



Contrast sensors
KT5, KT5-2 Potentiometer

KT5G-2P2311



Model Name > [KT5G-2P2311](#)
Part No. > [1016012](#)



At a glance

- Tough, metal housing
- Manual switching threshold adjustment with optical adjustment indicator
- Green or white LED technology
- Models with analog output
- Switching frequency of 10 kHz
- Various sensing distances and light spot directions
- M12 plug can be rotated 90°

Your benefits

- All standard print marks and contrasts are detected
- Reliable operation, even with jittering webs and high-gloss materials
- High positioning accuracy improves packaging quality
- Various sensing distances, light spot directions and light emissions make individual configuration and simple integration into the production process possible



Features

Sensing distance ¹⁾ :	40 mm
Sensing distance tolerance:	± 3 mm
Light source ²⁾ :	LED
Wave length:	520 nm
Light emission:	Long and short side of housing, exchangeable
Light spot size:	1.1 mm x 4.2 mm
Light spot direction ³⁾ :	Horizontal
Output function:	Light/dark switching
Type of light:	Visible green light
Dimensions (W x H x D):	30.4 mm x 53 mm x 80 mm
Housing design (light emission):	Rectangular
Teach-in mode:	Manual adjustment, potentiometer

¹⁾ From front edge of lens ²⁾ Average service life of 100,000 h at T_A = +25 °C ³⁾ In relation to long side of housing

Mechanics/electronics

Ripple ¹⁾ :	≤ 5 Vpp
Current consumption ²⁾ :	< 80 mA
Switching frequency ³⁾ :	10 kHz

Response time ⁴⁾ :	50 μ s
Output type:	PNP: HIGH = VS- \leq 2 V/LOW approx. 0 V
Switching mode:	PNP
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
Weight:	400 g
Housing material:	Metal, Zinc diecast
Output current I _{max.} :	100 mA
Supply voltage:	10 V DC ... 30 V DC ⁶⁾
Fieldbus interface:	-

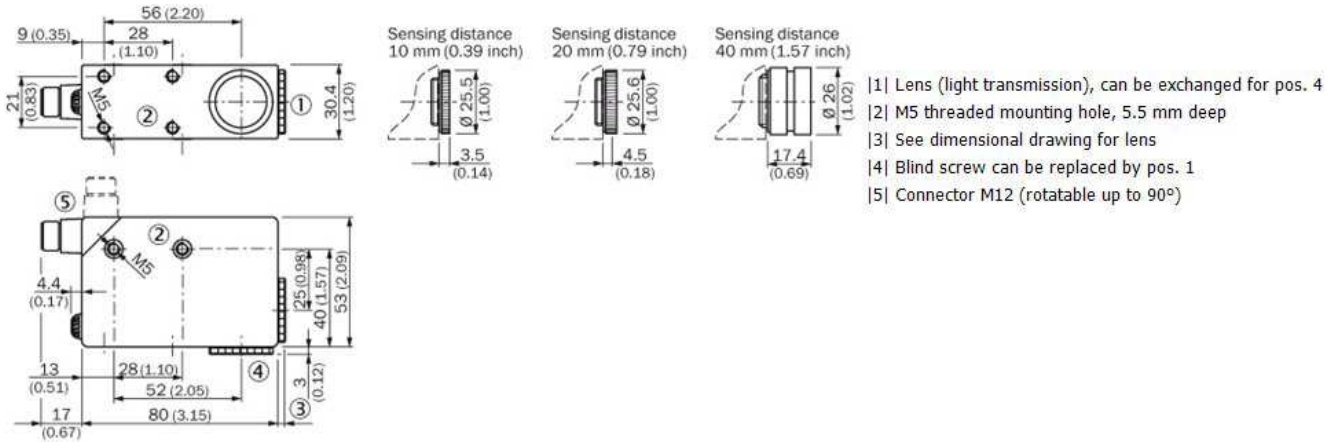
1) May not exceed or fall short of V_S tolerances 2) Without load 3) With light/dark ratio 1:1 4) Signal transit time with resistive load 5) Reference voltage DC 50 V 6)

