

AccuBridge™

Automated Primary Resistance Bridge



- Accuracy 20 ppb
- Resolution: 1 ppb
- Traceable to National Standards
- Touch Screen Display with USB
- RS232 and IEEE488 outputs
- Self Calibration

MODEL INFORMATION

Measurements International (MI) is pleased to introduce the new AccuBridge™

For the last twenty years, the 6010A, 6010B and 6010C have been the preferred primary resistance ratio bridges in national laboratories throughout the world. AccuBridge™ expands on the innovative DCC technology and measurement features of the 6010 series.

The technology for AccuBridge™ is based on new and improved ADCC Technology developed by Measurements International

AccuBridge™ is a practical, RoHS compliant, room temperature Automated Direct Current Comparator (ADCC) Ratio Bridge. It was developed to close the uncertainty gap between the Cryogenic Current Comparator (CCC) and the traditional 6010 series of DCC Ratio Bridges. AccuBridge™ Technology is self calibrating and self aligning. Verification of the ratio is achieved by performing interchange measurements at any ratio. Great care was taken to improve the modern day architecture and performance of all key components.

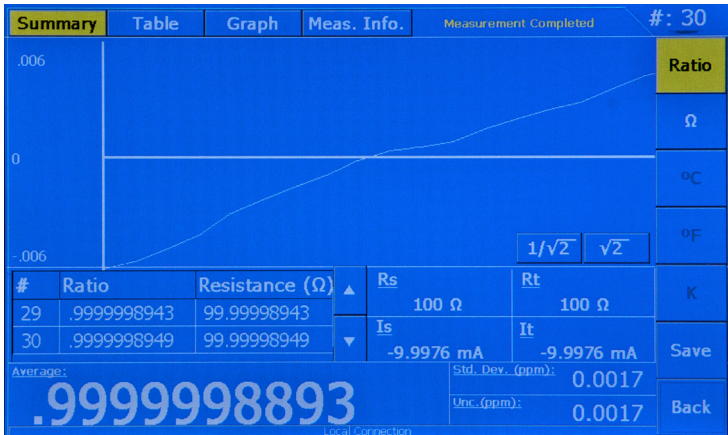
AccuBridge™ will measure resistors up to 100kΩ which allows the user more points in verifying the crossover between AccuBridge™ and the 6000B Four Terminal High Resistance Bridge.

The current comparator in AccuBridge™ achieves a permanent linearity to a few parts in 10^9 with no need for frequent calibration. The instrument measures the ratio of two resistors. Absolute

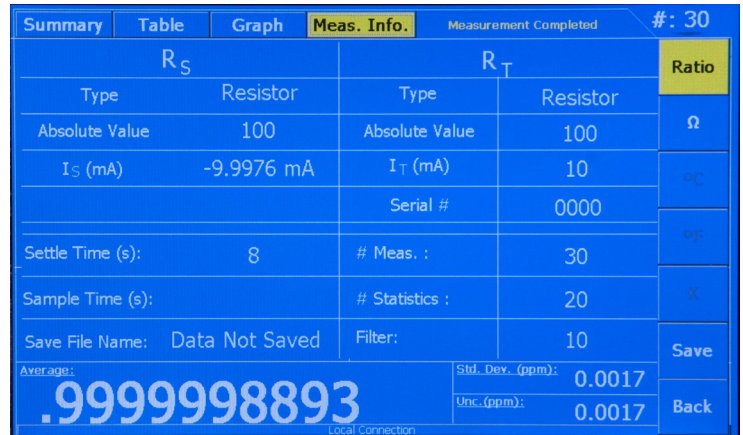
values are determined by entering the value and uncertainty of the standard and measuring the ratio of the known resistor to the unknown resistor (R_x/R_s). To achieve the remarkable accuracy, the range for the 0.02 ppm accuracy in AccuBridge™ is limited from 1 ohms to 13,000 ohms.

Measurements and values can be performed automatically and with Measurements International's Software, delayed or scheduled measurements can all be done at any time.

