



KT5W-2P1316

KT5

CONTRAST SENSORS

SICK
Sensor Intelligence.



Illustration may differ

Ordering information

| Type | part no. |
|-------------|----------|
| KT5W-2P1316 | 1018961 |

Other models and accessories → www.sick.com/KT5

Detailed technical data

Features

| | |
|-------------------------------|--|
| Housing design | Middle |
| Dimensions (W x H x D) | 30.4 mm x 53 mm x 80 mm |
| Light source | LED, RGB ¹⁾ |
| Light emission | Long and short side of housing, exchangeable |
| Light spot size | 1.1 mm x 4.2 mm |
| Light spot direction | Vertical ²⁾ |
| Wave length | 470 nm, 525 nm, 640 nm |
| Sensing distance | ≤ 40 mm ³⁾ |
| Adjustment | Teach-in button |
| Teach-in mode | Static 2-point teach-in |

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

²⁾ In relation to long side of housing.

³⁾ From leading edge of lens.

Electronics

| | |
|----------------------------|-----------------------------------|
| Supply voltage | 10 V DC ... 30 V DC ¹⁾ |
| Ripple | ≤ 5 V _{pp} ²⁾ |
| Current consumption | < 80 mA ³⁾ |
| Switching frequency | 10 kHz ⁴⁾ |
| Response time | 50 μs |
| Switching output | PNP |

¹⁾ Limit values when operated in short-circuit protected network: max. 8 A.

²⁾ May not fall below or exceed U_y tolerances.

³⁾ Without load.

⁴⁾ With light/dark ratio 1:1.

⁵⁾ Short-circuit-proof.

⁶⁾ Reference voltage DC 50 V.

| | |
|---|---|
| Switching output (voltage) | PNP: HIGH = $U_V \leq 2 \text{ V}$ / LOW approx. 0 V |
| Output current I_{\max} | 100 mA ⁵⁾ |
| Input, teach-in (ET) | PNP Teach: $U = 10 \text{ V} \dots < U_V$ Run: $U < 2 \text{ V}$ |
| Retention time (ET) | 25 ms, non-volatile memory |
| Time delay | None |
| Protection class | II ⁶⁾ |
| Circuit protection | U_V connections, reverse polarity protected Output Q short-circuit protected Interference pulse suppression |
| Connection type | Plug, M12, 5-pin |

- 1) Limit values when operated 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) Short-circuit-proof.
- 6) Reference voltage DC 50 V.

Mechanics

| | |
|-------------------------|--------------|
| Housing material | Zinc diecast |
| Weight | 400 g |

Ambient data

| | |
|--------------------------------------|------------------------|
| Ambient operating temperature | -10 °C ... +55 °C |
| Ambient temperature, storage | -25 °C ... +75 °C |
| Shock load | According to IEC 60068 |
| Enclosure rating | IP67 |

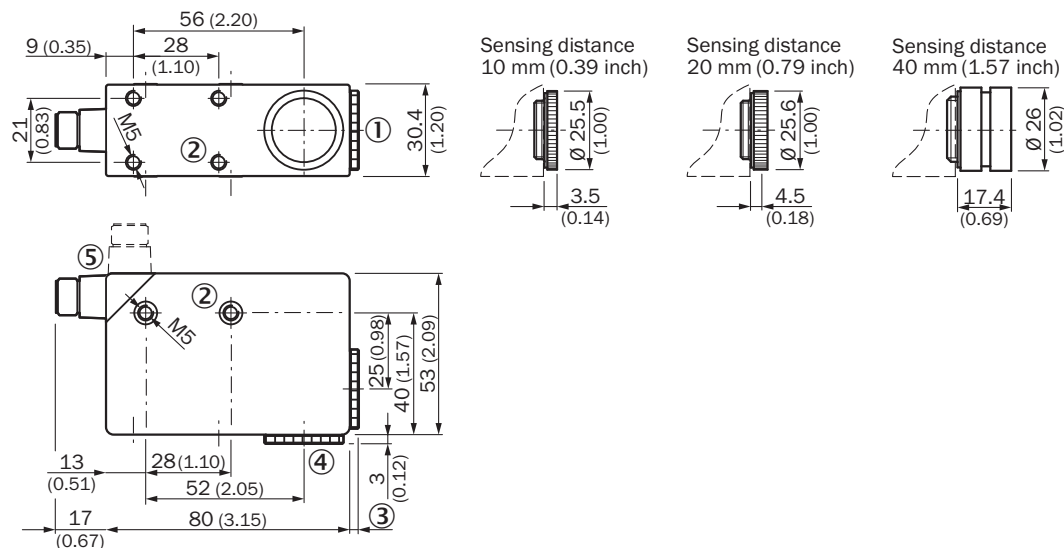
Classifications

| | |
|---------------------|----------|
| 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

