THE POWER OF QUADRA CHEK

Quadra-Chek® Digital Readouts

Know precisely




You can’t make a more accurate choice.

Quadra-Chek® Digital Readouts Metronics is the world’s premiere developer of metrology software and digital readouts for measuring and inspecting 2D and 3D geometric components.

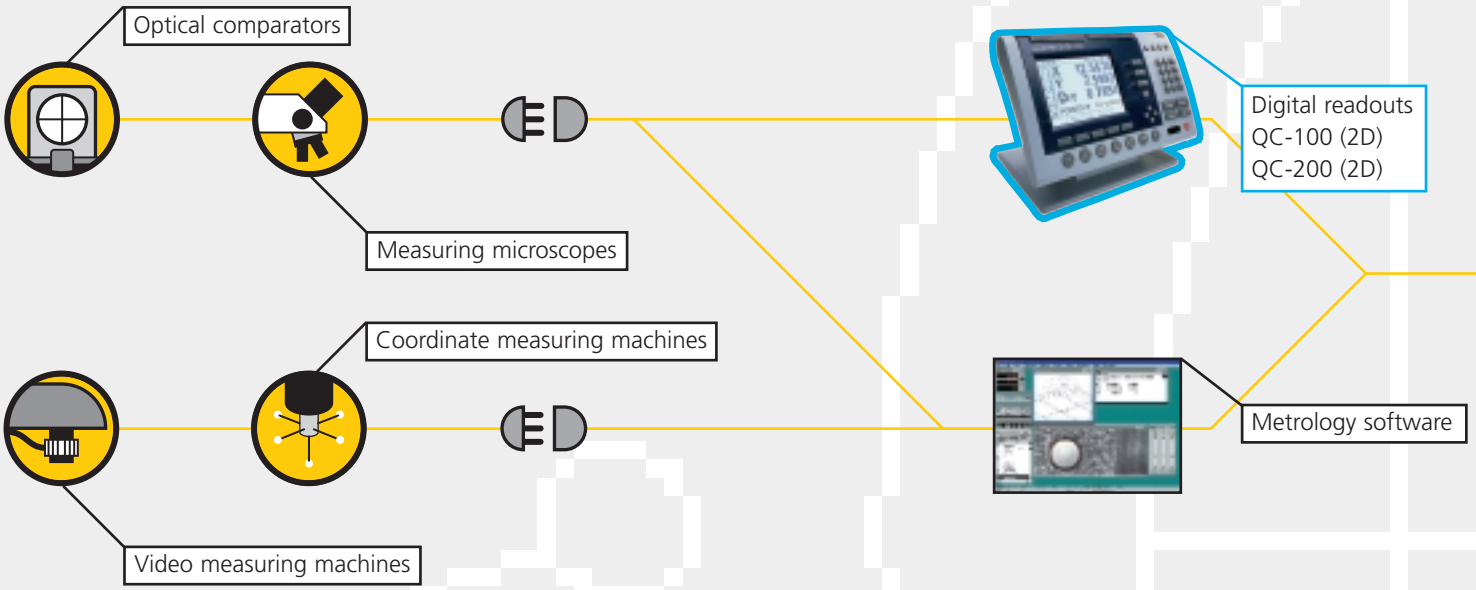
Metronics Quadra-Chek systems are the standard control interface on the precision measuring devices of many of the world’s leading precision metrology instrument manufacturers.

Quadra-Chek digital readouts support industries that call for precise measurement and inspection of 2D and 3D parts in single-sensor and multi-sensor environments. The products feature an intuitive user interface and simple, meaningful visual displays. Their design reflects a deep understanding of user needs and a uniform work process model that supports operators at every stage in the measurement process. Metronics digital readouts lead the precision inspection industry with innovations that improve operator productivity, reduce errors and save time and money.

Quadra-Chek 100 Series Digital Readouts Flexible, compact and precise digital readouts for 1- to 4-axis measuring instruments. Ideal for measuring angular or linear dimensions. Can be used with inspection tools including optical comparators, measuring microscopes and coordinate measurement machines.

