



# V3SA2-ABBABBAAN1

safeVisionary2

SAFETY CAMERA SENSORS

**SICK**  
Sensor Intelligence.



Illustration may differ



Ordering information

Type	Part no.
V3SA2-ABBABBAAN1	1116398

Other models and accessories → [www.sick.com/safeVisionary2](http://www.sick.com/safeVisionary2)

Detailed technical data

Features

Technology	3D time-of-flight
Application	Indoor
Camera resolution	512 px x 424 px
Field of view (protective field)	68° x 42°
Field of view (other field types and measurement data acquisition)	68° x 58°
Frame rate	30 Hz
Object resolution	Configurable
	Hand 20 mm
	Arm 40 mm
	Leg 50 mm
	Body 200 mm
Protective field range	≤ 2 m <sup>1)</sup>
Protective field range in Increased scanning range mode	4 m <sup>2)</sup>
Warning field range	7.3 m
Number of fields	≤ 24
Number of simultaneously monitored protective fields	≤ 2
Number of simultaneously monitored fields	≤ 3
Number of monitoring cases	≤ 8
Number of regions of interest (ROIs)	≤ 40
Number of simultaneously monitored ROIs	≤ 5
Number of multiple samplings	1 ... 16
Response time	≥ 55 ms <sup>3)</sup>
Protective field supplement	65 mm

<sup>1)</sup> The effective protective field range depends on the application and the configured object resolution.

<sup>2)</sup> In Increased scanning range mode, the body object resolution is required.

<sup>3)</sup> The response time depends on the configured multiple sampling.

<b>Items supplied</b>	Safety camera sensor Safety instruction Mounting instructions Operating instructions for download
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<sup>2)</sup> In Increased scanning range mode, the body object resolution is required.

<sup>3)</sup> The response time depends on the configured multiple sampling.

## Safety-related parameters

<b>Type</b>	Type 2 (IEC 61496-3)
<b>Safety integrity level</b>	SIL 1 (IEC 61508)
<b>Category</b>	Category 2 (ISO 13849-1)
<b>Performance level</b>	PL c (ISO 13849-1)
<b>PFH<sub>D</sub> (mean probability of a dangerous failure per hour)</b>	$3 \times 10^{-7}$
<b>T<sub>M</sub> (mission time)</b>	20 years (ISO 13849-1)
<b>Safe state in the event of a fault</b>	At least one OSSD is in the OFF state.

## Functions

<b>Restart interlock</b>	✓
<b>External device monitoring (EDM)</b>	✓
<b>Multiple sampling</b>	✓
<b>Monitoring case switching</b>	✓
<b>Simultaneous monitoring</b>	✓
<b>Static protective field switching</b>	✓
<b>Safe contour detection</b>	✓
<b>Integrated configuration memory</b>	✓
<b>Measured data output</b>	✓, Ethernet

## Interfaces

<b>Connection type</b>	Male connector, M12, 8 pin, A-coded (common male connector for power supply and inputs and outputs)
Permitted cable length	$\leq 10 \text{ m}^{1)}$
<b>Universal I/Os</b>	$\leq 4^{2)}$
<b>OSSD pairs</b>	1 ... 2 <sup>2)</sup>
<b>Static control inputs</b>	$\leq 4^{2)}$
<b>Configuration method</b>	Via software
<b>Configuration and diagnostic software</b>	Safety Designer (software for configuring and diagnosing safety solutions from SICK AG)
<b>Configuration and diagnostics interface</b>	Ethernet, 1000Base-T, IEEE 802.3ab
Connection type	Male connector, M12, 8-pin, X-coded
Permitted cable length	$\leq 100 \text{ m}$
Cable category	CAT5e or higher
<b>Display elements</b>	LEDs

<sup>1)</sup> With a wire cross-section of 0.25 mm<sup>2</sup>.

<sup>2)</sup> Universal I/O can be configured as universal input or as universal output. In addition, certain universal I/Os can be used in pairs as OSSD pairs.

