

TELERGY RACKS

INSTALLATION, OPERATION, AND MAINTENANCE MANUAL



MNL-000600
Rev C
February 2017

This manual provides instructions regarding safety, storage, installation, operation and maintenance. Failure to observe the precautions as presented may result in injury or loss of life.

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1. INTRODUCTION

ESS Telergy Racks are shipped partially assembled and pre-wired from the factory. Cables are tied in position to make installation fast and simple. Refer to the rack layout drawings and schematics at the end of this manual. Consult the battery manufacturer's battery operation and maintenance manual for complete instructions regarding battery installation.

All technical questions and service issues should be directed to our office at 972-272-2468. 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.

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.**
-  **Consult the Battery Operation and Maintenance Manual for important battery information.**
-  **Telergy Racks are very heavy. Use at least 2 people when unloading and setting equipment in place.**
-  **It is imperative that only qualified personnel work on installation. Maintenance or upgrades must be performed with insulated tools and equipment.**
-  **When installing this battery rack follow all applicable federal, state and local regulations and industry guidelines to ensure a proper installation.**
-  **DC power and battery supplies are dangerous and have extremely high short circuit currents. Take care to avoid short circuiting the battery terminals or system bus bars. Severe burns or death can result from a system short. They also can leak potentially explosive gas (hydrogen). Never enclose batteries or battery racks in a sealed air tight room.**
-  **During installation remove the terminal covers from only the batteries being worked on. Replace the terminal cover as soon as work on a battery is finished.**
-  **All jewelry and watches must be removed prior to installing or servicing this system.**
-  **Do not smoke or present flame near or around any battery rack system.**



3. INSPECTION UPON RECEIPT OF GOODS

3.1 General

Special precautions and care have been taken to ensure the battery rack arrives safe and undamaged. However, upon receipt, you should inspect the entire shipment, including the pallet and cardboard wrapping 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 way bill IMMEDIATELY, while the carrier representative is still present. Ensure that all items are accounted for, including number of skids. 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 30 days of receipt, unpack the battery rack 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 ESS at the number listed at the end of this manual.

Please contact your shipping company for all shipping damage. ESS is not responsible for any shipping damage.

3.4 Return of Damaged Goods

A RMA number must be obtained before returning equipment to ESS. Please contact an ESS representative or call the corporate number listed at the end of this manual.

4. SYSTEM OVERVIEW

The enclosed battery rack provides the necessary DC backup power for 24V or -48V dc applications. Optional over-current breakers for each 24V or -48V strings are provided. DC connections are front accessible and made via mechanical lugs. Refer to the drawings and schematics at the end of this manual for these connections.

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 the battery manufacturer's recommendations. Always recharge batteries per manufacturer's battery operation and maintenance manual. Batteries will be damaged if not recharged right away.



5. GENERAL SYSTEM SPECIFICATIONS

5.1 DC Output Characteristics

- **Voltage:** Up to 12 strings of 24 VDC, or up to 6 strings of -48 VDC
- **Breaker:** Optional
- **Wire Size and Type:** Per NEC and/or local building and electrical codes.

5.2 Batteries (Sold Separately)

- **Type:** Valve Regulated Lead Acid (VRLA), sealed, non-spillable.
- **Voltage:** 12 Volt DC Nominal.

5.3 Grounding

- All grounding should be derived from the main building ground source.
- **Note:** All rack systems require grounding.

5.4 Environmental Conditions

The battery rack description refers to “X wide” x “Y high”, this is the number of battery jars per shelf and the number of shelves high. For example: a 4X6 rack has 4 battery jars per shelf and the rack is 6 shelves high. Each shelf can house one -48 VDC string or two 24 VDC strings.

Rack Dimensions:

TR4X6 is 26.0” W* x 27.1” D x 84.0” H
TR4X5 is 26.0” W* x 27.1” D x 84.0” H
TR4X4 is 26.0” W* x 27.1” D x 84.0” H
TR4X3 is 26.0” W* x 27.1” D x 44.0” H

* All width dimensions are of the rack only. The breakers extend 1.37" each side (one side only for -48VDC and both sides for 24VDC); consider this distance when calculating floor space.

For mounting hole dimensions, please refer to the rack layout drawing at the end of this manual. Also included with each order is a floor template to mark anchor locations per rack.

Rack Weights: (Assembled)

Reference the drawings at the end of this manual for the specific rack configuration weight. The weights have been calculated with the appropriate cable gauge.



- **Temperature:** Normal operating temperatures are between 68°F -77°F. **Note:** Batteries typically should be at 77°F for optimum battery life and performance. Racks are intended for indoor environments only.
- **Ventilation/Cooling:** Partitions in each shelf provide good air flow between each battery.
- **Clearance:** A minimum of four inches is required in both the front and the rear of the cabinet. This refers to obstruction of ventilation only. Clearance around cabinet sides is suggested by NEC and local codes.

CAUTION! Explosion/Fire Hazard Warning:
Batteries can generate potentially explosive gas (hydrogen).
Never enclose batteries or battery racks in a sealed, airtight room.

6. INSTALLATION PRODEDURES

BEFORE PROCEEDING WITH INSTALLATION READ THE FOLLOWING:

6.1 Preparation

6.1.1 Necessary Equipment and Tools

- Rigging tools for moving racks. Narrow pallet jack or fork lift.
- Heavily insulated assortment of hand tools.
- Digital Voltmeter

6.1.2 Equipment Inspection

Remove the packaging material from the rack and inspect for any concealed shipping damage that may have been overlooked upon receipt of goods. Use the packing list to verify the system has all components and cables for installation.

6.1.3 Safety Precautions

DC VOLTAGE WARNING!
Hazardous DC Voltages are present in the battery rack. 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. SAVE THESE 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.**
- ⚠ **Do not rest any tools or loose cables on top of batteries.**



- ⚠ **Make sure all connections are properly torqued and secure. Torque values are provided on battery label. Inspect rack cabling, copper bars, breakers, and insulators for damage. Verify the lugs on the battery cables are insulated.**
- ⚠ **Check the rack cables, bus bar polarity and voltage matches the customer specification.**
- ⚠ **Check for any loose connections at the bus bars that may have happened during transit.**
- ⚠ **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 rack, 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.**

7. INSTALLATION STEPS

7.1 Rack Location

Prior to installation, verify floor loading requirements and all applicable codes pertaining to the related equipment. Environmental conditions should also be reviewed. Proper ventilation and cooling must be adequate for optimum battery life and performance. Clearance around the rack sides should be as suggested by NEC and local codes. Ambient temperature should be between 68°F -77°F.

7.2 Rack Mounting

1. Remove any remaining packaging materials (cardboard, plastic).
2. Unbolt the rack from the pallet. It will take at least two persons to unload the rack from the pallet.
3. In order to meet Zone 4 requirements, refer to the Zone 4 ANCHORING drawings included with this manual. The following steps detail the necessary actions to be taken to meet Zone 4 mounting requirements.
4. Move the equipment into the desired location and set in place.
5. Drill holes for 1/2" or 12mm anchors in each of the 6 mounting holes found at the rack base plate. It will be necessary to remove the bottom battery front retainer in order to drill the middle front hole.
6. Check applicable building codes for length and style of anchors to be used with the flooring substrate. Install anchors per manufacturer's instructions.

7.4 Grounding

1. Ground the battery battery rack to the main building ground. Several ground provisions are provided at the top of the rack in the front and rear. See page 11 all for grounding locations.

7.5 Batteries Installation

CAUTION!
PLEASE READ ALL SAFETY INSTRUCTIONS BEFORE PROCEEDING.

1. Before installing the batteries, verify they are not damaged and the voltages are satisfactory.
2. Set the top hold down bars to the height of the batteries to be used.
3. Begin by loading the batteries from the bottom shelf up.
4. If rack is equipped with circuit breakers, verify they are in the open/off position.
5. Reference the correct wiring diagram at the end of the manual for the system that is being installed.



6. One cable at a time, remove the insulation over the lug, and connect the cable to the outermost negative or positive battery terminal in string. Fasten cable per specified torque on battery label. Connect both string cables (positive and negative) before moving on the next string.
7. Install the inter-bloc connectors within each string. Fasten the connectors per specified torque on battery label.
8. If the rack is equipped with circuit breakers, close (turn on) the breakers one at a time.
9. Measure voltage at the main positive and negative bus bars. If voltage is incorrect, investigate why and take corrective action.
10. Prior to making connections from battery rack bus bars to power plant, open (turn off) the circuit breakers and verify the power plant is OFF.
11. Make connections between battery rack bus bars and power plant. Close (turn on) the circuit breakers and turn ON the power plant.

7.5 System Operation

Refer to the power plant or charger manual for start up and operation of system.

8. SYSTEM MAINTENANCE

CAUTION!
PLEASE READ ALL SAFETY PRECAUTIONS BEFORE PROCEEDING

8.1 Battery Replacement Steps

Servicing of batteries should be performed or supervised by personnel knowledgeable about batteries and the required precautions. When replacing batteries, replace with the same type and number of batteries.

CAUTION!
Do not dispose of batteries in a fire. The batteries may explode.
Do not open or mutilate batteries. Released electrolyte is harmful to the skin and eyes.
It may be toxic.

A battery can present a risk of electrical shock and high short-circuit current. The following precautions should be observed when working on batteries:

- Remove jewelry, rings, watches or other metal objects.
- Use tools with insulated handles.
- Wear rubber gloves and boots. Wear safety glasses.
- Do not lay tools or metal parts on top of batteries.
- Disconnect charging source prior to connecting or disconnecting battery terminals.
- Determine if the battery is inadvertently grounded. If inadvertently grounded, remove source from ground. Contact with any part of a grounded battery can result in electrical shock. The likelihood of such shock can be reduced if such grounds are removed during installation and maintenance (applicable to equipment and remote battery supplies not having a grounded supply circuit).



1. Prepare the new battery for installation. Check to make sure the battery is the same type and amp-hour rating. Use a non-metallic brush or scotch brite pad to clean the terminals. Apply a light coat of No-ox grease to the terminal to avoid corrosion.
2. Disconnect the power plant or charger from the battery string by opening the breaker.
4. Disconnect the interconnect bus bars and/or cables from the battery to be replaced.
5. Remove the old battery.
6. Install the new battery. Make sure the new battery is installed the same way regarding polarity orientation and verify with drawing.
7. Reconnect bus bars and/or cables to the battery. Make sure connections are properly torqued. Torque values are provided on the battery label.
9. Check voltage at main buss bars on top of the rack.
10. Close breaker when ready.

9. LIMITED WARRANTY

This product has been manufactured to the highest quality standards by Electronic Systems Support (ESS). This Limited Warranty offered by ESS covers defects in material or workmanship in new ESS products for a period of one year from the original shipping date provided that the products have been stored, handled, installed, and used under the proper conditions.

This warranty extends to the original purchaser only and is non-transferable. Only consumers purchasing ESS products from authorized ESS retailers or resellers or through the ESS website may obtain coverage under our limited warranty.

ESS warrants this product against defects in material or workmanship as follows:

ESS will replace at no charge for parts only or, at its option, replace any product or part of the product that proves defective because of improper workmanship and/or material, under normal installation, use, service and maintenance. If ESS is unable to provide a replacement and repair is not practical or cannot be made in a timely fashion, ESS may elect to refund the purchase price in exchange for the return of the product.

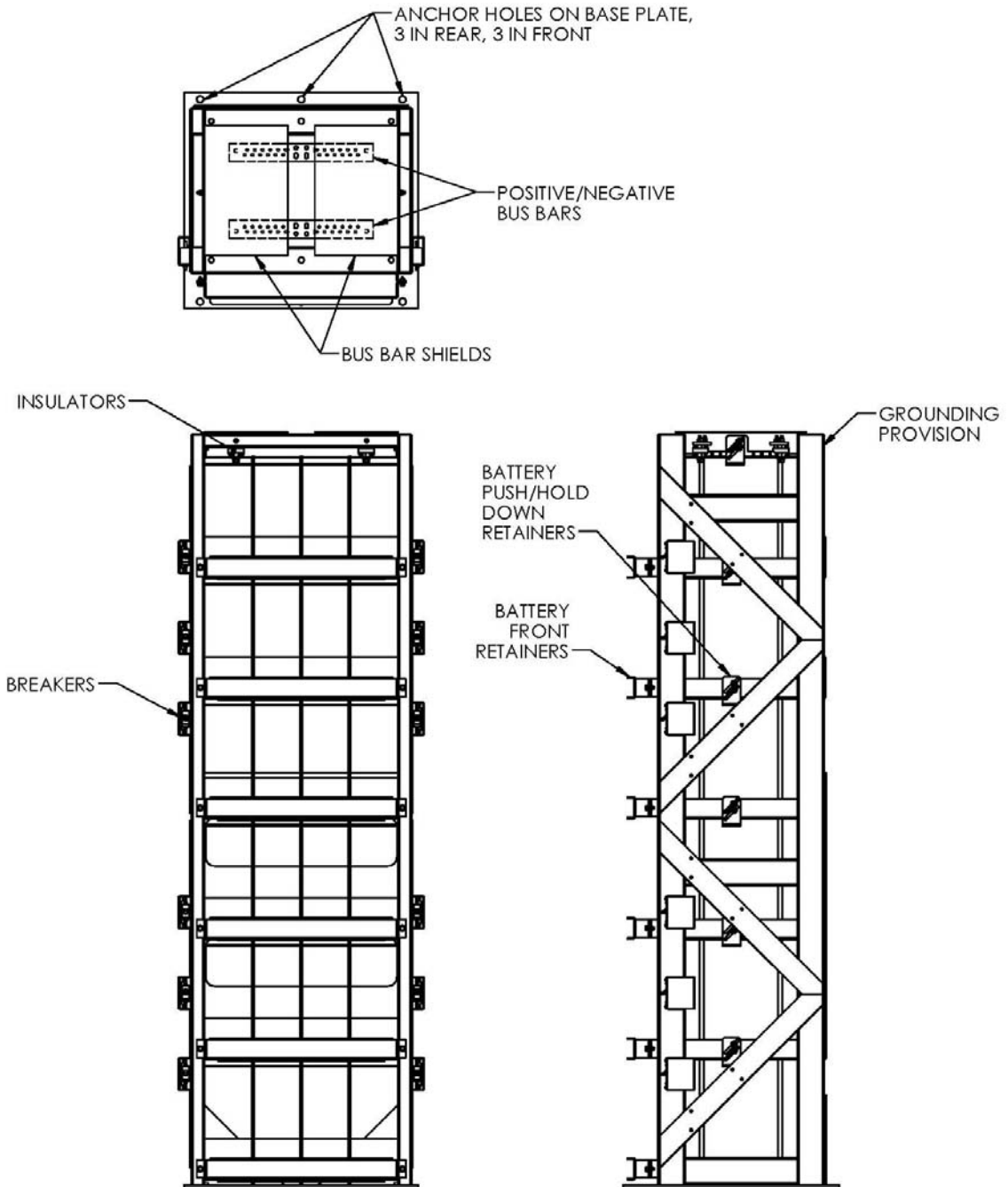
Our warranties do not cover any problem that is caused by:

- A. Conditions, malfunctions or damage not resulting from defects in material or workmanship.
- B. Conditions, malfunctions or damage resulting from normal wear and tear, improper installation, improper maintenance, misuse, abuse, negligence, accident or alteration.
- C. Accessories, connected materials and products, or related products not manufactured by ESS.

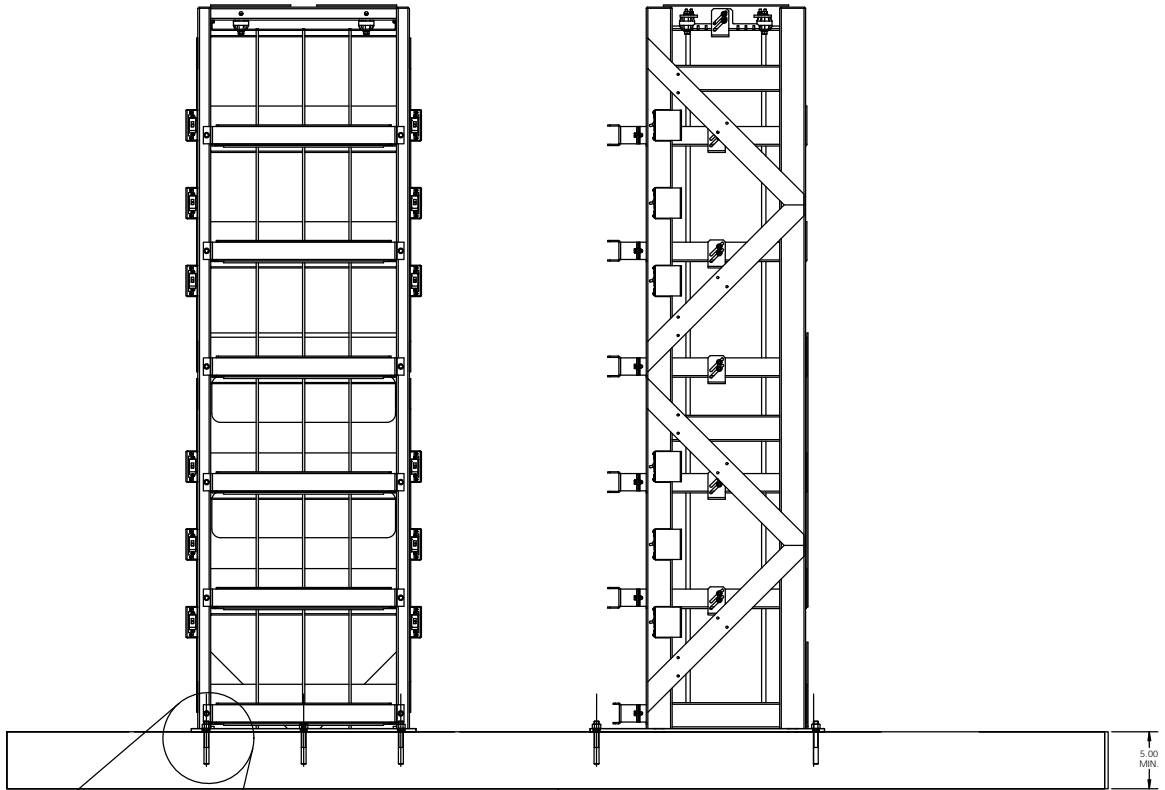
Our limited warranties are void if a product is returned with removed, damaged or tampered labels or any alterations (including removal of any component or external cover). Customer is responsible for shipping product to the factory for warranty.



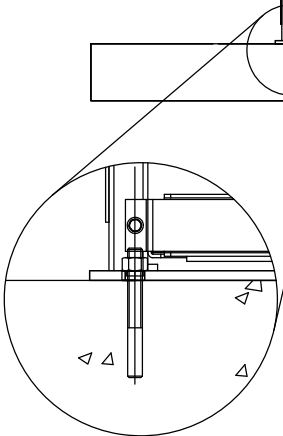
10. DRAWINGS/SCHEMATICS



24V WITH BREAKERS CONFIGURATION SHOWN
CABLES NOT SHOWN. REFERENCE
THE FOLLOWING DRAWINGS FOR
CABLE ROUTING OPTIONS DEPENDING
ON CONFIGURATION

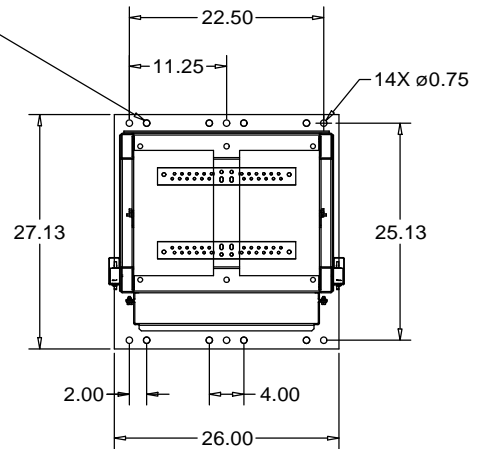


CONCRETE FLOOR
MIN. 2000 PSI



1/2" DIA. HILTI EXPANSION ANCHORS
6 PLACES (PER RACK)

USE DARK SHADED HOLES
LATERAL HOLE LOCATIONS
PROVIDED FOR
ALTERNATE
ANCHORING LOCATIONS
(SHADED DARK)



STANDARD RACK FOOT PRINT

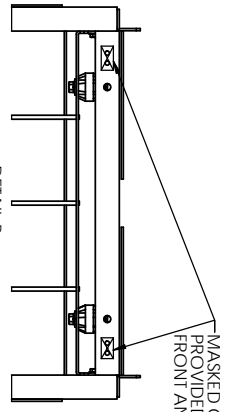
THE BATTERY RACKS HAVE BEEN CERTIFIED
TO TELCORDIA GR-63-CORE.

