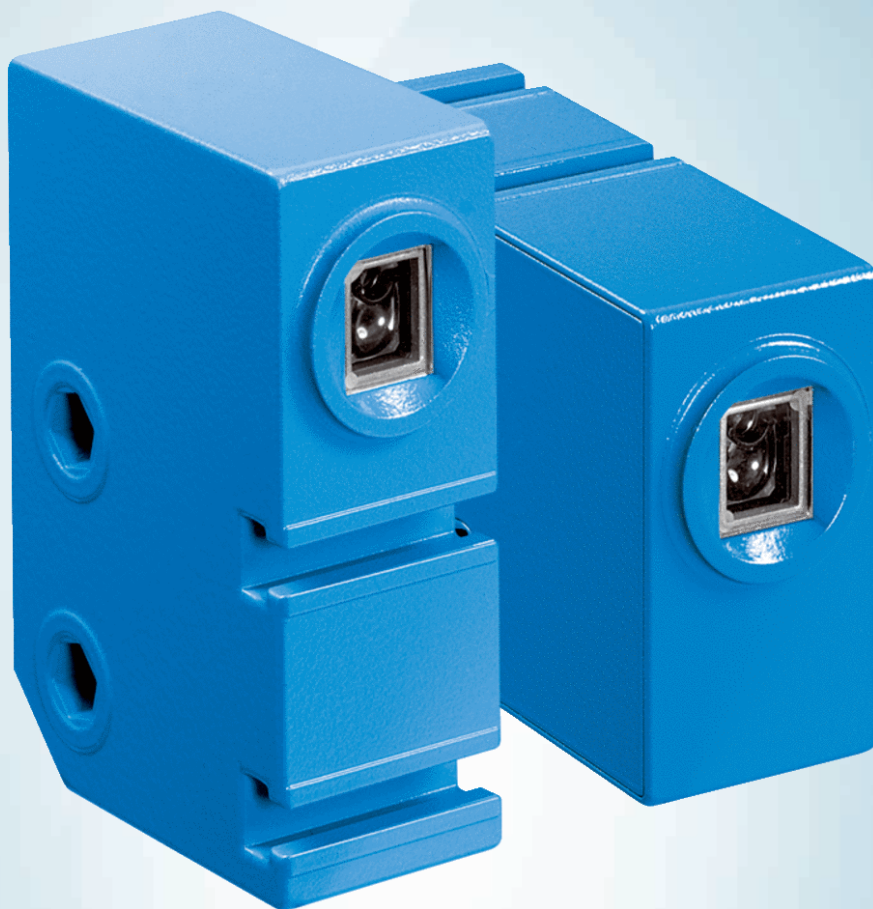




**KT6W-2N5116**  
KT6

**CONTRAST SENSORS**

**SICK**  
Sensor Intelligence.

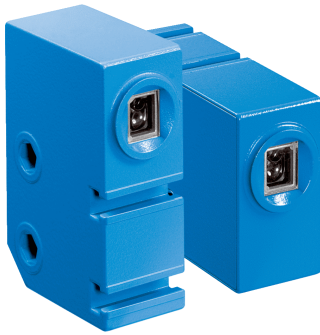


Illustration may differ

## Ordering information

| Type        | part no. |
|-------------|----------|
| KT6W-2N5116 | 1046010  |

Other models and accessories → [www.sick.com/KT6](http://www.sick.com/KT6)

## Detailed technical data

### Features

|                                   |                         |
|-----------------------------------|-------------------------|
| <b>Dimensions (W x H x D)</b>     | 30.4 mm x 53 mm x 80 mm |
| <b>Sensing distance</b>           | ≤ 10 mm                 |
| <b>Sensing distance tolerance</b> | ± 3 mm                  |
| <b>Housing design</b>             | Rectangular             |
| <b>Light source</b>               | LED, RGB <sup>1)</sup>  |
| <b>Wave length</b>                | 640 nm, 525 nm, 470 nm  |
| <b>Light emission</b>             | Short device side       |
| <b>Light spot size</b>            | 1.5 mm x 6.5 mm         |
| <b>Light spot direction</b>       | Vertical <sup>2)</sup>  |
| <b>Adjustment</b>                 | Teach-in button         |
| <b>Teach-in mode</b>              | Static 2-point teach-in |

<sup>1)</sup> Average service life: 100,000 h at T<sub>U</sub> = +25 °C.

