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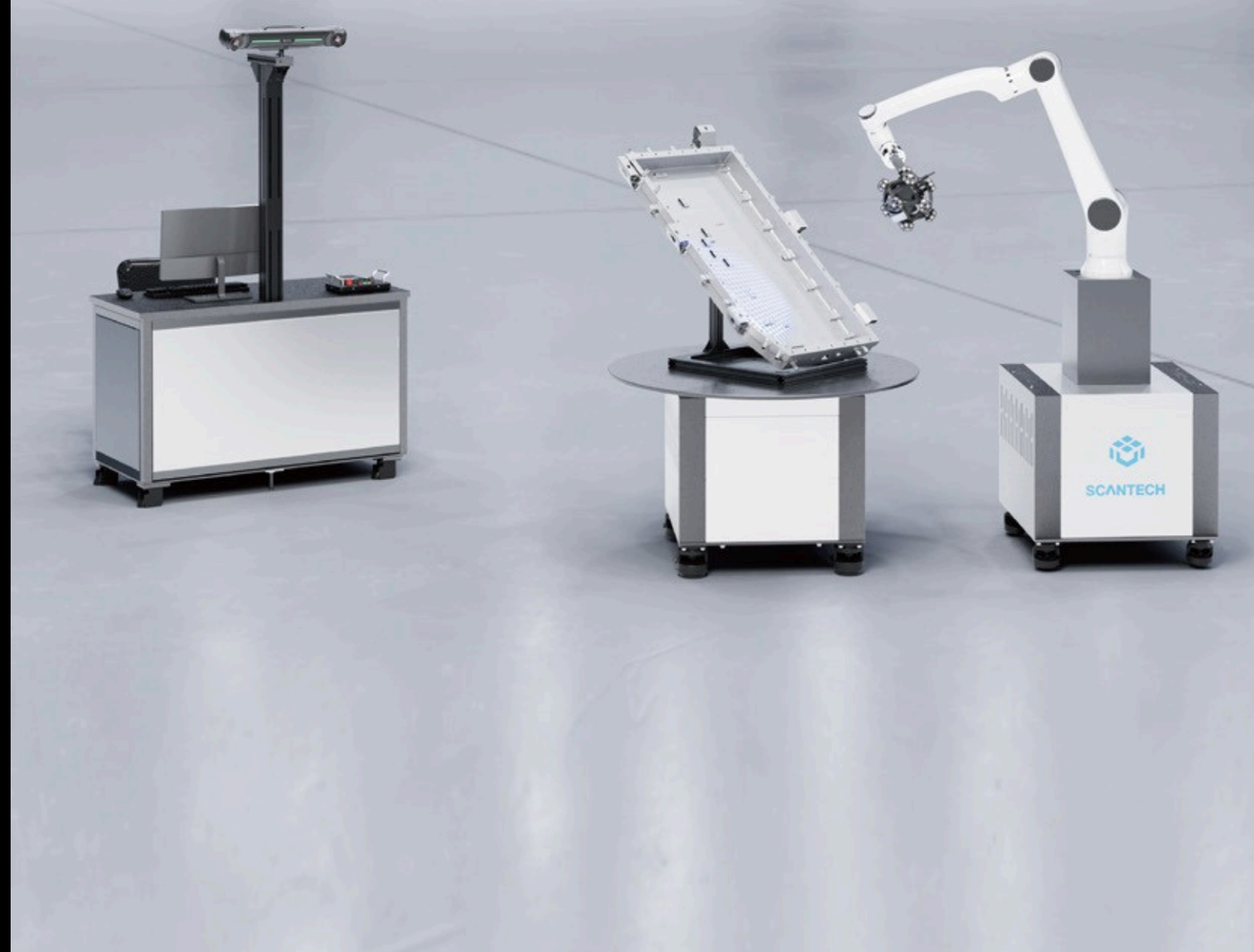
NEW

AM-CELL C Series

Optical Automated 3D Measurement System

Simple but Versatile



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AM-CELL

The AM-CELL C series optical automated 3D measurement system, consisting of a robot, positioner, and a tracking station, is developed for efficient and automated inspection of medium-to-large-sized parts such as stamping, injection-molded, machined sheet metal, and cast parts. Designed with innovative modular units, it enables various layouts, flexible deployment, and multiple-positioner operations.

