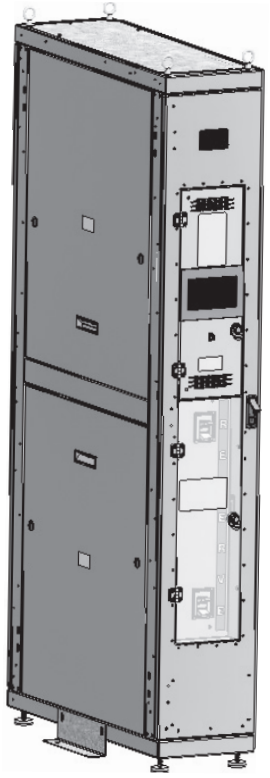
Eaton© Retrofit Bypass Cabinet for Vertiv Reactor Power Panels (250A)

Installation and Operation Manual



Powering Business Worldwide

p/n: 164001120
Revision 03

IMPORTANT SAFETY INSTRUCTIONS - SAVE THESE INSTRUCTIONS

This manual contains important instructions that you should follow during installation and maintenance of the equipment. Please read all instructions before operating the equipment and save this manual for future reference.

CONSIGNES DE SÉCURITÉ IMPORTANTES – CONSERVER CES INSTRUCTIONS

Ce manuel contient des instructions importantes que vous devez suivre lors de l'installation et de la maintenance de l'équipement. Veuillez consulter entièrement ces instructions avant de faire fonctionner l'équipement et conserver ce manuel afin de pouvoir vous y reporter ultérieurement.

⚠WARNING

This is a product for restricted sales distribution to informed partners (EN/IEC 62040-2). Installation restrictions or additional measures may be needed to prevent electromagnetic disturbances.

Dear Customer,

On behalf of everyone at Eaton, we thank you for partnering with us, for trusting us to maintain your business continuity and for preventing downtime at your facility.

Our suite of backup power, power distribution and power management products are designed to protect you from a host of threats including power outages, surges, and lighting strikes, and enable you to monitor and control your power infrastructure.

We trust that our products will deliver high quality, reliable power for your business, and we are committed to your success.

Please read this manual, which details the installation and operation processes for your new Eaton product.

Thank you for choosing Eaton!

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Chapter 1 Introduction

1.1 Intended Use

Eaton Retrofit Bypass Cabinets (250A) are designed as an extension to installed Reactor Power Panels (RPPs). A Retrofit Bypass Cabinet allows input power to be switched between the main RPP power source and a reserve power source so that the RPP can be taken off line without interrupting power to the load.

Reactor Power Panels (RPPs) make maintenance of downstream equipment safer by limiting fault current and reducing the risk of arc flash. A reserve power source for the Bypass temporarily provides the same safety benefits as the dedicated RPP while the RPP is off line for maintenance.

Eaton Retrofit Bypass Cabinets are available for installed Eaton (PDI) and Vertiv RPPs. This manual describes installation and operation of Retrofit Bypass Cabinets for Vertiv RPPs. A separate manual (Control Number P-164001119) describes installation and operation of the Eaton Retrofit Bypass Cabinet for Eaton (PDI) RPPs.

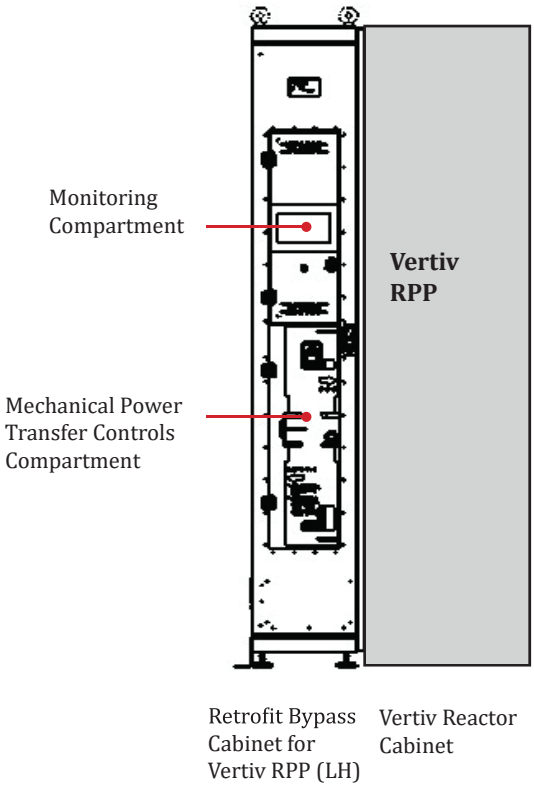
1.2 Description

A Retrofit Bypass Cabinet is a 12"-wide cabinet that provides a bypass function for Vertiv 250A RPPs. The Retrofit Bypass Cabinet has mechanically interlocking switches to transfer power between main RPP power and reserve power. The Retrofit Bypass Cabinet can be manufactured for left-hand (LH) or right-hand (RH) orientation for installation on the left or right side of an RPP.

Customer's installers must prepare the Retrofit Bypass Cabinet and RPP for installation on-site, wire the power cabling between the Bypass Cabinet and RPP, and connect external reserve power and load (busway) cables.

Customer is also responsible for setting up monitoring in the Retrofit Bypass Cabinet.

Figure 1. Retrofit Bypass Cabinet (250A) - Vertiv Reactor Power Panels



1.3 Using This Manual

Read this manual thoroughly and make sure you understand the procedures before you attempt to install, set up, operate or carry out any maintenance work on this Eaton product.

Read through each procedure before beginning the procedure. Perform only those procedures that apply to the unit being installed or operated.

1.4 Conventions Used in This Manual

This manual uses these type conventions:

NOTE Some conventions only apply to display screens (if installed).

- **Bold type** highlights important concepts in discussions, key terms in procedures, and menu options, or represents a command or option that you type or enter at a prompt.
- *Italic type* highlights notes and new terms where they are defined.
- `Screen type` represents information that appears on the screen or LCD.

Icon	Description
	Information notes call attention to important features or instructions.
[Keys]	Brackets are used when referring to a specific key, such as [Enter] or [Ctrl].

1.5 Symbols, Controls, and Indicators

The following are examples of symbols used on the RPP or accessories to alert you to important information:

RISK OF ELECTRIC SHOCK - Observe the warning associated with the risk of electric shock symbol.

CAUTION: REFER TO OPERATOR'S MANUAL - Refer to your operator's manual for additional information, such as important operating and maintenance instructions.

This symbol indicates that you should not discard waste electrical or electronic equipment (WEEE) in the trash. For proper disposal, contact your local recycling/reuse or hazardous waste center.

1.6 Getting Help

NOTE References to PDI (Power Distribution, Inc.) or Vertiv may appear in this manual. Service, warranties and support for these components are obtained from Eaton.

If help is needed with any of the following:

- Scheduling initial startup

- Regional locations and telephone numbers
- A question about any of the information in this manual
- A question this manual does not answer

Please call the Eaton Help Desk at:

United States:**1-800-843-9433** or **1-919-870-3028**

Canada:**1-800-461-9166 ext 260**

All other countries:**Call your local service representative**

Please use the following e-mail for manual comments, suggestions, or to report a technical error in this manual.

E-ESSDocumentation@eaton.com

1.7 Warranty and End User License Agreement

To view the warranty please click on the link or copy the address to download from the Eaton website:

Eaton Product Warranty

https://www.eaton.com/content/dam/eaton/products/backup-power-ups-surge-it-power-distribution/backup-power-ups/portfolio/eaton-three-phase-ups-warranty.pdf

https://www.eaton.com/content/dam/eaton/products/backup-power-ups-surge-it-power-distribution/backuppower-ups/portfolio/eaton-three-phase-ups-warranty.pdf

To view the End User License Agreement please click on the link or copy the address to download from the Eaton website:

Eaton End User License Agreement

https://www.eaton.com/content/dam/eaton/products/support-systems/software-and-cad-registration-form/eaton-end-user-software-license-agreement.pdf

Chapter 2 Safety

⚠WARNING

Follow safe electrical work practices:

- Severe or fatal injury can result from electrical shock during contact with high voltage conductors, monitoring PCBs, or similar equipment.
- Disconnect power before drilling holes, attaching conduit, and attaching other power distribution equipment.
- Disconnect and lock-out all power supplying equipment before working on or installing components.
- Use a properly rated voltage sensing device to confirm power is OFF.
- Leave ample space for attaching and routing wires.
- Use Lock Out/Tag Out procedures.
- Wear suitable personal protective clothing and use protective equipment for performing mechanical and electrical installations.
- Install equipment in an appropriate electrical environment per local regulations.

Chapter 3 Unpacking and Moving

3.1 Receiving and Unpacking the Retroit Bypass Cabinet

Retrofit Bypass Cabinets are shipped bolted to shipping pallets and protected by two layers of external plastic covering. The Retrofit Bypass Cabinet 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 Retrofit Bypass Cabinet on its pallet, Eaton recommends that you leave the retaining bands intact until you have moved the Retrofit Bypass Cabinet 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 Retrofit Bypass Cabinet pallet and before removing packaging, inspect the packaging for visible damage. If damage is evident notify the shipping company and Eaton (see 1.6 *Getting Help*).

   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.

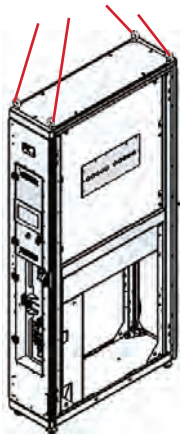
3. Carefully remove the outer layer of protective shrink wrap from the unit and the interior plastic covering bag. Use care to not puncture or scratch the Retrofit Bypass Cabinet with cutting tools.
4. After removing the outer external packaging, inspect the unit's exterior panels and doors for any visible damage such as scratches, dents, or cracks. If you discover any damage, notify the shipping company and Eaton Service (see 1.6 *Getting Help*).

3.2 Moving Retrofit Bypass Cabinets

Move the Retrofit Bypass Cabinet off its pallet using a hoist.

1. Each unit has (4) eye-bolts on the top corners for lifting. Connect hoist cables to all (4) eye-bolts.
2. Each Cabinet is bolted to its pallet using (2) seismic brackets. With the pallet resting on the floor, remove the seismic brackets and bolts and retain them for unit installation. (Only (1) seismic bracket is required for installation.)
3. Units have no casters and should be hoisted into final position after the associated RPP is prepared for installation.

Figure 2. Retrofit Bypass Cabinet for Vertiv RPPs



Retrofit Bypass Cabinet for Vertiv RPPs
Height: 79" [2007 mm] (includes leveling feet)
Width: 12" [305 mm]
Depth: 38.13" [968.4 mm]
Weight: 300 lbs [136 kg] approx.

