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DATA SHEET

KTL180-ML4P41ZZZZZ

KTL180
Contrast sensors

SICK Sensor Intelligence



Illustration may differ

CONTRAST SENSORS

KTL180-ML4P41ZZZZZ

ORDERING INFORMATION

Type	part no.
KTL180-ML4P41ZZZZZ	6068617

Further device versions and accessories at www.sick.com/KTL180

DETAILED TECHNICAL DATA

FEATURES

Parameter presettings	None
Special applications	-
Device type	Base unit
Housing design	For fiber-optic
Dimensions (W x H x D)	10.5 mm x 33.2 mm x 71.9 mm
Light source	LED, White [1]
Wave length	400 nm ... 750 nm
Angle of dispersion	Approx. 65° [2]
Sensing range	0 mm ... 30 mm, Proximity system [3]
Sensing distance	≤ 30 mm [4]
Display	Display
Display	LED status display / 2x 4-character digital dual displays, Set value (green indicator) and actual value (red indicator) are displayed simultaneously, display of parameters
Teach-in mode	1-point teach-in, 2-point teach-in, teach-in dynamic
Delay time	Adjustable
Special features	Multi-function input, base unit for BUS mode
Delivery status	Teach-in dynamic
Safety-related parameters	
$MTTF_D$	300.4 years

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

[2] See LL3 fiber-optic data.

[3] Objects to be sensed with 90% reflectivity (based on DIN 5033 white standard). Sensing range depends on fiber-optic cable.

[4] Depending on the optical fiber cable used.

ELECTRONICS

Supply voltage	12 V DC ... 24 V DC [1]
Ripple	≤ 10 % [2]
Current consumption	≥ 50 mA (at 24 V)
Switching frequency	31.2 kHz
Response time	16 µs
Jitter	8 µs
Number of switching outputs	1
Switching output	NPN
Switching mode	Light/dark switching
Output current $I_{max.}$	100 mA [3]
Input, blanking input (AT)	Blanked: U < 1 V: free-running: U = 1.5 V ... < Uv [4]
Input, light/dark (L/D)	Light: U = 1.5 V: light: U < 1 V [4]
Retention time (ET)	25 ms, non-volatile memory
Time delay	None
Protection class	III
Circuit protection	U_V connections, reverse polarity protected In-/outputs short-circuit protected Interference pulse suppression Outputs overcurrent and short-circuit protected
Connection type	Male connector M8, 4-pin

[1] +- 10%.

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

[3] Total current of all Outputs.

[4] Minimum pulse 300 µs.

MECHANICS

Housing material	VISTAL®
Weight	25 g

AMBIENT DATA

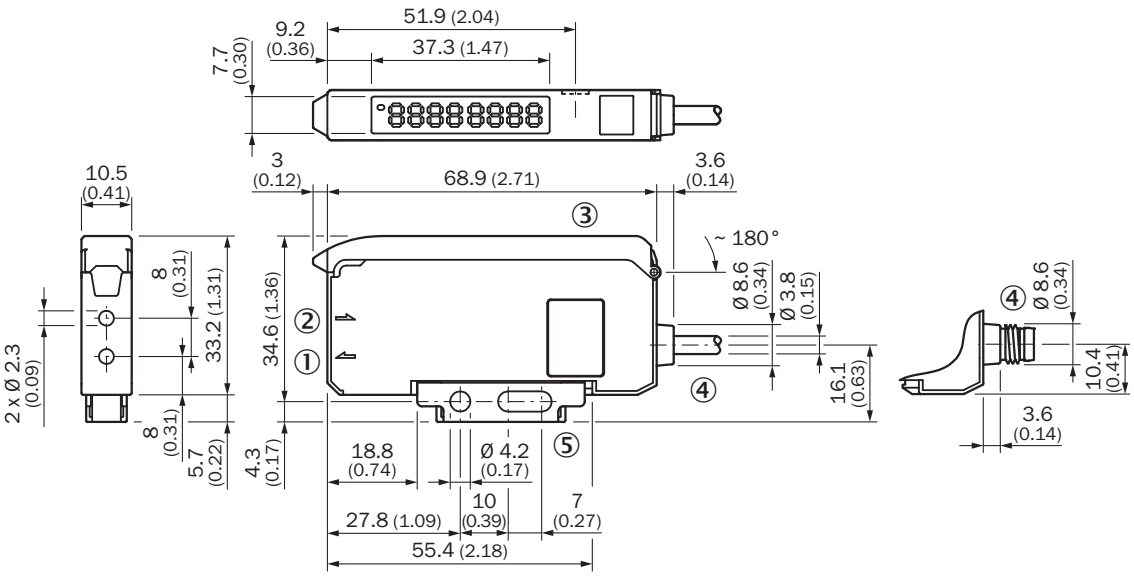
Ambient operating temperature	–25 °C ... +55 °C
Ambient temperature, storage	–40 °C ... +70 °C
Shock load	IEC 60068-2-27
Enclosure rating	IP50
UL File No.	EN 60947-5-2

