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Test & Measurement

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Complimentary Reference Material

This PDF has been made available as a complimentary service for you to assist in evaluating this model for your testing requirements.

TMG offers a wide range of test equipment solutions, from renting short to long term, buying refurbished and purchasing new. Financing options, such as Financial Rental, and Leasing are also available on application.

TMG will assist if you are unsure whether this model will suit your requirements.

Call TMG if you need to organise repair and/or calibrate your unit.

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SPECIFICATIONS

DC VOLTS

| DC VOLTS | | ACCURACY (1 YEAR) 18°-28°C | MAXIMUM ALLOWABLE INPUT |
|----------|------------|-------------------------------|-------------------------------|
| RANGE | RESOLUTION | ± (%rdg + digits) | |
| 200mV | 10 μV | 0.04% + 3d | 1200V† |
| 2 V | 100 μV | 0.04% + 1d | 1200V† |
| 20 V | 1mV | 0.04% + 1d | 1200V‡ |
| 200 V | 10mV | 0.04% + 1d | 1200V‡ |
| 1200 V | 100mV | 0.04% + 1d | 1200V‡ |

†For 10 seconds. ‡Continuous.

†For 10 seconds. ‡Continuous.

AC VOLTS

| RANGE | RESOLUTION | ACCURACY (1 YEAR) | | TEMPERATURE COEFFICIENT | |
|--------|-------------|---|--|--|------------|
| | | (above 2000 counts) 18°-28°C; 100Hz-10kHz ± (%rdg + digits) | | 0°-18°C & 28°-55°C ± (%rdg + digits)/°C | |
| 200mV | 10 μ V | 0.7% + 15d | | 45Hz-10kHz | 0.07% + 2d |
| 2 V | 100 μ V | 0.6% + 15d | | 10kHz-20kHz | 0.15% + 3d |
| 20 V | 1mV | 0.5% + 15d | | | 0.05% + 2d |
| 200 V | 10mV | 0.5% + 15d | | | 0.05% + 2d |
| 1000 V | 100mV | 0.5% + 15d | | | 0.05% + 2d |

EXTENDED FREQUENCY ACCURACY:

(45Hz-100Hz): $\pm (0.7\% + 15d)$.

(10kHz-20kHz): $\pm (0.8\% + 15d)$ on 20V and higher ranges;

$\pm (1.5\% + 15d)$ on 2V range;

$\pm (2\% + 15d)$ on 200mV range.

RESPONSE: True root mean square.

CREST FACTOR (ratio of peak value to rms value): 3:1.

INPUT IMPEDANCE: 1M Ω shunted by less than 75pF.

MAXIMUM ALLOWABLE INPUT VOLTAGE: 1000V rms, 1400V peak, 10⁷V•Hz maximum.

COMMON MODE REJECTION RATIO (1k Ω unbalance): 60dB at DC, 50Hz and 60Hz.

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

OHMS

| OHMS | | ACCURACY (1 YEAR) 18°-28°C | | MAXIMUM VOLTAGE ACROSS UNKNOWN ON RANGE | | TEMPERATURE COEFFICIENT 0°-18°C & 28°-55°C | | NOMINAL APPLIED CURRENT | |
|---------|------------|-------------------------------|-------------|---|------|---|------------|----------------------------|--------|
| RANGE | RESOLUTION | ± (%rdg + digits) | | | | ± (%rdg + digits)/°C | | | |
| | | HI Ω | LO Ω | HI Ω | LO Ω | HI Ω | LO Ω | HI Ω | LO Ω |
| 2 kΩ | 100mΩ | | 0.15% + 15d | | 0.2V | | 0.02% + 2d | | 100 μA |
| 20 kΩ | 1 Ω | 0.04% + 1d | 0.15% + 15d | 2V | 0.2V | 0.003% + 0.2d | 0.02% + 2d | 100 μA | 10 μA |
| 200 kΩ | 10 Ω | 0.04% + 1d | 0.15% + 15d | 2V | 0.2V | 0.003% + 0.2d | 0.02% + 2d | 10 μA | 1 μA |
| 2000 kΩ | 100 Ω | 0.04% + 1d | 0.15% + 15d | 2V | 0.2V | 0.003% + 0.2d | 0.03% + 2d | 1 μA | 0.1μA |
| 20MΩ | 1 kΩ | 0.10% + 1d | | 2V | | 0.02 % + 0.2d | | 0.1μA | |

MAXIMUM ALLOWABLE INPUT: 1kV DC or peak AC for 10 seconds, 450V rms continuous.