Quadra-Chek 200 Series Geometric Readouts Our original digital readouts with a fresh new interface and sleek design. A time-saving measurement tool with patented Measure Magic™ technology. Ideal for measuring 2D features. Can be used with inspection tools such as optical comparators, measuring microscopes and coordinate measurement machines.

Integrate fully



Versatile instrument support

If you already have a Quadra-Chek product on your shop floor—on any metrology instrument—you can easily integrate our newest products. If you are just developing a dimensional inspection capability, no other company provides as broad a product offering to help you grow as your needs change. Best of all, Quadra-Chek products share measuring protocols and interface conventions across the Metronics product line, which accelerates training, promotes cross-training and improves measurement accuracy.

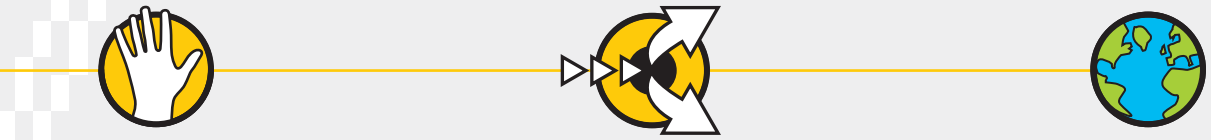
Comprehensive instrument interfaces

Since our founding in 1983, Metronics has led the industry in the development of measurement solutions for diverse measuring platforms and modern digital readouts. The company is recognized around the world as a comprehensive resource for encoder interfaces that support both the newest tools and the existing platforms of leading metrology instrument manufacturers. We provide encoder interfaces compatible with new and existing instruments from the world's leading manufacturers.

Complete digital readout and software-based solutions

Quadra-Chek products solve 2D and 3D measurement problems across industries and manufacturing functions, from inexpensive single-axis systems to versatile multi-axis, multi-probe platforms that expand in functionality as your measurement needs grow. The Quadra-Chek line includes Windows®-based software solutions and geometric readouts, each with configuration options and complementary accessories that provide turnkey support for all of your precision measurement challenges.

Metronics develops world-class metrology software and geometric digital readouts. The Quadra-Chek product line provides unmatched support for single-axis and multi-axis dimensional measurement of 2D and 3D parts on both new and existing tool platforms. Quadra-Chek digital readouts and PC-based products integrate innovative user interface conventions, state-of-the-art ergonomics, powerful data import, export and analysis tools. All Metronics products are supported by an international team of field engineers.



Intuitive interface design

Quadra-Chek products incorporate insights gained from ongoing human factors research. They simplify repetitive tasks, visualize measurement data, and expand the possibilities of dimensional inspection processes. Intuitive work process models and operator interface innovations extend programming, automation and measurement capabilities across instruments; advance new standards for ease-of-use; and reduce operator training time.

- Windows® platform
- Graphic user interface
- Icon-based tools and toolbars
- Color coding
- Audio feedback
- Contextual help
- Intelligent, time-saving protocols
- IrDA communication

Powerful data management tools

Integral communication tools enable operators to record, store and analyze measurement data. Operators can selectively or historically document measurements in dimensioned photographs and schematic drawings, as well as transfer measurement data efficiently among machines performing related tasks. Operators can also export data to online databases for offline analysis by managers and quality control specialists.

