KTM
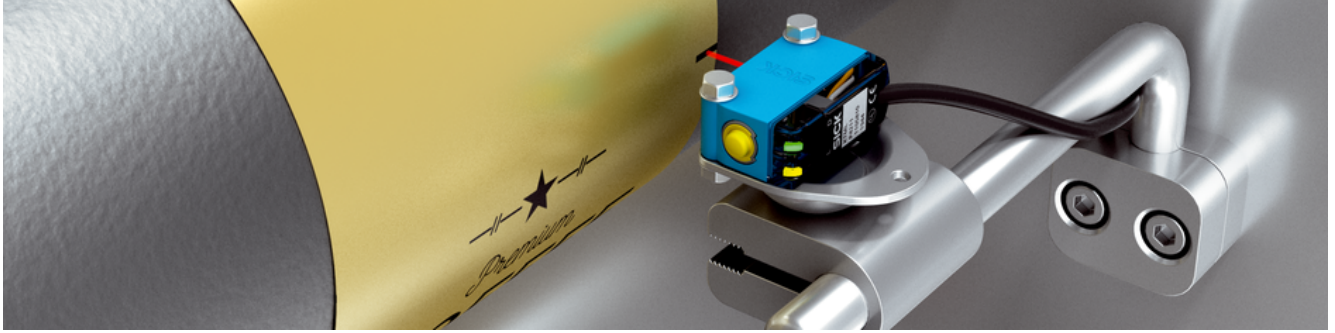
Small, simple, fast

SICK
Sensor Intelligence.

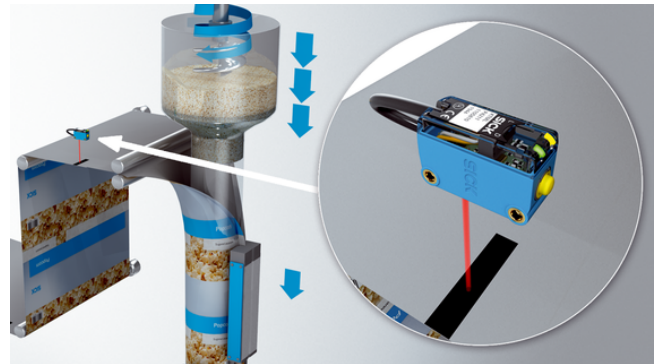Reliable and accurate detection

Detects minor differences in contrast and glossy materials

In addition to differentiating between black and white, this sensor can also detect different shades. Its high resolution of 20 gray tones guarantees it can detect even the smallest differences in contrast. With the new ASIC in the sensor, print marks on a wide range of materials are reliably detected, including glossy materials such as strongly reflecting foils as well as low-contrast materials.
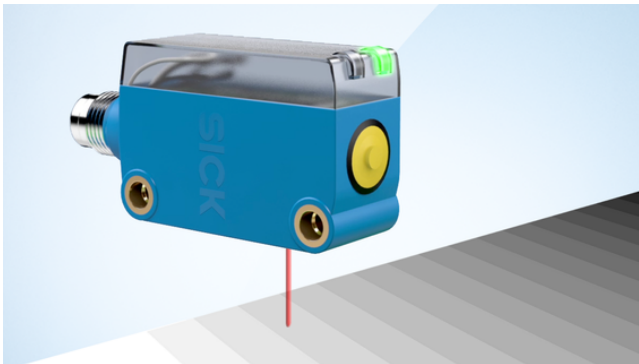
Even the smallest differences in contrast can be detected without a problem
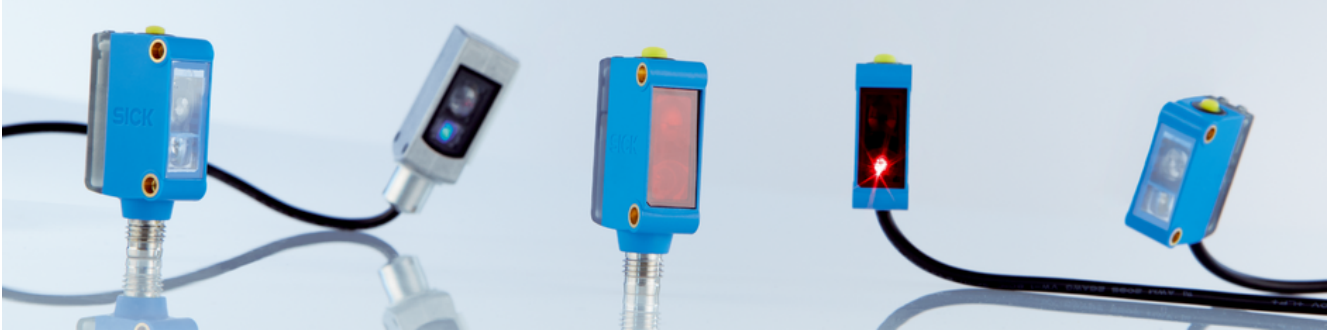

