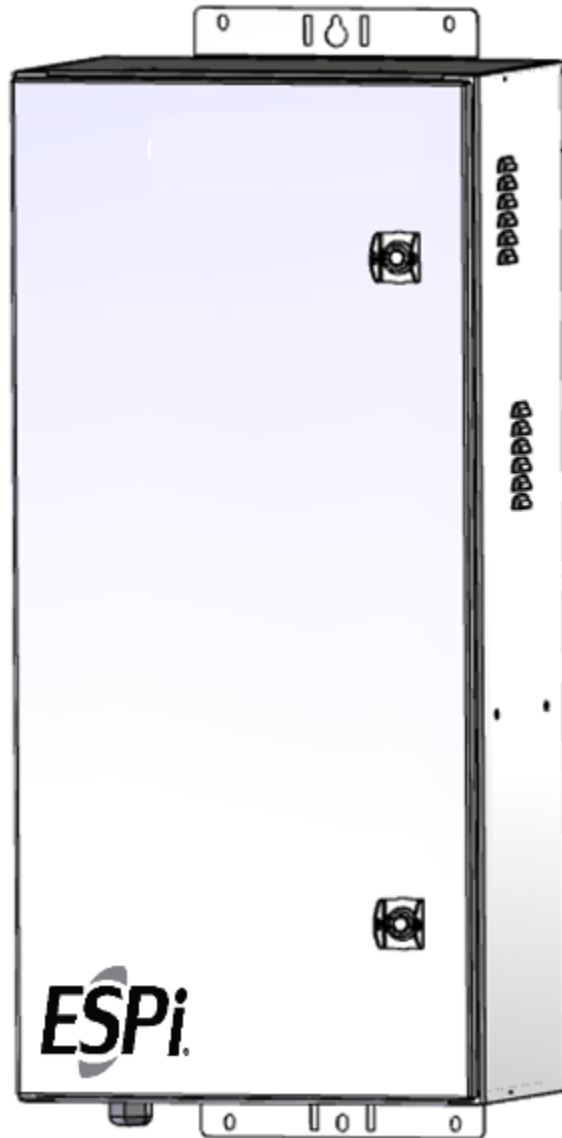


# VOLTAR 2.0

## USER'S MANUAL



**ESPi**  
espicorp.com

*Your Next Generation UPS™*

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## **TECHNICAL DOCUMENTATION**

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Thank you for purchasing the ESPi VOLTAR 2.0 Solar UPS. At ESPi, we are proud of the quality products we innovate and manufacture and look forward to serving you as our customer. Please review all sections of this document before the installation and operation of the VOLTAR 2.0.

This document pertains to the VOLTAR 2.0 Solar UPS and its family of products.

### Applicable Model Numbers:

#### VOLTAR 2.0

- V2-20A-150W-12V-1D
- V2-20A-150W-12V-2D
- V2-20A-150W-12V-1N
- V2-20A-150W-12V-2N
- V2-20A-150W-48V-1D
- V2-20A-150W-48V-2D
- V2-20A-150W-48V-1N
- V2-20A-150W-48V-2N

### Contact Information:

- Email [sales@espincorp.com](mailto:sales@espincorp.com) for sales related questions or requests.
- Email [info@espincorp.com](mailto:info@espincorp.com) for technical product support.
- Telephone: (877) 799-3774

## **PUBLICATION**

This publication provides a description of ESPI's VOLTAR 2.0 Solar UPS. In this publication, an overview of the product, mechanical descriptions, installation instructions, safety guidelines and grounding instructions are included.

## **USING THIS TECHNICAL PRACTICE**

Before using this document, please review the statements below.

1. The differences in models of the VOLTAR 2.0 family of solar UPS products are defined by the attributes within the model number. Definitions of the attributes are described below.
  - V2-20A-150W-XXV-XX
  - V2 = VOLTAR 2.0 Product Family
  - 20A = Max Charging Rate
  - 150W = Max Wattage
  - XXV = 12 Volt or 48 Volt Model
  - XX = 1D, 2D, 1N, 2N – Number of Batteries

2. Two types of messages appear throughout this manual, identified by the following icons:



**Note** - Indicates special conditions.



**Caution** - Indicates possibility of personal injury or equipment damage.

## **INSPECTING SHIPMENT**

Upon receipt of the equipment:

- Inspect the shipping container(s) and note any signs of damage. Next, unpack the container(s) and carefully inspect for damage to the contents. If the equipment has been damaged in transit, immediately report the extent of damage to the transportation company and to ESPI. Order replacement equipment if necessary.
- Check the packing list to assure complete and accurate shipment of all listed items. If the shipment is short or irregular, contact ESPI as described in the warranty. If the equipment must be stored for a prolonged period, do so in the equipment's original container. For any returned equipment please use the original packaging if available.

## **PRODUCT SPECIFICATIONS**

The VOLTAR 2.0 Solar UPS is designed to provide instant, continuous power for a wide range of applications. For additional information and specifications, reference the product overview information listed below.

### **Enclosure**

- Dimensions: 35" tall x 16" wide x 11.5" deep
- Constructed for superior strength using galvanized steel
- Powder coat painted for corrosion resistance
- Meets NEMA 4 standards
- (2) Quarter-turn pad-lockable latching systems
- Wind guard stop
- Adjustable shelving for increased battery capacity
- Weight w/o Batteries: 70 lbs.

### **Input Power Sources**

- (2) Independent input sources
- 24 - 60 Volts Max and less than 10 Amps
- Reverse polarity protection
- Maximum Power Point Tracking (MPPT)

### **User Interface**

- LCD Screen
- (3) Push Buttons – Back, Next, Select
- (3) LED indicator gauges: Battery Level and Equipment Status

### **Battery Charging**

- 20 Amp Charger
- Advanced 4 stage charger with Multi Point Power Tracking (MPPT)
- Temperature Compensated Charging
- Operating Temperature -20°C to +105°C

### **Batteries**

- Multiple battery configurations available
- 123Ah or 170Ah Solar Batteries
- 123Ah Battery Weight: 83 lbs. each
- 170Ah Battery Weight: 130 lbs. each
- 12V Batteries Only
- Lead-Acid (LA), Sealed-Lead-Acid (SLA), Absorbed Glass Mat (AGM)
- 10-Year Design Life
- 3-Year Limited Warranty

**Solar Panel**

- Mono-Crystalline .
- Bi-Facial Panel
- 40.6 Volts
- 370 Watts
- 77.48" x 38.97"
- 35-Year Limited Warranty

**Output**

- 12V, 24V, 36V, 48V, Other (Based on model #)
- 150 Watts Max
- 30 Watts Continuous

**Alarm Outputs**

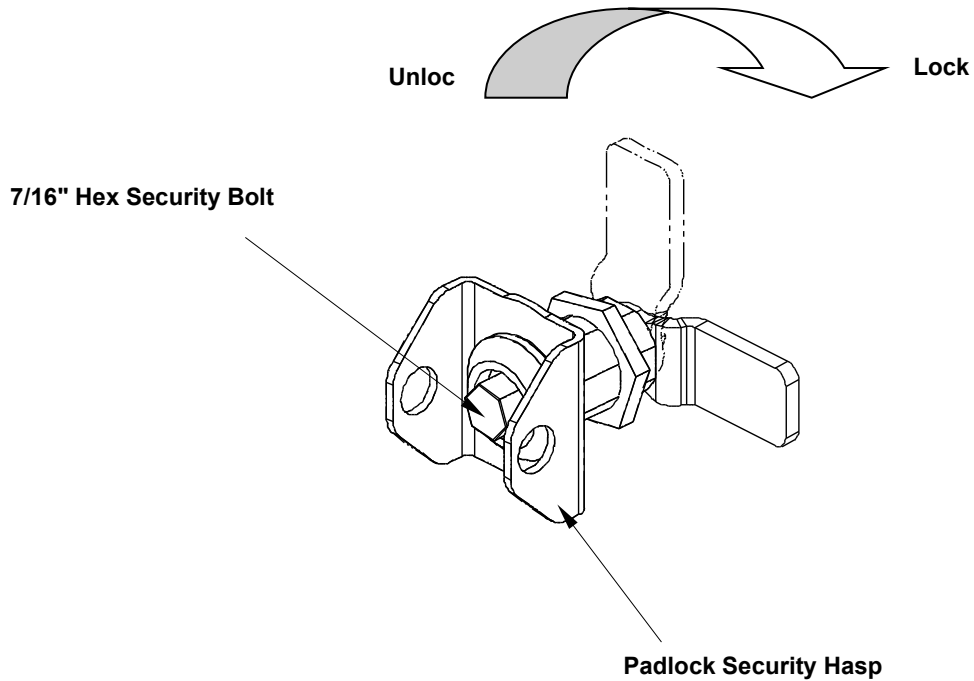
- Dry-Contact RJ-45 termination. Four isolated contact-closure alarm outputs: No Battery, On Battery, Low Battery and Battery Fail

