Quantel 6½ Digit Digital Multimeter QT 6500

CE

Speed

Accuracy

Stability

Noise Immunity

FEATURES:

➢Resolution	: 6½ digit
> Display	: 5 x 7 dot matrix VFD, dual displays with 3-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% reading (24-hour)
> AC Measurement Range	: 3Hz to 300kHz
> High Sensitivity	: DC voltage: 0.1 µV. Resistance: 100 µΩ
> High Capacity of Internal Data Memory	: 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® or LabView applications that allows user to do a variety of tasks. Also features 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.

QUANTEL

QT 6500

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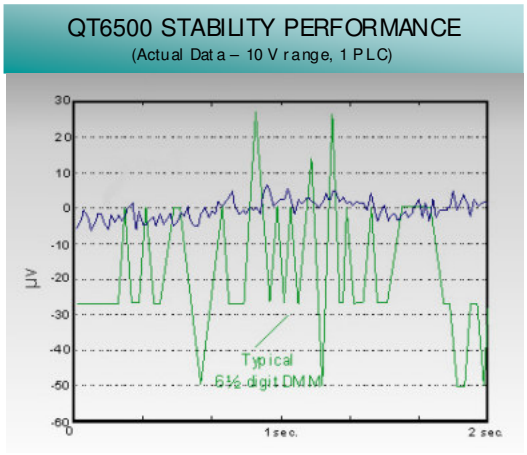
Stability, Speed and Accuracy

The 6½ digit QT6500 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 QT6500.



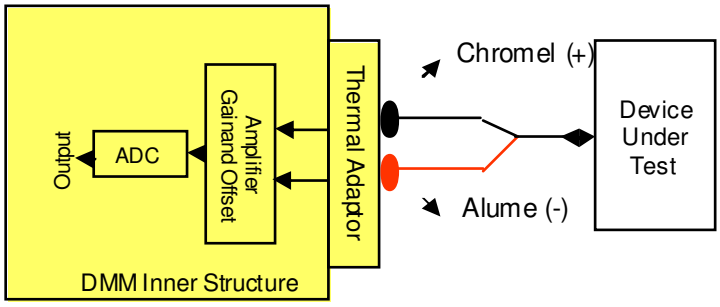
Blue QT6500
Green: Typical 6½ digit DMM

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.

High Speed: 2000 Rdgs/Sec

The QT6500 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.



K-Type Thermocouple Temperature Measurement

Temperature Measurements

Our thermal measurement function supports two types of measurements: thermocouples and RTDs. For thermocouples, we support up to seven types of sensors: J, K, T, E, N, S and R, 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 measurement functions. All these are made for user's convenience.

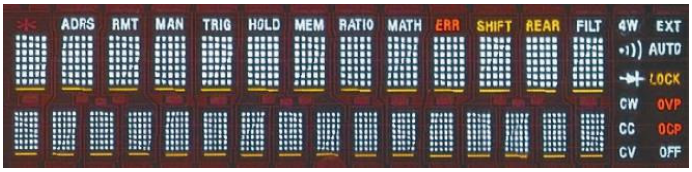
QT 6500

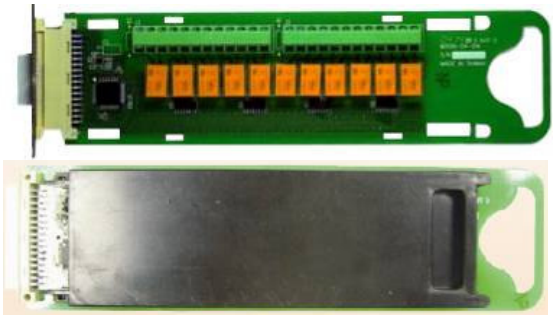
Noise Immunity

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 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.

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 symbols by their colors.



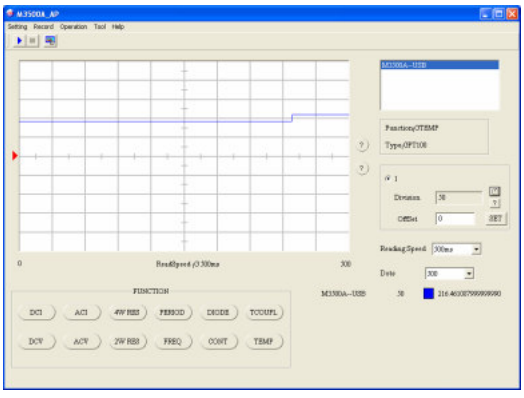


Multi-Point Scan

The QT6500 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 the power off and plug in the multi-point scanner card, and it is done!

Built-In USB Interface

QT6500 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.



Easy and 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 date 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.

Rack Mount Kits

Available for single or dual DMM mounting.

