

**LS 96**

**Throughbeam photoelectric sensors**

en 2019/05/21 50142048

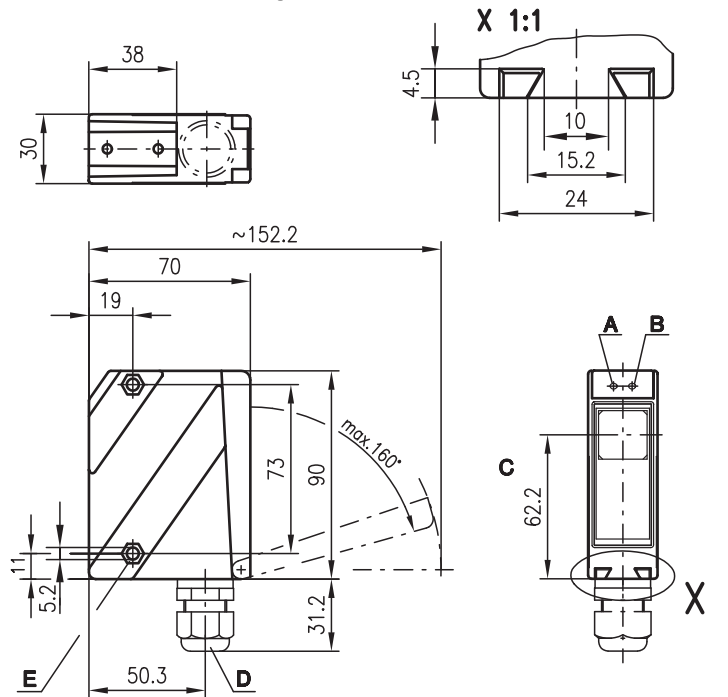


**39m**

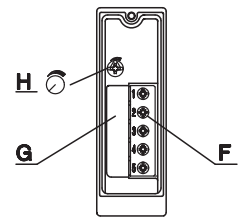


- Throughbeam photoelectric sensors with high function reserve in red light
- Wide-angle version for simplifying alignment
- Robust metal housing with glass cover, degree of protection IP 67/IP 69K for industrial application
- All-mains design 20 ... 230VAC/DC with relay output
- Relay with change-over contact, sensitivity adjustment and delay before start-up for optimal adaptation to the application
- Connection via comfortable terminal compartment up to 1.5 mm<sup>2</sup>

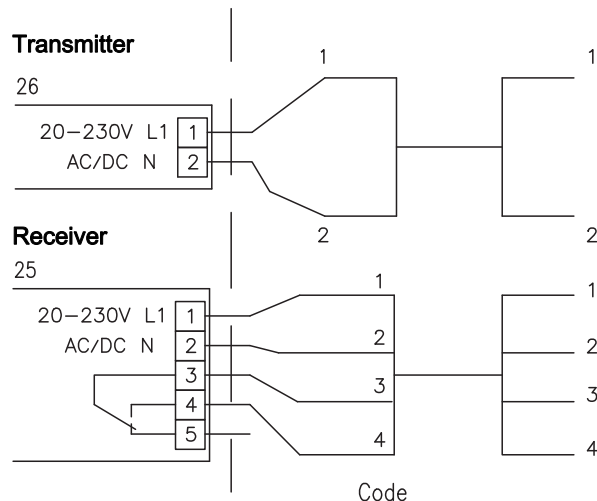
**Dimensioned drawing**



- 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 • DS\_LS96\_en\_50142048.fm



**Accessories:**

(available separately)

- Mounting systems (BT 96, BT 96.1, BT 96.4, UMS 96, BT 450.1-96)
- Spark extinction
- Alignment aid ARH 96

## Technical data

### Optical data

Typ. operating range limit <sup>1)</sup>	0 ... 39m
Operating range <sup>2)</sup>	0 ... 30m
Light source	LED (modulated light)
Wavelength	660nm (red light)

### Time behavior

Switching frequency	20Hz
Response time	25ms
Readiness delay	≤ 200ms

### Electrical data

Operating voltage $U_B$	20 ... 230VAC, 50/60Hz 20 ... 230VDC
Power consumption	≤ 1.5VA
Switching output <sup>3)</sup>	Relay, 1 change-over contact
Function	NC contact/NO contact
Switching voltage, relay	250VAC/DC
Switching current, relay	250VAC, 3A/30V, 3A
Open-circuit current	750VA, $\cos\phi=1$
Sensitivity	Adjustable

### Indicators

Green LED	Ready
Yellow LED	Light path free
Yellow LED, flashing	Light path free, no function reserve

### Mechanical data

Housing	<b>Metal housing</b>
Optics cover	Diecast zinc
Weight	Glass
Connection type	380g
	Terminals
	Transmitter cable 3 x 0.5 mm <sup>2</sup> (Ölflex 110), 1.5m
	Receiver cable 3x0.5mm <sup>2</sup> (Ölflex 110), 1.5m

### Environmental data

Ambient temp. (operation/storage)	-30°C ... +60°C/-40°C ... +70°C
Protective circuit <sup>4)</sup>	1, 2, 3
VDE protection class <sup>5)</sup>	II, all-insulated
Degree of protection	IP 67, IP 69K <sup>6)</sup>
LED class	1 (acc. to EN 60825-1)
Standards applied	IEC 60947-5-2

- 1) Typ. operating range limit: max. attainable range without function reserve
- 2) Operating range: recommended range with function 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

## Order guide

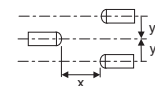
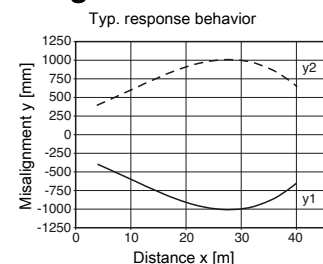
Selection table		Order code →	LS 96M/R-176W-2 Part No. 500 32004 (Tr) Part No. 500 32003 (Re)				
Equipment ↓							
Housing	Metal	●					
Light source	Red light (30m)	●					
Connection	Terminals	●					
	Cable tail 1.5m						

## Tables

0	30	39
---	----	----

□	Operating range [m]
□	Typ. operating range limit [m]

## Diagrams



## Notes

- Angle at a distance of 3m:
  - Transmitter:**  
angle of radiation  
typ. 10°
  - Receiver:**  
receiving angle  
typ. 12°
- Cable version  
Assignment code:  
1, 2 = supply  
3, 4 = normally closed contact

LS = Pair consisting of  
LSS = Transmitter  
LSE = Receiver

LS 96M/R-176W-2  
LSS 96M-175W-26  
LSE 96M/R-176W-25