

SSC-1D installation guide

The Single Stage Control (SSC-1D) automatically controls the temperature in a room by switching fans, lamps, or heaters on or off as the temperature drops below or exceeds the temperature set point.

When the SSC-1D is in cooling mode, it switches on the fans when the temperature exceeds the set point. When the control is in heating mode, it switches on the lamps or heaters when the temperature drops below the set point.

Features

- ◆ Single stage output
- ◆ Heating and cooling modes
- ◆ Adjustable temperature set point
- ◆ Two-digit LED display
- ◆ Fahrenheit and Celsius display
- ◆ Error code display for troubleshooting
- ◆ Overload protection fuse
- ◆ CSA approval
- ◆ Six-foot temperature probe, extendable to 500 feet
- ◆ Rugged enclosure (corrosion resistant, water resistant, and fire retardant)
- ◆ Two-year limited warranty



Electrical ratings

- ◆ Input: 120/230 VAC, 60 Hz
- ◆ Solid-state relay: 10 A at 120/230 VAC, general-purpose (resistive)
1/3 HP at 120 VAC, 1/2 HP at 230 VAC
360 W tungsten at 120 VAC
- ◆ Fuse: 15 A, 250 VAC ABC - type ceramic

Installing the SSC-1D



- ◇ The SSC-1D must be installed by a qualified electrician.
- ◇ Before installing or servicing the SSC-1D, switch OFF the power supply at the source.
- ◇ Install the SSC-1D and all equipment connected to it according to local electrical codes.



- ◇ Mount the unit on a sheltered, vertical surface, with the electrical knockouts facing down.
- ◇ Use a screwdriver to tighten the screws in the enclosure. Do not use a drill or over tighten the screws; this can crack the enclosure and ruin the watertight seal.
- ◇ Use the electrical knockouts for bringing wires or cables into or out of the enclosure. Use watertight strain reliefs or conduit connectors at all cable-entry points.
- ◇ Before removing electrical knockouts, remove the cover to prevent damaging the control. Do not make additional holes in the enclosure; this can damage the watertight seal or components and void the warranty.

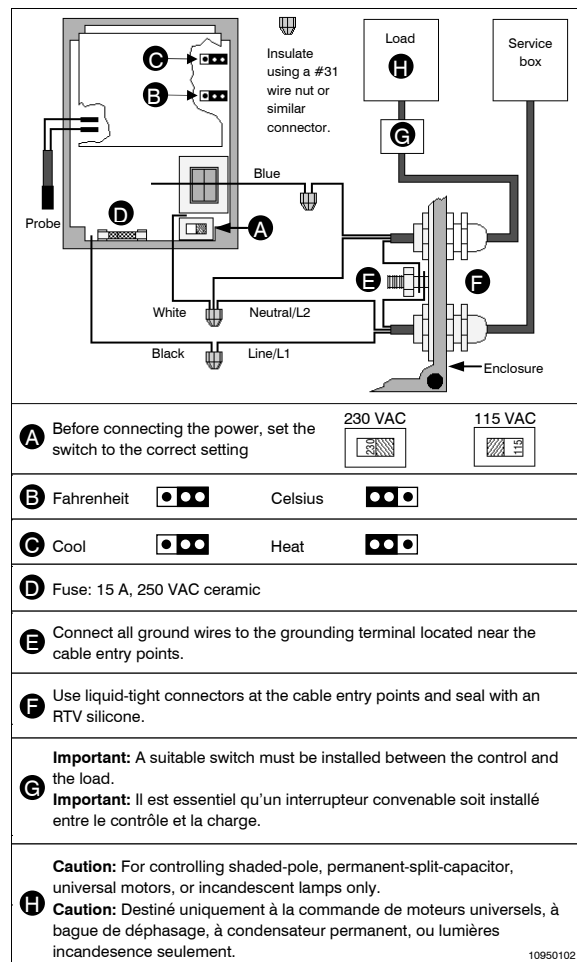
Mounting the SSC-1D

1. Remove the cover from the enclosure.
2. Fasten the SSC-1D to the mounting surface using the four screws provided.

Wiring the SSC-1D

Refer to the wiring diagram.