3.3 Clearances and Door Swing

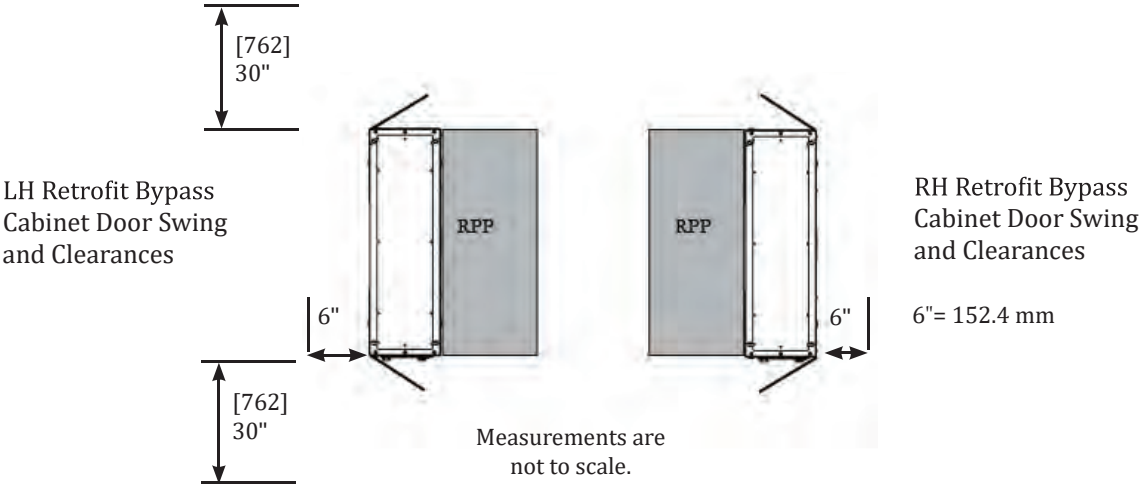
Clearances:

- Door swing, 12" [305 mm] front and rear
- Service clearance, front and rear: 30" [762 mm]
- Ventilation clearance: min. 6" [152.4 mm] front, rear, and one side.

Door Swing: The front and rear doors and the control panel doors on the Retrofit Bypass Cabinet can be hinged on the left (LH) or the right (RH).outward.

See detailed drawings Chapter 8 *Drawings, Retrofit Bypass Cabinets*.

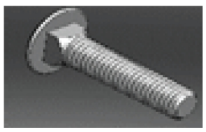
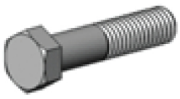
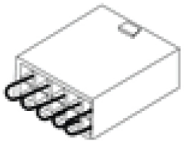
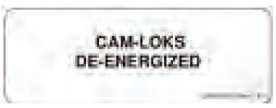
Figure 3. Door Swing Measurements



TOP VIEW

Chapter 4 Integrate Retrofit Bypass Cabinet with Vertiv RPP

4.1 Parts List

No.	Part number	Description	Qty.	Reference
1	PNL65721	TOP COVER	1	
2	BLT67093	CARRIAGE BOLT, 3/8”-16 X 1.75” LG	3	
3	BLT67672	HEX HEAD BOLT, 3/8”-16 X 1.75” LG	1	
4	WSH67091	NYLON, SELF-RETAINED WASHER, 3/8” & M9 SCREW SIZE	4	
5	WSH67090	OVERSIZE WASHER, 3/8” SCREW SIZE	5	
6	NUT67092	LOCK NUT, 3/8”-16	4	
7	RIV67522	FIR-TREE RIVET	4	
8	PNL67334	PM COVER	1	
9	MOD67280	RETROFIT CT	1	
10	LAB56588	CAM-LOKS LABEL	1	
11	TSP57827	JUMPER, 5MM WIDE, DIN RAIL TERM. BLOCK, 600V, 1 POS.	5	

4.2 Recommended Tools

1. Adjustable Wrench	
2. Standard 6-point Socket 3/8" & 9/16"	
3. Ratchet 1/2" X 9/16" X 10.0" LG	
4. Adjustable Torque-Limiting Wrench: 3/8" Drive, 20-100 ft.lbs	

4.3 Prepare the Vertiv RPP

If you are installing a Retrofit Bypass Cabinet for a legacy Vertiv (Liebert) RPP, you must first prepare the RPP as summarized here:

- Remove exterior and interior panels on the Bypass Cabinet side of the RPP.
- Remove RPP Display and the Monitoring Logic Compartment. (Monitoring will be installed later in the Retrofit Bypass Cabinet.)
- Disable or neutralize CTs in the RPP to prevent them generating a voltage
- Disconnect and remove selected cam-loks-to-busbar cables on the RPP
- Attach external label stating that the cam-loks are not energized.

⚠WARNING

- Before working on Reactor Power Panel, make sure that power to the unit is disconnected and locked out.
- Verify that power is not on to the RPP. Use a voltage meter to verify that voltage is not present.

4.3.1 Remove Vertiv RPP Side Panels

1. Determine the side of the Vertiv RPP that will face the Retrofit Bypass Cabinet.

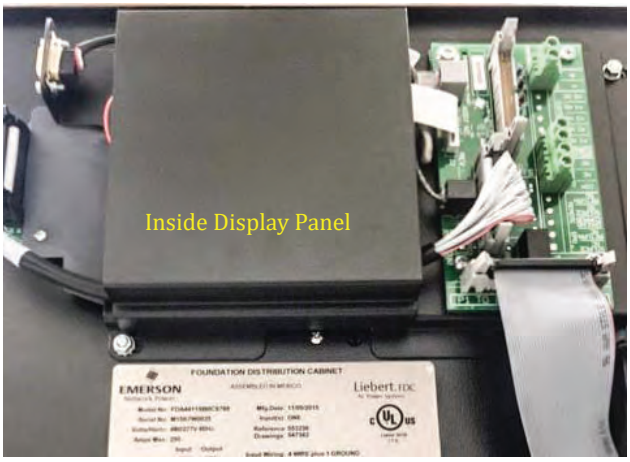
   On that side, remove the exterior panel. There are (4) bolts to remove.

2. Remove the inside metal panel on the Bypass Cabinet side. Unbolt the panel from the inside.

4.3.2 Remove Vertiv RPP Display and Monitoring Compartment

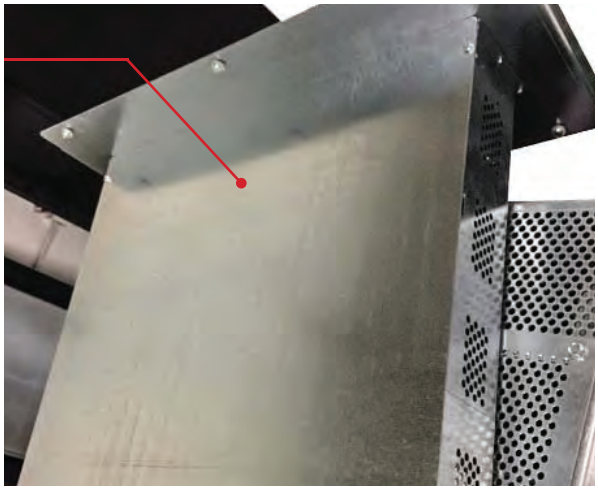
1. Remove the Vertiv Display Panel and associated parts. The Display Panel must be detached from inside the unit.

   a. Inside the unit disconnect any cables attached to the Display and its associated PCB.



b. From inside the unit unbolt the Display and PCB and remove the parts.

2. Remove the side panel on the Monitoring Logic Compartment. The compartment contains PCBs.

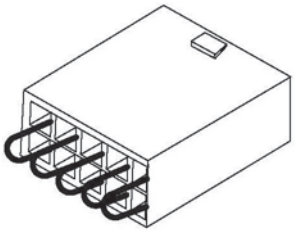


Unplug the monitoring wiring that is connected to PCBs in this compartment.

3. Disconnect the cable for monitoring CTs from the monitoring board.

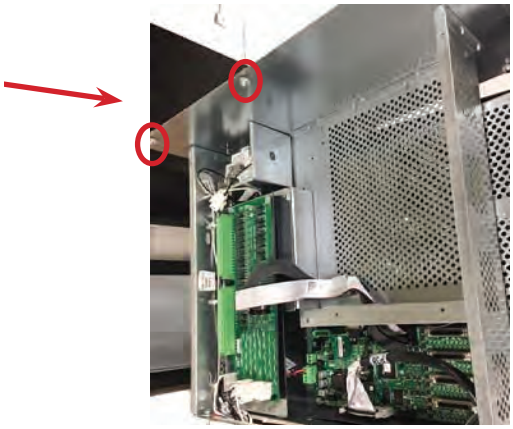
Remove the connector on this cable.

4. Install a replacement connector (MOD67280) on the CT cable end. The replacement connector is shorted out to prevent the CTs from generating a voltage.



MOD67280 Shorted
CT Cable Connector

5. Unscrew the retaining screws that hold the Vertiv Monitoring Logic Compartment in place. Retain screws for attaching cover plate.



Completely remove the Monitoring Logic Compartment.

4.3.3 Disconnect and Disable RPP Cam-Lok Cables

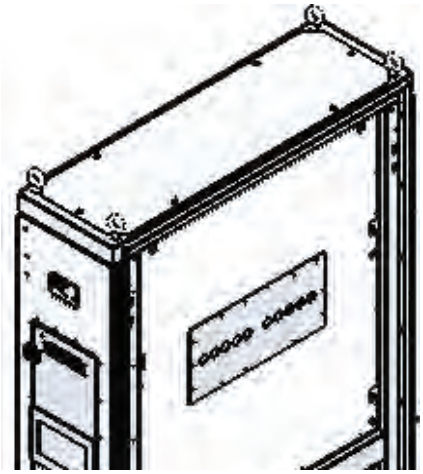
Vertiv RPPs have cables from input power Cam-Loks to bus bars. Some of these cables must be disabled and stored in the RPP.

1. Inside the RPP, disconnect wires 4A, 47, 20, 21, 22, and 5 at both ends:
   - At the RPP load bus bars (shown at right)
   - At the RPP cam-loks

2. Remove the cables.

4.3.4 Make Cut-Outs in the Cable Entry Panel

The Retrofit Bypass Cabinet has no knock-outs. Installers must make their own cable-entry cut outs. Cable entry is from the top of the unit.



