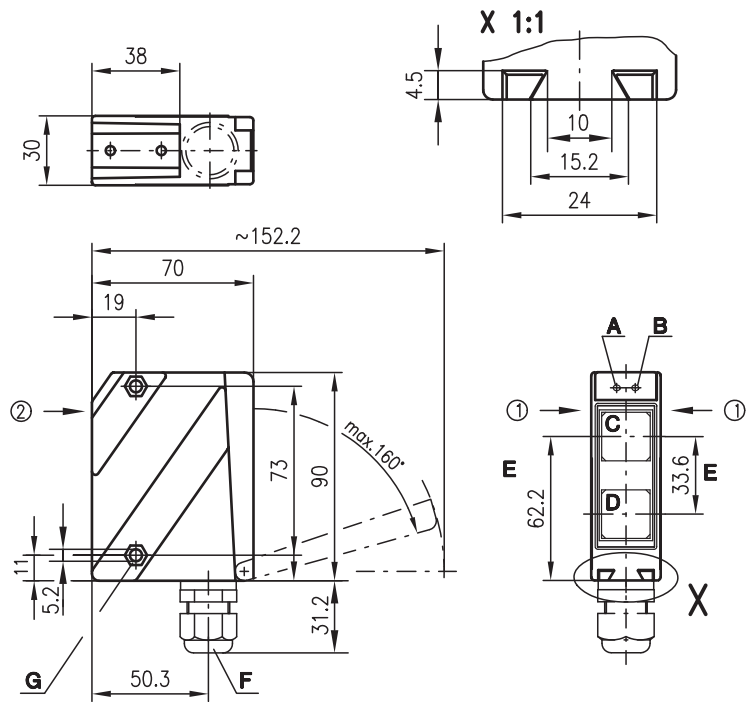


**HRT 96**

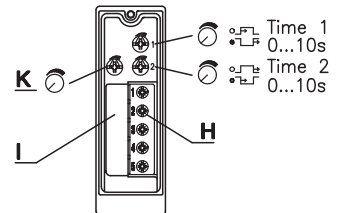
**Diffuse reflection light scanner with background suppression**



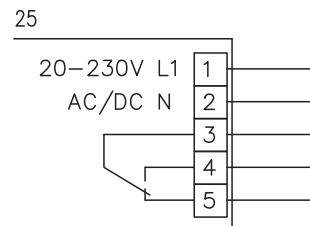
**Dimensioned drawing**



- A** Green indicator diode
  - B** Yellow indicator diode
  - 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 + ↘



**Electrical connection**

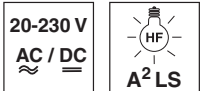


en 10-2012/08 50120808

We reserve the right to make changes • DS\_HRT96MKR120025\_en\_50120808.fm



**100 ... 1800mm**



- Scanner with adjustable background suppression in infrared light
- Robust metal housing with glass cover or plastic housing, protection class IP 67/ IP 69K 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 1.5mm<sup>2</sup>
- Version with additional switching delay



**Accessories:**

(available separately)

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

## Specifications

### Optical data

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

### Infrared light

100 ... 1800mm  
 see tables  
 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  
 ≤ 1.5VA  
 Power consumption  
 Switching output <sup>3)</sup>  
 Function characteristics relay, 1 change-over contact  
 break-contact/make-contact  
 Switching voltage, relay 250VAC/DC  
 Switching current, relay 250VAC, 3A/30VDC, 3A  
 Switching power, relay 750VA,  $\cos\varphi=1$

### Indicators

Green LED ready  
 Yellow LED reflection

### Mechanical data

Housing  
 Optics cover  
 Weight  
 Connection type

<b>Metal housing</b>	<b>Plastic housing</b>
diecast zinc	polycarbonate
glass	plastic
380g	150g
terminals	terminals

### Environmental data

Ambient temp. (operation/storage) -30°C ... +60°C/-40°C ... +70°C  
 Protective circuit <sup>4)</sup> 1, 4  
 VDE safety class <sup>5)</sup> II, all-insulated  
 Protection class IP 67, IP 69K <sup>6)</sup> IP 67  
 Light source Exempt group (in acc. with EN 62471)  
 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
- 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

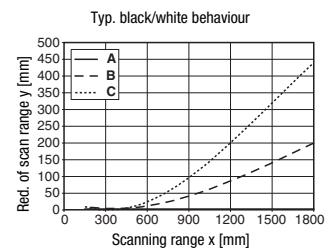
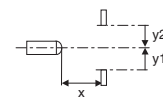
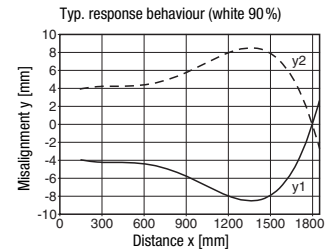
## Tables

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

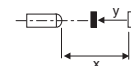
1	white 90%
2	grey 18%
3	black 6%

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

## Diagrams



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



## Order guide

Selection table		Order code →				
Equipment ↓		HRT 96K/R-1680-1200-25 Part no. 50025132	HRT 96K/R-1690-1200-25 Part no. 50025131	HRT 96M/R-1680-1200-25 Part no. 50080076	HRT 96M/R-1690-1200-25 Part no. 50080075	HRT 96K/R-1689-1200-25 Part no. 50081261
Housing	metal			●	●	
	plastic	●	●			●
Light source	infrared light (1200mm)	●	●	●	●	●
Connection	terminals	●	●	●	●	●
	without screwed cable gland					●
Features	switching delay		●		●	
	UL homologation			●	●	

## Remarks

- **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 to be used for the protection of persons.
- With the set scanning range, a tolerance of the upper scanning range limit is possible depending on the reflection properties of the material surface.