



C&C Power, Inc.

25G Battery Cabinet

Installation, Operation, & Maintenance Manual

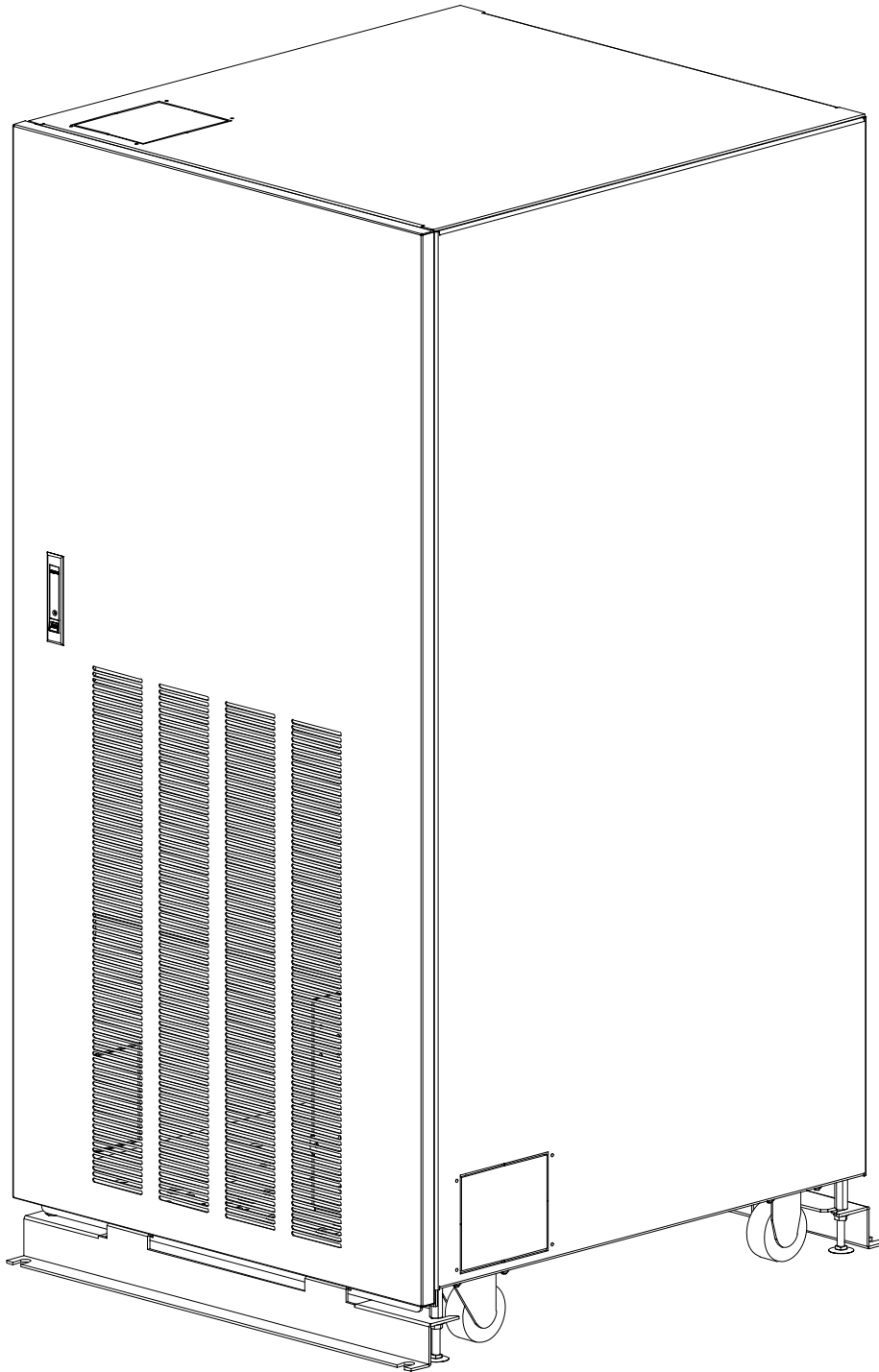


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1. INTRODUCTION

C&C Power, Inc.
949 N. Larch Ave.
Elmhurst, IL 60126

www.ccpower.com

C&C Power's 25G Battery Cabinets are shipped fully assembled, internally pre-wired and come standard with over current fuse protection. Each cabinet is designed to accommodate various battery sizes and configurations, along with options such as, breaker disconnects and internal charging systems. This allows the customer to change, upgrade or expand the system while utilizing the existing cabinet. The mobile design and removable access covers allow for easy installation and maintenance. Refer to the attached battery layout drawings and schematics supplied with system.

