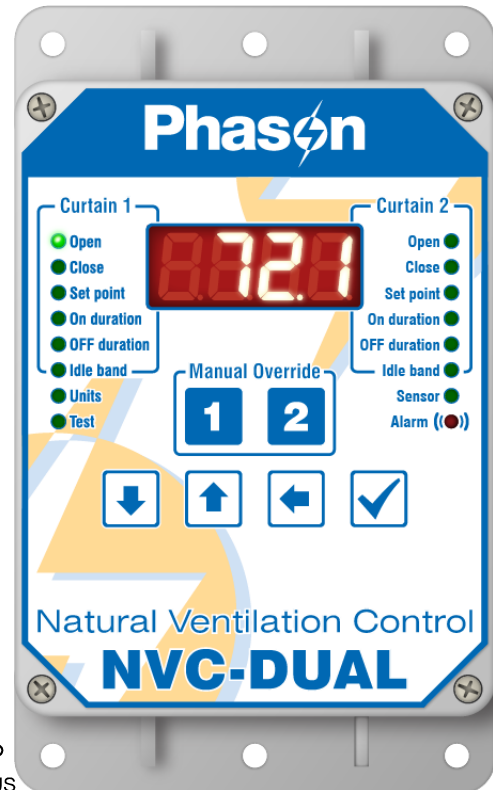


## Natural Ventilation Control

The Natural Ventilation Control (NVC-DUAL) is a fully programmable controller that provides extensive flexibility for your curtain or awning control needs. The NVC-DUAL automatically controls the temperature in a room by operating up to two curtain machines according to your programmed settings.

- ◆ When the temperature is within the **Idle band** of the **Set point**, the NVC-DUAL maintains the curtain position.
- ◆ When the temperature rises above the **Idle band**, the NVC-DUAL opens the curtain for the **On duration**, and then pauses for the **Off duration**.
- ◆ After each **Off duration**, the NVC-DUAL checks the temperature and then either opens or closes the curtain (for the preset duration), depending on the temperature.



## Features

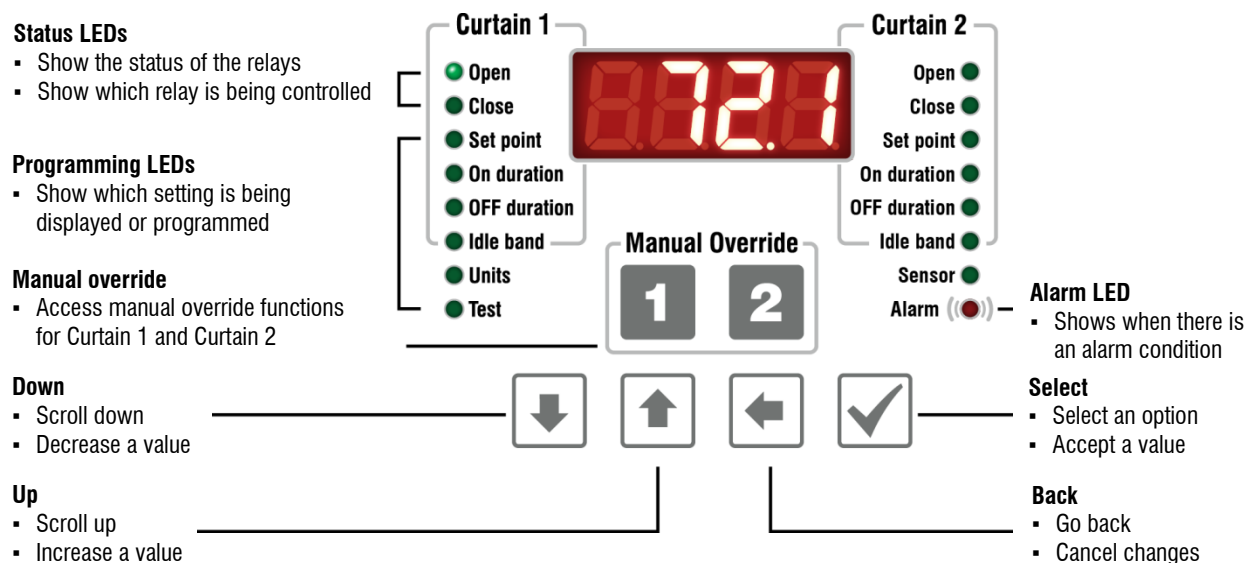
- ◆ Automatic temperature-based control, with extended temperature range -13 to 125°F (-25 to 51.7°C)
- ◆ Programmable On and Off durations for the open and close relays 1 to 900 seconds (up to 15 minutes)
- ◆ Programmable Idle band 1.0 to 10.0°F (0.6 to 5.5°C)
- ◆ Programmable High and Low temperature alarms
- ◆ Four curtain relays (2 x open, 2 x close)
- ◆ Alarm relay (for external alarm system)
- ◆ Six-button keypad
- ◆ Four-character LED display
- ◆ Programming and status LEDs
- ◆ Manual override/test mode
- ◆ Power-failure settings protection
- ◆ Six-foot temperature probe, extendable to 500 feet
- ◆ Rain Sensor (optional)
- ◆ Rugged enclosure (corrosion resistant, water resistant, and fire retardant)
- ◆ cSAUS approval
- ◆ Limited warranty (two years)

