SMART
SENSOR
BUSINESS

Leuze electronic

the sensor people

Figure can vary

Part no.: 50137197
LS3CL1/XX
Throughbeam photoelectric sensor transmitter

Contents

Leuze electronic GmbH + Co. KG, In der Braike 1, 73277 Owen
Phone: +49 7021 573-0, Fax: +49 7021 573-199

Part no.: 50137197 – LS3CL1/XX – Throughbeam photoelectric sensor

Technical data

Basic data	
Series	3C
Operating principle	Throughbeam principle
Device type	Transmitter

Optical data	
Operating range	Guaranteed operating range
Operating range	0 ... 5 m
Operating range limit	Typical operating range
Operating range limit	0 ... 10 m
Beam path	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

Electrical data	
Protective circuit	Polarity reversal protection Short circuit protected
Performance data	
Supply voltage U_B	10 ... 30 V , DC , Incl. residual ripple
Residual ripple	0 ... 15 % , From U_B
Open-circuit current	0 ... 20 mA

Timing	
Readiness delay	300 ms

Connection	
Connection 1	
Function	Voltage supply
Type of connection	Cable
Cable length	2,000 mm
Sheathing material	PUR
Cable color	Black
Number of conductors	4 -wire
Wire cross section	0.2 mm²

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	50 g
Housing color	Red
Type of fastening	Through-hole mounting Via optional mounting device
Compatibility of materials	ECOLAB

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

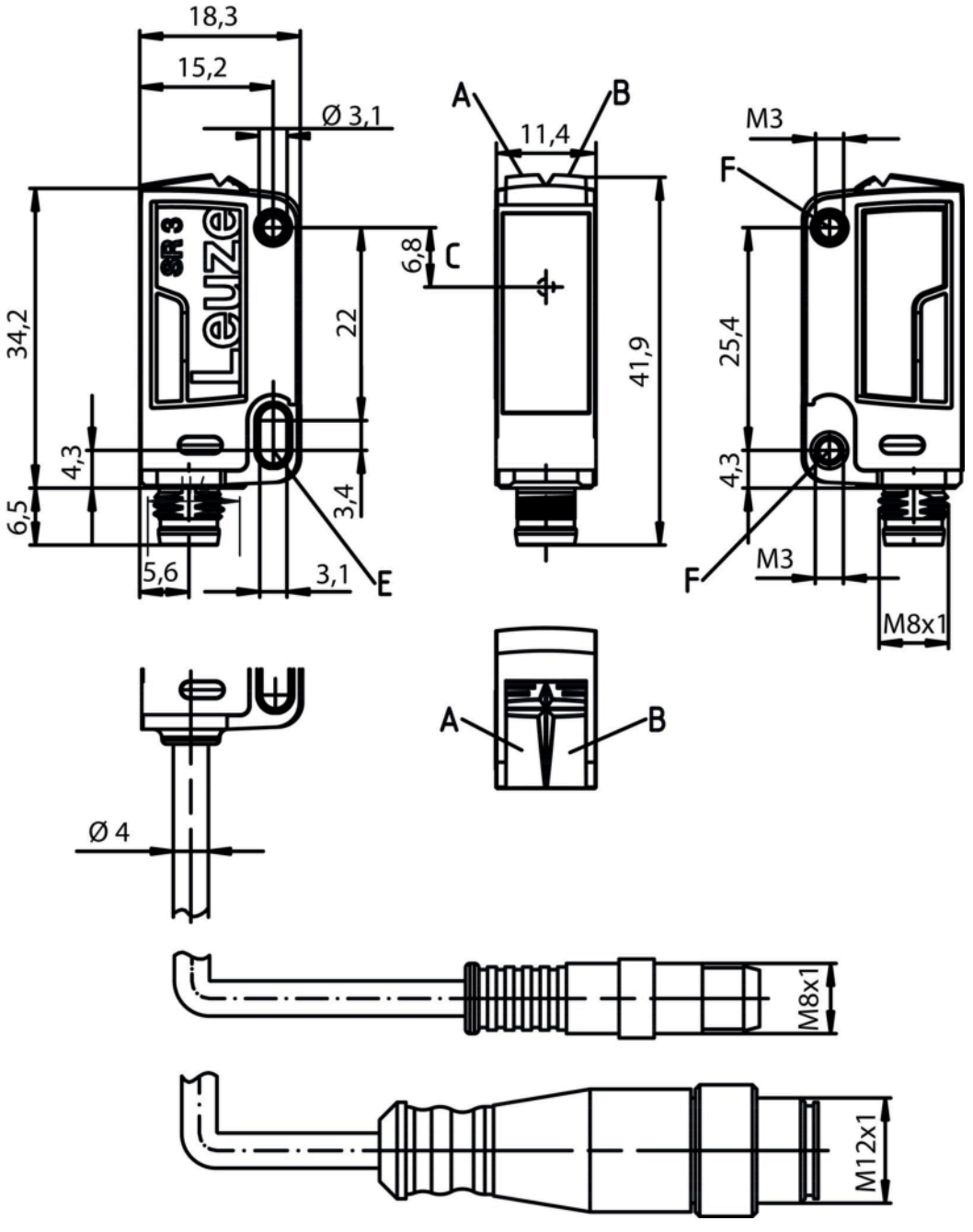
Environmental data	
Ambient temperature, operation	-40 ... 55 °C
Ambient temperature, storage	-40 ... 70 °C

