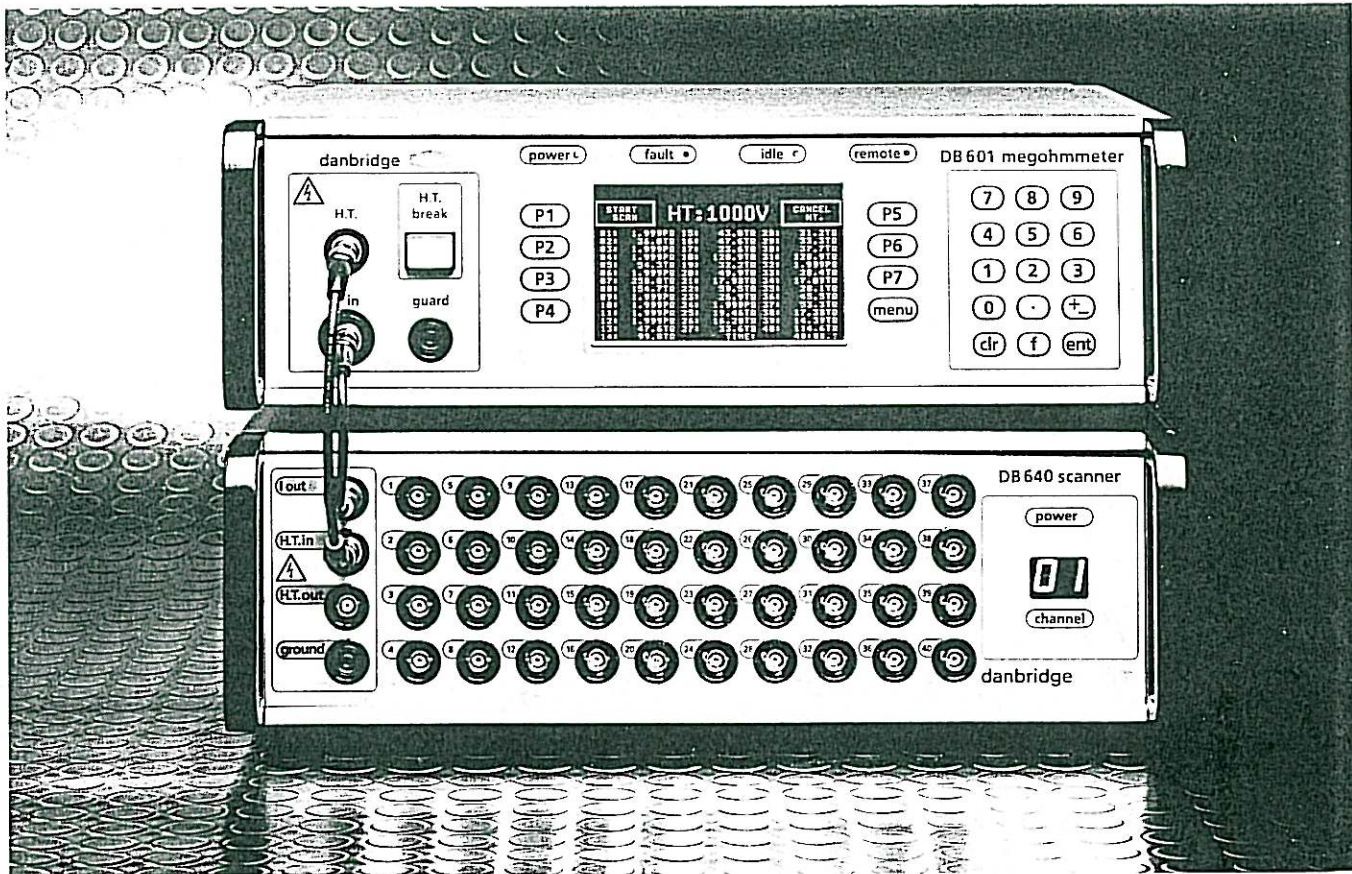


DB 640 Scanner for Insulation Measurements



- * Full specifications maintained through scanning
- * Scan of forty inputs within 2.5 seconds
- * Forty Handler Outputs standard fitted (opto-insulated)
- * Contact-check Function on each input
- * Shortcircuit-check Function on each input
- * Modular design allowing configurations from 4 to 40 inputs

The DB640 Scanner has been designed to be used together with the Danbridge DB601, DB602 or DB604 Megohmmeters for applications such as sample testing of capacitors in QC departments or auto-matic testing of leads in a multiwire-cable.

The outstanding specifications of the DB601 / 2 / 4 are maintained when measuring through the DB640 Scanner. It is built of modules each having four inputs, and can be configured as 4,8,12 up to 40 inputs.

A complete scan of forty components can be completed in less than 2.5 seconds, which makes the DB640 well suited for use in automatic capacitor testing machines, using the scanner principle. The DB640 Scanner is standard fitted with forty handler outputs for GO / NO GO testing against a minimum limit programmed into the DB601 / 2 / 4. The handler outputs are electrically insulated with optocouplers.

All inputs feature a contact test function for cable/capacitors. Also each of the forty items under test can be tested for a shortcircuit in order, for example, to switch it out, preventing overloading of the power supply.

