



Illustration may differ



Ordering information

| Type | part no. |
|--------------------|----------|
| KTS-WB71141142ZZZZ | 1118457 |

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

Detailed technical data

Features

| | |
|-----------------------------------|------------------------------------|
| Parameter presettings | None |
| Special applications | Color test |
| Device type | Core Color |
| Housing design | Middle |
| Dimensions (W x H x D) | 26 mm x 62 mm x 47.5 mm |
| Light source | LED, RGB ¹⁾ |
| Light emission | Long side of housing |
| Light spot size | 1.2 mm x 3.9 mm |
| Light spot direction | Vertical ²⁾ |
| Receiving filters | None |
| Wave length | 470 nm, 525 nm, 625 nm |
| Sensing distance | ≤ 13 mm |
| Sensing distance tolerance | ± 3 mm |
| Teach-in mode | 1-point teach-in, teach-in dynamic |
| Output function | Light/dark switching |
| Delay time | Adjustable |
| Setting the key lock | Standard |
| Delivery status | Teach-in dynamic |
| Safety-related parameters | |
| | MTTF _D 291 years |

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

²⁾ In relation to long side of housing.

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 | 12.5 kHz ^{4) 5)} |
| Response time | 40 μs |
| Jitter | 20 μs ⁶⁾ |
| 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 ⁷⁾ |
| Input, teach-in (ET) | $U_V \geq 18 \text{ V}$ Teach: $U > 15 \text{ V}$ / Run: $U < 5 \text{ V}$, $U_V < 18 \text{ V}$ Teach: $U > 0.83 * U_V$ / Run: $U < 0.28 * U_V$ |
| Retention time (ET) | 25 ms, non-volatile memory |
| Time delay | None |
| Protection class | III |
| Circuit protection | U_V connections, reverse polarity protected Output Q short-circuit protected Interference pulse suppression |
| Connection type | Male connector M12, 4-pin |

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

²⁾ May not fall below or exceed U_V tolerances.

³⁾ Without load.

⁴⁾ With light/dark ratio 1:1.

⁵⁾ 1-point teach-in (color mode): 4 kHz.

⁶⁾ 1-point teach-in (color mode): 60 μs .

⁷⁾ Total current of all Outputs.

Mechanics

| | |
|-------------------------|---------|
| Housing material | VISTAL® |
| Optics material | COP |
| Weight | 68 g |

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) |
| Enclosure rating | IP67 |
| UL File No. | E181493 |

Certificates

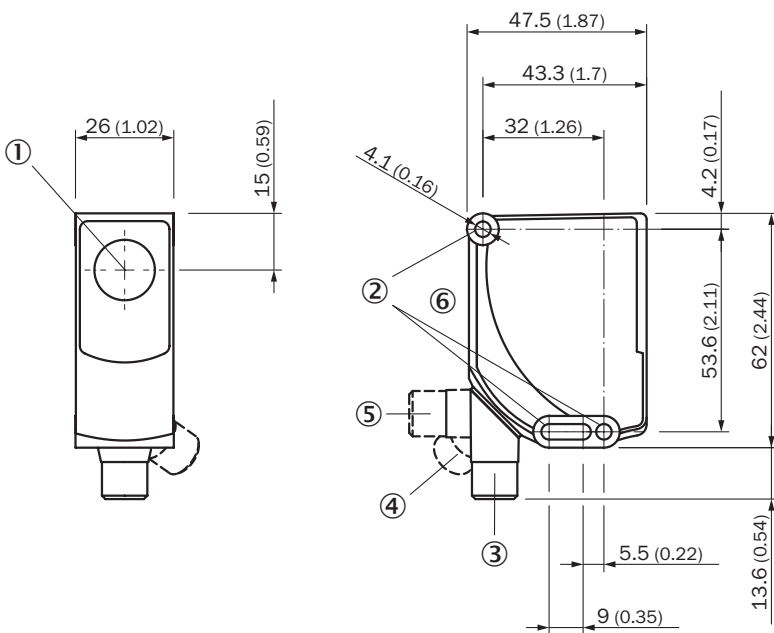
| | |
|---|---|
| EU declaration of conformity | ✓ |
| UK declaration of conformity | ✓ |
| ACMA declaration of conformity | ✓ |
| Moroccan declaration of conformity | ✓ |

| | |
|---------------------------------------|---|
| China RoHS | ✓ |
| cULus certificate | ✓ |
| Photobiological safety (IEC EN 62471) | ✓ |

