



KTX-WBN1142252ZZZZ

KTX

CONTRAST SENSORS

SICK
Sensor Intelligence.



Illustration may differ



Ordering information

Type	Part no.
KTX-WBN1142252ZZZZ	1220041

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

Detailed technical data

Features

Special applications	Color Sequence
Device type	Standard
Dimensions (W x H x D)	30 mm x 53 mm x 78.5 mm
Sensing distance	≤ 13 mm
Sensing distance tolerance	± 5 mm
Housing design	Large
Light source	LED, RGB ¹⁾
Wave length	470 nm, 525 nm, 625 nm
Light emission	Short device side
Light spot size	0.9 mm x 3.8 mm
Light spot direction	Vertical ²⁾
Receiving filters	None
Teach-in mode	N-point teach-in, 2-point teach-in, teach-in dynamic, auto mode
Output function	Light/dark switching
Delay time	Adjustable
Special features	-
Delivery status	N-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	$\leq 5 V_{pp}$ ²⁾
Current consumption	$< 100 \text{ mA}$ ³⁾
Switching frequency	11.5 kHz ^{4) 5)}
Response time	42 μs ^{6) 7)}
Jitter	21 μs ⁸⁾
Switching output	Push-pull: PNP/NPN
Switching output (voltage)	Push-pull: PNP/NPN HIGH = $U_V - 3 \text{ V}$ /LOW $\leq 3 \text{ V}$
Output current I_{max}	100 mA ⁹⁾
Input, teach-in (ET)	Teach: $U = 10 \text{ V} \dots < V_S$
Input, blanking input (AT)	Blanked: $U = 10 \text{ V} \dots < U_V$
Input, fine/coarse (F/C)	Coarse: $U = 10 \text{ V} \dots < U_V$
Input, light/dark (L/D)	Light: $U = 10 \text{ V} \dots < U_V$
Retention time (ET)	25 ms, non-volatile memory
Connection type	Male connector M12, 5-pin
Protection class	III
Circuit protection	U_V connections, reverse polarity protected Output Q short-circuit protected Interference pulse suppression
Enclosure rating	IP67
Weight	94 g
Housing material	Plastic, VISTAL®
Optics material	Plastic, COP

¹⁾ Limit values: DC 12 V (-10 %) ... DC 24 V (+20 %). Operation in short-circuit protected network max. 8 A.

²⁾ May not exceed or fall below U_V tolerances.

³⁾ Without load.

⁴⁾ With light/dark ratio 1:1.

⁵⁾ Contrast mode: 35 kHz.

⁶⁾ Signal transit time with resistive load.

⁷⁾ Contrast mode: 14 μs .

⁸⁾ Contrast mode: 7 μs .

⁹⁾ Total current of all Outputs.

Ambient data

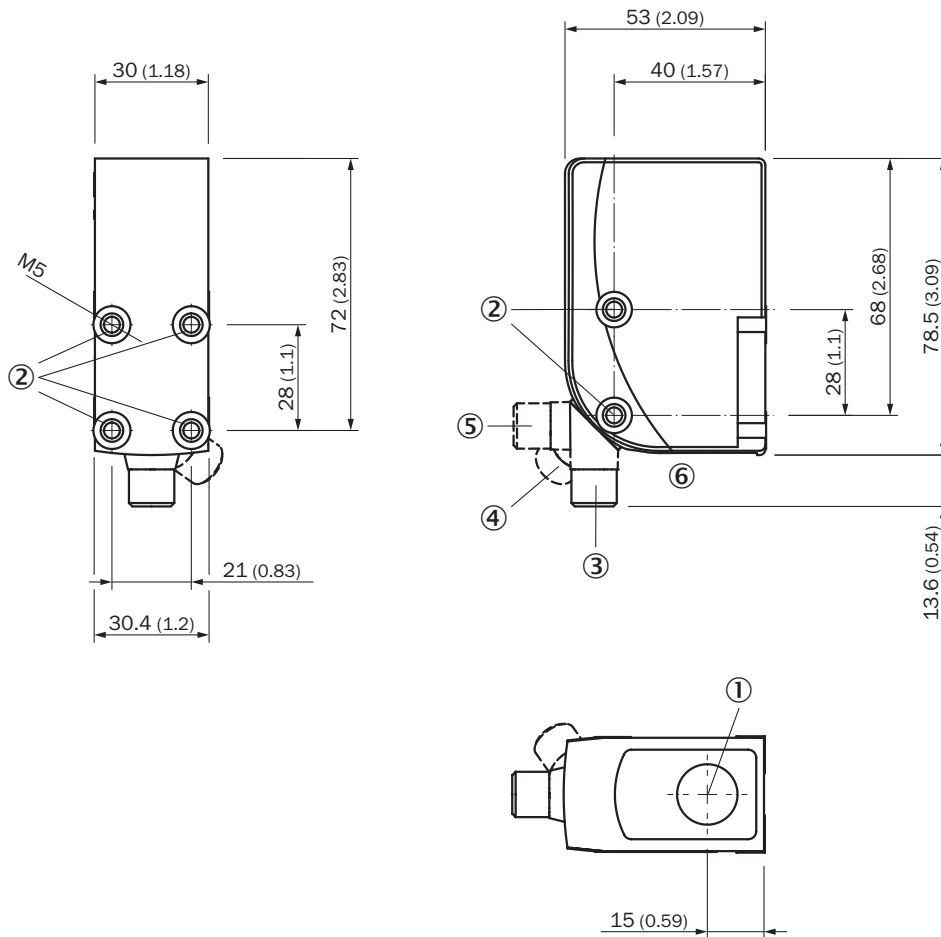
Ambient operating temperature	-20 °C ... +60 °C
Ambient temperature, storage	-25 °C ... +75 °C
Shock load	According to IEC 60068-2-27 (30 g/11 ms)
UL File No.	E181493

