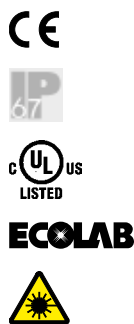


# FS/FE 10-RL

## Through-beam laser sensor



### PRODUCT HIGHLIGHTS

- Sub-miniature sensor for installation in the smallest of spaces
- Bright, precise laser light spot for optimum small-part detection and simple alignment
- High switching frequency for detection in even the fastest processes
- User-friendly operation via electronic Teach-in button or control line
- Robust, glass-fibre-reinforced plastic housings

Optical data		Functions	
Limit range	0 ... 5 m	Indicator LED, green	Operating voltage indicator
Operating range	0 ... 4 m	Indicator LED, yellow	Switching output indicator
Type of light	Laser, red, 655 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
Laser Class (IEC 60825-1)	1	Adjustment possibilities (receiver)	N.O. / N.C. via Teach-in button and control input Button lock via control input
		Default settings	Max. range and N.O.
Electrical data		Mechanical data	
Operating voltage, +U <sub>b</sub>	10 ... 30V DC <sup>1</sup>	Dimensions	21.1 × 14.6 × 8 mm
No-load current, I <sub>0</sub>	≤ 12 mA	Enclosure rating	IP 67 <sup>2</sup>
Output current, I <sub>e</sub>	≤ 50 mA	Material, housing	PUR
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
Switching output, Q	PNP/NPN (see selection table)	Ambient temperature: operation	-20 ... +50 °C <sup>3</sup>
Output function	N.O./N.C.	Ambient temperature: storage	-20 ... +80 °C
Switching frequency, f (ti/tp 1:1)	≤ 4000Hz	Weight (plug device)	Approx. 6 g
Response time	125 μs	Weight (cable device)	Approx. 44 g
Control input, IN (receiver) (only 4-pin design)	+U <sub>b</sub> = teach-in -U <sub>b</sub> = button locked Open = normal operation	Weight (pigtail)	Approx. 20 g
Control input, Test (transmitter)	+U <sub>b</sub> = Test (transmitter off) -U <sub>b</sub> / Open = normal operation		

<sup>1</sup> Max. 10 % ripple, within U<sub>b</sub>, ~ 50 Hz / 100 Hz    <sup>2</sup> With connected IP 67 plug    <sup>3</sup> UL: -20 ... +30 °C

Operating range	Switching output	Type of connection	Part number	Design	Article number
1 ... 4 m	PNP	Plug, M5x0.5, 4-pin	FS/FE 10-RL-PS-E4	Sensor pair (transmitter & receiver)	611-51000
1 ... 4 m	NPN	Plug, M5x0.5, 4-pin	FS/FE 10-RL-NS-E4	Sensor pair (transmitter & receiver)	611-51001
1 ... 4 m	PNP	Cable, 2 m, 4-wire	FS/FE 10-RL-PS-K4	Sensor pair (transmitter & receiver)	611-51002
1 ... 4 m	NPN	Cable, 2 m, 4-wire	FS/FE 10-RL-NS-K4	Sensor pair (transmitter & receiver)	611-51003
1 ... 4 m	PNP	Pigtail, 200 mm with M8 plug, 4-pin	FS/FE 10-RL-PS-KM4	Sensor pair (transmitter & receiver)	611-51004
1 ... 4 m	NPN	Pigtail, 200 mm with M8 plug, 4-pin	FS/FE 10-RL-NS-KM4	Sensor pair (transmitter & receiver)	611-51005
1 ... 4 m	PNP	Pigtail, 200 mm with M8 plug, 3-pin	FS/FE 10-RL-PS-KM3	Sensor pair (transmitter & receiver)	611-51006
1 ... 4 m	NPN	Pigtail, 200 mm with M8 plug, 3-pin	FS/FE 10-RL-NS-KM3	Sensor pair (transmitter & receiver)	611-51007

Including dovetail clamp mounting MBD F 10 for all types

