



Contrast sensors KTM

KTM-WN11181P



Model Name > [KTM-WN11181P](#)
Part No. > [1062200](#)



At a glance

- Established mini housing
- High grayscale resolution
- Increased dynamic range means reliable detection of contrasts on shiny materials
- Static and dynamic teach-in in one variant
- Switching frequency 15 kHz (type-dependent)
- KTM Core for standard applications
- KTM Prime with IO-Link function

Your benefits

- For use in all contrast detection applications, particularly the packaging industry
- - Print mark detection on continuous materials for controlling the cutting process
- - Positioning of tubes
- - Label alignment on bottles



Features

Dimensions (L x W x H):	12 mm x 31.5 mm x 21 mm
Sensing distance:	12.5 mm
Sensing distance tolerance:	± 3 mm
Light source ¹⁾ , ²⁾ :	LED red, green, blue
Light spot size:	1.5 mm x 6.5 mm
Light spot direction ³⁾ :	Vertical
Adjustment:	2-point teach-in static/dynamic + proximity to mark
Max. web speed tech-in (dynamic):	1 m/s ⁴⁾

¹⁾ Average service life of 100,000 h at T_A = +25 °C ²⁾ Wave length: 470 nm, 525 nm, 625 nm ³⁾ In relation to long side of housing ⁴⁾ At a mark size of 4 mm

Mechanics/electronics

Supply voltage V _s ¹⁾ :	DC 12 V ... 24 V
Ripple ²⁾ :	≤ 5 Vpp
Power consumption ³⁾ :	< 50 mA
Switching frequency ⁴⁾ :	15 kHz
Response time ⁵⁾ :	35 µs
Output type:	NPN: HIGH = approx. V _S / LOW ≤ 2 V
Switching mode:	NPN
Input, teach-in (ET):	NPN: Teach: U < 2 V, Run: U _V - 2 V or open
Retention time (ET):	28 ms, non-volatile memory

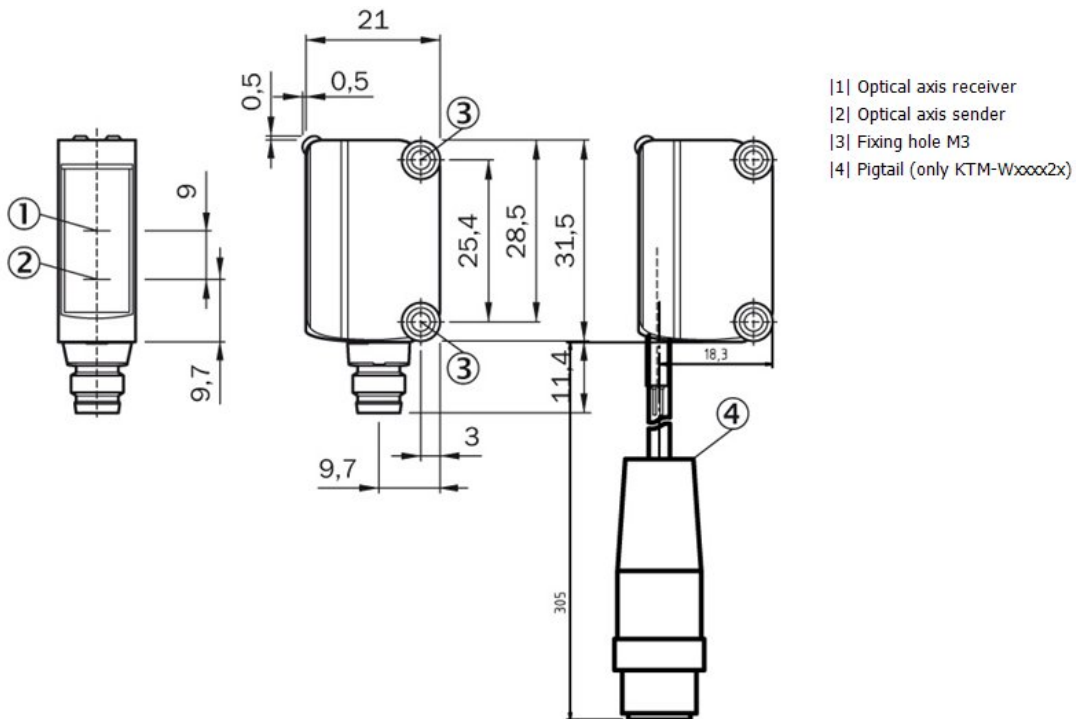
Connection type:	Connector M8, 4-pin
Protection class:	III
Circuit protection:	Output Q short-circuit protected, Interference suppression, VS connections reverse-polarity protected
Enclosure rating:	IP 67
Weight:	Ca. 20 g
Housing material:	ABS (plastic)
Output current I _{max} ..:	100 mA

