Leuze electronic

the *sensor* people

Part no.: 50143106
HT25C.X/2N
Diffuse sensor with background suppression

Figure can vary

Contents

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Part no.: 50143106 – HT25C.X/2N – Diffuse sensor with background

Technical data

Basic data	
Series	25C
Operating principle	Diffuse reflection principle with background suppression

Special design	
Special design	Reflective vest suppression in the background

Optical data	
Black-white error	< 10% up to 350 mm
Operating range	Guaranteed operating range
Operating range, white 90%	0 ... 0.9 m
Operating range, gray 18%	0.005 ... 0.65 m
Operating range, black 6%	0.001 ... 0.55 m
Operating range limit	Typical operating range
Operating range limit	0 ... 0.9 m
Adjustment range	50 ... 900 mm
Light source	LED , Red
LED light wavelength	640 nm
LED group	Exempt group (in acc. with EN 62471)
Transmitted-signal shape	Pulsed

Electrical data		
Protective circuit		Polarity reversal protection Short circuit protected
Performance data		
Supply voltage U_B		10 ... 30 V , DC , Incl. residual ripple
Residual ripple		0 ... 15 % , From U_B
Open-circuit current		0 ... 20 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: ≤2.5V
Switching output 1		
Switching element		Transistor , NPN
Switching principle		Light switching
Switching output 2		
Switching element		Transistor , NPN
Switching principle		Dark switching

Timing	
Switching frequency	1,500 Hz
Response time	0.33 ms
Readiness delay	300 ms

Connection

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Connection 1	
Function	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 mm²

Mechanical data	
Dimension (W x H x L)	15 mm x 42.7 mm x 30 mm
Housing material	Plastic , 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	Multiturn potentiometer
Function of the operational control	Range adjustment

Environmental data	
Ambient temperature, operation	-40 ... 60 °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

Classification	
Customs tariff number	85365019
eCl@ss 8.0	27270904
eCl@ss 9.0	27270904
ETIM 5.0	EC002719
ETIM 6.0	EC002719

Dimensioned drawings

All dimensions in millimeters

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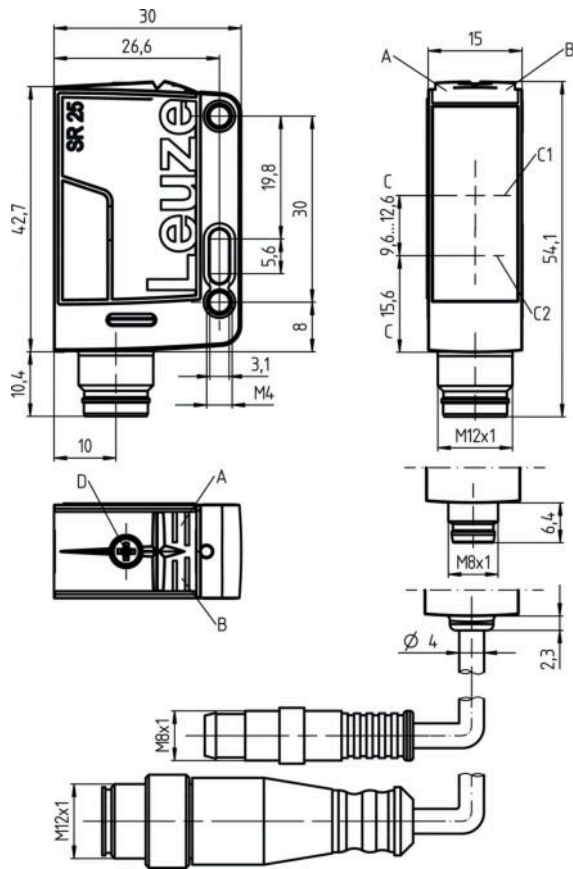
A   Green LED
B   Yellow LED
C   Optical axis
C1 Receiver
C2 Transmitter
D   Range adjustment

Electrical connection

Connection 1	
Function	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 mm²

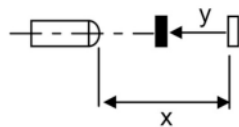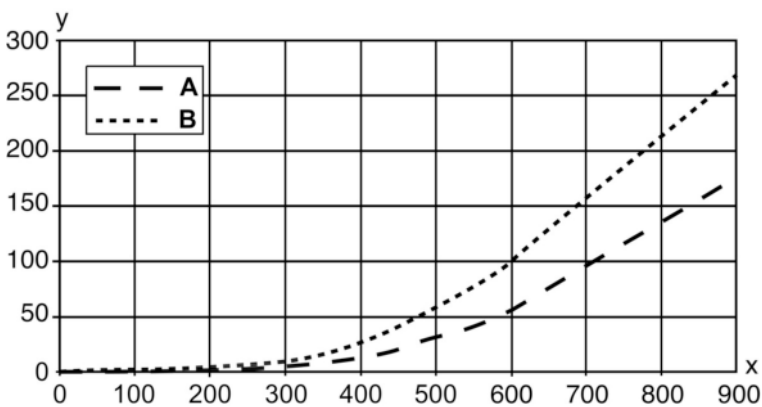| Conductor color	Conductor assignment
Brown	V+
White	OUT 2
Blue	GND
Black	OUT 1

Diagrams

Typ. response behavior (focusing distance 350 mm)
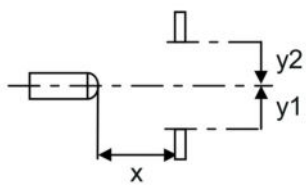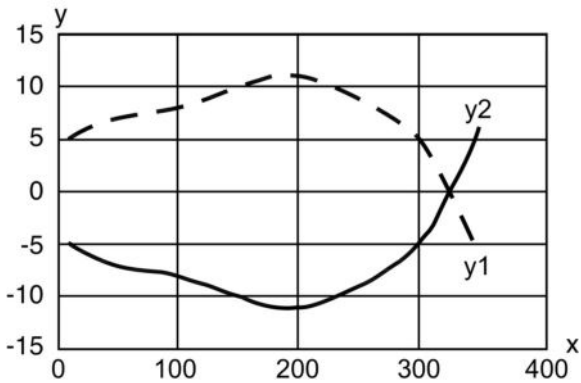
x   Range [mm]
y   Misalignment [mm]

Typ. black/white behavior

x   Range [mm]
y   Reduction of range [mm]
A   Gray 18%
B   Black 6%

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Operation and display

LEDs

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
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:** 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)
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
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)

Note
A list with all available device types can be found on the Leuze website at www.leuze.com.

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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.

For UL applications:
• Only for use in "class 2" circuits   • These proximity switches shall be used with UL Listed Cable assemblies rated 30V, 0.5A min, in the field installation, or equivalent (categories: CYJV/CYJV7 or PVVA/PVVA7)

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

- Sum of the output currents for both outputs 100 mA

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

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