



KT5M-2P1151

KT5

CONTRAST SENSORS

SICK
Sensor Intelligence.



Illustration may differ

Ordering information

Type	part no.
KT5M-2P1151	1044400

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

Detailed technical data

Features

Dimensions (W x H x D)	30.4 mm x 53 mm x 80 mm
Sensing distance	≤ 10 mm ¹⁾
Housing design	Rectangular
Light source	LED, White ²⁾
Wave length	450 nm ... 650 nm
Light emission	Long and short side of housing, exchangeable
Light spot size	1.2 mm x 4.2 mm
Light spot direction	Vertical ³⁾
Adjustment	Potentiometer
Output function	Light/dark switching

¹⁾ From leading edge of lens.

²⁾ Average service life: 100,000 h at T_U = +25 °C.

³⁾ In relation to long side of housing.

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 ⁵⁾
Switching output	PNP

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

²⁾ May not fall below or exceed U_I tolerances.

³⁾ Without load.

⁴⁾ With light/dark ratio 1:1.

⁵⁾ Signal transit time with resistive load.

⁶⁾ Short-circuit-proof.

⁷⁾ Reference voltage DC 50 V.

Switching output (voltage)	PNP: HIGH = $U_V \leq 2 \text{ V}$ / LOW approx. 0 V
Switching mode	Light/dark switching
Analog output	0.3 mA ... 10 mA
Output current I_{max}	100 mA ⁶⁾
Time delay	None
Protection class	II ⁷⁾
Circuit protection	U_V connections, reverse polarity protected Output Q short-circuit protected Interference pulse suppression

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⁾ Signal transit time with resistive load.

⁶⁾ Short-circuit-proof.

⁷⁾ Reference voltage DC 50 V.

Mechanics

Housing material	Zinc diecast
Connection type	Male connector M12, 4-pin
Weight	400 g

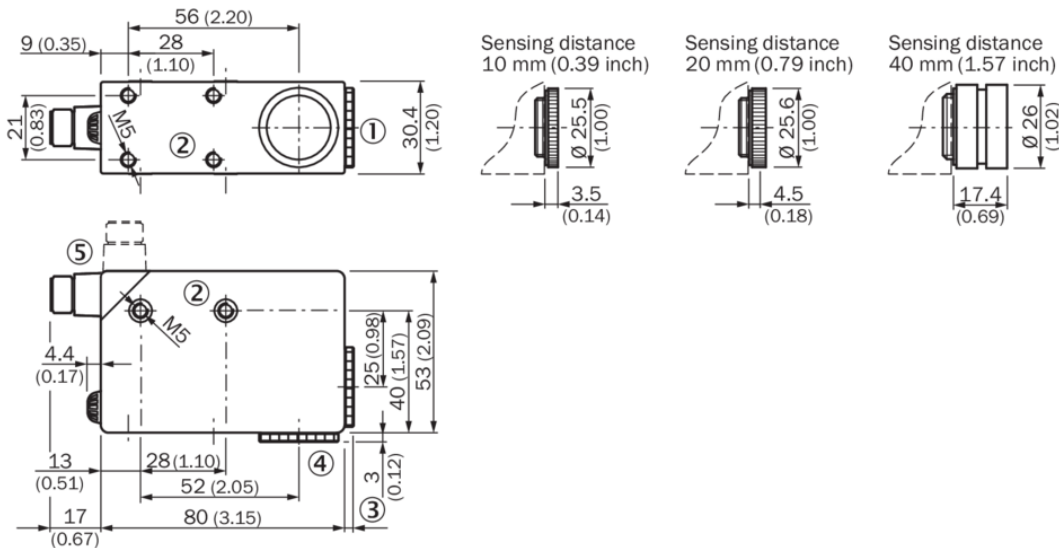
Ambient data

Ambient operating temperature	-10 °C ... +55 °C
Ambient temperature, storage	-25 °C ... +75 °C
Shock load	According to IEC 60068
Enclosure rating	IP67
UL File No.	NRKH.E181493 & NRKH7.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

