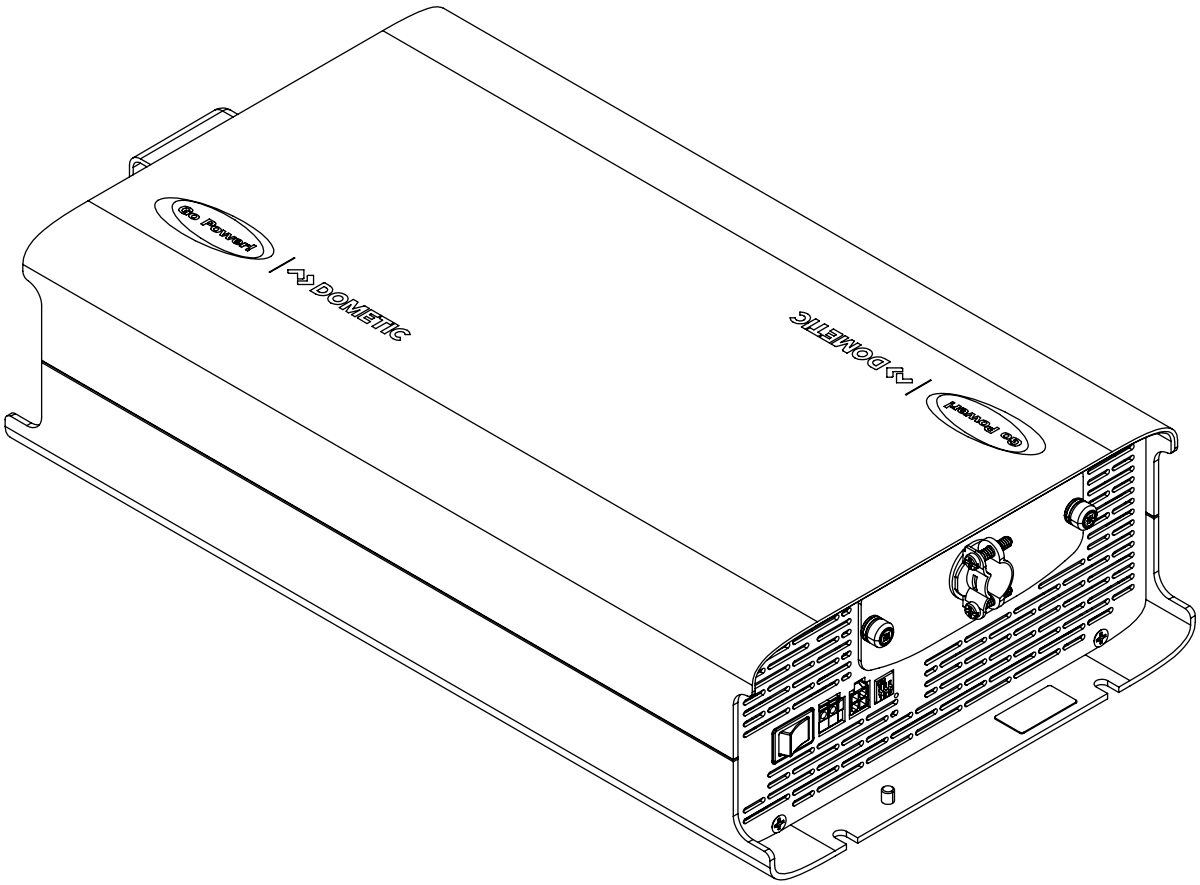
SMART SINE WAVE INVERTERS

User Manual

SSW-1500-12
SSW-1800-12-HW
SSW-2000-12
SSW-2000-12-HW
SSW-3000-12-HW



*Product may not appear exactly as shown

MANUAL_SSW_RevA

Congratulations on purchasing your Go Power! | Dometic Smart Sine Wave Inverter. This manual will assist you with the installation process. Please read and understand the manual before beginning installation, and retain it for future reference.

Record the unit model and serial number below. It is much easier and quicker to record this information now at the pre-installation stage.

Model number:

Serial number:

Date of install:

Battery bank information: (size, install date, battery type)

1.1 CAUTIONS/WARNINGS

This document contains important safety instructions for the Go Power! | Dometic Smart Sine Wave Inverter. Read all instructions and cautionary markings on the product and on any accessories or additional equipment included in the installation. Failure to follow these instructions could result in severe shock or possible electrocution. Use extreme caution at all times to prevent accidents.

All electrical work must be performed in accordance with local and national electrical codes. These instructions are for use by qualified personnel who meet all local and governmental code requirements for licensing and training for the installation of electrical power systems with AC and DC voltage up to 600 volts.

Installation, maintenance, and connection of inverters must be performed by qualified personnel, in compliance with local electrical standards, wiring rules, and the requirements of local power authorities and/or companies.

Safety regulations relevant to the location shall be followed during installation, operation, and maintenance. Improper operation may have a risk of electric shock or damage to equipment and property.

	**WARNING!** Hazard to Human Life	This type of notation indicates that the hazard could be harmful to human life.
	**WARNING!** Shock Hazard	Danger of shock or electrocution.
	**WARNING!** Burn/Fire Hazard	Danger of hot surface and/or fire.
	**CAUTION!** Hazard to Equipment	This type of notation indicates that the hazard may cause damage to the equipment.
	**IMPORTANT**	This type of notation indicates that the information provided is important to the installation, operation, and/or maintenance of the equipment. Failure to follow the recommendations in such a notation could result in annulment of the equipment warranty.

General Safety

	**WARNING!** Limitations on Use	This equipment is NOT intended for use with life support equipment or other medical equipment or devices.
		This product is designed for indoor/compartment installation. It must not be exposed to any liquids or moisture of any type.
	**CAUTION!** Equipment Damage	Only use components or accessories recommended or sold by Go Power!	Dometic or its authorized agents.
	**IMPORTANT**	Do not attempt to install this equipment if it appears to be damaged in any way. See the warranty section for instructions on returning the equipment.

Personal Safety

WARNING!
Personal Injury

- Use safe lifting techniques when lifting this equipment as recommended by the Occupational Safety and Health Association (OSHA) or other local codes.
- Use standard safety equipment when working on this equipment, such as safety glasses, ear protection, steel-toed safety boots, safety hard hats, etc.
- Use standard safety practices when working with electrical equipment (remove all jewelry, use insulated tools, wear cotton clothing, etc.).
- Never work alone when installing or servicing this equipment. Have someone nearby that can assist if necessary.
- Do not touch the inverter during operation. The temperature of some parts of the device may exceed 60° during operation. Let it cool for at least 5 minutes after shutdown before touching it.
- Ensure that children, pets, and other animals are kept away from the inverter, solar arrays, battery bank, and utility grid components.
- If the equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.

Equipment Safety

WARNING!
Lethal Voltage

- Review the system configuration to identify all possible sources of energy. Ensure ALL sources of power are disconnected before performing any installation or maintenance on this equipment. Confirm that the terminals are de-energized using a voltmeter rated to at least CT II 600V.
- Do not perform any servicing other than that specified in the installation instructions unless qualified to do so, or have been instructed to do so by Go Power! | Dometic technical support personnel.
- To avoid electric shock, disconnect the DC input and AC input of the inverter at least 5 minutes before performing any installation or maintenance.
- Do not tighten the AC and DC terminals or pull on the AC and DC wiring when the inverter is running.

WARNING!
Fire Hazard

- Do not keep combustible or flammable materials in the same room with the equipment. Some products contain relays with moving parts and are not intrinsically safe.
- Ensure AC, DC, and ground cable sizes conform to local codes. See product manuals for minimum size requirements.
- Ensure all conductors are in good condition.
- Do not operate the unit with damaged or substandard cabling.

	**CAUTION!** Equipment Damage	When connecting cables from the inverter to the battery terminals, ensure proper polarity is observed. Incorrect connections may damage or destroy the equipment and void the warranty.
		Thoroughly inspect the equipment prior to energizing. Verify that no tools or equipment have been inadvertently left behind.
		Ensure clearance requirements are strictly enforced.
		Keep all vents clear of obstructions that can prevent proper air flow around, or through, the unit.
	**CAUTION!** Equipment Damage	Static electricity may damage electronic components. Take appropriate steps to prevent such damage to the inverter; otherwise, the warranty may be void.

