RT 96 — Energetic diffuse reflection light scanners

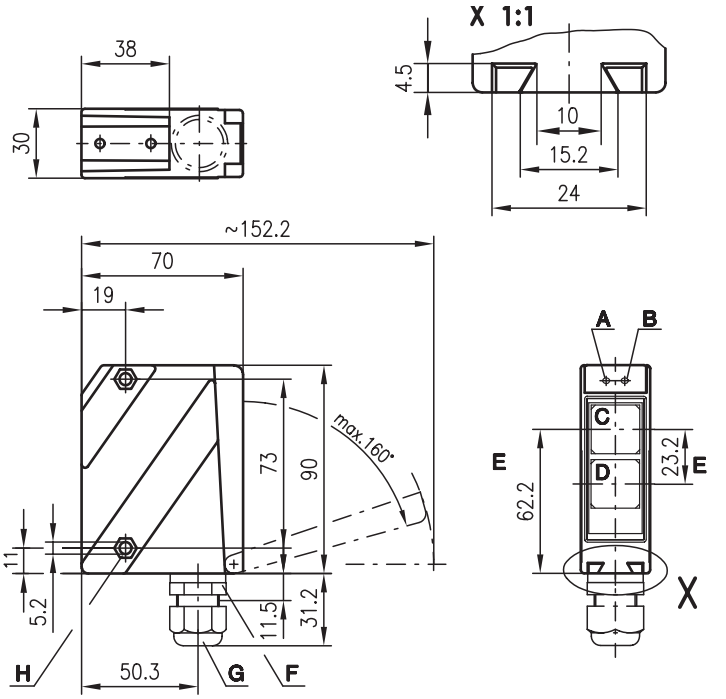
20 … 1200 mm

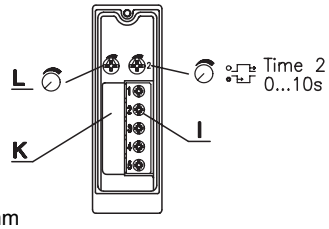
10 - 30 V DC

HF A²LS

- Robust metal housing with glass cover or plastic housing, protection class IP 67 for industrial application
- Complementary outputs, sensitivity adjustment and delay before start-up for optimal adaptation to the application
- Minimal short range
- Connection via M12 connector or terminal compartment

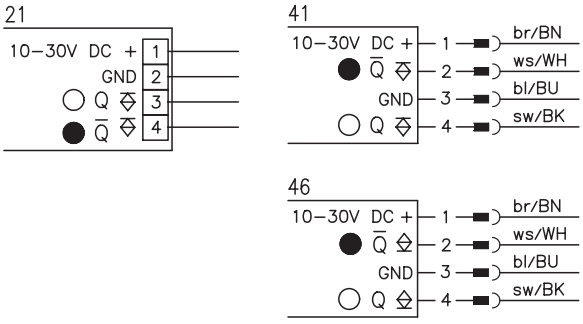
Dimensioned drawing





A Indicator diode green
B Indicator diode yellow
C Receiver
D Transmitter
E Optical axis
F Device plug M12
G Screwed cable gland M16x1.5 for Ø 5 … 10 mm
H Countersinking for SK nut M5, 4.2 deep
I Connection terminals
K Cable entry
L Sensitivity adjustment

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 …)

Specifications

Optical data	**Infrared light**
Typ. scanning range limit (white 90%) [1]	20 … 1200mm
Scanning range [2]	20 … 800mm
Adjustment range	0 … 100%
Light source	LED (modulated light)
Wavelength	880nm
Timing	
Switching frequency	1000Hz
Response time	0.5ms
Delay before start-up	≤ 200ms
Electrical data	
Operating voltage U_B	10 … 30VDC (incl. residual ripple)
Residual ripple	≤ 15% of U_B
Bias current	≤ 40mA
Switching output	PNP transistor
Function characteristics	light/dark switching
Signal voltage high/low	≥ (U_B-2V)/≤ 2V
Output current	max. 100mA
Sensitivity	adjustable
Indicators	
LED green	ready
LED yellow	reflection
LED yellow flashing	reflection, no performance reserve
Mechanical data	**Plastic housing**
Housing	polycarbonate
Optics cover	plastic
Weight	150g
Connection type	terminals or M12 connector
Environmental data	
Ambient temp. (operation/storage)	-20°C … +60°C/-40°C … +70°C
Protective circuit [3]	1, 2, 3, 4
VDE safety class [4]	II, all-insulated
Protection class	IP 67
LED class	1 (acc. to EN 60825-1)
Standards applied	IEC 60947-5-2

1) Typ. scanning range limit: max. attainable range without performance reserve
2) Scanning range: recommended range with performance reserve
3) 1=transient protection, 2=polarity reversal protection, 3=short circuit protection for all outputs, 4=interference blanking
4) Rating voltage 250VAC

Tables

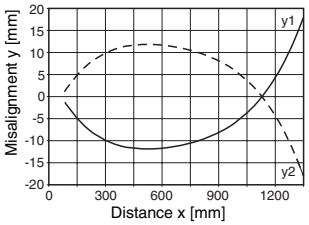
1	20	800	1200
2	60	420	950
3	80	290	570

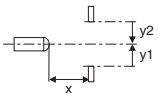
1	white 90%
2	grey 18%
3	black 6%

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

Diagrams

Typ. response behaviour (white 90%)





Order guide

Selection table Equipment ↓		Order code → RT 96K/P-1444-800-21 Part No. 500 81177	RT 96K/P-1444-800-41 Part No. 500 81178	RT 96K/N-1444-800-46 Part No. 500 41595	RT 96K/P-1444.1-800-41 Part No. 501 03585		
Housing	metal						
	plastic	●	●	●	●		
Light source	red light (500mm)						
	infrared light (800mm)	●	●	●	●		
Connection	terminals	●					
	M12 connector		●	●	●		
Features	switching delay						
	warning output						
	short range (20mm)	●	●	●	●		
	NPN switching output			●			
	PIN 2 = NC *				●		
	PIN 4 = light/dark reversible				●		

Remarks

- The upper and lower scanning range limit varies depending on the reflection properties of the material surface.
- **Short range** objects are detected down to a minimum distance of 20mm.
- * For direct connection to AS-i I/O coupling modules