Limit values; operation in short-circuit protected network max. 8 A

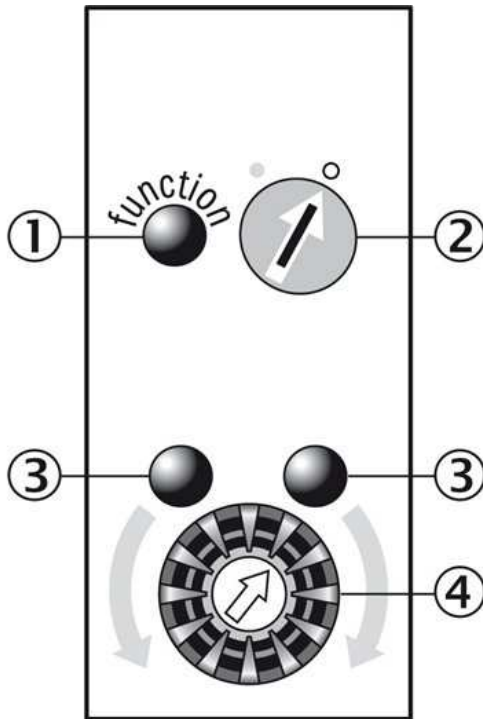
Ambient data

Shock load:	According to IEC 60068
UL File No.:	NRKH.E181493 & NRKH7.E181493
Ambient operating temperature:	-10 °C ... +55 °C
Ambient storage temperature:	-25 °C ... +75 °C

Dimensional drawing



Adjustments



- |1| Function signal indicator (yellow)
- |2| Pre-selection switch (light/dark switching)
- |3| Switching threshold adjustment
- |4| Adjustment indicators (green)

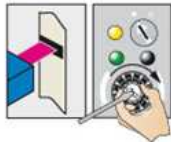
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1. Select switching function (light/dark)



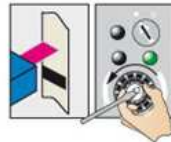
Turn the rotary switch to the desired position.
 ○ = light switching
 ● = dark switching

2. Position mark

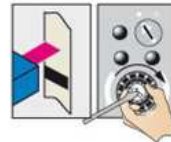


Turn potentiometer in the direction shown (green LED illuminates) until the yellow LED status changes and the green LED opposite illuminates.

3. Position background

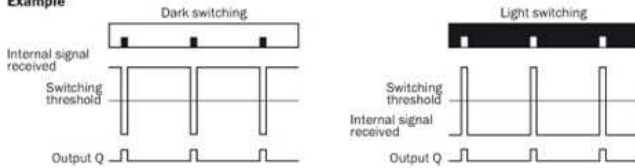


Gradually turn back the potentiometer (count the number of turns) until the yellow LED changes status again and illuminates.



Turn the potentiometer forward again by half the number of turns to ensure that the switching threshold is optimally set.

