

## Technical data sheet

### Dynamic reference diffuse sensor

Part no.: 50145971

DRT25C.3R/LT-M8



Figure can vary

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## Technical data

### 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

### Special version

Special version	Teach input
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### Optical data

Operating range	Max. distance to reference surface
	Recommended operating range:
Operating range	0.08 ... 0.4 m
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
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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: $\leq 2 V$
Input resistance	22,000 $\Omega$

#### Teach input 1

Assignment	Connection 1, pin 2
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: $\leq 2.5 V$

#### Switching output 1

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

### Time behavior

Switching frequency	300 Hz
Response time	1.66 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	2139
SIO-mode support	Yes
Process data IN	8 bit
Process data OUT	8 bit
Dual-core operating mode	Yes

### Connection

#### Connection 1

Function	Signal IN 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 $\pm 15^\circ C$
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



## Electrical connection

### Connection 1

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

Pin	Pin assignment
1	V+
2	Teach-in
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

<b>AAA25C</b>	<b>Operating principle / construction</b> 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
<b>d</b>	<b>Light type</b> n/a: red light I: infrared light
<b>EE</b>	<b>Light source</b> n/a: LED L1: laser class 1 L2: laser class 2
<b>f</b>	<b>Preset range (optional)</b> n/a: operating range acc. to data sheet xxxF: Preset range [mm]
<b>GG</b>	<b>Equipment</b> 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
<b>H</b>	<b>Operating range adjustment</b> 1: 270° potentiometer 2: multiturn potentiometer 3: teach-in via button R: greater operating range

## Part number code

<b>i</b>	<p><b>Switching output/function OUT 1/IN: Pin 4 or black conductor</b></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>
<b>J</b>	<p><b>Switching output / function OUT 2/IN: pin 2 or white conductor</b></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                  8: activation input (activation with high signal)</p>
<b>K</b>	<p><b>Electrical connection</b></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](http://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





### 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
	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

## Accessories

### Note



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