<sup>2)</sup> In relation to long side of housing.

### Electronics

|                                        |                                                |
|----------------------------------------|------------------------------------------------|
| <b>Supply voltage</b>                  | 10 V DC ... 30 V DC <sup>1)</sup>              |
| <b>Ripple</b>                          | ≤ 5 V <sub>pp</sub> <sup>2)</sup>              |
| <b>Current consumption</b>             | < 40 mA <sup>3)</sup>                          |
| <b>Switching frequency</b>             | 5 kHz <sup>4)</sup>                            |
| <b>Response time</b>                   | 100 μs                                         |
| <b>Switching output</b>                | NPN                                            |
| <b>Switching output (voltage)</b>      | NPN: HIGH = approx. U <sub>V</sub> / LOW ≤ 2 V |
| <b>Output current I<sub>max.</sub></b> | 100 mA                                         |
| <b>Retention time (ET)</b>             | 25 ms, non-volatile memory                     |

<sup>1)</sup> Limit values when operated in short-circuit protected network: max. 8 A.

<sup>2)</sup> May not fall below or exceed U<sub>V</sub> tolerances.

<sup>3)</sup> Without load.

<sup>4)</sup> With light/dark ratio 1:1.

<sup>5)</sup> Reference voltage DC 32 V.

|                           |                                                                                                                              |
|---------------------------|------------------------------------------------------------------------------------------------------------------------------|
| <b>Time delay</b>         | None                                                                                                                         |
| <b>Protection class</b>   | II <sup>5)</sup>                                                                                                             |
| <b>Circuit protection</b> | U <sub>V</sub> connections, reverse polarity protected<br>Output Q short-circuit protected<br>Interference pulse suppression |

1) Limit values when operated in short-circuit protected network: max. 8 A.

2) May not fall below or exceed U<sub>V</sub> tolerances.

3) Without load.

4) With light/dark ratio 1:1.

5) Reference voltage DC 32 V.

## Mechanics

|                         |                           |
|-------------------------|---------------------------|
| <b>Housing material</b> | Zinc diecast              |
| <b>Connection type</b>  | Male connector M12, 4-pin |
| <b>Weight</b>           | 400 g                     |

## Ambient data

|                                      |                        |
|--------------------------------------|------------------------|
| <b>Ambient operating temperature</b> | -10 °C ... +55 °C      |
| <b>Ambient temperature, storage</b>  | -25 °C ... +75 °C      |
| <b>Shock load</b>                    | According to IEC 60068 |
| <b>Enclosure rating</b>              | IP67                   |

## Classifications

|                       |          |
|-----------------------|----------|
| <b>ECLASS 5.0</b>     | 27270906 |
| <b>ECLASS 5.1.4</b>   | 27270906 |
| <b>ECLASS 6.0</b>     | 27270906 |
| <b>ECLASS 6.2</b>     | 27270906 |
| <b>ECLASS 7.0</b>     | 27270906 |
| <b>ECLASS 8.0</b>     | 27270906 |
| <b>ECLASS 8.1</b>     | 27270906 |
| <b>ECLASS 9.0</b>     | 27270906 |
| <b>ECLASS 10.0</b>    | 27270906 |
| <b>ECLASS 11.0</b>    | 27270906 |
| <b>ECLASS 12.0</b>    | 27270906 |
| <b>ETIM 5.0</b>       | EC001820 |
| <b>ETIM 6.0</b>       | EC001820 |
| <b>ETIM 7.0</b>       | EC001820 |
| <b>ETIM 8.0</b>       | EC001820 |
| <b>UNSPSC 16.0901</b> | 39121528 |

