

# FR 55-RLP

Distance sensor with a reflector for large distances – Time-of-flight technology



## PRODUCT HIGHLIGHTS

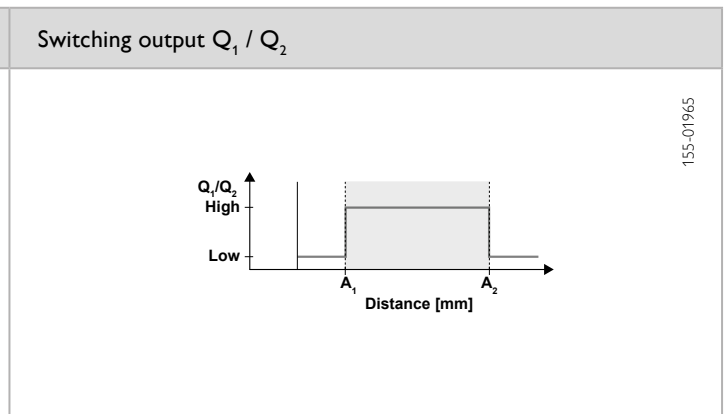
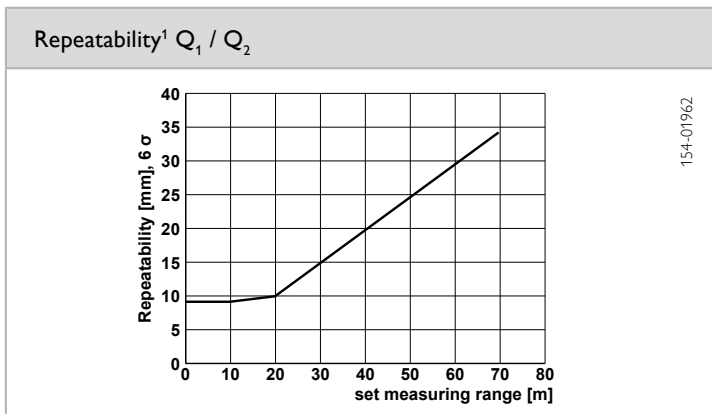
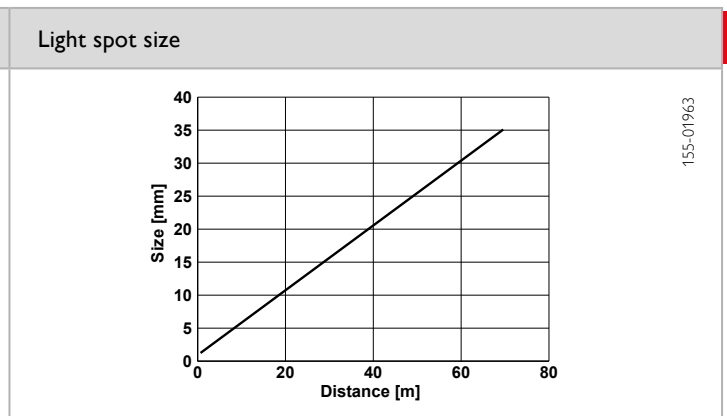
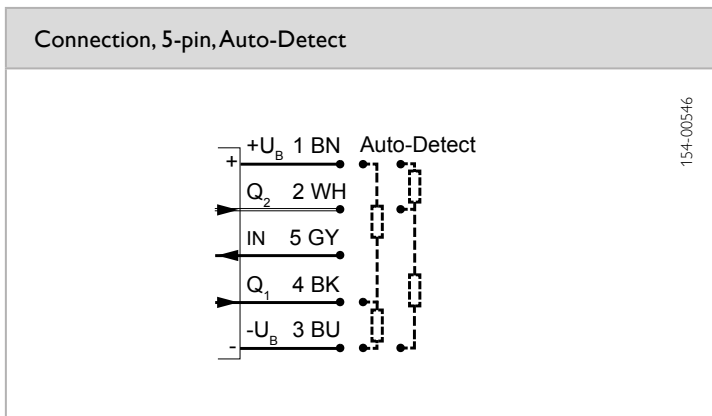
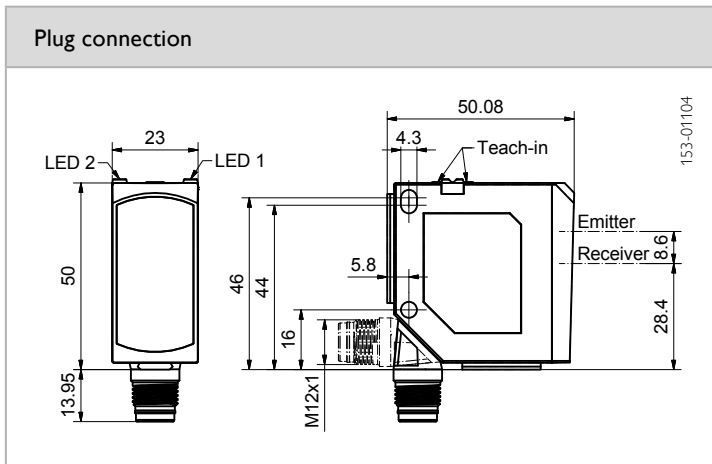
- Sensor with large range for anticollision and positioning applications
- 4 distance positions with 2 switching outputs, adjustable via window function
- Q<sub>2</sub> can be switched to Q<sub>1</sub> as antivalent output, e.g. for wire breakage monitoring
- Compact design for an easy integration
- Easy installation and operation via external teach-in
- Clearly visible laser light spot (laser class 1) for a precise alignment and full eye safety

