

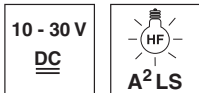
HRTR 25B "XL"

Diffuse reflection light scanner with background suppression

en 02-2016/03 50130040



0 ... 600mm
350mm with
black-white error < 10%



- Visible red light, large light spot for exact, reliable edge detection – positioning on glossy, broken (perforated) metallic surfaces e. g. slide bolts
- Optimized light spot for detecting containers which are not completely closed (perforated boxes)
- An additional status display on the front side of the sensor makes possible place-saving alignment, optimum scanning range adjustment and rapid function control
- Ultra-simple integration into the existing control environment
- Minimal current consumption – reduction of energy consumption in standby operation
- A²LS – Active Ambient Light Suppression

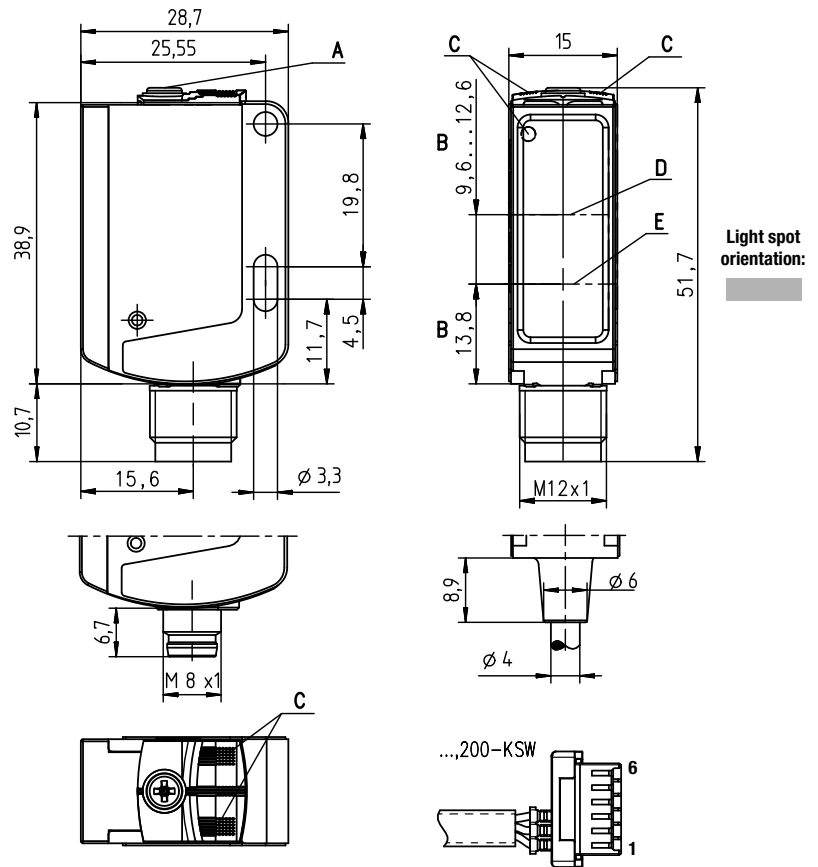


Accessories:

(available separately)

- Mounting systems (BT 25, UMS 25...)

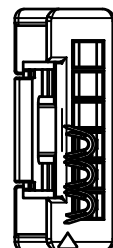
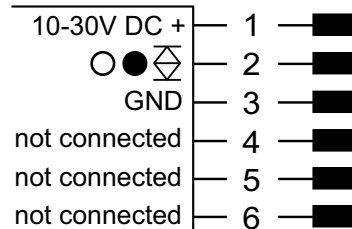
Dimensioned drawing



- A** Scanning range adjustment
- B** Optical axis
- C** Indicator diode
- D** Receiver
- E** Transmitter

Electrical connection

sensor connector, 6-pin



3 BU
2 BK
1 BN

We reserve the right to make changes • DS_HRTR25B_XL_KSW_en_50130040.fm

Specifications

Optical data

Typ. scanning range limit ¹⁾	0 ... 600mm
Scanning range ²⁾	see tables
Adjustment range ¹⁾	50 ... 600mm
Black/white error < 10 %	up to 350mm
Light beam characteristic	divergent, rectangular
Light beam dimensions	approx. 10mm x 15mm at a distance of 50mm, approx. 10mm x 20mm at a distance of 100mm, approx. 15mm x 35mm at a distance of 200mm, approx. 15mm x 40mm at a distance of 300mm
Light source ³⁾	LED (modulated light)
Wavelength	620nm (visible red light)

