

# Technical data sheet

## Throughbeam photoelectric sensor receiver

Part no.: 50138588

LE15/4X-M12

### Contents

- Technical data
- Dimensioned drawings
- Electrical connection
- Diagrams
- Operation and display
- Suitable transmitters
- Part number code
- Notes
- Further information
- Accessories



For illustration purposes only



# Technical data

## Basic data

Series	15
Operating principle	Throughbeam principle
Device type	Receiver

## Optical data

Operating range	see transmitter
-----------------	-----------------

## 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	1 Piece(s)
-------------------------------------	------------

Switching outputs	
Type	Digital switching output
Voltage type	DC
Switching current, max.	100 mA
Switching voltage	high: $\geq (U_B - 2.5V)$ low: $\leq 2.5 V$

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

## Time behavior

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

## Connection

Number of connections	1 Piece(s)
<b>Connection 1</b>	
Function	Signal OUT
	Voltage supply
Type of connection	Connector
Thread size	M12
Type	Male
Material	Plastic
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
Plastic housing	ABS
Lens cover material	Plastic
Net weight	15 g
Housing color	Black
Type of fastening	Through-hole mounting Via optional mounting device

Recommended tightening torque for M3 fastening	0.9 N·m
Recommended tightening torque for M4 fastening	1.4 N·m

## Operation and display

Type of display	LED
Number of LEDs	2 Piece(s)

## Environmental data

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

## Certifications

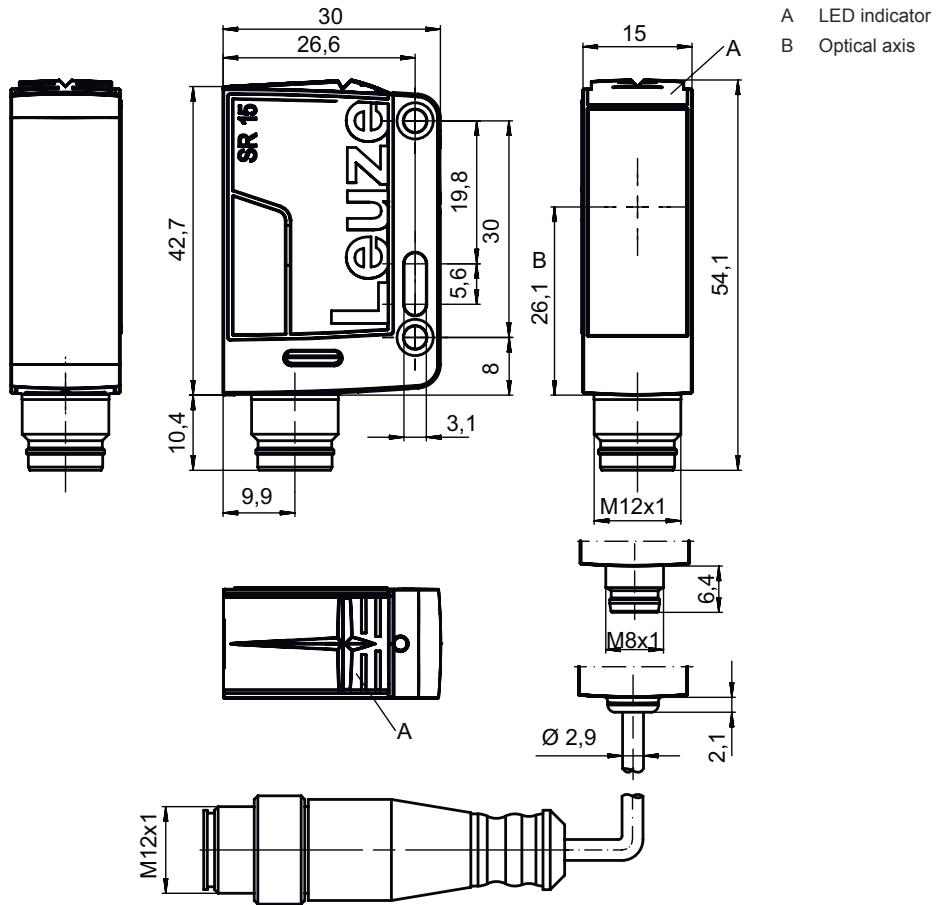
Degree of protection	IP 67
Protection class	III
Approvals	c UL US
Standards applied	IEC 60947-5-2

