



**Measurements International**

*Metrology is Our Science, Accuracy is Our Business™*

Since 1987

DISCOVER THE  
“BLUE BOX”  
DIFFERENCE

**ELECTRICAL AND TEMPERATURE  
METROLOGY PRODUCTS GUIDE**

## Metrology is our Science, Accuracy in Our Business™

Measurements International (MI) is the world's premier metrology company. MI provides innovative Standards Technology for both the Metrology and AC Power Industries. For the Metrology industry MI designs, develops, and manufactures electrical and temperature metrology instruments using AccuBridge® technology. For the AC power industry MI designs, develops and manufactures high-voltage transformer test instruments, capacitance/Inductance Bridges, voltage dividers, wattmeters and current transformers using the AccuLoss® and two-stage-compensated current transformers. All instruments are manufactured with the highest quality in support of our customer's organization.

The Quantized Hall Resistance Standard is internationally recognized as the representation of the ohm and is the most stable resistance standard known. Many developing countries and industries are finding a need to provide highly accurate, traceable reference standards in support of their leading edge environments. The 6800B system has been developed to meet the needs of National Laboratories and Primary Industrial Laboratories around the world.

Don't be misled by other manufacturers claims.  
Ask for references and consult any NMI in regards  
to modern resistance measurement systems.



### RESISTANCE RATIO BRIDGES

#### 6020Q

##### Automated Resistance Bridge



- Featuring true ratio self calibration
- Self Calibrating Master and Slave Current Source
- Self Calibrating Nanovolt Detector
- Binary wound current comparator
- Range 0.1 to 100 k
- Quantum Hall applications including  $V_{xx}$  (3 terminal Contact Resistance, Dissipation) and  $V_{xy}$  Measurements
- 7" touch screen and USB
- Accuracy  $< 15 \times 10^{-9}$
- Linearity  $< 5 \times 10^{-9}$

#### 6010D

##### Automated Primary Resistance/Thermometry Bridge



- Featuring true ratio self-calibration
- Range 0.001  $\Omega$  to 100 k $\Omega$
- 7" touch screen and USB
- Accuracy  $< 40 \times 10^{-9}$  for 1:1 ratios
- Accuracy  $< 40 \times 10^{-9}$  for 10:1 ratios
- Linearity  $< 5 \times 10^{-9}$
- Binary wound current comparator
- Manual and automatic operation
- Full system solutions and full system integration with 4200 series of Matrix Scanners and 6011 Range Extenders

#### 6242D

##### Automated Secondary Resistance/Temperature Bridge



- Featuring true ratio self calibration
- Range 0.001 to 1G
- 7" touch screen and USB
- Accuracy  $< 10 \times 10^{-8}$  for 1:1 ratios
- Accuracy  $< 10 \times 10^{-8}$  for 10:1 ratios up to 10 k $\Omega$
- Accuracy  $< 7 \times 10^{-6}$  at 100 M $\Omega$
- Linearity  $< 5 \times 10^{-9}$
- Binary wound current comparator
- Manual and Automatic Operation
- Full system solutions and full system integration with 4200 series of Matrix Scanners and 6011 Range Extenders
- Built in 1000 V Source

#### 6800B

##### QHR Turnkey System with Helium re-liquefaction

- Transportable & affordable
- Room temperature direct current comparator (DCC) requires no liquid helium
- Recaptures helium for "zero helium losses"
- Accuracy to  $< 20 \times 10^{-9}$
- Modular turn key system
- Transfer to 1 k and 10 k Resistance Standard
- Built in controller

## HIGHER CURRENT SYSTEMS TO 20,000 AMPS AND BEYOND ARE AVAILABLE

The MI series of 6010 Bridges are used in nearly every NMI around the world as well as the US AirForce, US Army, US Navy and Lockheed's Primary Laboratories for their superior speed and low uncertainties.