RACK MUST BE ANCHORED WITH HILTI SEISMIC
EXPANSION BOLTS OR EQUIVALENT.
CHECK APPLICABLE BUILDING CODES FOR LENGTH AND STYLE
OF ANCHORS TO BE USED WITH FLOORING SUBSTRATE. INSTALL
ANCHORS PER MANUFACTURER'S INSTRUCTIONS.
THIS DRAWING IS A GENERAL REPRESENTATION.
RACK CONFIGURATIONS WILL VARY.

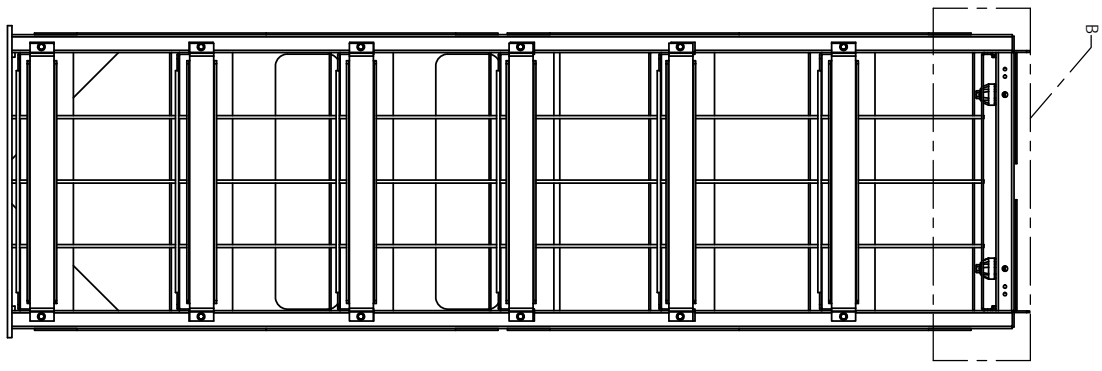
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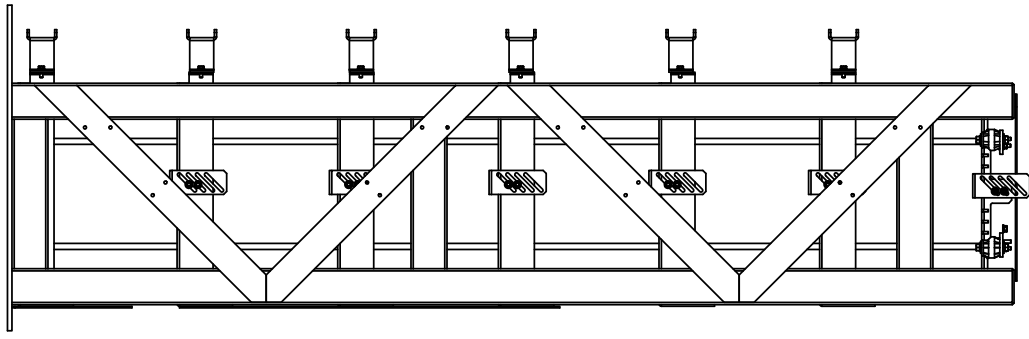
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APPR.		
SHEET 1 OF 1		



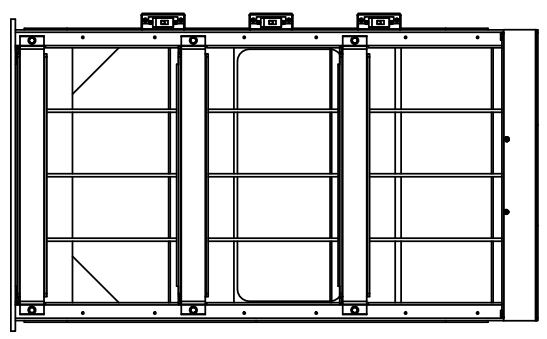
VIEW APPLIES FOR 4, 5, AND 6 TIER RACKS



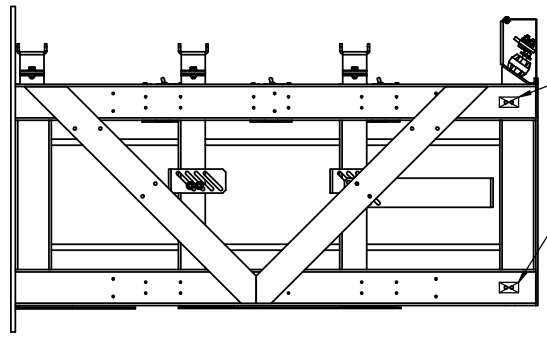
FRONT VIEW



SIDE VIEW



FRONT VIEW



SIDE VIEW

3 TIER RACK SHOWN

MASKED GROUNDING LOCATIONS PROVIDED IN LOCATION SHOWN, ON EITHER SIDE OF THE RACK

PROPRIETARY AND CONFIDENTIAL
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UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES		DATE		SCALE: 1:1	
PROJECT	NO.	DATE	SCALE	REV	SHEET
GROUNDING LOCATIONS	DOC-014800	06-07-16	C	C	1 OF 1
<p>ESS Electronic Systems Support www.ess.to 3233 W. Kingsley Rd. Garland, Texas 75041 PH: 972-272-2468 FAX: 972-276-9544</p>					

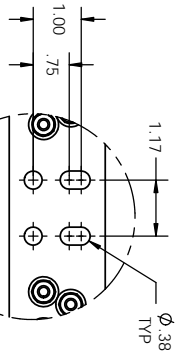
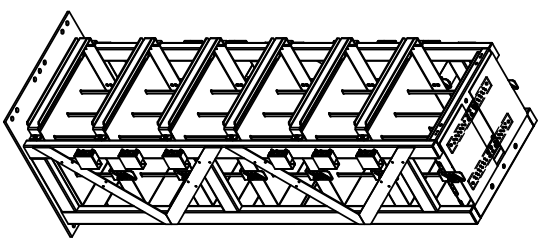
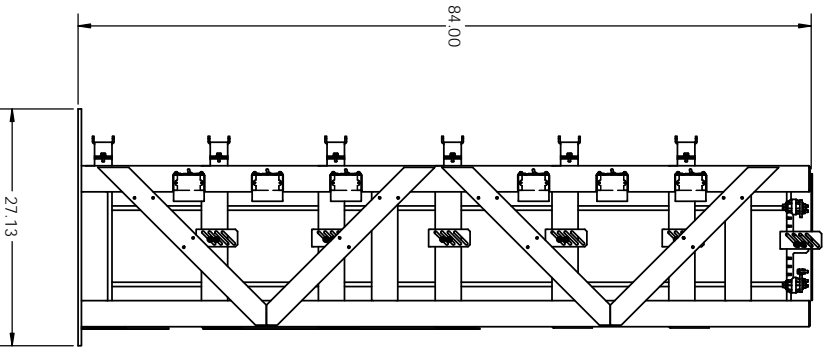
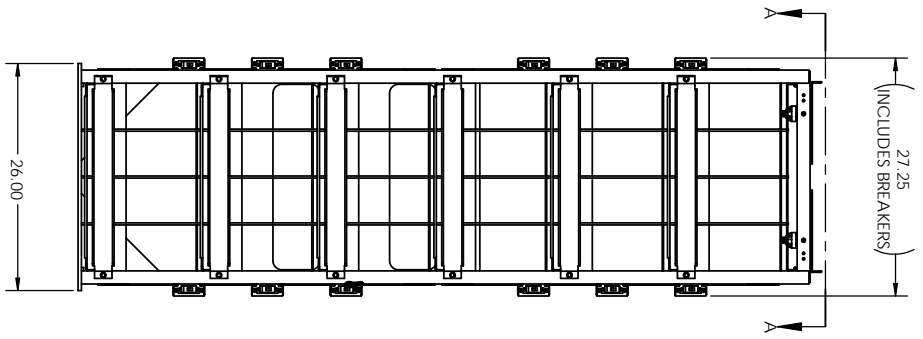


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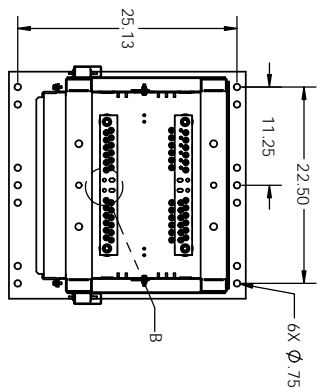
1. HEAVY GAUGE WELDED TUBING AND SHEET METAL CONSTRUCTION.
2. FINISH: GRAY POWDER COAT FINISH.
3. ALL CABLE CONNECTIONS ARE FRONT ACCESSIBLE.
4. OUTPUT BUS BARS ARE LOCATED ON THE TOP, RECESSED INTO THE FRAME OF THE RACK FOR PROTECTION BUT STILL ACCESSIBLE BY 360 DEGREES.
5. OPTIONAL CIRCUIT BREAKERS AVAILABLE FOR EACH STRING.
6. RACK SHIPS PRE-WIRED AND PRE-ASSEMBLED.
7. GR-63-CORE SEISMIC CERTIFIED (NEBS).
8. SEE TABLE 1 FOR APPROXIMATE RACK WEIGHT (INCLUDING CABLES).

TABLE 1		
MODEL NO.	DESCRIPTION (CABLE GAUGE)	RACK WEIGHT (CABLES INCLUDED)
TR4X6Z4-24JAB100	#4 CABLE	510 LBS
TR4X6Z4-24KAB100	#2 CABLE	525 LBS

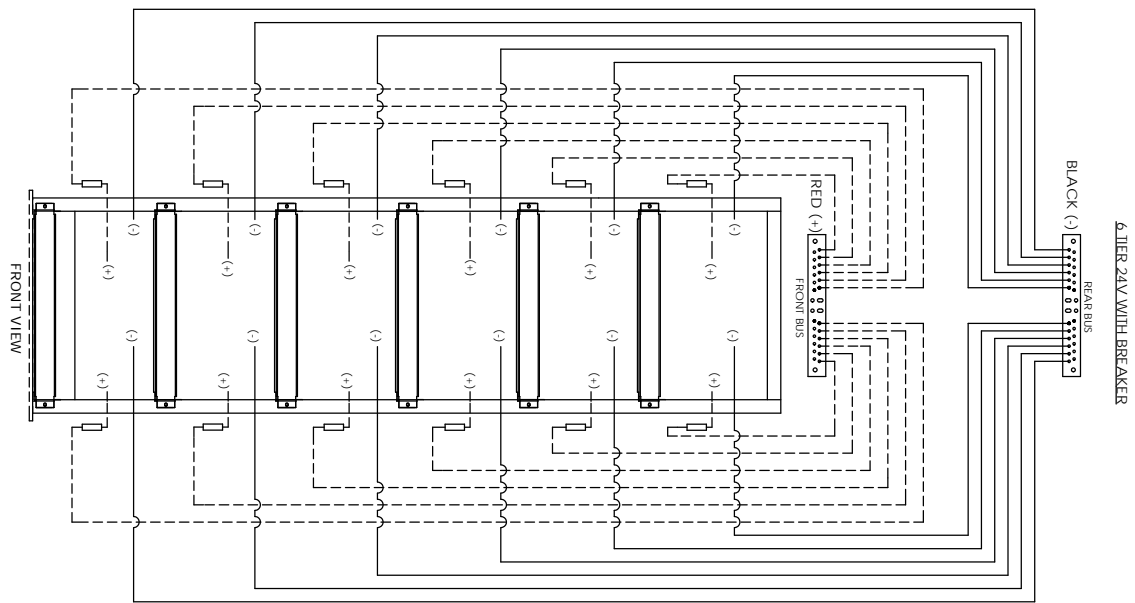
***1/0 AND 4/0 CONFIGURATIONS NOT AVAILABLE



DETAIL B
SCALE 1 : 2



SECTION A-A
SCALE 1 : 11
BUS BAR SHIELDS NOT SHOWN IN THIS VIEW FOR CLARITY PURPOSES



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UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES	DATE: 08/26/14	SCALE: 1/6
ISSUED BY: RNU	DATE: 08/26/14	SCALE: 1/6
DESIGNED BY: RNU	DATE: 08/26/14	SCALE: 1/6
CHECKED BY: RNU	DATE: 08/26/14	SCALE: 1/6

ESS Electronic Systems Support
www.ess.com
3233 W. Kingsley Rd.
Garland, Texas 75041
PH: 972-272-2468
FAX: 972-276-9544

TITLE: NEBS SEISMIC 6 TIER RACK 24VDC WITH BREAKERS

REV: C
DWG. NO: DCC-006900
SHEET 1 OF 1

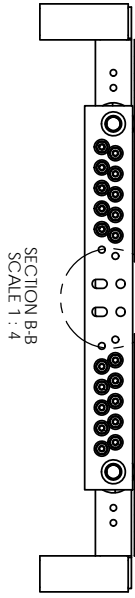
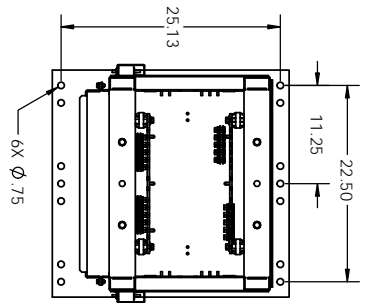


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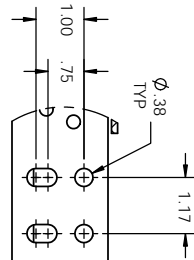
1. HEAVY GAUGE WELDED TUBING AND SHEET METAL CONSTRUCTION.
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8. SEE TABLE 1 FOR APPROXIMATE RACK WEIGHT (INCLUDING CABLES).

TABLE 1		
MODEL NO.	DESCRIPTION (CABLE GAUGE)	RACK WEIGHT (CABLES INCLUDED)
TR4XSZ4-24JAB100	#4 CABLE	475 LBS
TR4XSZ4-24KAB100	#2 CABLE	490 LBS

***1/0 AND 4/0 CONFIGURATIONS NOT AVAILABLE

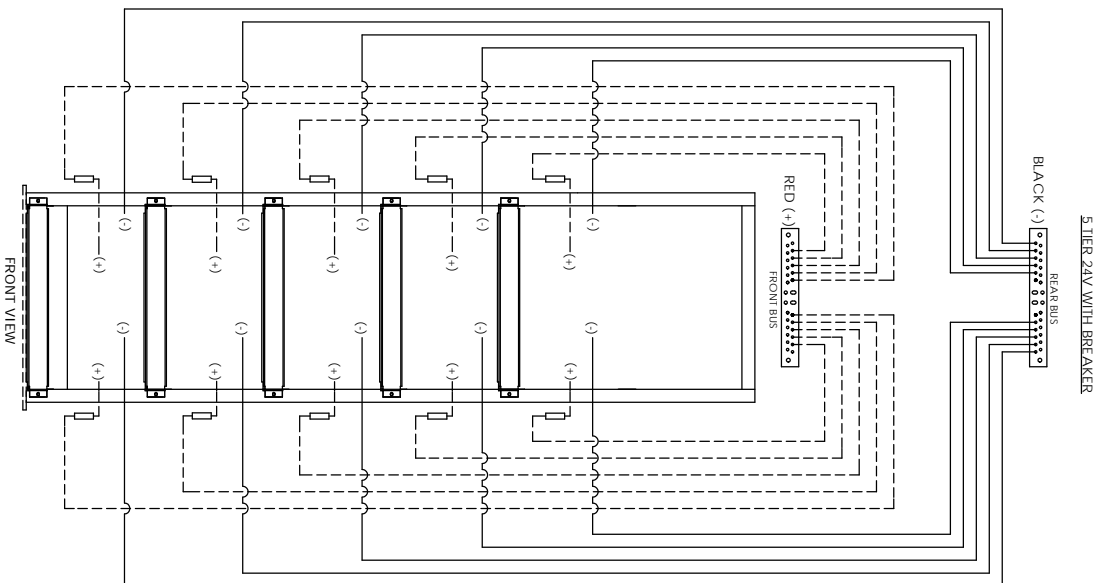
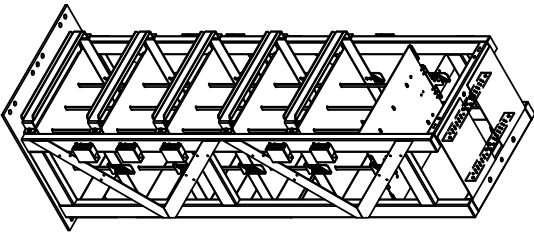
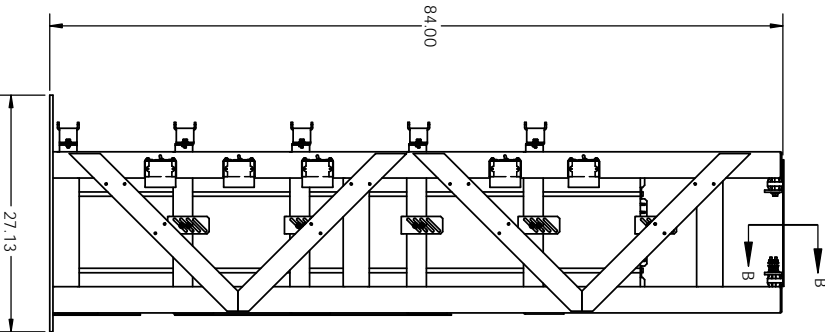
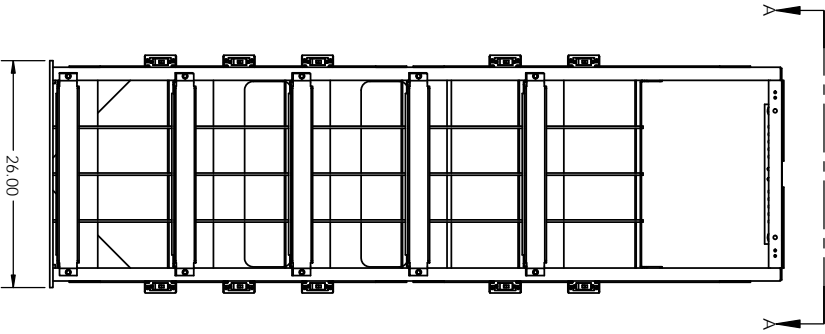


SECTION B-B
SCALE 1 : 4



SECTION A-A
SCALE 1 : 11

PLASTIC SHIELDS NOT SHOWN FOR CLARITY



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UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES	DATE: 08/26/14	SCALE: 1:1	SHEET 1 OF 1
PROJECT: NEBS SEISMIC 5 TIER RACK 24VDC WITH BREAKERS	DATE: 08/26/14	DWG. NO.: DDC-000500	REV: C
DESIGNER: RJU	DATE: 08/26/14	DOC: 000500	REV: C

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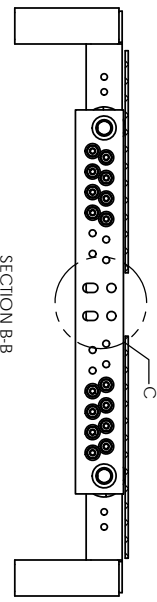


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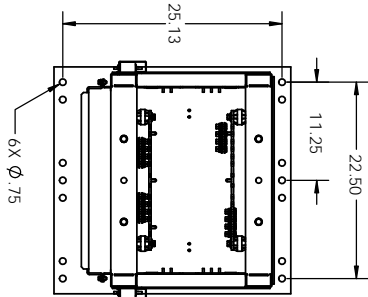
1. HEAVY GAUGE WELDED TUBING AND SHEET METAL CONSTRUCTION.
2. FINISH: GRAY POWDER COAT FINISH.
3. ALL CABLE CONNECTIONS ARE FROM ACCESSIBLE.
4. OUTPUT BUS BARS ARE LOCATED ON THE TOP RECESSED INTO THE FRAME OF THE RACK FOR PROTECTION BUT STILL ACCESSIBLE BY 360 DEGREES.
5. OPTIONAL CIRCUIT BREAKERS AVAILABLE FOR EACH STRING.
6. RACK STRIPS PRE-WIRED AND PRE-ASSEMBLED.
7. GR-65-CORE SEISMIC CERTIFIED (NEBS).
8. SEE TABLE 1 FOR APPROXIMATE RACK WEIGHT (INCLUDING CABLES).