MAXIMUM OPEN CIRCUIT VOLTAGE: 5V.

GENERAL

DISPLAY: Five 0.5" LED digits, appropriate decimal position and polarity indication.

CONVERSION PERIOD: 400ms.

OVERRANGE INDICATION: Display blinks all zeroes above 19999 counts.

MAXIMUM COMMON MODE VOLTAGE: 1400V peak.

ENVIRONMENT: Operating: 0°-55°C, 0% to 80% relative humidity up to 35°C. Storage: -25°C to +65°C.

POWER: 105-125V or 210-250V (switch selected), 90-110V available. 50-60 Hz, 5.5W. Optional 6-hour battery pack, Model 1788.

DIMENSIONS, WEIGHT: 85mm high \times 235mm wide \times 275mm deep (3 1/2" \times 9 1/4" \times 10 3/4"). Net weight 1.8kg (4 lbs.).

TEMPERATURE COEFFICIENT (0°-18°C & 28°-55°C): $\pm (0.006\% + 0.2d)$ /°C except $\pm (0.006\% + 0.4d)$ /°C on 200mV range.

INPUT RESISTANCE: 10M Ω \pm 0.1%.

NORMAL MODE REJECTION RATIO: Greater than 60dB at 50Hz and 60Hz.

COMMON MODE REJECTION RATIO (1k Ω unbalance): Greater than 120dB at DC, 50Hz and 60Hz.

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

DC AND TRMS AC AMPS

| DC AND TRMS AC AMPS | | | | | |
|---------------------|------------|------------|-----------------------------------|--------|------------|
| ACCURACY (1 YEAR) | | | | | |
| 18°-28°C | | | | | |
| ± (%rdg + digits) | | | | | |
| AC 45Hz-10kHz | | | | | |
| MAXIMUM | | | | | |
| VOLTAGE | | | | | |
| SHUNT | | | | | |
| RANGE | RESOLUTION | DC | AC 45Hz-10kHz (above 2000 cts) | BURDEN | RESISTANCE |
| 200 μA | 10 nA | 0.2% + 2d | 1% + 15d | 0.2 V | 1 kΩ |
| 2mA | 100 nA | 0.2% + 2d | 1% + 15d | 0.2 V | 100 Ω |
| 20mA | 1 μA | 0.2% + 2d | 1% + 15d | 0.2 V | 10 Ω |
| 200mA | 10 μA | 0.2% + 2d | 1% + 15d | 0.25V | 1 Ω |
| 2000mA | 100 μA | 0.2% + 2d | 1% + 15d | 0.6 V | 100mΩ |
| 20 A | 1mA | 0.5% + 2d* | 1% + 15d†* | 0.5 V | 10mΩ |

*Add 0.1%rdg above 15A for self-testing.

†1kHz max.

MAXIMUM INPUT: 2A, 250V DC or rms (fuse protected) except for 20A range: 15A continuous, 20A for 1 minute (unfused).

TEMPERATURE COEFFICIENT (0°-18°C & 28°-55°C):

DC $\pm (0.01\% + 0.2d)$ /°C.

AC $\pm (0.07\% + 2d)$ /°C.

CREST FACTOR (ratio of peak value to rms value): 3:1.

SETTLING TIME: DC: 1 second to within 1 digit of final reading. AC: 2 seconds to within 15 digits of final reading.

ACCESSORIES AVAILABLE:

Model 1010: Single Rack Mounting Kit

Model 1017: Dual Rack Mounting Kit

Model 1301: Temperature Probe

Model 1600A: High Voltage Probe (40kV)

Model 1651: 50-Ampere Current Shunt

Model 1681: Clip-On Test Lead Set

Model 1682A: RF Probe

Model 1683: Universal Test Lead Kit

Model 1684: Hard Shell Carrying Case

Model 1685: Clamp-On AC Probe

Model 1691: General Purpose Test Lead Set

Model 1788: Rechargeable Battery Pack

Model 1792: Isolated BCD Output

Model 1793: Isolated IEEE-488 Output

Model 7008-3: IEEE-488 Cable (3 ft.)

Model 7008-6: IEEE-488 Cable (6 ft.)