



KTL5W-2P23

KT5

CONTRAST SENSORS

SICK
Sensor Intelligence.



Illustration may differ



Ordering information

Type	Part no.
KTL5W-2P23	1019551

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 (light emission)	Rectangular
Light source	LED, RGB ¹⁾
Wave length	640 nm, 525 nm, 470 nm
Adjustment	Teach-in button
Teach-in mode	Teach-in dynamic
Output function	Light/dark switching

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

Mechanics/electronics

Supply voltage	10 V DC ... 30 V DC ¹⁾
Ripple	≤ 5 V _{pp} ²⁾
Power consumption	< 80 mA ³⁾
Switching frequency	10 kHz ⁴⁾
Response time	50 μs ⁵⁾
Output type	PNP
Switching output (voltage)	PNP: HIGH = V _S - ≤ 2 V / LOW approx. 0 V
Switching output	Light/dark switching
Output current I_{max.}	100 mA

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

²⁾ May not exceed or fall below 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.

Input, teach-in (ET)	PNP Teach: $U = 10\text{ V} \dots < U_V$ Run: $U < 2\text{ V}$
Input, light/dark (L/D)	PNP Light: $U = 0\text{ V}$ Dark: $U > 10\text{ V} \dots < U_V$
Retention time (ET)	25 ms, non-volatile memory
Time delay	20 ms
Connection type	Male connector M12, 5-pin
Protection class	II ⁶⁾
Circuit protection	U_V connections, reverse polarity protected Output Q short-circuit protected Interference pulse suppression
Enclosure rating	IP 67
Weight	400 g
Housing material	Zinc diecast

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

2) May not exceed or fall below 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.

Ambient data

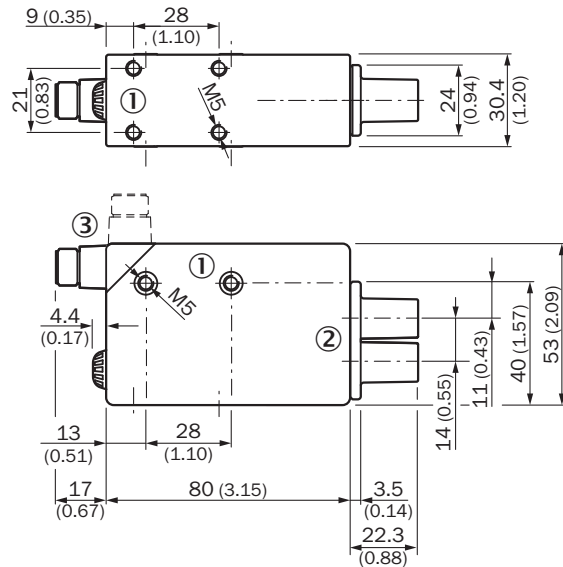
Ambient operating temperature	-10 °C ... +55 °C
Ambient storage temperature	-25 °C ... +75 °C
Shock load	According to IEC 60068

Classifications

ECI@ss 5.0	27270906
ECI@ss 5.1.4	27270906
ECI@ss 6.0	27270906
ECI@ss 6.2	27270906
ECI@ss 7.0	27270906
ECI@ss 8.0	27270906
ECI@ss 8.1	27270906
ECI@ss 9.0	27270906
ETIM 5.0	EC001820
ETIM 6.0	EC001820
UNSPSC 16.0901	39121528

Dimensional drawing (Dimensions in mm (inch))

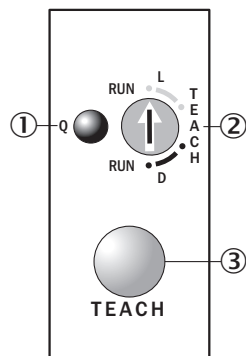
KTL5-2 Fiber Optic



- 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

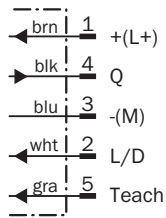
KTL5-2 Fiber Optic, KTL5W-xxx3



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

Connection diagram

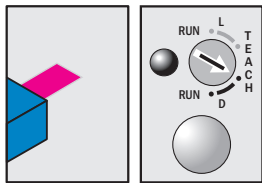
cd-324



Concept of operation

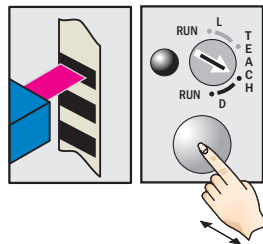
Teach-in dynamic

1. Select switching function (light/dark)



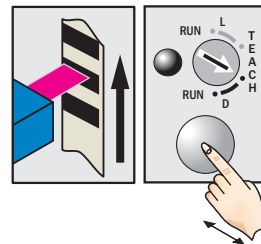
Turn the rotary switch to the desired teach position:
D = dark switching
L = light switching

2. Position mark or background

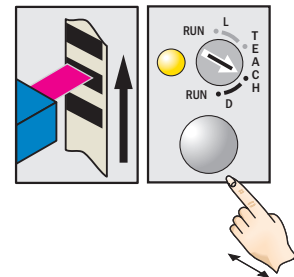


Press the teach-in button and keep it pressed.

