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SPECIFICATIONS

PART NUMBER SPEC-175-AV

DC VOLTS

RANGE	RESOLUTION	ACCURACY (1 Year) 18°–28°C ±(%rdg + counts)
200mV	10 µV	0.03 + 3
2 V	100 µV	0.03 + 2
20 V	1 mV	0.03 + 2
200 V	10 mV	0.03 + 2
1000 V	100 mV	0.03 + 2

INPUT RESISTANCE: 11MΩ on 200mV, 2V, and 20V ranges. 10MΩ on 200V and 1000V ranges. (>1000MΩ on the 200mV and 2V ranges with all function buttons in the out position.)

NORMAL MODE REJECTION RATIO: >60dB at 50Hz, 60Hz ±0.15%.

MAXIMUM ALLOWABLE INPUT: 1000V DC or peak AC (<10 sec. per minute on 200mV and 2V ranges; 300V rms continuous).

SETTLING TIME: 1 sec. to within 1 count of final reading on range.

dB MODE (ref: 600Ω): Accuracy: ±(0.02dB + 1 count) (above –78dBm). **Resolution:** 0.01dB above 5% of range.

AC VOLTS

(average responding)

RANGE	ACCURACY (1 Year)* 18°–28°C ±(%rdg + counts) 20Hz–50Hz	50Hz–10kHz	10kHz–20kHz	20kHz–50kHz	50kHz–100kHz
2V–750V	1 + 20	0.5 + 20	1 + 40	2.5 + 75	5 + 200
200mV	1 + 20	0.5 + 20	1.5 + 40	8 + 75	—

* Above 1800 counts.

MAXIMUM ALLOWABLE INPUT: 750V rms, 1000V peak (<10 seconds per minute on 200mV range; 300V rms continuous). 10^7V•Hz maximum.

3dB BANDWIDTH: 300kHz typical.

INPUT IMPEDANCE: 10MΩ paralleled by <75pF on 20V, 200V, and 1000V ranges. 11MΩ on 200mV and 2V ranges. Capacitively coupled.

SETTLING TIME: 2 seconds to within 15 counts of final reading on range.

dB MODE (ref: 600Ω):

RANGE	INPUT	ACCURACY (±dBm) 20Hz–10kHz	10kHz–20kHz	20kHz–50kHz	50kHz–100kHz
2V–750V	200mV to 750V (–12 to +59.8dBm)	0.2	0.26	0.56	1.2
200 mV	20 mV to 200 mV (–32 to –12 dBm)	0.2	0.3	1	—
	2 mV to 20 mV (–52 to –32 dBm)	2	3	—	—
	1 mV to 2 mV (–58 to –52 dBm)	2 *	—	—	—

Resolution: 0.01dB above 5% of range. *Up to 1kHz.

DC AMPS

RANGE	RESOLUTION	MAXIMUM VOLTAGE BURDEN	ACCURACY (1 Year) 18°–28°C ±(%rdg + counts)
200 µA	10 nA	0.25 V	0.15 + 2
2 mA	100 nA	0.25 V	0.15 + 2
20 mA	1 µA	0.25 V	0.15 + 2
200 mA	10 µA	0.25 V	0.2 + 2
2000 mA	100 µA	0.5 V	0.2 + 2

OVERLOAD PROTECTION: 2A fuse (250V), externally accessible.

SETTLING TIME: 1 second to within 1 count of final reading.

AC AMPS

(average responding)

RANGE	MAXIMUM VOLTAGE BURDEN	ACCURACY (1 Year)* 18°–28°C ±(%rdg+counts) 20Hz–50Hz	50Hz–10kHz	10kHz–30kHz
200µA–20mA	0.25 V	1 + 20	0.8 + 20	2 + 50
200 mA	0.25 V	1 + 20	0.8 + 20	—
2000 mA	0.5 V	1 + 20	0.8 + 20	—

* Above 1800 counts.

SETTLING TIME: 2 seconds to within 15 counts of final reading.

OHMS

RANGE	RESOLUTION	ACCURACY (1 Year) 18°–28°C ±(%rdg + counts)	MAX. VOLTAGE ACROSS UNKNOWN ON RANGE
200 Ω	10mΩ	0.05 + 2*	0.2 V
2 kΩ	100mΩ	0.05 + 1	2.0 V
20 kΩ	1 Ω	0.05 + 2	0.2 V
200 kΩ	10 Ω	0.05 + 1	2.0 V
2 MΩ **	100 Ω	0.05 + 2	0.2 V
20 MΩ **	1 kΩ	0.2 + 1	2.0 V
200 MΩ **	100 kΩ	2.0 + 1	2.0 V

*When properly zeroed. **Appropriate range selected automatically.

