

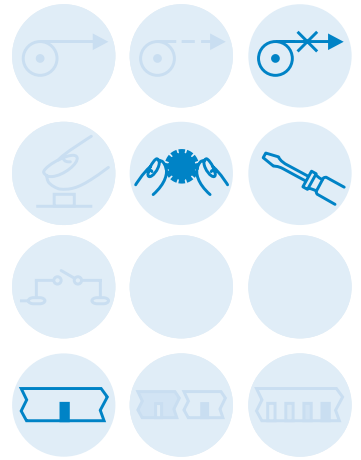
## Contrast scanner with manual switching threshold adjustment

Industrial packaging processes are automated for the most part. Sensors are required for this, which can detect print marks on different films, cardboard packaging and wrapping materials quickly and reliably.

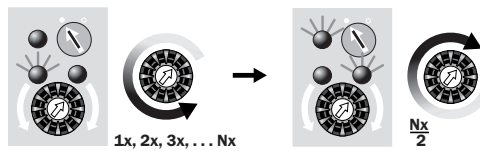
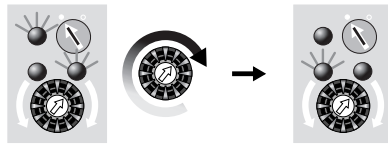
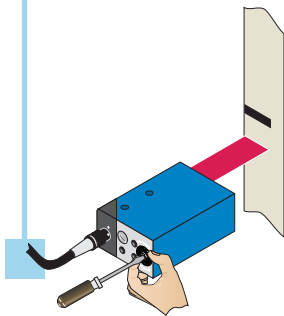
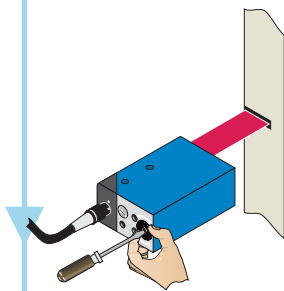
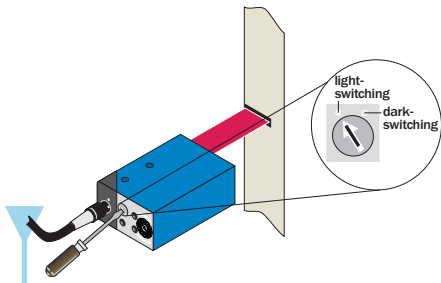
The KT 5G-2P/N\_\_1 can resolve over 30 different contrast levels. This is the basic model of the KT 5 series. The gray value differentiation, switching sequence of 10 kHz and scanning ranges of optionally 10, 20 and 40 mm cover a wide range of applications in contrast detection. The switching threshold is adjusted manually with support from the status indicator as an adjustment aid. An optional release delay, which increases the impulse duration, optimizes detection reliability.



Easy to install too – through the 4-pin M12 plug connection, the comprehensive range of mounting accessories and the selectable light exit at the top or front of the housing.

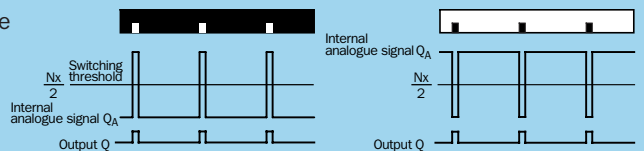


Setting switching threshold




Status

- The switching threshold is set manually in the middle between the background and the mark.



Notes

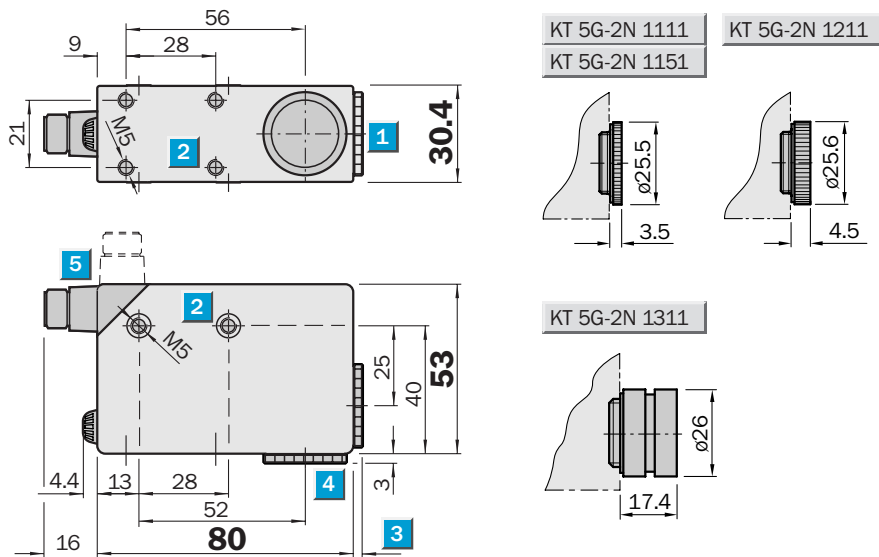
- The material speed must be zero (machine is idle).
- Turn the threshold adjustment knob until the status indicator just lights.
- Switching threshold setting at bright-switching analogue.