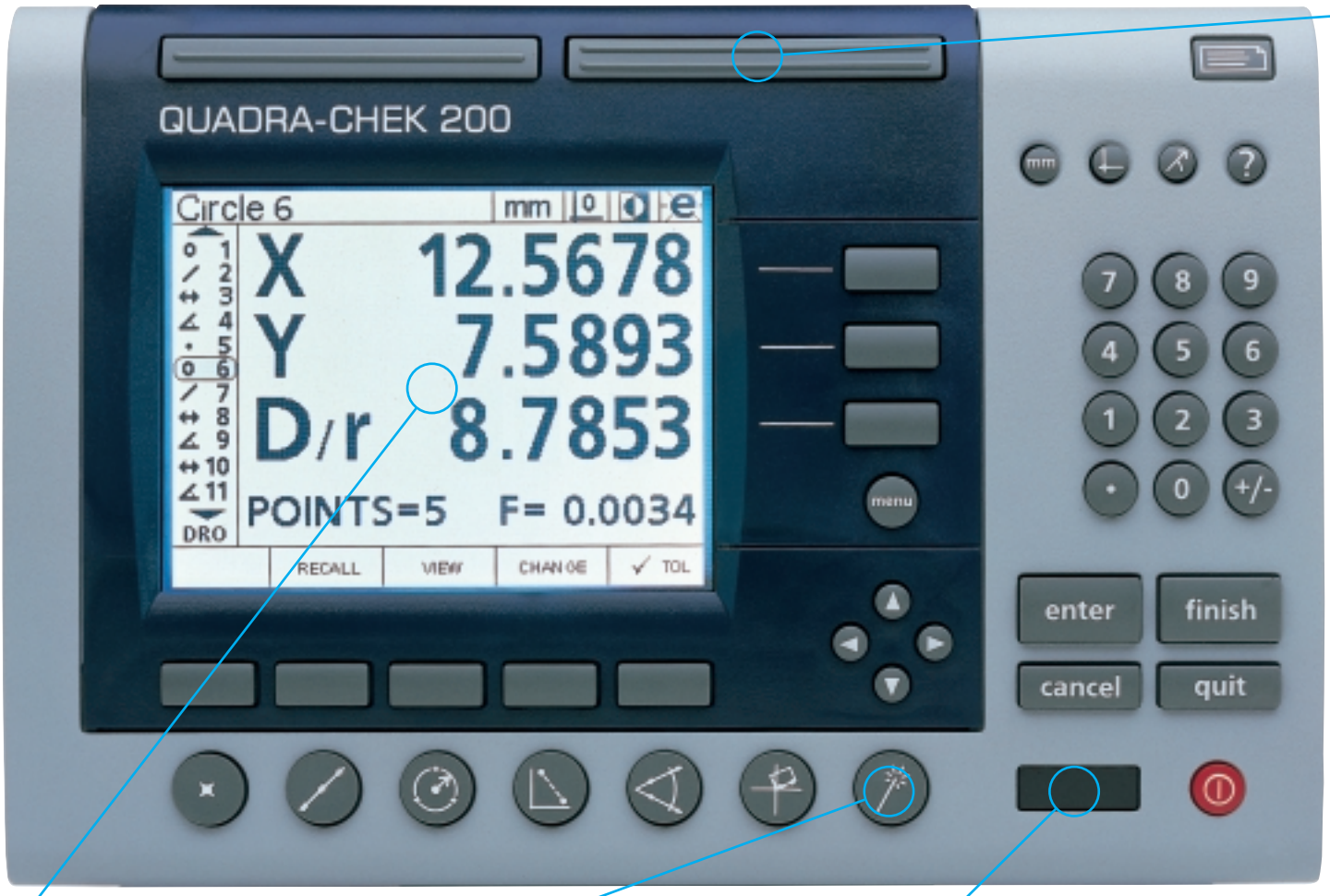
- CAD export
- SPC export
- CNC control
- Integrated databases
- Custom reporting

Global support network

Metronics field engineers, based in offices located all over the world, can assist in the onsite review of dimensional inspection requirements. Complete contact details are available online at **www.metronics.com**.

- United States
- France
- Germany
- Italy
- United Kingdom
- Japan
- Korea

Design innovation



High-visibility LCD display A backlit LCD with .5" letter height is easy to read in diverse lighting situations and from indirect viewing angles.

Familiar interface Familiar, intuitive interface conventions were developed through ongoing operator research to simplify repetitive tasks and expedite the training process.

