

# FT 25-RL

## Diffuse laser photoelectric proximity switch



### PRODUCT HIGHLIGHTS

- Differentiates between even the slightest of grey value differences
- Sensor settings via teach-in and control input
- Durable laser printing
- Very small, easily visible laser light spot
- Wide range of variants

Optical data		Functions	
Scanning distance	1 ... 250 mm <sup>1</sup>	Indicator LED, green	Operating voltage indicator
Adjustment range	25 ... 250 mm <sup>1</sup>	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
Hysteresis	≤ 10% <sup>2</sup>	Default settings	N.O./N.C. via Teach-in button and control input
			Button lock via control input
			Max. scanning distance and N.O.
Electrical data		Mechanical data	
Operating voltage, +U <sub>B</sub>	10 ... 30V DC <sup>3</sup>	Dimensions	34 × 20 × 12 mm
No-load current, I <sub>0</sub>	≤ 30 mA	Enclosure rating	IP 69K & IP 67 <sup>4</sup>
Output current, I <sub>e</sub>	≤ 100 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	-20 ... +60 °C <sup>5</sup>
Switching output, Q	PNP/NPN (see Selection Table)	Ambient temperature: storage	-20 ... +80 °C
Output function	N.O./N.C.	Weight (metal plug device <sup>6</sup> )	10 g
Switching frequency, f (ti/tp 1:1)	≤ 4000 Hz	Weight (cable device)	40 g
Response time	125 μs	Weight (pigtail)	20 g
Control input, IN	+U <sub>B</sub> = teach-in -U <sub>B</sub> = button locked Open = normal operation	Vibration and impact resistance	EN 60947-5-2

