



# V3SA2-ABBABBAAN1

safeVisionary2

SAFE 3D CAMERAS

**SICK**  
Sensor Intelligence.



### Ordering information

Type	part no.
V3SA2-ABBABBAAN1	1116398

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

Illustration may differ



### Detailed technical data

#### Features

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

<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>Response time</b>	$\geq 55 \text{ ms}^{3)}$
<b>Protective field supplement</b>	65 mm
<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>	$8 \times 10^{-7}$
<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	M12 socket, 8-pin, X-coded
Permitted cable length	$\leq 100 \text{ m}$
Cable category	CAT5e or higher

<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.

<b>Display elements</b>	LEDs
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## Electronics

<b>Protection class</b>	III (IEC 61140)
<b>Supply voltage <math>V_s</math></b>	24 V DC (16.8 V ... 30 V) <sup>1)</sup>
<b>Power consumption typical</b>	13 W (DC) (without output load)
<b>Switch-on time</b>	Typ. 30 s
<b>Output signal switching devices (OSSDs)</b>	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.

## Mechanics

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

## Ambient data

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

<b>Light source</b>	Pulsed laser
<b>Type of light</b>	Near-infrared (NIR), invisible
<b>Wave length</b>	855 nm
<b>Detectable remission factor</b>	4% ... several 1,000%

<b>Laser class</b>	1 (IEC 60825-1)
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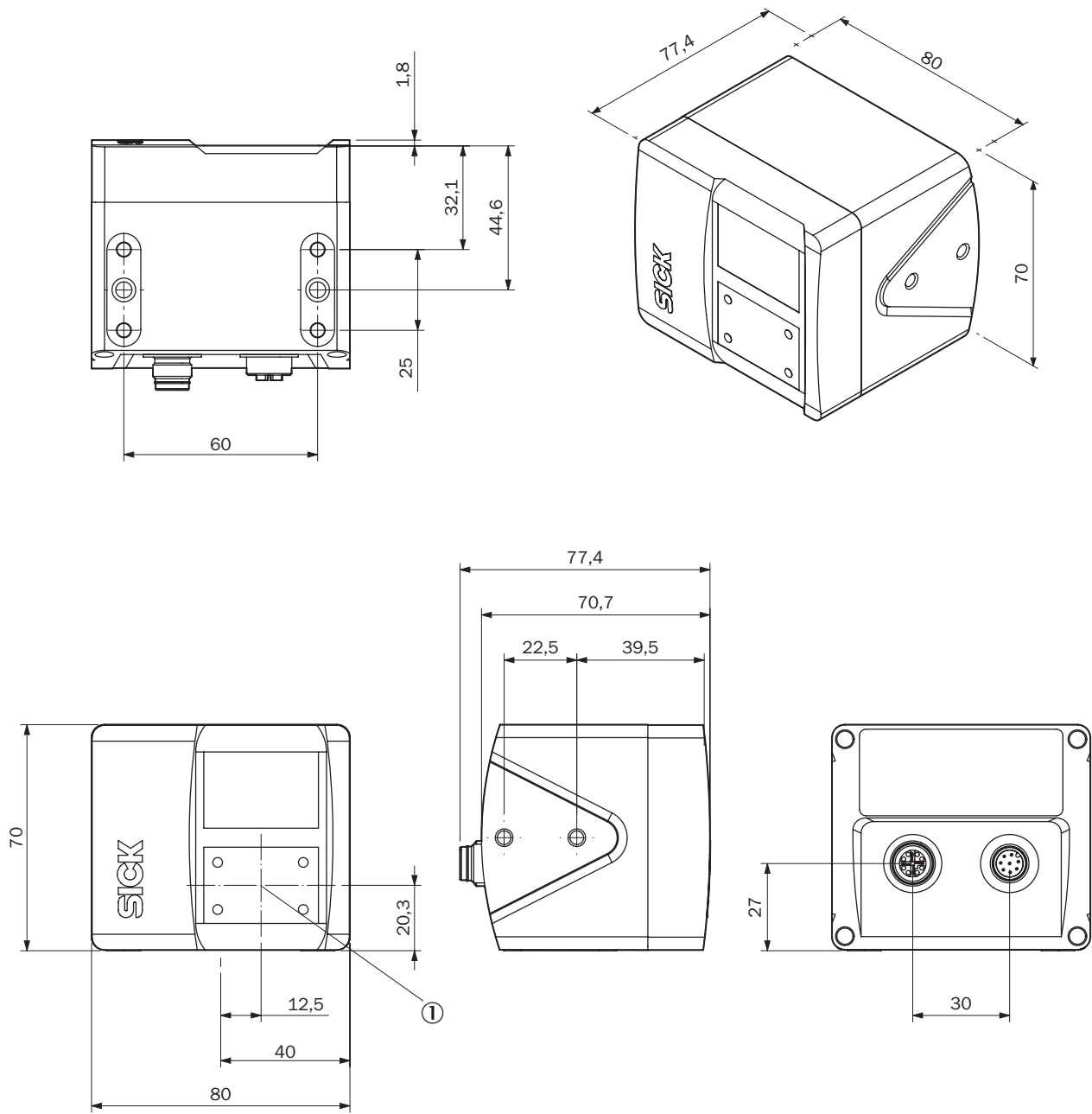
## Certificates

<b>EU declaration of conformity</b>	✓
<b>ACMA declaration of conformity</b>	✓
<b>China RoHS</b>	✓
<b>cULus certificate</b>	✓
<b>EC-Type-Examination approval</b>	✓
<b>Information according to Art. 3 of Data Act (Regulation EU 2023/2854)</b>	✓

## Classifications

<b>ECLASS 5.0</b>	27272790
<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)

① Camera module

## 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)