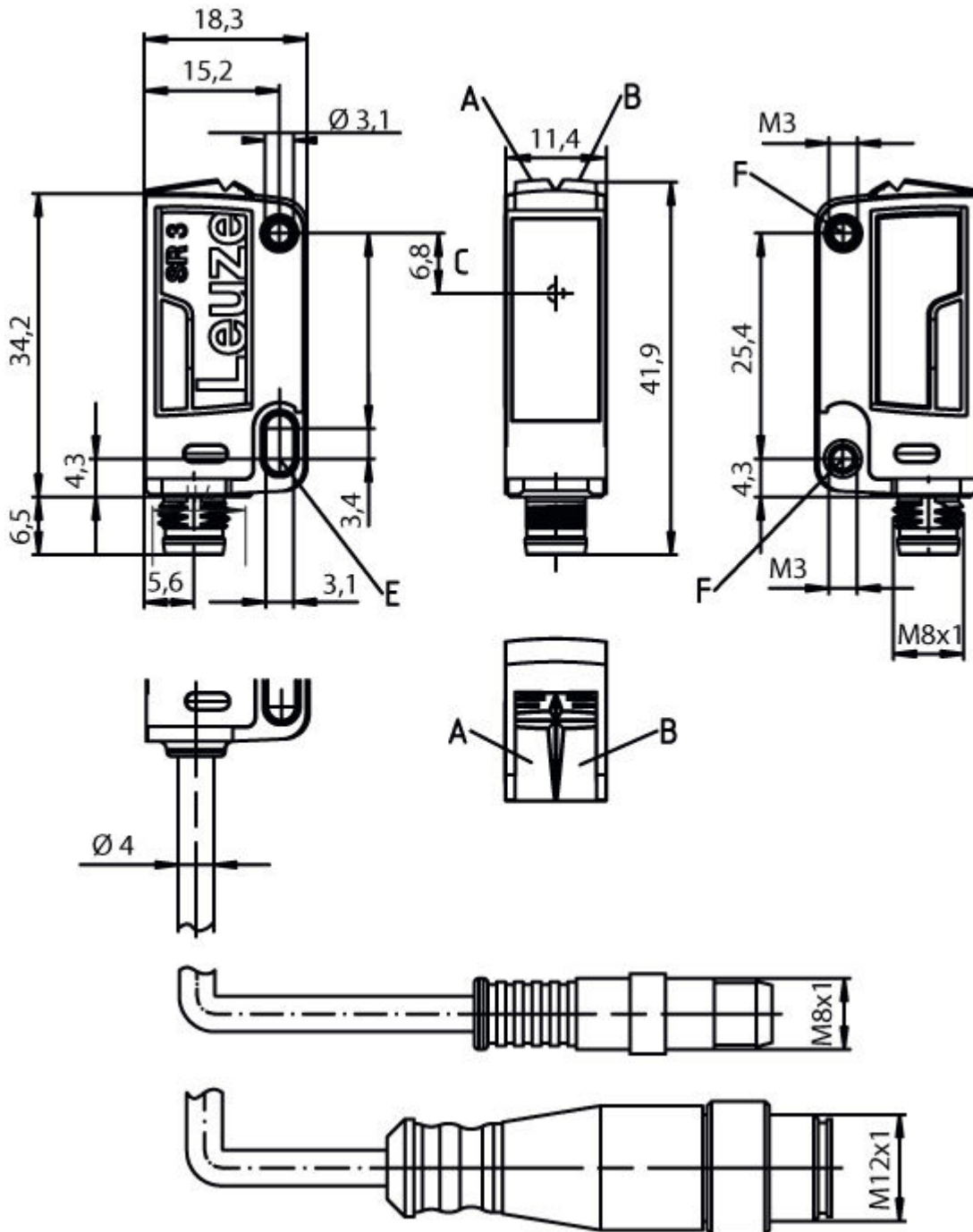
eCl@ss 8.0	27270901
eCl@ss 9.0	27270901
ETIM 5.0	EC002716

