

FR 55-R

Photoelectric retro-reflective sensor



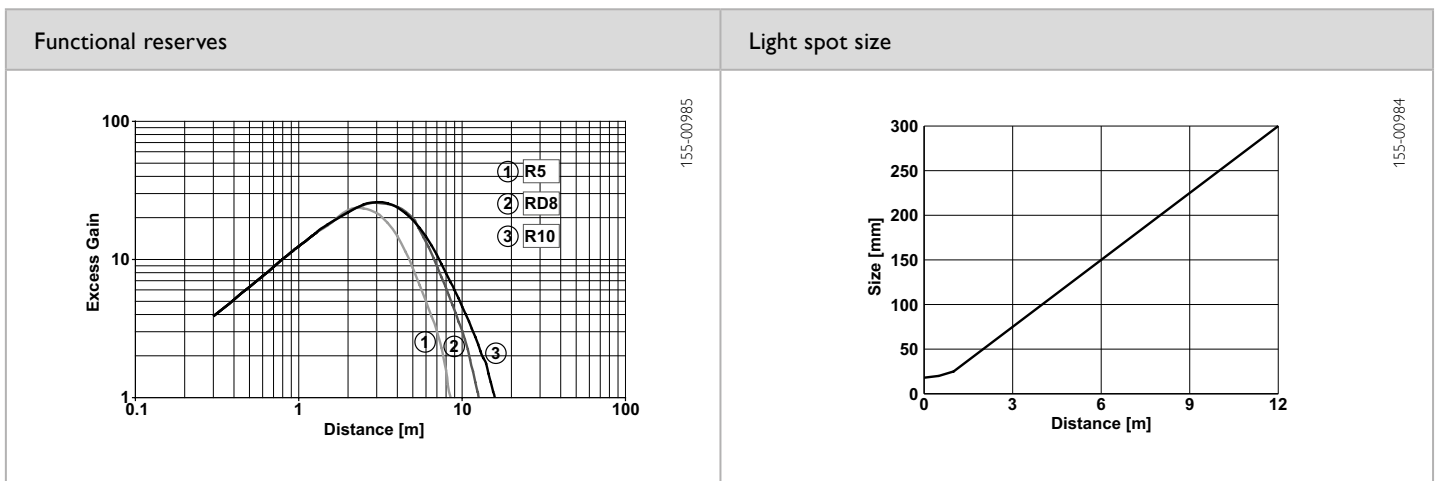
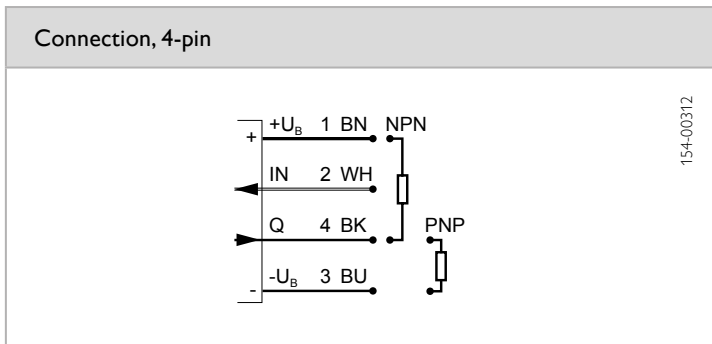
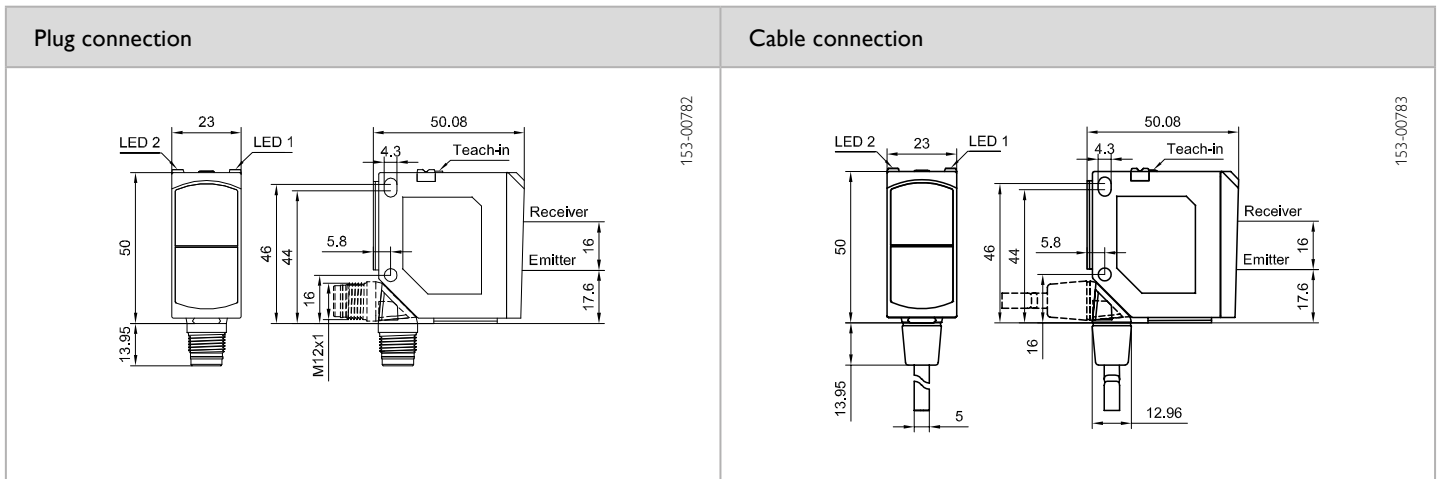
PRODUCT HIGHLIGHTS

- 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 ¹ | Indicator LED, green | Operating voltage indicator |
| Operating range | 0.3 ... 12 m ¹ | 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 _n = 8 m and N.O. |
| Electrical data | | Mechanical data | |
| Operating voltage, +U _b | 10 ... 30V DC ² | Dimensions | 50 × 50.1 × 23 mm |
| No-load current, I ₀ | ≤ 30 mA | Enclosure rating | IP 69K & IP 67 ³ |
| Output current, I _e | ≤ 100 mA | Material, housing | PC-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 ⁴ |
| 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 _b = teach-in -U _b = button locked Open = normal operation | | |

¹ Reference material: R10 reflector ² Max. 10 % ripple, within U_b ~ 50 Hz / 100 Hz ³ With connected IP 67 / IP 69K plug ⁴ 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 |



| Reflector / Reflective foil* | Operating range | Accessories |
|------------------------------|-----------------|-------------------|
| R10 | 0.3 ... 12 m | Reflectors |
| RD8 | 0.3 ... 10 m | Connection cables |
| R5 | 0.3 ... 6 m | Brackets |
| RF-100 KL* | 0.25 ... 6 m | |
| | | From Page A-18 |
| | | From Page A-38 |
| | | From Page A-4 |