Battery Safety

		Ensure the cables (conductors) are properly sized.
		Ensure clearance requirements around the batteries are strictly enforced.
		Ensure the area around the batteries is well ventilated and clean of debris.
	**WARNING!** Explosion, Electrocution, or Fire Hazard	Never smoke, or allow a spark or flame, near the batteries.
		Always use insulated tools. Avoid dropping tools onto batteries or other electrical parts.
		Ensure battery is within specified operating temperature limits before charging.
		Never use old or untested batteries. Check the label on each battery for age, type, and date code to ensure all batteries are identical.
		If a battery must be removed, always remove the grounded terminal from the battery first. Make sure all devices are de-energized or disconnected to avoid causing a spark.
		Use the battery types recommended by Go Power! | Dometic. Follow the battery manufacturer's recommendations for installation and maintenance.
		Insulate batteries as required to ensure operating temperature specification is maintained. Discharged batteries are more susceptible to damage and degradation than charged batteries.
	**IMPORTANT**	If a remote or automatic generator control system is used, disable the starting circuit and/or disconnect the generator from its starting battery while performing maintenance to prevent accidental starting.
		Wear complete eye and clothing protection when working with batteries. Avoid touching bare skin or eyes while working near batteries.
		Keep plenty of fresh water and soap nearby in case battery acid contacts skin, clothing, or eyes.
		If battery acid contacts skin or clothing, wash immediately with soap and water. If acid enters the eye, immediately flood it with cold running water for at least 20 minutes and get medical attention as soon as possible.

1.2 DISCLAIMERS

IMPORTANT: Please follow the installation and wiring instructions exactly as outlined to ensure safety. We recommend installation by a certified RV technician or licensed electrician to ensure compliance with applicable electrical codes. While we have made every reasonable effort to ensure the accuracy of the instructions in this manual, Go Power! | Dometic does not guarantee the information is free of errors, nor do we make any representation, warranty, or guarantee that the content is accurate, complete, reliable, or up to date. The specifications provided are for reference only and are subject to change without notice

DISCLAIMER: Go Power! | Dometic disclaims liability for any direct, indirect, or incidental damages caused by, or in case of, installation not performed following the instructions and cautions in this manual. Go Power! | Dometic will refuse requests for exchanges or returns, resulting from the purchase and installation of items which do not comply with local codes. To avoid such concerns Go Power! | Dometic recommends installation by a professional electrician or RV technician. Examples that are shown within this manual are for illustrative purposes only.

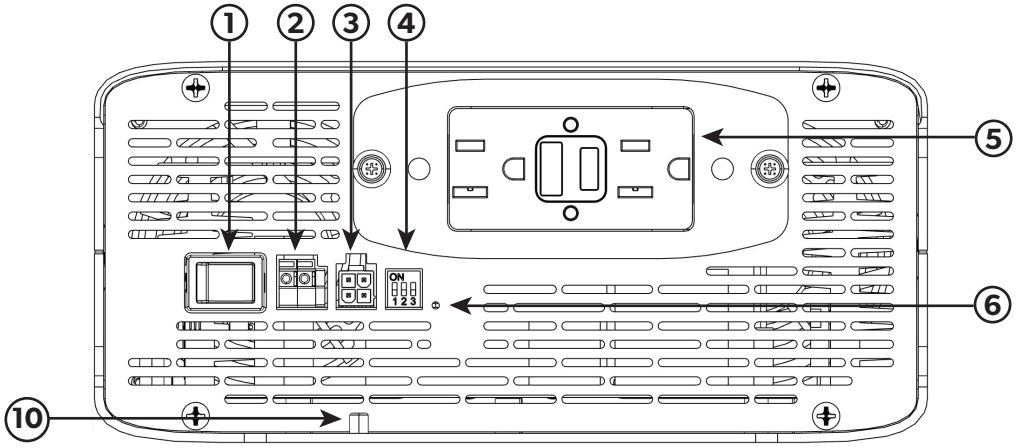
1.3 INCLUDED PARTS

Note Please unpack and make sure all parts shown in the list below are included in the kit. If any parts are missing please contact the customer service team at 1.866.247.6527.

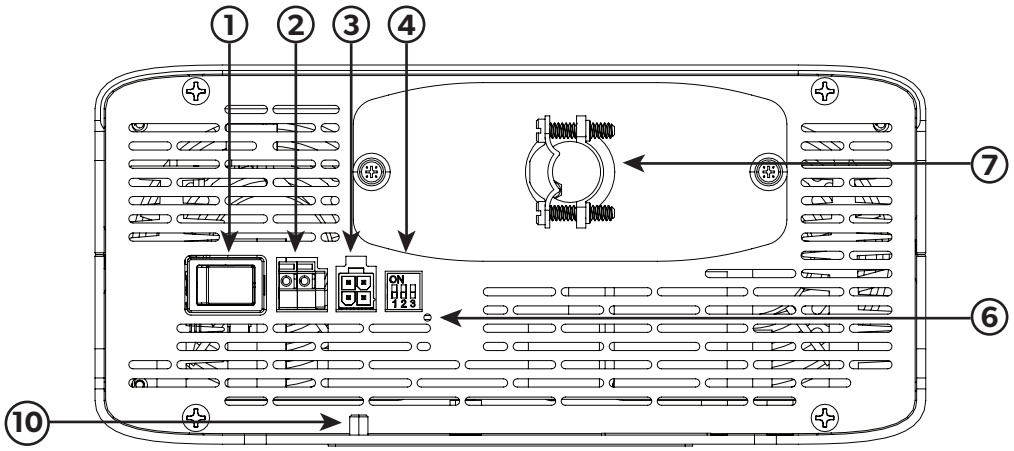
1.3.1 PARTS CHECKLIST

ITEM	QUANTITY			
	SSW-1500-12	SSW-1800-12-HW	SSW-2000-12 SSW-2000-12-HW	SSW-3000-12-HW
Smart Sine Wave Inverter	1			
DC Terminal Lugs: #2 AWG, M8 (5/16") Stud	2	2	-	-
DC Terminal Lugs: 2/0 AWG, M8 (5/16") Stud	-	-	2	-
DC Terminal Lugs: 4/0 AWG, M8 (5/16") Stud	-	-	-	2

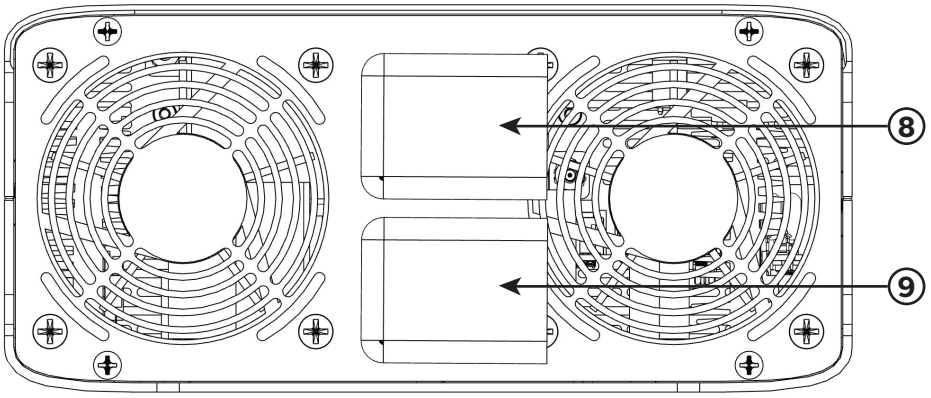
1.4 FEATURES



AC TERMINAL SIDE: SSW-1500-12 / SSW-2000-12



AC TERMINAL SIDE: SSW-1800-12-HW / SSW-2000-12-HW / SSW-3000-12-HW



DC TERMINAL SIDE: ALL MODELS

NO.	FEATURE	DESCRIPTION
1	Power On/Off Switch (Main Switch)	This switch can be used to turn the inverter on/off.
2	Remote Switch Terminals (Input)	Use this port to connect the optional remote switch to the inverter.
3	RV-C Port	Use this port to connect the inverter to the RV-C system. Refer to section 2.7 for pinout details.
4	RV-C Instance DIP Switches (Function Switch)	Use the DIP switches to set the RV-C instance number of the inverter. Refer to section 2.8 for more details.
5	AC Outlets	Connect AC loads to this GFCI.
6	Status LED (Function LED)	This LED indicates the status of the inverter. Refer to section 3.2 for more details.
7	AC Output Terminal Access (Hardwire Connection)	The strain relief clamp is provided to secure AC output wires.
8	Positive DC Input and Terminal Cover	Connect the battery bank positive (+) cable to this terminal.
9	Negative DC Input and Terminal Cover	Connect the battery bank negative (-) cable to this terminal.
10	DC Ground Terminal	Use this connection to ground the chassis of the inverter to the DC grounding system.

CAUTION! This device does not include any output circuit breakers. Appropriately sized branch-rated circuit breakers must be installed in the output wiring (breaker panel).

1.5 ACCESSORIES

The Smart Sine Wave Inverter has the following accessories available.

POWERTRAK™ DISPLAY

The PowerTrak™ Display (sold separately) is the remote required for controlling the settings and viewing system details on the Smart Sine Wave Inverter. Refer to section 3.3 for more details on connecting and using the PowerTrak™ Display.

REMOTE SWITCH

The remote switch (SSW-R, sold separately) is an on/off switch that can be mounted in an easily accessible location, at a distance from the inverter. This allows the user to turn the inverter on/off without accessing the unit. Refer to section 3.1 for more details on connecting and using the remote switch.

