

SCANTECH™

Industrial 3D Measurement Solution

TRACKSCAN-P42 3D SYSTEM



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1. Company Introduction

SCANTECH (HANGZHOU) CO., LTD is a high-tech enterprise specialized in developing, manufacturing and selling of intelligent visual inspection equipment. As one of the most professional 3D digital equipment suppliers, ScanTech has been granted and assigned numbers of technological patents.

R&D team developed series of 3D digital equipment with self-owned intellectual properties such as composite 3D scanner, handheld 3D laser scanner, global 3D scanner, color 3D scanner, tracking 3D scanner and global photogrammetry system.



2. Product Introduction

2.1 Overview

TrackScan-P42 3D system adopts intelligent optical tracking measurement technology and high-quality optical equipment. It carries out ultra-high precision dynamic 3D measurement without markers. This 3D system is widely applied to quality control, product development, reverse engineering, etc.

By freely switching multiple working modes, TrackScan-P42 caters to different scanning situations. 17 crossed blue laser lines enable ultra-fast scanning rate of 1,900,000 measurements/s and smooth experience. 7 parallel blue laser lines works for detail capturing. Single blue laser line aims to fast collecting 3D data of deep holes and dead angle positions.

The equipped wireless portable CMM T-Probe delivers flexible measurement, and precisely captures high-precision 3D data of gaps, hole positions, grooves and complex surface. By working with robot-arm, TrackScan-P42 can also realize intelligent online automated 3D inspection.

2.2 Operation Principles

- 1) The E-Track can obtain the projection lasers from the object. The laser light deforms with the shape of the object. The lasers will deform when the scanner moves on the object surface. And then we can calculate the linear 3D information from the lasers since the E-Track is accurately calibrated in advance.
- 2) The E-Track can timely recognize the accurate spatial position of the scanner by tracking technology.
- 3) The 3D position information where the lasers go through can be acquired by utilizing the linear 3D information and relative spatial position when scanner moves, thus form the continuous three-dimension information

2.3 Features

Intelligent Tracking Without Markers

- With intelligent optical tracking measurement, TrackScan-P42 3D system delivers instant scanning without markers.
- Greatly improving work efficiency and decreasing cost.

Unrivaled-fast & Detail-maker

- 17 crossed blue laser lines enable ultra-fast scanning rate of 1,900,000 measurements/s and smooth experience.
- 7 parallel blue laser lines work for detail capturing.
- Single blue laser line aims to fast obtain 3D data of deep holes and dead angle positions.

Strong Anti-interference Capability

- Easily capture 3D data for shiny and black surface.
- Strong anti-interference capability of environment, vibrations and thermal variations.

Wireless Portable CMM

- Portable CMM T-Probe is designed for getting precise 3D data of holes and hidden points.
- High single point repeatability of 0.030 mm.

Extendable Measuring Volume

- Measuring range is dynamically extended by adjusting the positions of E-Track, meanwhile the accuracy still gets maintained.

Wide Scanning Area

- E-Track dual camera sensors reach wider measurement area and dynamically track the parts.

Accurate Composite Positioning

- TrackScan-P42 supports modes of camera tracking and marker tracking.
- In the blind area of E-Track, the scanner can recognize the markers to keep

working.

Aerospace-grade Materials

- TrackScan-P42 3D scanner is shaped of integrated design and made from aerospace-grade carbon fiber materials, sturdy and durable.

