

SPECIFICATIONS

DC VOLTS

| RANGE | RESOLUTION | INPUT RESISTANCE | ACCURACY** | |
|--------|------------|------------------|----------------------|--------------------|
| | | | ± (%rdg + counts) | |
| | | | 24 Hr.,* 22°-24°C | 1 Yr., 18°-28°C |
| 200mV | 1 μV | >1GΩ | 0.007+2 | 0.016+3 |
| 2 V | 10 μV | >1GΩ | 0.005+2 | 0.011+2 |
| 20 V | 100 μV | 11MΩ | 0.006+2 | 0.015+2 |
| 200 V | 1mV | 10MΩ | 0.006+2 | 0.015+2 |
| 1000 V | 10mV | 10MΩ | 0.007+2 | 0.015+2 |

*Relative to calibration accuracy. **When properly zeroed.

NMRR: Greater than 60dB at 50Hz, 60Hz ±0.1%.

MAXIMUM ALLOWABLE INPUT: 1000V dc or peak ac (less than 10 seconds per minute on the 200mV and 2V ranges; 300V rms continuous).

SETTLING TIME: 1 second to within 3 counts of final reading on range.

dB MODE (ref: 600Ω): Accuracy: ±(0.02dB+1 count) above -78dBm. Resolution: 0.01dB above 0.5% of range.

TRMS AC VOLTS

| RANGE | ACCURACY (1 Yr.) 18°-28°C | | | | |
|-----------|---------------------------|------------------|-------------------|--------------------|---------------------|
| | ± (%rdg + counts) | | | | |
| | 20Hz - 50Hz* | 50Hz - 10kHz* | 10kHz - 20kHz* | 20kHz - 50kHz** | 50kHz - 100kHz** |
| 200mV | 1.00+100 | 0.35+100 | 0.6+200 | 1.5+250 | 5+400 |
| 2V - 200V | 1.00+100 | 0.35+100 | 0.6+200 | 1.5+250 | 3+400 |
| 750V | 1.25+100 | 0.75+100 | 1.0+200 | 1.8+250 | 3+400 |

*Above 1800 counts. **Above 18000 counts.

MAXIMUM ALLOWABLE INPUT: 750V rms, 1000V peak (less than 10 seconds per minute on 200mV and 2V ranges; 300V rms continuous). 10°V•Hz maximum.

3dB BANDWIDTH: 30kHz typical.

INPUT IMPEDANCE: 1MΩ paralleled by less than 75pF on 200V and 750V ranges. 1.1MΩ paralleled by 75pF on 200mV, 2V and 20V ranges. Capacitively coupled.

SETTLING TIME: 1 second to within 0.1% of final reading on range.

| RANGE | INPUT | ACCURACY (± dBm) | | | |
|-------|----------------------------------|------------------|------------------------------------|------------------|-------------------|
| | | 20Hz - 10kHz | 10kHz - 20kHz | 20kHz - 50kHz | 50kHz - 100kHz |
| | | 2V - 750V | 200mV to 750 V (-12 to 59.8dBm) | 0.18 | 0.18 |
| 200mV | 20mV to 200mV (-32 to -12dBm) | 0.18 | 0.18 | 0.28 | 0.65 |
| | 2mV to 20mV (-52 to -32dBm) | 0.85 | 1.10 | 2.00 | — |
| | 1mV to 2mV (-58 to -52dBm) | 2.00 | 3.00 | — | — |

RESOLUTION: 0.01dB above 0.5% of range.

DC AMPS

| RANGE | RESOLUTION | MAXIMUM VOLTAGE BURDEN | ACCURACY (1 Yr.) | |
|-------------------|------------|------------------------|------------------|--|
| | | | 18°-28°C | |
| ± (%rdg + counts) | | | | |
| 200 μA | 1nA | 0.3V | 0.1 +15** | |
| 2mA | 10nA | 0.3V | 0.1 +15 | |
| 20mA | 100nA | 0.3V | 0.1 +15 | |
| 200mA | 1 μA | 0.3V | 0.2 +15 | |
| 2000mA | 10 μA | 0.8V | 0.2 +15 | |
| 10 A | 100 μA | 0.3V | 0.75+15* | |

*Above 5A derate 0.15% rdg per amp for self-heating.

**When properly zeroed.

OVERLOAD PROTECTION: mA Input: 2A fuse (250V), externally accessible. 10A Input: 20A for 15s, unfused.

SETTLING TIME: 1 second to within 3 counts of final reading.

