



# FR 25-RGO

Retro-reflective light barrier for the recognition of transparent objects



## PRODUCT HIGHLIGHTS

- Reliable recognition of transparent objects regardless of their shape
- Autocollimation principle: Reliable and precise recognition starting from a range of just 0 mm
- DELTA-function (Dynamic Evaluation of Light for Threshold Adaption): Dynamic adaption of the sensor to alternating environmental conditions – not influenced by dust or dirt
- Precise and highly visible light spot with a sharp contour for an easy alignment of the sensor

Optical data		Functions	
Operating range	0 ... 2 m <sup>1</sup>	Indicator LED green	Operating voltage indicator
Type of light	LED, red, 632 nm	Indicator LED yellow	Switching output indicator
Polarisation filter	Yes	Sensitivity adjustment	Via teach-in button and control input
		Teach-in modes	Mode 1: during running process Mode 2: during stationary process
		Adjustment possibilities	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 ... 30 V DC <sup>2</sup>	Dimensions	34 × 20 × 12 mm
No-load current I <sub>0</sub>	≤ 30 mA	Enclosure rating	IP 69K & IP 67 <sup>3</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)
Time to readiness	< 300 ms	Ambient temperature: operation	-20 ... +60 °C
Switching output Q	PNP / NPN (see selection table)	Ambient temperature: storage	-20 ... +80 °C
Output function	N.O. / N.C.	Weight (plug)	10 g
Switching frequency f (ti/tp 1:1)	≤ 1000 Hz	Weight (cable)	40 g
Response time	500 μs	Resistance to vibrations and impacts	EN 60947-5-2
Control input IN	+U <sub>B</sub> = Teach-in -U <sub>B</sub> = Button locked Open = Normal operation		

<sup>1</sup> Reference material reflector R5L    <sup>2</sup> Max. 10% ripple, within U<sub>B</sub>, ~ 50 Hz / 100 Hz    <sup>3</sup> With connected IP 67 / IP 69K plug

Operating range	Switching output	Type of connection	Order designation	Part no.
0 ... 2 m	PNP	Plug, M8x1, 4-pin	FR 25-RGO-PS-M4	606-11020
0 ... 2 m	NPN	Plug, M8x1, 4-pin	FR 25-RGO-NS-M4	606-11021
0 ... 2 m	PNP	Metal plug, M8x1, 4-pin	FR 25-RGO-PS-M4M	606-11016
0 ... 2 m	NPN	Metal plug, M8x1, 4-pin	FR 25-RGO-NS-M4M	606-11017
0 ... 2 m	PNP	Cable, 2 m, 4-wire	FR 25-RGO-PS-K4	606-11018
0 ... 2 m	NPN	Cable, 2 m, 4-wire	FR 25-RGO-NS-K4	606-11019

Plug connection	Cable connection
<p style="text-align: right;">153-00964</p>	<p style="text-align: right;">153-00963</p>

4-pin connection
<p style="text-align: right;">154-00508</p>

Light spot size
<p>* 34 x 34 mm<sup>2</sup> @ Distance 1.5 m 45 x 45 mm<sup>2</sup> @ Distance 2.0 m</p> <p style="text-align: right;">155-01531</p>

Reflectors/Reflective foil*	Description	Operating distance for transparent cylindrical objects	Operating distance for transparent flat objects
R5/L (904-51543)	Reflector 51 x 61 mm, 2 mounting holes	0 ... 500 mm	0 ... 800 mm
RF-230 KL* (904-51593)	Reflective foil 230 x 230 mm, self-adhesive, cut-to-size	0 ... 300 mm	0 ... 800 mm

# We look ahead.

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Since SensoPart was founded in 1994, we have constantly focussed on the future. Our motto has always been: We gauge ourselves not by what is possible today, but by our ideas for what can be achieved in the future. Many ground-breaking ideas from that time have since become successful products, which are now indispensable in modern automation technology – endorsed by the numerous prizes for innovation which we have received over recent years. Today, SensoPart is the technological leader in many areas of industrial sensor technology. And we still have many ideas for the future.

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