TABLE 1		
MODEL NO.	DESCRIPTION (CABLE GAUGE)	RACK WEIGHT (CABLES INCLUDED)
IR4X4Z4-24JAB100	#4 CABLE	4.30 LBS
IR4X4Z4-24KAB100	#2 CABLE	4.45 LBS

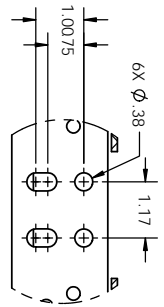
***1/0 AND 4/0 CONFIGURATIONS NOT AVAILABLE



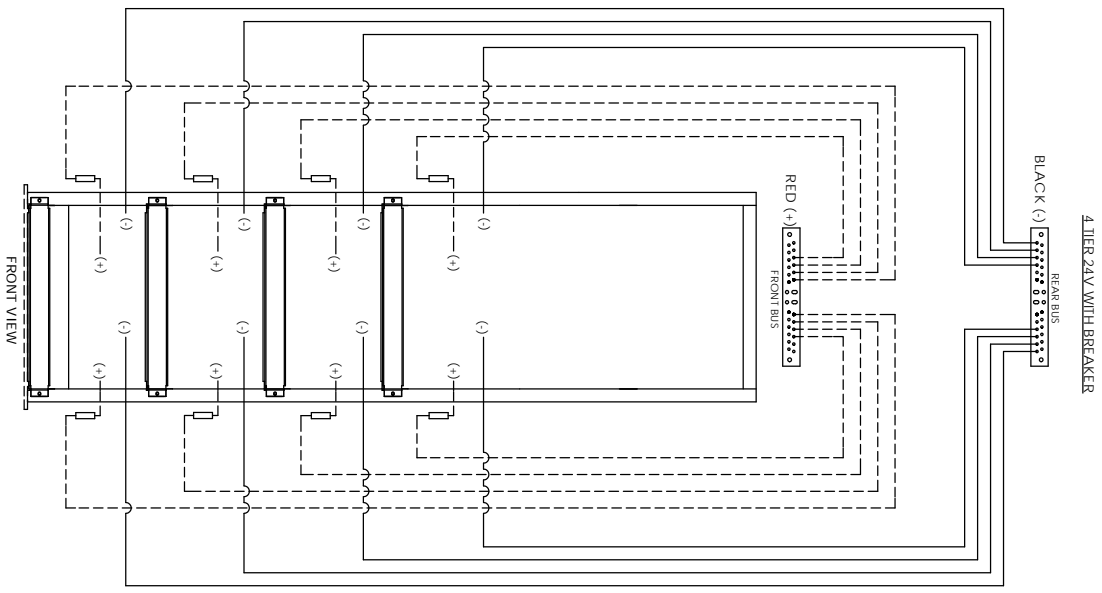
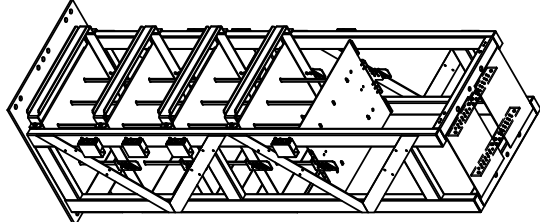
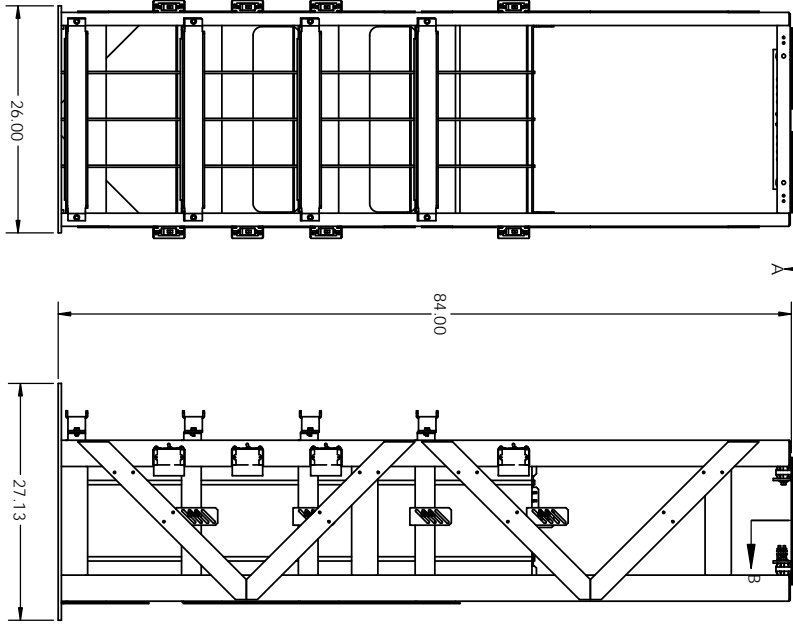
SECTION B-B
SCALE 1 : 4



SECTION A-A
SCALE 1 : 11



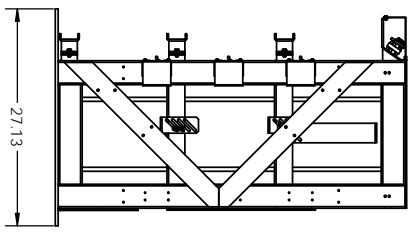
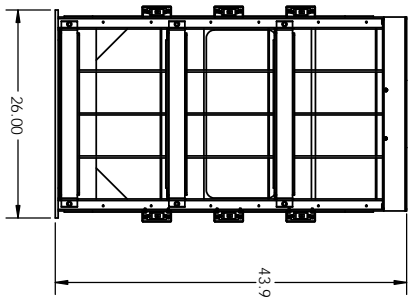
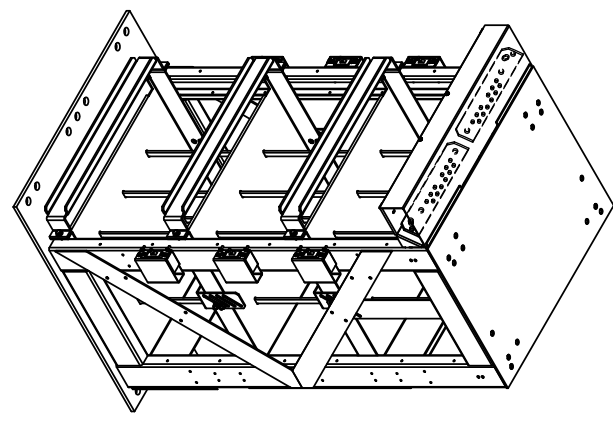
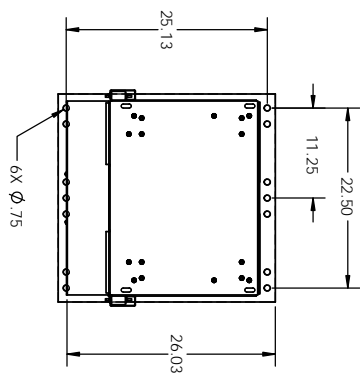
DETAIL C
SCALE 1 : 2



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PROJECT NO.	DATE	SCALE	REV	DATE	REV
REV 1	08/28/14	C	C		
TITLE: NESS SEISMIC 4 TIER RACK 24VDC WITH BREAKER			DWC-NO. DCC-006100		
DRAWN BY: RWJ			SHEET 1 OF 1		

- NOTES:
1. HEAVY GAUGE WELDED TUBING AND SHEET METAL CONSTRUCTION.
 2. FINISH: GRAY POWER COAT FINISH.
 3. ALL CABLE CONNECTIONS ARE FRONT ACCESSIBLE.
 4. OUTPUT BUS BARS ARE LOCATED ON THE TOP COVERED BY A REMOVABLE SHIELD.
 5. OPTIONAL CIRCUIT BREAKERS AVAILABLE FOR EACH STRING.
 6. RACK SHIPS PRE-WIRED AND PRE-ASSEMBLED.
 7. SEE TABLE 1 FOR APPROXIMATE RACK WEIGHT (INCLUDING CABLES).
 8. 1 POSITION FOR $\phi 3/4"$ BOLT ON $3/4"$ OR $1.0"$ CENTERS PROVIDED ON POSITIVE AND NEGATIVE BUS BARS.



24V WITH BREAKERS

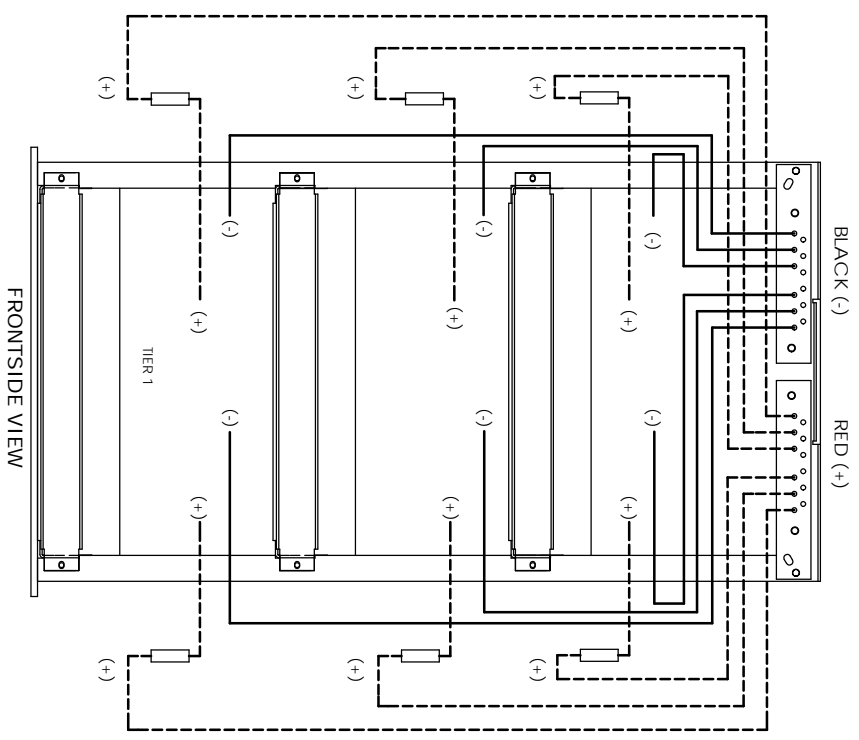
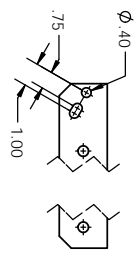


TABLE 1

MODEL NO.	DESCRIPTION (CABLE GAUGE)	RACK WEIGHT (CABLES INCLUDED)
TR4X3Z4-24JAB100	#4 CABLE	312 LBS
TR4X3Z4-24KAB100	#2 CABLE	319 LBS

***1/0 AND 4/0 CONFIGURATIONS NOT AVAILABLE



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PROJECT NO.	DATE	SCALE	SHEET
REV	DATE	BY	APP

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TITLE: **NESS SEISMIC 3 TIER RACK 24VDC WITH BREAKERS**

DWG. NO. **DOC-007300**

SCALE: 1:1

SHEET 1 OF 1

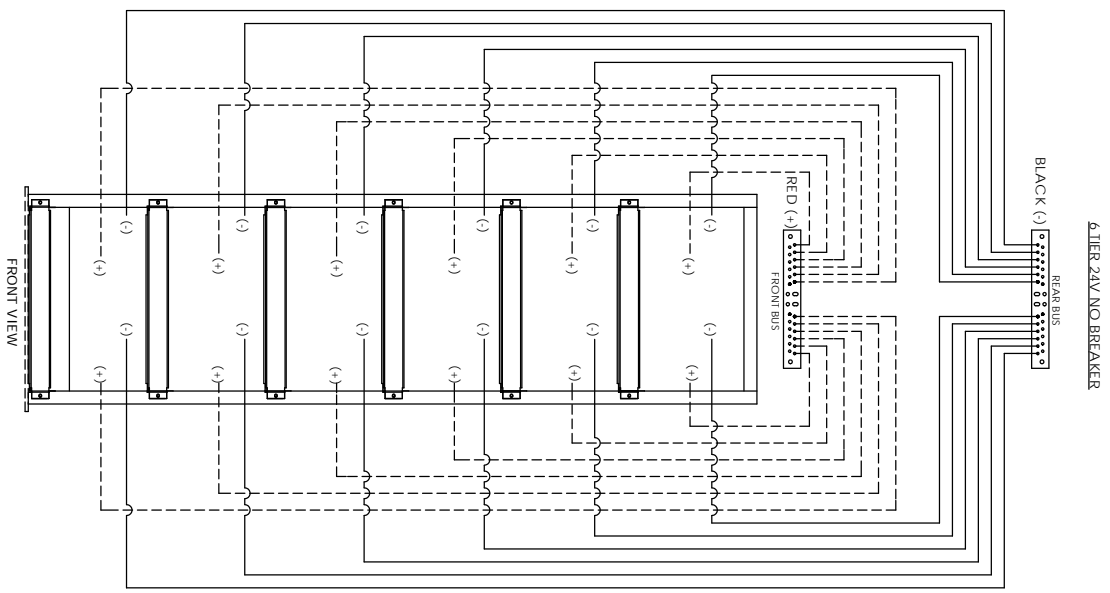
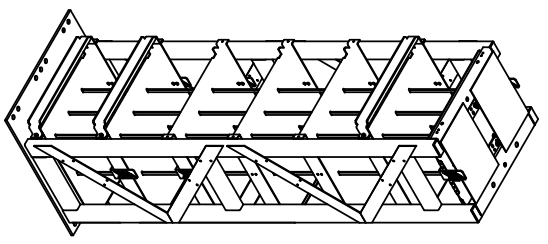
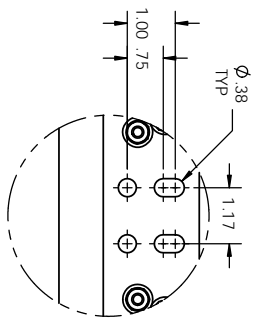
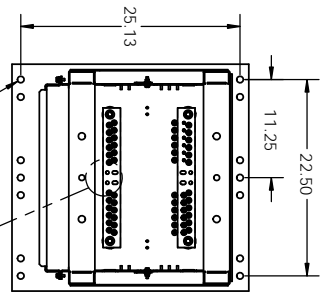
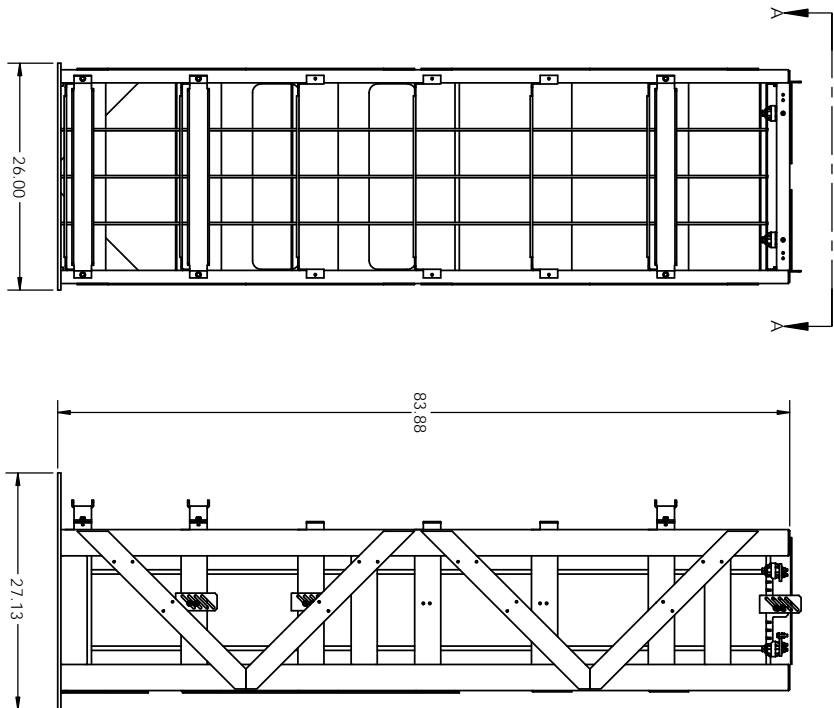


NOTES:

1. HEAVY GAUGE WELDED TUBING AND SHEET METAL CONSTRUCTION.
2. FINISH: GRAY POWDER COAT FINISH.
3. ALL CABLE CONNECTIONS ARE FROM ACCESSIBLE.
4. OUTPUT BUS BARS ARE LOCATED ON THE TOP, RECESSED INTO THE FRAME OF THE RACK FOR PROTECTION BUT STILL ACCESSIBLE BY 360 DEGREES.
5. OPTIONAL CIRCUIT BREAKERS AVAILABLE FOR EACH STRING.
6. RACK SHIPS PRE-WIRED AND PRE-ASSEMBLED.
7. GR-63-CORE SEISMIC CERTIFIED (NEBS).
8. SEE TABLE 1 FOR APPROXIMATE RACK WEIGHT (INCLUDING CABLES).

TABLE 1		
MODEL NO.	DESCRIPTION (CABLE GAUGE)	RACK WEIGHT (CABLES INCLUDED)
TR4X6Z4-24JA	#4 CABLE	500 LBS
TR4X6Z4-24KA	#2 CABLE	515 LBS

***1/0 AND 4/0 CONFIGURATIONS NOT AVAILABLE



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DESIGNER: RNU	DATE: 08/28/14	SCALE: 1:1
PROJECT NO.:	DATE: 08/28/14	SCALE: 1:1
REV: C	DATE: 08/28/14	SCALE: 1:1

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TITLE: NEBS SEISMIC 6 TIER RACK 24VDC

DOC-007000
 SHEET 1 OF 1

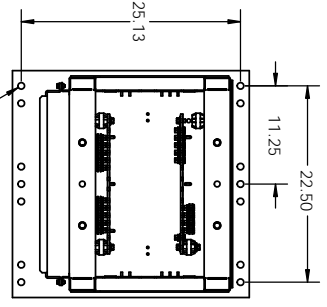


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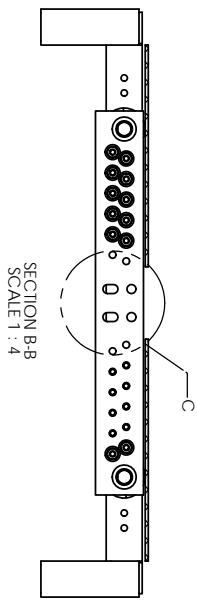
1. HEAVY GAUGE WELDED TUBING AND SHEET METAL CONSTRUCTION.
2. FINISH: GRAY POWDER COAT FINISH.
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4. OUTPUT BUS BARS ARE LOCATED ON THE TOP, RECESSED INTO THE FRAME OF THE RACK FOR PROTECTION BUT STILL ACCESSIBLE BY 360 DEGREES.
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6. RACK SHIPS PRE-WIRED AND PRE-ASSEMBLED.
7. GR-63 CORE SEISMIC CERTIFIED (NEBS).
8. SEE TABLE 1 FOR APPROXIMATE RACK WEIGHT (INCLUDING CABLES).