Print marks are also reliably detected on glossy and reflective surfaces

The KTM Prime enables reliable and accurate detection and thereby ensures optimal machine throughput

High level of mounting flexibility

Compact, space-saving miniature housing

With a height of only 31.5 mm, the KTM Prime can also be mounted in tight spaces without a problem. The stable ABS housing and the rugged metal inserts with female thread allow for a high tightening torque for securely fixed screws.
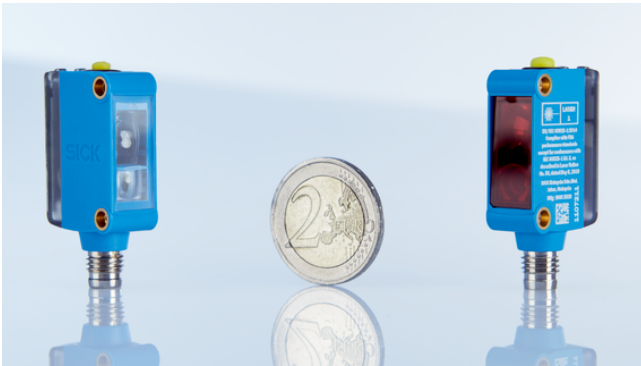
All KTM Prime variants are at home in the space-saving miniature housing.
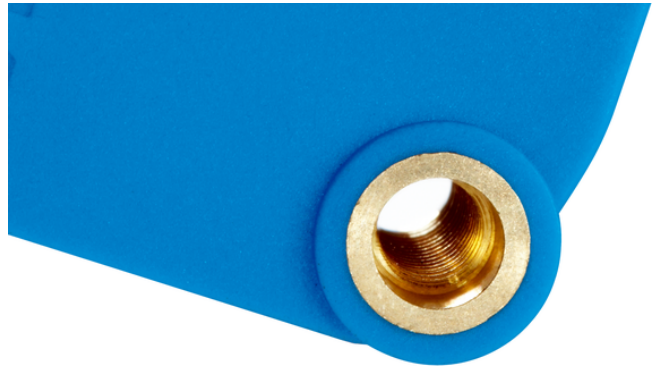
Metal inserts in the mounting holes allow for securely fixed screws.

The KTM Prime offers a high level of mounting flexibility and is therefore more convenient and user-friendly

Different variants

The ideal variant for any application.

The KTM Core contrast sensor offers high performance for standard applications at a low price. Manual adjustment via potentiometer is easy and convenient. The KTM Prime combines 3-color LED technology, convenient adjustments and an IO-Link interface for additional functions. The KTM Prime is also available in the stainless-steel housing and is therefore ideal for use in harsh environments. For applications with large sampling intervals, the laser variant of the contrast sensor offers a sensing distance of up to 250 mm.

Large sampling intervals, glossy or low-contrast objects - the KTM Prime reliably masters the challenges.

Harsh ambient conditions despite the KTM Prime in a stainless steel housing Rough ambient conditions despite the KTM Prime in a stainless steel housing

The different variants of the KTM Prime fulfill all application requirements.

