V3S153-2BAAAABP02

Visionary-B

3D MACHINE VISION

V3S153-2BAAAABP02 | Visionary-B
3D MACHINE VISION

Illustration may differ

CE (RCM) UK CA

Ordering information

Type	part no.
V3S153-2BAAAABP02	1091811

Other models and accessories ➜ www.sick.com/Visionary-B

Detailed technical data

Features

Task	Position determination Collision awareness
Technology	3D snapshot stereoscopy
Product category	Configurable, Streaming, pre-calibrated
Working distance	0.5 m ... 7 m
Detection angle	120° x 75°
Illumination	No internal illumination necessary, works only with ambient light
Factory calibrated	✓
Detection zone	6 m × 7 m for standard configuration
Further functions	2D camera integrated
Description	2 x color sensor head, 1 x evaluation unit, 1 x IP67, 8" monitor, assembly accessories

Mechanics/electronics

Connection type	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
Supply voltage	12 V DC, - 10 % 24 V DC, 40 % [1]
Power consumption	≤ 35 W, Kit B
Output current	
	12 V (100 mA (max. overcurrent protection 430 mA))
Enclosure rating	IP69K IP67
Weight	1.3 kg, sensor head 3.8 kg, evaluation unit
Mounting	Height 1 m ... 2.4 m, angle according to the detection zone

[1] Ensure harmonic-free supply voltage.

Performance

Detectable object shape	See HMI and operating instruction

[1] Typical.

On delay	< 50 s
Response time	< 200 ms [1]
Integrated application	3D driver assistance system for collision warning outdoors, image capturing option integrated

[1] Typical.

Interfaces

Configuration software	Via provided monitor

Ambient data

| Electromagnetic compatibility (EMC)	EN 55016-2-3:2010 + A1:2011 + A2:2014 (interference immunity) / EN 55012:2008-06 + A1:2009 (radiated emission)
Fulfilled standards	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
Shock load	EN 60068-2-29:1994-01 (50 g / 6 ms)
Vibration load	EN 60068-2-64:2008-11 (5,9 g / 10 Hz - 2 kHz)
Ambient operating temperature	–40 °C ... +75 °C, sensor head –40 °C ... +50 °C, evaluation unit
Ambient light immunity	200 lx ... 80,000 lx

Certificates

EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓
China RoHS	✓

Classifications

| ECLASS 5.0	27310205
ECLASS 5.1.4	27310205
ECLASS 6.0	27310205
ECLASS 6.2	27310205
ECLASS 7.0	27310205
ECLASS 8.0	27310205
ECLASS 8.1	27310205
ECLASS 9.0	27310205
ECLASS 10.0	27310205
ECLASS 11.0	27310205
ECLASS 12.0	27310205
ETIM 5.0	EC001820
ETIM 6.0	EC001820
ETIM 7.0	EC001820
ETIM 8.0	EC001820
UNSPSC 16.0901	43211731

Dimensional drawing IP67 monitor
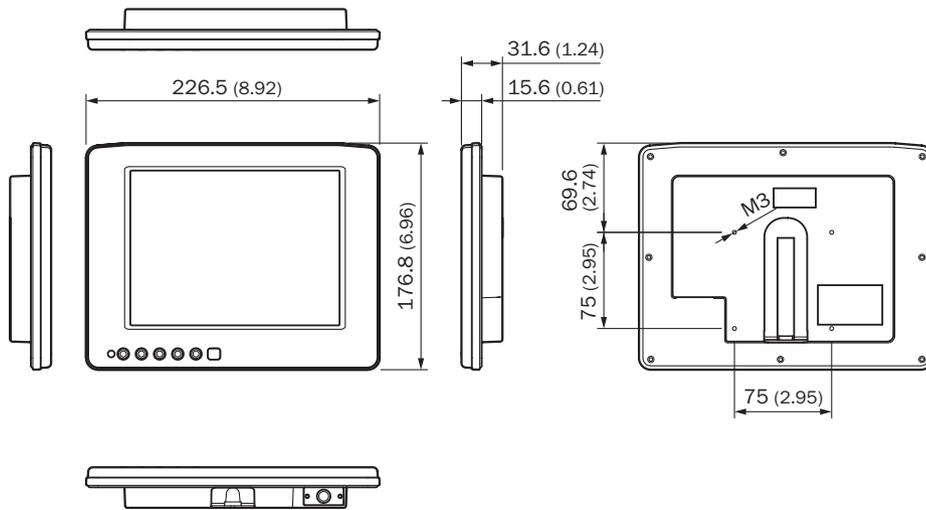
Dimensions in mm (inch)

