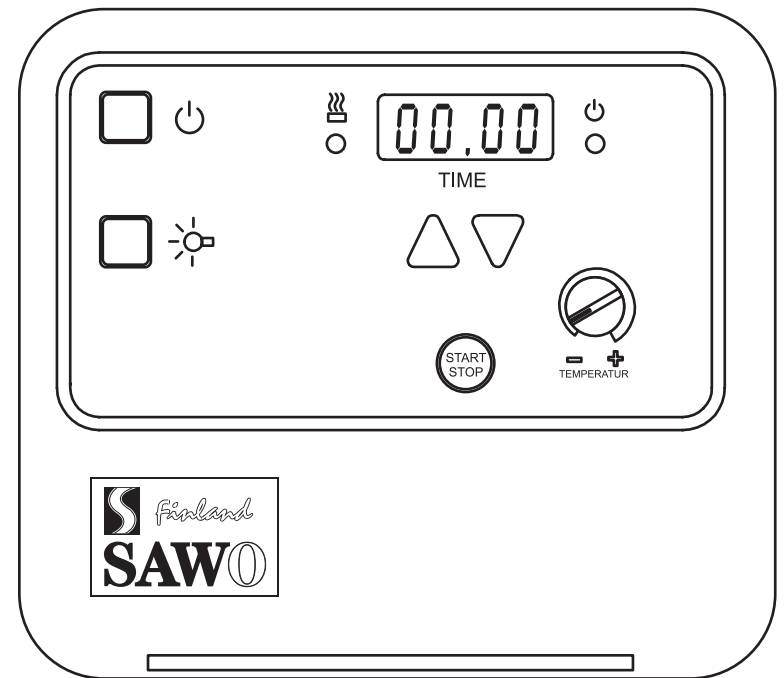


Sauna control ASV 3-15

Assembling Instructions

Operating instructions

Including Single-Phase Connection Instructions



www.sawo.com
info@sawo.com

Subject to change without notice.

Part 1 Assembling Instructions for Specialist Staff Only

General Safety Information 3

1 Preparing for sauna control assembly 4

2 Assembling the sauna control for three phase power supply connection 4

3 Assembling the sauna control for single phase power supply connection 5

4 Finishing the assembly of the sauna control 5

5 Optional door switch 6

6. Mounting the temperature sensor F I with overtemperature fuse 6

7. Tests 6

8. Replacement of defective fuse for interior lighting 7

9. Error messages 7

Part 2 Operating instructions for the User

General Safety Information..... 8

1 For your safety 9

2 Turning the sauna interior lighting on / off 9

3 Operation 9

4 Optional sauna door safety-monitor..... 10

5 Pausing operation for a longer period of time 11

6 Troubleshooting 11

Part 3 Technical Data

Connecting ASV 3-15 into a single phase power supply 12

Electrical diagram for Single Phase Power Supply Connection 13

Electrical diagram for Three Phase Power Supply Connection 14

Dear Assembler

- Assembling may be performed by an electrician or a comparatively qualified person only. Make sure the sauna control has been disconnected from the main power supply before starting work.
- Read the assembling instructions carefully, before assembling the sauna control. In doing so you will utilize all the benefits of the device and you will prevent damages.
- Should particular problems occur, which are not sufficiently dealt with in these assembling instructions, to protect yourself, turn to your supplier.
- Unauthorized changes or modifications of the sauna control are not permitted due to safety reasons.

Meaning of characters in the assembling instructions:



WARNING:

If not observed you may be subject to severe or even deadly injury.



CAUTION:

If not observed you may be subject to medium to light injuries or material may be damaged.



NOTE:

Gives advice concerning applications and useful information.

Keep these assembling and operating instructions near the control for quick and easy reference regarding important information for safety and operation.

General safety information

Follow the special safety information of each chapter.

Installation:

- On installation an all-pin disconnection turn-off needs to be provided with a 3 mm contact opening. (Generally provided for by the fuse).

