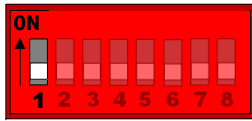

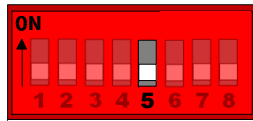
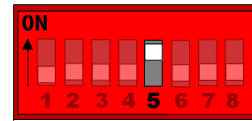
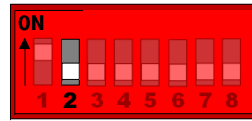
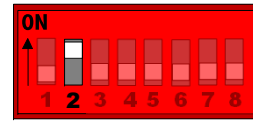
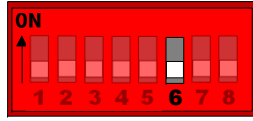
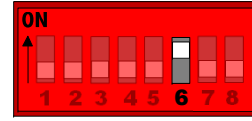

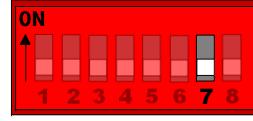
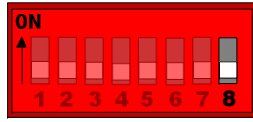
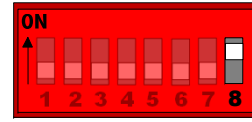
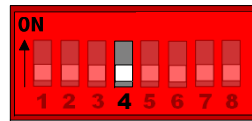
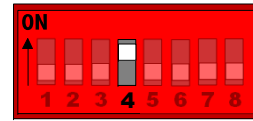


## Specifications\*:

<b>Rated Power</b>	150 W / 300 W	<b>Communication Options</b>	Remote Switch, Bluetooth, EIA-485, MS-CAN
<b>Battery Voltage</b>	12 Vdc, 24 Vdc, or 48 Vdc		
<b>AC Output Voltage (Vac) / Frequency</b>	120 Vac / 60 Hz, 127 Vac / 60 Hz, or 230 Vac / 50 Hz	<b>AC Interface Options</b>	Hardwire

\*Partial Specification List only. For the complete list of specifications, see the SureSine Installation and Operation's Manual.

## DIP Switch Settings:


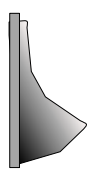
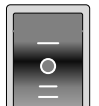


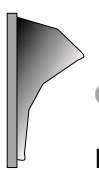
<b>DIP 1:</b> OPERATIONAL CONTROL   DIP 1 OFF = Switch Control      DIP 1 ON = Digital Control	<b>DIP 5:</b> LOW VOLTAGE DISCONNECT (LVD) PRESETS   • For 12 Vdc Systems: DIP 5 OFF = 10.5 V      DIP 5 ON = 11.5 V • For 24 Vdc Systems: DIP 5 OFF = 21.0 V      DIP 5 ON = 23.0 V • For 48 Vdc Systems: DIP 5 OFF = 42.0 V      DIP 5 ON = 46.0 V
<b>DIP 2:</b> ALARM SOUND   DIP 2 OFF = Alarm is Disabled      DIP 2 ON = Alarm is Enabled	<b>DIP 6:</b> STANDBY MODE   DIP 6 OFF = AC Output Always ON      DIP 6 ON = AC Output OFF < 8 W
<b>DIP 3 &amp; DIP 7:</b> NOT USED (DEFAULT IS OFF)  	<b>DIP 8:</b> BLUETOOTH COMMUNICATIONS   DIP 8 OFF = Bluetooth Disabled      DIP 8 ON = Bluetooth Enabled DIP Switch 8 must be set before connecting DC power. If changed during operation, a power cycle is required.
<b>DIP 4:</b> LOW VOLTAGE DISCONNECT (LVD)   DIP 4 OFF = Custom      DIP 4 ON = Presets LVD Default Setting (DIP Switch 4 OFF) = 11.8 V, 23.6 V, or 47.2 V	