Dimensional drawing Sensor head with protective cap (Visionary-B CV)
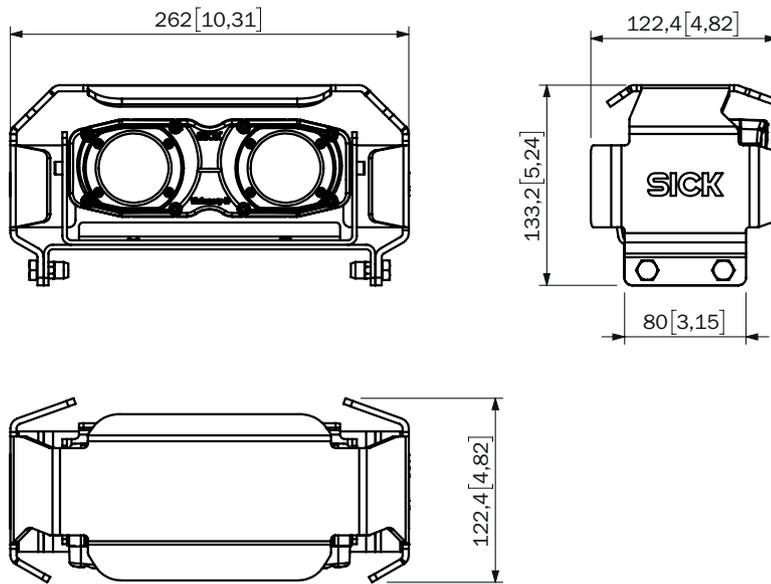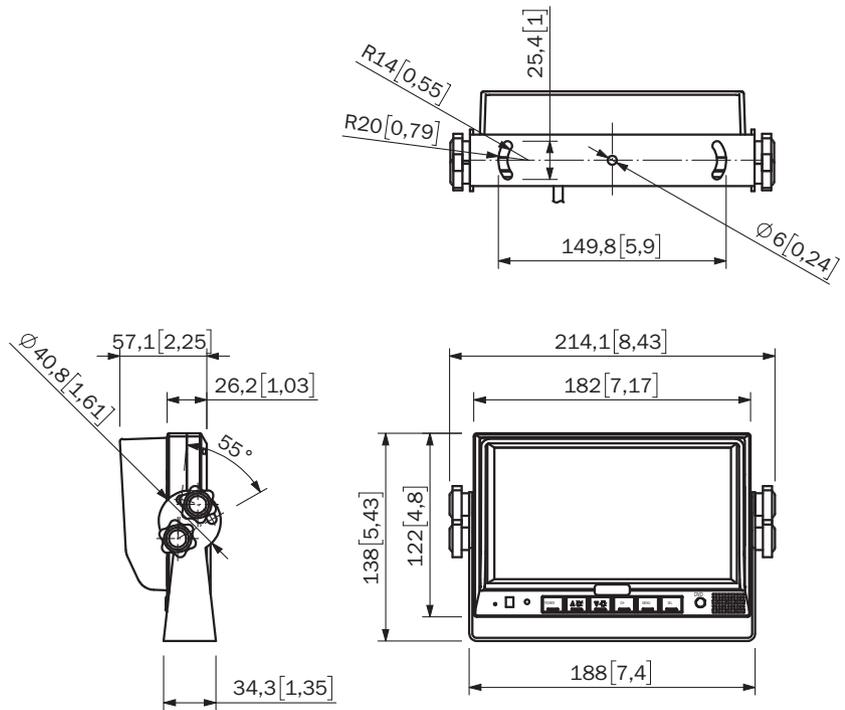
Dimensions in mm (inch)