TABLE 1		
MODEL NO.	DESCRIPTION (CABLE GAUGE)	RACK WEIGHT (CABLES INCLUDED)
TR4X5Z4-24JA	#4 CABLE	465 LBS
TR4X5Z4-24KA	#2 CABLE	480 LBS

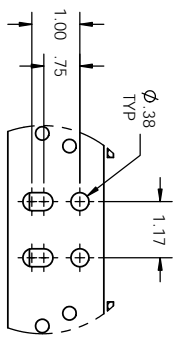
***1/0 AND 4/0 CONFIGURATIONS NOT AVAILABLE



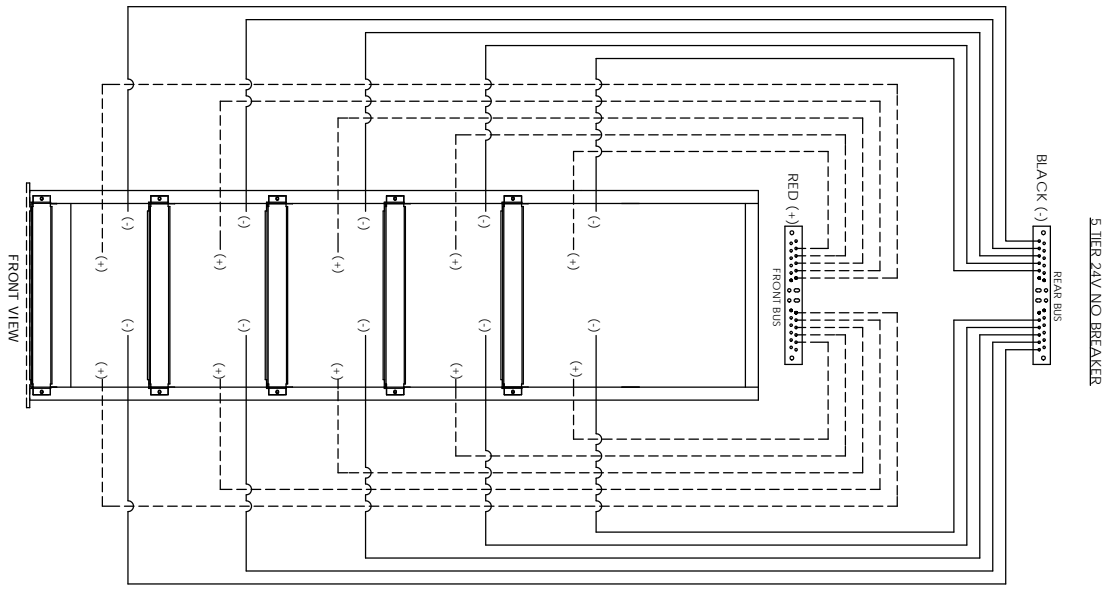
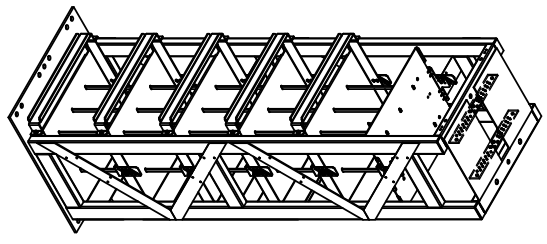
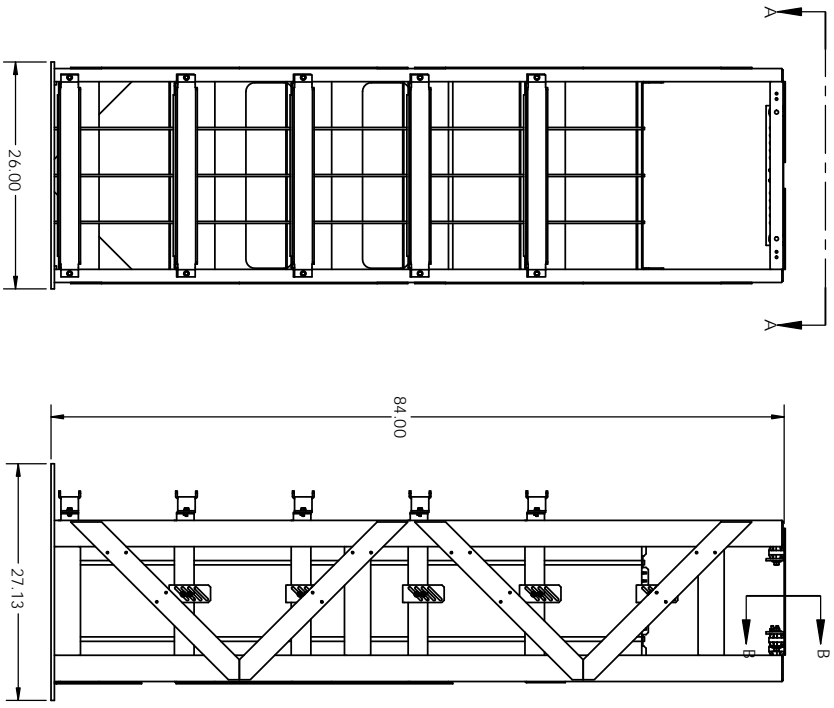
SECTION A-A
SCALE 1 : 11
PLASTIC SHIELDS NOT SHOWN FOR CLARITY



SECTION B-B
SCALE 1 : 4



DETAIL C
SCALE 1 : 2



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	AS SHOWN	08/28/14	DWG. NO.	C
	REV		DOC-006600	C
			SCALE: 1:1	SHEET 1 OF 1

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TITLE: NEBS SEISMIC 5 TIER RACK 24VDC

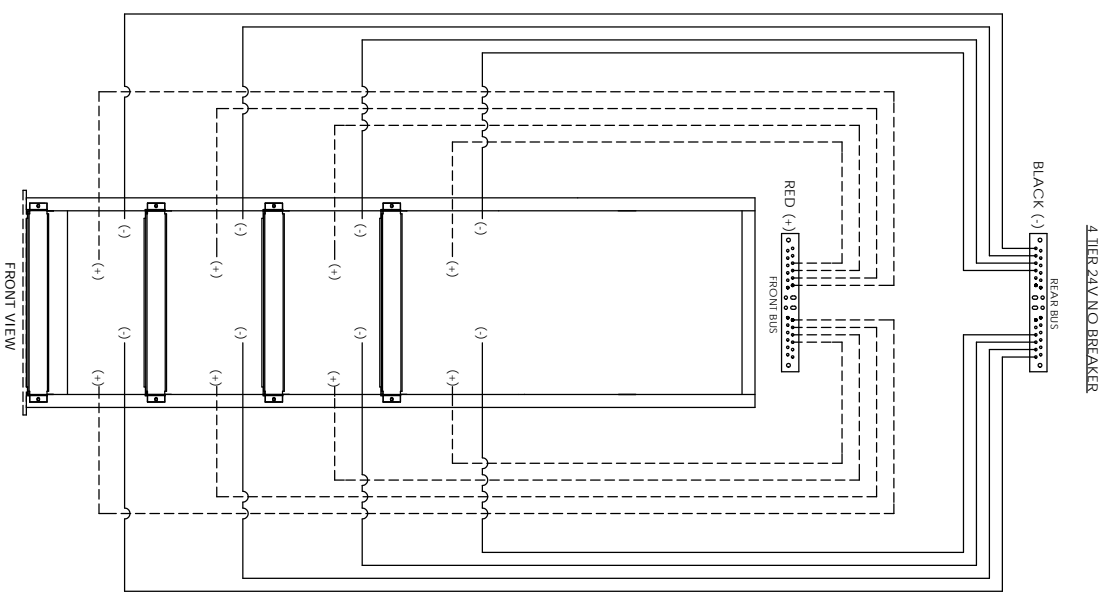
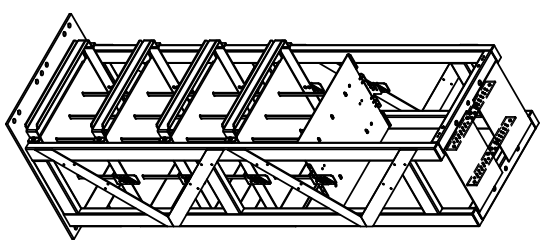
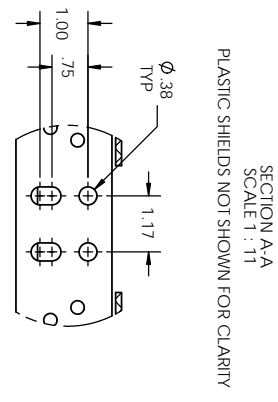
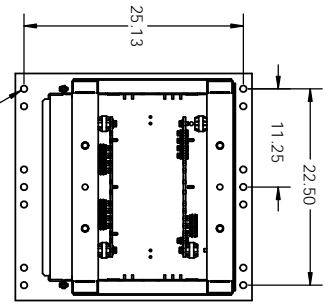
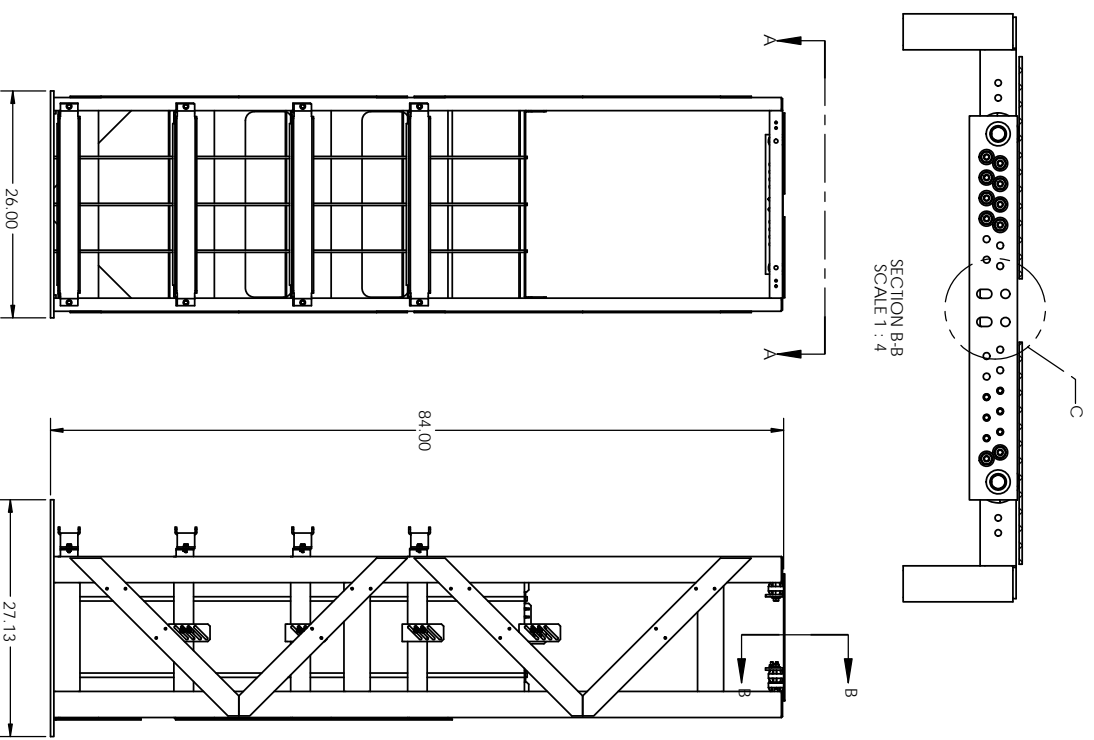


NOTES:

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4. OUTPUT BUS BARS ARE LOCATED ON THE TOP RECESSED FOR PROTECTION BUT STILL ACCESSIBLE BY 360 DEGREES.
5. OPTIONAL CIRCUIT BREAKERS AVAILABLE FOR EACH STRING.
6. RACK SHIPS PRE-WIRED AND PRE-ASSEMBLED.
7. GR-63-CORE SEISMIC CERTIFIED (NEBS).
8. SEE TABLE 1 FOR APPROXIMATE RACK WEIGHT (INCLUDING CABLES).

TABLE 1		
MODEL NO.	DESCRIPTION (CABLE GAUGE)	RACK WEIGHT (CABLES INCLUDED)
TR4X4Z4-24JA	#4 CABLE	420 LBS
TR4X4Z4-24KA	#2 CABLE	435 LBS

***1/0 AND 4/0 CONFIGURATIONS NOT AVAILABLE



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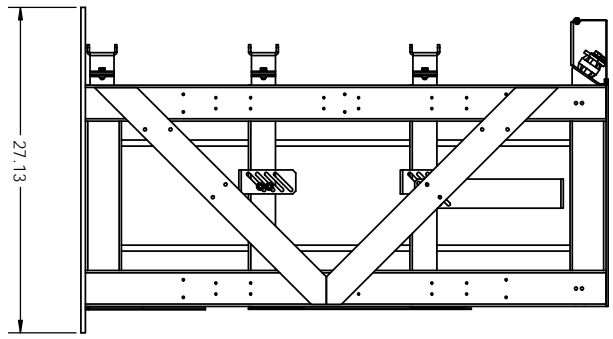
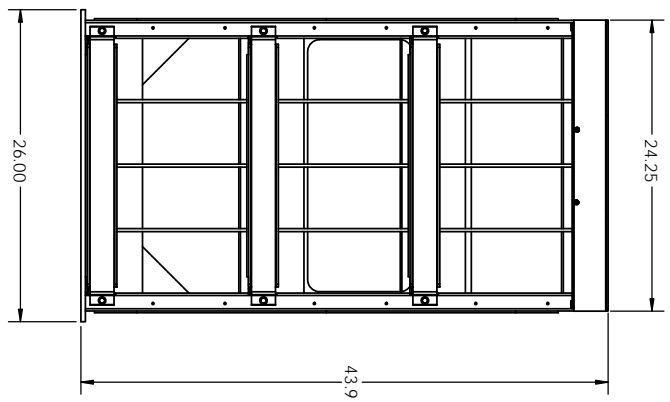
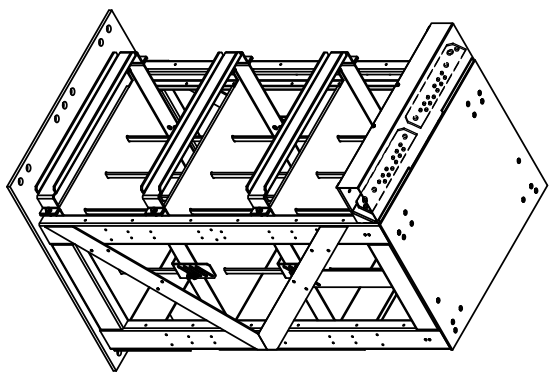
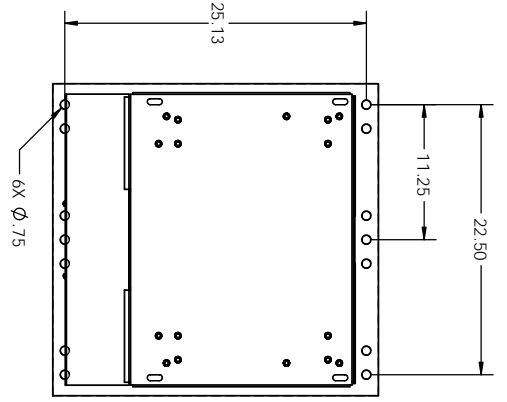
UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES	DATE: 08/28/14	SCALE: 1:1
DESIGNER: RNU	DATE: 08/28/14	SCALE: 1:1
PROJECT: NEBS SEISMIC 4 TIER RACK	DATE: 08/28/14	SCALE: 1:1
REV: C	DATE: 08/28/14	SCALE: 1:1

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TITLE: NEBS SEISMIC 4 TIER RACK
 DWG. NO.: DDC-006200
 SHEET 1 OF 1



- NOTES:
1. HEAVY GAUGE WELDED TUBING AND SHEET METAL CONSTRUCTION.
 2. FINISH: GRAY POWDER COAT FINISH.
 3. ALL CABLE CONNECTIONS ARE FRONT ACCESSIBLE.
 4. OUTPUT BUS BARS ARE LOCATED ON THE TOP COVERED BY A REMOVABLE SHIELD.
 5. OPTIONAL CIRCUIT BREAKERS AVAILABLE FOR EACH STRING.
 6. RACK SHIPS PRE-WIRED AND PRE-ASSEMBLED.
 7. SEE TABLE 1 FOR APPROXIMATE RACK WEIGHT (INCLUDING CABLES).
 8. 1 POSITION FOR $\phi 3/4"$ BOLT ON $3/4"$ OR $1.0"$ CENTERS PROVIDED ON POSITIVE AND NEGATIVE BUS BARS.



