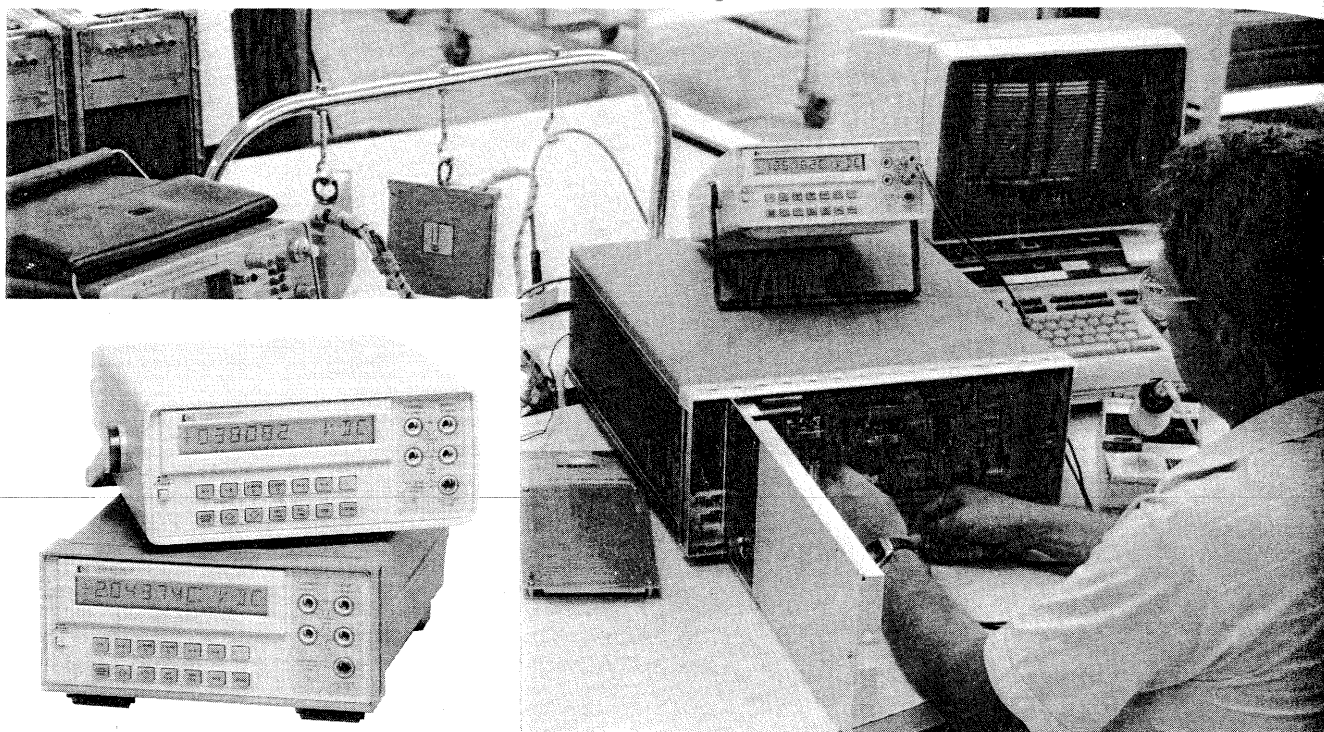


DIGITAL MULTIMETERS

High Performance 5½ to 3½ Digit Bench DMM

Models 3468A/B

- Five functions
- Electronic calibration
- 5½ to 3½ digits



HP 3468A/B

Description

The HP Models 3468A/B are autoranging 5½ to 3½ digit DMMs, with the five functions of dc volts, true RMS ac volts, 2- and 4-wire ohms, dc current and true RMS ac current. They are low-cost, highly reliable DMMs which can be completely calibrated electronically, either manually from the front panel or remotely in an automatic calibration system. Remote calibration is made possible by the built-in HP-IL (Hewlett-Packard Interface Loop) interface which provides complete programmability of functions, ranges and modifiers.

The HP 3468A comes in a streamlined portable package with a handle for convenient carrying, whereas the HP 3468B comes in a plastic system case for easy rack mounting. Both are available with a rechargeable battery and battery charging circuitry for portable measurements.

High Performance

The HP 3468A/B have 5 functions with selectable 5½, 4½ or 3½ digit resolution. DC and true RMS ac voltage measurements are provided from 0.3 volt full scale range with 1 µV sensitivity up to 300 volts. The bandwidth of the true RMS ac converter is from 20 Hz to 100 kHz on all ranges and up to 300 kHz on the 30 V range. Either 2 or 4-wire ohms measurements can be selected with a maximum range of 30 MΩ. Both dc and true RMS ac current capability is provided up to 3 A. All functions on the HP 3468A/B incorporate fast autoranging. The HP 3468A/B use an integrating analog to digital conversion technique for high noise rejection. The selectable 3½, 4½ or 5½ digits of resolution allows flexibility for choosing speed or noise rejection.

Electronic Calibration

Complete calibration of the HP 3468A/B is done electronically, either manually from the front panel or remotely in an automatic calibration system. There are no internal adjustments necessary. Complete calibration of all functions is done without removal of the instrument's covers, thus saving valuable time and reducing cost. The calibration procedure for the HP 3468A/B involves connecting a calibration standard to the input, then pressing three keystrokes to store one calibration constant in CMOS RAM for each range and function. When the HP 3468A/B make a measurement, each reading is corrected according to the calibration constants that have been stored. The internal CMOS RAM used in the HP 3468A/B is powered by a

lithium battery to create a non-volatile memory capable of holding the calibration constants for more than ten years.

HP-IL

The HP Models 3468A/B are fully programmable with HP-IL, a two-wire serial interface, and the HP-41C/CV handheld calculators or the more powerful HP Series 80 computers. HP-IL provides automatic measurements and adds computational power to these bench DMMs.

Battery

The optional battery pack includes a rechargeable battery and the battery charger circuitry for up to five hours of continuous measurements.

DC Voltage

Input Characteristics

Range	Maximum Reading (5½ digit)	Resolution		
		5½ digit	4½ digit	3½ digit
0.3 V	±0.301000 V	1 µV	10 µV	100 µV
3 V	± 3.01000 V	10 µV	100 µV	1 mV
30 V	± 30.1000 V	100 µV	1 mV	10 mV
300 V	± 301.000 V	1 mV	10 mV	100 mV

Input resistance: 0.3 V, 3 V ranges: > 10¹⁰ Ω
30 V, 300 V ranges: 10 MΩ ± 1%

Maximum Input Voltage (non-destructive)

Hi to Lo: 301 Vrms or 450 V peak
Hi or Lo to Earth Ground: ±500 V peak

Measurement accuracy: ±(% of reading + number of counts).
Auto zero ON. 5½ digits.

Range	T _{Cal} ± 1°C 24 Hour	T _{Cal} ± 5°C	
		90 Day	1 Year
0.3 V	0.005 + 4	0.009 + 5	0.02 + 5
3 V	0.0035 + 2	0.0072 + 2	0.0181 + 2
30 V	0.005 + 3	0.009 + 3	0.02 + 3
300 V	0.0055 + 2	0.009 + 2	0.02 + 2

*T_{Cal} is the temperature of the environment where the 3468A/B was calibrated. Calibration should be performed with the temperature of the environment between 20°C and 30°C.