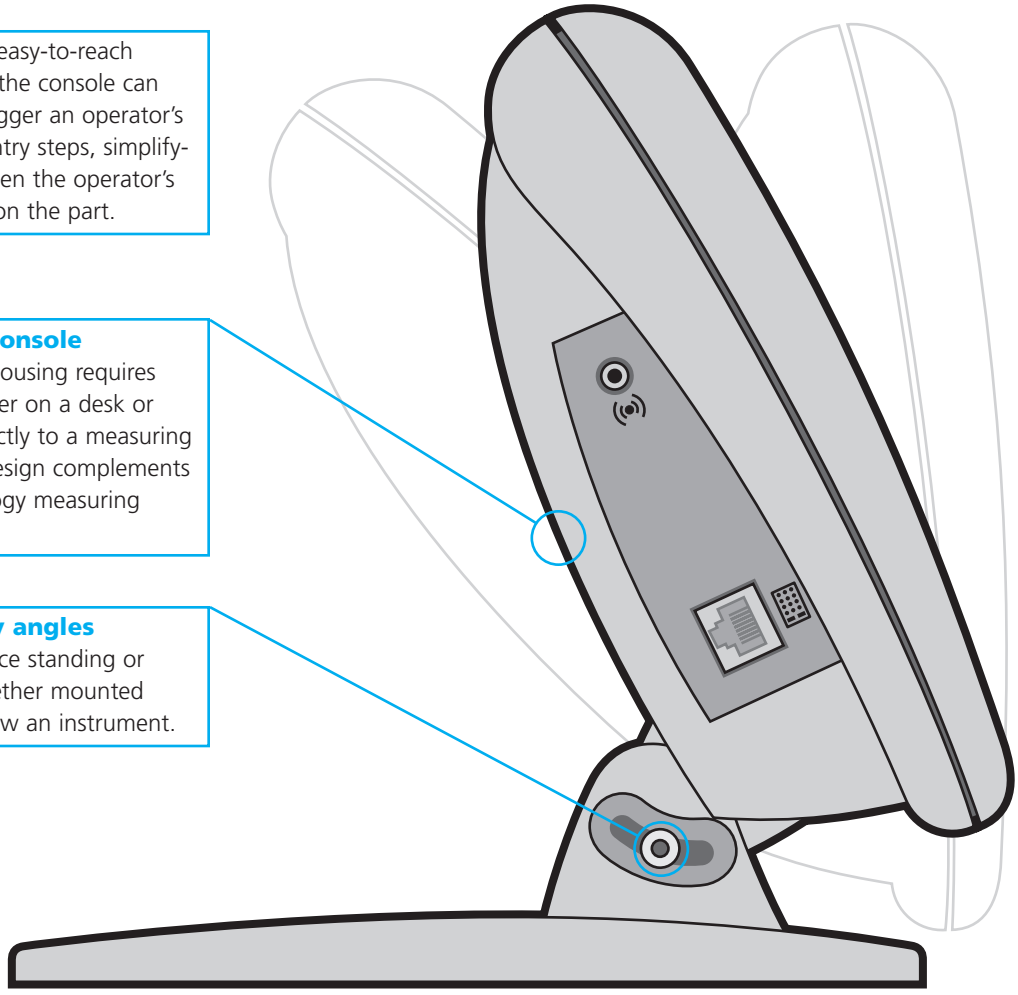
IrDA communications Remote control option allows the operator to download data to handheld devices.

Re-designed Quadra-Chek digital readouts incorporate a range of ergonomic and display interface innovations that advance new standards for ease of use.

HotKeys Two large, easy-to-reach buttons at the top of the console can be programmed to trigger an operator's most frequent data entry steps, simplifying measurements when the operator's attention must focus on the part.

Versatile display console
The slender monitor housing requires minimal space, whether on a desk or bracket-mounted directly to a measuring tool. Its sleek visual design complements contemporary metrology measuring instrument design.

Adjustable display angles
The monitor tilts to face standing or seated operators, whether mounted above, beside, or below an instrument.



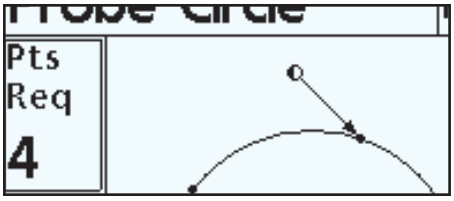
Understand completely

Architecture The Quadra-Chek unique interface seamlessly incorporates the best tools and annotation conventions of previous Quadra-Chek products, reducing operator training time. Fast, familiar tools improve productivity and enhance measurement consistency throughout the entire measurement process.

Input Reduce operator subjectivity and fatigue, and enhance productivity, through the use of optical edge detection and automatic point entry.

Measurement Record desired feature and construction measurements quickly, easily and accurately with patented software features like Measure Magic®. Accelerate the measurement process with tools that automatically complete complex work steps.

