

FR 25-RL

Laser retroreflective photoelectric sensor



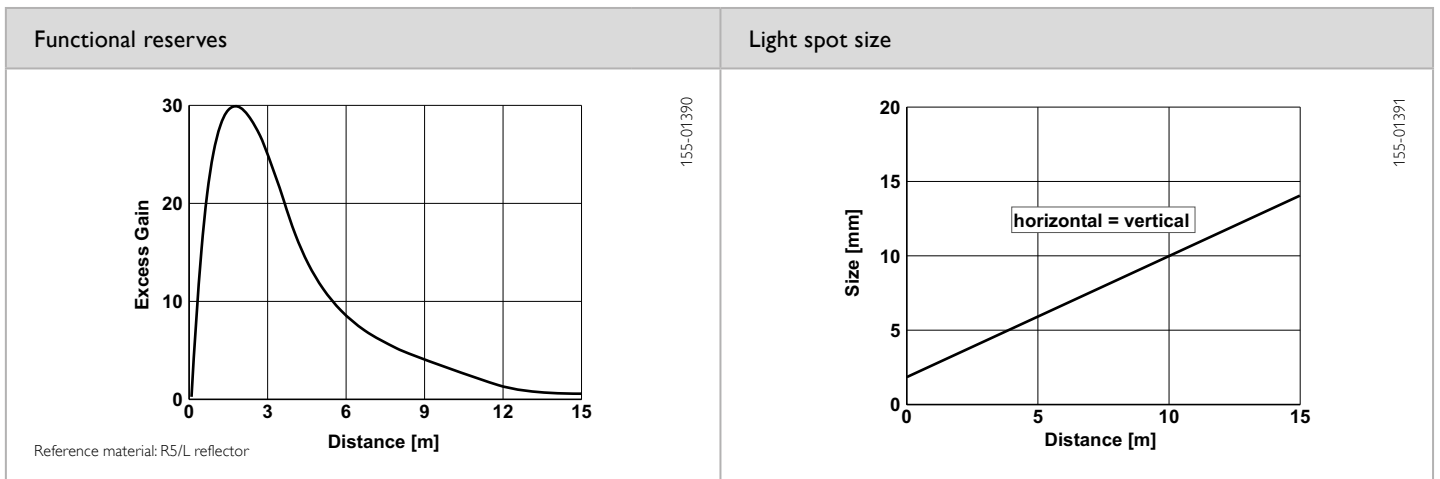
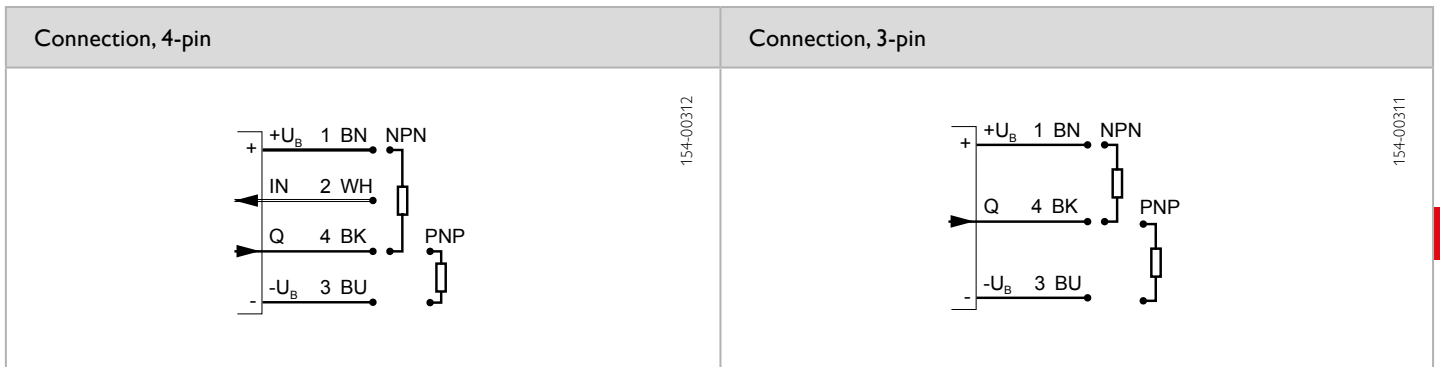
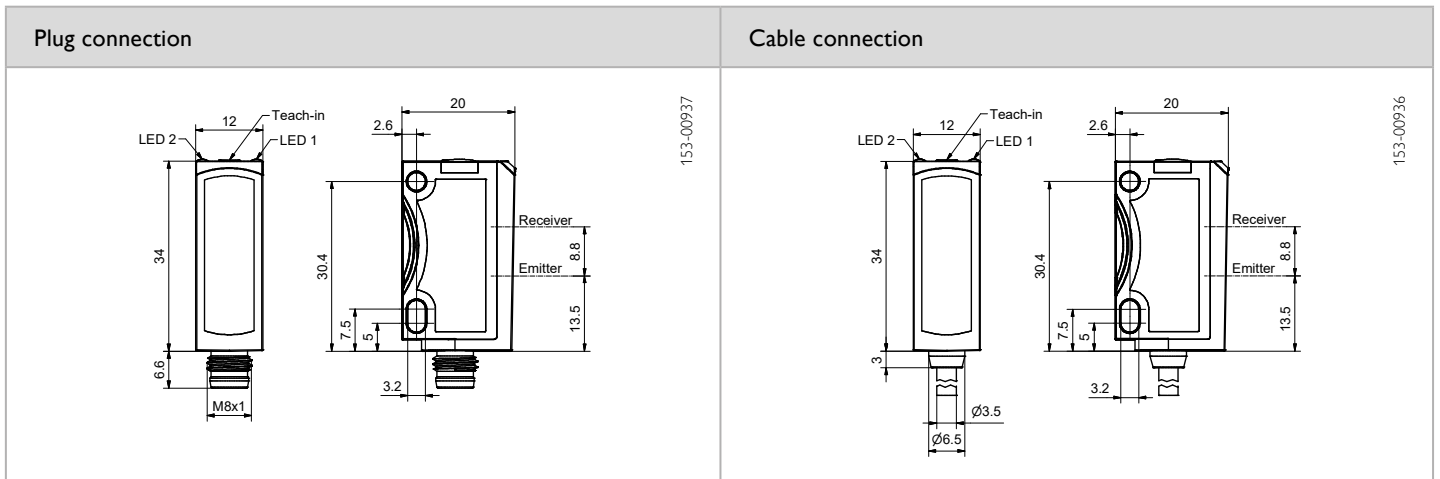
PRODUCT HIGHLIGHTS

