

# FS/FE 55-RL

## Through-beam laser sensor



### PRODUCT HIGHLIGHTS

- Long range combined with precise laser light spot for extremely accurate small-part detection
- High switching frequency for the reliable detection of even the most rapid processes
- Sensor adjustment via teach-in and control input
- Plug and cable connection rotatable

Optical data		Functions	
Limit range	0 ... 30 m	Indicator LED, green	Operating voltage indicator
Operating range	0 ... 25 m	Indicator LED, yellow	Switching output indicator / contamination indicator
Type of light	Laser, red, 655 nm	Indicator LED, red (receiver)	Alignment indicator
Light spot size	See diagram	Sensitivity adjustment (receiver)	Via Teach-in button and control input
Laser Class (IEC 60825-1)	1	Teach-in modes	Mode 1: during running process Mode 2: during standing process
		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	50 x 50.1 x 23 mm
No-load current, I <sub>0</sub>	≤ 30mA	Enclosure rating	IP 69K & IP 67 <sup>2</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>3</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)	≤ 3500 Hz	Weight (cable device)	125 g
Response time	140 μs	Vibration and impact resistance	EN 60947-5-2
Control input, IN (receiver)	+U <sub>B</sub> = teach-in -U <sub>B</sub> = button locked Open = normal operation		
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 / IP 69K plug    <sup>3</sup> UL: max. +45 °C

Operating range	Switching output	Type of connection	Part number	Article number
0 ... 25 m	PNP	Plug, M12x1, 4-pin	FE 55-RL-PS-L4	620-21006
0 ... 25 m	NPN	Plug, M12x1, 4-pin	FE 55-RL-NS-L4	620-21007
0 ... 25 m	-	Plug, M12x1, 4-pin	FS 55-RL-L4	620-11002
0 ... 25 m	PNP	Cable, 3 m, 4-wire	FE 55-RL-PS-K4	620-21009
0 ... 25 m	NPN	Cable, 3 m, 4-wire	FE 55-RL-NS-K4	620-21010
0 ... 25 m	-	Cable, 3 m, 4-wire	FS 55-RL-K4	620-11003

<p><b>Plug connection (transmitter)</b></p> <p>153-00808</p>	<p><b>Cable connection (transmitter)</b></p> <p>153-00809</p>		
<p><b>Plug connection (receiver)</b></p> <p>153-00812</p>	<p><b>Cable connection (receiver)</b></p> <p>153-00813</p>		
<p><b>Connection, transmitter, 4-pin</b></p> <p>154-00315</p>	<p><b>Connection, receiver, 4-pin</b></p> <p>154-00312</p>		
<p><b>Functional reserves</b></p> <p>155-01138</p>	<p><b>Light spot size</b></p> <p>155-01139</p>		
<p><b>Accessories</b></p> <table border="1"> <tr> <td data-bbox="102 2063 619 2134"> <p>Connection cables</p> <p>From Page A-38</p> </td> <td data-bbox="619 2063 1334 2134"> <p>Brackets</p> <p>From Page A-4</p> </td> </tr> </table>		<p>Connection cables</p> <p>From Page A-38</p>	<p>Brackets</p> <p>From Page A-4</p>
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