

## QUICK START GUIDE

# 400A Generator Breaker Kit for NE-S and NE-M

150049763 - Kit is not compatible with NE-M high current plants featuring all horizontal distribution panels

Read and follow all safety statements, warnings, and precautions in this guide.

### Tools required:

- Torque wrench - 0-240 in-lb/28 Nm
- Screw Driver - Phillips #2
- Sockets - 7/16", 9/16"

### Step 1 - Power Down System

Disconnect power to all equipment prior to conducting any work.

### Step 2 - Determine Location for Breakers

Load connections are made to bullet-style distribution (selectable) positions configured as Load Breaker Positions. Install breakers on horizontal distribution panels.

### Step 3 - Install 400A Breaker Assembly

Breaker may be installed in single voltage or selectable voltage distribution panels.

Breakers must be installed before generator connection is made.

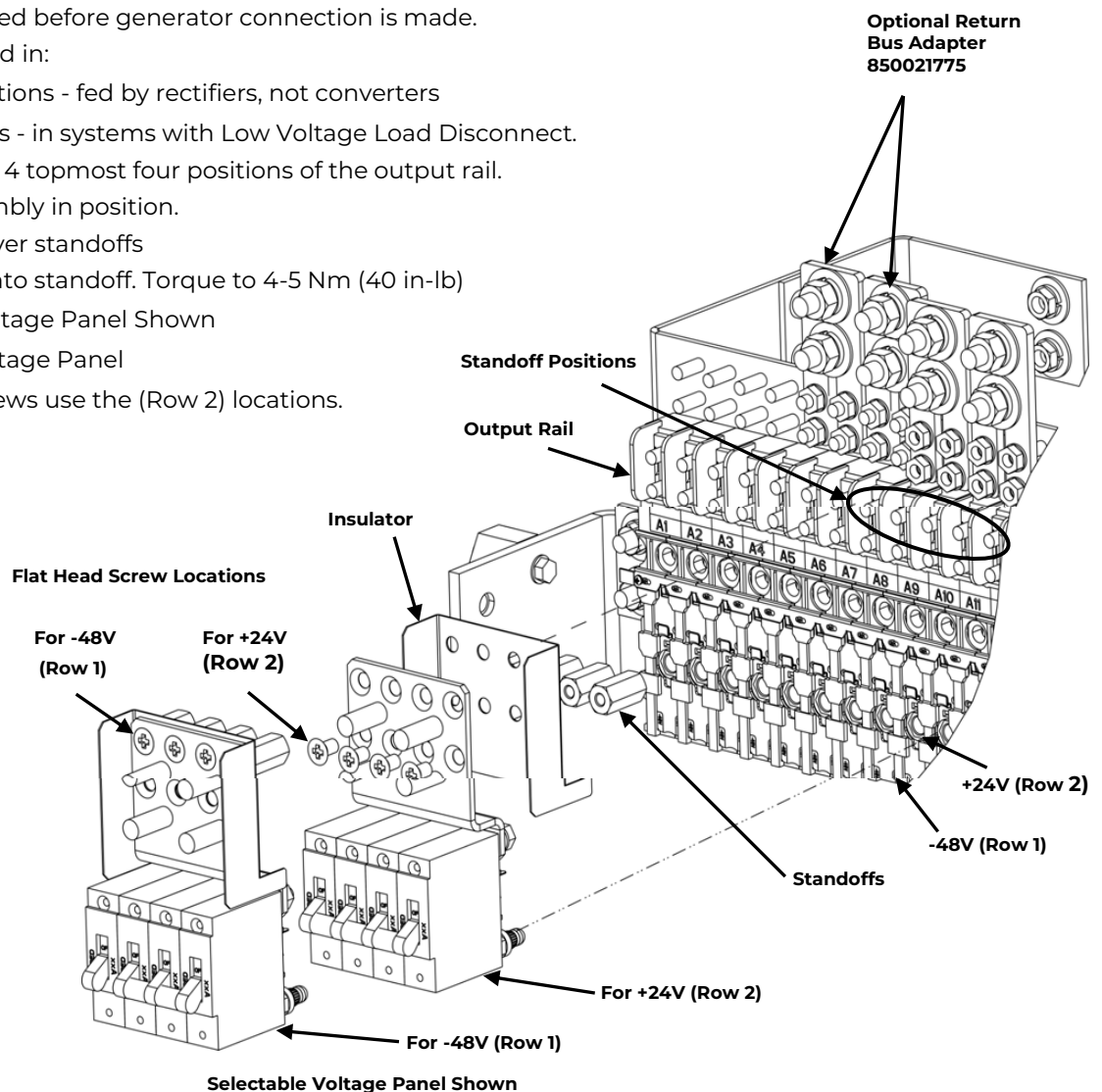
Breaker must be installed in:

- Primary Voltage Positions - fed by rectifiers, not converters
- Critical Load Positions - in systems with Low Voltage Load Disconnect.

1. Install standoffs into 4 topmost four positions of the output rail.
2. Install breaker assembly in position.

- a. Place insulator over standoffs
- b. Tighten screws into standoff. Torque to 4-5 Nm (40 in-lb)

- Selectable Voltage Panel Shown
- For Single Voltage Panel
- Flat Head Screws use the (Row 2) locations.



## Step 4 - Attach Cables from Generator to Breaker and Return

Use adapters as needed, as indicated in the Infinity S (NE-S) Quick Start Guide and the Infinity M (NE-M) Installation Guide. (See Reference documents).