- Particularly suitable for short-range applications
- Suitable for a wide variety of different reflectors
- Very small, easily visible laser light spot
- Sensor settings via teach-in and control input
- Robust glass-fibre-reinforced plastic housings

Optical data		Functions	
Limit range	0.1 ... 15 m ¹	Indicator LED, green	Operating voltage indicator
Operating range	0.1 ... 13 m ¹	Indicator LED, yellow	Switching output indicator
Type of light	Laser, red, 650 nm	Sensitivity adjustment	Via Teach-in button and control input
Light spot size	See diagram	Teach-in modes	Mode 1: during running process
Laser Class (IEC 60825-1)	1	Adjustment possibilities	Mode 2: during standing process
Polarising filter	Yes	Default settings	N.O./N.C. via Teach-in button and control input
			Button lock via control input
			Max. range and N.O.
Electrical data		Mechanical data	
Operating voltage, +U _B	10 ... 30V DC ²	Dimensions	34 × 20 × 12 mm
No-load current, I ₀	≤ 30 mA	Enclosure rating	IP 69K & IP 67 ⁴
Output current, I _e	≤ 100 mA	Material, housing	ABS
Protective circuits	Reverse-polarity protection, U _B / 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 ⁵
Switching output, Q	PNP/NPN (see Selection Table)	Ambient temperature: storage	-20 ... +80 °C
Output function	N.O./N.C.	Weight (plug device)	10 g
Switching frequency, f (ti/tp 1:1)	≤ 4000 Hz	Weight (metal plug device ⁶)	10 g
Response time	250 μs	Weight (cable device)	40 g
Control input, IN ³	+ U _B = teach-in - U _B = button locked Open = normal operation	Weight (pigtail)	20 g
		Vibration and impact resistance	EN 60947-5-2

¹ Reference material: R5/L reflector ² Max. 10 % ripple, within U_B, ~ 50 Hz / 100 Hz ³ Only 4-pin design ⁴ With connected IP 67 / IP 69K plug ⁵ UL: -20 ... +50 °C ⁶ No Ecolab

Operating range	Switching output	Type of connection	Part number	Article number
1 ... 13 m	PNP	Metal plug, M8x1, 3-pin	FR 25-RL-PS-M3M	609-31000
1 ... 13 m	PNP	Metal plug, M8x1, 4-pin	FR 25-RL-PS-M4M	609-31001
1 ... 13 m	NPN	Metal plug, M8x1, 4-pin	FR 25-RL-NS-M4M	609-31002
1 ... 13 m	PNP	Cable, 2 m, 4-wire	FR 25-RL-PS-K4	609-21004
1 ... 13 m	NPN	Cable, 2 m, 4-wire	FR 25-RL-NS-K4	609-21001
1 ... 13 m	PNP	Pigtail, 150 mm with plug, M8, 4-pin	FR 25-RL-PS-KM4	609-21016
1 ... 13 m	NPN	Pigtail, 150 mm with plug, M8, 4-pin	FR 25-RL-NS-KM4	609-21017
1 ... 13 m	PNP	Pigtail, 150 mm with plug, M12, 4-pin	FR 25-RL-PS-KL4	609-21006
1 ... 13 m	NPN	Pigtail, 150 mm with plug, M12, 4-pin	FR 25-RL-NS-KL4	609-21003



Reflector (especially for short range)	Operating range
RD-25 KL	0.15 ... 1 m

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