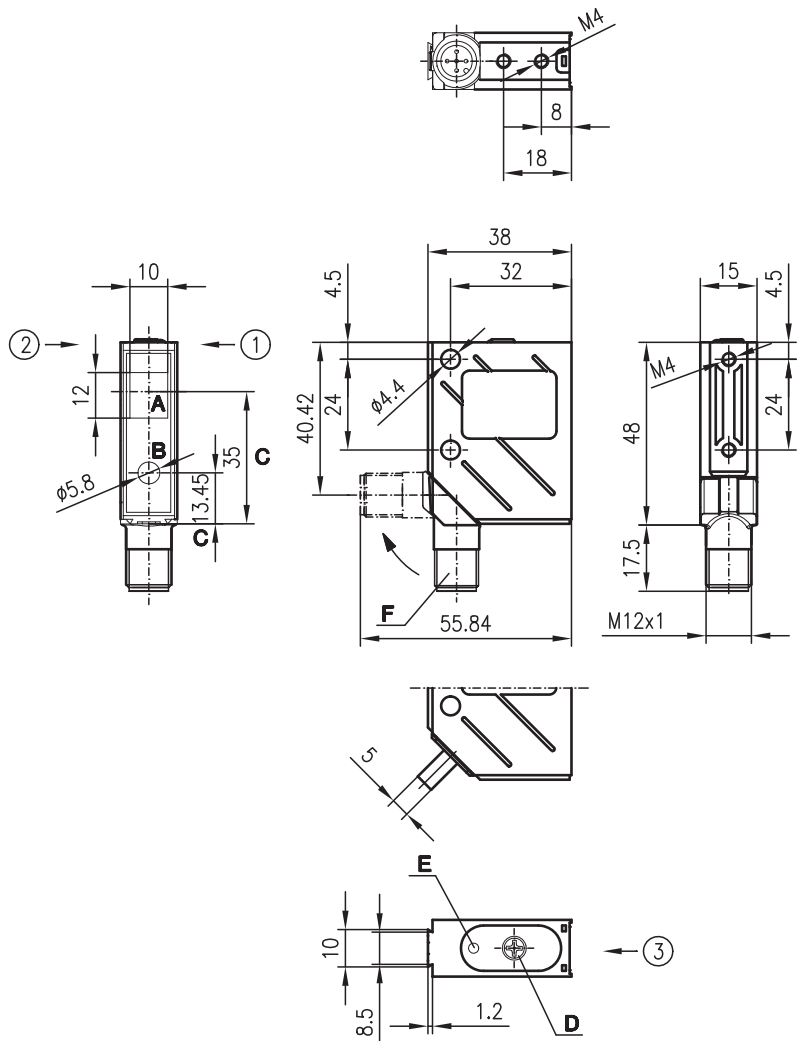


HRTL 8 Laser diffuse reflection light scanner with background suppression

en 07-2011/05 50116483

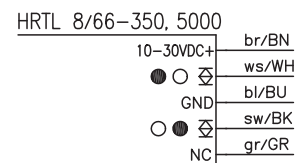
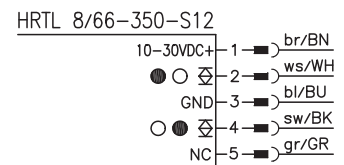
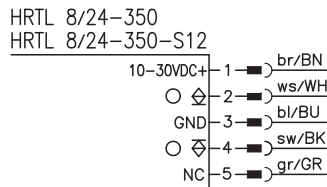


Dimensioned drawing



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

Electrical connection



5 ... 400mm
2 kHz
10 - 30 V DC
A²LS

- Laser-generated red light, laser class 2
- Adjustable background suppression
- A²LS - Active Ambient Light Suppression
- Push-pull switching outputs
- M12 turning connector or cable connection

Accessories:

- (available separately)
- M12 connectors (KD ...)
 - Ready-made cables (K-D ...)
 - Mounting systems
 - Control guard