Electrical data

Protection class	III (IEC 61140)
Supply voltage $V_s$	24 V DC (16.8 V ... 30 V) <sup>1)</sup>
Power consumption typical	13 W (DC) (without output load)
Switch-on time	Typ. 30 s
Output signal switching devices (OSSDs)	2 PNP semiconductors, short-circuit protected, cross-circuit monitored <sup>2)</sup>
ON state, switching voltage HIGH	$U_V - 2 \text{ V DC} \dots U_V$
OFF state, switching voltage LOW	$\leq 2 \text{ V DC}$
Current-carrying capacity per OSSD	$\leq 250 \text{ mA}$

<sup>1)</sup> SELV/PELV safety/protective extra-low voltage.

<sup>2)</sup> Applies to the voltage range between -30 V and +30 V.

Mechanical data

Dimensions (W x H x D)	70 mm x 80 mm x 77 mm
Weight	520 g
Housing material	Aluminum
Housing color	RAL 9005 (black) RAL 1021 (yellow)
Window material	Polycarbonat (PC)

Ambient data

Enclosure rating	IP65 (IEC 60529) IP67 (IEC 60529)
Ambient light immunity according to IEC 61496-3	3,000 lx
Ambient light immunity typical	10,000 lx
Ambient operating temperature	-10 °C ... +50 °C <sup>1)</sup>
Storage temperature	-25 °C ... +70 °C
Air humidity	$\leq 95 \%$ , Non-condensing <sup>2)</sup>
Vibration resistance	1 g, 5 Hz ... 200 Hz (IEC 60068-2-6)
Shock resistance	15 g, 11 ms (IEC 60068-2-27)
EMC	IEC 61496-1 IEC 61000-6-2 IEC 61000-6-4

<sup>1)</sup> Using heat sinks is necessary from temperatures  $\geq 40 \text{ °C}$ .

<sup>2)</sup> IEC 61496-1, no. 4.3.1 and no. 5.4.2, IEC 61496-3, no. 4.3.1 and no. 5.4.2. Condensation has an influence on normal operation.

