



# V3S153-2AAAAAP01

Visionary-B

3D MACHINE VISION

**SICK**  
Sensor Intelligence.



Illustration may differ



### Ordering information

Type	part no.
V3S153-2AAAAAP01	1091804

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

### Detailed technical data

#### Features

<b>Task</b>	Position determination Collision awareness
<b>Technology</b>	3D snapshot stereoscopy
<b>Product category</b>	Configurable, Streaming, pre-calibrated
<b>Working distance</b>	0.5 m ... 7 m
<b>Detection angle</b>	120° x 75°
<b>Illumination</b>	No internal illumination necessary, works only with ambient light
<b>Factory calibrated</b>	✓
<b>Detection zone</b>	6 m x 7 m for standard configuration
<b>Further functions</b>	2D camera integrated
<b>Description</b>	1 x sensor head, 1 x evaluation unit, 1 x 7" monitor, assembly accessories

#### Mechanics/electronics

<b>Connection type</b>	1 x USB (mouse and keyboard) 2 x sensor head Monitor (VGA/sound) Additional alarm output; two discrete outputs Machine-to-machine interface (reserved) Ethernet (reserved) Evaluation unit supply
<b>Supply voltage</b>	12 V DC, - 10 % 24 V DC, 40 % <sup>1)</sup>
<b>Power consumption</b>	≤ 30 W, Kit A
<b>Output current</b>	12 V (100 mA (max. overcurrent protection 430 mA))
<b>Enclosure rating</b>	IP69K IP67
<b>Weight</b>	1.3 kg, sensor head 3.8 kg, evaluation unit
<b>Mounting</b>	Height 1 m ... 2.4 m, angle according to the detection zone

<sup>1)</sup> Ensure harmonic-free supply voltage.

#### Performance

<b>Detectable object shape</b>	See HMI and operating instruction
--------------------------------	-----------------------------------

<sup>1)</sup> Typical.

<b>On delay</b>	< 50 s
<b>Response time</b>	< 200 ms <sup>1)</sup>
<b>Integrated application</b>	3D driver assistance system for collision warning outdoors, image capturing option integrated

<sup>1)</sup> Typical.

## Interfaces

<b>Configuration software</b>	Via provided monitor
-------------------------------	----------------------

## Ambient data

<b>Electromagnetic compatibility (EMC)</b>	EN 55016-2-3:2010 + A1:2011 + A2:2014 (interference immunity) / EN 55012:2008-06 + A1:2009 (radiated emission)
<b>Fulfilled standards</b>	ISO 13766:2006-05 (earth-moving machinery), EN 12895:2015-09 (industrial trucks), EN 13309:2010-09 (construction machinery), ISO 14982:2009-02 (agricultural and forestry machinery), ISO 7637-2:2011-03, ISO 16750-2:2012-11, ISO16001:2017, EN 62311:2008, FCC PART 15:2006-08
<b>Shock load</b>	EN 60068-2-29:1994-01 (50 g / 6 ms)
<b>Vibration load</b>	EN 60068-2-64:2008-11 (5,9 g / 10 Hz - 2 kHz)
<b>Ambient operating temperature</b>	-40 °C ... +75 °C, sensor head -40 °C ... +50 °C, evaluation unit
<b>Ambient light immunity</b>	200 lx ... 80,000 lx

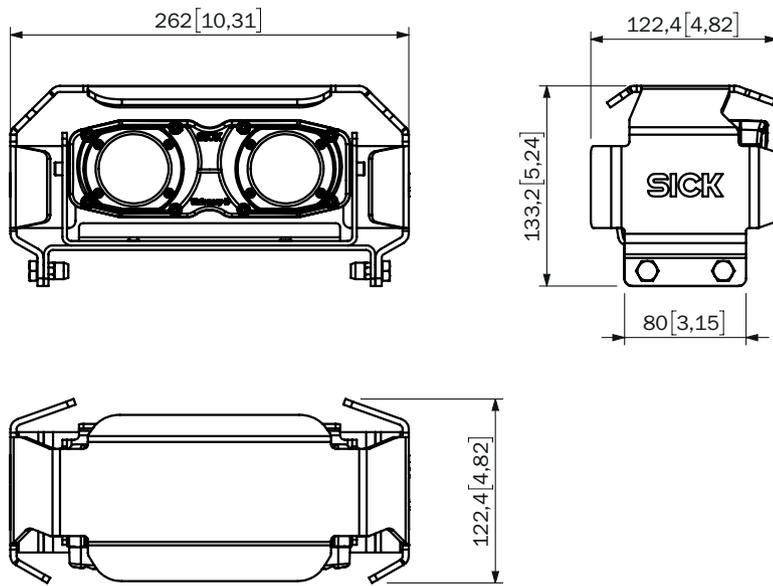
## Certificates

<b>EU declaration of conformity</b>	✓
<b>UK declaration of conformity</b>	✓
<b>ACMA declaration of conformity</b>	✓
<b>China RoHS</b>	✓