As with all of C&C Power equipment, systems are Hi-Pot tested to UL standards at our facility prior to shipment. All system settings are also adjusted at this time according to the specification sheet attached to the unit or per customer requirements.

Sales support for future equipment or upgrades is provided by our regional sales staff and qualified representatives. All technical questions and service issues should be directed to our main office by dialing the number listed below. This is a 24-hour, 7-day service number. After normal working hours, please leave a detailed message with your phone number on the voice mail system and a qualified service representative will contact you as quickly as possible.

C&C Power, Inc. 949 N. Larch Avenue, Elmhurst, Illinois
Phone: (630)-617-9022; Fax: (630)-617-9023
Emergency Service: (630)-617-9022

2. PRECAUTIONS

- ⚠ It is very important to read, understand and follow the instructions in this manual. Also note all *SAFETY PRECAUTIONS* before beginning the installation of this system.**
- ⚠ Battery cabinet systems are very heavy. Total weight can exceed 2000 lbs. Use at least 3 people when unloading and setting equipment in place.**
- ⚠ It is imperative that only qualified personnel work on this system and installation, maintenance or upgrades be performed with insulated tools.**
- ⚠ When installing this battery system, follow all applicable federal, state and local regulations and industry guidelines to insure a proper installation.**
- ⚠ DC Power and Batteries are dangerous and have extremely high short circuit current. Severe burns or death can result from a system short. They also can leak potentially explosive gas (hydrogen). Never enclose batteries or battery cabinets in a sealed room.**
- ⚠ Jewelry and watches must be removed prior to installing or servicing this system.**
- ⚠ Never leave a panel off or door open and unattended.**

3. INSPECTION UPON RECEIPT OF GOODS

3.1 General

Special precautions and care have been taken to ensure the system arrives safe and undamaged. However, upon receipt, you should inspect the entire shipment, including the crate and any boxes for evidence of damage that may have occurred during transit.

3.2 Visible Damage

It is the responsibility of the person receiving the shipment to inventory and fully inspect all materials against the bill of lading or weigh bill IMMEDIATELY while the carrier representative is still present. Insure that all items are accounted for, including number of skids and quantity of boxes. Also note any visible external damage that may have occurred during transit. Make all applicable notations on the delivery receipt before signing and file a damage report with the carrier.

3.3 Concealed Damage

Within 3 to 30 days of receipt (depending on courier), unpack the battery system and check for any concealed damage. Check the materials received against the detailed packing list to verify the quantity and the condition as complete and satisfactory.

Note any damage to the internal packaging, then request an inspection by the carrier and file a concealed damage claim. If there is a material shortage, contact a C&C Power representative at the main office to file a claim.

**Please contact your shipping company for all shipping damage.
C&C Power is not responsible for any shipping damage.**

3.4 Return of Damaged Goods

Should equipment be damaged and require return to C&C Power for repair, a representative will provide instructions along with an RMA number to expedite the return.

An RMA number must be obtained before returning equipment to C&C Power, Inc.

4. SYSTEM OVERVIEW

The C&C Power Inc. 25G Battery Cabinet systems provide the necessary DC backup power required in UPS applications. The 25G Battery Cabinet is Listed to UL924 and when used with various Models of UPS System manufactured by MGE, becomes a Listed Emergency Lighting System. Over-current fuse protection is supplied standard on the hot side of the system. Both DC connections and AC (if supplied with charger), are front accessible and made via terminal blocks and/or mechanical lugs. Refer to the attached layout and schematic for these connections.

During normal conditions the UPS or charger supplies the load power and the necessary power required to keep the batteries at the proper float voltage.

When AC fails, the batteries discharge in order to provide the necessary backup power. It is the responsibility of the customer to make sure the batteries are not discharged below manufactures recommendations. Always recharge batteries as soon as possible. Batteries will be damaged if not recharged right away. See the UPS or DC system manual for more information.

