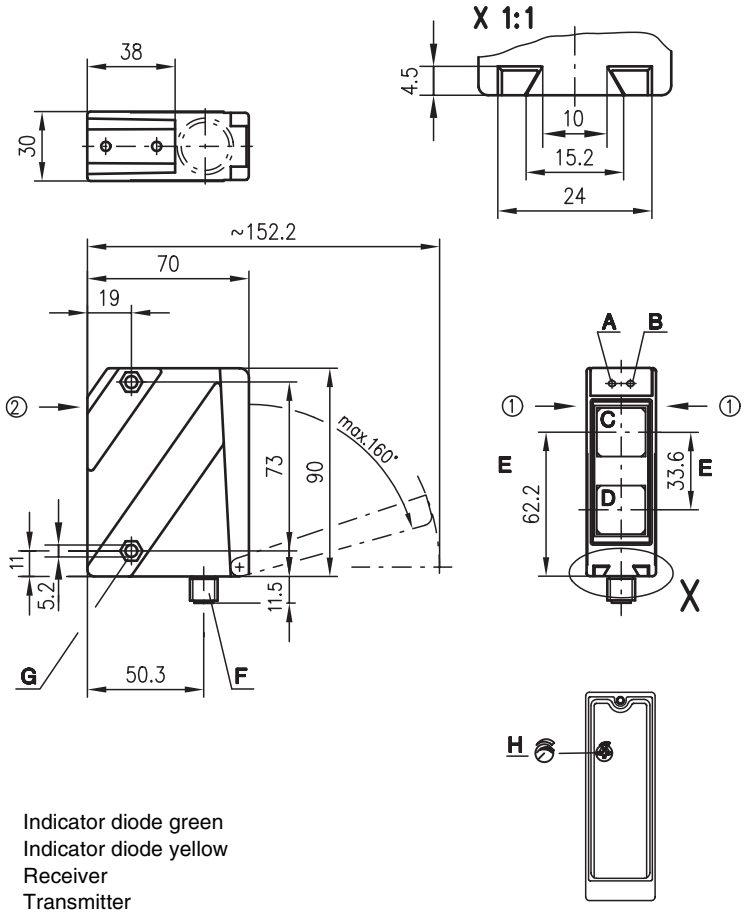
HRT 96 Diffuse reflection light scanner with background suppression



100 … 1800mm
100 … 1200mm

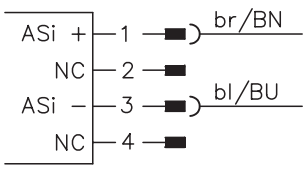
- Robust metal housing with glass cover, protection class IP 67/IP 69K for industrial application
- Access to all sensor functions via an AS-interface without additional wiring
- Scanning range adjustment and ready indicator for optimal adaptation to the application
- Common conductor for both power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

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



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.

We reserve the right to make changes • 96_d03e.fm

Specifications

	Infrared	Red light
Optical data		
Typ. scanning range limit (white 90%) [1]	100 … 1800mm	100 … 1200mm
Scanning range [2]	see tables	see tables
Adjustment range	150 … 1200mm	100 … 800mm
Light source	LED (modulated light)	LED (modulated light)
Wavelength	880nm (infrared)	660nm
Timing		
Sensor switching frequency	300Hz	
Sensor response time	1.67ms	
Delay before start-up	≤ 200ms	
Electrical data		
Operating voltage U_B	26.5 … 31.6V (according to AS-i specification)	
Bias current	≤ 40mA per sensor	
Indicators		
LED green	ready	
LED yellow	reflection	
Mechanical data	**Metal housing**	
Housing	diecast zinc	
Optics cover	glass	
Weight	380g	
Connection type	M12 connector	
Environmental data		
Ambient temp. (operation/storage)	-20°C … +60°C/-40°C … +70°C	
Protective circuit [3]	1, 4	
VDE safety class [4]	II, all-insulated	
Protection class	IP 67, IP 69K [5]	
LED class	1 (acc. to EN 60825-1)	
Standards applied	IEC 60947-5-2	
AS-i data for receiver		
I/O code	1	
ID code	1	
Address	programmed by the user in the range of 1 to 31 (default=0)	
Cycle time acc. to AS-i specification	5ms	
AS-i standard according to profile	S-1.1	

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

		Programming (host level)	
D_0	**Switching output**	Ø no reflection	System input
		1 reflection	
D_1	**NC**	Ø	System input
		1	
D_2	**Ready output**	Ø sensor not ready	System input
		1 sensor ready	
*D_3	**Activation input**	Ø transmitter on	System output
		1 transmitter off	

Assignment: parameter bits

		Programming (host level)	
*P_0	**NC**	Ø	System parameter
		1	
*P_1	**Light/dark switching**	Ø dark switching	System parameter
		1 light switching	
*P_2	**NC**	Ø	System parameter
		1	
*P_3	**NC**	Ø	System parameter
		1	

* 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

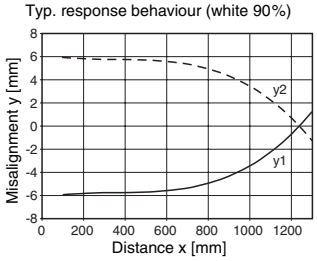
1	100	1200	1800
2	100	1100	1600
3	100	1000	1350

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

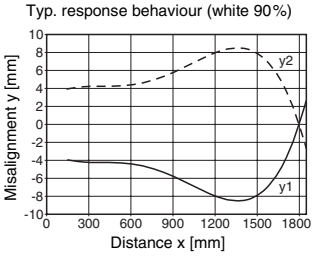
Scanning range [mm]
Typ. scanning range limit [mm]

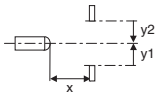
Diagrams

Red light

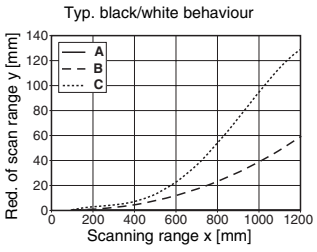


Infrared light

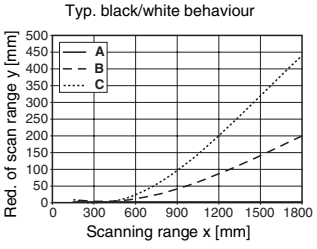




Red light



Infrared light



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

