



KTS-MBD724115AZZZZ

KTS

CONTRAST SENSORS

SICK
Sensor Intelligence.



Ordering information

| Type | part no. |
|-------------------|----------|
| KTS-MBD724115AZZZ | 1116839 |

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

Illustration may differ



Detailed technical data

Features

| | |
|-----------------------------------|------------------------------------|
| Special applications | Gap Detection |
| Device type | Standard |
| Dimensions (W x H x D) | 26 mm x 62 mm x 47.5 mm |
| Sensing distance | ≤ 27.5 mm |
| Sensing distance tolerance | ± 3 mm |
| Housing design | Middle |
| Light source | LED, white ¹⁾ |
| Wave length | 400 nm ... 750 nm |
| Light emission | Long side of housing |
| Light spot size | 0.8 mm x 8 mm |
| Light spot direction | Longitudinal, narrow ²⁾ |
| Receiving filters | None |
| Teach-in mode | Teach-in dynamic, auto mode |
| Output function | Light/dark switching |
| Delay time | Adjustable |
| Delivery status | Teach-in automatic |
| Parameter presets | None |
| Setting the key lock | Standard |

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

²⁾ In relation to long side of housing.

| 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.

Interfaces

| | |
|-------------------------------|--|
| IO-Link | ✓, IO-Link |
| VendorID | 26 |
| DeviceID HEX | 8000A8 |
| DeviceID DEC | 8388776 |
| Process data structure | Bit 0 = switching signal Q _{L1} Bit 1 = empty Bit 2 = Quality of Run Alarm Bit 3 ... 5 = Emission Color Bit 6 ... 15 = Measurement Value Emission Color |
| Digital output | Q ₁ , Q ₂ |
| Number | 2 |
| Digital input | ET, L/D |
| Number | 2 |

Electronics

| | |
|--|--|
| Supply voltage | 10.8 V DC ... 28.8 V DC ¹⁾ |
| Ripple | ≤ 5 V _{pp} ²⁾ |
| Current consumption | < 100 mA ³⁾ |
| Switching frequency | 16.5 kHz ⁴⁾ |
| Response time | 60 µs ⁵⁾ |
| Jitter | 30 µs |
| Switching output | Push-pull: PNP/NPN |
| Switching output (voltage) | Push-pull: PNP/NPN HIGH = U _V - 3 V/LOW ≤ 3 V |
| Output current I_{max.} | 100 mA ⁶⁾ |
| Input, teach-in (ET) | Teach: U = 10 V ... < U _S |
| Input, blanking input (AT) | Blanked: U = 10 V ... < U _V |
| Input, fine/coarse (F/C) | Coarse: U = 10 V ... < U _V |
| Input, light/dark (L/D) | Light: U = 10 V ... < U _V |
| Retention time (ET) | 25 ms, non-volatile memory |
| Protection class | III |
| Circuit protection | U _V connections, reverse polarity protected Output Q short-circuit protected Interference pulse suppression |
| Enclosure rating | IP67 |

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) Signal transit time with resistive load.

6) Total current of all Outputs.

Mechanics

| | |
|-------------------------|------------------|
| Housing material | VISTAL® |
| Optics material | COP |
| Connection type | Plug, M12, 5-pin |
| 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) |
| UL File No. | E181493 |