3. Move at least one repeat length using the light spot

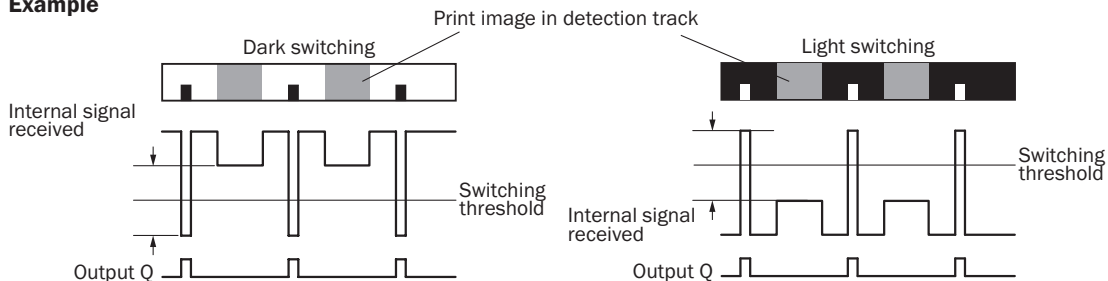


Keep the teach-in button pressed.



Release the teach-in button.
Yellow LED will illuminate, when emitted light is on the mark.

Example



Switching characteristics

The optimum emitted light is selected automatically.

The switching threshold is set in the center between the lowest and the second-lowest reflectivity.

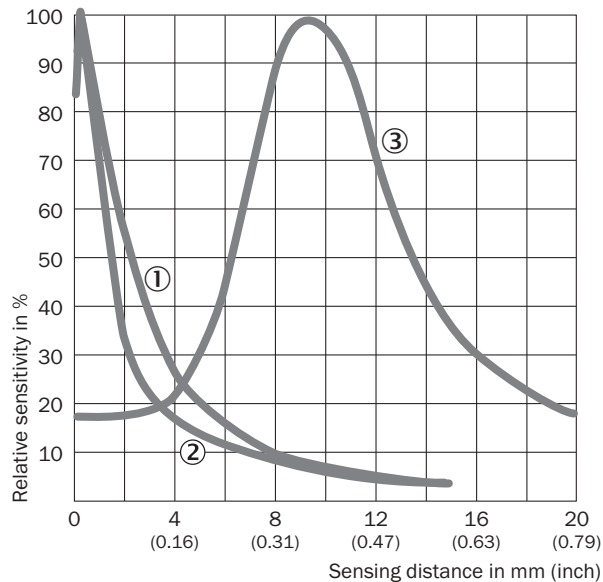
Teach-in can also be performed using an external control signal.

Light/dark setting can also be configured using an external control signal.

Observe the minimum speed (25 mm/s ... 300 mm/s).

Characteristic curve








KTL5-2 Fiber Optic



- 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.
Universal bar clamp systems			
	Plate G for universal clamp bracket, steel, zinc coated, universal clamp and mounting hardware included	BEF-KHS-G01	2022464
	Plate K for universal clamp bracket, steel, zinc coated, universal clamp and mounting hardware included	BEF-KHS-K01	2022718
	Universal clamp bracket for rod mounting, steel, zinc coated, without mounting hardware	BEF-KHS-KH1	2022726
	Mounting bar, straight, 200 mm, steel, steel, zinc coated, without mounting hardware	BEF-MS12G-A	4056054
	Mounting bar, straight, 300 mm, steel, steel, zinc coated, without mounting hardware	BEF-MS12G-B	4056055
	Mounting bar, L-shaped, 150 mm x 150 mm, steel, steel, zinc coated, without mounting hardware	BEF-MS12L-A	4056052
	Mounting bar, L-shaped, 250 mm x 250 mm, steel, steel, zinc coated, without mounting hardware	BEF-MS12L-B	4056053
Plug connectors and cables			

	Brief description	Type	Part no.
	Head A: female connector, M12, 5-pin, straight Head B: cable Cable: PVC, unshielded, 2 m	DOL-1205-G02M	6008899
	Head A: female connector, M12, 5-pin, straight Head B: cable Cable: PVC, unshielded, 5 m	DOL-1205-G05M	6009868
	Head A: female connector, M12, 5-pin, straight Head B: cable Cable: PVC, unshielded, 10 m	DOL-1205-G10M	6010544
	Head A: female connector, M12, 5-pin, angled Head B: cable Cable: PVC, unshielded, 2 m	DOL-1205-W02M	6008900
	Head A: female connector, M12, 5-pin, angled Head B: cable Cable: PVC, unshielded, 5 m	DOL-1205-W05M	6009869
	Head A: female connector, M12, 5-pin, angled Head B: cable Cable: PVC, unshielded, 10 m	DOL-1205-W10M	6010542
	Head A: female connector, M12, 5-pin, straight Cable: unshielded	DOS-1205-G	6009719
	Head A: female connector, M12, 5-pin, angled Head B: - Cable: unshielded	DOS-1205-W	6009720

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