

**DC Characteristics**

Function	Range	Resolution	Input Resistance	1 Year accuracy ±(% of reading+ % of range) (23°C ±5°C)
DCV (DC Voltage)	100.0000mV	0.1µV	>10GΩ	0.0050+0.0035
	1.000000V	1.0µV	>10GΩ	0.0040+0.0007
	10.00000V	10µV	>10GΩ	0.0035+0.0005
	100.0000V	100µV	10MΩ	0.0045+0.0006
	1000.000V	1mV	10MΩ	0.0045+0.0010

Function	Range	Resolution	Shunt Resistance	1 Year accuracy ±(% of reading+ % of range) (23°C ±5°C)
DCI (DC Current)	10.00000mA	10nA	5.1Ω	0.050+0.020
	100.0000mA	100nA	5.1Ω	0.050+0.005
	1.000000A	1µA	0.1Ω	0.100+0.010
	3.00000A	10µA	0.1Ω	0.120+0.020

Function	Range	Resolution	Test Current	1 Year accuracy ±(% of reading+ % of range) (23°C ±5°C)
Resistance (Specifications are for 4W or 2W when a NULL operation is used.)	100.0000Ω	100µΩ	1mA	0.010+0.004
	1.000000KΩ	1mΩ	1mA	0.010+0.001
	10.00000KΩ	10mΩ	100µA	0.010+0.001
	100.0000KΩ	100mΩ	10µA	0.010+0.001
	1.000000MΩ	1Ω	5µA	0.010+0.001
	10.00000MΩ	10Ω	500nA	0.040+0.001
	100.0000MΩ	100Ω	500nA/10MΩ	0.800+0.010

Diode Test	1.00000V	10µV	1mA	0.010+0.020
Continuity	1000.00Ω	10mΩ	1mA	0.010+0.030

Dimension & Weight	85 (H) x 210(W) x 350(D) mm. Approx. 4.38kg
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**Frequency and Period**

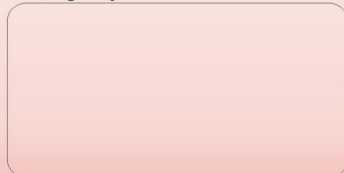
Function	Range	Frequency (Hz)	1 Year accuracy ±(% of reading) (23°C ±5°C)
Frequency & Period	100mV to 750V	3-5	0.10
		5-10	0.05
		10-40	0.03
		40-300K	0.01

**AC Characteristics**

Function	Range	Resolution	Frequency (Hz)	1 Year accuracy ±(% of reading+ % of range) (23°C ±5°C)
ACV (AC RMS Voltage)	100.0000 mV to 750.0000V	0.1µV to 1.0µV to 1mV	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
			100K-300K	4.00+0.50
ACI (AC RMS Current)	1.000000A to 3.000000A	1µA to 10µA	3-5	1.00+0.03
			5-10	0.35+0.03
			10-20K	0.06+0.03
			20K-50K	0.12+0.05
			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
			3-5	1.10+0.06
			5-10	0.35+0.06
			10-5K	0.15+0.06

(※Note 1: Specifications are for 1-hour warm-up at 6.5 digits · slow ac filter with Bandwidth 3Hz · sine wave input.)  
(※Note 2: 750 Vac Range is limited to 100 KHz)

**Area Agency**



**Accessories included:**

CD (user manual and software applications), power cord, test leads, and USB cable.

**Options :**

- Multi-Point Scanner Card : M3500-opt01
- Thermal Adapter: M3500-opt02
- BNC to Banana Adapter : M3500-opt03
- GPIB Card : M3500-opt04
- RTD Probe Adapter : M3500-opt05
- RS232 Card : M3500-opt06

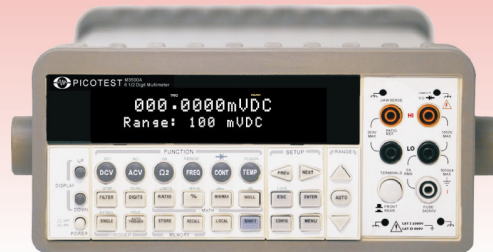
Specifications are subject to change without notice due to design improvements.

