Data sheet

KTM-WN11101PS07

KTM

CONTRAST SENSORS

SICK
Sensor Intelligence.

Illustration may differ

Ordering information

Type	part no.
KTM-WN11101PS07	1088011

Other models and accessories ➜ www.sick.com/KTM

Detailed technical data

Features

Housing design	Small
Dimensions (W x H x D)	12 mm x 31.5 mm x 21 mm
Light source	LED, RGB [1]
Light emission	Long side of housing
Light spot size	1.6 mm x 9.5 mm
Light spot direction	Vertical [2]
Receiving filters	None
Wave length	470 nm, 525 nm, 625 nm
Sensing distance	≤ 12.5 mm
Sensing distance tolerance	± 3 mm
Display	LED indicator green: power on LED indicator, yellow: Status switching output Q
Adjustment	Teach-in button
Teach-in mode	2-point teach-in static/dynamic + proximity to mark ET: Teach-in dynamic: Q-signal switches during teach-in (up to 10 ms time delay for 1st mark)

[1] Average service life: 100,000 h at T_U = +25 °C.

[2] In relation to long side of housing.

Electronics

Supply voltage	12 V DC ... 24 V DC [1]

[1] Limit values: DC 12 V (–10 %) ... DC 24 V (+20 %). Operation in short-circuit protected network max. 8 A.

[2] May not fall below or exceed U_V tolerances.

[3] Without load.

[4] With light/dark ratio 1:1.

[5] Total current of all Outputs.

Ripple	≤ 5 V_{pp} [2]
Current consumption	< 50 mA [3]
Switching frequency	15 kHz [4]
Response time	32 µs
Jitter	15 µs
Switching output	NPN
Switching output (voltage)	NPN: HIGH = approx. U_V / LOW ≤ 2 V
Switching mode	Dark switching
Output current $I_{max.}$	50 mA [5]
Retention time (ET)	28 ms, non-volatile memory
Time delay	None
Protection class	III
Circuit protection	U_V connections, reverse polarity protected Output Q short-circuit protected Interference pulse suppression
Connection type	
	Male connector M8, 4-pin

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Mechanics

Housing material	ABS
Optics material	PMMA
Weight	20 g

Ambient data

Ambient operating temperature	–10 °C ... +55 °C
Ambient temperature, storage	–20 °C ... +75 °C
Shock load	According to IEC 60068
Enclosure rating	IP67
UL File No.	NRKH.E348498 & NRKH7.E348498

Connection type/pinouts

Connection type	
	Male connector M8, 4-pin
Pinouts	
BN 1	+ (L+)
WH 2	ET
BU 3	- (M)
BK 4	Q

Classifications

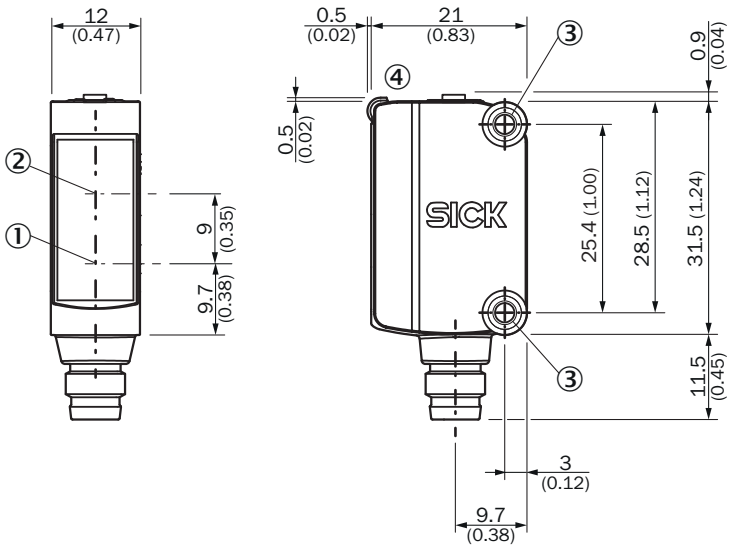
ECLASS 5.0	27270906

ECLASS 5.1.4	27270906
ECLASS 6.0	27270906
ECLASS 6.2	27270906
ECLASS 7.0	27270906
ECLASS 8.0	27270906
ECLASS 8.1	27270906
ECLASS 9.0	27270906
ECLASS 10.0	27270906
ECLASS 11.0	27270906
ECLASS 12.0	27270906
ETIM 5.0	EC001820
ETIM 6.0	EC001820
ETIM 7.0	EC001820
ETIM 8.0	EC001820
UNSPSC 16.0901	39121528

Certificates

EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓
Moroccan declaration of conformity	✓
China RoHS	✓
cULus certificate	✓
Photobiological safety (IEC EN 62471)	✓

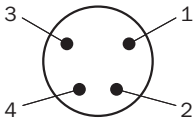
Dimensional drawing KTM-Mxxxxx1P, KTM-Wxxxxx1P



Dimensions in mm (inch)
① Center of optical axis, sender

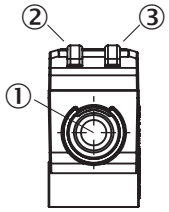
② Center of optical axis, receiver
③ Mounting holes M3
④ display and adjustment elements

