



Contrast sensors  
KT8, KT8L Laser

KT8L-P3756



**Model Name** > [KT8L-P3756](#)  
**Part No.** > [1041351](#)



**At a glance**

- Wide range of operating distances between 30 mm and 800 mm
- Small and precise laser light spot (Class II)
- Fast switching frequency of 17 kHz
- Analog output
- Simple teach-in
- Detection reliability displayed in the bar graph display

**Your benefits**

- Wide range of applications with sensing distances up to 800 mm
- Precise detection of the smallest marks and objects, e.g., 1 x 1 mm<sup>2</sup>
- Adjusts itself to specific applications, opening up a wide range of uses
- Reliable operation, even with unsteady objects



**Features**

Sensing distance <sup>1)</sup> :	150 mm
Light source <sup>2)</sup> :	Laser
Wave length:	655 nm
Light emission:	Long side of housing
Light spot size:	Ø 3 mm <sup>3)</sup>
Light spot direction:	Round
Operating distance:	30 mm ... 600 mm <sup>4)</sup>
Function:	Automatic drift correction
Type of light:	Visible red light
Dimensions (W x H x D):	30.4 mm x 53 mm x 80 mm
Housing design (light emission):	Rectangular
Teach-in mode:	Static 2-point teach-in, Dynamic teach-in (min/max)

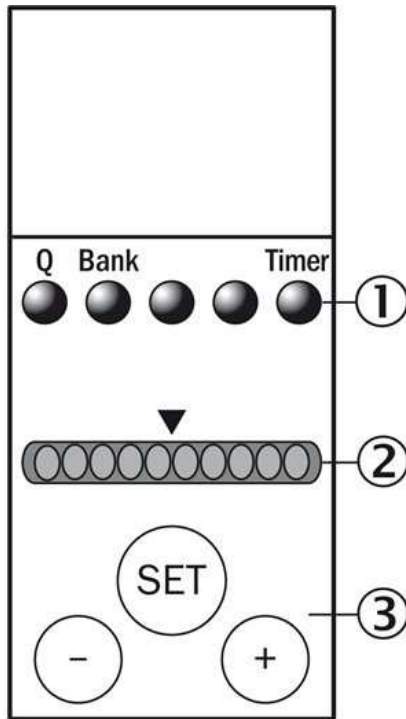
<sup>1)</sup> From front edge of lens   <sup>2)</sup> Average service life 50,000 h at T<sub>A</sub> = +25 °C   <sup>3)</sup> At focal point = sensing distance 150 mm   <sup>4)</sup> With respect to black-white contrast 6 %/90 %

**Mechanics/electronics**

Ripple <sup>1)</sup> :	≤ 5 Vpp
Power consumption <sup>2)</sup> :	< 80 mA
Switching frequency <sup>3)</sup> :	17 kHz
Response time <sup>4)</sup> :	30 µs
Jitter:	< 15 µs



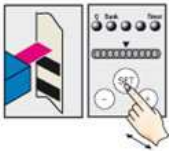
## Adjustments



- |1| Function signal indicators (yellow)
- |2| Bar graph (green)
- |3| Teach-in button/"+" and "-" button

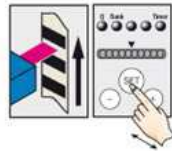
## Connection type and diagram

### 1. Position background

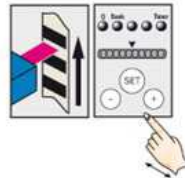


Press and hold SET button.  
Emitted light turns white.

### 2. Move at least one repeat length using the light spot



Hold down SET button.



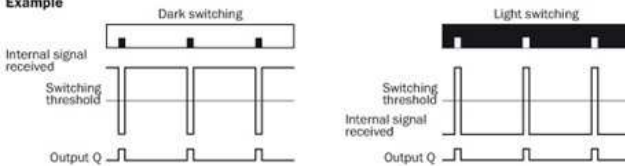
Release SET button.

### Note

The bar display visualizes the detection reliability during teach-in. The more LEDs that illuminate, the better the teach-in:

- 1 LED illuminates = operation not reliable – contrast difference too low
- ≤ 4 LEDs illuminate = operation OK – sufficient contrast difference
- > 4 LEDs illuminate = reliable operation – high contrast difference

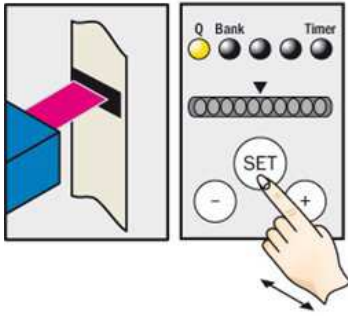
### Example



### Switching characteristics

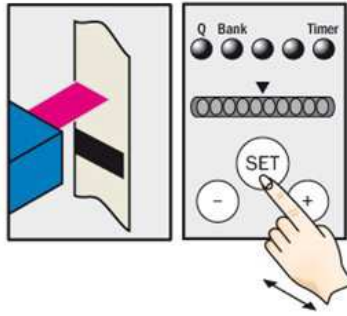
Light/dark setting is defined using teach-in sequence or menu, cf. operating instructions.  
The switching threshold is set in the center between the background and the mark.  
Teach-in and the light/dark setting can also be configured using an external control signal.

### 1. Position mark



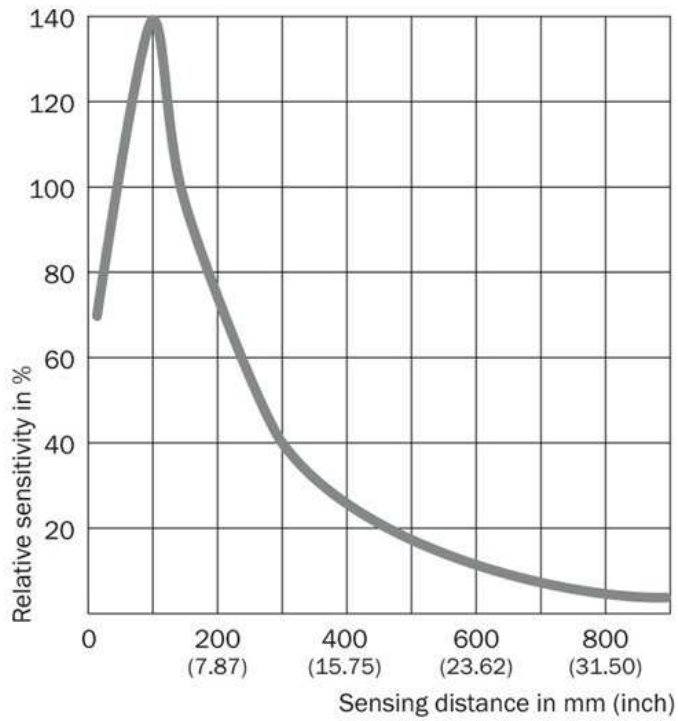
Press and hold SET button > 1 s.  
Yellow LED flashes.

### 2. Position background



Press and hold SET button > 1 s.  
Yellow LED goes out.

### Sensing distance



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