

# FORK SENSORS

**FGL ..-RK (red light)**  
**FGL ..-IK (infrared light)**

**High performance, low price.**

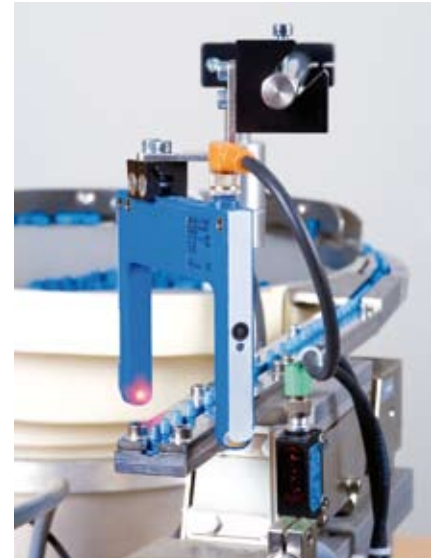
The new fork sensors of the FGL series have a whole range of innovative features facilitating their use in practice.

The material for instance: The casings consist of light and robust polycarbonate instead of the much heavier metal versions that are usually used. However they are just as torsion-resistant as the heavier versions.

The output signal indicator is particularly innovative, as the LEDs are visible from all sides. Another decisive feature for the application of sensors are the mounting possibilities: In addition to the standard mounting holes, the FGL can also be mounted in a very flexible way by means of mounting sleeves on the back and a dovetail.

Another strength of the new series is the detection of very small parts: With the FGL it is possible to detect even objects with a diameter of only 0.2 mm in a reliable way.

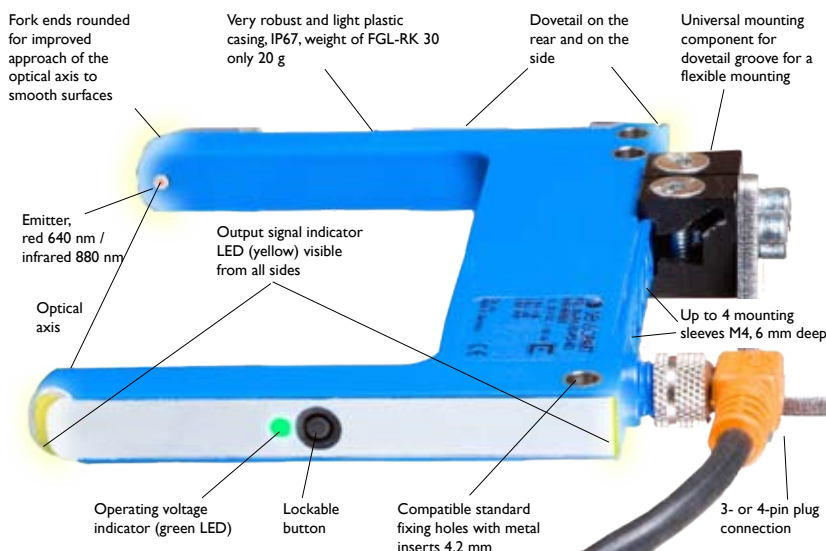
The sensitivity adjustment is effected with our approved teach-in operation.



Application picture FGL-RK

## Features

- Fork widths 30 - 120 mm
- Detection of very small parts from 0.2 mm
- Dynamic teach-in: Even setting to moving objects is possible
- Plastic casing
- Switching frequency 2 kHz
- Red / infrared light
- Numerous mounting possibilities (e.g. dovetail)
- Output signal indicator LEDs visible from all sides
- No „interfering“ visible light due to infrared light
- Unaffected by contamination



| Technical data (typ.) | FGL ..RK / FGL ..IK |
|-----------------------|---------------------|
|-----------------------|---------------------|