**6242/300 or 6010/300**  
Resistance System

- 10  $\mu$ A to 300 A
- Consisting of 6242/300 or 6010/300 self-calibrating system
- Resistance range 0.1  $\mu\Omega$  to 100 G $\Omega$  with 6242D
- Bridge accuracy's as low as  $10 \times 10^{-8}$  with 6242D
- Resistance range 0.1  $\mu\Omega$  to 100 k $\Omega$  with 6010D
- Bridge accuracy's as low as  $50 \times 10^{-9}$  with 6010D
- Linearity  $< 5 \times 10^{-9}$
- Optional 4310 Resistance Standard
- Optional 4200 Series of Scanner
- Complete turnkey system



**6242/3000 or 6010/3000**  
Resistance System

- 10  $\mu$ A to 3000 A, (custom systems to 20,000 Amps and beyond available!)
- Consisting of 6242 or 6010 self-calibrating resistance Bridge
- Resistance range 0.1  $\mu\Omega$  to 1 G $\Omega$  with 6242D
- Bridge accuracy's to  $< 10 \times 10^{-8}$  with 6242D
- Resistance range 0.1  $\mu\Omega$  to 100 k $\Omega$  with 6010D
- Bridge accuracy's to  $< 50 \times 10^{-9}$  with 6010D
- Linearity  $< 5 \times 10^{-9}$
- Optional 4310 Resistance Standard
- Optional 4200 Series of Scanner
- Complete turnkey system



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## DCCT CALIBRATION SYSTEMS

- Currents to 3000A and higher
- Modular Design, Expandable Capabilities
- Ratio Ranges from 10 to 1,000,000
- Resistance and Temperature Curves
- Temperature Coefficient of Resistors
- Complete Turn Key System
- No coefficients to correct hardware errors
- Proven Technology
- Linearity < 0.01 ppm
- Complete Measurement Systems Available

### 6010D/3000A DCCT Calibration System

### 6300/3000A DCCT Calibration System



**Ability to Measure all types of DCCT**  
**Two system option available DCC Bridge and 2 DVM Measurement Method**  
**Modular designed base unit with expanded capabilities to 3000 Amps.**

Measurements International's (MI) series of DCCT Measurement Systems offers the best accuracy and lowest uncertainty of any commercial system available on the market today. The MI high current range extenders expand the measuring capabilities of the MI model 6010 and MI model 6242 to measure lower resistance values at higher currents with accredited uncertainties <20 ppm@10 uΩ to 0.1 ppm @ 1Ω and 0.1 ppm.

Measurements International is the original manufacturer of the automated Resistance Measurement System. With the most current comparator experience in the industry, Measurements International DCCT measurement systems are designed using sound metrology principles. MIL has world class expertise in both DC Resistance Metrology for National Measurement Institutes (NMI's), Primary and Calibration laboratories who need to achieve the lowest possible certified / traceable uncertainty in their calibration equipment.

### **Most notable customers include CERN and IHEP.**

As your Accreditation partner and global support partner MIL offers leading product knowledge and applications expertise through coaching, system design, implementation, calibration services and ongoing expert support, that assures your competitive advantage with all your MI Products.

**At MIL, it's not only about the equipment or the science....It's about what that will enable you to do, and the ease with which you can do it.**

The new series of DCCT measurement systems are the only self calibrating bridge systems which use a full 25 bit binary wound DCC Comparator. Self calibration of the comparator can be verified using the interchange technique when calibrating resistors. The 6010 and 6242 series bridges are commonly being used globally to calibrate resistors and shunts as well as other manufacturer's bridges and shunt measurement systems.

The MI 6010 and 6242 series of DCCT Measurement Systems provide the widest range with lowest uncertainty of any manufacturer. The reversing switch has the advantage that the systematic error due to current mismatch between the positive current and the negative current amplitudes is negligible. MI is the ONLY manufacturer that provides this.

## MI CALIBRATION SERVICES

### DC Measurements

- ISO/IEC 17025 Accredited calibration service
- Direct traceability to NRC, NIST, NPL UK and METAS
- Lowest uncertainty levels for resistance calibration from 1  $\mu\Omega$  To 1 P $\Omega$
- Four different calibration methods available depending on the standard
- Fast and reliable turnaround time
- Email us at [sales@mintl.com](mailto:sales@mintl.com) with your inquiry

### AC Calibration Service

- Power and Energy up to 240V, 5A
- High Voltage Capacitors
- AC Voltages to 100 kV
- AC Currents to 2000 A
- High Voltage Divider Calibration
- Current Transformer Calibration
- PD calibration to 250 kV

