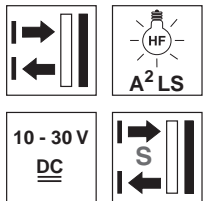


HRTR 46B "S"

Diffuse reflection light scanner with background suppression

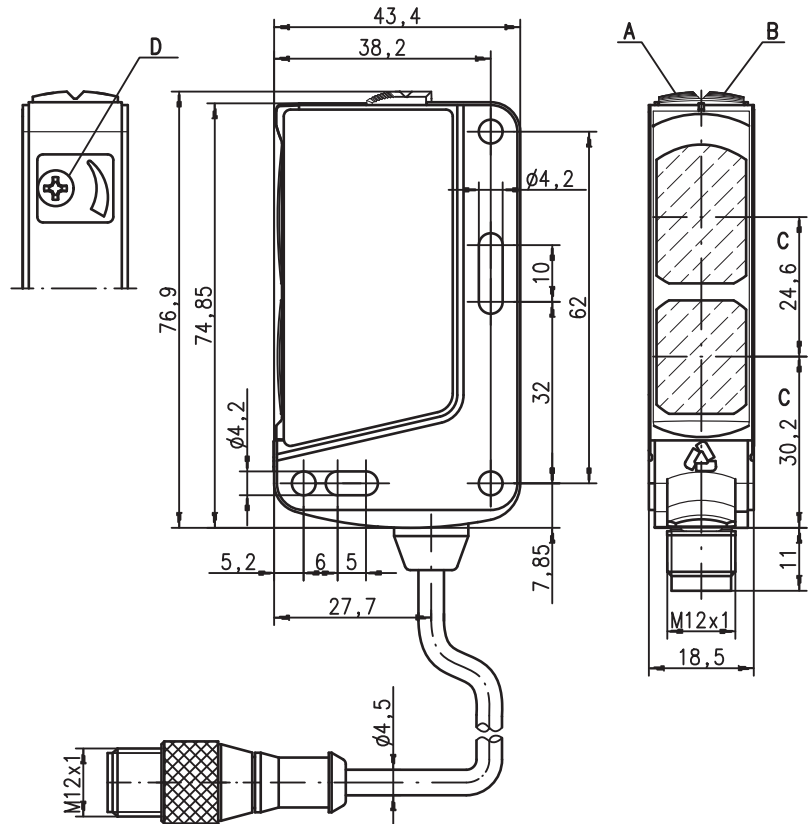
en 06-2010/01 50107352-01



10 ... 700mm
500mm with
black-white error < 10%

- Adjustable scanner with background suppression
- Optimized light spot for reliable detection of objects with colored structure
- 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

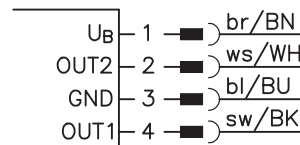
Dimensioned drawing



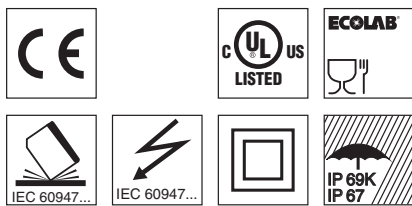
- A** Green indicator diode
- B** Yellow indicator diode
- C** Optical axis
- D** Scanning range adjustment

Electrical connection

Connector, 4-pin



We reserve the right to make changes • DS_HRTR_46B_S_en.fm



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 ...)

Specifications

Optical data

Typ. scanning range limit (white 90%) ¹⁾ 10 ... 700mm
 Scanning range ²⁾ see tables
 Adjustment range 120 ... 700mm
 Light source LED (modulated light)
 Wavelength 620nm (visible red light)
 Light spot 5 x 5mm² (focussed at approx. 200mm)

Red light

Timing

Switching frequency 200Hz
 Response time 2.5ms
 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
 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
 Connection type M12 connector

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

● **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.

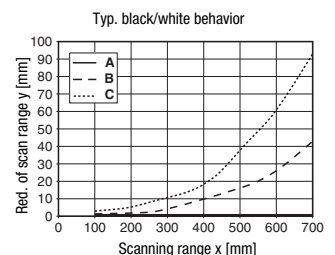
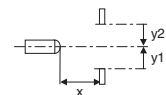
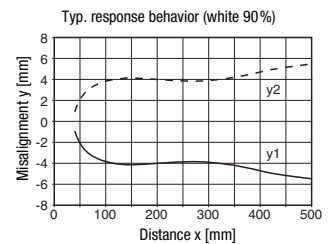
Tables

1	10	700
2	30	650
3	60	550

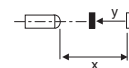
1	white 90%
2	grey 18%
3	black 6%

Scanning range [mm]

Diagrams



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



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.
- A minimal edge error (reliable detection of objects with colored structure) is achieved at an actuation distance in the range of 150 ... 250mm.

HRTR 46B "S" 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-S-S12	50106559

Type key

H	R	T	R		4	6	B	/	6	6	-	S	-	S	1	2
---	---	---	---	--	---	---	---	---	---	---	---	---	---	---	---	---

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

