



KT5W-2P2156S42

KT5

CONTRAST SENSORS

SICK
Sensor Intelligence.



Illustration may differ

Ordering information

Type	part no.
KT5W-2P2156S42	1057643

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, RGB ²⁾
Wave length	470 nm, 525 nm, 640 nm
Light emission	Long and short side of housing, exchangeable
Light spot size	1.2 mm x 4.2 mm
Light spot direction	Horizontal ³⁾
Adjustment	Teach-in button
Teach-in mode	Static 2-point teach-in

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⁾
Switching frequency Q	10 kHz ⁴⁾
Response time Q	50 μs ⁵⁾

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 32 V.

Switching output	PNP
Switching output (voltage)	PNP: HIGH = $U_V \leq 2 \text{ V}$ / LOW approx. 0 V
Analog output	0 V ... 5 V
Output current I_{max}	100 mA ⁶⁾
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 ⁷⁾
Circuit protection	U_V connections, reverse polarity protected Output Q short-circuit protected Interference pulse suppression

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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 32 V.

Mechanics

Housing material	Zinc diecast
Connection type	Plug, M12, 5-pin
Weight	400 g

Ambient data

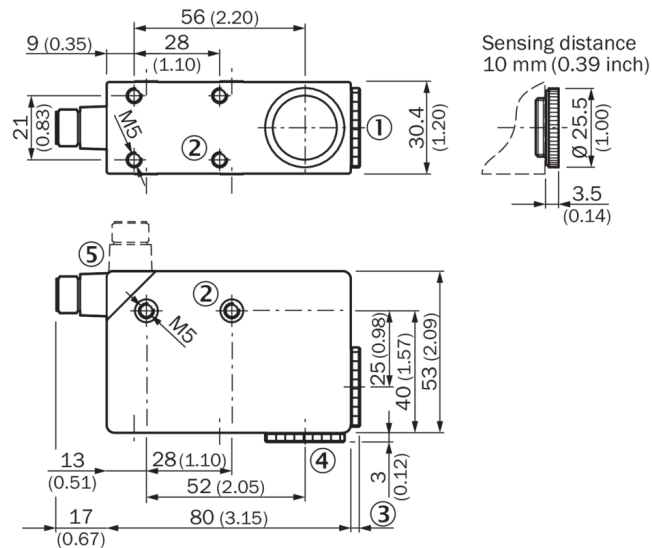
Ambient operating temperature	-10 °C ... +55 °C
Ambient temperature, storage	-25 °C ... +75 °C
Shock load	According to IEC 60068
Enclosure rating	IP67

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

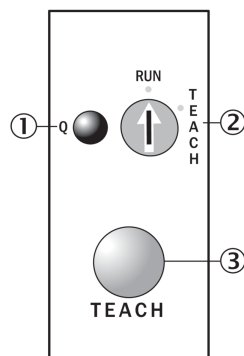
Dimensional drawing



Dimensions in mm (inch)

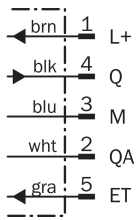
- ① Lens (light transmission), can be exchanged for pos. 4
- ② M5 threaded mounting hole, 5.5 mm deep
- ③ see dimensional drawings of lenses
- ④ Blind screw can be replaced by pos. 1
- ⑤ Connector M12 (rotatable up to 90°)

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



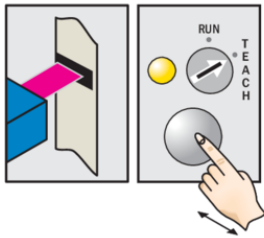
- ① Function signal indicator (yellow)
- ② Pre-selection switch
- ③ Teach-in button

Connection diagram



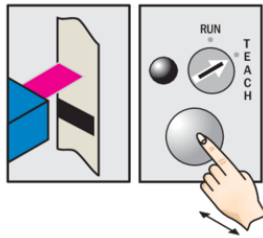
Concept of operation KT5-2 Teach-in, teach-in static

1. Position mark



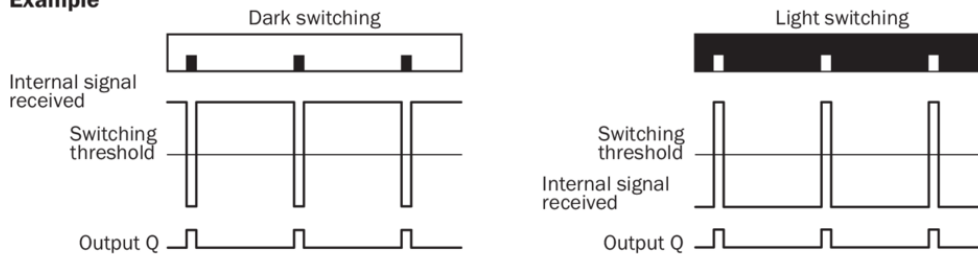
Turn rotary switch to "Teach" position. Press and hold teach-in button > 1 s. Red emitted light and yellow LED flash.