## Classifications

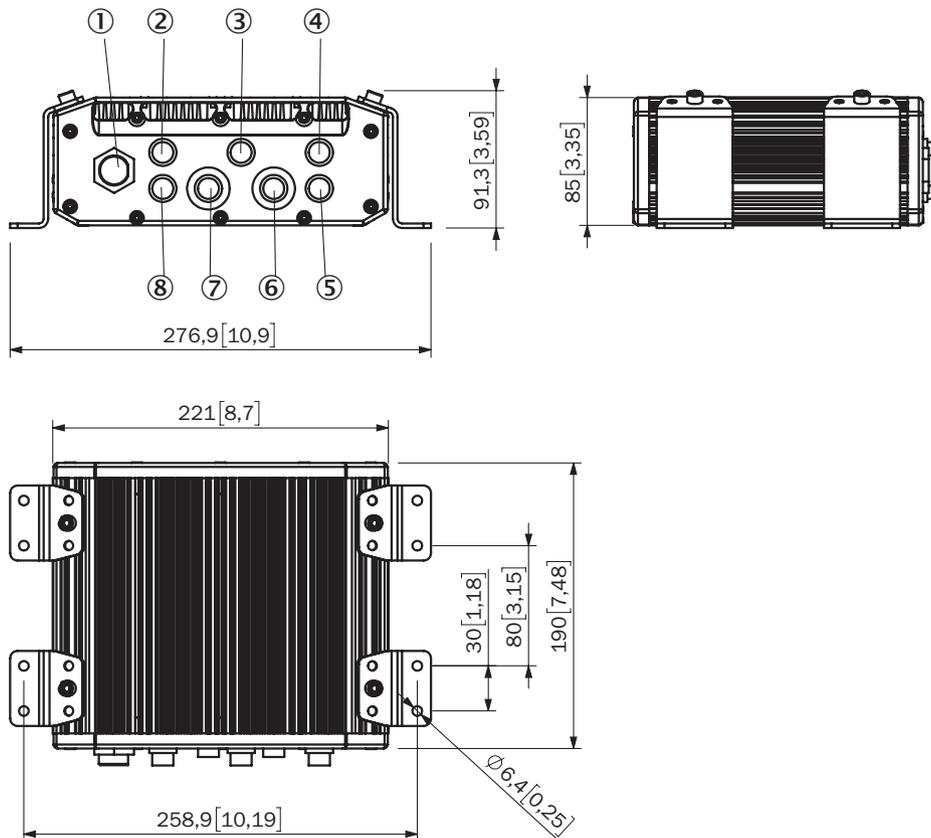
<b>ECLASS 5.0</b>	27310205
<b>ECLASS 5.1.4</b>	27310205
<b>ECLASS 6.0</b>	27310205
<b>ECLASS 6.2</b>	27310205
<b>ECLASS 7.0</b>	27310205
<b>ECLASS 8.0</b>	27310205
<b>ECLASS 8.1</b>	27310205
<b>ECLASS 9.0</b>	27310205
<b>ECLASS 10.0</b>	27310205
<b>ECLASS 11.0</b>	27310205
<b>ECLASS 12.0</b>	27310205
<b>ETIM 5.0</b>	EC001820
<b>ETIM 6.0</b>	EC001820
<b>ETIM 7.0</b>	EC001820
<b>ETIM 8.0</b>	EC001820
<b>UNSPSC 16.0901</b>	43211731

### Dimensional drawing Sensor head with protective cap (Visionary-B CV)



Dimensions in mm (inch)