4.4 Attach Retrofit Bypass Cabinet to Vertiv (Liebert) RPP

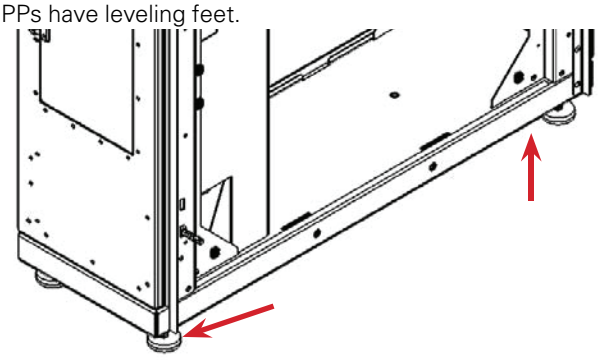
Use the instructions on the following page to attach the Retrofit Bypass Cabinet to the Vertiv (Liebert) RPP.

You will do the following:

- Place cover plates where you removed the Display and Monitoring Compartment
- Join the two cabinets together
- Add a label to the front of the Vertiv (Liebert) RPP stating that Cam-Loks are de-energized. Referenced parts are from 4.1 *Parts List*

4.5 Adjust Leveling Pads on Bypass Cabinet

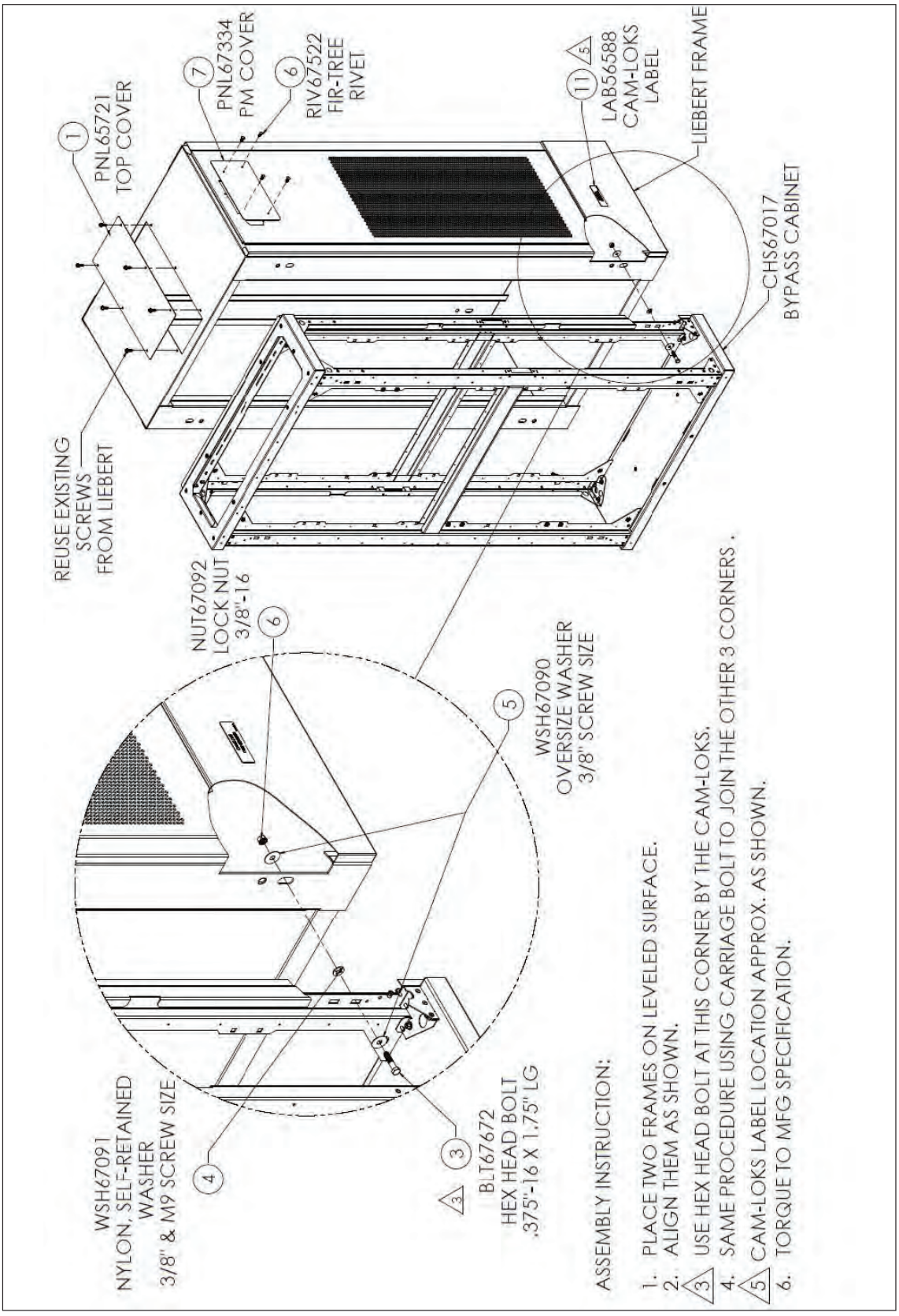
Adjust Leveling Pads on the Bypass Cabinet to compensate for an uneven floor. Both sides of the Retrofit Bypass Cabinet for Vertiv RPPs have leveling feet.



Use an adjustable wrench to adjust leveling feet.

⚠CAUTION

Do not screw leveling pads completely out of their sockets.

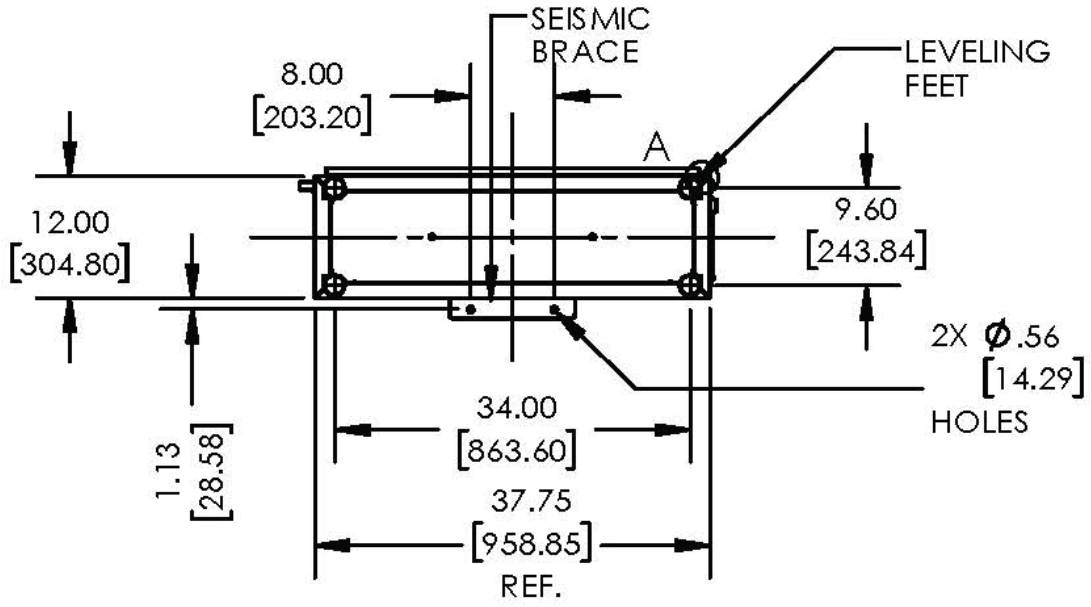

1 PNL65721 TOP COVER
7 PNL67334 PM COVER
6 RIV67522 FIR-TREE RIVET
11 LAB56588 CAM-LOKS LABEL
LIEBERT FRAME
CHS67017 BYPASS CABINET
REUSE EXISTING SCREWS FROM LIEBERT
NUT67092 LOCK NUT 3/8"-16
6
5
WSH67090 OVERSIZE WASHER 3/8" SCREW SIZE
WSH67091 NYLON, SELF-RETAINED WASHER 3/8" & M9 SCREW SIZE.
4
3
BLT67672 HEX HEAD BOLT .375"-16 X 1.75" LG
ASSEMBLY INSTRUCTION:
1. PLACE TWO FRAMES ON LEVELED SURFACE.
2. ALIGN THEM AS SHOWN.
3 USE HEX HEAD BOLT AT THIS CORNER BY THE CAM-LOKS.
4. SAME PROCEDURE USING CARRIAGE BOLT TO JOIN THE OTHER 3 CORNERS .
5 CAM-LOKS LABEL LOCATION APPROX. AS SHOWN.
6. TORQUE TO MFG SPECIFICATION.

4.6 Anchor the Retrofit Bypass Cabinet to the Floor

Retrieve (1) Seismic Bracket with bolts that you retained when removing the Retrofit Bypass Cabinet from its shipping pallet. (Only one Bracket is needed. When the units are attached together, the RPP side is already secured to the floor.)

Attach the Seismic Bracket to the free side (outside bottom side) of the Retrofit Bypass Cabinet frame as shown below.

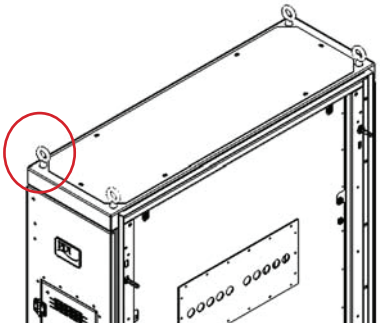
Secure the seismic bracket to two (2) floor anchors. The customer must provide floor anchors.



BOTTOM VIEW

4.7 Remove Eye-Bolts

Now that the unit is secured to the floor, unscrew and remove (4) corner eye-bolts from the Retrofit Bypass Cabinet.



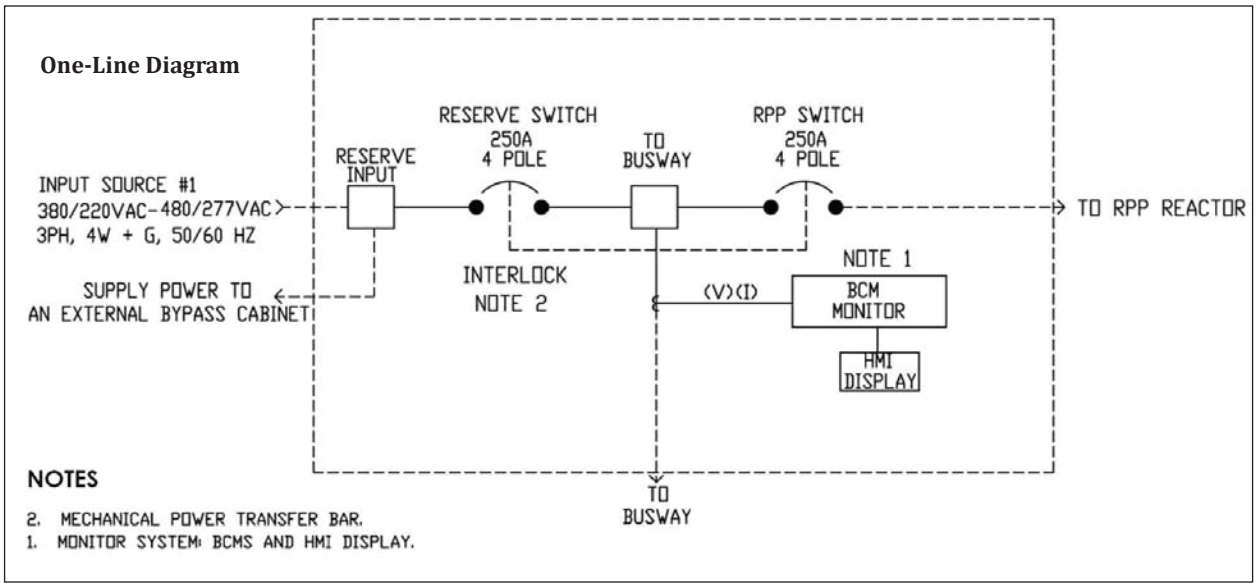
Chapter 5 Cabling

5.1 One-Line Diagram

Power to the load will be provided by the Bypass, which has two power sources, the RPP and reserve power. The power output cables from the RPP to the load must be disconnected at the RPP and re-cabled to the Bypass Cabinet.