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

<sup>2</sup> Up to scanning distance of 150 mm

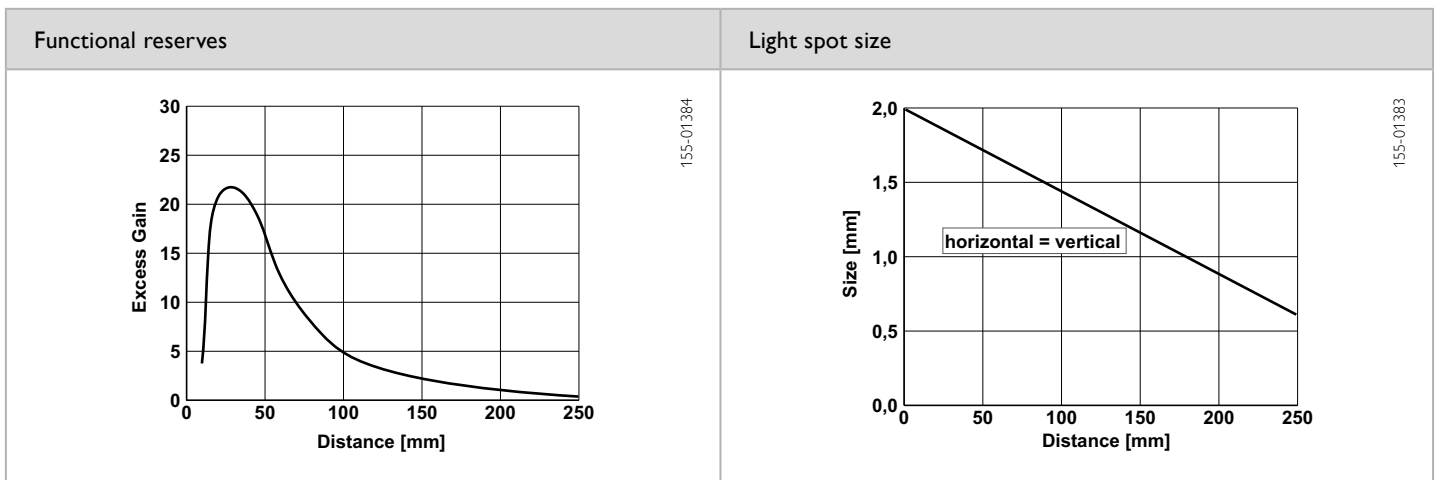
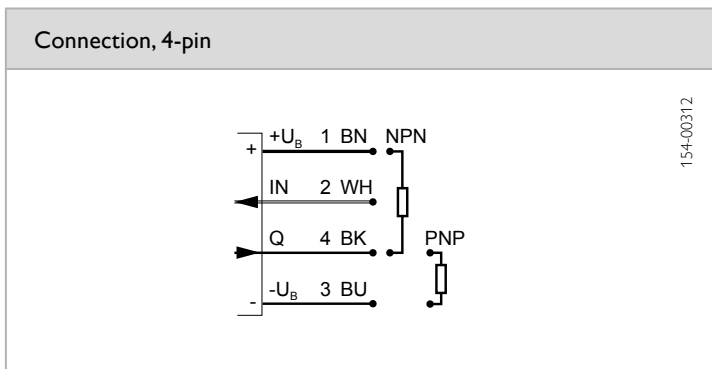
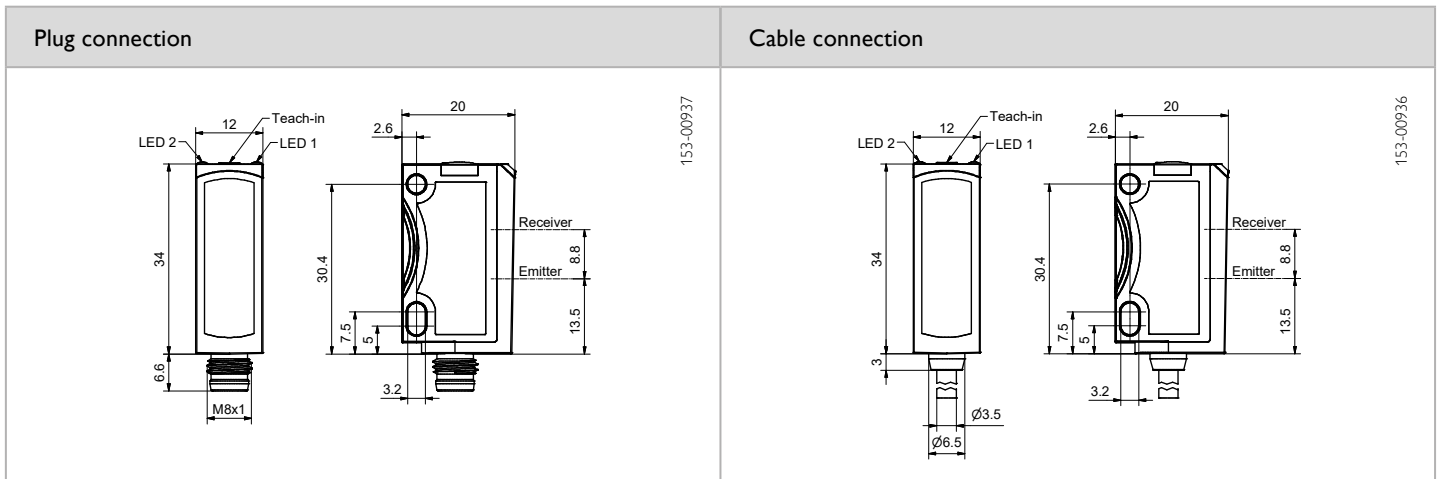
<sup>3</sup> Max. 10 % ripple, within U<sub>B</sub>, ~ 50 Hz / 100 Hz

<sup>4</sup> With connected IP 67 / IP 69K plug

<sup>5</sup> UL: -20 ... +50 °C

<sup>6</sup> No Ecolab

Scanning distance	Switching output	Type of connection	Part number	Article number
1 ... 250 mm	PNP	Metal plug, M8x1, 4-pin	FT 25-RL-PS-M4M	609-21013
1 ... 250 mm	NPN	Metal plug, M8x1, 4-pin	FT 25-RL-NS-M4M	609-21014
1 ... 250 mm	PNP	Cable, 2 m, 4-wire	FT 25-RL-PS-K4	609-21010
1 ... 250 mm	NPN	Cable, 2 m, 4-wire	FT 25-RL-NS-K4	609-21008
1 ... 250 mm	PNP	Pigtail, 152 mm with plug, M8, 4-pin	FT 25-RL-PS-KM4	609-21002
1 ... 250 mm	NPN	Pigtail, 152 mm with plug, M8, 4-pin	FT 25-RL-NS-KM4	609-21007
1 ... 250 mm	PNP	Pigtail, 150 mm with plug, M12, 4-pin	FT 25-RL-PS-KL4	609-21012
1 ... 250 mm	NPN	Pigtail, 150 mm with plug, M12, 4-pin	FT 25-RL-NS-KL4	609-21009



Reference material	Detection range
White (90 %)	1 ... 250 mm
Grey (18 %)	6 ... 100 mm
Black (6 %)	20 ... 60 mm

Accessories

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