## **SAFETY PRECAUTIONS**

- USE COMMON SENSE!
- Only qualified personnel should service this equipment
- The battery contains hazardous currents and may present a burn hazard if damaged, shorted, or installed improperly.
- The following precautions should be followed to insure your safety
  - Remove watches, rings, or other metallic objects.
  - Wear protective clothing and eye protection when working with batteries.
  - Always carry a water supply to wash eyes or skin in the event of exposure to battery electrolyte.
  - Use of tools with insulated handles is required.
  - Do not disassemble the unit. No user serviceable parts are inside except the batteries and fuse.
  - Keep liquid and foreign objects from getting inside of the unit.
  - Avoid operating unit in excessive humidity or near water.
  - Do not operate near gas or fire.
  - Inspect unit for leaking substance. If substance is leaking, do not use product.
  - Servicing this equipment may require working with protective covers removed and utility power connected. Use extreme caution during these procedures.
  - Check that power cord, plugs, and output terminals are in good working order.
  - BATTERY WARNINGS – Danger of explosion if battery is incorrectly connected. Use only approved replacement batteries.
  - Worn out or damaged batteries are considered environmentally unsafe. ALWAYS recycle used batteries in accordance with all federal, state, and local regulations. This is your planet too!
  - Any gel or liquid emissions from a VRLA battery contain sulfuric acid, which is harmful to the skin and eyes.
  - Batteries can produce explosive gases. Avoid all open flames and sparks.
  - Batteries contain or emit chemicals known to the State of California to cause cancer and birth defects or other reproductive harm. Battery post terminals contain lead and lead compounds. Wash hands after handling. (California Proposition 65)
  - Wear protective clothing and eye protection when installing, maintaining, servicing, or replacing batteries.
  - If battery emissions contact the skin or eyes, immediately wash area with water. Report chemical spills and seek medical attention if necessary.
  - Always replace batteries with new batteries of identical type and rating.
  - A battery showing signs of cracking, leaking, or swelling should be replaced immediately with an approved battery.

## **QUARTER TURN LOCKING DOOR LATCHES**

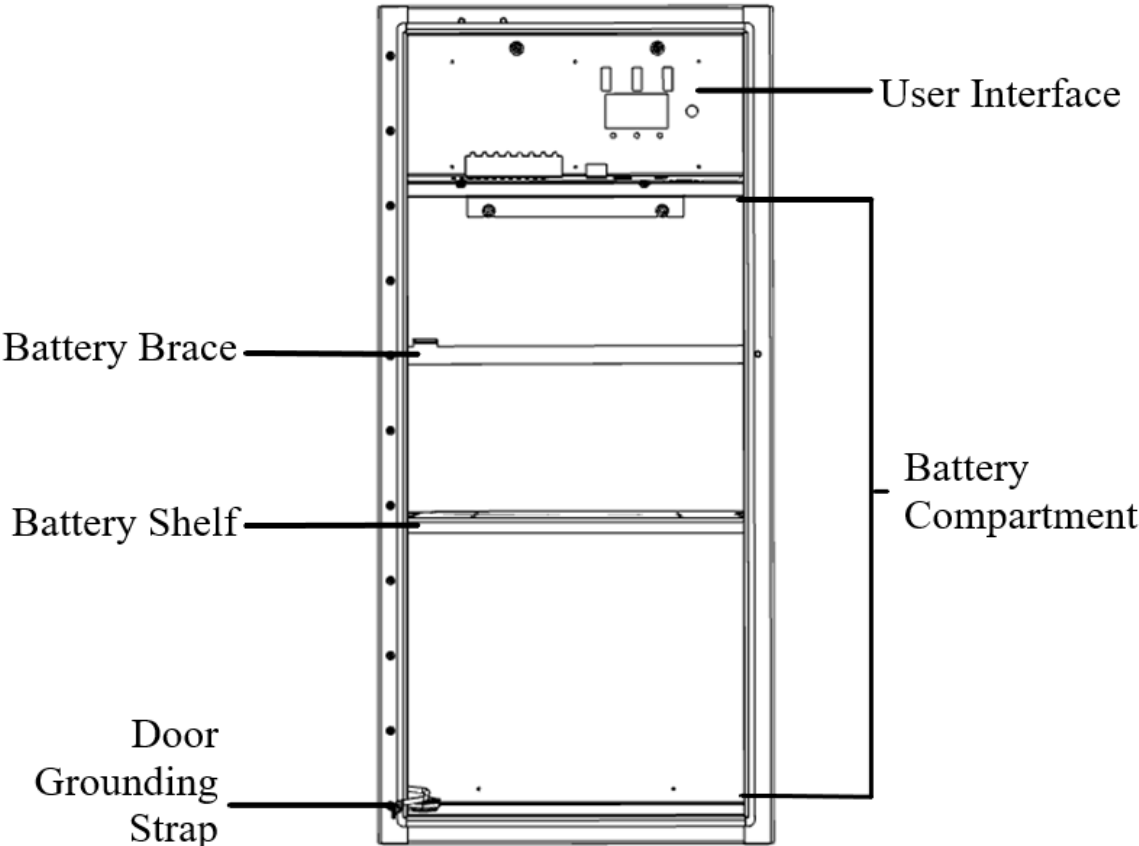
The cabinet door is equipped with (2) quarter-turn pad-lockable latches. The latch is secured by turning the 7/16" hex security bolt one quarter turn clockwise until the stop is reached. A convenient security locking hasp is factory installed to allow for a standard Master lock padlock (or equivalent) to be installed. With a padlock inserted, the security bolt cannot be accessed. Thus, protecting the cabinet from undesired intrusions.



**Figure A – Quarter Turn Locking Door Latch**



**ENCLOSURE OVERVIEW**



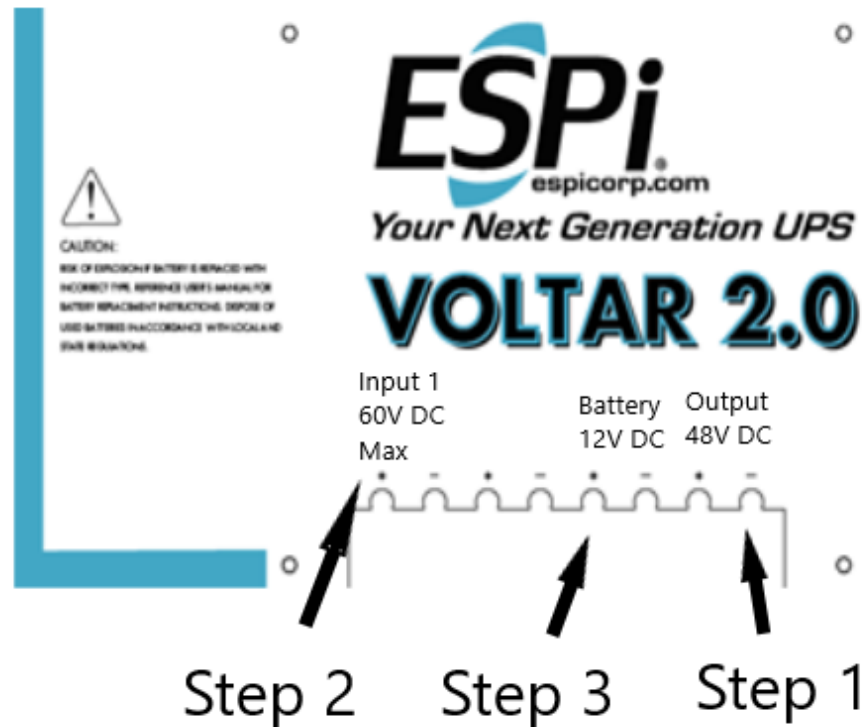
**Figure B – Front View of Enclosure**

*Door is not shown. Image is for reference only.*

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## WIRING INSTRUCTIONS



**Figure C – Wiring Instructions**

To avoid causing electrical damage to the VOLTAR 2.0 circuit board, please use the following steps when wiring.

**Step 1:**

Connect all wires from the VOLTAR 2.0 Output terminal to the load you are powering. If you have multiple VOLTAR 2.0 units, this should be done for each unit.

