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DATA SHEET

KTL180-ML4P51ZZZZZ

KTL180
Contrast sensors

SICK Sensor Intelligence



Illustration may differ

CONTRAST SENSORS

KTL180-ML4P51ZZZZZ

ORDERING INFORMATION

Type	part no.
KTL180-ML4P51ZZZZZ	6068619

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	
$MTTF_D$	278.7 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	2
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	Cable with plug M12, 5-pin, 300 mm

[1] +- 10%.

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

[3] Total current of all Outputs.

[4] Minimum pulse 300 µs.

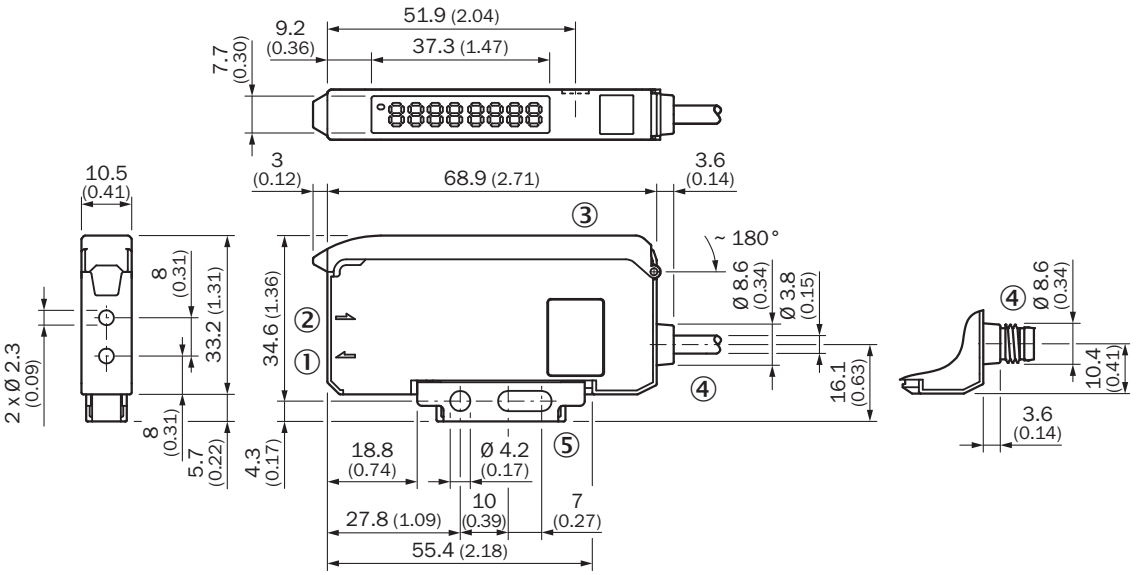
MECHANICS

Housing material	VISTAL®
Weight	71 g

AMBIENT DATA

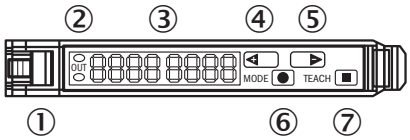
Ambient operating temperature	–25 °C ... +55 °C
Ambient temperature, storage	–40 °C ... +70 °C
Shock load	IEC 60068-2-27
Enclosure rating	IP50
UL File No.	EN 60947-5-2

DIMENSIONAL DRAWING BUS TYPE



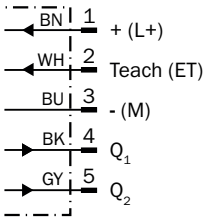
Dimensions in mm (inch)
① Sender LED, installation of LL3 fibre-optic cable (sender fibre)
② Receiver, installation of LL3 fibre optic cable (receiver fibre)
③ protective hood opens approx. 180°
④ Connection
⑤ Mounting bracket, included with delivery

ADJUSTMENTS

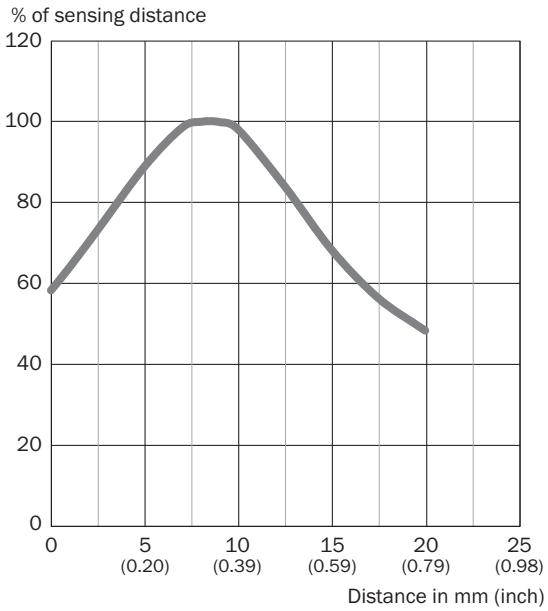


① Locking the fiber-optic cables
② LED indicator orange, lights up when switching output is active
③ Numeric display 2 x 4-digit; green: switching threshold, operating mode; red: actual value, Teach-in and function parameter
④ step pushbutton > (manual switching threshold: higher/next function parameter)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

