



Figure can vary

**Part no.: 50137174**  
**LS3C.B/8X-M8**  
**Throughbeam photoelectric sensor transmitter**



## Contents

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- Dimensioned drawings
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## Technical data

<b>Basic data</b>	
Series	3C
Operating principle	Throughbeam principle
Device type	Transmitter
<b>Special design</b>	
Special design	Activation input
<b>Optical data</b>	
Operating range	Guaranteed operating range
Operating range	0.05 ... 8.5 m
Operating range limit	Typical operating range
Operating range limit	0.05 ... 10 m
Beam profile	Divergent
Light source	LED, Red
LED light wavelength	632 nm
LED protection class	Exempt group (in acc. with EN 62471)
Transmitted-signal shape	Pulsed
Light-spot size [at sensor distance]	4 mm [100 mm]
Type of light-spot geometry	Round
<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 <sub>B</sub>
Open-circuit current	0 ... 20 mA
<b>Inputs</b>	
Number of activation inputs	1 Piece(s)
<b>Activation inputs</b>	
Voltage type	DC
Switching voltage	high: ≥8V Low: ≤2V
<b>Activation input 1</b>	
Assignment	Connection 1, pin 4
Active switching state	High
<b>Timing</b>	
Readiness delay	300 ms
<b>Connection</b>	

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### Connection 1

Type of connection	Connector
Function	Signal IN Voltage supply
Thread size	M8
Type	Male
Material	Metal
No. of pins	4 -pin

### Mechanical data

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	Two M3 threaded sleeves Via optional mounting device
Compatibility of materials	ECOLAB

### Operation and display

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

### Environmental data

Ambient temperature, operation	-40 ... 60 °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

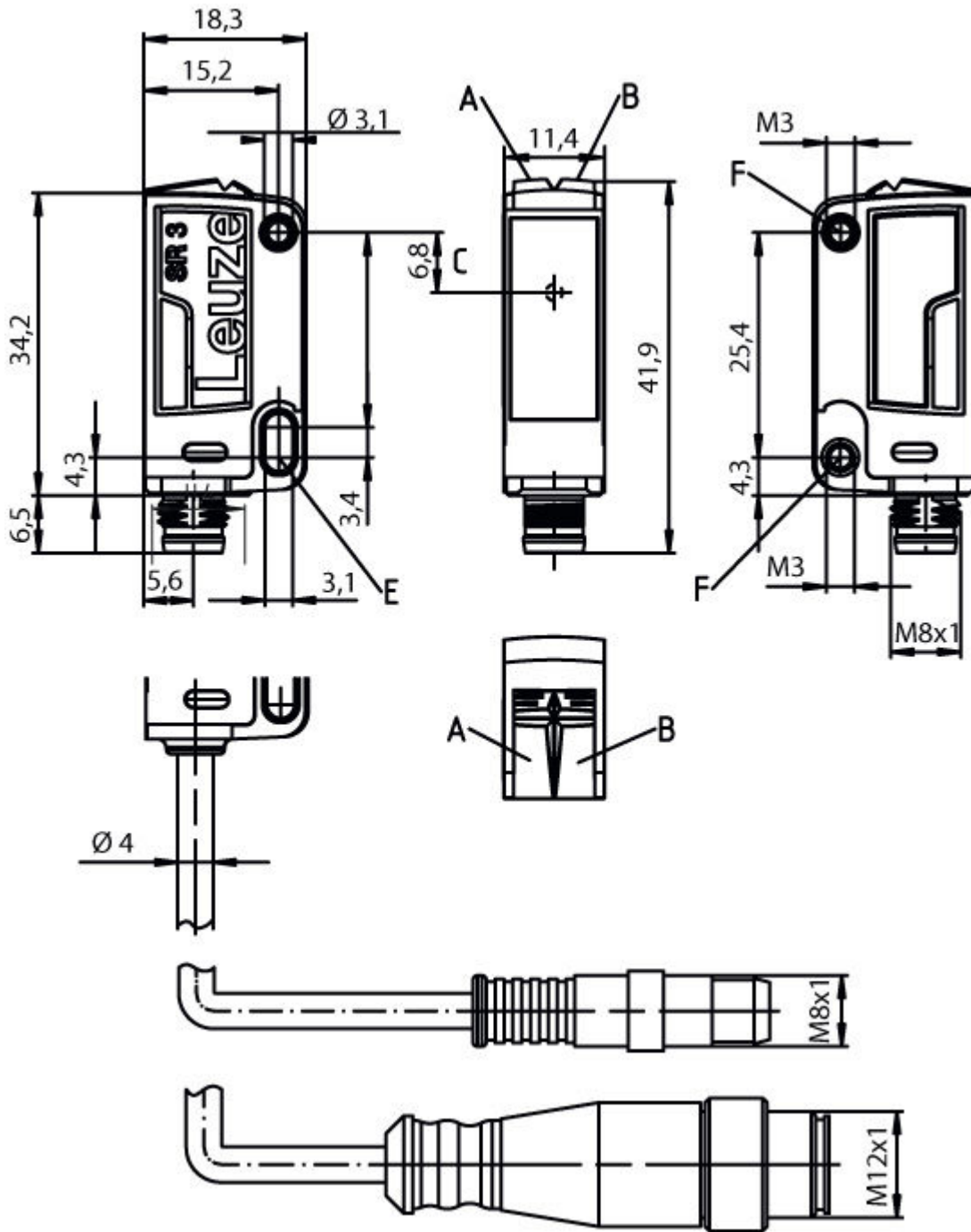
	Part no.	Designation	Article	Description
	50137190	LE3C.B/4W-M8	Throughbeam photoelectric sensor receiver	Special design: Warning output Operating range limit: 0.05 ... 10 m Supply voltage: DC Digital switching outputs: 2 Piece(s) Switching output 1: Transistor, PNP, Light switching Switching output 2: Transistor, PNP, U <sub>B</sub> switching Switching frequency: 1,000 Hz Connection: Connector, M8, Metal, 4 -pin