1. Connect return cables between return bus (4 positions) and generator with provided hardware.  
Torque to 65 in-lb - 7/16" socket.
2. Connect power distribution cables from DC Generator to circuit breaker with provided hardware.  
Torque to 240 in-lb - 9/16" socket.
3. Secure/dress all cables on path to top of power system.

## Step 5 - Initial Start-up and Verification

1. Leave breaker switches in the OFF position and turn DC Generator on to verify (by measuring proper voltage).
2. Close breakers and shut off the generator.

## Specifications and Application

- Specifications and ordering information are in the Infinity S Ordering Guide and the Infinity M Ordering Guide available at [omnionpower.com](http://omnionpower.com)
- External Surge Protective Devices (SPDs) - are required on all AC inputs.
- Equipment Safety is Approved in IEC 60664-1 Installation Category II environments.
- Equipment and subassembly ports:
  1. are suitable for connection to intra-building or unexposed wiring or cabling;
  2. can be connected to shielded intra-building cabling grounded at both ends.
- Grounding / Bonding Network – Connect to an Isolated Ground Plane (Isolated Bonding Network) or an Integrated Ground Plane (Mesh-Bonding Network or Common Bonding Network).
- Installation Environment - Service Access area only.
- DC return may be either Isolated DC return (DC-I) or Common DC return (DC-C).

## Reference Documents

These documents are available at [omnionpower.com](http://omnionpower.com)

Document	Title
CC848908475	Infinity S (NE-S) Quick Start Guide
CC848815325	Infinity M (NE-M) Installation Guide

Drawings and other engineering information is available - contact Technical Support at

1-877-546-3243 (US)

1-972-244-9288 (Int'l)

or

[techsupport@elpc.omnion.com](mailto:techsupport@elpc.omnion.com)

## Safety Statements

- Do not install this equipment over combustible surfaces.
- Rules and Regulations - Follow all national and local rules and regulations when making field connections.
- Compression Connectors
  - U. S. or Canada installations - use Listed/Certified compression connectors to terminate Listed/Certified field-wire conductors where required.
  - All installations - apply the appropriate connector to the correct size conductor as specified by the connector manufacturer, using only the connector manufacturer's recommended or approved tooling for that connector.
- Electrical Connection Securing: Torque to the values specified on labels or in the product documentation.
- Cable Dress - dress to avoid damage to the conductors and undue stress on the connectors.
- Fuses and Circuit Breakers - Size as required by the National Electric Code (NEC) and/or local codes.

Refer to the equipment ratings to assure current does not exceed:

Continuous Load (List 1) - 60% of protector rating

Maximum Load (List 2 - typically end of discharge) - 80% of protector rating.

- Field-wired Conductors - Follow all National Electric Code (NEC) and local rules and regulations .
  - Insulation rating: 90°C minimum; 105°C (minimum) if internal to enclosed equipment cabinets.
  - Size AC field-wired conductors with 75°C ampacity (NEC) equal to or greater than their panel board circuit breaker rating.
  - Size DC field-wired conductors with 90°C ampacity (NEC) equal to or greater than circuit breaker/fuse rating.
- AC and DC input disconnect/protection - Provide accessible devices to remove input power in an emergency.
- Alarm Signals - Provide external current limiting protection. Rating 60V, 0.5A unless otherwise noted.
- Grounding - Connect the equipment chassis directly to ground. In enclosed equipment cabinets connect to the cabinet ac service ground bus. In huts, vaults, and central offices connect to the system bonding network.
- Circuit Breakers and Fuses - Use only those specified in the equipment ordering guide.
- GMT Style Fuses - Use only fuses provided with safety caps.

## Precautions

- Install, service, and operate equipment only by professional, skilled and qualified personnel who have the necessary knowledge and practical experience with electrical equipment and who understand the hazards that can arise when working on this type of equipment.
- Disconnect batteries from outputs and/or follow safety procedures while working on equipment. Batteries may be connected in parallel with the output of the rectifiers. Turning off the rectifiers will not necessarily remove power from the bus.
- Do not disconnect permanent bonding connections unless all power inputs are disconnected.
- Verify that equipment is properly safety earth grounded before connecting power. High leakage currents may be possible.
- Exercise care and follow all safety warnings and practices when servicing this equipment. Hazardous energy and voltages are present in the unit and on the interface cables that can shock or cause serious injury. When equipped with ringer modules, hazardous voltages will be present on the ringer output connectors.
- Use the following precautions in addition to proper job training and safety procedures:
  - Use only properly insulated tools.
  - Remove all metallic objects (key chains, glasses, rings, watches, or other jewelry).
  - Follow Lock Out Tag Out (LOTO) procedures: customer specified, site specific, or general as appropriate. Disconnect all power input before servicing the equipment. Check for multiple power inputs.
  - Wear safety glasses.
  - Follow Personal Protective Equipment requirements: customer specified, site specific, or general as appropriate.
  - Test circuits before touching.
  - Be aware of potential hazards before servicing equipment.
  - Identify exposed hazardous electrical potentials on connectors, wiring, etc.
  - Avoid contacting circuits when removing or replacing covers;.
  - Use a personal ESD strap when accessing or removing electronic components.
- Personnel with electronic medical devices need to be aware that proximity to DC power and distribution systems, including batteries and cables, typically found in telecommunications utility rooms, can affect medical electronic devices, such as pacemakers. Effects decrease with distance.

Notes:

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