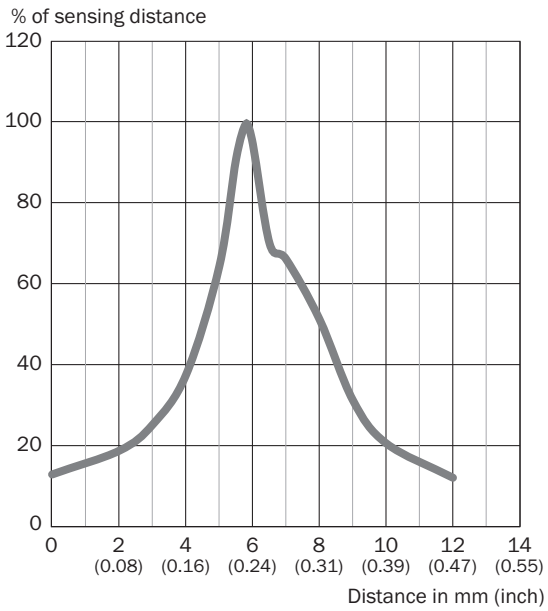
CONNECTION DIAGRAM CD-418



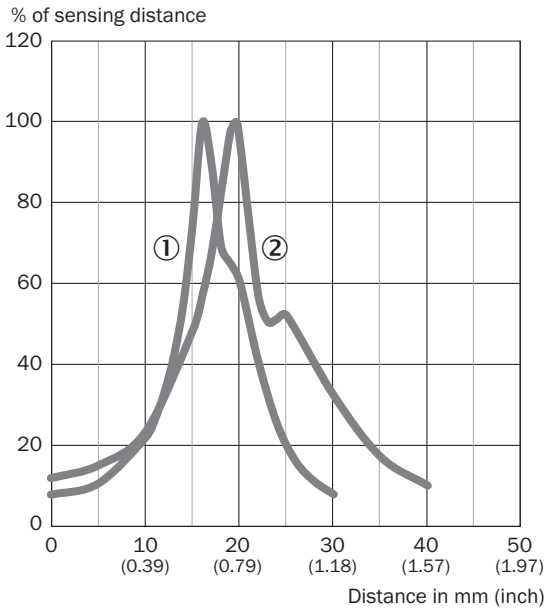
SENSING DISTANCE LL3-DZ01



SENSING DISTANCE LL3-DM02 (LL3-DA09)

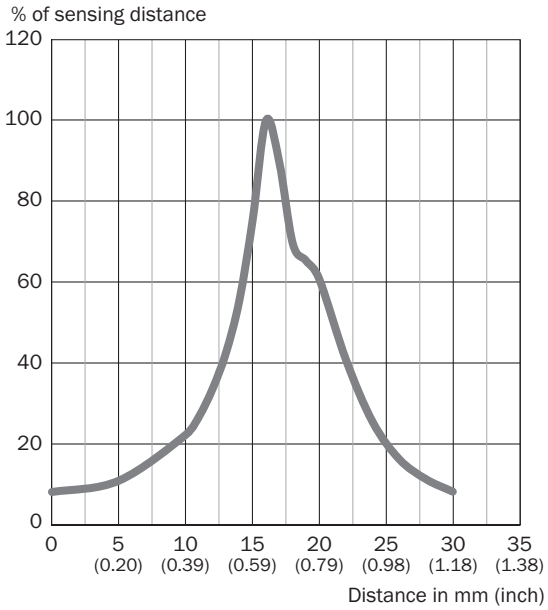


SENSING DISTANCE LL3-DM02 (LL3-DA06)

