V3T12S-MR32A7

TriSpector1000

3D MACHINE VISION

SICK
Sensor Intelligence.

Ordering information

Type	Part no.
V3T12S-MR32A7	1072923

Other models and accessories ➔ www.sick.com/TriSpector1000

Detailed technical data

Features

Technology	3D triangulation
Pre-calibrated	✓
Product category	Configurable
Toolkit	Shape Area detection Blob Finder Volume Find plane Fixed plane
Working distance	141 mm ... 541 mm
Example field of view	270 mm x 100 mm
Illumination	Integrated
Illumination color	Red, laser, Visible, 660 nm, ± 7 nm
Laser class	2 (EN 60825-1:2014+A11:2021; IEC 60825-1:2014, Complies with the FDA performance requirements for laser products except for conformance with IEC 60825-1 Ed.3., as described in Laser Notice 56 dated May 8, 2019.)
Factory calibrated	✓
Width at minimum operating distance	90 mm
Width at maximum operating distance	330 mm
Maximum height range	400 mm
Imaging angle	65°
Offline support	Emulator
Task	Detecting - Standard objects Detecting - Level Measuring - Dimension, contour and volume Measuring - Number Monitoring and controlling - Quality Determining position - 3D position determination

Mechanics/electronics

Connection type	M12, 12-pin male connector, A-coded (voltage supply, I/O) M12, 8-pin socket, X-coded (Gigabit Ethernet) M12, 8-pin female connector, A-coded (encoder)
Connector material	Nickel plated brass
Supply voltage	24 V DC, ± 20 %
Ripple	< 5 V_{pp}

Power consumption	≤ 11 W
Current consumption	< 400 mA, without output load
Enclosure rating	IP67
Protection class	III
Housing material	Anodized aluminum
Window material	Glass
Weight	1.3 kg
Dimensions (L x W x H)	217 mm x 62 mm x 84 mm

Performance

Scan/frame rate	5,000 3D profiles/s
Maximum number of profiles	2,500 Per image
Data points/profile	1,536
Height resolution	40 µm ... 280 µm
3D profile resolution	0.215 mm/px

Interfaces

Ethernet	✓, TCP/IP
Data transmission rate	1,000 Mbit/s
Serial	✓, RS-232, RS-422
Function	Encoder (RS-422 / DBS36E-BBCP02048)
Data transmission rate	Maximum encoder frequency: 300 MHz
Incremental	✓, TTL
Configuration software	SOPAS ET
Digital input	3 (non-isolated)
Digital output	4 (non-isolated)
Encoder interface	RS-422 / TTL (DBS36E-BBCP02048)
Maximum encoder frequency	Max. 300 kHz

Ambient data

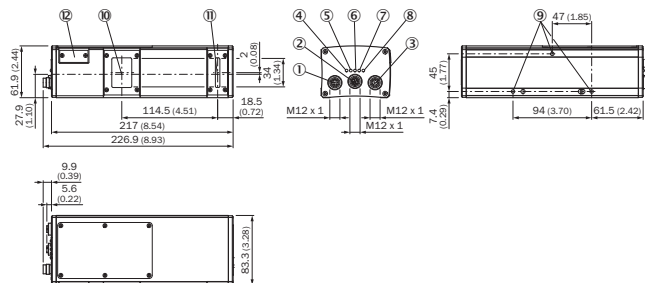| Electromagnetic compatibility (EMC)	EN 61000-6-2:2005 / EN 61000-6-3:2007
Shock load	15 g / 6 ms (EN 60068-2-27)
Vibration load	5 g, 10 Hz ... 150 Hz (EN 60068-2-6)
Ambient operating temperature	0 °C ... +50 °C [1]
Storage temperature	−20 °C ... +70 °C [1]

[1] Permissible relative humidity: 0% ... 90% (non-condensing).

