Chapter 1 Installation

1.1 Receiving and Unpacking the RPP

RPP V2 units are shipped as fully assembled units with internal power wiring completed. Units are bolted to shipping pallets and protected by two layers of external plastic covering. The RPP is first covered by a large plastic bag and then shrink-wrapped. Finally the unit is secured to the pallet with metal retaining bands.

For moving the RPP V2 unit on its pallet, Eaton recommends that you leave the retaining bands intact until you have moved the RPP to a convenient location for removing it from its pallet.

NOTE Inspect the shipped unit twice, upon receipt and after removing packaging materials.

1. Upon receiving an RPP V2 pallet and before removing packaging, inspect the packaging for visible damage. If damage is evident notify the shipping company and Eaton (see or Eaton contact information).

   File any damage claims with the shipping company at time of delivery. Damage must be noted on the bill of lading. Failure to properly document all damage may result in the unit's warranty being voided.

2. Carefully cut the retaining bands, making sure that they do not scrape the exterior of the unit or scratch the paint.

⚠WARNING

- Metal retaining bands are under tension. Exercise caution when cutting them.
- Wear protective clothing including eye, face, and hand protection when cutting retaining bands!

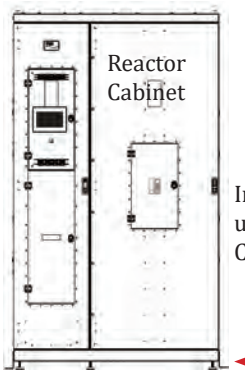
1.2 Moving the RPP V2 Unit

To move the RPP off the pallet with a forklift or pallet jack, do the following:

1. The RPP V2 unit is bolted to its pallet using (2) seismic brackets. With the RPP pallet resting on the floor, remove the seismic brackets and bolts and retain them for unit installation
2. Insert forklift or pallet jack forks under the RPP V2 Cabinet at the REACTOR CABINET SIDE. (This may be the left or right side depending on configuration.) Inserting forks from the Reactor Cabinet side minimizes the risk of damaging the unit's casters and provides better balance because the Reactor Cabinet is the heavier side. DO NOT INSERT FORKS FROM THE FRONT OR REAR OF THE UNIT.
3. Move the RPP V2 unit as close to its installation location as you can and withdraw the forklift.
4. Roll the RPP on its casters to its installation location.

Figure 1. RPP Forklift Positioning

Height: 83.2" [2113.3] (with leveling feet)
Width (front): 48" [1219.2]
Depth (side): 38" [965.2]
Weight: 1300 lbs. [590 kg.] approx.

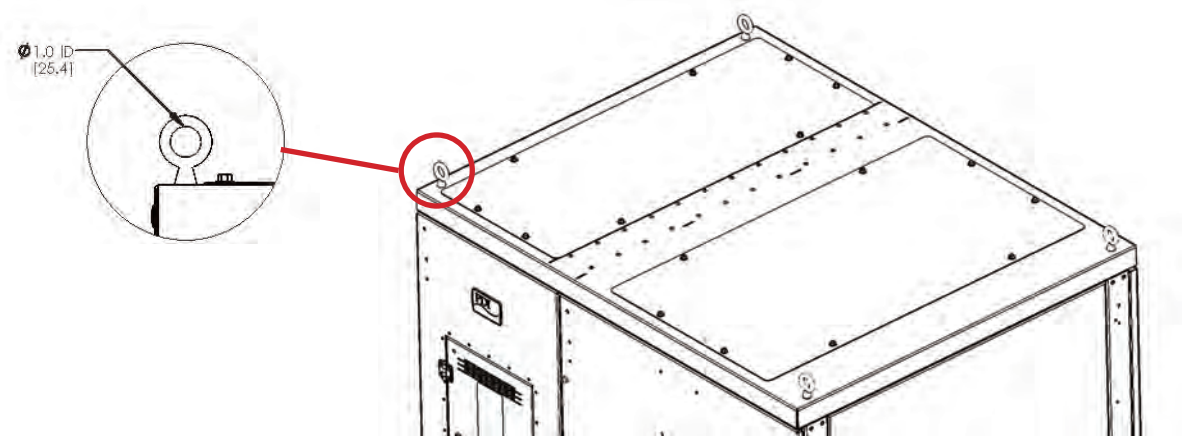


Insert forks under the unit from the Reactor Cabinet side.

