

HRTL 8

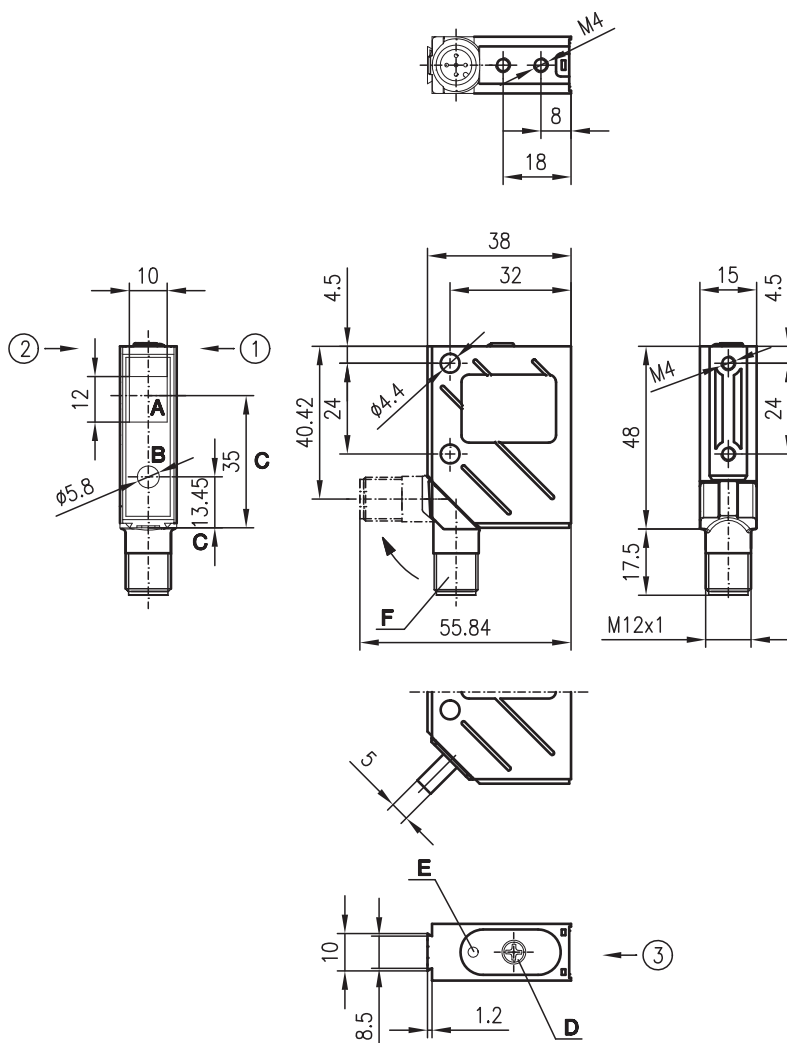
Laser diffuse reflection sensor with background suppression



25 ... 200mm

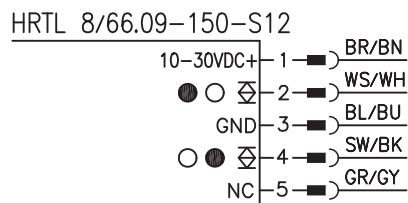
- Laser-generated red light, laser class 1
- Adjustable background suppression
- A²LS - Active Ambient Light Suppression
- Push-pull outputs
- M12 turning connector

Dimensioned drawing



- A Receiver
 - B Transmitter
 - C Optical axis
 - D Operational control
 - E Yellow LED
 - F Turning connector, turnable 90°
- Preferred entry direction for objects ① + ② + ③

Electrical connection



Accessories:

(available separately)

- M12 connectors (KD ...)
- Ready-made cables (KD ...)
- Mounting systems
- Control guard