Optional alarms and EPO features may also be provided with your system. Refer to the attached layout and schematic provided, along with instructions on the wiring of these options.

5. GENERAL SYSTEM SPECIFICATIONS

5.1 AC INPUT CHARACTERISTICS

(only if supplied with charger option)

- **Voltage:** 120/208/240 Volts AC
- **Current:** 25A @ 120V and 15A @ 208/240V
- **Fuse Size:** 30A @ 120V and 20A @ 208/240V
- **Fuse Type:** Class RK1 time delay or equivalent

⚠ Caution! Fire Hazard Warning: ⚠

Replace only with same type and rating of fuses supplied with the system.

- **Frequency:** 60Hz
- **Wire Size and Type:** Per NEC and/or local building and electrical codes.

5.2 DC OUTPUT CHARACTERISTICS (refer to equipment label)

- **Voltage: (Telecom Application)** 48 or 24VDC Nominal
- **Voltage: (UPS Application)** 120 to 480VDC Nominal
- **Breaker:** (optional)
- **Fuse Type:**
Gould A50QS, A50P or equal (for 384VDC Nom. bus or less)
Gould A70QS, A70P or equal (for 480VDC Nom. bus or less)
Gould Type HSJ

⚠ Caution! Fire Hazard Warning: ⚠

Replace only with same type and rating of fuses supplied with the system.

- **Wire Size and Type:** Per NEC and/or local building and electrical codes.
- **Disconnect:** If a fuse has been provided in lieu of a breaker inside the cabinet, a disconnecting means must be provided per NEC code. This may be a fused switch or circuit breaker. Size accordingly.

5.3 BATTERIES

- **Type:** Valve Regulated Lead Acid (VRLA), sealed, non-spillable
- **Voltage:** 12 Volt or 6 Volt DC Nominal.
- **Only cabinets with FLAME RETARDANT BATTERIES are suitable for computer room use!**

5.4 GROUNDING

- All grounding should be derived from the main building ground source.
Note: All battery cabinets require grounding.

5.5 ENVIRONMENTAL CONDITIONS

- **Cabinet Dimensions:**
25G: 29"W X 31.5"D X 59"H
For further dimensions, please refer to cabinet layout drawing.
- **Cabinet Weights:(Empty)**
25G: 375 lbs.
For weight with batteries, please refer to cabinet layout drawing.
- **Temperature:** Normal operating temperatures are between 68°-77°F

Note: This is based on the charger for the batteries. Batteries typically should be at 77°F for optimum life and performance.

- **Ventilation/Cooling:** Through ventilation slots front and rear. A minimum of four inches is required in front and behind the cabinet. This refers to obstruction of ventilation only. Clearance around this cabinet should be as suggested by NEC and local codes.

⚠ Caution! Explosion/Fire Hazard Warning: ⚠

Batteries can generate potentially explosive gas (hydrogen).

Never enclose batteries or battery cabinets in a sealed, airtight room.

6. INSTALLATION PROCEDURES

6.1 PREPARATION

6.1.1 Equipment Inspection

Remove the equipment from the packaging material and inspect for any shipping damage that may have been overlooked upon receipt of goods. Verify the system has all components and cables for installations.

6.1.2 Necessary Equipment and Tools

- Heavily insulated assortment of hand tools
- Digital Voltmeter

6.1.3 Safety Precautions

BEFORE PROCEEDING WITH INSTALLATION READ THE FOLLOWING:

⚠ DC VOLTAGE WARNING! ⚠

Hazardous DC voltages are present in the battery cabinet. This hazard will always be present, even when the battery system is off-line. Accidental short circuit of the positive and negative terminals will cause tremendous currents to flow resulting in severe burns, fire and possible death. Use extreme caution!

IMPORTANT SAFETY INSTRUCTIONS!!

