

CONTRAST SENSORS



Illustration may differ

Ordering information

Type	part no.
KTL5G-2N51	1016951

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	Dependent on the fiber-optic cable
Housing design	Rectangular
Light source	LED, green ¹⁾
Wave length	520 nm
Adjustment	Potentiometer
Output function	Light/dark switching

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

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	NPN
Switching output (voltage)	NPN: HIGH = approx. U _V / LOW ≤ 2 V
Switching mode	Light/dark switching
Analog output	0.3 mA ... 10 mA
Output current I_{max.}	100 mA
Time delay	None

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⁾ Reference voltage DC 50 V.

Protection class	II ⁶⁾
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⁾ Reference voltage DC 50 V.

Mechanics

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

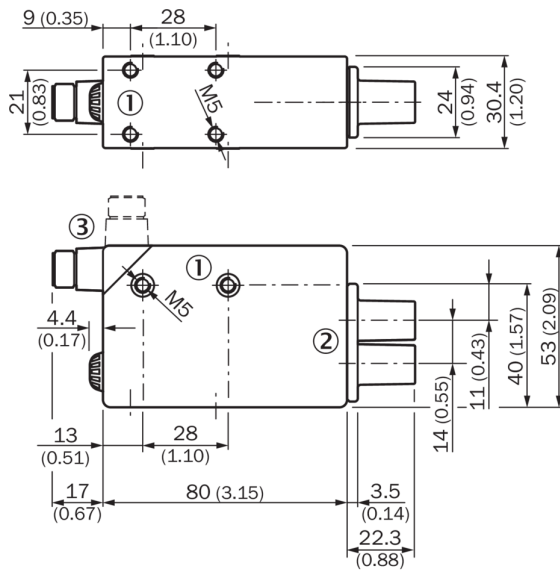
Ambient data

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

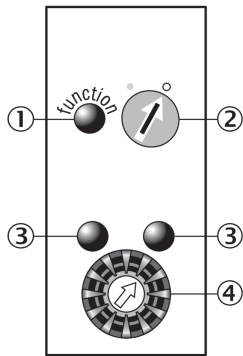
Dimensional drawing KTL5-2 Fiber Optic



Dimensions in mm (inch)

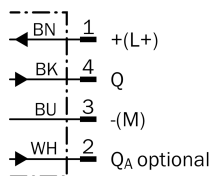
- ① M5 threaded mounting hole, 5.5 mm deep
- ② Fiber-optic adapter (M12 x 1 internal thread)
- ③ Connector M12 (rotatable up to 90°)

Adjustments KTL5-2 Fiber Optic, KTL5G-xxx1



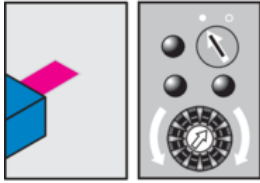
- ① Function signal indicator (yellow)
- ② Pre-selection switch (light/dark switching)
- ③ Installation aid (green)
- ④ Switching threshold adjustment

Connection diagram Cd-327



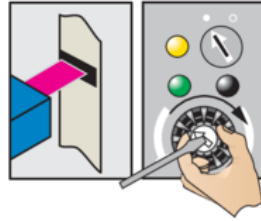
Concept of operation Potentiometer

1. Select switching function (light/dark)



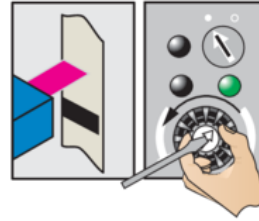
Turn the rotary switch to the desired position:
○ = light switching
● = dark switching

2. Position mark

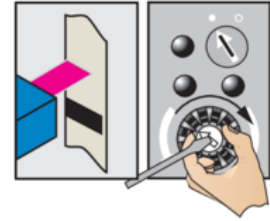


Turn potentiometer in the direction shown (green LED illuminates) until the yellow LED status changes and the green LED opposite illuminates.

