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DATA SHEET

AL20E-PM331S01

Ax20
Array sensors

SICK Sensor Intelligence



Illustration may differ

ARRAY SENSORS

AL20E-PM331S01

ORDERING INFORMATION

Type	part no.
AL20E-PM331S01	1048152

Further device versions and accessories at www.sick.com/Ax20

DETAILED TECHNICAL DATA

FEATURES

Functional principle	Edge detection, reflector
Dimensions (W x H x D)	24.3 mm x 59.8 mm x 54.1 mm
Sensing distance	≤ 100 mm
Housing design	Rectangular
Working range	90 mm ... 110 mm
Measurement range	30 mm
Minimum detectable object (MDO)	1.6 mm
Light source	LED, White
Wave length	400 nm ... 700 nm
Light spot size	50 mm x 10 mm
Repeatability	0.05 mm [1]
Linearity	± 2 % [2]
Special features	Teach-in on reflector

[1] With respect to sensing distance.

[2] Analog current range (16 mA).

MECHANICS/ELECTRONICS

Supply voltage	≤ 24 V DC [1]
Ripple	≤ 5 V [2]
Power consumption	< 3.1 W [3]

[1] ± 20 %. Operation in short-circuit protected network max. 8 A.

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

[3] Without load.

[4] Typ. max. 1.6 s.

Switching output	PNP
Switching output (voltage)	PNP: HIGH = U_V ≤ 2 V / LOW approx. 0 V
Analog output	4 mA ... 20 mA
Resolution of analog output	12 bit
Output rate of analog output	1 ms
Output current $I_{max.}$	< 100 mA
Initialization time	0.48 s [4]
Connection type	Male connector M12, 5-pin
Protection class	III
Circuit protection	U_V connections, reverse polarity protected Output Q short-circuit protected Interference pulse suppression
Enclosure rating	IP67
Weight	135 g
Housing material	Metal, metal

[1] ± 20 %. Operation in short-circuit protected network max. 8 A.

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

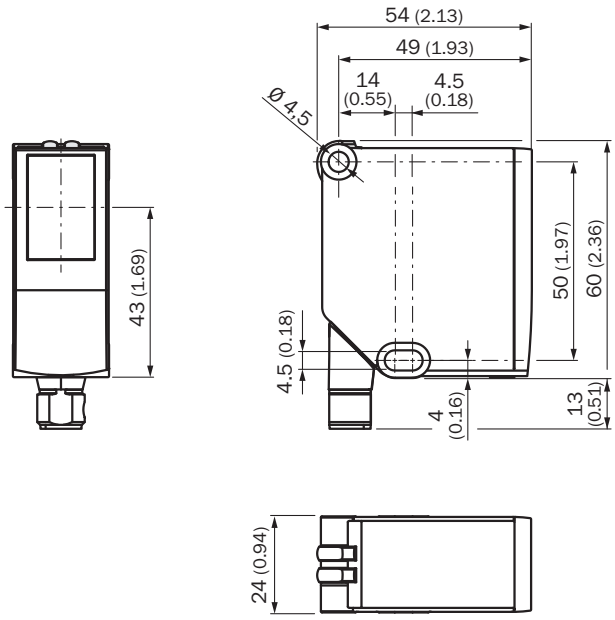
[3] Without load.

[4] Typ. max. 1.6 s.

AMBIENT DATA

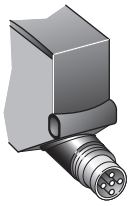
Ambient operating temperature	–10 °C ... +55 °C
Ambient temperature, storage	–25 °C ... +75 °C
Shock load	According to IEC 60068
UL File No.	NRKH.E181493 & NRKH7.E181493

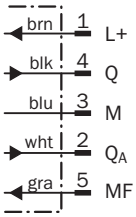
DIMENSIONAL DRAWING



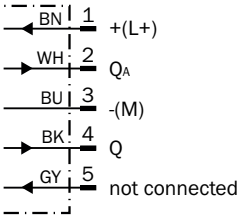
Dimensions in mm (inch)

CONNECTION TYPE AND DIAGRAM

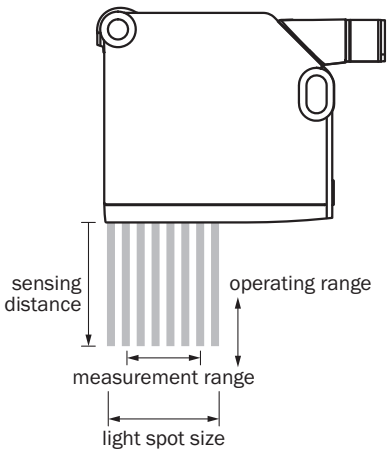




CONNECTION DIAGRAM CD-315

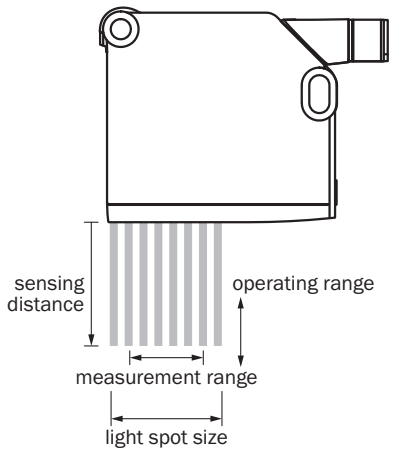


CONCEPT OF OPERATION



Sensing distance	Operating range	Measurement range	Light spot size
25 mm	20 mm ... 30 mm	20 mm	30 mm x 5 mm

EXPLANATION OF PARAMETERS



Sensing distance	Operating range	Measurement range	Light spot size
25 mm	20 mm ... 30 mm	20 mm	30 mm x 5 mm
100 mm	90 mm ... 110 mm	30 mm	50 mm x 10 mm

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/1048152

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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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