



Array sensors Ax20, Ax20D Diameter

AT20D-NM111



Model Name > [AT20D-NM111](#)
Part No. > [1046466](#)



At a glance

- Detection of diameter and width
- Compact, metal housing
- Reproducibility of 0.03 mm
- Sensing distance 25 mm or 100 mm
- Measurement range up to 30 mm
- Analog output 4 mA ... 20 mA

Your benefits

- Very high application flexibility - even opaque materials can be detected reliably
- As compared to vision solutions, due to its advanced sensing technology, it can be mounted over the target with less hardware and integration costs
- No reflector is required, reducing maintenance and providing greater product reliability. Reduces downtime. Only array sensors available in diffuse mode, making them ideal for environments where dirt and dust can interfere with other types of solutions that require a reflector.
- High reproducibility of 0.03 mm and industry-leading resolution enable greater accuracy and quality control
- Highly visible white LED light spot ensures fast and accurate alignment, reducing time-consuming fine adjustment
- No teach, program or menu activities make setup virtually hassle free



Features

Dimensions (L x W x H):	54.1 mm x 24.3 mm x 59.8 mm
Functional principle:	Diameter detection, proximity and reflector
Sensing distance:	25 mm
Operating range:	20 mm 30 mm
Measuring range:	20 mm
MDO ¹⁾ :	0.8 mm
Light source ²⁾ :	LED, white
Light spot size:	30 mm x 5 mm
Repeatability ³⁾ :	0.03 mm
Linearity ⁴⁾ :	± 2 %

¹⁾ Minimum detectable object ²⁾ Wave length: 400 nm ... 700 nm ³⁾ With respect to sensing distance ⁴⁾ Analog current range (16 mA)

Mechanics/electronics

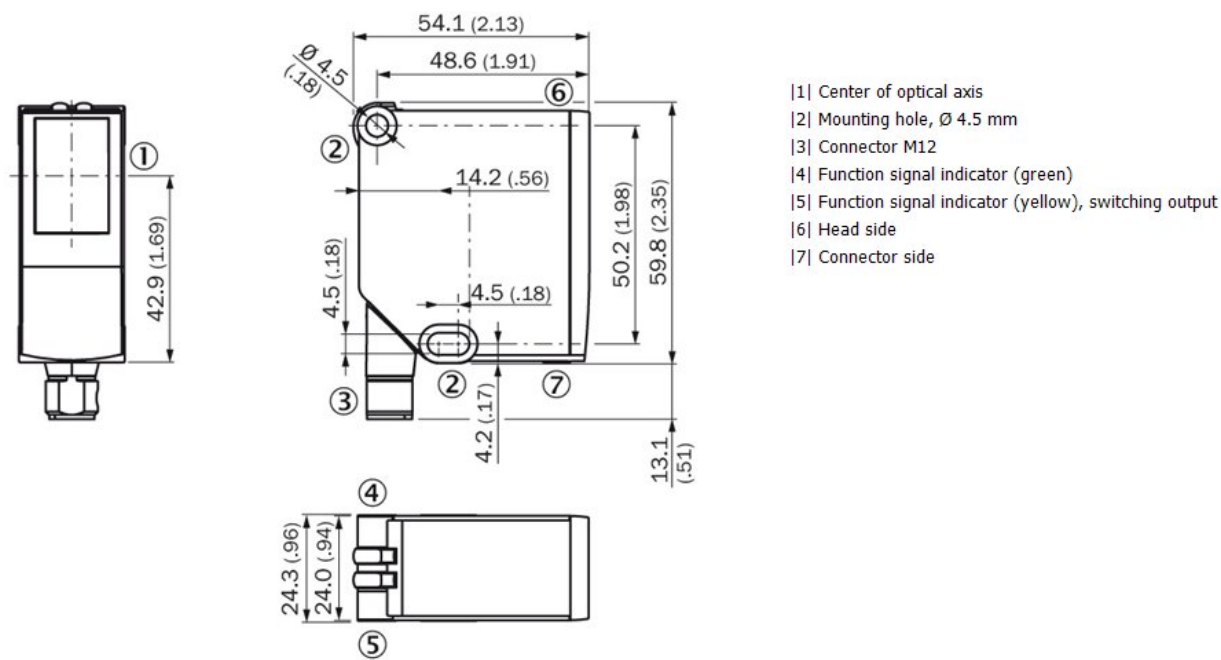
Supply voltage V_s ¹⁾ :	DC 24 V, $\pm 20\%$
Ripple ²⁾ :	≤ 5 V
Power consumption ³⁾ :	< 3.1 W
Output type:	NPN: HIGH = approx. $V_S / \text{LOW} \leq 2$ V
Switching mode ⁴⁾ :	Q (NPN)
Analog output QA:	4 mA ... 20 mA
Resolution analog output:	12 bit
Output rate of analog output:	1 ms
Output current I_{max} :	< 100 mA
Initialization time ⁵⁾ :	0.48 s
Connection type:	Connector M12, 5-pin
Protection class:	III
Circuit protection:	VS connections reverse-polarity protected Output Q short-circuit protected Interference suppression
Enclosure rating:	IP 67
Weight:	Ca. 135 g
Housing material:	Metal

