

Test Equipment Solutions Datasheet

Test Equipment Solutions Ltd specialise in the second user sale, rental and distribution of quality test & measurement (T&M) equipment. We stock all major equipment types such as spectrum analyzers, signal generators, oscilloscopes, power meters, logic analysers etc from all the major suppliers such as Agilent, Tektronix, Anritsu and Rohde & Schwarz.

We are focused at the professional end of the marketplace, primarily working with customers for whom high performance, quality and service are key, whilst realising the cost savings that second user equipment offers. As such, we fully test & refurbish equipment in our in-house, traceable Lab. Items are supplied with manuals, accessories and typically a full no-quibble 2 year warranty. Our staff have extensive backgrounds in T&M, totalling over 150 years of combined experience, which enables us to deliver industry-leading service and support. We endeavour to be customer focused in every way right down to the detail, such as offering free delivery on sales, covering the cost of warranty returns BOTH ways (plus supplying a loan unit, if available) and supplying a free business tool with every order.

As well as the headline benefit of cost saving, second user offers shorter lead times, higher reliability and multivendor solutions. Rental, of course, is ideal for shorter term needs and offers fast delivery, flexibility, try-before-you-buy, zero capital expenditure, lower risk and off balance sheet accounting. Both second user and rental improve the key business measure of Return On Capital Employed.

We are based near Heathrow Airport in the UK from where we supply test equipment worldwide. Our facility incorporates Sales, Support, Admin, Logistics and our own in-house Lab.

All products supplied by Test Equipment Solutions include:

- No-quibble parts & labour warranty (we provide transport for UK mainland addresses).
- Free loan equipment during warranty repair, if available.
- Full electrical, mechanical and safety refurbishment in our in-house Lab.
- Certificate of Conformance (calibration available on request).
- Manuals and accessories required for normal operation.
- Free insured delivery to your UK mainland address (sales).
- Support from our team of seasoned Test & Measurement engineers.
- ISO9001 quality assurance.

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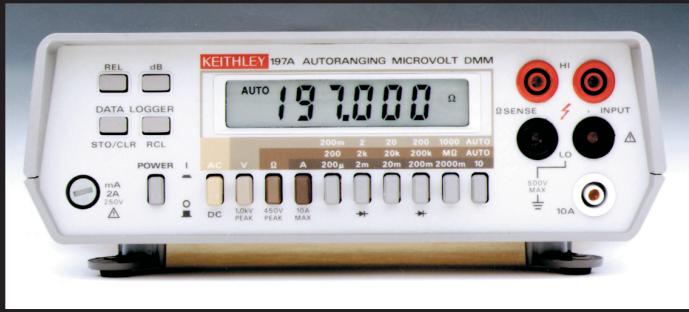
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197A

5½-Digit Portable Multimeter



The Model 197A is a lightweight, portable DMM with a battery pack option. It combines 5½-digit resolution (on a 220,000-count display) with 1μV, 1nA, 1mΩ sensitivity. Basic DCV accuracy is 0.011%.

Extended Performance

Measure voltage over nine decades from 1μV to 1000V. Input resistance on the two lowest voltage ranges exceeds 1GΩ. TRMS AC measurements can be made to 100kHz. Make 2- or 4-terminal ohms measurements over 11 decades from 1mΩ to 220MΩ. Six current ranges measure from 1nA to 10A.

Battery Option

The Model 1978 battery pack (option) enables data to be collected in locations where AC power is not available or where isolation from line voltage is required for safety.

Measures voltage, current, and resistance economically

- 1μV, 1mΩ, 1nA sensitivity
- TRMS AC measurements to 100kHz
- 100-point data logger, relative reference, dB
- Backlit display
- Battery option

Ordering Information

197A Autoranging Microvolt DMM

197A/1978

Autoranging Microvolt DMM with Rechargeable Battery Pack

Extended warranty, service, and calibration contracts are available.

Accessories Supplied

Instruction Manual and Model 1751 Safety Test Leads

ACCESSORIES AVAILABLE

1681	Clip-On Test Lead Set
1754	Safety Univ. Test Lead Kit
5806	Kelvin Clip Leads
1978	Rechargeable Battery Pack

GENERAL

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

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.

ENVIRONMENT: Operating: 0°–50°C; <80% relative humidity up to 35°C; linearly derate 3% RH/°C, 35°–50°C. Storage: –40° to +70°C.

WARM-UP: 1 hour to rated accuracy.

POWER: 105–125V or 210–250V (external switch selected), 90–110V available; 50–60Hz, 12VA. Removable power cord. 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 lb, 14 oz).

DC VOLTS

RANGE	RESOLUTION	INPUT RESISTANCE	ACCURACY ±(%rdg + counts) 1 Year, 18°–28°C
200 mV	1 μV	>1 GΩ	0.016 + 3
2 V	10 μV	>1 GΩ	0.011 + 2
20 V	100 μV	11 MΩ	0.015 + 3
200 V	1 mV	10 MΩ	0.015 + 2
1000 V	10 mV	10 MΩ	0.015 + 2

TRMS AC VOLTS

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

OHMS

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

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DMMs, DATA ACQUISITION/ SWITCHING SYSTEMS