GK 14

Capacitive forked sensor

en 08-2014/05 50110462-01



1 mm

10 - 30 V DC

- Forked sensor for reliable detection of transparent and opaque labels
- PNP and NPN transistor output for optimum adaptation to the controller
- Robust metal housing with beveled inlet edges
- Inverting input for easy adaptation of the output signal level

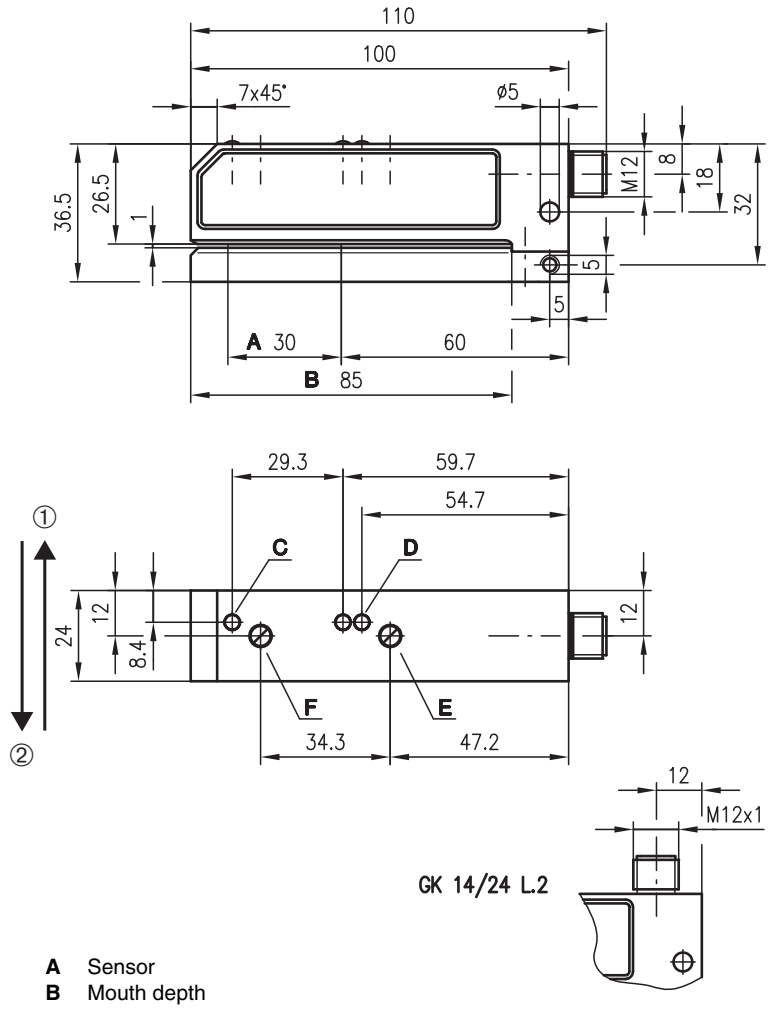
IP 65

Accessories:

(available separately)

- M12 connectors (KD …)
- Ready-made M12 cables (K-D...)

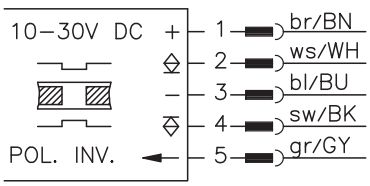
Dimensioned drawing



A Sensor
B Mouth depth
C Display switching output
D Display base adjustment
E Base adjustment
F Sensitivity adjustment:
Clockwise rotation = increase sensitivity

① + ② Direction of label-tape movement

Electrical connection



We reserve the right to make changes • DS_GK14_en_50110462_01.fm

Specifications

Optical data

Mouth width	0.9mm ± 0.1mm
Mouth depth	85mm

Timing

Switching frequency [1]	5000Hz
Response time	0.1ms
Delay before start-up	≤ 100ms

Electrical data

Operating voltage U_B	10 … 30VDC (incl. residual ripple)
Residual ripple	≤ 15% of U_B
Open-circuit current	≤ 35mA
Switching output	1 PNP transistor output 1 NPN transistor output
Function characteristics	direction dependent, reversible
Signal voltage high/low	≥ (U_B-2V)/≤ 2V
Output current	200mA
Sensitivity	adjustable with multiturn potentiometer
Base adjustment	adjustable with multiturn potentiometer

Indicators

Yellow LED	label/gap
LED yellow (2x)	base adjustment

Mechanical data

Housing	aluminum, anodized
Weight	175g
Connection type	M12 connector, 5-pin

Environmental data

Ambient temp. (operation/storage)	0°C … +60°C
Protective circuit [2]	1, 2
VDE safety class	III
Protection class	IP 65

Options

Inverting input high/low	≥ 8V/≤ 2V
Input resistance	10kΩ

1) Max. label speed 10m/s, min. label gap 2mm
2) 1=polarity reversal protection, 2=short-circuit protection for all outputs

Remarks

- **Switching behavior dependent on the infeed direction**
  Depending on the direction of movement of the label tape through the sensor, the following switching behavior occurs at the outputs:

Direction of movement	Switching outputs pin 2 + pin 4	
	Pin 5 not connected or 0V	Operating voltage U_B at pin 5
①	Signal in the gap	Signal on the label
②	Signal on the label	Signal in the gap

- **Mounting**
  For optimum function of the capacitive forked sensor, the sensor should be mounted on a metallic machine part. A lock washer (e.g DIN 6797) should be placed under the screw head to secure the sensor.

Order guide

	Designation	Part No.
Rear connector	GK 14/24 L	50026371
Top connector	GK 14/24 L.2	50031714

Tables

Diagrams

Remarks

Operate in accordance with intended use!

- This product is not a safety sensor and is not intended as personnel protection.
- The product may only be put into operation by competent persons.
- Only use the product in accordance with the intended use.

- **Base setting**
  - Set sensitivity to max. (turn potentiometer to the right), then turn back 1/2 turn to the left.
  - Base adjustment without label tape such that both LEDs are equally bright.
  - If necessary, reduce the sensitivity setting (in steps of 1/4 turn to the left).
- **Base adjustment**
  Perform after new mounting, cleaning, sensitivity increase.
- **Switching behavior**
  A signal change at the switching output occurs when a label enters at the minimum speed. The output signal remains constant until the next edge of an exiting or entering label is detected.