2. INSTALLATION

2.1 REQUIRED TOOLS AND MATERIALS

- 13 mm (1/2 in) Socket
- Torque Wrench (or Ratchet with Torque Adapter)
- Phillips Screwdriver (#2)
- Wire Cutters
- Wire Strippers
- Wire Crimpers
- Heat Shrink Tubing
- Heat Gun

2.2 LOCATION AND ENVIRONMENTAL REQUIREMENTS

The Smart Sine Wave Inverter must be installed in a location that meets the following requirements.

2.2.1 TEMPERATURE

Make sure the inverter is installed in a location where the normal air temperature is between -20 °C and 60 °C (-4 °F and 140 °F). Lower temperatures within this range are preferred for optimal performance.

2.2.2 MOISTURE

Do not allow water or other fluids to come into contact with the inverter. Do not expose to rain, snow, or water.

CAUTION! Installing the inverter in high moisture environments will accelerate corrosion. The service life of certain components will become compromised and not covered by warranty

2.2.3 VENTILATION

For optimum performance the inverter must be installed so the vents on both ends are not blocked or obstructed in any way. Do not install the inverter in an area with limited air flow. Allow as much space around the inverter as possible, leaving at least 150 mm (6 inches) of airspace clearance around all ventilation areas.

CAUTION! Do not mount the inverter in a zero clearance compartment. Do not cover the ventilation openings. Overheating and mechanical failure may occur.

2.2.4 FIRE

Install the inverter away from any flammable or combustible material (paper, flammable liquids, gasoline, cloths) that may be ignited by heat, sparks, or flames. Exercise caution when placing the inverter directly above the battery bank. Some battery types may vent gases that can corrode and damage the inverter. Make sure the battery space is ventilated when using the inverter and lead-acid batteries in the same compartment. Never allow battery acid to drip onto the unit.

2.2.5 ACCESSIBILITY/ORIENTATION

Do not block access to the connection ports, status LEDs or the on/off switch. Allow enough room to access the DC terminals, as the connections will need to be checked periodically. The inverter must be installed in one of the approved mounting orientations detailed on page 12.

2.2.6 CLEAN

The inverter should be installed in a location which is clean and limits the introduction of dust, fumes, insects, or rodents that could enter and block the inverter's ventilation openings.

2.2.7 PROXIMITY TO BATTERY BANK

The inverter should be located as close to the batteries as possible. The length and size of the DC cables will affect performance. Long DC wires will reduce efficiency and diminish overall performance of the inverter. Use the DC cables recommended in section 2.5.1.

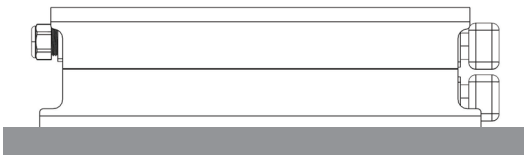
2.3 MOUNTING THE INVERTER

Prior to connecting any wires to the inverter, the unit must be mounted securely in a location which meets the requirements detailed in section 2.2. It is recommended to use two people whilst mounting the unit. All mounting surfaces and hardware must be capable of supporting at least twice the weight of the inverter. Inverter weights are listed in the table below.

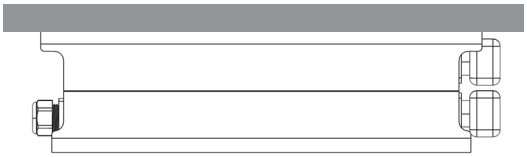
MODEL	WEIGHT
SSW-1500-12	5.86 kg (12.9 lbs)
SSW-1800-12-HW	7.34 kg (16.2 lbs)
SSW-2000-12	7.22 kg (15.9 lbs)
SSW-2000-12-HW	7.34 kg (16.2 lbs)
SSW-3000-12-HW	10.88 kg (23.9 lbs)

The inverter must be mounted on a noncombustible surface, in one of the orientations highlighted on page 12 to meet regulatory requirements.

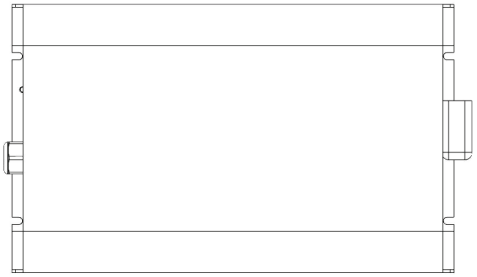
After determining the mounting position, use the base of the inverter to mark the mounting screw locations. Mount the unit with appropriate hardware for the mounting surface. Ensure the unit is fastened securely.



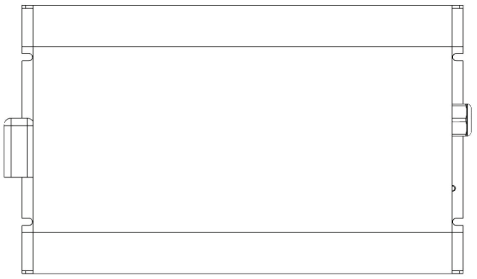
HORIZONTAL MOUNT, BASE DOWN



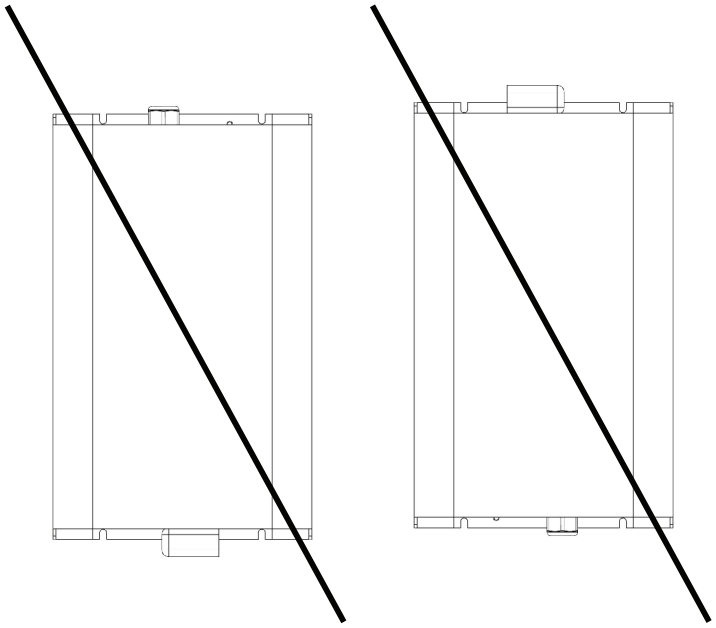
HORIZONTAL MOUNT, BASE UP



WALL MOUNT, HORIZONTAL
DC TERMINALS RIGHT



WALL MOUNT, HORIZONTAL
DC TERMINALS LEFT



VERTICAL MOUNT, DO NOT MOUNT
THE SSW IN THIS CONFIGURATION

2.4 GENERAL WIRING SPECIFICATIONS

The following sections detail how the Smart Sine Wave Inverter should be wired. Read and understand these instructions before starting any wiring. Wiring should meet all local codes and standards and be performed by qualified personnel such as a licensed electrician. The NEC (National Electrical Code) and CEC (Canadian Electrical Code) provide the standards for safely wiring, wire sizes, over-current protection, installation methods, and requirements.

The inverter grounding is the responsibility of the installer in accordance with NEC/CEC or the local electrical codes.

2.4.1 CABLE PROTECTION

All the DC and AC cables leading to/from the inverter must be protected as required by code. This can be accomplished using jacketed (armored) cable or by feeding the wire through conduit when wiring between compartments.

2.4.2 CABLE STRAIN RELIEF & TORQUE REQUIREMENTS

The inverter AC strain relief clamps can handle cables up to 15 mm (0.6 in) in diameter.

Torque DC wiring connections to 17 Nm (150 in lbf) and ensure they are secure. Re-check all connections periodically (at least every 6 months; more frequently for heavy RV use) to make sure they remain secure.

2.4.3 CABLE REQUIREMENTS

- Protect all conductors that may be at risk of physical damage by using conduit, tape, or place them in a raceway.
- AC and DC over-current protection must be provided.
- The inverter requires a reliable negative and ground return path to the battery using appropriately sized cables.
- Use only copper wires with the minimum temperature ratings specified in sections 2.5 (DC wiring) and 2.6 (AC wiring).