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	✓

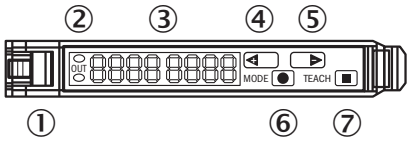
Photobiological safety (IEC EN 62471)	✓
Optical radiation safety (GB 44703:2024) declaration of manufacturer (medium risk)	✓
Information according to Art. 3 of Data Act (Regulation EU 2023/2854)	✓

DIMENSIONAL DRAWING BUS TYPE



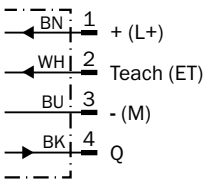
Dimensions in mm (inch)
① Sender LED, installation of LL3 fibre-optic cable (sender fibre)
② Receiver, installation of LL3 fibre optic cable (receiver fibre)
③ protective hood opens approx. 180°
④ Connection
⑤ Mounting bracket, included with delivery

ADJUSTMENTS

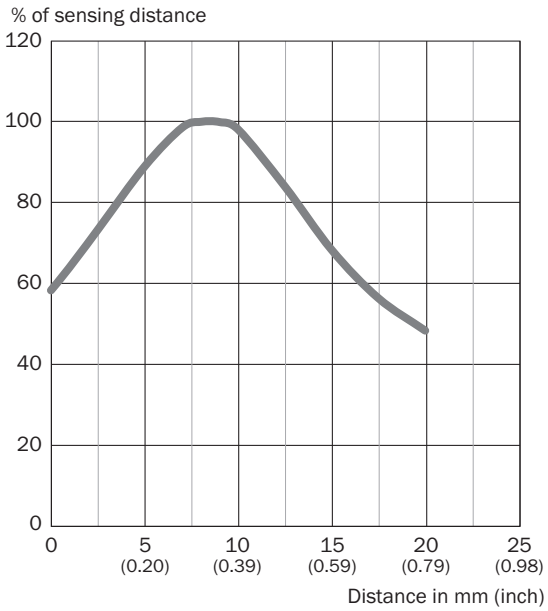


① Locking the fiber-optic cables
② LED indicator orange, lights up when switching output is active
③ Numeric display 2 x 4-digit; green: switching threshold, operating mode; red: actual value, Teach-in and function parameter
④ step pushbutton > (manual switching threshold: higher/next function parameter)
⑤ step pushbutton < (manual switching threshold: lower/previous function parameter)
⑥ Mode/Enter-button
⑦ Teach-in button

