

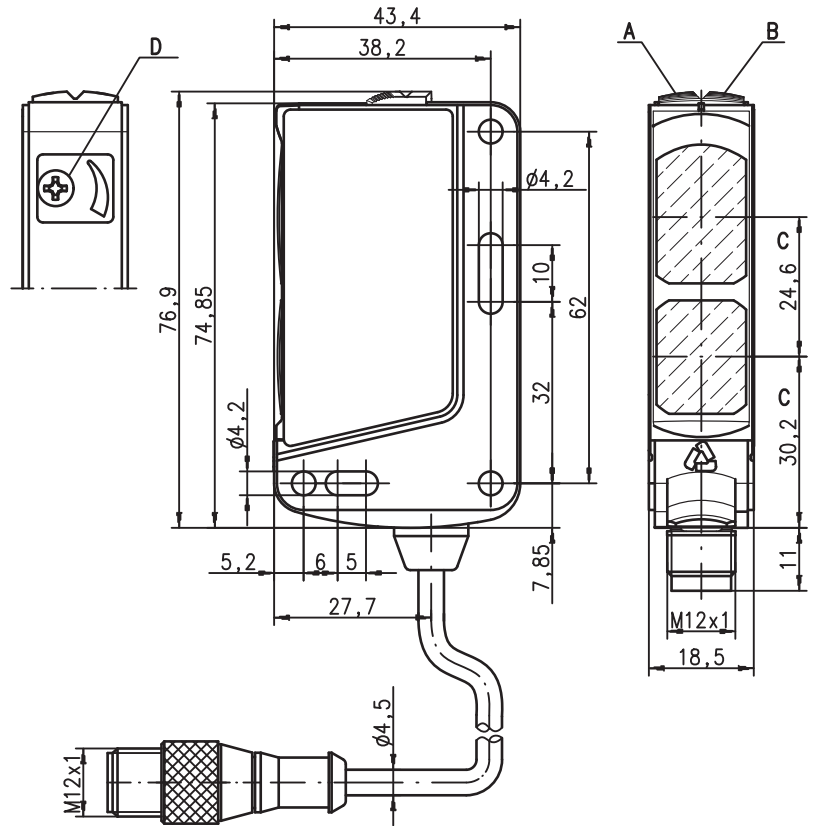
HRTR 46B

Diffuse reflection light scanner with background suppression

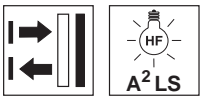
en 04-2010/01 50107351-01



Dimensioned drawing



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



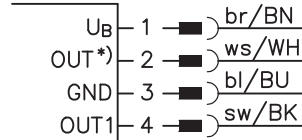
5 ... 1,800mm
800mm with
black-white error < 10%



- 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

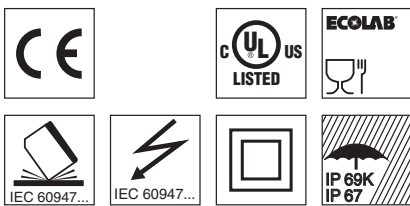
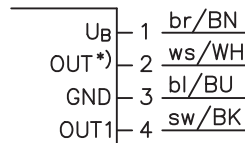
Connector, 4-pin



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 2.5ms
 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
 .../4. ... PNP switching output
 pin 4: PNP light switching
 .../4D. ... PNP switching output
 pin 4: PNP dark switching
 $\geq (U_B - 2V) / \leq 2V$
 max. 100mA

Signal voltage high/low
 Output current

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

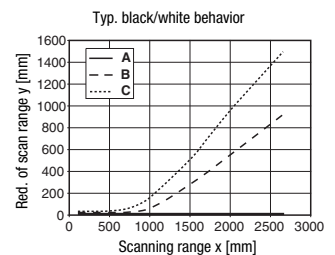
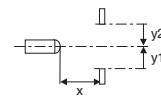
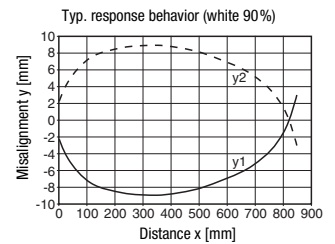
Tables

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

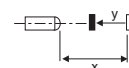
| | |
|---|-----------|
| 1 | white 90% |
| 2 | grey 18% |
| 3 | black 6% |

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

HRTR 46B / 66 - S - S12

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