**Step 2:**

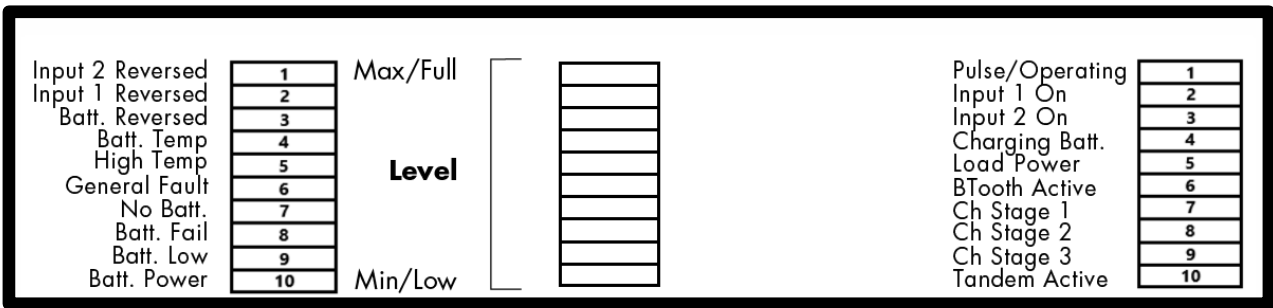
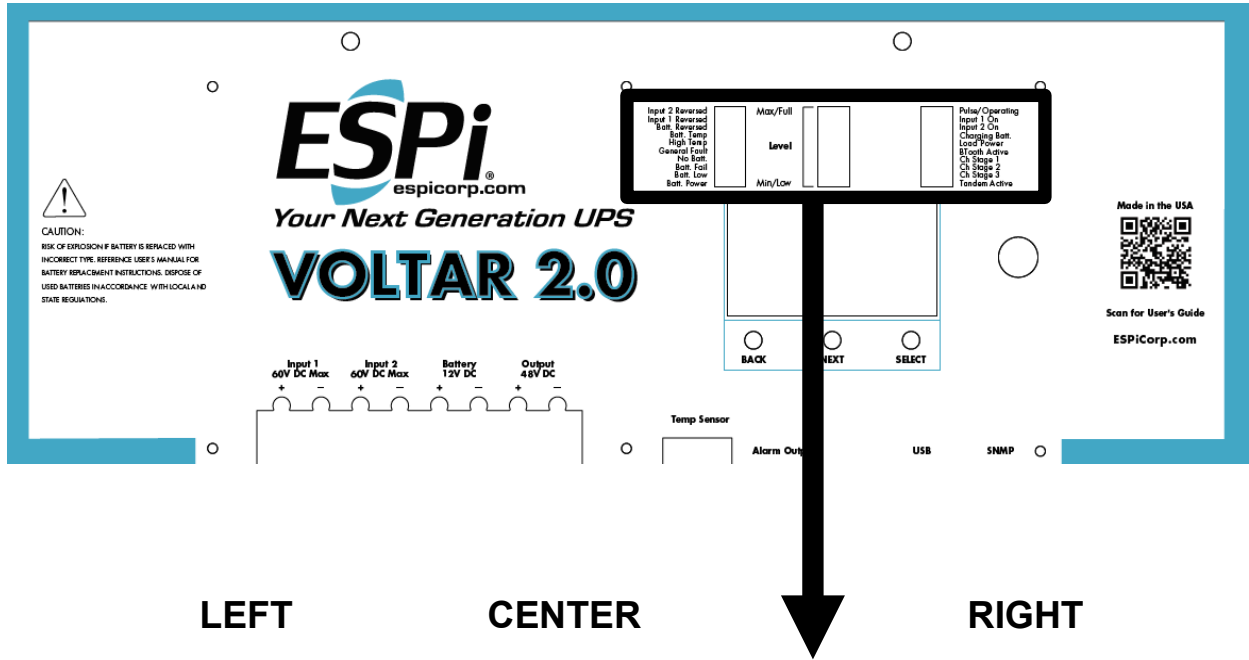
There is 20 feet of red and black photovoltaic wire routed through the enclosure and connected to the Input 1 terminal. If you do not need to use all 20 feet of wire, you can shorten to the desired length using the following process. Disconnect the solar panel to measure the length of wire needed to reach from the solar panel, through the bottom of the enclosure and up to the Input 1 terminal. Next, loosen the Input 1 terminal screws and cut the red and black photovoltaic wire to this length. Once this is complete, insert the red and black photovoltaic wires into the Input 1 terminal and tighten.

*(Note: 20 feet of photovoltaic wire has been provided to you. If you need more than 20' of wire it may be sourced locally or contact ESPi for more information.)*

**Step 3:**

Attach the red (Positive) and black (Negative) battery leads to the 12-volt battery. After attaching the cables, various LED lights on the faceplate will light up. Further details regarding the LED gauges are provided on the following pages.

Figure D – UPS Faceplate

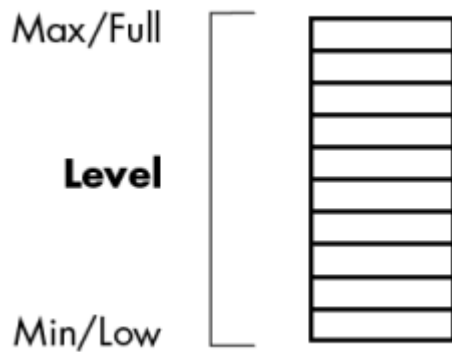


**LED GAUGE - LEFT**

1
2
3
4
5
6
7
8
9
10

- 1. Input 2 Reversed:** Polarity reversed on Input 2
- 2. Input 1 Reversed:** Polarity reversed on Input 1
- 3. Batt. Reversed:** Polarity reversed on battery
- 4. Batt. Temp:** Battery Temperature -20°C to 60°C
- 5. High Temp:** PCB Temperature
- 6. General Fault:** Not applicable
- 7. No Batt.:** Battery is not installed
- 8. Batt. Fail:** Battery not working correctly
- 9. Batt. Low:** Battery is low
- 10. Batt. Power:** Running on Battery Power (Only applicable if input source is set to DC Power Supply)

## LED GAUGE – CENTER



## LED GAUGES – RIGHT

1
2
3
4
5
6
7
8
9
10

1. **Pulse/Operating:** Unit is currently in operation
2. **Input 1 On:** Input 1 hooked up and in operation
3. **Input 2 On:** Input 2 hooked up and in operation
4. **Charging Batt.:** Battery charging
5. **Load Power:** On if load power is powered on
6. **BTooth Active:** Bluetooth on and in operation
7. **Ch. Stage 1:** Constant Current
8. **Ch. Stage 2:** Constant Voltage
9. **Ch. Stage 3:** Float Voltage
10. **Tandem Active:** VOLTAR 2.0 units paired and in operation

## LCD SCREEN OPERATION

Once the wiring is complete on the VOLTAR 2.0, allow for up to 10 minutes before charging current will start going to the battery. The VOLTAR 2.0 is designed to look for input voltage above 24VDC before it will start the battery charge sequence. After the 5-10 minute sequence is complete, and if the input voltage is above 24 Volts, you should see charging current being sent to the battery. *(Note: The battery must be less than 14.2V to activate charging)*

### Home Screen

Product	ESPI VOLTAR A-01-54	Firmware Version
Date	09/07/21 08:02:22	Time
Battery Voltage	8V 13.0 PCB TMP 11	Circuit board temp °C
Charge amps to the battery	CHARGE AMPS 20.0	

If you are using a solar panel to power the VOLTAR 2.0 unit, it must be connected to the Input 1 terminal. Input 2 is configured for a DC power supply (Generator Kit) only. The Generator Kit is only needed when poor solar conditions are present for an extended period of time and the battery must be charged using an alternative method.

## Input voltage from Input 1 or 2

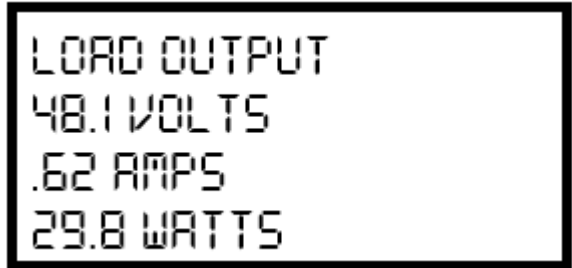
	PRIMARY INPUT	
Input Volts DC	48.21 VOLTS	OK
Input Amps	6.22 AMPS	
Input Watts	299.9 WATTS	

After the startup sequence, on the Home Screen the charge amps to the battery should begin to rise. When switching to the PRIMARY INPUT screen, the amount of power being produced by the solar panel is provided on the screen. This screen displays the solar panel volts, amps and watts. Watts is calculated as Volts x Amps.

	BATTERY:	9	Battery Temp °C
Battery Volts	13.04 VOLTS		
Amps to Battery	20.7 AMPS		
Watts to Battery	270 WATTS		

The BATTERY screen provides details on the battery. Once the battery begins charging, the battery voltage will start to rise. The battery level, along with the power being provided by the solar panel, determines the charge rate of the battery. The VOLTAR 2.0 unit also employs temperature compensated charging. The temperature of the battery is displayed on the upper right-hand corner of the screen. **Note that the temperature displayed is in degrees Celsius.**

Volts to load  
Amps to load  
Watts to load



The LOAD OUTPUT screen displays the voltage, amperage and watts going to the equipment being powered by the VOLTAR 2.0. Note that the VOLTAR 2.0 has a max output of 150 watts, but this is only for short durations during startup. Once the load has gone through a reboot or startup phase, typically the power consumed by most equipment will only vary slightly.