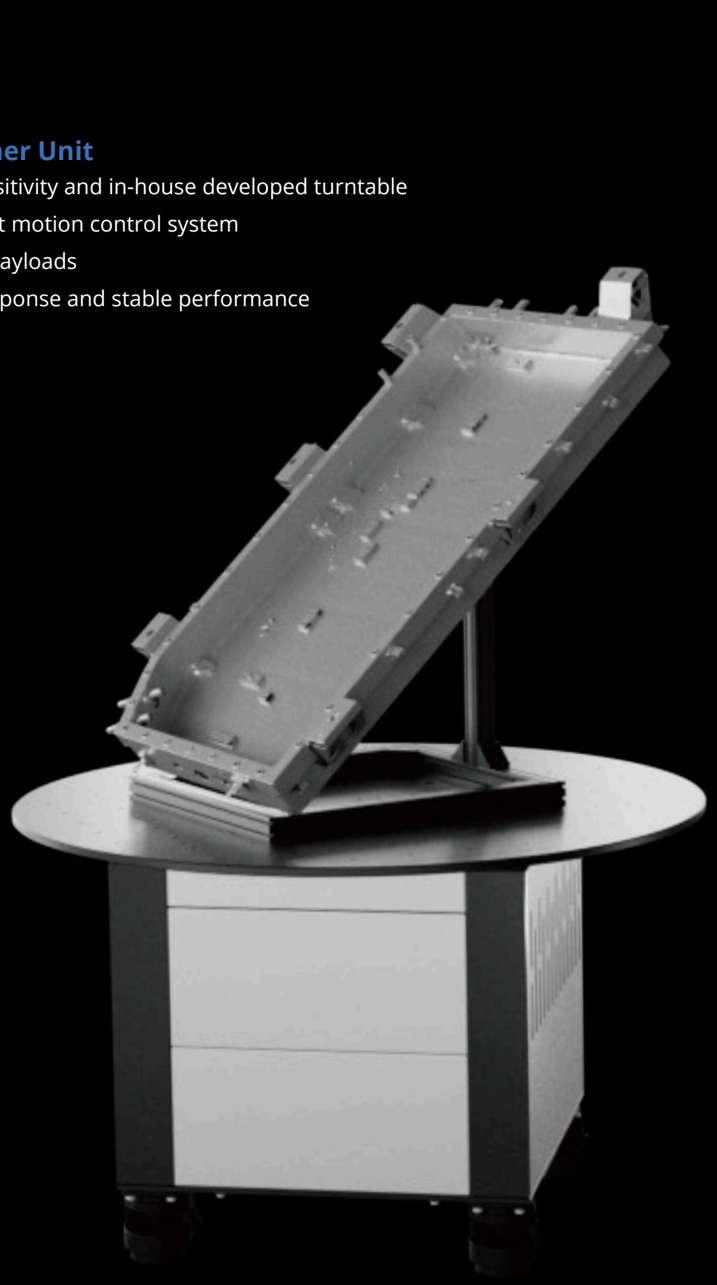
Its standard interfaces can be connected to different external devices, allowing it to seamlessly integrate into production lines. Paired with the newly upgraded software DefinSight-AM, AM-CELL C supports efficient operations in various production environments, serving as an efficiency booster for intelligent manufacturing.

Modular Unit Design, Inspection at Fingertips

Been designed with an innovative modular unit concept, AM-CELL C series features flexible layouts to meet different needs of batch inspections in various industrial settings. The system can be assembled and tested easily within 2 days and it supports manual robot teaching for quick path planning. This efficient solution frees users from complex set-ups and operations, which lowers the threshold for professional operations and enhances inspection efficiency.

Positioner Unit

-High-sensitivity and in-house developed turntable
-Intelligent motion control system
-Various payloads
-Quick response and stable performance



TrackStation Unit

-Ergonomic structure design
-Large operating area
-Specially designed space for storing the measurement system

Robot Unit

-A special architecture comprising both robot and system controllers
-Precise control
-Safe and reliable

Metrology-grade 3D Measurement

The AM-CELL C Series, compatible with Scantech's full range of target-free and optical 3D measurement systems, can measure hundreds of parts automatically and stably 24 hours a day. The system delivers ultra-high measurement rate of up to 2,600,000 MPS and metrology-grade accuracy of 0.025 mm, and provides you with precise measurement results to visualize GD&T deviations.

Thanks to its sophisticated gray value measurement, the AM-CELL C Series enables automatic edge inspections and ensures precise results. Users can obtain accurate 3D data of closed features such as holes, slots, and rectangles of stamping parts and machined parts on the site.

