SMART SENSOR BUSINESS

Leuze electronic
the sensor people

Part no.: 50134234
HT25CI/4P-200-M12
Diffuse sensor with background suppression

CE   c(UL)us LISTED   IP 67   IP 69K   ECOLAB

Figure can vary

Contents

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Technical data

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

Optical data	
Black-white error	< 10% up to 500 mm
Operating range	Guaranteed operating range
Operating range, white 90%	0 ... 1.3 m
Operating range, gray 18%	0.005 ... 0.8 m
Operating range, black 6%	0.005 ... 0.7 m
Operating range limit	Typical operating range
Operating range limit	0 ... 1.3 m
Adjustment range	50 ... 1,300 mm
Light source	LED , Infrared
LED light wavelength	850 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
			Assignment · Connection 1, pin 4
			Switching element · Transistor , PNP
			Switching principle · Light switching
			Switching output 2
			Assignment · Connection 1, pin 2
			Switching element · Transistor , PNP
			Switching principle · Dark switching

Timing	
Switching frequency	1,000 Hz
Response time	0.33 ms
Readiness delay	300 ms

Connection	

Connection 1	
Function	Signal OUT Voltage supply
Type of connection	Cable with connector
Cable length	200 mm
Sheathing material	PUR
Cable color	Black
Wire cross section	0.2 mm²
Thread size	M12
Type	Male
Material	PUR
No. of pins	4 -pin
Encoding	A-coded

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	33 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

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Dimensioned drawings

All dimensions in millimeters
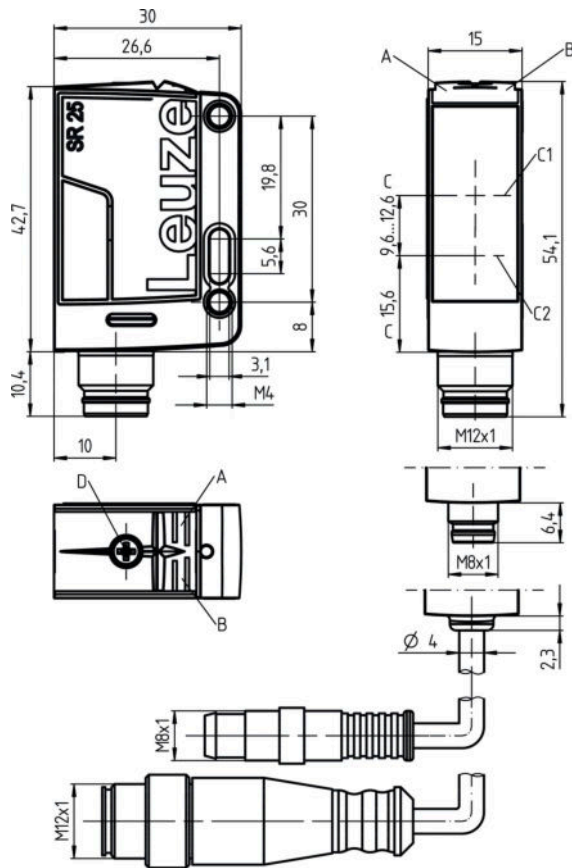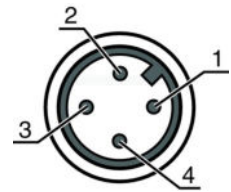

A   Green LED
B   Yellow LED
C   Optical axis
C1 Receiver
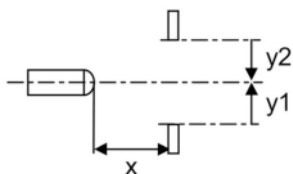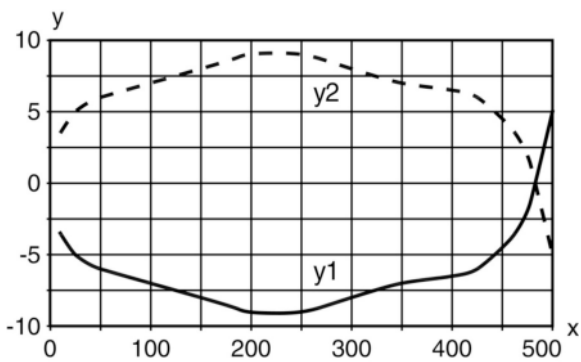C2 Transmitter
D   Range adjustment

Electrical connection

Connection 1	
Function	Signal OUT Voltage supply
Type of connection	Cable with connector
Cable length	200 mm
Sheathing material	PUR
Cable color	Black
Wire cross section	0.2 mm²
Thread size	M12
Type	Male
Material	PUR
No. of pins	4 -pin
Encoding	A-coded

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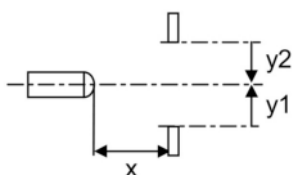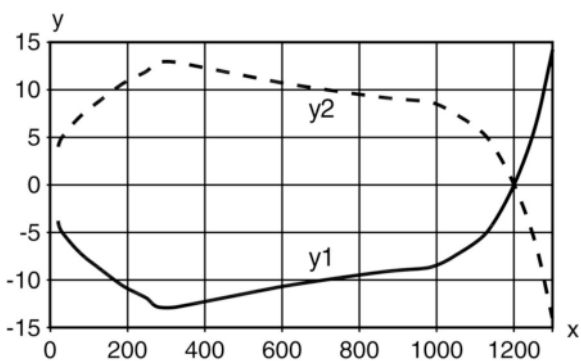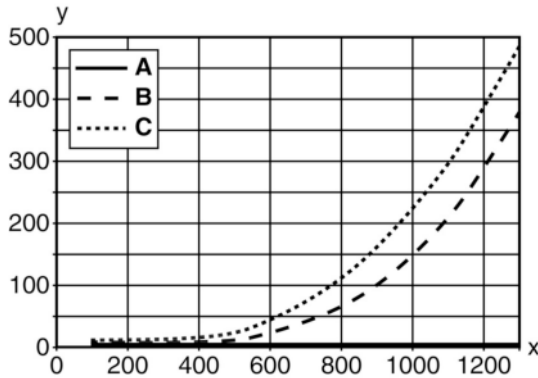| Pin	Pin assignment
1	V+
2	OUT 2
3	GND
4	OUT 1

Diagrams

Typ. response behavior (focusing distance 500 mm)

x   Range [mm]
y   Misalignment [mm]

Typ. response behavior (focusing distance 1300 mm)

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x   Distance [mm]
y   Misalignment [mm]

Typ. black/white behavior
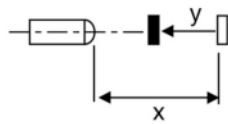
x   Range [mm]
y   Reduction of range [mm]
A   White 90%
B   Gray 18%
C   Black 6%

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

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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.

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

Connection technology - Connection cables

	Part no.	Designation	Article	Description
	50130652	KD U-M12-4A-V1-050	Connection cable	Connection 1: Connector, M12, Axial, Female, A-coded, 4 -pin Connection 2: Open end Shielded: No Cable length: 5,000 mm Sheathing material: PVC
	50130690	KD U-M12-4W-V1-050	Connection cable	Connection 1: Connector, M12, Angled, Female, A-coded, 4 -pin 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

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

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