



ACCUBRIDGE® 6020Q QUANTUM HALL RATIO/RESISTANCE BRIDGE

Quantum Hall Ratio/Resistance Bridge



Featuring

- ▶ Range 0.1 Ω to 100 k Ω
- ▶ Best Accuracy < 0.015 $\mu\Omega/\Omega$
- ▶ NEW Current Algorithm following CCC methodology.
- ▶ NEW Zero-filter option
- ▶ NEW Microcontroller
- ▶ NEW Capacitive touchscreen and user interface
- ▶ Quantum Hall Applications Including Gallium Arsenide and Graphene Sample Measurements
- ▶ V_{cr}, V_{xx}, and V_{xy} Measurements
- ▶ Self-calibration of the Binary Wound Current Comparator (27-bit) plus Nanovolt
- ▶ Detector Reading
- ▶ Maximum Ratio 14:1
- ▶ Capacitive 7" Touchscreen
- ▶ IEEE-488.2 standard

Feature	Benefit
DCCT based.	Provides excellent stability and range linearity.
V _{cr} , V _{xx} and V _{xy} measurements.	Supports dissipation and contact resistance checks.
Accuracy < 0.015 $\mu\Omega/\Omega$	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 k Ω .
Stable low currents.	1 μ A to 200 mA ensures ultra-low noise measurements.



Measurements International

Metrology is Our Science, Accuracy is Our Business™

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Specifications: Rev 9

Resistance Measurement 0.1 Ω to 13 k Ω			
Range (1:1 Ratio)	Uncertainty ($\mu\Omega/\Omega$)	Range (1:10 Ratio)	Uncertainty ($\mu\Omega/\Omega$)
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 k Ω	0.015
1 k Ω to 1 k Ω	0.015	1 k Ω to 10 k Ω	0.015
10 k Ω to 10 k Ω	0.5	1 k Ω to 12.9 k Ω	0.015

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 $r_e = (R_a - 1/R_b)/2$
3. Uncertainties follow GUM at 2 sigma level (95%) along with the degrees of freedom

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

Dimensions (L x W x H):
438 x 406 x 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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