- ⚠ All disconnecting means should be in the open/off position before servicing.
- ⚠ All installation drawings and schematics should be reviewed and clearly understood before hooking up this system.
- ⚠ Only qualified DC power technicians or electricians should attempt to work on and install this equipment.
- ⚠ All jewelry, rings and watches should be removed when working on this equipment.
- ⚠ All tool handles and shafts must be heavily insulated with electrical tape or otherwise protected.
- ⚠ Do not rest any tools or loose cables on top of batteries.
- ⚠ Make sure all connections are properly torqued and secure.
- ⚠ Do not smoke or present flames near or around any battery system.
- ⚠ Always wear safety glasses and gloves and use insulating mats to stand on when working on this system.
- ⚠ Do not allow bare skin to come into contact with battery cabinet, as this could result in an electrical shock.
- ⚠ Do not install any cable terminations until it has been verified that such a termination will not create a short circuit.

SAVE THESE INSTRUCTIONS!!

7. INSTALLATION STEPS

7.1 CABINET LOCATION

- Prior to installation, verify floor loading requirements and all applicable codes pertaining to the related equipment. Environmental conditions should also be reviewed. Proper ventilating and cooling must be adequate for optimum battery life and performance. A clearance of 4" is recommended at the front and the rear of the cabinet. This refers to obstruction of ventilation only. Clearance around this cabinet should be as suggested by NEC and local codes. Ambient temperature should be between 68°-77°F.

7.2 CABINET MOUNTING

1. The 25G battery cabinet is equipped with four casters, two swivel locking type in front and two rigid type in the back. Move the cabinet into the desired location and lock the front casters.
2. Lower the four leveling feet located at each corner to stabilize the cabinet and prevent it from moving.
3. If the installation or location requires the cabinet to be bolted to the floor, use the mounting brackets that were provided, if not, you may discard these angles. Mark the holes of the bracket on the floor. A minimum of six bolts will be required to meet zone four requirements. Refer to the BC25 Zone Four Anchoring drawing attached to this manual for further anchoring details.
4. Move the cabinet out of the way and drill holes for the mounting hardware that will be used.
5. Move the cabinet back into place, align the holes, lower the leveling feet and tighten the hardware to secure the mounting brackets.
6. Should any drilling be performed on this equipment, make sure all exposed batteries and connections are completely covered using insulated type mats.

7.3 DC CONNECTIONS

CAUTION!

PLEASE READ ALL SAFETY PRECAUTIONS BEFORE PROCEEDING

1. Open the front door on the cabinet and check for any noticeable problems or damage that may have occurred during shipment.
2. Review the attached installation drawing and schematic. A cable has been left off in the middle of the battery string for safety and will be installed later.
3. Check and re-torque internal battery connections, as shipping may have caused these connections to come loose. Proper torque values are noted on the drawing and also on the battery case.
4. Connect main cables from the terminal block inside the cabinet, to the UPS or charger source. All cables should be sized per NEC and any other local codes pertaining to this equipment. Refer to the UPS or charger manual for wiring external batteries. Note: Make sure charging source is disconnected before making these connections.
5. Connect the cable that was left off during shipment and install as shown on the drawing. Torque connections properly.
6. Install DC fuses.

7.4 AC CONNECTIONS

If your cabinet has been supplied with an optional internal battery charger, perform the connections as follows:

1. Review the drawing and schematic supplied with the system.
2. If a plug was supplied with your charger, plug the unit into the required outlet.
3. If the unit is to be hardwired, size the cable as specified on the drawing and follow all national and local codes.
4. Install AC fuses.

7.5 GROUNDING

1. Ground the battery cabinet to the main building ground. A ground stud inside the cabinet is provided for this.

7.6 SYSTEM OPERATION

Refer to the UPS or charger manual for start up and system operation.

8. SYSTEM MAINTENANCE

CAUTION!

PLEASE READ ALL SAFETY PRECAUTIONS BEFORE PROCEEDING

8.1 BLOWN FUSE REPLACEMENT

If a fuse has blown in the system, determine the cause prior to installing another fuse.

 Caution! Fire Hazard Warning: 

Replace only with same type and rating of fuses supplied with the system.

