



## KTX

Contrast detection using TwinEye-Technology in the tried-and-tested housing

**SICK**  
Sensor Intelligence.



## Technical data overview

<b>Communication interface</b>	- IO-Link Analog (depends on variant)
<b>Dimensions (W x H x D)</b>	30 mm x 53 mm x 78.5 mm
<b>Sensing distance</b>	13 mm 40 mm <sup>1)</sup> 25 mm 150 mm <sup>1)</sup> 70 mm <sup>1)</sup> 200 mm
<b>Type of light</b>	LED <sup>2)</sup> RGB
<b>Switching output</b>	Push-pull: PNP/NPN NPN PNP, NPN PNP (depends on variant)
<b>Connection type</b>	Male connector M12, 4-pin Plug, M12, 5-pin (depends on variant)

<sup>1)</sup> Sensing distance from leading edge of lens.

<sup>2)</sup> Average service life: 100,000 h at T<sub>U</sub> = +25 °C.

## Product description

Outstanding performance for a variety of applications, even in difficult conditions: The KTX contrast sensor with familiar hole pattern, high-precision RGB LED and VISTAL® housing impresses with TwinEye-Technology, color mode, high switching frequency, excellent grayscale resolution, 7-segment display, and IO-Link. The response time of 10 µs and a jitter of 5 µs ensure accurate detection of contrast differences, even at high machine speeds. The various teach-in procedures, integrated color mode, and variable sensor settings ensure greater flexibility during commissioning and increased process stability. The KTX contrast sensor provides additional diagnostics and analysis data via IO-Link. The KTX contrast sensor – does the basics and even more.

## At a glance

- TwinEye-Technology for increased depth of field and sensing distance tolerance
- 50 kHz switching frequency and 5 µs jitter
- Large dynamic range means reliable detection of contrasts on glossy materials
- 7-segment display
- Color mode
- Mounting feedback
- IO-Link and automation functions
- Flexible sensor setting thanks to various sensor parameters

## Your benefits

- 1:1 replacement for existing KT series - assembly compatibility
- TwinEye-Technology for better performance on glossy or fluttery materials, thereby resulting in fewer machine downtimes and more process stability
- Multi-functional sensor adjustment for individual sensor adjustment
- Excellent contrast resolution and a large dynamic range for good performance on complex materials
- High flexibility thanks to a range of teach-in procedures
- Integrated color mode - stable detection even with complex color differences
- Job storage in sensor - flexible process design and format change
- Diagnostics and visualization as well as easy format change via IO-Link

## Fields of application

- Applications in which contrast is a distinguishing feature
- Print mark detection for controlling the cutting process
- Print control in the printing industry
- Positioning tubes
- Label alignment on bottles
- Splice detection in packaging and battery production
- Roll end monitoring
- Color control in yarn or cable production

## Ordering information

Other models and accessories → [www.sick.com/KTX](http://www.sick.com/KTX)

- **Housing design:** large
- **Communication interface:** -
- **Sensing distance:** ≤ 13 mm
- **Light emission:** Long side of housing

Switching output	Light spot size	Light spot direction	Connection type Detail	Type	Part no.	
NPN	0.9 mm x 3.8 mm	Horizontal	Plug, M12, 5-pin	KTX-WN92141252ZZZZ	1078100	
				KTX-WN91141252ZZZZ	1109467	
		Vertical	Plug, M12, 5-pin	Male connector M12, 4-pin	KTX-WN41141242ZZZZ	1081726
					KTX-WN91141242ZZZZ	1078098
					KTX-WN41141242ZZZZ	1137284
					KTX-WN91141242ZZZZ	1078102
PNP	0.9 mm x 3.8 mm	Horizontal	Plug, M12, 5-pin	KTX-WP92141252ZZZZ	1078099	
				KTX-WP92141242ZZZZ	1078103	
		Vertical	Plug, M12, 5-pin	Male connector M12, 4-pin	KTX-WP91141252ZZZZ	1222540
					KTX-WP91141252ZZZZ	1109466
					KTX-WP91141252ZZZZ	1081725
					KTX-WP91141252ZZZZ	1078097
PNP, NPN	0.9 mm x 3.8 mm	Vertical	Male connector M12, 4-pin	KTX-WS41141242ZZZZ	1137286	
				KTX-WS91141242ZZZZ	1078167	
Push-pull: PNP/NPN	0.9 mm x 3.8 mm	Vertical	Plug, M12, 5-pin	KTX-WBN1141252ZZZZ	1220055	
				Male connector M12, 4-pin	KTX-WB41141242ZZZZ	1137283
	∅ 0.9 mm	Round	Plug, M12, 5-pin		KTX-WB94141252ZZZZ	1078095