24V NO BREAKERS

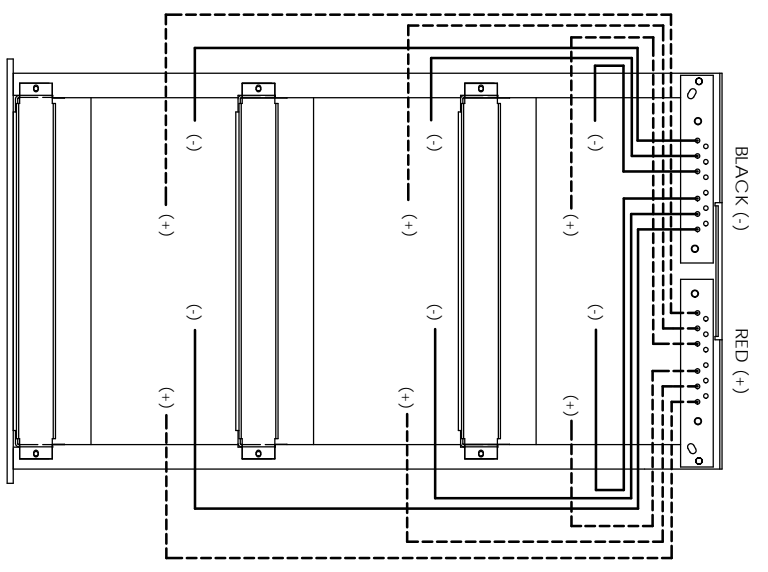
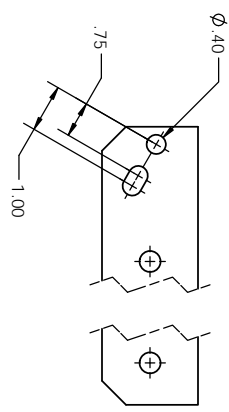


TABLE 1

MODEL NO.	DESCRIPTION (CABLE GAUGE)	RACK WEIGHT (CABLES INCLUDED)
TR4X3Z4-24JA	#4 CABLE	310 LBS
TR4X3Z4-24KA	#2 CABLE	325 LBS

***1/0 AND 4/0 CONFIGURATIONS NOT AVAILABLE

OUTPUT LUG PROVISION, 1 PER BUS BAR



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PROJECT NO.:	DATE:	SCALE:
ISSUED BY: RWJ	DATE:	SCALE:
REVISION:	DATE:	SCALE:
DATE:	DATE:	SCALE:
DATE:	DATE:	SCALE:

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FAX: 972-276-9844

TITLE: NEBS SEISMIC 3 TIER RACK
24VDC

DWG. NO.: DDC-007400

REV: C

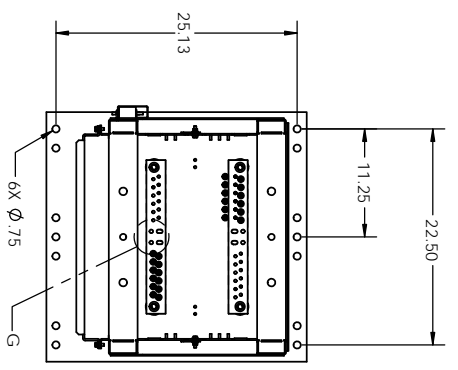
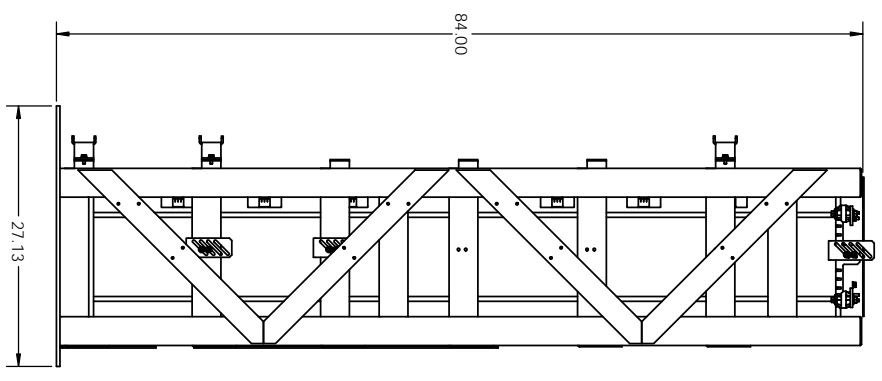
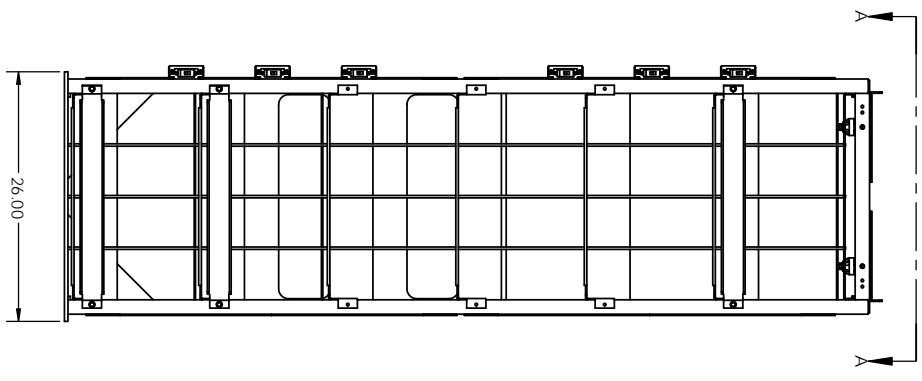
SHEET 1 OF 1



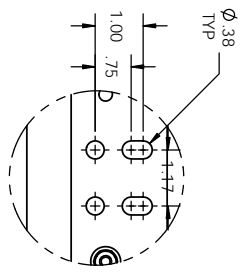
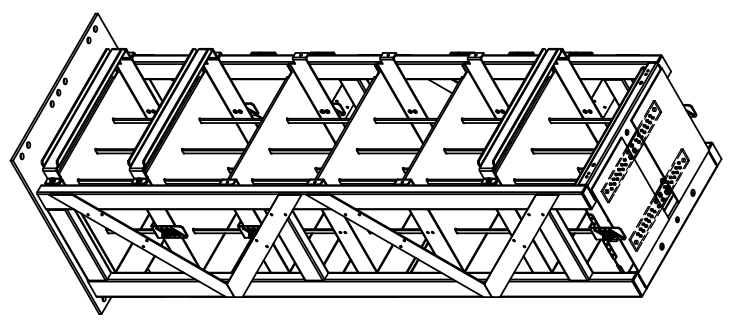
NOTES:

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5. OPTIONAL CIRCUIT BREAKERS AVAILABLE FOR EACH STRING.
6. RACK SHIPS PREWIRED AND PRE-ASSEMBLED.
7. GR-63-CORE SEISMIC CERTIFIED (NEBS).
8. SEE TABLE 1 FOR APPROXIMATE RACK WEIGHT (INCLUDING CABLES).

TABLE 1		RAK WEIGHT (CABLES INCLUDED)
MODEL NO.	DESCRIPTION (CABLE GAUGE)	
TR4X6Z4-48LAB100	#4 CABLE	490 LBS
TR4X6Z4-48KA100	#2 CABLE	500 LBS
TR4X6Z4-48LAB100	1/0 CABLE	510 LBS
TR4X6Z4-48NAB100	4/0 CABLE	540 LBS



SECTION A-A
SCALE 1 : 10
PLASTIC SHIELDS NOT SHOWN FOR CLARITY
VIEW FOR REF ONLY, BUS BAR MAY VARY DEPENDING ON CABLE SIZES



DETAIL G
SCALE 1 : 2
***DIM'S TYP FOR ALL CONFIGURATIONS

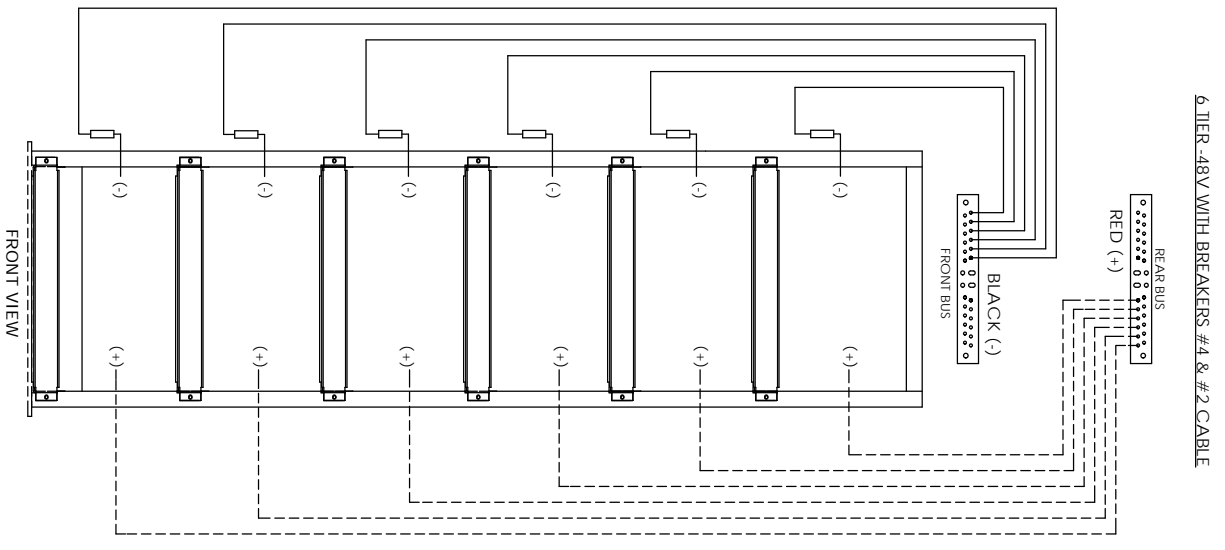
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UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES	DATE: 08/26/14	DATE: 08/26/14	DATE: 08/26/14
REVISION	DATE	BY	APP'D
1	08/26/14	RUJ	

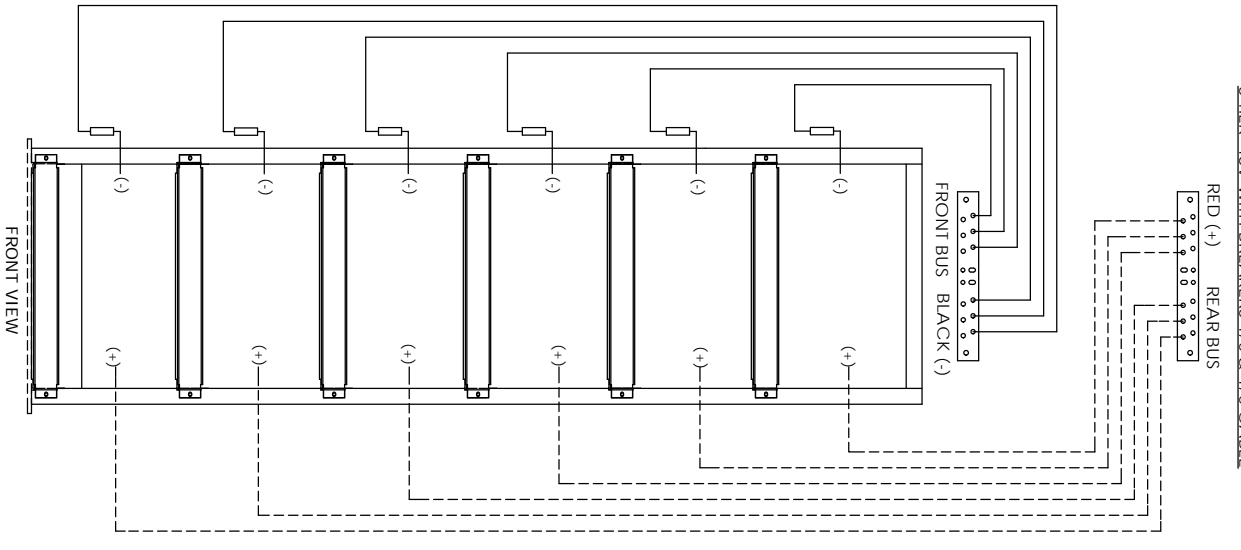
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FAX: 972-276-9544

TITLE: NEBS SEISMIC 6 TIER RACK 48VDC WITH BREAKERS
DWG. NO.: DCC-007100
SCALE: 1:1

REV: C
SHEET 1 OF 2



6 TIER -48V WITH BREAKERS #4 & #2 CABLE



6 TIER -48V WITH BREAKERS 1/0 & 4/0 CABLE

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UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES	
PROJECTION	①
SCALE	1:1
DATE	08/28/14
DESIGNER	RNJ
REV	C
SCALE	1:1
SHEET	2 OF 2

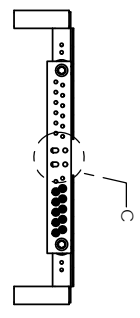
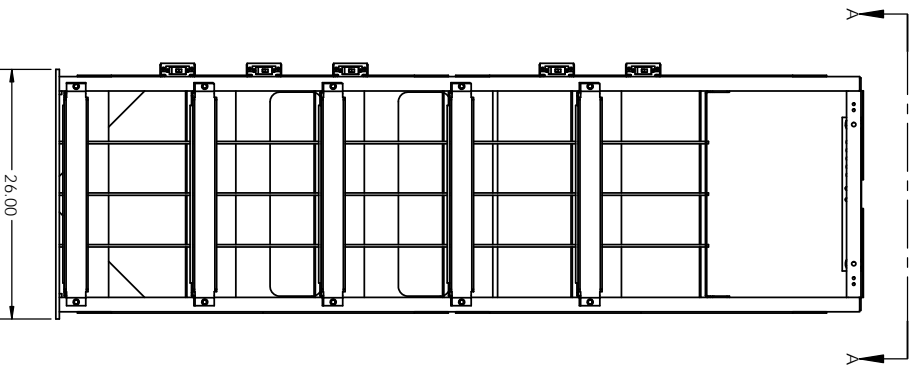
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 PH. 972-272-2468
 FAX 972-278-9844

TITLE
 NEBS SEISMIC 6 TIER RACK
 48VDC WITH BREAKERS
 DOC-007100
 REV C

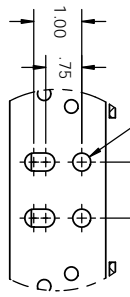
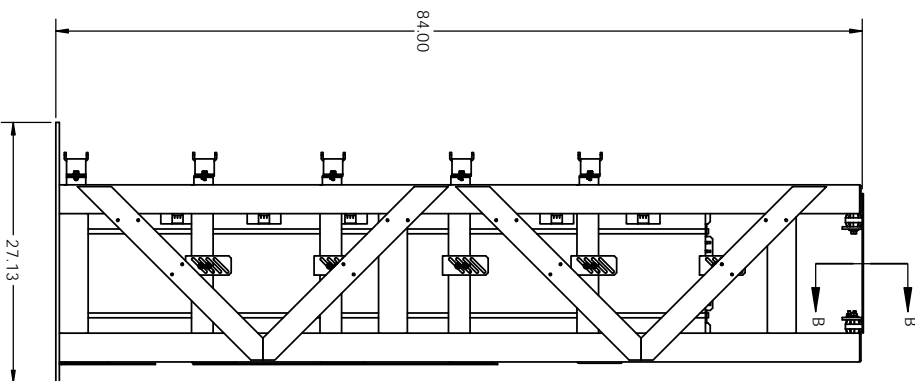


NOTES:

1. HEAVY GAUGE WELDED TUBING AND SHEET METAL CONSTRUCTION.
2. FINISH: GRAY POWDER COAT FINISH.
3. ALL CABLE CONNECTIONS ARE FRONT ACCESSIBLE.
4. OUTPUT BUS BARS ARE LOCATED ON THE TOP, RECESSED INTO THE FRAME OF THE RACK FOR PROTECTION BUT STILL ACCESSIBLE BY 360 DEGREES.
5. OPTIONAL CIRCUIT BREAKERS AVAILABLE FOR EACH STRING.
6. RACK SHIPS PRE-WIRED AND PRE-ASSEMBLED.
7. GR-65-CORE SEISMIC CERTIFIED (NEBS).
8. SEE TABLE 1 FOR APPROXIMATE RACK WEIGHT (INCLUDING CABLES).

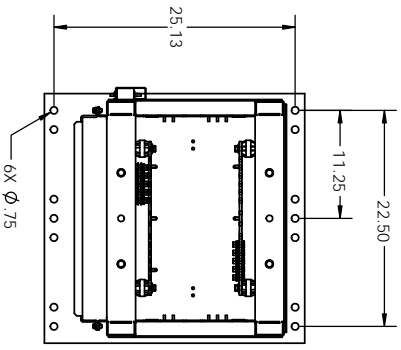


SECTION B-B
SCALE 1 : 8
VIEW FOR REF ONLY, BUS BAR MAY VARY DEPENDING ON CABLE SIZES

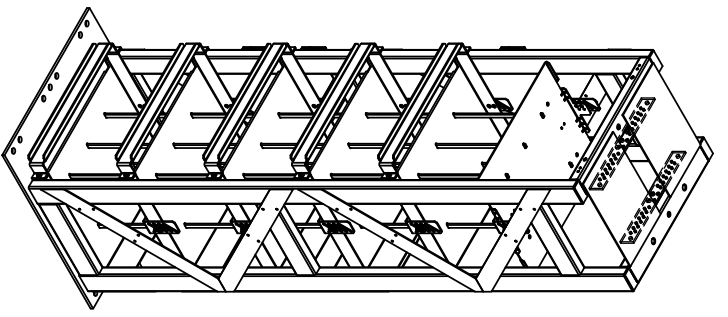


DETAIL C
SCALE 1 : 2
DIM'S TYP. FOR ALL CONFIGURATIONS

MODEL NO.	DESCRIPTION (CABLE GAUGE)	RACK WEIGHT (CABLES INCLUDED)
TR4X5Z4-48JAB100	# 4 CABLE	458 LBS
TR4X5Z4-48KAB100	# 2 CABLE	470 LBS
TR4X5Z4-48LAB100	1/0 CABLE	485 LBS
TR4X5Z4-48NAB100	4/0 CABLE	500 LBS



SECTION A-A
SCALE 1 : 10
PLASTIC SHIELDS NOT SHOWN FOR CLARITY



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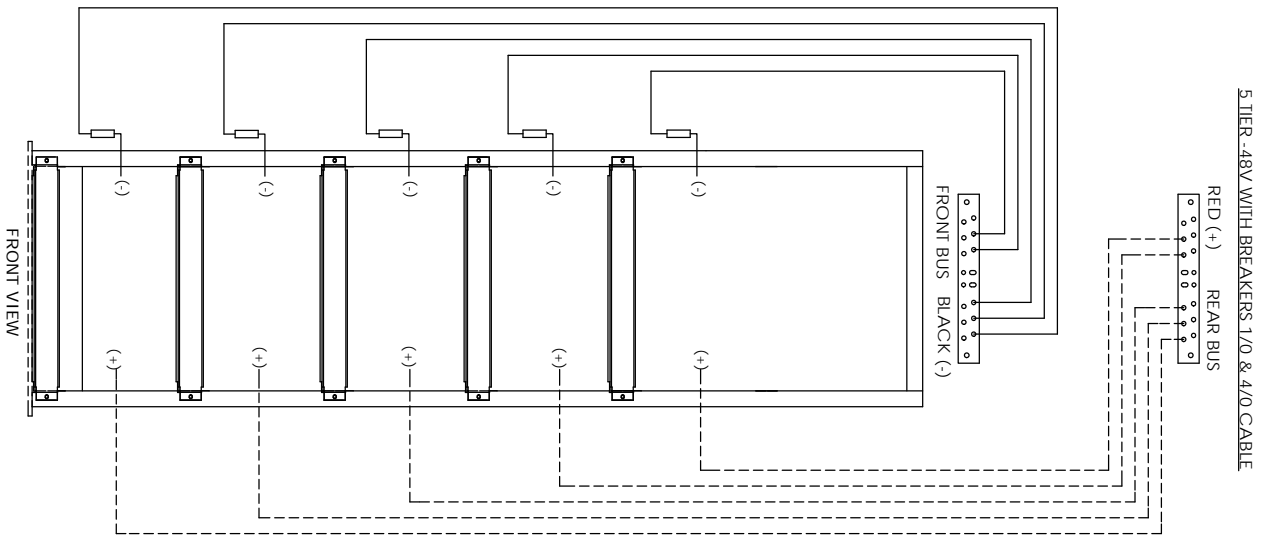
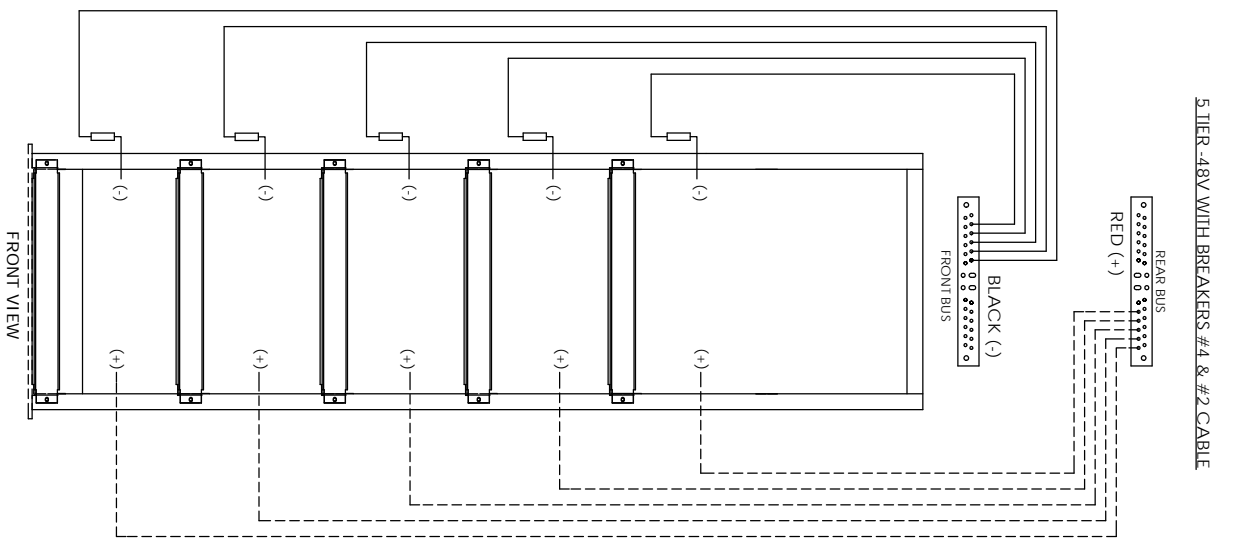
UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES	REVISION	DATE	BY
	1	08/26/14	SSM