8.2 BATTERY REPLACEMENT STEPS

1. Prepare the new battery/s for installation. Check to make sure the battery/s are the same type and amp-hour rating. Measure the battery voltage to make sure it is ok. (12.4V or above) Use a brass wire brush or scotch brite pad and polish the terminals. Apply No-ox grease to the terminal to avoid corrosion.
2. Disconnect the charger or UPS from the battery string by removing the fuses.
3. Remove the center jumper on the battery string to reduce the voltage. If replacing all batteries, continue reducing the voltage in this manner.
4. Disconnect the cables from the battery/s to be replaced.
5. Remove the bad battery/s.
6. Replace with new battery/s. Make sure new battery/s are installed the same way regarding polarity orientation and verify with drawing.
7. Reconnect cables to battery/s. Make sure connections are properly torqued.
8. Reconnect center jumper. Make sure connections are properly torqued.
9. Check voltage at terminal block.
10. Install fuses.

9. SYSTEM DRAWINGS/SCHEMATICS

See attached documents

10. WARRANTY

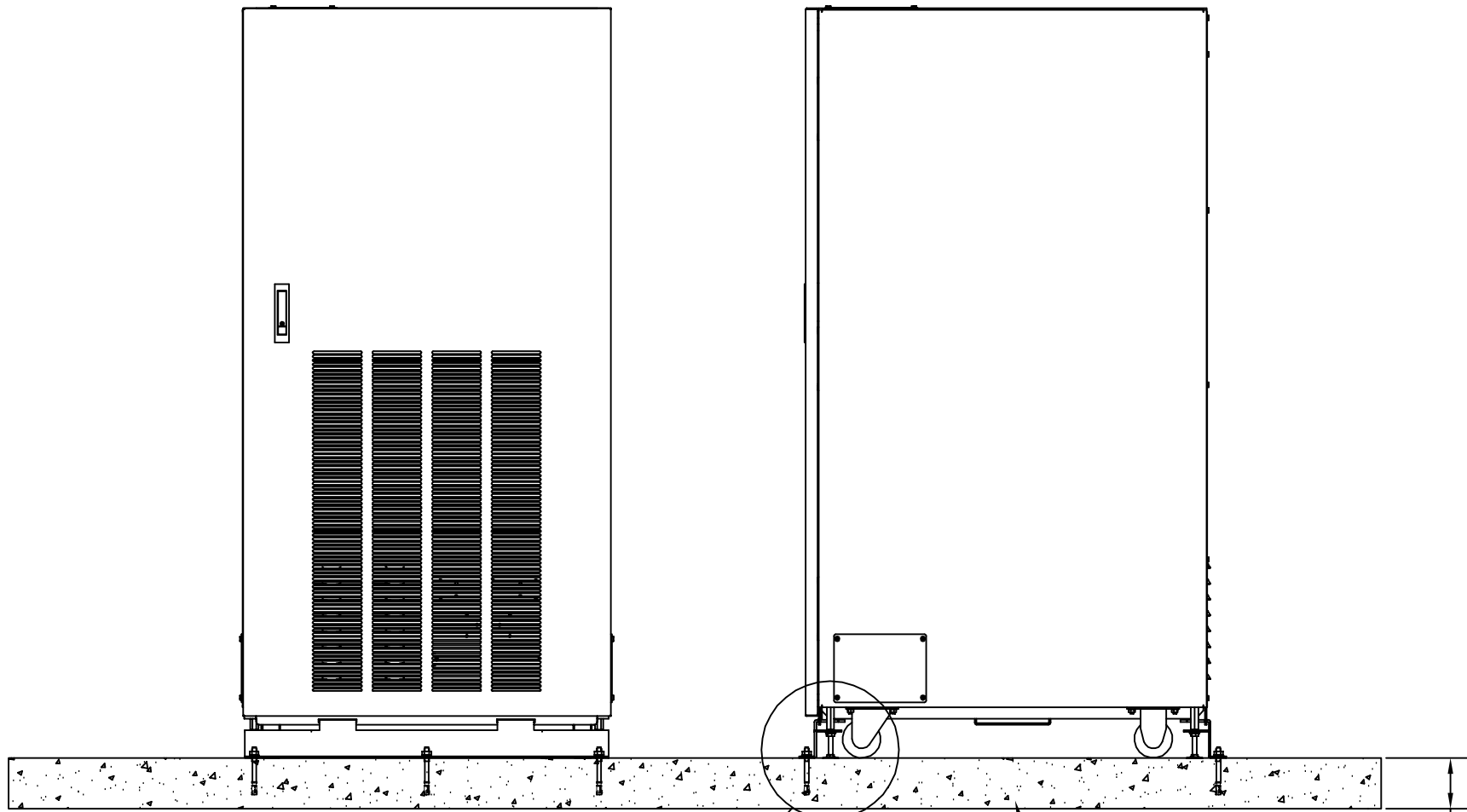
LIMITED WARRANTY AND EXCLUSIONS

C & C Power, Inc. strives to produce quality products at reasonable prices. If you are not satisfied with our product because of a defect, we will repair or replace the defective part or parts free of charge for a period of one year from the date of purchase. In the event you claim that the product contains a defect, simply notify C & C Power, Inc. of the defect, and we will arrange for repair or replacement. The **sole** and **exclusive** remedy against C & C Power, Inc. relating in any way to a product defect shall be the repair or replacement of defective parts as provided for