As directed use:

- Prior to turning on the sauna control and to setting the desired time (time until the stove starts) make sure that no combustible objects have been placed on top of the stove.
- The purpose of the sauna control ASV 3-15 is to control the temperature of the interior within the range of 50 - 125 degrees Celsius.
- You are only allowed to use the sauna control ASV3-15 for controlling 3 heating circuits with a maximum heating capacity of 5kW (three phase connection) and 2.665kW (single phase connection) per heating circuit respectively.

Disposal:

- Please dispose of packaging materials in accordance with applicable disposal regulations.
- Old used devices contain recyclable materials. Therefore please do not simply dispose of them at the nearest landfill, but do inquire at the administrative offices of your city or district about the possibility of recycling.

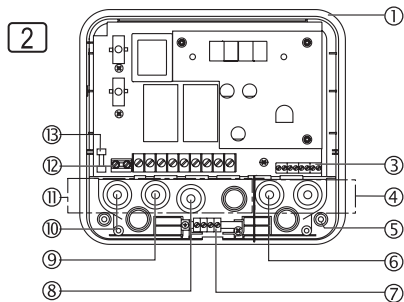
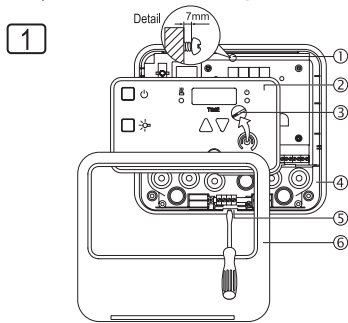
1 Preparing for Sauna Control Assembly 1

Mount the sauna control on the exterior of the sauna cabin or in accordance with the recommendations of the manufacturer. A non-detachable supply connection provides the electrical power supply.

⚠ CAUTION -Damages of Device:

The sauna control is protected from splashing water (protection degree IP 24). Nevertheless the sauna controls should not come in contact with water. Mount the sauna control at a dry location. With environmental conditions of 40° Celsius and a maximum of 95 percent humidity.

- Interlock 5 slightly push in and lift off the top of the enclosure 6.
- Recessed head screw 16 mm length for the upper mounting hole 1 tighten up to a gap of 7 mm to the sauna wall (refer to detail) and hang up bottom of enclosure 4 at the back side.



2 Assembling the Sauna Control for Three Phase Power Supply connection 2 7

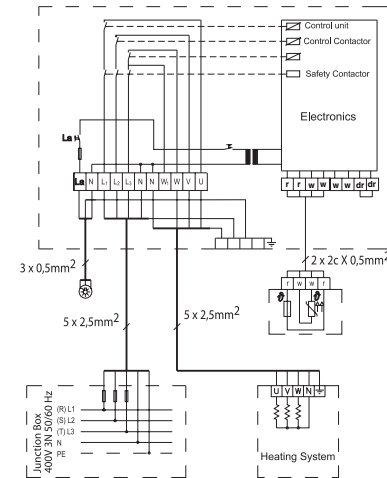
- Guide the circuit lines of the temperature sensor F I with overtemperature fuse through the mounting opening 6 into the bottom of the enclosure 1 and in accordance with the circuit diagram clamp to the terminal strip 3.

⚠ CAUTION -Damages of Device:

You are only allowed to use the sauna control for controlling 3 heating circuits with a maximum heating capacity of 5kW per heating circuit for a 3 phase power supply connection.

- Guide the power supply cable of the heating system through the mounting opening 8 into the bottom of the enclosure 1 and in accordance with the circuit diagram clamp to the terminal strip 7.
- Guide the power supply cable (as non-detachable wiring through the mounting opening 9 into the bottom of the enclosure 1 and in accordance with the circuit diagram clamp to the terminal strip 7).
- Guide the lighting circuit lines through the mounting opening into the bottom of the enclosure 1 and in accordance with the circuit diagram clamp to the terminal strip 7.
- Guide the lighting circuit lines through the mounting opening into the bottom of the enclosure 1 and in accordance with the circuit diagram clamp to the terminal strip 7.
- Screw two recessed head screws, 20 mm in length, into the bottom mounting holes 5. Check for secure fit of the bottom of the enclosure 1.