Technical data overview

Communication interface	- IO-Link (depends on variant)
Dimensions (W x H x D)	12 mm x 31.5 mm x 21 mm 15.25 mm x 48.6 mm x 22.2 mm
Sensing distance	12.5 mm 11 mm 50 mm 250 mm
Type of light	LED, white [1] LED, RGB [1] Laser, red [1]
Switching output	PNP, NPN NPN PNP (depends on variant)
Connection type	Male connector M8, 4-pin Cable with M12 male connector, 4-pin Cable open end, 4-wire Cable with M8 male connector, 4-pin (depends on variant)

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

Product description

Top performance for versatile, space-saving use in the packaging industry: The KTM contrast sensor from SICK features a high grayscale resolution and is integrated into a small, tried-and-tested housing that is also available in stainless steel. The optimized OES4 ASIC technology and a response time of 35 to 50 μs ensure the reliable and precise detection of contrast marks, even on glossy materials. The various teach-in methods of the sensor offer greater flexibility during commissioning. The integrated IO-Link interface provides access to the parameter settings. For applications with larger distances, SICK offers a laser version of the KTM contrast sensor that can detect contrast marks at distances of up to 250 mm.

At a glance

- High grayscale resolution
- Various teach-in methods can be used
- High dynamic range for reliable contrast detection on glossy materials
- Switching frequency up to 15 kHz
- Available in white light, RGB light, and laser variants
- IO-Link interface

Your benefits

- The small housing enables it to be installed even in applications with limited space
- Powerful, fast contrast sensor for high machine throughput
- Various teach-in methods provide flexibility during commissioning
- The good contrast resolution and large dynamic range ensure a high detection performance on glossy materials, thereby expanding the application possibilities
- Long service life thanks to the stainless-steel housing, even under harsh conditions, which results in a high plant availability and low spare part costs
- Improved diagnostics and visualization as well as a quick and easy format change thanks to IO-Link

KTM

Fields of application

- Universal use for contrast detection, even in harsh environments
- Packaging industry
- Print mark detection on continuous materials for controlling cutting operations
- Positioning of tubes
- Alignment of bottle labels
- Electronics industry
- Automotive industry

Ordering information

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

- **Housing design:** small
- **Communication interface:** -
- **Sensing distance:** ≤ 12.5 mm
- **Light emission:** Long side of housing

Switching output	Light spot size	Light spot direction	Connection type Detail	Type	Part no.
NPN	1.5 mm x 6.5 mm	Vertical	Male connector M8, 4-pin	KTM-MN11181P	1075592
	1.6 mm x 9.5 mm	Vertical	Cable open end, 4-wire	KTM-WN11184P	1077662
			Cable with M12 male connector, 4-pin	KTM-WN11172P	1082137
				KTM-WN11182P	1062150
				KTM-WN11182PS03	1072045
			Cable with M8 male connector, 4-pin	KTM-WN11173P	1084941
			Male connector M8, 4-pin	KTM-WN11101PS07	1088011
				KTM-WN11101PS09	1095954
				KTM-WN11171P	1082798
				KTM-WN11181P	1062200
	Ø 2 mm (12.5 mm)	Round	Male connector M8, 4-pin	KTM-MN31181P	1071947
PNP	1.5 mm x 6.5 mm	Vertical	Male connector M8, 4-pin	KTM-MP11181P	1072473
	1.6 mm x 9.5 mm	Vertical	Cable with M12 male connector, 4-pin	KTM-WP11172P	1082138
				KTM-WP11182P	1062201
				KTM-WP11282P	1072002
			Cable with M8 male connector, 4-pin	KTM-WP11173P	1084942
			Male connector M8, 4-pin	KTM-WP11101PS08	1095813
				KTM-WP11171P	1082797
				KTM-WP11181P	1062199
	Ø 2 mm (12.5 mm)	Round	Cable with M12 male connector, 4-pin	KTM-MP31182P	1070490
			Male connector M8, 4-pin	KTM-MP31181P	1065756
				KTM-MP31181PS01	1070701

Switching output	Light spot size	Light spot direction	Connection type Detail	Type	Part no.
PNP, NPN	Ø 2 mm (12.5 mm)	Round	Cable open end, 4-wire	KTM-MB31194P	1078048
			Cable with M12 male connector, 4-pin	KTM-MB31112P	1070053
			Male connector M8, 4-pin	KTM-MB31111P	1062202
				KTM-MB31191P	1062203

- **Housing design:** small
- **Communication interface:** -
- **Sensing distance:** ≤ 11 mm
- **Light emission:** Long side of housing

Switching output	Light spot size	Light spot direction	Connection type Detail	Type	Part no.
PNP, NPN	Ø 1 mm (10 mm)	Round, small	Male connector M8, 4-pin	KTM-MB8A191P	1066885