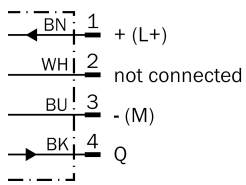
⑤ SW8 T-slot for M5 nut

1. Teach mark > 1 s

2. Teach background

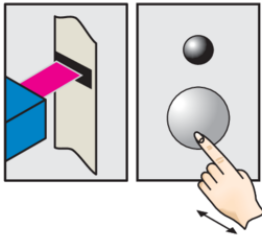
- 4 CONTRAST SENSORS | SICK

## Connection diagram Cd-066



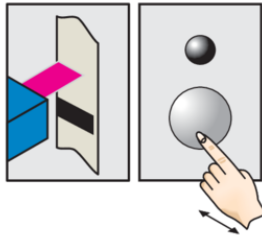
## Concept of operation Teach-in static

### 1. Position mark



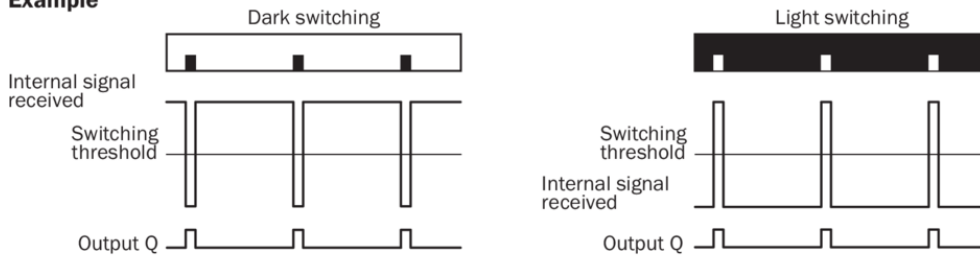
Press and hold teach-in button  
> 1 s.  
Red emitted light flashes.

### 2. Position background



Press and hold teach-in button  
> 1 s.  
Yellow LED will illuminate, when  
emitted light is on the mark.

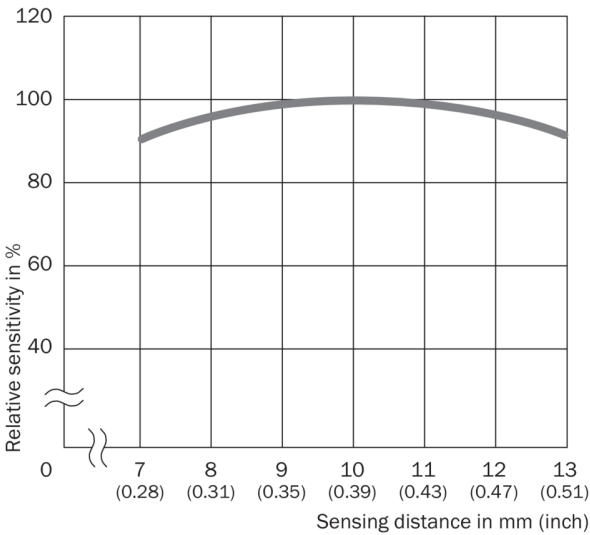
### Example



### Switching characteristics

The optimum emitted light is selected automatically.  
Light/dark setting is defined using teach-in sequence.  
The switching threshold is set in the center between the background and the mark.

