

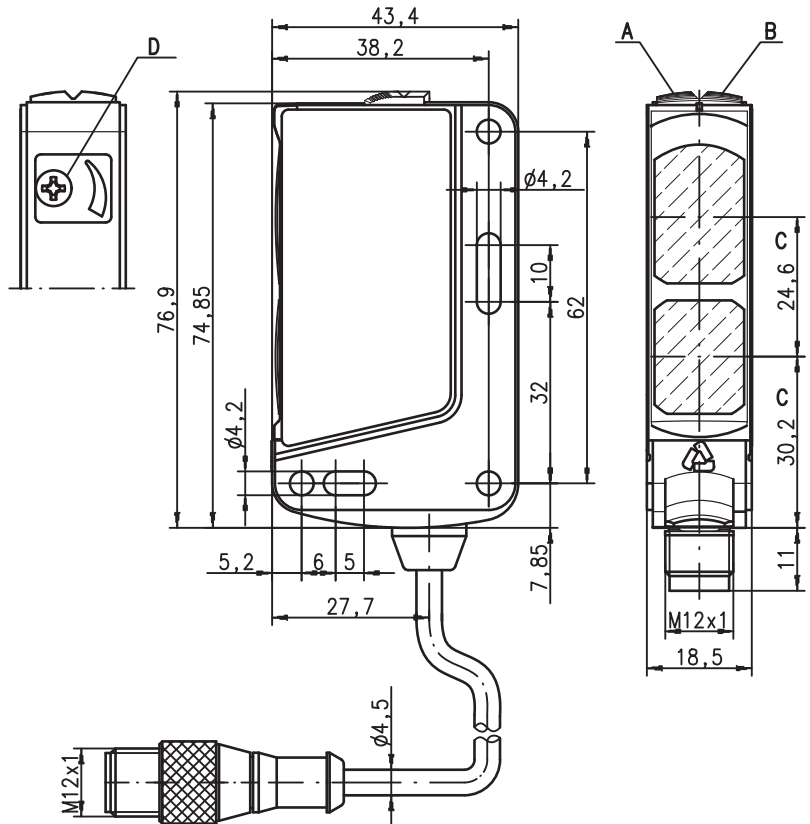
HRTR 46B

Diffuse reflection light scanner with background suppression

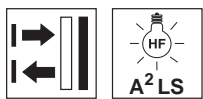
en 04-2010/01 50107351-01



Dimensioned drawing



- A Green indicator diode
- B Yellow indicator diode
- C Optical axis
- D Scanning range adjustment



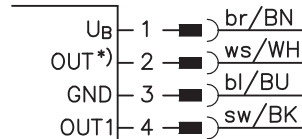
5 ... 1,800mm
800mm with
black-white error < 10%



- Adjustable scanner with background suppression
- Reliable detection of light and dark, as well as inclined or sloped surfaces
- Exact scanning range adjustment through multiturn potentiometer
- Fast alignment through *brightVision*®
- A²LS - Active Ambient Light Suppression
- Complementary switching outputs for optimal adaptation to the application

Electrical connection

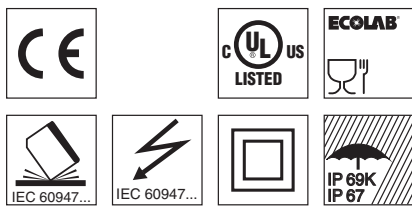
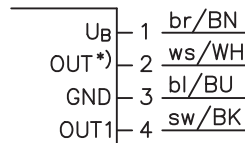
Connector, 4-pin



Selection pin 2

*)	OUT
	OUT 2
	NC

Cable



Accessories:

(available separately)

- Mounting systems (BT 46, BT 46.1, BT 46.1.5, BT 46.2)
- M12 connectors (KD ...)
- Ready-made cables (K-D ...)

