

SV Series Spa Controls

Installation & Technical Manual

SV2 / SV2-VH / SV3 / SV3-VH / SV4-VH



RATINGS INFORMATION

Supply Voltage	230-240V 50/60 Hz
Rated Voltage	230-240V 50/60 Hz
Phase	Single / Two / Three
Peak Load Current	60A max
Max. Full-Phase Current	20A per phase
Rated Power Heating	8000 Watts
Model Number	SV4-VH
IP Rating	IP65
Safety Standards	EN60335-1 / EN60335-2-85

WARNING! DANGEROUS VOLTAGE INSIDE
The product must be installed and maintained by qualified service personnel.

WARNING

- THIS APPLIANCE MUST BE SUPPLIED THROUGH A RESIDUAL CURRENT DEVICE (RCD) HAVING A SENSITIVE TRIPPING CURRENT NOT EXCEEDING 30mA.
- BEFORE YOU REMOVE THE UNIT OR WHEN INSTALLED COVER A DISCONNECTED SPA UNIT.
- HEATING POWER MUST BE ISOLATED AND TURNED OFF BEFORE SERVICE APPLIANCE TO PREVENT HOT FLUID CONNECTION.
- TO PREVENT ELECTRIC SHOCK INHALED WATER DAMAGE TO THIS APPLIANCE, ALL INSIDE RECEPTACLES MUST HAVE A WATER PROOF SEAL IN PLACE.
- ANY DAMAGED CABLES ATTACHED TO THIS APPLIANCE MUST BE IMMEDIATELY REPLACED.
- THIS APPLIANCE MUST NOT BE INSTALLED IN PROXIMITY TO HEAVY FLAMMABLE MATERIALS.

SV4
ADVANCED SPA CONTROL
variable heater

1. SET NUMBER OF PHASES (20 MINUTES)

The number of phases is set by turning the 10 in each the number of phases 1, 2 or 3 depending on the number of phases of the supply (230V/240V/400V).

2. PROGRAM CIRCUIT BREAKER RATING

1. Set the circuit breaker to the correct rating as follows:
 - 1. Press the **ON** button and set the correct rating.
 - 2. Press the **OFF** button and set the correct rating.
 - 3. Press the **ON** button and set the correct rating.



WARNINGS

Please read the following before installing or connecting this appliance

- All electrical connections must be performed by a licensed electrician and must confirm to all national, state and local electrical codes in effect at the time of installation.
- The appliance should be supplied through a residual current device (RCD) having a rated residual operating current not exceeding 30mA.
- The appliance must be connected to a suitable rated and weather protected power supply. The supply line should be a dedicated power circuit and means for disconnection must be incorporated in the fixed wiring in accordance with your local wiring regulations. Means for disconnection from the supply mains should have a contact separation in all poles that provide full disconnection under over voltage Category III conditions.
- Earthed appliances must be permanently connected to fixed wiring (European models only).
- The appliance contains no serviceable parts. Do not attempt service of this control pack. Contact your dealer or authorized service agent for assistance.
- Turn the mains power OFF before servicing appliance or modifying any cable connection
- Suitable for indoor use only or when installed under a weatherproof spa skirt. The appliance should be installed in an enclosure such that all electrical connections cannot be accessible to the user without the use of a tool.
- Low voltage or improper wiring may cause damage to this appliance. Read and follow all wiring instructions when connecting to power supply.
- Any damaged cable must be replaced immediately.
- To prevent electric shock hazard and/or water damage to this appliance, all unused receptacles must have a water proof seal in place.
- Parts incorporating electrical components must be located or fixed so that they cannot fall into the bath or spa.
- Parts containing live parts, except parts supplied with safety extra-low voltage not exceeding 12V must be inaccessible to a person in the bath or spa.
- This appliance must not be installed in proximity to highly flammable materials.
- Water temperature in excess of 38°C may cause hyperthermia (heat stress).
- It is the spa manufacturer's and/or installer's responsibility to select suitable loads and configure load shed settings (if required) to ensure the system does not exceed its rated maximum total load.
- It is the installer's responsibility to ensure the floor is capable of supporting the expected load of the bath or spa and an adequate drainage system has to be provided to deal with overflow water.
- A whirlpool spa should incorporate a water filtration system where the required level of water purity can be achieved.
- An adequate drainage system has to be provided if the equipment is to be installed in a pit.
- This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.
- Children should be supervised to ensure that they do not play with the appliance.