Date: 2006/10

# Picotest M3500A **USB/TMC**

## The new 6.5 Digit Digital Multimeter

Speed  
Accuracy  
Stability  
Noise Immunity



### Features

- Resolution:** 6.5 digit.
- Display:** 5x7 dot matrix VFD, dual displays with three-color annunciators.
- Remote Interface:** Standard USB & Optional GPIB.
- High Speed:** Both sampling rate and data rate are at 2000 readings/sec (at 4.5 digit setting).
- High Accuracy:** DC voltage: 0.0015% of reading (24-hour). AC voltage: 0.04% of reading (24-hour).
- AC Measurement Range:** 3 Hz to 300 KHz.
- High Sensitivity:** DC voltage: 0.1 µV. Resistance: 100 µΩ.
- High Capacity of Internal Data Memory:** It can store up to 2000 readings in data memory.

- Full-Featured Operations:** There are 11 measurements and 8 math functions.
- Temperature Measurements:** The built-in function supports two measurement methods: Thermocouples and RTDs.
- Free PC Applications:** We provide MatLab<sup>®</sup> and LabView<sup>®</sup> applications that allows users to do a variety of tasks. Also feature the PT-Link that can acquire data directly from the measurement into MS Word<sup>®</sup> or Excel<sup>®</sup>. Even without MS Word<sup>®</sup> or Excel<sup>®</sup>, user can choose our PT-Tool, which is a stand-alone application.
- Support USB/TMC:** USB/TMC stands for USB Test & Measurement Class. Any USB device conforms to USB/TMC without the limitations of operation systems and environment can work under VISA assistance, and communicate with a computer.

**Support USB/TMC**

USB/TMC stands for USB Test & Measurement Class. Any USB device conforms to USB/TMC 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 USB/TMC device and via VISA to GPIB device are the same.

**High Speed: 2000 Rds/Sec**

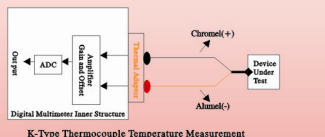
The M3500A is engineered with expertise to reach such a high performance. Both of the sampling rate and the data transfer rate can achieve 2000 readings per second.

**19 Full-Featured Functions**

There are 11 measurements and 8 math functions: DCI, DCV, ACI, ACV, 2WΩ, 4WΩ, Frequency, Period, Diode, Continuity, Temperature; Limits, Ratio, MX+B, %, dBm, dB, Min/Max, Null. In addition, Trigger and Memory functions are also involved. All functions above facilitate your measurements better.

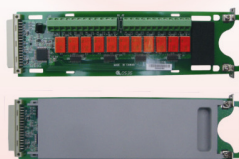
**Temperature Measurements**

Our thermal measurement functions support two types of measurements: Thermocouples and RTDs. For the 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 RTDs temperature conversions, we adopt three types of standard: ITS-90, IEC751 and the Callendar-Van Dusen standard in our thermal measurement functions. All these are made for user's convenience.



**Multi-Point Scan**

The M3500A supports up to 10 channels (2-pole) multi-point scan. For using this option, the user needs to have an additional multi-point scanner card (M3500-opt01). The installation of the multi-point scanner card is very easy - just turn off the power and plug in the 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 multiloop analog to digital converter (A/D converter). This special A/D converter (patent pending) helps the DMM to reach a high-speed sampling rate, filters out most noise, and still keeps a good measurement linearity. In addition, to reduce the environmental background noise, we have added four sets of earth ground on the meter's front panel. And the copper conductors inside the meter also contribute to reducing thermal EMFs.

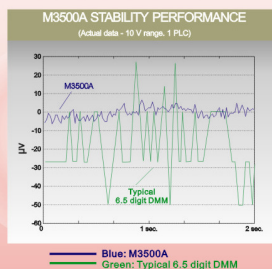
**Built-In USB Interface**

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



**Dual Displays w/ 3-Color Annunciators**

The M3500A model comes with a unique 5x7 dot matrix, VFD dual displays with three-color annunciators. User can easily distinguish each symbol from their colors.



Blue: M3500A  
Green: Typical 6.5 digit DMM