

SENMATION

INTELLIGENT SENSOR AUTOMATION FOR CMMS





SENMATION



HEXAGON

100µm S/N. 00019



SENIMATION – INTELLIGENT SENSOR AUTOMATION

What if a measurement system could not only work with different sensors but completely self-sufficiently? What if all measurement processes worked independently without manual intervention or extensive calibrating? What if this could happen without the manual change of sensors?

Sensors would have to communicate directly with the workpiece. Machines would have to be intelligent. All optical, tactile and temperature sensors would have to be joined together in one system. Always available. Always ready for use. Automatically changeable. Prepared for all future measuring tasks.

Flexible, comfortable and ahead of the competition – Hexagon Manufacturing Intelligence's fully-automated sensor interface makes measurement platforms futureproof and opens a new dimension in metrology.

Manual workload and coordinate measuring machines (CMMs) that are configured for one single measuring task are a thing of the past. The future is SENIMATION intelligent sensor automation.



 SENIMATION. Intelligent,
fully automatic, futureproof.”

A LEADING EDGE, FLEXIBILITY AND CONVENIENCE

SENMATION, the universal sensor interface, broadens the range of applications for high-precision coordinate measuring machines and gives you a lead over competitors. The SENMATION interface enables intelligent sensor automation with fully-automatic sensor changes within workpiece programs. In future, even complex or changing measurement tasks with various sensors can be handled with a single CMM.

The new interface is designed for intuitive operation; from hardware design to evaluation software. SENMATION takes customer needs into account to make sensor automation for quality assurance convenient and user-friendly – focusing in particular on intelligent user interfaces and powerful software.

SENMATION BENEFITS AT A GLANCE:

- Sensor changes are fully automated within the measuring program
- Automatic sensor recognition and calibration by the CIS (Component Identification System)
- Exchange time in the CNC mode is less than 45 seconds
- SENMATION is a platform interface for the integration of further sensors
- SENMATION enables highly-flexible and optimal utilisation of the CMM

AUTOMATED SENSOR EXCHANGE WITHOUT RECALIBRATION

SENMATION is directly integrated into the CMM ram and uses an internal identification system to immediately detect the sensor. The system also automatically checks the sensor status in order to ensure smooth changes and quick measurements. Recalibration of the sensors between the different measuring methods is not required.

Conceived as a platform technology, the SENMATION solution can be combined with a series of analogue scanning sensors as well as optical sensors and also allows the integration of further tactile, optical and vision sensors going forward.

Thanks to the sensor switch and intelligent sensor module, future sensors can be adapted flexibly and existing machines equipped with SENMATION can be retrofitted in a straightforward way. This flexibility enables direct and individual responses to changing measurement tasks.



THE MEASUREMENT TASK DETERMINES THE OPTIMAL SENSOR

SENMATION SUPPORTS THE FOLLOWING SENSORS:

- The HP-S-X5 HD scanning sensor which supports probe extensions of up to 800mm or temperature sensor
- The HP-S-X1 scanning sensor in combination with the automatically indexable HH-AS-2.5 probe head for flexible positioning and optimal accessibility
- The PRECITEC LR optical sensor for precise non-contact measurements



HP-S-X5 HD SENSOR

Designed for excellent precision, HP-S-X5 HD scanning probes are full 3D fixed scanning heads capable of simultaneously measuring in the X, Y and Z directions to precisely define the orientation of workpiece surfaces. The sensor is ideally suited to measuring the tight tolerances and complex geometries of mechanical parts.

HP-S-X1 SENSOR

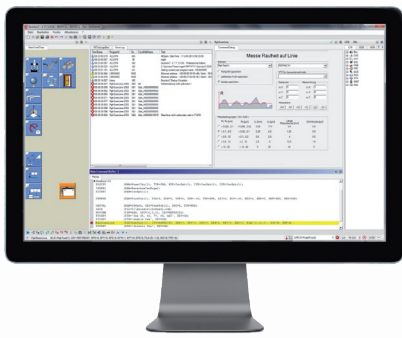
The HP-S-X1 scanning probes offer the same accuracy characteristics as fixed heads. Combined with the indexable probe head HH-AS-2.5, it offers the highest level of flexibility and provides simultaneous probing in all axes, always orthogonal to the contact surface.

PRECITEC LR

The PRECITEC LR is a highly-accurate optical sensor which uses focused white light to take measurements on even the most complex surfaces without any contact with the workpiece. It enables measurements of all kinds of materials, with particularly high accuracy at the submicron level.

SYSTEM INTEGRATION FOR MAXIMUM COMPATIBILITY

SENMATION is a milestone for ease of use and the future standard for quality assurance. The new system ensures much greater flexibility in programming by allowing the use of whichever sensor is optimal for the respective measurement process. At the same time, your measuring machine is ideally prepared for future measurement tasks.



SENMATION is available for the Leitz PMM-C or PMM-Xi with QUINDOS measurement software.

QUINDOS SOFTWARE

With more than 30 years of experience, QUINDOS has established itself as a powerful analysis tool. The software package supports all applicable sensor technologies and provides the customer with the relevant software packages for evaluations conforming to standards – both optically and tactilely – up to the measurement of surface parameters.
















HEXAGON

MANUFACTURING INTELLIGENCE

Hexagon Manufacturing Intelligence helps industrial manufacturers develop the disruptive technologies of today and the life-changing products of tomorrow. As a leading metrology and manufacturing solution specialist, our expertise in sensing, thinking and acting – the collection, analysis and active use of measurement data – gives our customers the confidence to increase production speed and accelerate productivity while enhancing product quality.

Through a network of local service centres, production facilities and commercial operations across five continents, we are shaping smart change in manufacturing to build a world where quality drives productivity. For more information, visit HexagonMI.com.

Hexagon Manufacturing Intelligence is part of Hexagon (Nasdaq Stockholm: HEXA B; hexagon.com), a leading global provider of information technologies that drive quality and productivity across geospatial and industrial enterprise applications.

-  COORDINATE MEASURING MACHINES
-  3D LASER SCANNING
-  SENSORS
-  PORTABLE MEASURING ARMS
-  SERVICES
-  LASER TRACKERS & STATIONS
-  MULTISENSOR & OPTICAL SYSTEMS
-  WHITE LIGHT SCANNERS
-  METROLOGY SOFTWARE SOLUTIONS
-  CAD / CAM
-  STATISTICAL PROCESS & CONTROL
-  AUTOMATED APPLICATIONS
-  MICROMETERS, CALIPERS AND GAUGES