

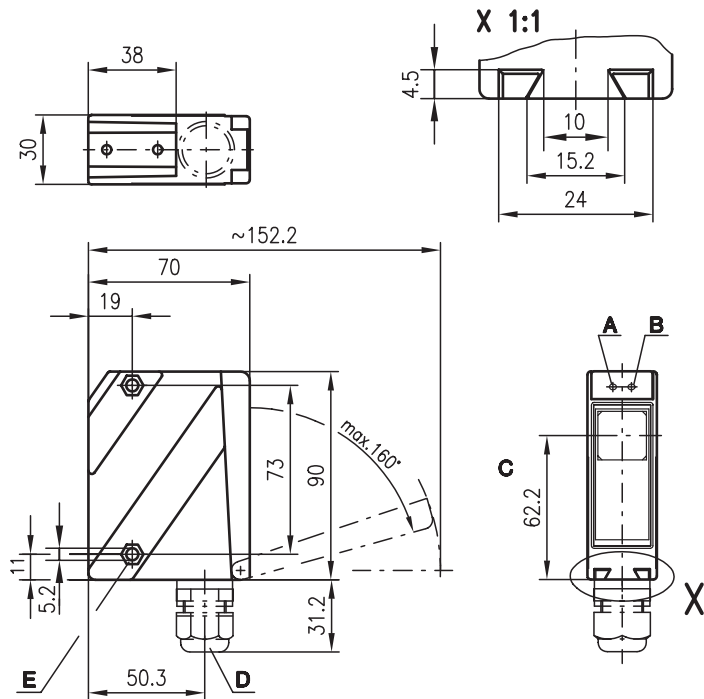


LS 96

Throughbeam photoelectric sensors



Dimensioned drawing

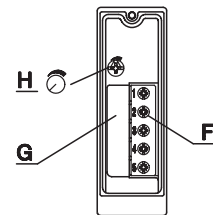


39m

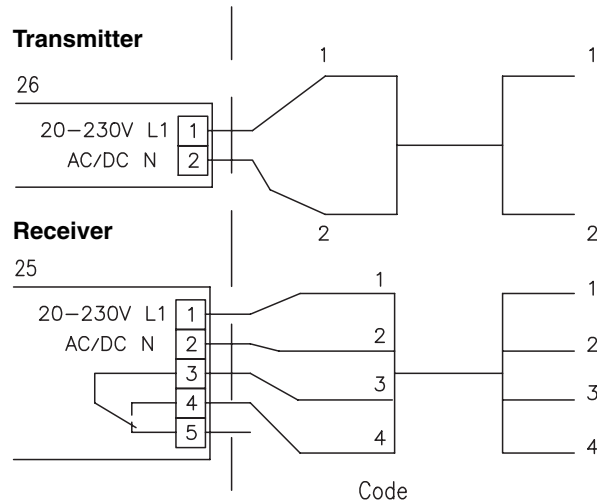


- Throughbeam photoelectric sensors with high performance reserve in red light
- Wide angle version for easy alignment
- Robust metal housing with glass cover, protection class IP 67/IP 69K for industrial application
- All-mains design 20 ... 230VAC/DC with relay output
- Relay with change-over contact,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

- A Indicator diode green
- B Indicator diode yellow
- 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)



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

We reserve the right to make changes • 96\_a06e.fm

### Specifications

#### 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)

#### Timing

Switching frequency	20Hz
Response time	25ms
Delay before start-up	≤ 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 characteristics	break-contact/make-contact
Switching voltage, relay	250 VAC/DC
Switching current, relay	250 VAC, 3A/30V, 3A
Bias current	750 VA, $\cos\phi=1$
Sensitivity	adjustable

#### Indicators

LED green	ready
LED yellow	light path free
LED yellow flashing	light path free, no performance reserve

#### Mechanical data

Housing	diecast zinc
Optics cover	glass
Weight	380g
Connection type	terminals
	transmitter cable 3x0.5mm <sup>2</sup> (oil flex 110), 1.5m
	receiver cable 3x0.5mm <sup>2</sup> (oil flex 110), 1.5m

#### Environmental data

Ambient temp. (operation/storage)	-20°C ... +60°C/-40°C ... +70°C
Protective circuit <sup>4)</sup>	1, 2, 3
VDE safety class <sup>5)</sup>	II, all-insulated
Protection class	IP 67, IP 69K <sup>6)</sup>
LED class	1 (acc. to EN 60825-1)
Standards applied	IEC 60947-5-2

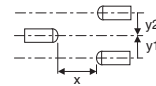
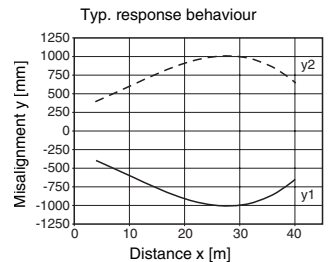
- 1) Typ. operating range limit: max. attainable range without performance reserve
- 2) Operating range: recommended range with performance reserve
- 3) Suitable spark extinction must be provided with inductive or capacitive loads
- 4) 1=transient protection, 2=polarity reversal protection, 3=short-circuit 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

### Tables

0	30	39
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- Operating range [m]
- Typ. operating range limit [m]

### Diagrams



### 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							

### Remarks

- Angle at a distance of 3m:  
**transmitter:**  
angle of radiation typ. 10°  
**receiver:**  
receiving angle typ. 12°
- Cable version  
wire assignment:  
1,2 = supply  
3,4 = break-contact

LS = Pair consisting of  
LSS = Transmitter  
LSE = Receiver

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