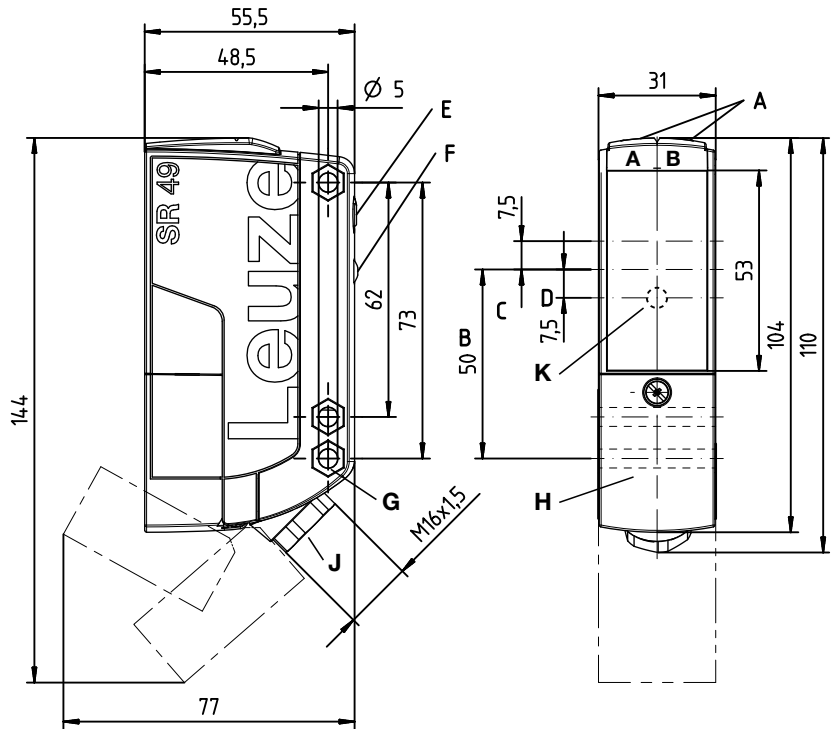


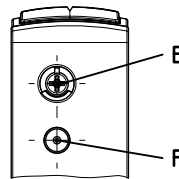
**L49C**

**Throughbeam photoelectric sensors**

**Dimensioned drawing**



- A<sub>A</sub>** Green indicator diode
- A<sub>B</sub>** Yellow indicator diode
- B** Optical axis
- C** Receiver
- D** Transmitter
- E** Sensitivity adjustment
- F** Teach button for light/dark switching / time module activation
- G** Countersinking for SK nut M5, 4.2 deep
- H** Connection compartment with spring terminals
- J** Cable entry with M16x1.5 screw fitting for Ø5 ... 10mm
- K** Yellow indicator diode  
Transmitter: active/not active  
Receiver: signal/no signal



**Electrical connection**

**Transmitter**

10-30V DC	1
GND	2
IN	3
NC	4
NC	5

Selection of terminal 3

IN
Active
NC

**Receiver**

10-30V DC	1
GND	2
OUT 1	3
OUT	4
NC	5

Selection of terminal 4

OUT
OUT 2
Warn
NC



**150m**



- Throughbeam photoelectric sensors with large operating range and high function reserve in red light and infrared light versions
- Robust plastic housing, degree of protection IP 67 and IP 69K for universal, industrial application
- Sensitivity adjustment and delay before start-up for optimal adaptation to the application
- Light/dark switching and time module activation via teach button for time-saving integration in existing evaluation environment
- Time-saving, exact alignment through additional, highly visible display
- Space-saving installation thanks to front access to the connection compartment
- Extremely time-saving connection by means of spring terminals (up to 1.5mm<sup>2</sup>)



**Accessories:**

(available separately)

- Mounting systems (BTU 460, BT 96, BT 96.1, BT 450.1-96)
- Alignment aid (SAT 5)
- Laser alignment aid (ARH 49C)

en 01-2016/06 50134345

We reserve the right to make changes • DS\_L49CTB\_en\_50134345.fm

Technical data

<b>Optical data</b>	<b>L49C...</b>	<b>L49CI...</b>
Typ. operating range limit <sup>1)</sup>	0 ... 150m	
Operating range <sup>2)</sup>	0.5 ... 120m	
Light source <sup>3)</sup>	LED (modulated light)	
Wavelength	630nm (red light)	860nm (infrared light)
<b>Timing</b>		
Switching frequency	500Hz	
Response time	1 ms	
Readiness delay	≤ 300ms	
<b>Electrical data</b>		
Operating voltage U <sub>B</sub> <sup>4)</sup>	10 ... 30VDC (incl. residual ripple)	
Residual ripple	≤ 15% of U <sub>B</sub>	
Open-circuit current	≤ 20mA	
Switching outputs/functions <sup>5)</sup>	/4P 2 PNP switching outputs, antivalent	
	/4W 1 PNP switching output, light switching, 1 PNP warning output	
	/4X 1 PNP switching output, light switching	
	/PX 1 PNP switching output, dark switching	
	/2N 2 NPN switching outputs, antivalent	
Signal voltage high/low	≥ (U <sub>B</sub> -2V)/≤ 2V	
Output current	Max. 100mA	
Sensitivity/operating range adjustment	225° potentiometer (only LE49C[I].1...)	
<b>Indicators</b>		
Green LED	Ready	
Yellow LED	Light path free	
Yellow LED, flashing	Light path free, no function reserve	
Yellow LED (behind lens cover)	Transmitter: active/not active	
	Receiver: signal/no signal	
Yellow LED (behind lens cover), flashing	Receiver: signal, function reserve limited	
<b>Mechanical data</b>		
Housing	Polycarbonate	
Optics cover	Plastic	
Weight	150g	
Connection type	Spring terminals, max. wire cross section 1.5mm <sup>2</sup>	
<b>Environmental data</b>		
Ambient temp. (operation/storage)	-40°C ... +60°C/-40°C ... +70°C	
Protective circuit <sup>6)</sup>	1, 2, 3	
VDE safety class <sup>7)</sup>	II, all-insulated	
Degree of protection	IP 67, IP 69K <sup>8)</sup>	
Light source	Exempt group (in acc. with EN 62471)	
Standards applied	IEC 60947-5-2	
Certifications	UL 508, CSA C22.2 No.14-13 <sup>4) 9)</sup>	
<b>Additional functions</b>		
<b>Switching function</b> (teach level 1)	Light switching (factory setting) or dark switching	
<b>Time module</b> (teach level 2)	Active: dropout delay 500ms	
	Not active:no dropout delay (factory setting)	
	PNP transistor, counting principle	
<b>Warning output</b>		
Signal voltage high/low	≥ (U <sub>B</sub> -2V)/≤ 2V	
Output current	≤ 1ms	
<b>Activation input</b>		
Transmitter active/not active	≥ 8V/≤ 2V	
Activation/disable delay	≤ 1ms	
Input resistance	10kΩ ± 10%	