## Suitable receivers

	Part no.	Designation	Article	Description
	50137205	LE3CL1.1/4W-M8	Throughbeam photoelectric sensor receiver	Special design: Warning output Operating range limit: 0 ... 10 m Supply voltage: DC Digital switching outputs: 2 Piece(s) Switching output 1: Transistor, PNP, Light switching Switching output 2: Transistor, PNP, U <sub>B</sub> switching Switching frequency: 3,000 Hz Connection: Connector, M8, Metal, 4 -pin Operational controls: 270° potentiometer
	50137201	LE3CL1.1/6G-M8	Throughbeam photoelectric sensor receiver	Operating range limit: 0 ... 10 m Supply voltage: DC Digital switching outputs: 2 Piece(s) Switching output 1: Transistor, Push-pull, Light switching (PNP)/dark switching (NPN) Switching output 2: Transistor, Push-pull, Dark switching (PNP)/light switching (NPN) Switching frequency: 3,000 Hz Connection: Connector, M8, Metal, 4 -pin Operational controls: 270° potentiometer
	50137207	LE3CL1.1/LP-M8	Throughbeam photoelectric sensor receiver	Operating range limit: 0 ... 10 m Supply voltage: DC Digital switching outputs: 2 Piece(s) Switching output 1: Transistor, Push-pull, IO-Link / light switching (PNP)/dark switching (NPN) Switching output 2: Transistor, PNP, Dark switching Switching frequency: 1,000 Hz Interface: IO-Link Connection: Connector, M8, Metal, 4 -pin Operational controls: 270° potentiometer

## Dimensioned drawings

All dimensions in millimeters



- A Green LED
- B Yellow LED
- C Optical axis
- E Mounting sleeve (standard)
- F Threaded sleeve (3C.B series)

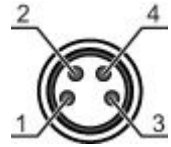
## Electrical connection

Connection 1	
Type of connection	Connector
Function	Voltage supply
Thread size	M8

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Connection 1	
Type	Male
Material	Metal
No. of pins	4 -pin
Encoding	

Pin	Pin assignment
1	V+
2	n.c.
3	GND
4	n.c.



## Operation and display

### LEDs

LED	Display	Meaning
1	Green, continuous light	Operational readiness
2	Yellow, continuous light	Transmitted beam active

## Part number code

Part designation: **AAA 3C d EE-f.GG H/i J-K**






AAA3C	<b>Operating principle / construction:</b> HT3C: diffuse reflection sensor with background suppression LS3C: throughbeam photoelectric sensor transmitter LE3C: throughbeam photoelectric sensor receiver PRK3C: retro-reflective photoelectric sensor with polarization filter
d	<b>Light type:</b> n/a: red light l: infrared light
EE	<b>Light source:</b> n/a: LED L1: laser class 1 L2: laser class 2
f	<b>Pre-set range (optional):</b> n/a: operating range acc. to data sheet XXXX: pre-set range [mm]
GG	<b>Equipment:</b> n/a: standard A: autocollimation principle (single lens) for positioning tasks B: housing model with two M3 threaded sleeves, brass F: permanently set range L: long light spot S: small light spot T: autocollimation principle (single lens) for highly transparent bottles without tracking TT: autocollimation principle (single lens) for highly transparent bottles with tracking V: V-optics XL: extra long light spot
H	<b>Operating range adjustment:</b> n/a with HT: range adjustable via 8-turn potentiometer n/a with retro-reflective photoelectric sensors (PRK): operating range not adjustable 1: 270° potentiometer 3: teach-in via button 6: auto-teach

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i	<p><b>Switching output/function OUT 1/IN: Pin 4 or black conductor:</b>                  2: NPN transistor output, light switching                  N: NPN transistor output, dark switching                  4: PNP transistor output, light switching                  P: PNP transistor output, dark switching                  6: push-pull switching output, PNP light switching, NPN dark switching                  G: push-pull switching output, PNP dark switching, NPN light switching                  L: IO-Link                  8: activation input (activation with high signal)                  X: pin not used</p>
J	<p><b>Switching output / function OUT 2/IN: pin 2 or white conductor:</b>                  2: NPN transistor output, light switching                  N: NPN transistor output, dark switching                  4: PNP transistor output, light switching                  P: PNP transistor output, dark switching                  6: push-pull switching output, PNP light switching, NPN dark switching                  G: push-pull switching output, PNP dark switching, NPN light switching                  W: warning output                  X: not connected (n. c.)                  8: activation input (activation with high signal)                  9: deactivation input (deactivation with high signal)                  T: teach-in via cable</p>
K	<p><b>Electrical connection:</b>                  n/a: cable, PVC, standard length 2000 mm, 4-wire                  5000: cable, PVC, standard length 5000 mm, 4-wire                  M8: M8 connector, 4-pin (plug)                  M8.3: M8 connector, 3-pin (plug)                  200-M8: cable, PVC, length 200 mm with M8 connector, 4-pin, axial (plug)                  200-M8.3: cable, PVC, length 200 mm with M8 connector, 3-pin, axial (plug)                  200-M12: cable, PVC, length 200 mm with M12 connector, 4-pin, axial (plug)</p>

