



## KTX

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

**SICK**  
Sensor Intelligence.



## Technical data overview

|                                |                                                                                                |
|--------------------------------|------------------------------------------------------------------------------------------------|
| <b>Communication interface</b> | -<br>IO-Link (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<br>40 mm <sup>1)</sup><br>25 mm<br>150 mm <sup>1)</sup><br>70 mm <sup>1)</sup><br>200 mm |
| <b>Type of light</b>           | LED <sup>2)</sup><br>RGB                                                                       |
| <b>Switching output</b>        | Push-pull: PNP/NPN<br>NPN<br>PNP, NPN<br>PNP (depends on variant)                              |
| <b>Connection type</b>         | Male connector M12, 4-pin<br>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  |
|                       |                 | Vertical             | Plug, M12, 5-pin          | KTX-WN91141252ZZZZ | 1109467  |
|                       |                 |                      |                           |                    | 1081726  |
|                       |                 |                      |                           |                    | 1078098  |
|                       |                 |                      | Male connector M12, 4-pin | KTX-WN41141242ZZZZ | 1137284  |
|                       |                 |                      |                           | KTX-WN91141242ZZZZ | 1078102  |
| PNP                   | 0.9 mm x 3.8 mm | Horizontal           | Plug, M12, 5-pin          | KTX-WP92141252ZZZZ | 1078099  |
|                       |                 |                      |                           | KTX-WP92141250ZZZZ | 1223322  |
|                       |                 |                      | Male connector M12, 4-pin | KTX-WP92141242ZZZZ | 1078103  |
|                       |                 | Vertical             | Plug, M12, 5-pin          | KTX-WP91141252ZZZZ | 1222540  |
|                       |                 |                      |                           |                    | 1109466  |
|                       |                 |                      |                           |                    | 1081725  |
|                       |                 |                      |                           |                    | 1078097  |
|                       |                 |                      |                           | KTX-WP91141250ZZZZ | 1223321  |
|                       |                 |                      |                           |                    | 1078110  |
|                       |                 |                      | Male connector M12, 4-pin | KTX-WP91141242ZZZZ | 1078101  |
|                       |                 |                      |                           | KTX-WP91141241ZZZZ | 1078109  |
| PNP, NPN              | 0.9 mm x 3.8 mm | Vertical             | Male connector M12, 4-pin | KTX-WS41141242ZZZZ | 1137286  |
|                       |                 |                      |                           | KTX-WS91141242ZZZZ | 1078167  |
| Push-pull:<br>PNP/NPN | 0.9 mm x 3.8 mm | Horizontal           | Plug, M12, 5-pin          | KTX-WB92141250ZZZZ | 1078112  |
|                       |                 | Vertical             | Plug, M12, 5-pin          | KTX-WB91141259ZZZZ | 1079090  |
|                       |                 |                      |                           | KTX-WB91141250ZZZZ | 1078111  |
|                       |                 |                      |                           | KTX-WBN1141252ZZZZ | 1220055  |
|                       |                 |                      | Male connector M12, 4-pin | KTX-WB41141242ZZZZ | 1137283  |
|                       |                 |                      |                           | KTX-WB91141240ZZZZ | 1084196  |
|                       | Ø 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  |
|                  |                 |                      | Male connector M12, 4-pin | KTX-WN92142242ZZZZ | 1078073  |
|                  |                 | Vertical             | Plug, M12, 5-pin          | KTX-WN91142252ZZZZ | 1219737  |
|                  |                 |                      |                           |                    | 1081724  |
|                  |                 |                      |                           |                    | 1078067  |
|                  |                 |                      | Male connector M12, 4-pin | KTX-WN9114225UZZZZ | 1218271  |
|                  |                 |                      |                           |                    | 1137288  |
|                  |                 |                      |                           |                    | 1078071  |
|                  | Ø 0.9 mm        | Round                | Plug, M12, 5-pin          | KTX-WN94142252ZZZZ | 1078088  |
|                  |                 |                      |                           |                    | 1078153  |
| PNP              | 0.9 mm x 3.8 mm | Horizontal           | Plug, M12, 5-pin          | KTX-WP92142252ZZZZ | 1078089  |
|                  |                 |                      |                           |                    | 1220994  |
|                  |                 |                      | Male connector M12, 4-pin | KTX-WP92142242ZZZZ | 1128351  |
|                  |                 |                      |                           |                    | 1078068  |
|                  |                 | Vertical             | Plug, M12, 5-pin          | KTX-WP91142252ZZZZ | 1078154  |
|                  |                 |                      |                           |                    | 1219607  |
|                  |                 |                      |                           |                    | 1219605  |
|                  |                 |                      | Male connector M12, 4-pin | KTX-WP91142242ZZZZ | 1136867  |
|                  |                 |                      |                           |                    | 1081723  |
|                  |                 |                      |                           |                    | 1078066  |
|                  | 0.9 mm x 3.8 mm | Vertical             | Plug, M12, 5-pin          | KTX-WP9114225UZZZZ | 1078090  |
|                  |                 |                      |                           |                    | 1078164  |
|                  |                 |                      | Male connector M12, 4-pin | KTX-WP91142242ZZZZ | 1078070  |
|                  |                 |                      |                           |                    | 1078087  |
|                  |                 |                      |                           |                    | 1137289  |
|                  |                 |                      | Male connector M12, 4-pin | KTX-WS41142242ZZZZ | 1078166  |
|                  |                 |                      |                           |                    | 1078166  |

