

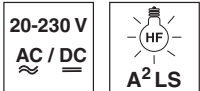
**LS 96**

**Throughbeam photoelectric sensors**

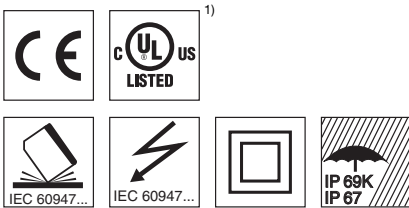
en 11-2014/06 50120809-01



**65m  
150m**



- Throughbeam photoelectric sensors with high performance reserve in infrared light
- Robust metal housing with glass cover or plastic housing, protection class IP 67/ IP 69K for industrial application
- All-mains design 20 ... 230VAC/DC
- Relay with change-over contact, sensitivity adjustment and delay before start-up for optimal adaptation to the application
- Connection via comfortable terminal compartment up to 1.5mm<sup>2</sup>
- Version with additional switching delay



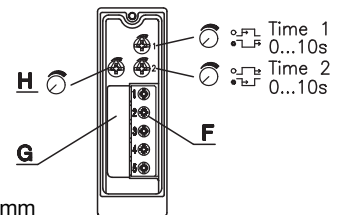
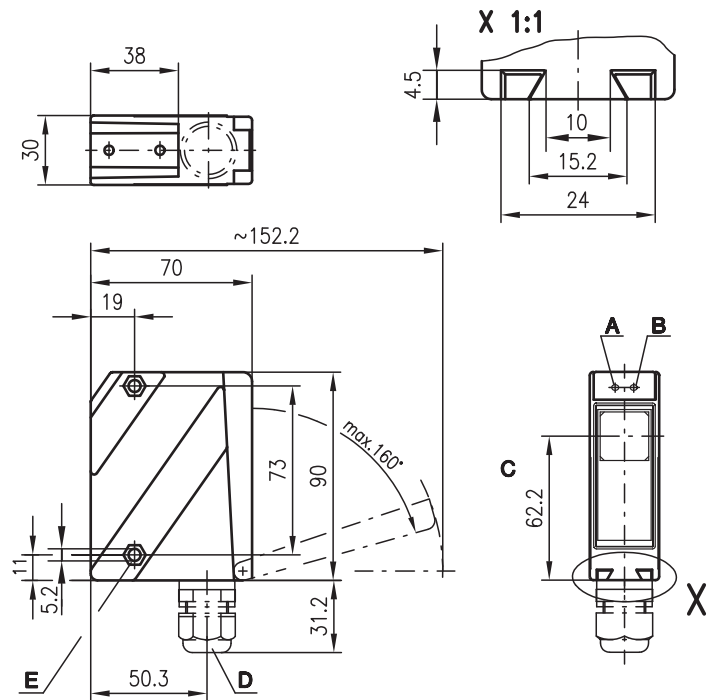
1) LS 96M/R-1310-2  
LS 96M/R-3310-2

**Accessories:**

(available separately)

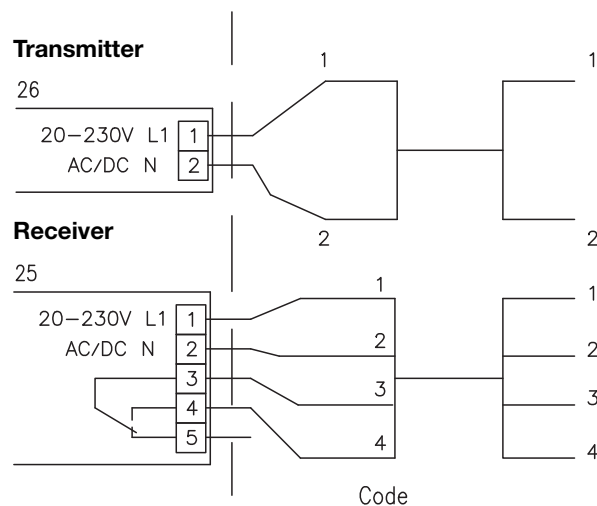
- Mounting systems (BT 96, BT 96.1, UMS 96, BT 450.1-96)
- Spark extinction
- Alignment aid ARH 96

**Dimensioned drawing**



- A** Green indicator diode
- B** Yellow indicator diode
- C** Optical axis
- D** Screwed cable gland M16x1.5 for Ø 5 ... 10mm
- E** Countersinking for SK nut M5, 4.2 deep
- F** Connection terminals
- G** Cable entry
- H** Sensitivity adjustment

**Electrical connection (example)**



We reserve the right to make changes

## Specifications

### Optical data

Typ. operating range limit <sup>1)</sup>  
 Operating range <sup>2)</sup>  
 Light source  
 Wavelength

