

# Absolute Arm 7-Axis w/ Absolute Scanner AS1

Key features



#### **Absolute Encoders**

exclusive to Absolute Arm, no referencing needed:
power-on and measure

## SpinGrip and SpinKnob

ergonomic infinite-rotation handling grips minimise operator fatigue, ensure thermal stability and maximise accuracy

#### Advanced materials

high-end carbon-fibre construction ensures thermal stability

#### Arm architecture

uneven tube lengths, typical in industrial robot design, make the arm lighter to use

#### HomeDock

secures the wrist with probe/sensor in a safe position

# OLED touchscreen wrist display

instant access to settings and monitoring

## Ergonomics

wrist design with intelligent button positioning allows total control during measurement, including removable handle and 3 pistol-grip sizes

## Absolute Scanner AS1

fully certified, extra-wide blue laser line, up to 300 Hz scan-rate with 1.2 million points/sec, SHINE technology, IP54 rated, repeatable mounting (no realignment needed)

# $\label{eq:automatic} \textbf{Automatic probe and sensor recognition}$

change touch probes or mount sensors on the fly without any recalibration

## Zero-G counterbalance

minimises torque in the arm's base, giving effortless movement

## SmartLo

safely locks the arm when at rest, or conveniently locks it at any intermediate angle while measuring

# Control Packs (WiFi and battery)

boost functionality with full scanning performance over WiFi or single-cable connection (USB or Ethernet) and battery power (hot-swappable dual battery pack)

# Embedded LED pictograms

for visual feedback of arm's functions and status

## Robust feedback

instant visual, acoustic and haptic feedback

# Mounting options

selection of magnetic or vacuum bases, tripods and stands



#### Measurement volume

2 m | 2.5 m | 3 m | 3.5 m | 4 m | 4.5 m



#### Volume extension

Leap Frog Kit or GridLOK system allows large-volume measurement

## 3 accuracy levels

83, 85 and 87 series



## Real-time remote monitoring

Compatibility with Metrology Asset Manager, the leading solution for of Industry 4.0 asset performance management



## Full protection

the world's first IP54-rated portable measuring arm for complete protection and confidence in challenging environments



#### 24-month warranty

on all Absolute Arm systems



#### Probing accuracy

certification to ISO 10360-12 as standard

## **Scanning System Accuracy**

total system (arm and scanner) specification to ISO 10360-8 annex D



# Verification artefacts

supplied with each arm, allow users to verify system performance according to certification



## Service centres

an extensive network of Hexagon service centres means quality service and support is always nearby



## SMART

proprietary software featuring Self-Monitoring Analysis and Reporting Technology (SMART) that manages the arm in the field by monitoring diagnostics including shocks and temperature



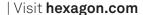
## Quick Measure

built-in utility program allows basic measurements without additional software



# SHINE technology

Systematic High-Intelligence Noise Elimination (SHINE) technology allows the Absolute Scanner AS1 to scan any surface, whatever the finish or material, and deliver full performance at all times — maximum frame rate with maximum laser width for maximum productivity



Ce Ce An Do sp Sp Ca su Do str ha Av	ailability of different system sizes and accuracy/metrology levels?  Artification for volumetric accuracy of probing, according to ISO 10360-12 (certificate included)?  Artification for complete Scanning System Accuracy (arm and scanner), according to ISO 10360-8  Annex D (certificate included)?  Are set he system include artefacts and software so you can verify its accuracy performance compared to the ecifications (software scripts/guides)?  And the laser scanner acquire clean data (without noise, outliers or erroneous data points) from any rface (color, material) with default settings (highest speed, full laser-line width)?  Are set he system have environment monitoring sensors (vibration, displacement, tilt, inclination, joint-  Areas, ambient temperature) alerting the operator in any shop-floor environment (with audio, visual and ptic warnings), to ensure proper handling and prevent loss of accuracy?  Areas the system (arm and scanner) have IP54-rating for protection when measuring in harsh environments?  Areas the system have IP54-status monitoring sensors to provide warnings when compromised?  And the arm measure repeatably in an environmental temperature up to 45°C?	Yes (6 sizes, 3 levels) Yes Yes Yes Yes Yes (SHINE technology) Yes Yes (Leapfrog/GridLOK) Yes Yes	
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		Yes	
Robustness Co	the system thermally stable (i.e. high-end carbon-fibre construction)?	Yes	
<b>Singo</b> Co	impliance with impact, shock vibration, emissions and environmental norms (CE, IEC, etc.)?	Yes (full list in manual)	
	ses the system include high-quality cables with safe push-pull locking mechanism?	Yes	
Do	ses the system include software for diagnostics and performance monitoring?	Yes (S.M.A.R.T.)	
Is a	a 24-month warranty offered as standard with all systems?	Yes	
Ca	in the system measure immediately after power-on (no warm-up time)?	Yes	
Do	es the system feature Absolute Encoders (with no need to be initialized before measurement)?	Yes	
Ca	n you easily swap probes and scanners without extra tools?	Yes	
	in probes or scanners be mounted and used without stopping to calibrate or select the probe in the ftware?	Yes	
	oes the system have a built-in display providing the operator with instant feedback on the arm status d the measurements taken?	Yes	
su	ses the system offer both automatic and manual laser scanner exposure adjustment for scanning rfaces of different colours and reflectivity but without affecting the frame rate or laser line width?	Yes	
Ca	in the compatible scanners be hot swapped with no need to pause for alignment?	Yes	
Do	nes the arm allow infinite rotation on major axes?	Yes	
	nes the system come with a single carrying case with wheels for mobility?	Yes	
ha	nes the system's counterbalance mechanism allow the arm to be used comfortably and with a single and (with an ergonomically designed wrist)?	Yes	
Do Do	es the arm include a safety locking mechanism when at the home position to prevent accidental tilt?	Yes	
Do Do	es the system have options for ergonomically positioned handling grips?	Yes (SpinGrip/ SpinKnob)	
Are	e multiple handgrip sizes offered (small, medium, large) as standard, for comfortable usage by any operator?	Yes	
Ca	in you remove the handgrip from the wrist, for easier laser scanning inside tight spaces or cavities?	Yes	
Ca	in you remove the laser scanner and handgrip for easier probing inside tight spaces or cavities?	Yes	
ls t	the arm able to lock at least one axis at a desired angle for measurements in low-ceiling or confined areas?	Yes (for arms up to 3.5 m)	
ls l	battery operation available (with hot-swappable batteries)?	Yes (Control Pack W or B)	
ls v	wireless measurement available for probing and scanning?	Yes (Control Pack W)	
ls t	there a variety of mounting options (magnetic, tripod, vacuum base)?	Yes	
Are	e other probe types (extended, angled, curved or tube-measurement probes) available?	Yes	
Ca	in the laser scanner also be used with a laser tracker for larger-scale measurement?	Yes	
	un the system connect to an asset management platform providing real-time remote performance onitoring and location tracking through a user-friendly dashboard?	Yes	

Hexagon is a global leader in digital reality solutions, combining sensor, software and autonomous technologies. We are putting data to work to boost efficiency, productivity, quality and safety across industrial, manufacturing, infrastructure, public sector, and mobility applications.

Our technologies are shaping production and people-related ecosystems to become increasingly connected and autonomous – ensuring a scalable, sustainable future.

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