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

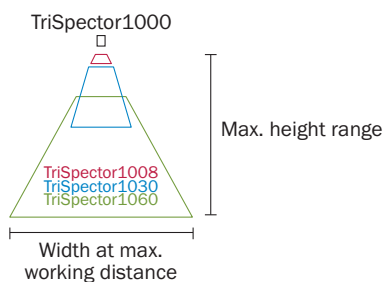|	
ECLASS 8.1	27310205
ECLASS 9.0	27310205
ECLASS 10.0	27310205
ECLASS 11.0	27310205
ECLASS 12.0	27310205
ETIM 5.0	EC001820
ETIM 6.0	EC001820
ETIM 7.0	EC001820
ETIM 8.0	EC001820
UNSPSC 16.0901	43211731

Dimensional drawing (Dimensions in mm (inch))

① Connector Encoder (thread inside)
② Gigabit Ethernet connection (GbE)
③ Connector Power I/O (thread inside)
④ LED; On
⑤ LED; State
⑥ LED; Link/Data
⑦ LED; Result
⑧ LED; Laser
⑨ Fastening threads (M5 x 8.5 mm length)
⑩ Optical receiver (center)
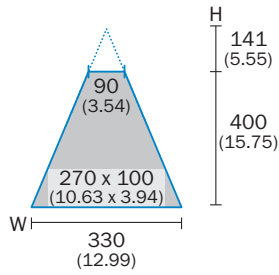⑪ Optical sender (center)
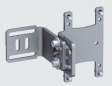⑫ Micro SD memory card

Field of view

Typical field of view

TriSpector1000

Max. height range

TriSpector1008
TriSpector1030
TriSpector1060

Width at max.
working distance

TriSpector1030

Typ. field of view in mm (inch)

Recommended accessories

Other models and accessories ➔ www.sick.com/TriSpector1000

	Brief description	Type	Part no.
Mounting brackets and plates			
	Mounting bracket set consisting of mounting bracket, cooling plate, includes angle display for setting the tilt angle	Mounting bracket	2076735
Others			
	• **Connection type head A:** Female connector, M12, 8-pin, straight, A-coded • **Connection type head B:** Male connector, M12, 8-pin, straight, A-coded • **Signal type:** Sensor/actuator cable • **Cable:** 2 m, 8-wire, PUR, halogen-free • **Description:** Sensor/actuator cable, shielded • **Application:** Zones with oils and lubricants, Drag chain operation	YF2A28-020UA6M2A28	2096105
	• **Connection type head A:** Female connector, M12, 12-pin, straight • **Connection type head B:** Male connector, M12, 17-pin, straight • **Signal type:** Power, digital I/Os, serial • **Cable:** 0.25 m • **Description:** Power, digital I/Os, serial, shielded, cable to connect TriSpector to CDF600-2, needs to be used in combination with further connection cable (e.g. part number 2055419)	YF2AAB-C25S01M2AAD	2086398
	• **Connection type head A:** Male connector, M12, 5-pin, straight • **Connection type head B:** Flying leads • **Cable:** 2 m • **Description:** Shielded • **Connection systems:** Flying leads	Connecting cable	6024860
	• **Connection type head A:** Female connector, M12, 12-pin, straight • **Connection type head B:** Male connector, M12, 5-pin, straight • **Signal type:** Power • **Cable:** 0.25 m • **Description:** Power, Cable for connecting a TriSpector to power supply unit 2079609	YF2A6B-C25XXXM2A15	2079766
	• **Connection type head A:** Male connector, M12, 8-pin, straight, A-coded • **Connection type head B:** Flying leads • **Signal type:** Sensor/actuator cable • **Cable:** 5 m, 8-wire, PVC • **Description:** Sensor/actuator cable, shielded • **Application:** Zones with chemicals	YM2A28-050VA6XLEAX	2096233

	Brief description	Type	Part no.
	• **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
	• **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:** 3 m, 8-wire, PUR, halogen-free • **Description:** Ethernet, Gigabit Ethernet, shielded • **Application:** Zones with oils and lubricants	YM2X18-030EG1MRJA8	2145693

Recommended services

Additional services ➜ www.sick.com/TriSpector1000

	Type	Part no.
Commissioning		
• **Product area:** 3D machine vision • **Range of services:** Inspection of connection, fine adjustment, optimization of parameters of SICK product as well as tests, set-up of previously defined functions of image settings, task configuration, result settings, interface settings, as well as verification tests • **Duration:** Additional work will be invoiced separately	TriSpector1000 commissioning	1612239
Maintenance		
• **Product area:** 3D machine vision • **Range of services:** Inspection, analysis and restoring of defined functions, inspection and adaptation of previously defined functions of image settings, task configuration, result settings, and interface settings • **Duration:** Additional work will be invoiced separately	TriSpector1000 maintenance	1612243
Extended warranty		
• **Product area:** Machine vision, LiDAR sensors, safety camera sensors, Safety laser scanners, Safety radar sensors, Radar sensors, Fixed mount barcode scanners, Image-based code readers, RFID, Mobile handheld scanners • **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

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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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