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This information is transmitted by G&W Electric Co. and accepted by you subject to the following understanding and agreement: By accepting these instructions and any included drawings you agree that all rights to the drawing and information contained herein, as well as the proprietary and novel features of the subject matter, are reserved by G&W Electric Co. and that devices embodying such features or information derived from these disclosures will not be manufactured by you or disclosed to others without the expressed written consent of G&W Electric Co. These drawings and information contained herein are and remain the property of G&W Electric Co. and are not to be copied, reproduced or disclosed to others without the expressed written consent of G&W Electric Co.
SECTION 1

1.1 General
This document is intended to provide the user with necessary information to properly receive, inspect, test, install and maintain a G&W sectionalizing cabinet. If after reviewing the information contained herein, you should have any questions, please contact G&W Technical Support.

<table>
<thead>
<tr>
<th>Read these Instructions</th>
<th>Read and understand the contents of this document and follow all locally approved procedures and safety practices before installing, operating or maintaining this equipment. Be sure to read and understand the Safety Information.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Keep these Instructions</td>
<td>This document is a permanent part of your G&amp;W product. Keep it in a safe location where it can be readily available and referred to as necessary.</td>
</tr>
</tbody>
</table>
| How to Contact G&W     | By Phone: 708-388-5010, Monday through Friday, 8:00 AM to 5:00 PM Central Time  
By Fax: 708-388-0755  
E-mail: webmail@gwelec.com  
For Technical Support: 708-297-3835  
Fax: 708-389-0016  
E-mail: Aftermarket.support@gwelec.com  
Mail: 305 W. Crossroads Parkway, Bolingbrook, Illinois 60440, USA  
Internet: To find your local G&W Representative visit our Web site: www.gwelec.com |

1.2 Qualified Persons

![WARNING]

The equipment covered by this document is intended to be installed, operated and maintained by qualified persons who are trained in the installation, operation and maintenance of electric power distribution equipment along with the associated hazards. A qualified person has been trained and is competent:
- To de-energize, clear and tag circuits and equipment in accordance with established safety procedures.
- To distinguish between live parts from non-live parts of the equipment.
- In the proper use of insulated tools, wears protective equipment such as rubber gloves, hard hat, safety glasses, flash-clothes, etc. in accordance with established safety practices and is trained in the care of such equipment.
- As in certified in rendering first aid, especially in the technique of removing a person in contact with a live circuit and in applying cardiopulmonary respiration.

These instructions are intended only for qualified persons and are not intended as a substitute for adequate training and experience in safety procedures for this type of equipment.

1.3 Shipment Inspection
Examine the crated equipment carefully for any damage that may have occurred in transit. If damage is found, a claim must be filed at once with the transportation company. Uncrate and remove packing as soon as possible after receiving the equipment. Examine the equipment carefully for any hidden damage that may have occurred in transit and was previously undetected. If damage is found, a claim should be filed at once with the transportation company.
1.4 **Storage**  
Sectionalizing cabinets that will not be installed immediately should be suitably stored in a clean, dry location. Possible replacement of crating material should be investigated. Make certain sectionalizing cabinets are protected from potential damage.

1.5 **Standards**  
Some or all of these standards are applicable to this sectionalizing cabinet:

<table>
<thead>
<tr>
<th>Standards</th>
</tr>
</thead>
<tbody>
<tr>
<td>IEEE 386 - 1995. Separable Insulated Connectors for Power Distribution Systems Above 600 V.</td>
</tr>
<tr>
<td>IEEE C37.100 - 1992. Definitions for Power Switchgear</td>
</tr>
</tbody>
</table>
SECTION 2. SAFETY INFORMATION & PRECAUTIONS

2.1 Safety Alert Messages
The following is important safety information. For safe installation and operation, be sure to read and understand all danger, warning and caution information. The various types of safety alert messages are described below:

<table>
<thead>
<tr>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>DANGER</strong></td>
<td>Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.</td>
</tr>
<tr>
<td><strong>WARNING</strong></td>
<td>Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.</td>
</tr>
<tr>
<td><strong>CAUTION</strong></td>
<td>Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury. May also be used to alert against unsafe practices.</td>
</tr>
</tbody>
</table>

2.2 Following Safety Instructions
Carefully read all safety messages in this manual and on your equipment. Keep safety signs in good condition. Replace missing or damaged safety signs.

