

Technical data sheet Energetic diffuse sensor

Part no.: 50127928

FT318BI-100F.3/2N

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For illustration purposes only



Technical data

Basic data

Series	318B
Operating principle	Diffuse reflection principle

Special version

Special version	Permanently set range
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Optical data

Operating range	Guaranteed operating range
Operating range, white 90%	0.001 ... 0.1 m
Operating range, black 6%	0.005 ... 0.1 m
Operating range limit, white 90%	0.001 ... 0.1 m
Operating range limit, black 6%	0.005 ... 0.1 m
Operating range limit	Typical operating range
Light source	LED, Infrared
Wavelength	850 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	DC
Switching current, max.	100 mA
Switching voltage	high: $\geq(U_B - 2.5V)$
	low: $\leq 2.5 V$

Switching output 1

Switching element	Transistor, NPN
Switching principle	Light switching

Switching output 2

Switching element	Transistor, NPN
Switching principle	Dark switching

Time behavior

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

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 mm ²

Mechanical data

Dimension ($\varnothing \times L$)	18 mm x 46 mm
Thread size	M18 x 1 mm
Housing material	Plastic
Plastic housing	ABS
Lens cover material	Plastic
Net weight	70 g
Housing color	Black
	Red

Operation and display

Type of display	LED
Number of LEDs	1 Piece(s)
Operational controls	Teach button

Environmental data

Ambient temperature, operation	-40 ... 60 °C
Ambient temperature, storage	-40 ... 70 °C

Certifications

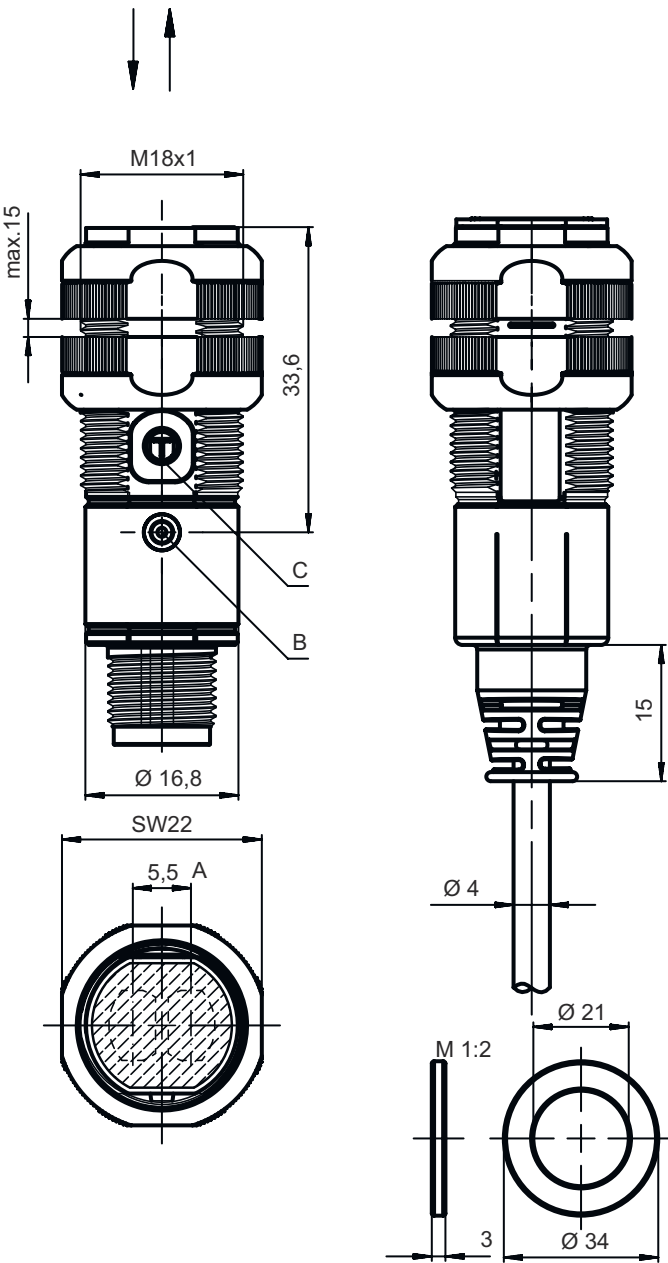
Degree of protection	IP 67
Protection class	III
Approvals	c UL US
Standards applied	IEC 60947-5-2

Classification

Customs tariff number	85365019
ECLASS 8.0	27270903
ECLASS 9.0	27270903
ETIM 5.0	EC001821
ETIM 6.0	EC001821

Dimensioned drawings

All dimensions in millimeters



Electrical connection

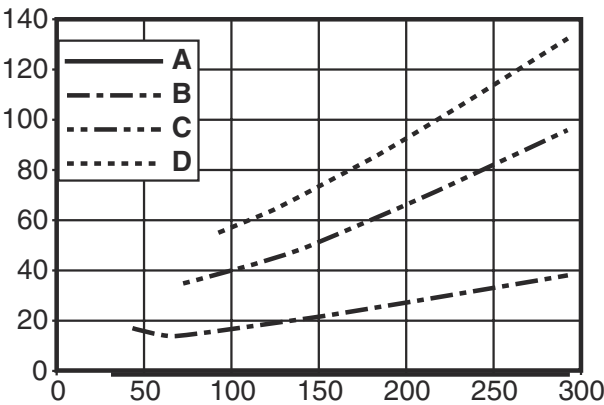
Connection 1

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

Electrical connection

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

Diagrams



Operation and display

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

Accessories

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
	50117257	BT D21M	Mounting bracket	Diameter, inner: 21 mm Design of mounting device: Angle, L-shape Fastening, at system: Through-hole mounting Mounting bracket, at device: Screw type Type of mounting device: Adjustable Material: Metal

Accessories

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
	50117258	BT 318P-LS	Fastening	Design of mounting device: Mounting clamp Fastening, at system: Through-hole mounting Mounting bracket, at device: Clampable Type of mounting device: Rigid Material: Plastic Shock absorber: No
	50121904	BT318B-OM	Fastening	Design of mounting device: Mounting clamp Fastening, at system: Through-hole mounting Mounting bracket, at device: Screw type Type of mounting device: Swiveling, Adjustable, Turning Material: Plastic Shock absorber: No

Note



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