2.4.4 CABLE LAYOUT PLANNING

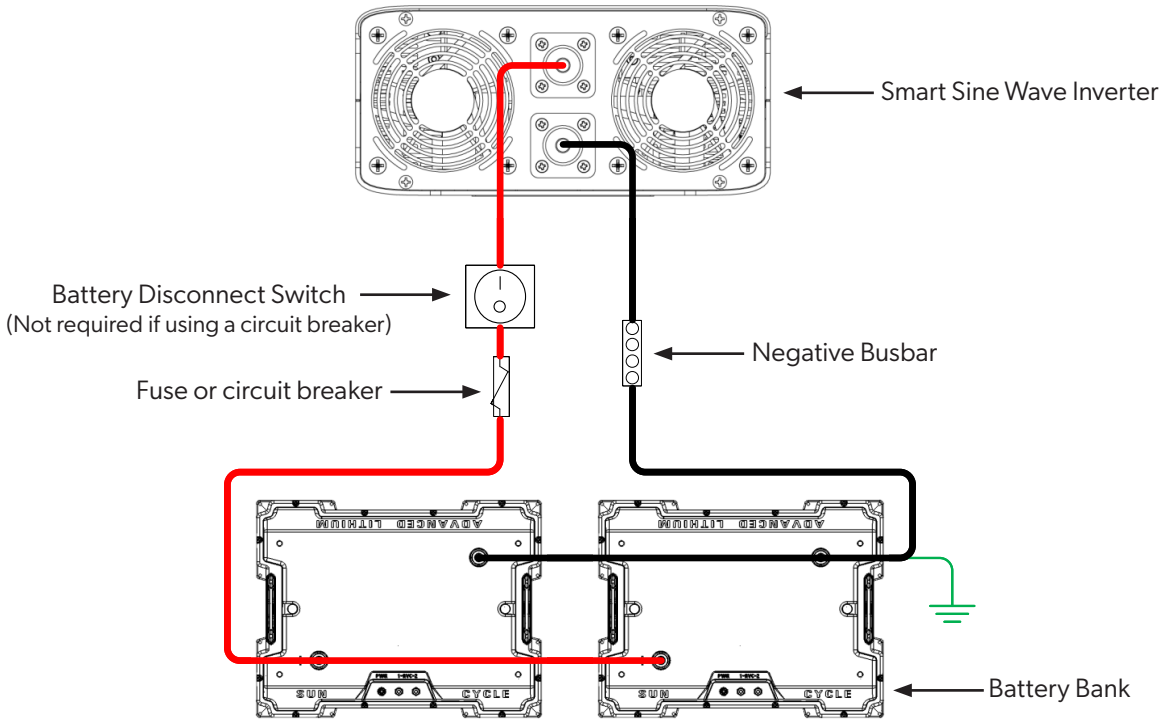
Prior to connecting any cables, determine all cable routes to/from the inverter.

- DC cables from the inverter to the battery bank.
- AC output cables from the inverter to the AC output panel (hardwire versions).
- PowerTrak™ RV-C harnessing (if applicable).
- Ground wiring to/from the inverter.

2.5 DC WIRING

The DC cables connect the inverter to the battery bank. These cables handle the direct current power used to power the main appliances. It is important to select the correct wire size and to provide adequate over-current protection between the inverter and the battery bank. Refer to the table in section 2.5.1 for recommended wire size and overcurrent protection.

Note The diagram below shows the inverter in the horizontal mount, base down orientation.



The following points must be observed for the DC wiring.

- The DC positive and negative cables connected to the inverter from the battery bank should be secured using cable clamps and ties, with a 12 mm (0.5 in) air gap maintained between the cables where possible. Maintaining an air gap between the cables ensures they are unbundled in free air.
- To ensure optimum inverter performance, the number of connections between the battery bank and the inverter unit should be minimized except from the over-current and battery disconnect devices. All additional connection points will cause extra voltage drops.
- The battery bank voltage must match the DC voltage required by the inverter, which is 12 V nominal. Do not connect a 24 V, 36 V or 48 V battery bank to the inverter.
- All DC cable terminations should use crimped and sealed copper ring terminal lugs. Lugs with an 8 mm (5/16") hole should be used to connect the DC cables to the inverter's DC terminals.
- Make sure all cables have a smooth bend radius and no kinks are present.
- Colour code all DC cables coming to/from the battery bank. Use colored electrical tape or heat shrink tubing. Red for positive (+), black for negative (-), and green for DC ground.

2.5.1 DC WIRE SIZE AND OVERCURRENT PROTECTION

The distance between the battery bank and the inverter should be as short as possible to maximize efficiency. The cables should be as short as possible and the overall length of each cable should be less than 3 m (10 ft) to comply with code requirements. Keeping your wire runs as short as possible helps to prevent low voltage shutdowns and nuisance tripping of the DC breaker from increased current draw. The table below shows the recommended DC cable sizes and fuses/ circuit breakers for the Smart Sine Wave Inverters. These values are correct for unbundled cables in free air, with minimum temperature rating of 105 °C.

MODEL	DC CABLE SIZE	INLINE FUSE/CIRCUIT BREAKER	RECOMMENDED MAXIMUM LENGTH OF EACH CABLE	RECOMMENDED GP-DC-KIT
SSW-1500-12	#2	200 A Class T	3 m (10 ft)	GP-DC-KIT3
SSW-1800-12-HW	#2	200 A Class T		GP-DC-KIT3
SSW-2000-12 SSW-2000-12-HW	2/0 AWG	300 A Class T		GP-DC-KIT4
SSW-3000-12-HW	4/0 AWG	400 A Class T		GP-DC-KIT5

WARNING! Batteries are capable of providing very large currents in case of a short circuit. If this occurs with no DC overcurrent protection, it will result in overheating and melting of the cables and possibly serious injury and/or fire.

DC overcurrent protection is not included with the Smart Sine Wave Inverter. It must be installed between the inverter and the battery bank for safety reasons and to comply with code regulations.

Use a very fast acting DC fuse or circuit breaker in the positive cable. The fuse should be installed as close as possible to the battery positive terminal. Ideally the fuse/circuit breaker should be installed within 45 cm (18 in) of the battery.

A battery disconnect switch is required in all installations. If a circuit breaker is installed for overcurrent protection, this will suffice as a disconnect switch. If a fuse is installed for overcurrent protection, a separate appropriately rated disconnect switch is required.

2.5.2 PREPARING THE DC CABLES

Go Power! | Dometic supplies two ring lugs with the Smart Sine Wave Inverter, which can be used for the inverter end of the DC cables. Source the correct ring terminals for the batteries you are using.

- Cut the negative and positive cables to the required length.
- Strip off enough insulation to install the ring lugs.
- Use the correct wire crimper to install the ring lugs on both ends of both cables. Make sure no stray wire strands protrude from the connectors. Cover the crimped connections with heat shrink tubing.

2.5.3 DC CABLE CONNECTIONS

When installing the battery cable ring lugs onto the inverter DC terminals and the battery terminals, do not put anything between the ring lug and the metal surface. Incorrectly installed hardware causes a high resistance connection which could lead to poor inverter performance and may melt the cable and terminal connections. Periodically check the connections to make sure they remain tight and secure.

2.5.4 WIRING THE INVERTER TO THE BATTERY BANK

WARNING! High currents will be present if the positive and negative cables attached to the battery bank touch each other. During the installation and wiring process, ensure the cable ends are insulated or covered to prevent shorting the cables.

WARNING! DO NOT connect the DC wires from the battery bank to the inverter until all the DC and AC wiring is complete and the AC and DC overcurrent protection and disconnect switch (if using a fuse) has been installed.

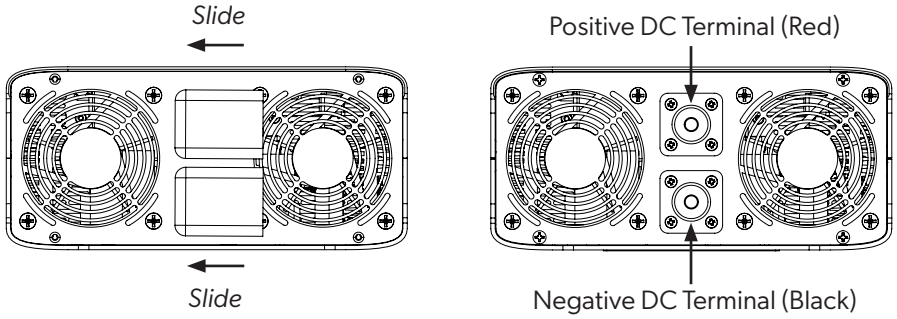
The Smart Sine Wave Inverters are designed to be used with a 12 V nominal battery bank. The battery bank may be wired in series, parallel, or series-parallel to provide the correct voltage. The interconnecting wires between the individual batteries must be the same wire gauge or greater than those used between the battery bank and inverter.

Note To ensure the best performance from your inverter system, batteries should be the same size, type, rating, and age. Do not use old or untested batteries.

CAUTION! The inverter is not reverse polarity protected. If the inverter is wired incorrectly severe damage will occur and will not be covered by the warranty. It is advised to clearly mark the positive and negative cables coming from the battery bank. Use red and black electrical tape to clearly indicate positive and negative cables.