7 ASV3-15 Wiring Diagram Note: Maximum 15kW heater for Three Phase Power Supply Connection



3 Assembling the Sauna Control for Single Phase Power Supply connection 2 6

- Guide the circuit lines of the temperature sensor F I with overtemperature fuse through the mounting opening 6 into the bottom of the enclosure 1 and in accordance with the circuit diagram clamp to the terminal strip 3.

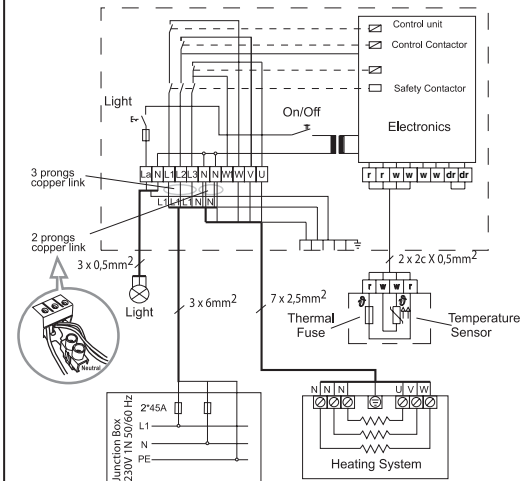
⚠ CAUTION -Damages of Device:

You are only allowed to use the sauna control for controlling 3 heating circuits with a maximum heating capacity of 2,665kW per heating circuit for a Single phase power supply connection.

- Insert the 3 prong copper link in L1, L2, L3 terminal for L1 Power Supply and tighten the screws. Insert the wire from L1 Power Supply to terminal provided for L1 and tighten the screw. Insert the 2 prong copper link in N,N terminals for Neutral Power Supply and tighten the screws. Insert the wire from N Power Supply to terminal provided for N and tighten the screw.
- Guide the supply cable of the heating system through the mounting opening 8 into the bottom of the enclosure 1 and in accordance with the circuit diagram (page 9) clamp to the terminal strip 7.
- Guide the power supply cable (as non-detachable wiring) through the mounting opening 9 into the bottom of the enclosure 1 and in accordance with the circuit diagram clamp to the terminal strip 7.

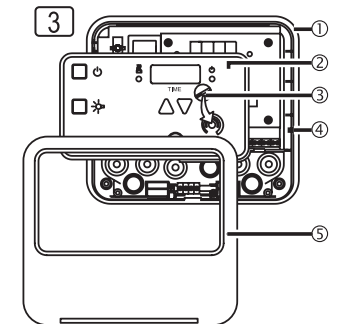
- Guide the lighting circuit lines through the mounting opening into the bottom of the enclosure 1 and in accordance with the circuit diagram clamp to the terminal strip 7.
- Screw two recessed head screws, 20 mm in length, into the bottom mounting holes 5. Check for secure fit of the bottom of the enclosure 1.

ASV3-15 Wiring Diagram Note: Maximum 8kW heater for Single Phase Power Supply Connection



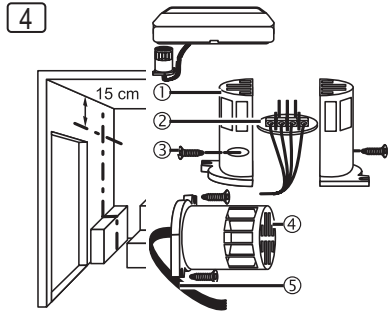
4 Finishing the Assembly of the Sauna Control 3 7

- Place top of enclosure 5 on top of the bottom of the enclosure 1 rotate it to bottom and push until you hear it lock.



5 Optional door switch

Mount the optional door switch according to the assembling instructions attached to the door switch, or in accordance with the specifications of the cabin manufacturer.



6 Mounting the temperature sensor FI with overtemperature fuse

Mount the temperature sensor FI with overtemperature fuse in the sauna cabin about 15 cm below the ceiling and above the heating system, or in accordance with specifications of the cabin manufacturer. The sensor FI can only be connected with the attached 150°C temperature-resistant connecting line. On the outside of the sauna cabin the temperature-resistant connecting line can be extended with customary lines.

CAUTION - Double insulation is require: The sensor lines have to run separately to other circuit and control lines.

