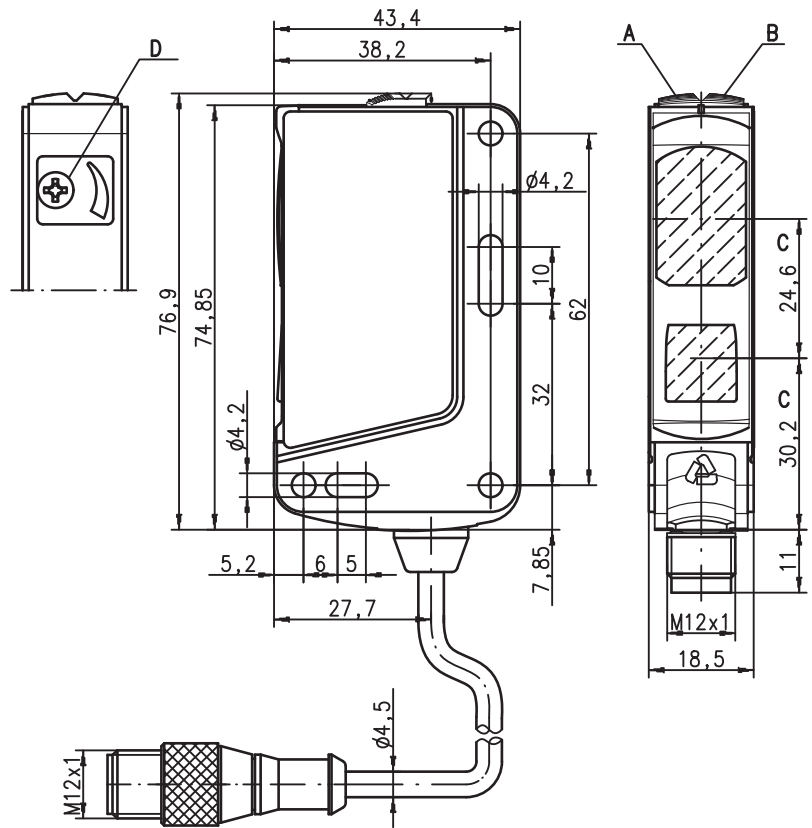


HRTL 46B Laser diffuse reflection light scanner with background suppression

en 01-2010/04 50113429



Dimensioned drawing



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

50 ... 800mm
500mm with
black-white error < 10%

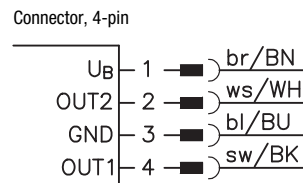
A²LS

10 - 30 V
DC

CDRH

- Adjustable scanner with background suppression
- Exact positioning and detection of small parts by means of a laser beam
- Exact scanning range adjustment through multiturn potentiometer
- Fast alignment through *brightVision*[®]
- High switching frequency for detection of fast events
- A²LS - Active Ambient Light Suppression
- Complementary switching outputs for optimal adaptation to the application
- Laser class 1

Electrical connection



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_HRTL_46B_1_en.fm

Specifications

Optical data

Typ. scanning range limit (white 90%) ¹⁾	50 ... 800mm
Scanning range ²⁾	see tables
Adjustment range	120 ... 800mm
Light source	laser (modulated light)
Wavelength	655nm (visible red light)
Light spot	approx. 3mm x 5mm at 1,000mm

Red light

Timing

Switching frequency	1,000Hz
Response time	0.5ms
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	≤ 30mA
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 (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)	-30°C ... +55°C / -40°C ... +70°C
Protective circuit ⁵⁾	2, 3
VDE safety class ⁶⁾	II, all-insulated
Protection class	IP 67, IP 69K
Laser 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

Order guide

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

	Designation	Part No.
With M12 connector		
Complementary switching output	HRTL 46B/66.1-S12	50113308

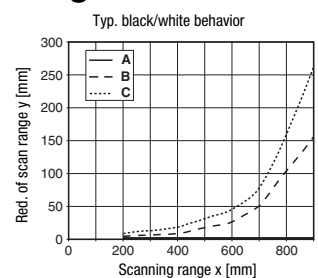
Tables

1	50	800
2	70	600
3	90	500

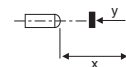
1	white 90%
2	grey 18%
3	black 6%

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.

HRTL 46B Laser diffuse reflection light scanner with background suppression

Type key

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

Operating principle

HRTL Scanner with background suppression with light visible red light

Series

46B 46B Series

Switching output

/66 Complementary push-pull switching outputs

Function characteristics

N/A Pin 4 light switching; with push-pull, PNP light switching

D Inverted switching logic

Special function

.1 Laser class 1

Product modifications

-xxxx Scanning range in mm, only for preset sensors (only on request)

-xxxxF Permanent setting (only on request)

Electrical connection

N/A Cable, standard length 2000 mm

,200-S12 Cable, length 200 mm with M12 connector

-S12 M12 connector