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	Part no.	Designation	Article	Description
	50137181	LE3C.B/6G-M8	Throughbeam photoelectric sensor receiver	Operating range limit: 0.05 ... 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: 1,000 Hz Connection: Connector, M8, Metal, 4 -pin
	50137193	LE3C.B/LP-M8	Throughbeam photoelectric sensor receiver	Operating range limit: 0.05 ... 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
	50137183	LE3C.B1/6G-M8	Throughbeam photoelectric sensor receiver	Operating range limit: 0.05 ... 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: 1,000 Hz Connection: Connector, M8, Metal, 4 -pin Operational controls: 270° potentiometer

## Dimensioned drawings

All dimensions in millimeters



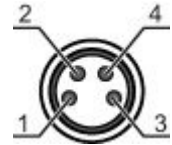
- A Green LED
- B Yellow LED
- C Optical axis
- E Mounting sleeve (standard)
- F Threaded sleeve (3C.B series)

## Electrical connection

Connection 1	
Type of connection	Connector
Function	Signal IN Voltage supply

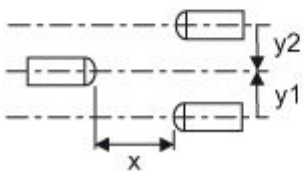
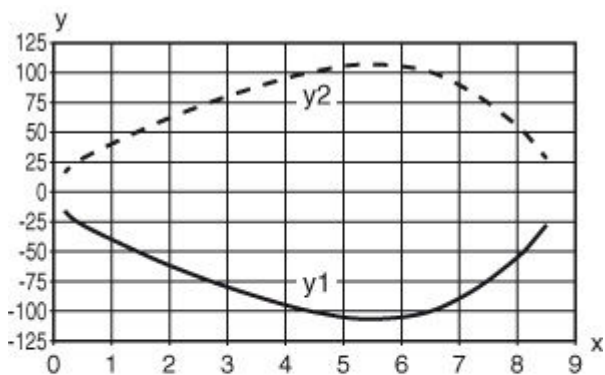
Connection 1	
Thread size	M8
Type	Male
Material	Metal
No. of pins	4 -pin
Encoding	

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



## Diagrams

Typ. response behavior



x Distance [m]  
y Misalignment [mm]

## Operation and display

LEDs

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

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## 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
i	<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
J	<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
K	<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)

**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
	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

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	Part no.	Designation	Article	Description
	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
	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

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## 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

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	Part no.	Designation	Article	Description
	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.

### 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)

- Light source: Average life expectancy 100,000 h at an ambient temperature of 25 °C