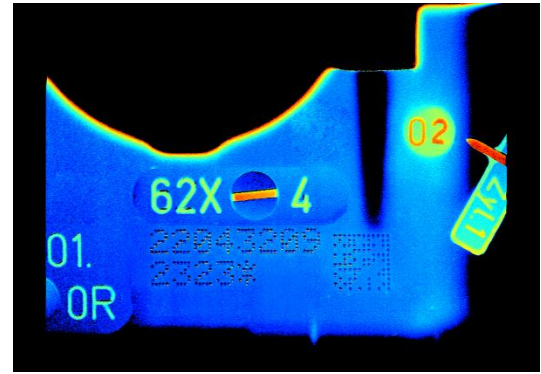
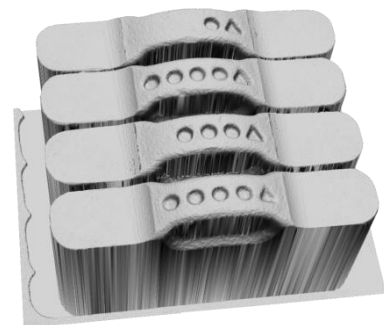
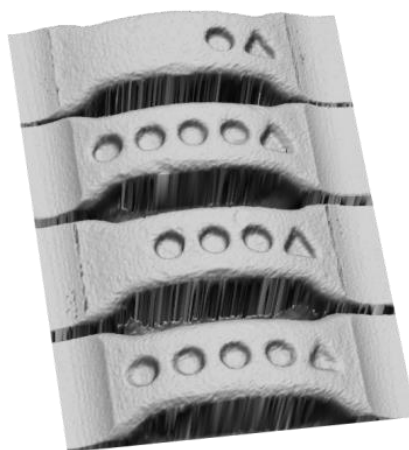
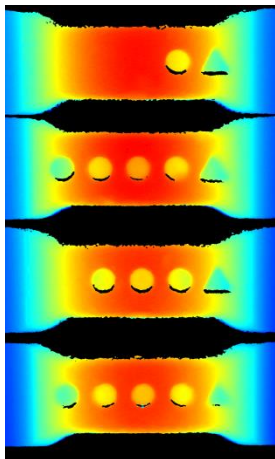


A finished package for 3D inspection tasks:

The AIT 3D-MotionKit makes 3D features such as height, volume and surface misalignment measurable. In addition, the AIT 3D-MotionKit is used where 2D systems cannot be used for reliable inspection, e.g. in the case of brightness fluctuations of workpieces or low-contrast parts.



Examples



Operating Principle

The AIT 3D-MotionKit consists of the new 3D profile sensor DS1100 from Cognex, a control respectively evaluation unit and a linear axis. Using laser triangulation and linear motion, the 3D-MotionKit creates a 3D elevation picture. The first-class 3D image processing tools allow fast and process-safe inspection. The axis is controlled via the inspection system so that the system is presented to the outside with only one interface.

