

# FT 55-RLH2

Diffuse laser sensor with background suppression



## PRODUCT HIGHLIGHTS

- Long scanning distance of 1 m combined with extremely accurate small-part detection
- Precisely adjustable background suppression – reliable operation even with highly reflective and glossy backgrounds
- Very small, easily visible laser light spot
- Precise scanning distance adjustment by means of potentiometer
- Integrated display window for scanning distance adjustment

| Optical data                       |                                                                            | Functions                       |                                                      |
|------------------------------------|----------------------------------------------------------------------------|---------------------------------|------------------------------------------------------|
| Scanning distance                  | 5 ... 1000 mm <sup>1</sup>                                                 | Indicator LED, green            | Operating voltage indicator                          |
| Type of light                      | Laser, red, 655 nm                                                         | Indicator LED, yellow           | Switching output indicator / contamination indicator |
| Light spot size                    | See diagram                                                                | Scanning distance adjustment    | Via potentiometer                                    |
| Laser Class (IEC 60825-1)          | 1                                                                          | Adjustment possibilities        | N.O./N.C. via control input                          |
|                                    |                                                                            | Default settings                | S <sub>n</sub> = 500 mm (6 %)                        |
| Electrical data                    |                                                                            | Mechanical data                 |                                                      |
| Operating voltage, +U <sub>B</sub> | 12 ... 30V DC <sup>2</sup>                                                 | Dimensions                      | 50 x 50,1 x 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) | ≤ 1000 Hz                                                                  | Weight (cable device)           | 125 g                                                |
| Response time                      | 500 µs                                                                     | Vibration and impact resistance | EN 60947-5-2                                         |
| Control input, IN                  | +U <sub>B</sub> = N.C.<br>-U <sub>B</sub> / Open = N.O.                    |                                 |                                                      |