QT 6500

Specifications

DC Characteristics

Function	Range	Input Resistance	24 hours accuracy ± (% of reading+% of range) (23°C±1°C)	1 Year accuracy ± (% of reading+% of range) (23°C±5°C)
DCV (DC Voltage)	100.0000 mV	10GΩ	0.0030+0.0030	0.0050 + 0.0035
	1.000000 V	10GΩ	0.0020+0.0006	0.0040 + 0.0007
	10.00000 V	10GΩ	0.0015+0.0004	0.0035 + 0.0005
	100.0000 V	10MΩ	0.0020+0.0006	0.0045 + 0.0006
	1000.000 V	10MΩ	0.0020+0.0006	0.0045 + 0.0010

Function	Range	Input Resistance (Burden Voltage)	24 hours accuracy ±(% of reading+% of range) (23°C±1°C)	1 Year accuracy ±(% of reading+% of range) (23°C±5°C)
DCI (DC Current)	10.000000 mA	5.1Ω (< 0.1V)	0.005+0.010	0.050 + 0.020
	100.00000 mA	5.1Ω (< 0.6V)	0.01+0.004	0.050 + 0.005
	1.000000 A	0.1Ω (< 1V)	0.05+0.006	0.100 + 0.010
	3.000000 A	0.1Ω (< 2V)	0.10+0.020	0.120 + 0.020

Function	Range	Test Current	24 hours accuracy ±(% of reading+% of range) (23°C±1°C)	1 Year accuracy ±(% of reading+% of range) (23°C±5°C)
Resistance (Specifications are for both 2W and 4W when a NULL operation is used.)	100.0000 Ω	1 mA	0.0030+0.0030	0.010 + 0.004
	1.000000 KΩ	1 mA	0.0020+0.0005	0.010 + 0.001
	10.00000 KΩ	100 uA	0.0020+0.0005	0.010 + 0.001
	100.0000 KΩ	10 uA	0.0020+0.0005	0.010 + 0.001
	1.000000 MΩ	5 uA	0.002+0.001	0.010 + 0.001
	10.00000 MΩ	500 nA	0.015+0.001	0.040 + 0.001
	100.0000 MΩ	500 nA//10MΩ	0.300+0.010	0.800 + 0.010
Diode Test	1.0000 V	1 mA	0.002+0.010	0.010 + 0.020
Continuity 2W	1kΩ	1 mA	0.002+0.010	0.010 + 0.020

Frequency and Period

Function	Range	Frequency (Hz)	24 hours accuracy ±(% of reading+% of range) (23°C±1°C)	1 Year accuracy ±(% of reading+% of range) (23°C±5°C)
Frequency & Period	100 mV to 750V	3 -5	0.10	0.10
		5 -10	0.05	0.05
		10 - 40	0.03	0.03
		40 - 300K	0.006	0.01

AC Characteristics

Function	Range	Frequency (Hz)	24 hours accuracy ±(% of reading+% of range) (23°C±1°C)	1 Year accuracy ±(% of reading+% of range) (23°C±5°C)
ACV (AC RMS Voltage)	100.0000 mV	3 -5	0.10+0.03	1.00 + 0.04
		5 -10	0.35+0.03	0.35 + 0.04
		10 - 20K	0.04+0.03	0.06 + 0.04
		20k -50K	0.10+0.05	0.12 + 0.05
		50k-100K	0.55+0.08	0.60 + 0.08
		100k-300K	4.00+0.50	4.00 + 0.50
	1.000000 V to 750.000 V	3 -5	1.00+0.02	1.00 + 0.03
		5 -10	0.35+0.02	0.35 + 0.03
		10 - 20K	0.04+0.02	0.06 + 0.03
		20k -50K	0.10+0.04	0.12 + 0.05
		50k-100K	0.55+0.08	0.60 + 0.08
		100k-300K	4.00+0.50	4.00 + 0.50
ACI (AC RMS Current)	1.000000 A	3 -5	1.00+0.04	1.00 + 0.04
		5 -10	0.30+0.04	0.30 + 0.04
		10 - 5K	0.10+0.04	0.10 + 0.04
	3.000000 A	3 -5	1.10+0.06	1.10 + 0.06
		5 -10	0.35+0.06	0.35 + 0.06
		10 - 5K	0.15+0.06	0.15 + 0.06

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

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

Accessories Provided	Options
QT6500: CD (User manual and software applications), power cord, test leads and USB cable	1) **QT6500-opt01**: Multi-Point Scanner Card 2) Thermal Adapter (6 types): **QT6500-opt02E**, **QT6500-opt02J**, **QT6500-opt02K**, **QT6500-opt02N**, **QT6500-opt02RS**, **QT6500-opt02T** 3) **QT6500-opt03** : BNC to Banana Adapter 4) **QT6500-opt04** : GPIB Card 5) **QT6500-opt05** : RTD Probe Adapter: 6) **QT6500-opt06** : Rack Mount Kit for 1 x DMM 7) **QT6500-opt07** : Rack Mount Kit for 2 x DMM

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