## LED Indications:

STATUS LED <sup>1</sup>	AC Output LED	Operation or State
OFF ●	OFF ●	No power or Battery below 9.5 V
GREEN ●	OFF ●	AC Output OFF
GREEN ●	GREEN ●	AC Output ON
GREEN ●	GREEN (Blink) <sup>2</sup> ●	AC Standby Mode
GREEN ●	RED (Blink) <sup>2</sup> ●	Low Voltage Disconnect (LVD) Warning
GREEN ●	RED ●	Low Voltage Disconnect (LVD)
RED ●	RED (Blink) <sup>2</sup> ●	Recoverable Fault <sup>3</sup>
RED ●	RED ●	Critical Fault <sup>3</sup>

<sup>1</sup>The Status LED flickers ON very briefly when the LED is OFF. The Status LED flickers OFF very briefly when the LED is GREEN or RED solid. The "heartbeat" occurs every 5 seconds.

## AC Output Mode Switch:

<b>ON</b>  (Front View) Press the    (Side View)	<b>OFF</b>  (Front View) Put the switch in a neutral position  (Side View)	<b>REMOTE</b>  (Front View) Press the     (Side View)
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<sup>2</sup>0.5 Hz. Rate

<sup>3</sup>See the SureSine Inverter Installation and Operations Manual for details.

## Contact Information:

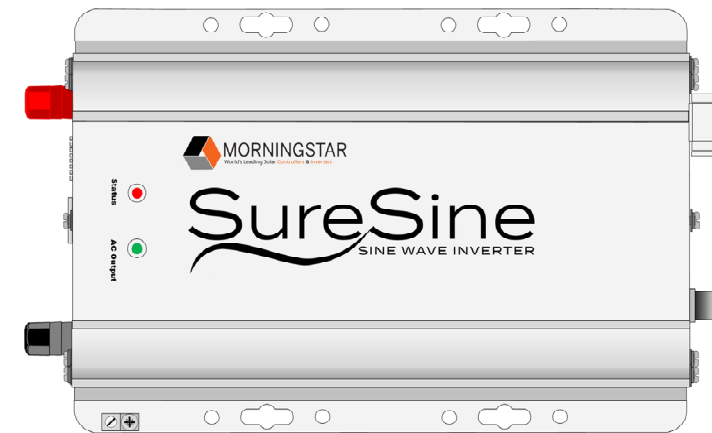
**Technical Support:** [morningstarcorp.com/support](http://morningstarcorp.com/support)  
**Phone:** 1-215-321-4457



# SureSine

SINE WAVE INVERTER

## Quick Start Guide



### SureSine Inverter Models:

**150 W & 300 W Models  
(Hardwired Versions ONLY)**

For use with 12 Vdc, 24 Vdc,  
or 48 Vdc Systems



### IMPORTANT:

The SureSine Inverter is designed for converting DC power to AC power only. It will not charge batteries.



### WARNING: Hazardous Voltage

The SureSine Inverter must be installed by a qualified technician in accordance with the electrical regulations of the country of installation.



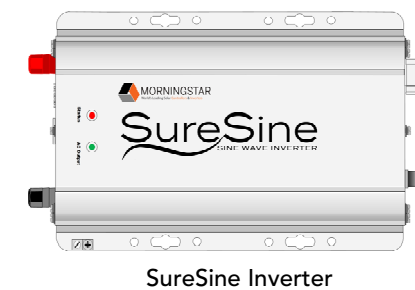
**CAUTION:** This guide must be used with the full product manual that includes important information. Carefully read the SureSine Inverter product manual for all specifications, safety, regulatory and warranty information, and for all required instructions on installation procedures, configuration, and operation.

Scan QR Code to go directly to the SureSine Inverter Installation Manual and warranty information online.