- **Housing design:** large
- **Communication interface:** -
- **Sensing distance:** ≤ 13 mm
- **Light emission:** Short device side

Switching output	Light spot size	Light spot direction	Connection type Detail	Type	Part no.	
NPN	0.9 mm x 3.8 mm	Horizontal	Plug, M12, 5-pin	KTX-WN92142252ZZZZ	1078069	
				Vertical	Plug, M12, 5-pin	Male connector M12, 4-pin
		KTX-WN91142252ZZZZ	1219737			
		KTX-WN91142252ZZZZ	1081724			
		KTX-WN41142242ZZZZ	1078067			
		KTX-WN41142242ZZZZ	1137288			
		KTX-WN91142242ZZZZ	1078071			
		∅ 0.9 mm	Round	Plug, M12, 5-pin	KTX-WN94142252ZZZZ	1078153

Switching output	Light spot size	Light spot direction	Connection type Detail	Type	Part no.
PNP	0.9 mm x 3.8 mm	Horizontal	Plug, M12, 5-pin	KTX-WP92142252ZZZZ	1220994
					1128351
					1078068
			Male connector M12, 4-pin	KTX-WP92142242ZZZZ	1078072
		Vertical	Plug, M12, 5-pin	KTX-WP91142252ZZZZ	1219607
					1219605
					1136867
			1081723		
Male connector M12, 4-pin	KTX-WP91142242ZZZZ	1078070			
PNP, NPN	0.9 mm x 3.8 mm	Vertical	Male connector M12, 4-pin	KTX-WS41142242ZZZZ	1137289
				KTX-WS91142242ZZZZ	1078166
Push-pull: PNP/NPN	0.9 mm x 3.8 mm	Vertical	Plug, M12, 5-pin	KTX-WB91142252ZZZZ	1219736
				KTX-WBN1142252ZZZZ	1220041
			Male connector M12, 4-pin	KTX-WB41142242ZZZZ	1137287
	Ø 0.9 mm	Round	Plug, M12, 5-pin	KTX-WB94142252ZZZZ	1078094

- **Housing design:** large
- **Communication interface:** IO-Link
- **Sensing distance:** ≤ 13 mm
- **Light emission:** Long side of housing

Switching output	Light spot size	Light spot direction	Connection type Detail	Type	Part no.
Push-pull: PNP/NPN	0.9 mm x 3.8 mm	Horizontal	Plug, M12, 5-pin	KTX-WB9214125AZZZZ	1081722
				Vertical	Plug, M12, 5-pin
	Ø 0.9 mm	Round	Plug, M12, 5-pin	KTX-WBN114125AZZZZ	1220056
				KTX-WB9414125AZZZZ	1113486

- **Housing design:** large
- **Communication interface:** IO-Link
- **Sensing distance:** ≤ 13 mm
- **Light emission:** Short device side

Switching output	Light spot size	Light spot direction	Connection type Detail	Type	Part no.
PNP	0.9 mm x 3.8 mm	Horizontal	Plug, M12, 5-pin	KTX-WP9214225AZZZZ	1078081
Push-pull: PNP/NPN	0.9 mm x 3.8 mm	Horizontal	Plug, M12, 5-pin	KTX-WB9214225AZZZZ	1078082
				KTX-WB9214225AZZZZZZZDZZZZZ1	1221531
				Vertical	Plug, M12, 5-pin
		KTX-WB9114225AZZZZ	1081727		
					1078080
			KTX-WBN114225AZZZZ	1220042	

