



V3S110-1AAAAAA

Visionary-T

3D MACHINE VISION

SICK
Sensor Intelligence.



Illustration may differ



Ordering information

Type	Part no.
V3S110-1AAAAAA	1075613

Other models and accessories → www.sick.com/Visionary-T

Detailed technical data

Features

Task	Collision awareness
Technology	3D snapshot time-of-flight
Product category	Configurable, programmable, Streaming, pre-calibrated
Working distance	0.5 m ... 7.2 m ¹⁾
Example field of view	7 m x 5.3 m ²⁾
Detection angle	69° x 56°
Angular resolution	0.39° x 0.38°
Illumination	Integrated
Illumination color	Infrared, LED, invisible, 850 nm
LED class	Risk group 0 in accordance with EN 62471
Factory calibrated	✓
Grayscale measurements	✓

¹⁾ Radial distance for targets having 100% remission.

²⁾ See table for individual values.

Mechanics/electronics

Connection type	M12 8-pin Gigabit Ethernet, X-coded M12 17-pin (voltage supply/data), system plug, digital IOs (24 V)
Supply voltage	24 V DC ¹⁾
Power consumption	≤ 16 W, Typical (without digital I/Os)
Peak current	3 A
Enclosure rating	IP67
Protection class	III
Housing color	Blue, black
Weight	1.9 kg, with cooling fins

¹⁾ -30% ... +20%.

²⁾ With cooling fins.

Dimensions (L x W x H)	162 mm x 116 mm x 104 mm ²⁾
Mounting	Any or can be determined by raster

¹⁾ -30% ... +20%.

²⁾ With cooling fins.

Performance

Pixel count	176 px x 144 px
Repeatability	Approx. 3 mm, At 1 m distance Approx. 30 mm, At 7 m distance ¹⁾
On delay	< 20 s
Response time	< 66 ms
Integrated application	Data stream with the option of filtering, reducing, and manipulating data inside the device

¹⁾ See table for individual values.

Interfaces

Ethernet	✓
Function	With the option to output both polar data and Cartesian data simultaneously
Data transmission rate	≤ 36 Mbit/s, communication interface Gigabit Ethernet (TCP/IP)
Digital input	2
Optical indicators	2 status LEDs

Ambient data

Electromagnetic compatibility (EMC)	EN 61000-6-2:2005-08, EN 61000-6-3:2007-01
Shock load	EN 60068-2-27:2009
Vibration load	EN 60068-2-6, EN 60068-2-64
Ambient operating temperature	0 °C ... +50 °C, with cooling fins
Storage temperature	-20 °C ... +70 °C
Ambient light immunity	< 50 klx, Sunlight

General notes

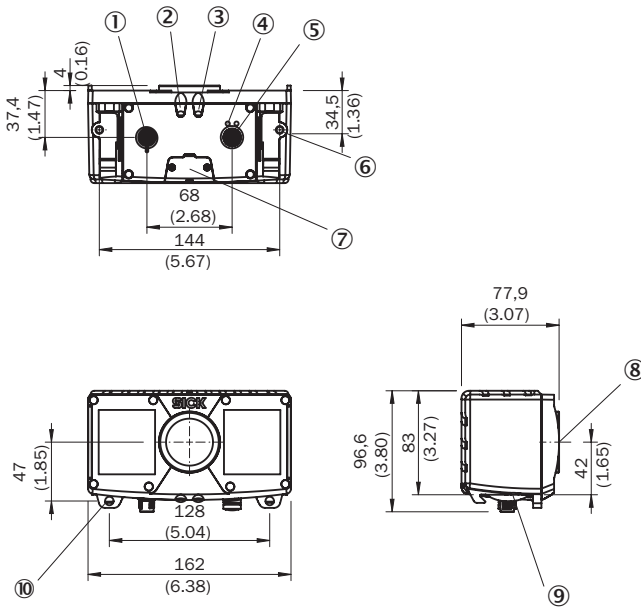
Note	All relevant materials for commissioning (instructions, drivers, examples, software, API) can be found in the Downloads tab under "Other downloads".
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Classifications