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

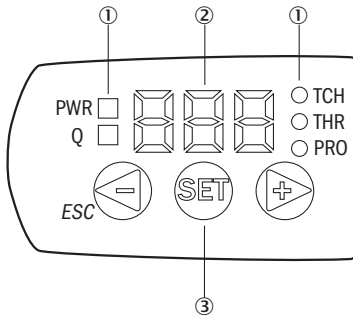


Dimensions in mm (inch)

- ① Optical axis
- ② fixing hole

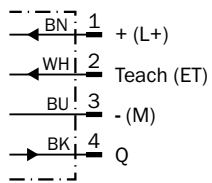
- ③ M12 male connector, delivery state
- ④ M12 male connector, end stop right
- ⑤ M12 male connector, end stop left
- ⑥ display and adjustment elements

display and adjustment elements



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

Connection diagram Cd-380



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

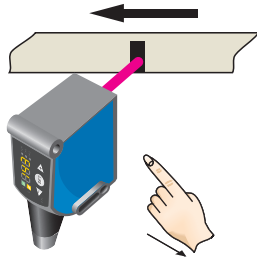
Suitable for teaching in moving objects.

1. Position background

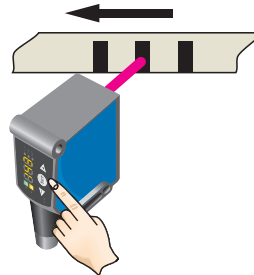


Press the Set pushbutton to start the teach-in process.

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

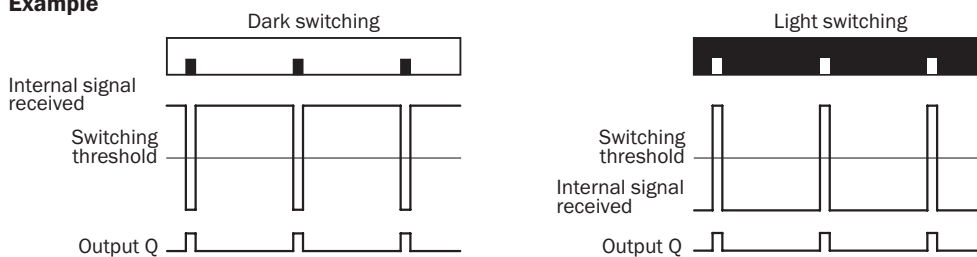


The display lights up during repeat length detection (---).



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

Example



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.

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



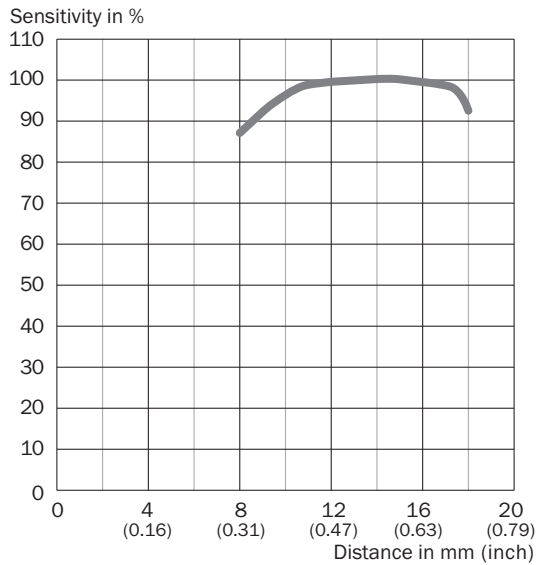
When setting the contrasts to be detected, "1st" flashes. Press set button.

2. Position background






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

Sensing distance Sensing distance 13 mm, light spot direction horizontal/vertical



Recommended accessories

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

| | Brief description | Type | part no. |
|---|---|--------------------|----------|
| Mounting systems | | | |
|  | <ul style="list-style-type: none"> Description: Plate K for universal clamp bracket Material: Steel Details: Steel, zinc coated Items supplied: Universal clamp (2022726), mounting hardware Usable for: 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 | BEF-KHS-K01 | 2022718 |
| connectors and cables | | | |
|  | <ul style="list-style-type: none"> Description: Unshielded Connection type head A: Male connector, M12, 4-pin, straight, A-coded Connection systems: Screw-type terminals Permitted cross-section: ≤ 0.75 mm² | STE-1204-G | 6009932 |
|  | <ul style="list-style-type: none"> Description: Sensor/actuator cable, unshielded 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 Application: Uncontaminated zones, Zones with chemicals | YF2A14-050VB3XLEAX | 2096235 |

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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