DC Characteristics

Function	Range	Input Resistance	24 hours accuracy ±(% of reading+ % of range) (23°C ±1°C)
DCV (DC Voltage)	100.0000mV	>10GΩ	0.0030+0.0030
	1.000000V	>10GΩ	0.0020+0.0006
	10.00000V	>10GΩ	0.0015+0.0004
	100.0000V	10MΩ	0.0020+0.0006
	1000.000V	10MΩ	0.0020+0.0006

Function	Range	Shunt Resistance	24 hours accuracy ±(% of reading+ % of range) (23°C ±1°C)
DCI (DC Current)	10.00000mA	5.1Ω	0.005+0.010
	100.0000mA	5.1Ω	0.01+0.004
	1.000000A	0.1Ω	0.05+0.006
	3.000000A	0.1Ω	0.10+0.020

Function	Range	Test Current	24 hours accuracy ±(% of reading+ % of range) (23°C ±1°C)
Resistance (Specifications are for 4W or 2W when a NULL operation is used.)	100.0000Ω	1mA	0.0030+0.0030
	1.000000kΩ	1mA	0.0020+0.0005
	10.00000kΩ	100uA	0.0020+0.0005
	100.0000kΩ	10uA	0.0020+0.0005
	1.000000MΩ	5uA	0.002+0.001
	10.00000MΩ	500nA	0.015+0.001
	100.0000MΩ	500nA// 10MΩ	0.300+0.010
Diode Test	1.0000V	1mA	0.002+0.010
Continuity 2W	1KΩ	1mA	0.002+0.010

Dimension & Weight	85 (H) x 210(W) x 350(D) mm Approx. 4.36kg

※ Note: The 24 hours accuracy in the specifications is relative to the calibration accuracy.

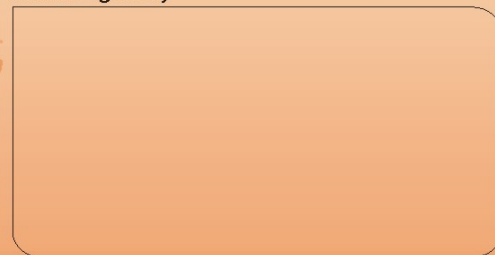### Accessories included:

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

Options：
❶ Multi-Point Scanner Card：M3500-opt01.
❷ Thermal Adapter (6 Types)：M3500-opt02E，M3500-opt02J，M3500-opt02K，M3500-opt02N，M3500-opt02RS，M3500-opt02T.
❸ BNC to Banana Adaper：M3500-opt03.
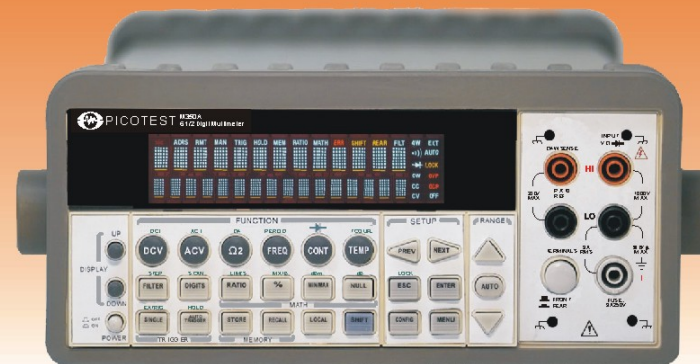❹ GPIB Card：M3500-opt04.
❺ RTD Probe Adapter：M3500-opt05.

Frequency and Period

Function	Range	Frequency (Hz)	24 hours accuracy ±(% of reading) (23°C ±1°C)
Frequency & Period	100mV to 750V	3-5	0.10
		5-10	0.05
		10-40	0.03
		40-300K	0.006

AC Characteristics

Function	Range	Frequency (Hz)	24 hours accuracy ±(% of reading+ % of range) (23°C ±1°C)
ACV (AC RMS Voltage)	100.0000 mV	3-5	1.00+0.03
		5-10	0.35+0.03
		10-20K	0.04+0.03
		20K-50K	0.10+0.05
		50K-100K	0.55+0.08
		100K-300K	4.00+0.50
	1.000000V to 750.000V	3-5	1.00+0.02
		5-10	0.35+0.02
		10-20K	0.04+0.02
		20K-50K	0.10+0.04
		50K-100K	0.55+0.08
		100K-300K	4.00+0.50
ACI (AC RMS Current)	1.000000A	3-5	1.00+0.04
		5-10	0.30+0.04
		10-5K	0.10+0.04
	3.00000A	3-5	1.10+0.06
		5-10	0.35+0.06
		10-5K	0.15+0.06

(P.S. 750 Vac range limited to 100kHz)

Area Agency

Features

Resolution: 6 ½ digit.
Display: 5x7 dot matrix VFD, dual displays with three-color annunciators.
Remote Interface: USB and GPIB (optional).
High Speed: Both sampling rate and data rate are at 2000 readings/sec (at 4½ 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: 0.1μV.
Resistance: 100μΩ.
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. For thermocouples, it supports up to 7 types of sensors: E, J, K, N, R, S and T.

Free PC Applications:
We provide MatLab® and LabView® applications that allows user to do a variety of tasks. Also feature the PT-Tool that can acquire data directly from the measurement into MS Word® or Excel®. Even without MS Word® or Excel®, user can choose our PT-Link, which is a stand-alone application.

PICOTEST

Stability, Speed and Accuracy

The 6½ digit M3500A DMM is designed with 7½ digit techniques to provide user a stable, faster and accurate measurement. The following figure is the stability performance comparison between the typical 6½ digit DMM and the M3500A.

M3500A STABILITY PERFORMANCE
(Actual data - 10 V range: 1 PLC)

M3500A

Typical 6½-digit DMM

Blue: M3500A
Green: Typical 6½ digit DMM
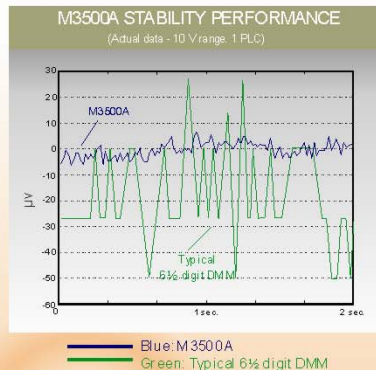
High Speed: 2000 Rdgs/Sec

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, 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 Callendar-Van Dusen standard in our thermal mesdurement functions. All these are made for user's convenience.
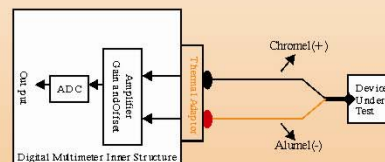
K-Type Thermalcouple Temperature Measurement

Multi-Point Scan

The M3500A supports up to 10 channels (2-pole) multi-point scan. For using this option, user needs to have an additional multi-point scanner card (Model 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 !
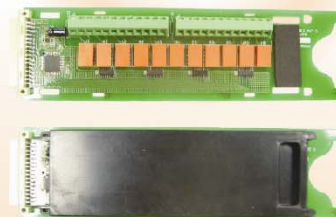
Dual Displays w/ 3-Color Annunciators

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

Noise Immunity

This model has an excellent performance on noise immunity. The core of this DMM is a powerful multi-slope analog to digital converter (A/D converter). This special A/D converter (P.S. patent is 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 high data-transfer rate over 2000 readings per second. It allows your DMM to reach a truly high speed, both internal sampling rate and I/O data rate, thus increase the measurement speed of your DMM.