The following illustration shows the one-line diagram for the Retrofit Bypass Cabinet. The one-line diagram is the same for LH and RH orientations.

Figure 4. Retrofit Bypass Cabinet One-line Diagram



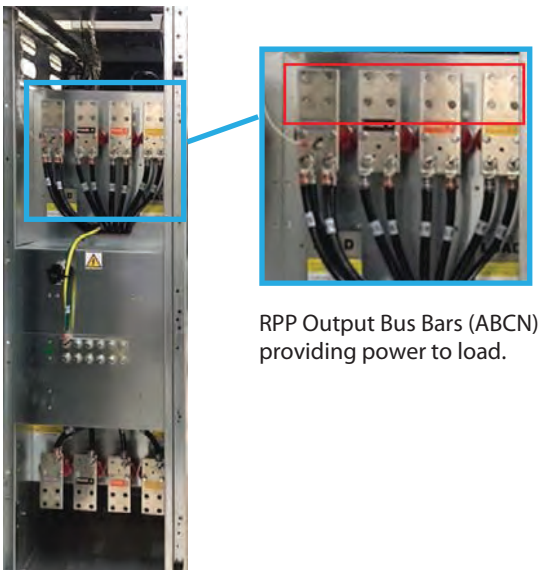
⚠CAUTION

- A licensed electrician must install the Retrofit Bypass Cabinet and connect internal and external wiring.
- Installers should use Lock-Out/Tag-Out procedures and observe other precautions listed in the introductory Safety section.
- Power wiring and grounding must comply with NEC and applicable local codes.

5.2 Cable Bypass Cabinet to RPP

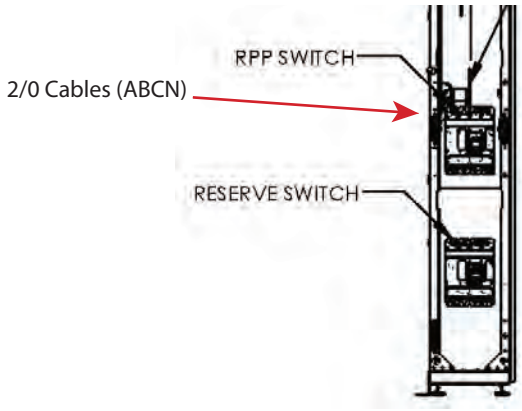
Legacy Vertiv (Liebert) RPP is shown at right.

1. Disconnect power output cables to load (busway) from the RPP Output Bus Bars outlined by the red rectangle. (You will later reconnect them to the load output of the Retrofit Bypass Cabinet.)

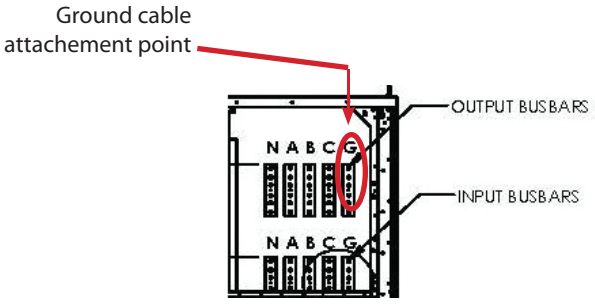


RPP Output Bus Bars (ABCN) providing power to load.

2. (4) 2/0 cables (**ABCN**) with compression lugs are already attached to the input of the Retrofit Bypass Cabinet RPP Switch.

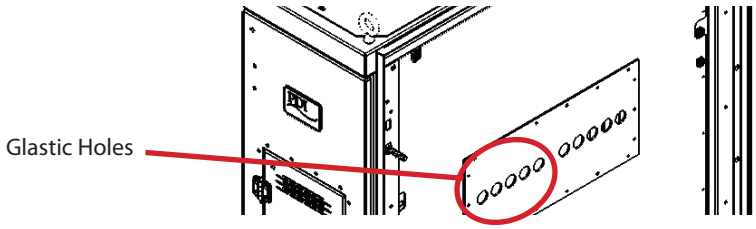


a. (1) #2 AWG **Ground** cable is coiled and attached to the Output (Busway) ground bus in the Retrofit Bypass Cabinet.

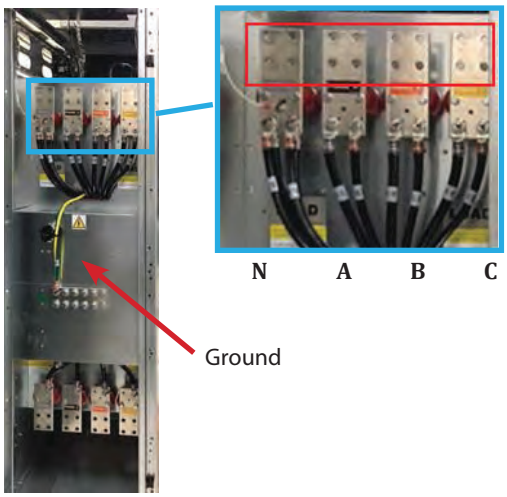


NOTE The cables are pre-cut to the correct length.

b. Run the (5) cables through side panel glastic holes to the Vertiv RPP. Use the front set of glastic holes.



3. Attach the ABCN cables to RPP output bus bars (red rectangle).



Attach the Ground wire to the Vertiv ground connection (yellow wire connection).

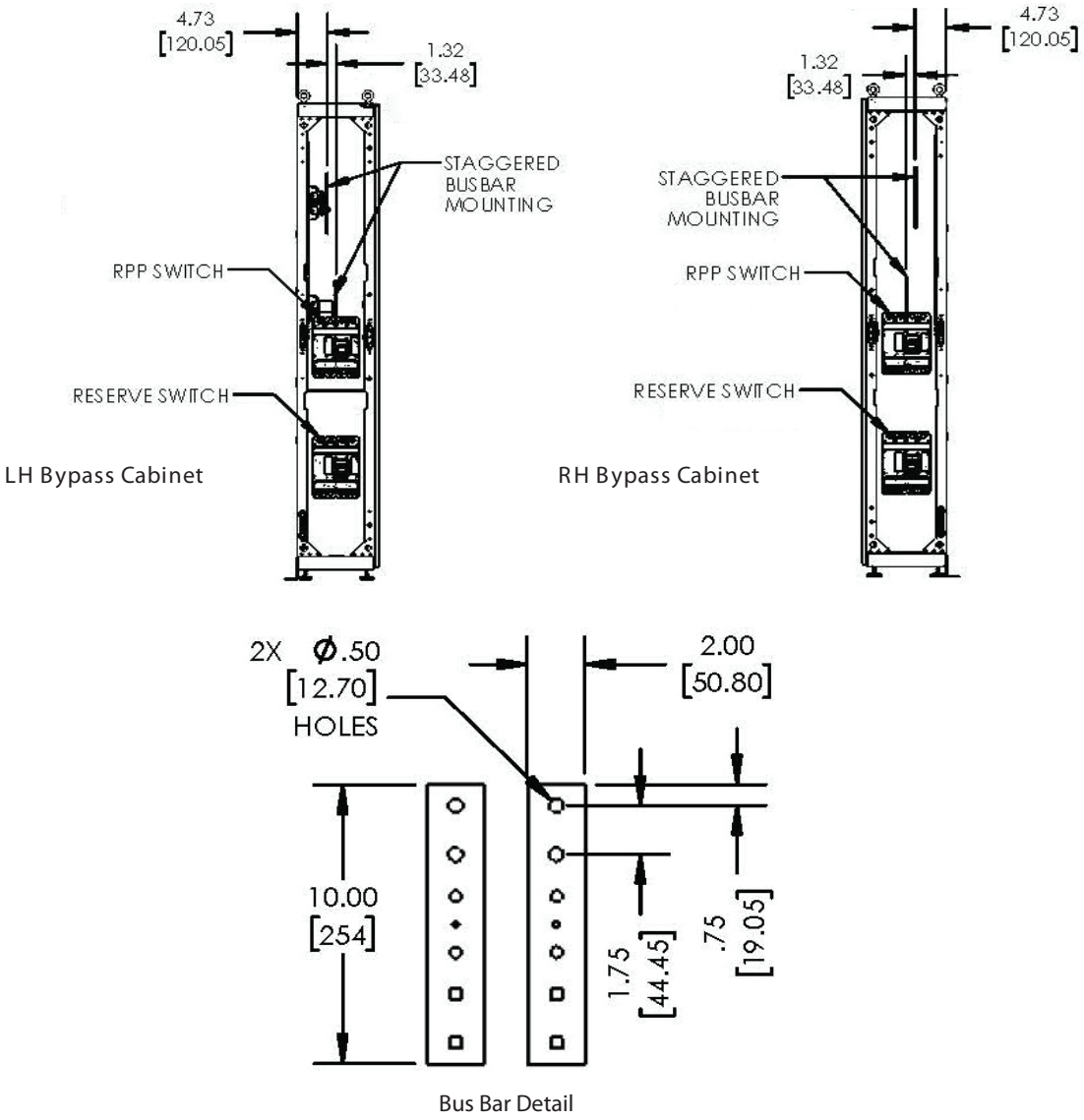
- Torque for ½"-13 bolts is 57 ft-lbs.
- Torque for M12 bolts is 77 Nm.