We reserve the right to make changes • DS_HRTL8_350_en.fm

Specifications

Optical data

Typ. scanning range limit (white 90%)¹⁾
 Scanning range²⁾
 Mechanical adjustment range
 Light beam characteristic
 Beam spread
 Light source
 Wavelength
 Max. output power
 Pulse duration

Laser class 2

5 ... 400mm
 see tables
 50 ... 400mm
 focussed
 ≥ 0.5 mrad
 laser
 670nm (visible red light)
 2.6mW
 $\leq 8\mu$ s

Timing

Switching frequency 2000Hz
 Response time 0.25ms
 Delay before start-up ≤ 100 ms

Electrical data

Operating voltage U_B ³⁾ 10 ... 30VDC
 Residual ripple $\leq 15\%$ of U_B
 Open-circuit current ≤ 35 mA
 Signal voltage high/low $\geq (U_B - 2V) / \leq 2V$
 Switching output/function .../24 PNP and NPN transistor output, light switching
 .../66 2 push-pull switching outputs⁴⁾
 pin 2: PNP dark switching, NPN light switching
 pin 4: PNP light switching, NPN dark switching
 max. 100mA
 mechanical via multturn potentiometer

Output current
 Scanning range adjustment

Indicators

Yellow LED object detected

Mechanical data

Housing metal
 Optics cover glass
 Weight (plug/cable) 70g/140g
 Connection type M12 connector, 5-pin or cable: 2000mm, 5x0.25mm²

Environmental data

Ambient temp. (operation/storage) $-10^\circ\text{C} \dots +40^\circ\text{C} / -40^\circ\text{C} \dots +70^\circ\text{C}$
 Protective circuit⁵⁾ 2, 3
 VDE safety class⁶⁾ II, all-insulated
 Protection class⁷⁾ IP 67, IP 69K⁸⁾
 Laser class 2 (acc. to EN 60825-1)
 Standards applied IEC 60947-5-2
 Certifications UL 508³⁾

- 1) Typ. scanning range limit: max. attainable range without performance reserve
- 2) Scanning range: recommended range with performance reserve
- 3) For UL applications: for use in class 2 circuits according to NEC 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 250VAC
- 7) In stop position of the turning connector (turning connector locked)
- 8) 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

● 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.

Order guide

	Designation	Part No.
With M12 connector	HRTL 8/24-350-S12	500 36370
With 2m cable	HRTL 8/24-350	500 36371
With M12 connector	HRTL 8/66-350-S12	501 02705
With 5m cable	HRTL 8/66-350, 5000	501 03709

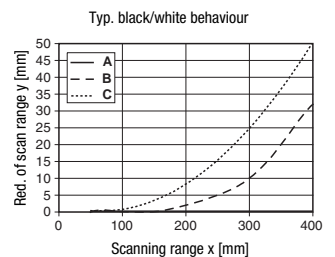
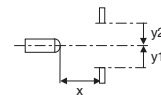
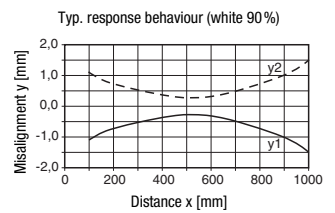
Tables

1	7	350	400
2	10	330	370
3	12	300	340

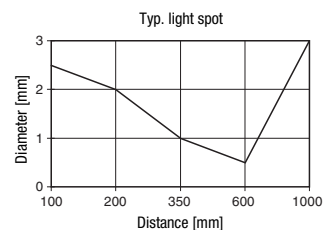
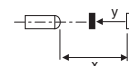
1	white 90%
2	gray 18%
3	black 6%

Scanning range [mm]
 Typ. scanning range limit [mm]

Diagrams



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



Remarks

- Install sensor inclined at angle of approx. 10° if used to detect objects with shiny surfaces.