#### Certificate of Accreditation



ACCREDITED CALIBRATION LABORATORY  
For specific measurement capabilities which are  
hereby CERTIFIED by CLAS

NRC CLAS Certificate No. 2004-01

## HIGH RESISTANCE BRIDGES

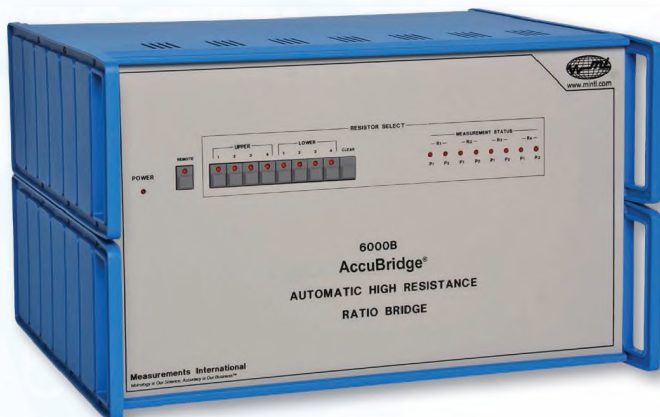
### 6652A - Premium High Resistance Meter

- Range: 100 k to 1 P
- Automatic Scanner Control
- Any Ratio up to 100:1
- Voltage and Current Measurements
- Surface and Volume Resistivity Measurements
- 10 V to 1000 V Variable Voltage Output



### 6652A - Base High Resistance Meter

- 100 k to 100 T Variable Voltage output
- Auto Ranging
- Establish Voltage Coefficients
- Graphical Display
- Simple Calibration
- Low Cost of Ownership



### 6000B

#### Automated Primary High Resistance Bridge

- Featuring true ratio self-calibration
- Range 10 k $\Omega$  to 1 T $\Omega$
- Built in 4 channel matrix scanner
- Accuracy < 20 x 10<sup>-9</sup> for 10 k $\Omega$  ratios
- Accuracy < 0.5 x 10<sup>-6</sup> for 100 M $\Omega$
- Linearity < 5 x 10<sup>-9</sup>
- Full system solutions and full system integration using MI 1000B 110 V Source, 6000B software and 4200 series of Matrix Scanners



### 6600A

#### Dual Source High Resistance Bridge

- Based on NMI Design
- Resistance Range: 100 k $\Omega$  to 10 P $\Omega$
- More Accurate than Teraohmmeters
- Logging, Graphing and Measurement Analysis
- Automatic Operation
- Bridge Measurement Mode
- Direct Measurement Mode



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## THERMOMETRY BRIDGES

NEW



### 6020T - Premium

Automated Thermometry Bridge - 4:1 Ratio

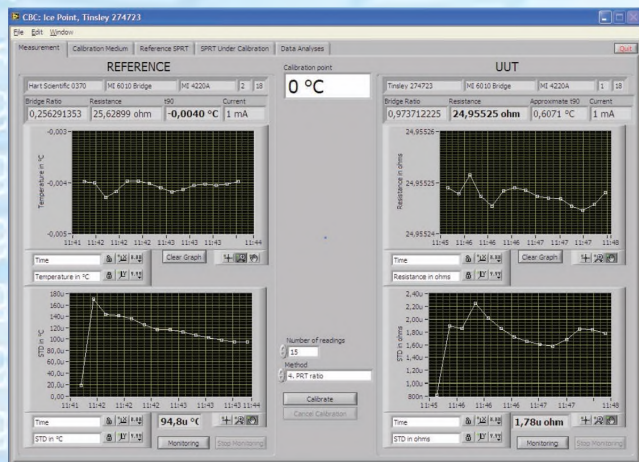
- 0.1  $\Omega$  to 100 k $\Omega$  range
- Front panel channel scanner
- Accuracy <  $15 \times 10^{-9}$
- Linearity <  $5 \times 10^{-9}$
- IEEE488 and manual operation
- Accu-T-Cal™ Software for calibrating PRT's
- Keep warm currents

