HEXAGON

Data sheet

Absolute Scanner AS1-XL

Key features

The Absolute Scanner AS1-XL turns the Leica Absolute Tracker AT960 into a high-productivity inspection machine for large surfaces of virtually any material or finish.

Metrology-grade accuracy

Measurement accuracy to within just 150 microns across the full volume

High-density data

Collect up to 1.2 million points per second (300 lines per second)

Large-scale measurement

Extra-wide scan line allows fast coverage of large surfaces

User-friendly design

Programmable Quick Access Buttons allow easy switching between measurement modes and execution of macros and other software functions

SHINE performance

Maximum frame rate, maximum scan width and full scanning performance whatever the surface with Systematic High-Intelligence Noise Elimination (SHINE)

Go from glossy black to matte white to shiny chrome and all the way back in a single scan pass with no need to change the default scanning setting and no reduction in performance

Completely portable

Lightweight design of the scanner carries through to the controller, which can be mounted directly on the tracker stand

Automation ready

Fewer scan passes and higher-speed data collection make the AS1 our fastest automated laser scanning solution yet

Direct digital I/O allows robot movement and scanning tasks to be managed by the scanner controller

Modular scanner concept allows for easier and faster serviceability

Cross-platform scanning

Compatible with both Absolute Tracker and Absolute Arm measurement, with no realignment required when switching

Hidden-area inspection

Measurement standoff at up to one metre allows for fast and convenient inspection of deep cavities

Leica Absolute Tracker AT960 with AS1-XL

Key characteristics

Portable versatility
Designed for easy portability, the AT960 is lightweight and ergonomic, while hot-swappable battery operation allows manual scanning to move quickly and easily between quality room and shop floor as needed.

Unbeatable accuracy
The tracker's AIFM and the AS1-XL scanner allow for non-contact measurement accuracy to within just 150 microns at a distance of up to 30 metres.

Multi-range measurement
Choose the right model for your application, whether you need no more than 5 metres between your tracker and automation setup or full-range high-accuracy reflector measurement at up to 80 metres from the tracker.

24-month warranty
As standard on all Absolute Tracker systems.

Intelligent zoom
The multiple zooming lenses of the built-in mini variozoom camera account for distance to the 6DoF sensor. This delivers a constant clear image of the LED target configuration that allows for improved system orientation accuracy over larger distances.

Accelerated data
With the AS1-XL laser scanner, the AT960 can collect up to 1.2 million points every second at a market-leading 300 lines per second.

Automation ready
The AT960 is fully ready for automated inspection, assembly and production within a robotic setup when paired with the AS1-XL and the scanner controller's direct digital input/output functionality.

Worldwide service
Our network of Hexagon service centres around the world can provide local support and servicing for trackers and all compatible sensors.

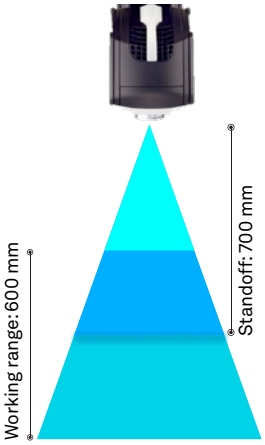
Scanning accuracies

Sensor	P_{SIZE} [1]	Length measurement [2]
Absolute Scanner AS1-XL	±240 µm	±150 µm

3D scanner specifications

	AS1-XL
Scanner type	Blue laser line scanner
Accuracy	0.134 mm [3]
Point acquisition rate	1.2 million points/s
Points per frame	max. 4000
Frame rate	max. 300 Hz
Line width (mid)	600 mm
Standoff	700 ± 300 mm
Minimum point spacing	0.08 mm [4]
System scanning certification	yes
Laser class	2
Protection rating	IP54
Operating temperature	0–40 °C
Weight	0.46 kg

AS1-XL
1.2 million pts/s



AS1-XL hidden-point measurement capability: up to 1 m depth

All accuracies stated as Maximum Permissible Error (MPE). Typical values half of MPE.

[1] $P_{Size.Sphere.1x25:ODR:LT, MPE}$ measured at 2 m according to ISO 10360-10: 2021 Annex G
[2] Up to 30 m
[3] $P_{Form.Sph.1x25:ODS, MPE}$
[4] Near range

Since 1992 Hi-Tech Metrology has been a leading provider of high-precision measurement and metrology services with a reputation for accuracy, reliability, and innovation.

Today Hi-Tech Metrology consists of three integrated business units to help and support clients with all of their measurement needs - Products, Services and Projects. All these business units form part of a unique company, one that strives to provide the best possible outcomes to our existing and future customers.

To contact us

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