Technical data sheet
Throughbeam photoelectric sensor transmitter
Part no.: 50148183
LS55CI.H2O/77-200-M12



For Illustration purposes only

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Technical data

Basic data

Series	55C
Operating principle	Throughbeam principle
Device type	Transmitter

Special version

Special version	Wash-Down design

Optical data

Operating range	0 ... 64 m (guaranteed operating range)
Operating range limit	0 ... 80 m (typical operating range)
Application's operating range	0 ... 500 mm
Light source	LED, Infrared
Wavelength	1,450 nm
Transmitted-signal shape	Pulsed
LED group	Exempt group (in acc. with EN 62471)

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 ... 15 mA

Inputs

Number of digital switching inputs	2 Piece(s)

Switching inputs

Type	Digital switching input
Switching voltage high, min.	8 V
Switching voltage low, max.	2 V
Voltage type	DC
Input resistance	27,000 Ω

Digital switching input 1

Function	Sensitivity adjustment

Digital switching input 2

Function	Sensitivity adjustment

Time behavior

Readiness delay	300 ms

Connection

Number of connections	1 Piece(s)

Connection 1

Function	Signal IN
	Voltage supply
Type of connection	Cable with connector
Cable length	200 mm
Sheathing material	PVC
Cable color	Black
Number of conductors	4 -wire
Wire cross section	0.2 mm²
Thread size	M12
Type	Male
Material	Stainless steel
No. of pins	4 -pin
Encoding	A-coded

Mechanical data

Dimension (W x H x L)	14 mm x 35.4 mm x 25 mm
Housing material	Stainless steel
Stainless steel housing	AISI 316L, DIN X2CrNiMo17132, W. No1.4404
Material of operational control	Plastic (POM Hostaform C9021, copoly-ester Tritan TX1001), non-diffusive
Housing roughness	Ra ≤ 0,8, Typical value for the stainless steel housing
Lens cover material	Plastic (PMMA+) with scratch-resistant Indium protective coating
Net weight	59 g
Housing color	Silver
Type of fastening	Through-hole mounting
	Via optional mounting device
Compatibility of materials	CleanProof+
	ECOLAB
	Johnson Diversey

Operation and display

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

Environmental data

Ambient temperature, operation	-40 ... 65 °C, (70 °C ≤15min)
Ambient temperature, storage	-40 ... 70 °C

Certifications

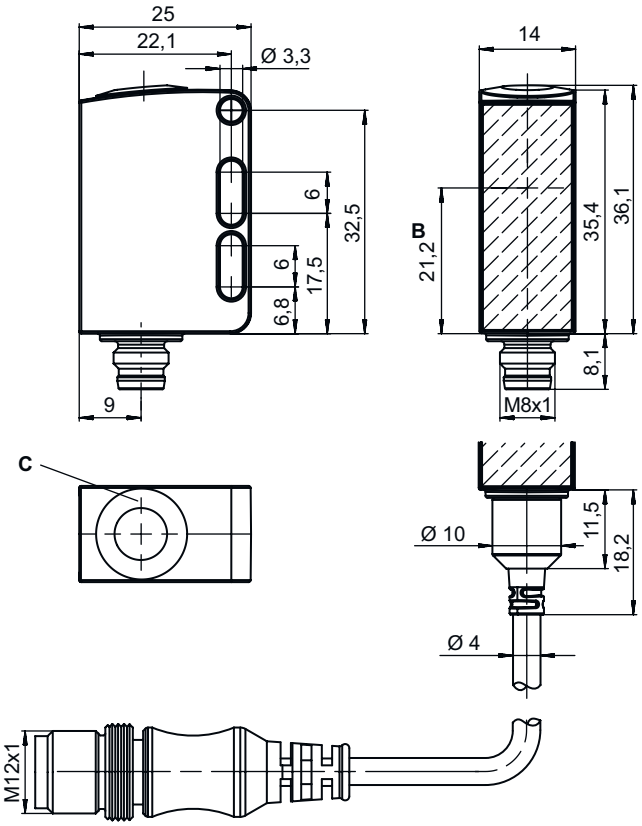
Degree of protection	IP 67
	IP 68
	IP 69K
Protection class	III
Approvals	c UL US
Standards applied	IEC 60947-5-2