2.4 Parameter

Chart 1. TrackScan-P42 Technical Parameter

Type		TrackScan-P42
Scan mode	Ultra-fast scanning	17 blue laser crosses
	Hyperfine mode B	7 blue parallel laser lines
	Deep hole scanning	1 extra blue laser line
Laser lines in total		42
Accuracy		0.025 mm
Measurement rate		1,900,000 measurements/s
Scanning area		310 mm × 350 mm
Laser class		Class II (eye-safe)
Resolution		0.020 mm
Volumetric accuracy	9.1 m ³	0.064 mm
	16.6 m ³	0.078 mm
Volumetric accuracy (With MSCAN-L15 photogrammetry system)		0.044 mm + 0.015 mm/m
Portable CMM T-Probe	Optional	Support
	Single point repeatability	0.030 mm
Part size range (recommended)		200 ~ 6000 mm
Stand-off distance		300 mm
Depth of field		320 mm
Output formats		.stl, .ply, .obj, .igs, wrl, .xyz, .dae, .fbx, .ma, .asc or customized
Operating temperature range		-10 ~ 40 °C
Interface mode		USB 3.0
Patents		CN106500627, CN106500628, CN206132003U, CN204854633U, CN204944431U, CN204902788U, CN105068384, CN105049664, CN204963812U, CN204902785U, CN106403845, US10309770B2

2.5 Applications

- Automobile manufacturing
- Aerospace
- Power generation
- Mold manufacturing
- Casting inspection
- Construction machinery
- Design inspection
- Architecture sculpture
- Academic research

3 Configuration

ScanTech has the capacity of producing TrackScan series nearly 200 sets and adequate accessories per year, which can deal with emergency circumstances.

Chart 2. TrackScan-P42 Configuration

Component	Quantity
TrackScan-P42 3D scanner	1
E-Track	1
Scanner cable	1
Tracker Cable	1
Power adapter	1
Calibration board	1
Calibration bar	1
Large magnetic markers	12
Dongle	1
USB	1
Tripod with pan/tilt heads	1
Tracker case	1
Scanner case	1
Laptop	1
T-Probe portable CMM (optional)	1

4 Customer Support

4.1 Training

Our goal is to develop skills by providing flexible training according to participants' level of knowledge.

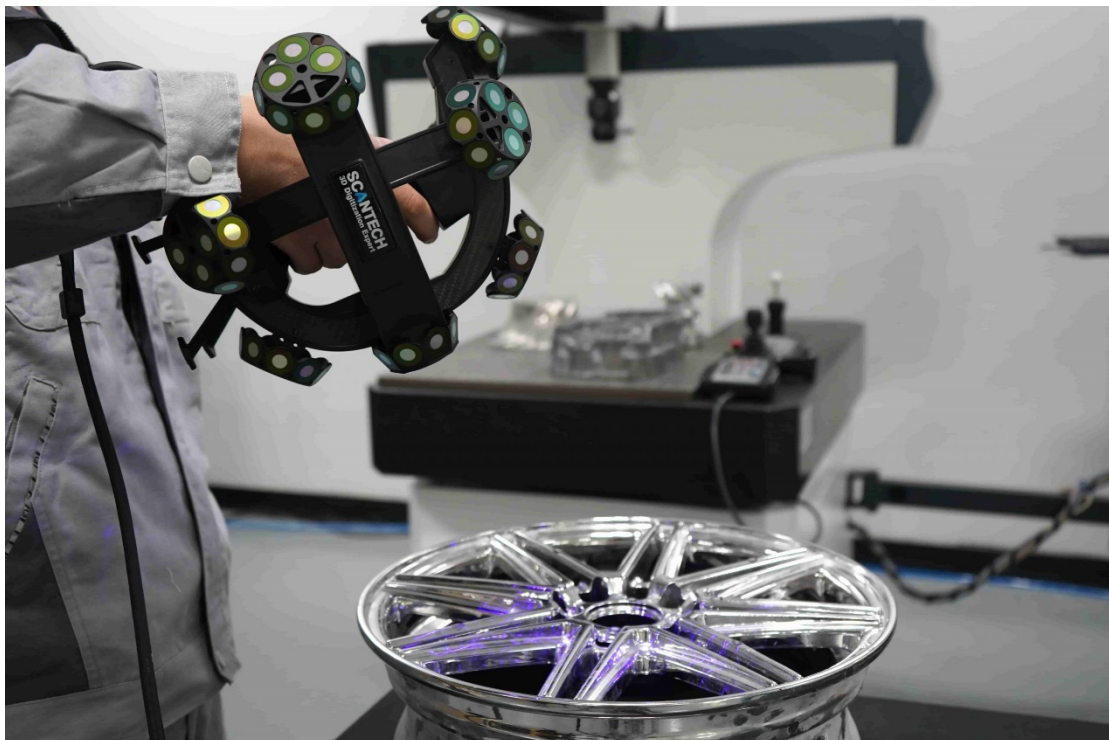
To ensure training effect and consistency, our professional trainers combine training plans with other tools to clearly explain training objectives, introduce the theory, guide hands-on experience and evaluate trainees.