Single insulated lines have to be protected with a pipe (double insulation).

- Run two x two-pin line ⑤ to mounting site of sensor FI ④ at the cabin wall and fix in position with wiring clips.
- Separate two half shells ① of the sensor FI and clamp to four terminal connectors of the temperature-resistant connection line according to the circuit diagram.

- Insert round adaptor plate ② with the connection cross-wise in the half shells, ① close half shells ① and tighten with the two recessed head screws ③ which are 9 mm in length. Check for secure locking of the sensor FI.
- Run tests according to chapter 6, .Tests..
- Bolt sensor FI ④ with two wooden screws to the cabin wall in alignment with the middle of the heater, keep a distance of 15 cm to the ceiling, or in accordance with specifications of the cabin manufacturer.

7 Tests

Tests have to be conducted by an authorized electrical engineer.

WARNING: - Danger of Electric Shock: The following tests have to be conducted with supply voltage turned on.

- Test contact to ground terminal.
- Test the safety shutdown with interrupted line to the temperature sensor / fuse.
 - The line has to be loosend at the sensor, so that the sensor line is included in the test.
 - When loosening the white or the red sensor lines the heating system has to turn off by itself.
- Test the phase interconnection L1, L2, L3 to u,v,w.

Error description:

- Relay wobble.
- The set temperature is not kept constant.
- Disturbing sounds come from the control.
- The interior lighting does not light.
- The temperature fuse has been triggered unexpectedly.
- Heater will be continuously turned off.
- Error occurs immediately after turn-on.
- Error occurs after it has been turned on for a while.

8 Replacement of defective fuse



CAUTION Before opening the top of enclosure disconnect the unit from the power supply.

- Rotary knob TEMPERATURE ③ turn to the left until limit stop and pull upward.
- Interlock ⑤ slightly push in and lift off the top of the enclosure ⑥.
- Operating device ② carefully pull off from the bottom of the enclosure ④.
- Change the fuse.

The cover ② has to be guided into holding fixtures at the sides ④.

- Insert cover ② into both holding fixtures at the sides ④ and carefully push down on the bottom of the enclosure until you hear it lock ①.
- Check for secure fit of the cover.
- Place top of enclosure ⑤ on top of the bottom of the enclosure ① rotate it to bottom and push until you hear it lock.
- Rotary knob TEMPERATURE ③ carefully press down.
- Check for secure fit of the rotary knob TEMPERATURE ③.

9 Error Messages

Dear Assembler

Should, against expectations, there be reasons for complaints regarding this device, we would ask you to please describe the error as accurately as possible to allow for speedy repair processing. For every returned control please always include the temperature sensor(s).

Error messages in the display indicate:

- E-F1: Short-circuit or interrupted temperature sensor line (white line)
- E-24: Excessive temperature fuse has operated or (red) cable to excessive temperature fuse interrupted.
- E-P1: Potentiometer for adjusting rated temperature defect.

- E-51: } Push-button ⑦ or ⑧ jammed.
- E-52: }
- E-53: }

Miscellaneous:

Dear Assembler

- Carefully read the operating instructions before using the sauna control, so that you will benefit from all the features the device has to offer and to prevent damages.
- To protect yourself, turn to your supplier should particular problems occur, which are not sufficiently dealt with in these assembling instructions.
- Unauthorized changes or modifications of the controls are not permitted due to safety concerns and render the guaranty invalid.

Meaning of characters in the assembling instructions:



WARNING:

If not observed you may be subject to severe or even deadly injury.



CAUTION:

If not observed you may be subject to medium to light injuries or material may be damaged.



NOTE:

Gives advice concerning applications and useful information.



Fire hazard

Keep these assembling and operating instructions near the control for quick and easy reference regarding important information for safety and operation.

General safety information

Follow the special safety information of each chapter.

Proper use:

- Prior to turning on the sauna control and to setting the desired time (time until the stove starts) make sure that no combustible objects have been placed on top of the stove.
- The purpose of the sauna control ASV 3-15 is to control the temperature of the interior within the range of 50 - 125 degrees Celcius.
- You are only allowed to use the sauna control for controlling 3 heating circuits with a maximum heating capacity of 5kW (3 phase connection) and 2.665kW (single phase connection) per heating circuit respectively.