2.5.5 DC POSITIVE AND NEGATIVE WIRES

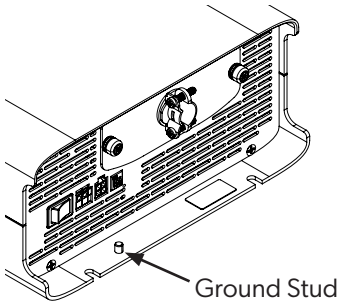
Note The diagram below shows the inverter in the horizontal mount, base down orientation.



1. Remove the negative (black) cover from the negative DC terminal on the inverter by sliding it to the left, shown in the diagram above. Remove the terminal screw.
2. Route the negative cable from the negative terminal on the battery bank to the negative DC terminal on the inverter, and install it with the terminal screw. Tighten the screw to 17 Nm (150 in lbf). Re-install the negative (black) cover by sliding it back on to the terminal.
3. Mount the DC circuit breaker or DC disconnect/fuse assembly and leave it open (no power to the inverter). Connect the positive cable from the battery bank positive terminal to the circuit protection terminal.
4. Remove the positive (red) cover from the positive DC terminal on the inverter by sliding it to the left, shown in the diagram above. Remove the terminal screw.
5. Route the positive cable from the circuit protection terminal to the positive DC terminal on the inverter, and install it with the terminal screw. Tighten the screw to 17 Nm (150 in lbf). Re-install the positive (red) terminal cover by sliding it back on to the terminal.
6. Secure cables using cable clamps and ties. Ensure a 12 mm (0.5 in) air gap is maintained between cables.

2.5.6 DC GROUNDING

To protect against electrical shock hazards, the metal inverter chassis must be connected to the DC grounding system. The DC grounding system is sometimes referred to as the earth ground or another designated ground. For example, on an RV, the metal frame of the RV is designated as the negative DC ground/RV ground.



The ground terminal stud on the inverter is used to connect the exposed chassis of the inverter to the DC grounding system. Use copper wire that is either bare or provided with green insulation. The ground terminal stud accepts M5 (#10) ring terminals and should be tightened to 1.6 Nm (14 in lbf). The size of the conductor should be coordinated with the size of the over-current devices used. Please refer to local electrical safety requirements when selecting the conductor size for the ground wire

A common earth ground should be used to bond the inverter, negative bus bar, and the negative battery terminal. All connections must be tight against bare metal. Use star washers to penetrate paint and corrosion.

2.6 AC WIRING

The AC wires connect the inverter to the AC loads. It is important to select the correct wire size and to provide adequate over-current protection between the inverter and the AC output panel.

The following points must be observed for the AC wiring:

- Review the safety information at the start of this manual before completing any AC wire installation steps.
- Always use properly rated circuit breakers/fuses.
- Color code and label all AC cables coming to/from the inverter. Use colored electrical tape or heat shrink tubing.
- Make sure all cables have a smooth bend radius and no kinks are present.
- Secure all wiring using cable clamps and ties.

2.6.1 AC WIRE SIZE AND OVERCURRENT PROTECTION

The wires used for the AC input and output must be sized to meet local electrical safety requirements. The AC wiring must be protected from short circuits and overloads by an overcurrent protection device. These requirements are usually met using a main panel and/or sub panel with suitable circuit breakers/fuses installed.

The table below shows the recommended AC cable sizes and circuit breaker sizes for the Smart Sine Wave Inverters. These values are correct for unbundled cables in free air, with minimum temperature rating of 90 °C.

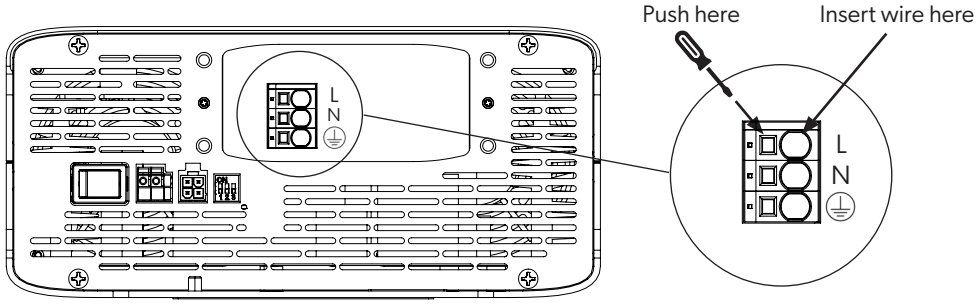
MODEL	AC WIRE SIZE	CIRCUIT BREAKER SIZE
SSW-1500-12	14 AWG	15 A
SSW-1800-12-HW	12 AWG	20 A
SSW-2000-12 / SSW-2000-12-HW	12 AWG	20 A
SSW-3000-12-HW	10 AWG	30 A

2.6.2 AC CONDUCTOR WIRING

For GFCI models (SSW-1500-12, SSW-2000-12), the AC loads can be plugged directly into the GFCI receptacles. For hardwire models (SSW-1800-12-HW, SSW-2000-12-HW, SSW-3000-12-HW), please follow the AC wiring instructions below.

WARNING! Make sure the Smart Sine Wave Inverter is fully disconnected from the battery bank (circuit breaker or DC disconnect is open) before starting the AC wiring.

Note The AC terminal blocks feature push-in cage clamps. Solid wires can be inserted by pushing them into the push-in-cage clamps. For stranded wires, a small screwdriver can be inserted into the opening on the left side of the terminal. Pushing the screwdriver into the opening will open the cage clamp, and the stranded wires can be inserted. Always ensure the wire is securely inserted by firmly pulling back on it.



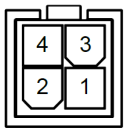
1. Remove the AC output cover from the inverter.
2. Route the wires (hot/live, neutral, and ground) from the AC panel to the inverter, and feed them through the strain relief clamp on the AC output cover.
3. Connect the hot/live wire to the "L" terminal.
4. Connect the neutral wire to the "N" terminal.
5. Connect the ground wire to the "⏚" terminal.
6. Ensure all three wires are securely inserted by firmly pulling back on them.
7. Ensure there is extra slack in the wiring before re-installing the AC output cover and tightening the strain relief clamp securely on the wires.

2.7 RV-C COMMUNICATION

The RV-C connector is a standard RV-C Molex connector with the pinout shown below. Use this to connect the Smart Sine Wave Inverter to the RV-C network and other RV-C devices, like the PowerTrak™ Display.

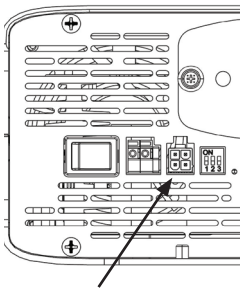
IMPORTANT The Smart Sine Wave Inverter supplies power to the RV-C network. Go Power! | Dometic recommends using the battery as the power source for the RV-C network, and disabling the power connection to all other power sources, including the Smart Sine Wave Inverter, with the power disconnect cable (84283). Refer to the wiring diagrams in section 2.7.1 for more details.

1	2	3	4
CAN H	CAN L	GND	RV-C Network Power Supply* (1.5 A max)



*The voltage supplied to the RV-C network by the Smart Sine Wave Inverter is equal to the battery voltage measured at the DC input terminals.