- **Housing design:** small
- **Communication interface:** IO-Link
- **Sensing distance:** ≤ 12.5 mm
- **Light emission:** Long side of housing

Switching output	Light spot size	Light spot direction	Connection type Detail	Type	Part no.
NPN	1.6 mm x 9.5 mm	Vertical	Male connector M8, 4-pin	KTM-WN117A1P	1061787
PNP	1.6 mm x 9.5 mm	Vertical	Male connector M8, 4-pin	KTM-WP117A1P	1061770
	Ø 2 mm (12.5 mm)	Round	Male connector M8, 4-pin	KTM-MP317A1P	1071482

- **Housing design:** small, stainless steel
- **Communication interface:** -
- **Sensing distance:** ≤ 11 mm
- **Light emission:** Long side of housing

Switching output	Light spot size	Light spot direction	Connection type Detail	Type	Part no.
NPN	1.6 mm x 9.5 mm	Vertical	Cable with M12 male connector, 4-pin	KTM-WN1A182V	1062148
PNP	1.6 mm x 9.5 mm	Vertical	Cable with M12 male connector, 4-pin	KTM-WP1A182V	1052956
				KTM-WP1A282V	1081373

- **Housing design:** small, stainless steel
- **Communication interface:** IO-Link
- **Sensing distance:** ≤ 11 mm
- **Light emission:** Long side of housing

Switching output	Light spot size	Light spot direction	Connection type Detail	Type	Part no.
PNP	1.6 mm x 9.5 mm	Vertical	Cable with M12 male connector, 4-pin	KTM-WP1A7A2V	1062147

- **Housing design:** small
- **Communication interface:** -
- **Sensing distance:** ≤ 50 mm
- **Light emission:** Long side of housing

Switching output	Light spot size	Light spot direction	Connection type Detail	Type	Part no.
NPN	Ø 1.7 mm (50 mm)	Round	Cable with M12 male connector, 4-pin	KTM-LN22182P	1107212
			Male connector M8, 4-pin	KTM-LN22181P	1109748
PNP	Ø 1.7 mm (50 mm)	Round	Cable with M12 male connector, 4-pin	KTM-LP22182P	1109747
			Male connector M8, 4-pin	KTM-LP22181P	1105835

- **Housing design:** small
- **Communication interface:** IO-Link
- **Sensing distance:** ≤ 50 mm
- **Light emission:** Long side of housing

Switching output	Light spot size	Light spot direction	Connection type Detail	Type	Part no.
NPN	Ø 1.7 mm (50 mm)	Round	Cable with M12 male connector, 4-pin	KTM-LN227A2P	1109744
			Male connector M8, 4-pin	KTM-LN227A1P	1105915
PNP	Ø 1.7 mm (50 mm)	Round	Cable with M12 male connector, 4-pin	KTM-LP227A2P	1109743
			Male connector M8, 4-pin	KTM-LP227A1P	1105832

- **Housing design:** small
- **Communication interface:** -
- **Sensing distance:** ≤ 250 mm
- **Light emission:** Long side of housing

Switching output	Light spot size	Light spot direction	Connection type Detail	Type	Part no.
NPN	Ø 1.8 mm (250 mm)	Round	Cable with M12 male connector, 4-pin	KTM-LN55182P	1105838
			Male connector M8, 4-pin	KTM-LN55181P	1105837
PNP	Ø 1.8 mm (250 mm)	Round	Cable with M12 male connector, 4-pin	KTM-LP55182P	1105836
			Male connector M8, 4-pin	KTM-LP55181P	1109749

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- **Housing design:** small
- **Communication interface:** IO-Link
- **Sensing distance:** ≤ 250 mm
- **Light emission:** Long side of housing

Switching output	Light spot size	Light spot direction	Connection type Detail	Type	Part no.
NPN	Ø 1.8 mm (250 mm)	Round	Cable with M12 male connector, 4-pin	KTM-LN557A2P	1105834
			Male connector M8, 4-pin	KTM-LN557A1P	1105833
PNP	Ø 1.8 mm (250 mm)	Round	Cable with M12 male connector, 4-pin	KTM-LP557A2P	1109745
			Male connector M8, 4-pin	KTM-LP557A1P	1107211

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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