### 6020T - Base

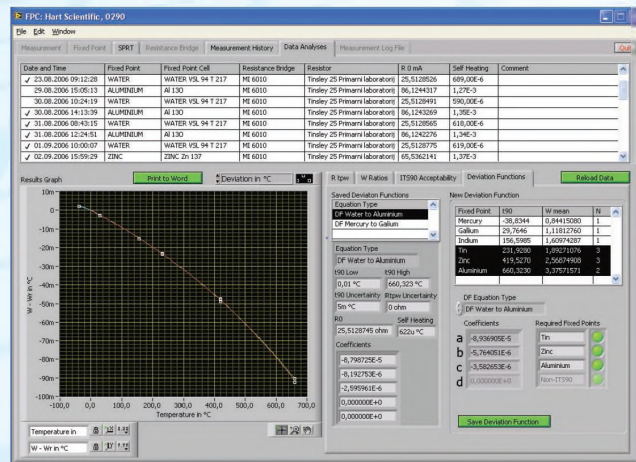
Automatic Temperature Secondary Bridge - 13:1 Ratio

- 0.1  $\Omega$  to 100 k $\Omega$  range
- Front panel 6 channel scanner
- Best Accuracy <  $7 \times 10^{-8}$
- Linearity <  $5 \times 10^{-9}$
- IEEE488 and manual operation
- Accu-T-Cal™ Software for calibrating PRT's
- Keep warm currents

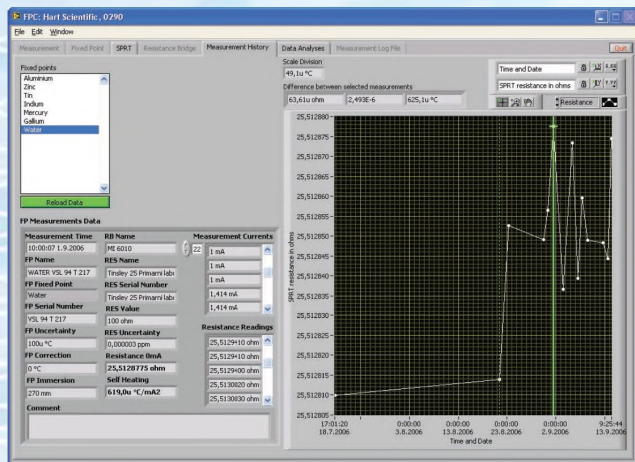
## Accu-T-Cal™ Operating Software



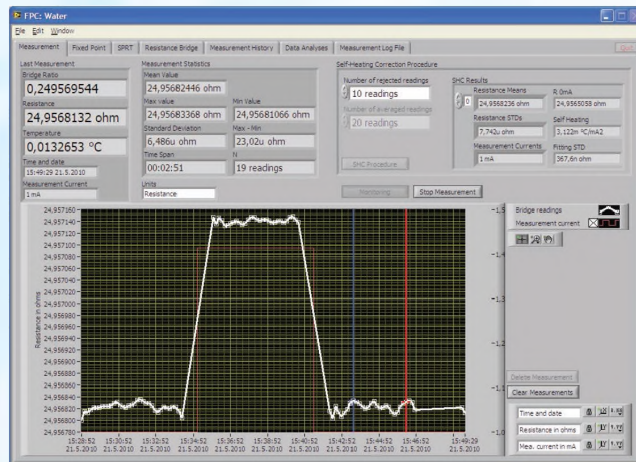
Measurement Screen



Data Analyses



100  $\Omega$  to 25  $\Omega$  Summary



100  $\Omega$  to 25  $\Omega$  Meas. Info

NEW



## Z1000

iSimulator Impedance Simulator

### First automatic solution for calibration of LCR Meter

- Impedance Module range: 1  $\Omega$  to 100 M $\Omega$
- Impedance Phase range: -90° to 90°
- Frequency Range: 1 Hz to 20 kHz
- 3 probes
- Fully Automated Control
- Full combined uncertainty calculation included
- Calibration of LCR Meters
- Developed by METAS

***“The iSimulator is a significant breakthrough in the calibration of impedance meters. In the past, the LCR meter calibration required a large set of difference standards, which were manually connected. Finally, it is possible to carry out fully automated calibration that covers the whole complex plane with only one instrument”***