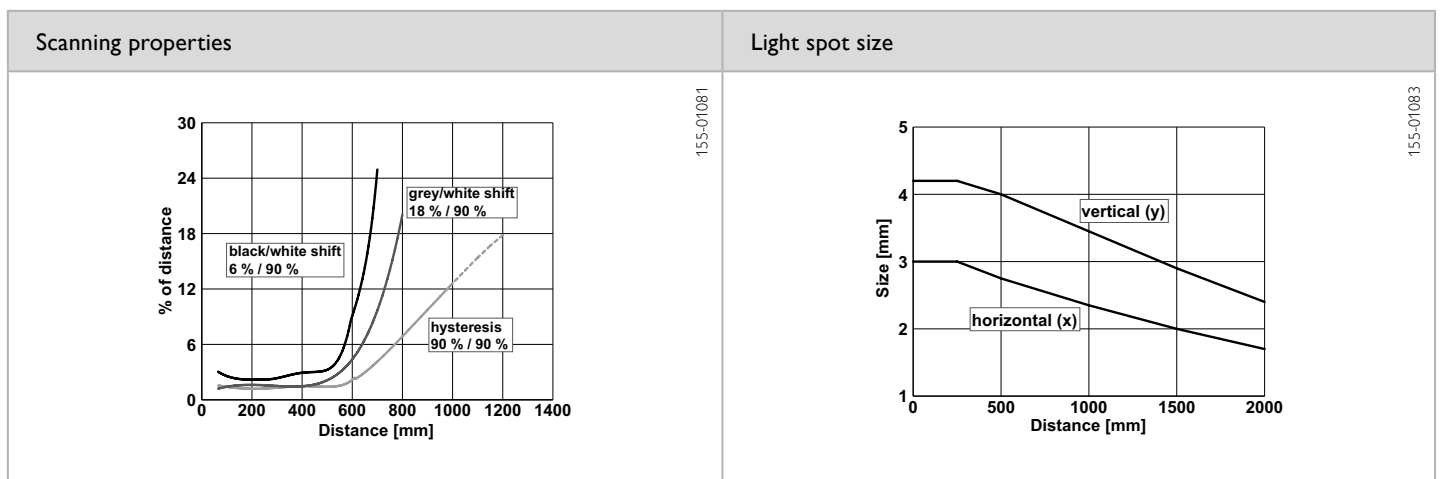
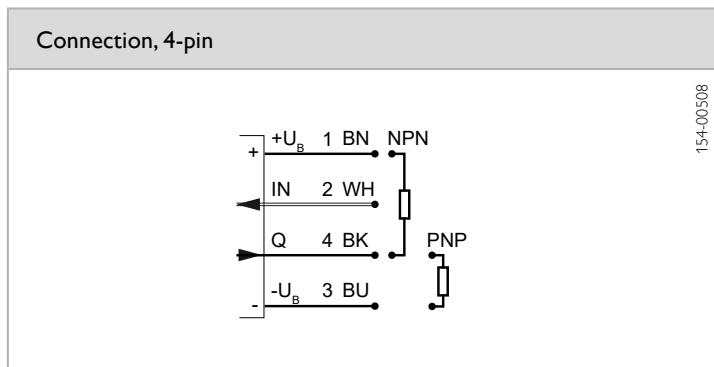
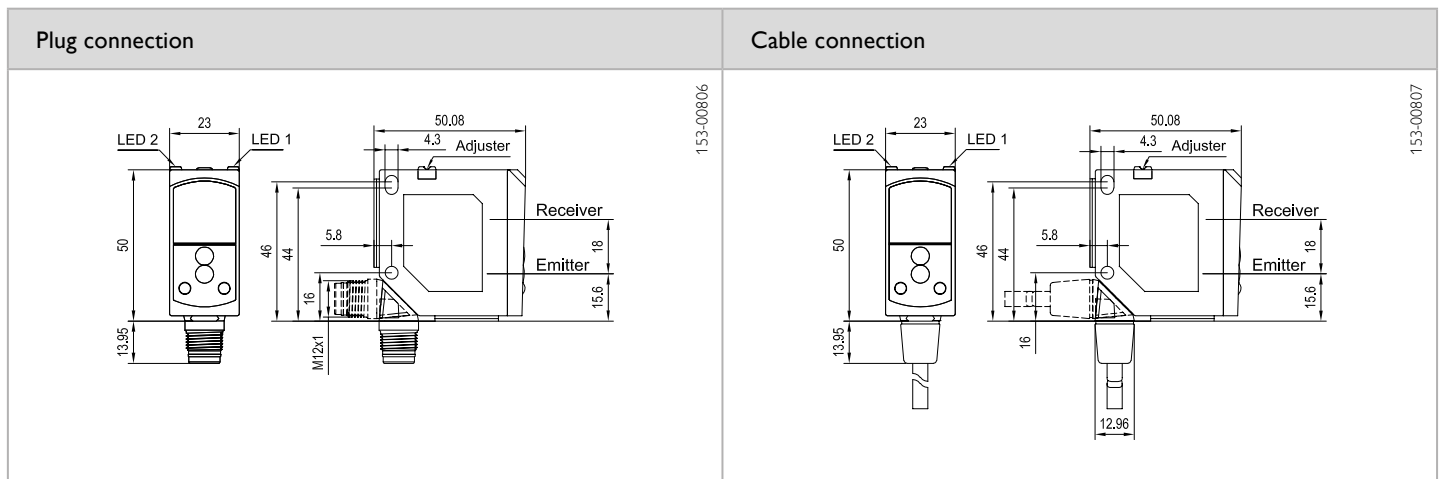
<sup>1</sup> Reference material: white, 90 % reflectivity

<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

| Scanning distance | Switching output | Type of connection | Part number      | Article number |
|-------------------|------------------|--------------------|------------------|----------------|
| 5 ... 1000 mm     | PNP              | Plug, M12x1, 4-pin | FT 55-RLH2-PS-L4 | 623-11006      |
| 5 ... 1000 mm     | NPN              | Plug, M12x1, 4-pin | FT 55-RLH2-NS-L4 | 623-11007      |
| 5 ... 1000 mm     | PNP              | Cable, 3 m, 4-wire | FT 55-RLH2-PS-K4 | 623-11009      |
| 5 ... 1000 mm     | NPN              | Cable, 3 m, 4-wire | FT 55-RLH2-NS-K4 | 623-11010      |



| Reference material | Detection range |
|--------------------|-----------------|
| White (90 %)       | 5 ... 1000 mm   |
| Grey (18 %)        | 10 ... 800 mm   |
| Black (6 %)        | 15 ... 700 mm   |

| Accessories       |                                                                                        |
|-------------------|----------------------------------------------------------------------------------------|
| Connection cables | <a href="http://www.sensopart.com/en/accessories">www.sensopart.com/en/accessories</a> |
| Brackets          |                                                                                        |