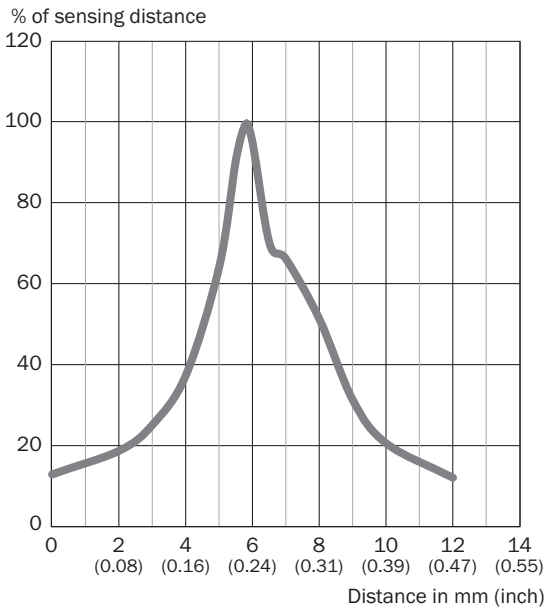
CONNECTION DIAGRAM CD-380



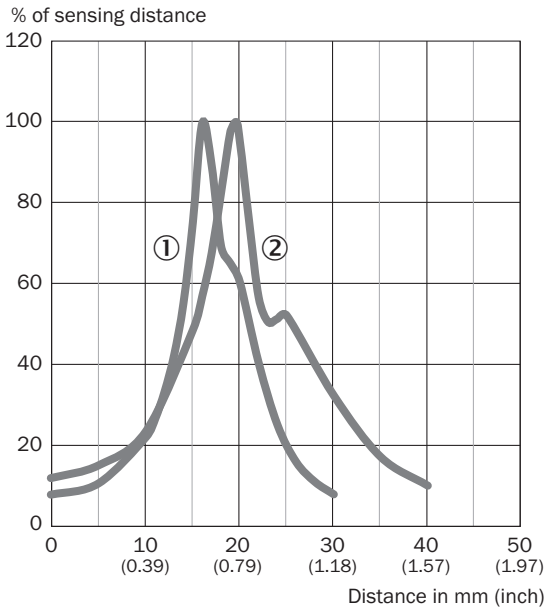
SENSING DISTANCE LL3-DZ01



SENSING DISTANCE LL3-DM02 (LL3-DA09)

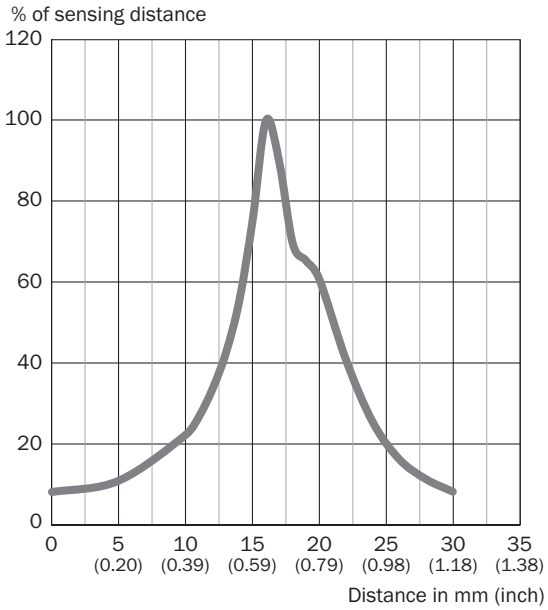


SENSING DISTANCE LL3-DM02 (LL3-DA06)