NEW



## 1330A

Transfer Standard

\*Prototype Shown

- Calibrator Calibration
- DMM Calibration
- 1  $\Omega$ , 10 k $\Omega$ , 10 V
- 1  $\Omega$  Resistance drift < 0.2 x 10<sup>-6</sup>/year
- 1  $\Omega$  Temperature Coefficient < 0.05 x 10<sup>-6</sup>/°C
- 10 k $\Omega$  Resistance drift < 0.2 x 10<sup>-6</sup>/year
- 10 k $\Omega$  Temperature Coefficient < 0.2 x 10<sup>-6</sup>/°C
- Voltage drift < 3 x 10<sup>-6</sup>/year
- Standards temperature variable from 18 °C to 25 °C
- Temperature stability < 0.05 °C
- Calibration value history internally stored
- Actual value extrapolation available for self alignment
- Output connector temperature controlled
- Local and remote control for automatic calibration
- Software available
- Industry standard method
- Developed by INRiM



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## SCANNERS

### 4210A

**10-Channel Four-terminal Matrix Scanner**  
Tellurium-Copper Terminals OR 4-Conductor  
Teflon Cable



- 10 four-terminal tellurium-copper inputs
- 2 four-terminal tellurium-copper outputs
- Sealed relays
- 2 A carrying current
- 250 Volts
- Error contribution < 20 nV
- Insulation resistance  $10^{14} \Omega$
- Front panel or IEEE operation

### 4220A

**20-Channel Four-terminal Matrix Scanner**  
Tellurium-Copper Terminals OR 4-Conductor  
Teflon Cable



- 20 four-terminal tellurium-copper inputs
- 2 four-terminal tellurium-copper outputs
- Sealed relays
- 2 A carrying current
- 250 Volts
- Error contribution < 20 nV
- Insulation resistance  $10^{14} \Omega$
- Front panel or IEEE operation

## HIGH RESISTANCE SCANNERS

### 4610A

**High Resistance Coaxial  
Matrix Scanner**



- 10 Two-terminal Channels
- N-Type Connections
- Front Panel or Remote Operations
- Maximum 1000 V DC
- Resistance Measurements to 10 P $\Omega$
- Insulation Resistance >  $10^{16} \Omega$

### 4620A

**High Resistance Coaxial  
Matrix Scanner**



- 20 Two-terminal Channels
- N-Type Connections
- Front Panel or Remote Operations
- Maximum 1000 V DC
- Resistance Measurements to 10 P $\Omega$
- Insulation Resistance >  $10^{16} \Omega$

## RANGE EXTENDERS AND POWER SUPPLIES



### 6011D/150/300

**300 A Range Extender and Power Supply**

- 150 and 300 amp capability
- Automatic Range Selection
- 10:1, 100:1, 1000:1, 10,000:1 Ratios
- 10:1, 100:1, 1000:1 Ratio Accuracy <  $0.2 \times 10^{-6}$
- 10,000:1, 100,000:1, 1,000,000:1 Ratio Accuracy <  $1 \times 10^{-6}$
- Self-balancing
- For use with the Self-calibrating 6010D or 6242D Resistance Ratio Bridge
- Built-in Reversing Switch
- IEEE488 or manual operation

### 6011D/1000/3000/5000

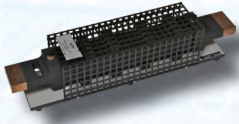
**3000 A Range Extender and Power Supply**

- Shielded Rack
- Automatic Range Selection
- 10:1, 100:1, 1000:1, 10,000:1, 100,000:1, 1,000,000:1 Ratios
- 10:1, 100:1, 1000:1 Ratio Accuracy <  $0.3 \times 10^{-6}$
- 10,000:1, 100,000:1, 1,000,000:1 Ratio Accuracy <  $1 \times 10^{-6}$
- Self-balancing
- For use with the Self-calibrating 6010D or 6242D Resistance Ratio Bridge
- Built-in Reversing Switch for High Currents
- IEEE488 or manual operation

## HIGH CURRENT RESISTORS AND SHUNTS

### 9332

Series of High Current Resistors from 10 A to 3000 A with Optional Air Moving Fans