under this **LIMITED WARRANTY**. No other remedy, including, but not limited to, incidental or consequential damages for lost profits, lost sales, injury to person or property, or any other incidental or consequential loss, is available. This **LIMITED WARRANTY** shall not be deemed to have failed of its essential purpose so long as C & C Power, Inc. is willing and able to repair or replace defective parts in the manner prescribed in this **LIMITED WARRANTY**.

Certain integrated products, which are not manufactured by C&C Power; will be warranted by the applicable manufacturer. These warranties shall be between the manufacturer and the user. Terms and conditions may vary. These integrated products include, but may not be limited to, the following products: Batteries, Inverters and UPS Systems.

Any action for breach relating to the sale of a C & C Power, Inc. product must be commenced within one year after the cause of action has accrued.

THIS LIMITED WARRANTY IS IN LIEU OF ANY OTHER WARRANTY, EXPRESS OR IMPLIED, AND ALL SUCH WARRANTIES ARE EXCLUDED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.



CONCRETE FLOOR
MIN. 2000 PSI

MIN. CONC.
DEPTH 4"


EARTHQUAKE BRACKET

3/8" DIA. HILTI KB-II EXPANSION
ANCHORS PER ER-4627
2-1/2" MIN. EMBED. TYP. 6 PLACES

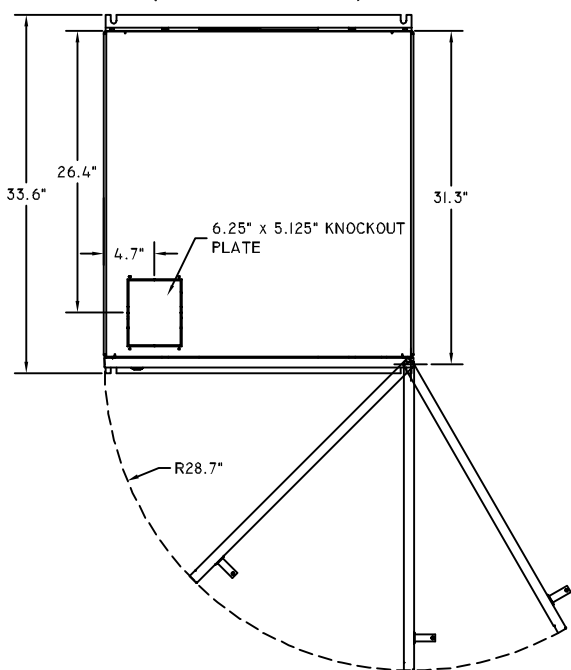
WHIZ LOCK NUT
FOR TIGHTENING
EARTHQUAKE BRACKET

ELEVATOR BOLT

THE BC25 BATTERY CABINET HAS BEEN CERTIFIED TO THE 1997 EDITION OF THE UNIFORM BUILDING CODE. TO MEET UBC SEISMIC ZONE 4 HOLD DOWN SPECIFICATIONS:
-CABINET MUST BE ANCHORED WITH (6) HILTI KB-II EXPANSION BOLTS OR EQUIVALENT. BOLT DIAMETER AND MINIMUM EMBEDMENT AS CALLED OUT IN DRAWING.
-ALL CONCRETE SPECIFICATIONS PER DRAWING MUST ALSO BE MET.