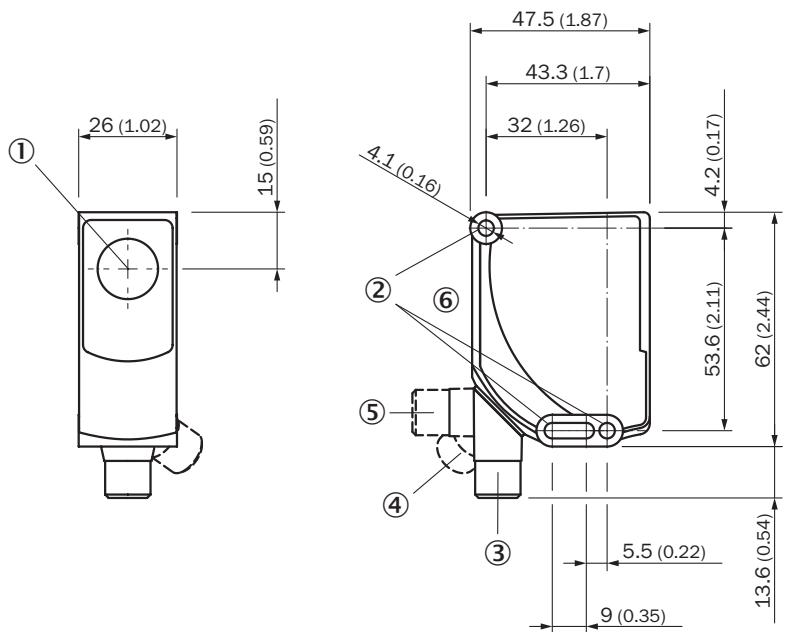
Certificates

| | |
|--|---|
| EU declaration of conformity | ✓ |
| UK declaration of conformity | ✓ |
| ACMA declaration of conformity | ✓ |
| Moroccan declaration of conformity | ✓ |
| China-RoHS | ✓ |
| cULus certificate | ✓ |
| IO-Link | ✓ |
| 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 |

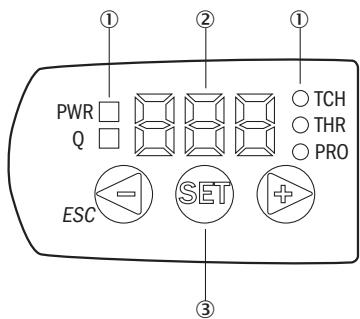
Dimensional drawing



Dimensions in mm (inch)

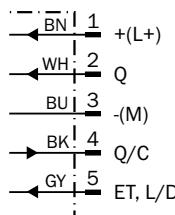
- ① Optical axis
- ② fixing hole
- ③ M12 male connector, delivery state
- ④ M12 male connector, end stop right
- ⑤ M12 male connector, end stop left
- ⑥ display and adjustment elements

display and adjustment elements



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

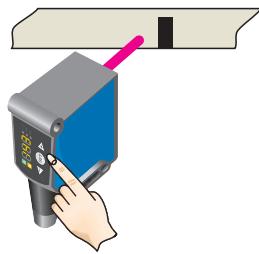
Connection diagram Cd-501



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

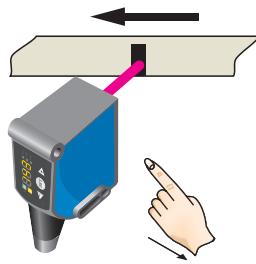
Suitable for teaching in moving objects.

1. Position background

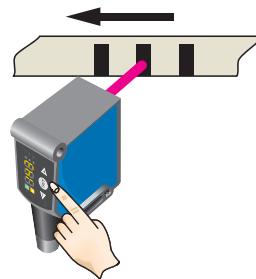


Press the Set pushbutton to start the teach-in process.

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

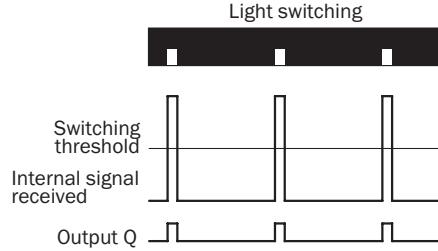
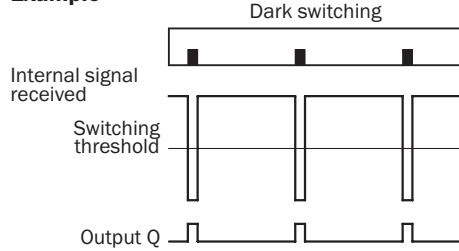


The display lights up during repeat length detection (---).



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.

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 bracketMaterial: SteelDetails: Steel, zinc coatedItems supplied: Universal clamp (2022726), mounting hardwareUsable 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 |
| network devices | | | |
|  | | SIG200-0A0G12200 | 1102605 |
|  | | SIG200-0A0412200 | 1089794 |
| connectors and cables | | | |
|  | <ul style="list-style-type: none">Connection type head A: Male connector, M12, 5-pin, straight, A-codedDescription: UnshieldedConnection systems: Screw-type terminalsPermitted cross-section: ≤ 0.75 mm²Note: For field bus technology | STE-1205-G | 6022083 |
|  | <ul style="list-style-type: none">Connection type head A: Female connector, M12, 5-pin, straight, A-codedConnection type head B: Flying leadsSignal type: Sensor/actuator cableCable: 5 m, 5-wire, PVCDescription: Sensor/actuator cable, unshieldedApplication: Zones with chemicals, Uncontaminated zones | YF2A15-050VB5XLEAX | 2096240 |

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