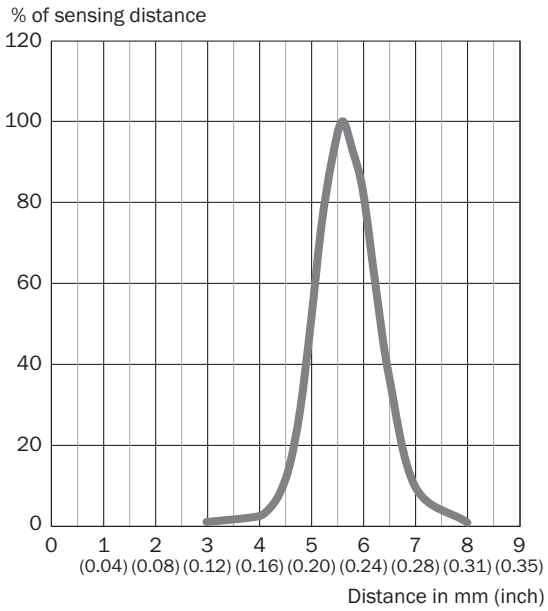


① thread with 3 mm distance
② Thread screwed flush with the nut

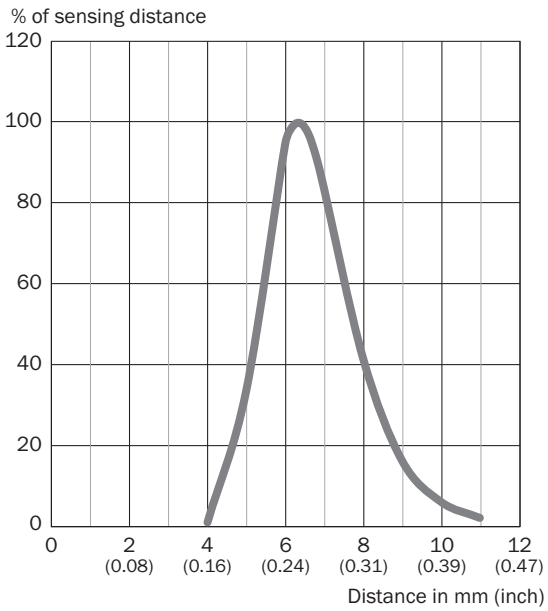
SENSING DISTANCE LL3-DM02 (LL3-DA06)



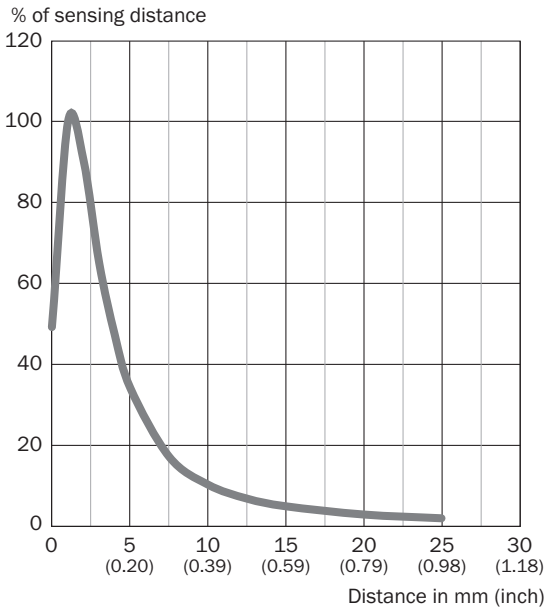
SENSING DISTANCE LL3-DC38



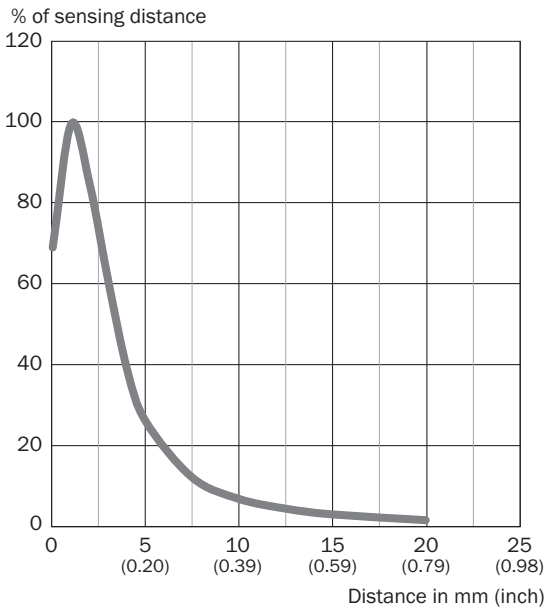
SENSING DISTANCE LL3-DC09



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/6068619

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SICK AT A GLANCE

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