- **Housing design:** large
- **Communication interface:** Analog
- **Sensing distance:** ≤ 13 mm
- **Light emission:** Long side of housing

Switching output	Light spot size	Light spot direction	Connection type Detail	Type	Part no.	
PNP	0.9 mm x 3.8 mm	Horizontal	Plug, M12, 5-pin	KTX-WP9214125UZZZZ	1223322	
				Vertical	Plug, M12, 5-pin	KTX-WP9114125UZZZZ
				Male connector M12, 4-pin	KTX-WP9114124IZZZZ	1078109
Push-pull: PNP/NPN	0.9 mm x 3.8 mm	Horizontal	Plug, M12, 5-pin	KTX-WB9214125UZZZZ	1078112	
				Vertical	Plug, M12, 5-pin	KTX-WB91141259ZZZZ
				Male connector M12, 4-pin	KTX-WB9114124UZZZZ	1084196

- **Housing design:** large
- **Communication interface:** Analog
- **Sensing distance:** ≤ 13 mm
- **Light emission:** Short device side

Switching output	Light spot size	Light spot direction	Connection type Detail	Type	Part no.
NPN	0.9 mm x 3.8 mm	Vertical	Plug, M12, 5-pin	KTX-WN9114225UZZZZ	1218271
			Male connector M12, 4-pin	KTX-WN9114224IZZZZ	1078088
	∅ 0.9 mm	Round	Male connector M12, 4-pin	KTX-WN9414224IZZZZ	1078089
PNP	0.9 mm x 3.8 mm	Horizontal	Plug, M12, 5-pin	KTX-WP9214225UZZZZ	1078154
		Vertical	Plug, M12, 5-pin	KTX-WP9114225UZZZZ	1078090
			Male connector M12, 4-pin	KTX-WP9114224IZZZZ	1078087
Push-pull: PNP/NPN	0.9 mm x 3.8 mm	Horizontal	Plug, M12, 5-pin	KTX-WB9214225UZZZZ	1078092
				KTX-WB91142259ZZZZ	1078096
		Vertical	Plug, M12, 5-pin	KTX-WB9114225UZZZZ	1219608
					1078091
				Male connector M12, 4-pin	KTX-WB9114224UZZZZ
			1084195		

- **Housing design:** large
- **Communication interface:** Analog
- **Sensing distance:** ≤ 40 mm
- **Light emission:** Short device side

Switching output	Light spot size	Light spot direction	Connection type Detail	Type	Part no.
NPN	0.9 mm x 3.9 mm	Horizontal	Male connector M12, 4-pin	KTX-WN9234224IZZZZ	1078139
PNP	0.9 mm x 3.9 mm	Vertical	Male connector M12, 4-pin	KTX-WP9134224IZZZZ	1078138
Push-pull: PNP/NPN	0.9 mm x 3.9 mm	Vertical	Plug, M12, 5-pin	KTX-WB9134225UZZZZ	1078140

- **Housing design:** large
- **Communication interface:** IO-Link
- **Sensing distance:** ≤ 25 mm
- **Light emission:** Short device side

Switching output	Light spot size	Light spot direction	Connection type Detail	Type	Part no.
Push-pull: PNP/NPN	1.2 mm x 5.3 mm	Vertical	Plug, M12, 5-pin	KTX-WB9124225AZZZZ	1221672
					1078083
	5.3 mm x 1.2 mm	Horizontal	Plug, M12, 5-pin	KTX-WB9224225AZZZZ	1078084

- **Housing design:** large
- **Communication interface:** IO-Link
- **Sensing distance:** ≤ 40 mm
- **Light emission:** Long side of housing

Switching output	Light spot size	Light spot direction	Connection type Detail	Type	Part no.
Push-pull: PNP/NPN	0.9 mm x 3.9 mm	Vertical	Plug, M12, 5-pin	KTX-WB9134125AZZZZ	1220792