SV Series Specifications

Electrical Specifications

Model No	Max Current	Maximum Multi Phase Current	Input Voltage Single Phase*	Input Voltage Three Phase*	Hz	Heater Size
SV2	15A	-	230-240V AC	400-415V AC	50/60	2kW
SV3	45A	-	230-240V AC	400-415V AC	50/60	3kW
SV2-VH	15A	16A per phase	230-240V AC	400-415V AC	50/60	3kW Variable
SV3-VH	45A	25A per phase	230-240V AC	400-415V AC	50/60	6kW Variable
SV4-VH	60A	25A per phase	230-240V AC	400-415V AC	50/60	6kW Variable

* Range of acceptability (+/-6%)

Output Ratings

Outlet	Max Current	Output Voltage	Hz	Typical Accessory
Circ	2A	230-240V AC	50/60	Small Circulation Pump
O3/UV	2A	230-240V AC	50/60	Ozone Generator / UV Sanitiser
Blower	6.3A	230-240V AC	50/60	Air Blower
Pump 1	12A	230-240V AC	50/60	2 Spd Jet Pump / 1 Spd Jet Pump
Pump 2	12A	230-240V AC	50/60	1 Speed Jet Pump
Mains 1 ^	12A	230-240V AC	50/60	Mains power outlet (always on)
Pump 3 *	12A	230-240V AC	50/60	2 Spd Jet Pump / 1 Spd Jet Pump
Pump 4 #	12A	230-240V AC	50/60	1 Speed Jet Pump
Mains 2 *^	12A	230-240V AC	50/60	Mains power outlet (always on)
Light 1	1A~	12V AC		LED Light
Light 2 *	1A~	12V AC		LED Light

* Outlets not available on SV2 / SV2-VH models

Outlet not available on SV2 / SV2-VH / SV3 / SV3-VH models

^ Dedicated mains power outlets (always ON)

~ 1A maximum current draw. This is split between keypads, expand ports and light sockets.

Each socket is rated to 1A maximum so the full 1A can be drawn from a single socket if required.

