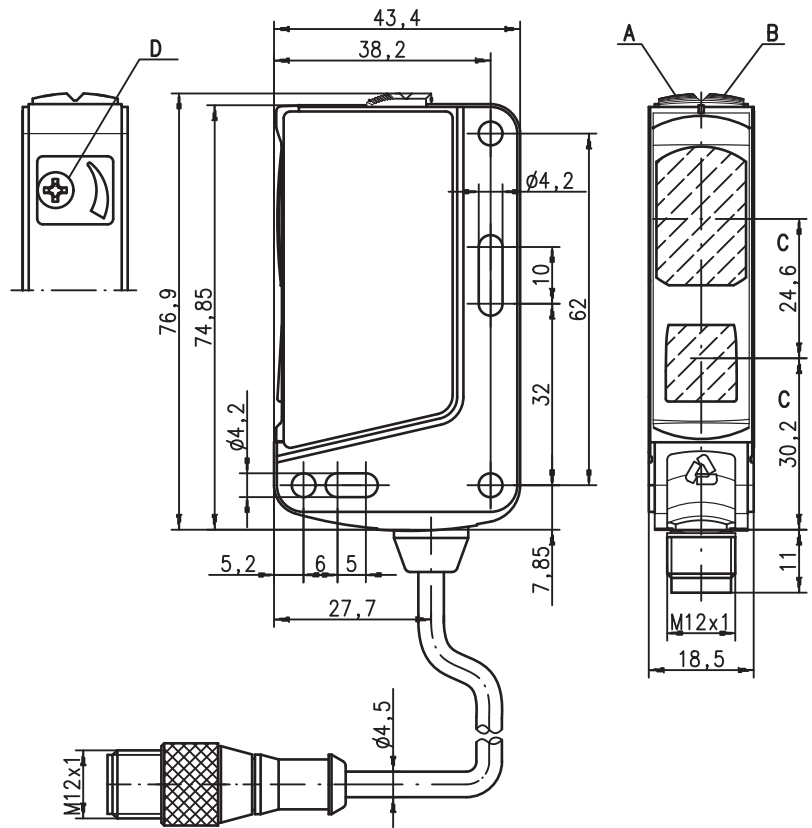


HRTL 46B Laser diffuse reflection light scanner with background suppression

en 05-2010/01 50107353-01



Dimensioned drawing



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

50 ... 1,200mm
800mm with
black-white error < 10%

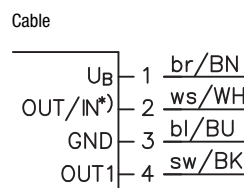
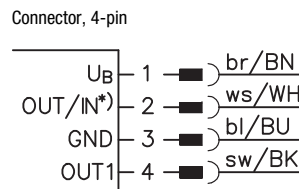
A²LS

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
- Activation for e.g. muting or test function

Electrical connection



Selection pin 2

*)	OUT	IN
	OUT 2	active

We reserve the right to make changes • DS_HRTL_46B_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		Red light
Typ. scanning range limit (white 90%) ¹⁾	50 ... 1,200mm	see tables
Scanning range ²⁾		120 ... 1,200mm
Adjustment range		laser (modulated light)
Light source		655nm (visible red light)
Wavelength		approx. 3mm x 5mm at 1,000mm
Light spot		
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
	.../6. ...	push-pull switching output ⁴⁾
		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	2 (acc. to EN 60825-1)	
Standards applied	IEC 60947-5-2	
Options		
Activation input active		
Transmitter active/not active	≥ 8V/≤ 2V	
Activation/disable delay	≤ 1ms/≤ 2ms	
Input resistance	10KΩ ± 10%	

- 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-S12	50106560
Activation input	HRTL 46B/6.8-S12	50110806
Cable with M12 connector		
Complementary switching output	HRTL 46B/66, 200-S12	50106561

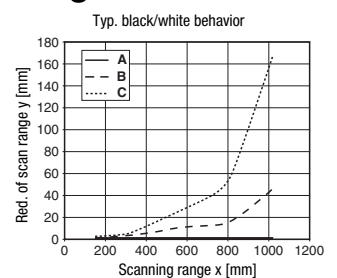
Tables

1	50	1,200
2	60	850
3	80	750

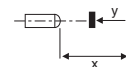
1	white 90%
2	grey 18%
3	black 6%

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.

LASER LIGHT
DO NOT STARE INTO BEAM

Maximum Output:	2.2mW
Pulse duration:	12µs
Wavelength:	655nm

CLASS 2 LASER PRODUCT
EN60825-1:2003-10

HRTL 46B Laser diffuse reflection light scanner with background suppression

Type key

H R T L 4 6 B / 6 . 8 - 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

/6 Pin 4 push-pull switching output, pin 2 no contact or activation input

Function characteristics

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

D Inverted switching logic

Special function

.8 Activation input

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 2000mm

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

-S12 M12 connector

