Solar Power Store Canada Ltd
Unit 1 - 1 Bradwick Drive
Address: 20 Commerce Park Drive Unit 11, Barrie ON L4N8W8

Version 2023-12-19

USER MANUAL

Base/Cloudy Weather Kits

Solar Power Store Canada Ltd (SPSC)
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Address: 20 Commerce Park Drive Unit 11, Barrie ON L4N8W8
SPSC reserves the right to make changes to the material herein at any time without notice.

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1. ABBREVIATIONS

- AWG - American Wire Gauge
- AC - Alternating Current (240VAC)
- AC1 - Alternating Current
- AK1 - Authority Having Jurisdiction
- CSA - Canadian Standards Association
- CSA - Canadian Standards Association
- DC - Direct Current
- DC1 - Direct Current
- EGC - Equipment Ground
- EGS - Equipment Grounding System
- EMT - Electrical Metallic Tubing
- ESS - Energy Storage System
- GE - Grounding Electrode
- GFCI - Ground Fault Circuit Current
- Isc - Short-Circuit Current
- Kv, Ma, - Inch Pounds
- LFP - Lithium
- LiMn - Ironwell Ion
- LFP - Lithium Iron Phosphate or LiFePO4
- LiPo - Lithium Polymer
- mm - Millimeter
- OCC - Canadian Electrical Code
- OCP - Overcurrent Protection
- PCB - Printed Circuit Board
- PPE - Personal Protective Equipment
- PV - Photovoltaic
- RSD - Rapid Shut Down
- SCC - State of Charge
- STC - Standard Testing Conditions
- V - Voltage
- VOC - Open-Circuit Voltage
- VMP - Voltage Maximum Power

2. Safety

2.1 SAFETY GUIDELINES The design and testing of this system will need to conform to local, provincial, and national codes. Before installing or using this system, thoroughly review all safety instructions and consistently adhere to them while handling or working with the equipment. The installation technician must comply with relevant national or local standards and regulations.

Improper installation may result in:
- harm or fatality to the installer, operator, or third party
- damage to the inverter or other connected equipment

2.2 IMPORTANT SAFETY WARNINGS

DANGER: High Voltage Circuit
AVERTISSEMENT : Circuits à tension élevée!

General critical safety precautions must be meticulously followed before, during, and after installation, as well as during ongoing operation and maintenance. Ensure that all safety instructions are thoroughly read and the implied and any end users of this product under normal operating conditions.

Exercise caution with high PV voltage. Prior to installing or working on the system, install an external DC disconnect switch in breaker (usually provided with our kits), ensuring it is in the "off" or "open" position. Use a voltmeter to verify the absence of DC voltage to prevent electric shock.

B. Exercise caution with high grid voltage. Confirm the AC switch and/or breaker is in the "off" or "open" position before initiating installation. Utilize a voltmeter to ensure there is no voltage, preventing electric shock.

C. Exercise caution with high battery current. Confirm that battery module breakers and/or on/off switches are in the "open" or "off" position before initiating installation. Use a voltmeter to verify the absence of DC voltage to prevent electric shock.

D. Do not open any of the equipment while they are in operation to avoid electric shock and damage from low voltage and current within the systems.

E. Avoid making any connections or disconnections (PV, battery, grid, communication, etc.) while the inverter is operating.

F. Installers should use adequate and professional insulative equipment (e.g., personal protective equipment) for protection.

G. Before installation, operation, or maintenance, inspect all existing wiring to ensure it meets the appropriate specifications and conditions for use.

H. Ensure that PV, battery, and grid connections to the inverter are secure and properly tightened to prevent damage or injuries caused by improper installation.

⚠ ***Warning: To reduce the risk of injury, read all instructions***

I. All tools on this system (system design, installation, operation, setting configuration, and maintenance) must be carried out by qualified professionals. Refrain from exercising unless qualified, to reduce the risk of electric shock.

J. Read all instructions before installation. For electrical work, follow all local and national wiring specifications, regulations, and these installation instructions.

K. Ensure the equipment is properly grounded. All wiring should comply with the Canadian Electrical Code (CEC).

L. The inverter and system cannot be connected with the utility grid for feedback, however it can use the grid as supplementary source of power.

S. Keep all warning labels and nameplates on the inverter visible and avoid removal or covering.

N. Consider the safety of future users when choosing the inverter's correct position and location as specified in this manual.

P. Keep children away from touching or measuring the inverter and relevant systems.

R. Beware! System parts can become hot during operation; refrain from touching the surface or metal parts while in use. During operation, only manual with the LCD and buttons.

3. Mounting

This kit does NOT include mounting hardware for the solar array. mounting can either be created on a ground mount or a rooftop.

For help finding the right mounting hardware for you: Contact our team at 1-888-213-5354 Sales@solarpowerstore.ca

4. Installation

4.1 Solar Panel Wiring

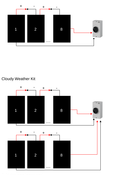
The SPSE150W can handle up to 11.000W of solar through the use of the 2 MPPT channels on the 5.000W inverter. Below shows the 3 most common ways of each MPPT channel to follow manufacturer guidelines and updates by always referring to the latest information and datasheets available)

MPPT 1/2:
Max Input current: 22A/22A
Max Power per MPPT: 5.500W
Max VOC: 500 Vdc
MPPT Voltage Range: 125-425 Vdc

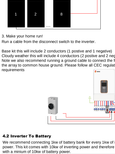
Wiring diagram for the solar panels

1. Connect the solar panel array in series, until the max VOC is below 500VDC. Ensure to account account for future factors like to facial gain and cold temp co-efficients. This kit is designed to stay below the max voltage even in the coldest of the months and we recommend not connection more than 8 panels in series to stay within a safe range.

Base Kit

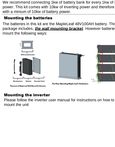


Cloudy Weather Kit

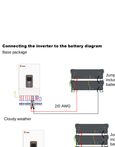


2.Connect the solar array to the DC disconnect

Base Kit

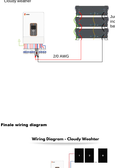


Cloudy Weather Kit



3. Make your home run!
Run a cable from the disconnect switch to the inverter.

Base kit We will include 2 conductors (1 positive and 1 negative) Cloudy weather We will include 4 conductors (2 positive and 2 negative) Note: Depending on your specific installation, you may need more than the array to common fuse ground. Please follow all CEC regulations requirements.


Fuse
Fuse
Fuse