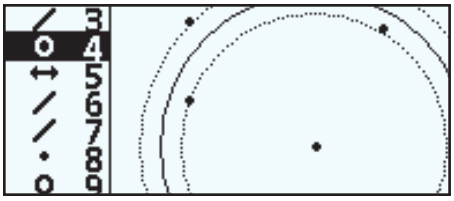
Programming Simplify difficult and repetitive measurement sequences with robust, easy to use programming tools. Create step-by-step part programs using a simple self-teach mode to guide subsequent measurements.

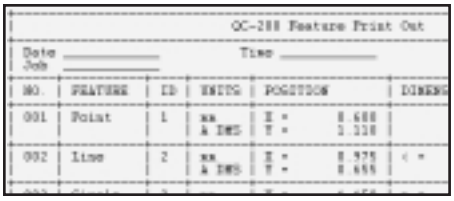


Modern metrology is a complex sequence of measuring, recording, analyzing and reporting dimensional data. The conceptual model underlying Metronics digital readout design organizes the workflow to support operators at every stage of the measurement process.

Data Management Manage measurement data in ways that reduce screen clutter, reveal meaningful information patterns and visualize the complex relationships among measured features.

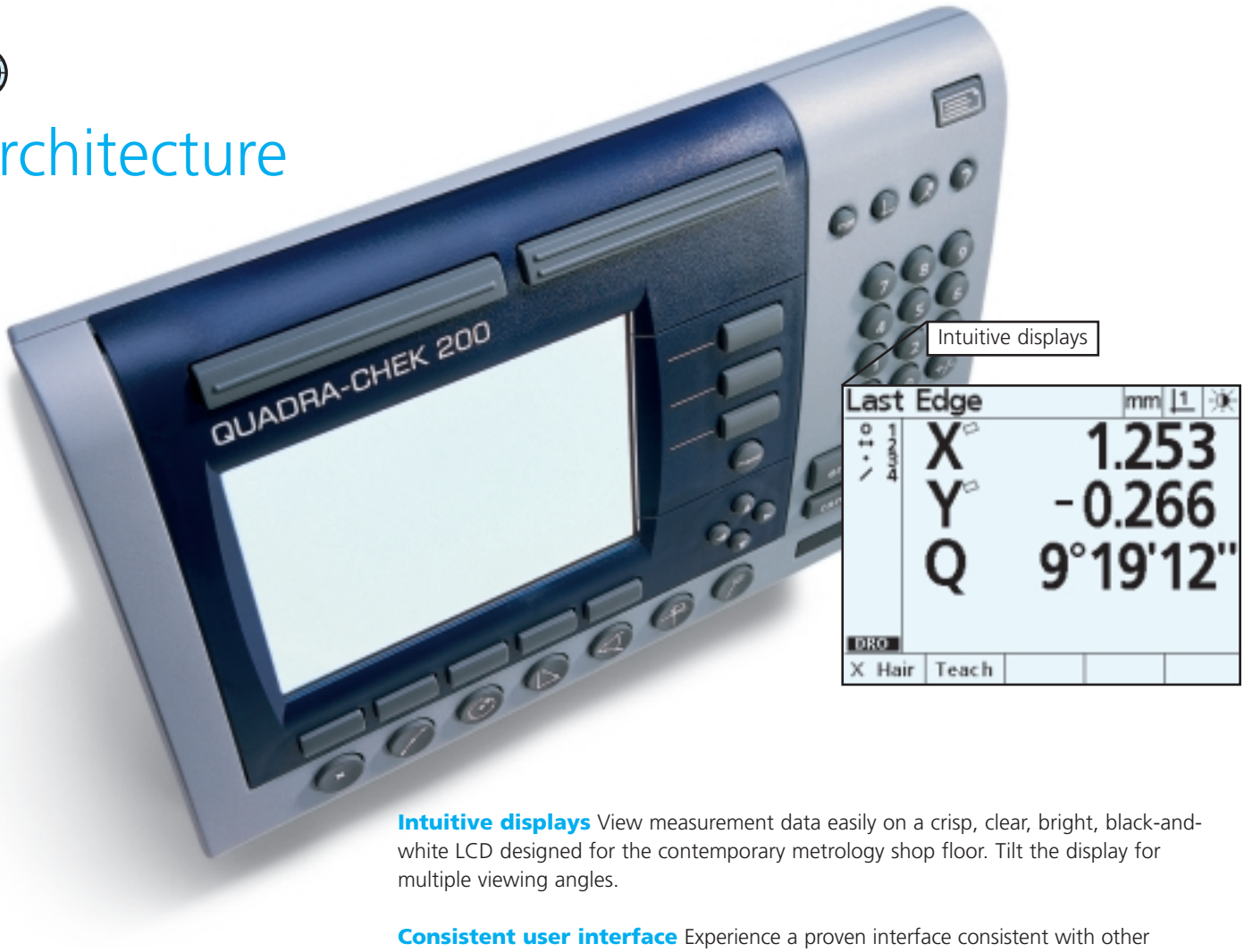
Output Streamline communication among operators, management, dispersed departments and quality control teams. Send measurement information to a variety of applications, printers or databases. Exchange formatted data easily with partners or colleagues throughout the company and around the world.





