M4100

Technical Specifications

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The M4100 unit is the foundation of the M4000 Diagnostic Test System for Condition Assessment of Power Apparatus

Note: A personal computer is required to operate the M4100

Power Specifications:

Output Voltage: 0 to 12 kV AC

Output Current: 100 mA continuous at 10 kV
200 mA > 30 minutes at 10 kV
300 mA > 4 minutes at 10 kV

Operating time period based on 50°C operating temperature. Longer durations at high currents will be realized at lower operating temperatures

Output Power: 3 kVA

Sinusoidal output signal internal generated independent of input supply, No loss in performance when used with portable generator

A.C. Input*: 95-264 V AC 47 to 63 Hz
16 A max at 110 V,
10 A max at 220 V

Measurement, Accuracy and Range Test Frequency:

Test Frequency:

Range: 45 to 70 Hz independent of input signal

Resolution: 0.1 Hz

Accuracy: ±1% of reading

Test Voltage:

Range: 25 V to 12 kV

Resolution: 1 V

Accuracy: ±1% of reading, ±1 V

Test Current:

Range: 0 to 5.0 A

Resolution: 0.1 µA

Accuracy: ±1% of reading, ±1 µA

* *There are power restrictions for input voltages below 190 V AC.*

Capacitance:

Range: 0 to 100 µF

Resolution: 0.01 ρF

Accuracy: ± 0.5% of reading, ± 1 ρF

Inductance:

Range: 6 H to 10 MH

Resolution: 0.01 H

Accuracy: ± 0.5% of reading

Watts:

Range: 0 to 2 kW, actual

Resolution: 0.5 mW

Accuracy: ± 2% of reading at 10 kV,
± 0.03% of VA, ±0.5 mW

Dissipation Factor:

Range:

%PF	0 to ±100.00%
PF	0 to ±1.0000
% Tan δ	0 to ±999.99%
Tan δ	0 to ±9.9999
mW/Var	0 to ±9999.9

Resolution: 0.01% / 0.0001

Accuracy: ± 0.5% of reading, typical
±0.04% PF/Tan δ
±0.0004 PF/Tan δ

Temperature Measurement:

Range: -20 °C to +50 °C

Resolution: 0.1 °C

Accuracy: ±4 °C

Requires optional temperature probe

ENVIRONMENTAL

Temperature:

Operating: -20 °C to +50 °C

Storage: -40 °C to +70 °C

Humidity: 90% non-condensing

DIMENSIONS

Instrument: 10-1/4 in. H x 20 in. W x 25-1/4 in. D 26 cm H x 50.8 cm W x 64.1 cm D

High Voltage Cable: 60 ft./18 mt (other lengths available as options)

Weights

Instrument: 95 lbs/45.5 kg

MAXIMUM INTERFERENCE CONDITIONS AT LINE

Frequency

Electrostatic: 15 mA rms of interference current into any lead or cable with no loss of measurement accuracy. Applicable to a maximum ratio of interference current to specimen current of 20:1.

Electromagnetic: 500 µT, at 50 Hz in any direction

For more information, contact M4000@doble.com

STANDARDS

EMC Emissions

FCC 47 CFR Part 15 Class A Emissions requirements (USA)

EN 55011:1998/A1:1999/A2:2002 Group 1 Class A ISM Emissions requirements (EUROPE)

AS/NZS CISPR 11:2004 Class A ISM Emissions requirements (Australia)

EMC Immunity

EN 61326:1997/A1:1998/A2:2001/A3:2003

IEC 61000-4-2/3/4/5/6/11

IEC 801-2(1984) Electrostatic Discharge

ANSI/IEEE C37.90.1 Surge Withstand Capability

SAFETY

EN 61010-1 :2001 (2nd Edition)

ENVIROMENTAL

IEC 60068-2-2 Dry Heat

IEC 60068-2-1 Cold

IEC 60068-2-30 Damp Heat

MECHANICAL

IEC 60068-2-27 Shock

IEC 60068-2-6 Vibration

IEC 60068-2-6 Drop test

ASTM D999.75 Transport Shock Test

Specifications are subject to change without notice.

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Doble is certified ISO 9001:2000

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