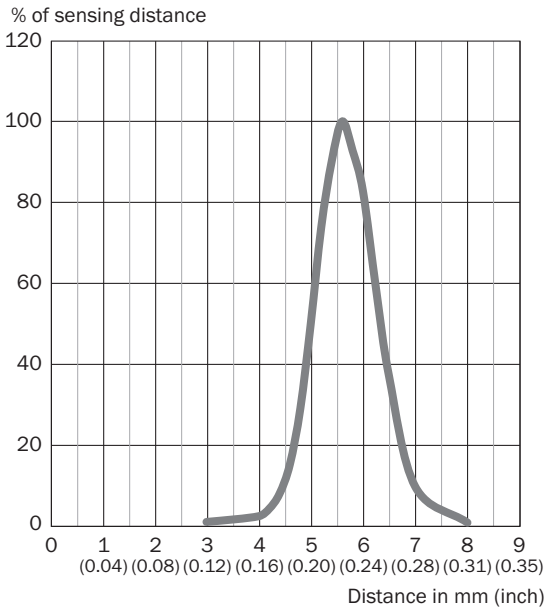


① thread with 3 mm distance
② Thread screwed flush with the nut

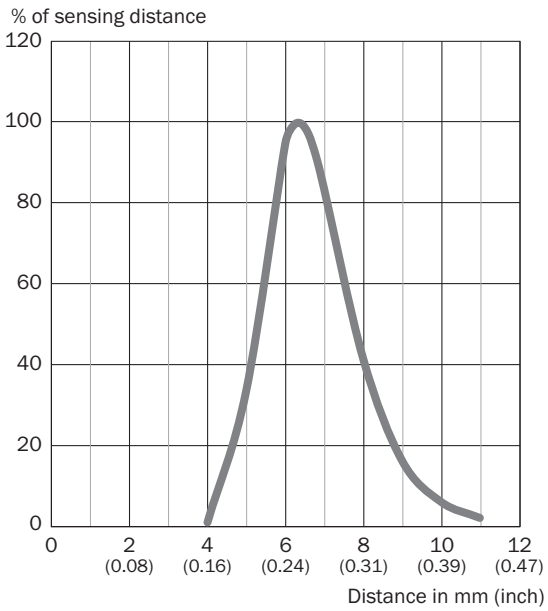
SENSING DISTANCE LL3-DM02 (LL3-DA06)



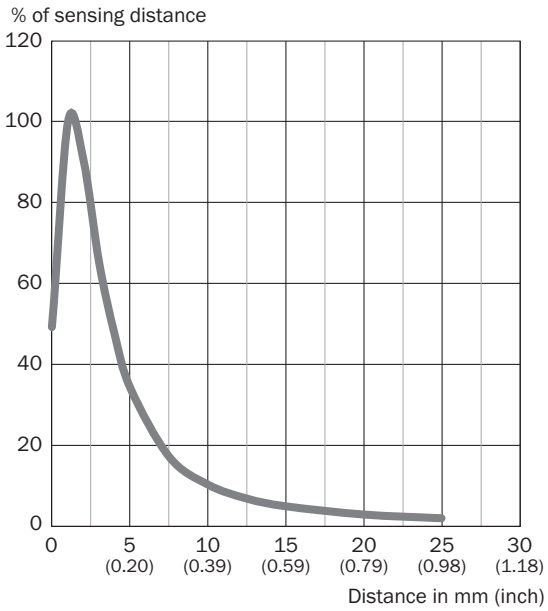
SENSING DISTANCE LL3-DC38



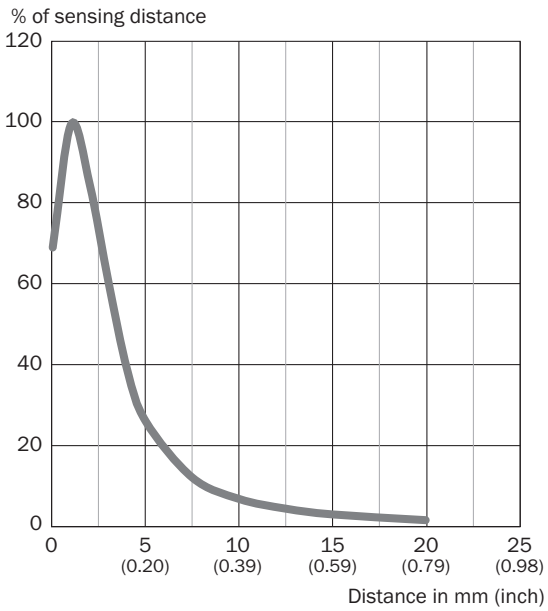
SENSING DISTANCE LL3-DC09



SENSING DISTANCE LL3-DB09, LL3-DK04, LL3-DY01



SENSING DISTANCE LL3-DB01, LL3-DB04, LL3DM02



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/6068617

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SICK AT A GLANCE

SICK is a leading global technology company for intelligent sensors and integrated solutions in industrial automation. Our technologies set benchmarks, making your industrial processes more efficient, safer and more sustainable – both in logistics and manufacturing operations.

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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