

Technical data sheet

Dynamic reference diffuse sensor

Part no.: 50153573

DRT35C.3/4P



For illustration purposes only

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IP 67



IP 68



IP 69K



Technical data

Basic data

Series	35C
Operating principle	Reference teach on background

Optical data

Operating range	0.05 ... 0.15 m, Max. distance to reference surface
Adjustment range	50 ... 150 mm
Light source	LED, Red
Wavelength	640 nm
Transmitted-signal shape	Pulsed
LED group	Exempt group (in acc. with EN 62471)

Electrical data

Protective circuit	Polarity reversal protection Short circuit protected
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Performance data

Supply voltage U_B	12 ... 30 V, DC, Incl. residual ripple
Residual ripple	0 ... 15 %, From U_B
Open-circuit current	0 ... 40 mA

Outputs

Number of digital switching outputs	2 Piece(s)
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Switching outputs

Type	Digital switching output
Voltage type	DC
Switching current, max.	100 mA
Switching voltage	high: $\geq(U_B-2.5V)$ low: $\leq 2.5 V$

Switching output 1

Assignment	Connection 1, conductor 4
Switching element	Transistor, PNP
Switching principle	Light switching

Switching output 2

Assignment	Connection 1, conductor 2
Switching element	Transistor, PNP
Switching principle	Dark switching

Time behavior

Switching frequency	750 Hz, (Teach level 1: 500 Hz)
Response time	0.66 ms
Readiness delay	300 ms

Connection

Number of connections	1 Piece(s)
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Connection 1

Function	Signal OUT Voltage supply
Type of connection	Cable
Cable length	2,000 mm
Sheathing material	PVC
Cable color	Black
Number of conductors	4 -wire
Wire cross section	0.2 mm ²

Mechanical data

Dimension (W x H x L)	18.8 mm x 55.3 mm x 32.4 mm
Housing material	Stainless steel
Material of operational control	Plastic (POM HostafORM C9021, copolyester Tritan TX1001), non-diffusive
Housing roughness	Ra \leq 0.8, Typical value for the stainless steel housing
Stainless steel housing	AISI 316L, DIN X2CrNiMo17132, W. No1.4404
Lens cover material	Plastic (PMMA+) with scratch-resistant Indium protective coating
Net weight	120 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)
Operational controls	Teach button
Function of the operational control	Teach-in on reference surface

Environmental data

Ambient temperature, operation	-40 ... 60 °C, (70 °C \leq 15min)
Ambient temperature, storage	-40 ... 70 °C

Certifications

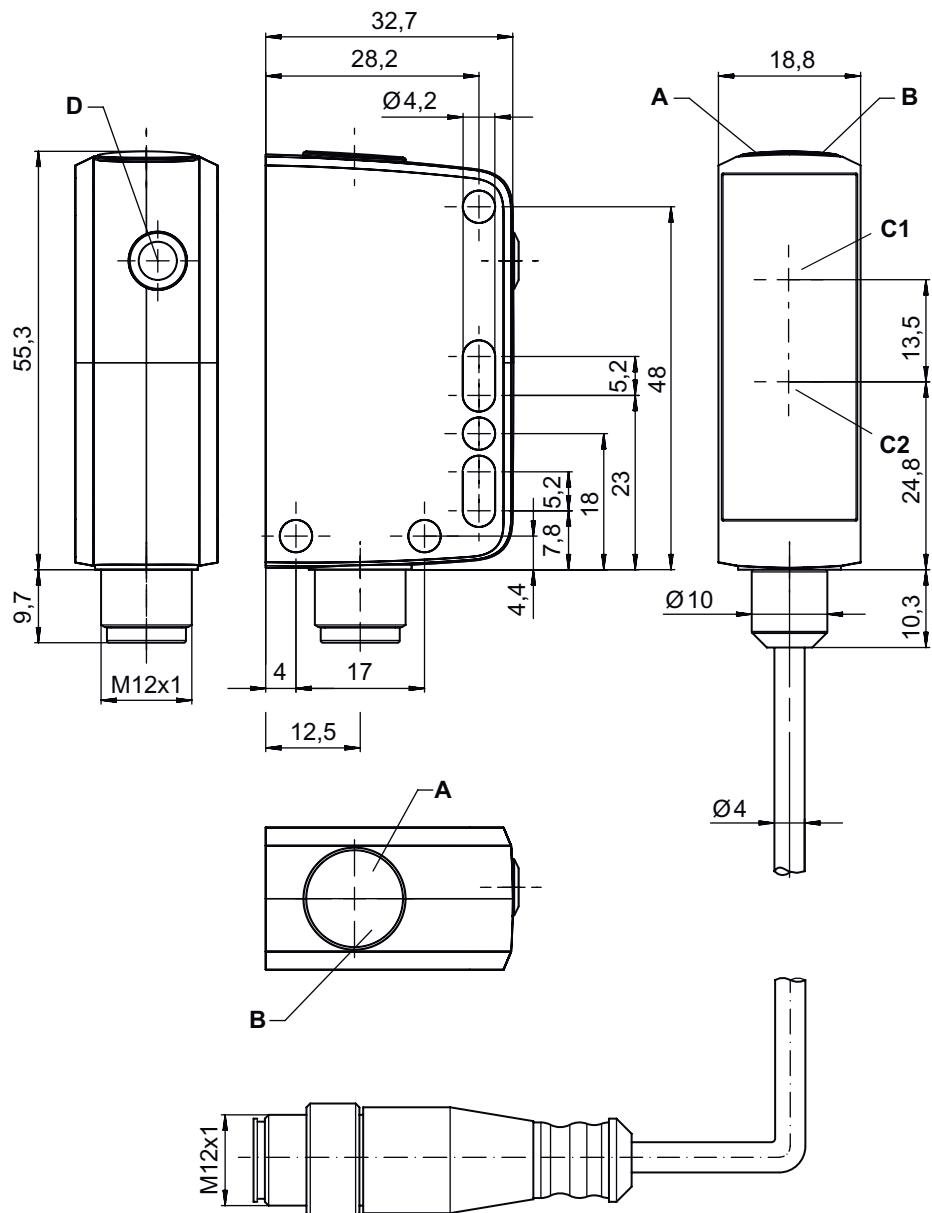
Degree of protection	IP 67 IP 68 IP 69K
Protection class	III
Approvals	c UL US
Standards applied	IEC 60947-5-2