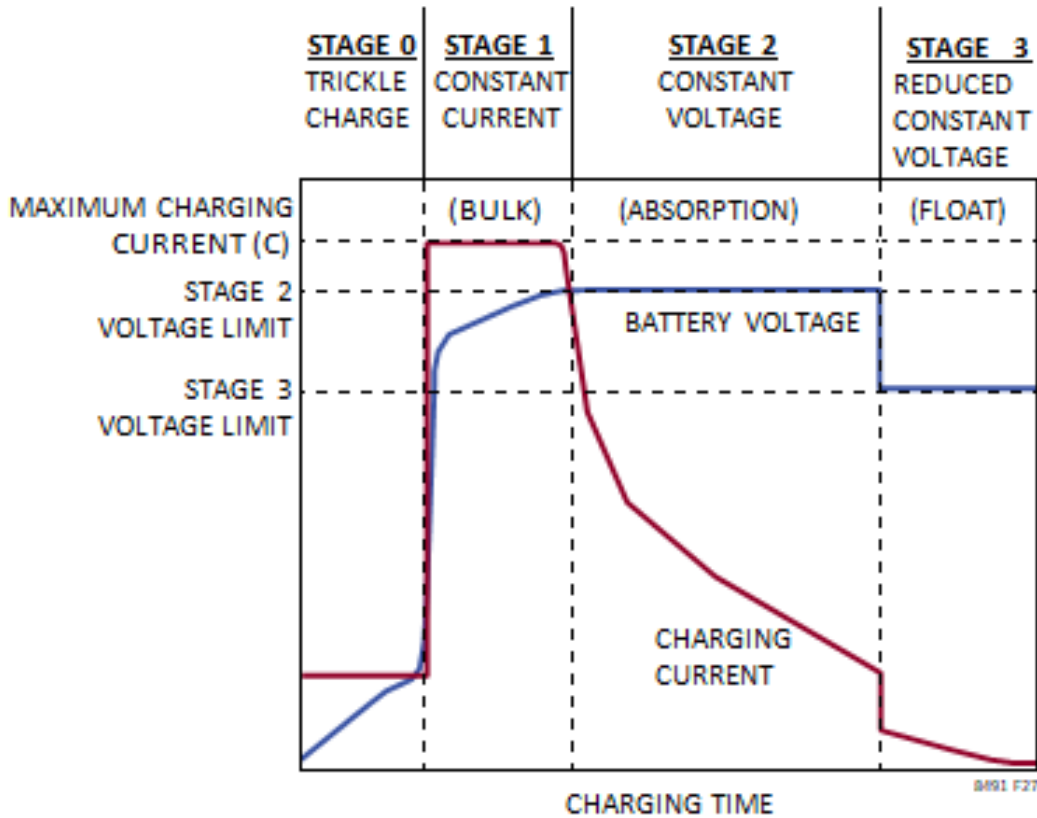
The VOLTAR 2.0 is equipped with a 4-stage charger. Each stage is as follows:

**Stage 0:** Trickle charging

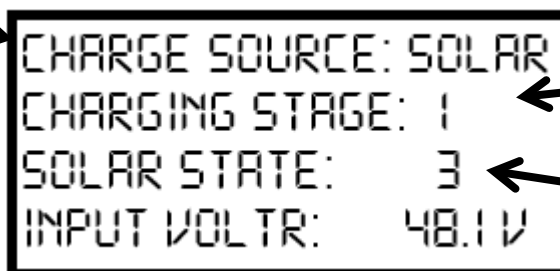
**Stage 1:** Constant Current

**Stage 2:** Constant Voltage

**Stage 3:** Float Voltage



Power Source for charging the battery.



Charging Stage

Solar Panel State

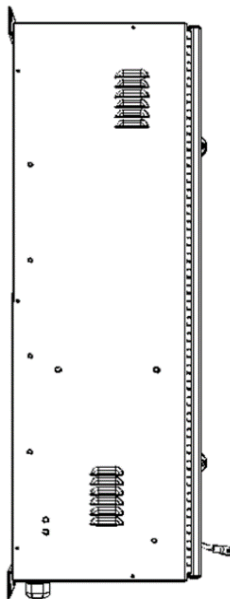
# **ENCLOSURE MEASUREMENTS**



**FRONT VIEW**



**BOTTOM VIEW**



**LEFT SIDE VIEW**



**RIGHT SIDE VIEW**

**Figure E – Enclosure Overview**

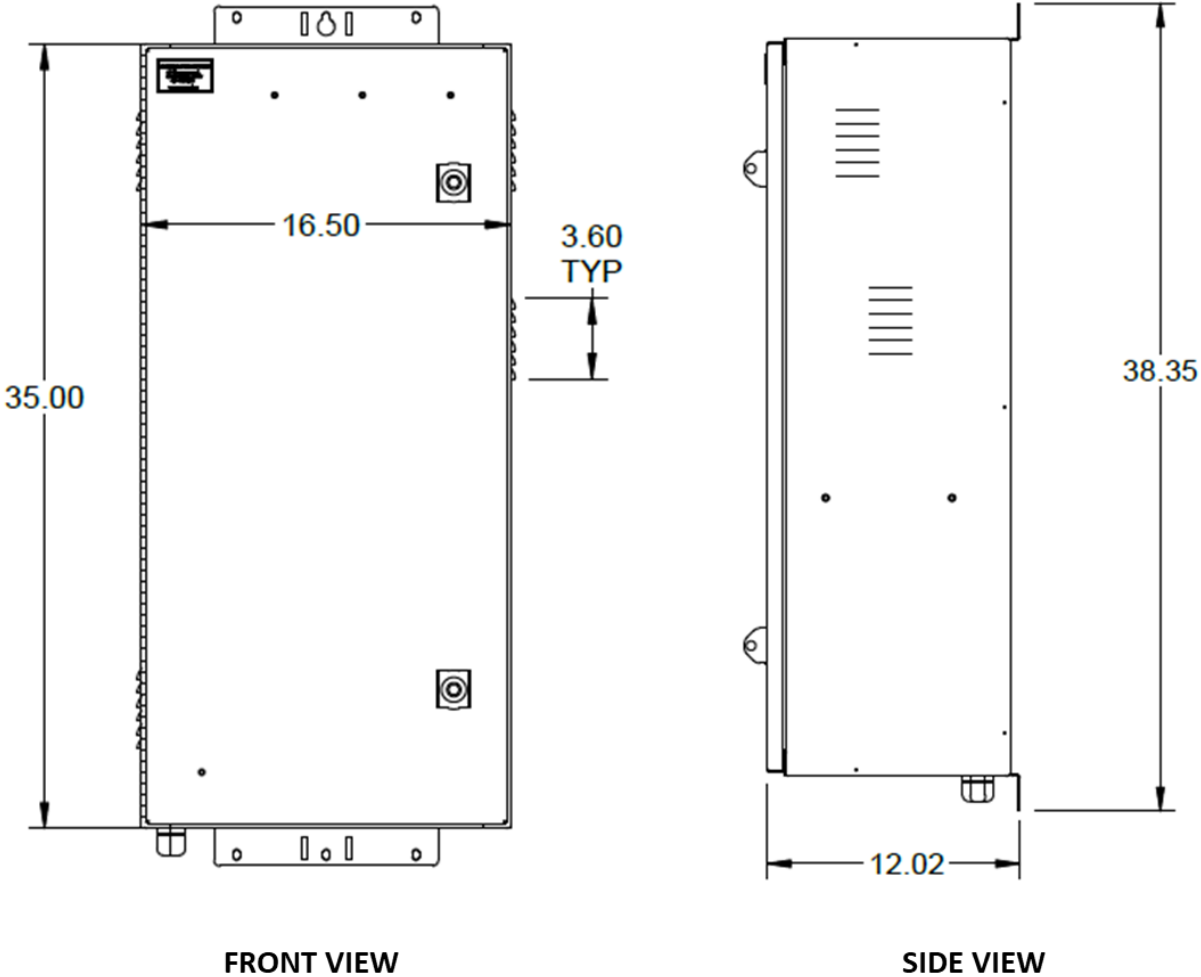
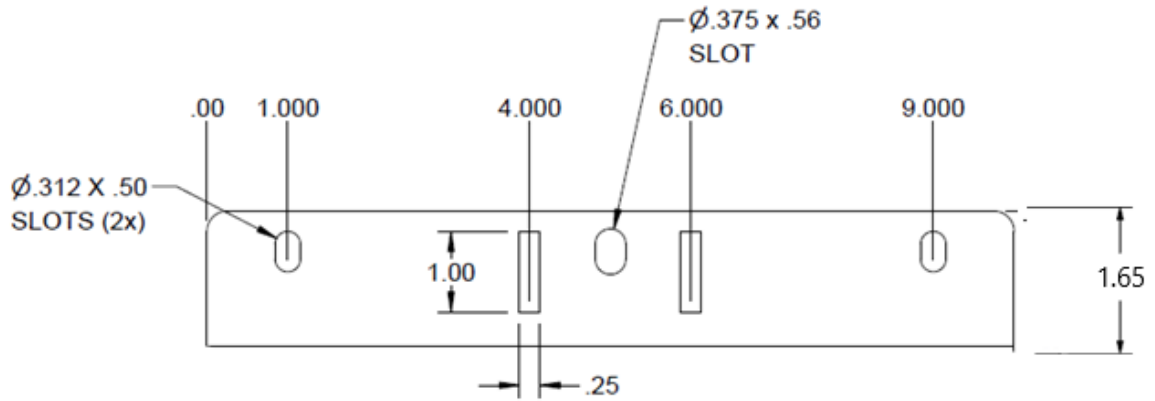