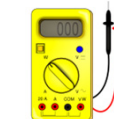
Warranty Registration: <https://www.morningstarcorp.com/product-registration/>

### In the Box:

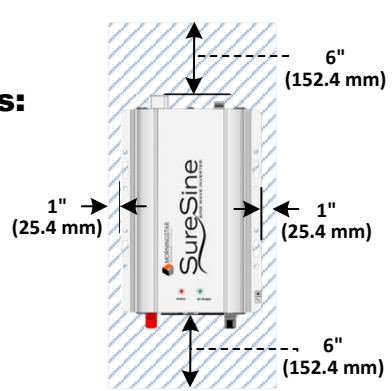


### Tools Required:

- #2 Philips Screwdriver
- 3/16 (5 mm) & 1/8" (3.8 mm) Flathead Screwdriver
- Drill with a 1/8" (3.8 mm) bit
- Multimeter
- Crimping Tool
- Wrench



## Minimum Clearance Requirements:



- WARNING: Risk of Fire**  
Do not install over an easily combustible surface, since the heat sink may get hot under certain operating conditions.
- CAUTION: Burn Hazard**  
Place in a location to avoid direct contact.

- CAUTION: Equipment Damage**  
Do not expose the SureSine to weather. Locate in a dry, protected area to prevent equipment damage.  
Ensure the minimum clearance requirements are followed to provide adequate ventilation and prevent the unit from overheating.

**WARNING: Risk of Fire**  
All over-current protection devices and wiring must be sized properly, in accordance with US National Electric Code (NEC) or the country of installation's local regulations.

**WARNING: Explosion Hazard**  
Never install the SureSine in an enclosure with vented/flooded batteries. Battery fumes are flammable and will corrode and destroy the SureSine circuits. Ensure sufficient ventilation.

**WARNING: Shock Hazard**  
Fuses, single-pole circuit breakers or single-pole disconnect switches should **NEVER** open grounded system conductors. This could create a shock hazard that could be fatal to personnel and/or damage the equipment.

**CAUTION: Equipment Damage**  
Ensure the AC loads do not exceed the continuous and surge power ratings.

**IMPORTANT: Neutral-Ground Bond**  
The AC Neutral of the 120 Vac/ 60 Hz models is bonded to the inverter frame internally from the factory as required for UL safety requirements.  
The AC Neutral of the 127 V, 230 V, and 240 V models is floating (not bonded to the inverter frame). If a neutral-ground bond is required an internal neutral-ground jumper wire (included) can be used to connect the neutral terminal to the grounded chassis.  
**Ensure there is only 1 Neutral-to-Ground Bond in the entire system.**  
Consult Section 2.8.4 of the manual for additional information.

## Mounting:

- Step 1: Choose mounting location**
  - Determine how and where the inverter will be mounted.
  - Ensure the inverter is protected from sun, rain, and dust.
- Step 2: Wiring accessibility and air flow clearance**
  - Plan and confirm wire routing-access.
  - Verify that the mounting screws will not penetrate wires or other objects located on the opposite side of the surface.
  - Verify that there is at least 6" of space around the unit.
- Step 3: Mark and drill holes**
  - Place the inverter on the wall where the unit will be mounted.
  - With a pencil or pen, mark the center of each keyhole slot; two (2) on top and two (2) on the bottom.
  - Remove the inverter and drill four (4) 1/8" (3.175 mm) holes where the marks were made.
- Step 4: Secure the inverter**
  - Place the SureSine onto the surface and align the keyhole slots with the four (4) pilot holes.
  - Use the four (4) #10 screws (included) to secure the SureSine to the surface.

*For optimal ventilation and cooling, mount in portrait style orientation.*

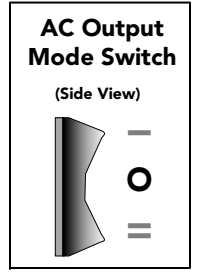
### Portrait Orientation



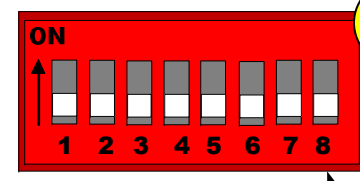
**STEP 1a** Ensure circuit breakers are open, disconnect switches are open, and fuses are removed from fuse holders.