Keep your equipment in proper working condition. Unauthorized modifications to the equipment may impair the function and/or safety and effect equipment life.

If you do not understand any part of these safety instructions and need assistance, contact G&W Technical Support

2.3 Replacement Instruction and Labels
Replacement instructions and safety labels are available from G&W. To obtain them, please contact Technical Support

2.4 List and Location of Safety Labels
The following are typical safety labels which must be followed. Refer to the outline drawing for approximate location of the labels on the sectionalizing cabinet.
SECTION 3

SECTIONALING CABINET DESCRIPTION

3.1 General
G&W manufactures a complete line of sectionalizing cabinets. The sectionalizing cabinets are connected to
cable systems using industry standard bushings and connectors. Refer to the outline drawing for
identification and location of components for your particular sectionalizing cabinet.

SECTION 4

INSTALLATION

4.1 Handling

<table>
<thead>
<tr>
<th>WARNING</th>
</tr>
</thead>
</table>
| Do not lift or handle sectionalizing cabinet by the bushings. Doing so may result in
damage to the sectionalizing cabinet and possible injury or death to personnel. |

The sectionalizing cabinet is equipped with lifting eyes or other lifting provisions. Use proper equipment to
obtain a vertical lift without damaging the unit. Refer to the outline drawing for approximate weight and
lifting provision details.

4.2 Mounting
Provisions should be made for ample cable training space. All sectionalizing cabinets have provisions for
mounting. Refer to the outline drawing for mounting details. Check that the sectionalizing cabinet, in its
installed position, is secured and that mountings are adequate to support the weight of the device.

4.3 Grounding (earthing)
Ground bosses are located on the sectionalizing cabinet. To ensure a good ground connection, the top
surface of each boss must be sanded to expose bare metal before making a ground connection. The
sectionalizing cabinet must be attached to a suitable ground as required by local practice. Ensure that all
cable terminations for shielded cable have been properly grounded to the sectionalizing cabinet tank during
installation.

4.4 Cable Connections
Each bushing must be properly terminated. Bushings must be terminated following instructions supplied by
the elbow manufacturer.

<table>
<thead>
<tr>
<th>WARNING</th>
</tr>
</thead>
</table>
| Sectionalizing cabinet bushings are designed to accept cable accessories constructed in
accordance with IEEE 386 or a termination means specifically approved by G&W Electric
Co. The use of any other cable termination means can present an electrical hazard or
cause failure resulting in serious injury or death. |
4.5 Installation Testing
High potential testing on sectionalizing cabinets and cable systems may be conducted. Refer to Section 7, Testing.

4.6 Cabinet
Pad mount cabinets provide tamper resistant construction. Penta-head bolts require a special wrench to open and are located on each access door behind the door handle. Door handles conceal Penta-head bolt when pushed flush against the door and are supplied with a provision for padlocking. Wind stops are supplied for each door panel. Some cabinets are supplied with a flip-up top section that is locked in place behind the main access doors.

SECTION 5 OPERATIONS

5.1 General
Sectionalizing cabinets are assigned ratings by the manufacturer and have been designed and tested using levels established by IEEE and/or IEC standards. Design and production tests are conducted to demonstrate that the equipment will perform within the ratings on the nameplate and customer drawing. Refer to the outline drawing for complete ratings.

WARNING
Equipment in service will perform to established ratings only if properly installed, operated and maintained. Power switchgear is characterized by high voltage and high continuous and short circuit currents. It should be installed, operated and maintained by Qualified Personnel. Failure to properly install, operate or maintain the equipment may result in damage to the sectionalizing cabinet and possible injury or death.

For further information on operation and maintenance of equipment see IEEE C2 standards.

5.2 Bushing Locations
The junction bars are already installed to the mounting plate inside the sectionalizing cabinet. Refer to the outline drawing for the bushing locations.
SECTION 6  MAINTENANCE

6.1 General
No maintenance is required.

6.2 Finish of Sectionalizing Cabinet
The paint finish for the junction bar mounting panel inside the cabinet is comprised of a two part epoxy, gray coating (Munsell No. 5BG7/0.4). Refer to the customer drawing for the color of the pad mount cabinet. The paint can be cleaned using soap and water. Touch up paint is available from G&W.

