Technical data sheet

Dynamic reference diffuse sensor

Part no.: 50145967

DRT25C.3R/L6-M8

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For Illustration purposes only

The Sensor People

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Technical data

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Basic data

Series	25C
Operating principle	Reference teach on reference surface (plastic roller chain or plastic link conveyor)
Application	Detection of bottle and can containers

Optical data

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

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)

Switching outputs

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, pin 4
Switching element	Transistor, Push-pull
Switching principle	IO-Link / light switching (PNP)/dark switching (NPN)

Switching output 2

Assignment	Connection 1, pin 2
Switching element	Transistor, Push-pull
Switching principle	Light switching (PNP)/dark switching (NPN)

Time behavior

Switching frequency	300 Hz
Response time	1.66 ms
Readiness delay	300 ms

Interface

Type	IO-Link

IO-Link

COM mode	COM3
Min. cycle time	COM3 = 0.4 ms
Frame type	2.5
Specification	V1.1
Device ID	2137
SIO-mode support	Yes
Process data IN	8 bit
Process data OUT	8 bit
Dual Channel	Yes

Connection

Connection 1

Function	Signal OUT
	Voltage supply
Type of connection	Connector
Thread size	M8
Type	Male
Material	PUR
No. of pins	4 -pin

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	22 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

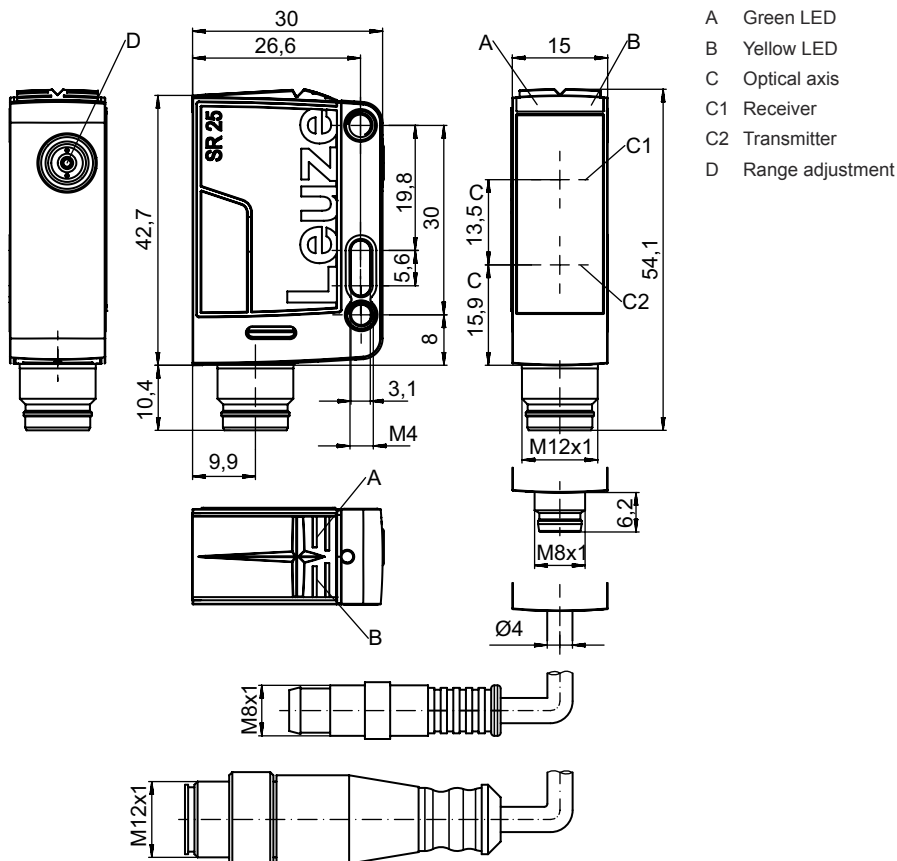|	
Ambient temperature, operation	-10 ... 50 °C, Temperature compensation ±15°C
Ambient temperature, storage	-40 ... 70 °C

Certifications

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

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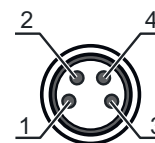|	
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ECLASS 5.1.4	27270903
ECLASS 8.0	27270903
ECLASS 9.0	27270903
ECLASS 10.0	27270903
ECLASS 11.0	27270903
ECLASS 12.0	27270903
ECLASS 13.0	27270903
ECLASS 14.0	27270903
ECLASS 15.0	27270903
ETIM 5.0	EC001821
ETIM 6.0	EC001821
ETIM 7.0	EC001821
ETIM 8.0	EC001821
ETIM 9.0	EC001821
ETIM 10.0	EC001821

Dimensioned drawings

All dimensions in millimeters

A Green LED
B Yellow LED
C Optical axis
C1 Receiver
C2 Transmitter
D Range adjustment

Electrical connection

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Connection 1

Function	Signal OUT
	Voltage supply
Type of connection	Connector
Thread size	M8
Type	Male
Material	PUR
No. of pins	4 -pin

Pin	Pin assignment
1	V+
2	OUT 2
3	GND
4	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	
	PP: Power PinPoint 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	

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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
	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
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
	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
	8: activation input (activation with high signal)
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)
	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)
	M8.1: Snap-in, M8 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

- Light source: Average life expectancy 100,000 h at an ambient temperature of 25 °C

Accessories

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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

Connection technology - Connection cables

Part no.	Designation	Article	Description
50130850	KD U-M8-4A-V1-050	Connection cable	Connection 1: Connector, M8, Axial, Female, 4 -pin Connector, LED: No Connection 2: Open end Shielded: No Cable length: 5.000 mm Sheathing material: PVC
50130871	KD U-M8-4W-V1-050	Connection cable	Connection 1: Connector, M8, Angled, Female, 4 -pin Connector, LED: No Connection 2: Open end Shielded: No Cable length: 5.000 mm Sheathing material: PVC

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

Accessories

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	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
	50142207	BTU 300M-D12-90	Rod mounting	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
	50142208	BTU D12M-L-200	Rod	Design of mounting device: Rod Fastening, at system: Clampable Mounting bracket, at device: Clampable Material: Metal

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

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