- Based on NMI Design with controlled current distribution
- Stability  $< 10 \times 10^{-6}$  long term
- Air or oil cooled applications
- Special values available on request
- Implanted thermocouples
- Improved power dissipation

### 9311A

Multiple Value Resistor Shunt



- Current Ranges
- 0.1 mA to 300 A
- Accuracy to  $< 0.01\%$
- Improved temperature coefficient
- $< \text{Temperature coefficient } 3 \times 10^{-6}/^{\circ}\text{C}$
- Rack or bench top

## PRIMARY OIL RESISTORS 0.1 $\Omega$ TO 100 k $\Omega$

### 9210A-1 (Primary)

1  $\Omega$  Resistor with Carrying Case



- Replacement for Thomas 1  $\Omega$
- Temperature Coefficient  $< 0.05 \times 10^{-6}/^{\circ}\text{C}$
- Long term drift  $< 0.2 \times 10^{-6}/\text{year}$
- No pressure coefficient
- Maximum dissipation 100 mW
- Highest performance dissipation 10 mW

### 9210A- 0.1 A (Primary)

0.1  $\Omega$  Resistor with Carrying Case



- Temperature Coefficient  $< 0.05 \times 10^{-6}/^{\circ}\text{C}$
- Long term drift  $< 0.2 \times 10^{-6}/\text{year}$
- No pressure coefficient
- Maximum dissipation 100 mW
- Highest performance dissipation 10 mW

### 9210B (Primary)

Decade Values 1  $\Omega$ , 10  $\Omega$ , 100  $\Omega$ , 1 k $\Omega$ , 10 k $\Omega$ , 100 k $\Omega$  With optional Carrying Case



- Temperature Coefficient  $< 2 \times 10^{-7}/^{\circ}\text{C}$
- Long term drift  $< 2 \times 10^{-7}/\text{year}$
- Low pressure coefficient
- Maximum dissipation 300 mW
- Highest performance dissipation 10 mW

**Well designed! The most accurate result can be achieved with minimized temperature coefficient, pressure coefficient and power effects in the measurement!**

## AIR RESISTORS



### 9331R

High Stability Reference Resistors

- 1  $\Omega$  To 100 k $\Omega$
- Operating Range of 18  $^{\circ}\text{C}$  to 28  $^{\circ}\text{C}$
- Custom Values Available
- Metal Foil Technology
- Ultra Low Temperature Coefficient



### 9331 (Secondary)

Series of Four Terminal Air Resistors from 1 m $\Omega$  To 100 M $\Omega$  With Optional Carrying Case

- Resistance range 1 m $\Omega$  to 100 M $\Omega$
- Wide operating range 18  $^{\circ}\text{C}$  to 28  $^{\circ}\text{C}$
- 12 month stabilities as low as  $2 \times 10^{-6}$
- Nominal initial accuracy  $< 2 \times 10^{-6}$
- Temperature coefficients  $< 0.4 \times 10^{-6}/^{\circ}\text{C}$
- Special values available on request



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## OIL BATHS



### 9400 Series

#### Standard Resistor Oil Bath

75 Liters

- Designed for use with cryogenic current comparator
- Electrical and audibly quiet operation
- Stability and uniformity < 2 mK
- Temperature band protection
- Peltier cooled
- Adjustable stir speed
- Pressure option
- IEEE488 & RS232
- Interfaces to 6010, 6242 & 6000B for automatic measurements of temperature coefficients using MI software

## AIR BATHS

### 9300

#### Temperature Controlled Standard Resistor Air Bath



- Stability and uniformity < 50 mK
- Large working area
- Temperature band protection
- Peltier cooled
- Light weight and portable
- Temperature range 15 °C to 40 °C

### 9300A

#### Temperature Controlled Standard Resistor Air Bath with GPIB



- Stability and uniformity < 15 mK
- Large working area (4 SR104's)
- Temperature band protection
- Peltier cooled
- Stainless steel construction
- Temperature range 15°C to 40°C
- IEEE488
- Interfaces to 6010, 6242 & 6000B for automatic measurements of temperature coefficients using MI software.

