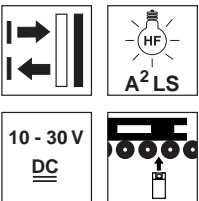


**HRT 46B "Roller conveyor"**

**Diffuse reflection light scanner**

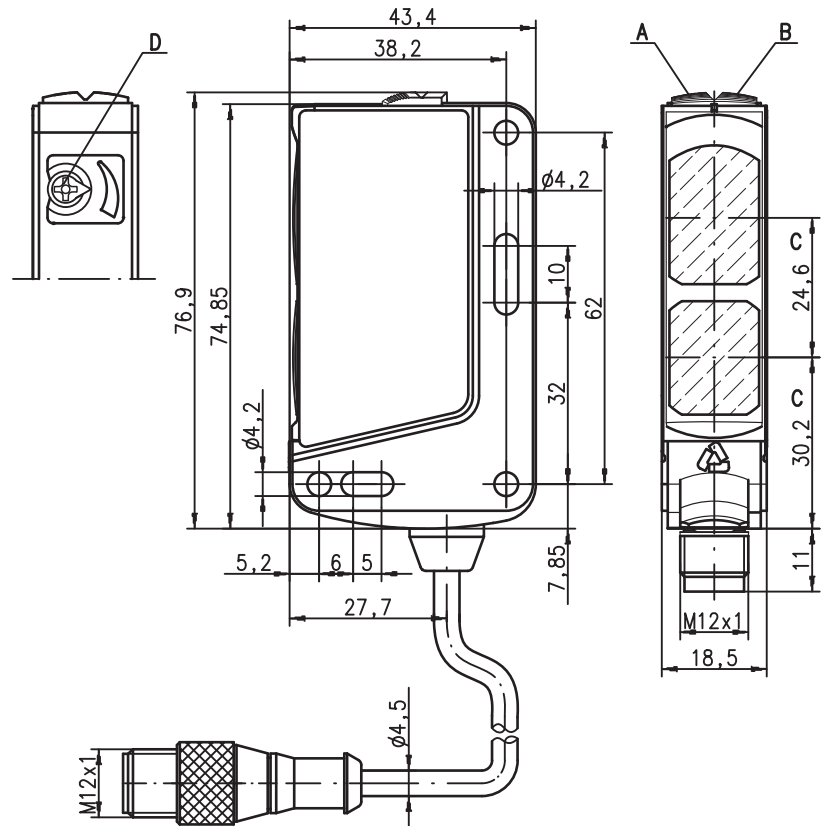
**Dimensioned drawing**

en 02-2010/02 50112100



**10 ... 1200mm**  
800mm with  
black-white error < 10%

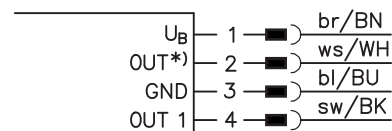
- Reliable detection of objects between the rollers of a roller conveyor
- Reliable detection of light and dark, as well as inclined or sloped surfaces
- Reliable detection of objects which have undefined heights and of objects which extend over pallet edges.
- Complementary switching outputs for optimal adaptation to the application
- A²LS - Active Ambient Light Suppression



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

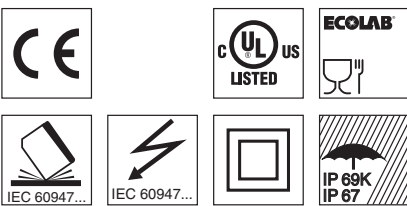
**Electrical connection**

Plug connection, 4-pin



\*) OUT 2 or no contact

We reserve the right to make changes • DS\_HRT46B-1\_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%) <sup>1)</sup>  
 Scanning range <sup>2)</sup>  
 Adjustment range  
 Light source  
 Wavelength

**Infrared light**

10 ... 1200mm  
 see tables  
 120 ... 1200mm  
 LED (modulated light)  
 850nm

**Timing**

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

**Electrical data**

Operating voltage  $U_B$  <sup>3)</sup> 10 ... 30VDC (incl. residual ripple)  
 Residual ripple ≤ 15% of  $U_B$   
 Open-circuit current ≤ 30mA  
 Switching output .../66. ... 2 push-pull switching outputs <sup>4)</sup>  
 pin 2: PNP dark switching, NPN light switching  
 pin 4: PNP light switching, NPN dark switching  
 PNP switching output, pin 4: PNP light switching  
 .../4. ...  $\geq (U_B - 2V) / \leq 2V$   
 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  
 Connection type M12 connector

**Environmental data**

Ambient temp. (operation/storage) -40°C ... +60°C/-40°C ... +70°C  
 Protective circuit <sup>5)</sup> 2, 3  
 VDE safety class <sup>6)</sup> 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

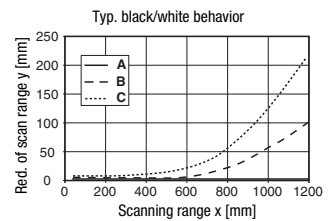
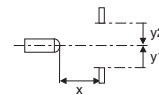
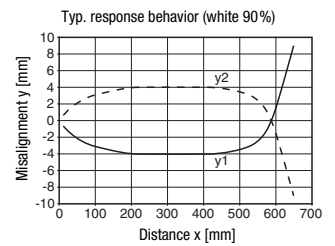
**Tables**

1	10	1,200
2	15	1,000
3	20	800

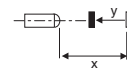
1	white 90%
2	grey 18%
3	black 6%

Scanning range [mm]

**Diagrams**



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



**Order guide**



The sensors listed here are preferred types; current information at [www.leuze.com](http://www.leuze.com).

Complementary switching output  
 No contact with pin 2, direct connection to AS-interface I/O coupling modules possible

**Designation**

HRT 46B/66.1-S12  
 HRT 46B/4.1-S12

**Part No.**

50111640  
 50111618

**Remarks**

- The sensor is designed for roller conveyor applications for the detection of objects between two rollers (distance between rollers ≥ 6mm).

# HRT 46B "Roller conveyor"

# Diffuse reflection light scanner

## Type key

I	H	R	T	4	6	B	/	4	D	.	1	-	6	0	0	F	-	S	1	2
---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

### Operating principle / construction

**HRT** Infrared-light scanner with background suppression  
**IHRT** Infrared-light scanner with background suppression, with warning output

### 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  
**/7** Relay, make-contact

### Function characteristics

**N/A** Pin 4 light switching; with push-pull, PNP light switching  
**D** Inverted switching logic

### Special functions

**.1** Detection of objects between the rollers of a roller conveyor

### Product modifications

**-xxxx** Scanning range in mm, only for preset sensors (only on request)  
**F** Permanent setting (only on request)

### Electrical connection

**N/A** cable, PVC, standard length 2000 mm  
**S12** M12 connector, 4-pin, axial  
**200-S12** cable, PVC, length 200mm with M12 connector, 4-pin, axial

### ● 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.