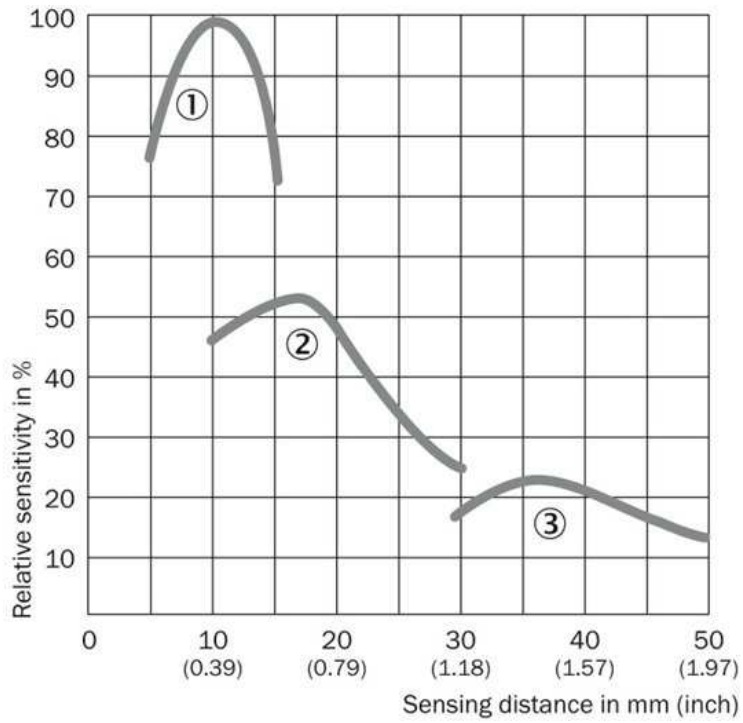
Example



Switching characteristics

The switching threshold is set in the center between the background and the mark.

Sensing distance



- |1| Sensing distance 10 mm
- |2| Sensing distance 20 mm
- |3| Sensing distance 40 mm

Australia

Phone +61 3 9457 0600
1800 33 48 02 – tollfree
E-Mail sales@sick.com.au

Belgium/Luxembourg

Phone +32 (0)2 466 55 66
E-Mail info@sick.be

Brasil

Phone +55 11 3215-4900
E-Mail marketing@sick.com.br

Canada

Phone +1 905 771 14 44
E-Mail information@sick.com

Česká republika

Phone +420 2 57 91 18 50
E-Mail sick@sick.cz

China

Phone +86 4000 121 000
E-Mail info.china@sick.net.cn
Phone +852-2153 6300
E-Mail ghk@sick.com.hk

Danmark

Phone +45 45 82 64 00
E-Mail sick@sick.dk

Deutschland

Phone +49 211 5301-301
E-Mail info@sick.de

España

Phone +34 93 480 31 00
E-Mail info@sick.es

France

Phone +33 1 64 62 35 00
E-Mail info@sick.fr

Great Britain

Phone +44 (0)1727 831121
E-Mail info@sick.co.uk

India

Phone +91-22-4033 8333
E-Mail info@sick-india.com

Israel

Phone +972-4-6881000
E-Mail info@sick-sensors.com

Italia

Phone +39 02 27 43 41
E-Mail info@sick.it

Japan

Phone +81 (0)3 5309 2112
E-Mail support@sick.jp

Magyarország

Phone +36 1 371 2680
E-Mail office@sick.hu

Nederland

Phone +31 (0)30 229 25 44
E-Mail info@sick.nl

Norge

Phone +47 67 81 50 00
E-Mail sick@sick.no

Österreich

Phone +43 (0)22 36 62 28 8-0
E-Mail office@sick.at

Polska

Phone +48 22 837 40 50
E-Mail info@sick.pl

România

Phone +40 356 171 120
E-Mail office@sick.ro

Russia

Phone +7-495-775-05-30
E-Mail info@sick.ru

Schweiz

Phone +41 41 619 29 39
E-Mail contact@sick.ch

Singapore

Phone +65 6744 3732
E-Mail sales.gsg@sick.com

Slovenija

Phone +386 (0)1-47 69 990
E-Mail office@sick.si

South Africa

Phone +27 11 472 3733
E-Mail info@sickautomation.co.za

South Korea

Phone +82 2 786 6321/4
E-Mail info@sickkorea.net

Suomi

Phone +358-9-25 15 800
E-Mail sick@sick.fi

Sverige

Phone +46 10 110 10 00
E-Mail info@sick.se

Taiwan

Phone +886 2 2375-6288
E-Mail sales@sick.com.tw

Türkiye

Phone +90 (216) 528 50 00
E-Mail info@sick.com.tr

United Arab Emirates

Phone +971 (0) 4 88 65 878
E-Mail info@sick.ae

USA/México

Phone +1(952) 941-6780
1 (800) 325-7425 – tollfree
E-Mail info@sickusa.com

More representatives and agencies
at www.sick.com