MEASURED: 23.001 C  
SET: 23.000 C

## TEMPERATURE CONTROLLED RESISTANCE STANDARDS

### 4304 (4 to 6 Elements)

#### Temperature Controlled Standard Resistor Air Bath



- Battery Backup
- 1 Ω, 10 kΩ, 1 MΩ & 100 MΩ Values
- Stability <  $2 \times 10^{-6}$ /year
- Temperature coefficient <  $0.005 \times 10^{-6}$
- Temperature regulation  $\pm 0.01^\circ\text{C}/\text{year}$
- Other values available upon request
- Eliminates oil bath requirement

**Best in the class with its proven stability, and excellent performance for the applications of being as a transfer standard or working under the rugged condition!**

### 4310 (10 Element)

#### Temperature Controlled Fixed Resistance Standard



- 6 to 10 decade values available (0.1 Ω to 100 MΩ)
- Thermometry values available
- Four-terminal connections
- Stability <  $2 \times 10^{-6}$ /year
- Temperature coefficient <  $0.005 \times 10^{-6}/^\circ\text{C}$
- Temperature regulation  $\pm 0.01^\circ\text{C}/\text{year}$
- Eliminates oil bath requirement

### 4310HR

#### Temperature Controlled Fixed Resistance Standard



- 100 MΩ to 10 TΩ or 1 GΩ to 100 TΩ
- N-type connectors
- Temperature coefficient  $\pm 0.2 \text{ PPM}/^\circ\text{C}$
- Eliminates air bath requirements
- Ambient temperature range:  $23^\circ\text{C} \pm 5^\circ\text{C}$
- Temperature regulation:  $\pm 0.01^\circ\text{C}/\text{year}$
- Temperature coefficient  $\pm 0.2 \text{ PPM}/^\circ\text{C}$
- Guarded resistance element chamber

### 8000/8001B Automated Measurement System



- Full “Turnkey” Automated Systems Available
- Accuracy  $< 0.05 \times 10^{-6}$
- Linearity  $< 0.01 \times 10^{-6}$
- Bipolar voltage measurements
- Ranges of 10 V, 30 V, 120 V, 300 V and 1200 V
- Calibration of Fluke 5700 Series calibrators
- Linearity calibration of 8.5 digit DMM's

#### 8000B (10V)

##### Automated Potentiometer



- Built-in 20-channel scanner
- Interfaces to 4200 Series of Scanners for additional channels
- Bipolar Voltage Measurements
- Accuracy  $< 0.05 \times 10^{-6}$
- Linearity  $< 0.01 \times 10^{-6}$
- Standard Cell Protection
- Voltage maintenance programs
- Range to 10 volts
- Windows system operating software

#### 8001B (10V)

##### Automated Potentiometer



- Calibrate the calibrator
- 30 V, 120 V, 300 V and 1200 V ranges
- Accuracy  $< 1$  PPM
- Self-calibrating using 8000B
- Bipolar voltage measurements
- Optional lab temperature, humidity and pressure monitoring

#### 8000B RVB

##### Ratio Verification Box



- Required for verifications of 8000B to 0.02 PPM

The Model 8000B is a highly versatile, accurate, self-balancing instrument that meets laboratory requirements for scaling between 10-volt references or any voltage between 1 mV to 10 V. Automatic self-calibration ensures ratios to nine significant digits with linearity deviations of less than 0.02 ppm. The Model 8000B has a 20-channel “built-in” scanner addressed individually via the operating software for performing automatic measurements. Both hardware and software standard cell protection circuits are built in.

The Model 8000B's range can be extended to 1200 V with Measurements International's precision divider extender (Model 8001B). Latest development HW and SW features of 8000B allows fully automated bipolar measurements without manual intervention. In combination with model 8001B extender this brings full automation of DCV ranges calibration and linearity verification of multifunction calibrators and long scale DVM's at range up to  $\pm 1200$  V.