¹⁾ Operation in short-circuit protected network max. 8 A ²⁾ May not exceed or fall short of V_S tolerances ³⁾ Without load ⁴⁾ Active when object detected ⁵⁾ Typ. max.
1.6 s

Ambient data

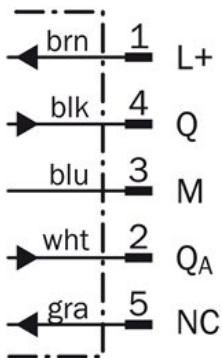
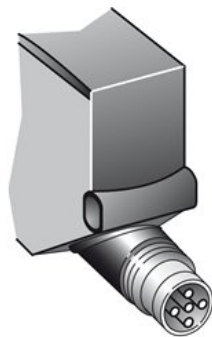
Ambient temperature:	Operation: -10 ... 55 °C, Storage: -25 ... 75 °C
Shock load:	According to IEC 60068
UL File-No.:	UL No. NRKH.E181493 & cUL No. NRKH7.E181493

Dimensional drawing

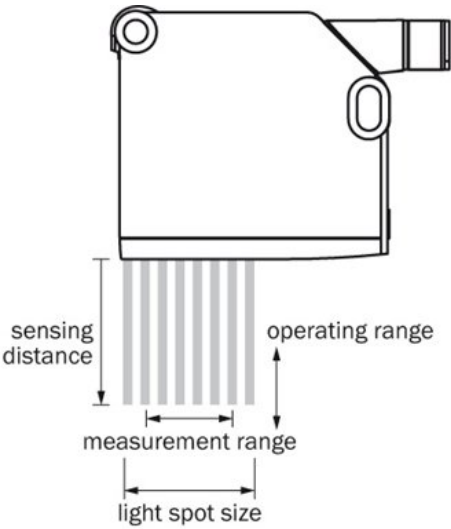


All dimensions in mm (inch)

Anschlussart und -schema



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

Australia

Phone +61 3 9457 0600
1800 334 802 – tollfree
E-Mail sales@sick.com.au

Belgium/Luxembourg

Phone +32 (0)2 466 55 66
E-Mail info@sick.be

Brasil

Phone +55 11 3215-4900
E-Mail sac@sick.com.br

Canada

Phone +1 905 771 14 44
E-Mail information@sick.com

Ceská Republika

Phone +420 2 57 91 18 50
E-Mail sick@sick.cz

China

Phone +86 4000 121 000
E-Mail info.china@sick.net.cn
Phone +852-2153 6300
E-Mail ghk@sick.com.hk

Danmark

Phone +45 45 82 64 00
E-Mail sick@sick.dk

Deutschland

Phone +49 211 5301-301
E-Mail kundenservice@sick.de

España

Phone +34 93 480 31 00
E-Mail info@sick.es

France

Phone +33 1 64 62 35 00
E-Mail info@sick.fr

Great Britain

Phone +44 (0)1727 831121
E-Mail info@sick.co.uk

India

Phone +91-22-4033 8333
E-Mail info@sick-india.com

Israel

Phone +972-4-6801000
E-Mail info@sick-sensors.com

Italia

Phone +39 02 27 43 41
E-Mail info@sick.it

Japan

Phone +81 (0)3 3358 1341
E-Mail support@sick.jp

Magyarország

Phone +36 1 371 2680
E-Mail office@sick.hu

Nederlands

Phone +31 (0)30 229 25 44
E-Mail info@sick.nl

Norge

Phone +47 67 81 50 00
E-Mail austefjord@sick.no

Österreich

Phone +43 (0)22 36 62 28 8-0
E-Mail office@sick.at

Polska

Phone +48 22 837 40 50
E-Mail info@sick.pl

România

Phone +40 356 171 120
E-Mail office@sick.ro

Russia

Phone +7-495-775-05-30
E-Mail info@sick.ru

Schweiz

Phone +41 41 619 29 39
E-Mail contact@sick.ch

Singapore

Phone +65 6744 3732
E-Mail admin@sicksgp.com.sg

Slovenija

Phone +386 (0)1-47 69 990
E-Mail office@sick.si

South Africa

Phone +27 11 472 3733
E-Mail info@sickautomation.co.za

South Korea

Phone +82 2 786 6321/4
E-Mail info@sickkorea.net

Suomi

Phone +358-9-25 15 800
E-Mail sick@sick.fi

Sverige

Phone +46 10 110 10 00
E-Mail info@sick.se

Taiwan

Phone +886-2-2375-6288
E-Mail sales@sick.com.tw

Türkiye

Phone +90 (216) 528 50 00
E-Mail info@sick.com.tr

United Arab Emirates

Phone +971 (0) 4 8865 878
E-Mail info@sick.ae

USA/México

Phone +1(952) 941-6780
1 800-325-7425 – tollfree
E-Mail info@sickusa.com

More representatives and agencies
at www.sick.com