AND

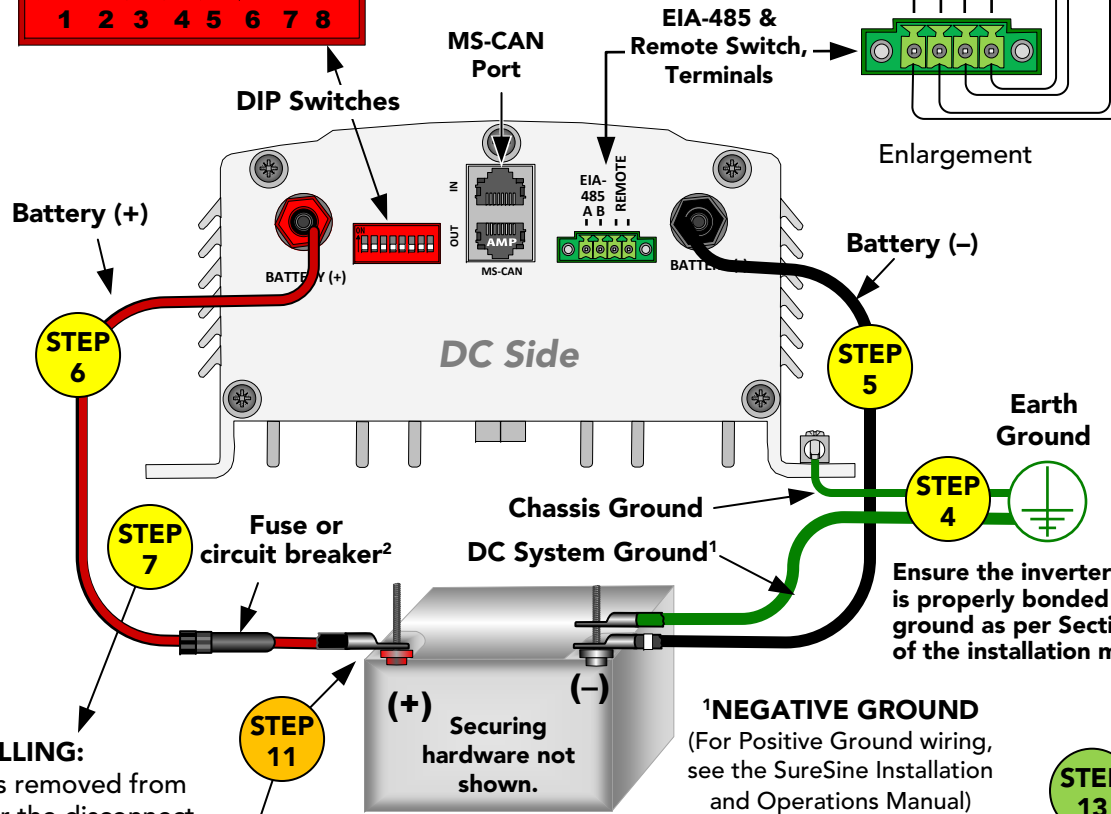
**STEP 1b** Ensure the AC Output Mode Switch is in the OFF position.



