



HRT 96

Diffuse reflection light scanner with background suppression



100 ... 1800mm
100 ... 1200mm



- Robust metal housing with glass cover, protection class IP 67/IP 69K for industrial application
- Access to all sensor functions via an AS-interface without additional wiring
- Scanning range adjustment and ready indicator for optimal adaptation to the application
- Common conductor for both power and data reduces installation work



Accessories:

(available separately)

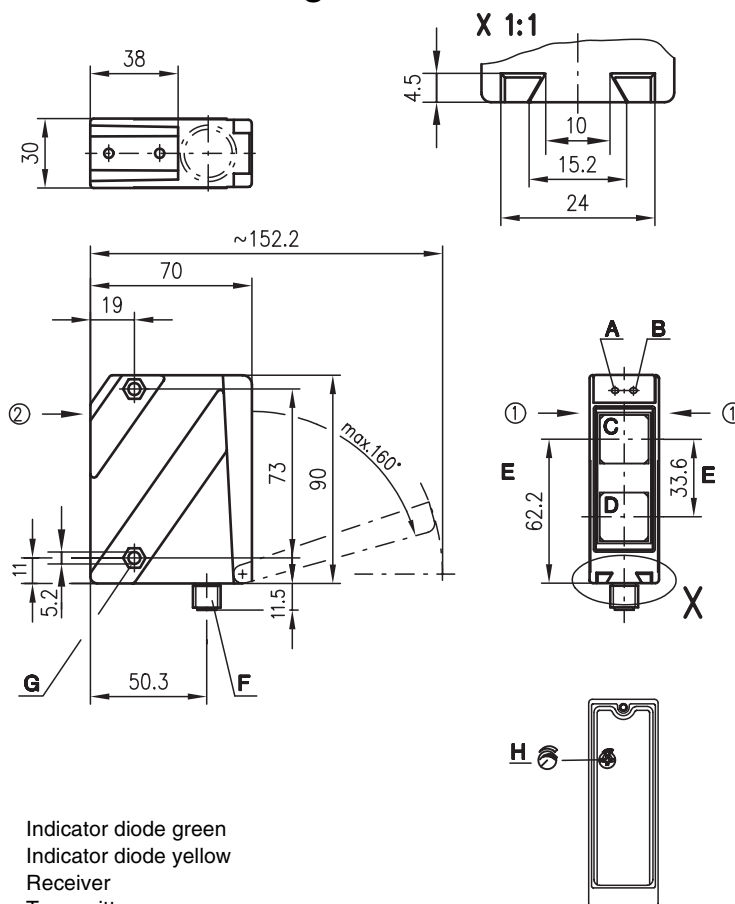
- Mounting systems (BT 96, BT 96.1, UMS 96, BT 450.1-96)
- M12 connectors (KD ...)
- Ready-made cables (K-D ...)

AS-i Accessories:

(available separately)

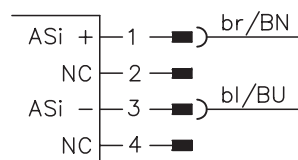
- Bus terminals
- AS-i ribbon cable
- Address programming device
- Coupling modules
- Intermediate cables etc.

Dimensioned drawing



- A** Indicator diode green
B Indicator diode yellow
C Receiver
D Transmitter
E Optical axis
F Device plug M12x1
G Countersinking for SK nut M5, 4.2 deep
H Scanning range adjustment
Preferred entry direction for objects ① + ②

Electrical connection





Specifications

Optical data

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

Infrared

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

Red light

100 ... 1200mm
see tables
100 ... 800mm
LED (modulated light)
660nm

Timing

Sensor switching frequency
Sensor response time
Delay before start-up

300Hz
1.67ms
≤ 200ms

Electrical data

Operating voltage U_B
Bias current

26.5 ... 31.6V (according to AS-i specification)
≤ 40mA per sensor

Indicators

LED green
LED yellow

ready
reflection

Mechanical data

Housing
Optics cover
Weight
Connection type

Metal housing

diecast zinc
glass
380g
M12 connector

Environmental data

Ambient temp. (operation/storage)
Protective circuit ³⁾
VDE safety class ⁴⁾
Protection class
LED class
Standards applied

-20°C ... +60°C/-40°C ... +70°C
1, 4
II, all-insulated
IP 67, IP 69K ⁵⁾
1 (acc. to EN 60825-1)
IEC 60947-5-2

AS-i data for receiver

I/O code
ID code
Address

1
1
programmed by the user in the range of 1 to 31
(default=0)
5ms
S-1.1

Cycle time acc. to AS-i specification
AS-i standard according to profile

- 1) Typ. scanning range limit: max. attainable range without performance reserve
- 2) Scanning range: recommended range with performance reserve
- 3) 1=transient protection, 4=interference blanking
- 4) Rating voltage 250VAC
- 5) 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

Assignment: data bits			Assignment: parameter bits		
		Programming (host level)			Programming (host level)
D ₀	Switching output	0 no reflection 1 reflection	System input	*P ₀	NC
D ₁	NC	0 1	System input	*P ₁	Light/dark switching
D ₂	Ready output	0 sensor not ready 1 sensor ready	System input	*P ₂	NC
*D ₃	Activation input	0 transmitter on 1 transmitter off	System output	*P ₃	NC

* default = 1

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.

Order guide

	Designation	Part No.
Infrared light	HRT 96M/A-1660-1200-44	500 25112
Red light	HRT 96M/A-1670-800-44	500 80048

Tables

Red light

1	100	800	1200
2	100	770	1140
3	100	730	1050

Infrared light

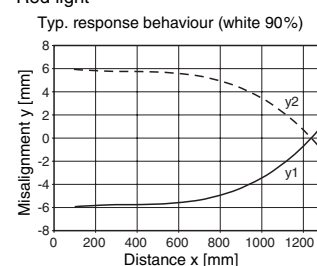
1	100	1200	1800
2	100	1100	1600
3	100	1000	1350

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

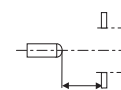
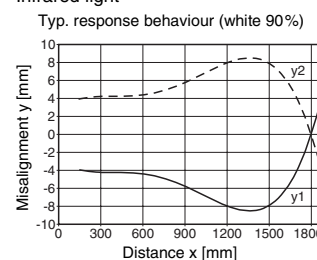
Scanning range [mm]
Typ. scanning range limit [mm]

Diagrams

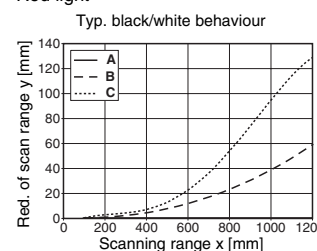
Red light



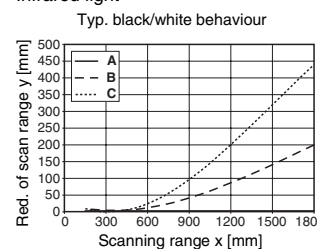
Infrared light



Red light



Infrared light



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