- **Housing design:** large
- **Communication interface:** IO-Link
- **Sensing distance:** ≤ 40 mm
- **Light emission:** Short device side

Switching output	Light spot size	Light spot direction	Connection type Detail	Type	Part no.
Push-pull: PNP/NPN	0.9 mm x 3.9 mm	Vertical	Plug, M12, 5-pin	KTX-WB9134225AZZZZ	1220791

- **Housing design:** large
- **Communication interface:** IO-Link
- **Sensing distance:** ≤ 150 mm
- **Light emission:** Long side of housing

Switching output	Light spot size	Light spot direction	Connection type Detail	Type	Part no.
Push-pull: PNP/NPN	Ø 12 mm	Round	Plug, M12, 5-pin	KTX-WB9A94125AZZZZ	1220802
	Ø 3.3 mm	Round	Plug, M12, 5-pin	KTX-WB9494125AZZZZ	1220799

- **Housing design:** large
- **Communication interface:** IO-Link
- **Sensing distance:** ≤ 150 mm
- **Light emission:** Short device side

Switching output	Light spot size	Light spot direction	Connection type Detail	Type	Part no.
Push-pull: PNP/NPN	Ø 12 mm	Round	Plug, M12, 5-pin	KTX-WB9A94225AZZZZ	1220801
	Ø 3.3 mm	Round	Plug, M12, 5-pin	KTX-WB9494225AZZZZ	1220798

- **Housing design:** large
- **Communication interface:** IO-Link
- **Sensing distance:** ≤ 70 mm
- **Light emission:** Long side of housing

Switching output	Light spot size	Light spot direction	Connection type Detail	Type	Part no.
Push-pull: PNP/NPN	Ø 10 mm	Round	Plug, M12, 5-pin	KTX-WB9A64125AZZZZ	1220796

- **Housing design:** large
- **Communication interface:** IO-Link
- **Sensing distance:** ≤ 70 mm
- **Light emission:** Short device side

Switching output	Light spot size	Light spot direction	Connection type Detail	Type	Part no.
Push-pull: PNP/NPN	∅ 10 mm	Round	Plug, M12, 5-pin	KTX-WB9A64225AZZZZ	1220795

- **Housing design:** large
- **Communication interface:** -
- **Sensing distance:** ≤ 25 mm
- **Light emission:** Long side of housing

Switching output	Light spot size	Light spot direction	Connection type Detail	Type	Part no.
NPN	1.2 mm x 5.3 mm	Vertical	Plug, M12, 5-pin	KTX-WN91241252ZZZZ	1078105
			Male connector M12, 4-pin	KTX-WN91241242ZZZZ	1078107
PNP	1.2 mm x 5.3 mm	Vertical	Plug, M12, 5-pin	KTX-WP91241252ZZZZ	1078104
			Male connector M12, 4-pin	KTX-WP91241242ZZZZ	1078106
	5.3 mm x 1.2 mm	Horizontal	Male connector M12, 4-pin	KTX-WP92241242ZZZZ	1078108

- **Housing design:** large
- **Communication interface:** -
- **Sensing distance:** ≤ 25 mm
- **Light emission:** Short device side

Switching output	Light spot size	Light spot direction	Connection type Detail	Type	Part no.
NPN	1.2 mm x 5.3 mm	Vertical	Plug, M12, 5-pin	KTX-WN91242252ZZZZ	1078075
			Male connector M12, 4-pin	KTX-WN91242242ZZZZ	1078078
PNP	1.2 mm x 5.3 mm	Vertical	Plug, M12, 5-pin	KTX-WP91242252ZZZZ	1078074
			Male connector M12, 4-pin	KTX-WP91242242ZZZZ	1078077
	5.3 mm x 1.2 mm	Horizontal	Plug, M12, 5-pin	KTX-WP92242252ZZZZ	1078076
			Male connector M12, 4-pin	KTX-WP92242242ZZZZ	1078079

