Leuze

Technical data sheet Energetic diffuse sensor

Part no.: 50122728 ET328.3/2N-M12



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Technical data

Basic data

Sacio adia	
Series	328
Operating principle	Diffuse reflection principle
Optical data	
Operating range	Guaranteed operating range
Operating range, white 90%	0.001 0.7 m
Operating range, gray 50%	0.001 0.59 m
Operating range, gray 18%	0.003 0.39 m
Operating range, black 6%	0.005 0.28 m
Operating range limit	Typical operating range
Operating range limit, white 90%	0.001 1 m
Operating range limit, gray 50%	0.001 0.85 m
Operating range limit, gray 18%	0.003 0.55 m
Operating range limit, black 6%	0.005 0.4 m
Light source	LED, Red
LED light wavelength	620 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	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)
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Switching outputs
Voltage type
Switching current, max.
Switching voltage

DC 100 mA high: ≥(U_B-2.5V) low: ≤2.5V

Switching output 1	
Assignment	Connection 1, pin 4
Switching element	Transistor, NPN
Switching principle	Light switching

Switching output 2	
Assignment	Connection 1, pin 2
Switching element	Transistor, NPN
Switching principle	Dark switching

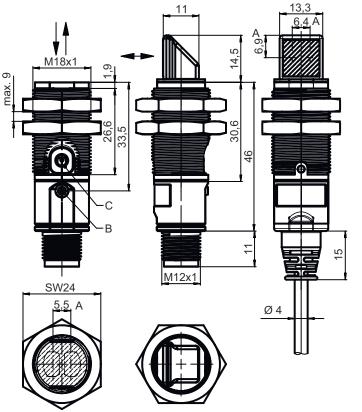
Timing

Switching frequency	500 Hz
Response time	1 ms
Readiness delay	300 ms

Connection 1FunctionSignal OUT Voltage supplyType of connectionConnectorThread sizeM12TypeMaleMaterialPlasticNo. of pins4 -pinEncodingA-codedMechanical dataPlasticMechanical dataPlasticThread sizeM18 x 1 mmDimension (Ø x L)18 mm x 46 mmHousing materialPlasticStainless steel, V2A, ABSLens cover materialPlasticNet weight20 gOperation and displayLEDNumber of LEDs1 Plece(s)Operational controlsTeach buttonEnvironmental data		
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Dimensioned drawings

All dimensions in millimeters

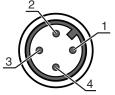


Electrical connection

Connection 1

Function	Signal OUT
	Voltage supply
Type of connection	Connector
Thread size	M12
Туре	Male
Material	Plastic
No. of pins	4 -pin
Encoding	A-coded

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



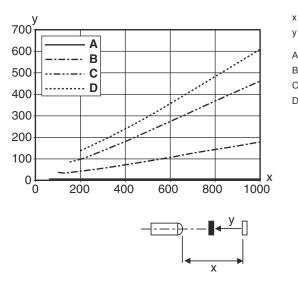
A Optical axis



Diagrams

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Typ. black/white behavior



Range [mm]

- Reduction of range [mm]
- A White 90%
- B Gray 50%
- C Gray 18%
- D Black 6%

Operation and display

LED	Display	Meaning
1	Green, continuous light	Operational readiness
	Yellow, continuous light	Object detected

Part number code

Part designation: XXX328BY-AAAF.BB/CC-DDD

XXX328	Operating principle PRK: retro-reflective photoelectric sensor with polarization filter ET: energetic diffuse reflection sensor FT: diffuse reflection sensor with fading LE: throughbeam photoelectric sensor receiver LS: throughbeam photoelectric sensor transmitter
Y	Light type n/a: red light l: infrared light
AAAF	Preset range (optional) n/a: operating range acc. to data sheet xxxF: preset range [mm]
BB	Equipment n/a: axial optics W: 90° angular optics 3: teach-in via button

Part number code



сс	Switching output / function (OUT1 = pin 4, OUT2 = pin 2): 4: PNP transistor output, light switching P: PNP transistor output, dark switching 2: NPN transistor output, light switching N: NPN transistor output, dark switching 9: input for transmitter deactivation (deactivation with HIGH signal) D: input for transmitter deactivation (deactivation with LOW signal) X: pin not used
DDD	Electrical connection n/a: cable, standard length 2000mm, 4-wire M12: M12 connector, 4-pin (plug)
	Note
6	✤ 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:

b For UL applications, use is only permitted in Class 2 circuits in accordance with the NEC (National Electric Code).

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)

Further information

- Sum of the output currents for both outputs, 50 mA for ambient temperatures > 40 $^\circ\text{C}$
- With the set scanning range, a tolerance of the operating range is possible depending on the reflection properties of the material surface.

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

Accessories

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 Part no.	Designation	Article	Description
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
-	50113548	BT D18M.5	Mounting bracket	Diameter, inner: 18 mm Design of mounting device: Angle, L-shape Fastening, at system: Through-hole mounting Mounting bracket, at device: Screw type Type of mounting device: Rigid Material: Stainless steel

Mounting technology - Rod mounts

 Part no.	Designation	Article	Description
50117490	BTU D18M-D12	Mounting system	Design of mounting device: Mounting system Fastening, at system: Through-hole mounting Mounting bracket, at device: Screw type Type of mounting device: Clampable, Adjustable, Turning, 360° Material: Metal

Mounting technology - Other

	Part no.	Designation	Article	Description
00	50126631 **	BT 328M	Fastening	Design of mounting device: Mounting clamp Fastening, at system: For 18 mm rod, Through-hole mounting Mounting bracket, at device: Screw type Type of mounting device: Turning, 360° Material: Stainless steel

** Included in delivery contents

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