5.3 Cable Reserve and Load to Bypass

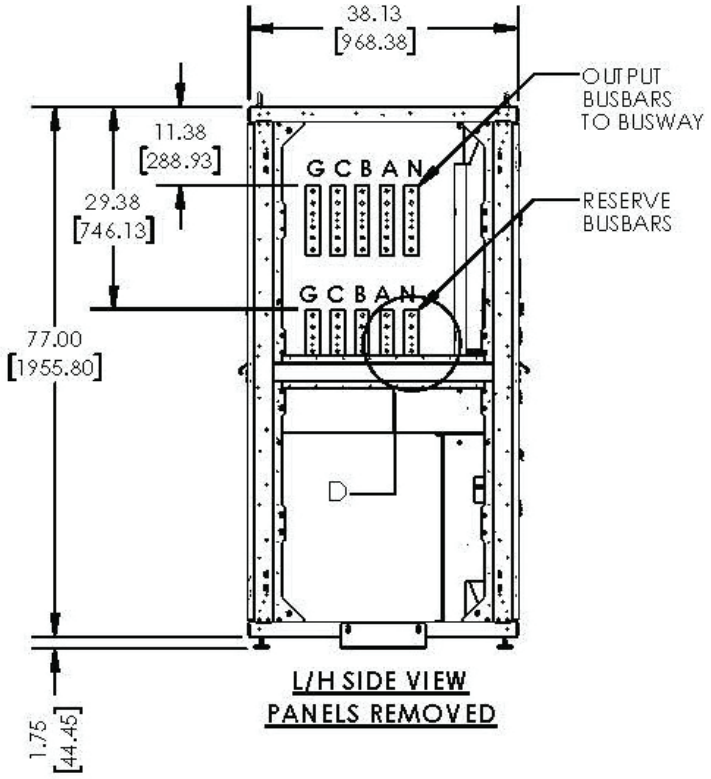
Reserve power cables and Load power cables are run from overhead to Retrofit Bypass Cabinet bus bars.

To make overhead cable entry easier, Reserve and Load bus bars are staggered in the Retrofit Bypass Cabinet.

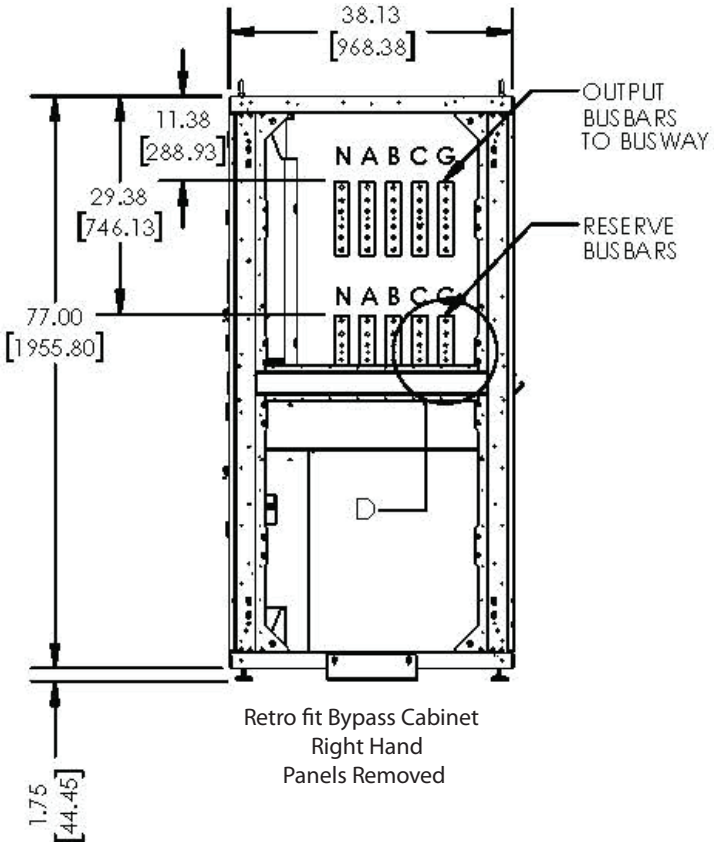
Figure 5. Reserve and Load Power Cables



1. Run **Load power cables** through overhead cable entry to **Bypass Output Bus Bars** (to busway). Connect ABCNG cables to Bus Bars.
   - Torque ½"-13 bolts to 57 ft-lbs.
   - Torque M12 bolts to 77 Nm.



Retro fit Bypass Cabinet
Left Hand
Panels Removed



2. Run **Reserve power cables** through overhead cable entry to **Bypass Reserve Bus Bars**.

   Connect ABCNG cables to Bus Bars

   - Torque ½"-13 bolts to 57 ft-lbs.
   - Torque M12 bolts to 77 Nm.

NOTE Phase connections on LH and RH units are mirror images of each other.

5.4 Monitoring: Shorting CTs

The BOM includes five (5) jumpers (PN TSP57827) that are used to short current transformers (CTs) in the monitoring system to prevent them generating a voltage. The jumpers are shipped in the documentation envelope.

Figure 6. Transformer Jumpers

Jumpers
PN TSP57827

A DIN rail with terminal blocks and fuses is located on the inside panel behind the Retrofit Bypass Cabinet door. To short a CT, screw a jumper into the corresponding phase position in the black terminal blocks.

Figure 7. Terminal Block DIN Rail

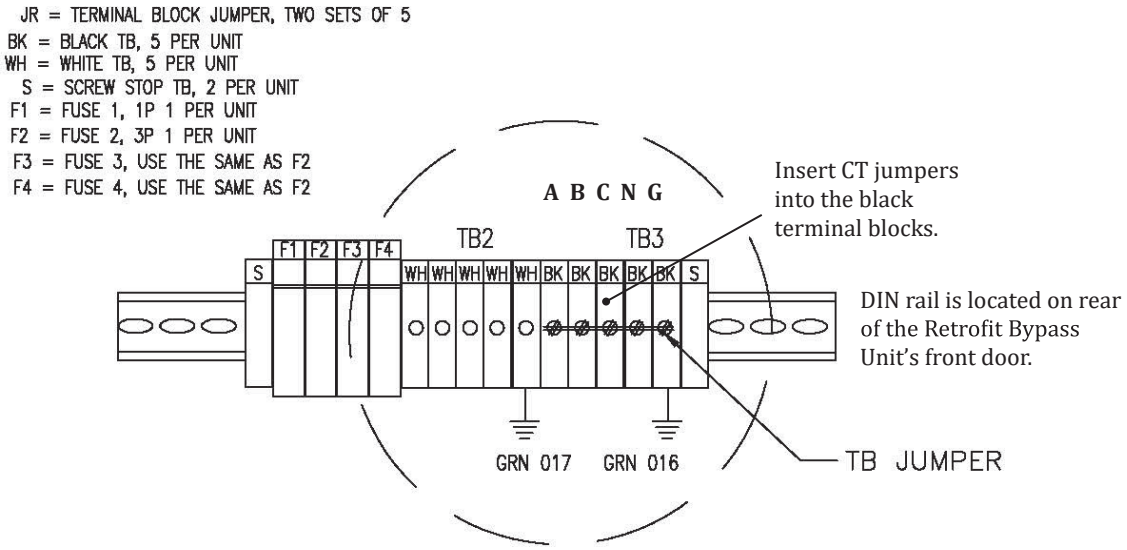
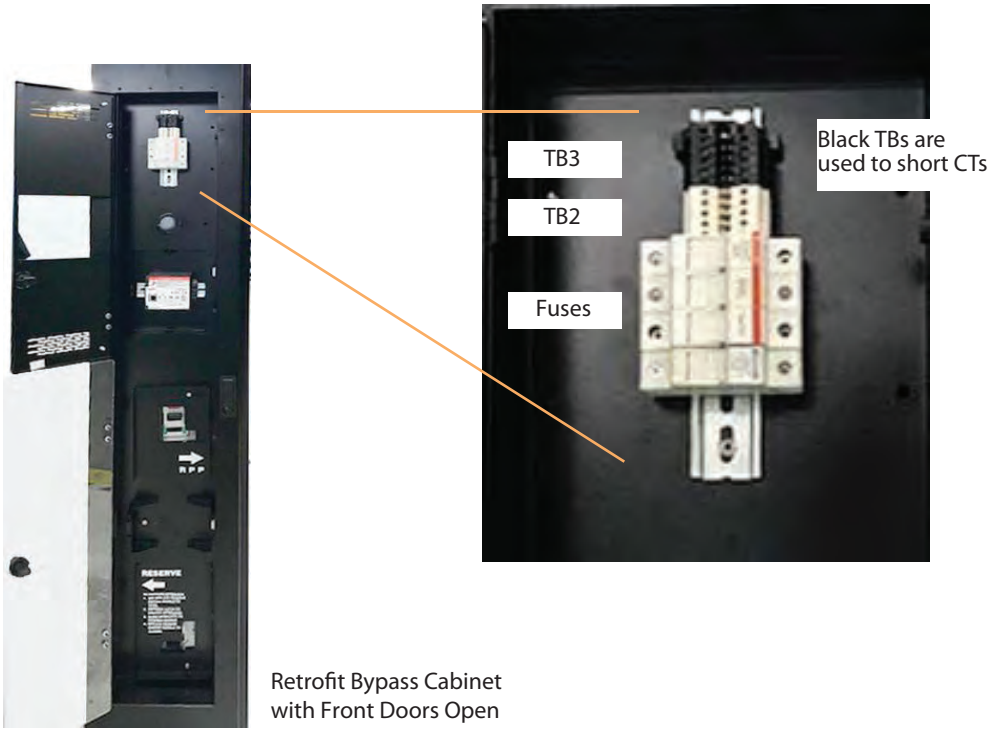


Figure 8. Retrofit Bypass Cabinet - TB Location



Chapter 6 Eaton Service Contracts

Eaton Service contracts help to provide the added insurance that the reliability of your critical power systems is intact. By following our stringent maintenance procedures, Eaton's factory trained Customer Support Engineers provide the added assurance for the availability of critical systems, thereby maximizing the company's profitability. See below for further details.

6.1 The Service Promise

With factory-trained technicians in every major city in North America, Eaton can respond rapidly and provide on-site assistance in emergency down time situations. Eaton provides telephone support 24 hours a day, 7 days a week with a direct line to Service (1-800-843-9433).

6.2 Eaton Provides Flexibility and Commitment

- We understand that service plans are not "one size fits all." That's why we offer a broad range of service options, designed to meet the varied requirements and applications of businesses of all shapes and sizes. Eaton can modify your contract on variables such as number of PM visits per year, scope of coverage, response time and length of contract.
- Eaton employs 250+ field technicians with an average tenure of more than ten years. Eaton CSEs are experts on Eaton products and receive ongoing product training and certification. Our technicians have expertise in power, electrical engineering, software and connectivity, batteries, UPSs and related products, and can deliver advanced troubleshooting and a reduced mean time to repair.
- When you rely on an Eaton service plan, rest assured that every factory-trained field technician stocks a solid inventory of parts to remedy emergencies.