TRMS AC AMPS

| RANGE | MAXIMUM VOLTAGE BURDEN | ACCURACY (1 Yr.)* | | |
|--------------|------------------------|----------------------------|--------------|---------------|
| | | 18°-28°C ± (%rdg + counts) | | |
| | | 20Hz - 50Hz | 50Hz - 10kHz | 10kHz - 30kHz |
| 200μA - 20mA | 0.3V | 1.0+100 | 0.8+100 | 2+250 |
| 200mA | 0.3V | 1.0+100 | 0.8+100 | — |
| 2000mA | 0.8V | 1.0+100 | 0.8+100 | — |
| 10 A | 0.3V | 1.5+100** | 1.0+100** | — |

*Above 1800 counts. **1kHz max. Above 5A derate 0.15% rdg/amp for self-heating.

SETTLING TIME: 1 second to within 0.1% of final reading.

OHMS

| RANGE | RESOLUTION | NOMINAL I-SHORT | OUTPUT | | ACCURACY | |
|----------|------------|-----------------|----------------------|---------------------|--------------------|--|
| | | | MAX V ACROSS UNKNOWN | ± (%rdg + counts) | | |
| | | | | 24 Hr., 22°-24°C | 1 Yr., 18°-28°C | |
| 200 Ω | 1mΩ | 2mA | 0.5V | 0.01 +2* | 0.02 +3* | |
| 2 kΩ → | 10mΩ | 2mA | 4.0 V | 0.01 +2 | 0.018+2 | |
| 20 kΩ | 100mΩ | 400 μA | 4.0V | 0.014+2 | 0.026+2 | |
| 200 kΩ → | 1 Ω | 40 μA | 4.0V | 0.014+2 | 0.026+2 | |
| 2MΩ** | 10 Ω | 4 μA | 4.0V | 0.02 +2 | 0.035+2 | |
| 20MΩ** | 100 Ω | 400 nA | 4.0V | 0.10 +2 | 0.12 +2 | |
| 200MΩ** | 10 kΩ | 400 nA | 5.0V | 2.00 +1 | 2.00 +1 | |

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

CONFIGURATION: Automatic 2- or 4-terminal.

MAXIMUM ALLOWABLE INPUT: 450V dc or peak ac 10 seconds per minute. 350V rms continuous.

OPEN-CIRCUIT VOLTAGE: +5V.

DIODE TEST: Display reads junction voltage up to 2.2V. Test Current: 1.6mA nominal.

SETTLING TIME: 2 seconds to within 3 counts of final reading on range.

GENERAL

DISPLAY: ±220,000 count LCD, 0.45 in. height; polarity, function, range, and status indication.

RANGING: Auto or manual on dc volts, ac volts, and ohms; manual on ac amps and dc amps.

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 or by manual triggering. Also detects and stores maximum and minimum readings continuously while in data logger mode.

CONVERSION RATE: 3 readings/second.

OVERRANGE INDICATION: "OL" displayed.

CREST FACTOR (ratio of peak value to rms value), AC FUNCTIONS: 3.

MAXIMUM COMMON MODE VOLTAGE: 500V peak.

COMMON MODE REJECTION RATIO (1kΩ unbalance): Greater than 120dB at dc, 50Hz, 60Hz ±0.1%. Greater than 60dB in ac volts.

TEMPERATURE COEFFICIENT (0°-18°C & 28°-50°C): ±(0.1× applicable one year accuracy specification)/°C.

ENVIRONMENT: Operating: 0°-50°C; less than 80% relative humidity up to 35°C; linearly derate 3% RH/°C, 35°-50°C. Storage: -25° to 60°C.

WARMUP: 1 hour to rated accuracy.

POWER: 105-125V or 210-250V (external switch selected), 90-110V available; 50-60Hz, 12V•A. Optional 5-hour battery pack, Model 1978.

DIMENSIONS, WEIGHT: 89mm high × 235mm wide × 275mm deep (3½ in. × 9¼ in. × 10¾ 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
- Model 1600A: High Voltage Probe
- Model 1641: Kelvin Test Lead Set
- Model 1651: 50-Ampere Current Shunt
- Model 1681: Clip-On Test Lead Set
- Model 1682A: RF Probe
- Model 1684: Hard Shell Carrying Case
- Model 1685: Clamp-On Ac Probe
- Model 1751: Safety Test Leads
- Model 1754: Universal Test Lead Kit
- Model 1972: IEEE-488 with Analog Output
- Model 1973: IEEE-488 Interface
- Model 1978: Rechargeable Battery Pack
- Model 7008-3: IEEE-488 Digital Cable (3 ft.)
- Model 7008-6: IEEE-488 Digital Cable (6 ft.)
- Model 8573: IEEE-488 Interface for IBM PC (use with 1972/3)

Specifications subject to change without notice.