

## Technical data sheet

### Throughbeam photoelectric sensor transmitter

Part no.: 50140153

LS412B/D

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For illustration purposes only



## Technical data

### Basic data

Series	412B
Operating principle	Throughbeam principle
Device type	Transmitter

### Special version

Special version	Deactivation input
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### Optical data

Operating range	0 ... 10 m (guaranteed operating range)
Operating range limit	0 ... 10 m (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
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#### 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)
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#### Deactivation inputs

Type	Deactivation input
Voltage type	DC

#### Deactivation input 1

Active switching state	Low
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### Connection

Number of connections	1 Piece(s)
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#### Connection 1

Function	Signal IN Voltage supply
Type of connection	Cable
Cable length	2,000 mm
Sheathing material	PVC
Cable color	Black
Number of conductors	3 -wire
Wire cross section	0,34 mm <sup>2</sup>

### Mechanical data

Dimension (Ø x L)	12 mm x 51 mm
Thread size	M12 x 1 mm
Housing material	Metal
Metal housing	Chromed brass
Lens cover material	Glass
Net weight	100 g
Housing color	Silver

### Environmental data

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

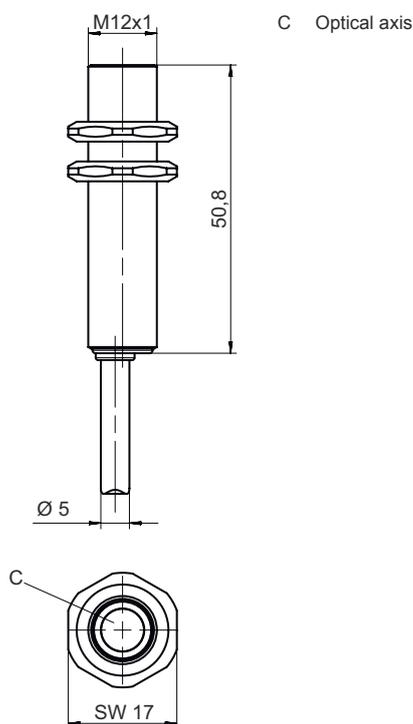
Degree of protection	IP 67
Protection class	III
Approvals	c UL US
Standards applied	IEC 60947-5-2

### 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
ECLASS 16.0	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



## Electrical connection

### Connection 1

Function	Signal IN Voltage supply
Type of connection	Cable
Cable length	2,000 mm
Sheathing material	PVC
Cable color	Black
Number of conductors	3 -wire
Wire cross section	0.34 mm <sup>2</sup>

### Conductor color

### Conductor assignment

Brown	V+
Black	IN 1
Blue	GND

## Suitable receivers

	Part no.	Designation	Operating range Operating range limit	Description
	50140158	LE412B/2	0 ... 10 m 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: Cable, 2,000 mm, 3 -wire

## Suitable receivers

	Part no.	Designation	Operating range Operating range limit	Description
	50140154	LE412B/4	0 ... 10 m 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: Cable, 2,000 mm, 3 -wire
	50140159	LE412B/N	0 ... 10 m 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: Cable, 2,000 mm, 3 -wire
	50140155	LE412B/P	0 ... 10 m 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: Cable, 2,000 mm, 3 -wire

## Part number code

Part designation: AAA412BGG.H/ii-K

<b>AAA412B</b>	<b>Operating principle / construction</b> LS412B: Throughbeam photoelectric sensor transmitter LE412B: Throughbeam photoelectric sensor receiver ET412B: Energetic diffuse reflection sensor PRK412B: Retro-reflective photoelectric sensor with polarization filter
<b>GG</b>	<b>Light source</b> n/a: LED L2: laser class 2
<b>H</b>	<b>Operating range adjustment</b> 1: 270° potentiometer
<b>ii</b>	<b>Switching output / function / OUT1OUT2 (OUT1 = pin 4, OUT2 = pin 2)</b> 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
<b>K</b>	<b>Electrical connection</b> n/a: cable, standard length 2000mm, 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](http://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****Mounting technology - Mounting brackets**

	<b>Part no.</b>	<b>Designation</b>	<b>Article</b>	<b>Description</b>
	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.