The powerful, familiar architecture of Quadra-Chek digital readouts empowers operators during every step of the measurement process.

Architecture



Intuitive displays View measurement data easily on a crisp, clear, bright, black-and-white LCD designed for the contemporary metrology shop floor. Tilt the display for multiple viewing angles.

Consistent user interface Experience a proven interface consistent with other Quadra-Chek products that ensures operator accuracy and reduces operator training time.

Options Get the right tools for the job. Optional remote keypads, footswitches and printers help operators capture the precise measurement data more conveniently while streamlining the work process.

Sound feedback Listen for helpful sound feedback from a powerful built-in speaker. Different sound cues prompt operator action without interrupting work flow, speeding data entry.

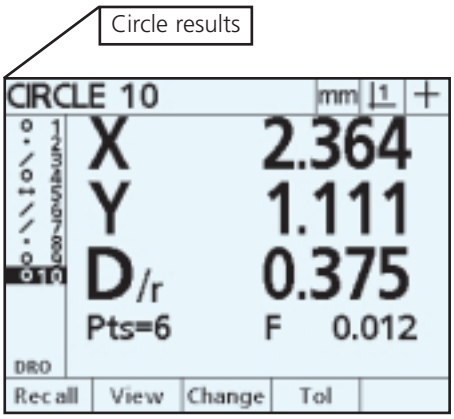
Auto repeat (QC-200) Measure features and print the results on the fly. Improve productivity and recordkeeping, and share information throughout the company and around the world.

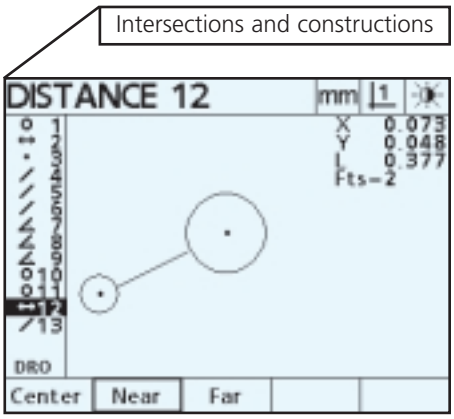
Foreign languages (QC-200) Communicate in five different languages. The QC-200 software accommodates English, Spanish, Italian, German, and French operators.

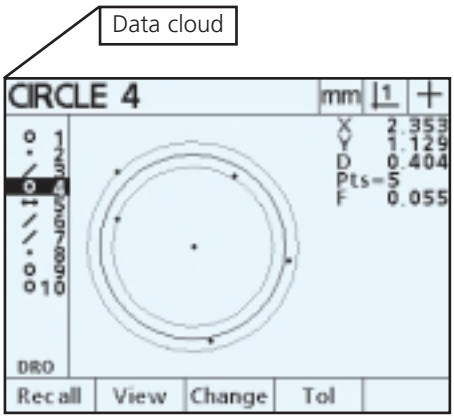
Context-sensitive help (QC-200) Decrease training time and costs with graphics-rich, context sensitive help that guides shop floor personnel through Quadra-Chek interface conventions.