Timing

Switching frequency	250Hz
Response time	2ms
Delay before start-up	≤ 300ms (acc. to. IEC 60947-5-2)

Electrical data

Operating voltage U_B ⁴⁾	10 ... 30VDC (incl. residual ripple)
Residual ripple	≤ 15% of U_B
Open-circuit current	≤ 15mA
Switching output	.../6 1 push-pull switching output pin 2: PNP light switching, NPN dark switching
Function characteristics	light/dark switching
Signal voltage high/low	≥ ($U_B - 2V$) / ≤ 2V
Output current	max. 100mA
Scanning range	adjustable via 10-turn potentiometer

Indicators

Green LED	ready
Yellow LED	object detected - reflection

Mechanical data

Housing	plastic (PC-ABS)
Optics cover	plastic (PMMA)
Weight	approx. 30g
Connection type	cable 0.2m with sensor connector, 6-pin

Environmental data

Ambient temp. (operation/storage) ⁵⁾	-40°C ... +60°C / -40°C ... +60°C
Protective circuit ⁶⁾	2, 3
VDE safety class ⁷⁾	II
Protection class	IP 66, IP 67
Light source	free group (in accordance with EN 62471)
Standards applied	IEC 60947-5-2
Certifications	UL 508, C22.2 No.14-13 ⁴⁾ ⁵⁾

- 1) Typ. scan. range limit/adjustment range: max. achievable scanning range/adjustment range for light objects (white 90 %)
- 2) Scanning range: recommended scanning range for objects with different diffuse reflection
- 3) Average life expectancy 100,000h at an ambient temperature of 25 °C
- 4) For UL applications: for use in class 2 circuits according to NEC only
- 5) UL certified in the temperature range -30°C to 60°C
- 6) 2=polarity reversal protection, 3=short-circuit protection for all transistor outputs
- 7) Rating voltage: 50V

Tables

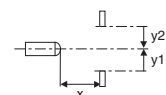
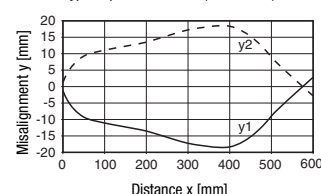
1	0	600
2	5	500
3	5	450

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

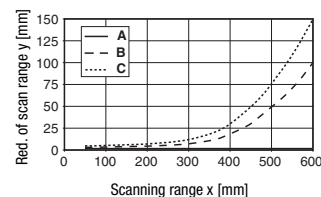
☐ Scanning range [mm]

Diagrams

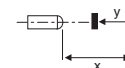
Typ. response behavior (white 90%)



Typ. black/white behavior



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



Remarks

Operate in accordance with intended use!

- ⚠ This product is not a safety sensor and is not intended as personnel protection.
- ⚠ The product may only be put into operation by competent persons.
- ⚠ Only use the product in accordance with the intended use.

UL REQUIREMENTS

Enclosure Type Rating: Type 1

For Use in NFPA 79 Applications only.

Adapters providing field wiring means are available from the manufacturer. Refer to manufacturers information.

CAUTION – the use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

ATTENTION ! Si d'autres dispositifs d'alignement que ceux préconisés ici sont utilisés ou s'il est procédé autrement qu'indiqué, cela peut entraîner une exposition à des rayonnements et un danger pour les personnes.

HRTR 25B "XL" Diffuse reflection light scanner with background suppression

Part number code

H	R	T	R		2	5	B	/	6	-	X	L	,	2	0	0	-	K	S	W
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,200-KSW	Cable, PVC, length 200 mm with sensor connector, 6-pin
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Order guide

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

Order code	Part No.
HRTR 25B/6-XL,200-KSW	50129232

Application notes



- For glossy surfaces (e.g. metals), the light beam should not be incident on the object surface at a right angle. A slight inclination is sufficient for preventing undesired direct reflections. This may result in a reduction in the scanning range.
- Objects should only be moved in laterally from the right or left. Moving in objects from the connector side or operating side is to be avoided.
- Outside of the scanning range, the sensor operates as an energetic diffuse reflection light scanner. Light objects can still be reliably detected up to the scanning range limit.
- The sensors are equipped with effective measures for the maximum avoidance of mutual interference should they be mounted opposite one another. Opposite mounting of multiple sensors of the same type should, however, absolutely be avoided.