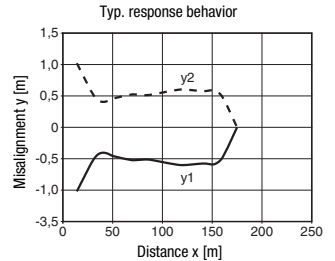
Tables

0/0,5	120	150
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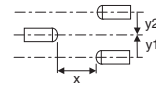
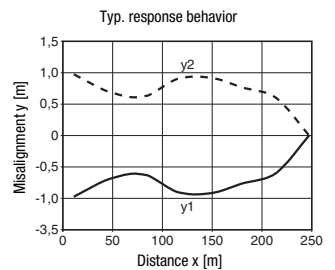
Operating range [m]
Typ. operating range limit [m]

Diagrams

L49C... with red light



L49CI... with infrared light



Notes

<b>Observe intended use!</b>
⚠ 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.

- A light axis consists of a transmitter and a receiver with the following designations:

L49C[I]... = light axis, complete  
 LS49C[I]... = transmitter  
 LE49C[I]... = receiver

- **Alignment indicator:** ('K' see dimensioned drawing)  
**Yellow LED =** light path free - with reserve  
**Yellow LED, flashing =** light path free - no function reserve

# L49C

# Throughbeam photoelectric sensors

## Part number code

Transmitter	L	S	4	9	C	I	.	8						-	T	B
Receiver	L	E	4	9	C	I	.	1	/	4	P			-	T	B

### Operating principle

LS	Throughbeam photoelectric sensor transmitter
LE	Throughbeam photoelectric sensor receiver

### Series

49C	49C series
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### Light type

free	Red light
I	Infrared light

### Equipment

1	Sensitivity adjustment via potentiometer on receiver
8	Activation input at transmitter ( <b>IN</b> (terminal 3), active high)

### Pin assignment OUT1 (terminal 3) at receiver

2	NPN, light switching
N	NPN, dark switching
4	PNP, light switching
P	PNP, dark switching

### Pin assignment OUT (terminal 4) at receiver

X	Not used
2	NPN, light switching
N	NPN, dark switching
4	PNP, light switching
P	PNP, dark switching
W	Warning output, PNP light switching

### Connection technology

TB	Terminal block - terminal compartment with spring terminals (5 x 1.5mm <sup>2</sup> )
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## Order guide

The sensors listed here are preferred types; current information at [www.leuze.com](http://www.leuze.com).

### Red-light throughbeam photoelectric sensor<sup>1)</sup> with alignment display

#### Designation

#### Part no.

	Terminal compartment with spring terminals (5 x 1.5mm <sup>2</sup> )			
TRANSMITTER	Standard	LS49C-TB	50134450	
	With activation input	LS49C.8-TB	50134451	
RECEIVER	Terminal compartment with spring terminals (5 x 1.5mm <sup>2</sup> )	OUT1: PNP light switching; OUT2: PNP dark switching	LE49C/4P-TB	50134454
		OUT1: PNP light switching; OUT: warning output PNP active high	LE49C/4W-TB	50134457
		OUT1: PNP light switching; OUT2: PNP dark switching; sensitivity adjustment	LE49C.1/4P-TB	50134456
		OUT1: NPN light switching; OUT2: NPN dark switching	LE49C/2N-TB	50134455

### Infrared light throughbeam photoelectric sensor<sup>1)</sup> with alignment display

#### Designation

#### Part no.

	Terminal compartment with spring terminals (5 x 1.5mm <sup>2</sup> )			
TRANSMITTER	Standard	LS49CI-TB	50134452	
	With activation input	LS49CI.8-TB	50134453	
RECEIVER	Terminal compartment with spring terminals (5 x 1.5mm <sup>2</sup> )	OUT1: PNP light switching; OUT: warning output PNP active high	LE49CI/4W-TB	50134460
		OUT1: PNP light switching; OUT2: PNP dark switching; sensitivity adjustment	LE49CI.1/4P-TB	50134458
		OUT1: NPN light switching; OUT2: NPN dark switching; sensitivity adjustment	LE49CI.1/2N-TB	50134459

1) For a complete light axis, arbitrary combinations of the transmitters and receivers listed below are possible. Transmitter/receiver combinations of red light devices with infrared light devices are, however, not possible.