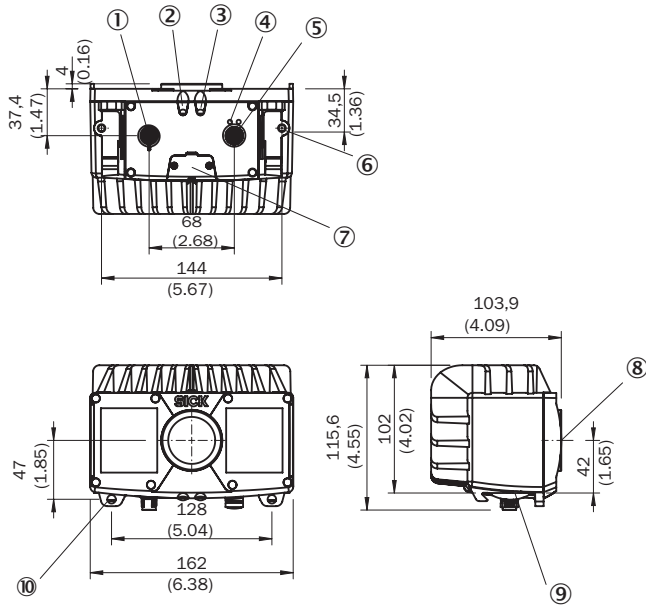
ECLASS 5.0	27310205
ECLASS 5.1.4	27310205
ECLASS 6.0	27310205
ECLASS 6.2	27310205
ECLASS 7.0	27310205
ECLASS 8.0	27310205
ECLASS 8.1	27310205
ECLASS 9.0	27310205
ECLASS 10.0	27310205
ECLASS 11.0	27310205
ECLASS 12.0	27310205
ETIM 5.0	EC001820

ETIM 6.0	EC001820
ETIM 7.0	EC001820
ETIM 8.0	EC001820
UNSPSC 16.0901	43211731

Dimensional drawing (Dimensions in mm (inch))



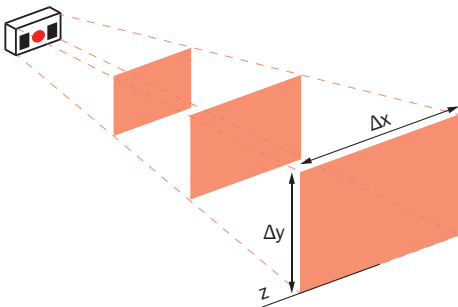
- ① Power connection / digital inputs and outputs / service
- ② Device display
- ③ Application status display
- ④ Ethernet status display
- ⑤ Ethernet connection
- ⑥ M6 blind tapped holes, 7 mm deep (2 x), for mounting
- ⑦ Service interface
- ⑧ Optical axis
- ⑨ Interface bracket
- ⑩ Bracket mounting (accessories)



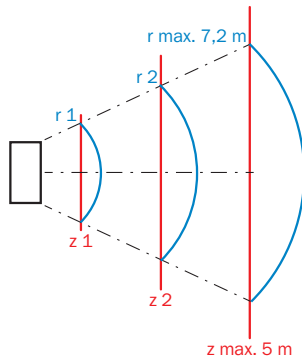
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Field of view

Detection volume and field of view



Absolute measurement accuracy and repeatability, working distance: radial

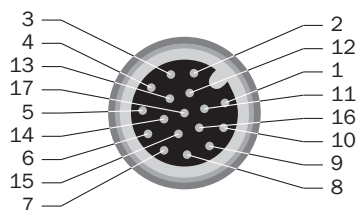


Absolute accuracy (z-axis) and repeatability at 10 % and 100 % remission and without background light for integration time of 1 ms (central detection zone)

Working distance radial (r)	Measurement accuracy (100% remission)	Repeatability (1 σ - 100% remission)	Measurement accuracy (10% remission)	Repeatability (1 σ - 10% remission)
0,50 m	± 15 mm	± 2 mm	± 15 mm	± 4 mm
1,00 m	± 15 mm	± 3 mm	± 15 mm	± 8 mm
2,00 m	± 15 mm	± 4 mm	± 20 mm	± 25 mm
3,00 m	± 15 mm	± 7 mm	± 35 mm	± 50 mm
4,00 m	± 20 mm	± 10 mm	± 50 mm	± 100 mm
5,00 m	± 25 mm	± 15 mm	-	-
7,00 m	± 35 mm	± 30 mm	-	-

