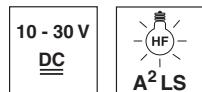


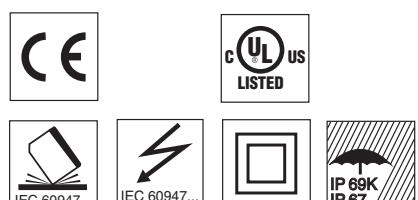
## LS 96



39m



- Powerful throughbeam photoelectric sensors with performance reserve in visible red light
- Wide angle version for easy alignment
- Robust metal housing with glass cover, protection class IP 67/IP 69K for industrial application
- Complementary outputs, sensitivity adjustment and delay before start-up for optimal adaptation to the application
- Connection via M 12 connector or comfortable terminal compartment up to 1.5mm<sup>2</sup>

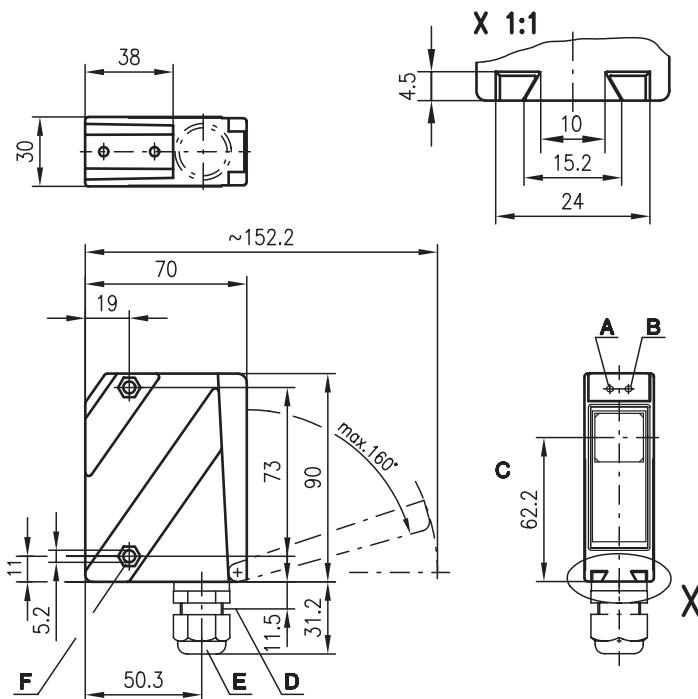


## Accessories:

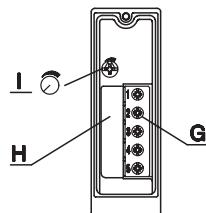
(available separately)

- Mounting systems (BT 96, BT 96.1, UMS 96, BT 450.1-96)
- M 12 connectors (KD ...)
- Ready-made cables (K-D ...)
- Alignment aid ARH 96

## Dimensioned drawing

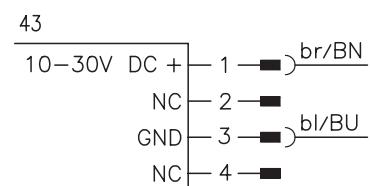
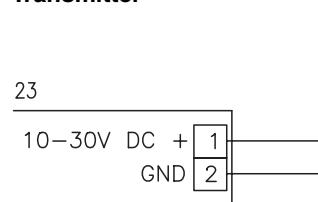


- A** Indicator diode green  
**B** Indicator diode yellow  
**C** Optical axis  
**D** Device plug M 12x1  
**E** Screwed cable gland M 16x1.5 for Ø 5 ... 10mm  
**F** Countersinking for SK nut M 5, 4.2 deep  
**G** Connection terminals  
**H** Cable entry  
**I** Sensitivity adjustment

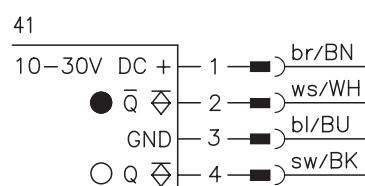
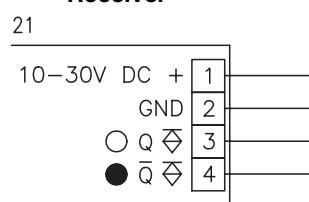


## Electrical connection

## Transmitter



## Receiver



## Specifications

### Optical data

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

### Red light

0 ... 39m  
0 ... 30m  
LED (modulated light)  
660nm

### Timing

Switching frequency  
Response time  
Delay before start-up

500Hz  
1ms  
≤ 200ms

### Electrical data

Operating voltage  $U_B$   
Residual ripple  
Bias current  
Switching output  
Function characteristics  
Signal voltage high/low  
Output current  
Sensitivity

10 ... 30VDC (incl. residual ripple)  
≤ 15% of  $U_B$   
≤ 50mA  
PNP transistor  
light/dark switching  
≥  $(U_B - 2V)/2V$  (PNP)  
max. 100mA  
adjustable

### Indicators

LED green  
LED yellow  
LED yellow flashing

### Metal housing

diecast zinc  
glass  
380g  
terminals, M12 connector

### Mechanical data

Housing  
Optics cover  
Weight  
Connection type

### Ambient data

Ambient temp. (operation/storage)  
Protective circuit <sup>3)</sup>  
VDE safety class <sup>4)</sup>  
Protection class  
LED class  
Standards applied

-20°C ... +60°C/-40°C ... +70°C  
1, 2, 3  
II, all-insulated  
IP 67, IP 69K <sup>5)</sup>  
1 (acc. to EN 60825-1)  
IEC 60947-5-2

- 1) Typ. operating range limit: max. attainable range without performance reserve
- 2) Operating range: recommended range with performance reserve
- 3) 1=transient protection, 2=polarity reversal protection, 3=short-circuit protection for all outputs
- 4) Rating voltage 250VAC
- 5) 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

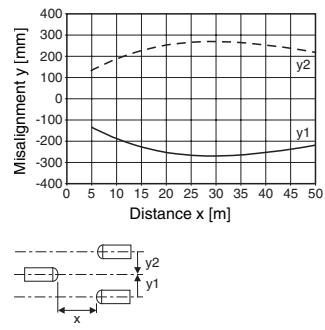
## Tables

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

## Diagrams

Typ. response behaviour



## Remarks

- Angle at a distance of 3m:  
**transmitter:**  
angle of radiation typ. 10°  
**receiver:**  
receiving angle typ. 12°

LS = Pair consisting of  
LSS = Transmitter  
LSE = Receiver

### LS 96M/P-181W-4

LSS 96M-120W-43  
LSE 96M/P-181W-41

### LS 96M/P-181W-2

LSS 96M-120W-23  
LSE 96M/P-181W-21

### LS 96M/P-1816-4

LSS 96M-1206-43  
LSE 96M/P-1816-41

## Order guide

### Selection table

		Order code →					
		LS 96M/P-181W-4	LS 96M/P-181W-2	LS 96M/P-1816-4			
<b>Equipment ↓</b>							
Housing	metal	●	●	●			
Light source	red light (30m)	●	●	●			
Connection	terminals		●				
	M 12 connector	●		●			
Features	fixed sensitivity setting	●	●	●			
	optics heating/low temp.			●			