

## Product Announcement

### New! Introducing the Doble M2H – MCM Insulation Analyzer



#### M2H - MCM:

This easy to use, field - rugged system provides automatic measurements for evaluating the condition of high voltage power apparatus



The new digital M2H - MCM (M-series Control & Measurement) Insulation Analyzer brings semi-automatic Power Factor test and measurement techniques to M2H users in an easy to use instrument package. The M2H - MCM provides a graphical user interface, automated measurements, and data management to M2H users, producing stable test results and fast test times.

This M2H - MCM Instrument system from Doble incorporates the latest measurement technology to evaluate the insulation quality and assess the condition of high voltage power apparatus. This fully automated measurement system is designed to meet the needs of both laboratory and field-testing personnel.

A straightforward user interface and automated measurement circuit removes human interaction, thereby ensuring faster and more accurate results. The user interface incorporates a sunlight viewable VGA screen, embedded keyboard and communication connectors (USB and LAN) to interface with a PC or peripheral devices. The software will perform all relevant measurements and calculations and display the result in an easy to read format. Up to 200 results can be stored in a file, and the built-in hard drive provides unlimited data storage. Memory stick support provides an easy mechanism to transfer results back to a PC.

The M2H - MCM offers unique features to accurately test and evaluate electrical apparatus. The ability to automatically remove the influence of electrostatic interference from the measurements ensures precise and repeatable results. The optional temperature humidity sensor automatically measures and records the ambient conditions to assist in the interpretation of the test results.

#### Upgrade your M2H

The M2H - MCM is used with your existing M2H Transformer unit, providing you with an automated test capability at a fraction of the cost of a new test set. The MCM is substituted for the M2H Instrument without any modifications to the hardware. Simply plug the intercase lead of the M2H Transformer into the MCM and all the measurements and calculations are performed automatically.

#### Features

**Automated:** The automated measurement circuit eliminates human error to ensure accurate test results

**Easy to Use:** The straightforward User Interface makes operating the instrument extremely easy, reducing the need for training.

**Immune to Interference:** Accuracy of test results is unaffected by severity of electrostatic and electromagnetic interference, which are always present in an energized substation.

**Rugged and Reliable:** Provides the accuracy of a laboratory instrument with durability for field use.

**Latest Technology:** Access to USB (1 and 2) and LAN connector provides straightforward connection to PC and other peripheral devices.

## Technical Specifications of the Doble M2H - MCM

### Power Specification

**Output Voltage:** 0 to 12kV  
**Output Current:** 200mA continuous at 10kV

### Measurement, Accuracy and Range

**Test Voltage:**  
 Range: 25V to 12kV  
 Resolution: 1V  
 Accuracy:  $\pm 1\%$  of reading,  $\pm 1V$

**Test Current:**  
 Range: 0 to 5.0 A  
 Resolution: 0.0001 mA (0.1  $\mu A$ )  
 Accuracy:  $\pm 1\%$  of reading,  $\pm 1 \mu A$

**Capacitance:**  
 Range: 0 to 5.0  $\mu F$   
 Resolution: 0.1 pF  
 Accuracy:  $\pm 0.5\%$  of reading,  $\pm 1pF$

**Inductance:**  
 Range: 6H to 10MH  
 Resolution: 0.001 mH  
 Accuracy:  $\pm 0.5\%$  of reading

**Watts:**  
 Range: 0 to 2 KW, actual  
 Resolution: 0.5 mW  
 Accuracy:  $\pm 2\%$  of reading at 10 kV,  
 $\pm 0.03\%$  of VA,  $\pm 0.5$  m W

**Dissipation Factor:**  
 Range: 0 to  $\pm 100.00\%$  PF (0 to  $\pm 1.0000$ )  
 0 to  $\pm 999.00\%$  Tan  $\delta$  (0 to  $\pm 1.0000$ )  
 Resolution: 0.01% (0.0001)  
 Accuracy:  $\pm 1\%$  of reading,  $\pm 0.04$  PF/Tan  $\delta$  (0.0004)

**Temperature Measurement:**  
 Range:  $-20^{\circ}C$  to  $+50^{\circ}C$   
 Resolution:  $0.1^{\circ}C$   
 Requires option temperature probe

## Tech. Specifications continued..

### Environmental

**Temperature**  
 Operating:  $-20^{\circ}C$  to  $+50^{\circ}C$   
 Storage:  $-40^{\circ}C$  to  $+70^{\circ}C$   
**Humidity**  
 80% non-condensing

### Dimensions

**M2H-MCM Instrument**  
 9" H x 15" W x 14" D  
 23 cm H x 50 cm W x 48 cm D

**Transformer**  
 30" H x 15.6" W x 13" D  
 76 cm H x 40 cm W x 36 cm D

### Weights

**M2H-MCM Instrument**  
 9 kg / 20 lbs

**Transformer**  
 64 kg / 140 lbs



Doble is certified ISO 9001: 2000



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*Specifications are subject to change without notice.*



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