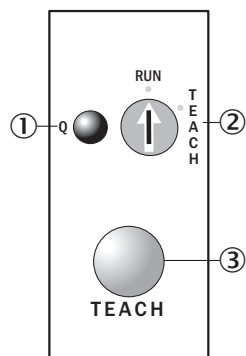
Dimensional drawing KT5-2 Teach-in, KT5-2 Display



Dimensions in mm (inch)

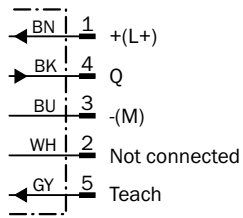
- ① Lens (light transmission), can be exchanged for pos. 4
- ② M5 threaded mounting hole, 5.5 mm deep
- ③ see dimensional drawings of lenses
- ④ Blind screw can be replaced by pos. 1
- ⑤ Connector M12 (rotatable up to 90°)

Adjustments KT5-2 Teach-in, KT5G-xxx6, KT5W-xxx6



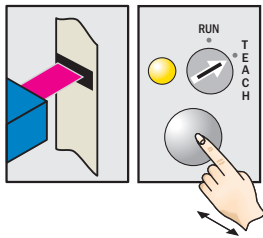
- ① Function signal indicator (yellow)
- ② Pre-selection switch
- ③ Teach-in button

Connection diagram Cd-323



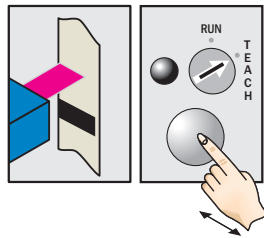
Concept of operation KT5-2 Teach-in, teach-in static

1. Position mark



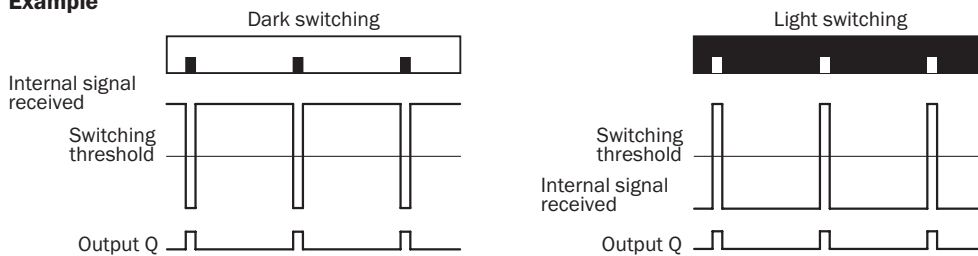
Turn rotary switch to "Teach" position. Press and hold teach-in button > 1 s. Red emitted light and yellow LED flash.

2. Position background



Press and hold teach-in button > 1 s. Yellow LED goes out.

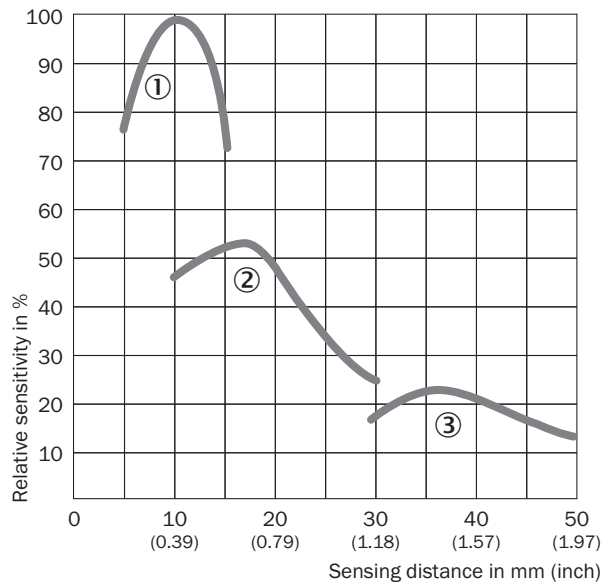
Example



Switching characteristics

The optimum emitted light is selected automatically. Light/dark setting is defined using teach-in sequence. The switching threshold is set in the center between the background and the mark. Teach-in can also be performed using an external control signal.






Sensing distance





- ① Sensing distance 10 mm
- ② Sensing distance 20 mm
- ③ Sensing distance 40 mm

Recommended accessories

Other models and accessories → www.sick.com/KT5

| | Brief description | Type | part no. |
|---|---|-------------|----------|
| Mounting systems | | | |
|  | <ul style="list-style-type: none"> Description: Plate G for universal clamp bracket Material: Steel Details: Steel, zinc coated Items supplied: Universal clamp (2022726), mounting hardware Usable for: W34, LUT3, KT5-2, KT10, CS8, W24-2, KT8, KT8 | BEF-KHS-G01 | 2022464 |
|  | <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 |
| reflectors and optics | | | |
|  | <ul style="list-style-type: none"> Description: Lens, 40 mm sensing distance | OBJ-210 | 2010945 |
|  | <ul style="list-style-type: none"> Description: Lens, 10 mm sensing distance | OBJ-211 | 1004936 |
|  | <ul style="list-style-type: none"> Description: Lens, 20 mm sensing distance | OBJ-212 | 1011506 |

