



# KTS-WB51141142ZZZZ

KTS Core

**CONTRAST SENSORS** 





## Ordering information

Туре	Part no.
KTS-WB51141142ZZZZ	1219064

Other models and accessories → www.sick.com/KTS\_Core

Illustration may differ









## Detailed technical data

## **Features**

Special applications	Standard
Device type	Easy Teach
Dimensions (W x H x D)	26 mm x 62 mm x 47.5 mm
Sensing distance	≤ 13 mm
Sensing distance tolerance	± 3 mm
Housing design	Middle
Light source	LED, RGB <sup>1)</sup>
Wave length	470 nm, 525 nm, 625 nm
Light emission	Long side of housing
Light spot size	1.2 mm x 3.9 mm
Light spot direction	Vertical <sup>2)</sup>
Receiving filters	None
Teach-in mode	Teach-in dynamic
Output function	Light/dark switching
Delay time	-
Special features	-
Delivery status	Teach-in dynamic
Parameter presettings	None
Setting the key lock	Standard

 $<sup>^{1)}</sup>$  Average service life: 100,000 h at  $T_U$  = +25 °C.

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

## Mechanics/electronics

Supply voltage	10.8 V DC 28.8 V DC $^{1)}$
Ripple	$\leq$ 5 $V_{pp}^{2)}$
Current consumption	$<$ 100 mA $^{3)}$
Switching frequency	25 kHz <sup>4)</sup>
Response time	20 μs <sup>5)</sup>
Jitter	10 μs
Switching output	Push-pull: PNP/NPN
Switching output (voltage)	Push-pull: PNP/NPN HIGH = $U_V$ - 3 V/LOW $\leq$ 3 V
Output current I <sub>max.</sub>	100 mA <sup>6)</sup>
Input, teach-in (ET)	Teach: $U = 10 \text{ V} < V_S$
Retention time (ET)	35 ms, non-volatile memory
Connection type	Male connector M12, 4-pin
Protection class	III
Circuit protection	U <sub>V</sub> connections, reverse polarity protected Output Q short-circuit protected Interference pulse suppression
Enclosure rating	IP67
Weight	68 g
Housing material	Plastic, VISTAL®
Optics material	Plastic, COP

 $<sup>^{1)}</sup>$  Limit values: DC 12 V (–10 %) ... DC 24 V (+20 %) . Operation in short-circuit protected network max. 8 A.

## Ambient data

Ambient operating temperature	-20 °C +60 °C
Ambient temperature, storage	-25 °C +75 °C
Shock load	According to IEC 60068-2-27 (30 g/11 ms)
UL File No.	E181493

## Classifications

eCl@ss 5.0	27270906
eCl@ss 5.1.4	27270906
eCl@ss 6.0	27270906
eCl@ss 6.2	27270906
eCl@ss 7.0	27270906
eCl@ss 8.0	27270906
eCl@ss 8.1	27270906
eCl@ss 9.0	27270906
eCl@ss 10.0	27270906

 $<sup>^{2)}</sup>$  May not exceed or fall below  $U_{\nu}$  tolerances.

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

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

<sup>5)</sup> Signal transit time with resistive load.

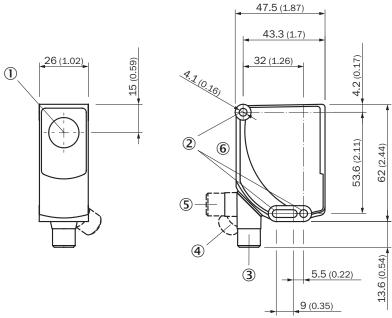
<sup>6)</sup> Total current of all Outputs.

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## **CONTRAST SENSORS**

eCl@ss 11.0	27270906
eCl@ss 12.0	27270906
ETIM 5.0	EC001820
ETIM 6.0	EC001820
ETIM 7.0	EC001820
ETIM 8.0	EC001820
UNSPSC 16.0901	39121528

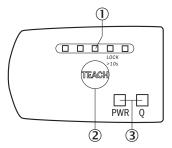
## Dimensional drawing (Dimensions in mm (inch))



- ① Optical axis
- ② Fixing hole
- $\ensuremath{\mathfrak{3}} \ensuremath{\,\text{M12}\,\text{male}} \ensuremath{\,\text{connector, delivery state}}$
- ④ M12 male connector, end stop right
- ⑤ M12 male connector, end stop left
- ⑤ Display and adjustment elements

## Adjustments

Display and adjustment elements



- ① Bar graph② Single teach-in button
- ③ LED status indicator

## Connection diagram

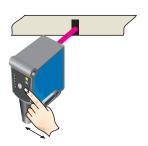
Cd-380

## Concept of operation

KTS Core Easy Teach - Setting the switching threshold

Suitable for manual positioning of the object to be detected, e.g. marks and background.

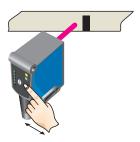
#### 1. Position mark



When setting the contrasts to be detected, the first LED (green) flashes in the bar graph.

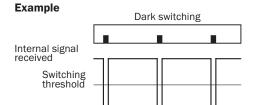
Press Teach-in pushbutton.

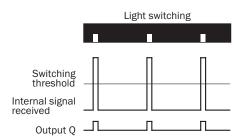
#### 2. Position background



When setting the contrasts to be detected, the second LED (green) flashes in the bar graph.

Press Teach-in pushbutton.





#### **Switching characteristics**

Output Q \_\_\_\_\_\_

The optimum emitted light is selected automatically (at RGB variants). Static teach-in: light/dark setting is defined using teach-in sequence.

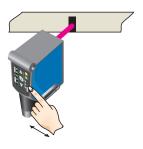
Keylock (activation and deactivation): Press and hold the Teach-in pushbutton > 10 s.

Teach-in failure: The Q-LED (yellow) flashes and all LEDs flash on the bar graph (green).

KTS Core - setting the switching threshold (2-point teach-in)

Suitable for manual positioning of the object to be detected, e.g. marks and background.

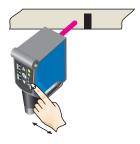
#### 1. Position mark



When setting the contrasts to be detected, the first LED (green) flashes in the bar graph.

Press set button.

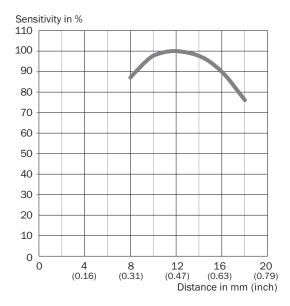
#### 2. Position background



When setting the contrasts to be detected, the second LED (green) flashes in the bar graph. Press set button. The Quality of Teach is displayed.

## Sensing distance

#### KTS Core



#### Recommended accessories

Other models and accessories → www.sick.com/KTS\_Core

	Brief description	Туре	Part no.
Universal bar clamp systems			
	Plate K for universal clamp bracket, steel, zinc coated, Universal clamp (2022726), mounting hardware	BEF-KHS-K01	2022718

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## **CONTRAST SENSORS**

	Brief description	Туре	Part no.
	Mounting bar, straight, 200 mm, steel, steel, zinc coated, without mounting hardware	BEF-MS12G-A	4056054
	Mounting bar, L-shaped, 150 mm x 150 mm, steel, steel, zinc coated, without mounting hardware	BEF-MS12L-A	4056052
Plug connectors and cables			
	Head A: female connector, M12, 4-pin, straight, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PVC, unshielded, 5 m	YF2A14- 050VB3XLEAX	2096235
The second	Head A: male connector, M12, 4-pin, straight Cable: unshielded	STE-1204-G	6009932

## 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.

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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