6.3 Time and Materials

In most cases the customer will be covered by startup service or Maintenance Contracts, however, there may be times when the customer needs Eaton service and lacks the benefits that these two packages provide. Therefore, Eaton provides Time and Material coverage for those in need of our customer support engineers.

6.4 Startup

At the initial startup of the Remote Power Panel, an Eaton factory-authorized technician is recommended to validate correct operation of the RPP. The product warranty may be voided if the correct startup procedures are not followed.

6.5 Infrared Scanning

To gain access to bus bars and cables for infrared scanning, open Bypass Cabinet Doors.

6.6 Spare Parts Kits

Spare parts kits are available for Retrofit Bypass Cabinets that are specific to the unit's configuration.

PDI Part Number	Description
EATON VERSION	
CKB66922	4P,400A,35KA,480V,EATON,LUGS,SWITCH
MET56605	METER,PQM,TRENDPOINT,ENKAPSIS
PWS56550	POWER SPPLY

PDI Part Number	Description
SQUARE D VERSION	
CKB56587	4P,400A,35KA,480V,SQD,LUGS,SWITCH
MET56605	METER,PQM,TRENDPOINT,ENKAPSIS
PWS56550	POWER SPPLY
SQUARE D WITH PM8000 MONITOR VERSION	
CKB56587	4P,400A,35KA,480V,SQD,LUGS,SWITCH
MET57845	PWR MTR, SQD,SER-8000,CTRL
FUS57270	Midget, HLDR,FA,1A,600V
FUS57267	Midget, HLDR,FA,0.5A,600V

Chapter 7 Bypass Operation

Operation of the Bypass consists of switching power between main RPP power and reserve power. All controls are on the front of the Retrofit Bypass Cabinet in the Mechanical Transfer Compartment:

- RPP Power Switch
- Reserve Power Switch
- Mechanical Interlock to prevent both switches being on at the same time.

The Mechanical Interlock also has a label with switching instructions.

To switch power between power sources, do the following:

1. Open Mechanical Transfer Compartment Door (see Figure 9).
2. Open (turn off) both Power Switches in the Mechanical Transfer Compartment.
3. The Mechanical Interlock and both switches are located n the Mechanical Transfer Compartment. Depress the latch on the Mechanical Interlock and hold down.
4. Slide the Mechanical Transfer Interlock from one side to the other to switch the power source feeding the load (see Figure 10).
    - Right=RPP (250A reactor) powers the load.
    - Left=Reserve powers the load.
5. Close (turn on) the RPP Power Switch or the Reserve Power Switch according to which power source should power the load.

⚠CAUTION

The power-switching operation must be conducted in less than 60 seconds to prevent loss of power to the load.

6. Close Mechanical Transfer Compartment Door.

Figure 9. Mechanical Transfer Compartment Access

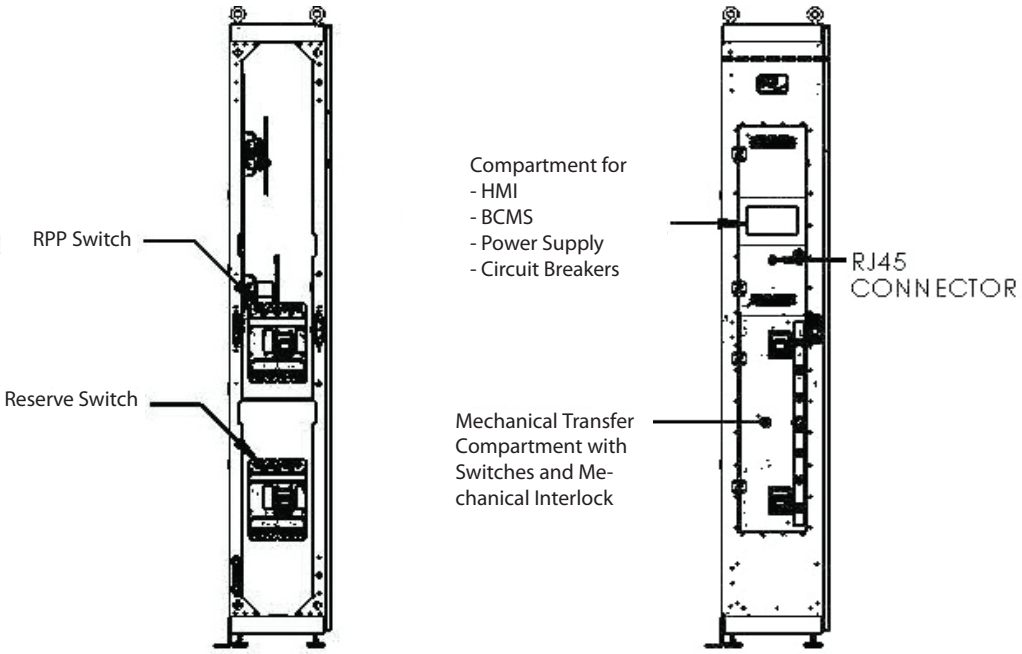


Figure 10. Mechanical Transfer Interlock

Mechanical Interlock allows only (1) switch to be closed at once.

Here the RPP Switch can be closed.

Mechanical Interlock requires at least one switch to be open.

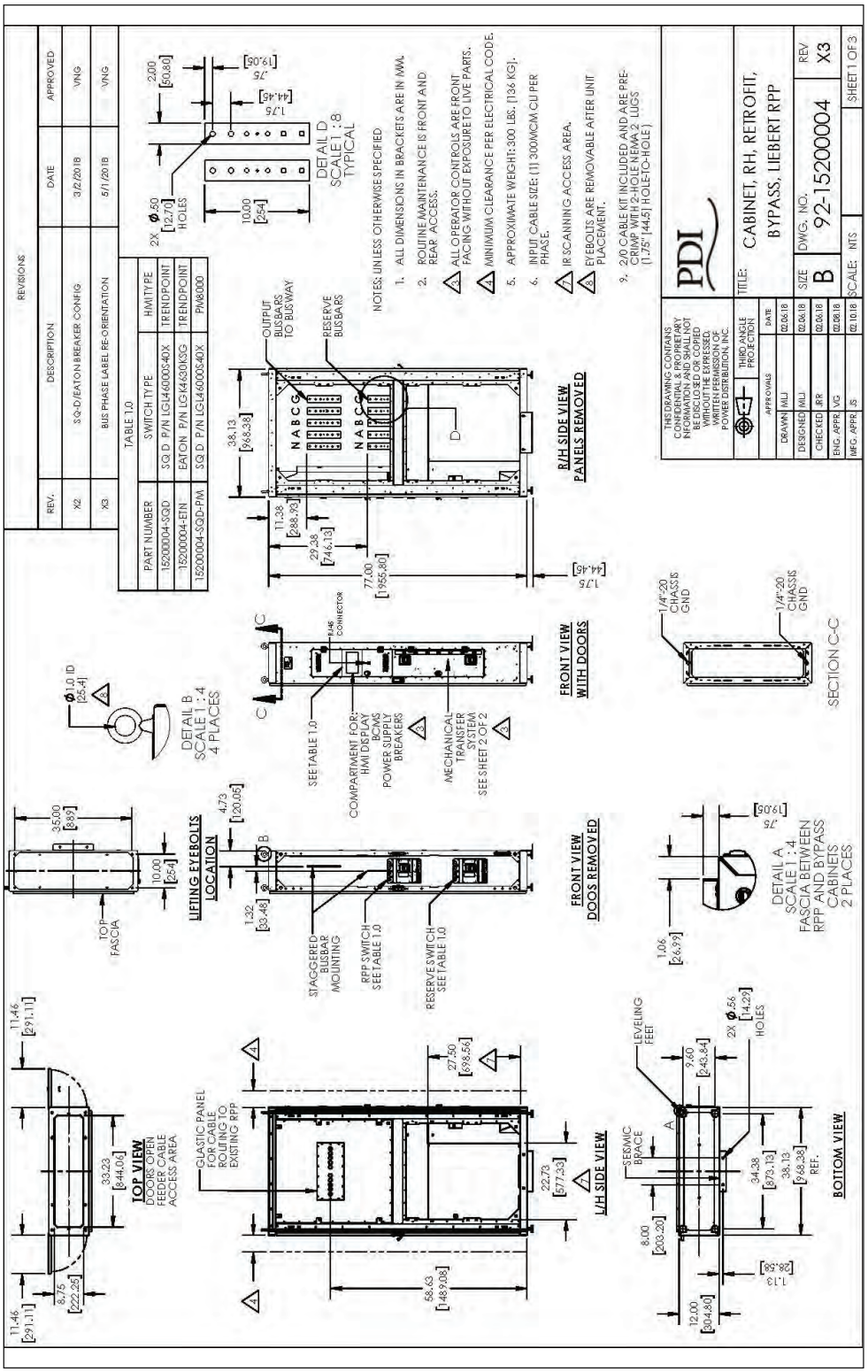
Here the Reserve Switch is open.

