

M3500A Specifications

DC Characteristics

Function	Range	Reso- lution	Input Resistance	1 year accuracy ± (% of reading + (23°C±5°C))
DCV (DC Voltage)	100,000mV	0.1V	>10GΩ	0.0050+0.0035
	10,000mV	10.1V	>10GΩ	0.0040+0.0007
	10,000mV	10.1V	>10GΩ	0.0035+0.0005
DCV (DC Voltage)	100,000mV	100.1V	10MΩ	0.0045+0.0006
	100,000mV	1mV	10MΩ	0.0045+0.0010

Frequency and Period

Function	Range	Frequency (Hz)	1 year accuracy ± (% of reading + (23°C±5°C))
Frequency & Period	100mV to 750V	3-5	0.10
		5-10	0.05
		10-40	0.03
		40-300K	0.01

AC Characteristics

Function	Range	Reso- lution	Frequency (Hz)	1 year accuracy ± (% of reading + (23°C±5°C))
ACV	100,0000 mV	0.1µV	3-5	1.00+0.04
			5-10	0.35+0.04
			10-20K	0.06+0.04
			20K-50K	0.12+0.05
			50K-100K	0.60+0.08
(AC True RMS Voltage)	1,000000V to 750,000V	1.0µV to 1mV	100K-300K	4.00+0.50
			3-5	1.00+0.03
			5-10	0.35+0.03
			10-20K	0.06+0.03
			20K-50K	0.12+0.05
ACI	1,000000A to 750,000V	1µA to 1mV	50K-100K	0.60+0.08
			100K-300K	4.00+0.50
			3-5	1.00+0.04
			5-10	0.30+0.04
			10-5K	0.10+0.04
(AC True RMS Current)	3,000000A to 10µA	10µA to 10.5K	3-5	1.10+0.06
			5-10	0.35+0.06
			10-5K	0.15+0.06

(**Note 1: Specifications are for 2-hours warm-up at 6.5 digit - slow AC filter with Bandwidth 3Hz - sine wave input.)
 (**Note 2: 750 ACV Range is limited to 100KHz)

Function	Range	Reso- lution	Test Current	1 year accuracy ± (% of reading + (23°C±5°C))
Resistance	100,000Ω	100.1Ω	1mA	0.010+0.004
	1,000000KΩ	1mΩ	1mA	0.010+0.001
	10,00000KΩ	10mΩ	100µA	0.010+0.001
Resistance (Specifications are for 4V or 2V when a NULL operation is used)	100,0000KΩ	100mΩ	10µA	0.010+0.001
	1,000000MΩ	1Ω	5µA	0.010+0.001
	10,00000MΩ	10Ω	500µA	0.040+0.001
Diode Test	1,00000V	10µV	500µA/10MΩ	0.800+0.010
	100,00Ω	10mΩ	1mA	0.010+0.020
Continuity	1000,00Ω	10mΩ	1mA	0.010+0.030

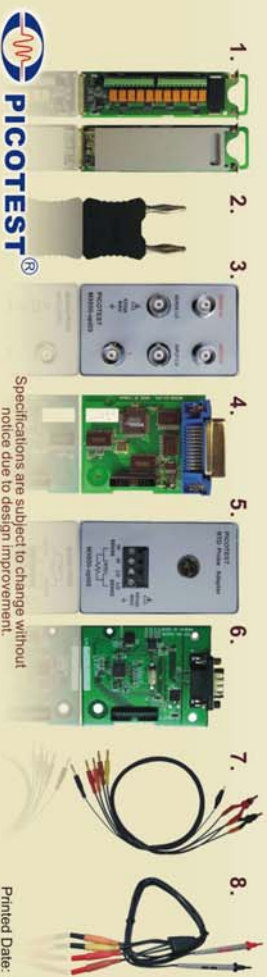
(**Note 1: Specifications are for 2-hours warm-up at 6.5 digit - slow AC filter with Bandwidth 3Hz - sine wave input.)
 (**Note 2: 750 ACV Range is limited to 100KHz)

Accessories Included:

- Standard: CD (user manual and software application), power cord, test leads, and USB cable.
- Options:
 - M3500-opt01: Multi-Point Scanner Card
 - M3500-opt02: Thermocouple Adapter
 - M3500-opt03: BNC to Banana Adapter
 - M3500-opt04: GPIB Card
 - M3500-opt05: RTD Probe Adapter
 - M3500-opt06: RS-232 Card
 - M3500-opt07: Kelvin Probe
 - M3500-opt08: 4-Wire Test Leads

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Specifications are subject to change without notice due to design improvement.

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M3500A

6.5 Digital Multimeter

Speed
 Stability
 Accuracy
 Noise Immunity



<http://www.picotest.com.tw>

PICOTEST® M3500A

Stability, Speed & Accuracy

The 6.5 digit M3500A DMM is designed by 7.5 digit techniques and provides users a stable, fast and accurate measurement. The following figure is a stability performance comparison between a typical 6.5 digit DMM and the M3500A.