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FAX: 972-278-9544

TITLE: NESS SEISMIC 5 TIER RACK
DWG. NO.: DCC-006700
REV: C

SCALE: 1:1 SHEET 1 OF 2



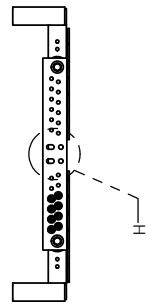
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UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES	
PROJECTION	AS SHOWN
SCALE	1:1
DATE	08/28/14
DESIGNER	RNA
REVISION	
ESS Electronic Systems Support 3233 W. Kingsley Rd. Garland, Texas 75041 PH. 972-272-2468 FAX 972-278-9544 www.ess.io	
TITLE NESS SEISMIC 5 TIER RACK 48VDC WITH BREAKER	
SIZE	DWG. NO. DDC-006700
SCALE	1:1
REV	C
SHEET 2 OF 2	

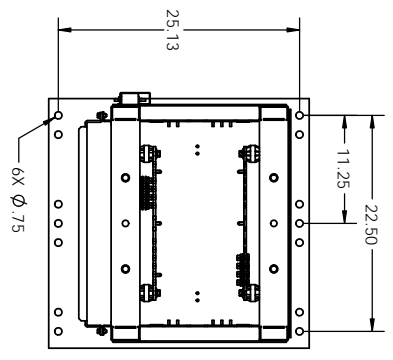
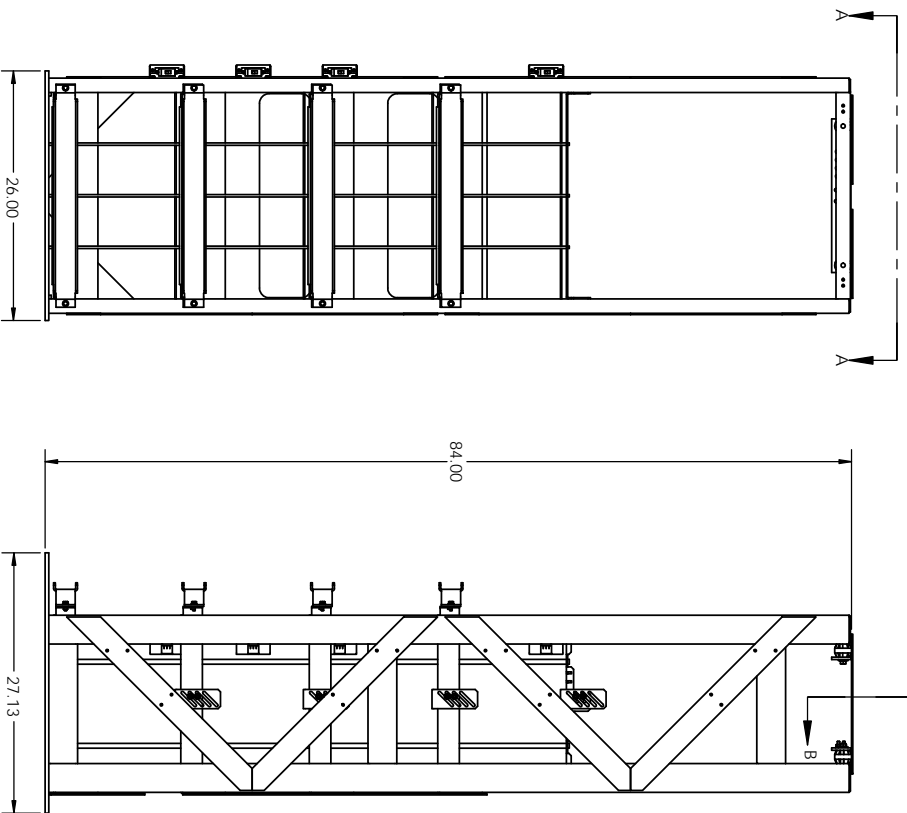
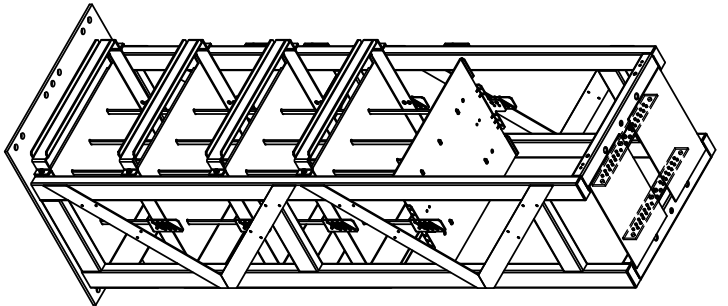
NOTES:

1. HEAVY GAUGE WELDED TUBING AND SHEET METAL CONSTRUCTION.
2. FINISH: GRAY POWDER COAT FINISH.
3. ALL TABLE CONNECTIONS ARE FROM TOP ACCESSIBLE.
4. ALL INPUT BUS BARS ARE LOCATED ON THE TOP, RECESSED INTO THE FRAME OF THE RACK.
5. FOR PROTECTION BUT STILL ACCESSIBLE BY 360 DEGREES.
6. OPTIONAL SINC UT BREAKERS AVAILABLE FOR EACH STRING.
7. RACK SHIPS PRE-WELDED AND PRE-ASSEMBLED.
8. GR-65-CORE SEISMIC CRITICED (NESS), SEE TABLE 1 FOR APPROXIMATE RACK WEIGHT (INCLUDING CABLES).

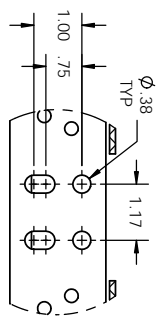
MODEL NO.	DESCRIPTION (CABLE GAUGE)	RACK WEIGHT (CABLES INCLUDED)
TR4X4Z4-48JAB100	#4 CABLE	415 LBS
TR4X4Z4-48KAB100	#2 CABLE	425 LBS
TR4X4Z4-48LAB100	1/0 CABLE	440 LBS
TR4X4Z4-48NAB100	4/0 CABLE	453 LBS



SECTION B-B
SCALE 1 : 8
VIEW FOR REF ONLY, BUS BAR MAY VARY DEPENDING ON CABLE SIZES



SECTION A-A
SCALE 1 : 10
PLASTIC SHIELDS NOT SHOWN FOR CLARITY



DETAIL H
SCALE 1 : 2
DIM'S TYP. FOR ALL CONFIGURATIONS

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UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES	REVISION	DATE	BY
	1	08/28/14	ESMANAR

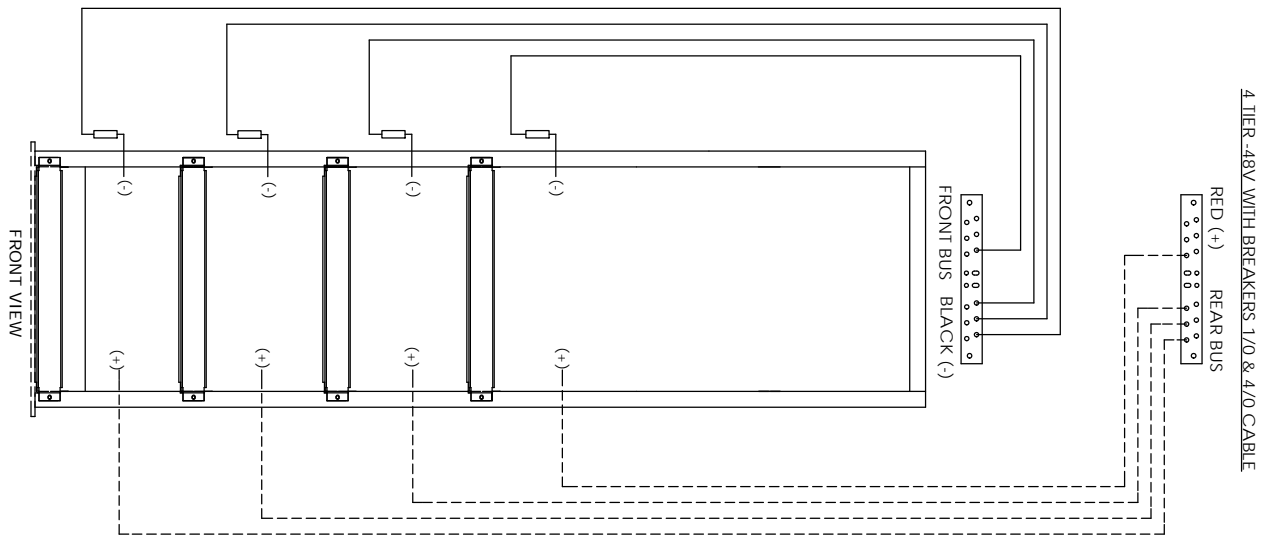
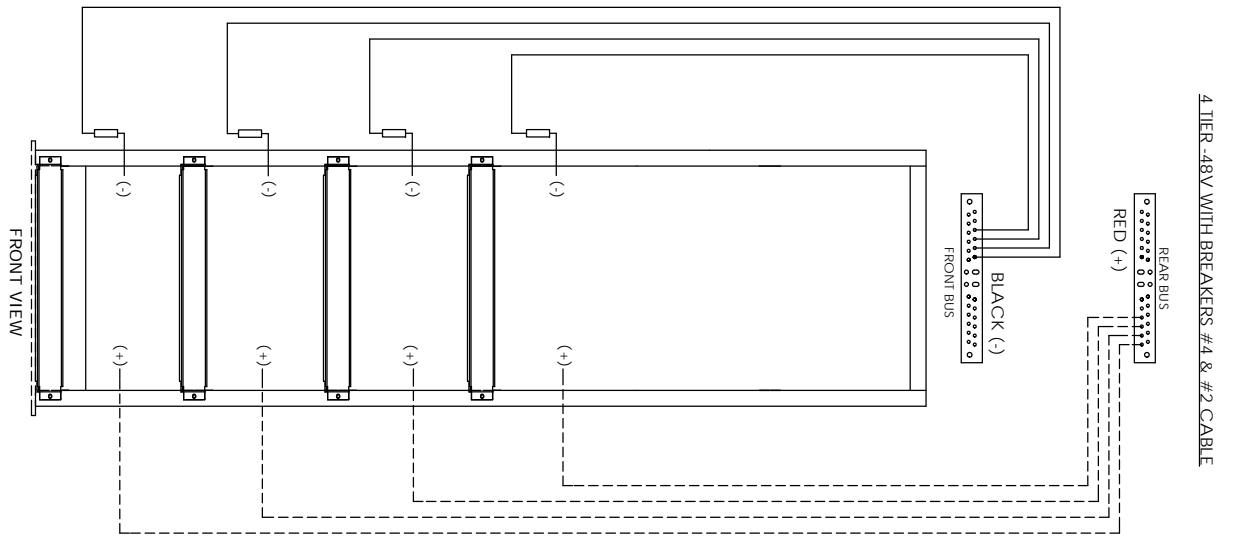
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Garland, Texas 75041
PH: 972-272-2468
FAX: 972-278-9544

**NESS SEISMIC 4 TIER RACK
48VDC WITH BREAKERS**

DOC-006300

SCALE: 1:1

SHEET 1 OF 2



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PROJECTION	DATE	SCALE	REV
AS SHOWN	08/29/14	1:1	C

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TITLE: NEBS SEISMIC 4 TIER RACK
48VDC WITH BREAKERS
DOC-006300

SCALE: 1:1 SHEET 2 OF 2



- NOTES:
1. HEAVY GAUGE WELDED TUBING AND SHEET METAL CONSTRUCTION.
 2. FINISH: GRAY POWDER COAT FINISH.
 3. ALL CABLE CONNECTIONS ARE FRONT ACCESSIBLE.
 4. OUTPUT BUS BARS ARE LOCATED ON THE TOP COVERED BY A REMOVABLE SHIELD.
 5. OPTIONAL CIRCUIT BREAKERS AVAILABLE FOR EACH STRING.
 6. RACK SHIPS PRE-WIRED AND PRE-ASSEMBLED.
 7. SEE TABLE 1 FOR APPROXIMATE RACK WEIGHT (INCLUDING CABLES).
 8. 1 POSITION FOR $\phi 3/4"$ BOLT ON $3/4"$ OR $1.0"$ CENTERS PROVIDED ON POSITIVE AND NEGATIVE BUS BARS

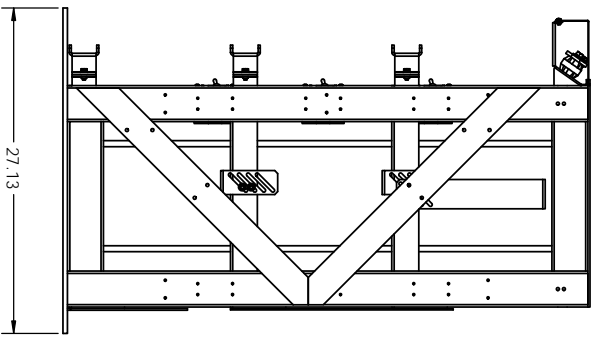
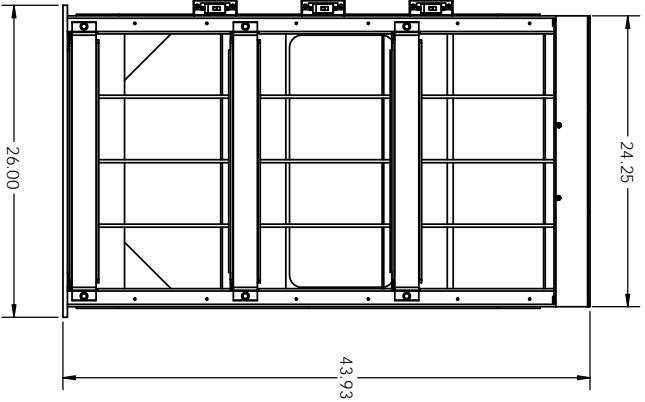
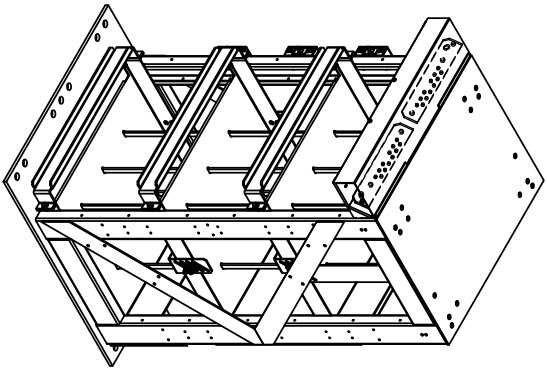
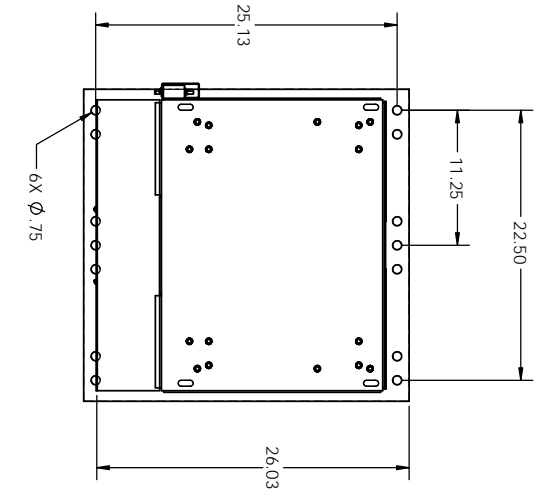
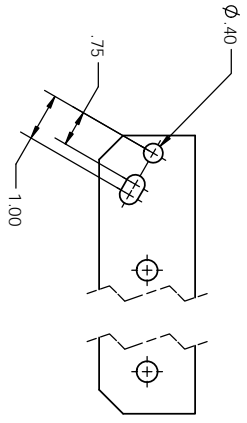


TABLE 1

MODEL NO.	DESCRIPTION (CABLE GAUGE)	RACK WEIGHT (CABLES INCLUDED)
TR4X3Z4-48/LAB100	#4 CABLE	294 LBS
TR4X3Z4-48K/LAB100	#2 CABLE	297 LBS
TR4X3Z4-48/LAB100	1/0 CABLE	302 LBS
TR4X3Z4-48N/LAB100	4/0 CABLE	313 LBS



OUTPUT LUG PROVISION, 1 PER BUS BAR

UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES

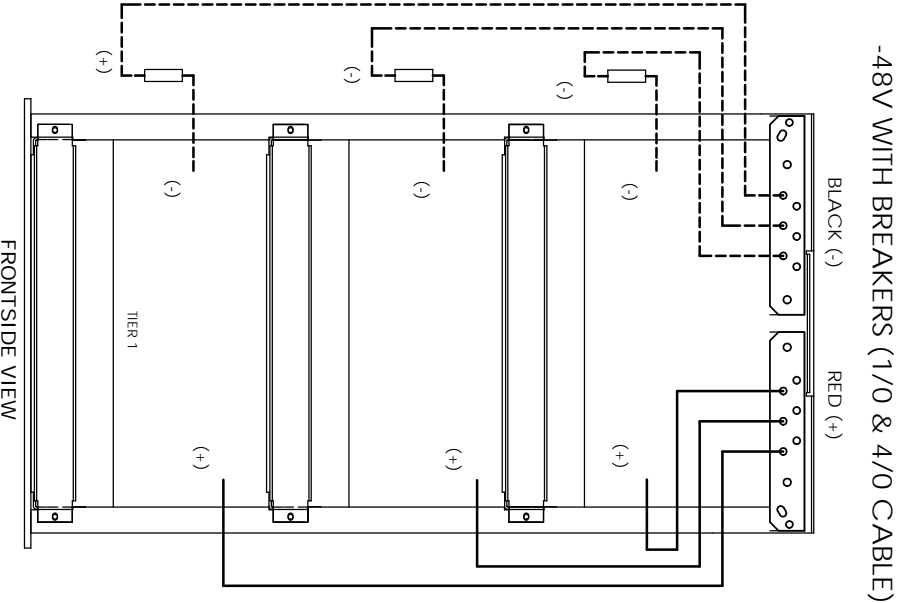
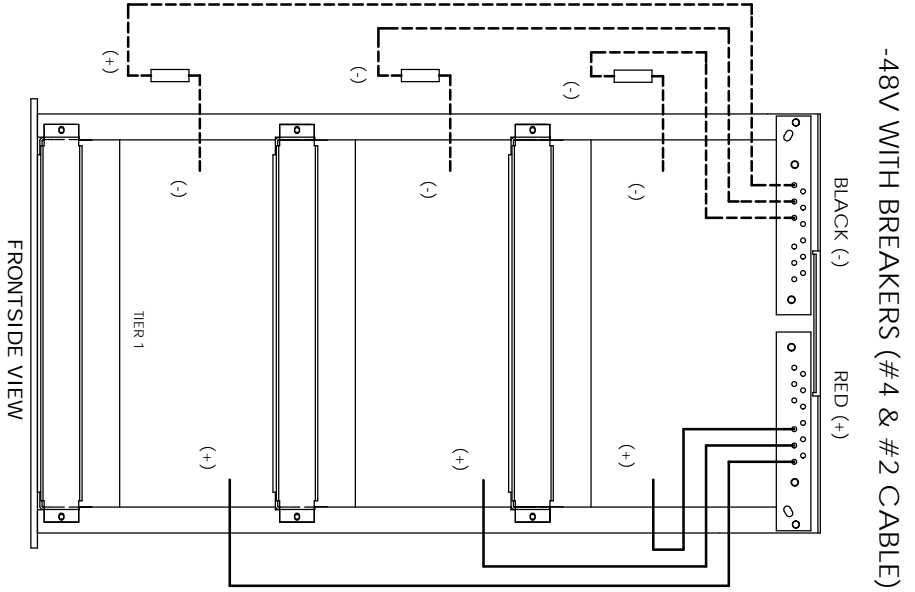
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PROJECT NO.	DATE	SCALE	SHEET
REV	BY	DATE	DESCRIPTION
1	ESS	07/03/14	REV C