Sensing distance



## Recommended accessories

Other models and accessories → [www.sick.com/KT6](http://www.sick.com/KT6)

|                                                                                     | Brief description                                                                                                                                                                                                                                                                                                                                                                                                        | Type               | part no. |
|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|----------|
| connectors and cables                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                          |                    |          |
|    | <ul style="list-style-type: none"> <li><b>Connection type head A:</b> Female connector, M12, 4-pin, straight, A-coded</li> <li><b>Description:</b> Unshielded</li> <li><b>Connection systems:</b> Screw-type terminals</li> <li><b>Permitted cross-section:</b> ≤ 0.75 mm²</li> </ul>                                                                                                                                    | DOS-1204-G         | 6007302  |
|    | <ul style="list-style-type: none"> <li><b>Connection type head A:</b> Female connector, M12, 4-pin, angled, A-coded</li> <li><b>Description:</b> Unshielded</li> <li><b>Connection systems:</b> Screw-type terminals</li> <li><b>Permitted cross-section:</b> ≤ 0.75 mm²</li> </ul>                                                                                                                                      | DOS-1204-W         | 6007303  |
|    | <ul style="list-style-type: none"> <li><b>Connection type head A:</b> Female connector, M12, 4-pin, straight, A-coded</li> <li><b>Connection type head B:</b> Flying leads</li> <li><b>Signal type:</b> Sensor/actuator cable</li> <li><b>Cable:</b> 2 m, 4-wire, PVC</li> <li><b>Description:</b> Sensor/actuator cable, unshielded</li> <li><b>Application:</b> Zones with chemicals, Uncontaminated zones</li> </ul>  | YF2A14-020VB3XLEAX | 2096234  |
|    | <ul style="list-style-type: none"> <li><b>Connection type head A:</b> Female connector, M12, 4-pin, straight, A-coded</li> <li><b>Connection type head B:</b> Flying leads</li> <li><b>Signal type:</b> Sensor/actuator cable</li> <li><b>Cable:</b> 5 m, 4-wire, PVC</li> <li><b>Description:</b> Sensor/actuator cable, unshielded</li> <li><b>Application:</b> Zones with chemicals, Uncontaminated zones</li> </ul>  | YF2A14-050VB3XLEAX | 2096235  |
|    | <ul style="list-style-type: none"> <li><b>Connection type head A:</b> Female connector, M12, 4-pin, straight, A-coded</li> <li><b>Connection type head B:</b> Flying leads</li> <li><b>Signal type:</b> Sensor/actuator cable</li> <li><b>Cable:</b> 10 m, 4-wire, PVC</li> <li><b>Description:</b> Sensor/actuator cable, unshielded</li> <li><b>Application:</b> Zones with chemicals, Uncontaminated zones</li> </ul> | YF2A14-100VB3XLEAX | 2096236  |
|  | <ul style="list-style-type: none"> <li><b>Connection type head A:</b> Female connector, M12, 4-pin, straight, A-coded</li> <li><b>Connection type head B:</b> Flying leads</li> <li><b>Signal type:</b> Sensor/actuator cable</li> <li><b>Cable:</b> 15 m, 4-wire, PVC</li> <li><b>Description:</b> Sensor/actuator cable, unshielded</li> <li><b>Application:</b> Zones with chemicals, Uncontaminated zones</li> </ul> | YF2A14-150VB3XLEAX | 2096237  |
|  | <ul style="list-style-type: none"> <li><b>Connection type head A:</b> Female connector, M12, 4-pin, angled, A-coded</li> <li><b>Connection type head B:</b> Flying leads</li> <li><b>Signal type:</b> Sensor/actuator cable</li> <li><b>Cable:</b> 2 m, 4-wire, PVC</li> <li><b>Description:</b> Sensor/actuator cable, unshielded</li> <li><b>Application:</b> Zones with chemicals, Uncontaminated zones</li> </ul>    | YG2A14-020VB3XLEAX | 2095895  |
|  | <ul style="list-style-type: none"> <li><b>Connection type head A:</b> Female connector, M12, 4-pin, angled, A-coded</li> <li><b>Connection type head B:</b> Flying leads</li> <li><b>Signal type:</b> Sensor/actuator cable</li> <li><b>Cable:</b> 5 m, 4-wire, PVC</li> <li><b>Description:</b> Sensor/actuator cable, unshielded</li> <li><b>Application:</b> Zones with chemicals, Uncontaminated zones</li> </ul>    | YG2A14-050VB3XLEAX | 2095897  |
|  | <ul style="list-style-type: none"> <li><b>Connection type head A:</b> Female connector, M12, 4-pin, angled, A-coded</li> <li><b>Connection type head B:</b> Flying leads</li> <li><b>Signal type:</b> Sensor/actuator cable</li> <li><b>Cable:</b> 10 m, 4-wire, PVC</li> <li><b>Description:</b> Sensor/actuator cable, unshielded</li> <li><b>Application:</b> Zones with chemicals, Uncontaminated zones</li> </ul>   | YG2A14-100VB3XLEAX | 2095898  |
|  | <ul style="list-style-type: none"> <li><b>Connection type head A:</b> Female connector, M12, 4-pin, angled, A-coded</li> <li><b>Connection type head B:</b> Flying leads</li> <li><b>Signal type:</b> Sensor/actuator cable</li> <li><b>Cable:</b> 0.6 m, 4-wire, PVC</li> <li><b>Description:</b> Sensor/actuator cable, unshielded</li> <li><b>Application:</b> Zones with chemicals, Uncontaminated zones</li> </ul>  | YG2A14-C60VB3XLEAX | 2145709  |
|  | <ul style="list-style-type: none"> <li><b>Connection type head A:</b> Female connector, M12, 4-pin, angled, A-coded</li> <li><b>Connection type head B:</b> Flying leads</li> <li><b>Signal type:</b> Sensor/actuator cable</li> <li><b>Cable:</b> 1 m, 4-wire, PVC</li> <li><b>Description:</b> Sensor/actuator cable, unshielded</li> </ul>                                                                            | YG2A14-010VB3XLEAX | 2145710  |

