

ONLINE DATA SHEET
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Contrast sensors
KT3, KT3L Laser

KT3L-P3216



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Contrast sensors
KT3, KT3L Laser

Model Name > KT3L-P3216
Part No. > 1026244



At a glance

- Very small housing
- Precise, small laser spot
- Sensing distance up to 60 mm
- Simple 2-point teach-in
- Switching frequency of 1,5 kHz
- Reliable operation for jittering materials

Your benefits

- Compact design fits in applications with limited space
- Small, precise light spot detects the smallest contrast marks, e.g., 1 x 1 mm², using Class II laser technology
- Long sensing distances up to 60 mm enable flexible installation
- The sensor's long depth-of-field ensures that it can be used at various sensing distances
- Automatic adaptation for high-gloss objects ensures high throughput
- Reliable operation for jittering materials

Features

Sensing distance:	40 mm
Sensing distance tolerance:	± 20 mm
Light source [1]:	Laser
Wave length:	655 nm
Light spot size:	1 mm x 2 mm
Light spot direction [2]:	Vertical
Operating distance:	20 mm ... 60 mm
Type of light:	Visible red light
Laser class:	II
Dimensions (W x H x D):	12 mm x 40 mm x 22 mm
Housing design (light emission):	Rectangular
Teach-in mode:	Static 2-point teach-in

[1] Average service life 50,000 h at T_A = +25 °C [2] In relation to long side of housing

Mechanics/electronics

Ripple [1]:	≤ 5 Vpp
Power consumption [2]:	< 35 mA

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Switching frequency [3]:	1.5 kHz
Response time [4]:	400 µs
Output type:	PNP: HIGH = VS- ≤ 2 V/LOW approx. 0 V
Switching mode:	PNP
Input, teach-in (ET):	PNP:, Run: U < 2 V, Teach U > 8 V
Retention time (ET):	25 ms, non-volatile memory
Connection type:	Connector M12, 4-pin
Protection class [5]:	II
Circuit protection:	Output Q short-circuit protected, Interference suppression, VS connections reverse-polarity protected
Enclosure rating:	IP 67, IP 67
Weight:	11 g
Housing material:	ABS, Plastic
Output current Imax.:	100 mA
Supply voltage:	10 V DC ... 30 V DC [6]
Fieldbus interface:	-

[1] May not exceed or fall short of V_S tolerances [2] Without load [3] With light/dark ratio 1:1 [4] Signal transit time with resistive load [5] Reference voltage DC 50 V [6] Limit values; operation in short-circuit protected network max. 8 A

Ambient data

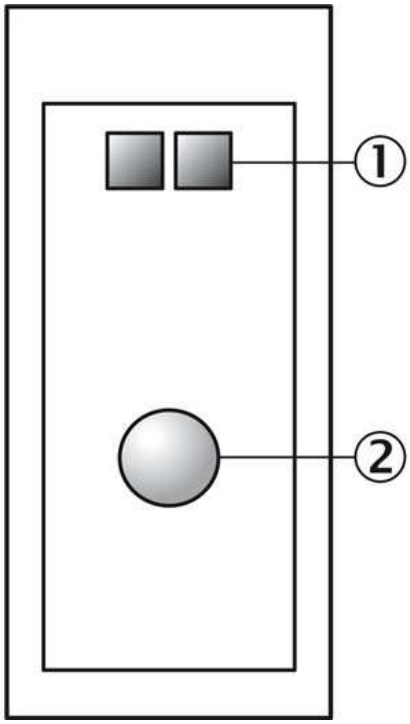
Shock load:	According to IEC 60068
UL File No.:	NRKH.E181493 & NRKH7.E181493, CDRH-conform
Ambient operating temperature:	-10 °C ... +45 °C
Ambient storage temperature:	-20 °C ... +75 °C

Dimensional drawing

Image Unavailable

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Adjustments



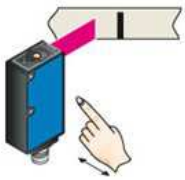
Bedienhinweis

1. Position mark



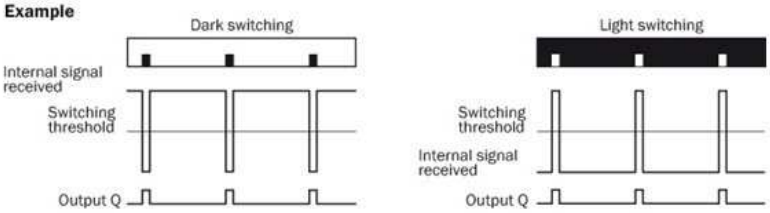
Press and hold teach-in button > 1 s.
Yellow LED flashes slowly.

2. Position background



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

Example

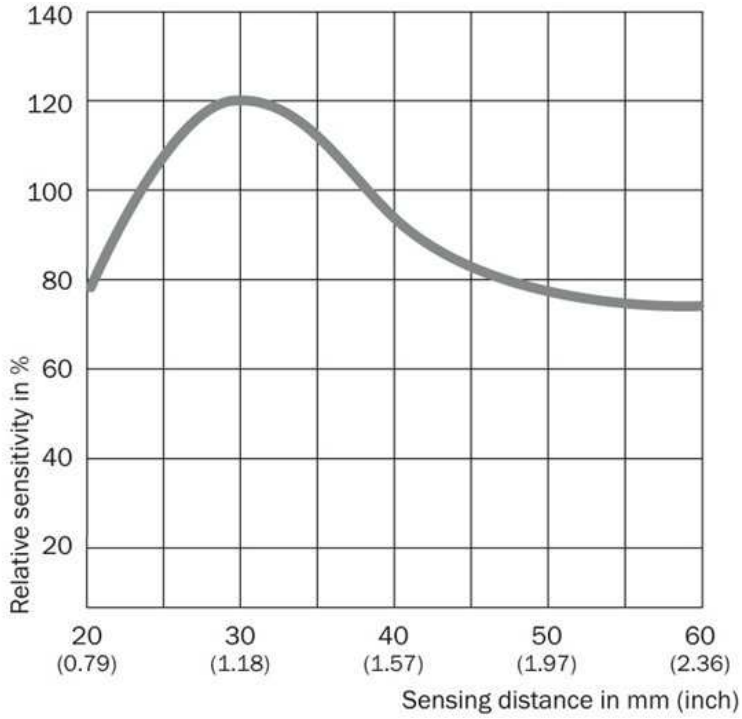


Switching characteristics

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.

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Sensing distance



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