

FS 10-RL / 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 ²
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 ² ; Button lock via control input ²
		Default settings	Max. range and N.O.
Electrical data		Mechanical data	
Operating voltage, +U _B	10 ... 30V DC ¹	Dimensions	21.1 x 14.6 x 8 mm
No-load current, I ₀	≤ 12 mA	Enclosure rating	IP 67 ³
Output current, I _e	≤ 50 mA	Material, housing	PUR
Protective circuits	Reverse-polarity protection, U _B / 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 ⁴
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) ²	+U _B = Teach-in; -U _B = button locked; Open = normal operation	Weight (pigtail)	Approx. 20 g
Control input, Test (transmitter)	+U _B = Test (transmitter off) -U _B / Open = normal operation		

¹ Max. 10 % ripple, within U_B, ~ 50 Hz / 100 Hz ² Only 4-pin design ³ With connected IP 67 plug ⁴ UL: -20 ... +30 °C

Operating range	Switching output	Type of connection	Part number	Design	Article number
0 ... 4 m	PNP	Plug, M5x0.5, 4-pin	FE 10-RL-PS-E4	Receiver	602-71000
0 ... 4 m	-	Plug, M5x0.5, 4-pin	FS 10-RL-E4	Transmitter	601-61000
0 ... 4 m	NPN	Plug, M5x0.5, 4-pin	FE 10-RL-NS-E4	Receiver	602-71001
0 ... 4 m	PNP	Cable, 2 m, 4-wire	FE 10-RL-PS-K4	Receiver	602-71002
0 ... 4 m	-	Cable, 2 m, 4-wire	FS 10-RL-K4	Transmitter	601-61002
0 ... 4 m	NPN	Cable, 2 m, 4-wire	FE 10-RL-NS-K4	Receiver	602-71003
0 ... 4 m	PNP	Pigtail, 200 mm with M8 plug, 4-pin	FE 10-RL-PS-KM4	Receiver	602-71004
0 ... 4 m	-	Pigtail, 200 mm with M8 plug, 4-pin	FS 10-RL-KM4	Transmitter	601-61004
0 ... 4 m	NPN	Pigtail, 200 mm with M8 plug, 4-pin	FE 10-RL-NS-KM4	Receiver	602-71005
0 ... 4 m	PNP	Pigtail, 200 mm with M8 plug, 3-pin	FE 10-RL-PS-KM3	Receiver	602-71006
0 ... 4 m	-	Pigtail, 200 mm with M8 plug, 3-pin	FS 10-RL-KM3	Transmitter	601-61005

Operating range	Switching output	Type of connection	Part number	Design	Article number.
0 ... 4 m	NPN	Pigtail, 200 mm with M8 plug, 3-pin	FE 10-RL-NS-KM3	Receiver	602-71008

Including dovetail clamp mounting MBD F 10 for all types

Plug connection	Cable connection

Connection, transmitter, 4-pin	Connection, receiver, 4-pin

Connection, transmitter, 3-pin	Connection, receiver, 3-pin

Light spot size	Accessories				
	<table border="1"> <tr> <td>Connection cables</td> <td>www.sensopart.com/en/accessories</td> </tr> <tr> <td>Brackets</td> <td></td> </tr> </table>	Connection cables	www.sensopart.com/en/accessories	Brackets	
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