



HRT 96

Diffuse reflection light scanner with background suppression



100 ... 1800 mm



- Scanner with adjustable background suppression in infrared light
- Robust metal housing with glass cover or plastic housing, protection class IP 67 for industrial application
- All-mains design 20 ... 230VAC/DC with relay output
- Relay with change-over contact, scanning range 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

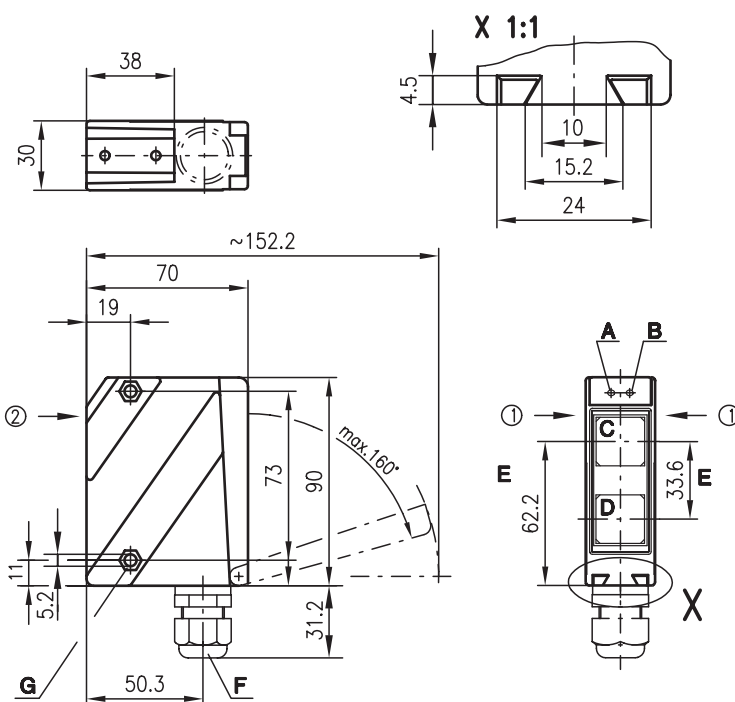


Accessories:

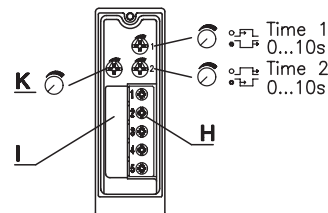
(available separately)

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

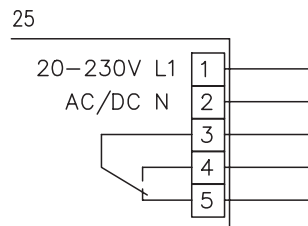
Dimensioned drawing



- A Indicator diode green
 - B Indicator diode yellow
 - C Transmitter
 - D Receiver
 - E Optical axis
 - F Screwed cable gland M16x1.5 for Ø 5 ... 10mm
 - G Countersinking for SK nut M5, 4.2 deep
 - H Connection terminals
 - I Cable entry
 - K Scanning range adjustment
- Preferred entry direction for objects ① + ②



Electrical connection



We reserve the right to make changes • 96_d02e.fm



Specifications

Optical data

Typ. scanning range limit (white 90%) ¹⁾
 Scanning range ²⁾
 Adjustment range
 Light source
 Wavelength

Infrared light

100 ... 1800mm
 see table
 150 ... 1200mm
 LED (modulated light)
 880nm (infrared)

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/30VDC, 3A
 Switching power, relay 750VA, $\cos\phi=1$

Indicators

LED green ready
 LED yellow reflection

Mechanical data

Housing diecast zinc
 Optics cover glass
 Weight 380g
 Connection type terminals

Plastic housing

polycarbonate
 plastic
 150g
 terminals

Environmental data

Ambient temp. (operation/storage) -20°C ... +60°C/-40°C ... +70°C
 Protective circuit ⁴⁾ 1, 4
 VDE safety class ⁵⁾ II, all-insulated
 Protection class IP 67
 LED class 1 (acc. to EN 60825-1:1994 +A1:2002 +A2:2001)
 Standards applied IEC 60947-5-2

Options

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

- 1) Typ. scanning range limit: max. attainable range without performance reserve
- 2) Scanning range: recommended range with performance reserve
- 3) Suitable spark extinction must be provided with inductive or capacitive loads
- 4) 1=transient protection, 4=interference blanking
- 5) Rating voltage 250VAC

Order guide

Selection table		Order code →				
Equipment ↓		HRT 96K/R-1680-1200-25 Part No. 500 25132	HRT 96K/R-1690-1200-25 Part No. 500 25131	HRT 96M/R-1680-1200-25 Part No. 500 80076	HRT 96M/R-1690-1200-25 Part No. 500 80075	HRT 96M/R-1689-1200-25 Part No. 500 81261
Housing	metal			●	●	
	plastic	●	●			●
Light source	infrared light (1200mm)	●	●	●	●	●
Connection	terminals	●	●	●	●	●
	without screwed cable gland					●
Features	switching delay		●		●	

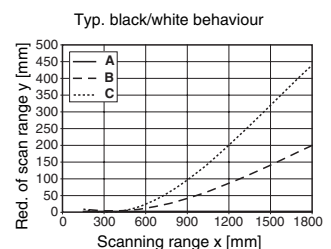
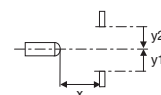
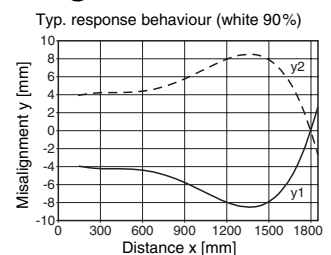
Tables

1	100	1200	1800
2	100	1100	1600
3	100	1000	1350

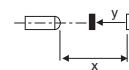
1	white 90%
2	grey 18%
3	black 6%

Scanning range [mm]
 Typ. scanning range limit [mm]

Diagrams



- A white 90%
- B grey 18%
- C black 6%



Remarks

- With the set scanning range, a tolerance of the upper scanning range limit is possible depending on the reflection properties of the material surface.