



KT3L-P3216

KT3

CONTRAST SENSORS

SICK
Sensor Intelligence.



Illustration may differ



Ordering information

Type	Part no.
KT3L-P3216	1026244

Other models and accessories → www.sick.com/KT3

Detailed technical data

Features

Dimensions (W x H x D)	12 mm x 40 mm x 22 mm
Sensing distance	≤ 40 mm
Sensing distance tolerance	± 20 mm
Housing design	Rectangular
Light source	Laser, Red ¹⁾
Laser class	II
Wave length	655 nm
Light spot size	1 mm x 2 mm
Light spot direction	Vertical ²⁾
Operating distance	20 mm ... 60 mm
Adjustment	Teach-in button
Teach-in mode	Static 2-point teach-in

¹⁾ Average service life: 50,000 h at T_U = +25 °C.

²⁾ In relation to long side of housing.

Mechanics/electronics

Supply voltage	10 V DC ... 30 V DC ¹⁾
Ripple	≤ 5 V _{pp} ²⁾
Current consumption	< 35 mA ³⁾
Switching frequency	1.5 kHz ⁴⁾

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.

Response time	400 μ s ⁵⁾
Switching output	PNP
Switching output (voltage)	PNP: HIGH = $U_V \leq 2$ V / LOW approx. 0 V
Output current I_{max}	100 mA
Input, teach-in (ET)	PNP Teach U > 8 V Run: U < 2 V
Retention time (ET)	25 ms, non-volatile memory
Connection type	Male connector M12, 4-pin
Protection class	II ⁶⁾
Circuit protection	U_V connections, reverse polarity protected Output Q short-circuit protected Interference pulse suppression
Enclosure rating	IP67
Weight	+ 11 g
Housing material	Plastic, ABS

- 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.

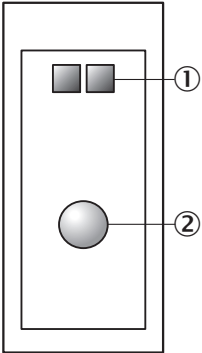
Ambient data

Ambient operating temperature	-10 °C ... +45 °C
Ambient temperature, storage	-20 °C ... +75 °C
Shock load	According to IEC 60068
UL File No.	NRKH.E181493 & NRKH7.E181493, CDRH-conform

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

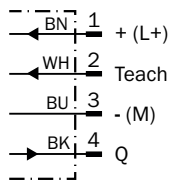
Adjustments



- ① LED signal strength indicator
- ② Teach-in button

Connection diagram

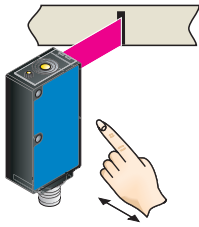
Cd-092



Concept of operation

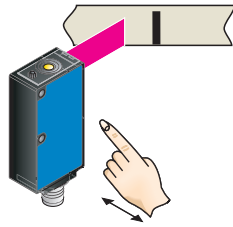
Teach-in static

1. Position mark



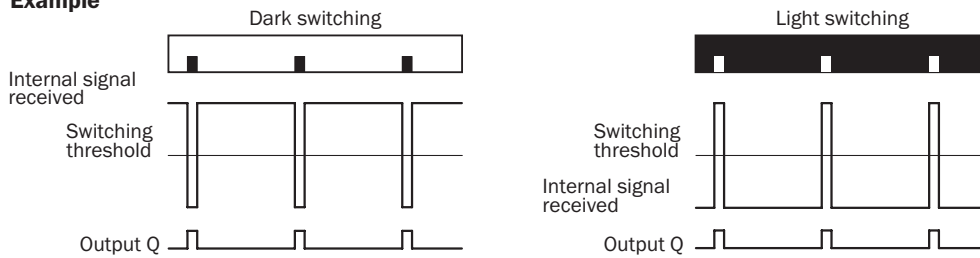
Press and hold teach-in button > 1 s.
 Yellow LED flashes slowly.

2. Position background



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

Example

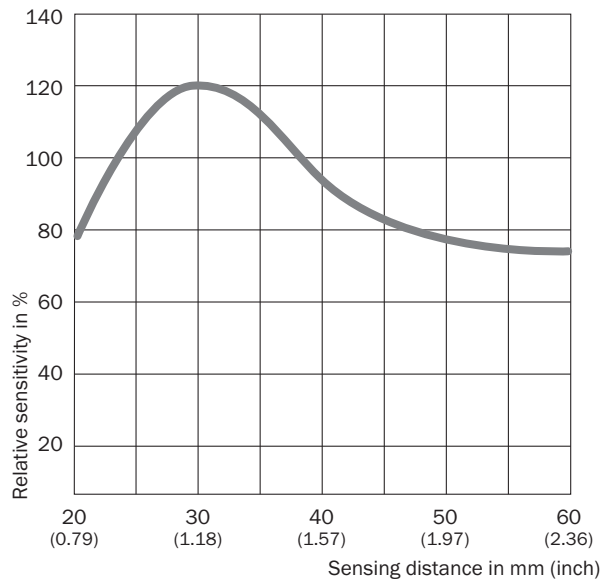


Switching characteristics

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

Sensing distance



Recommended accessories

Other models and accessories → www.sick.com/KT3

	Brief description	Type	Part no.
Universal bar clamp systems			
	Universal clamp bracket for rod mounting, steel, zinc coated, without mounting hardware	BEF-KHS-KH1	2022726
	Plate L for universal clamp bracket, steel, zinc coated, Universal clamp (2022726), mounting hardware	BEF-KHS-L01	2023057
	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 x 250 mm, steel, steel, zinc coated, without mounting hardware	BEF-MS12L-B	4056053
Mounting brackets and plates			
	Mounting bracket, steel, zinc coated, mounting hardware included	BEF-WN-W9-2	2022855

	Brief description	Type	Part no.
Plug connectors and cables			
	<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 	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 	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 	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 	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 	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 	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 	YG2A14-100VB3XLEAX	2095898
 	<ul style="list-style-type: none"> • Connection type head A: Female connector, M12, 4-pin, straight • Description: Unshielded, Head A: female connector, M12, 4-pin, straight, unshielded, for power supply, for cable diameter 4 mm ... 6 mm Head B: - • 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 • Description: Unshielded, Head A: female connector, M12, 4-pin, angled, unshielded, for power supply, for cable diameter 3 mm ... 6.5 mm Head B: - • Connection systems: Screw-type terminals • Permitted cross-section: ≤ 0.75 mm² 	DOS-1204-W	6007303

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