Measurements International

Metrology is Our Science, Accuracy is Our Business™

6600A DUAL SOURCE HIGH RESISTANCE BRIDGE

Developed & designed by metrologists for metrologists & calibration technicians

6600A-10 kV System shown with optional 10 kV extender and 10-channel scanner

Featuring

- Based on proven NMI Design
- Range: 100 kΩ to 20 PΩ
- Voltages: 1 V to 1000 V (10 000 V Optional)
- Automatic and Manual Operation
- Not Affected by Temperature Change
- 10 000 V Extender (optional)
- 10 Channel Coaxial Matrix Scanners (Optional)
- Environmental & Pressure Monitoring (Optional)
- Ratio 1:1, 10:1, 100:1, 1000:1
- Multiple Modes of Operation

Overview

Measurements International (MI), in keeping with "Metrology is our Science, Accuracy is our Business™", has introduced the first commercially available Automated Dual Source High Resistance Bridge. This principle has become the primary measurement technique of all National Measurement Laboratories (NMIs) worldwide due to its unprecedented accuracy and stability over various other methods. Multiple modes of operation in the 6600A allow users to make resistance measurements differently.

Feature	Benefit
Only true ratio bridge mode for direct comparison of high resistance standards.	Customers get the very best in commercially available technology.
Offers only high resistance bridge with any voltage between 0 V and 1000 V.	Customers are no longer limited to selected voltage through resistors.
Offers any ratio up to 1000:1.	Users can fully use any ratio up to 1000:1 and are not limited in ratio.
Voltages can be extended to 10 000 V.	Allows users to extend voltage range beyond 1000 V up to 10 000 V.
Based on NMI chosen technology.	Gives users the ability to use leading edge highest precision measurement technology.

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Specifications: Rev 6

6600A Specifications[1,4]				
Resistance Measurement		Live Ratio Mode Uncertainty[2] (ppm)		Direct Measurement[3]
Range	Applied Voltage	1:1 & 10:1 Ratios	100:1 Ratio	
100 kΩ to 1 MΩ	1 V to 100 V	< 7	< 20	100
1 MΩ to 10 MΩ	1 V to 100 V	< 7	< 20	50
10 MΩ to 100 MΩ	10 V to 1000 V	< 7	< 20	50
100 MΩ to 1 GΩ	10 V to 1000 V	< 7	< 20	50
1 GΩ to 10 GΩ	10 V to 1000 V	< 7	< 20	100
10 GΩ to 100 GΩ	100 V to 1000 V	< 12	< 40	100
100 GΩ to 1 TΩ	100 V to 1000 V	< 20	< 50	500
1 TΩ to 10 TΩ	100 V to 1000 V	< 100	< 250	1,000
10 TΩ to 100 TΩ	100 V to 1000 V	< 500	< 1,000	1,500
100 TΩ to 1 PΩ	1000 V	< 1,000	< 10,000	10,000
1 PΩ to 20 PΩ	1000 V to 10 000 V	< 15,000	< 50,000	100,000

1. Uncertainty Confidence Level: 95 %
2. Ratio mode uncertainty does not include uncertainty of reference resistor (Results of calibration with model 8000B).
3. 12 month uncertainties relative to calibration standards used.
4. Specifications do not include settle time, dielectric or voltage coefficient etc. for the resistor being measured.

Additional Capabilities

Voltage Generation				Current Measurement			
Range	Resolution	24 Hour ppm	1 Year ppm	Amps Range	Resolution	Accuracy ±,%,rdg 18 °C - 28 °C, 1 Year	Temperature Coefficient ±,%,rdg/°C
2 - 20.2 V	10 µV	2	10	20 pA	100 aA	1	0.1
0 - 202 V	100 µV	2	10	200 pA	1 fA	1	0.1
200 - 1025 V	1 mV	2	10	2 nA	10 fA	0.2	0.1
				20 nA	100 fA	0.2	0.03
				200 nA	1 pA	0.2	0.03
				200 µA	1000 pA	0.1	0.005

General Specifications

Resistance Mode	Current Mode	Power	Temperature	Relative Humidity	Warm-Up	Connection
10^5 to 10^{15} Ω	20 pA to 20 mA	450 W	Operating 23°C ± 5°C Storage - 5 °C to + 60 °C	< 80 % to 30 °C < 70 % to 40 °C < 40 % to 50 °C	10 minutes	N-Type Connectors

Dimensions (L × W × H):
737 x 813 x 1016 (mm)

Weight:
250 kg

Shipping Weight:
270 kg

Mains Power:
100, 120, 220, 240 V_{ac}, 50/60 Hz

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