- **Housing design:** large
- **Communication interface:** -
- **Sensing distance:** ≤ 40 mm
- **Light emission:** Long side of housing

Switching output	Light spot size	Light spot direction	Connection type Detail	Type	Part no.
NPN	0.9 mm x 3.9 mm	Vertical	Male connector M12, 4-pin	KTX-WN91341242ZZZZ	1078145

Switching output	Light spot size	Light spot direction	Connection type Detail	Type	Part no.
PNP	0.9 mm x 3.9 mm	Vertical	Plug, M12, 5-pin	KTX-WP91341252ZZZZ	1078147
			Male connector M12, 4-pin	KTX-WP91341242ZZZZ	1078146

- **Housing design:** large
- **Communication interface:** -
- **Sensing distance:** ≤ 40 mm
- **Light emission:** Short device side

Switching output	Light spot size	Light spot direction	Connection type Detail	Type	Part no.
NPN	0.9 mm x 3.9 mm	Vertical	Plug, M12, 5-pin	KTX-WN91342252ZZZZ	1078133
			Male connector M12, 4-pin	KTX-WN91342242ZZZZ	1078136
PNP	0.9 mm x 3.9 mm	Horizontal	Plug, M12, 5-pin	KTX-WP92342252ZZZZ	1078134
			Male connector M12, 4-pin	KTX-WP92342242ZZZZ	1078137
		Vertical	Plug, M12, 5-pin	KTX-WP91342252ZZZZ	1078132
			Male connector M12, 4-pin	KTX-WP91342242ZZZZ	1078135

- **Housing design:** large
- **Communication interface:** Analog
- **Sensing distance:** ≤ 200 mm
- **Light emission:** Long side of housing

Switching output	Light spot size	Light spot direction	Connection type Detail	Type	Part no.
PNP	30 mm x 50 mm	Oval	Male connector M12, 4-pin	KTX-WP9GA4124IZZZZ	1078157

- **Housing design:** large
- **Communication interface:** Analog
- **Sensing distance:** ≤ 25 mm
- **Light emission:** Long side of housing

Switching output	Light spot size	Light spot direction	Connection type Detail	Type	Part no.
Push-pull: PNP/NPN	1.2 mm x 5.3 mm	Vertical	Plug, M12, 5-pin	KTX-WB9124125UZZZZ	1078113

- **Housing design:** large
- **Communication interface:** Analog
- **Sensing distance:** ≤ 25 mm
- **Light emission:** Short device side

Switching output	Light spot size	Light spot direction	Connection type Detail	Type	Part no.
Push-pull: PNP/NPN	1.2 mm x 5.3 mm	Vertical	Plug, M12, 5-pin	KTX-WB9124225UZZZZ	1078093

- **Housing design:** large
- **Communication interface:** Analog
- **Sensing distance:**  $\leq 40$  mm
- **Light emission:** Long side of housing

Switching output	Light spot size	Light spot direction	Connection type Detail	Type	Part no.
Push-pull: PNP/NPN	0.9 mm x 3.9 mm	Vertical	Plug, M12, 5-pin	KTX-WB9134125UZZZ	1220793

- **Housing design:** large
- **Communication interface:** Analog
- **Sensing distance:**  $\leq 70$  mm
- **Light emission:** Long side of housing

Switching output	Light spot size	Light spot direction	Connection type Detail	Type	Part no.
Push-pull: PNP/NPN	$\emptyset$ 10 mm	Round	Plug, M12, 5-pin	KTX-WB9A64125UZZZ	1078148

- **Housing design:** large
- **Communication interface:** Analog
- **Sensing distance:**  $\leq 70$  mm
- **Light emission:** Short device side

Switching output	Light spot size	Light spot direction	Connection type Detail	Type	Part no.
Push-pull: PNP/NPN	$\emptyset$ 10 mm	Round	Plug, M12, 5-pin	KTX-WB9A64225UZZZ	1078141

## 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](http://www.sick.com)