Disposal:

- Please dispose of packaging materials in accordance with applicable disposal regulations.
- Old used devices contain recycable materials. Therefore please do not simply dispose of them at the nearest landfill, but do inquire at the administrative offices of your city or district about the possibility of recycling.

1 For your safety



CAUTION: Damages of device:

Do not pour water on the sauna control or clean it with a very wet cloth. For cleaning please use a cleaning cloth, which has been slightly moistened with a mild soapy solvent (dish detergent).



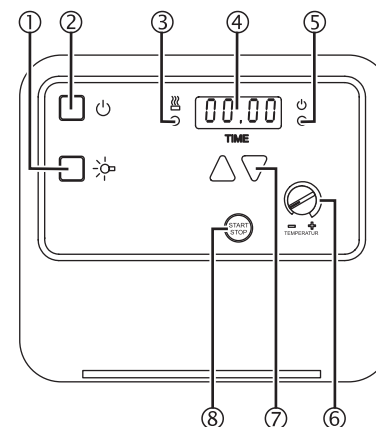
WARNING - Fire hazard:

Prior to turning on the sauna control and when selecting the start-time (time until the stove starts) make sure that no combustible objects have been placed on top of the stove.



2 Turning the sauna interior lighting on/off

1. Key ① turns sauna interior lighting ON / OFF.



3 Operation

3.1 Operation without selected time

1. Press ON / OFF ② key
The display ④ indicates 00.00 (Display blinks)
The signal lamp ⑤ OPERATION lights up.
2. Press START / STOP ⑧ key. The sauna heater starts. The signal lamp ③ HEATING lights up. The temperature measured in the area of the temperature sensor appears in the display ④.
3. Set the desired temperature with the rotary knob TEMPERATURE ⑥ in the range of 50 - 125 degrees Celsius.
4. To exit:
 - 4.1 Press START / STOP ⑧ key. The sauna heater turns off.
The display indicates 00.00 (Display blinks)
The signal lamp ③ HEATING goes out.
The control is ready for entering a selected time or a restart.
 - 4.2 Press ON / OFF ② key.
The sauna control is turned off.

3.2 Operation with selected time

1. Press ON / OFF 2 key
The display ④ indicates 00.00 (Display blinks)
The signal lamp ⑤ OPERATION lights up.



NOTE - "High-Speed Run":
Pressing and holding the PLUS / MINUS keys ⑦ trigger a high-speed run. entry after 5 seconds.

2. Using the PLUS / MINUS keys ⑦ enter the desired selected time, e.g. [02.30]. In 2 hours and 30 minutes the heater will start heating.
3. Confirm the selected time with the START / STOP ⑧ key. The remaining time is shown in the display ④ with a flashing dot. (selected time = remaining time until heater starts). After expiration of the pre-section time the temperature measured in the area of the temperature sensor is shown in the display ④.
4. Set the desired temperature with the rotary knob TEMPERATURE ⑥ in the range of 50 - 125 degrees Celsius.
5. To exit:
 - 5.1 Press START / STOP ⑧ key.
The sauna heater turns off.
The display indicates 00.00 (Display blinks)
The signal lamp ③ HEATING goes out.
The control is ready for entering a selected time or ready for a restart.
 - 5.2 Press ON / OFF ② key. The sauna control is turned off.



NOTE:

The time needed for warm-up until the set temperature of the heater is reached varies, depending on size of sauna and type of stove.



NOTE:

The temperature indication at the position of the temperature sensor differs very significantly from that of the temperature in the area of the sunbed.

4 Optional sauna door

To offer protection from fire hazards, the sauna door will be monitored after the desired start-time has been set (time until the stove turns on). To prevent somebody from entering the cabin after the desired start-time has been set, and perhaps place an object on top of the stove, the control has been equipped with a safety shutdown, which will respond according to the operational status:

4.1 Operational status- stove does not heat

The desired start-up time has been set. Heater is not running yet. The sauna door is opened:

- You will hear a repeated beeping sound,
- The display ④ will indicate the message "door",
- The desired start-time will be cancelled.

