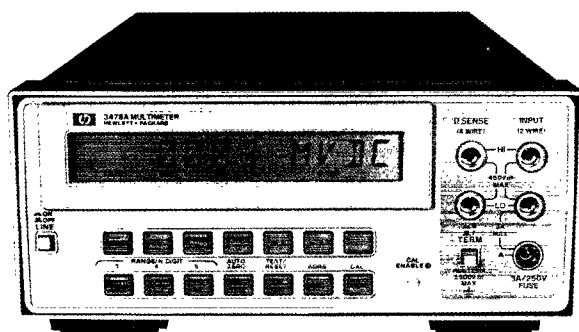


DIGITAL MULTIMETERS

High Performance 5½- to 3½- Digit Multimeters

HP 3478A, 3468A/B

- Five functions
- Up to 100 nanovolt resolution
- Electronic calibration



HP 3478A

- Higher accuracy
- Extended ranges
- HP-IB interface
- Front/rear terminals

Description

The HP 3468A/B and the HP 3478A are autoranging 5½ to 3½ digit DMMs, with five functions: dc volts, true rms ac volts, 2- and 4-wire ohms, dc current, and true rms ac current. All three DMMs feature closed-box electronic calibration, which eliminates all adjustments to provide a lower cost of ownership.

High Performance

All three DMMs offer high performance. The HP 3468A/B are designed with the bench in mind, while the HP 3478A is optimal for system use. The HP 3478A can perform production tests or acquire experimental data at 90 readings per second with 3½ digit resolution, or take 35 readings per second with 130 dB of noise rejection at 4½ digits. The HP 3478A also offers 100 nV and 100 μΩ resolution in the 5½-digit mode.

All three DMMs measure true rms ac voltage to 300 kHz, with crest factors up to 4:1. They measure true rms ac current to 20 kHz.

For even greater performance consider the new HP 34401A digital multimeters. See page 168.

Battery Operation

Both the HP 3468A and HP 3468B are available with rechargeable battery and battery-charging circuitry for portable measurements (Option 001). This allows for up to five hours of continuous battery operation.

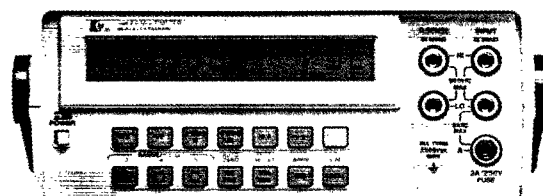
The HP 3468A comes in a streamlined portable package with a handle for convenient carrying; the HP 3468B comes in a plastic system case for easy rack mounting.

System Operation

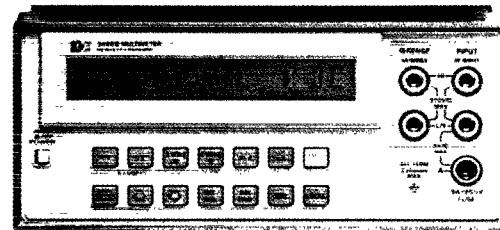
The HP 3478A features selectable front/rear inputs for flexible system connections. The Voltmeter Complete output and External Trigger input allow synchronization of the HP 3478A with a scanner for fast multiplexed measurements without the slower software commands. The test program can write prompt messages or results on the alphanumeric display. The operator can respond by pressing the HP 3478A's SRQ key to interrupt the controller and start the next test.

Reliability/Cost of Ownership

The HP 3468A/B and the HP 3478A all have demonstrated reliability. Mean time between failure (MTBF) rates exceed 100,000 hours of operation. As a result, we offer a three-year extended warranty (Option W30) for less than 4 percent of the purchase price.



HP 3468A



HP 3468B

- Portable
- Battery option
- Low cost
- HP-IL interface

Specifications

dc Voltage

Input Characteristics

Range*	Maximum Reading (5½ digit)	Resolution		
		5½ digit	4½ digit	3½ digit
30 mV	±30.3099 mV	100nV	1 μV	10 μV
300 mV	±303.099 mV	1 μV	10 μV	100 μV
3 V	±3.03099 V	10 μV	100 μV	1 mV
30 V	±30.3099 V	100 μV	1 mV	10 mV
300 V	±303.099 V	1 mV	10 mV	100 mV

*30 mV range available on HP 3478A only.

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

Maximum input voltage (nondestructive): Hi to Lo: 303 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.

HP 3478A

Range	T _{cal} * ± 1° C	T _{cal} * ± 5° C	
	24 Hours	90 Days	1 Year
30 mV	0.025 + 40	0.0275 + 40	0.035 + 40
300 mV	0.004 + 4	0.005 + 5	0.007 + 5
3 V	0.003 + 2	0.004 + 2	0.006 + 2
30 V	0.004 + 3	0.005 + 4	0.007 + 4
300 V	0.004 + 2	0.005 + 2	0.007 + 2

HP 3468 A/B

Range	T _{cal} * ± 1° C	T _{cal} * ± 5° C	
	24 Hours	90 Days	1 Year
300 mV	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 HP 3478A and the HP 3468A/B were calibrated. Calibration should be done with the temperature of the environment between 20° C and 30° C. Twenty-four-hour accuracy is relative to calibration standards.