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FAX: 972-276-9544

TITLE: NEBS SEISMIC 3 TIER RACK
48VDC WITH BREAKERS
DWG. NO. DDC-007500
SCALE: 1:1
SHEET 1 OF 2



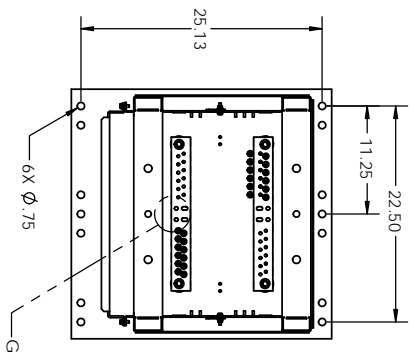
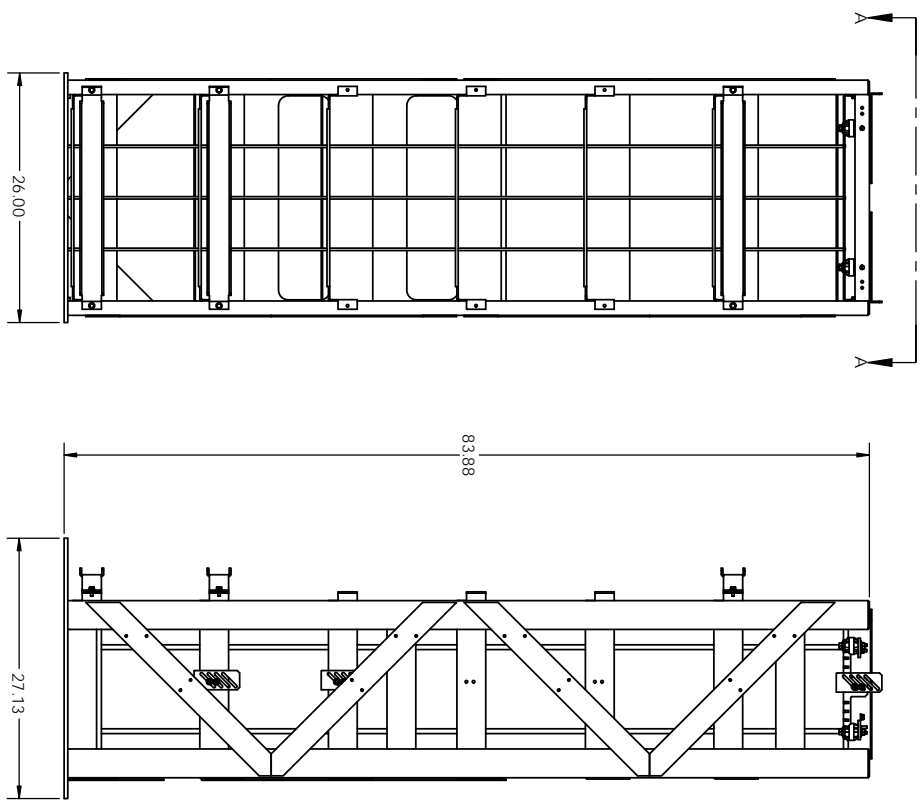
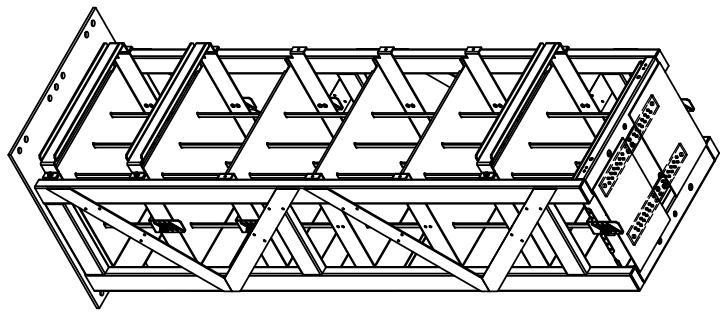
UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES		DATE		DATE	
PROJECTIONS	DATE	DATE	DATE	DATE	DATE
REVISION	BY	DATE	BY	DATE	BY
1	ES	07/03/14	ES		
Electronic Systems Support 3233 W. Kingsley Rd. Garland, Texas 75041 PH. 972-272-2468 FAX 972-278-9844 www.ess.to www.ess.to					
TITLE: NESS SEISMIC 3 TIER RACK 48V/DC WITH BREAKERS					
SCALE: 1:1	DWG. NO. DCC-007500	REV. C	REV. C	SHEET 2 OF 2	



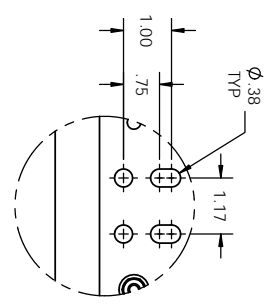
- NOTES:
1. HEAVY GAUGE WELDED TUBING AND SHEET METAL CONSTRUCTION.
 2. FINISH: GRAY POWDER COAT FINISH.
 3. ALL CABLE CONNECTIONS ARE FRONT ACCESSIBLE.
 4. OUTPUT BUS BARS ARE LOCATED ON THE TOP, RECESSED INTO THE FRAME OF THE RACK.
 5. FOR PROTECTION BUT STILL ACCESSIBLE BY 360 DEGREES.
 6. OPTIONAL CIRCUIT BREAKERS AVAILABLE FOR EACH STRING.
 7. RACK SHIPS PRE-WIRED AND PRE-ASSEMBLED.
 8. GR-63-CORE SEISMIC CERTIFIED (NEBS).
- SEE TABLE 1 FOR APPROXIMATE RACK WEIGHT (INCLUDING CABLES).

TABLE 1

MODEL NO.	DESCRIPTION (CABLE GAUGE)	RACK WEIGHT (CABLES INCLUDED)
TR4X674-481A	#4 CABLE	485 LBS
TR4X674-481A	#2 CABLE	492 LBS
TR4X674-481A	1/0 CABLE	502 LBS
TR4X674-481A	4/0 CABLE	518 LBS



PLASTIC SHIELDS NOT SHOWN FOR CLARITY
VIEW FOR REF ONLY, BUS BAR MAY VARY DEPENDING ON CABLE SIZES



DIMS TYP. FOR ALL CONFIGURATIONS

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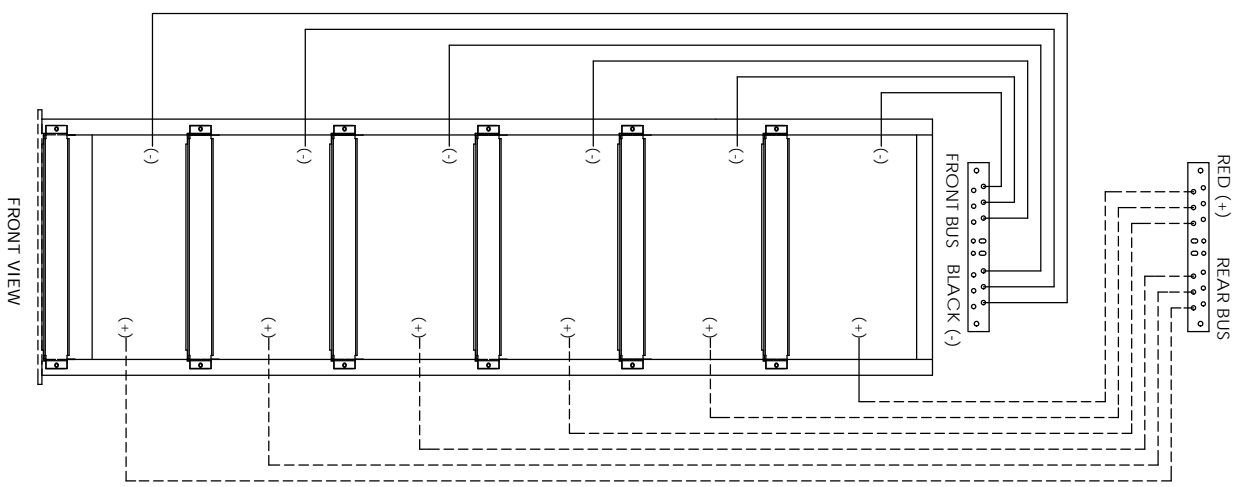
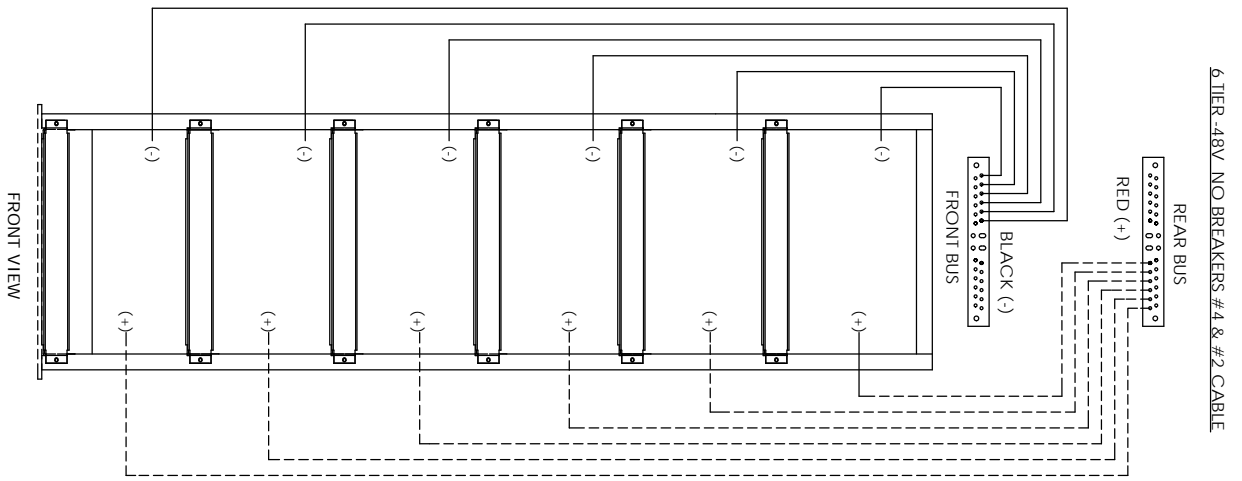
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	AS SHOWN	08/26/14	C

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TITLE: NEBS SEISMIC 6 TIER RACK
48VDC

SIZE: DWG. NO. DDC-0017200
SCALE: 1:1

SHEET 1 OF 2



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UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES	PROJECTION	DATE	SCALE	SHEET
	AS SHOWN	08/28/14	1:1	2 OF 2

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TITLE: NEBS SEISMIC 6 TIER RACK
48VDC

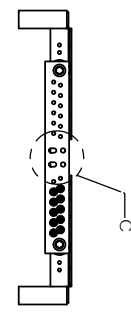
NO.: DDC-007200
REV: C

NOTES:

1. HEAVY GAUGE WELDED TUBING AND SHEET METAL CONSTRUCTION.
2. FINISH: GRAY POWDER COAT FINISH.
3. ALL CABLE CONNECTIONS ARE FRONT ACCESSIBLE.
4. OUTPUT BUS BARS ARE LOCATED ON THE TOP, RECESSED INTO THE FRAME OF THE RACK FOR PROTECTION BUT STILL ACCESSIBLE BY 360 DEGREES.
5. OPTIONAL CIRCUIT BREAKERS AVAILABLE FOR EACH STRING.
6. RACK SHIPS PRE-WIRED AND PRE-ASSEMBLED.
7. GR-63-CORE SEISMIC CERTIFIED (NEBS).
8. SEE TABLE 1 FOR APPROXIMATE RACK WEIGHT (INCLUDING CABLES).

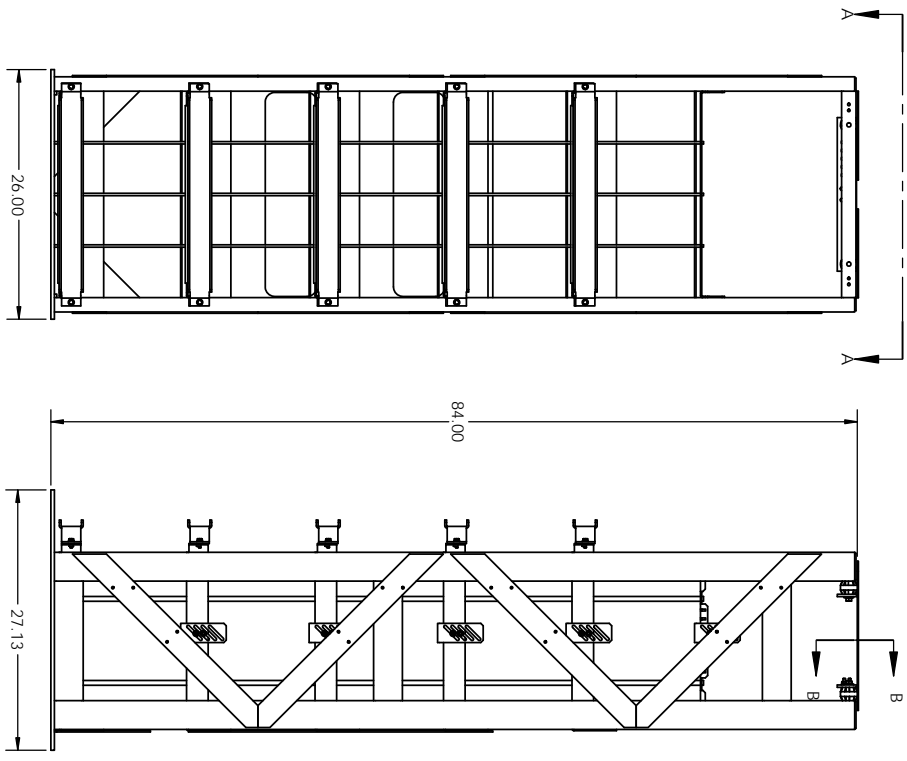
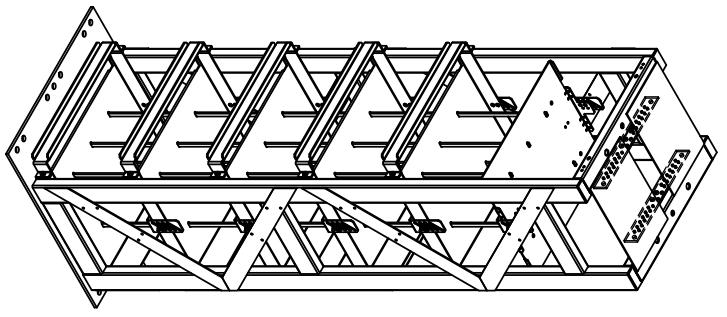
MODEL NO.	DESCRIPTION (CABLE GAUGE)	RACK WEIGHT (CABLES INCLUDED)
TR4X5Z4-48JA	#4 CABLE	453 LBS
TR4X5Z4-48KA	#2 CABLE	460 LBS
TR4X5Z4-48LA	1/0 CABLE	473 LBS
TR4X5Z4-48NA	4/0 CABLE	485 LBS

TABLE 1



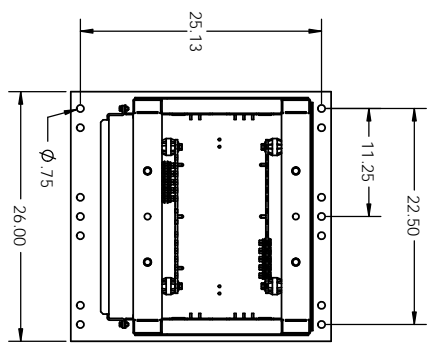
SECTION B-B
SCALE 1 : 8

VIEW FOR REF ONLY BUS BAR MAY VARY DEPENDING ON CABLE SIZES



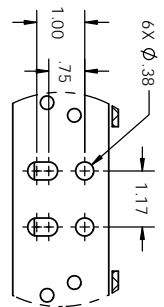
SECTION A-A
SCALE 1 : 10

PLASTIC SHIELDS NOT SHOWN FOR CLARITY



SECTION B-B
SCALE 1 : 8

DIMS TYP. FOR ALL CONFIGURATIONS



DETAIL C
SCALE 1 : 2

UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES

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PROJECT	DATE	SCALE	REV
ISSUE	08/29/14	C	C

TITLE: NEBS SEISMIC 5 TIER RACK 48VDC

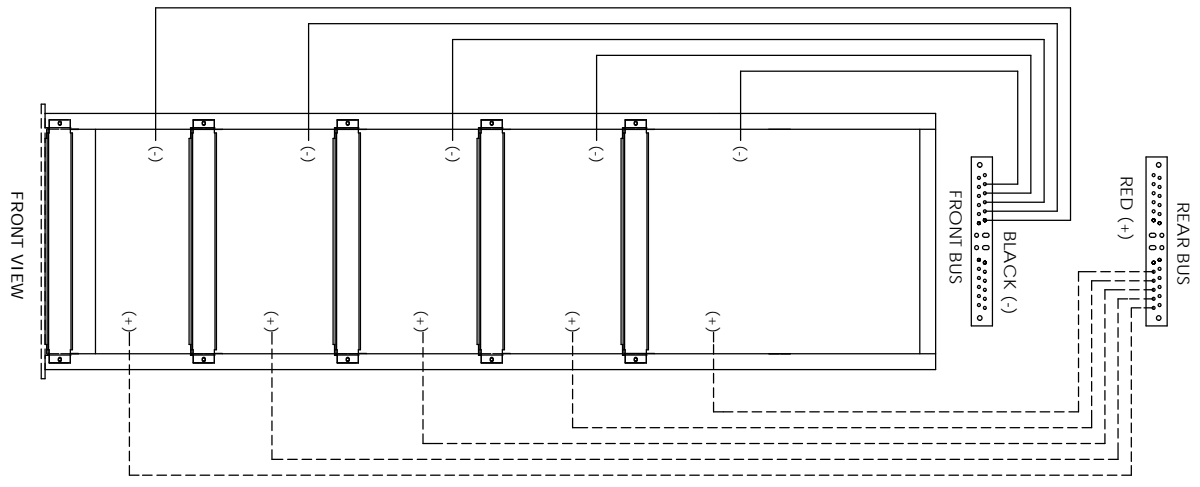
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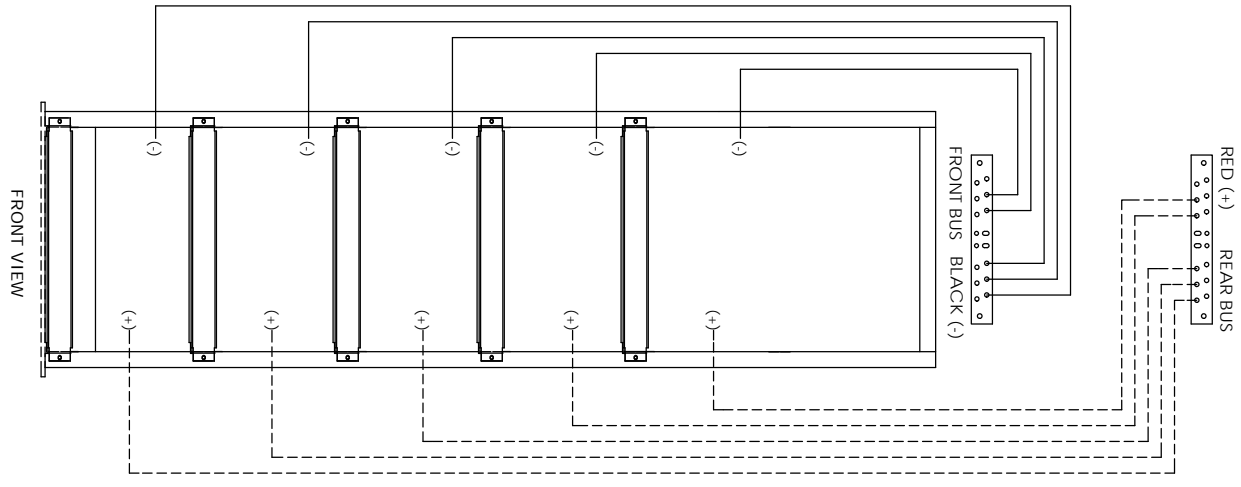
DWG. NO. DDC-006800
SHEET 1 OF 2