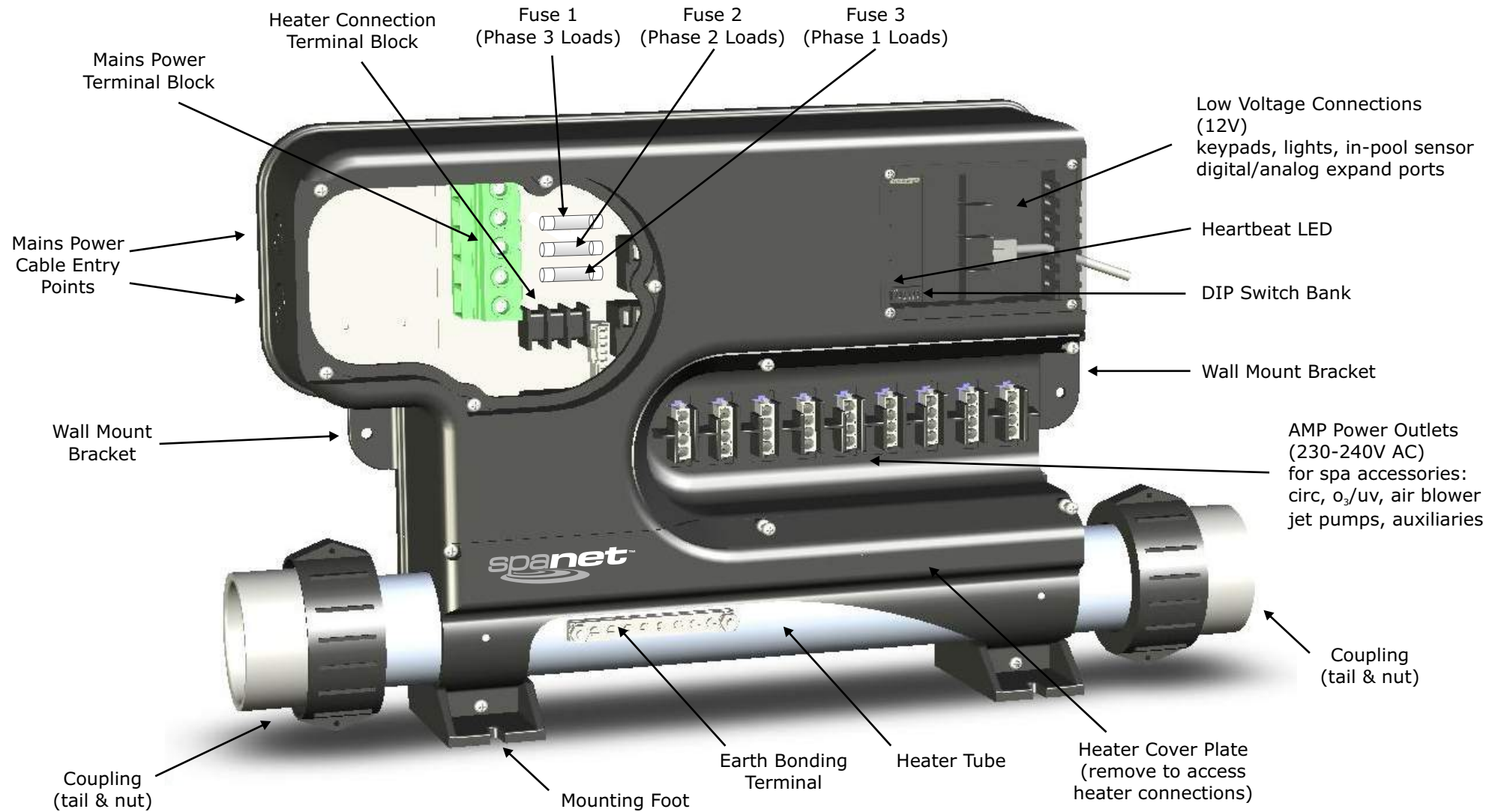
System Specifications

All Models (SV2/SV3/SV2-VH/SV3-VH/SV4-VH)

Maximum Controlled Temperature	41°C
Thermal Cut-Out	47°C +/-3°C
Maximum Ambient Temperature	40°C
Minimum Flow Rate	65 L/min
RCD trip rating	30mA
Weight (without cable)	5kg
Dimensions (with couplings)	544x309x90mm
Enclosure	IPx5
Operating Temperature	0°C to 40°C
Storage Temperature	-25°C to 85°C
Humidity	up to 85% RH (non condensing)



SV Series Overview



Electrical Wiring (Terminal Block Connections)

AUS / NZ / European Models (230-240V AC)

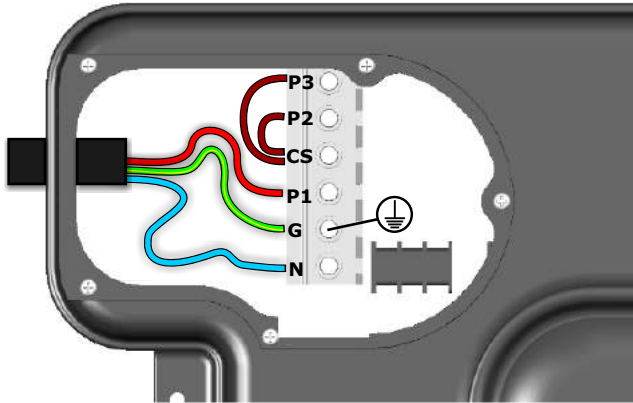
Tools Required: Wire Strippers, Phillips head screwdriver, flat head screwdriver

