



Megohmmeters DB620, DB621, DB622 and DB625

Versatile and accurate measurements up to 1.000.000 GW



- **Powerful charge capability**
- **High speed testing 45msec**
- **High accuracy $\pm 2\%$ to 1 TW**
- **Contact Check Function**
- **Large Measurement Range from 10kW up to 1 PW (Peta = 1.000.000 Giga)**
- **Leakage current down to 1pA, Accuracy $\pm 2\%$, ± 1 pA**
- **Test Voltages: DB620 & 621, 10Volt to 1kV in 1V steps
DB622, 10Volt to 500V
DB623, 10Volt to 1000V
DB625, 50Volt to 5000V**
- **Charge current:
DB620 & 621 - 2/ 25/100mA
DB622/23 double power supplies, pre-charge 200/100 mA and fine charge 2 / 25mA
DB625 max 5kV version 20mA, DB625 max 2kV version 45mA**
- **4 ranges and/or auto range**
- **5 Programmable Limits**
- **Floating power supply on DB620 for HV testing on ground level**
- **Designed to be used with 40 channel IR Scanner type DB640**

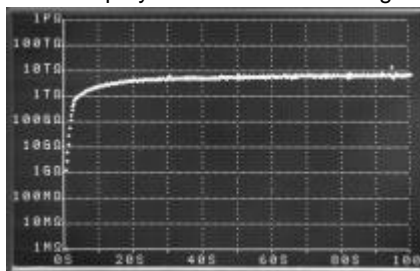
GENERAL:

The Megohmmeters are designed for use in various applications such as testing insulation resistance of cables and testing leakage current in capacitors.

The instruments are microprocessor controlled. The menu driven bright back-lit LCD display enables quick, logical and easy-to-use operation.

The instruments are available in four versions, two for general purpose, DB620 & DB621 up to 1kV 100mA. The two are identical, just DB620 is equipped with floating HV power supply for HV tests on ground level. The DB622 and 23 are specially designed for capacitor testing machines. The DB622/23 have two high voltage outputs up to 500/1000V, and 200/100mA current capability for pre-charge stations. Finally the DB625 is the high voltage Megohmmeter for tests voltages from 50V up to 5kV.

The display can show the leakage



current or insulation resistance as a function of time as an X-Y graph or

a bar graph simulating an analogue meter. The bar graph can use auto-

scaling or 8 fixed scales with two decades each.

The instrument can be programmed to automatically perform timed test consist of up to 12 test steps, either High current charging, normal charging, or a measurement. sequences. Each sequence may last up to 60 min.

The Megohmmeters also features pre-programmed sequences, for example a sequence for Quality Control, that charges until a minimum insulation resistance is reached, then discharges automatically.

Programmable delay of measurement: Up to 10sec in steps of 1 msec after external triggering.

The measurement results may be used for BIN sorting with one out of five limit sets.

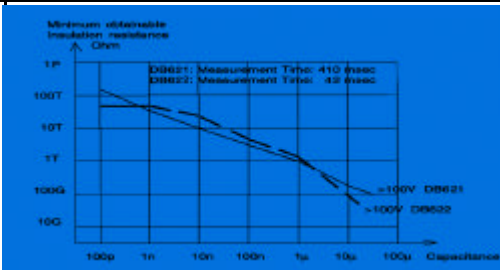
The instruments are fitted with both standards IEEE (GPIB) and RS232 Interfaces. Also an optically insulated Handler/Limits Interface is included.

The high speed of the Megohmmeters: 45 msec between measurement results give the possibility of implementing prediction intelligence in an external PC for very high-speed production test of capacitors

The high test speed is supported by the instruments in other ways: First of all by the low input impedance 10kΩ for test current above 10nA, and 1MΩ for test current below 10nA. The special 25mA or 200mA (DB622) charge mode speeds up insulation testing of large capacitors significantly.