NOTE: Measurements in brackets are millimeters unless specified otherwise.

The unit can also be moved with a hoist. The unit has (4) eye bolts at top corners for rigging hoist cables. The eye bolts can be removed after the unit is placed and attached to the floor.

Figure 2. RPP Hoist Attachments



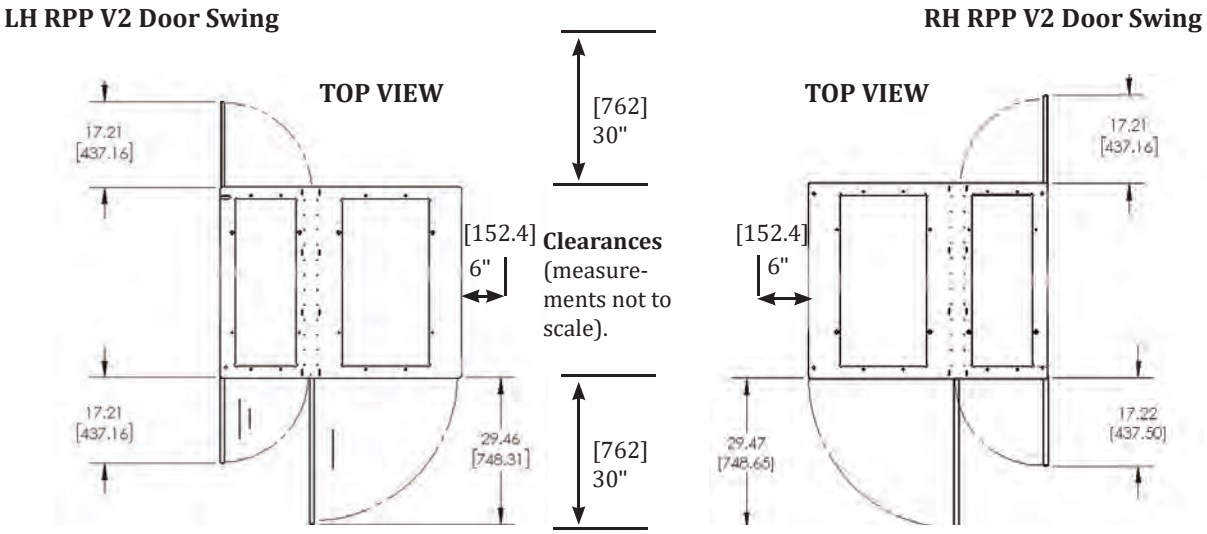
1.3 Clearances and Door Swing

Clearances:

- Service clearance, front and rear: 30" [762 mm]
- Ventilation clearance: min. 6" [152.4 mm] front, rear, and one side (can be either side)

Door Swing: The Bypass Cabinet can be on the left-hand (LH) or right-hand (RH) side of the combined unit as you face the unit. In LH units, front and rear doors are hinged on the left. In RH units, doors are hinged on the right. Door swing always opens from the center of the unit outward.

Figure 3. Door Swing Measurements



1.4 Anchoring the RPP to the Floor

After moving the RPP V2 unit to its installation location, secure it to the floor:

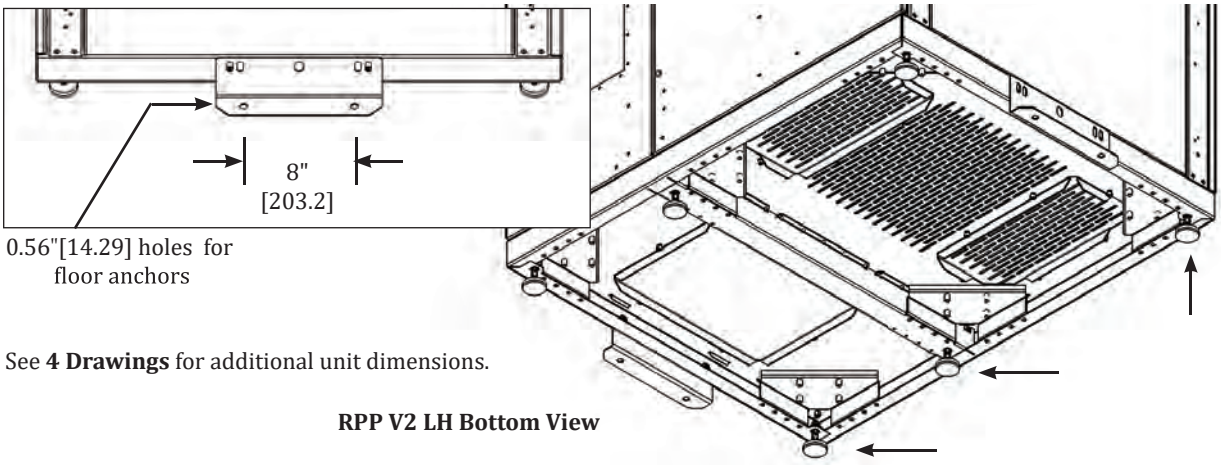
1. Each unit has (6) screw-adjustable leveling feet. Adjust feet to make the unit rest level and stable on the floor.

⚠CAUTION

Do not screw leveling feet completely out of their holes.

2. Reattach the (2) seismic braces that you removed when unbolting the RPP from its pallet using the hardware you retained (see). The seismic braces must be reattached on both the left and right sides of the RPP.
3. Secure the seismic braces to floor anchors. The installer must provide floor anchors.

Figure 4. Floor Anchor Positions



See **4 Drawings** for additional unit dimensions.

1.5 Cabling

⚠CAUTION

A licensed electrician must install the RPP V2 unit and connect external wiring.

