Measurements International

Metrology is Our Science, Accuracy is Our Business™

ACCUBRIDGE® 6020Q QUANTUM HALL RATIO/RESISTANCE BRIDGE

Quantum Hall Ratio/Resistance Bridge

Featuring

- NEW Current Algorithm following CCC methodology.
- NEW Zero-filter option
- NEW Microcontroller
- NEW Capacitive touchscreen and user interface
- LEMO connectors for resistor connections
- Quantum Hall Applications Including Gallium Arsenide and Graphene Sample Measurements
- Vcr, Vxx, and Vxy Measurements
- Self-calibration of the Binary Wound Current Comparator (27-bit) plus Nanovolt
- Detector Reading
- Maximum Ratio 14:1
- Resistance Range 0.1 Ω to 100 kΩ
- Capacitive 7” Touchscreen
- Best Accuracy < 0.015 μΩ/Ω
- IEEE-488.2 standard

Feature	Benefit
DCCT based.	Provides excellent stability and range linearity.
Vcr, Vxx and Vxy measurements.	Supports dissipation and contact resistance checks.
Accuracy < 0.015 μΩ/Ω	Allows sub-ppm high-stability measurements.
Maximum Ratio 14:1	Wide ratio range to cover laboratory standards and $R_K/2$
National lab continuity.	The only commercially available QHR resistance bridge used in primary or national laboratories worldwide.
Full DCC resistance range.	0.1 Ω to 100 kΩ.
Stable low currents.	1 μA to 200 mA ensures ultra-low noise measurements.

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Specifications: Rev 8

Resistance Measurement 0.1 Ω to 100 kΩ			
Range (1:1 Ratio)	**Uncertainty (μΩ/Ω)**	**Range (1:10 Ratio)**	**Uncertainty (μΩ/Ω)**
0.1 Ω to 0:1 Ω	0.15	0.1 Ω to 1 Ω	0.1
1 Ω to 1 Ω	0.015	1 Ω to 10 Ω	0.015
10 Ω to 10 Ω	0.015	10 Ω to 100 Ω	0.015
100 Ω to 100 Ω	0.015	100 Ω to 1 kΩ	0.015
1 kΩ to 1 kΩ	0.015	1 kΩ to 10 kΩ	0.015
10 kΩ to 10 kΩ	0.5	1 kΩ to 12.9 kΩ	0.015
		10 kΩ to 100 kΩ	0.05

1. As a ratio device the accuracy specifications can be improved upon based on your standards and environmental conditions.
2. Ratio bridge where the ratio accuracies can be verified at anytime using the interchange technique method for 1:1 ratio measurements with the following equation re=(Ra-1/Rb)/2
3. Uncertainties follow GUM at 2 sigma level (95%) along with the degrees of freedom

Measurement Mode	4-wire
Linearity	< 0.005 x 10^{-6} of full-scale
Operating Conditions	10 °C to 35 °C, 10 % to 90 % RH non-condensing
Test Current Range	1 μA to 200 mA
Test Current Resolution	18-bit
Interface	IEEE-488
Display	Touchscreen display (no external keyboard), resolution 0.001 x 10^{-6}

Dimensions (L × W × H):
438 × 406 × 267 (mm)

Weight:
19 kg

Shipping Weight:
23 kg

Mains Power:
100 V_{ac}/120 V_{ac}/220 V_{ac}/240 V_{ac}
50/60 Hz
200 VA (maximum)

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