## Accessories


### Connection technology - Connection cables

	Part no.	Designation	Article	Description
	50106152	K-D M8A-4P-2m-FAB	Connection cable	Connection 1: Connector, M8, Axial, Female, 4 -pin Connection 2: Open end Shielded: No Cable length: 2,000 mm Sheathing material: FAB
	50106153	K-D M8A-4P-5m-FAB	Connection cable	Connection 1: Connector, M8, Axial, Female, 4 -pin Connection 2: Open end Shielded: No Cable length: 5,000 mm Sheathing material: FAB
	50106154	K-D M8W-4P-2m-FAB	Connection cable	Connection 1: Connector, M8, Angled, Female, 4 -pin Connection 2: Open end Shielded: No Cable length: 2,000 mm Sheathing material: FAB
	50106155	K-D M8W-4P-5m-FAB	Connection cable	Connection 1: Connector, M8, Angled, Female, 4 -pin Connection 2: Open end Shielded: No Cable length: 5,000 mm Sheathing material: FAB
	50130854	KD U-M8-4A-P1-020	Connection cable	Connection 1: Connector, M8, Axial, Female, 4 -pin Connection 2: Open end Shielded: No Cable length: 2,000 mm Sheathing material: PUR


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	Part no.	Designation	Article	Description
	50130856	KD U-M8-4A-P1-050	Connection cable	Connection 1: Connector, M8, Axial, Female, 4 -pin Connection 2: Open end Shielded: No Cable length: 5,000 mm Sheathing material: PUR
	50130857	KD U-M8-4A-P1-100	Connection cable	Connection 1: Connector, M8, Axial, Female, 4 -pin Connection 2: Open end Shielded: No Cable length: 10,000 mm Sheathing material: PUR
	50130848	KD U-M8-4A-V1-020	Connection cable	Connection 1: Connector, M8, Axial, Female, 4 -pin Connection 2: Open end Shielded: No Cable length: 2,000 mm Sheathing material: PVC
	50130850	KD U-M8-4A-V1-050	Connection cable	Connection 1: Connector, M8, Axial, Female, 4 -pin Connection 2: Open end Shielded: No Cable length: 5,000 mm Sheathing material: PVC
	50130851	KD U-M8-4A-V1-100	Connection cable	Connection 1: Connector, M8, Axial, Female, 4 -pin Connection 2: Open end Shielded: No Cable length: 10,000 mm Sheathing material: PVC
	50130873	KD U-M8-4W-P1-020	Connection cable	Connection 1: Connector, M8, Angled, Female, 4 -pin Connection 2: Open end Shielded: No Cable length: 2,000 mm Sheathing material: PUR
	50130875	KD U-M8-4W-P1-050	Connection cable	Connection 1: Connector, M8, Angled, Female, 4 -pin Connection 2: Open end Shielded: No Cable length: 5,000 mm Sheathing material: PUR
	50130876	KD U-M8-4W-P1-100	Connection cable	Connection 1: Connector, M8, Angled, Female, 4 -pin Connection 2: Open end Shielded: No Cable length: 10,000 mm Sheathing material: PUR
	50130869	KD U-M8-4W-V1-020	Connection cable	Connection 1: Connector, M8, Angled, Female, 4 -pin Connection 2: Open end Shielded: No Cable length: 2,000 mm Sheathing material: PVC
	50130871	KD U-M8-4W-V1-050	Connection cable	Connection 1: Connector, M8, Angled, Female, 4 -pin Connection 2: Open end Shielded: No Cable length: 5,000 mm Sheathing material: PVC






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	Part no.	Designation	Article	Description
	50130872	KD U-M8-4W-V1-100	Connection cable	Connection 1: Connector, M8, Angled, Female, 4 -pin Connection 2: Open end Shielded: No Cable length: 10,000 mm Sheathing material: PVC

**Connection technology - Interconnection cables**

	Part no.	Designation	Article	Description
	50130916	KDS U-M8-4A-M8-4A-P1-020	Interconnection cable	Connection 1: Connector, M8, Axial, Female, 4 -pin Connection 2: Connector, M8, Axial, Male, 4 -pin Shielded: No Cable length: 2,000 mm Sheathing material: PUR