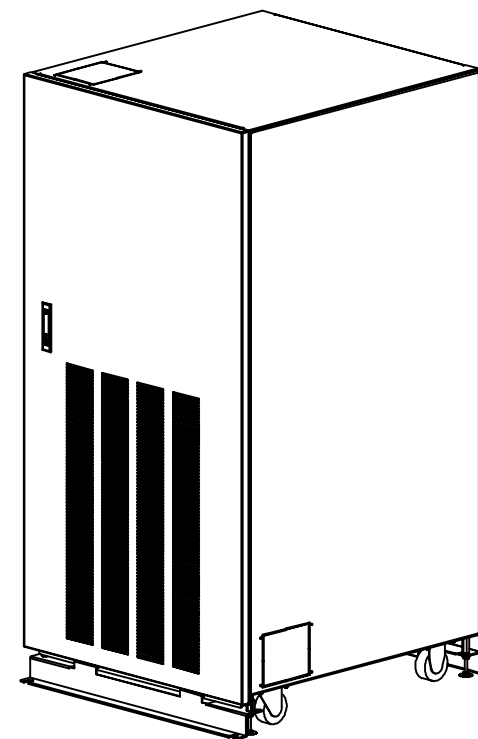
91425		BC25 ZONE 4 ANCHORING	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE:			
DECIMALS: .XX ±.01 .XXX ±.005	ANGLES: XXX ±1°	CAD GENERATED DRAWING. DO NOT MANUALLY UPDATE!	THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF C&C POWER, INC. ANY REPRODUCTION WITHOUT THE WRITTEN CONSENT OF C&C POWER, INC IS PROHIBITED.
		APPROVALS	DATE
		DRAWN CH	12/24/02
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		MFG ENG ---	--/--/--
		DUAL ENG ---	--/--/--
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 C&C POWER, INC. 949 N. LARCH AVE. ELMHURST, IL 60126			SIZE DWG. NO. --- A REV. 2 SHEET 1 OF 1

**TOP VIEW
(WITH DOOR SWING)**

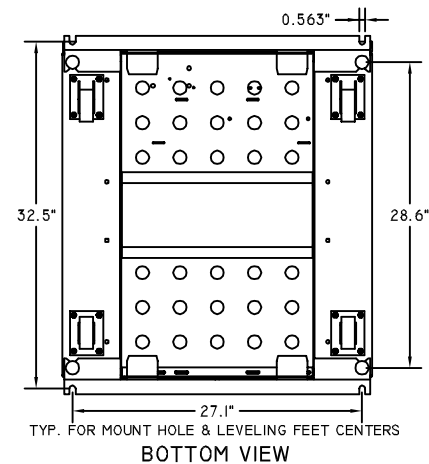
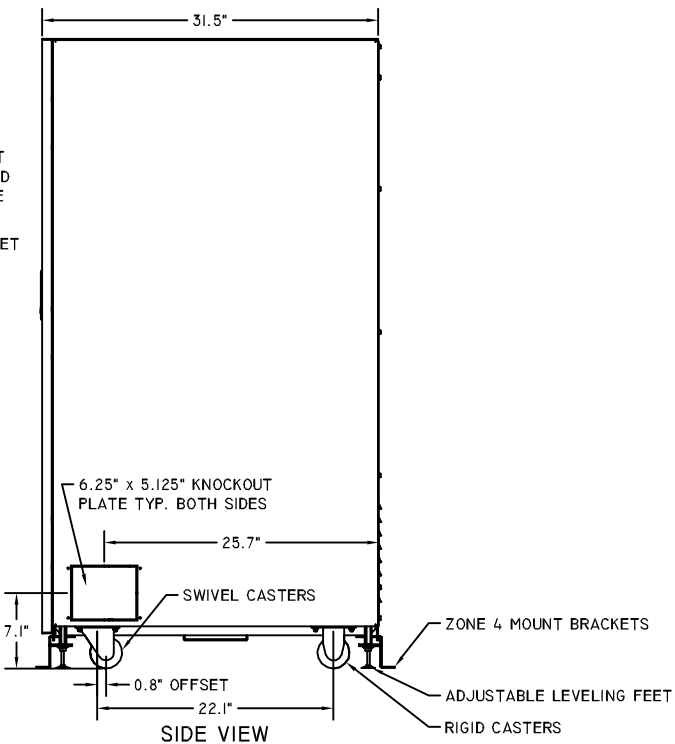
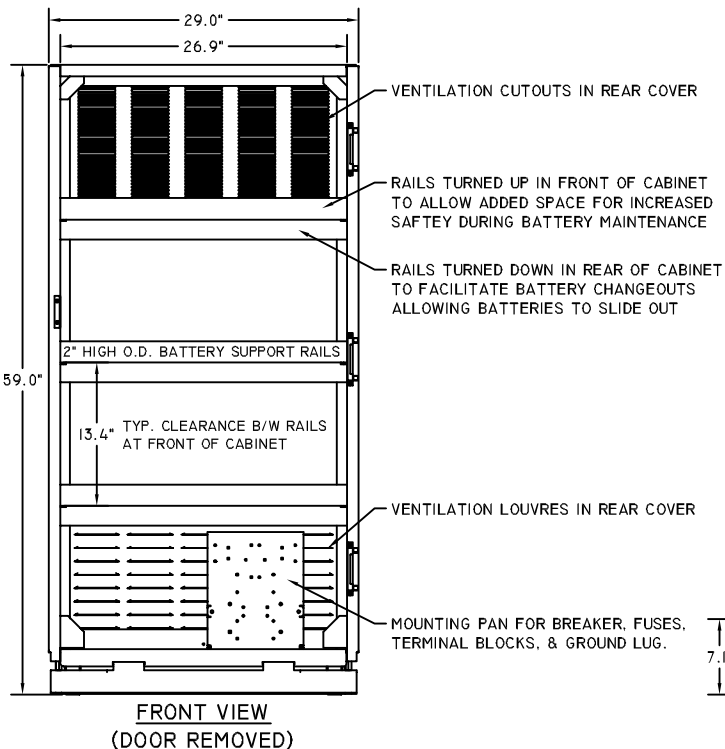