### Electrical ratings

- ◆ Input power 85 to 264 VAC, 50/60 Hz
- ◆ Open/close relays 15 A at 120/230 VAC, resistive load  
1/2HP at 120 VAC, 1 HP at 230 VAC
- ◆ Alarm relay 0.4 A at 125 VAC; 2 A at 30 VDC, resistive load  
0.2 A at 125 VAC; 1 A at 30 VDC, inductive load

If you are connecting equipment that exceeds the ratings of the relays, you must install power contactors. For more information, read **Manual Override Box** on page 17.

### Becoming familiar with the NVC-DUAL



### Main display

The main display shows the temperature and any alarm messages. The main display is what you see when you are not in a menu or settings display. Here are some things to know.

- ◆ When a relay is on, the status LED for that relay is lit. For example, if Curtain 1 is opening, the **Open LED** under **Curtain 1** will be lit.
- ◆ When there is an alarm condition, the display flashes between the alarm message and the current temperature. For more information, read **Alarm settings and conditions** on page 10.
- ◆ When the control is in manual override mode and at the main display, the **Open** and **Close** LEDs will blink three times and then stay off for one second. For more information, read **Using manual override mode** on page 13

## Main menu

When you are in the main menu, the display shows the menu items; the LEDs light up to show you which menu item is selected. Press **Up** or **Down** to move through the menu items.

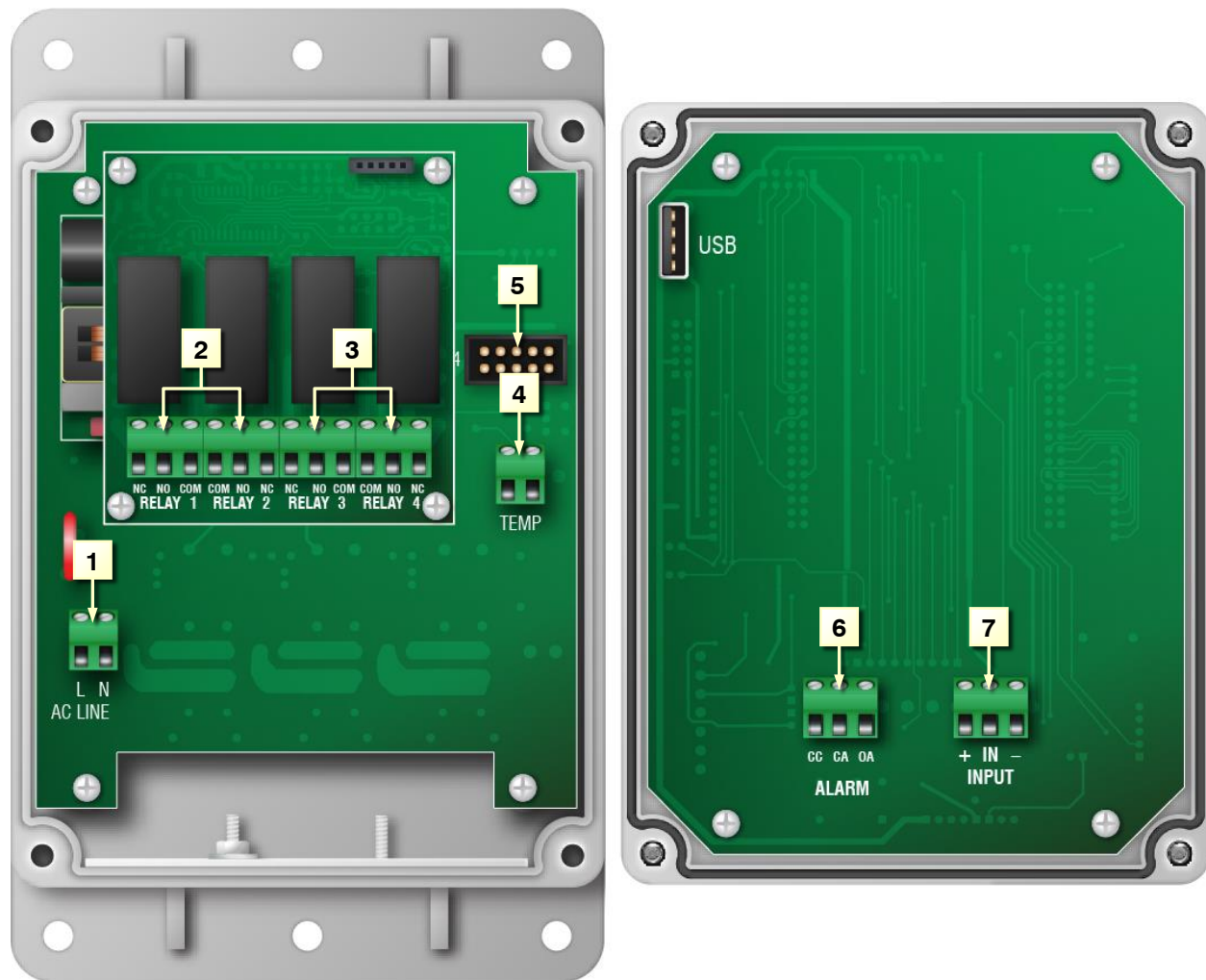
Menu item	Display	Function
Open Close	<i>CURT</i>	Select automatic or manual override (open, close, or idle)
Alarm	<i>ALAR</i>	Switch the alarm relay on or off
Test	<i>TEST</i>	Adjust the test temperature Restore the factory defaults
Set point	<i>SPt</i>	Adjust the curtain set point
Open on duration	<i>On</i>	Adjust the curtain open duration
Open off duration	<i>OFF</i>	Adjust the open idle duration
Close on duration	<i>On</i>	Adjust the close duration
Close off duration	<i>OFF</i>	Adjust the close idle duration
Idle band	<i>band</i>	Adjust the Idle band
High alarm	<i>Hi AL</i>	Adjust the high alarm temperature
Low alarm	<i>Lo AL</i>	Adjust the low alarm temperature
Units	<i>Unit</i>	Change between Fahrenheit and Celsius
Sensor	<i>SENS</i>	Enable the optional rain sensor