MAXIMUM ALLOWABLE INPUT: 450V DC or peak AC.

OPEN-CIRCUIT VOLTAGE: +5V.

DIODE TEST: Display reads junction voltage up to 2V. Test current: 0.7mA ±0.15mA.

SETTLING TIME: 2 seconds to within 1 count of final reading on range.

IEEE-488 BUS IMPLEMENTATION (Model 1753 Option)

MULTILINE COMMANDS: DCL, SDC, GET, GTL, UNT, UNL, SPE, SPD.

UNILINE COMMANDS: IFC, REN, EOI, SRQ, ATN.

INTERFACE FUNCTIONS: SH1, AH1, T5, TE0, L4, LE0, SR1, RL2, PP0, DC1, DT1, C0, E1.

PROGRAMMABLE PARAMETERS: Range, REL, dB, EOI, Trigger, Calibration, SRQ, Status, Output Format, Terminator.

GENERAL

DISPLAY: 4½-digit LCD, 0.5 in. height; polarity, function, range, and status indication.

RANGING: Auto or manual on DC volts, AC volts, ohms; manual on AC amps, DC amps.

AUTORANGING TIME: 300msec. per range.

WARMUP: 1 hour to rated accuracy.

RELATIVE: Pushbutton allows zeroing of on range readings. Allows readings to be made with respect to baseline value. Front panel annunciator indicates REL mode.

DATA LOGGER and MIN/MAX: 100 reading storage capacity; records data at one of six selectable rates from 3 readings/second to 1 reading/hour. Also detects and stores maximum and minimum readings continuously in data logger mode.

CONVERSION RATE: 3 readings per second.

OVERRANGE INDICATION: "OL" displayed.

MAXIMUM COMMON MODE VOLTAGE: 500V peak.

COMMON MODE REJECTION RATIO (1kΩ unbalance): >120dB at DC, 50Hz, 60Hz ±0.15%. >60dB in AC volts.

TEMPERATURE COEFFICIENT (0°–18°C & 28°–50°C): ±(0.1 × applicable accuracy specification)/°C except ±(0.07%+2)/°C for 50Hz–10kHz in AC volts.

ENVIRONMENT: Operating: 0° to 50°C; <80% relative humidity up to 35°C; linearly derate 3% RH/°C, 35° to 50°C. **Storage:** –40°C to +60°C.

POWER: 105–125V or 210–250V (external switch selected); 50–60Hz, 12VA. Optional 6-hour battery pack, Model 1758.

DIMENSIONS, WEIGHT: 89mm high × 235mm wide × 275mm deep (3.5 in. × 9.25 in. × 10.75 in.). Net weight 1.8kg (3 lbs., 14 oz.).

ACCESSORIES SUPPLIED: Model 1751 Safety Test Leads, Instruction Manual.

ACCESSORIES AVAILABLE:

Model 1010:	Single Rack Mounting Kit
Model 1017:	Dual Rack Mounting Kit
Model 1301:	Temperature Probe (–55°C to +150°C)
Model 1600A:	High Voltage Probe (40kV)
Model 1651:	50A Current Shunt
Model 1681:	Clip-On Test Lead Set
Model 1682A:	RF Probe (250MHz)
Model 1684:	Hard Shell Carrying Case
Model 1685:	Clamp-On Current Probe (200A)
Model 1751:	Safety Test Leads
Model 1753:	IEEE-488 Interface
Model 1754:	Universal Test Lead Kit
Model 1755:	Calibration Interface
Model 1758:	Rechargeable Battery Pack
Model 7008-3:	IEEE-488 Digital Cable, 0.9m (3 ft.)
Model 7008-6:	IEEE-488 Digital Cable, 1.8m (6 ft.)

Specifications subject to change without notice.

LTR	REVISIONS	APP.	DATE
A	REL. 891125		11-28-89
B	ISSUED PER ECO 91006		11-17-92

DRN. A.J.S. DATE 11-28-89
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APP. DCL DATE 11-17-92

KEITHLEY Keithley Instruments Inc. Cleveland, Ohio 44139

SPECIFICATIONS

PART NUMBER SPEC-175-AV

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