**65m**  
 0 ... 65m  
 0 ... 50m  
 LED (modulated light)  
 880nm (infrared)

**150m**  
 0 ... 150m  
 0 ... 120m

### Timing

Switching frequency  
 Response time  
 Delay before start-up

20Hz  
 25ms  
 ≤ 200ms

### Electrical data

Operating voltage U<sub>B</sub>

20 ... 230VAC, 50/60Hz  
 20 ... 230VDC

Power consumption  
 Switching output <sup>3)</sup>  
 Function characteristics  
 Switching voltage, relay  
 Switching current, relay  
 Open-circuit current  
 Sensitivity

≤ 1.5VA  
 relay, 1 change-over contact  
 break-contact/make-contact  
 250VAC/DC  
 250VAC, 3A/30V, 3A  
 750VA, cosφ=1  
 adjustable

### Indicators

Green LED  
 Yellow LED  
 Yellow LED, flashing

ready  
 light path free  
 light path free, no performance reserve

### Mechanical data

Housing  
 Optics cover  
 Weight  
 Connection type

**Metal housing**  
 diecast zinc  
 glass  
 380g  
 terminals

**Plastic housing**  
 polycarbonate  
 plastic  
 150g  
 terminals

### Environmental data

Ambient temp. (operation/storage)  
 Protective circuit <sup>4)</sup>  
 VDE safety class <sup>5)</sup>  
 Protection class  
 Light source  
 Standards applied  
 Certifications <sup>7)</sup>

-30°C ... +60°C/-40°C ... +70°C  
 1, 2, 3  
 II, all-insulated  
 IP 67, IP 69K <sup>6)</sup> IP 67  
 exempt group (in acc. with EN 62471)  
 IEC 60947-5-2  
 UL 508, C22.2 No.14-13

### Options

Switching delay (slow oper./release) 0 ... 10s (separately adjustable)

- 1) Typ. operating range limit: max. attainable range without performance reserve
- 2) Operating range: recommended range with performance reserve
- 3) Suitable spark extinction must be provided with inductive or capacitive loads
- 4) 1=transient protection, 2=polarity reversal protection, 3=short circuit protection for all outputs
- 5) Rating voltage 250VAC
- 6) IP 69K test acc. to DIN 40050 part 9 simulated, high pressure cleaning conditions without the use of additives, acids and bases are not part of the test
- 7) LS 96M/R-1310-2, LS 96M/R-3310-2

### Operate in accordance with 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 the intended use.

## Order guide

Selection table		Order code →					
Equipment ↓		LS 96K/R-1310-2 Part No. 50025253 (Tr) Part No. 50025257 (Re)	LS 96K/R-1320-2 Part No. 50025253 (Tr) Part No. 50025256 (Re)	LS 96M/R-1310-2 Part No. 50080081 (Tr) Part No. 50080080 (Re)	LS 96M/R-3310-2 Part No. 50080081 (Tr) Part No. 50031651 (Re)	LS 96K/R-131P-2 Part No. 50030405 (Tr) Part No. 50030406 (Re)	
Housing	metal			●	●		
	plastic	●	●			●	
Light source	infrared light (50m)	●	●	●		●	
	infrared light (120m)				●		
Connection	terminals	●	●	●	●	●	
Features	switching delay		●				
	UL homologation			●	●		

## Tables

65m models

0	50	65
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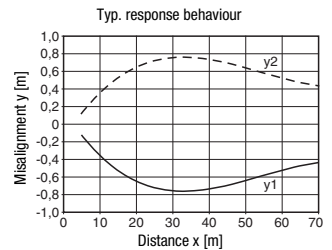
150m models

0	120	150
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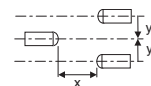
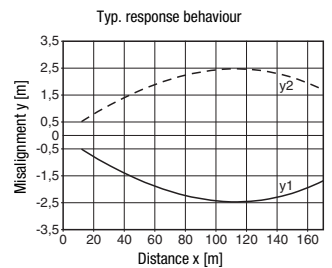
□ Operating range [m]  
 ■ Typ. operating range limit [m]

## Diagrams

65m models



150m models



## Remarks

- LS 96K/R-131P-2  
 P = Reduction M16

LS = Pair consisting of  
 LSS = Transmitter  
 LSE = Receiver

### LS 96K/R-1310-2

LSS 96K-1350-26  
 LSE 96K/R-1310-25

### LS 96K/R-1320-2

LSS 96K-1350-26  
 LSE 96K/R-1320-25

### LS 96M/R-1310-2

LSS 96M-1350-26  
 LSE 96M/R-1310-25

### LS 96M/R-3310-2

LSS 96M-1350-26  
 LSE 96M/R-3310-25

### LS 96K/R-131P-2

LSS 96K-135P-26  
 LSE 96K/R-131P-25