3. Position background



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



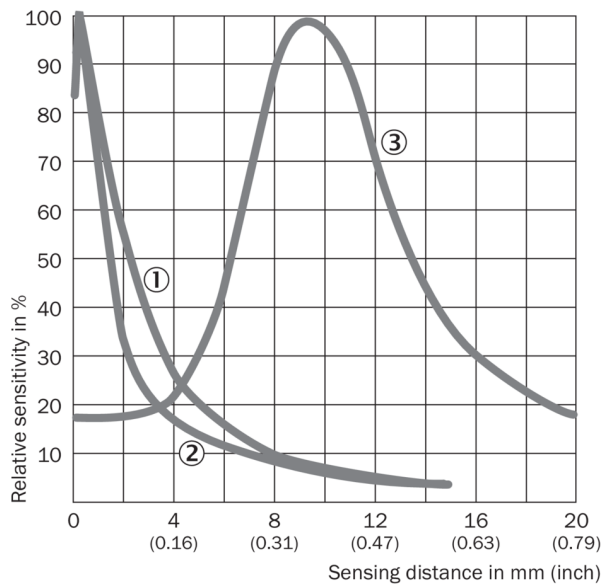
Turn the potentiometer forward again by half the number of turns to ensure that the switching threshold is optimally set.

Switching characteristics

The optimum emitted light is selected automatically.

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

Sensing distance



- ① Fiber-optic cable LBST 32900
- ② Fiber-optic cable LBSR 32900
- ③ Fiber-optic cable OCSL

Recommended accessories

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

	Brief description	Type	part no.
Mounting systems			
	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
	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

	Brief description	Type	part no.
fiber-optic sensors			
	• For fiber optic amplifiers: WLL260 • Functional principle: Through-beam system • Fiber length: 900 mm	LIST32900	7020045
	• For fiber optic amplifiers: WLL260 • Functional principle: Proximity system • Fiber length: 900 mm	LBST32900	7020046
	• For fiber optic amplifiers: WLL260 • Functional principle: Through-beam system • Fiber length: 900 mm	LISF32900	7020037
	• For fiber optic amplifiers: WLL260 • Functional principle: Proximity system • Fiber length: 900 mm	LBSF32900	7020038
	• For fiber optic amplifiers: WLL260 • Functional principle: Through-beam system • Fiber length: 900 mm	LISAT32900	7020035
	• For fiber optic amplifiers: WLL260 • Functional principle: Proximity system • Fiber length: 900 mm	LBSAT32900	7020036
	• For fiber optic amplifiers: WLL260 • Functional principle: Through-beam system • Fiber length: 900 mm	LISTA32900	7020047
	• For fiber optic amplifiers: WLL260 • Functional principle: Proximity system • Fiber length: 900 mm	LBSTA32900	7020048
	• For fiber optic amplifiers: WLL260 • Functional principle: Through-beam system • Fiber length: 900 mm	LISA32900	7020039
	• For fiber optic amplifiers: WLL260 • Functional principle: Proximity system • Fiber length: 900 mm	LBSA32900	7020040
	• For fiber optic amplifiers: WLL260 • Functional principle: Through-beam system • Fiber length: 900 mm	LISR32900	7020041
	• For fiber optic amplifiers: WLL260 • Functional principle: Proximity system • Fiber length: 900 mm	LBSR32900	7020042
	• For fiber optic amplifiers: WLL260 • Functional principle: Through-beam system • Fiber length: 900 mm	LISR16900	7020049
	• For fiber optic amplifiers: WLL260 • Functional principle: Proximity system • Fiber length: 900 mm	LBSR16900	7020050
	• For fiber optic amplifiers: WLL260 • Functional principle: Through-beam system • Fiber length: 900 mm	LISR40900	7020051

	Brief description	Type	part no.
connectors and cables			
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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.
	• 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
	• 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.

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