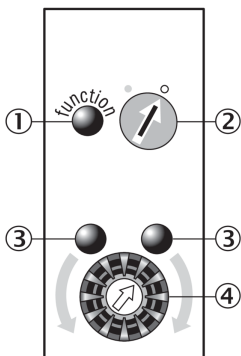
Dimensional drawing KT5-2 Potentiometer



Dimensions in mm (inch)

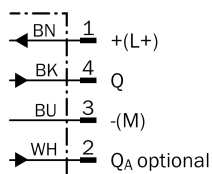
- ① Lens (light transmission), can be exchanged for pos. 4
- ② M5 threaded mounting hole, 5.5 mm deep
- ③ see dimensional drawings of lenses
- ④ Blind screw can be replaced by pos. 1
- ⑤ Connector M12 (rotatable up to 90°)

Adjustments KT5-2 Potentiometer



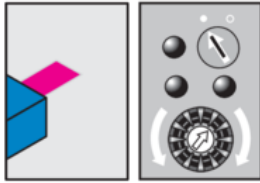
- ① Function signal indicator (yellow)
- ② Pre-selection switch (light/dark switching)
- ③ Switching threshold adjustment
- ④ Installation aid (green)

Connection diagram Cd-327



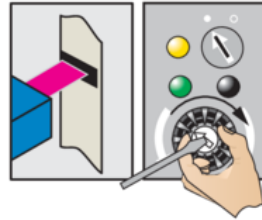
Concept of operation KT5-2 Potentiometer

1. Select switching function (light/dark)



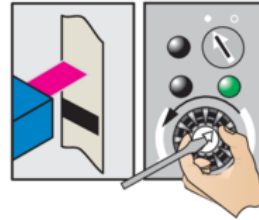
Turn the rotary switch to the desired position.
○ = light switching
● = dark switching

2. Position mark

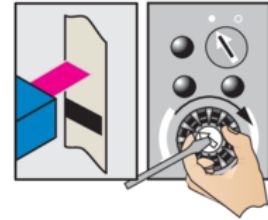


Turn potentiometer in the direction shown (green LED illuminates) until the yellow LED status changes and the green LED opposite illuminates.

3. Position background

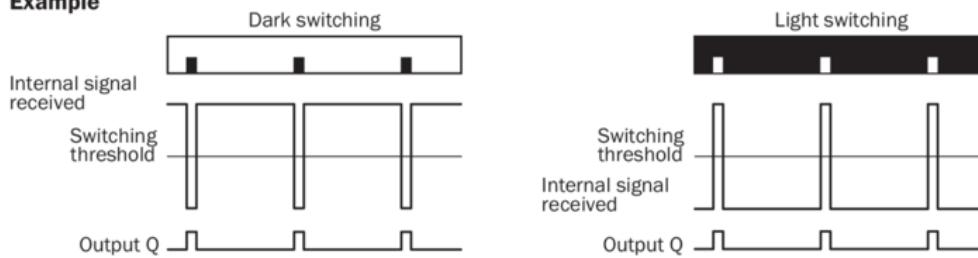


Gradually turn back the potentiometer (count the number of turns) until the yellow LED changes status again and illuminates.



Turn the potentiometer forward again by half the number of turns to ensure that the switching threshold is optimally set.

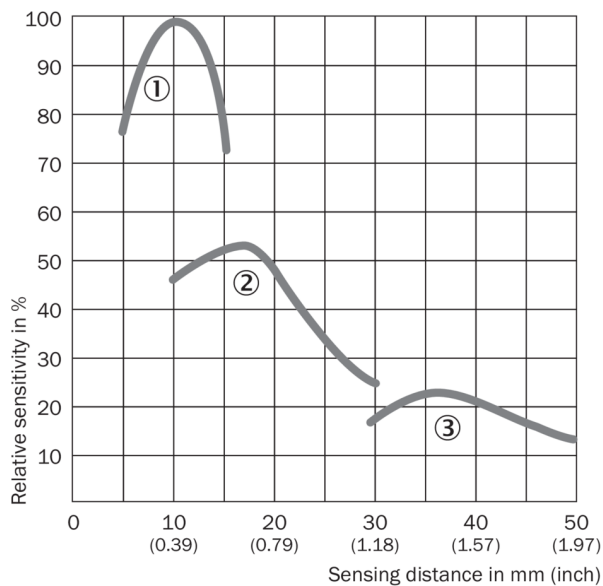
Example



Switching characteristics

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

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, 20 mm sensing distance 	OBJ-212	1011506
	<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