1. Set the voltage switch **A** to the correct position for the line voltage used.
2. Set jumper **C** to the correct position for the temperature units (Fahrenheit or Celsius) you want to use.
3. Set jumper **D** to the correct position for the mode (heating or cooling) you want to use.
4. Connect the wires as shown in the wiring diagram.



Connecting the temperature probe

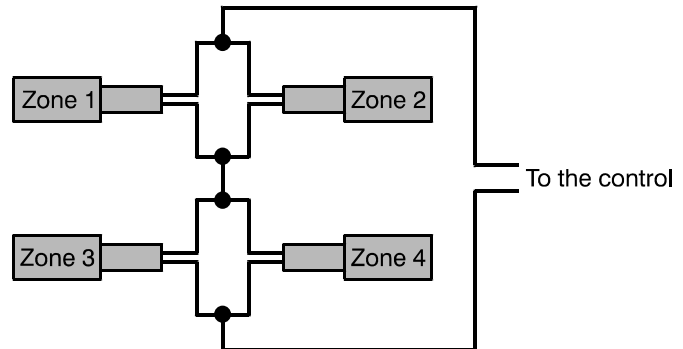
Follow the guidelines below when connecting the temperature probe.

- ◆ Do not run the probe cable in the same conduit as AC power cables
- ◆ Do not run the sensor cable beside AC power cables or near electrical equipment.
- ◆ When crossing other cables or power lines, cross them at a 90 degree angle.

Using four-zone averaging

The SSC-1D can monitor the temperature in four different zones. The control takes an average of the four temperatures and operates according to the average temperature.

To use four-zone averaging, you must connect four temperature sensors to the unit. Connect the probes as shown to the right.



Extending probe cables

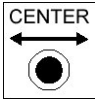
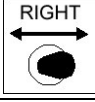

You can extend temperature probe cables to lengths of up to 500 feet. Follow the temperature probe guidelines and the guidelines below when extending cables.

- ◆ Use two-wire 18 AWG jacketed cable. Phason recommends Belden # 9408, Alpha # 5052, or an equivalent. Extension cable is also available from Phason. For more information, contact your dealer or Phason.
 - ◆ Join the extension cable to the temperature probe cable as shown below.
 - ◆ If the unit operates erratically with the extended probe, run the cable along a different path or shorten it.
1. Slide three pieces of heat shrink tubing over the wires: one for the red wire, one for the black wire, and one for both.
 2. Strip the ends of the wires and then twist them together.
 3. Solder the wires together using rosin-core flux solder—DO NOT use acid core solder.
 4. Slide the heat shrink tubing over the solder joints.
 5. Shrink the tubing using a heat gun.

Operation

The SSC-1D controls the temperature in a room by switching fans, lamps, or heaters on or off as the temperature drops below or exceeds the temperature set point. The set point is the desired room temperature and can be set between 32 and 98°F (0 and 38°C).

- ◆ **When the SSC-1D is in cooling mode**, the control switches on the load when the temperature exceeds the set point.
- ◆ **When the SSC-1D is in heating mode**, the control switches on the load (lamps or heaters) when the temperature drops below the set point.

Switch position	Function
	<ul style="list-style-type: none"> ◇ Displays the ambient temperature
	<ul style="list-style-type: none"> ◇ Allows you to view and adjust the temperature set point ◇ Clears alarms
	<ul style="list-style-type: none"> ◇ Allows you to verify if the control is in heating or cooling mode ◇ Allows you to verify if the control is in Fahrenheit or Celsius mode

Setting the temperature set point

1. Press and hold the switch to the right.
The current TEMP SET displays.
2. Turn the knob to the desired setting while holding the switch to the right. The TEMP SET can be between 32 and 98°F (0 and 38°C).