Classification

Customs tariff number	85365019
ECLASS 5.1.4	27270903
ECLASS 8.0	27270903
ECLASS 9.0	27270903
ECLASS 10.0	27270903
ECLASS 11.0	27270903
ECLASS 12.0	27270903
ECLASS 13.0	27270903
ECLASS 14.0	27270903
ECLASS 15.0	27270903
ETIM 5.0	EC001821
ETIM 6.0	EC001821
ETIM 7.0	EC001821
ETIM 8.0	EC001821
ETIM 9.0	EC001821
ETIM 10.0	EC001821

Dimensioned drawings

All dimensions in millimeters



A Green LED

C2 Optical axis (transmitter)

B Yellow LED

D Range adjustment

C1 Optical axis (receiver)

We reserve the right to make technical changes

Electrical connection

Connection 1

Function	Signal OUT
	Voltage supply
Type of connection	Cable
Cable length	2,000 mm
Sheathing material	PVC
Cable color	Black
Number of conductors	4 -wire
Wire cross section	0.2 mm ²

Conductor color	Conductor assignment
Brown	V+
White	OUT 2
Blue	GND
Black	OUT 1

Operation and display

LED	Display	Meaning
1	Green, continuous light	Operational readiness
2	Yellow, continuous light	Object detected

Part number code

Part designation: AAA35C d EE.GGH/iJ-K

AAA35C	Operating principle LS35C: Throughbeam photoelectric sensor transmitter LE35C: Throughbeam photoelectric sensor receiver PRK35C: Retro-reflective photoelectric sensor with polarization filter HT35C: Diffuse reflection sensor with background suppression DRT35C: Dynamic reference diffuse sensor
d	Light type n/a: red light I: infrared light
EE	Light source n/a: LED PP: Power PinPoint® LED L1: laser class 1
GG	Equipment A: Autocollimation principle (single lens) D: Detection of stretch-wrapped objects X: extended model XL: Extra long light spot TT: autocollimation principle (single lens) for highly transparent bottles with tracking R: greater operating range XXR: super power transmitter
H	Operating range adjustment 1: 270° potentiometer 2: multiturn potentiometer 3: teach-in via button
i	Switching output/function OUT 1/IN: Pin 4 or black conductor X: pin not used 8: activation input (activation with high signal) L: IO-Link interface (SIO mode: PNP light switching, NPN dark switching) 4: PNP transistor output, light switching 6: push-pull switching output, PNP light switching, NPN dark switching 1: IO-Link / light switching (NPN) / dark switching (PNP)

Part number code

J	Switching output / function OUT 2/IN: pin 2 or white conductor T: teach-in via cable G: Push-pull switching output, PNP dark switching, NPN light switching X: pin not used P: PNP transistor output, dark switching 6: push-pull switching output, PNP light switching, NPN dark switching
K	Electrical connection n/a: cable, standard length 2000 mm, 4-wire 200-M12: cable, length 200 mm with M12 connector, 4-pin, axial (plug) M12: M12 connector, 4-pin (plug)
Note	
	↳ A list with all available device types can be found on the Leuze website at www.leuze.com .

Notes

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

Further information

- Ambient temperature, operation: +70 °C permissible only briefly (≤ 15min)
- IP 69K only in combination with connector
- Light source: Average life expectancy 100,000 h at an ambient temperature of 25 °C

Accessories

Mounting technology - Mounting brackets

Part no.	Designation	Article	Description
	50118543	BT 300M.5	Mounting bracket Design of mounting device: Angle, L-shape Fastening, at system: Through-hole mounting Mounting bracket, at device: Screw type, Suited for M4 screws Type of mounting device: Adjustable Material: Stainless steel

Accessories

Mounting technology - Rod mounts

Part no.	Designation	Article	Description
	50117252	BTU 300M-D12	Mounting system Contains: 2x M4 x 25 screw, 2x M4 x 20 screw, 4x 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 M4 screws Type of mounting device: Clampable, Adjustable, Turning, 360° Material: Metal
	50120425	BTU 300M.5-D12	Mounting system Contains: 2x M4 x 25 screw, 2x M4 mounting nut, 2x M4 x 20 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, Suited for M4 screws Type of mounting device: Clampable, Adjustable, Turning, 360° Material: Stainless steel

Note



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