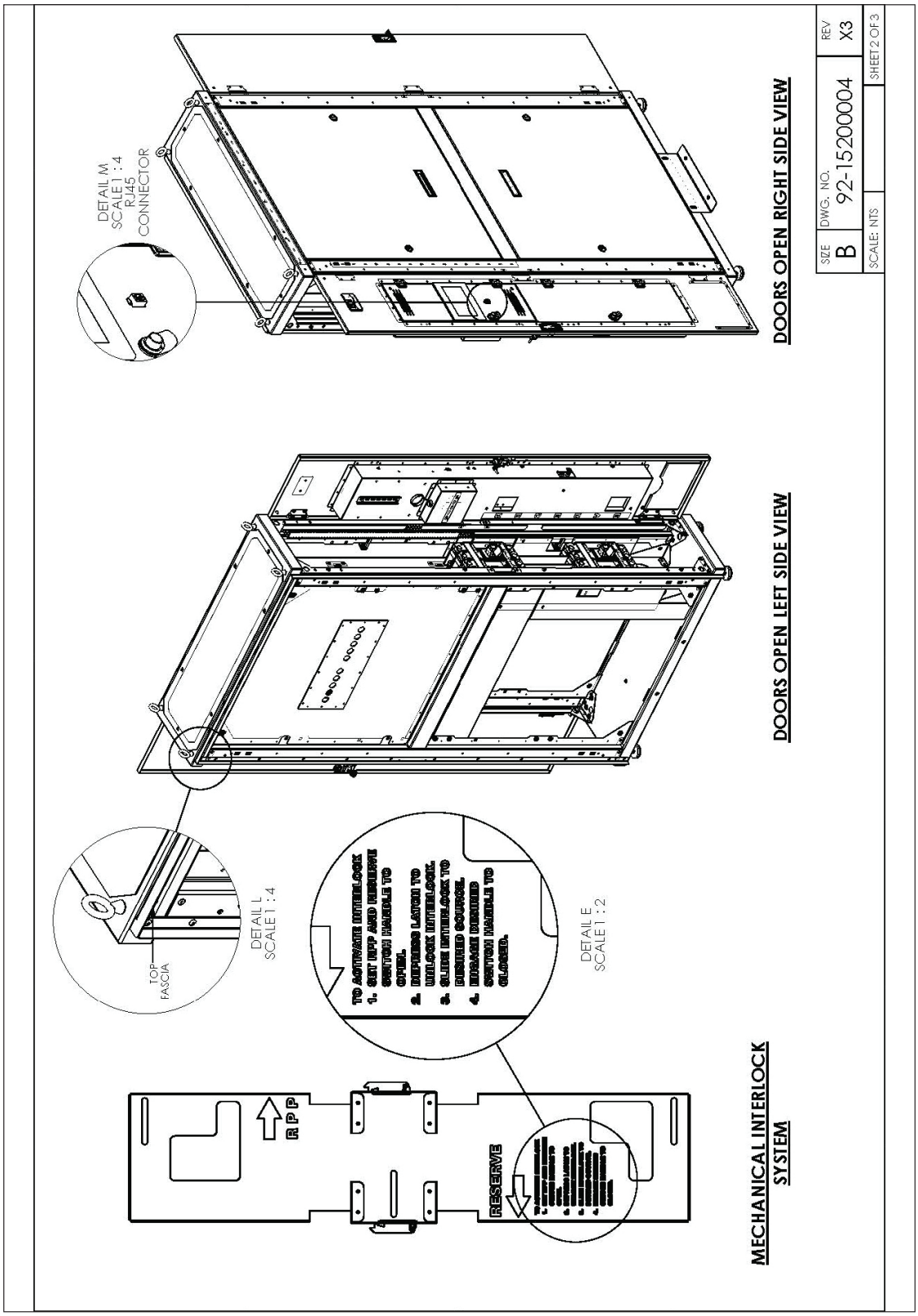
Latch can be depressed on each or both sides to allow Interlock to slide.

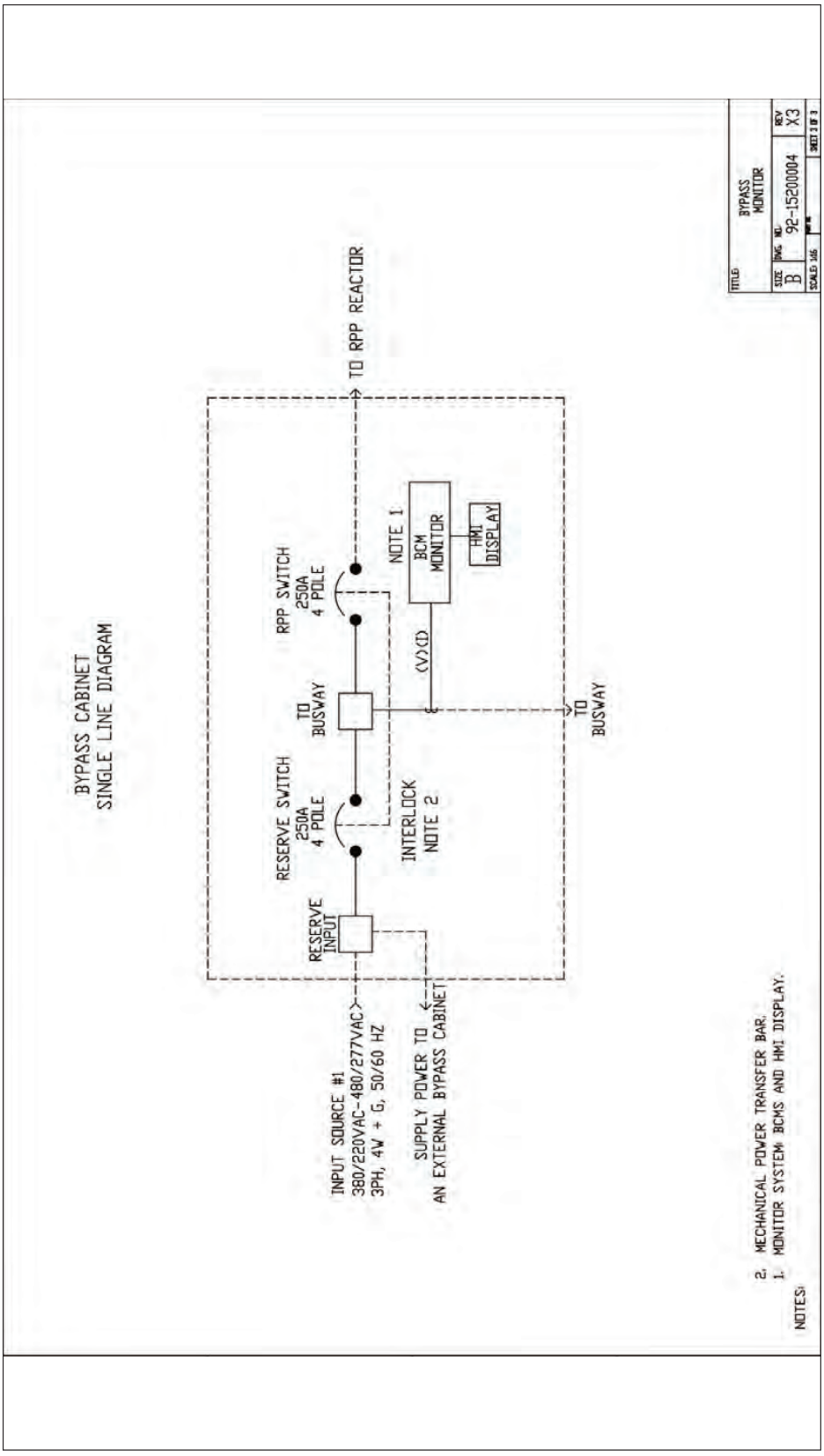
Front label provides instructions.

Chapter 8 Drawings, Retrofit Bypass Cabinets

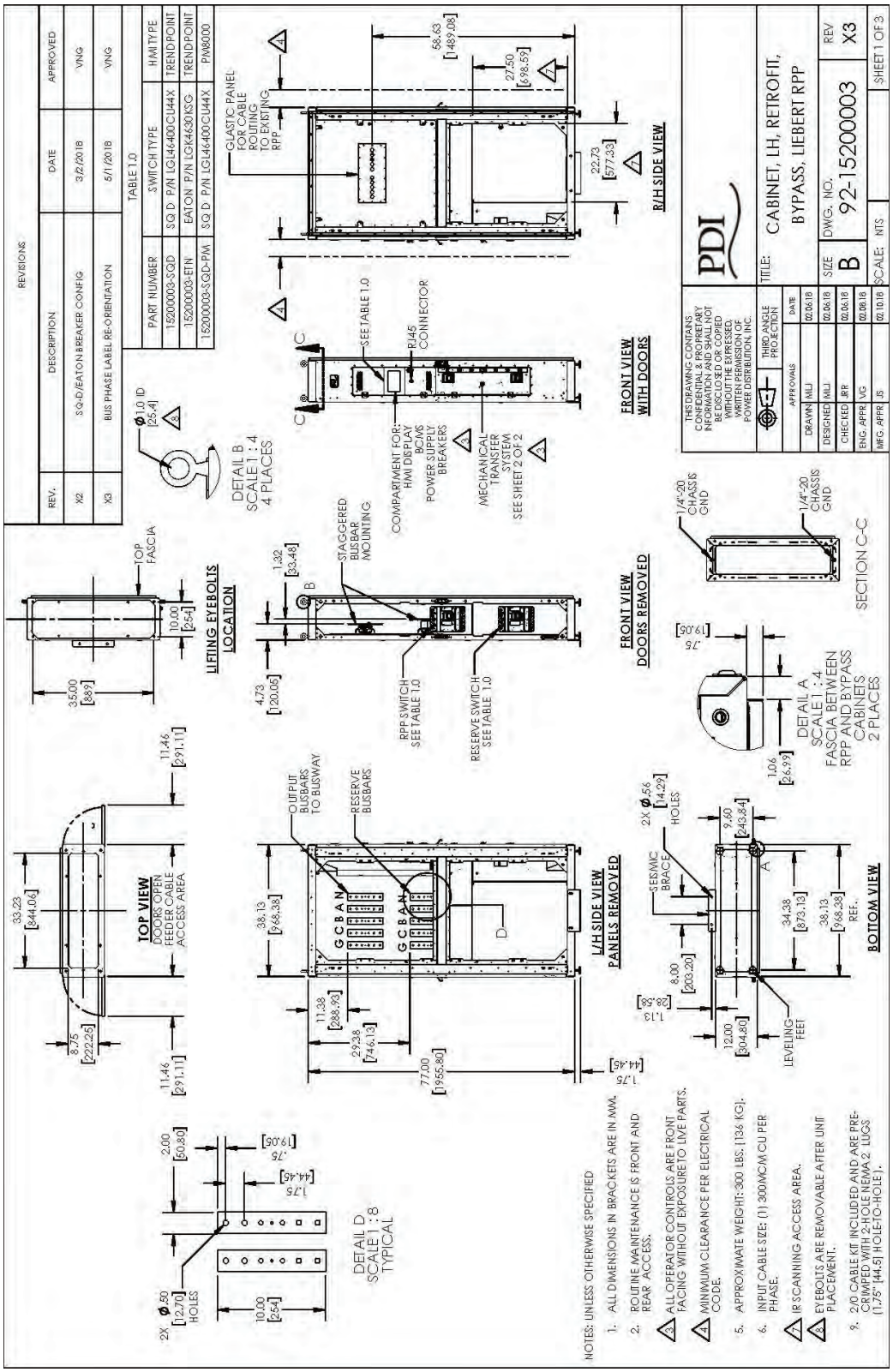
8.1 Right-Hand Bypass Configuration Drawings for Vertiv Reactor Power Panel

