

LS 96

Throughbeam photoelectric sensors

en 2019/05/08 50120809-01



65m
150m

20-230 V
AC / DC

- Throughbeam photoelectric sensors with high function reserve in infrared light
- Robust metal housing with glass cover or plastic housing, degree of protection 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 1.5mm²
- Version with additional switching delay

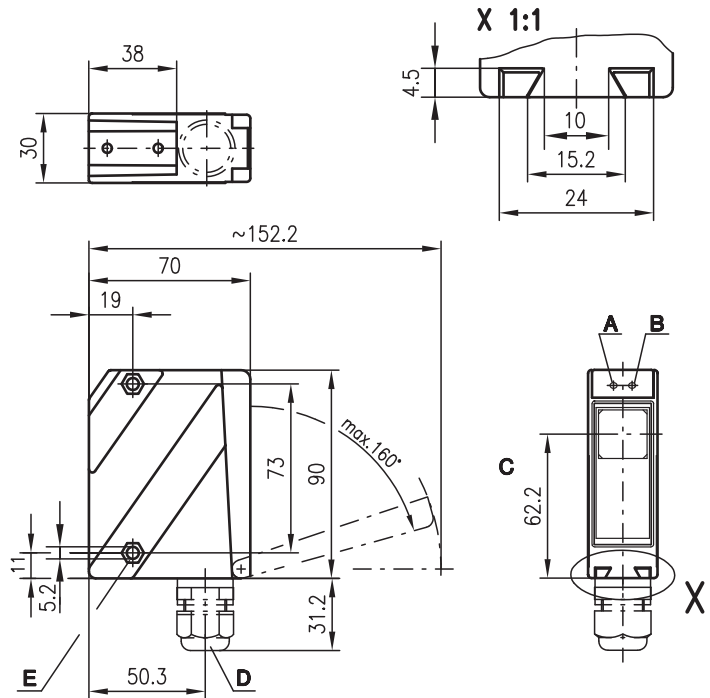


Accessories:

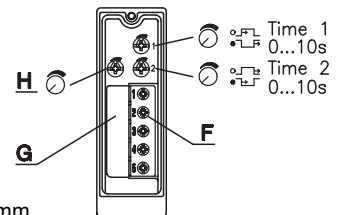
(available separately)

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

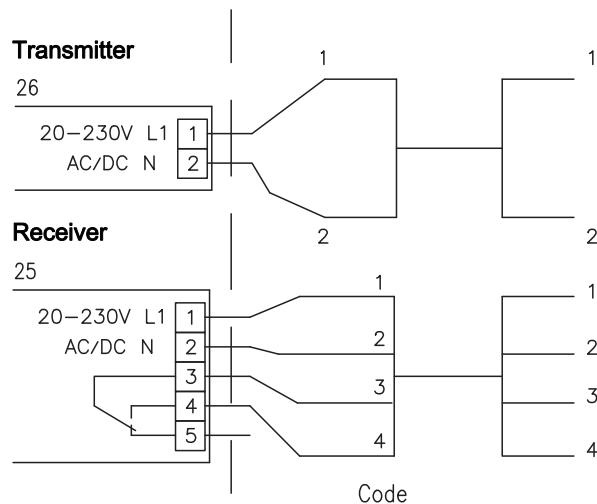
Dimensioned drawing



- 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 • DS_LS96MKR_en_50120809-

Technical data

Optical data

Typ. operating range limit ¹⁾
Operating range ²⁾
Light source
Wavelength

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

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

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 ³⁾ Relay, 1 change-over contact

Function
Switching voltage, relay 250VAC/DC
Switching current, relay 250VAC, 3A/30V, 3A
Open-circuit current 750VA, $\cos\phi=1$
Sensitivity Adjustable

Indicators

Green LED
Yellow LED
Yellow LED, flashing

Ready
Light path free
Light path free, no function 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) -30°C ... +60°C/-40°C ... +70°C
Protective circuit ⁴⁾ 1, 2, 3
VDE protection class ⁵⁾ II, all-insulated
Degree of protection IP 67, IP 69K ⁶⁾
Light source Exempt group (in acc. with EN 62471)
Standards applied IEC 60947-5-2

Additional functions

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

- 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

Approved purpose:

This product may only be used by qualified personnel and must only be used for the approved purpose. This sensor is not a safety sensor and is not intended as personnel protection.

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 approval			●			

Tables

65m models

0	50	65
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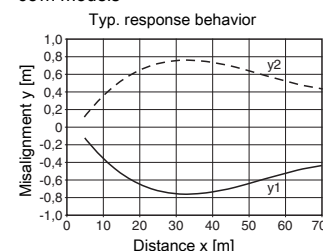
150m models

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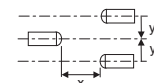
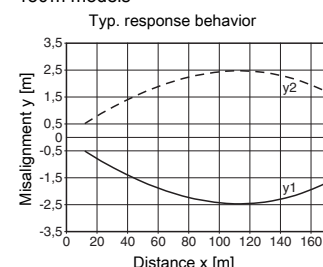
Operating range [m]
Typ. operating range limit [m]

Diagrams

65m models



150m models



Notes

- 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