Connection type

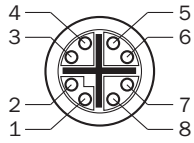
Digital I/O



M12, 17-pin male connector

- ① GND - reference mass
- ② Supply voltage
- ③ CAN L - reserved, not implemented. Do not connect to VCC!
- ④ CAN H - reserved, not implemented. Do not connect to VCC!
- ⑤ TD+ (RS-422/485) Host - reserved, not implemented. Do not connect to VCC!
- ⑥ TD- (RS-422/485) Host, TxD (RS-232), Host - reserved, not implemented. Do not connect to VCC!
- ⑦ TxD (RS-232), Aux - service only
- ⑧ RxD (RS-232), Aux - service only
- ⑨ SENS GND - GND for electrically decoupled inputs
- ⑩ SENS IN1 - switch input, electrically decoupled
- ⑪ RD+ (RS-422) Host - reserved, not implemented. Do not connect to VCC!
- ⑫ RD- (RS-422/485) Host, RxD (RS-232), Host - reserved, not implemented. Do not connect to VCC!
- ⑬ INOUT 1 - Programmable digital I/O
- ⑭ INOUT 2 - Programmable digital I/O
- ⑮ SENS IN2 - switch input, electrically decoupled
- ⑯ INOUT 3 - Programmable digital I/O
- ⑰ INOUT 4 - Programmable digital I/O

Gigabit Ethernet




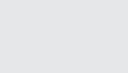




M12, 8-pin female connector, X-coded (Gigabit Ethernet)

- ① TRD0_P
- ② TRD0_N
- ③ TRD1_P
- ④ TRD1_N
- ⑤ TRD3_P
- ⑥ TRD3_N
- ⑦ TRD2_P
- ⑧ TRD2_N

Recommended accessories

Other models and accessories → www.sick.com/Visionary-T

	Brief description	Type	Part no.
Plug connectors and cables			
	<ul style="list-style-type: none"> Connection type head A: Female connector, M12, 17-pin, straight, A-coded Connection type head B: Flying leads Signal type: Power, serial, CAN, digital I/Os Cable: 3 m, 17-wire, stripped, PE-X Description: Power, serial, CAN, digital I/Os, suitable for 2 A, Changed color coding of the flying leads, shielded Connection systems: Flying leads Application: Drag chain operation 	YF2ASD-030XXXXLECX	2070425
	<ul style="list-style-type: none"> Connection type head A: Female connector, M12, 17-pin, straight, A-coded Connection type head B: Flying leads Signal type: Power, serial, CAN, digital I/Os Cable: 5 m, 17-wire, stripped, PE-X Description: Power, serial, CAN, digital I/Os, suitable for 2 A, Changed color coding of the flying leads, shielded Connection systems: Flying leads Application: Drag chain operation 	YF2ASD-050XXXXLECX	2070426
	<ul style="list-style-type: none"> Connection type head A: Female connector, M12, 17-pin, straight, A-coded Connection type head B: Male connector, M12, 17-pin, straight, A-coded Signal type: Power, serial, CAN, digital I/Os Cable: 3 m, 17-wire Description: Power, serial, CAN, digital I/Os, suitable for 2 A, shielded, to connection module CDB650 Application: Drag chain operation 	YM2A8D-030XXXF2A8D	6051194
	<ul style="list-style-type: none"> Connection type head A: Male connector, M12, 8-pin, straight, X-coded Connection type head B: Male connector, RJ45, 8-pin, straight Signal type: Ethernet, Gigabit Ethernet Cable: 2 m, 8-wire, PUR, halogen-free Description: Ethernet, Gigabit Ethernet, shielded Application: Zones with oils and lubricants 	YM2X18-020EG1MRJA8	2106258
	<ul style="list-style-type: none"> Connection type head A: Male connector, M12, 8-pin, straight, X-coded Connection type head B: Male connector, RJ45, 8-pin, straight Signal type: Ethernet, Gigabit Ethernet Cable: 5 m, 8-wire, PUR, halogen-free Description: Ethernet, Gigabit Ethernet, shielded Application: Zones with oils and lubricants 	YM2X18-050EG1MRJA8	2106259

	Brief description	Type	Part no.
Terminal and alignment brackets			
	1 piece, Bracket including clamps and screws, metal, Bracket including clamps and screws	Mounting set (2-part) incl. clamps and screws	2077710
	1 piece, 2x clamps and 2x screws, metal, 2 clamps and 2 screws	2x clamps, 2x screws	2077709

Recommended services

Additional services → www.sick.com/Visionary-T

	Type	Part no.
Extended warranty		
<ul style="list-style-type: none"> • Product area: Identification solutions, machine vision, Detection and ranging solutions, safety camera sensors, Safety laser scanners, Safety radar sensors • Range of services: The services correspond to the scope of the statutory manufacturer warranty (SICK general terms of delivery). • Duration: Five-year warranty from delivery date. 	Extended warranty for a total of five years from delivery date	1680671

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.”

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