Pinouts, see table Technical data: Connection type/pinouts



Male connector, M8, 4-pin, uncoded

display and adjustment elements

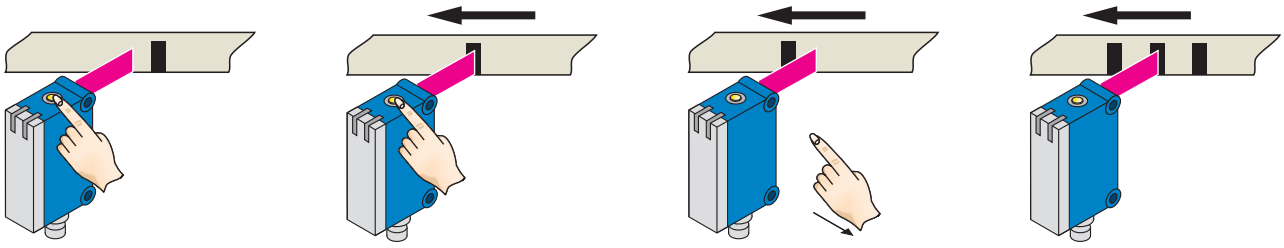


① Teach-in button
② LED yellow
③ LED green

Concept of operation Teach-in dynamic

1. Position background

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



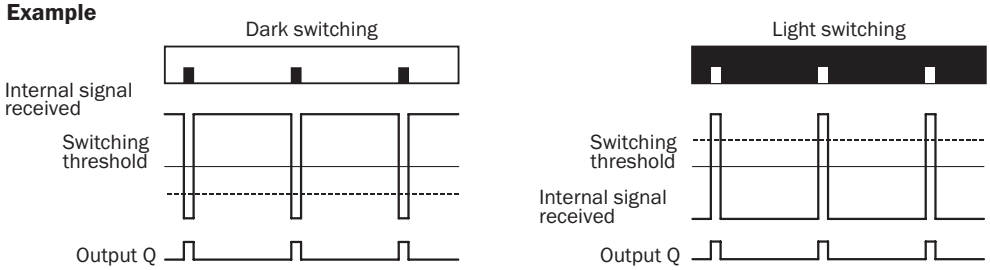
Press the teach-in button and keep it pressed. LED flashing slowly.

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



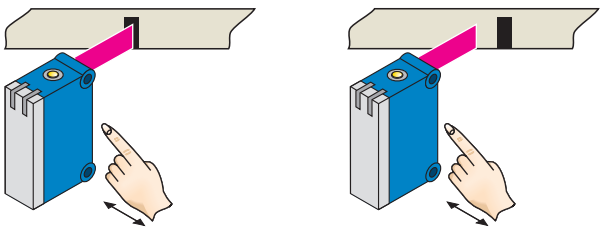
Teach via Teach button
like standard KTM but darkswitching

- Q-Signal switches during teach-in
- Up to 10ms time delay at the 1. mark
- Only for dark marks on bright background

Setting the switching threshold (static)

1. Position mark

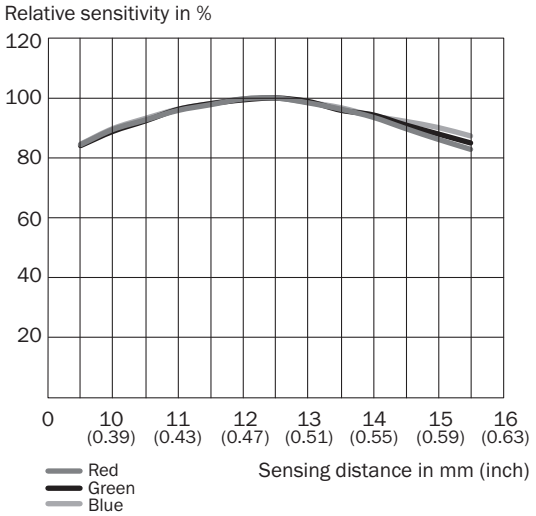
2. Position background



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

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

Sensing distance



Recommended accessories

Other models and accessories ➜ www.sick.com/KTM

	Brief description	Type	part no.
Mounting systems			
	• **Description:** Mounting bracket for wall mounting • **Material:** Stainless steel • **Details:** Stainless steel • **Items supplied:** Mounting hardware included • **Suitable for:** W8, W8G, W8 Laser, W8 Inox, G6, G6 Inox, W100 Laser, W100-2, KTM Core, KTM Prime, CSM, LUTM, W4S	BEF-W100-A	5311520
connectors and cables			
	• **Connection type head A:** Female connector, M8, 4-pin, straight, A-coded • **Connection type head B:** Male connector, M12, 4-pin, straight, A-coded • **Signal type:** Sensor/actuator cable • **Cable:** 5 m, 4-wire, PVC • **Description:** Sensor/actuator cable, unshielded • **Application:** Uncontaminated zones, Zones with chemicals	YF8U14-050VA3M2A14	2096609
	• **Connection type head A:** Female connector, M8, 4-pin, straight, A-coded • **Connection type head B:** Flying leads • **Signal type:** Sensor/actuator cable • **Cable:** 5 m, 4-wire, PVC • **Description:** Sensor/actuator cable, unshielded • **Application:** Uncontaminated zones, Zones with chemicals	YF8U14-050VA3XLEAX	2095889

SICK AT A GLANCE

SICK is one of the leading manufacturers of intelligent sensors and sensor solutions for industrial applications. A unique range of products and services creates the perfect basis for controlling processes securely and efficiently, protecting individuals from accidents and preventing damage to the environment.

We have extensive experience in a wide range of industries and understand their processes and requirements. With intelligent sensors, we can deliver exactly what our customers need. In application centers in Europe, Asia and North America, system solutions are tested and optimized in accordance with customer specifications. All this makes us a reliable supplier and development partner.

Comprehensive services complete our offering: SICK LifeTime Services provide support throughout the machine life cycle and ensure safety and productivity.

For us, that is “Sensor Intelligence.”

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