

SPECIFICATIONS

VOLTAGE

RANGE	RESOLUTION	TEMPERATURE COEFFICIENT	
		ACCURACY (1 YEAR) 18°-28°C ± (%rdg + digits)	0°-18°C & 28°-35°C ± (%rdg + digits)/°C
0.2V	10 μV	0.08% + 2d*	0.005% + 2 d
2 V	100 μV	0.08% + 1d	0.005% + 0.2d
20 V	1mV	0.08% + 1d	0.005% + 0.1d

*When properly zeroed.

NMRR: Greater than 60dB at 50Hz and 60Hz.

CMRR: Greater than 120dB at DC, 50Hz and 60Hz.

INPUT IMPEDANCE: Greater than 5×10^{13} in parallel with 20pF.

MAXIMUM OVERLOAD: 350V peak.

CURRENT

RANGE	RESOLUTION	TEMPERATURE COEFFICIENT		MAXIMUM SUPPRESSION
		ACCURACY (1 YR.) 18°-28°C ± (%rdg + digits)	0°-18°C & 28°-35°C ± (%rdg + digits)/°C	
20pA	10fA	1.5% + 5d*	0.1 % + 1 d	± 20pA
200pA	100fA	1.5% + 3d	0.1 % + 0.3d	± 200pA
2000pA	1pA	1.5% + 1d	0.1 % + 0.3d	± 200pA
20nA	10pA	0.5% + 2d	0.02% + 0.3d	± 20nA
200nA	100pA	0.5% + 1d	0.02% + 0.3d	± 200nA
2000nA	1nA	0.5% + 1d	0.02% + 0.3d	± 200nA
20μA	10nA	0.3% + 2d	0.01% + 0.3d	± 20μA
200μA	100nA	0.3% + 1d	0.01% + 0.3d	± 200μA
2000μA	1μA	0.3% + 1d	0.01% + 0.3d	± 200μA

*With current suppress.

INPUT BIAS CURRENT: Less than 60fA at 23°C.

INPUT VOLTAGE BURDEN: Less than 200μV.

PREAMP SETTLING TIME (to 1% of final value): pA, 0.6s. nA, 5ms. μA, 2.5ms.

NMRR: pA and nA, 70dB. μA, 55dB. At 50Hz and 60Hz.

MAXIMUM OVERLOAD: pA and nA, 350V peak. μA, 75V peak.

RESISTANCE

RANGE	RESOLUTION	TEMPERATURE COEFFICIENT		TEST CURRENT
		ACCURACY (1 YR.) 18°-28°C ± (%rdg + digits)	0°-18°C & 28°-35°C ± (%rdg + digits)/°C	
2 kΩ	1 Ω	0.5% + 2d	0.03% + 0.3d	100μA
20 kΩ	10 Ω	0.5% + 2d	0.03% + 0.3d	100μA
200 kΩ	100 Ω	0.5% + 2d	0.03% + 0.3d	10μA
2MΩ	1 kΩ	0.8% + 2d	0.04% + 0.3d	100nA
20MΩ	10 kΩ	0.8% + 2d	0.04% + 0.3d	100nA
200MΩ	100 kΩ	0.8% + 2d	0.04% + 0.3d	100nA
2 GΩ	1MΩ	2.0% + 3d	0.12% + 0.3d	100pA
20 GΩ	10MΩ	2.0% + 2d	0.12% + 0.3d	100pA
200 GΩ	100MΩ	2.0% + 2d	0.12% + 0.3d	100pA

MAXIMUM OPEN CIRCUIT VOLTAGE: 32V DC.

MAXIMUM OVERLOAD: kΩ, 75V peak. MΩ, GΩ, 350V peak.

CHARGE

RANGE	RESOLUTION	ACCURACY (1 YEAR)
		18°-28°C ± (%rdg + digits)
0.2nC	10fC	5% + 50d
2 nC	100fC	5% + 5d
20 nC	1pC	5% + 1d

INPUT BIAS CURRENT: Less than 60fA at 23°C.

MAXIMUM OVERLOAD: 350V peak.

GENERAL

DISPLAY: Five LED digits with appropriate decimal point, polarity and overload indication.

CURRENT SUPPRESS: Active in Current mode; allows correction for input currents on any given range.

CONVERSION TIME: 400ms.

2V ANALOG OUTPUT: 2V out for full range input. Inverting in Voltage and Resistance modes. Output impedance: 10kΩ.

PREAMP OUTPUT: Provides a guard output for Voltage and Resistance measurements. Can be used as an inverting output or with external feedback in Current and Coulombs modes. Output impedance: 1kΩ.

MAXIMUM COMMON MODE VOLTAGE: 500V peak.

CONNECTORS: Input: Triax. Output: 5-way binding posts.

ENVIRONMENT: Operating: 0°C to 35°C up to 70% relative humidity. **Storage:** -25°C to +65°C.

POWER: Line or battery operated. 105-125V or 210-250V (switch selected), 90-110V available. 50-60Hz, 5VA typical; 18VA maximum during battery charge. 10 hour operation from full charge, 20 hours to recharge.

DIMENSIONS, WEIGHT: 127mm high × 216mm wide × 359mm deep (5" × 8½" × 14⅛"). Net weight 3.3kg (7.2 lbs.).

ACCESSORY SUPPLIED: Model 6011 Triaxial Input Cable.

ACCESSORIES AVAILABLE:

Model 1019 Universal Rack Mounting Kit

Model 6011 Input Cable

Model 6102A Voltage Divider Probe (up to 200V with 614)

Model 6103C Voltage Divider Probe (up to 20kV with 614)

Model 6104 Test Shield

Model 6105 Resistivity Chamber

Model 6146 Triax Tee Adapter

Model 6147 Triax to BNC Adapter

Model 6167 Guarded Adapter

Model 6301 Guarded Probe

Model 614 Specification Addenda

- "When Properly Zeroed" refers to readjusting the Volts Zero pot after greater than 1°C change in ambient temperature or every 24 hours.
- Normal mode rejection specification applies for signal and noise of less than full range.
- "Preamp settling time to 1% of final value" assumes a step input from 0 to full range.
- Overall specifications are valid for overload signals under 1kHz.
- Model 614 storage time must be derated according to manufacturer's specification for the BA-35 Battery Pack at temperatures above 25°C.