**Mounting technology - Mounting brackets**

	Part no.	Designation	Article	Description
	50118542	BT 200M.5	Mounting bracket	Design of mounting device: Angle, L-shape Fastening, at system: Through-hole mounting Mounting bracket, at device: Screw type Type of mounting device: Adjustable Material: Stainless steel
	50124651	BT 205M-10SET	Mounting device set	Contains: 10x Design of mounting device: Angle, L-shape Fastening, at system: Through-hole mounting Mounting bracket, at device: Screw type Type of mounting device: Rigid Material: Metal
	50060511	BT 3	Mounting device	Design of mounting device: Angle, L-shape Fastening, at system: Through-hole mounting Mounting bracket, at device: Screw type Type of mounting device: Rigid Material: Metal
	50105585	BT 3.1	Mounting strap set	Contains: 10x Design of mounting device: Retaining clip Fastening, at system: Through-hole mounting Mounting bracket, at device: Screw type Type of mounting device: Rigid Material: Metal
	50105546	BT 3B	Mounting device	Design of mounting device: Angle, L-shape Fastening, at system: Through-hole mounting Mounting bracket, at device: Screw type Type of mounting device: Rigid Material: Metal

## Mounting technology - Rod mounts

	Part no.	Designation	Article	Description
	50117830	BTP 200M-D10	Mounting system	Design of mounting device: Protection hood Fastening, at system: For 10 mm rod Mounting bracket, at device: Screw type Type of mounting device: Clampable, Adjustable, Turning, 360° Material: Metal
	50117829	BTP 200M-D12	Mounting system	Design of mounting device: Protection hood Fastening, at system: For 12 mm rod Mounting bracket, at device: Screw type Type of mounting device: Clampable, Adjustable, Turning, 360° Material: Metal
	50117828	BTP 200M-D14	Mounting system	Design of mounting device: Protection hood Fastening, at system: For 14 mm rod Mounting bracket, at device: Screw type Type of mounting device: Clampable, Adjustable, Turning, 360° Material: Metal
	50117256	BTU 200M-D10	Mounting system	Contains: 2x M3 x 18 screw, 2x position washers Design of mounting device: Mounting system Fastening, at system: For 10 mm rod, Sheet-metal mounting Mounting bracket, at device: Screw type Type of mounting device: Clampable, Adjustable, Turning, 360° Material: Metal
	50117255	BTU 200M-D12	Mounting system	Contains: 2x M3 x 18 screw, 2x position washers Design of mounting device: Mounting system Fastening, at system: For 12 mm rod, Sheet-metal mounting Mounting bracket, at device: Screw type Type of mounting device: Clampable, Adjustable, Turning, 360° Material: Metal
	50117254	BTU 200M-D14	Mounting system	Contains: 2x M3 x 18 screw, 2x position washers Design of mounting device: Mounting system Fastening, at system: For 14 mm rod, Sheet-metal mounting Mounting bracket, at device: Screw type Type of mounting device: Clampable, Adjustable, Turning, 360° Material: Metal
	50120426	BTU 200M.5-D12	Mounting system	Contains: 2x M3 x 18 screw, 2x M3 mounting nut, 2x position washers Design of mounting device: Mounting system Fastening, at system: For 12 mm rod Mounting bracket, at device: Screw type Type of mounting device: Turning, 360°, Clampable, Adjustable Material: Stainless steel

## Notes

### Observe intended use!

- This product is not a safety sensor and is not intended as personnel protection.
- The product may only be put into operation by competent persons.
- Only use the product in accordance with its intended use.

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**For UL applications:**

- For UL applications, use is only permitted in Class 2 circuits in accordance with the NEC (National Electric Code).
- These proximity switches shall be used with UL Listed Cable assemblies rated 30V, 0.5A min, in the field installation, or equivalent (categories: CYJV/CYJV7 or PVVA/PVVA7)

**WARNING! LASER RADIATION – LASER CLASS 1**

The device satisfies the requirements of IEC 60825-1:2014 (EN 60825-1:2014) safety regulations for a product of **laser class 1** as well as the U.S. 21 CFR 1040.10 regulations with deviations corresponding to "Laser Notice No. 50" from June 24, 2007.

- Observe the applicable statutory and local laser protection regulations.
- The device must not be tampered with and must not be changed in any way.  
There are no user-serviceable parts inside the device.  
Repairs must only be performed by Leuze electronic GmbH + Co. KG.

- Light source: Average life expectancy 50,000 h at an ambient temperature of 25 °C