| Switching output      | Light spot size | Light spot direction | Connection type Detail    | Type               | Part no. |
|-----------------------|-----------------|----------------------|---------------------------|--------------------|----------|
| Push-pull:<br>PNP/NPN | 0.9 mm x 3.8 mm | Horizontal           | Plug, M12, 5-pin          | KTX-WB9214225UZZZZ | 1078092  |
|                       |                 | Vertical             | Plug, M12, 5-pin          | KTX-WB91142252ZZZZ | 1219736  |
|                       |                 |                      |                           | KTX-WB91142259ZZZZ | 1078096  |
|                       |                 |                      |                           | KTX-WB9114225UZZZZ | 1219608  |
|                       |                 |                      |                           |                    | 1078091  |
|                       |                 |                      |                           | KTX-WBN1142252ZZZZ | 1220041  |
|                       |                 |                      | Male connector M12, 4-pin | KTX-WB41142242ZZZZ | 1137287  |
|                       |                 |                      |                           | KTX-WB9114224UZZZZ | 1219610  |
|                       | Ø 0.9 mm        | Round                | Plug, M12, 5-pin          | KTX-WB94142252ZZZZ | 1084195  |
|                       |                 |                      |                           |                    | 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:<br>PNP/NPN | 0.9 mm x 3.8 mm | Horizontal           | Plug, M12, 5-pin       | KTX-WB9214125AZZZZ | 1081722  |
|                       |                 | Vertical             | Plug, M12, 5-pin       | KTX-WB9114125AZZZZ | 1081728  |
|                       |                 |                      |                        |                    | 1081721  |
|                       |                 |                      |                        | KTX-WBN114125AZZZZ | 1220056  |
|                       | Ø 0.9 mm        | Round                | Plug, M12, 5-pin       | 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:<br>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-WB9114225AA90Z           | 1078086  |
|                       |                 |                      |                        | KTX-WB9114225AZZZZ           | 1081727  |
|                       |                 |                      |                        |                              | 1078080  |
|                       |                 |                      |                        | KTX-WBN114225AZZZZ           | 1220042  |

- **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 | Horizontal           | Male connector M12, 4-pin | KTX-WN9234224IZZZZ | 1078139  |
|                       |                 | 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  |
|                       |                 |                      |                           | KTX-WP9134224IZZZZ | 1078138  |
| Push-pull:<br>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:**  $\leq 25$  mm
- **Light emission:** Short device side

| Switching output      | Light spot size | Light spot direction | Connection type Detail | Type               | Part no. |
|-----------------------|-----------------|----------------------|------------------------|--------------------|----------|
| Push-pull:<br>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:**  $\leq 40$  mm
- **Light emission:** Long side of housing

| Switching output      | Light spot size | Light spot direction | Connection type Detail | Type               | Part no. |
|-----------------------|-----------------|----------------------|------------------------|--------------------|----------|
| Push-pull:<br>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:**  $\leq 40$  mm
- **Light emission:** Short device side

| Switching output      | Light spot size | Light spot direction | Connection type Detail | Type               | Part no. |
|-----------------------|-----------------|----------------------|------------------------|--------------------|----------|
| Push-pull:<br>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:**  $\leq 150$  mm
- **Light emission:** Long side of housing

| Switching output      | Light spot size | Light spot direction | Connection type Detail | Type               | Part no. |
|-----------------------|-----------------|----------------------|------------------------|--------------------|----------|
| Push-pull:<br>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:**  $\leq 150$  mm
- **Light emission:** Short device side

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

- **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  |

| 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          | 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  |
| Push-pull: PNP/NPN | 1.2 mm x 5.3 mm | Vertical             | Plug, M12, 5-pin          | KTX-WB9124225UZZZZ | 1078093  |

- **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  |
| PNP                | 0.9 mm x 3.9 mm | Vertical             | Plug, M12, 5-pin          | KTX-WP91341252ZZZZ | 1078147  |
|                    |                 |                      | Male connector M12, 4-pin | KTX-WP91341242ZZZZ | 1078146  |
| Push-pull: PNP/NPN | 0.9 mm x 3.9 mm | Vertical             | Plug, M12, 5-pin          | KTX-WB9134125UZZZZ | 1220793  |

- **Housing design:** large
- **Communication interface:** -
- **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:** -
- **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-WB9A64125UZZZZ | 1078148  |

- **Housing design:** large
- **Communication interface:** -
- **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:<br>PNP/NPN | Ø 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)