**M7100™ TECHNICAL SPECIFICATIONS**

### POWER SUPPLY
- **AC Input**: 90...264 VAC Single Phase, 47...63 Hz, Portable Generator or Inverter Compatible
- **AC Power Consumption**: 4 kW, 16 A max
- **GFI/RCBO Compatibility**: Class A & B

### MECHANICAL FUNCTIONALITY/PERFORMANCE
- **Size**: 32.75" x 21" x 16.5"
- **Weight**: 175 lbs
- **Shipping Container**: Integrated

### DIAGNOSTIC & CALIBRATION FUNCTIONALITY
- **Diagnostic Capabilities**: Integrated server for remote diagnostics
- **Source & Measurement Validation**: Integrated diagnostic tests for all measurement circuits

### HIGH VOLTAGE OUTPUT
- **Voltage Range**: 0.250...12 kV RMS
- **AC Frequency Range**: 15...500 Hz
- **AC Current Range Maximum**: 300 mA
- **Accuracy (Voltage)**: 0.5%

### LOW VOLTAGE OUTPUT
- **Voltage Range**: AC: 1...250 V RMS, DC: 1...175 V
- **AC Frequency Range**: 0.1 mHz...1000 Hz
- **AC Current Maximum**: 35 A RMS
- **DC Current Maximum**: 35 A
- **Accuracy**: 0.1%

### ELECTRICAL I/O SPECIFICATIONS
- **OLTC**: OLTC control by clip connections
- **Temperature & Humidity Module**: External Integrated Temp & Humidity Module Interface
- **Control Connection**: USB 2.0, Ethernet – PC

### ENVIRONMENTAL & DURABILITY SPECIFICATIONS
- **Operating Temperature**: -20°C to +50°C
- **Storage Temperature**: -40°C to +70°C
- **Relative Humidity**: 5% to 95% (non-condensing)
- **Altitude**: Operational < 10,000 ft above sea level
- **Dry Heat**: IEC 60068-2-2
- **Cold**: IEC 60068-2-1
- **Damp Heat**: IEC 60068-2-30
- **Shock**: IEC 60068-2-27: 15g/11ms, half-sinusoid, each axis
- **Transport Shock**: ASTM D999.75
- **Vibration**: IEC 60068-2-6: 10...150 Hz, acceleration 2g continuous (20 m/s²); 10 cycles per axis
- **Drop Test**: IEC 60068-2-31
- **Safety**: EN 61010-1:2001 [2nd Edition]
- **Safety Switches**: IP65 (A4EG-BE2R041, A4EG-BM2B041), IP66 (A4EG-C000041), EN60947-5-1, UL 508, CSA C22.2 No.14, GB 14048.5, EN60947-5-1
### Included Accessories

**System Cables**

<table>
<thead>
<tr>
<th>Type</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Voltage Cables 65’ (19.8M)</td>
<td>2</td>
</tr>
<tr>
<td>Low Voltage Cables (Red, Blue, Yellow, Black) 65’ (19.8M)</td>
<td>4</td>
</tr>
<tr>
<td>Measurement Cables (Red, Blue, Yellow) 65’ (19.8M)</td>
<td>3</td>
</tr>
<tr>
<td>Ground Lead (Copper)</td>
<td>1</td>
</tr>
<tr>
<td>OLTC Control Cable</td>
<td>1</td>
</tr>
<tr>
<td>USB Cable</td>
<td>1</td>
</tr>
<tr>
<td>Ethernet Cable</td>
<td>1</td>
</tr>
<tr>
<td>AC Power Cord [20A AC]</td>
<td>1</td>
</tr>
<tr>
<td>External Temperature &amp; Humidity Module w/Cable</td>
<td>1</td>
</tr>
<tr>
<td>External LED Strobe Lamp w/Cable</td>
<td>1</td>
</tr>
<tr>
<td>8’ [2.4M] Integrated Safety Switch/Cable</td>
<td>1</td>
</tr>
<tr>
<td>65’ [20M] Integrated Safety Switch/Cable</td>
<td>1</td>
</tr>
<tr>
<td>Doble Bushing Tap Adapters</td>
<td>4</td>
</tr>
<tr>
<td>Hot Collar Straps</td>
<td>7</td>
</tr>
<tr>
<td>5 ft Copper Jumpers</td>
<td>5</td>
</tr>
</tbody>
</table>

### Optional Accessories

- M7 Truck
- MFL Liquid Insulation Test Cell
- Type C Resonator (Up to 12 kV)
- Doble Universal Controller (DUC)
- M140 Capacitor Bank Kit
- IEC 61850 Adapter Kit
- M110: AMPDC
- M120: AMPAC

### Test Capabilities

- Power Factor/Tan Delta
- Variable Frequency Power Factor/Tan Delta
- Demagnetization Feature
- 3 Phase Turns Ratio
- 10 kV Turns Ratio
- Leakage Reactance 1Ø and 3Ø equivalent
- 3 Phase Winding DC Resistance
- 3 Phase 10kV [Single Phase] Exciting Current and Loss

### Future Enhancements

- OLTC Dynamic Resistance Measurement (DRM)
- External Reference
- Capacitor Bank
- Primary Injection
- μΩ Meter

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**Specifications are subject to change without notice.**

Doble is ISO certified.

Doble is an ESCO Technologies Company.

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