After closing the sauna door, you will have to re-enter the desired start-time.

4.2 Operational status - stove is heating

The desired start-up time has elapsed. The heater is running. The sauna door is opened:

1. **The temperature is below 40°C:**
 - You will hear a repeated beeping sound,
 - The display ④ will indicate the message "door".

After closing the sauna door, you will have to re-enter the desired start-time or you will have to restart the control .

2 The temperature is above 40°C:

If you quickly open the sauna door (for less than 5 seconds) no message will be indicated. If the sauna door is opened for longer than 5 seconds:

- you will hear a repeated beeping sound,
- the heater will be turned off
- the display ④ will indicate the message "door"

After closing the sauna door, the heater will be turned on again.

- the beeping stops,
- the displayed message "door" disappears.

5 Pausing operation for a longer

Turn off main fuse of the sauna control in the fuse box.

6 Troubleshooting

6.1 Automatic time limitation

- The sauna control turns off after 6 / 12 hours of continuous heating (depending on factory setting).
- For continued operation press the START / STOP ⑧ key.

6.2 Interior lighting does not work

- Turn off ON / OFF ① key.
- Turn off main fuse of the sauna control in the fuse box.
- Replace light bulb.
- Contact customer service or the electrical engineer, if the interior light still does not work. (look at part 1, chapter 7)

6.3 ERROR Display messages

The sauna control is not ready-to-operate:

1. Turn off main fuse of the sauna control in the fuse box.
2. Contact customer service or the electrical engineer.
3. Mark the device as "defective".

With the following display error messages ④ you can inform customer service of possible errors/defects.

The error messages of the display mean:

- | | |
|-------|---|
| E-F1: | Short-circuit or interrupted temperature sensor line (white line) |
| E-24: | Excessive temperature fuse has operated or (red) cable to excessive temperature fuse interrupted. |
| E-P1: | Potentiometer for adjusting rated temperature defect. |
| E-51: | } Push-button ⑦ or ⑧ jammed. |
| E-52: | |
| E-53: | |

Connecting ASV 3-15 to a Single Phase power supply

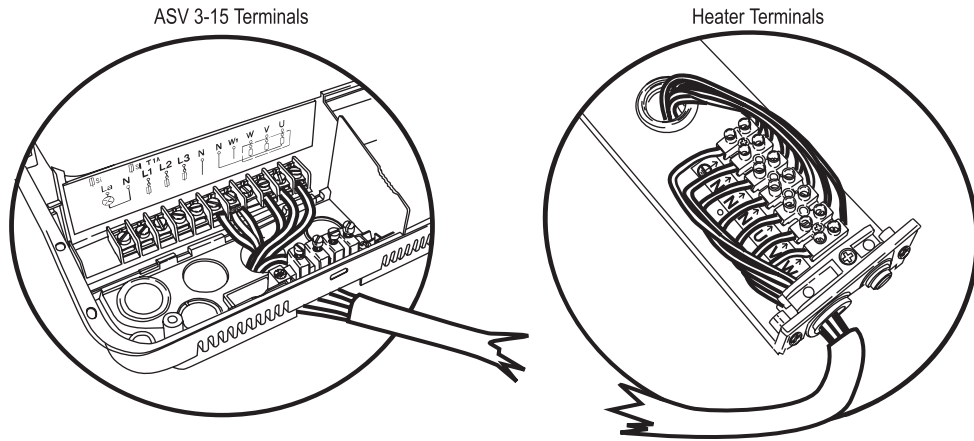


Fig 1 Connecting ASV3-15 Terminals to Heater Terminals

Make a wiring connection from ASV 3-15 Control Panel to Heater unit. Wires should be properly connected to corresponding letters on both terminal blocks.

