

FR 20 RLO

Retro-reflective laser light barrier with autocollimation



Features

- Autocollimation principle (emitter/receiver beam on one axis)
- Laser protection class I
- Scanning range 4000 mm
- High precision - very good detection of small parts (from 0.2 mm)
- Excellent detection of cylindrical objects
- High reproducibility, no matter if the target object cuts the light beam horizontally or vertically
- Small light spot over the whole detection range
- Objects can be detected at close range

Light. Reliable. Precise.

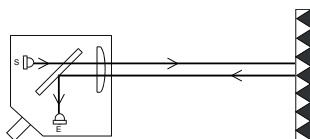
This retro-reflective light barrier in a miniature casing has a homogenous small light spot over the whole detection range. Emitter and receiver beam run on one axis (autocollimation), therefore it is possible to detect objects even through small holes.

This sensor opens up many new application possibilities as it recognizes objects at close range, does not require any protective measures thanks to laser protection class I, and as it works very precisely.

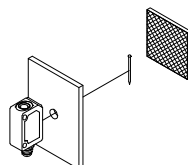
The setting is made by teach-in, either by push-button or by external teach.

In combination with the function "dynamic teach-in", setting by external teach is also possible when the sensor is mounted in a place which is not easily accessible.

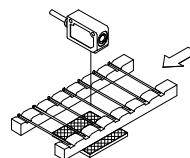
Autocollimation principle



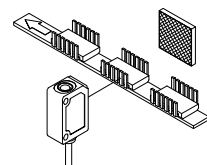
Detection of object behind drill hole



Detection of small components



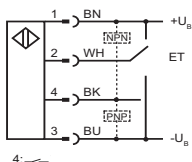
Detection of small components



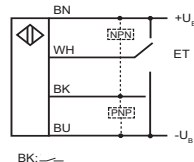
Technical data	FR 20 RLO		
Optical data			
Scanning range	4000 mm		
Smallest detectable part	≥ 0.2 mm		
Functional principle	autocollimation		
Used light	pulsed laser, red 650 nm		
Laser protection class	protection class I		
Light spot	Ø 2 mm at 2500 mm		
Electrical data			
Operating voltage	10 ... 30 V DC		
Current consumption (no load)	≤ 25 mA		
Switching output	PNP/NPN N.O.		
Max. output current	100 mA with short-circuit protection		
Switching frequency	4000 Hz		
Protection class	□		
Mechanical data			
Casing material	ABS		
Protection standard	IP67		
Connection	plug M8 4-pin		
Ambient temperature range	-20 ... +60 °C		
Storage temperature range	-20 ... +80 °C		
Accessory			
Cable	e.g. K4-2m-G-PUR (Art.902-50801)		
Reflectors			
	R5L 51x61 mm	RD-25 KL Ø 25.2 mm	RF-50 KL 51x51 mm
Smallest detectable part at scanning range	≥ 1 mm @ 0 ... 4000 mm	≥ 0.2 mm @ 50 ... 500 mm	≥ 0.2 mm @ 0 ... 500 mm
Reflector distance	1000 ... 4000 mm	50 ... 500 mm	100 ... 500 mm

Wiring diagrams receiver

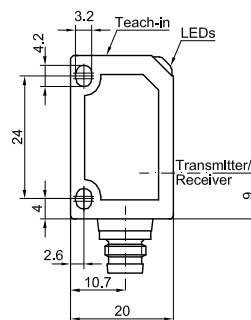
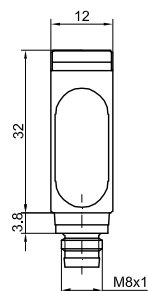
I54-00148 (plug version)



I54-00148 (cable version)


Dimensional drawings

I53-00718



I53-00719