The operation of the DB640 Scanner is done via a high speed serial link between the DB640 and a DB601 / 2 / 4 Megohmmeter. Quick, logical and easy manual operation takes place from the DB601 / 2 / 4 keyboard with softkey menus and the results are presented for example in tabular form on the large LCD display. Remote computer control is done from the IEEE or RS232 interfaces of the DB601 / 2 / 4.

SYSTEM SPECIFICATIONS, DB640 and DB601 / 2 / 4

RESISTANCE MEASUREMENTS :

Range: 10 kOhm to 1 POhm (dependent on test Voltage)
(Peta = 1.000.000 Giga)

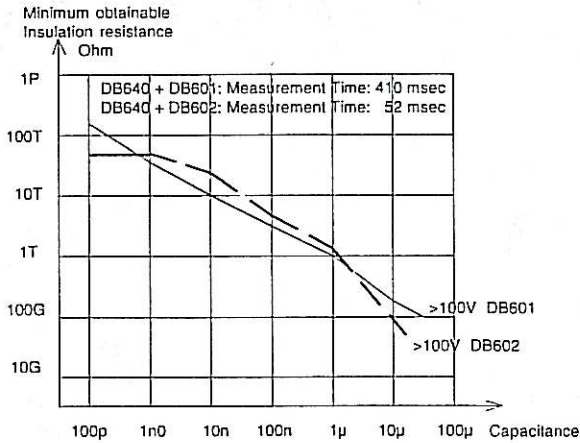
Accuracy:

$R_x < 20 \text{ GOhm} \times V_{\text{test}}: \pm 2\% \text{ of value}$
 V_{test}

$R_x > 20 \text{ GOhm} \times V_{\text{test}}: \frac{\quad}{V_{\text{test}}}$ in Ohm,

$\frac{\quad}{R_x} \pm 1 \text{ pA}$

max reading $V_{\text{test}}/0.1 \text{ pA}$



DC CURRENT MEASUREMENTS :

Range: 1 pA to 1 mA

Accuracy: $\pm 2\%$ of value $\pm 1 \text{ pA}$

DISPLAY READING:

Direct: 3.5 digits up to 40 channels R or I

Single channel Bar Graph: 8 ranges with 2 decades
per graph with fixed- or autoscaling

Singel channel x - y Graph: Current or resistancescale
vs timescale

INPUT RESISTANCE:

10 kOhm for $I_{\text{test}} > 10 \text{ nA}$

Programmable 10 kOhm or

1MOhm for $I_{\text{test}} < 10 \text{ nA}$

TEST VOLTAGE :

DB601 Range: 10 V to 1000 V in 1 V steps

DB602 Range: 10 V to 500 V in 1 V steps

DB604 Range: 50 V to 5 kV in 1 V steps

Accuracy: $\pm 2\%$ of value or $\pm 1 \text{ Volt}$

Stability: $\pm 10 \text{ ppm/degree C}$

$\pm 10 \text{ ppm}$ for 10% change in line voltage

DB604 $\pm 100 \text{ ppm}$

Source Resistance: 100 Ohm

DB604: 3.3 kOhm

Max Currents:

Measurement: 2 mA

Charging: 25 mA

DB602 precharge: 100mA

DB604: 5mA

Switching: Manually ON/OFF from front panel controlled
by a built-in timer or by remote control

TIMING :

Programmable Fast Charging: 0 to 9999 msec
(charge resistance 200 Ohm)

Programmable Measurement delay: 0 to 59999 msec

Discharge Time: $t = 0.1 \times C_x$ (in μF) with

V_{test} decreasing to 1 % of test level

Discharge Resistance: DB604: 100 kOhm

MEASURING SPEED:

Trig Mode:

Scan of Measurements without averaging, 40 channels:

< 2.5 sec (excl. charging) incl. setting of

Limits outputs

Average up to $n = 100$ measurements:

Add 40 msec per channel per extra measurement

Single channel Continuous Mode:

Direct Reading: 90 to 4000 msec

depending on average

Bar Graph: Display update every 52 msec

LIMITS :

Programmable limit on resistance or current

One GO / NO GO Limit output for each channel

STANDARD FITTED INTERFACES (via DB601 / 2 / 4):

IEEE 488: "Talker Only" and "Talker/Listener" Modes

True sub-set of Standard protocol

IEEE 488-1 and 2

RS232C: Baud rate up to 9600 Baud

Full two-way control/output

Control I / O :

Trig (scan start) : Optocoupler input

Measure END Signal

Trig Ready Signal

Data Ready Signal

Fault Signal

Limit Outputs

} : Optocoupler 25 V/10 mA
active for each single
measurement

Limit Outputs on DB640:

40 Limit Outputs

Scan End Signal

} : Optocoupler 25V/10mA

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: DB601: 14.9 kg / 32.8 lbs.

DB602: 16.5 kg / 36.3 lbs.

DB640: 14.9 kg / 32.8 lbs.

ACCESSORIES SUPPLIED :

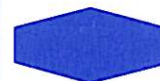
Line power connector

Cables for connecting DB640 and DB601 / 2 / 4

Brackets for 19" rack-mounting

ALL SPECIFICATIONS SUBJECT TO CHANGES WITHOUT PRIOR NOTICE

danbridge as



DANBRIDGE AS
HIRSEMÅRGEN 5
DK-3520 FARUM
DENMARK

TELEPHONE +45 4293 5532
TELEFAX +45 4293 4504
TELEX: 37579 DANBRIDK
A/S REG. NO. 23163