



KTS-WB91141142ZZZZ

KTS

CONTRAST SENSORS





Ordering information

Туре	Part no.
KTS-WB91141142ZZZZ	1078121

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

Illustration may differ









Detailed technical data

Features

Special applications	Standard
Device type	Standard
Dimensions (W x H x D)	26 mm x 62 mm x 47.5 mm
Sensing distance	≤ 13 mm
Sensing distance tolerance	± 5 mm
Housing design	Middle
Light source	LED, RGB ¹⁾
Wave length	470 nm, 525 nm, 625 nm
Light emission	Long side of housing
Light spot size	0.9 mm x 3.8 mm
Light spot direction	Vertical ²⁾
Receiving filters	None
Teach-in mode	1-point teach-in, 2-point teach-in, teach-in dynamic, auto mode
Output function	Light/dark switching
Delay time	Adjustable
Special features	-
Delivery status	2-point teach-in
Parameter presettings	None
Setting the key lock	Standard

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

²⁾ In relation to long side of housing.

Mechanics/electronics

Supply voltage	10.8 V DC 28.8 V DC ¹⁾
Ripple	≤ 5 V _{pp} ²⁾
Current consumption	< 100 mA ³⁾
Switching frequency	50 kHz ^{4) 5)}
Response time	10 μs ^{6) 7)}
Jitter	5 μs ⁸⁾
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 _{max.}	100 mA ⁹⁾
Input, teach-in (ET)	Teach: $U = 10 \text{ V} < V_S$
Input, blanking input (AT)	Blanked: U = 10 V < Uv
Input, fine/coarse (F/C)	Coarse: U = 10 V < Uv
Input, light/dark (L/D)	Light: U = 10 V < Uv
Retention time (ET)	25 ms, non-volatile memory
Connection type	Male connector M12, 4-pin
Protection class	III
Circuit protection	U _V connections, reverse polarity protected Output Q short-circuit protected Interference pulse suppression
Enclosure rating	IP67
Weight	68 g
Housing material	VISTAL®
Optics material	COP

 $^{^{1)}}$ 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

ECLASS 5.0	27270906
ECLASS 5.1.4	27270906
ECLASS 6.0	27270906
ECLASS 6.2	27270906

 $^{^{2)}\,\}mbox{May}$ not fall below or exceed $\mbox{U}_{\mbox{\scriptsize V}}$ tolerances.

³⁾ Without load.

 $^{^{4)}}$ With light/dark ratio 1:1.

⁵⁾ 1-point teach-in (color mode): 16 kHz.

⁶⁾ Signal transit time with resistive load.

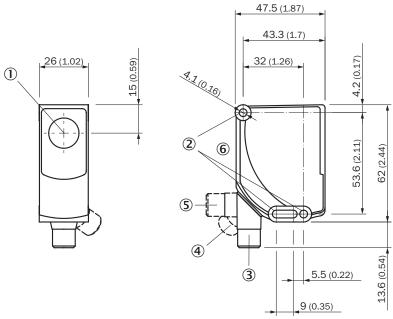
 $^{^{7)}}$ 1-point teach-in (color mode): 30 μ s.

 $^{^{8)}}$ 1-point teach-in (color mode): 15 $\mu s.$

⁹⁾ Total current of all Outputs.

ECLASS 7.0	27270906
ECLASS 8.0	27270906
ECLASS 8.1	27270906
ECLASS 9.0	27270906
ECLASS 10.0	27270906
ECLASS 11.0	27270906
ECLASS 12.0	27270906
ETIM 5.0	EC001820
ETIM 6.0	EC001820
ETIM 7.0	EC001820
ETIM 8.0	EC001820
UNSPSC 16.0901	39121528

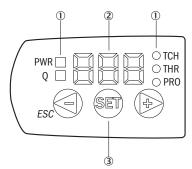
Dimensional drawing (Dimensions in mm (inch))



- Optical axis
 Fixing hole
- 3 M12 male 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 LED status indicator
- ② Display
- ③ Navigation buttons

Connection diagram

Cd-381

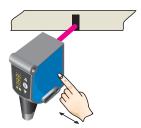


Concept of operation

KTS/KTX Prime - setting the switching threshold (2-point teach-in)

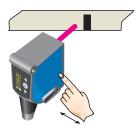
Suitable for manual positioning of the object to be detected, e.g. marks and background.

1. Position mark



When setting the contrasts to be detected, "1st" flashes. Press set button.

2. Position background



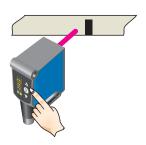
When setting the contrasts to be detected, "2nd" flashes. Press set button. The Quality of Teach is displayed.

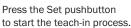
KTS/KTX Prime - Setting the switching threshold (teach-in dynamic)

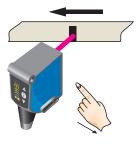
Suitable for teaching in moving objects.

1. Position background

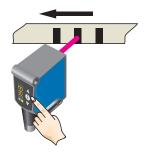
2. Move at least the mark and background using the light spot



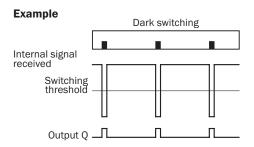


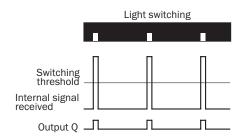


The display lights up during repeat length detection (- - -).



Press the Set pushbutton to end the teach-in process.
The Quality of Teach is displayed.





Switching characteristics

The optimum emitted light is selected automatically (at RGB variants).

Static teach-in: light/dark setting is defined using teach-in sequence.

Dynamic teach-in: switching output active on mark, if background is longer in the field of view during the teach-in.

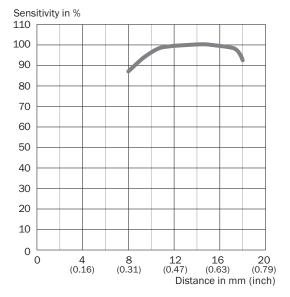
The switching threshold is set in the center between the background and the mark.

Keylock (activation and deactivation): Press and hold the "+" pushbutton > 10 s.

The Q-LED (yellow) flashes and the "Err" error message appears on the display.

Sensing distance

Sensing distance 13 mm, light spot direction horizontal/vertical



Recommended accessories

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

	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	
	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	
Others				
	 Connection type head A: Male connector, M12, 4-pin, straight, A-coded Description: Unshielded Connection systems: Screw-type terminals Permitted cross-section: ≤ 0.75 mm² 	STE-1204-G	6009932	
	 Connection type head A: Female connector, M12, 4-pin, straight, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 5 m, 4-wire, PVC Description: Sensor/actuator cable, unshielded Application: Zones with chemicals 	YF2A14- 050VB3XLEAX	2096235	

SICK AT A GLANCE

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