## Installing the NVC-DUAL



- ◇ Read and follow all instructions when installing the NVC-DUAL and connecting equipment to it.
- ◇ Read **Electrical ratings** on page 2. Do not exceed the electrical ratings of the control.

## NVC-DUAL layout



- 1 **Incoming power terminal:** connect the incoming power (85 to 264 VAC, 50/60 Hz) to this terminal. For more information, read **Connecting the power source** on page 7.
- 2 **Curtain 1 relay terminals:** connect a curtain machine to these terminals. For more information, read **Connecting a curtain machine** on page 5.
- 3 **Curtain 2 relay terminals**
- 4 **Temperature probe terminal:** connect the temperature probe to this terminal. For more information, read **Connecting the temperature probe** on page 6.
- 5 **Display connector:** make sure the ribbon cable from the display is properly connected.
- 6 **Alarm relay terminal:** connect an external alarm system or siren to this terminal. For more information, read **Connecting an alarm system** on page 6.
- 7 **Input terminal:** connect an optional Rain Sensor to this terminal. For more information, read **Phason Rain Sensor** on page 16.

### Mounting the NVC-DUAL

- ◆ Select a location for the NVC-DUAL. Make sure you have enough cable and wire to reach the equipment you want to control.
- ◆ Remove the screws from the front cover and then gently lift it off.
- ◆ Mount the enclosure to a wall using the four screws provided with the control. Insert the screws into the large holes in each corner of the box and then tighten.

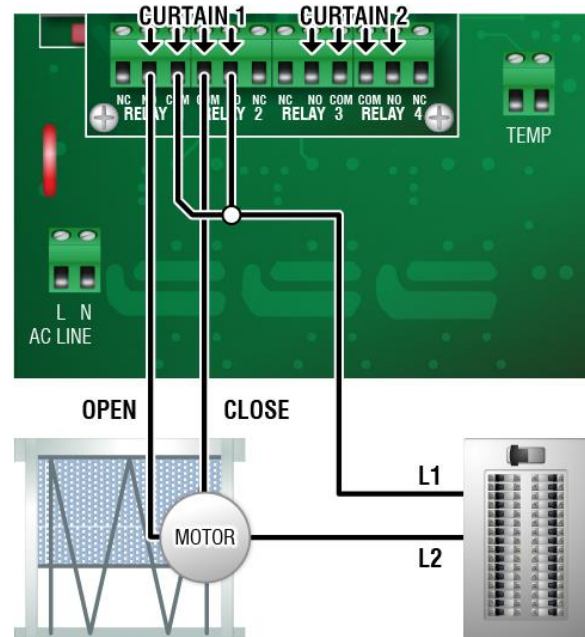
### Connecting a curtain machine

Curtains are usually controlled by equipment called curtain machines, which are sometimes referred to as winches.