Optical data		Functions	
Measurement range	0.3 ... 70 m <sup>1</sup>	Indicator LED 1, green	Operating voltage indicator
Repeatability Q	1.5 mm <sup>2</sup>	Indicator LED 1, yellow	Switching output indicator
Hysteresis	60 mm	Indicator LED 2 yellow	Switching output indicator
Type of light	Laser, red 655 nm	Measurement range adjustment	Via Teach-in button or control input
Laser class (IEC 60825-1)	1	Adjustment possibilities	Switching output Q (window mode) N.O. / N.C. / antivalent Q <sub>1</sub> /Q <sub>1</sub> and Auto-Detect / NPN / PNP via teach-in and control line
		Default settings	Button lock via control input See selection table
Electrical data			
Operating voltage +U <sub>B</sub>	18 ... 30V DC	Response time Q	10 ms
No-load current I <sub>0</sub>	≤ 60 mA	Temperature drift	< 1 mm / K
Output current I <sub>e</sub> Q	≤ 100 mA	Warm-up time	20 min.
Protection circuits	Reverse polarity protection U <sub>B</sub> / short-circuit protection (Q)	Control input IN	+U <sub>B</sub> = Teach-in -U <sub>B</sub> = Button locked Open = normal operation
Protection class	2		
Power On Delay	< 5 s		
Switching output Q	Auto-Detect (NPN/PNP) <sup>3</sup>		
Output function	N.O./N.C./antivalent Q <sub>1</sub> /Q <sub>1</sub>		
Switching frequency f (ti/tp 1:1) Q	≤ 50 Hz		
Mechanical data			
Dimensions	50 x 50.1 x 23 mm	Ambient temperature: operation	-30 ... +60 °C <sup>5</sup>
Enclosure rating	IP 67 & IP 69K <sup>4</sup>	Ambient temperature: storage	-40 ... +80 °C
Material, housing	ABS	Weight (plug device)	42 g
Material, front screen	PMMA	Resistance to vibration and impacts	EN 60947-5-2
Type of connection	See selection table		

<sup>1</sup> RF250 reflector    <sup>2</sup> For 1 σ, the set measuring range is < 20 m, for further values see diagram    <sup>3</sup> Auto-Detect: Automatic selection of PNP or NPN by the sensor; PNP or NPN can be fixed

<sup>4</sup> With connected IP 67 / IP 69K plug    <sup>5</sup> UL: max. +45 °C

Measurement range <sup>1</sup>	Switching output	Type of connection	Part Number	Article number
0.3... 70 m	2 x Auto-Detect	Plug, M12x1, 5-pin	FR 55-RLP-70-2PNS-L5	621-11027



<sup>1</sup> At constant ambient conditions

Default setting	Measurement range	Accessories	
Switching output Q <sub>1</sub> (A <sub>1</sub> ...A <sub>2</sub> ), N.O., Auto-Detect	2 ... 6 m	Mounting angle MA F 55 (579-50007)	From Page A-4
Switching output Q <sub>2</sub> (A <sub>1</sub> ...A <sub>2</sub> ), N.O., Auto-Detect	2 ... 6 m	Further brackets	From Page A-4
		Connection cables	From Page A-38
		Reflective foil RF 250 (599-91009)	From Page A-18
		Further reflectors	From Page A-18