¹⁾ Extreme values: 12 V (- 10 %) ... 24 V (+ 20 %). Operation in short-circuit protected network max. 8 A ²⁾ May not exceed or fall short of V_S tolerances ³⁾ Without load ⁴⁾ With light/dark ratio 1:1 ⁵⁾ Signal transit time with resistive load

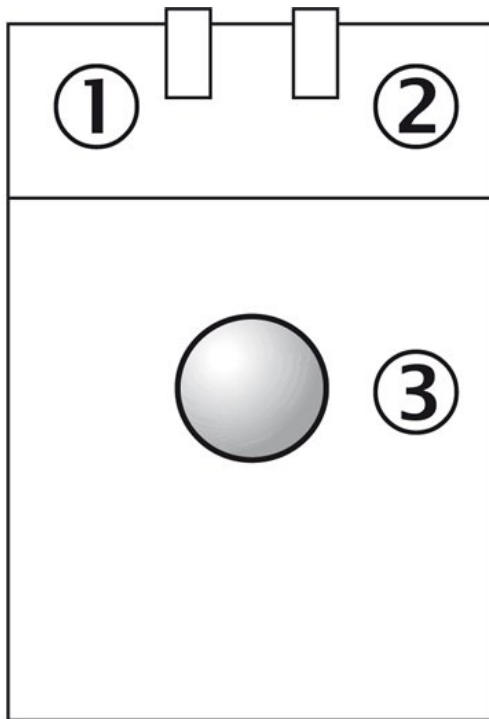
Ambient data

Ambient temperature:	Operation: -10 ... 55 °C, Storage: -20 ... 75 °C
Shock load:	According to IEC 60068
UL File No.:	NRKH.E348498

Dimensional drawing

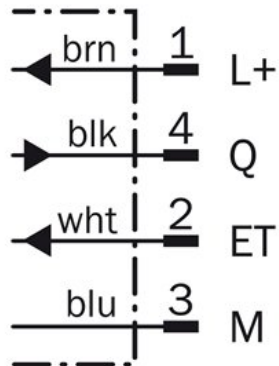
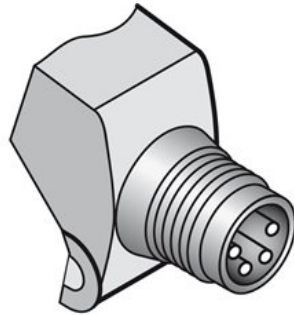


Adjustments



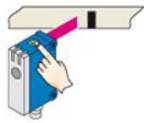
- |1| Status indicator LED, yellow:
Status switching output Q (dark-switching)
- |2| Status indicator LED green: power on
- |3| Teach-in button

Anschlussart und -schema



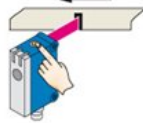
Bedienhinweis

1. Position background



Press the teach-in button and keep it pressed. LED flashing slowly.

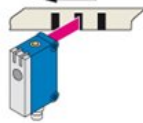
2. Move at least the mark and background using the light spot.



Keep the teach-in button $> 3 < 30$ s pressed.

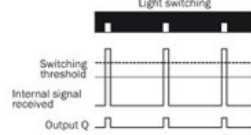
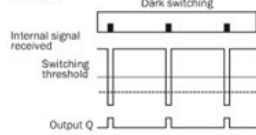


Release the teach-in button.