- ▶ Remove five (5) x Phillips screws from mains lid to access terminal block.
- ▶ Cut away appropriate length of outer insulation from mains power cable and strip away 25mm (1") of wire insulation from the end of each wire.
- ▶ Route mains cable through one of the two snap out holes provided and secure the cable with a gland to provide adequate cable strain relief (Tighten gland with use of a tool to ensure supply line anchorage point cannot be removed by hand).

- ▶ Push the wires into the correct terminals as labelled. Refer wiring guide below or on the sticker inside the terminal block area.
- ▶ Tighten all screws on the terminal block with a screwdriver and check to ensure each wire has been firmly secured. Then screw mains lid back on.

WARNING

- **This appliance must be supplied through a residual current device (RCD) having a rated residual operating current not exceeding 30mA.**
- Correct wiring of the main electricity board, RCD and spa pack is critical.
- When installing appliance refer to your local wiring regulations.
- When installing mains power cable providing service loops (additional wire length for future serviceability) to incoming wiring is recommended.



230-240V (3 wire) single phase

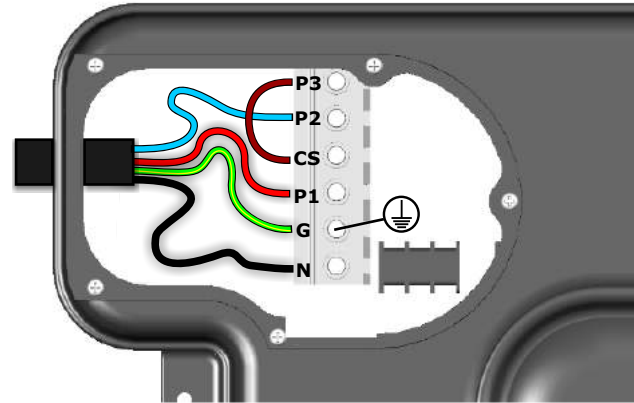
Terminal Wiring

P3	Link to CS
P2	Link to CS
CS	Link to P3 and P2
P1	Phase
G	Earth
N	Neutral

*Dip Switch 5 OFF

*Dip Switch 6 OFF

* Refer Dip switch information on page 11



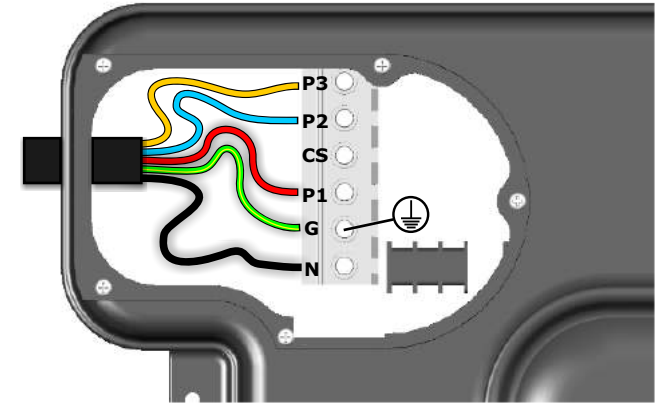
230-240V (4 wire) dual phase

Terminal Wiring

P3	Link to CS
P2	Phase 2
CS	Link to P3
P1	Phase 1
G	Earth
N	Neutral

*Dip Switch 5 ON

*Dip Switch 6 OFF



230-240V (5 wire) three phase

Terminal Wiring

P3	Phase 3
P2	Phase 2
CS	Not used
P1	Phase 1
G	Earth
N	Neutral

*Dip Switch 5 ON

*Dip Switch 6 ON