

# FR 55-R

## Photoelectric retro-reflective sensor



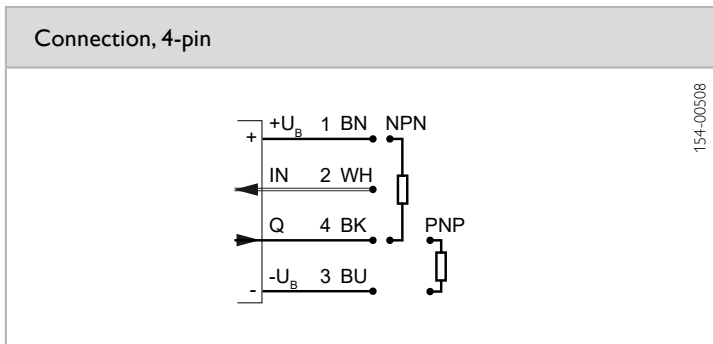
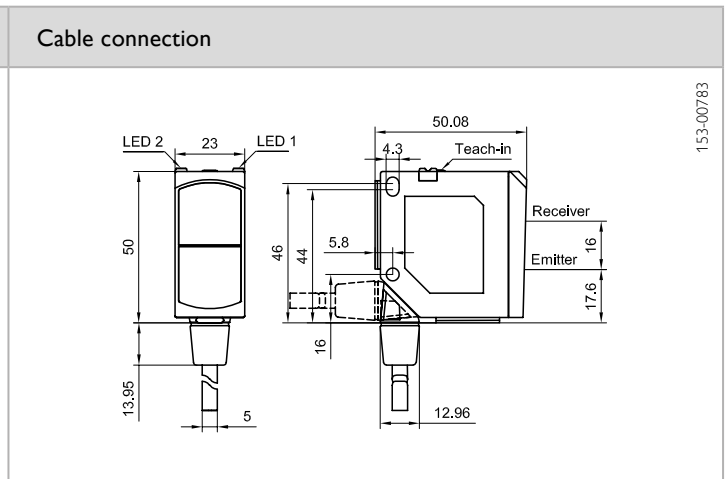
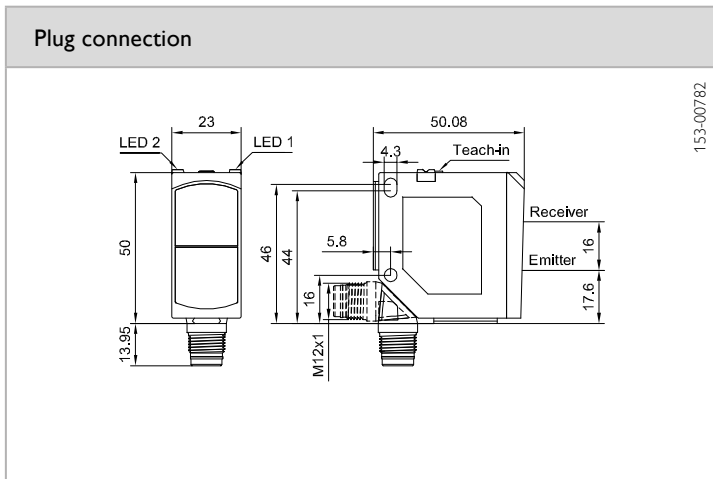
### PRODUCT HIGHLIGHTS

- Simple alignment thanks to easily visible light spot
- Suitable for a wide variety of different reflectors
- Sensor adjustment via teach-in and control input
- Plug and cable connection rotatable

Optical data		Functions	
Limit range	0.3 ... 14 m <sup>1</sup>	Indicator LED, green	Operating voltage indicator
Operating range	0.3 ... 12 m <sup>1</sup>	Indicator LED, yellow	Switching output indicator / contamination indicator
Type of light	LED, red, 640 nm	Sensitivity adjustment	Via Teach-in button and control input
Light spot size	See diagram	Teach-in modes	Mode 1: during running process Mode 2: during standing process
Polarising filter	Yes	Adjustment possibilities	N.O./N.C. via Teach-in button and control input Button lock via control input
		Default settings	S <sub>n</sub> = 8 m and N.O.
Electrical data		Mechanical data	
Operating voltage, +U <sub>b</sub>	10 ... 30V DC <sup>2</sup>	Dimensions	50 × 50.1 × 23 mm
No-load current, I <sub>0</sub>	≤ 30 mA	Enclosure rating	IP 69K & IP 67 <sup>3</sup>
Output current, I <sub>e</sub>	≤ 100 mA	Material, housing	PC-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	-20 ... +60 °C <sup>4</sup>
Switching output, Q	PNP/NPN (see selection table)	Ambient temperature: storage	-20 ... +80 °C
Output function	N.O./N.C.	Weight (plug device)	35 g
Switching frequency, f (ti/tp 1:1)	≤ 600 Hz	Weight (cable device)	125 g
Response time	830 μs	Vibration and impact resistance	EN 60947-5-2
Control input, IN	+U <sub>b</sub> = teach-in -U <sub>b</sub> = button locked Open = normal operation		