Patented features reduce repetitive measures and simplify complex work steps.

Input and Measurement







Optical edge detection Achieve higher throughput, more accurate measurements, and more consistent data with optical comparators using optical edge detection. Automatic point entry reduces operator subjectivity and fatigue.

4-axis capability (QC-200) Use Quadra-Chek to measure up to four axes per part. Quickly and accurately determine measures for X, Y, Z and Q (an integrated rotational axis for angular measurement).

Measure Magic® To measure, simply probe points and click. Quadra-Chek metrology software detects, without operator intervention, the feature type being measured. With this patented feature, operators can inspect multiple features without taking their eyes off the part which speeds throughput, improves accuracy and reduces user fatigue.

Intersections and constructions (QC-200) Obtain essential intersection and construction results by selecting from the list of previously measured features, complete with graphics.

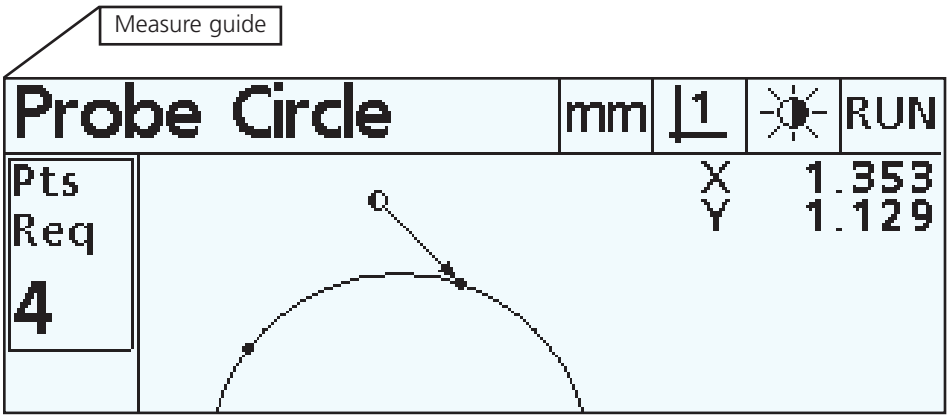
Data cloud (QC-200) Improves the presentation of measurement data with graphic displays of measured features that reinforce operator comprehension by visualizing complex data sets.

Geometric tolerancing (QC-200) Use Quadra-Chek's unique graphic representations to instantly view pass/fail performance details for critical part dimensions.

Results Display important measurement data in an uncluttered, comprehensive display.

Quadra-Chek digital readouts feature an easy-to-use programming interface that helps streamline difficult and repetitive measures.

Programming



Programming Intuitive tools simplify the creation of programs that automate repetitive tasks, reducing subjectivity and enhancing productivity.

Part programming (QC-200) Quickly and easily create, edit and run part programs. Program 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.

Measure guide (QC-200) Visual cues guide each feature measurement of a part, exactly and repeatably, to assure complete and consistent data collection.

Operators can easily format, analyze and communicate measurements throughout the company and around the world.

Data Management and Output

Print output

QC-288 Feature Print Out

Date _____ Time _____
Job _____

NO.	FEATURE	ID	UNITS	POSITION	DIMENS
001	Point	1	mm A IMS	X = 0.688 Y = 1.338	
002	Line	2	mm A IMS	X = 0.975 Y = 0.655	< =
003	Circle	3	mm A IMS	X = 1.168 Y = 0.853	R = d =
004	Distance	4	mm A IMS		X = Y =
005	Line	5	mm A IMS	X = 1.225 Y = 1.168	< =
006	Line	6	mm A IMS	X = 0.888 Y = 0.738	< =

Data management Metronics digital readouts allow operators to easily analyze and communicate measurements throughout the department and the entire organization.

Print output Print measurement results using a serial or parallel printer in an easy-to-read 40- or 80-column format.

Data output Parallel and serial ports make it easy to transfer data to PCs, networks and printers, while the IrDA port can be used to download measurement data to handheld PDAs and notebook computers.

A flexible, compact and precise digital readout for 1- to 4-axis instruments. Ideal for measuring angular or linear dimensions. Can be used with inspection tools including optical comparators, measuring microscopes and coordinate measurement machines.
Shown with optional remote control.