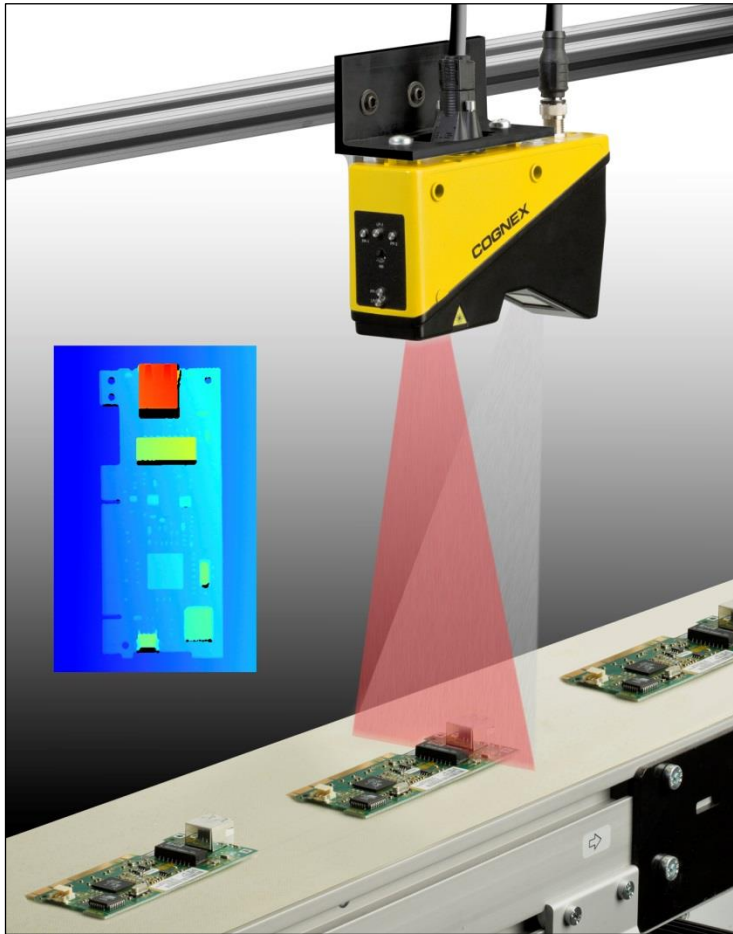
Areas of application

The AIT 3D-MotionKit has applications across all industries, from volume determination in the food industry, to component check in the electronics industry, to assembly inspection of SEEGER® rings in the automotive industry.

Advantages

Using the finished solution, you can quickly and easily perform 3D inspections to check volumes, heights, slanted position, and even embossed OCR fonts. For the user, the system represents a unit that digitally outputs only “Good” or “Bad” as a result, for example. Various options can make life easier, such as a simple ProfiNet connection.

3D Sensor



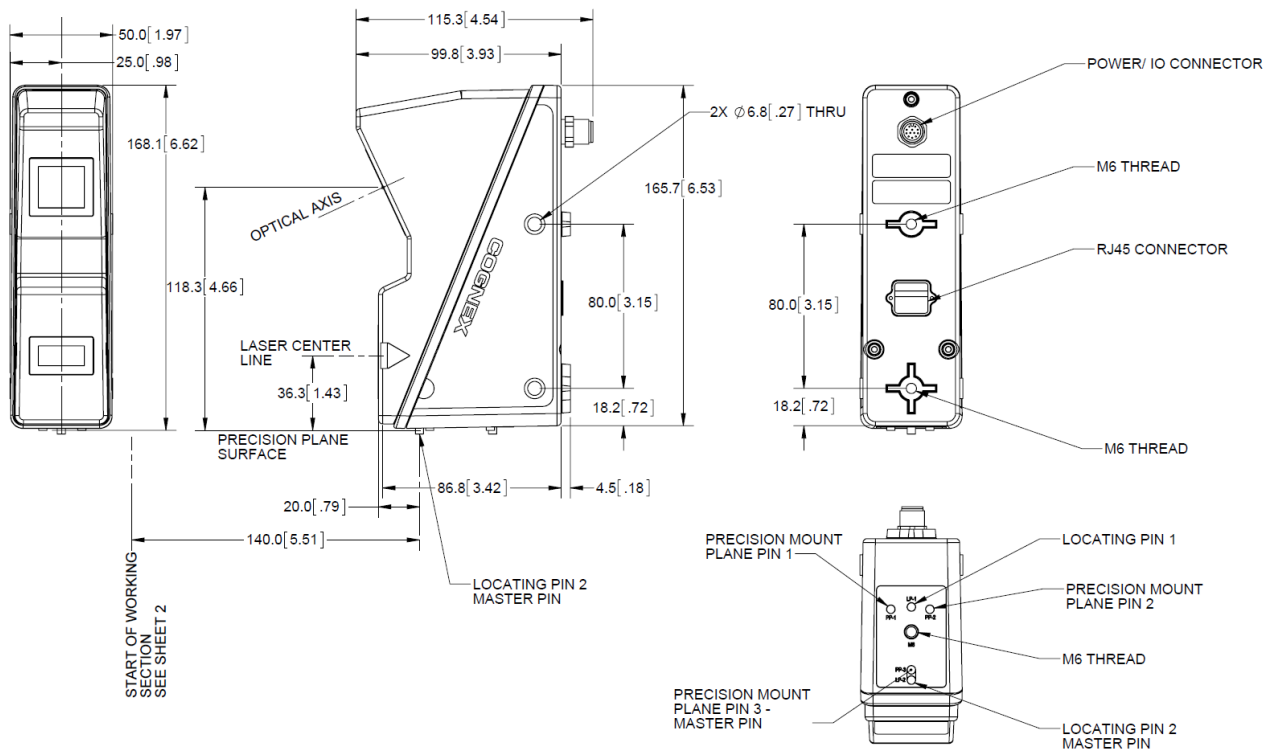
Features:

- DS1100 makes 3D features such as height, volume and surface alignment measurable
- Factory calibrated with results in real units accurate to the micrometer
- Checks contrast- and colour-independent
- Industry-leading 2D and 3D imaging software
- 3D and 2D cameras are combinable
- Camera and industrial laser of protection class IP65
- The AIT 3D-MotionKit is used across all industries

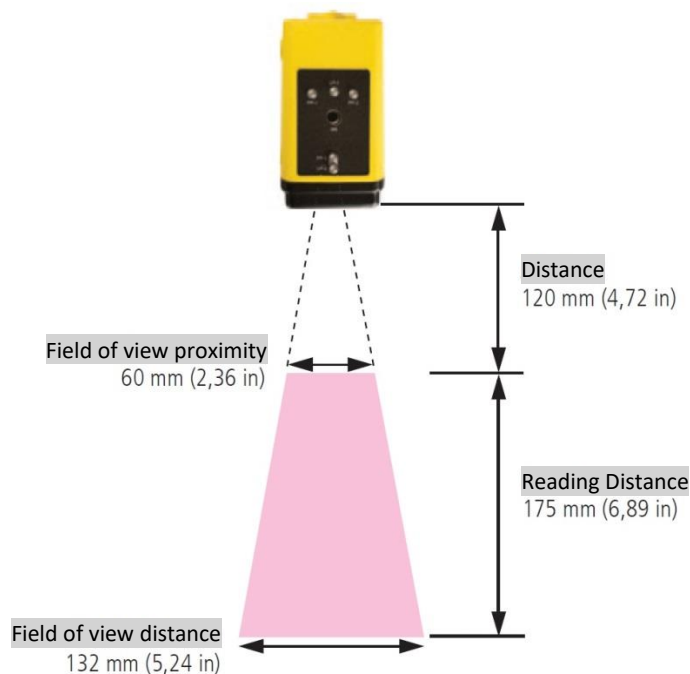
Technical data DS1100	
Dimensions	93,3 mm to 115,2 mm (H) x 50 mm (W) x 167,06 mm (L)
Weight	165 g
Operating temperature	0°C to 50°C (32°F to 113°F)
Storage temperature	-10°C to 60°C (-14°F to 140°F)
Maximum humidity	95% (non-condensing)
Housing	IP65 (with IP65 Ethernet recommended by Cognex and power supply I/O cables)
Impact resistance	10 g for 5 ms (any access)
Vibration	8 g (any access, any frequency)
Discrete I/O Operating limits	Trigger input voltage limits: - 24 V DC – +24 V DC Input ON: > 10 V DC (>6 mA) Input OFF: < 2 V DC (<1,5 mA)