We reserve the right to make changes • DS_HRTR_46B_en.fm

Specifications

Optical data

Typ. scanning range limit (white 90%) ¹⁾	5 ... 1,800mm
Scanning range ²⁾	see tables
Adjustment range	120 ... 1,800mm
Light source	LED (modulated light)
Wavelength	620nm (visible red light)

Timing

Switching frequency	200Hz
Response time	2.5 ms
Delay before start-up	≤ 100ms

Electrical data

Operating voltage U_B ³⁾	10 ... 30VDC (incl. residual ripple)
Residual ripple	≤ 15% of U_B
Open-circuit current	≤ 20mA
Switching output	.../66. ... 2 push-pull switching outputs ⁴⁾
	pin 2: PNP dark switching, NPN light switching
	pin 4: PNP light switching, NPN dark switching
	.../4. ... PNP switching output
	pin 4: PNP light switching
	.../4D. ... PNP switching output
	pin 4: PNP dark switching
Signal voltage high/low	≥ ($U_B - 2V$) / ≤ 2V
Output current	max. 100mA

Indicators

Green LED	ready
Yellow LED	reflection
Yellow LED, flashing	reflection, no performance reserve

Mechanical data

Housing	plastic
Optics cover	plastic
Weight	50g (with connector) / 65g (with cable and conn.)
Connection type	M12 connector, or cable with M12 connector, cable length: 200mm

Environmental data

Ambient temp. (operation/storage)	-40°C ... +60°C / -40°C ... +70°C
Protective circuit ⁵⁾	2, 3
VDE safety class ⁶⁾	II, all-insulated
Protection class	IP 67, IP 69K
LED class	1 (acc. to EN 60825-1)
Standards applied	IEC 60947-5-2

- 1) Typ. scan. range limit: max. achievable scanning range for light objects (white 90%)
- 2) Scanning range: recommended scanning range for objects with different diffuse reflection
- 3) For UL applications: for use in class 2 circuits only
- 4) The push-pull switching outputs must not be connected in parallel
- 5) 2=polarity reversal protection, 3=short-circuit protection for all outputs
- 6) Rating voltage 50V

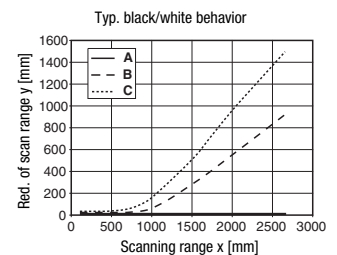
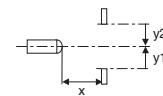
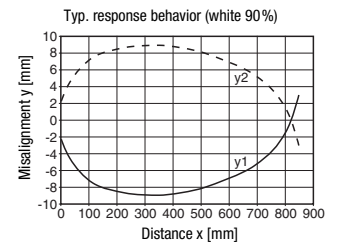
Tables

1	0	1,800
2	15	1,000
3	20	700

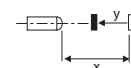
1	white 90%
2	grey 18%
3	black 6%

□ Scanning range [mm]

Diagrams



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



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.

HRTR 46B

Diffuse reflection light scanner with background suppression

Order guide

The sensors listed here are preferred types; current information at www.leuze.com.

	Designation	Part No.
With M12 connector		
Complementary switching output	HRTR 46B/66-S12	50106555
No contact with pin 2, direct connection to AS-interface I/O coupling modules possible	HRTR 46B/4-S12	50106557
No contact with pin 2, direct connection to AS-interface I/O coupling modules possible	HRTR 46B/4D-S12	50106558
Cable with M12 connector		
Complementary switching output	HRTR 46B/66, 200-S12	50106556

Type key

H	R	T	R	/	4	6	B	/	6	6	-	S	-	S	1	2
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Operating principle	
HRTR	Scanner with background suppression with light visible red light
Series	
46B	46B Series
Switching output	
/66	Complementary push-pull switching outputs
/44	Complementary PNP switching outputs
/4	Pin 4 PNP switching output, pin 2 no contact or warning output
/6	Pin 4 push-pull switching output, pin 2 no contact
Function characteristics	
N/A	Pin 4 light switching; with push-pull, PNP light switching
D	Inverted switching logic
Product modifications	
-xxxx	Scanning range in mm, only for preset sensors (only on request)
-xxxxF	Permanent setting (only on request)
-S	Focussed at approx. 200mm
Electrical connection	
N/A	Cable, standard length 2000mm
,200-S12	Cable, length 200 mm with M12 connector
-S12	M12 connector

