

## **Technical data sheet** Throughbeam photoelectric sensor receiver Part no.: 50137203

LE3CL1.1/6G-200-M12



Leuze electronic GmbH + Co. KG

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We reserve the right to make technical

3C

Receiver

0 ... 5 m

Throughbeam principle

Guaranteed operating range

Typical operating range

Short circuit protected

## **Technical data**

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#### **Basic data**

Series **Operating principle** Device type

#### **Optical data**

**Operating range Operating range Operating range limit Operating range limit** 

#### **Electrical data**

Protective circuit

Polarity reversal protection

0 ... 10 m

Performance data	
Supply voltage U <sub>B</sub>	10 30 V, DC, Incl. residual ripple
Residual ripple	0 15 %, From U <sub>B</sub>
Open-circuit current	0 20 mA

#### Outputs

Number of digital switching outputs 2 Piece(s)

Switching outputs	
Voltage type	DC
Switching current, max.	100 mA
Switching voltage	high: ≥(U <sub>B</sub> -2V)
	low: ≤ 2 V
Switching output 1	
Assignment	Connection 1, pin 4
Switching element	Transistor, Push-pull
Switching principle	Light switching (PNP)/dark switching (NPN)
Switching output 2	
Assignment	Connection 1, pin 2
Switching element	Transistor, Push-pull
Switching principle	Dark switching (PNP)/light switching (NPN)
e behavior	

#### Time

Switching frequency	3,000 Hz
Response time	0.16 ms
Readiness delay	300 ms

#### Connection

Connection 1	
Function	Signal OUT
	Voltage supply
Type of connection	Cable with connector
Cable length	200 mm
Sheathing material	PUR
Cable color	Black
Wire cross section	0.2 mm²
Thread size	M12
Туре	Male
Material	Metal
No. of pins	4 -pin
Encoding	A-coded

#### Mechanical data

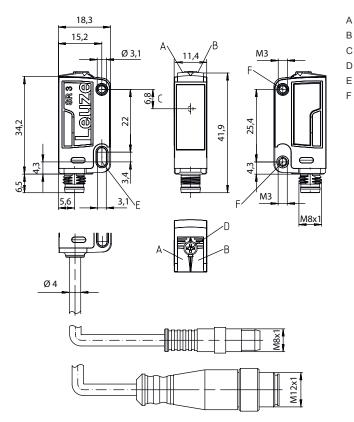
Dimension (W x H x L)	11.4 mm x 34.2 mm x 18.3 mm
Housing material	Plastic
Plastic housing	PC-ABS
Lens cover material	Plastic / PMMA
Net weight	20 g
Housing color	Red
Type of fastening	Through-hole mounting
	Via optional mounting device
Compatibility of materials	ECOLAB
Operation and display	
Type of display	LED
Number of LEDs	2 Piece(s)
Operational controls	270° potentiometer
Function of the operational control	Sensitivity adjustment
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	
Customs tariff number	85365019
ECLASS 5.1.4	27270901
ECLASS 8.0	27270901
ECLASS 9.0	27270901
ECLASS 10.0	27270901
ECLASS 11.0	27270901
ECLASS 12.0	27270901
ECLASS 13.0	27270901
ECLASS 14.0	27270901
ETIM 5.0	
	EC002716
ETIM 6.0	EC002716 EC002716
ETIM 6.0	EC002716
ETIM 6.0 ETIM 7.0	EC002716 EC002716

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## **Dimensioned drawings**



All dimensions in millimeters



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

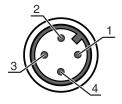
## **Electrical connection**

### **Connection 1**

Function	Signal OUT
	Voltage supply
Type of connection	Cable with connector
Cable length	200 mm
Sheathing material	PUR
Cable color	Black
Wire cross section	0.2 mm <sup>2</sup>
Thread size	M12
Туре	Male
Material	Metal
No. of pins	4 -pin
Encoding	A-coded

## Pin Pin assignment

1	V+
2	OUT 2
3	GND
4	OUT 1



## **Operation and display**

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LED	Display	Meaning
1	Green, continuous light	Operational readiness
2	Yellow, continuous light	Light path free
	Yellow, flashing	Light path free, no function reserve

## Suitable transmitters

Part no.	Designation	Article	Description
50137200	LS3CL1/8X-200-M12	Throughbeam photoelectric sensor transmitter	Special version: Activation input Operating range limit: 0 10 m Light source: Laser, Red Supply voltage: DC Connection: Cable with connector, 200 mm, M12, Metal, 4 -pin
50137196	LS3CL1/XX-200-M12	Throughbeam photoelectric sensor transmitter	Operating range limit: 0 10 m Light source: Laser, Red Supply voltage: DC Connection: Cable with connector, 200 mm, M12, Metal, 4 -pin

## 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 ODT3C: Distance diffuse sensor with background suppression
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] 2M: operating range of 2 meters
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 TT: autocollimation principle (single lens) for highly transparent bottles with tracking V: V-optics XL: Extra long light spot X: extended model HF: Suppression of HF illumination (LED)
н	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

### Part number code



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
к	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	

### Notes

Observe intended use!
<ul> <li><sup>t</sup> This product is not a safety sensor and is not intended as personnel protection.</li> <li><sup>t</sup> The product may only be put into operation by competent persons.</li> <li><sup>t</sup> Only use the product in accordance with its intended use.</li> </ul>

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

For UL applications:				
6	<ul> <li>✤ For UL applications, use i</li> <li>✤ These proximity switches CYJV7 or PVVA/PVVA7)</li> </ul>			

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/

## **Further information**



- · The push-pull switching outputs must not be connected in parallel.
- · Response time: For short decay times, an ohmic load of approx. 5kOhm is recommended
- Sum of the output currents for both outputs, 50 mA for ambient temperatures > 40 °C

## Accessories

## Connection technology - Connection cables

	Part no.	Designation	Article	Description
<i>V</i> ]	50130652	KD U-M12-4A-V1- 050	Connection cable	Connection 1: Connector, M12, Axial, Female, A-coded, 4 -pin Connector, LED: No Connection 2: Open end Shielded: No Cable length: 5.000 mm Sheathing material: PVC
Ŵ	50130690	KD U-M12-4W-V1- 050	Connection cable	Connection 1: Connector, M12, Angled, Female, A-coded, 4 -pin Connector, LED: No Connection 2: Open end Shielded: No Cable length: 5.000 mm Sheathing material: PVC

## Mounting technology - Rod mounts

	Part no.	Designation	Article	Description
00	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
f:	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