Technical data DS1100	
Encoder input Technical data	Differential: A+/B+: 5-24 V (50 kHz max.) A-/B-: alternating (A+/B+) Single Ended: A+/B+: 5-24 V (50kHz max.) A-/B-: +0 V DC= $\frac{1}{2}(A+/B+)$
Power supply	Voltage: +24 V DC (22-26 V DC) Amperage: 500 mA max.
Scan rate	250 Hz – 4200 Hz
Resolution Z	0,007 mm to 0,040 mm
Resolution X	0,070 mm to 0,150 mm
Profile points max.	1024
Laser class	658 nm class 2M
Software	VisionPro Software
Ethernet	Gigabit Ethernet interface Integrated connection and traffic LEDs Standard RJ-45 connector
Accessories	Ethernet cable: 5 m, protection class IP65 Power supply: + E/A + Encoder cable, protection class IP65 Mounting console Stainless steel housing, protection class IP69K for the food industry

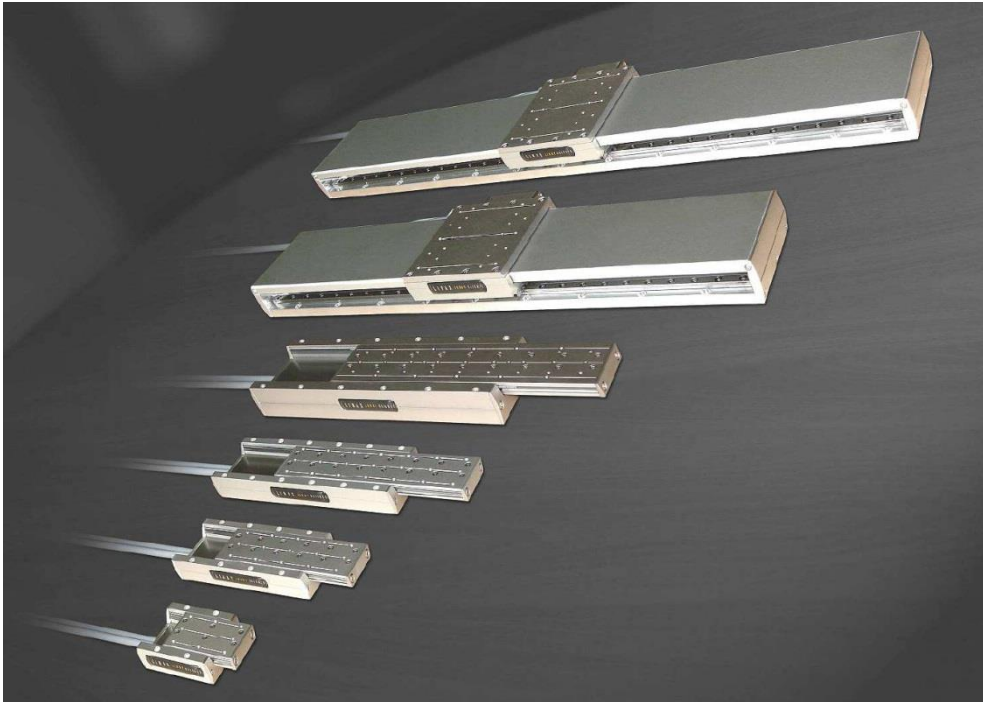
Technical drawing DS1100



Working distance DS1100



Linear axis



Technical data Linux Lx F10	
Standard resolution glass scale	1µm/Counter increment
Zero position	Coded reference marks
Precision with Xenax servo controller	+/- 2µm
Hub	85mm to 230mm
Strength	10/30N
Minimum time for max. hub	70ms to 145ms
Acceleration a-max.	45m/s ² to 85m/s ²
Speed v-max.	2.5m/s to 3.2m/s
Mass slide	230g to 450g
Weight total	650g to 1200g
Process accuracy horizontal/vertical	12µm to 230µm
Parallelism in middle position Slide	25µm to 35µm
Tolerance of the construction height	+/- 0.1mm

Software Ait3DScan

- Clearly arranged and easy to operate
- Article management for different checks
- Communication with PLC via TCP/IP protocol
- User administration

