The DCR 50 is a simple off-line DC test to identify problems in the stator groundwall insulation system of large AC electric machines before an unexpected in-service failure occurs. Unlike the pass or fail of a DC or AC hi-pot test, the DC ramp test gives diagnostic information and can be stopped before a failure occurs.

Unlike a stepped voltage, the ramped voltage enables the user to separate the polarization and capacitive current components from the leakage current so that small insulation defects can be easily found.

A single-phase test usually takes less than an hour to perform and can be done by one person. The DCR 50 tests according to IEEE Std 95-2002.

The DC Ramp Test method has been proven in use (for almost 40 years) by the US Bureau of Reclamation and others on a wide variety of machines with asphalt, polyester and epoxy-mica insulations.

Test curves are captured on a PC to allow easy comparison to similar machines or past results.
DC RAMP TEST SET

Features

- Automatically ramps voltage from 0 to 50kV
- Ground presence detection and protection
- Optional manual voltage control (0-50 kV)
- Automatic trip protection (high/low tracking, output limit, fault detection)
- Built-in winding discharge circuit
- Analog outputs for voltage and current
- Connection to PC to display results as test progresses, store multiple curves and test parameters for later analysis and display curves side-by-side for test comparison

Specifications

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power Input</td>
<td>85-264 V AC, 2 A, 50/60 Hz</td>
</tr>
<tr>
<td>Output Voltage and Metering</td>
<td>0-50 kV DC, negative polarity</td>
</tr>
<tr>
<td>Ramp Rate</td>
<td>0-2.5 kV/min (continuously adjustable)</td>
</tr>
<tr>
<td>Output Current</td>
<td>1.0 mA max</td>
</tr>
<tr>
<td>Current Metering</td>
<td>0-1/2.5/5/10/25/50/100/250 μA</td>
</tr>
<tr>
<td>Pen Plotter Outputs</td>
<td>0-10 V DC fsd</td>
</tr>
<tr>
<td>PC</td>
<td>PCMCIA A/D interface; Windows 2000 or XP</td>
</tr>
<tr>
<td>Operating Temperature</td>
<td>0º to +40ºC (+32º to +104ºF); Storage: -25º to +60ºC (-13º to +140ºF)</td>
</tr>
<tr>
<td>Operating Altitude</td>
<td>0-3000m</td>
</tr>
<tr>
<td>Dimensions &amp; Weight (2 cases)</td>
<td>Control Unit: 20 x 37 x 48cm (8” x 15” x 19”), 10 kg (22 lb.)</td>
</tr>
<tr>
<td></td>
<td>Above in case: 34 x 52 x 76cm (15” x 20” x 30”), 32 kg (70 lb.)</td>
</tr>
<tr>
<td></td>
<td>HV Unit: 14.5 x 37 x 47cm (6” x 15” x 19”), 13 kg (29 lb.)</td>
</tr>
<tr>
<td></td>
<td>Above in case: 34 x 52 x 76cm (15” x 20” x 30”), 34 kg (75 lb.)</td>
</tr>
<tr>
<td>Standards</td>
<td>Tests to IEEE Std 95-2002™</td>
</tr>
<tr>
<td></td>
<td>CE Compliance</td>
</tr>
<tr>
<td></td>
<td>EN61010-1 for safety</td>
</tr>
<tr>
<td></td>
<td>EN61326 for EMC</td>
</tr>
<tr>
<td></td>
<td>Bureau of Reclamation Report REC-ERC-78-7, “A Programmable DC High Voltage Ramped Test System for Electrical Insulation.”</td>
</tr>
</tbody>
</table>

Examination of the current versus voltage curve allows test stoppage before failure assessment of insulation condition and diagnosis of damage, defects, and deterioration mechanisms.

Kit Contents

- Control Unit
- HV Module
- Control, HV and Grounding Cables
- PCMCIA Interface Card & Cable
- Notebook Computer with pre-installed Software
- Operations Manual
- Also available without PCMCIA and PC

Other ADWEL Testing Products

- EL CID, PDA Premium and COPA, STB-3, Couplers, Corona Probe and Wedge Tightness Detector

Represented by:

ISO 9001: 2000 CERTIFIED

HEAD OFFICE

ADWEL INTERNATIONAL LTD.
50 Ironside Crescent, Unit 6
Toronto, Ontario,
Canada M1X 1G4
Telephone: +1 (416) 321-1988
Toll Free: (800) 463-9371
Fax: +1 (416) 321-1991
info@adwel.com

EUROPEAN OFFICE

ADWEL INTERNATIONAL LTD.
Park House, Greenhill Crescent
Watford Business Park
Watford, Herts WD18 8PH
United Kingdom
Telephone: +44-1923-254433
Fax: +44-1923-218278
info@adwel.co.uk

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www.adwel.com