6.3 Repair Parts List
To inquire about spare or repair parts, contact G&W Technical Support with the sectionalizing cabinet serial number.

6.4 Returning Equipment to Service

6.4.1 Make sure that the grounding means are removed.

6.4.3 For sectionalizing cabinets, padlock the cabinet before leaving the area even momentarily. This should be done even if the sectionalizing cabinet is accessible only to qualified persons.
7.1 Installation Testing

<table>
<thead>
<tr>
<th>WARNING</th>
</tr>
</thead>
</table>
| Follow these precautions when performing electrical tests:  
1) Completely de-energize the sectionalizing cabinet and disconnect it from all power sources.  
2) Terminate all bushings with an insulated cap or other suitable cable termination capable of withstanding the test voltage. |

<table>
<thead>
<tr>
<th>WARNING</th>
</tr>
</thead>
<tbody>
<tr>
<td>The DC withstand capability of sectionalizing cabinet may be reduced due to damage, or electrical wear. The DC test voltage must not exceed the withstand limits of the sectionalizing cabinet. Application of DC voltages greater than the withstand capability of the sectionalizing cabinet can result in flash over, injury and equipment damage.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>WARNING</th>
</tr>
</thead>
<tbody>
<tr>
<td>When it is necessary to test the cables connected to an energized sectionalizing cabinet, proper insulation between the power-frequency source and the DC test equipment must be maintained. Follow the recommendations of the manufacturer of the test or fault location equipment.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>DANGER</th>
</tr>
</thead>
<tbody>
<tr>
<td>Do not exceed the Maximum Dielectric Test Levels as shown in Section 7.1.2. Exceeding the test levels can cause flash over. This can lead to a fault in the sectionalizing cabinet or test equipment and cause serious personal injury or death.</td>
</tr>
</tbody>
</table>

7.1.1 General

After sectionalizing cabinet are completely installed in accordance with local practices, high voltage testing may be performed before the section cabinet is energized. Test levels will generally be established by the cable or termination manufacturer but should not exceed the values listed in the tables below. Insure the test equipment is used in accordance with the manufacturer's instructions.
7.1.2 Maximum Dielectric Test Levels:

<table>
<thead>
<tr>
<th>Sectionalizing Cabinet</th>
<th>Withstand Test Voltage</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>50 Hz</td>
<td>60 Hz</td>
</tr>
<tr>
<td>12kV</td>
<td>N/A</td>
</tr>
<tr>
<td>N/A</td>
<td>15.5kV</td>
</tr>
<tr>
<td>24kV</td>
<td>27kV</td>
</tr>
<tr>
<td>36kV</td>
<td>38kV</td>
</tr>
</tbody>
</table>

7.2 Cable Testing
DC testing is primarily used to test the integrity of installed cable systems and terminations. DC testing should be performed in accordance with appropriate cable test standards, and must not exceed the rating of the sectionalizing cabinet.

**WARNING**

DC testing cables installed on sectionalizing cabinet must only be performed when all ways of the sectionalizing cabinet and cables are isolated from all system voltages. Applying a DC test voltage to a sectionalizing cabinet with energized ways may lead to electrical failure of the resulting in personnel injury or death.

7.2.1 Maximum Cable Testing Levels:

<table>
<thead>
<tr>
<th>Sectionalizing cabinet Rating</th>
<th>Cable Testing</th>
<th>Cable Thumping</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>50 Hz</td>
<td>60 Hz</td>
<td>Impulse (BIL)</td>
</tr>
<tr>
<td>12kV</td>
<td>15.5kV</td>
<td>95 kV</td>
</tr>
<tr>
<td>24kV</td>
<td>27kV</td>
<td>125kV</td>
</tr>
<tr>
<td>36kV</td>
<td>38kV</td>
<td>150kV</td>
</tr>
</tbody>
</table>

7.3 Factory Production Tests
Routine (production) tests are conducted in accordance with applicable standards. The following are typical production tests performed:

- Dielectric Test (60hz Withstand Test)
- Partial Discharge (Corona)
- Design and Visual Checks (Operating Assurance Test)