

Technical data sheet

Dynamic reference diffuse sensor

Part no.: 50141902

DRT25C.3/LT



Figure can vary

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Technical data

Basic data

Series	25C
Operating principle	Reference teach on background

Special version

Special version	Teach input
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Optical data

Operating range	Max. distance to reference surface
Operating range	0.05 ... 0.2 m
Adjustment range	50 ... 200 mm
Light source	LED, Red
Wavelength	645 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

Inputs

Number of teach inputs	1 Piece(s)
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Teach inputs

Voltage type	DC
Switching voltage	high: $\geq 10V$ Low: $\leq 2V$
Input resistance	22,000 Ω

Teach input 1

Function	Keyboard lockout Setting the teach levels
Active switching state	High

Outputs

Number of digital switching outputs	1 Piece(s)
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Switching outputs

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

Switching output 1

Switching element	Transistor, Push-pull
Switching principle	IO-Link / light switching (PNP)/dark switching (NPN)

Timing

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

Interface

Type	IO-Link
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IO-Link

COM mode	COM3
Min. cycle time	COM3 = 0.4 ms
Frame type	2.5
Specification	V1.1
Device ID	2142
SIO-mode support	Yes
Process data IN	8 bit
Process data OUT	8 bit
Dual-core operating mode	No

Connection

Connection 1

Function	Signal IN Signal OUT 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 mm ²

Mechanical data

Dimension (W x H x L)	15 mm x 42.7 mm x 30 mm
Housing material	Plastic
Plastic housing	ABS
Lens cover material	Plastic
Net weight	55 g
Housing color	Red
Type of fastening	Through-hole mounting with M4 thread Via optional mounting device
Compatibility of materials	ECOLAB

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	-10 ... 50 °C, Temperature compensation $\pm 15^\circ C$
Ambient temperature, storage	-40 ... 70 °C

Certifications

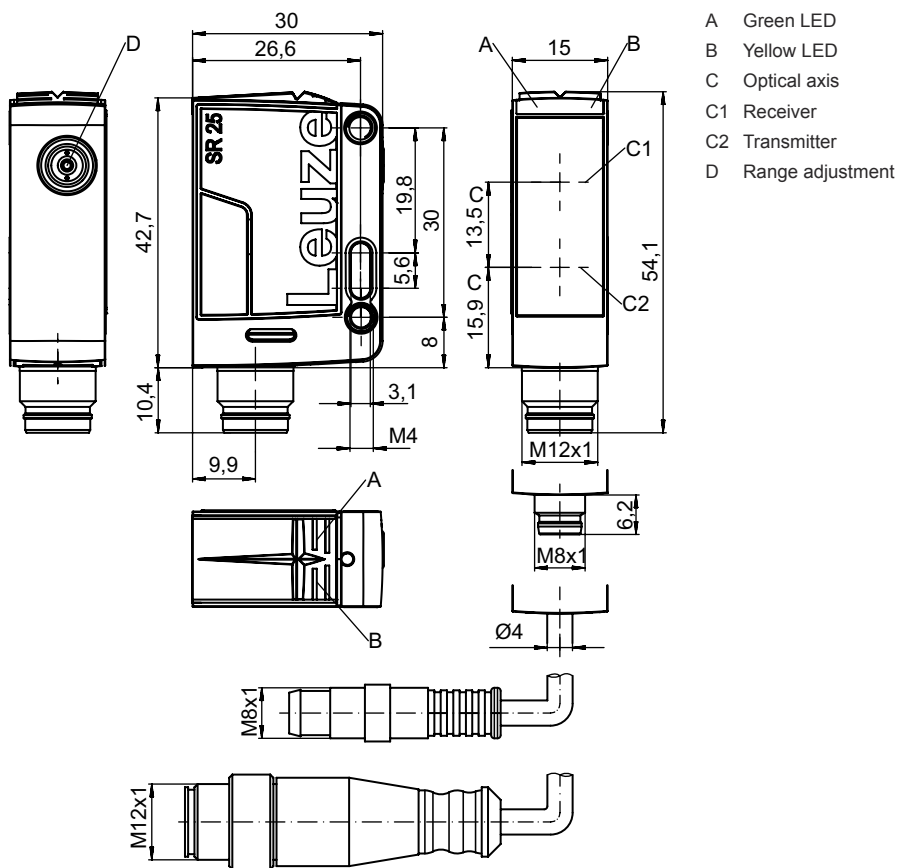
Degree of protection	IP 67 IP 69K
Protection class	III
Certifications	c UL US
Standards applied	IEC 60947-5-2