AM-CELL C is aimed to empower the manufacturing process analysis to increase output from the source, reduce production costs, and achieve standardized quality control processes.

Flexible Deployment for High Throughputs

Users can choose different solutions with multiple positioners according to their measurement requirements, cycle time, and product categories, achieving efficient measurement with zero downtime. Thanks to the powerful software, multiple tasks can be processed at the same time. This advanced automated measurement solution enables continuous measurements, eliminating waiting or interruptions. Therefore, it is capable of significantly shortening production cycle and improving overall production efficiency.

Diverse Choices

AM-CELL C series is highly compatible with a wide range of long-reach cobots that come in different brands and types, especially for those with an arm span exceeding 1300 mm. The system supports plug-and-play operations without requiring additional hardware configuration, making it ideal for various industrial uses to decrease operating costs and preparation time. Furthermore, the system offers intelligent turntables with various dimensions and payloads ranging from 200KG to 1000KG. Users can choose suitable options when inspecting parts of various weights and sizes, enjoying highly effective and adaptable automated inspection system.

Safe and Stable

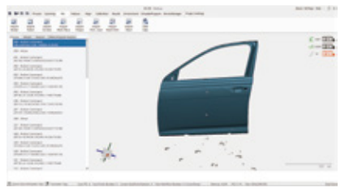
The robots and positioners are both equipped with advanced servo-mechanists with precise force feedback to reduce the need for special safety precautions and ensure safe operation. Therefore, human operators and the measurement system can share the workplace without compromising safety for both. Additionally, the system opts for various protective measures such as safety fences, safety light curtains, and safety door locks, catering to users with elevated safety needs.

Automated Software DefinSight-AM

AM-CELL C is powered by in-house developed automated measurement software DefinSight-AM. It is compatible with the whole range of Scantech's 3D scanners and various measurement solutions. The software can work with mainstream industrial and cooperative robots. It can enable direct connection with robots while adhering to safety requirements by opening its control script, thus reducing the skill level needed for robot operation.

The software can be configured based on user permissions as either Engineer Mode or Operator Mode,

Engineer Mode: This mode supports off-line programming of automated measurement procedures or templates, making it convenient for engineers to maintain multiple sets of automated 3D measurement systems. Additionally, it enables engineers to trace measurement results over time and analyze statistics enhancing quality control



Operator Mode： In Operator Mode, the software provides one-click startup, automatically invoking templates, calculations, and generating inspection reports. The operator's access to the software is limited to only operating and reading, which ensures the safe running of programs and equipment.

Furthermore, the software supports various industrial communication protocols and device extensions. It allows manufacturers to monitor the evolution of batches, forecast the trend of defective products, and ensure the stability of manufacturing.

Technical Parameter

Type	AM-CELL C13X	AM-CELL C15X	AM-CELL C18X
Space Size	4 m × 3 m	4.5 m × 4 m	5 m × 4 m
Robot Type	Cobot, reaching 1300 mm	Cobot, reaching 1500 mm	Cobot, reaching 1800 mm
3D Scanner Supported	Full series of Scantech's Optical 3D Measurement System		
Communication Protocol	TCP/IP, USB 3.0, OPCUA		
Expanded Communication	Socket		
Safety Mode	Active Emergency Stop + Safety with Force Feedback		
Input Voltage	AC~220 V/50-60 Hz		
Equipment Power	1.5 KW	2.2 KW	3 KW

Turntable Type	TT200	TT500	TT800	TT1000
Payload	200 KG	500 KG	800 KG	1000 KG
Maximum Object Size	D≤Ø1200 mm, H≤1000 mm	D≤Ø1500 mm, H≤1200 mm	D≤Ø1800 mm, H≤1500 mm	D≤Ø2200 mm, H≤1800 mm
Turntable Power	0.75 KW	1 KW	1.5 KW	2 KW
Motor Type	Absolute Servo Motor			

Vast Applications Deliver New Experiences

Shop Floor

AM-CELL C Series allows for on-site measurement on the shop floor regardless of lighting and temperature variations. It can measure parts precisely under harsh conditions on the shop floor.

CMM Room

The system can safely and steadily run without special requirements for safety. Physical fencer is optional depending on the requirements of the users.

Educational Settings

With multiple programming methods, teachers and even students without much expertise can learn how to operate the measurement system safely in a short timeframe. It shows our commitment to creating a talent cultivation ecosystem in the way of industry-university-research integration.