Automatic check of contact failure for capacitors and capacitive elements like cables is a feature implemented for high volume production. The contact check does not increase the test time.

Specifications for Megohmmeters DB620, DB621, DB622 and DB625:

	DB620 and DB621	DB622	DB625
RESISTANCE MEASUREMENTS:			
Range:	10 kOhm to 1 POhm (dependent on test Voltage) (Peta = 1.000.000 Giga)		
Accuracy for all Megohmmeters:	<div>Rx< 20 GOhm x Vtest: ± 2% of value Rx> 20 GOHM x Vtest: ± Vtest/1pA in Ohm max reading Vtest/0.1pA</div> <div></div>		
DC CURRENT MEASUREMENTS:			
Range:	1 pA to 1 mA		
Accuracy:	±2% of value ±1pA		
DISPLAY READING			
Direct reading:	Current or Amperes, 3,5 digits		
Bar Graph:	8 ranges with 2 decades per graph with fixed- or autoscaling		
x – y Graph:	Current or resistance scale vs time scale		
INPUT RESISTANCE:	10 kOhm for Itest> 10nA / 1 MOhm for Itest< 10nA		
Discharge Resistance:	10kOhm	10kOhm	100kOhm
TEST VOLTAGE			
Range:	10 V to 1kV in 1 V steps	10 V to 500V in 1 V steps	50 V to 5kV in 1 V steps
Accuracy:	±2% of value or ±1 Volt in un-calibrated mode		
Stability: ±10ppm @ 10% change in line voltage	±20 ppm/degree C	±20 ppm/degree C	±100 ppm/degree C
Source Resistance:	150 Ohm	150 Ohm	220Ohm/1kOhm
Max currents:	Measurement: 2/25/100mA	2/25/100mA	2kV version 2/25/45mA 5kV version 2/18mA
	Charging: 100mA	Pre-charge: 200mA	
Switching:	Manually ON/OFF from front panel or controlled by a built-in timer, or by remote		
TIMING	Programmable Fast Charging: 0 to 9999 msec (charge resistance 200 Ohm)		
Programmable Measurement delay:	0 to 9999msec		
Discharge Time:	t = 0.1 x Cx (in µF) with Vtest decreasing to 1 % of test level		
MEASURING SPEED:			
Trig Mode:	One Measurement: <45 msec(excl. charging) Average up to n = 100measurements: <45 + (N-1) x 40 msec (excl. charging)		
Continuous Mode:	Direct Reading: 90 to 4000msec depending on average Bar Graph: Display update every 40 msec		
STANDARD FITTED INTERFACES:			
LIMITS:	5 built-in programmable limits on resistance or current		
IEEE 488: (IEEE 488-1 and 2)	"Talker Only" and Talker/Listener" Modes. True sub-set of Standard protocol		
RS232C:	Baud rate up to 19.200 Baud. Full two-way control/output		
Control I/O:	Optocoupler input / output 25 V/10mA. Trig, Measure END Signal, Trig Ready Signal, Data Ready Signal, Fault Signal, Limit Outputs		
Ambient Temperature:	10 –40 degrees Celsius		
Power:	90 – 130 and 200 – 260 V AC 50 – 60 Hz		
DIMENSIONS:			
Height:	140 mm/ 5.5 inch		
Width:	438 mm/ 17.2 inch		
Depth:	360 mm/ 14.2 inch		
Weight:	14.9 kg/ 32.8 lbs.	16.5 kg/ 36.3 lbs.	14.9 kg/ 32.8 lbs.
ACCESSORIES SUPPLIED:			
Line power connector, Two 1.5 m coax cables with H.T. BNC connectors Brackets for 19" rack-mounting, Manual in English			
Options:			
Available in Scanner versions:	5 channels/40 Channels	5 channels/40 Channels	5 channels/40 Ch @ 2kV
Fixture for axial and radial components:	Yes	Yes	Yes
Test probe with trig contact:	Yes	Yes	Yes
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