DIP Switch Enlargement

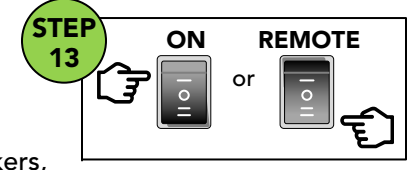
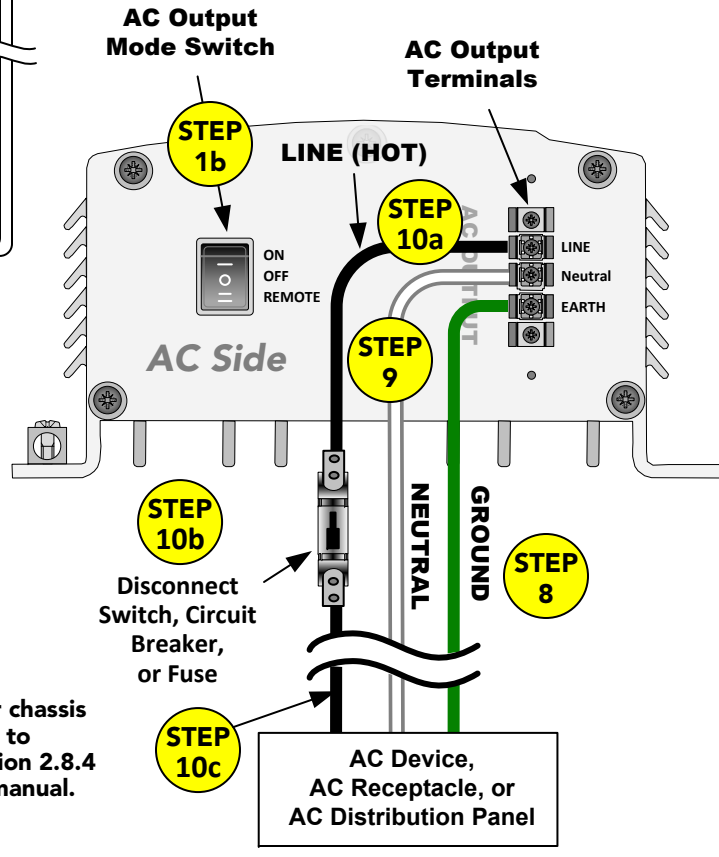


**STEP 2** For DIP Switch settings, see page 4 of this guide.



**IMPORTANT: Example only. Actual wiring may vary. READ the SureSine Installation and Operations Manual for mandatory safety requirements.** All configurations must comply with local and national electric codes. Consult the local electric authority to ensure compliance.

See the SureSine Installation and Operation's Manual for information on communication options.



**STEP 14** Check the LEDs for proper operational status indications. See page 4 of this guide.

### <sup>2</sup>BEFORE INSTALLING:

Ensure the fuse is removed from the fuse holder or the disconnect is in the OPEN position.

**WARNING: Explosion Hazard**  
STEP 11 can produce a spark if the fuse is inserted or the disconnect is in the CLOSED position.

### TERMINAL TORQUE REQUIREMENTS

Terminal	Terminal Size or Wire Size*	Torque to:	
		In-lbs.	Nm
DC (+) (-) Input Bolt Terminals	M8 (~5/16")	20	2.3
AC Output Neutral, Line and Ground Terminals	M6 (~1/4")	20	2.3
Chassis Ground Lug	14 - 2 AWG (2.5 - 10.0 mm <sup>2</sup> )	35	4
Modbus, Remote Switch, Auxiliary Power Terminals	16 - 28 AWG (1.0 - 0.1 mm <sup>2</sup> )	5	0.57

\*For recommended/minimum wire sizes and disconnect/fuse sizes per application, and terminal block installation for the remote switch or communications options, see the SureSine Installation and Operations Manual.

### Power UP Sequence:

1. Connect Battery/Battery Bank. (STEP 11)
2. Close all circuit breakers, disconnect switches, or insert fuse into fuse holder. (STEP 12)
3. Put the AC Output Mode Switch in the ON (or REMOTE) position. (STEP 13)

### Power DOWN Sequence:

1. Put the AC Output Mode Switch in the OFF position.
2. Open all circuit breakers, disconnect switches, remove fuses from fuse holders.
3. Disconnect Battery/Battery Bank.