Technical data

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
ECLASS 15.0	27270901
ECLASS 16.0	27270901
ETIM 5.0	EC002716
ETIM 6.0	EC002716
ETIM 7.0	EC002716
ETIM 8.0	EC002716
ETIM 9.0	EC002716
ETIM 10.0	EC002716
UNSPSC 26.08	39121528

Dimensioned drawings

All dimensions in millimeters



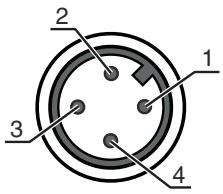
B Optical axis
C Indicator diode

Electrical connection

Connection 1

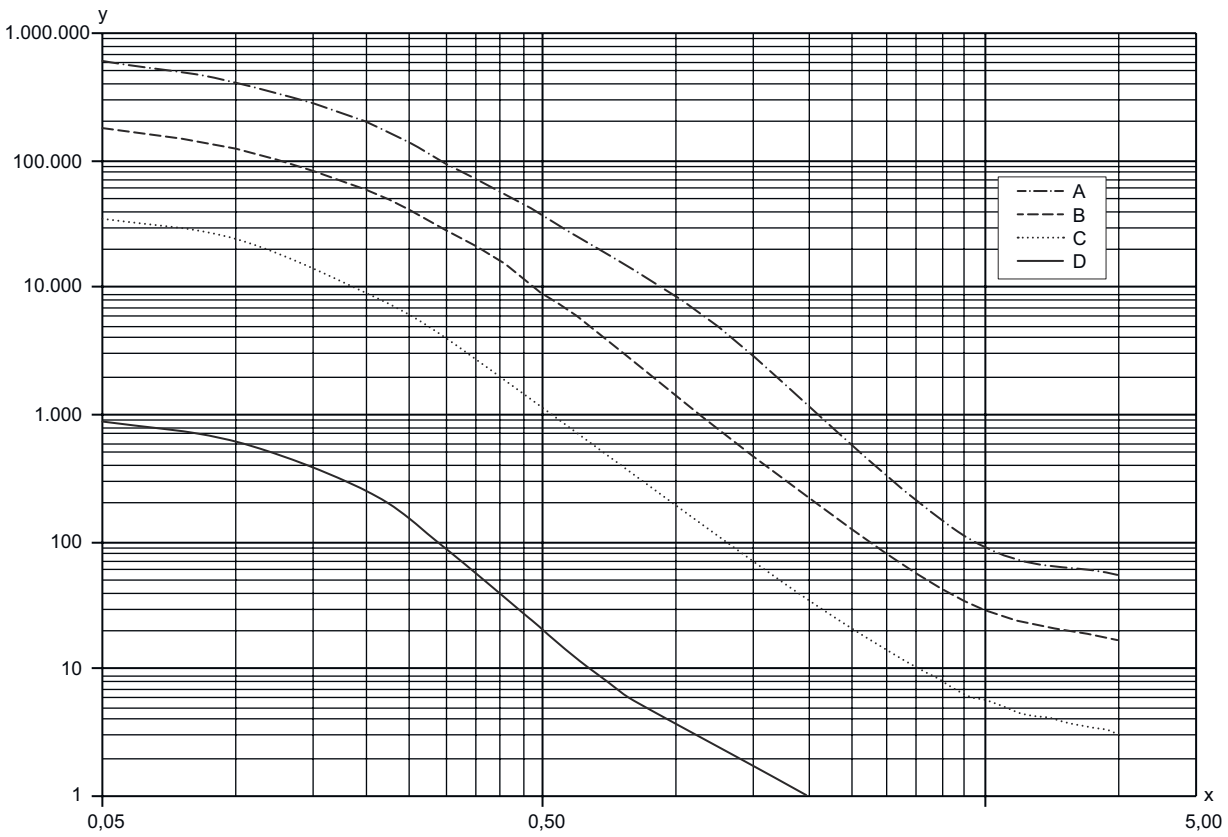
Function	Signal IN
	Voltage supply
Type of connection	Cable with connector
Cable length	200 mm
Sheathing material	PVC
Cable color	Black
Number of conductors	4 -wire
Wire cross section	0.2 mm²
Thread size	M12
Type	Male
Material	Stainless steel
No. of pins	4 -pin
Encoding	A-coded

