



KTM Prime

Mini, easy, speedy, robust

CONTRAST SENSORS

SICK
Sensor Intelligence.



Technical data overview

Dimensions (W x H x D)	15.25 mm x 48.6 mm x 22.2 mm 12 mm x 31.5 mm x 21 mm
Sensing distance	11 mm / 12.5 mm (depending on type)
Type of light	LED ¹⁾ RGB LED ¹⁾ White
Light spot size	1.5 mm x 6.5 mm Ø 2 mm (12.5 mm)
Switching frequency	15 kHz ²⁾
Response time	35 µs ³⁾ 32 µs ³⁾
Switching output	PNP NPN (depending on type)
Adjustment	2-point teach-in static/dynamic + proximity to mark ET: Teach-in dynamic ET: Teach-in static + proximity to mark ET: dynamic Teach-in: Q-Signal switches during teach-in ET: Teach-in static (depending on type)
Connection type	Cable with M12 male connector, 4-pin 0.2 m Male connector M8, 4-pin Cable with M8 male connector, 4-pin 0.2 m Cable open end, 4-wire 2 m
Communication interface	- IO-Link (depending on type)

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

²⁾ With light/dark ratio 1:1.

³⁾ Signal transit time with resistive load.

Product description

Top performance for universal, space-saving use in the packaging industry even under harsh conditions: The new KTM prime 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 µs ensure reliable and accurate detection of contrast marks, even on glossy materials. The various teach-in methods (dynamic, static, and switching threshold near the marks) ensure greater flexibility during commissioning. The integrated IO-Link interface can be used to access the parameter settings. This speeds up and simplifies format changes. The KTM reliably detects marks even in conditions with weak contrast ratios and is therefore ideal for use in a wide range of applications; in the stainless steel version, it can even be used in harsh environments during intensive cleaning.

At a glance

- Small, tried-and-tested housing, also available in stainless steel
- High grayscale resolution
- Very large dynamic range means reliable detection of contrasts on glossy materials
- Static and dynamic teach-in in one variant
- Switching frequency: 15 kHz
- KTM Prime with IO-Link functions

Your benefits

- Small housing allows installation even where space is limited
- Powerful, fast contrast sensor ensures high machine throughput
- Three-color LED technology allows a reliable process, with contrast marks detected even in conditions with weak contrast ratios
- Good contrast resolution and a very large dynamic range ensure good detection performance on glossy materials, thus increasing the range of application possibilities
- Various teach-in methods enable more flexible commissioning
- Long service life, even in harsh environments, thanks to stainless steel housing; as a result, excellent system throughput and low spare parts costs
- Enhanced diagnostics and visualization of sensor parameters, as well as quick and easy format changes, since parameter settings can be downloaded via IO-Link

Fields of application

- Universal use in contrast detection applications
- Packaging industry
- Print mark detection on continuous materials for controlling the cutting process
- Positioning tubes
- Label alignment on bottles
- For print mark and contrast mark detection in harsh environments and during intensive cleaning, primarily in the packaging, food and beverage, and consumer goods industries

Ordering information

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

- **Communication interface:** -
- **Adjustment:** Teach-in button
- **Teach-in mode:** 2-point teach-in static/dynamic + proximity to mark, ET: Teach-in dynamic
- **Light source:** LED, RGB (Average service life: 100,000 h at $T_U = +25 \text{ °C.}$)

Sensing distance	Switching output	Light spot size	Connection type Detail	Light emission	Type	Part no.
≤ 11 mm	NPN	1.5 mm x 6.5 mm	Cable with M12 male connector, 4-pin	Long side of housing	KTM-WN1A182V	1062148
	PNP	1.5 mm x 6.5 mm	Cable with M12 male connector, 4-pin	Long side of housing	KTM-WP1A182V	1052956
KTM-WP1A282V					1081373	
≤ 12.5 mm	NPN	1.5 mm x 6.5 mm	Cable open end, 4-wire	Long side of housing	KTM-WN11184P	1077662
			Cable with M12 male connector, 4-pin	Long side of housing	KTM-WN11182P	1062150
					KTM-WN11182PS03	1072045
	Male connector M8, 4-pin	Long side of housing	KTM-WN11181P	1062200		
	PNP	1.5 mm x 6.5 mm	Cable with M12 male connector, 4-pin	Long side of housing	KTM-WP11182P	1062201
					KTM-WP11282P	1072002
Male connector M8, 4-pin					Long side of housing	KTM-WP11181P

- **Communication interface:** IO-Link
- **Adjustment:** cable, IO-Link, Teach-in button
- **Teach-in mode:** 2-point teach-in static/dynamic + proximity to mark
- **Light source:** LED, RGB (Average service life: 100,000 h at $T_U = +25 \text{ °C.}$)