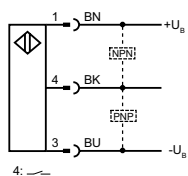
|  |  |
|--|--|
| <b>Optical data</b>  |  |
| Sensitivity adjustment   | teach-in   |
| Used light   | red (640 nm) / infrared (880 nm)   |
| Smallest detectable part   | 0.2 mm   |
| <b>Electrical data</b>   |  |
| Operating voltage +U <sub>B</sub>                                    | 10 ... 30V DC  |
| Power consumption (no load)  | ≤ 30 mA  |
| Reverse battery protection U <sub>B</sub> / Short-circuit protection | yes  |
| External teach (ET; only 4-pin version)                              | +U <sub>B</sub> = teach-in function / -U <sub>B</sub> = teach-in button locked / open = normal operation |
| Output current   | 100 mA   |
| Switching frequency (ti/tp 1:1)                                      | 2000 Hz  |
| Output signal indicator  | LED yellow   |
| Protection class   | □  |
| <b>Mechanical data</b>   |  |
| Casing material  | polycarbonate  |
| Protection standard  | IP67   |
| Ambient temperature range  | -20 ... +60 °C   |
| Connection   | M8x1, 3-pin / M8x1, 4-pin  |

| Versions                            | 30                  |                     | 50                  |                     | 80                  |                     | 120                  |                      |
|-------------------------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|----------------------|----------------------|
| Fork width (mm)                     | 30                  |                     | 50                  |                     | 80                  |                     | 120                  |                      |
| Switching output                    | PNP                 | NPN                 | PNP                 | NPN                 | PNP                 | NPN                 | PNP                  | NPN                  |
| Type/order ref. *<br>Red light      | FGL 30-RK-30-PS ... | FGL 30-RK-30-NS ... | FGL 50-RK-50-PS ... | FGL 50-RK-50-NS ... | FGL 80-RK-50-PS ... | FGL 80-RK-50-NS ... | FGL 120-RK-50-PS ... | FGL 120-RK-50-NS ... |
| Type/order ref. *<br>Infrared light | FGL 30-IK-30-PS ... | FGL 30-IK-30-NS ... | FGL 50-IK-50-PS ... | FGL 50-IK-50-NS ... | FGL 80-IK-50-PS ... | FGL 80-IK-50-NS ... | FGL 120-IK-50-PS ... | FGL 120-IK-50-NS ... |

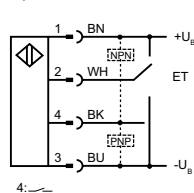
\* Please indicate the required plug (3-pin or 4-pin) when you place your order.

### Wiring diagrams

3-pin version

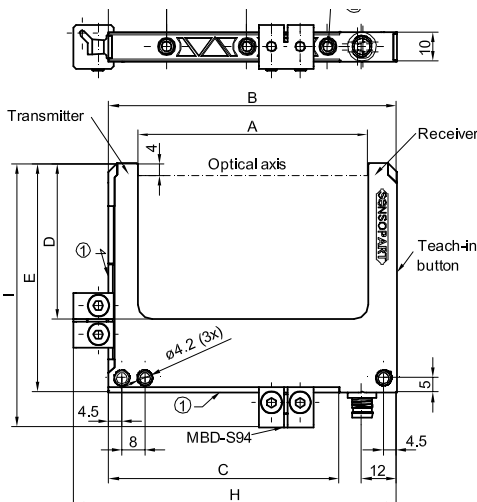


4-pin version



### Dimensional drawing

153-00720



| Typ / Type          | A   | B   | C   | D  | E    | F  | G    | H     | I    | ②  |
|---------------------|-----|-----|-----|----|------|----|------|-------|------|----|
| FGL 30-xK-30-xxxx   | 30  | 50  | 30  | 34 | 59,5 | 20 | -    | 62,2  | 71,7 | 1x |
| FGL 50-xK-50-xxxx   | 50  | 70  | 50  | 54 | 79,5 | 20 | 28   | 82,2  | 91,7 | 2x |
| FGL 80-xK-50-xxxx   | 80  | 100 | 80  | 54 | 79,5 | 20 | 2x28 | 112,2 | 91,7 | 3x |
| FGL 120-xK-50-xx-xx | 120 | 140 | 120 | 54 | 79,5 | 20 | 3x28 | 152,2 | 91,7 | 4x |

Angaben in mm / Specifications are in mm / Données en mm

- ① Schwalbenschwanz / Dovetail / Pince à queue d'aronde
- ② Gewindeinsatz M4, Einschraubtiefe max. 6 mm  
Threaded insert M4, max. screw-in depth 6 mm  
Insert filetage M4, profondeur vis max 6 mm

Accessory: MBD-S94  
mounting component for dovetail

