KTL180

Safe object detection at high machine speeds

CONTRAST SENSORS

SICK
Sensor Intelligence.

Advantages

Designed for easy and flexible use with little installation space

The KTL180 contrast sensor makes detecting objects in fast moving machine processes reliable and easy: The high switching frequency and grayscale resolution ensure fast contrast detection. The multifunction display, different teach-in methods, job backups, and customizable settings of the sensor make it easier to employ in a wide variety of applications. The compact design of the KTL180 enables it to be used where only limited space is available.

Easy and intuitive setting using the 7-segment display and countless setting options for individual sensor use.

How it works

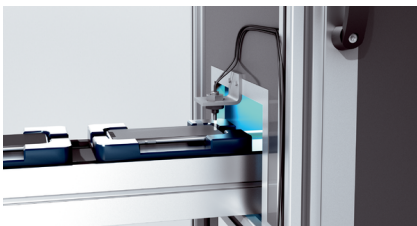**Visual feedback for sensor configuration and process visualization**
The KTL180 can be set intuitively using the 7-segment display and offers an optimal visualization of the processes to be detected at the same time

individual sensor setting via display
The KTL180 can be individually set to different application requirements with its teach-in function – and handling is also simple
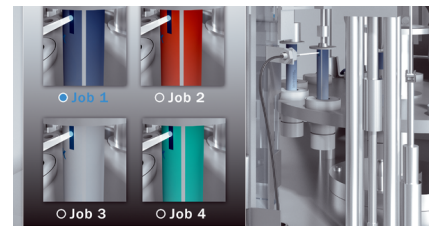
KTL180 – the new fiber contrast sensor

Compact: Ideal for use with limited installation space

Powerful: With 31.2 kHz switching frequency, it is perfectly suited for high-speed machine processes

Highly flexible: Quick format change due to integrated job save

Thanks to its high performance and easy handling, the KTL180 is suited for flexible use in all applications in which quick and accurate contrast detection is important.
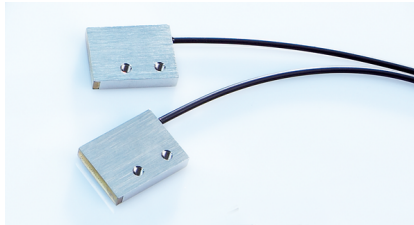
Flexible in use thanks to the extensive fiber portfolio

The KTL180 contrast sensor can be adapted to different applications and requirements with a variety of fibers. Whether the fiber head is made of plastic or glass fibers, whether it is flat or bent by 90 degrees, whether the light spot geometries are simple or complex: With the right fibers, the KTL180 is equipped for nearly any application. Existing fibers can be connected to the sensor using adapters.

Unlimited possibilities with the KTL180

Fibers for all common safety applications

Special fiber head for a wide light spot geometry

Fiber adapters for more flexibility

The KTL180 covers a wide range of applications - a large selection of fibers makes it possible.

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Technical data overview

Dimensions (W x H x D)	10.5 mm x 33.2 mm x 71.9 mm
Sensing distance	1 mm / 1,400 mm [1]
Type of light	LED [2] White
Switching frequency	31.2 kHz
Response time	16 µs
Switching output	NPN PNP (depending on type)
Adjustment	1-point teach-in, 2-point teach-in, teach-in dynamic
Connection type	Male connector M8, 4-pin Cable with plug M12, 5-pin 300 mm Cable open end 2,000 mm PVC

[1] Objects to be sensed with 90% reflectivity (based on DIN 5033 white standard). Sensing range depends on fiber-optic cable.

[2] Average service life: 100,000 h at T_U = +25 °C.

Product description

The KTL180 reliably detects contrast differences even at high machine speeds. Thanks to its 31.2 kHz switching frequency, a high grayscale resolution and manual switching threshold adjustment, the KTL180 makes for safe object detection. The response time of 16 µs ensures stable and accurate detection of contrast differences, for example with print marks, even for high-gloss materials. The sensor can be quickly adjusted to the respective application with the 7-segment display and easy menu guidance. Various teach-in processes as well as an integrated job save increase the flexibility during commissioning in a large range of applications - with very high process stability.

At a glance

- 31.2 kHz switching frequency at a response time of 16 µs
- High dynamic range
- Multi-functional 7-segment display
- Job save for easy format change
- 1-point, 2-point and dynamic teach-in
- Master-slave function
- A wide range of different fibers

Your benefits

- Very high switching accuracy: 31.2 kHz switching frequency for use in ongoing machine processes
- Easy sensor handling: Multi-functional display enables flexible, user-friendly sensor settings
- Safe detection and safe processes: Detection of very small contrast differences and high-gloss materials thanks to high grayscale resolution and manual switching threshold adjustment
- Versatile use: Different teach-in operations for ideal sensor settings in different applications
- Fast format change thanks to job save
- Compact design for use with limited installation space

Fields of application

- All applications for which contrasts make up the decisive feature
- Applications with small installation space
- Battery production
- Printing mark detection
- Printing process control
- Tube filling
- Cutting of labels
- Splice detection

Ordering information

Other models and accessories ➜ www.sick.com/KTL180

- **Special applications:** -
- **Teach-in mode:** 1-point teach-in, 2-point teach-in, teach-in dynamic
- **Light source:** LED, White (Average service life: 100,000 h at T_U = +25 °C.)

Sensing distance	Switching output	Connection type Detail	Device type	Type	Part no.
≤ 1,400 mm	NPN	Cable open end	Stand-alone	KTL180-MN4P71ZZZZZ	6071999
		Cable with plug M12, 5-pin	Base unit	KTL180-ML4P51ZZZZZ	6068619
			Stand-alone	KTL180-MN4P51ZZZZZ	6068615
		Male connector M8, 4-pin	Base unit	KTL180-ML4P41ZZZZZ	6068617
			Stand-alone	KTL180-MN4P41ZZZZZ	6068613
			Expansion unit	KTL180-ME2P41ZZZZZ	6068621
	PNP	Cable with plug M12, 5-pin	Base unit	KTL180-MM4P51ZZZZZ	6068618
			Stand-alone	KTL180-MP4P51ZZZZZ	6068614
		Male connector M8, 4-pin	Base unit	KTL180-MM4P41ZZZZZ	6068616
			Stand-alone	KTL180-MP4P41ZZZZZ	6068612
			Expansion unit	KTL180-MF2P41ZZZZZ	6068620

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."

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