Figure F – Enclosure Overall Dimensions

## **INSTALLATION PROCEDURE**

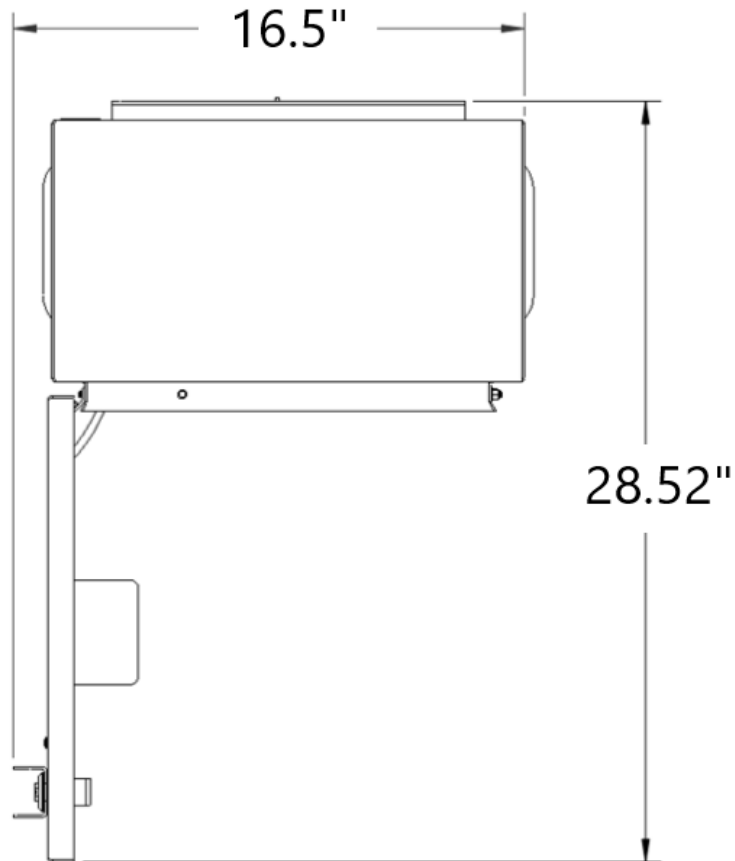
The installation of the unit must be performed by skilled technicians and electricians familiar with electrical equipment. Do not allow unqualified personnel to handle, install, or operate the equipment. Install this unit in a location away from gas, fire, and potential sparks. The VOLTAR 2.0 series cabinet is shipped ready for equipment and battery installation. The following pages will provide information on mounting, grounding procedure, alarm connection guide, solar panel installation and more.



**Figure G – Cabinet Mounting**

## **CLEARANCE REQUIREMENTS**

When selecting a location to mount the cabinet, ensure that proper clearance is available to allow adequate ventilation and to allow the cabinet door to fully open. See figure below for top view of cabinet footprint.



**Figure H – Cabinet Footprint**

## **CABINET GROUNDING INFORMATION**

**Bonding and grounding should be done in accordance with the operating telephone company's standard procedures and comply with local electrical codes.**

### **GROUND WIRE**

The ground wire protects the electronics from voltage surges. A #6 ground wire must be properly grounded to provide lightning surge protection for the cabinet. Please follow this practice for attaching the ground unless local policies dictate otherwise.

**For safety and performance reasons it is imperative that a cabinet be properly grounded. The following guidelines should be used to ground the cabinet unless local practices, rules, or regulations dictate otherwise.**

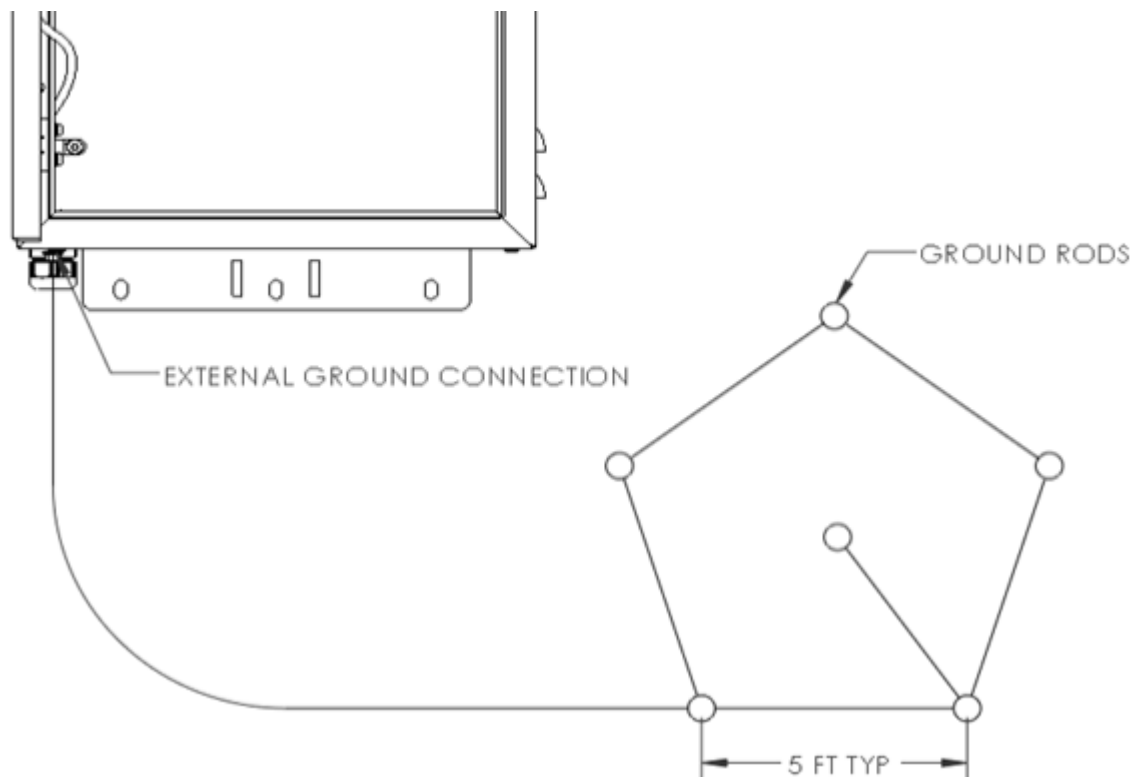
Each door and equipment rack is grounded to the cabinet frame. The cabinet frame is connected to the internal grounding bus by a stranded wire. A similar ground wire must be used to connect the ground bus to each equipment ground lug. These ground wires may need to be removed temporarily to troubleshoot ground faults. The wire may be removed by unscrewing the screws that secure the green wire to the ground bus.

**Be sure to reattach these wires after troubleshooting and resolving any ground conflicts.** Ground the cabinet before connecting power to the cabinet. This grounding must be in effect at all times to safeguard personnel.

## **GROUNDING DIAGRAM AND PROCEDURE**

### **Grounding Procedure:**

1. Drive the ground rods into the ground near the cabinet location.
2. Use a Megger-type ohmmeter to measure the resistance between cabinet ground and the ground rods. The resistance must be 25 ohms or less.
3. If the ohm requirement in step 2 is met proceed to step 4. Otherwise, follow local practices to lower the resistance to ground to comply with step 2 before proceeding to step 4.
4. Connect a #6 ground wire to the ground rods.
5. Install the battery inside the enclosure being careful not to short the terminals to any metal object.
6. Connect the alarms to the RJ-45 terminal using the color code in Figure J.
7. Connect the wire from the DC terminal block to your device.
8. Connect the black battery terminal to the negative battery post.
9. Connect the red battery terminal to the positive battery post.