### Dimensional drawing Evaluation unit



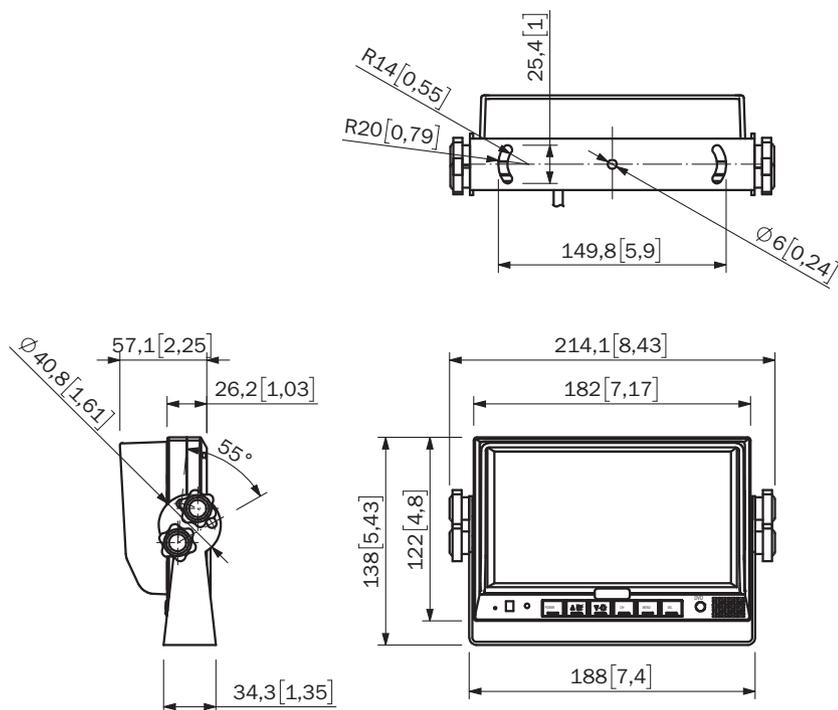
Dimensions in mm (inch)

① M20, USB

② M14, 6-pin power supply EU, 12/24 V

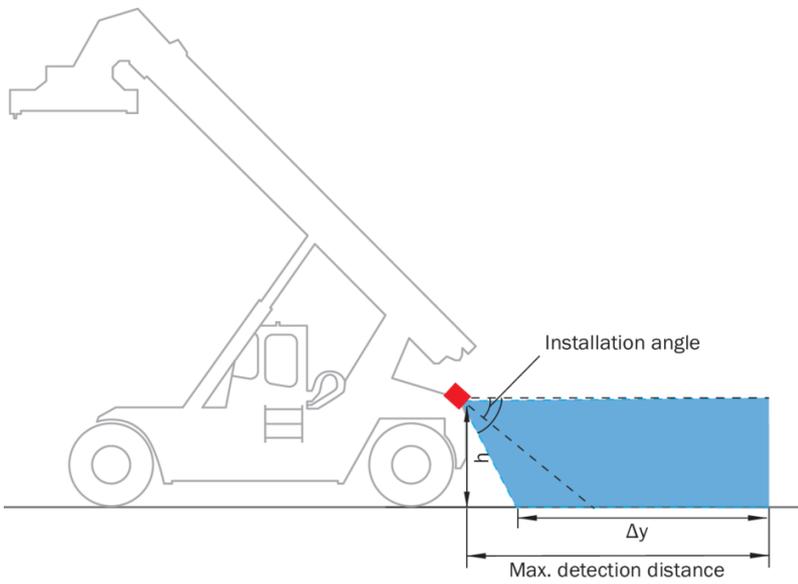
- ③ M14, 9-pin machine interface (Kit C)
- ④ M14, 2-pin external power supply (reserved, not implemented)
- ⑤ M14, 4-pin, additional alarm output
- ⑥ Bayonet, 10-pin sensor head, female
- ⑦ Bayonet, 10-pin sensor head, male
- ⑧ M14, 9-pin VGA/sound

Dimensional drawing Monitor



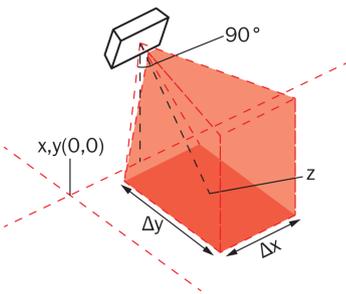
Dimensions in mm (inch)