Classifications

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

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

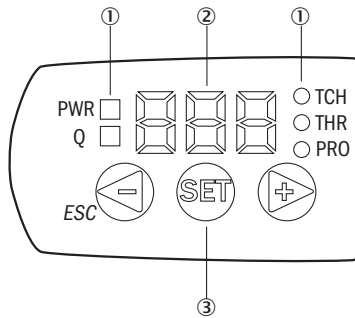
Dimensional drawing (Dimensions in mm (inch))



- ① Optical axis
- ② Threaded mounting hole M5
- ③ M12 male connector, delivery state
- ④ M12 male connector, end stop right
- ⑤ M12 male connector, end stop left
- ⑥ Display and adjustment elements

Adjustments

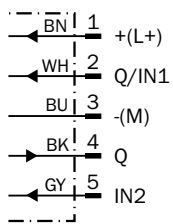
Display and adjustment elements



- ① LED status indicator
- ② Display
- ③ Navigation buttons

Connection diagram

Cd-382

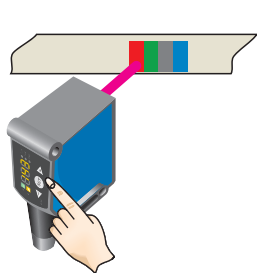


Concept of operation

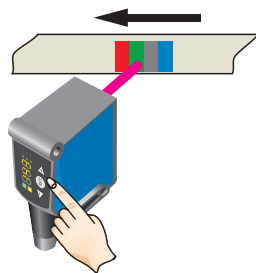
Teaching-in of a sequence of up to eight contrast or color features

Suitable for teaching a sequence of up to eight contrast or color features.
(here's an example of four contrast or color features)

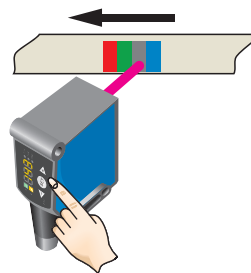
1. Position the first contrast or color feature under the light spot.
2. Position the second contrast or color feature under the light spot.
3. Position the third contrast or color feature under the light spot.
4. Position the last contrast or color feature to be detected under the light spot.



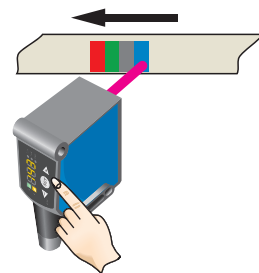
Confirm with the SET pushbutton.



Confirm with the SET pushbutton.



Confirm with the SET pushbutton.

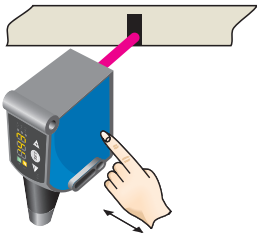


Confirm with the SET pushbutton.

KTS/KTX Prime - Setting the switching threshold (color mode)

Suitable for teaching in color properties.

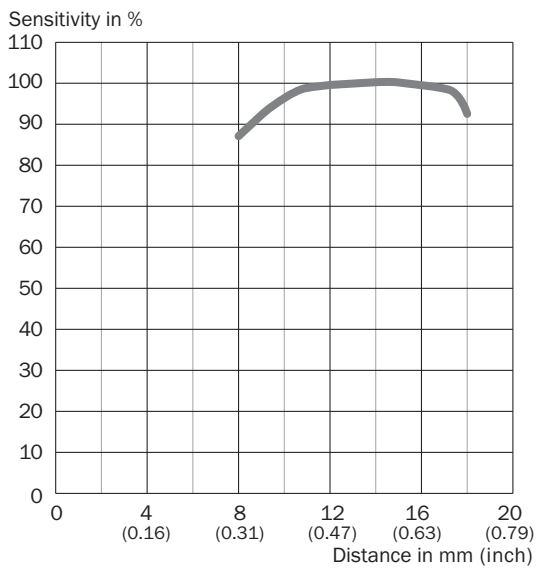
1. Position mark/color property



When detecting the contrast or color to be detected, "1st" flashes. Press set button. The Quality of Teach-in is displayed.

Sensing distance





Sensing distance 13 mm, light spot direction horizontal/vertical



Recommended accessories

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

	Brief description	Type	Part no.
Universal bar clamp systems			
	Plate G for universal clamp bracket, steel, zinc coated, Universal clamp (2022726), mounting hardware	BEF-KHS-G01	2022464

	Brief description	Type	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-MS12LA	4056052
Plug connectors and cables			
	<ul style="list-style-type: none"> • Connection type head A: Female connector, M12, 5-pin, straight, A-coded • Connection type head B: Flying leads • Signal type: Sensor/actuator cable • Cable: 5 m, 5-wire, PVC • Description: Sensor/actuator cable, unshielded • Application: Zones with chemicals 	YF2A15-050VB5XLEAX	2096240
	<ul style="list-style-type: none"> • Connection type head A: Male connector, M12, 5-pin, straight • Description: Unshielded, Head A: male connector, M12, 5-pin, straight, unshielded, for cable diameter 4 mm ... 6 mm Head B: - • Connection systems: Screw-type terminals • Permitted cross-section: $\leq 0.75 \text{ mm}^2$ • Note: For field bus technology 	STE-1205-G	6022083

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