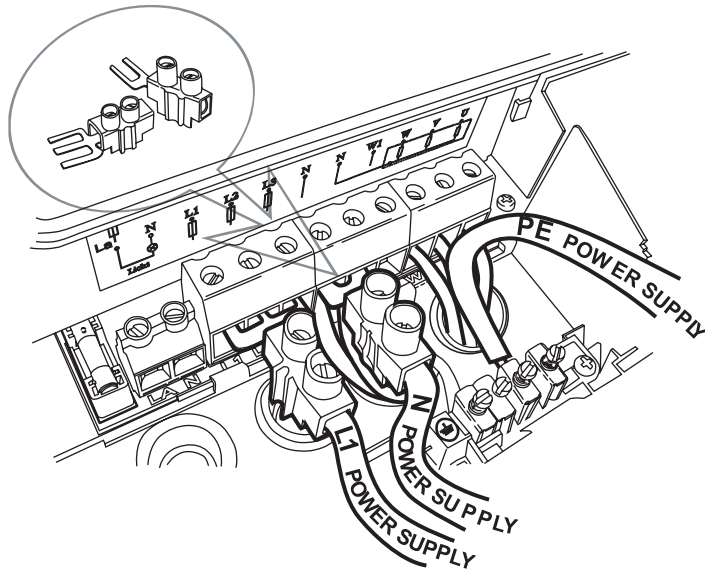
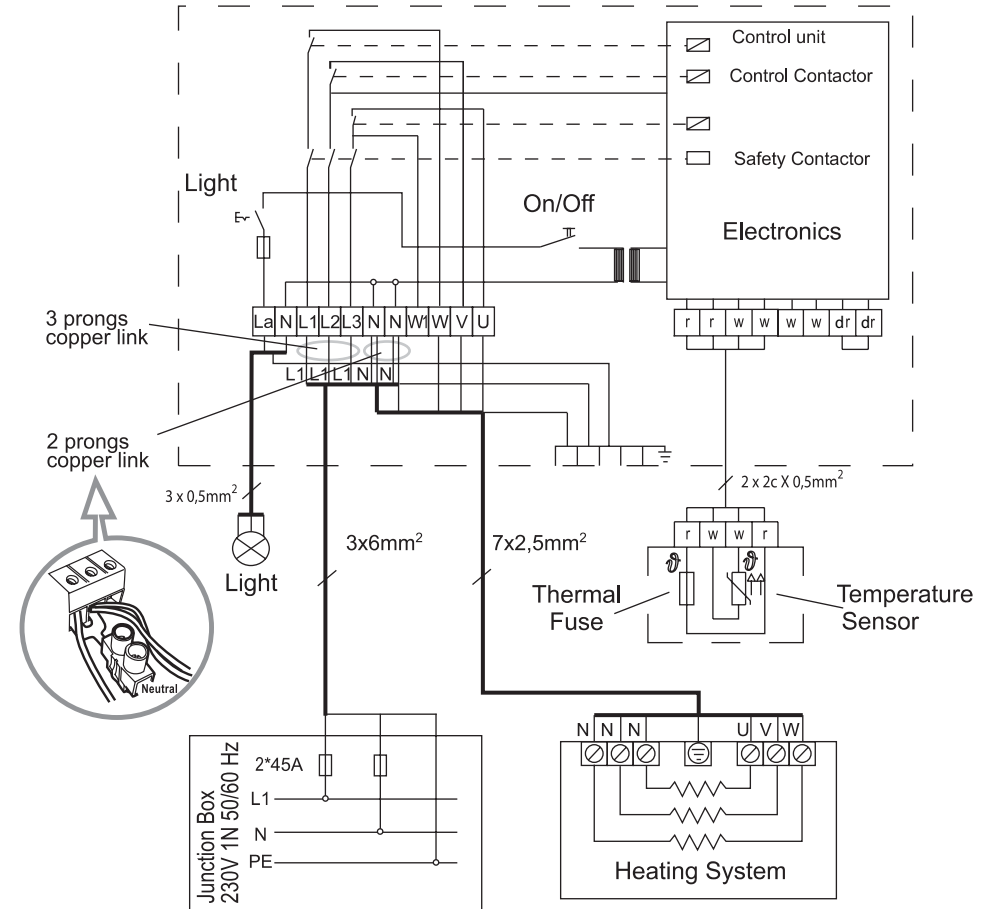