| | Brief description | Type | part no. |
|---|--|--------------------|----------|
| connectors and cables | | | |
|  | <ul style="list-style-type: none"> • Description: Unshielded • Connection type head A: Female connector, M12, 5-pin, straight, A-coded • Connection systems: Screw-type terminals • Permitted cross-section: ≤ 0.75 mm² | DOS-1205-G | 6009719 |
|  | <ul style="list-style-type: none"> • Description: Unshielded • Connection type head A: Female connector, M12, 5-pin, angled, A-coded • Connection systems: Screw-type terminals • Permitted cross-section: ≤ 0.75 mm² | DOS-1205-W | 6009720 |
|  | <ul style="list-style-type: none"> • Description: Sensor/actuator cable, unshielded • Connection type head A: Female connector, M12, 5-pin, angled, A-coded • Connection type head B: Flying leads • Signal type: Sensor/actuator cable • Cable: 2 m, 5-wire, PVC • Application: Uncontaminated zones, Zones with chemicals | YG2A15-020VB5XLEAX | 2096215 |
|  | <ul style="list-style-type: none"> • Description: Sensor/actuator cable, unshielded • Connection type head A: Female connector, M12, 5-pin, angled, A-coded • Connection type head B: Flying leads • Signal type: Sensor/actuator cable • Cable: 5 m, 5-wire, PVC • Application: Uncontaminated zones, Zones with chemicals | YG2A15-050VB5XLEAX | 2096216 |
|  | <ul style="list-style-type: none"> • Description: Sensor/actuator cable, unshielded • Connection type head A: Female connector, M12, 5-pin, angled, A-coded • Connection type head B: Flying leads • Signal type: Sensor/actuator cable • Cable: 10 m, 5-wire, PVC • Application: Uncontaminated zones, Zones with chemicals | YG2A15-100VB5XLEAX | 2096217 |
|  | <ul style="list-style-type: none"> • Description: Sensor/actuator cable, unshielded • Connection type head A: Female connector, M12, 5-pin, straight, A-coded • Connection type head B: Flying leads • Signal type: Sensor/actuator cable • Cable: 2 m, 5-wire, PVC • Application: Uncontaminated zones, Zones with chemicals | YF2A15-020VB5XLEAX | 2096239 |
|  | <ul style="list-style-type: none"> • Description: Sensor/actuator cable, unshielded • 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 • Application: Uncontaminated zones, Zones with chemicals | YF2A15-050VB5XLEAX | 2096240 |
|  | <ul style="list-style-type: none"> • Description: Sensor/actuator cable, unshielded • Connection type head A: Female connector, M12, 5-pin, straight, A-coded • Connection type head B: Flying leads • Signal type: Sensor/actuator cable • Cable: 10 m, 5-wire, PVC • Application: Uncontaminated zones, Zones with chemicals | YF2A15-100VB5XLEAX | 2096241 |
|  | <ul style="list-style-type: none"> • Description: Sensor/actuator cable, unshielded • Connection type head A: Female connector, M12, 5-pin, angled, A-coded • Connection type head B: Flying leads • Signal type: Sensor/actuator cable • Cable: 0.6 m, 5-wire, PVC • Application: Uncontaminated zones, Zones with chemicals | YG2A15-C60VB5XLEAX | 2145573 |
|  | <ul style="list-style-type: none"> • Description: Sensor/actuator cable, unshielded • Connection type head A: Female connector, M12, 5-pin, angled, A-coded • Connection type head B: Flying leads • Signal type: Sensor/actuator cable • Cable: 1 m, 5-wire, PVC • Application: Uncontaminated zones, Zones with chemicals | YG2A15-010VB5XLEAX | 2145574 |
|  | <ul style="list-style-type: none"> • Description: Sensor/actuator cable, unshielded • Connection type head A: Female connector, M12, 5-pin, angled, A-coded • Connection type head B: Flying leads • Signal type: Sensor/actuator cable • Cable: 3 m, 5-wire, PVC | YG2A15-030VB5XLEAX | 2145575 |

| | Brief description | Type | part no. |
|---|---|--------------------|----------|
|  | <ul style="list-style-type: none"> • Application: Untaminated zones, Zones with chemicals • Description: Sensor/actuator cable, unshielded • Connection type head A: Female connector, M12, 5-pin, straight, A-coded • Connection type head B: Flying leads • Signal type: Sensor/actuator cable • Cable: 0.6 m, 5-wire, PVC • Application: Untaminated zones, Zones with chemicals | YF2A15-C60VB5XLEAX | 2145570 |
|  | <ul style="list-style-type: none"> • Description: Sensor/actuator cable, unshielded • Connection type head A: Female connector, M12, 5-pin, straight, A-coded • Connection type head B: Flying leads • Signal type: Sensor/actuator cable • Cable: 3 m, 5-wire, PVC • Application: Untaminated zones, Zones with chemicals | YF2A15-030VB5XLEAX | 2145572 |

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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For us, that is “Sensor Intelligence.”

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