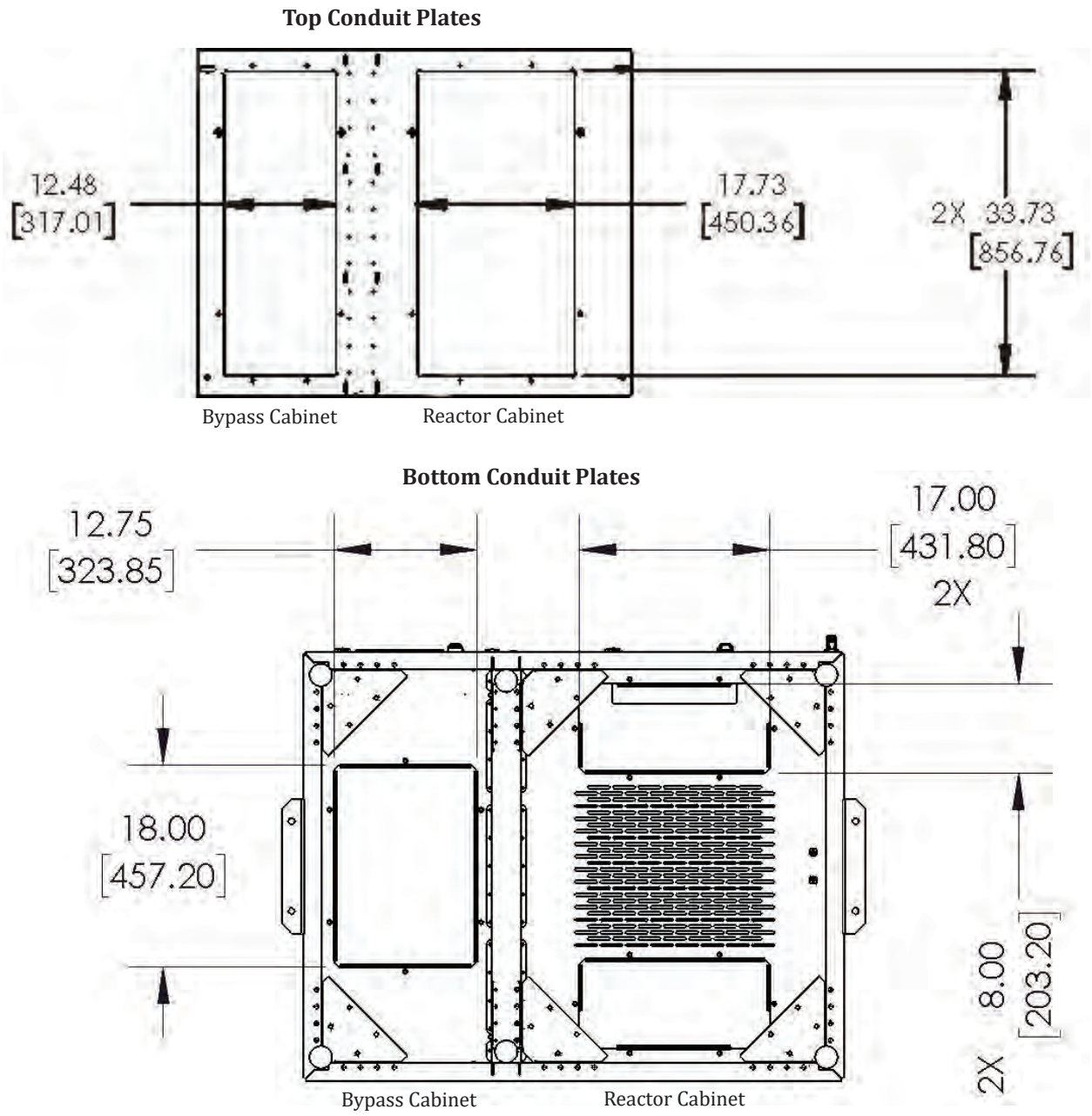
1.5.1 Cable Entry

Power wiring between the Reactor Cabinet and the Bypass Cabinet is completed in manufacturing. Customers must make their own external power and monitoring connections.

Cable entry/exit can be from the top or bottom:

- Top and bottom conduit plates on both cabinets are removable.
- Conduit plates do not have knock-outs. Installers must make their own conduit cut-outs.
- Sufficient conduit space is available to allow RPP V2 units to be daisy-chained to a reserve power source.