2. Position background



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

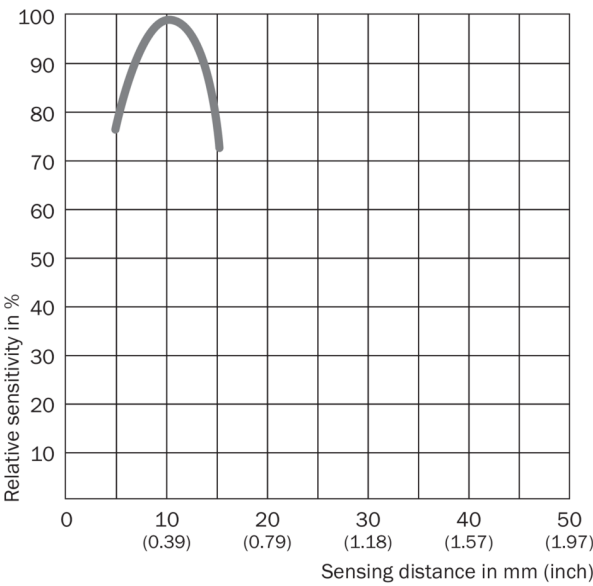
Example



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




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
		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"> Connection type head A: Female connector, M12, 5-pin, straight, A-coded Description: Unshielded Connection systems: Screw-type terminals Permitted cross-section: ≤ 0.75 mm² 	DOS-1205-G	6009719
	<ul style="list-style-type: none"> Connection type head A: Female connector, M12, 5-pin, angled, A-coded Description: Unshielded Connection systems: Screw-type terminals Permitted cross-section: ≤ 0.75 mm² 	DOS-1205-W	6009720
	<ul style="list-style-type: none"> 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 Description: Sensor/actuator cable, unshielded Application: Zones with chemicals, Uncontaminated zones 	YG2A15-020VB5XLEAX	2096215
	<ul style="list-style-type: none"> 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 Description: Sensor/actuator cable, unshielded Application: Zones with chemicals, Uncontaminated zones 	YG2A15-050VB5XLEAX	2096216
	<ul style="list-style-type: none"> 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 Description: Sensor/actuator cable, unshielded Application: Zones with chemicals, Uncontaminated zones 	YG2A15-100VB5XLEAX	2096217
	<ul style="list-style-type: none"> 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 Description: Sensor/actuator cable, unshielded Application: Zones with chemicals, Uncontaminated zones 	YF2A15-020VB5XLEAX	2096239
	<ul style="list-style-type: none"> 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 Description: Sensor/actuator cable, unshielded Application: Zones with chemicals, Uncontaminated zones 	YF2A15-050VB5XLEAX	2096240
	<ul style="list-style-type: none"> 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 Description: Sensor/actuator cable, unshielded Application: Zones with chemicals, Uncontaminated zones 	YF2A15-100VB5XLEAX	2096241
	<ul style="list-style-type: none"> 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 Description: Sensor/actuator cable, unshielded Application: Zones with chemicals, Uncontaminated zones 	YG2A15-C60VB5XLEAX	2145573
	<ul style="list-style-type: none"> 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 Description: Sensor/actuator cable, unshielded Application: Zones with chemicals, Uncontaminated zones 	YG2A15-010VB5XLEAX	2145574
	<ul style="list-style-type: none"> 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 Description: Sensor/actuator cable, unshielded 	YG2A15-030VB5XLEAX	2145575

	Brief description	Type	part no.
	<ul style="list-style-type: none">• Application: Zones with chemicals, Uncontaminated zones• 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• Description: Sensor/actuator cable, unshielded• Application: Zones with chemicals, Uncontaminated zones	YF2A15-C60VB5XLEAX	2145570
	<ul style="list-style-type: none">• 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• Description: Sensor/actuator cable, unshielded• Application: Zones with chemicals, Uncontaminated zones	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.

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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