## Dimensional drawing Evaluation unit
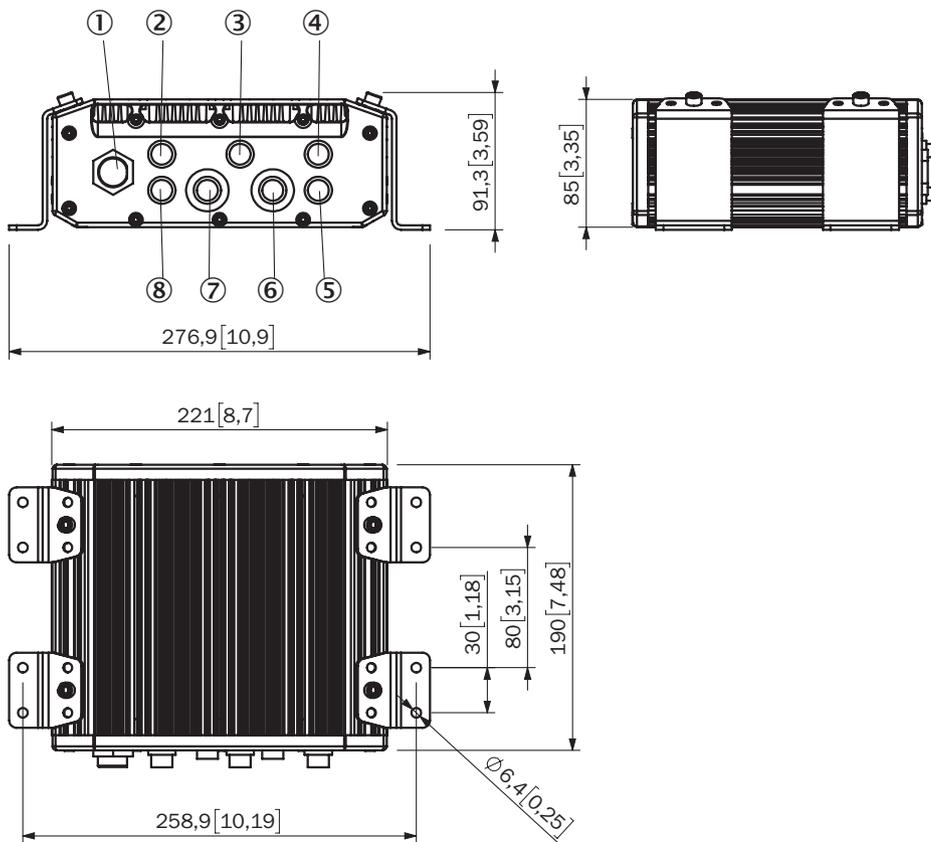
Dimensions in mm (inch)
① M20, USB
② M14, 6-pin power supply EU,12/24 V
③ M14, 9-pin machine interface (Kit C)
④ M14, 2-pin external power supply (reserved, not implemented)
⑤ M14, 4-pin, additional alarm output
⑥ Bayonet, 10-pin sensor head, female
⑦ Bayonet, 10-pin sensor head, male
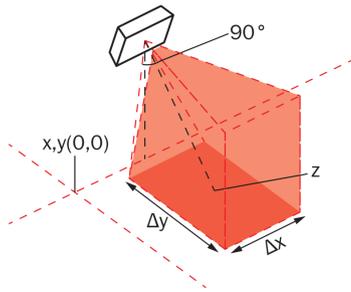⑧ M14, 9-pin VGA/sound