Quadra-Chek 100 Series

Inputs

Up to 4 axes
External connections:
- *Footswitch*
- *Remote keypad*
- *Touch Probe*
- *RS-232C Serial port*
- *Parallel port*

Configurations	110	120	121	130	131
X-axis	■	■	■	■	■
Y-axis		■	■	■	■
Z-axis				■	■
Q-axis			■		■

Specifications

LCD	6" black and white
Display digit size	.5"
Resolution down to	.000004" or .0001mm
Operating temperature	0°C–45°C
Enclosure (W x H x D)	11.5" x 7.5" x 2.75"
Base (W x H x D)	10" x 2" x 7.5"
Enclosure weight	3.5 Lbs.
Base weight	7 Lbs.
Input voltage range	85 VAC–264 VAC
Input frequency	43 Hz–63 Hz

Our original digital readout with a fresh new interface and sleek design. A time-saving measurement tool with patented Measure Magic® technology. Ideal for measuring features of 2D features. Can be used with inspection tools such as optical comparators, measuring microscopes and video systems.

Quadra-Chek 200 Series

Inputs

Up to 4 axes
External connections:
- *Footswitch*
- *Remote keypad*
- *RS-232C Serial port*
- *Parallel port*

Optical edge detection

Configurations	220	220e	221	221e	230	230e	231	231e
X-axis	■	■	■	■	■	■	■	■
Y-axis	■	■	■	■	■	■	■	■
Z-axis					■	■	■	■
Q-axis (Electronic protractor)			■	■			■	■
Optical edge detection		■		■		■		■

Specifications

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Input voltage range	85 VAC–264 VAC
Input frequency	43 Hz–63 Hz

Product comparison

Architecture

	QC-100	QC-200
Display		
Number of digits	9	9
LCD color	B/W	B/W
Digit size	0.45"	0.45"
Auto repeat		■
Context-sensitive help	■	■
IrDA (optional)	■	■
Correction		
LEC	■	■
SLEC	■	■
NLEC (optional)	■	■
Orthagonality	■	■
C-scale (AR, HH)	■	■
Footswitch input	■	■
Remote keypad input	■	■
Sound feedback	■	■
Speaker jack	■	■
Date/time stamp	■	■
Tilt adjustment	■	■
Foreign languages (English, Spanish, Italian, German, and French)	■	■

Inputs

Optical edge detection (optional)	■	■
4-axis	■	■
Touch probe input	■	■

Measurement

	QC-100	QC-200
Point		■
Line		■
Radius		■
Circle		■
Angle (vertex point)		■
Distance		■
Minimum/maximum dist. between features		■
Form information		■
Measure Magic®		■
Data cloud		■
Rotary axis	■	■
Incremental/absolute	■	■
Intersections		■
Constructions		■
Create		■
Preset	■	■
Forward/backward annotation		■
Feature stamp		■
Geometric tolerancing		■

Programming

Part programming		■
Measure Guide		■

Data Management and Output

Output ports		
Parallel	■	■
Serial	■	■
40-column printout	■	■
80-column printout	■	■
Auto print		■
SPC output	■	■


QUADRA-CHEK 200
CIRCLE 5
X
0.1234
Y
0.5678
D/r
10.2008
enter
finish
cancel
quit

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Metrology software

Quadra-Chek 4000 Series 2- through 4-axis Microsoft Windows®-based measurement system for 2D applications.
Quadra-Chek 5000 Series 2- through 4-axis Microsoft Windows®-based measurement system for 3D applications.

Digital readouts

Quadra-Chek 100 Series 1- through 4-axis, 1D digital readouts.
Quadra-Chek 200 Series 2- through 4-axis, 2D geometric readouts.
Quadra-Chek 300 Series 3- and 4-axis, 3D geometric readouts.
Gage-Chek 100 Series 1- to 8-channel, metrology displays.

Automation Kits

Stage Retrofits Bolt-on kits for microscope stages.
Light Control Programmable control of up to eight channels of light sources.
Indexers Stepper indexers to drive rotary stages and motorized zoom lenses.
Stepper amplifiers Closed- or open-loop 2- and 3-axis stepper amplifier controllers with limit switches.

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