



Advanced Test Equipment Rentals

www.atecorp.com 800-404-ATEC (2832)

VOLTS

RANGE	MAXIMUM READING	ACCURACY 1 YR., 23° ± 5°C ± (%rdg + counts)	TEMPERATURE COEFFICIENT 0-18°C & 28-50°C ± (%rdg + counts)/°C
200mV	199.999 × 10 ⁻³	0.01 % + 25	0.002% + 30
2 V	1.99999	0.01 % + 10	0.002% + 3
20 V	19.9999	0.02% + 10	0.002% + 0.3
200 V	199.999	0.02% + 10	0.002% + 0.3

INPUT CAPACITANCE: Less than or equal to 20pF.

INPUT RESISTANCE: Greater than or equal to 20TΩ.

NMRR: Greater than 55dB (greater than 80dB with FILTER).

CMRR: Greater than 100dB (greater than 125dB with FILTER).

ANALOG SETTTLING TIME (to 0.1% of final value, unfiltered): Less than 5ms.

AMPS

RANGE	MAXIMUM READING	ACCURACY 1 YR., 23° ± 5°C ± (%rdg + counts)	TEMPERATURE COEFFICIENT 0-18°C & 28-50°C ± (%rdg + counts)/°C	INVERTING FULL SCALE ANALOG OUTPUT
2 nA	1.99999 × 10 ⁻⁹	0.35% + 65	0.02% + 30	0.2V
20 nA	19.9999 × 10 ⁻⁹	0.35% + 35	0.02% + 3	2.0V
200 nA	199.999 × 10 ⁻⁹	0.15% + 25	0.01% + 30	0.2V
2 μA	1.99999 × 10 ⁻⁶	0.15% + 10	0.01% + 3	2.0V
20 μA	19.9999 × 10 ⁻⁶	0.15% + 25	0.01% + 30	0.2V
200 μA	199.999 × 10 ⁻⁶	0.15% + 10	0.01% + 3	2.0V
2mA	1.99999 × 10 ⁻³	0.15% + 25	0.01% + 30	0.2V
20mA	19.9999 × 10 ⁻³	0.15% + 10	0.01% + 3	2.0V
2 A	1.99999	0.15% + 25	0.01% + 20	None

INPUT VOLTAGE DROP: Less than 1mV at full-scale except less than 0.6V on 2A range.

ANALOG SETTTLING TIME (to 0.1% of final value, unfiltered): 2nA through 2μA: 50ms; 20μA through 2A: 5ms.

NMRR: 2nA through 2μA: 70dB; 20μA through 2A: 55dB.

OHMS

RANGE	MAXIMUM READING	ACCURACY 1 YR., 23° ± 5°C ± (%rdg + counts)	TEMPERATURE COEFFICIENT 0-18°C & 28-50°C ± (%rdg + counts)/°C	MAXIMUM OPEN-CIRCUIT VOLTAGE
2 kΩ	1.99999 × 10 ³	0.2 % + 25	0.01% + 30	5V
20 kΩ	19.9999 × 10 ³	0.2 % + 10	0.01% + 3	5V
200 kΩ	199.999 × 10 ³	0.15% + 25	0.01% + 30	5V
2MΩ	1.99999 × 10 ⁶	0.15% + 10	0.01% + 3	5V
20MΩ	19.9999 × 10 ⁶	0.35% + 25	0.02% + 30	5V
200MΩ	199.999 × 10 ⁶	0.35% + 10	0.02% + 3	5V
2 GΩ	1.99999 × 10 ⁹	0.35% + 10	0.02% + 0.3	300V
20 GΩ	19.9999 × 10 ⁹	1 % + 10	0.15% + 3	300V
200 GΩ	199.999 × 10 ⁹	4 % + 10	0.5 % + 0.3	300V
2 TΩ	1.99999 × 10 ¹²	10 % + 10	0.5 % + 0.3	300V

OHMS CURRENT SOURCES: 2kΩ, 20kΩ: 100μA.
200kΩ, 2MΩ: 1μA.
20MΩ, 2GΩ: 10nA.
20GΩ through 2TΩ: 100pA.

ANALOG OUTPUT: Analog output voltage level is the product of the Ohms current source and the resistance being measured.

