

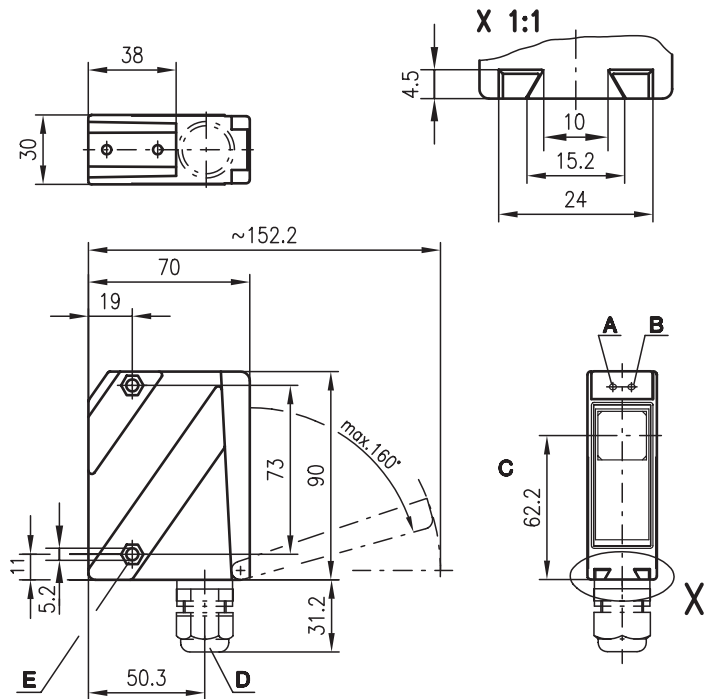


LS 96

Throughbeam photoelectric sensors



Dimensioned drawing

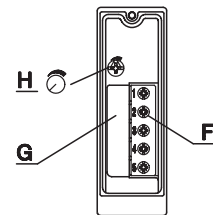


39m

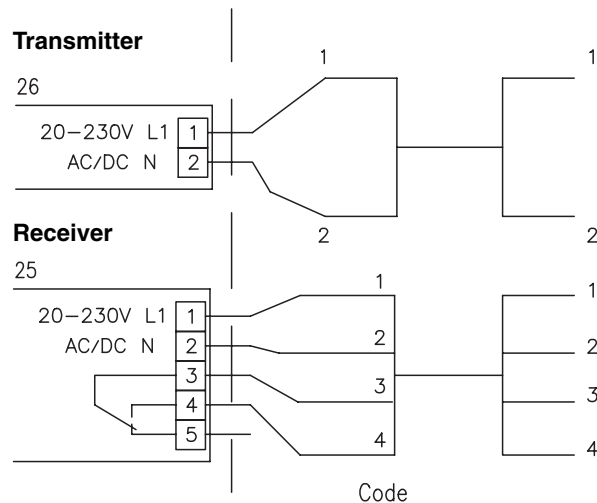


- Throughbeam photoelectric sensors with high performance reserve in red light
- Wide angle version for easy alignment
- Robust metal housing with glass cover, protection class IP 67/IP 69K for industrial application
- All-mains design 20 ... 230VAC/DC with relay output
- Relay with change-over contact, sensitivity adjustment and delay before start-up for optimal adaptation to the application
- Connection via comfortable terminal compartment up to 1.5mm²

- 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 ¹⁾ | 0 ... 39m |
| Operating range ²⁾ | 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 ³⁾ | 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 ² (oil flex 110), 1.5m |
| | receiver cable 3x0.5mm ² (oil flex 110), 1.5m |

Environmental data

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

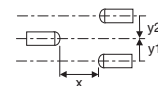
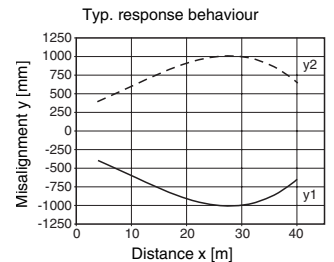
- 1) Typ. operating range limit: max. attainable range without performance reserve
- 2) Operating range: recommended range with performance reserve
- 3) Suitable spark extinction must be provided with inductive or capacitive loads
- 4) 1=transient protection, 2=polarity reversal protection, 3=short-circuit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

- 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