MCOSMOS

Mitutoyo Controlled Open Systems for Modular Operation Support

MCOSMOS has three choices of module configuration. From the basic MCOSMOS-1 to the advanced MCOSMOS-3, choose a configuration for your measurement applications.

Geopak (basic geometry module) Provides an easy graphical console to the operator by the use of tool bars and options which can be personalized to the operator's preference. Its graphically enhanced display provides step-by-step, on-screen records that prompt the operator, allowing even inexperienced users to create routines to measure parts.

MSURF

Mitutoyo software enables users to perform operations from measurement to evaluation on the same platform when the non-contact line laser probe, SurfaceMeasure, is used.

Design Model Support:

- revolutions, etc.) of a measurement.
- Optimized data (travel path, number of probe head form, feature form) for the line laser probe from 3D CAD data.
- Three types of software are provided according to the task: non-contact line laser probe, SurfaceMeasure, is used. Measurement to evaluation on the same platform when the MSURF software enables users to perform operations from design model to measurement tasks during the GEOPAK learn mode.

CAT100P significantly facilitates the programming of measurement tasks during the GEOPAK learn mode. All data for measuring parts and tolerance evaluations are taken accurately from the CAD model via probe device (mouse, traditional, etc.) selection. The same principles apply for programming probe paths (clearance and measurement), while at the same time, using the nominal directly off the CAD model for tolerance comparison.

CAT100P:

1) Load design model
2) Select CMM system configuration
3) Part placement via virtual alignment
4) Measurement program
5) Generate MCOSMOS-3 Geopak part program

In order to generate a measurement plan, GD&T information attached to the 3D Design Model is needed. Design Model formats marked “with PMI” will read GD&T information created in the CAD system and stores in the Design Model file. Design Model formats without PMI cannot be annotated with GD&T in MCAT Planner.

Design Model Support:

- Siemens NX (PMI)
- CATIA V5 (PMI)
- CREA (PMI)
- SOLIDWORKS (PMI)
- ACIS (SAT)

MSURF-PLANNER

Creates measurement macros (surface form, feature form) for the line laser probe from 3D CAD data. Optimized data (travel path, number of probe head revolutions, etc.) of a measurement.

Design Model Support:

- STEP (included)
- IGES (option)
- Siemens NX (option)
- CATIA V4 (option)
- CATIA V5 (option)
- CRCA (option)
- Parasolid (option)
- SOLIDWORKS (option)
- CADENAS (option)

MSURF-PACKAGE

Note: The information regarding our products, and in particular the illustrations, drawings, dimensional and performance data contained in this chart, as well as other technical information, is to be regarded as approximate average values. The manufacturer reserves the right to make changes to the corresponding design, material, and performance. Actual products were tested at the time of printing. In addition, the latest applicable version of our General Terms of Sale will prevail. Technical specifications and design are subject to change without notice. Typical values are for guidance purposes only. Specifications are subject to Mitutoyo's Full Line of Coordinate Measuring Machines

MCOSMOS Coordinate Measuring Machine Software

Sensor Systems

Test Equipment and Environment

Optical Measuring

Digital Scale and DRO Systems

Small Tool Instruments and Data Management

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Mitutoyo's Full Line of Coordinate Measuring Machines

In this section we compare Mitutoyo's products to other well-known brands in the coordinate measuring machine (CMM) industry. This information is provided to help you make informed decisions when selecting a CMM for your application.

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Coordinate Measuring Machines

**CRYSTAL-Plus M**
- Smooth operation utilizing high-precision air bearings and lightweight moving members.
- Continuous fine feed over the entire measuring range.
- One-touch air clamp for each axis.
- Includes Gold Care.

**CRYSTAL-Apex S 500/700/900**
- The higher accuracy specification of the CRYSTAL-Apex S gives it more than double the effective measuring range in terms of accuracy-guarantee capability.

**STRATO-Apex**
The series guarantees high accuracy. High acceleration is achieved with improved rigid air bearings on all axial guideways. The scale systems on all axes are a compact, 3D CNC measuring system. Use for your CNC machine tools. Speed coordinate measuring in conjunction with operations by performing in-line or near-line high-speed scanning.

**MACH**
The MACH-3A and MACH-V maximize machining operations by performing in-line or near-line high-speed coordinate measuring in conjunction with your CNC machine tools. MACH-Ko-ga-me is a compact, 3D CNC, measuring system. Use for stand-alone applications or integrate into cells.

**CARBapex / CARBstrato**
The CARBapex and CARBstrato series is a lineup of cost-effective, high-quality, CNC CMMs and offers the world's largest class measurement range, making it possible to measure car bodies.

**LEGEX**
All LEGEX Ultra-accuracy series CMMs are equipped with temperature compensation and do not require a temperature-controlled room. Accuracy is guaranteed within the range of 18 to 22°C.

**TP7**
The TP7 is a high-accuracy touch-trigger probe with a maximum repeatability of 2μ.25μm. The TP7 can perform on a long stylus up to 150mm.

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**FCC**
The FCC is designed to securely store up to six probe modules for automatic changing.

**TSP25**
The TSP25 is a compact probe head that offers excellent form accuracy and surface finish for probing and measurement. Patented flexible attachment allows any of the SP25M system modules (which can carry MS stylus with lengths from 20mm to 400mm) and an adapter module that is compatible with Renishaw’s TP25 range of probe modules.

**Car Body CNC**
- Change Racks
- Accessories
- Styli Kits
- Fixtures Kits
- Basics 1 - K651377
- Basics 2 - K651534

**TP7**
The TP7 is a high-accuracy touch-trigger probe with a maximum repeatability of 2μ.25μm. The TP7 can perform on a long stylus up to 150mm.

**SP25**
The SP25 is comprised of two sensors in a single housing. Users can switch between a choice for the scanning modules (which can carry MS stylus with lengths from 20mm to 400mm) and an adapter module that is compatible with Renishaw’s TP25 range of probe modules.

**TP9**
The TP9 is a high-accuracy touch-trigger probe with a maximum repeatability of 2μ.25μm. The TP9 can perform on a long stylus up to 150mm.

**PH20**
The TP9 is a high-accuracy touch-trigger probe with a maximum repeatability of 2μ.25μm. The TP9 can perform on a long stylus up to 150mm.

**REVO**
High-speed 5-axis scanning (max 500mm/s) surpasses 3-axis control, supporting high-speed sampling of up to 4,000 points, and allowing data acquisition during measurement points for high-speed scanning.

**Surface Measure**
Non-contact laser probes automatically adjust the laser intensity and camera sensitivity for the equipment and workpiece material. The laser measurement system can be utilized in prototyping and production.

**QFP**
The QFP probe performs measurement by imaging the process micro-geometry that cannot be measured by a contact-type probe or flexible bodies that are easily deformed by slight measuring forces.

**SurfTest**
The SurfTest probe allows the CMM to take surface finish measurements using the PHM1 aperture probe head, allowing the probe to be changed from the ACR1 change rack. This streamlines the measurement process.

**ACR1**
The ACR1 provides a passive means to automatically exchange probes without the need for requalification. The ACR1 uses an autopoint connector to attach probes to PHM1 PLUS and PHM1042 PLUS. The ACR1 is a four part unit where two can be linked together allowing eight different probes or extensions to be stored in the rack providing more capacity.

**SrCR25**
The SrCR25 is designed to securely store up to six probe modules for automatic changing.

**MCR20**
The MCR20 module changing rack is designed to securely store up to six probe modules for automatic changing.