<sup>1</sup> Reference material: R10 reflector    <sup>2</sup> Max. 10 % ripple, within U<sub>b</sub> ~ 50 Hz / 100 Hz    <sup>3</sup> With connected IP 67 / IP 69K plug    <sup>4</sup> UL: max. +45 °C

Operating range	Switching output	Type of connection	Part number	Article number
0.3 ... 12 m	PNP	Plug, M12x1, 4-pin	FR 55-R-PS-L4	621-11000
0.3 ... 12 m	NPN	Plug, M12x1, 4-pin	FR 55-R-NS-L4	621-11001
0.3 ... 12 m	PNP	Cable, 3 m, 4-wire	FR 55-R-PS-K4	621-11003
0.3 ... 12 m	NPN	Cable, 3 m, 4-wire	FR 55-R-NS-K4	621-11004

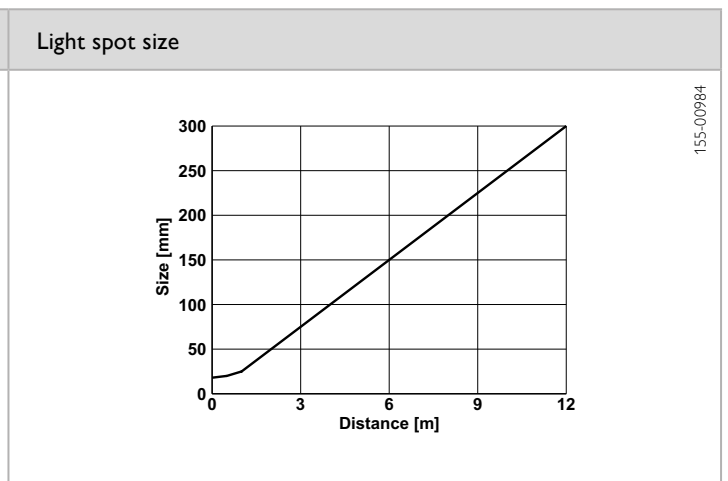
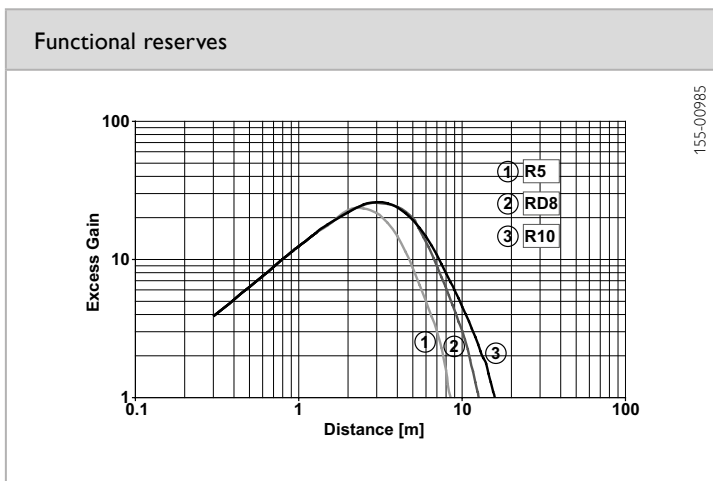


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Reflector / Reflective foil*	Operating range	Accessories
R10	0.3 ... 12 m	Reflectors Connection cables Brackets <a href="http://www.sensopart.com/en/accessories">www.sensopart.com/en/accessories</a>
RD8	0.3 ... 10 m	
R5	0.3 ... 6 m	
RF-100 KL*	0.25 ... 6 m	