CABINET NOTES:

- EMPTY CABINET WEIGHT: 375 Lbs.
- I. NEMA I ENCLOSED BATTERY CABINET.
- 2. FACTORY ASSEMBLED CABINETS ARE UL1778 LISTED & CSA LISTED 22.2 NO. 107.1-M95
- 3. CABINET IS ZONE 4 RATED AND CERTIFIED (SEE ZONE 4 ANCHORAGE DRAWING FOR DETAILS)
- 4. CABINET BODY IS 10 GA. COLD ROLLED STEEL.
- 5. DOOR AND REAR COVER ARE 16 GA. COLD ROLLED STEEL.
- 6. BATTERY RAILS ARE 10 GA. COLD ROLLED STEEL.
- 7. BATTERY TRAYS ARE 12 GA. GALVANIZED STEEL.
- 8. FOR EASE OF CONDUIT INSTALLATION, (1) 6.25"x5.125", 16 GAUGE CONDUIT KNOCKOUT PLATE IS PROVIDED TO REPLACE ONE OF THE 10 GAUGE KNOCKOUTS IN THE CABINET.
- 9. PAINT IS CY GRAY POWDER COAT, OVEN BAKED FOR CHIP & CORROSION RESISTANT FINISH.
- 10. BATTERIES CAN BE ACCESSED FROM THE FRONT AND REAR.
- II. CABINET IS SUPPLIED ON SKID WITH HEAVY DUTY RAMP FOR EASY UNLOADING. CABINET IS TO BE MOVED USING THE CABINET CASTERS.



ISOMETRIC VIEW



91425		BC25 BATTERY CABINET	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE:		CAD GENERATED DRAWING; DO NOT MANUALLY UPDATE!	
DECIMALS: .XX ± 0.01	ANGLES: XXX ± 1°	APPROVALS	DATE
.XXX ± 0.005		DRAWN CH	04/11/05
MATERIAL		CHECKED	-- --/--/--
FINISH		RESP ENG	-- --/--/--
DO NOT SCALE DRAWING		MFG ENG	-- --/--/--
		DUAL ENG	-- --/--/--
		THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF C&C POWER, INC. ANY REPRODUCTION WITHOUT THE WRITTEN CONSENT OF C&C POWER, INC IS PROHIBITED.	
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		SIZE/DWG. NO. A	91425-SDC01-1 REVI 1
		SCALE: N.T.S.	CAD FILE: -- SHEET: 1 OF 2