Sensing distance	Switching output	Light spot size	Connection type Detail	Light emission	Type	Part no.
≤ 11 mm	PNP	1.5 mm x 6.5 mm	Cable with M12 male connector, 4-pin	Long side of housing	KTM-WP1A7A2V	1062147
≤ 12.5 mm	NPN	1.5 mm x 6.5 mm	Male connector M8, 4-pin	Long side of housing	KTM-WN117A1P	1061787
					PNP	1.5 mm x 6.5 mm
	KTM-WP117A1PA71	1084544				
	KTM-WP117A1PA72	1084545				

- **Communication interface:** -
- **Adjustment:** Teach-in button
- **Teach-in mode:** 2-point teach-in static/dynamic + proximity to mark, ET: Teach-in dynamic
- **Light source:** LED, White (Average service life: 100,000 h at $T_U = +25 \text{ }^\circ\text{C}$.)

Sensing distance	Switching output	Light spot size	Connection type Detail	Light emission	Type	Part no.
≤ 12.5 mm	NPN	1.5 mm x 6.5 mm	Male connector M8, 4-pin	Long side of housing	KTM-MN11181P	1075592
		∅ 2 mm (12.5 mm)	Male connector M8, 4-pin	Long side of housing	KTM-MN31181P	1071947
	PNP	1.5 mm x 6.5 mm	Male connector M8, 4-pin	Long side of housing	KTM-MP11181P	1072473
		∅ 2 mm (12.5 mm)	Cable with M12 male connector, 4-pin	Long side of housing	KTM-MP31182P	1070490
			Male connector M8, 4-pin	Long side of housing	KTM-MP31181P	1065756

- **Adjustment:** Teach-in button
- **Teach-in mode:** 2-point teach-in static/dynamic + proximity to mark, ET: Teach-in dynamic
- **Light source:** LED, White (Average service life: 100,000 h at $T_U = +25 \text{ }^\circ\text{C}$.)

Sensing distance	Switching output	Light spot size	Connection type Detail	Light emission	Type	Part no.
≤ 12.5 mm	PNP	∅ 2 mm (12.5 mm)	Male connector M8, 4-pin	Long side of housing	KTM-MP31181PS01	1070701

- **Communication interface:** IO-Link
- **Adjustment:** cable, IO-Link, Teach-in button
- **Teach-in mode:** 2-point teach-in static/dynamic + proximity to mark
- **Light source:** LED, White (Average service life: 100,000 h at $T_U = +25 \text{ }^\circ\text{C}$.)

Sensing distance	Switching output	Light spot size	Connection type Detail	Light emission	Type	Part no.
≤ 12.5 mm	PNP	∅ 2 mm (12.5 mm)	Male connector M8, 4-pin	Long side of housing	KTM-MP317A1P	1071482

- **Communication interface:** -
- **Adjustment:** Teach-in button
- **Teach-in mode:** 2-point teach-in static/dynamic + proximity to mark, ET: Teach-in static + proximity to mark, ET: Teach-in static + proximity to mark
- **Light source:** LED, RGB (Average service life: 100,000 h at $T_U = +25 \text{ }^\circ\text{C}$.)

Sensing distance	Switching output	Light spot size	Connection type Detail	Light emission	Type	Part no.
≤ 12.5 mm	NPN	1.5 mm x 6.5 mm	Male connector M8, 4-pin	Long side of housing	KTM-WN11101PS09	1095954

- **Communication interface:** -
- **Adjustment:** Teach-in button
- **Teach-in mode:** 2-point teach-in static/dynamic + proximity to mark, ET: dynamic Teach-in: Q-Signal switches during 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	Light emission	Type	Part no.
≤ 12.5 mm	PNP	1.5 mm x 6.5 mm	Male connector M8, 4-pin	Long side of housing	KTM-WP11101PS08	1095813

- **Communication interface:** -
- **Adjustment:** Teach-in button
- **Teach-in mode:** 2-point teach-in static/dynamic + proximity to mark, ET: Teach-in static
- **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	Light emission	Type	Part no.
≤ 12.5 mm	NPN	1.5 mm x 6.5 mm	Cable with M12 male connector, 4-pin	Long side of housing	KTM-WN11172P	1082137
			Cable with M8 male connector, 4-pin	Long side of housing	KTM-WN11173P	1084941
			Male connector M8, 4-pin	Long side of housing	KTM-WN11171P	1082798
	PNP	1.5 mm x 6.5 mm	Cable with M12 male connector, 4-pin	Long side of housing	KTM-WP11172P	1082138
			Cable with M8 male connector, 4-pin	Long side of housing	KTM-WP11173P	1084942
			Male connector M8, 4-pin	Long side of housing	KTM-WP11171P	1082797

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:

Contacts and other locations –www.sick.com