**Figure I – Grounding Diagram**

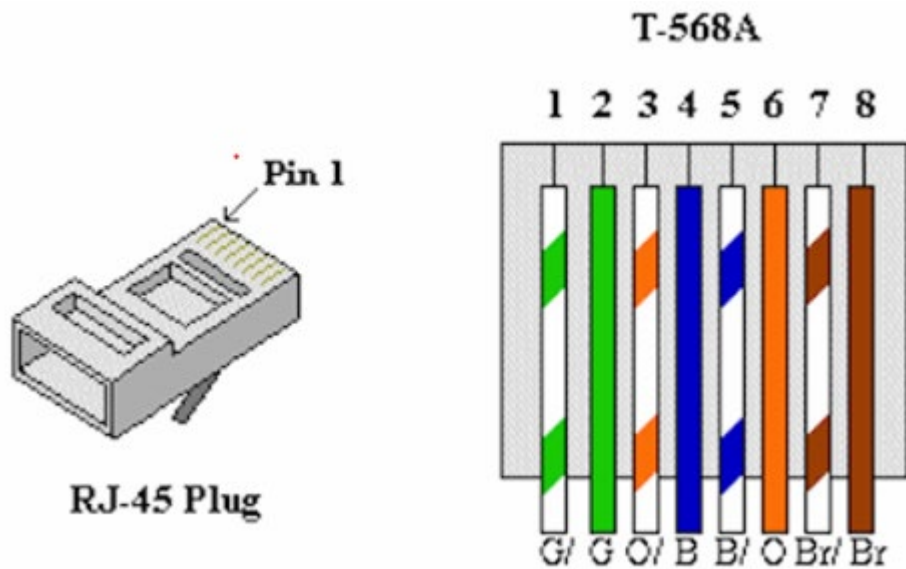
To ground the cabinet, please see the above figure.

## **ALARM CONNECTORS**

The alarm connections are placed on an RJ-45 cable for easy termination. Refer to Figure J (shown below) for the pinout information.

PIN1 – (White/Green)	N/A
PIN2 – (Green)	N/A
PIN3 – (Orange/White)	Battery Missing (Battery is not physically connected)
PIN4 – (Blue)	Low Battery Alarm
PIN5 – (Blue/White)	Ground for Low Battery Alarm
PIN6 – (Orange)	Ground for Battery Missing
PIN7 – (Brown/White)	Replace Battery (Battery is at the end of its useful life)
PIN8 – (Brown)	Ground for Replace Battery

Note: Some ONT's have a single return ground for all alarms. In this case, connect all return ground wires for the alarms together. Please consult your ONT manufacturer product guide for proper wiring instructions.



**Figure J – Alarm Pinout Diagram**



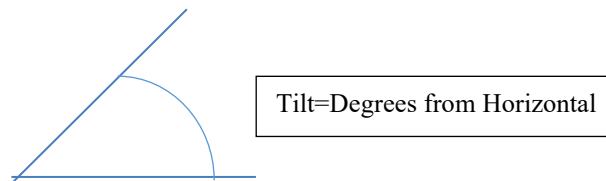
## How to determine the proper solar panel angle

Several apps are available for your phone to help calculate the optimum tilt for your panel as well as Inclinometers to verify the correct panel angle has been set. Without an app, the information below will provide a method to calculate this for yourself.

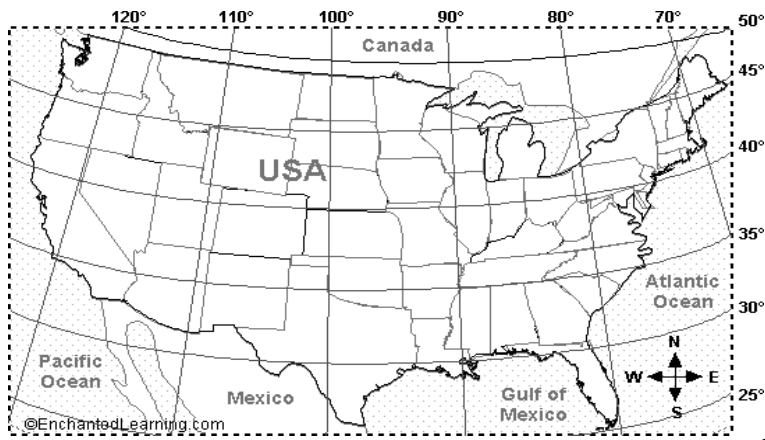
Calculate the optimum tilt angle, based on the latitude -- your angular distance north or south from the equator expressed as degrees along a meridian -- of your location. To find your latitude, consult a map for your region or Google your town's latitude.

To find the best angle for optimizing solar collection during winter, when solar energy is most scarce, multiply your latitude by 0.89, and then add 24 degrees. For instance, if your latitude is 45 degrees:  $45 \times 0.89 = 40.05 + 24 = 64.05$ . In this example, you would tilt your solar panels at a 64-degree angle from a horizontal level.

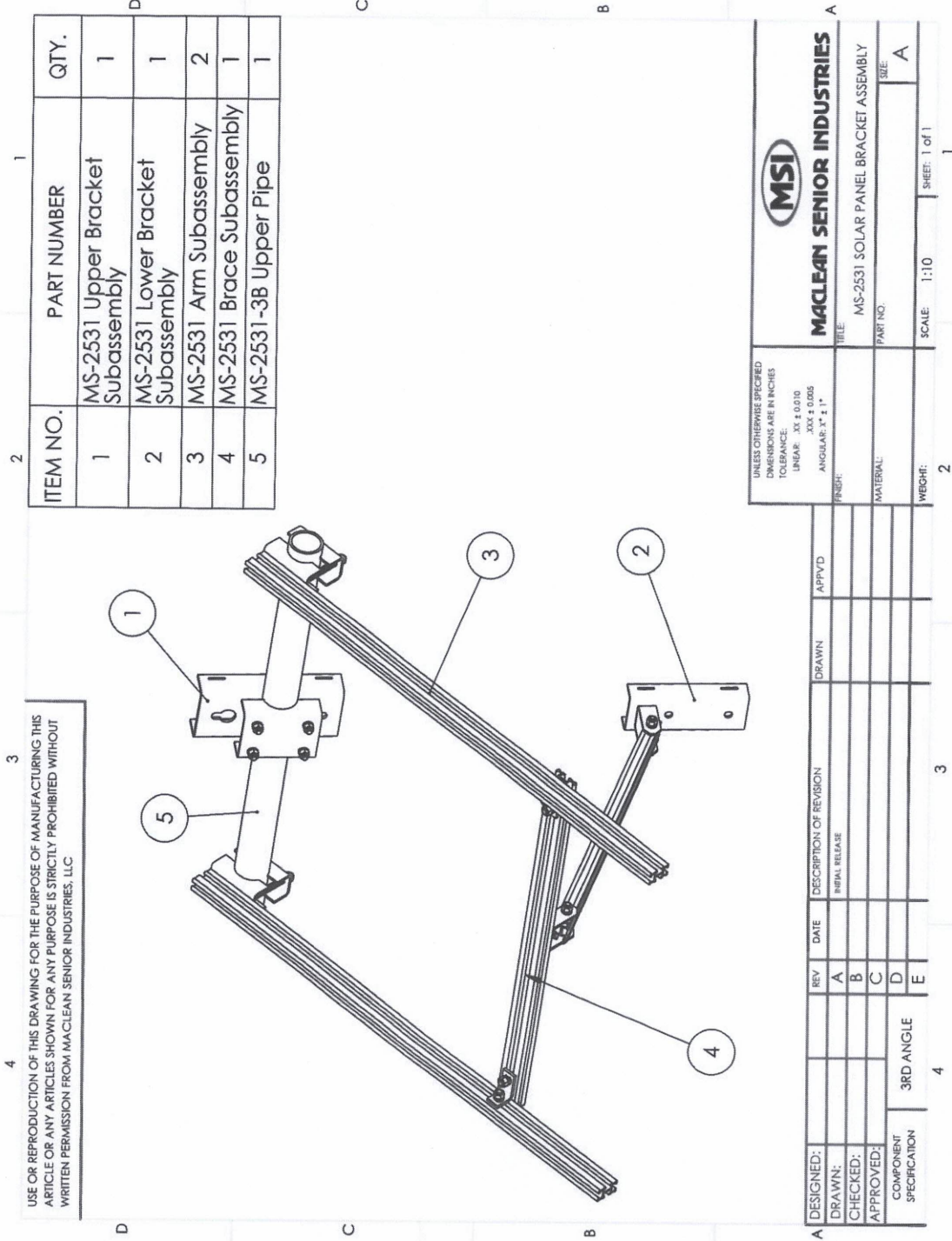
Decide whether you wish to leave your panels at the optimum winter tilt all year long, or whether you prefer to adjust them for each season. Factors that might affect your decision include the accessibility of your PV array and whether you expect more sunlight than you can use during the summer months, in which case you need not adjust your tilt. If you do plan to optimize solar collection in every season, use the following calculations: For spring and fall, multiply your latitude by 0.98 and subtract 2.3 degrees. For summer, multiply latitude by 0.92 and subtract 24.3 degrees to get your solar panel tilt angle. The tilt is the degrees from horizontal.