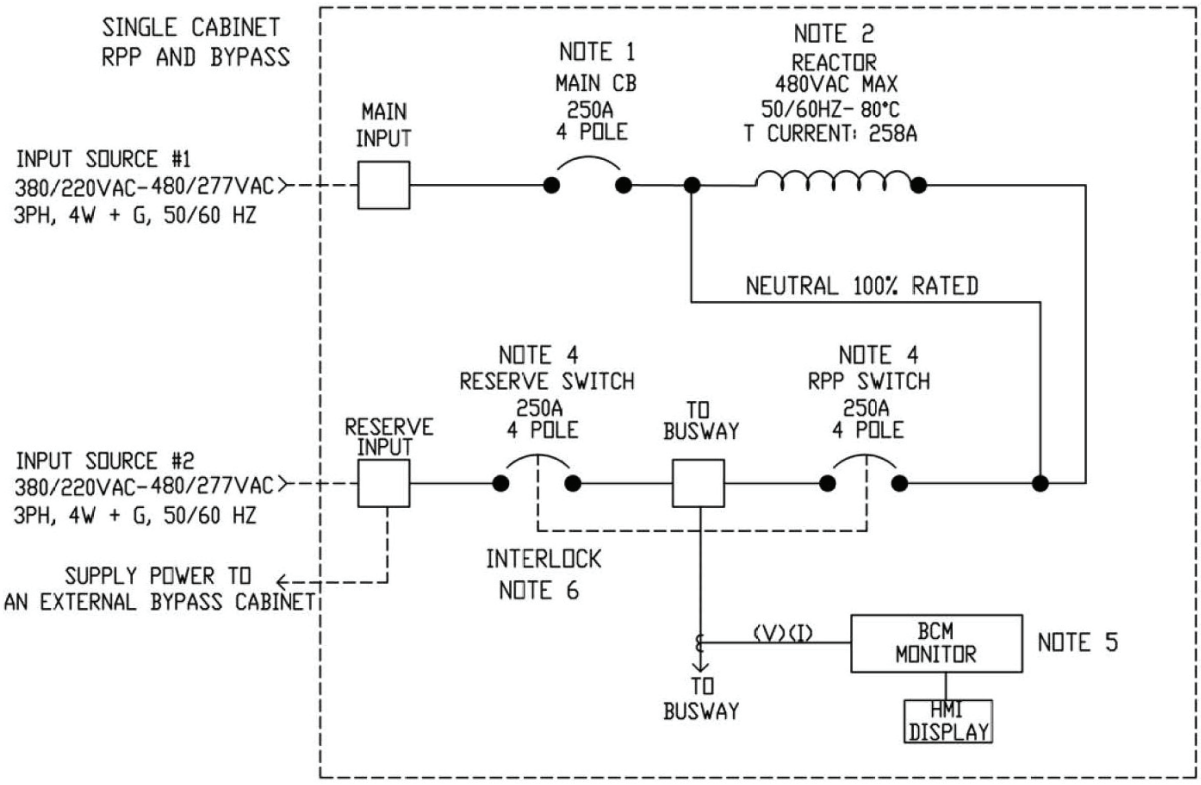
Figure 5. RPP Conduit Entry



1.5.2 RPP V2 One-Line Diagram

NOTE Power wiring and grounding must comply with NEC and applicable local codes.

Figure 6. RPP V2 One-Line Diagram



NOTES:

1. MAIN CB: SEE TABLE
2. HARMONIC FILTERING CURRENT LIMITING REACTOR -158 uH +/_ .
   AIR CORE INDUCTANCE OF 73.5 uH -3% +10%, TEMPERATURE RISE 80°C
3. SWITCHBOARD CABINET STANDARD: UL 891 AND IEC 61439
4. RESERVE SWITCH AND RPP SWITCH: SEE TABLE ABOVE
5. MONITOR SYSTEM: BCM AND HMI DISPLAY.
6. MECHANICAL POWER TRANSFER BAR.

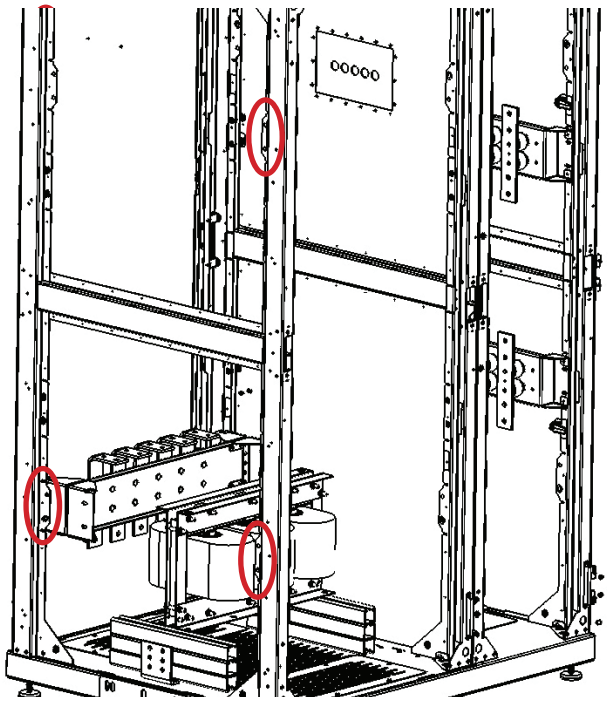
INPUT CB AND SWITCHES MANUFACTURER				
MANUFACTURER	DESCRIPTION	RATED	MANUF P/N	SKU P/N
EATON INPUT	4 POLE, 250A	100% RATED	JGH4250033GC	15200001-ETN
EATON SWITCH	4 POLE, 600A	100% RATED	LGK4630KSG	15200001-ETN
SQ D INPUT	4 POLE, 250A	100% RATED	LJL46250CU31X	15200001-SQD
SQ D SWITCH	4 POLE, 400A	100% RATED	LGL46000S40X	15200001-SQD

1.5.3 Relocating Input Bus Bars

To better align with cable entry in the Reactor Cabinet, Input Bus Bars can be relocated to any of (3) positions:

- Bottom front (standard position)
- Bottom rear
- Top rear

Figure 7. Input Bus Bar Positions



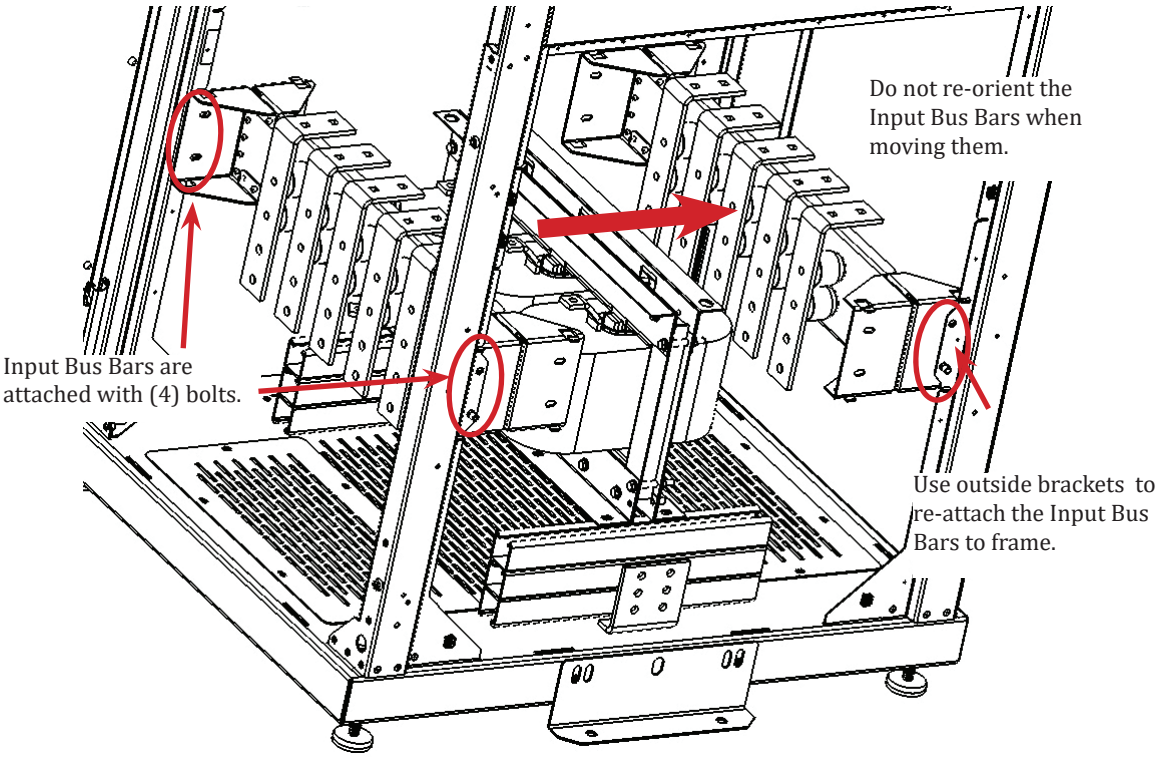
Input Bus Bars can be relocated at the customer site to any of (3) positions.

Input Bus Bars cannot be relocated to the top front position because door components are in the way.

To relocate Input Bus Bars, do the following:

1. Remove (4) bolts attaching the Input Bus Bars brackets to the Reactor Cabinet frame. Retain attachment hardware.
2. Do not detach the cables connecting the reactor to the bus bars. Do not change the orientation of the Input Bus Bar assembly. Brackets allow attachment from front or back.
3. Use retained (4) bolts and associated attachment hardware to reattach the Input Bus Bars to your selected location.

Figure 8. Input Bus Bar Attachment



1.5.4 External Cabling

Installers must connect external power cables for these functions:

1. Ground (at Reactor Cabinet)
2. Power to load (at Bypass Cabinet)
3. Reserve input power (at Bypass Cabinet) (multiple Bypass Cabinets can be daisy-chained from a single reserve power source)
4. Input power (at Reactor Cabinet)

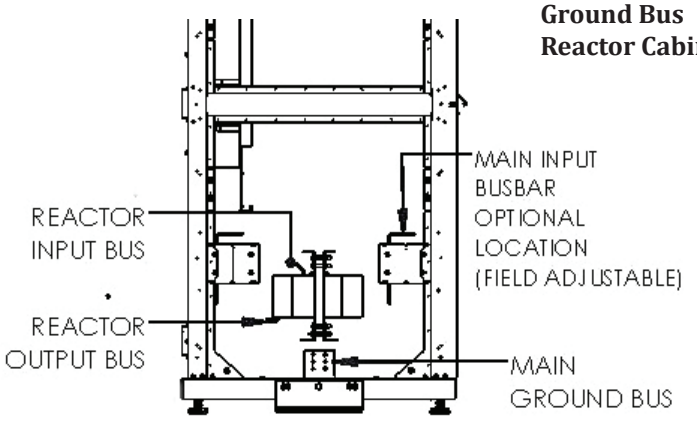
Up to MCM350 MCM CU wire can be accommodated for reactor input and reserve input power connections.