2.7.1 DEVICE CONNECTION



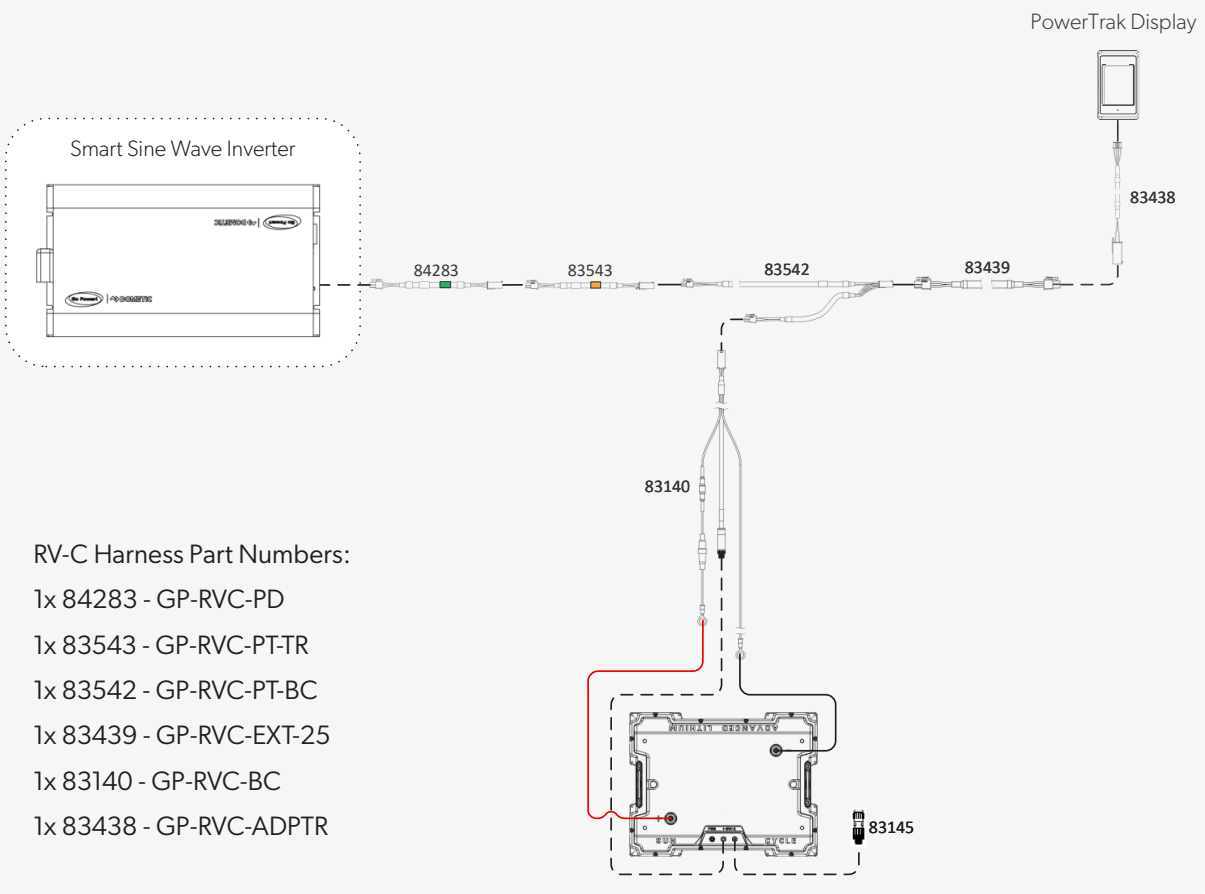
The PowerTrak™ devices (sold separately) are connected via RV-C harnessing (sold separately). The RV-C harnesses are connected to the RV-C port on the inverter. The following points must be observed for the RV-C harnessing.

- The system must have two terminating resistors, one at each end of the network. The adapter harness (83438) included with the PowerTrak™ Display has a terminating resistor built in. The second terminating resistor must be added to the opposing end of the network, using the terminating resistor harness (83543). This harness can be easily identified by the orange "TERMINATING RESISTOR" label.

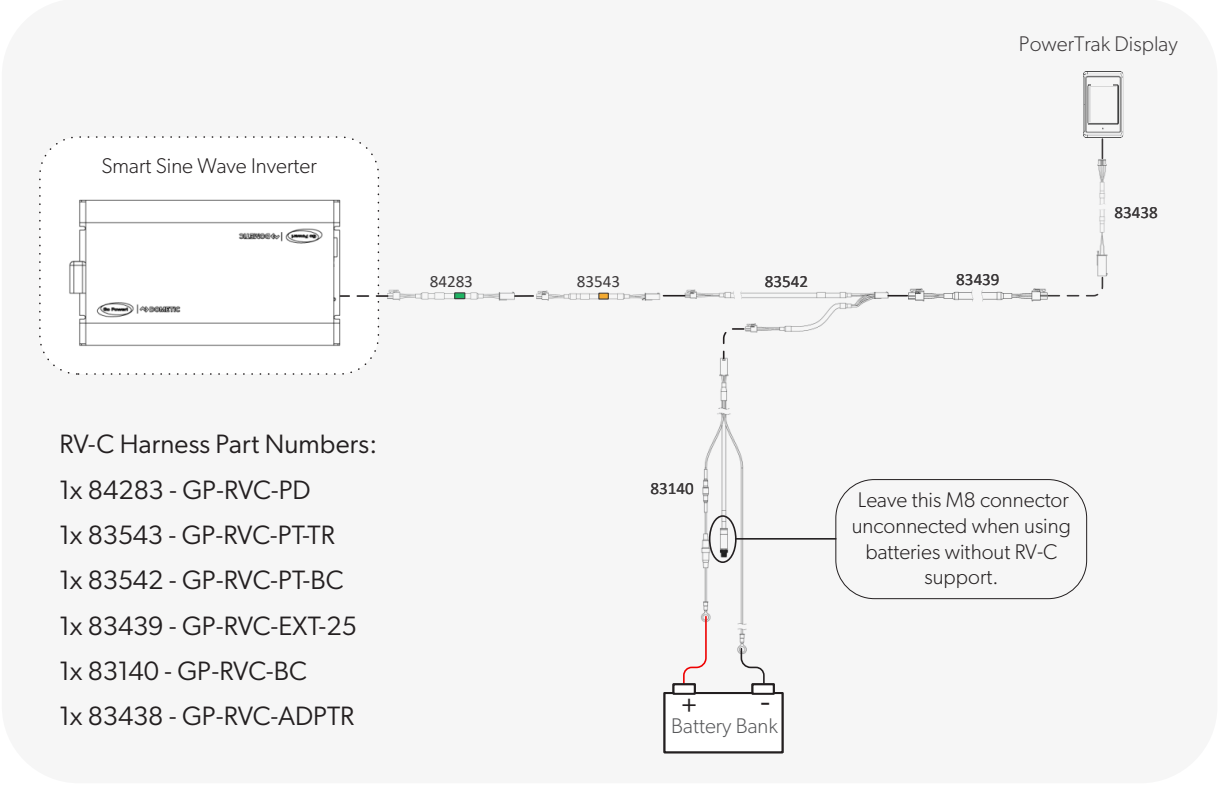
- Go Power! | Dometic recommends using the battery as the power source for the RV-C network, and disabling the power connection from all other power sources. The power disconnect harness (84283) must be connected to any component that supplies power to the RV-C network, excluding the battery. This harness can be easily identified by the green "POWER DISCONNECT" label.

The following wiring diagram shows the recommended RV-C harness connections for systems with a Smart Sine Wave Inverter paired with a PowerTrak™ Display and an Advanced Lithium Battery.

Note The adapter harness (83438) is included with the PowerTrak™ Display. All other RV-C harnesses must be purchased separately from Go Power! | Dometic.



The following wiring diagram shows the recommended RV-C harness connections for systems with a Smart Sine Wave Inverter paired with a PowerTrak™ Display and a battery without RV-C support. In this system, the M8 connector on the battery connection harness (83140) can remain unconnected.



RV-C Harness Part Numbers:

1x 84283 - GP-RVC-PD

1x 83543 - GP-RVC-PT-TR

1x 83542 - GP-RVC-PT-BC

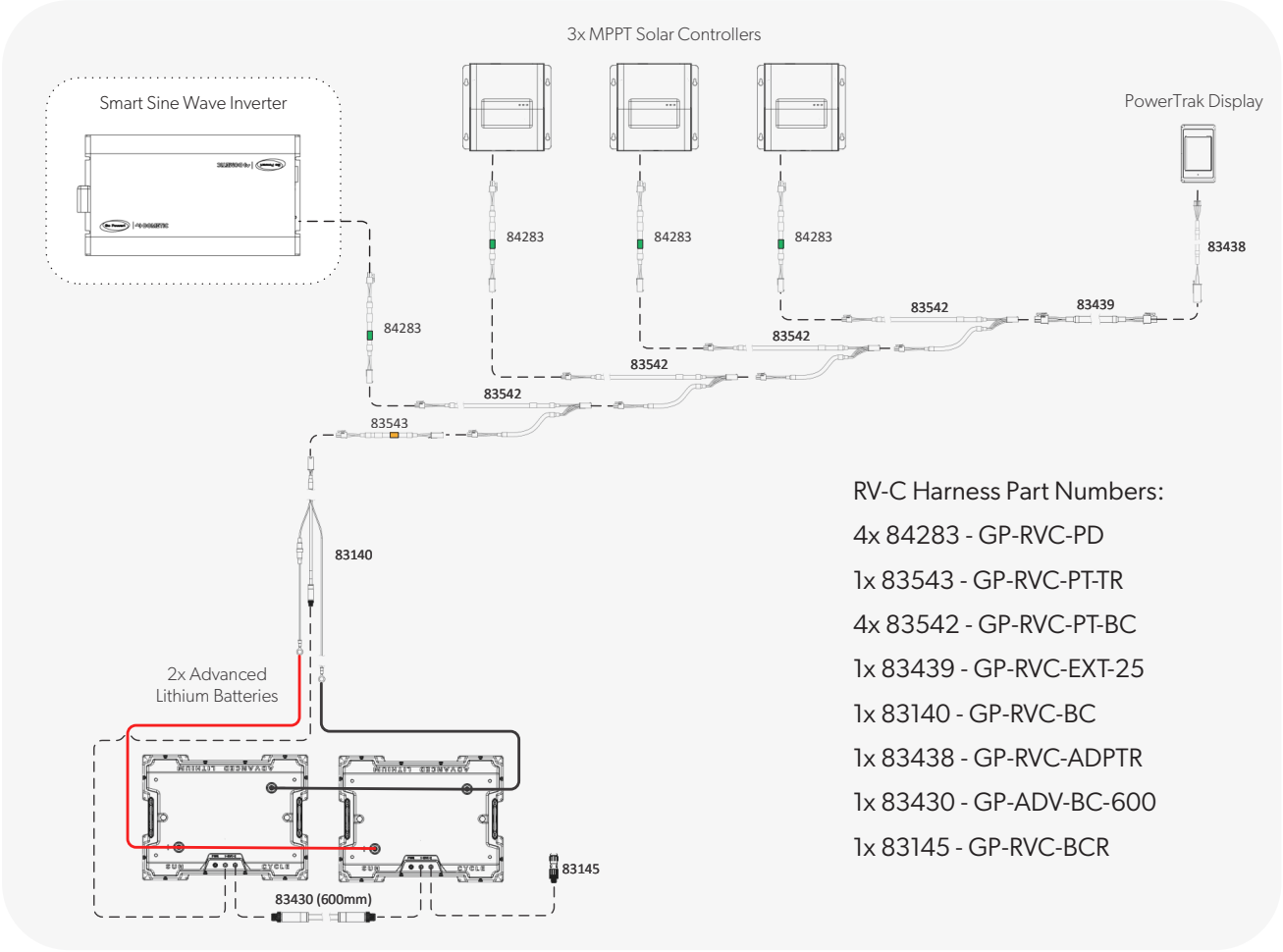
1x 83439 - GP-RVC-EXT-25

1x 83140 - GP-RVC-BC

1x 83438 - GP-RVC-ADPTR

Other examples of PowerTrak™ compatible devices include the Go Power! | Dometic MPPT 30 A and 40 A Solar Controllers. A wiring diagram for an example system including these devices is shown below.

Note 5ft extension harnesses (83636) are available for purchase if required between components.



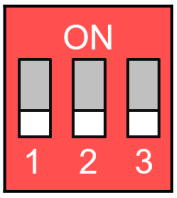
If your power system contains other RV-C compatible devices, you may require a different combination of RV-C harnesses. Please refer to our RV-C configurator through the QR code below to determine which cables are required for your system. Contact technical support if you are unsure about the RV-C requirements for your system.

Scan the QR code to access the Go Power! PowerTrak™ Part Configurator.

2.8 RV-C INSTANCE NUMBERS

The DIP switches on the inverter is for setting the device RV-C instance numbers. This is how devices are distinguished on the RV-C bus. Refer to the table below to set the RV-C instance numbers. If you have multiple inverters in your system, make sure they each have a unique RV-C instance number.

RV-C INSTANCE NUMBER	DIP 1	DIP 2	DIP 3
1	ON	OFF	OFF
2	OFF	ON	OFF
3	ON	ON	OFF
4	OFF	OFF	ON
5	ON	OFF	ON



2.9 FINAL INSPECTION

1. Verify all cables/conduit runs are secured with zip ties or other non-conductive cable clamps to prevent damage from vibration.
2. Ensure all cables that pass-through walls, bulkheads, or any other openings are protected against abrasion by using strain reliefs and/or grommets.
3. Confirm all AC, DC and ground connections are secure.
4. Confirm the RV-C cables are securely installed (if applicable).
5. Check the AC terminal connection cover plate has been securely re-attached.
7. If required by code, have the installation inspected by an electrical inspector.

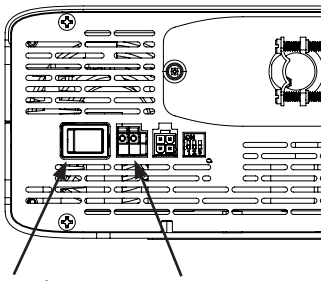
2.10 TESTING THE INSTALLATION

1. Disconnect AC output from the inverter by switching off the output breakers in the AC panel (hardwire versions) or unplugging the AC loads (GFCI versions).
2. Apply battery power to the inverter by switching on the DC breaker or the DC battery disconnect switch. The device will remain off.
3. Turn on the inverter by switching the main switch or remote switch to the on position. Verify the device turns on and its status LED indicator is not red.
4. Measure the voltage at the AC output terminals with a multimeter. Verify 120 VAC is measured.
5. Turn on the AC loads by switching on the output breakers in the AC panel (hardwire versions) or plugging in the AC loads (GFCI versions).
6. Verify the AC loads are powered.

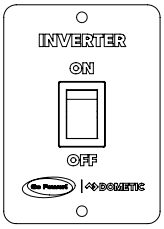
3.1 POWER ON/OFF

When the inverter is connected to the battery bank, the power on/off switch or remote switch must be switched to the on position to turn the device on.

The remote switch (sold separately) can be mounted in an easily accessible area, at a distance from the inverter. This allows the user to turn the inverter on/off without accessing the unit.



POWER ON/OFF SWITCH	REMOTE SWITCH	DEVICE STATE/DESCRIPTION
On	On	On
Off	On	On
On	Off/Not installed	On
Off	Off/Not installed	Off



Remote Switch (SSW-R)

3.2 STATUS LED INDICATOR

MODE	LED STATUS	DEFINITION
Output Off	Blue	The inverter is powered, and the output is off.
Output On	Green	The inverter is powered, and the output is on.
Warning Condition	Yellow	The inverter is powered, and the output is on. A DC minimum or maximum voltage warning has been triggered, and the shutdown delay timer has started. Transitions to a fault condition when the delay has elapsed.
Fault Condition	Red	The inverter is powered, and the output is off. A fault condition has been triggered, and the output has been disabled until the recovery condition is met, or the inverter is reset (power cycled).
Load Sense Enabled	Magenta	The inverter is powered, and load sense is enabled. The output is pulsing at a 5 second interval. When a load is sensed, the inverter output turns on and the LED turns green. Refer to section 5.4 for more information on load sense mode.
Off	Off	The inverter is not powered on.

3.3 POWERTRAK™ DISPLAY

The PowerTrak™ Display is the remote required for controlling the settings on the Smart Sine Wave Inverter and viewing system details. The Smart Sine Wave Inverter and the PowerTrak™ Display (sold separately) are compatible with the Go Power! | Dometic PowerTrak™ system. The PowerTrak™ system technology ensures compatible devices work together to optimize power flow and efficiency. This section will outline connection and basic operation of the PowerTrak™ Display. For more details, please use the QR code below to access the user manual for the PowerTrak™ Display.

Scan the QR code to access the PowerTrak™ Display user manual.

3.3.1 DISPLAY POWER-UP

The PowerTrak™ Display is powered from the RV-C network, and automatically turns on when connected to the system. A message is displayed that a search for connected devices is in progress.

Confirm the inverter is loaded on the screen, along with any other components that are in your system.

- Press the LOAD button.

3.3.2 OPENING THE DISPLAY SETTINGS

- Press the button to open the settings.

3.3.3 SWITCHING THROUGH THE SETTINGS

- Press the arrow buttons to switch through the settings pages.
- Press the button in the top left corner of the display to switch to the previously displayed screen.
- Press the button to display the home screen.

3.3.4 INVERTER SETTINGS

- Press the "Inverter Settings" button on the settings screen.
- Refer to section 3.6 for more details on the available settings.

3.4 LOAD SENSE

The Smart Sine Wave Inverter has a load sensing function that can be enabled/disabled through the PowerTrak™ Display (sold separately). This feature is used to conserve battery power when no AC power is required (no appliances being used).

Load sense mode is disabled by default. The PowerTrak™ Display can be used to enable load sense and adjust the power threshold. The value range for the load sense threshold varies for each model. Please refer to the value ranges in section 3.6 for details.

In load sense mode, the inverter pulses the AC output at 5 second intervals looking for an AC load. When an AC load is turned on that exceeds the load sense threshold, the inverter output turns on and supplies power from the battery bank to the AC load. When the AC load drops below the load sense enter threshold, the inverter output turns off. The load sense enter value is always 20 W less than the load sense threshold, up to 20% of the rated power.

Example: The load sense threshold is set to 40 W.

The load sense enter threshold would be 40 W - 20 W = 20 W. In this case, the inverter output will turn on when a load greater than 40 W is sensed. If the load drops below 20W, the inverter output will turn off.

3.5 STATUS PARAMETERS

The following parameters are reported over the RV-C network, and can be monitored using the PowerTrak™ Display (sold separately).

PARAMETER	DESCRIPTION
Inverter Status	Real-time inverter state (disabled, inverting, load sense).
DC Voltage	DC voltage measured from the inverter DC terminals.
DC Amps	DC current measured from the inverter.
Output AC Volt	AC voltage measured from the inverter AC output.
Output AC Amps	AC current measured from the inverter AC output.
Output AC Power	AC power measured from the inverter AC output.
Output AC Freq	AC frequency measured from the inverter AC output.
Inverter Temp	Temperature of the inverter.
FET Temp	Temperature of the inverters FET.
Firmware	Firmware version of the inverter.
Fault Code	Fault/warning condition reported from the inverter.

