Leuze

Technical data sheet
Dynamic reference diffuse sensor
Part no.: 50150304
DRT35C.3R/LT

For Illustration purposes only

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Technical data

Basic data

Series	35C
Operating principle	Reference teach on reference surface (plastic roller chain or plastic link conveyor)

Special version

Special version	Teach input

Optical data

Operating range	0.08 ... 0.4 m, Max. distance to reference surface
Operating range limit, white 90%	0.05 ... 0.45 m
Minimum object height	80 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

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

Inputs

Number of teach inputs	1 Piece(s)

Teach inputs

Type	Teach input
Voltage type	DC
Switching voltage	high: ≥10V
	low: ≤ 2 V
Input resistance	22,000 Ω

Teach input 1

Assignment	Connection 1, conductor 2
Function	Keyboard lockout
	Setting the teach levels
Active switching state	High

Outputs

Number of digital switching outputs	1 Piece(s)

Switching outputs

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

Switching output 1

Assignment	Connection 1, conductor 4
Switching element	Transistor, Push-pull
Switching principle	IO-Link / light switching (PNP)/dark switching (NPN)

Switching output 2

Switching element	Transistor

Time behavior

Switching frequency	300 Hz
Response time	1.6 ms
Readiness delay	300 ms

Interface

Type	IO-Link

IO-Link

COM mode	COM3
Profile	Smart sensor profile
Min. cycle time	COM3 = 0.4 ms
Frame type	2.5
Specification	V1.1
Device ID	2136
SIO-mode support	Yes
Process data IN	8 bit
Process data OUT	8 bit

Connection

Number of connections	1 Piece(s)

Connection 1

Function	Signal IN
	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 mm²

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 ≤ 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

Technical data

Environmental data

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

Certifications

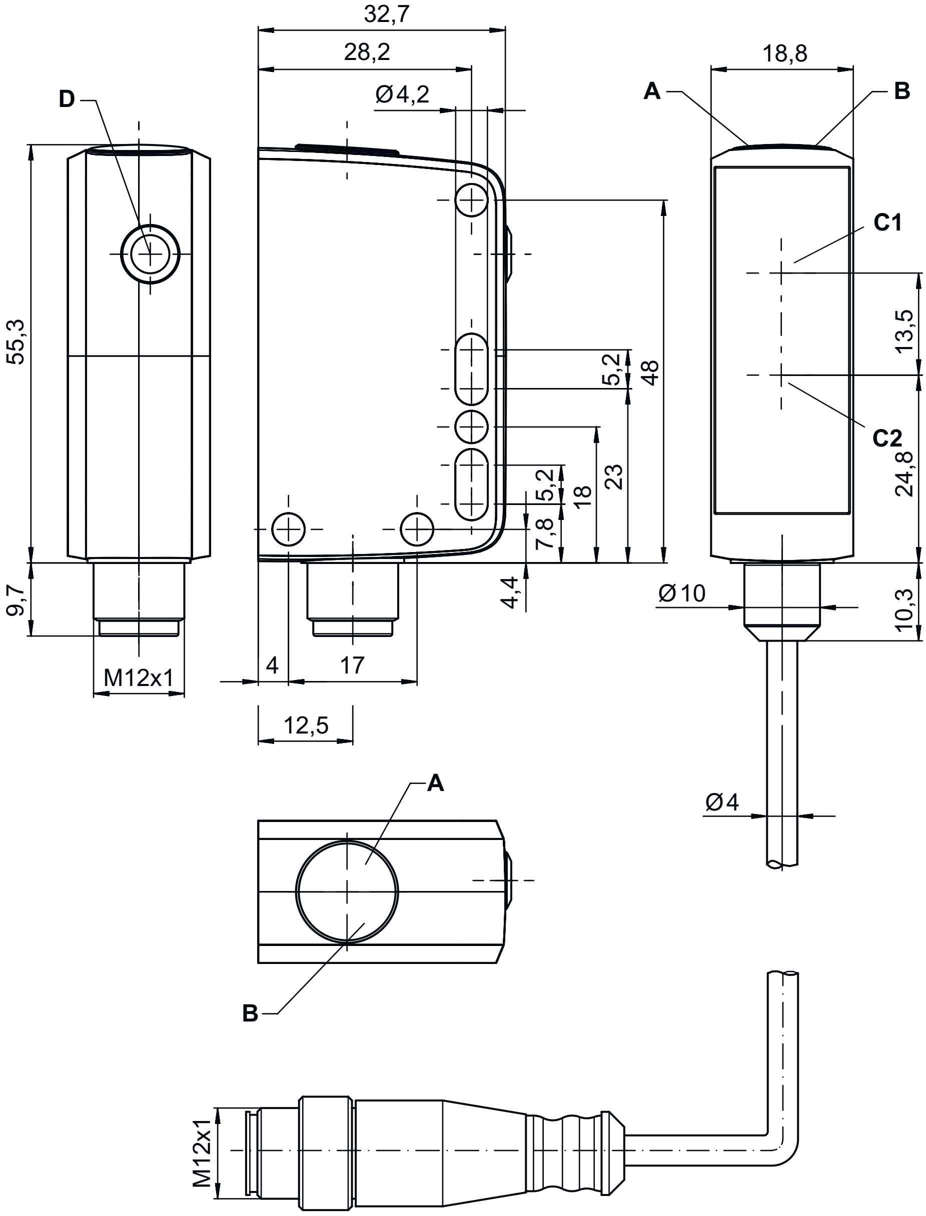
Degree of protection	IP 67
	IP 68
	IP 69K
Protection class	III
Approvals	c UL US
Standards applied	IEC 60947-5-2

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


32,7
28,2
Ø4,2
18,8
A
B
D
C1
C2
55,3
9,7
M12x1
5,2
48
13,5
5,2
18
23
7,8
24,8
4,4
Ø10
10,3
4
17
12,5
Ø4
A
B
M12x1

A	Green LED
B	Yellow LED
C1	Optical axis (receiver)
C2	Optical axis (transmitter)
D	Range adjustment

Electrical connection

Connection 1

Function	Signal IN 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 mm²

Conductor color	Conductor assignment
Brown	V+
White	Teach-in
Blue	GND
Black	IO-Link / 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!

- 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.

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

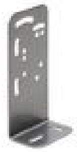
Accessories

Connection technology - Connection unit

	Part no.	Designation	Article	Description
	50144900	MD 798i-11-82/L5-2222	IO-Link master	Type: IO-Link master Current consumption, max.: 11,000 mA Switching outputs for each sensor connection: 1 Piece(s) Switching output: Transistor, PNP Interface: IO-Link, Automatic protocol detection, EtherNet IP, Modbus TCP, PROFINET Connections: 12 Piece(s) Sensor connections: 8 Piece(s) Connections for voltage supply: 2 Piece(s) Interface connections: 2 Piece(s) Degree of protection: IP 67, IP 65, IP 69K

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

Mounting technology - Rod mounts

	Part no.	Designation	Article	Description
	50117252	BTU 300M-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 M4 screws Type of mounting device: Clampable, Adjustable, Turning, 360° Material: Metal
	50120425	BTU 300M.5-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 M4 screws Type of mounting device: Clampable, Adjustable, Turning, 360° Material: Stainless steel

Note

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