Other information

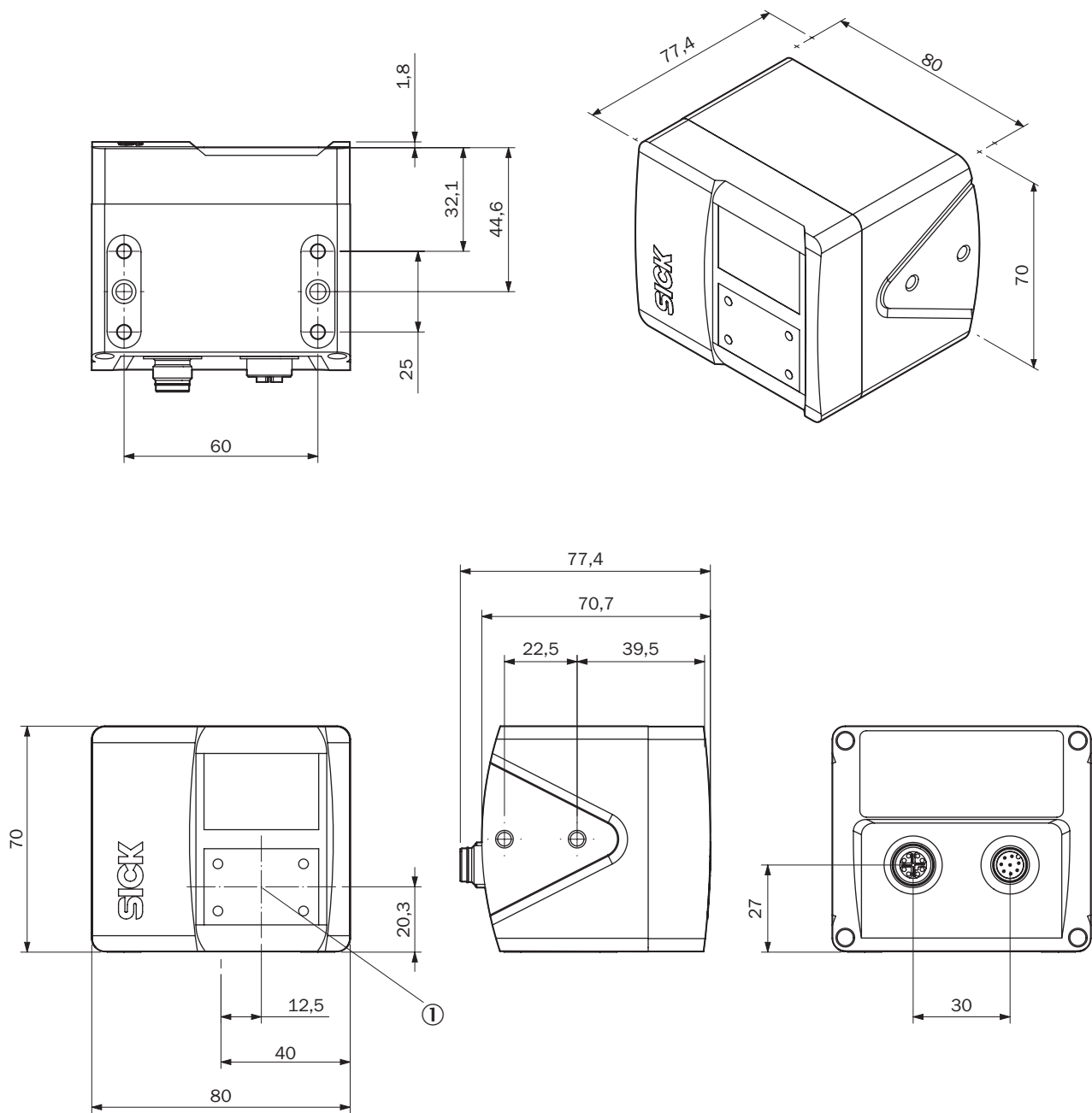
Light source	Pulsed laser
Type of light	Near-infrared (NIR), invisible
Wave length	855 nm
Detectable remission factor	4% ... several 1,000%
Laser class	1 (IEC 60825-1)

Classifications

ECLASS 5.0	27272790
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<b>ECLASS 5.1.4</b>	27272790
<b>ECLASS 6.0</b>	27272790
<b>ECLASS 6.2</b>	27272790
<b>ECLASS 7.0</b>	27272790
<b>ECLASS 8.0</b>	27272790
<b>ECLASS 8.1</b>	27272790
<b>ECLASS 9.0</b>	27272790
<b>ECLASS 10.0</b>	27272790
<b>ECLASS 11.0</b>	27272790
<b>ECLASS 12.0</b>	27272790
<b>ETIM 5.0</b>	EC001511
<b>ETIM 6.0</b>	EC001511
<b>ETIM 7.0</b>	EC001511
<b>ETIM 8.0</b>	EC001511
<b>UNSPSC 16.0901</b>	39121528

Dimensional drawing (Dimensions in mm (inch))



## SICK AT A GLANCE

SICK is one of the leading manufacturers of intelligent sensors and sensor solutions for industrial applications. A unique range of products and services creates the perfect basis for controlling processes securely and efficiently, protecting individuals from accidents and preventing damage to the environment.

We have extensive experience in a wide range of industries and understand their processes and requirements. With intelligent sensors, we can deliver exactly what our customers need. In application centers in Europe, Asia and North America, system solutions are tested and optimized in accordance with customer specifications. All this makes us a reliable supplier and development partner.

Comprehensive services complete our offering: SICK LifeTime Services provide support throughout the machine life cycle and ensure safety and productivity.

**For us, that is “Sensor Intelligence.”**

## WORLDWIDE PRESENCE:

Contacts and other locations –[www.sick.com](http://www.sick.com)