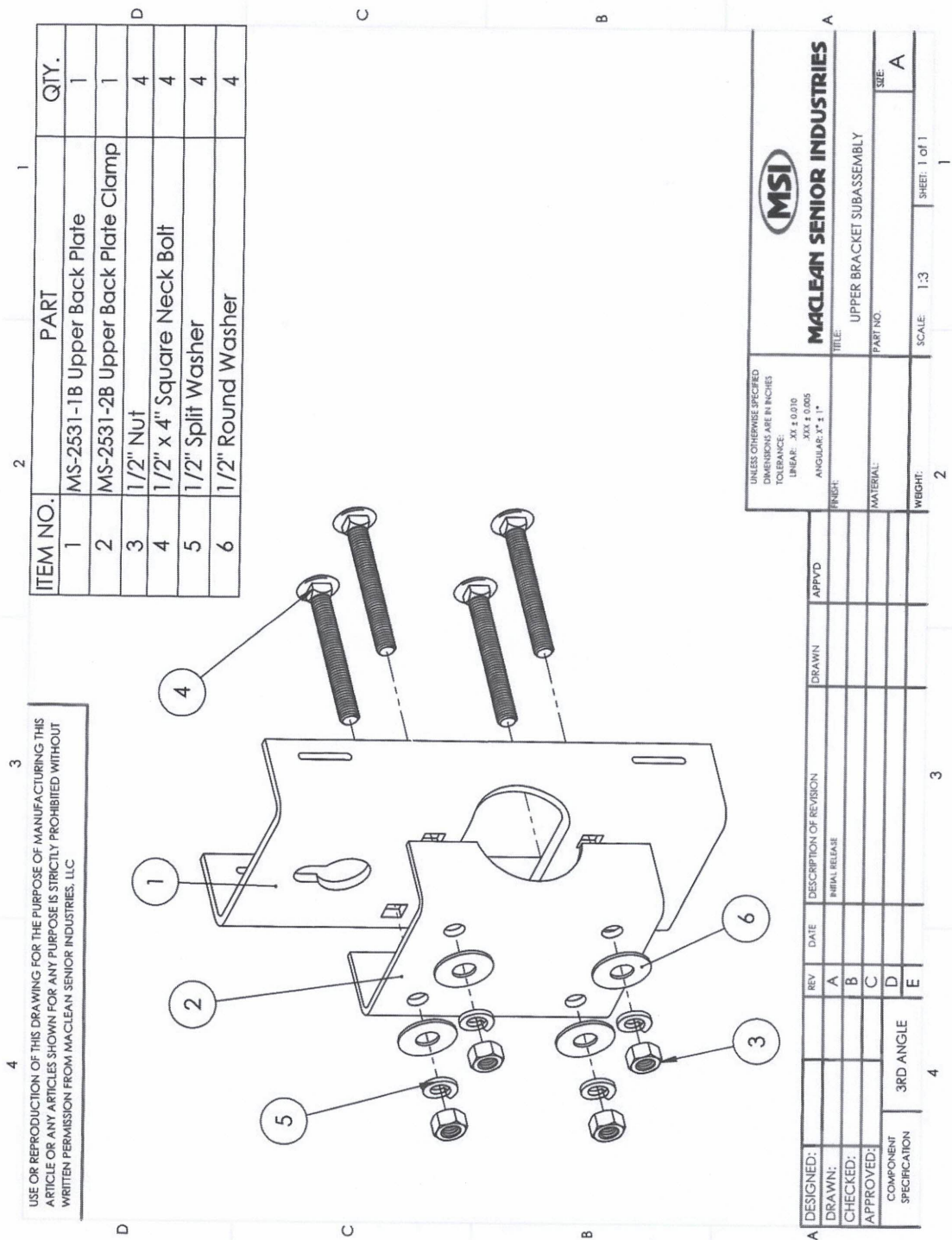
An easier and more basic method is to angle the solar panel to the same degree as the latitude where the panel is to be mounted.



# SOLAR PANEL BRACKET ASSEMBLY- POLE MOUNT

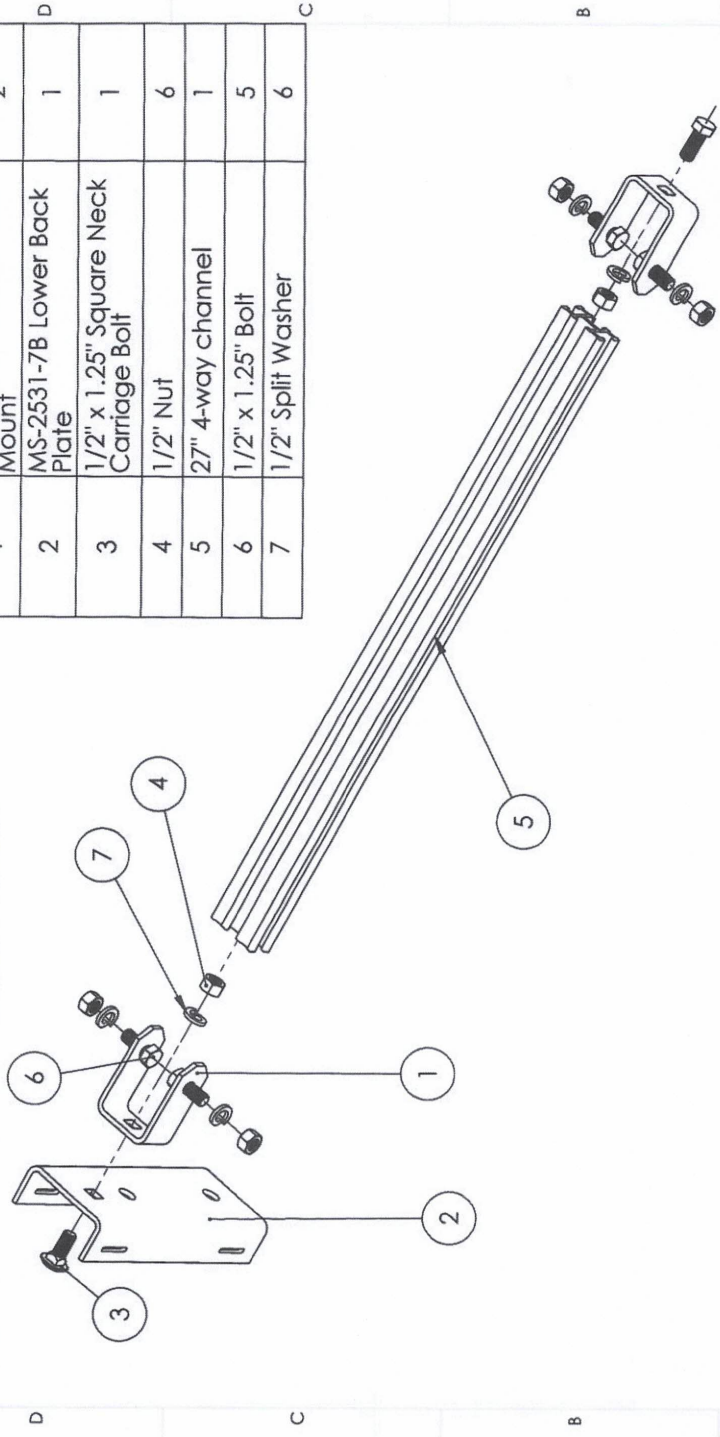


UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES: LINEAR: .XX ± 0.10 .XXX ± 0.05 ANGULAR: .X° ± 1°		<b>MACLEAN SENIOR INDUSTRIES</b> TITLE: MS-2531 SOLAR PANEL BRACKET ASSEMBLY PART NO.: SIZE: A	
DESIGNED:	DATE	DESCRIPTION OF REVISION	APPROVED
DRAWN:	A	INITIAL RELEASE	
CHECKED:	B		
APPROVED:	C		
COMPONENT SPECIFICATION	D		
3RD ANGLE	E		
WEIGHT: 2		SCALE: 1:10	SHEET: 1 of 1




ITEM NO.	PART NUMBER	QTY.
1	MS-2531-6B Center Strut Mount	2
2	MS-2531-7B Lower Back Plate	1
3	1/2" x 1.25" Square Neck Carriage Bolt	1
4	1/2" Nut	6
5	27" 4-way channel	1
6	1/2" x 1.25" Bolt	5
7	1/2" Split Washer	6

USE OR REPRODUCTION OF THIS DRAWING FOR THE PURPOSE OF MANUFACTURING THIS ARTICLE OR ANY ARTICLES SHOWN FOR ANY PURPOSE IS STRICTLY PROHIBITED WITHOUT WRITTEN PERMISSION FROM MACLEAN SENIOR INDUSTRIES, LLC



DESIGNED:		REV	DATE	DESCRIPTION OF REVISION	DRAWN	APPROVD
DRAWN:		A		INITIAL RELEASE		
CHECKED:		B				
APPROVED:		C				
COMPONENT SPECIFICATION		D				
3RD ANGLE		E				
WEIGHT:		2				
SCALE:		1:4				
SHEET:		1 of 1				