Yellow LED will illuminate, when emitted light is on the mark.

Example



Switching characteristics

The optimum emitted light is selected automatically (at RGB variants).

Static teach-in: light/dark setting is defined using teach-in sequence.

Dynamic teach-in: switching output active on mark, if background is longer in the field of view during the teach-in.

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

If the button is pressed again within 10 s of the teach (> 20 ms < 10 s),

the switching threshold is placed 25 % below the mark (dotted line in Figure).

Teach-in can also be performed using an external control signal (only dynamic teach-in).

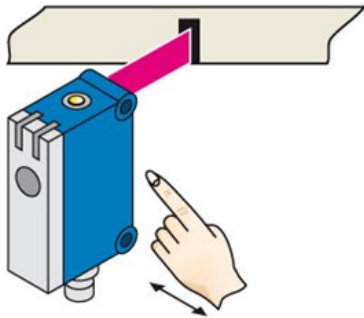
Keylock activation and deactivation: hold down teach-in button > 30 s.

Teach-in failure: yellow LED indicator and the transmitted light of the sensor flashing quickly.

For dynamic teach-in with ET signal (5 Hz) via switching output Q.

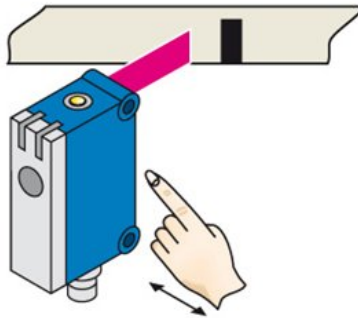
Bedienhinweis

1. Position mark



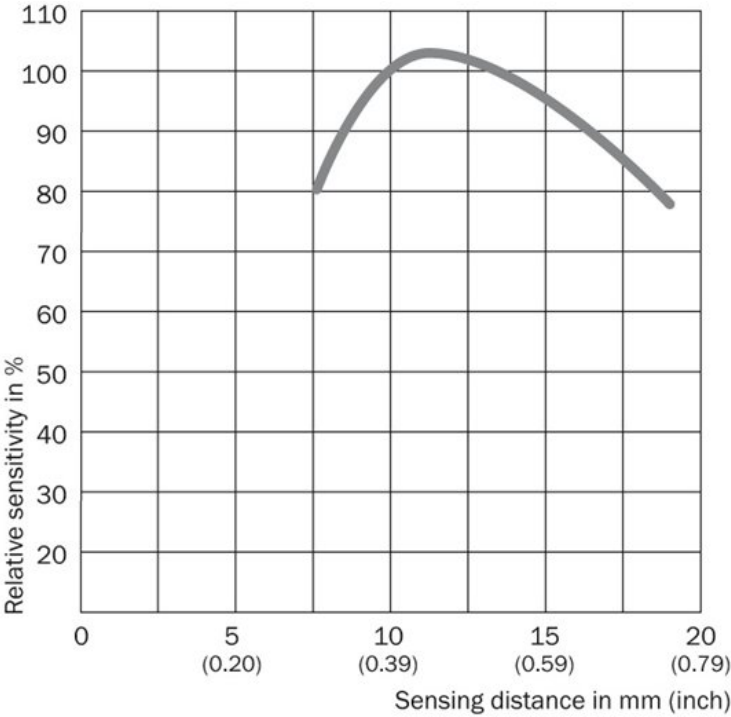
Press and hold teach-in button $> 1 < 3$ s.
Yellow LED flashes slowly.

2. Position background



Press and hold teach-in button < 3 s.
Yellow LED goes out.

Characteristic curve



Australia

Phone +61 3 9457 0600
1800 334 802 – 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 sac@sick.com.br

Canada

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

Ceská 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 kundenservice@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 +972-4-6801000
E-Mail info@sick-sensors.com

Italia

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

Japan

Phone +81 (0)3 3358 1341
E-Mail support@sick.jp

Magyarország

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

Nederlands

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

Norge

Phone +47 67 81 50 00
E-Mail austefjord@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 admin@sicksgp.com.sg

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 8865 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