Dimensional drawing Monitor

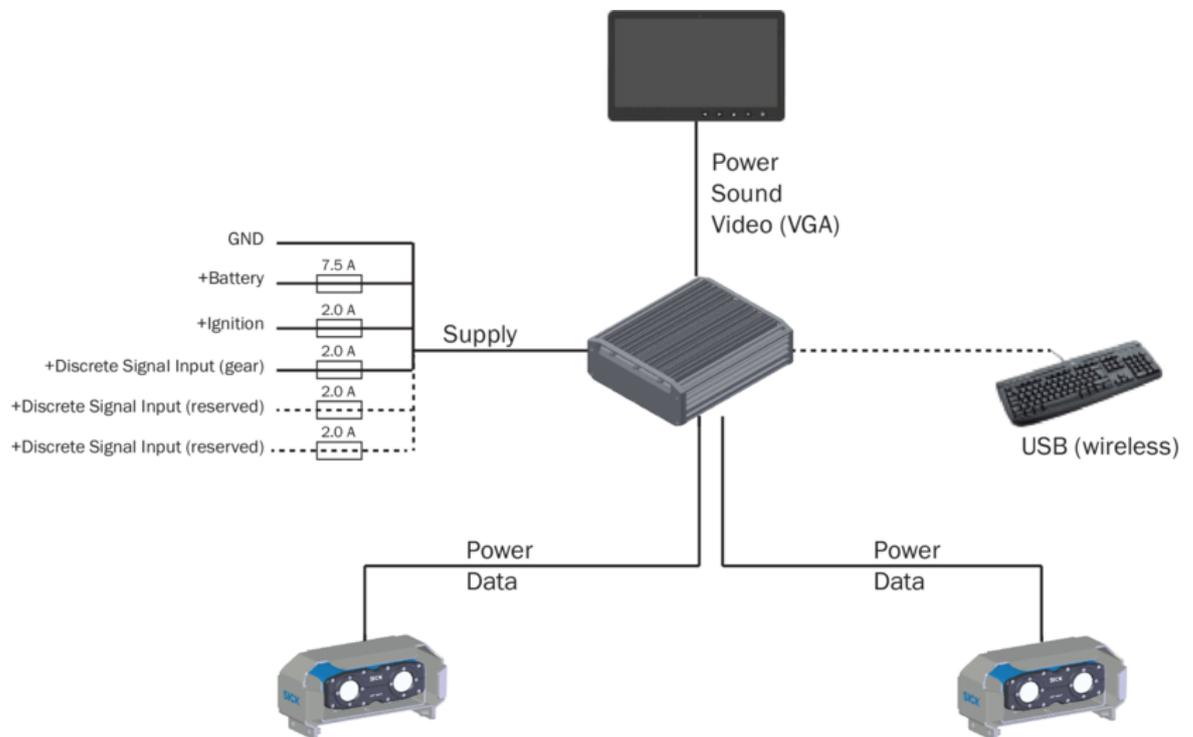Dimensions in mm (inch)

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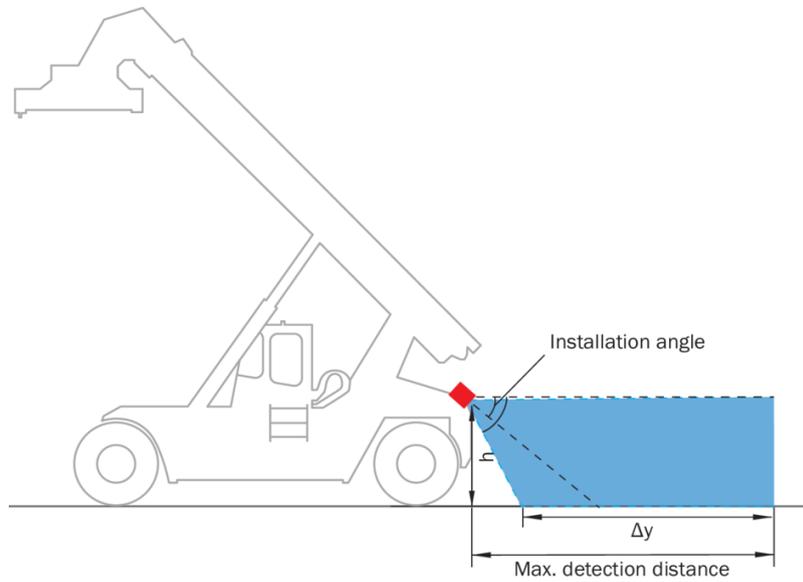
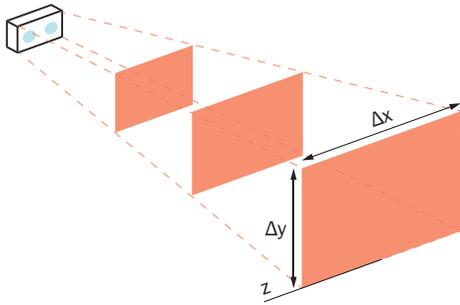| Mounting height (m)	1.0	1.2	1.4	1.6	1.8	2.0	2.2	2.4
Mounting angle (°)	0	-6	-11	-17	-23	-29	-31	-33

Field of view

Connection diagram Visionary-B CV, kit B

two sensors operate by-turns. Keyboard and cable sets are not included in any kit.

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
40.0 m	138.56 m	61.39 m	167 mm × 113 mm

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