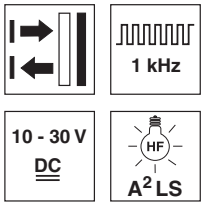
VRTR 8 Diffuse reflection light scanner with foreground suppression

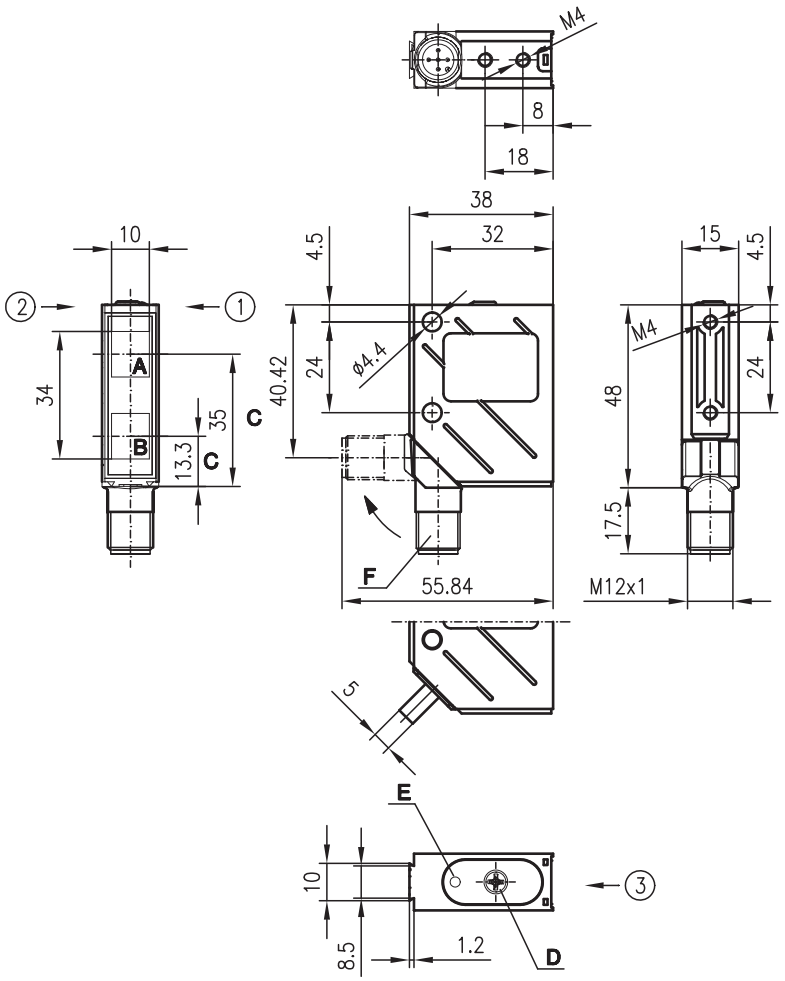
en 06-2014/08 50127241



0 … 250mm

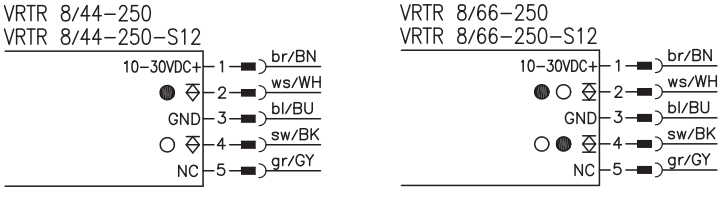
- Adjustable foreground suppression
- A²LS - active suppression of extraneous light
- Push-pull switching outputs
- M12 turning connector or cable connection
- Visible red light

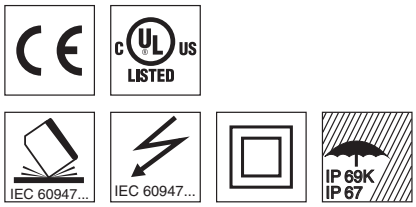
Dimensioned drawing



A Receiver
B Transmitter
C Optical axis
D Operational control
E LED yellow
F 90° turning connector
Preferred entry direction for objects ①+②+③

Electrical connection





Accessories:

(available separately)

- M12 connectors (KD …)
- Ready-made cables (K-D …)
- Mounting systems
- Control guard

Specifications

Optical data

Typ. scanning range limit [1]		0 … 250 mm
Scanning range [2]		see tables
Mechanical adjustment range		50 … 250 mm
Light source		LED (modulated light)
Wavelength		660 nm (visible red light)

Timing

Switching frequency		1000 Hz
Response time		0.5 ms
Delay before start-up		≤ 100 ms

Electrical data

Operating voltage U_B [3]		10 … 30 VDC
Residual ripple		≤ 15 % of U_B
Bias current		≤ 35 mA
Switching output/function	…/66	2 push-pull switching outputs [4] pin 2: PNP dark switching, NPN light switching pin 4: PNP light switching, NPN dark switching
	…/44	2 PNP switching outputs pin 2: dark switching pin 4: light switching
Signal voltage high/low		≥ (U_B-2 V)/≤ 2 V
Output current		max. 100 mA
Scanning range adjustment		mechanical via multiturn potentiometer

Indicators

LED yellow	object detected

Mechanical data

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

Environmental data

Ambient temp. (operation/storage)	-40 °C … +60 °C/-40 °C … +70 °C
Protective circuit [5]	2, 3
VDE safety class [6]	II, all-insulated
Protection class [7]	IP 67, IP 69K [8]
Light source	exempt group (in acc. with EN 62471)
Standards applied	IEC 60947-5-2
Certifications	UL 508, C22.2 No.14-13 [3] [9]

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 250 VAC
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
9) These proximity switches shall be used with UL Listed Cable assemblies rated 30 V, 0.5 A min, in the field installation, or equivalent (categories: CYJV/CYJV7 or PVVA/PVVA7)

Order guide

	Designation	Part No.
With M12 connector	VRTR 8/44-250-S12	50036372
With 2 m cable	VRTR 8/44-250	50036373
With M12 connector	VRTR 8/66-250-S12	50036374
With 2 m cable	VRTR 8/66-250	50036375

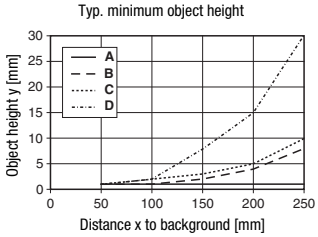
Tables

1	0	250	250
2	0	250	250
3	0	250	250

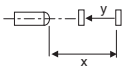
1	white 90 %
2	grey 18 %
3	black 6 %

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

Diagrams



A Background/object 90 %/6 %
B Background/object 90 %/90 %
C Background/object 6 %/6 %
D Background/object 6 %/90 %



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.

- **Adjustment:**

  1. Mount sensor at distance of max. 250 mm away from constant background. Yellow LED must be OFF.

  2. Keep turning adjusting screw clockwise until stop is reached (25 turns).

  3. Turn adjusting screw anticlockwise until yellow LED lights up.

- Distance between sensor and background must not change.