Technical data sheet
Throughbeam photoelectric sensor transmitter
Part no.: 50140150
LS412B/DX-M12

For Illustration purposes only

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Technical data

Basic data

Series	412B
Operating principle	Throughbeam principle
Device type	Transmitter

Special version

Special version	Deactivation input

Optical data

Operating range	0 ... 10 m
Operating range	Guaranteed operating range
Operating range limit	0 ... 10 m
Operating range limit	Typical operating range
Light source	LED, Red
Wavelength	660 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 ... 36 V, DC, Incl. residual ripple
Residual ripple	0 ... 20 %, From U_B
Open-circuit current	0 ... 15 mA

Inputs

Number of deactivation inputs	1 Piece(s)

Deactivation inputs

Voltage type	DC

Deactivation input 1

Assignment	Connection 1, pin 4
Active switching state	Low

Connection

Connection 1

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

Mechanical data

Dimension (Ø x L)	12 mm x 60 mm
Thread size	M12 x 1 mm
Housing material	Metal
Metal housing	Chromed brass
Lens cover material	Glass
Net weight	32 g
Housing color	Silver

Environmental data

Ambient temperature, operation	-25 ... 55 °C

Certifications

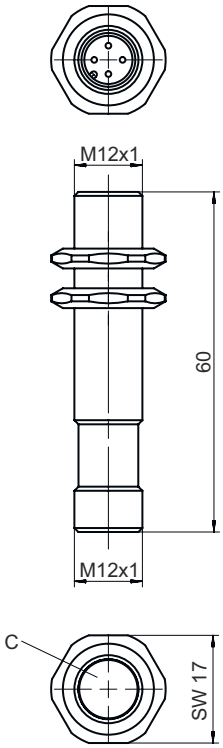
Degree of protection	IP 67
Protection class	III
Approvals	c UL US
Standards applied	IEC 60947-5-2

Classification

Customs tariff number	85365019
ECLASS 5.1.4	27270901
ECLASS 8.0	27270901
ECLASS 9.0	27270901
ECLASS 10.0	27270901
ECLASS 11.0	27270901
ECLASS 12.0	27270901
ECLASS 13.0	27270901
ECLASS 14.0	27270901
ECLASS 15.0	27270901
ETIM 5.0	EC002716
ETIM 6.0	EC002716
ETIM 7.0	EC002716
ETIM 8.0	EC002716
ETIM 9.0	EC002716
ETIM 10.0	EC002716

Dimensioned drawings

All dimensions in millimeters



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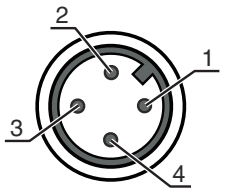
Electrical connection

Connection 1

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

Pin	Pin assignment
1	V+
2	n.c.
3	GND
4	IN 1



Suitable receivers

	Part no.	Designation	Article	Description
	50140156	LE412B/2X-M12	Throughbeam photoelectric sensor receiver	Operating range limit: 0 ... 10 m Supply voltage: DC Digital switching outputs: 1 Piece(s) Switching output 1: Transistor, NPN, Light switching Switching frequency: 1,000 Hz Connection: Connector, M12, Metal, 4 -pin

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Suitable receivers

	Part no.	Designation	Article	Description
	50140151	LE412B/4X-M12	Throughbeam photoelectric sensor receiver	Operating range limit: 0 ... 10 m Supply voltage: DC Digital switching outputs: 1 Piece(s) Switching output 1: Transistor, PNP, Light switching Switching frequency: 1,000 Hz Connection: Connector, M12, Metal, 4 -pin
	50140157	LE412B/NX-M12	Throughbeam photoelectric sensor receiver	Operating range limit: 0 ... 10 m Supply voltage: DC Digital switching outputs: 1 Piece(s) Switching output 1: Transistor, NPN, Dark switching Switching frequency: 1,000 Hz Connection: Connector, M12, Metal, 4 -pin
	50140152	LE412B/PX-M12	Throughbeam photoelectric sensor receiver	Operating range limit: 0 ... 10 m Supply voltage: DC Digital switching outputs: 1 Piece(s) Switching output 1: Transistor, PNP, Dark switching Switching frequency: 1,000 Hz Connection: Connector, M12, Metal, 4 -pin

Part number code

Part designation: **AAA412BGG.H/ii-K**

AAA412B	**Operating principle / construction** LS412B: Throughbeam photoelectric sensor transmitter LE412B: Throughbeam photoelectric sensor receiver ET412B: Energetic diffuse reflection sensor PRK412B: Retro-reflective photoelectric sensor with polarization filter
GG	**Light source** n/a: LED L2: laser class 2
H	**Operating range adjustment** 1: 270° potentiometer
ii	**Switching output / function / OUT1OUT2 (OUT1 = pin 4, OUT2 = pin 2)** 2: NPN transistor output, light switching N: NPN transistor output, dark switching 4: PNP transistor output, light switching P: PNP transistor output, dark switching D: Deactivation input (deactivation with low signal) X: pin not used
K	**Electrical connection** n/a: cable, standard length 2000 mm, 3-wire M12: M12 connector, 4-pin (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.

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 Connector, LED: No 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 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
	50113549	BT D12M.5	Mounting bracket	Diameter, inner: 12 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

Note

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