5 TIER -48V NO BREAKERS #4 & #2 CABLE



5 TIER -48V NO BREAKERS 1/0 & 4/0 CABLE



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UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES	PROJECTION	DATE	SCALE	SHEET
	AS SHOWN	08/29/14	1:1	2 OF 2

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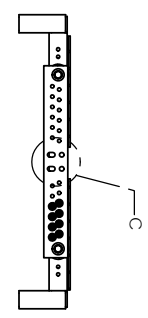
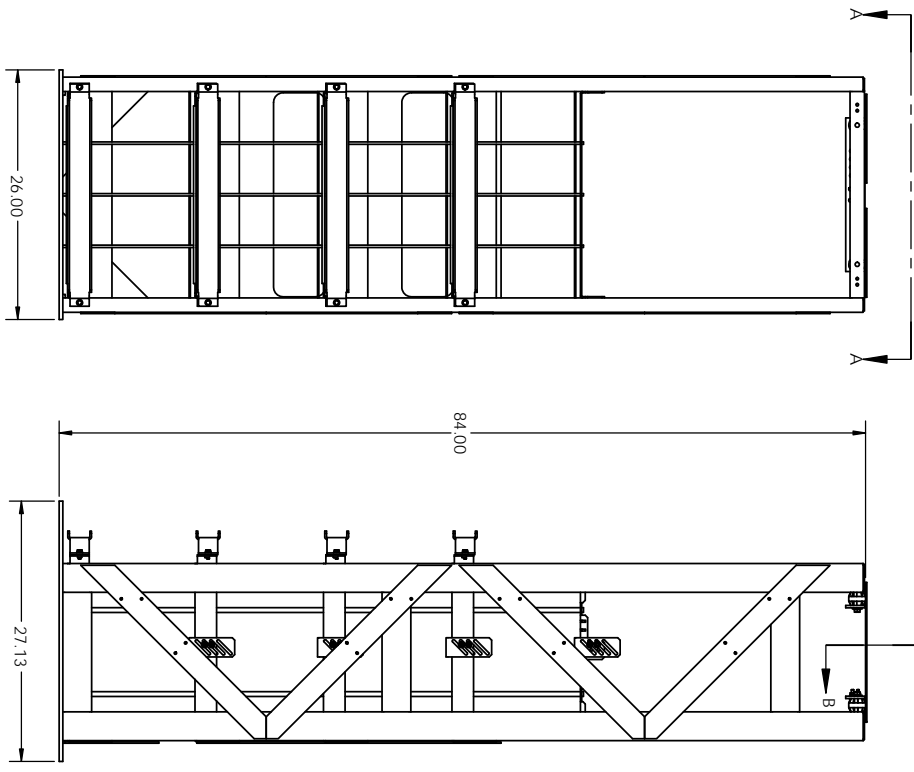
TITLE
 NEBS SEISMIC 5 TIER RACK
 48VDC

REV
 C
 DWG. NO. DDC-006800
 DRAWN BY: RNU



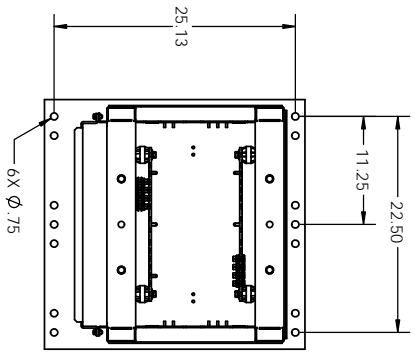
- NOTES:
1. HEAVY GAUGE WELDED TUBING AND SHEET METAL CONSTRUCTION.
 2. FINISH - GRAY POWDER COAT FINISH.
 3. ALL CABLE CONNECTIONS ARE FRONT ACCESSIBLE.
 4. OUTPUT BUS BARS ARE LOCATED ON THE TOP, RECESSED INTO THE FRAME OF THE RACK FOR PROTECTION BUT STILL ACCESSIBLE BY 360 DEGREES.
 5. OPTIONAL CIRCUIT BREAKERS AVAILABLE FOR EACH STRING.
 6. RACK SHIPS PRE-WIRED AND PRE-ASSEMBLED.
 7. GR-63-CORE SEISMIC CERTIFIED (NEES).
 8. SEE TABLE 1 FOR APPROXIMATE RACK WEIGHT (INCLUDING CABLES).

TABLE 1		
MODEL NO.	DESCRIPTION (CABLE GAUGE)	RACK WEIGHT (CABLES INCLUDED)
TR4X4Z4-48JA	#4 CABLE	410 LBS
TR4X4Z4-48KA	#2 CABLE	415 LBS
TR4X4Z4-48LA	1/0 CABLE	422 LBS
TR4X4Z4-48NA	4/0 CABLE	441 LBS

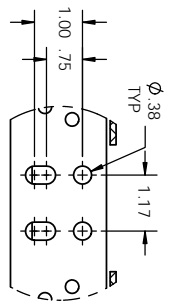
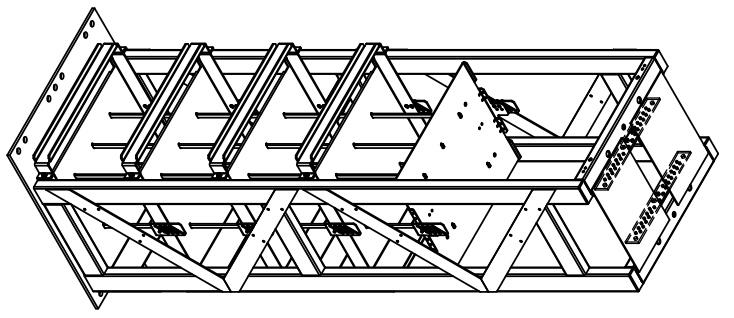


VIEW FOR REF ONLY BUS BAR MAY VARY DEPENDING ON CABLE SIZES

SECTION B-B
SCALE 1 : 8



SECTION A-A
SCALE 1 : 10
PLASTIC SHIELDS NOT SHOWN FOR CLARITY



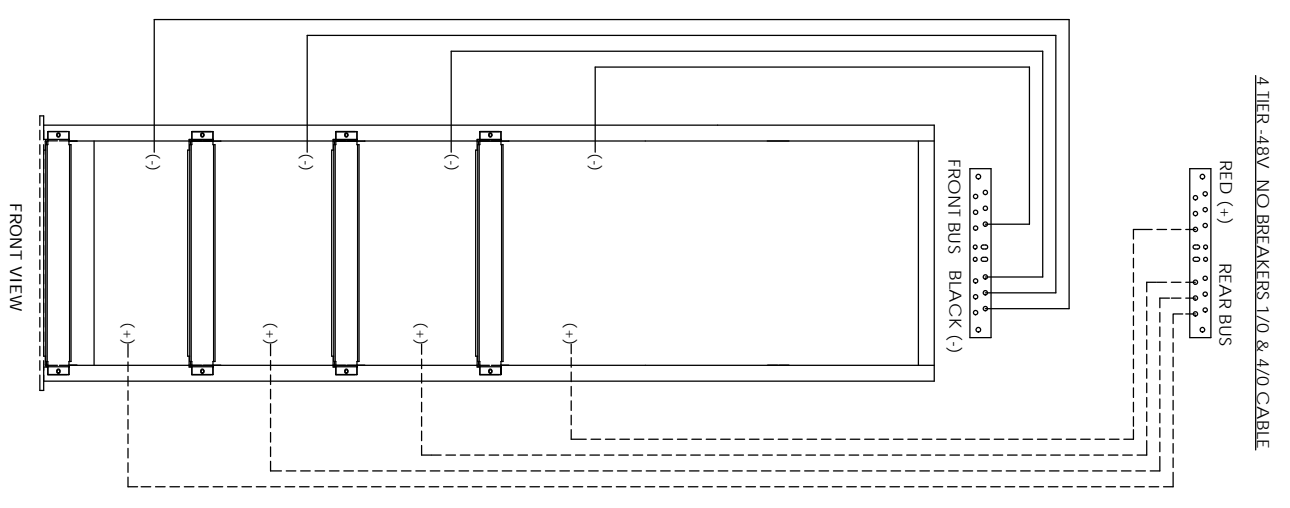
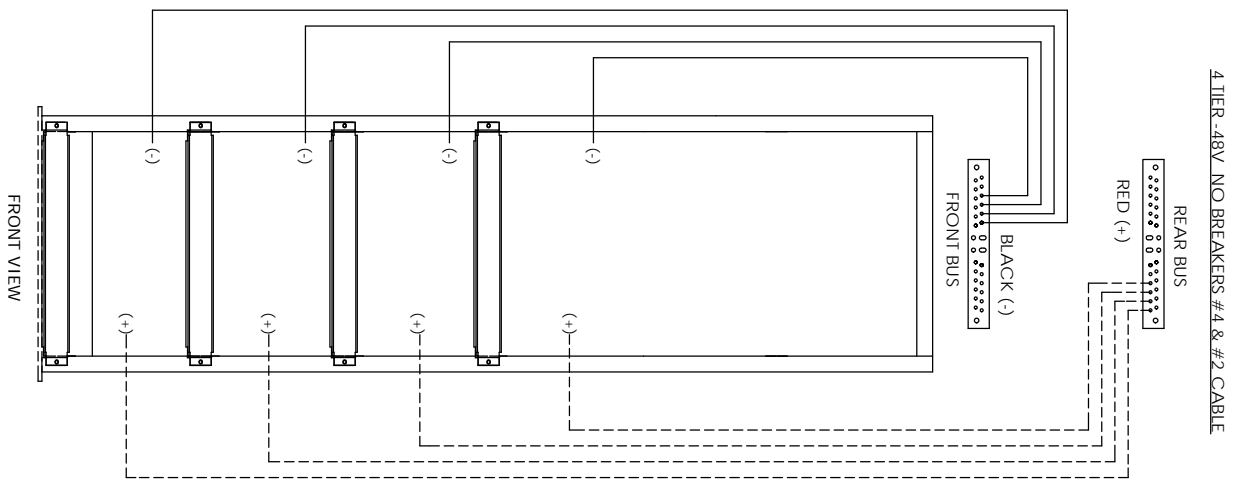
DETAIL C
SCALE 1 : 2
DIM'S TYP. FOR ALL CONFIGURATIONS

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UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES	PROJECTION	DATE	SCALE	SHEET
	AS SHOWN	08/28/14	1:1	1 OF 2

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www.ess.to
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Garland, Texas 75041
PH: 972-272-2468
FAX: 972-276-9544

TITLE: NEBS SEISMIC 4 TIER RACK 48VDC
DWG. NO.: DDC-006400
REV: C



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DATE	ISSUED	BY	REV
08/26/17		RNU	C

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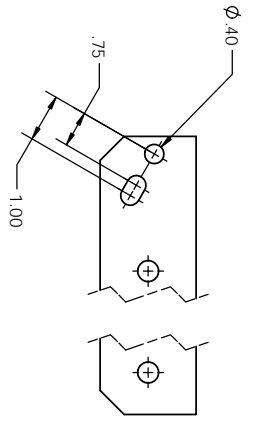
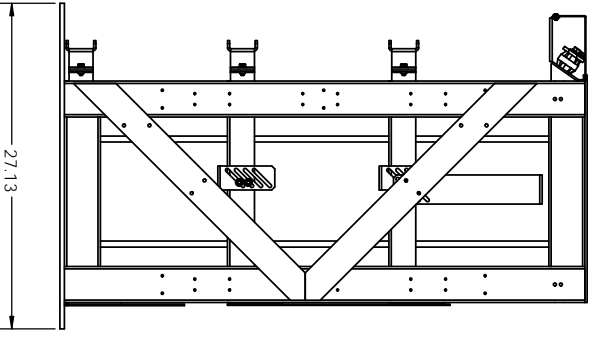
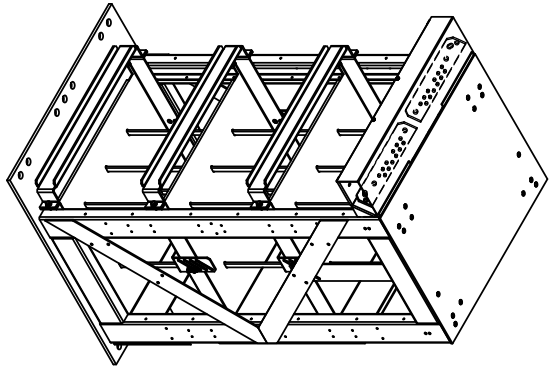
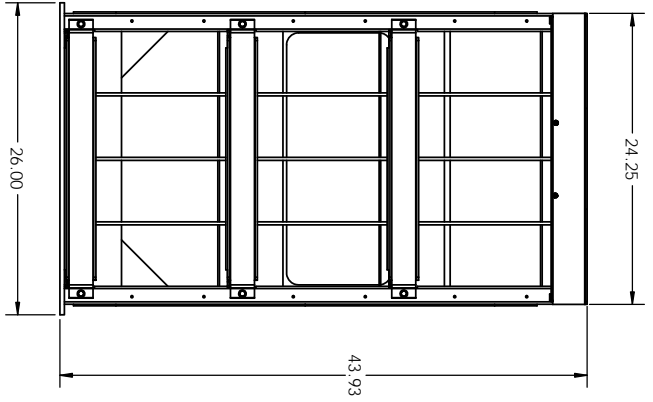
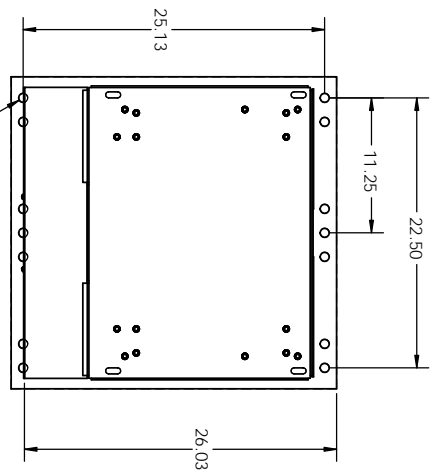
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Garland, Texas 75041
PH: 972-272-2468
FAX: 972-278-9844

TITLE: NEBS SEISMIC 4 TIER RACK
48VDC

DWG. NO: DDC-006400
SCALE: 1:1

SHEET 2 OF 2

- NOTES:
1. HEAVY GAUGE WELDED TUBING AND SHEET METAL CONSTRUCTION.
 2. FINISH: GRAY POWDER COAT FINISH.
 3. ALL CABLE CONNECTIONS ARE FROM THE FRONT ACCESSIBLE.
 4. OUTPUT BUS BARS ARE LOCATED ON THE TOP COVERED BY A REMOVABLE SHIELD.
 5. OPTIONAL CIRCUIT BREAKERS AVAILABLE FOR EACH STRING.
 6. RACK SHIPS PRE-WIRED AND PRE-ASSEMBLED.
 7. SEE TABLE 1 FOR APPROXIMATE RACK WEIGHT (INCLUDING CABLES).
 8. 1 POSITION FOR $\phi 3/4$ BOLT ON $3/4$ OR 1.0 CENTERS PROVIDED ON POSITIVE AND NEGATIVE BUS BARS



OUTPUT LUG PROVISION, 1 PER BUS BAR

MODEL NO.	DESCRIPTION (CABLE GAUGE)	RACK WEIGHT (CABLES INCLUDED)
TR4X3Z4-48J1A	#4 CABLE	301 LBS
TR4X3Z4-48KA	#2 CABLE	303 LBS
TR4X3Z4-48LA	1/0 CABLE	306 LBS
TR4X3Z4-48NA	4/0 CABLE	315 LBS

TABLE 1

UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES.

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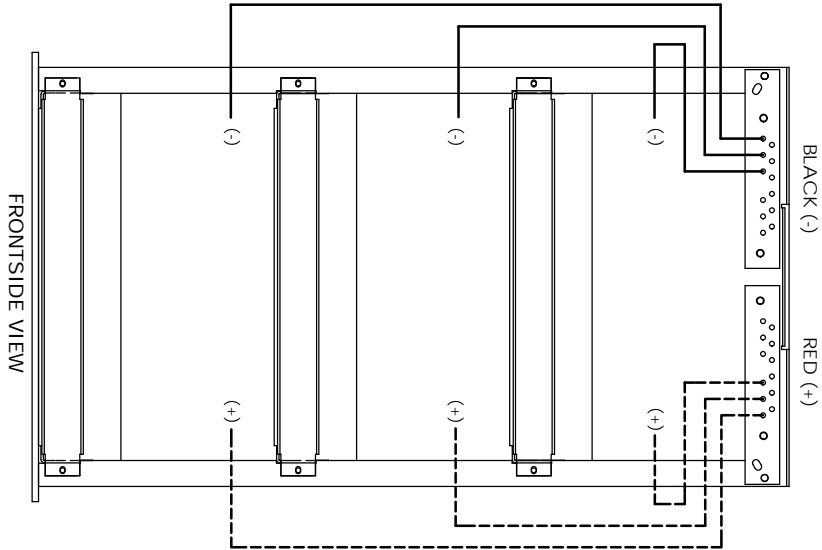
PROJ. NO.	DATE	SCALE	SHEET
REV. NO.	DATE	SCALE	SHEET

NEBS SEISMIC 3 TIER RACK
48VDC

DOC-007600

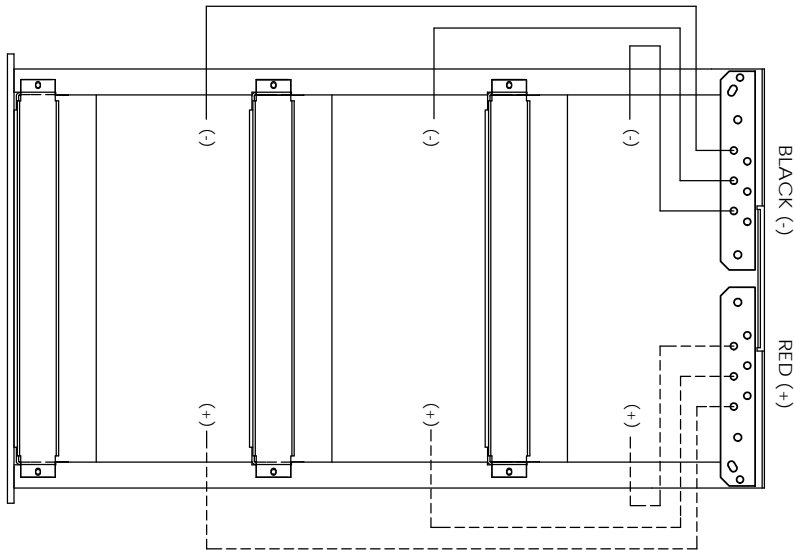
SHEET 1 OF 2

3 TIER -48V NO BREAKERS (#4 & #2 CABLE)



FRONTSIDE VIEW

3 TIER -48V NO BREAKER (1/0 & 4/0 CABLE)



FRONTSIDE VIEW

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UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES		DATE		REV	
PROJ/OWNER	ISSUE NO.	DATE	REV	DATE	REV
		07-02-14			
TITLE			SIZE	DWG. NO.	REV
NEBS SEISMIC 3 TIER RACK			C	DOC-007600	C
ESS Electronic Systems Support www.ess.to			SCALE: 1:1		SHEET 2 OF 2
3233 W. Kingsley Rd. Garland, Texas 75041 PH: 972-272-2468 FAX: 972-278-9844					



NOTES



NOTES