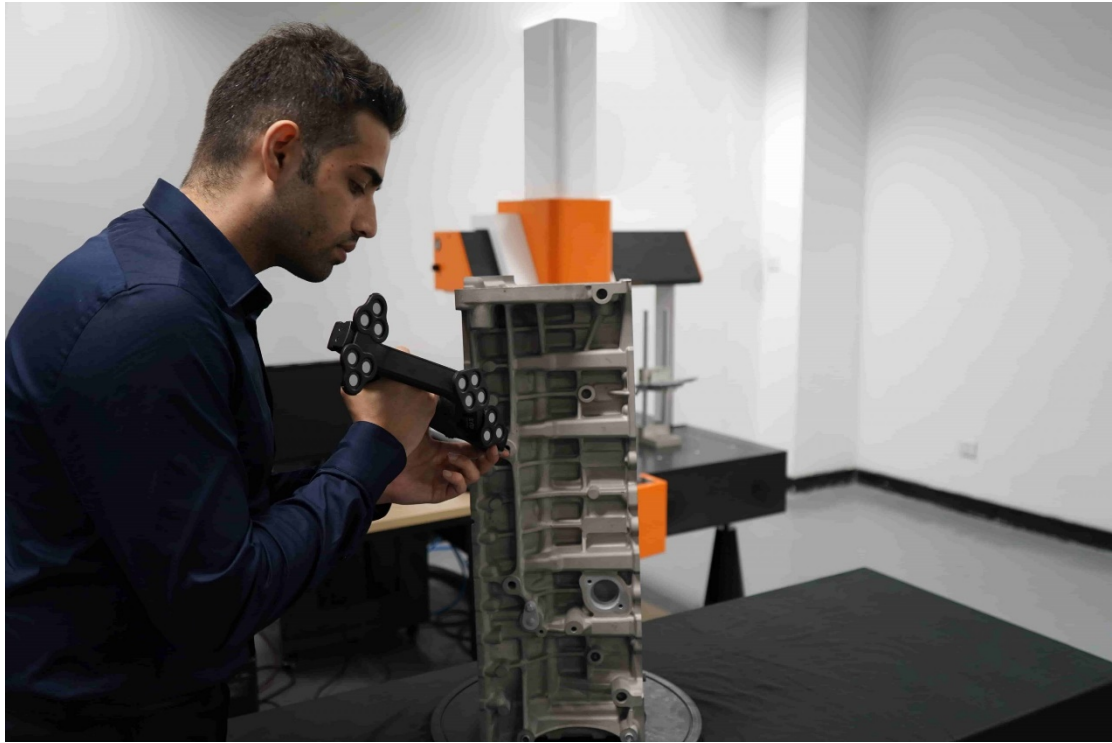
4.2 Maintenance

ScanTech offers efficient service and support to ensure satisfactory solution.

We promise a one-year warranty after sale. Taking advantage of worry-free maintenance and repair coverage for all of your hardware and software, we will have a plan suited to your needs while your device is under warranty.

5 Application cases





6. Product

6.1 TrackScan-P42 3D scanner



6.2 E-Track



6.3 T-Probe



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