Technical data

Optical data

Typ. maximum range (white 90%) ¹⁾	25 ... 200 mm
Operating range ²⁾	See tables
Adjustment range, mechanical	50 ... 200 mm
Light beam characteristic	Focused
Beam divergence	≥ 0.5 mrad
Light source	Laser
Laser class	1 acc. to IEC 60825-1:2014
Wavelength	655 nm (visible red light)
Max. output power (peak)	1.4 mW
Impulse duration	6 μs

Time behavior

Switching frequency	2000 Hz
Response time	0.25 ms
Readiness delay	≤ 100 ms

Electrical data

Operating voltage U_B	10 ... 30 V DC
Residual ripple	≤ 15% of U_B
Open-circuit current	≤ 35 mA
Switching output/function	.../66... 2 push-pull switching outputs ³⁾
	Pin 2: PNP dark switching, NPN light switching
	Pin 4: PNP light switching, NPN dark switching
	≥ ($U_B - 2 V$) ≤ 2 V
	Max. 100 mA
	Mechanical via multiturn potentiometer

Signal voltage high/low	
Output current	
Range adjustment	

Indicators

Yellow LED	Object detected
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Mechanical data

Housing	Metal
Optics cover	Glass
Weight	70 g
Connection type	M 12 connector, 5-pin

Environmental data

Ambient temp. (operation/storage)	-10 °C ... +40 °C / -40 °C ... +70 °C
Protective circuit ⁴⁾	2, 3
VDE protection class ⁵⁾	II, all-insulated
Degree of protection ⁶⁾	IP 67, IP 69K ⁷⁾
Standards applied	IEC 60947-5-2

- 1) Typ. maximum range: max. attainable range without function reserve
- 2) Operating range: recommended range with function reserve
- 3) The push-pull switching outputs must not be connected in parallel
- 4) 2=polarity reversal protection, 3=short circuit protection for all outputs
- 5) Rating voltage 250 VAC
- 6) In end position of the turning connector (turning connector engaged)
- 7) IP 69K test acc. to DIN 40050 part 9 simulated, high pressure cleaning conditions without the use of additives, acids and bases are not part of the test

Order guide

Laser class 1

With M12 connector



Designation	Part no.
HRTL 8/66.09-150-S12	50115688

Tables

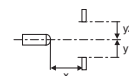
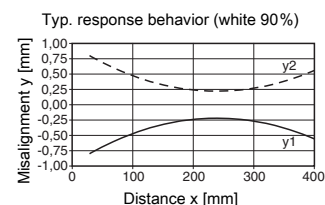
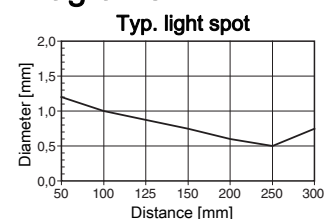
Laser class 1:

1	25	150	200
2	45	140	185
3	50	130	170

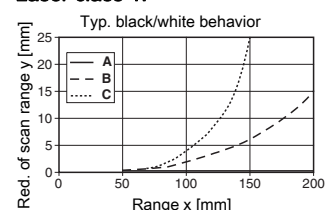
1	White 90%
2	Gray 18%
3	Black 6%

	Operating range [mm]
	Typ. maximum range [mm]

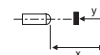
Diagrams



Laser class 1:



- A White 90%
- B Gray 18%
- C Black 6%



Notes

Observe 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 its intended use.

- With glossy surfaces, mount at an inclination of approx. 10°.

Laser safety notices

 **ATTENTION, LASER RADIATION – CLASS 1 LASER PRODUCT**



The device satisfies the requirements of IEC 60825-1:2014 (EN 60825-1:2014) safety regulations for a product of **laser class 1** as well as the U.S. 21 CFR 1040.10 regulations with deviations corresponding to "Laser Notice No. 56" from May 8, 2019.

- ↳ Observe the applicable statutory and local laser protection regulations.
- ↳ The device must not be tampered with and must not be changed in any way.
 - There are no user-serviceable parts inside the device.
 - Repairs must only be performed by Leuze electronic GmbH + Co. KG.