You must hold the switch to the right while turning the knob. If this is not done correctly, the display flashes between **LS** and the temperature display. This means the knob has been turned without holding the switch. The control will not accept the new setting until the switch is clicked to the right.

Display alerts

Alert	Description
P5	The temperature probe or sensor cable has short circuited.
Pd	The temperature probe is damaged or the connecting wire is broken.
t5	<ul style="list-style-type: none"> ◇ The Temperature knob has accidentally been turned. The display will alternately flash t5 and the ambient temperature. The control will not accept the new setting until the switch is clicked to the set position. or ◇ The voltage switch is set to 230 volts, but the incoming power is 115 volts. Check the voltage switch.
PF	The power has been interrupted. The display will flash between PF and the temperature. To clear the alarm, click the switch to the right. The control will function normally.

Maintaining the SSC-1D

Proper care and maintenance will help your SSC-1D last longer. To prevent damage to the control, perform the following steps after the first two weeks of operation, and once a year after that.

1. Switch off the power to the control.
2. Remove the cover and check inside for moisture. If there is any moisture, wipe it away using a dry cloth.
3. Check all cable entry points to make sure they are properly sealed. If they are not properly sealed, apply silicone sealant around the entry points.



If you need to seal the enclosure, use a sealant that is labelled as 'non-corrosive', 'electronics grade', or 'neutral cure', such as GE Silicone RTV6780B, RTV 142, or RTV 162.

Do not use a sealant that is labelled as 'acetic acid cure' or 'acetoxo cure'. These sealants release acetic acid while curing, which can damage the control and will void the warranty.

4. Check all wires to make sure they are properly connected and that they are in good condition.
5. Fasten the cover to the enclosure and then switch on the power to the control.

Cleaning the SSC-1D

To clean the SSC-1D, wipe the surface with a damp cloth.



Be careful when washing the room using a high-pressure washer. **DO NOT** spray the control using a high-pressure washer, this can damage the control and will void the warranty.

Evidence of moisture damage inside the control will void the warranty.

Phason controls are designed and manufactured to provide reliable performance, but they are not guaranteed to be 100 percent free of defects. Even reliable products can experience occasional failures and the user should recognize this possibility.

If Phason products are used in a life-support ventilation system where failure could result in loss or injury, the user should provide adequate back up ventilation, supplementary natural ventilation, or an independent failure-alarm system. The user's lack of such precautions acknowledges their willingness to accept the risk of such loss or injury.

Limited warranty

This warranty applies only to the Phason Inc. (Phason) Single Stage Control (SSC-1D). If you need warranty service, return the product and original proof of purchase to your dealer.

Phason warrants the SSC-1D subject to the following terms and conditions.

This warranty is valid only to the original purchaser of the product, for two years from the manufacturing date. The manufacturing date is stated in the first eight digits of the serial number in the form year-month-day.

Phason hereby warrants that should this product fail because of improper workmanship, Phason will repair the unit, effecting all necessary parts replacements without charge for either parts or labor.

Conditions

- ◆ Installation must be done according to Phason's enclosed installation instructions.
- ◆ The product must not have been previously altered, modified, or repaired by anyone other than Phason.
- ◆ The product must not have been involved in an accident, misused, abused, or operated or installed contrary to the instructions in our user and/or installation manuals. Phason's opinion about these items is final.
- ◆ The person requesting warranty service must be the original purchaser of the unit, and provide proof of purchase upon request.
- ◆ All transportation charges for products submitted for warranty must be paid by the purchaser.

Except to the extent prohibited by applicable law, no other warranties, whether expressed or implied, including warranties of merchantability and fitness for a particular purpose, shall apply to this product. Any implied warranties are excluded.

Phason is not liable for consequential damages caused by this product.

Phason does not assume or authorize any representatives, or other people, to assume any obligations or liabilities, other than those specifically stated in this warranty.

Phason reserves the right to improve or alter the SSC-1D without notice.

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