Pin	Pin assignment
1	V+
2	IN 2
3	GND
4	IN 1



Diagrams

Typ. function reserve



x Distance [m]
y Factor

A Sensitivity level 1
B Sensitivity level 2
C Sensitivity level 3
D Sensitivity level 4

NOTE For details on sensitivity levels please refer to the operating instructions available at www.leuze.com

Operation and display

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

Suitable receivers

	Part no.	Designation	Operating range Operating range limit	Description
	50148184	LE55CI.H2O/4P-200-M12	0 ... 64 m 0 ... 80 m	Application: Detection of aqueous liquids (water sensor) Special version: Wash-Down design Supply voltage: DC Digital switching outputs: 2 Piece(s) Switching output 1: Transistor, PNP, Light switching Switching output 2: Transistor, PNP, Dark switching Switching frequency: 350 Hz Connection: Cable with connector, 200 mm, M12, Stainless steel, 4 -wire, 4 -pin

Suitable receivers

	Part no.	Designation	Operating range Operating range limit	Description
	50148185	LE55CI.H2OX/4P-200-M12	0 ... 64 m 0 ... 80 m	Application: Fill-level monitoring Special version: Wash-Down design Supply voltage: DC Digital switching outputs: 2 Piece(s) Switching output 1: Transistor, PNP, Light switching Switching output 2: Transistor, PNP, Dark switching Switching frequency: 350 Hz Connection: Cable with connector, 200 mm, M12, Stainless steel, 4 -wire, 4 -pin

Part number code

Part designation: **AAA55C d EE-f.GGGG H/i J-K**

AAA55C	**Operating principle / construction** HT55C: Diffuse reflection sensor with background suppression LS55C: Throughbeam photoelectric sensor transmitter LE55C: Throughbeam photoelectric sensor receiver PRK55C: Retro-reflective photoelectric sensor with polarization filter ODT55C: 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]
GGGG	**Equipment** n/a: standard A: Autocollimation principle (single lens) for positioning tasks F: Permanently set range H2O: Detection of aqueous liquids Fill-level monitoring 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	**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
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) 7: Input for sensitivity adjustment
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 T: teach-in via cable X: pin not used 8: activation input (activation with high signal) 9: deactivation input (deactivation with high signal) 7: Input for sensitivity adjustment

Part number code

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-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)

Further information

- Light source: Average life expectancy 100,000 h at an ambient temperature of 25 °C
- Response time: For short decay times, an ohmic load of approx. 5 kOhm is recommended
- Sum of the output currents for both outputs, 50 mA for ambient temperatures > 40 °C
- Permissible operating temperature range during IO-Link operation: -10 °C to +60 °C
- Ambient temperature, operation: +70 °C permissible only briefly (≤ 15min)
- IP 69K only in combination with connector
- Permissible operating temperature for configuration of range sensitivity level 4 of the transmitter is limited to -40°C ... +55°C

Accessories

Connection technology - Connection cables

	Part no.	Designation	Article	Description
	50130657	KD U-M12-4A-P1-050	Connection cable	Application: Oil and lubricant resistant 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: PUR
	50148350	KD U-M12-4A-T0-050 F+B	Connection cable	Application: Chemical resistant, Hygienic and wet areas 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: TPE

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, Suited for M3 screws Type of mounting device: Adjustable Material: Stainless steel
	50040269	BT 25	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
	50117255	BTU 200M-D12	Mounting system	Contains: 2x M3 x 16 screw, 2 M3 x 20 screws, 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, Suited for M3 screws 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, Suited for M3 screws Type of mounting device: Turning, 360°, Adjustable, Clampable Material: Stainless steel

Accessories

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