



## KTS

High-performance contrast and color detection in a small, compact 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>	26 mm x 62 mm x 47.5 mm
<b>Sensing distance</b>	13 mm 25 mm 27.5 mm 40 mm <sup>1)</sup> 150 mm <sup>1)</sup> 40 mm 70 mm <sup>1)</sup>
<b>Type of light</b>	LED <sup>2)</sup> RGB LED <sup>2)</sup> White
<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

The best performance KTS contrast sensors can be used in many applications, even under demanding conditions. The sensors in the KTS product family with RGB technology and VISTAL® housing feature good performance, high switching frequency and grayscale resolutions, as well as various teach-in variants. Some models come with TwinEye-Technology®, a display, and IO-Link for providing diagnostics and analysis data. Response times of just 10 µs and minimal jitter of 3 µs ensure positionally accurate color and contrast detection even at high machine speeds and for highly glossy materials. The color mode integrated into several variants and variable sensor settings ensure quick commissioning and high process stability. This makes KTS an ideal companion for digital machine environments.

## At a glance

- RGB technology for best possible detection
- Switching frequency: up to 70 kHz, jitter: 3 µs
- TwinEye-Technology® for high depth of field and sensing distance tolerance
- Various teach-in variants
- Color mode
- IO-Link and flexible sensor settings
- Display for easy sensor operation

## Your benefits

- High contrast and color resolution for best possible performance, even when detecting complex materials
- Various teach-in procedures for application-specific sensor and process settings
- Diagnostics, visualization, and simple format change via IO-Link
- Sensor data can be stored in the device: allows flexible process design and quick format change
- Multi-functional sensor adjustment for individual sensor adjustment
- TwinEye-Technology® for better performance in detecting glossy or fluttery materials, thereby resulting in fewer machine down-times and more process stability
- Space-saving due to compact design

## Fields of application

- Applications in which contrast is a distinguishing feature
- Print mark detection for controlling cutting processes
- Print control in the print and paper industry
- Positioning of tubes when filling
- Label alignment
- Splice detection in packaging and battery production
- Roll end monitoring

## Ordering information

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

- **Housing design:** middle
- **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	1.2 mm x 3.9 mm	Vertical	Male connector M12, 4-pin	KTS-WN41141142ZZZZ	1219611
				KTS-WN61141142ZZZZ	1118456
					1130332
					1132744
				KTS-WN71141142ZZZZ	1118454
PNP	0.9 mm x 3.8 mm	Vertical	Plug, M12, 5-pin	KTS-WP91141152ZZZZ	1222312
					1222691
PNP, NPN	0.9 mm x 3.8 mm	Vertical	Male connector M12, 4-pin	KTS-WS91141142ZZZZ	1218594
	1.2 mm x 3.9 mm	Vertical	Male connector M12, 4-pin	KTS-WS41141142ZZZZ	1221031
				KTS-WS61141142ZZZZ	1119944
			KTS-WS71141142ZZZZ	1119945	
Push-pull: PNP/NPN	0.9 mm x 3.8 mm	Horizontal	Plug, M12, 5-pin	KTS-WB92141152ZZZZ	1078123
					1218194
		Vertical	Plug, M12, 5-pin	KTS-WB91141152ZZZZ	1081730
					1078122
					1078114
	1.2 mm x 3.9 mm	Vertical	Male connector M12, 4-pin	KTS-WB91141142ZZZZ	1078121
					1218193
				KTS-WB41141142ZZZZ	1218200
				KTS-WB51141142ZZZZ	1219064
				KTS-WB61141142ZZZZ	1115363
			KTS-WB71141142ZZZZ	1118457	
			KTS-WB81141142ZZZZ	1078120	
∅ 0.9 mm	Round	Plug, M12, 5-pin	KTS-WB94141152ZZZZ	1218201	

- **Housing design:** middle
- **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.
PNP	1.2 mm x 5.3 mm	Vertical	Plug, M12, 5-pin	KTS-WP91241152ZZZZ	1219437
					1221244
Push-pull: PNP/NPN	-	-	Plug, M12, 5-pin	KTS-MBAC241152ZZZZ	1220204
	1.2 mm x 5.3 mm	Vertical	Plug, M12, 5-pin	KTS-WB91241152ZZZZ	1078124
					1218195
			Male connector M12, 4-pin	KTS-WB91241142ZZZZ	1084207
5.3 mm x 1.2 mm	Horizontal	Plug, M12, 5-pin	KTS-WB92241152ZZZZ	1218196	

- **Housing design:** middle
- **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	KTS-WB9214115AZZZZ	1078127	
					1218199	
		Vertical	Plug, M12, 5-pin	KTS-WB9114115AA90Z	1078131	
					KTS-WB9114115AZZZZ	1081731
						1078126
					1218198	
		KTS-WBN114115AZZZZ	1220040			
	Ø 0.9 mm	Round	Plug, M12, 5-pin	KTS-WB9414115AZZZZ	1218831	
1221015						
1145031						

- **Housing design:** middle
- **Communication interface:** IO-Link
- **Sensing distance:** ≤ 27.5 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	0.8 mm x 8 mm	Vertical	Plug, M12, 5-pin	KTS-MBD724115AZZZZ	1116839

- **Housing design:** middle
- **Communication interface:** IO-Link
- **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	KTS-WB9124115AZZZZ	1221669
					1078128
					1221290
	5.3 mm x 1.2 mm	Horizontal	Plug, M12, 5-pin	KTS-WB9224115AZZZZ	1221347
					1078129

- **Housing design:** middle
- **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	KTS-WB9134115AZZZZ	1220673
				KTS-WB9134115AZZZZZSZZZZZZZ1	1222250
	Ø 3.3 mm	Round	Plug, M12, 5-pin	KTS-WB9A34115AZZZZ	1220790
					1122151

- **Housing design:** middle
- **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	KTS-WB9A94115AZZZZ	1220800
	Ø 3.3 mm	Round	Plug, M12, 5-pin	KTS-WB9494115AZZZZ	1220797

- **Housing design:** middle
- **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	KTS-WB9A64115AZZZZ	1220794

- **Housing design:** middle
- **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	Plug, M12, 5-pin	KTS-WN91341152ZZZZ	1148558

- **Housing design:** middle
- **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.
Push-pull: PNP/NPN	0.9 mm x 3.8 mm	Horizontal	Plug, M12, 5-pin	KTS-WB9214115UZZZZ	1081387
		Vertical	Plug, M12, 5-pin	KTS-WB9114115UZZZZ	1084194
			Male connector M12, 4-pin	KTS-WB9114114IZZZZ	1078851
				KTS-WB9114114UZZZZ	1084197

## 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)