Fig. 2 Connecting Power Supply to ASV3-15 Control Panel

6 Electrical Diagram for Single Phase Power Supply Connection



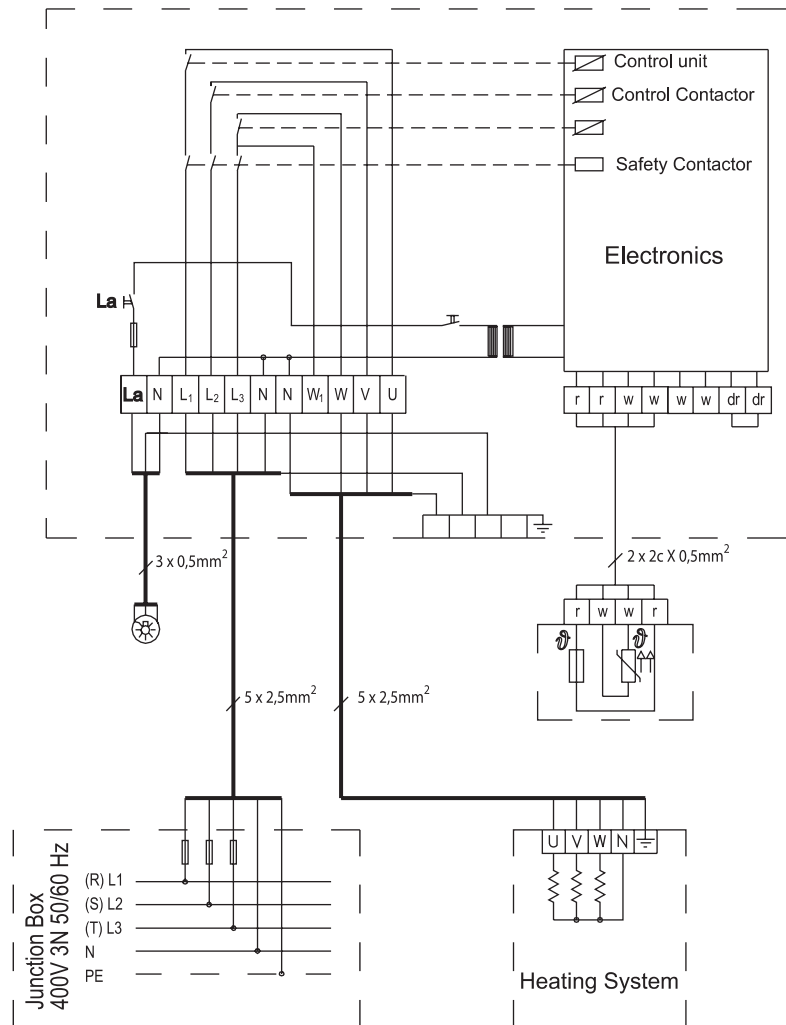
NOTE:

Only heaters up to 8kW (3x2,665kW) can be connected if ASV3-15 is connected to Single Phase Supply.

⚠ WARNING:

If a heater of more than 8kW (3x2,665kW) power is connected to a Single Phase Power Supply, overheating of the terminal and or wires can cause a fire.

7 Electrical Diagram for Three Phase Power Supply Connection



NOTE:

Heaters with more than 15kW power require an optional contactor unit to be connected to ASV 3-15 in Three Phase Operation Mode.

Technical Data

Ambient temperature: -10 °C to + 40 °C
Storage temperature: -25 °C to + 70 °C

Minimum temperature stability of the connecting lines:

Heating system, light and temperature sensors at least 150 °C of temperature stability

Sauna control:

Dimensions (W x H x D): 240 x 80 x 220 mm
Type of protection: IP 24 - protection from splashing water

Weight: approx. 1250 g

For Three Phase Connection

Nominal voltage: 400 VAC; 50/60 Hz; 3N

Switching capacity: AC1, 3 x 5.0 kW

For Single Phase Connection

Nominal voltage: 230 VAC; 50/60 Hz; 1N

Switching capacity: AC1, 3 x 2.665 kW

Connection to the main circuit as permanent wiring (non-detachable connection).

Range of adjustment:

Temperature 50 - 125 degrees Celsius
(refers to sensor location FI)

Light:

230 V, AC1 = 1A