ANALOG SETTTLING TIMES:

To 0.1% of final value, unfiltered, with less than 100pF input capacitance:
2kΩ through 2MΩ: 5ms.
20MΩ: 20ms.
200MΩ: 200ms.

To 10% of final value, unfiltered, using 6191 Guarded Input Adapter with less than 1pF unguarded input capacitance:
2GΩ: 150ms.
20GΩ: 1.5s.
200GΩ: 15s.
2TΩ: 150s.

IEEE-488 BUS IMPLEMENTATION

(Requires installation of Model 6193):

Multiline Commands: DCL, LLO, SDC, GET.

Uniline Commands: IFC, REN, EOI, SRQ, ATN. Compatible with IEEE-488-1978 standard.

PROGRAMMABLE PARAMETERS:

Front Panel Controls: Function, Range, Filter, Zero Check, Zero Correct, Baseline Store, Baseline Suppress.

Internal Parameters: SRQ Response, Trigger Modes, Binary or ASCII Data Formats, number of readings to be stored, data terminators, reading rates, integration period.

ADDRESS MODES: TALK ONLY and ADDRESSABLE.

READING RATES

Programmed Reading Rate	Number Of Integrations Averaged	Time Per Integration (ms)	Trigger To First Byte (ms)	Readings Per Second
S0	1	4.1	32 (18 binary)	40
S1	1	16.67*	35	21
S2	2	16.67*	80	10
S3	4	16.67*	168	5.4
S4	1	100	120	4.7
S5	2	100	328	2.4
S6	4	100	742	1.2
S7	8	100	1680	0.6
S8	16	100	3360	0.3
S9	32	100	6720	0.15

*20 @ 50Hz.

GENERAL

DISPLAY: Numeric; 0.56" LED digits, 4½-digit mantissa @ 6.2rdg/s (5½-digits @ 2.4 rdg/s in high resolution mode), 2 digit exponent, decimal point, signed exponent and mantissa.

OVERRANGE INDICATION: Display reads OFLO.

MAXIMUM ALLOWABLE INPUT: 250V rms DC to 60Hz sinewave.

INPUT CURRENT (18°-28°C): Less than 0.4pA.

EXTERNAL TRIGGER: TTL compatible EXTERNAL TRIGGER and ELECTROMETER COMPLETE.

INPUT CONNECTORS (6194 Electrometer rear panel): 2A range: 5-way binding posts. All other functions and ranges via Teflon® insulated triaxial connector.

OUTPUT CONNECTORS: Analog: Amphenol Series 80 (Microphone), 6194 Electrometer rear panel. IEEE: Amphenol or Cinch Series 57, 6193 IEEE interface rear panel. BNC (chassis isolated) connections for EXTERNAL TRIGGER and ELECTROMETER COMPLETE.

MAXIMUM ALLOWABLE COMMON MODE VOLTAGES:

Input LO (Channel A) to line ground: 250V rms, DC to 60Hz sinewave.
Input LO (Channel B) to line ground: 250V rms, DC to 60Hz sinewave.
Input LO (Channel A) to Input LO (Channel B): 250V rms, DC to 60Hz sinewave.

WARMUP: 1 hour to rated accuracy.

POWER: 90-110, 105-125, 180-220 or 210-250V, 50 or 60Hz (internal switch selected). 75W max., 100V•A max. (internally fan cooled).

ENVIRONMENTAL LIMITS: Operating: 0°-50°C, up to 35°C at 70% non-condensing R.H. Storage: -20°C to 70°C.

DIMENSIONS, WEIGHT: 432mm wide × 127mm high × 406mm deep (17" × 5" × 16"), stackable enclosure. Net weight, 9.8kg (22 lbs.) with Channel B Electrometer module and IEEE-488 Interface module.

ACCESSORIES SUPPLIED: One Model 6194 Electrometer Module and one Model 6011 Input Cable.

ACCESSORIES AVAILABLE:

Model 1019A: 5½" Universal Fixed Rack Mounting Kit
Model 1019S: Universal Slide Rack Mounting Kit
Model 6011: Triaxial Input Cable, 1m (3 ft.)
Model 6191: Guarded Input Adapter
Model 6193: IEEE-488 Interface
Model 6194: Electrometer Module
Model 6195: Maintenance Kit
Model 7008-3: IEEE-488 Cable (3 ft.)
Model 7008-6: IEEE-488 Cable (6 ft.)