**MACLEAN SENIOR INDUSTRIES**

TITLE: LOWER BRACKET SUBASSEMBLY

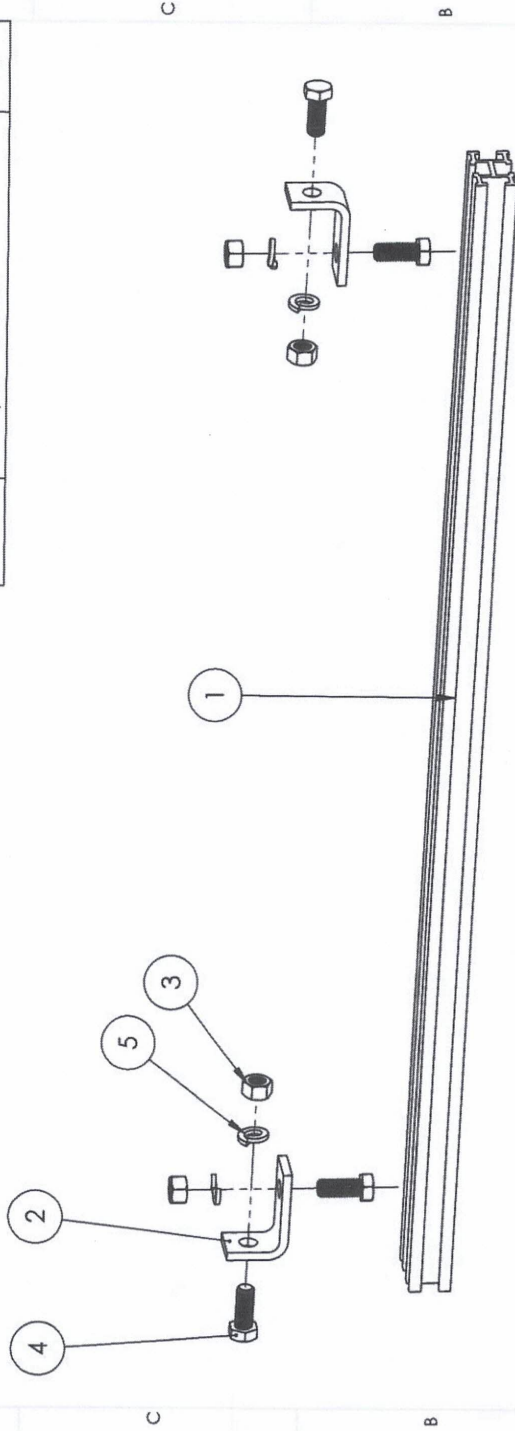
PART NO. \_\_\_\_\_

SIZE: A

UNLESS OTHERWISE SPECIFIED  
DIMENSIONS ARE IN INCHES  
TOLERANCE:  
LINEAR: .XX ± 0.010  
          .XXX ± 0.005  
ANGULAR: ° ± 1°

ITEM NO.	PART NUMBER	QTY.
1	36in 4-way channel	1
2	MS-2531-5B Support Brace	2
3	1/2" Nut	4
4	1/2" x 1.25" Bolt	4
5	1/2" Split Washer	4

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DESIGNED:		REV	DATE	DESCRIPTION OF REVISION	DRAWN	APPROV'D	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCE: LINEAR: .XX ± 0.010 ANGULAR: X ± 1°	<b>MSI</b> <b>MACLEAN SENIOR INDUSTRIES</b>	
DRAWN:		A							FRGHE
CHECKED:		B		INITIAL RELEASE					TITLE: BRACE SUBASSEMBLY
APPROVED:		C							PART NO.
COMPONENT SPECIFICATION		D							MATERIAL:
3RD ANGLE		E					WEIGHT:	SCALE: 1:4	
							2	SHEET: 1 of 1	

## **APPENDIX A**

### **TECHNICAL SUPPORT**

Technical assistance is available 8 AM to 5 PM Central Time.  
Contact ESPi at:

Telephone 877-799-3774 (*toll free*)

### **ORDERING PROCEDURE**

You may place orders by telephone or email:

Telephone: 877-799-3774 (Toll Free)  
Email: sales@espicorp.com  
Mail: ESPi  
630 Lincoln St  
Clay Center, Kansas 67432

When placing an order, please provide the following information:

- Customer purchase order number
- Ship-to and bill-to addresses
- Part numbers and quantities required
- Requested delivery date
- Preferred method of shipment

## **APPENDIX B**

### **RETURN FOR REPAIR POLICY AND PROCEDURE**

#### **CORPORATE POLICY**

ESPi warrants this product to be free of defects and to be fully functional for a warranty period beginning from the date of original shipment, given correct customer installation and regular maintenance. ESPi will repair or replace any unit without cost during its warranty period if the unit is found to be defective for any other reason other than abuse or incorrect use or incorrect installation. ESPi is not liable for any labor or repair costs incurred by the customer.



**Do not try to repair the unit. If it fails, replace it with another unit and return the faulty unit to ESPi for repair. Any modification of the unit by anyone other than an authorized ESPi representative voids the warranty.**

#### **RMA PROCEDURE**

If a unit needs repair, call ESPi at 877-799-3774 (toll free) for an RMA Number and return the defective unit, freight prepaid to:

ESPi  
Shipping & Receiving  
630 Lincoln  
Clay Center, KS 67432  
Attn: Repair Dept.

When preparing the unit for shipment:

- Use the original packaging
- Provide the following information (required):
  - The RMA Number posted on outside of shipping container



**(ESPi will not accept return shipments without an RMA)**

- Statement inside the shipping container with the following details:
  - RMA Number
  - Description and quantities of equipment being returned
  - Brief description of the problem
  - Your billing address
  - Your shipping address

You will be notified of the repair status of the returned equipment within 2 weeks of receipt of your shipment at the address listed above.

ESPi will provide needed equipment repair beyond the warranty period for a nominal charge. Contact your ESPi sales representative for details and pricing.

## **APPENDIX C**

### **ESPi STANDARD TERMS AND CONDITIONS**

**ALL QUOTATIONS AND SALES ARE SUBJECT TO THE FOLLOWING TERMS AND CONDITIONS AS WELL AS THOSE CONTAINED ON THE ORIGINAL QUOTATION.**

Warranty: ESPI LLC is very proud of the product we have created. Should you need support please call 877-799-3774 or visit our website at [espicorp.com](http://espicorp.com).

ESPi LLC warrants to you, the Initial Purchaser, that the Product will be free from defects in material and workmanship for three years from the date of original purchase, subject to the terms of this Limited Warranty. This Limited Warranty gives you specific rights, and you may have other rights, which vary from State to State or Province to Province Any Implied Warranty of Merchantability or for Fitness for a Particular Purpose, if applicable to the Product, is limited in duration to three years. This provision shall NOT create any Implied Warranty or Merchantability or of Fitness for a Particular Purpose that would not otherwise apply to the Product. NOTE: Some States and provinces do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you.

To be covered you must still be the owner of the Product at the time of the failure that results in the claim made under this Limited Warranty. Your sole and exclusive remedies are those provided by this Limited Warranty. This exclusion of other express warranties applies to written and oral express warranties. ESPI excludes any liability for personal injury. ESPI excludes any liability for direct, indirect, special, incidental, or consequential damages, whether for damage to or loss of property, loss of profits, business interruption, information or data. This exclusion applies even though damage or loss is caused by negligence or other fault. NOTE: Some States or Provinces do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation may not apply to you.

**DO NOT USE FOR MEDICAL OR LIFE SUPPORT EQUIPMENT OR OTHER HIGH RISK ACTIVITIES.**

ESPi does not sell the PRODUCT for use in high-risk activities. The PRODUCT is not designed or intended for use in hazardous environments requiring fail-safe performance, including the operation of nuclear facilities, aircraft navigation or communication systems, air traffic control, weapons systems, life support or medical applications or for use in any circumstance in which the failure of the PRODUCT could lead directly to death, personal injury, or severe physical or property damage, or that would affect operation or safety of any medical or life support device (collectively, "High Risk Activities").

ESPi LLC expressly disclaims any express or implied warranty of fitness for High Risk Activities. ESPI LLC does not authorize use of any of our products in any High Risk activities.

**ANY SUCH USE IS IMPROPER AND IS A MISUSE OF An ESPI PRODUCT.**

The Limited Warranty is governed by the laws of the United States and the State of Kansas, without reference to conflict of law principles. The application of the United Nations Convention of Contracts for the International Sale of Goods is expressly excluded



**ESPi**  
630 Lincoln Street  
Clay Center, Kansas 67432  
**Toll-Free (877) 799-3774**  
**[www.espicorp.com](http://www.espicorp.com)**

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