1987

Measurements International (MI) is founded. Developed Four-terminal Automated Resistance Scanner Model 4220A

1990

Developed first commercial Automated Potentiometer based on the Binary Voltage Divider Technology (BVD), Model 8000A Range 1 mV to 10V Accuracy  $< 5 \times 10^{-8}$

1992

Develops first commercial automated Direct Current Comparator Resistance Bridge (DCC) Model 6010A, Range 1  $\Omega$  to 10 k  $\Omega$ , Accuracy  $10^{-7}$

1993

Developed first commercial automated High Resistance Bridge for the measurement of resistors. Range 10 k  $\Omega$  to 100 M  $\Omega$ , Accuracy  $10^{-6}$

1993

MI USA was founded

1997

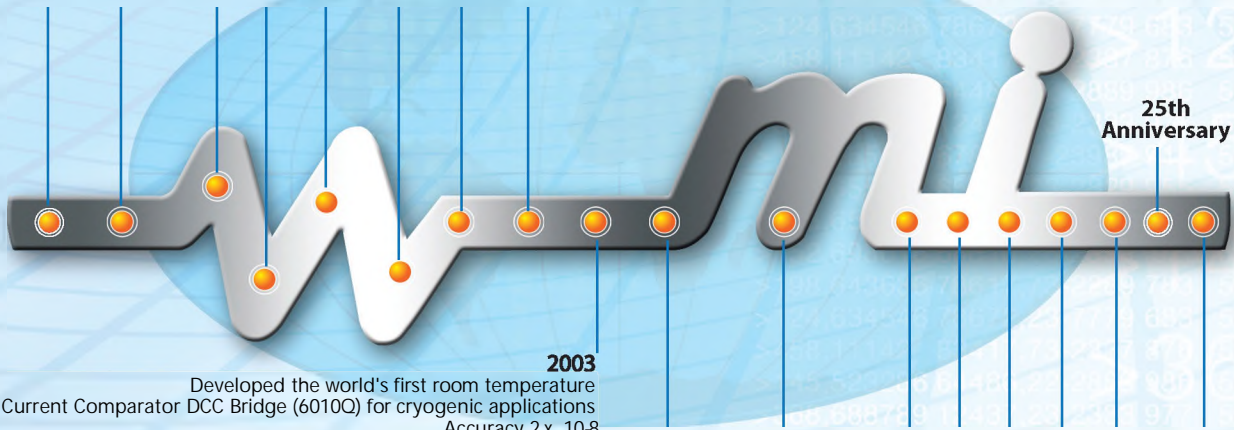
Re-develops DCC Technology which resulted in the world famous 6010B Resistance Bridge from 0.001  $\Omega$  to 10 k  $\Omega$ , Accuracy  $10^{-7}$

1998

Develops 20,000 A Direct Current Comparator for the LHC at CERN

2002

Develops the world's first and only portable cryogenic QUANT (QHR) System Model 6800A Accuracy  $1 \times 10^{-8}$



25th Anniversary

2003

Developed the world's first room temperature Direct Current Comparator DCC Bridge (6010Q) for cryogenic applications Accuracy  $2 \times 10^{-8}$

2005

Develops first commercial automated High Resistance Bridge based on the binary voltage divider technology to 100 V, Model 6000B Accuracy  $2 \times 10^{-8}$   
MI Europe was founded

2006

Develops first self calibrating Direct Current Comparator Ratio Bridge. Model 6242B with touch screen display Range 1  $\Omega$  to 100 M  $\Omega$  Accuracy  $5 \times 10^{-8}$

2008

Develops world's first AccuBridge® Technology DCC Resistance Bridge with complete self calibration Range 0.1  $\Omega$  to 100  $\Omega$  Accuracy  $2 \times 10^{-8}$

2009

Develops first commercial Dual Source Bridge Technology for the measurement of high value resistors Range 10 k  $\Omega$  to 100 T  $\Omega$  Voltage 1V to 1000 V

2010

MI China was founded  
Develops first automated Direct Current Comparator Resistance Bridge Model 6010D with touchscreen display Range 0.01  $\Omega$  to 100 k  $\Omega$ , Accuracy  $4 \times 10^{-8}$

2011

Develops first automated high current 3000A Direct Current Comparator DCC Shunt Measurement System Ratio 1,000,000:1

2013

Developed first benchtop High Resistance Bridge

2016

AccuBridge® line introduced as the improved next generation of MI Bridges



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Ihr Vertriebspartner:



**CALPLUS**  
Die Kompetenz in der Messtechnik

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