Vision
ENGINEERING

MERLIN

Video Measuring System
for precision measurement of 2-dimensional parts

- 2-axis non-contact measurement

- Powerful and intuitive touch-screen video microprocessor
  delivers fast and accurate results

- High resolution video camera clearly defines component edges

- Array of video edge detection tools for simple, repeatable operation

- High accuracy, low investment system

2-Axis Video Measuring System

MERLIN

Vision Engineering's Merlin 2-axis video measuring system combines a state-of-the-art touch-screen video microprocessor with amazing simplicity, to deliver superb accuracy and repeatability, no matter how many operators use the system.

Vision Engineering's Merlin video measuring system provides fast and accurate 2-axis measurement of precision component parts, suitable for both shop-floor quality control and manufacturing inspection applications.

With a high precision 150mm x 100mm measuring stage, Merlin is ideal for measuring 2-D features of small, intricate parts. From simple manual, single-feature operation to multi-point video edge detection measurements, Merlin combines amazing simplicity with high accuracy and repeatability for a wide range of measuring applications. The simplicity of Merlin allows for reduced training time, minimised operator errors and increased productivity.

- 2-axis non-contact measurement
- Powerful and intuitive touch-screen video microprocessor delivers fast and accurate results
- High resolution video camera clearly defines component edges
- Array of video edge detection tools for simple, repeatable operation
- High accuracy, low investment system

Powerful Video Microprocessor

The Merlin's QC-300 video microprocessor provides a powerful control interface, with automatic single and multi-point video edge detection for enhanced throughput measurements, measurement of form features, or features both inside and outside the field of view. Simple and offset crosshair measurement tools provide the user with fine control for difficult-to-find edges.

Precision Measuring Stage

- 150mm x 100mm precision measuring stage has factory calibrated non-linear error correction to ensure optimum accuracy, traceable to International standards for the purposes of ISO9000.
- 1µm resolution glass scale measuring encoders ensure the highest levels of precision.

High Resolution Video Camera

- High resolution video camera provides enhanced component edge definition of a wide range of metal, plastic and other precision components.

Illumination

- Surface and sub-stage illumination options enable adjustment of lighting to suit any application. Surface illumination is provided by an array of 20 high intensity LEDs.

QC-300 Video Microprocessor

Quadra-Chek digital readouts and metrology software are the premier systems for the measurement and inspection of 2-D geometric components. The QC-300 video microprocessor is the standard control interface on the Merlin video measuring system, providing a powerful combination to empower operators along every step of the measurement process.

Intuitive user interface

QC-300 features a powerful and intuitive interface which can easily be used by shift workers or advanced users alike. The high resolution touch-screen colour display is exceptionally easy to use and ensures operator accuracy with minimal training time.

Video measurement tools

Switch from simple crosshair measurement to automatic video measurement detection for form measurement outside the field of view. QC-300 provides the user with an array of powerful and flexible video measurement tools to speed up and simplify the measurement process.

Part programming

Programme a measurement sequence once and run it back as often as you need. Measure the same number of points per feature, in the identical sequence, part after part.

Intersections and constructions

Obtain essential intersection and construction results by selecting from the list of previously measured features, complete with graphics.

Geometric tolerancing

QC-300's unique graphical representation instantly views pass/fail performance details for critical part dimensions. Results and important measurement data are displayed in an uncluttered and comprehensive display.

Image capture and analysis

QC-300 captures video image (in JPEG format) to either internal memory or directly to the USB port. The image can then be edited or appended with text and measurement data.

Measure Magic

To measure, simply probe points and click. QC-300 detects, without the operator's intervention, the feature type being measured. With the patented Measure Magic feature, operators can inspect multiple features without taking their eyes off the part, increasing throughput, improving accuracy and reducing user fatigue.

Context-sensitive help

QC-300 decreases training time and costs with graphics-rich, context sensitive help that guides shop floor personnel through Quadra-Chek interface conventions.
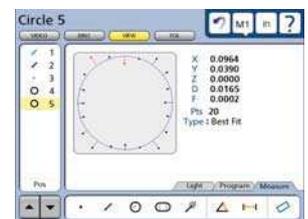
Feature Details

Tolerance Results
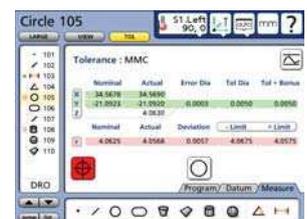
Technical Specifications

Video Camera

- 1/3" CCD (795 x 596 resolution) with composite video output
- Power supply - DC +11.4~12.6V (12v ± 5%)
- Low light sensitivity - 0.35 LUX at F2.0

Illumination

- Surface illumination provided by 20 x high intensity LED (10,000 hours)
- Substage illumination provided by 1 x high intensity LED (10,000 hours)

Measuring Stage

- 150mm x 100mm
- Factory-installed non-linear error correction (NLEC) calibration to ensure optimum accuracy, traceable to International standards for the purposes of ISO9000
- 1µm encoder resolution
- 10kg max. glass plate load

Measurement Uncertainty

$U_{95}2D = 5+(6.5L/1000)$µm*

* where L = length in mm (x50 system magnification, controlled 20°C, using traceable chrome on glass grid artefact, with intersection points at the standard measuring plane)
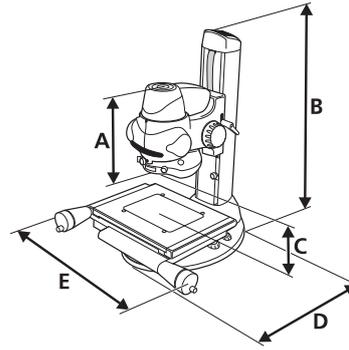
Dimensions

A = 206mm
B = 600mm
C = 169mm
D = 440mm
E = 405mm

F = 200mm
G = 285mm
H = 210mm
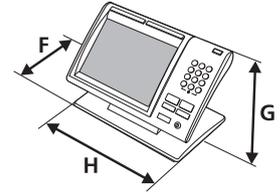
Weight

	Packed	Unpacked
Camera/Focus Assembly	3.5kg	2.5kg
Illumination	1.0kg	0.5kg
Stand/Stage	16.5kg	14kg
Microprocessor	7.5kg	6.5kg

Optical Data

Objective Part Number	System Magnification	Working Distance	Field of View
MN-007	x10	81mm	10.4mm
MN-008	x20	81mm	5.2mm
MN-009	x50	61mm	2.1mm

For more information...

Vision Engineering has a network of offices and technical distributors around the world. For more information, please contact your Vision Engineering branch, local authorised distributor, or visit our website.

Distributor

Visit our multi-lingual website:

www.visioneng.com