

# FR 88-R

Photoelectric retro-reflective sensor



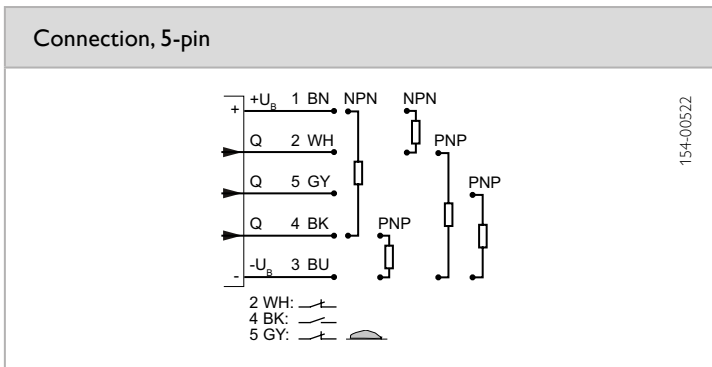
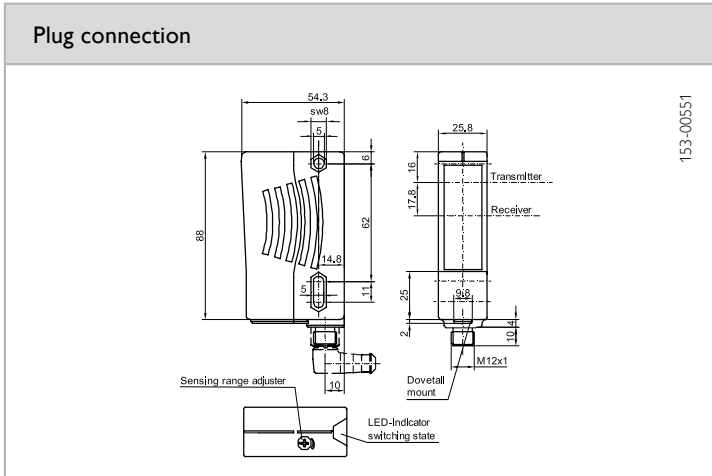
## PRODUCT HIGHLIGHTS

- Antivalent switching output
- Simple alignment thanks to easily visible light spot
- Precise sensitivity adjustment by means of potentiometer

Optical data		Functions	
Operating range	0.05 ... 12 m <sup>1</sup>	Indicator LED, yellow	Switching output indicator
Type of light	LED, red, 660 nm	Sensitivity adjustment	Via potentiometer
Light spot size <sup>2</sup>	Ø 200 mm	Default setting	Max. range
Electrical data		Mechanical data	
Operating voltage, +U <sub>B</sub>	10 ... 30V DC <sup>3</sup>	Dimensions	88 x 54.3 x 25.8 mm
No-load current, I <sub>0</sub>	≤ 40 mA	Enclosure rating	IP 67 <sup>4</sup>
Output current, I <sub>e</sub>	≤ 200 mA	Material, housing	ABS
Protective circuits	Reverse-polarity protection, U <sub>B</sub> / short-circuit protection (Q)	Material, front screen	PMMA
Protection Class	2	Type of connection	See selection table
Power On Delay	≤ 300 ms	Ambient temperature: operation	-40 ... +60 °C
Switching output, Q	PNP/NPN antivalent (see selection table)	Ambient temperature: storage	-40 ... +75 °C
Output function	N.O./N.C.	Weight (plug device)	70 g
Switching frequency, f (ti/tp 1:1)	≤ 1000 Hz	Vibration and impact resistance	EN 60947-5-2
Response time	500µs		
Connection, BK	N.O.		
Connection, WH	N.C.		
Contamination output, Gy (optional)	N.C.		

<sup>1</sup> Reference material: R10 reflector    <sup>2</sup> At range of 12 m    <sup>3</sup> Max. 10 % ripple, within U<sub>B</sub>    <sup>4</sup> With connected IP 67 plug

Operating range	Switching output	Type of connection	Part number	Article number
0.05 ... 12 m	PNP	Plug, M12x1, 5-pin	FR 88-R-PAV-L5	823-11010
0.05 ... 12 m	NPN	Plug, M12x1, 5-pin	FR 88-R-NAV-L5	823-11011



### Accessories

Reflectors	From Page A-18
Connection cables	From Page A-38
Brackets	From Page A-4