DO8000

RUGGED, PORTABLE DIGITAL TRANSFORMER WINDING RESISTANCE OHMMETER

The DO8000 can measure and save more than 10,000 high resolution test results, along with transformer nameplate data. With its expansive memory, bright LCD screen, and concise reports from its built in printer, this model sets the standard in test equipment. The DO8000 can store hundreds of files, each containing a virtually unlimited number of resistance measurements, with tap and winding details, and several fields of information about the transformer, its location, and the operator. The file manager makes this information easy to locate, open, view, and print past results. The DO8000 features 4.5 digit resolution and 0.25% accuracy for precise measurement of winding resistance. Input channels have sophisticated sigma-delta D/A converters and notch filters to eliminate the effects of substation noise.

KEY FEATURE	DO8000
True 4 measurement eliminates lead resistance errors	■
Wide measuring range 0.1 milli ohm to 2 kilo ohm	■
Resolution 0.1 micro ohm on 2 milli ohm range	■
High accuracy 0.25% rdg + 0.25% fs	■
2 channel measurement for primary and secondary windings	■
Data logging with large colour alpha numeric storage for test results	■
Robust power supply for fast testing of large power transformers	■
Open circuit limit mode 20 mV / 50 mV maximum	■
Interface RS232 and USB	■

CROPICO

Operating Principle

The resistance of windings is measured by passing DC current through the unknown resistance, and measuring the resulting voltage drop. The DO8000 calculates the resistance by the formula R = E/I.

Winding resistance challenges

Measuring small resistance in a highly inductive environment can be a challenging task. The voltage across an indicator is defined by the formula V = L di/dt. Some power transformers have inductance (L) of over 1000 henrys, therefore minute changes in current will result in undesirable voltage swings that can make it impossible to measure the DC resistance of the transformer windings. The Cropico DO8000 addresses this challenge in several ways so that the instrument is able to achieve stable resistance readings on the largest of transformers in record time.

- The DO8000 uses a powerful, highly regulated and filtered constant current source to drive current through the windings.
- The DO8000 uses a 30 volt source, which is sufficient to drive the core into saturation where small changes in current have no effect on the measured resistance.
- By connecting primary and secondary in series, speed of saturation is increased because there are more Amp turns contributing to the flux in the core. The resistance measurement of both windings are made at the same time, on channels A & B.

DO8000 SPECIFICATIONS

Measurement
4 wire eliminates lead resistance

Display
LCD Graphics colour LCD display visible in bright sunshine

Ranges
Manual/Automatic independently selectable for each measuring channel

Terminals
4 mm safety sockets

Working Temperature
-10°C to +50°C

Storage Temperature
-15°C to +80°C

Relative Humidity
0 to 90% non condensing

Mains Supply
90 to 132Vac 50/60Hz, 198 to 256Vac 50/60Hz 550VA max

Safety
EN 61010   EN 61326

Dimensions
470mm x 360mm x 180mm (W H D) approx

Mass
11.4kg approx

Protection
Protected from overvoltage transients & substation noise, high speed current interrupt detector, audible warning during and after test, emergency stop button

Memory
Over 100 files with over 120 measurements each in text files that are compatible with most spreadsheet formats

Systems Interface
RS232 and USB ports

CODE ▼	ITEM ▼	DO8000 OPTIONS
CR-001	Shipping crate	
LS03-8000	Lead set with 3 metre leads terminated in large Kelvin clips type KC3	
LS04-8000	Lead set with 3 metre and 15 metre lead length terminated in large Kelvin clips type KC3	