High Speed: 2000 Rdgs/Sec

The M3500A is engineered with expertise to reach such a high performance. Both of the sampling rate and the data transfer rate can achieve 2000 readings per second.

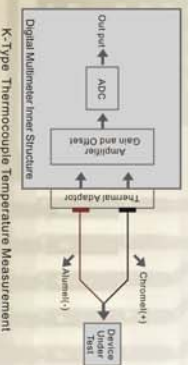
19 Full-Featured Functions

There are 11 measurements and 8 math functions :

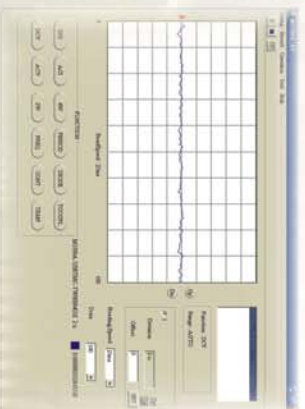
DCI, DCV, ACI, ACV, 2MΩ, 4MΩ, Frequency, Period, Diode Continuity, Temperature ; Limits, Ratio, Mx+B, %, dBm, dB, Min/Max, Null. In addition, Trigger and Memory functions are also involved.

Temperature Measurements

Our thermal measurement functions support two types of measurements: Thermocouples and RTDs. For thermocouples, we support up to seven types of sensors: E, J, K, N, R, S, and T, using a NIST Monograph 175 reference table. Moreover, for the RTD temperature conversions, we adopt three types of standard: ITS-90, IEC751 and Callendar-Van Dusen standard in our thermal measurement functions. All these are made for users' convenience.



Time	OHM	Unit	2000Hz/16.52MHz
16:52:05.0	0.002029196	Ohm	0000000.1
16:52:06.0	0.00123697		
16:52:07.0	0.00117595		
16:52:08.0	0.000979048		
16:52:09.0	0.00117595		
16:52:10.0	0.00138204		
16:52:11.0	0.0023525		
16:52:12.0	0.0023525		
16:52:13.0	0.000686992		
16:52:14.0	0.001791382		
16:52:15.0	0.002		
16:52:16.0	0.001		
16:52:17.0	0.00004961		
16:52:18.0	0.00009797		
16:52:19.0	0.00004961		
16:52:20.0	0.00004961		
16:52:21.0	0.00004961		
16:52:22.0	0.00004961		
16:52:23.0	0.00004961		
16:52:24.0	0.00004961		
16:52:25.0	0.00004961		
16:52:26.0	0.00004961		
16:52:27.0	0.00004961		
16:52:28.0	0.00004961		
16:52:29.0	0.00004961		
16:52:30.0	0.00004961		
16:52:31.0	0.00004961		
16:52:32.0	0.00004961		
16:52:33.0	0.00004961		
16:52:34.0	0.00004961		
16:52:35.0	0.00004961		
16:52:36.0	0.00004961		
16:52:37.0	0.00004961		
16:52:38.0	0.00004961		
16:52:39.0	0.00004961		
16:52:40.0	0.00004961		



Multi-Point SCAN

The M3500A supports up to 10 channels (2-pole) multi-point scan. For using this option, users need a multi-point scanner card (M3500-opt01). The installation of the multi-point scanner card is very easy - just turn off the M3500A and plug in a multi-point scanner card, and it is done!



Noise Immunity

The M3500A has an excellent performance on noise immunity. The core of this DMM is a powerful multi-slope analog to digital converter (A/D converter), which helps the DMM to reach high-speed sampling rate, filters out most noise, and keeps a good measurement linearity still. In addition, to reduce the environmental background noise, four sets of earth ground are added on the meter's front panel. And the copper conductors inside the meter also reduce the thermal EMFs.

Built-in USB Interface

The M3500A is equipped with a standard USB interface. This easy to use and hot plug-in USB interface supports a data transfer rate over 2000 readings per second. It allows the DMM to reach a truly high speed, both internal sampling rate, I/O data rate, and increase the measurement speed.

Support USBTMC

USBTMC stands for USB Test & Measurement Class. Any USB device conforms to USBTMC without the limitations of operation systems and environment can work under VISA assistance, and communicate with a computer. In other words, the control procedures via VISA to USBTMC device and via VISA to GPIB device are the same.



Displays with 3 Colors

The VFD dual displays with 5x7 dot matrix, and three-color annunciators are adopted on the M3500A. Users can easily distinguish each symbols by colors.



Free Remote-Control Software:

The Remote-Control Software, PT-TOOL & PT-LINK, is free and easy for users' application. PT-TOOL is a stand-alone software which can initiate virtual M3500A operations on the PC, and allow users to transmit data in Excel format. In addition, PT-LINK under the Microsoft Word® & Excel® application provides users a simple function of getting values and diagrams.