|                                                                                   | Brief description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Type               | part no. |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|----------|
|  | <ul style="list-style-type: none"> <li>• <b>Application:</b> Zones with chemicals, Uncontaminated zones</li> <li>• <b>Connection type head A:</b> Female connector, M12, 4-pin, straight, A-coded</li> <li>• <b>Connection type head B:</b> Flying leads</li> <li>• <b>Signal type:</b> Sensor/actuator cable</li> <li>• <b>Cable:</b> 0.6 m, 4-wire, PVC</li> <li>• <b>Description:</b> Sensor/actuator cable, unshielded</li> <li>• <b>Application:</b> Zones with chemicals, Uncontaminated zones</li> </ul> | YF2A14-C60VB3XLEAX | 2145707  |
|                                                                                   | <ul style="list-style-type: none"> <li>• <b>Connection type head A:</b> Female connector, M12, 4-pin, straight, A-coded</li> <li>• <b>Connection type head B:</b> Flying leads</li> <li>• <b>Signal type:</b> Sensor/actuator cable</li> <li>• <b>Cable:</b> 1 m, 4-wire, PVC</li> <li>• <b>Description:</b> Sensor/actuator cable, unshielded</li> <li>• <b>Application:</b> Zones with chemicals, Uncontaminated zones</li> </ul>                                                                             | YF2A14-010VB3XLEAX | 2145708  |
| Mounting systems                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                    |          |
|  | <ul style="list-style-type: none"> <li>• <b>Description:</b> Plate K for universal clamp bracket</li> <li>• <b>Material:</b> Steel</li> <li>• <b>Details:</b> Steel, zinc coated</li> <li>• <b>Items supplied:</b> Universal clamp (2022726), mounting hardware</li> <li>• <b>Usable for:</b> W11-2, W12-3, W14-2, W18-3, W23-2, W24-2, W27-3, W30, W32, W34, W36, PL50A, PL80A, P250, UC12, LUT3, KT2, KT5-2, KT8, CS8, DT2, DS30, DS40, W12-2 Laser, W16, W26, KT5</li> </ul>                                 | BEF-KHS-K01        | 2022718  |

## 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.”**

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Contacts and other locations –[www.sick.com](http://www.sick.com)