

GK 14

en 08-2014/05 50110462-01



1mm



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

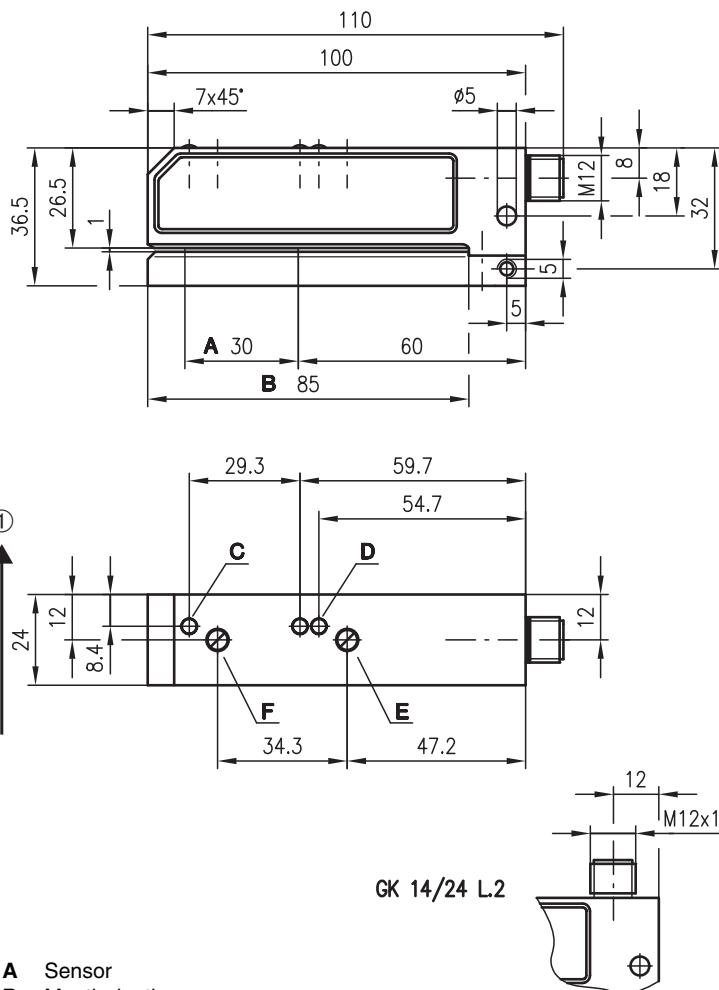


Accessories:

(available separately)

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

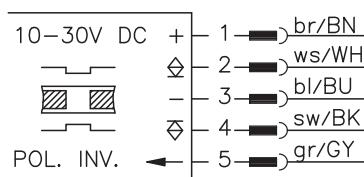
Dimensioned drawing



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



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 direction dependent, reversible ≥ $(U_B - 2V) / 2V$
Function characteristics	200mA
Signal voltage high/low	adjustable with multiturn potentiometer
Output current	adjustable with multiturn potentiometer
Sensitivity	
Base adjustment	

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

Tables

Diagrams

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		Operating voltage U_B at pin 5
	Pin 5 not connected or 0V	Pin 5 connected to U_B	
①	Signal in the gap	Signal on the label	Signal on the label
②	Signal on the label	Signal in the gap	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.

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.

Order guide

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