3.6 CONFIGURABLE SETTINGS

The following settings can be configured using the PowerTrak™ Display (sold separately).

PARAMETER	DESCRIPTION	VALUE RANGE			
		SSW-1500-12	SSW-1800-12-HW	SSW-2000-12 SSW-2000-12-HW	SSW-3000-12-HW
Inverter	Turns the inverter on or off.	On/Off			
Power Limit	Power limit at which the inverter shuts down.	1 - 3000 W	1 - 3600 W	1 - 4000 W	1 - 6000 W
Power Limit Delay	Time delay before the inverter shuts down after the power limit is exceeded.	0 - 32765 seconds			
Load Sense	Allows the inverter to detect and respond to load presence.	Enable/Disable			
DC Min Shutdown Volt	Minimum DC voltage at which the inverter shuts down.	10.8 V - (DC Min Recovery Voltage)			
DC Min Warning Volt	Minimum DC voltage at which the inverter triggers a low voltage warning.	10.8 V - (DC Min Recovery Voltage)			
DC Min Volt Recovery	DC voltage at which the inverter recovers from DC min warning.	(DC Min Shutdown Volt/DC Min Warning Volt) - 15.1 V			
DC Max Shutdown Volt	Maximum DC voltage at which the inverter shuts down.	15.3 - 16.0 V			
DC Max Warning Volt	Maximum DC voltage at which the inverter triggers a high voltage warning.	15.3 - 16.0 V			
Warning Shutdown Delay	Time delay before the inverter shuts down from DC min/max voltages.	0 - 32765 seconds			
Output AC Volt	The AC voltage level the inverter outputs.	110 V, 120 V			
Output AC Freq	The frequency of the AC output.	50 Hz, 60 Hz			
Inverter Reset to Default	Restores inverter settings to factory defaults.	-			
Restart Inverter	Restarts the inverter.	-			
Inverter Startup	Begin inverting on startup.	Enable/Disable			

3.7 FACTORY DEFAULT VALUES

PARAMETER	SSW-1500-12	SSW-1800-12-HW	SSW-2000-12 SSW-2000-12-HW	SSW-3000-12-HW
Inverter	On/Off			
Power Limit	3000 W	3600 W	4000 W	6000 W
Power Limit Delay	5 seconds			
Load Sense	Disabled			
Load Sense Threshold	40 W			
DC Min Shutdown Volt	10.8 V			
DC Min Warning Volt	10.8 V			
DC Min Volt Recovery	11.5 V			
DC Max Shutdown Volt	16.0 V			
DC Max Warning Volt	16.0 V			
DC Max Volt Recovery	15.2 V			
Warning Shutdown Delay	5 seconds			
Output AC Volt	120 V			
Output AC Freq	60 Hz			
Inverter Startup	Enabled			

3.8 MAINTENANCE

The Smart Sine Wave Inverter is designed to be service-free. Even though there are no user serviceable parts, it is recommended that every 6 months you perform the following maintenance steps to ensure optimum performance and extend the life of your batteries:

- Visually inspect the batteries for cracks, leaks, or swelling—replace if necessary.
- Use baking soda to clean and remove any electrolyte spills or buildup.
- Check and tighten all battery terminal connections.
- Check and fill battery water levels in flooded lead acid batteries.
- Check individual battery voltages (load test those that have a voltage difference of more than 0.3 VDC from each other) and replace if necessary.
- Check the inverter's ventilation vents—clean if necessary.
- Visually inspect all cables in both the DC and AC systems. Check for wear/abrasion. Replace if necessary and ensure strain reliefs and cable protection is installed to prevent future damage.
- Check and tighten all connections on the inverter.
- Check the ground connections are secure on the inverter, battery bank, main/sub panels and the earth ground on the RV, or boat.

PARAMETERS	SSW-1500-12	SSW-1800-12-HW	SSW-2000-12 / SSW-2000-12-HW	SSW-3000-12-HW
Continuous Output Power (35 °C, 12 VDC)	1500 W	1800 W	2000 W	3000 W
Surge Power (2 seconds)	3000 W	3600 W	4000 W	6000 W
Surge Current on Start-up	< 100 A			
Output Voltage	100 VAC / 110 VAC (±3 %); 120 VAC (-7 % to +3 %)			
Output Frequency	50 / 60 Hz ± 0.2 %			
Output Waveform	Pure Sine Wave			
Total Harmonic Distortion (THD)	≤ 4 %		≤ 5 %	≤ 4 %
Load Power Factor	0.2 ~ 1 (Load power ≤ Continuous output power)			
Rated Input Voltage	12 VDC			
Input Voltage Range	10.8 ~ 16.0 VDC			
Rated Output Efficiency	> 88.0 %		> 85.0 %	
Max. Output Efficiency	> 93.0 % (30 % loads)			
Idle Current	< 0.2 A			
No-load Current	< 0.8 A	< 1.0 A	< 1.2 A	< 1.6 A
RV-C Network Power Supply Nominal Voltage	Equal to the battery voltage measured at the DC input terminals			
RV-C Network Power Supply Max Current	1.5 A			
MECHANICAL PARAMETERS				
Input Terminal Size	M8			
Dimensions (L x W x H)	385 x 228 x 104 mm (15.2 x 9.0 x 4.1 in)	419 x 228 x 104 mm (16.5 x 9.0 x 4.1 in)		478.5 x 269 x 130 mm (18.8 x 10.6 x 5.1 in)
Mounting Size (L x W)	364 x 140 mm (14.3 x 5.5 in)	398 x 140 mm (15.7 x 5.5 in)		486 x 160 mm (19.1 x 6.3 in)
Mounting Slot Size	6 mm (0.24 in)			
Net Weight	5.86 kg (12.9 lb)	7.34 kg (16.2 lb)	7.22 kg (15.9 lb) / 7.34 kg (16.2 lb)	10.88 kg (23.9 lb)
ENVIRONMENTAL				
Operating Temperature	-20 °C to 60 °C (-4 °F to 140 °F)			
Storage Temperature	-35 °C to 70 °C (-22 °F to 158 °F)			
Relative Humidity	< 95 % non-condensing			
WARRANTY				
Warranty	2 years			

The Go Power! | Dometic warranty is valid against defects in materials and workmanship for the specific product warranty period. It is not valid against defects resulting from, but not limited to:

- Misuse and/or abuse, neglect, or accident.
- Exceeding the unit's design limits.
- Improper installation, including, but not limited to, improper environmental protection and improper hook-up.
- Acts of God, including lightning, floods, earthquakes, fire, and high winds.
- Damage in handling, including damage encountered during shipment.

A warranty shall be considered void if the warranted product is in any way opened or altered. The warranty will be void if any fasteners used to seal the unit are removed or altered, or if the unit's serial number is in any way removed, altered, replaced, defaced, or rendered illegible.

Warranty Return Procedure

Before contacting the customer service department, please read the "frequently asked questions" section of our website to troubleshoot the problem. If trouble persists:

Call the Technical Support team (1-866-247-6527) or return defective product to place of purchase.

Unless approved by Go Power! | Dometic Management, all product shipped collect to Go Power! | Dometic will be refused. Test items or items that are not under warranty, or units that are not defective, will be charged a minimum bench charge of $50.00 US plus taxes and shipping. A 15% restocking charge will be applied on goods returned and accepted as "new" stock.

An RMA (return materials authorization) number from Go Power! | Dometic Customer Service is required prior to returning any Go Power! | Dometic products. Go Power! | Dometic reserves the right to refuse any items sent to Go Power! | Dometic without an associated RMA number. To obtain an RMA number, please contact customersupport.gopower@dometic.com or Telephone 1-866-247-6527.

Out of Warranty

Go Power! | Dometic electronic products are non-repairable. Go Power! | Dometic does not perform repairs on its products nor does it contract out those repairs to a third party. Go Power! | Dometic does not supply schematics or replacement parts for any of its electronic products.

Product E.O.L (end of life) Information

This product required the extraction and use of natural resources. It may contain substances that could be harmful to the environment or human health if improperly handled at the product's end of life. In order to avoid release of such substances into the environment and to reduce the use of natural resources, we encourage you to recycle the inverter in an appropriate way that will ensure most of the materials are reused or recycled appropriately.

6. END OF LIFE - RECYCLING INFORMATION

DO NOT DISPOSE OF THIS PRODUCT WITH NORMAL GARBAGE.

The easiest way to recycle an inverter is to take the unit to a local certified e-waste (electronics waste) recycling center. Knowing for sure if your appliances are being recycled properly is tricky. If you're in doubt just ask. Recyclers that are certified should gladly show you their certification. If the recycler is certified, chances are very high that they are recycling responsibly.

To find your local e-waste center please contact your local municipality. The following website also has information on local recycling centers: **www.earth911.com/recycling-center-search-guides**

MANUAL_SSW_RevA