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

Classification	
Customs tariff number	85365019
eCl@ss 8.0	27270901
eCl@ss 9.0	27270901
ETIM 5.0	EC002716
ETIM 6.0	EC002716

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

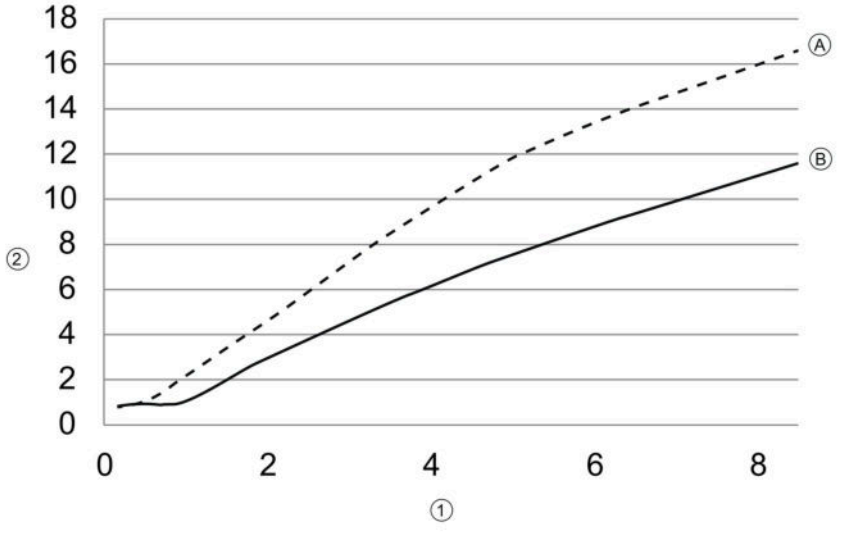
Connection 1	
Function	Voltage supply
Type of connection	Cable
Cable length	2,000 mm
Sheathing material	PUR

Connection 1	
Cable color	Black
Number of conductors	4 -wire
Wire cross section	0.2 mm²

Conductor color	Conductor assignment
Brown	V+
White	n.c.
Blue	GND
Black	n.c.

Diagrams

Typ. light spot size



x Distance [m]
y Diameter [mm]
1 Distance [m]
2 Diameter [mm]
A Vertical
B Horizontal

Operation and display

LEDs

LED	Display	Meaning
1	Green, continuous light	Operational readiness

LED	Display	Meaning
2	Yellow, continuous light	Transmitted beam active

Suitable receivers

	Part no.	Designation	Article	Description
	50137204	LE3CL1.1/6G	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: Cable, 2,000 mm, 4 -wire Operational controls: 270° potentiometer

Part number code

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

AAA3C	**Operating principle / construction:** 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	**Light type:** n/a: red light I: infrared light
EE	**Light source:** n/a: LED L1: laser class 1 L2: laser class 2
f	**Preset range (optional):** n/a: operating range acc. to data sheet xxxF: preset range [mm]
GG	**Equipment:** 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 X: extended model
H	**Operating range adjustment:** 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	**Switching output/function OUT 1/IN: Pin 4 or black conductor:** 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 interface (SIO mode: PNP light switching, NPN dark switching) 8: activation input (activation with high signal) X: pin not used 1: IO-Link / light switching (NPN) / dark switching (PNP)

J	**Switching output / function OUT 2/IN: pin 2 or white conductor:** 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: pin not used 8: activation input (activation with high signal) 9: deactivation input (deactivation with high signal) T: teach-in via cable
K	**Electrical connection:** n/a: cable, standard length 2000 mm, 4-wire 5000: cable, standard length 5000 mm, 4-wire M8: M8 connector, 4-pin (plug) M8.3: M8 connector, 3-pin (plug) 200-M8: cable, length 200 mm with M8 connector, 4-pin, axial (plug) 200-M8.3: cable, length 200 mm with M8 connector, 3-pin, axial (plug) 200-M12: cable, length 200 mm with M12 connector, 4-pin, axial (plug)

Note

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

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)

WARNING! LASER RADIATION – CLASS 1 LASER PRODUCT

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

Accessories

Mounting technology - Mounting brackets

	Part no.	Designation	Article	Description
	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

Mounting technology - Rod mounts

	Part no.	Designation	Article	Description
	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
	50117255	BTU 200M-D12	Mounting system	Design of mounting device: Mounting system Fastening, at system: For 12 mm rod, Sheet-metal mounting Mounting bracket, at device: Screw type, Suited for M3 screws Type of mounting device: Clampable, Adjustable, Turning, 360° Material: Metal

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