## Classification

Customs tariff number	85365019
ECLASS 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



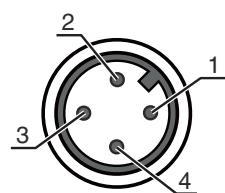
## Electrical connection

### Connection 1

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

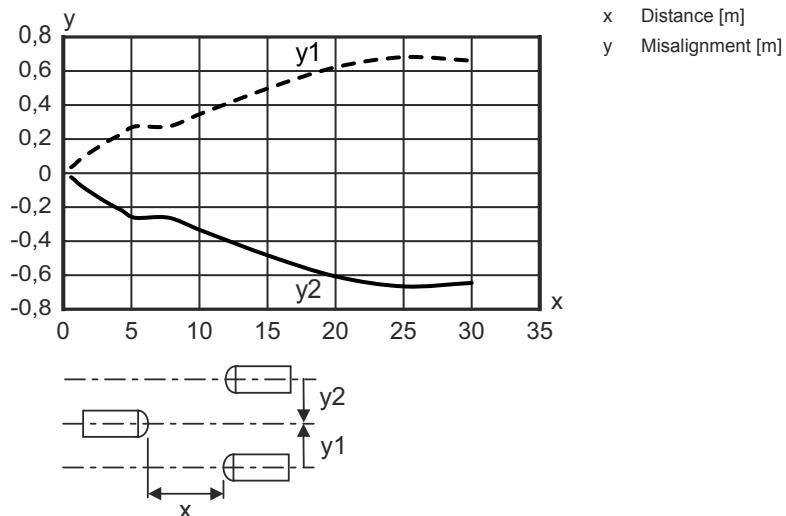
### Pin assignment

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



## Diagrams

### Typ. response behavior



### Operation and display

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

### Suitable transmitters

Part no.	Designation	Operating range Operating range limit	Description
	50138585 LS15/XX-M12	0 ... 25 m 0 ... 30 m	Operating range limit: 0 ... 30 m Light source: LED, Red Supply voltage: DC Connection: Connector, M12, Plastic, 4 -pin

### Part number code

Part designation: AAA15d.EE/ ff-HH

AAA15	<b>Operating principle / construction</b> HT15: diffuse reflection sensor with background suppression PRK15: retro-reflective photoelectric sensor with polarization filter LS15: throughbeam photoelectric sensor transmitter LE15: throughbeam photoelectric sensor receiver
d	<b>Light type</b> n/a: red light l: infrared light
EE	<b>Equipment</b> 1: adjustable range D: Detection of stretch-wrapped objects

## Part number code

ff	<b>Switching output / Function</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 X: pin not used
HH	<b>Electrical connection</b> n/a: cable, standard length 2000 mm, 3-wire M8: M8 connector, 4-pin (plug) 200-M12: cable, length 200 mm with M12 connector, 4-pin, axial (plug) M12: M12 connector, 4-pin (plug)
<b>Note</b>	
	⚠ A list with all available device types can be found on the Leuze website at <a href="http://www.leuze.com">www.leuze.com</a> .

## Notes

	<b>Observe intended use!</b>
	<p>⚠ This product is not a safety sensor and is not intended as personnel protection.</p> <p>⚠ The product may only be put into operation by competent persons.</p> <p>⚠ Only use the product in accordance with its intended use.</p>

## Further information

- Light source: Average life expectancy 100,000 h at an ambient temperature of 25 °C

## 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

## Accessories

### Mounting technology - Mounting brackets

Part no.	Designation	Article	Description
	50040269	BT 25	Mounting device 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: Metal

### 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
	50117255	BTU 200M-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 M3 screws Type of mounting device: Clampable, Adjustable, Turning, 360° Material: Metal

**Note**

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