



KT3

High-performance contrast sensors in a compact housing

CONTRAST SENSORS

SICK
Sensor Intelligence.



Technical data overview

Dimensions (W x H x D)	12 mm x 40 mm x 22 mm
Sensing distance	12.5 mm / 40 mm (depending on type)
Type of light	LED ¹⁾ RGB LED ¹⁾ White LED ¹⁾ Green Laser ²⁾ Red
Light spot size	1.5 mm x 6.5 mm 1.5 mm x 3.5 mm 1 mm x 2 mm
Switching frequency	10 kHz ³⁾ 1.5 kHz ³⁾
Response time	50 µs ⁴⁾ 400 µs ⁴⁾
Switching output	PNP NPN (depending on type)
Adjustment	Dynamic teach-in (min/max) Static 2-point teach-in (depending on type)
Connection type	Male connector M12, 4-pin

¹⁾ Average service life: 100,000 h at T_U = +25 °C.

²⁾ Average service life: 50,000 h at T_U = +25 °C.

³⁾ With light/dark ratio 1:1.

⁴⁾ Signal transit time with resistive load.

Product description

The KT3 contrast sensor may be small in size, but it is big when it comes to detecting contrasts. Thanks to 3-color LED technology, the sensor is ideal for use in packaging machinery, since all contrast combinations (print marks and backgrounds) can be detected. Features such as integrated switching threshold adjustment for high-gloss objects and dynamic teach-in via the external control cable make the KT3 easy to use, both during commissioning and operation. The sensor selects all necessary settings automatically, depending on the variation between the mark and the background. High-gloss materials are no problem thanks to an automatic switching threshold adjustment. In addition, 10 kHz technology completes the list of performance features. The laser version of the KT3 detects even the smallest of marks (1 x 1 mm²) and contrast differences from a long sensing distance. Its light spot remains small, regardless of changes in the sensing distance, resulting in high repeat accuracy.

At a glance

- Very small housing
- Laser version with long sensing distance
- Simple teach-in (when machine is stopped or during operation)
- Integrated switching threshold adjustment for high-gloss objects
- Reliable operation for jittering materials
- Switching frequency of 1.5 kHz

Your benefits

- Compact design fits in limited space applications
- Very good contrast resolution for detecting print marks, even where the variation between the mark and the background is minimal
- Laser version for the smallest marks and long sensing distances
- Automatic adaptation for high-gloss objects ensures high throughput
- Reliable operation for jittering materials
- Accurate positioning in rapid production processes

Ordering information

Other models and accessories → www.sick.com/KT3

- **Adjustment:** Teach-in button
- **Teach-in mode:** Dynamic teach-in (min/max)
- **Light source:** LED, RGB (Average service life: 100,000 h at T_U = +25 °C.)

Sensing distance	Switching output	Light spot size	Connection type Detail	Type	Part no.
≤ 12.5 mm	NPN	1.5 mm x 6.5 mm	Male connector M12, 4-pin	KT3W-N1115	1025325
	PNP	1.5 mm x 6.5 mm	Male connector M12, 4-pin	KT3W-P1115	1025326

- **Adjustment:** Teach-in button
- **Teach-in mode:** Static 2-point teach-in
- **Light source:** LED, RGB (Average service life: 100,000 h at T_U = +25 °C.)

Sensing distance	Switching output	Light spot size	Connection type Detail	Type	Part no.
≤ 12.5 mm	NPN	1.5 mm x 6.5 mm	Male connector M12, 4-pin	KT3W-N1116	1019337
	PNP	1.5 mm x 6.5 mm	Male connector M12, 4-pin	KT3W-P1126	1022933

- **Adjustment:** Teach-in button
- **Teach-in mode:** Static 2-point teach-in
- **Light source:** LED, White (Average service life: 100,000 h at T_U = +25 °C.)

Sensing distance	Switching output	Light spot size	Connection type Detail	Type	Part no.
≤ 12.5 mm	NPN	1.5 mm x 3.5 mm	Male connector M12, 4-pin	KT3M-N1116	1044593
	PNP	1.5 mm x 3.5 mm	Male connector M12, 4-pin	KT3M-P1116	1044235

- **Adjustment:** Teach-in button
- **Teach-in mode:** Static 2-point teach-in
- **Light source:** LED, green (Average service life: 100,000 h at T_U = +25 °C.)

Sensing distance	Switching output	Light spot size	Connection type Detail	Type	Part no.
≤ 12.5 mm	NPN	1.5 mm x 3.5 mm	Male connector M12, 4-pin	KT3G-N1116	1019445
	PNP	1.5 mm x 3.5 mm	Male connector M12, 4-pin	KT3G-P1116	1019446

- **Adjustment:** Teach-in button
- **Teach-in mode:** Static 2-point teach-in
- **Light source:** laser, Red (Average service life: 50,000 h at $T_U = +25$ °C.)

Sensing distance	Operating distance	Switching output	Light spot size	Connection type Detail	Type	Part no.
≤ 40 mm	20 mm ... 60 mm	NPN	1 mm x 2 mm	Male connector M12, 4-pin	KT3L-N3216	1026245
		PNP	1 mm x 2 mm	Male connector M12, 4-pin	KT3L-P3216	1026244

SICK AT A GLANCE

SICK is one of the leading manufacturers of intelligent sensors and sensor solutions for industrial applications. A unique range of products and services creates the perfect basis for controlling processes securely and efficiently, protecting individuals from accidents and preventing damage to the environment.

We have extensive experience in a wide range of industries and understand their processes and requirements. With intelligent sensors, we can deliver exactly what our customers need. In application centers in Europe, Asia and North America, system solutions are tested and optimized in accordance with customer specifications. All this makes us a reliable supplier and development partner.

Comprehensive services complete our offering: SICK LifeTime Services provide support throughout the machine life cycle and ensure safety and productivity.

For us, that is “Sensor Intelligence.”

WORLDWIDE PRESENCE:

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