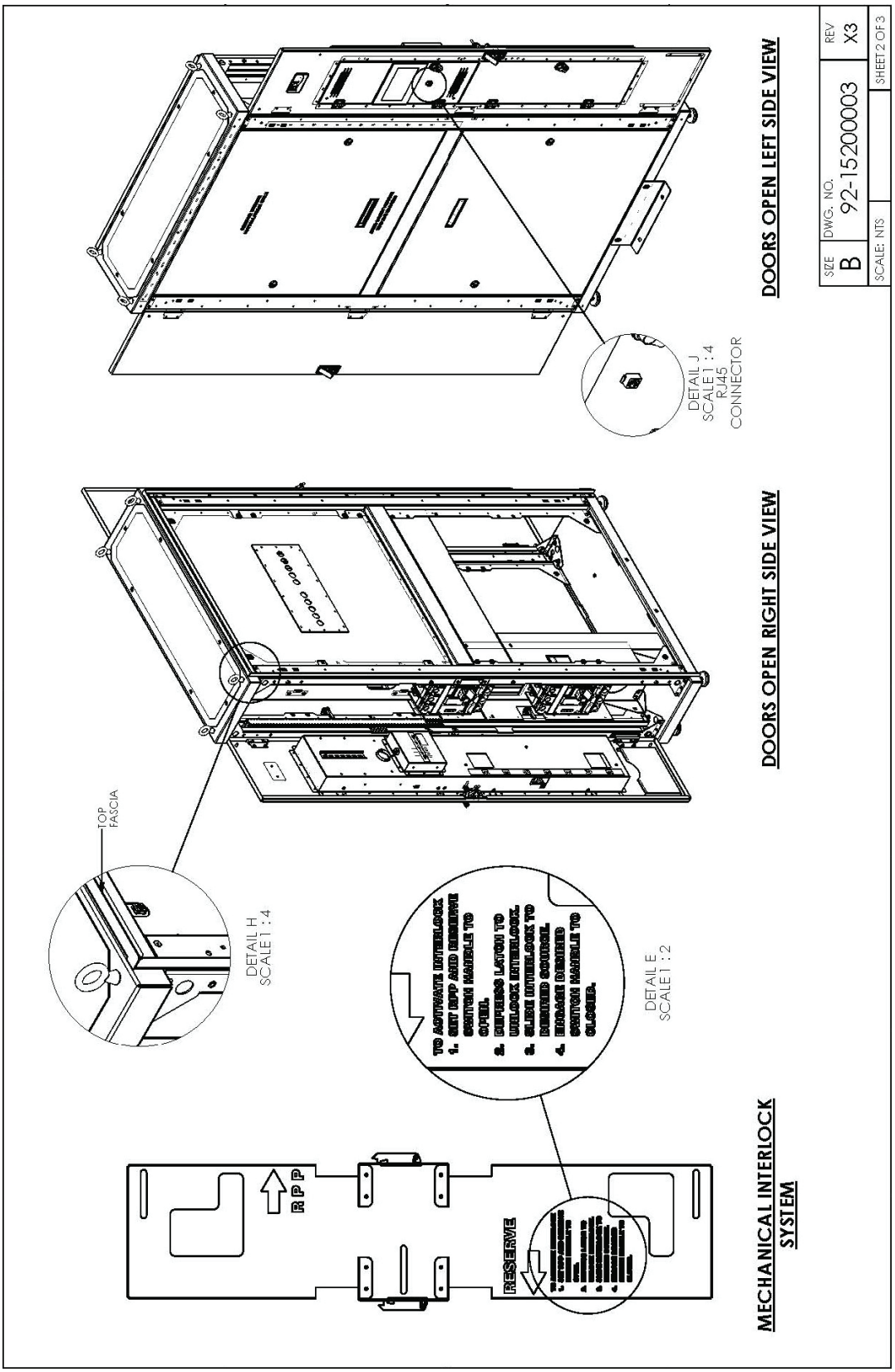


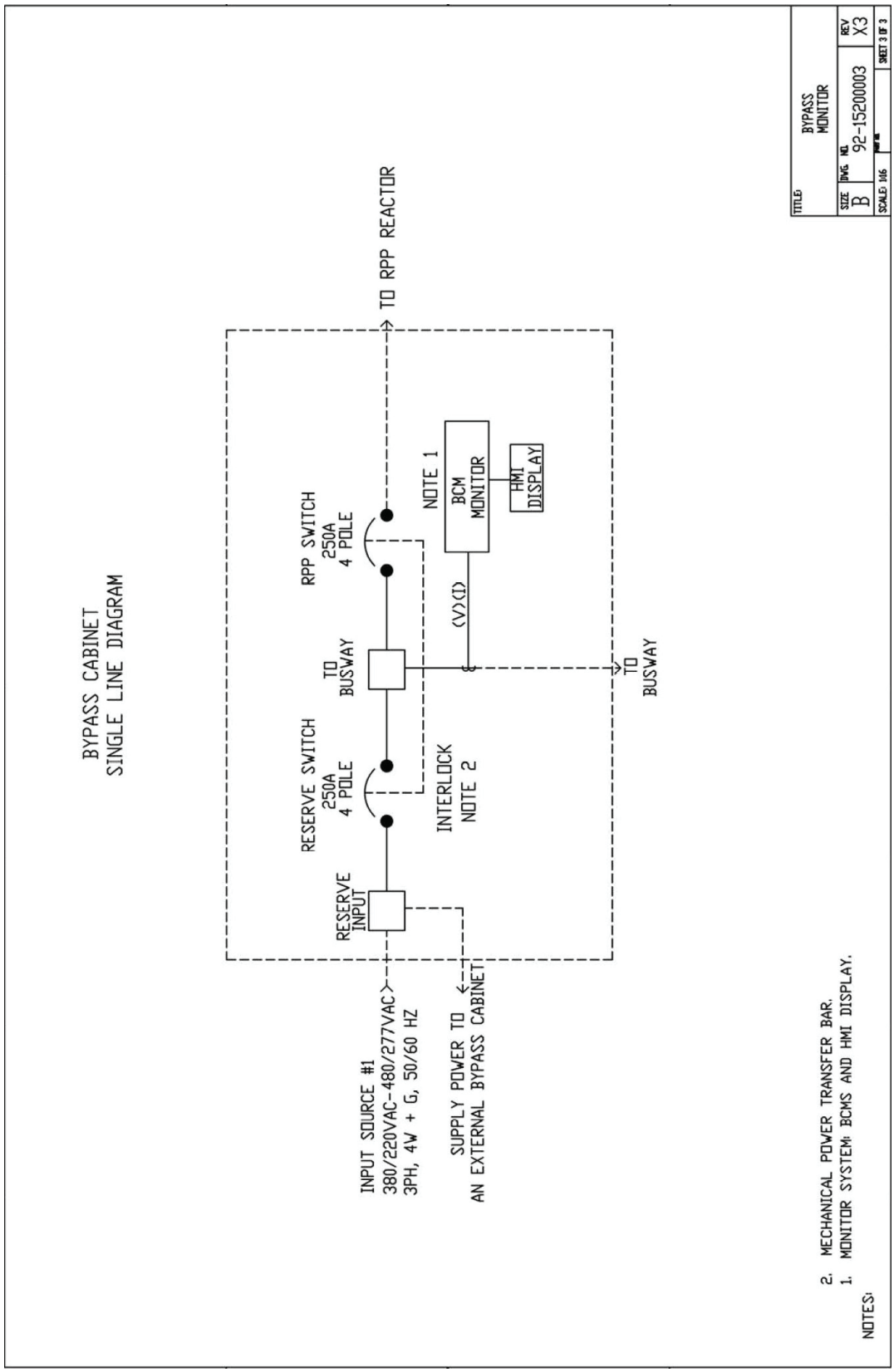

DETAIL M
SCALE 1 : 4
RJ45
CONNECTOR
DOORS OPEN RIGHT SIDE VIEW
DOORS OPEN LEFT SIDE VIEW
DETAIL L
SCALE 1 : 4
TOP
FASCIA
TO ACTIVATE INTERLOCK
1. SET RPP AND RESERVE
SWITCH HANDLE TO
OPEN.
2. DEPRESS LATCH TO
UNLOCK INTERLOCK.
3. SLIDE INTERLOCK TO
DESIRED SOURCE.
4. ENGAGE DESIRED
SWITCH HANDLE TO
CLOSED.
DETAIL E
SCALE 1 : 2
RPP
RESERVE
MECHANICAL INTERLOCK
SYSTEM
SIZE
B
DWG. NO.
92-15200004
REV
X3
SCALE: NTS
SHEET 2 OF 3


BYPASS CABINET
SINGLE LINE DIAGRAM
INPUT SOURCE #1
380/220VAC-480/277VAC
3PH, 4W + G, 50/60 HZ
RESERVE INPUT
RESERVE SWITCH
250A
4 POLE
INTERLOCK
NOTE 2
SUPPLY POWER TO
AN EXTERNAL BYPASS CABINET
TO
BUSWAY
RPP SWITCH
250A
4 POLE
NOTE 1
BCM
MONITOR
HMI
DISPLAY
TO RPP REACTOR
TO
BUSWAY
NOTES:
1. MONITOR SYSTEM BCMS AND HMI DISPLAY.
2. MECHANICAL POWER TRANSFER BAR.
TITLE
BYPASS
MONITOR
SIZE
B
DWG NO
92-15200004
REV
X3

8.2 Left-Hand Bypass Configuration Drawings for Vertiv Reactor Power Panel




DOORS OPEN LEFT SIDE VIEW
DETAIL J
SCALE 1 : 4
RJ45
CONNECTOR
DOORS OPEN RIGHT SIDE VIEW
TOP
FASCIA
DETAIL H
SCALE 1 : 4
TO ACTIVATE INTERLOCK
1. SET RPP AND RESERVE
SWITCH HANDLE TO
OPEN.
2. DEPRESS LATCH TO
UNLOCK INTERLOCK.
3. SLIDE INTERLOCK TO
DESIRED CONTROL.
4. ENGAGE DESIRED
SWITCH HANDLE TO
CLOSED.
DETAIL E
SCALE 1 : 2
RPP
RESERVE
MECHANICAL INTERLOCK
SYSTEM
SIZE
B
DWG. NO.
92-15200003
REV
X3
SCALE: NTS
SHEET 2 OF 3


BYPASS CABINET
SINGLE LINE DIAGRAM
TO RPP REACTOR
RPP SWITCH
250A
4 POLE
NOTE 1
BCM
MONITOR
HMI
DISPLAY
TO
BUSWAY
(V)(I)
RESERVE SWITCH
250A
4 POLE
INTERLOCK
NOTE 2
TO
BUSWAY
RESERVE
INPUT
INPUT SOURCE #1
380/220VAC-480/277VAC
3PH, 4W + G, 50/60 HZ
SUPPLY POWER TO
AN EXTERNAL BYPASS CABINET
NOTES:
1. MONITOR SYSTEM: BCMS AND HMI DISPLAY.
2. MECHANICAL POWER TRANSFER BAR.
TITLE:
BYPASS
MONITOR
SIZE
B
DWG NO.
92-15200003
REV
X3
SCALE: 1/6
SHEET 3 OF 3

164001120 03