### Field of view

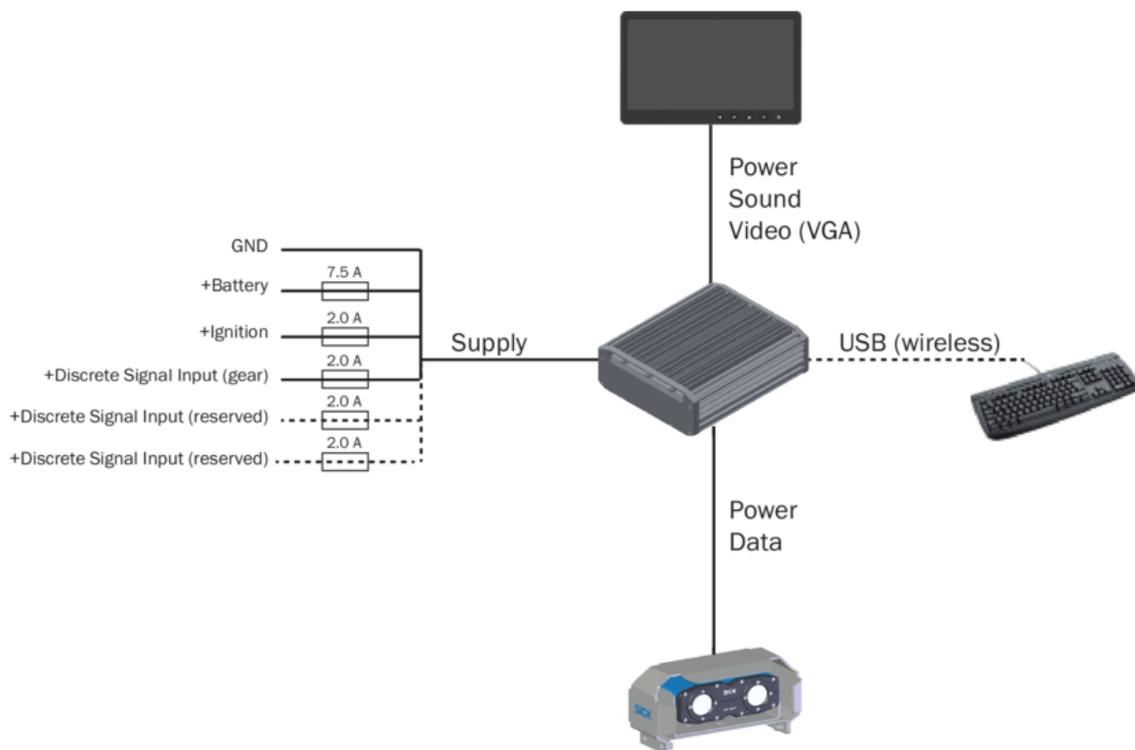


Mounting height (m)	1.0	1.2	1.4	1.6	1.8	2.0	2.2	2.4
Mounting angle (°)	0	-6	-11	-17	-23	-29	-31	-33

### Field of view

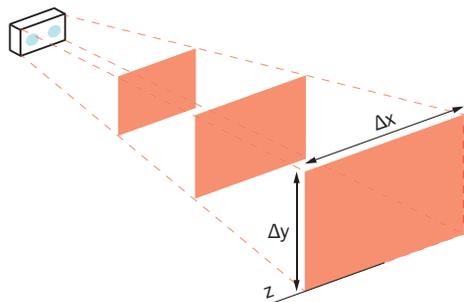


Connection diagram Visionary-B CV, kit A



Keyboard and cable sets are not included in any of the kits

Functional principle Detection volumes and 2D measuring ranges



Working distance absolute (z)	Measuring range (Δx)	Measuring range (Δy)	2D image pixel size (x × y)
0.5 m	1.73 m	0.77 m	2 mm × 1 mm
1.0 m	3.46 m	1.53 m	4 mm × 3 mm
1.5 m	5.20 m	2.30 m	6 mm × 4 mm
2.0 m	6.93 m	3.07 m	8 mm × 6 mm
3.0 m	10.39 m	4.60 m	13 mm × 8 mm
4.0 m	13.86 m	6.14 m	17 mm × 11 mm
5.0 m	17.32 m	7.67 m	21 mm × 14 mm
10.0 m	34.64 m	15.35 m	42 mm × 28 mm
15.0 m	51.96 m	23.02 m	63 mm × 42 mm
20.0 m	69.28 m	30.69 m	84 mm × 56 mm

# V3S153-2AAAAAP01 | Visionary-B

3D MACHINE VISION

Working distance absolute (z)	Measuring range ( $\Delta x$ )	Measuring range ( $\Delta y$ )	2D image pixel size (x × y)
40.0 m	138.56 m	61.39 m	167 mm × 113 mm

## 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)