**Scanning distance**  
 10/20/40 mm

Contrast scanners

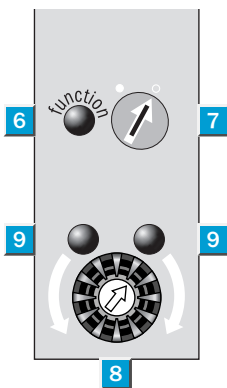
- Green light
- Manual switching threshold adjustment
- Adjustment switch
- Optional time delay
- Switching frequency 10 000/s

**Dimensional drawing**



**Adjustments possible**

All types

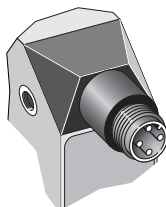


- 1 Lens (light transmission), can be replaced by item 4
- 2 M5 mounting holes, 5.5 mm deep
- 3 See dimensional drawing of lens
- 4 Blind screw, can be replaced by item 1
- 5 4-pin, M12 x 1 plug (rotatable through 90°)
- 6 Function signal indicator (yellow)
- 7 Operating mode selector switch
- Light-switching
- Dark-switching
- 8 Switching threshold adjustment
- 9 Adjustment indicators (green)

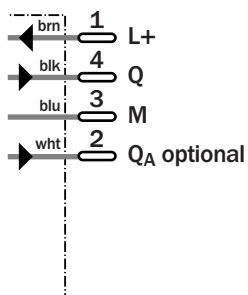


**Connection type**

All types



4-pin, M12



**Accessories**

Cables and connectors
Mounting systems
Lens

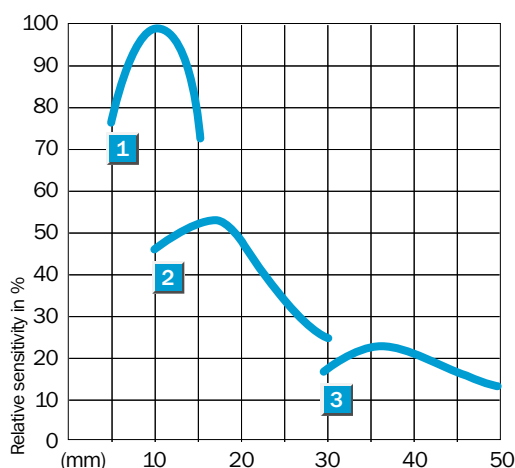
**Technical data** KT 5G-2 | N1111 | N1151 | N1211 | N1311

<b>Scanning distance</b>	10 ± 3 mm				
from front edge of lens	20 ± 3 mm				
	40 ± 3 mm				
<b>Light spot dimension</b>	1.2 x 4.2 mm				
	1.5 x 5.5 mm				
	1.1 x 4.2 mm				
<b>Light spot position</b>	Longitudinal				
<b>Light source<sup>4)</sup>; light type;</b>	LED; green light;				
<b>Wavelength (nm)</b>	520				
<b>Supply voltage V<sub>s</sub></b>	10 ... 30 V DC <sup>2)</sup>				
Residual ripple <sup>3)</sup>	< 5 V <sub>pp</sub>				
Current consumption <sup>4)</sup>	< 80 mA				
<b>Switching outputs</b>	Light-/dark-switching, selectable				
	NPN: HIGH = V <sub>s</sub> /LOW = < 2 V				
Output current I <sub>A</sub> max.	100 mA				
Response time <sup>5)</sup> ; switching frequency <sup>6)</sup>	50 μs; 10 000/s				
Time delay	No timing element				
<b>Analogue output Q<sub>A</sub></b>	0.3 ... 10 mA				
<b>Switching threshold</b>	adjustable (standard type)				
<b>Connection type</b>	Plug 4-pin, M12				
<b>VDE protection class<sup>7)</sup></b>	□				
<b>Enclosure rating</b>	IP 67				
<b>Circuit protection<sup>8)</sup></b>	A, B, C				
<b>Ambient temperature T<sub>A</sub></b>	Operation -10 ... +55 °C				
	Storage -25 ... +75 °C				
<b>Shock load</b>	To IEC 68				
<b>Weight</b>	Approx. 400 g				
<b>Housing</b>	Cast zinc				

1) Average service life 100,000 h at T<sub>A</sub> = + 25 °C  
 2) Limit values  
 3) May not exceed or fall short of V<sub>s</sub> tolerances  
 4) Without load  
 5) Signal transit time with resistive load  
 6) With light/dark ratio 1:1  
 7) Reference voltage 32 V DC  
 8) A = V<sub>s</sub> connections reverse-polarity protected  
 B = Outputs short-circuit protected  
 C = Interference pulse suppression

**Scanning distance**

- 1 Scanning distance 10 mm
- 2 Scanning distance 20 mm
- 3 Scanning distance 40 mm



**Order information**

Preferred type <sup>*)</sup>	Order no.
KT 5G-2N 1111	1 015 981
KT 5G-2N 1151	1 016 385
KT 5G-2N 1211	1 015 985
KT 5G-2N 1311	1 015 988

<sup>\*)</sup> Further types on request

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