

ScanWorks™ V5

from



The ScanWorks™ portable scanning system

Combines the ease-of-use of portable CMM arms with the sophistication of Perceptron's scanning technology.

The new V5 is the fastest point-collection system on the market, collecting data at 458,000 points per second with a laser bandwidth of 150mm. This combined with its twin camera technology means the V5 can see two sides of an object at once.

The ScanWorks™ V5 sensor uses solid-state, non-contact laser-based technology. Using triangulation, it captures profiles generated by the intersection of a projected laser plane and the target topography. For each profile, the arm position is used to translate the profile data into a common coordinate frame. Once translated, the profile is married to the other profiles to produce digital 3D topography.



The new V5 is attached to a Cimcore arm and scans the automotive part at 458,000 points per second with a laser bandwidth of 150mm.

Dimensions	115mm x 100mm x 80mm
Mass	438g
Profile density	7640 points/line
Update frequency	60Hz
Scan rate	458400 points/second
Mean point to point resolution	0,0137
Stand-off	100mm
Depth of field	110mm
Near field width	93mm
Mid field width	105mm
Far field width	140mm

Measurement accuracy*	0.0240mm 2σ corner test
Feature resolution†	0.0045mm 2σ sphere test
Sensor feature repeatability†	0.0050mm 2σ sphere test
Safety Class	IIIm, 660nm Laser
Certifications	UL, CSA, CE
Environmental	10°C to 40°C
Protection	Sensor IP64/Enclosure IP31

*NIST standard

†OSIS standard

Perceptron is registered to ISO9001:2000 standards
Specifications subject to change without notice

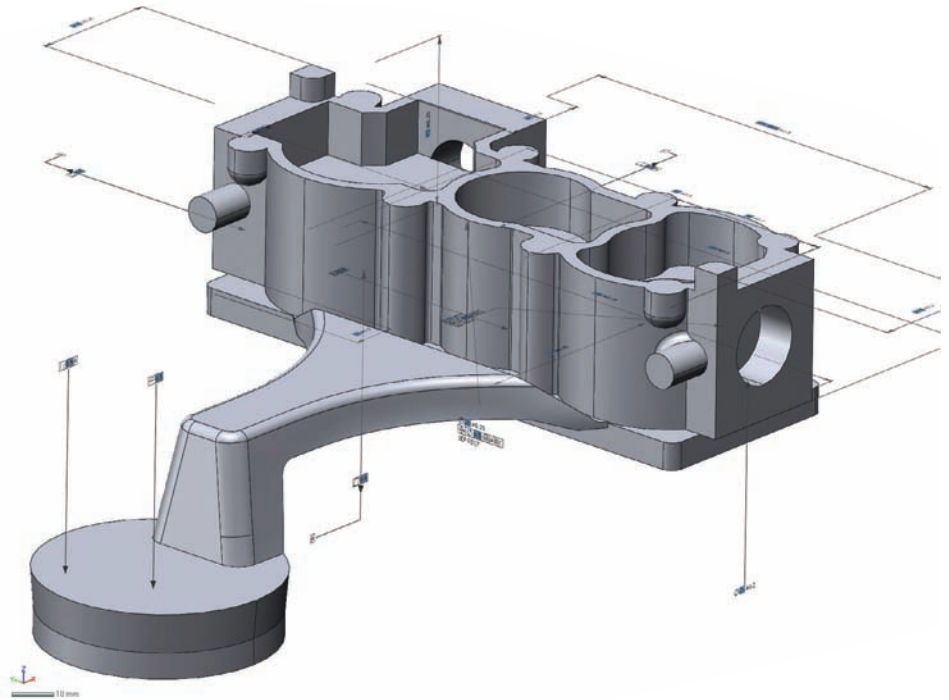
Applications:

REVERSE ENGINEERING

The point cloud produced by the ScanWorks™ system can be used to interrogate the design intent of the scanned component and then reproduce fully parametric CAD models which can be transferred into most CAD systems such as Solid works, Catia, Pro-Engineer, and Siemens NX.

DIGITAL MODELLING

The point cloud from ScanWorks™ can be used to create a digital model that accurately represents the real physical part. The first process is to mesh the point cloud into a polygonal model. This 3D model can then be used in a variety of applications such as animation, digital archiving, visualisation, CFD and FEA analysis.



The ScanWorks™ Advantage:

PORTABILITY

Older measuring technology required the component to be moved to the device. The flexibility of the Perceptron laser when attached to either a Cimcore measuring arm or NDI system allows for the measurement of components wherever they are located.

COMPLETENESS

To get measurement data related to the complete part's form is not possible with conventional methods. 3D scanning allows the user to gain access to the part's complete shape.

SPEED

Ability to fully measure and understand a part's complex geometry, in less time. Collection of point data at 458,000 points per second and with a large 150mm line allows for rapid collection of surface and geometric profiles. This class leading point collection means there is no part too big or complex for the Perceptron V5 laser.

No restriction on colour or shiny surfaces. Perceptron's continuous development programme has created one of the most advanced lasers in the market place which can scan virtually any surface (without the need to 'spray' or dull surfaces from carbon fibre to shiny metal).

RAPID PROTOTYPING

Point clouds can be transformed quickly and easily into STL or CAD files which can then be used by 3D rapid prototyping machines.

INSPECTION / VALIDATION

Check a manufactured part to ensure it conforms to the part's design intent. The Perceptron V5 scanner can be used to completely inspect part components. Feature geometry as well as complete topographical surface inspection is easily achieved within the inspection software.