	Brief description	Type	part no.
connectors and cables			
	<ul style="list-style-type: none"> Connection type head A: Female connector, M12, 4-pin, straight, A-coded Description: Unshielded Connection systems: Screw-type terminals Permitted cross-section: ≤ 0.75 mm² 	DOS-1204-G	6007302
	<ul style="list-style-type: none"> Connection type head A: Female connector, M12, 4-pin, angled, A-coded Description: Unshielded Connection systems: Screw-type terminals Permitted cross-section: ≤ 0.75 mm² 	DOS-1204-W	6007303
	<ul style="list-style-type: none"> Connection type head A: Female connector, M12, 4-pin, straight, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 2 m, 4-wire, PVC Description: Sensor/actuator cable, unshielded Application: Zones with chemicals, Uncontaminated zones 	YF2A14-020VB3XLEAX	2096234
	<ul style="list-style-type: none"> 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, Uncontaminated zones 	YF2A14-050VB3XLEAX	2096235
	<ul style="list-style-type: none"> Connection type head A: Female connector, M12, 4-pin, straight, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 10 m, 4-wire, PVC Description: Sensor/actuator cable, unshielded Application: Zones with chemicals, Uncontaminated zones 	YF2A14-100VB3XLEAX	2096236
	<ul style="list-style-type: none"> Connection type head A: Female connector, M12, 4-pin, straight, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 15 m, 4-wire, PVC Description: Sensor/actuator cable, unshielded Application: Zones with chemicals, Uncontaminated zones 	YF2A14-150VB3XLEAX	2096237
	<ul style="list-style-type: none"> Connection type head A: Female connector, M12, 4-pin, angled, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 2 m, 4-wire, PVC Description: Sensor/actuator cable, unshielded Application: Zones with chemicals, Uncontaminated zones 	YG2A14-020VB3XLEAX	2095895
	<ul style="list-style-type: none"> Connection type head A: Female connector, M12, 4-pin, angled, 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, Uncontaminated zones 	YG2A14-050VB3XLEAX	2095897
	<ul style="list-style-type: none"> Connection type head A: Female connector, M12, 4-pin, angled, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 10 m, 4-wire, PVC Description: Sensor/actuator cable, unshielded Application: Zones with chemicals, Uncontaminated zones 	YG2A14-100VB3XLEAX	2095898
	<ul style="list-style-type: none"> Connection type head A: Female connector, M12, 4-pin, angled, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 0.6 m, 4-wire, PVC Description: Sensor/actuator cable, unshielded Application: Zones with chemicals, Uncontaminated zones 	YG2A14-C60VB3XLEAX	2145709
	<ul style="list-style-type: none"> Connection type head A: Female connector, M12, 4-pin, angled, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 1 m, 4-wire, PVC Description: Sensor/actuator cable, unshielded 	YG2A14-010VB3XLEAX	2145710

	Brief description	Type	part no.
	<ul style="list-style-type: none">• Application: Zones with chemicals, Uncontaminated zones• Connection type head A: Female connector, M12, 4-pin, straight, A-coded• Connection type head B: Flying leads• Signal type: Sensor/actuator cable• Cable: 0.6 m, 4-wire, PVC• Description: Sensor/actuator cable, unshielded• Application: Zones with chemicals, Uncontaminated zones	YF2A14-C60VB3XLEAX	2145707
	<ul style="list-style-type: none">• Connection type head A: Female connector, M12, 4-pin, straight, A-coded• Connection type head B: Flying leads• Signal type: Sensor/actuator cable• Cable: 1 m, 4-wire, PVC• Description: Sensor/actuator cable, unshielded• Application: Zones with chemicals, Uncontaminated zones	YF2A14-010VB3XLEAX	2145708

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.”

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