Technical data

Customs tariff number	85365019
eCl@ss 5.1.4	27270903
eCl@ss 8.0	27270903
eCl@ss 9.0	27270903
eCl@ss 10.0	27270903
eCl@ss 11.0	27270903
ETIM 5.0	EC001821
ETIM 6.0	EC001821
ETIM 7.0	EC001821

Dimensioned drawings

All dimensions in millimeters



Electrical connection

Connection 1

Function	Signal IN
	Signal OUT
	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 mm ²

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: AAA25C d EE-f.GGH/IJ-K

AAA25C	Operating principle / construction HT25C: Diffuse reflection sensor with background suppression PRK25C: Retro-reflective photoelectric sensor with polarization filter LS25C: Throughbeam photoelectric sensor transmitter LE25C: Throughbeam photoelectric sensor receiver DRT25C: Dynamic reference diffuse sensor
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 A: Autocollimation principle (single lens) S: small light spot D: Detection of stretch-wrapped objects X: extended model HF: Suppression of HF illumination (LED) XL: Extra long light spot T: autocollimation principle (single lens) for highly transparent bottles without tracking TT: autocollimation principle (single lens) for highly transparent bottles with tracking F: Foreground suppression R: greater operating range SL: Slit diaphragm
H	Operating range adjustment 1: 270° potentiometer 2: multiturn potentiometer 3: teach-in via button R: greater operating range

Part number code

i	<p>Switching output/function OUT 1/IN: Pin 4 or black conductor</p> <p>2: NPN transistor output, light switching N: NPN transistor output, dark switching 4: PNP transistor output, light switching P: PNP transistor output, dark switching X: pin not used 8: activation input (activation with high signal) L: IO-Link interface (SIO mode: PNP light switching, NPN dark switching) 6: push-pull switching output, PNP light switching, NPN dark switching G: Push-pull switching output, PNP dark switching, NPN light switching</p>
J	<p>Switching output / function OUT 2/IN: pin 2 or white conductor</p> <p>2: NPN transistor output, light switching N: NPN transistor output, dark switching 4: PNP transistor output, light switching P: PNP transistor output, dark switching W: warning output X: pin not used 6: push-pull switching output, PNP light switching, NPN dark switching T: teach-in via cable G: Push-pull switching output, PNP dark switching, NPN light switching</p>
K	<p>Electrical connection</p> <p>n/a: cable, standard length 2000 mm, 4-wire 200-M12: cable, length 200 mm with M12 connector, 4-pin, axial (plug) M8: M8 connector, 4-pin (plug) M12: M12 connector, 4-pin (plug) 200-M8: cable, length 200 mm with M8 connector, 4-pin, axial (plug)</p>

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





- Light source: Average life expectancy 100,000h 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

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
	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
	50142207	BTU 300M-D12-90	Rod mounting	Design of mounting device: Montagesystem Fastening, at system: für Rundstange 12 mm, Blechklemmbefestigung Mounting bracket, at device: schraubbar, für M4-Schrauben geeignet Type of mounting device: klemmbar, drehbar 360°, justierbar Material: Metall
	50142208	BTU D12M-L-200	Rod	Design of mounting device: Rundstange Fastening, at system: klemmbar Mounting bracket, at device: klemmbar Material: Metall

Note



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