LS 96 — Throughbeam photoelectric sensors

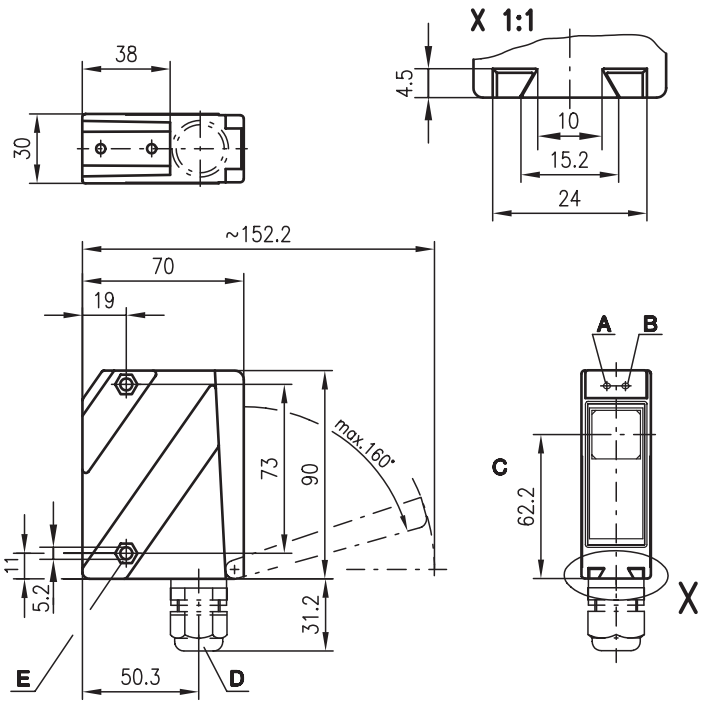
39 m

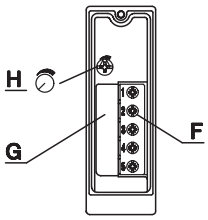
20-230 V AC / DC

HF A²LS

- 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 … 230 VAC/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 mm²

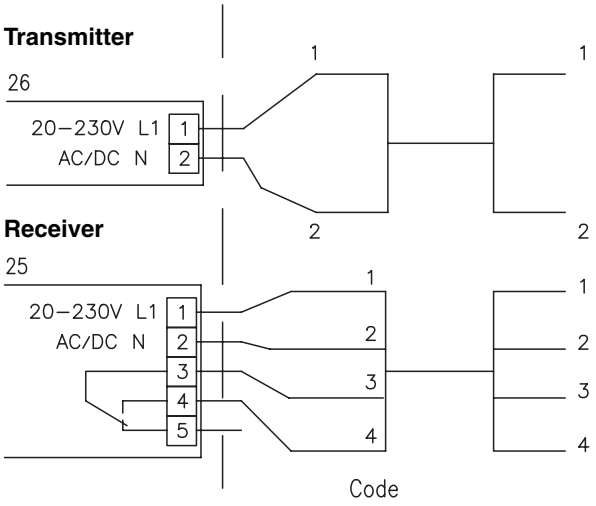
Dimensioned drawing





A Indicator diode green
B Indicator diode yellow
C Optical axis
D Screwed cable gland M16x1.5 for Ø 5 … 10 mm
E Countersinking for SK nut M5, 4.2 deep
F Connection terminals
G Cable entry
H Sensitivity adjustment

Electrical connection (example)



CE ISO 9001 cULus LISTED

IEC 60947... IEC 60947... IP 69K IP 67

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

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	250VAC/DC
Switching current, relay	250VAC, 3A/30V, 3A
Bias current	750VA, cosφ=1
Sensitivity	adjustable

Indicators

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

Mechanical data — **Metal housing**

Housing	diecast zinc
Optics cover	glass
Weight	380g
Connection type	terminals transmitter cable 3x0.5mm² (oil flex 110), 1.5m receiver cable 3x0.5mm² (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

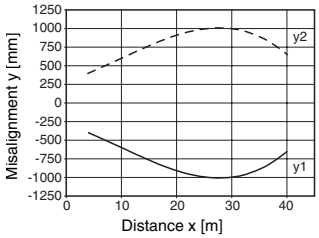
Tables

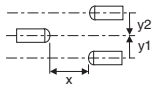
0	30	39

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

Diagrams

Typ. response behaviour





Order guide

Selection table Equipment ↓	Order code →	LS 96M/R-176W-2 Part No. 500 32004 (Tr) Part No. 500 32003 (Re)					
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-25