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DATA SHEET

KTM-LP22181P

KTM
Contrast sensors

SICK Sensor Intelligence



Illustration may differ

CONTRAST SENSORS

KTM-LP22181P

ORDERING INFORMATION

Type	part no.
KTM-LP22181P	1105835

Further device versions and accessories at 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	Laser, visible red light [1]
Light emission	Long side of housing
Light spot size	Ø 1.7 mm (50 mm)
Light spot direction	Round
Receiving filters	None
Wave length	680 nm
Laser class	I [2]
Sensing distance	≤ 50 mm
Sensing distance tolerance	± 30 mm
Max. web speed	10 m/s [3]
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

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

[2] Do not intentionally look into the laser beam. Never point the laser beam at people's eyes.

[3] At mark size = 1.5 mm.

ELECTRONICS

Supply voltage	10 V DC ... 30 V DC
Ripple	≤ 5 V_{pp} [1]
Current consumption	< 35 mA [2]
Switching frequency	4 kHz [3]
Response time	125 µs
Jitter	57 µs
Accuracy	0.08 mm
Switching output	PNP
Switching output (voltage)	PNP: HIGH = U_V ≤ 2 V / LOW approx. 0 V
Switching mode	Light/dark switching
Output current $I_{max.}$	100 mA [4]
Input, dynamic teach-in (ET)	PNP: Teach: U = 10,8 V ... < U_V PNP: Run: U < 2 V or open
Retention time (ET)	250 ms
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

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

[2] Without load.

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

[4] At supply voltage > 24 V, I_{max} = 50 mA. I_{max} is consumption count of all Q_L.

MECHANICS

Housing material	ABS
Optics material	PMMA
Weight	Approx. 11 g

AMBIENT DATA

Ambient operating temperature	–20 °C ... +45 °C
Ambient temperature, storage	–40 °C ... +70 °C
Shock load	According to IEC 60068
Enclosure rating	IP67
UL File No.	E181493

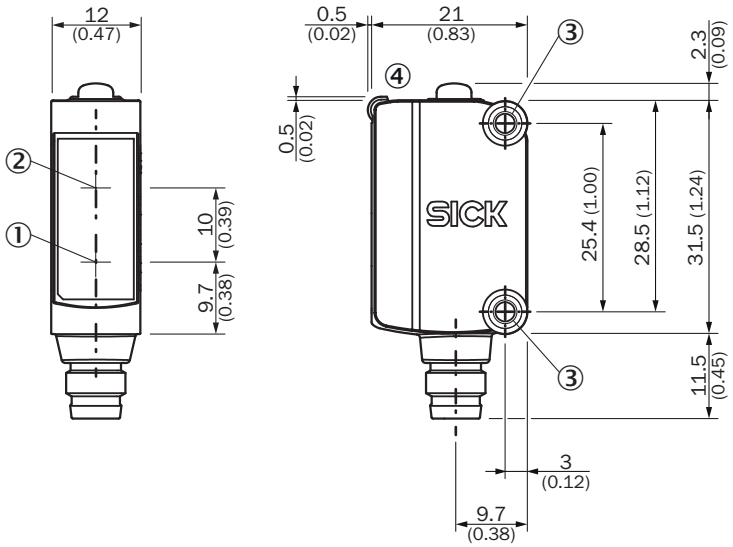
CONNECTION TYPE/PINOUTS

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

CERTIFICATES

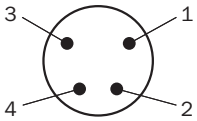
EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓
Moroccan declaration of conformity	✓
China RoHS	✓
China Compulsory Product Certification (CCC) exempt	✓
cULus certificate	✓

DIMENSIONAL DRAWING KTM-LXXXXX1P



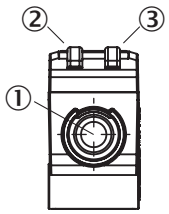
Dimensions in mm (inch)
① Center of optical axis, sender
② Center of optical axis, receiver
③ Mounting holes M3
④ display and adjustment elements

PINOUTS, SEE TABLE TECHNICAL DATA: CONNECTION TYPE/PINOUTS



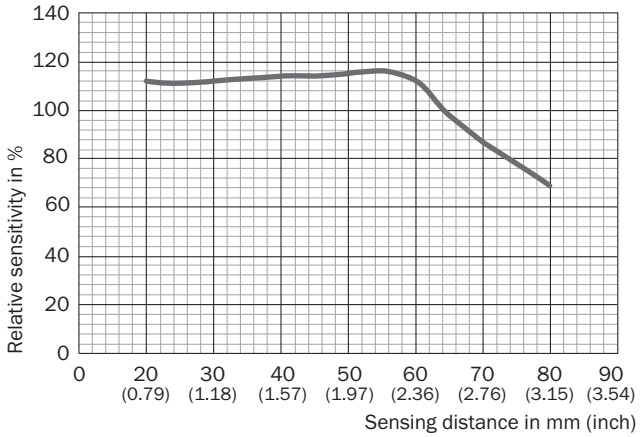
Male connector, M8, 4-pin, uncoded

DISPLAY AND ADJUSTMENT ELEMENTS

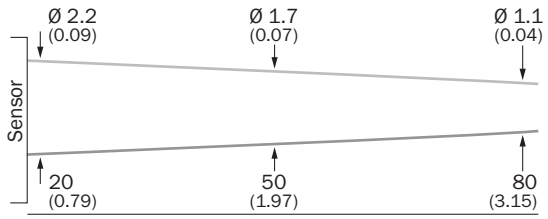


① Teach-in button
② LED yellow
③ LED green

SENSING DISTANCE



LIGHT SPOT SIZE KTM-LXX2XXXX



Further information as well as suitable accessories, example applications and downloads such as CAD dimensional models, operating instructions and software can be found at www.sick.com/1105835

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SICK AT A GLANCE

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SICK combines sensor intelligence with industry expertise and certified consulting services. We provide the ideal foundation for scalable as well as tailor-made automation solutions and create added value along the entire value chain. Our close partnerships with our customers are more than just a promise: Together, we optimize productivity, improve quality, protect health and safety, and help build a sustainable future. All with empathy and trust.

Since 1946, we have been developing innovative technologies with passion and a pioneering spirit. With a global network in around 40 countries, SICK has a global presence and is always close by. The company's headquarters are located in Waldkirch near Freiburg, Germany. Our customers benefit from our understanding of both local and global requirements, which enables us to deliver tailor-made solutions

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