Cables should be zip-tied to the glastic lashing bar inside the unit. The lashing bar inhibits cable movement during short circuit events.

⚠WARNING

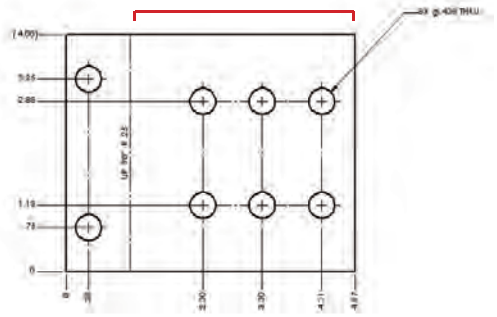
- Power to all power cables being connected must be turned off and locked out before making electrical connections to the RPP V2.
- Use a voltage meter to confirm that power is off.

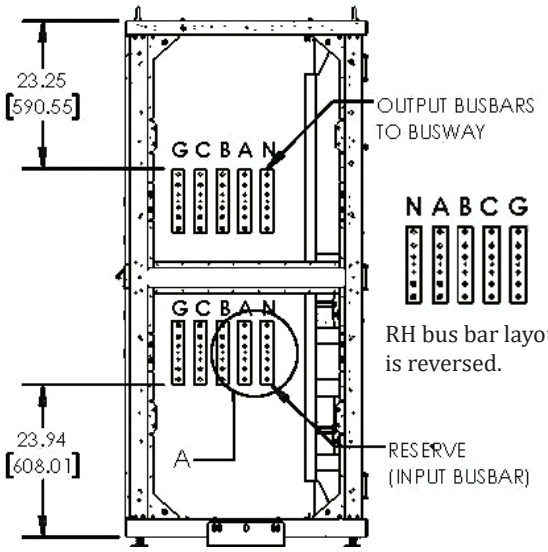
Figure 9. Cabinet External Connections



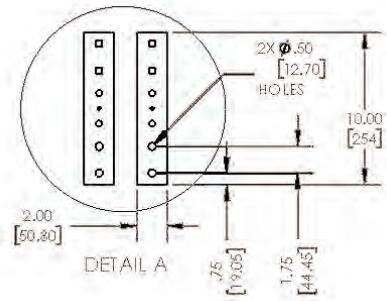
Ground Bus
Reactor Cabinet

1/4-inch Ground Bus Plate
(6) holes dia. 0.438" [11.13]



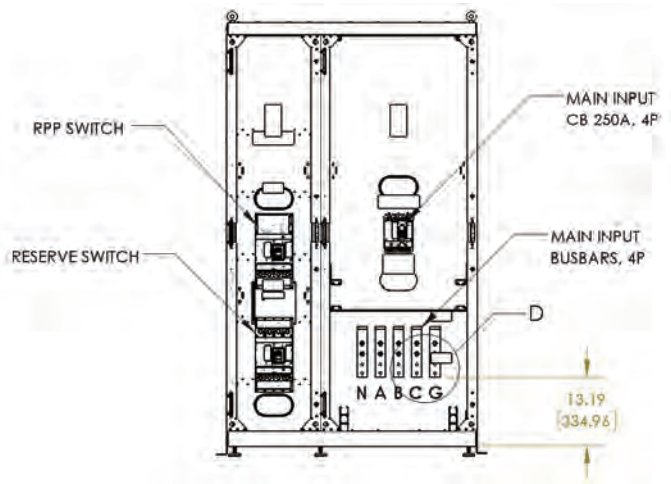


Load Power Connections
Bypass Cabinet (LH)



Reserve Power Connections
Bypass Cabinet

Figure 10. Input Power Connections



Input Power Connections
Reactor Cabinet (LH)