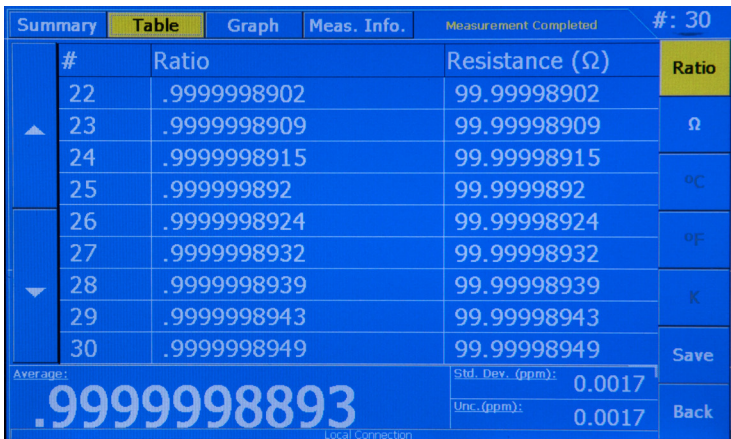
Touch Screen Display:



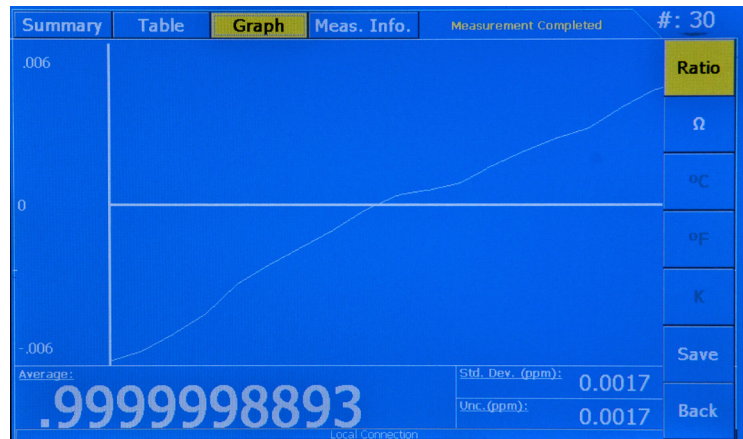
The Summary tab screen displays measurement parameters as well as graphical information for current measurement and can be viewed in ratio or Ohms at any time.



The Measurement Info screen displays measurement parameters such as applied current, number of measurements, reversal rate and value of the standard resistor being used.



The Table screen list is a chronological list of measurement results for ratio and resistance.



The graph screen displays a graphical representation of the individual measurement data plots.

Features:

Reversal Rates	2, 3, 4 to 1000 seconds
Resistor current	10 μ A to 150 mA, $\sqrt{2}$ or $1/\sqrt{2}$ times any value
Bridge balancing modes	Automatic to 0.01 ppm (10 ppb)
Self Check Modes	CAL (Verifies linearity of Bridge to < 0.005 ppm)
USB	Stores all measurement Data (Easily transported to a computer)
RS232	Output
IEEE488	Input/Output

AccuBridge™ Specifications:

Measurement range	0.01 Ω to 100k Ω				
Note: Either Rs or Rx can be selected as standard Uncertainties specified at 2 sigma level (95%) and Includes all secondary specifications such as linearity, noise and ampre turn with a $\pm 2^\circ\text{C}$ temperature variance	Rs or Rx	Ratio Uncertainty			
		0.1:1	1:1	10:1	14:1
	1 Ω	0.02	0.02	0.02	0.02
	10 Ω	0.02	0.02	0.02	0.02
	100 Ω	0.02	0.02	0.02	0.02
	1k Ω	0.02	0.02	0.02	0.02
10k Ω	0.02	0.02	0.02	0.02	
Test Current (full Range):	10 μ A to 150 mA				
Test Current Accuracy:	100 ppm				
Test Current Resolution:	18 bits				
Compliance Voltage:	30 Volts				
Linearity:	0.005 ppm of full scale				
Measurement Time:	90 seconds to full balance/ 4 seconds incremental balance (minimum)				
Display Resolution:	0.001 ppm				

General Specifications:	
IEEE Interface:	488.2 with Standard Code Programmable Interchange (SCPI) Instructions.
Operating Conditions:	10°C to 35°C, 10% to 90% RH non-condensing
Dimensions:	265 x 439 x 380 mm
Weight:	19 kg
Shipping Weight:	23 kg
Operating Power:	100, 120, 220, 240V - 50/60Hz
Temperature Coefficient:	< 0.01 ppm / °C
Warranty	1 Years Parts & Labor

Accessories:

- | | |
|------------------|--|
| 4210, 4216, 4220 | 10, 16 and 20 Channel four terminal matrix scanners |
| Air Resistors | 0.1 to 100M |
| 9210A | MI Type Primary Oil Resistors |
| 9400 | Constant temperature Oil Bath |
| 9300A | Temperature Controlled Air Bath / GPIB |
| SPSCW XX YY | Low thermal Teflon Shielded Cable, 4 conductors, cut to length |



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Data Subject to Change

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