The NVC-DUAL opens and closes the curtain to let in more air or less air, the idea being more air cools the building.

Connect curtain machines as shown. The example uses the terminals for Curtain 1.

For Curtain 2, connect the wiring in the same way using the other two terminals.



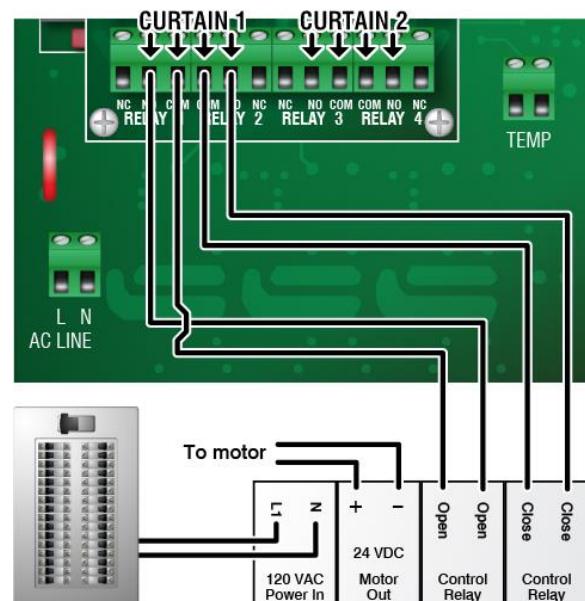
### Connecting a Curtain Control Panel

Phason's Curtain Control Panel (model CCP-1) can control a 24 VDC powered curtain machine in automatic or manual mode.

The CCP-1 includes a 24 VDC power supply and AUTO-OFF-MANUAL and OPEN-STOP-CLOSE switches.

In Auto Mode, the NVC-DUAL controls the curtain; in Manual Mode, the switches on the CCP-1 control the curtain.

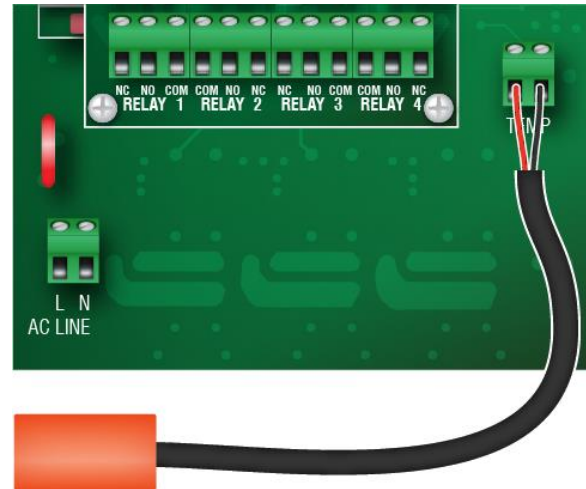
Connect the CCP-1 to the NVC dual as shown in the diagram.



### Connecting the temperature probe

Follow the guidelines below when installing and 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.



Replace damaged probes as soon as possible. If there is no probe present or working properly, the NVC-DUAL displays either *Pd* (probe damage) or *P5* (probe short) and switches off the relays.

### Connecting an alarm system

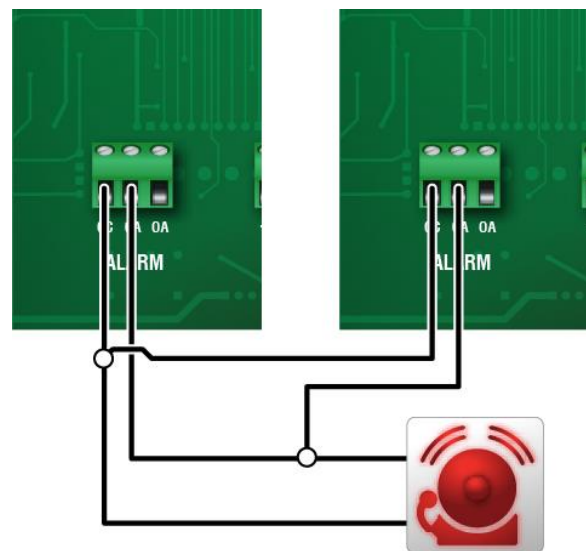
An alarm system can be a siren, an alarm panel, or an auto-dialer. See your alarm siren's installation guide for installation instructions and information about the type of system:

The descriptions for the alarm terminal are as follows: **CC**—common connection, **CA**—closed on alarm, **OA**—open on alarm.

#### To connect an alarm system that uses a normally open connection

If you are connecting the alarm system to a network of controls and your system uses a **normally open** connection (closes on alarm), connect the system as shown in the normally open diagram.

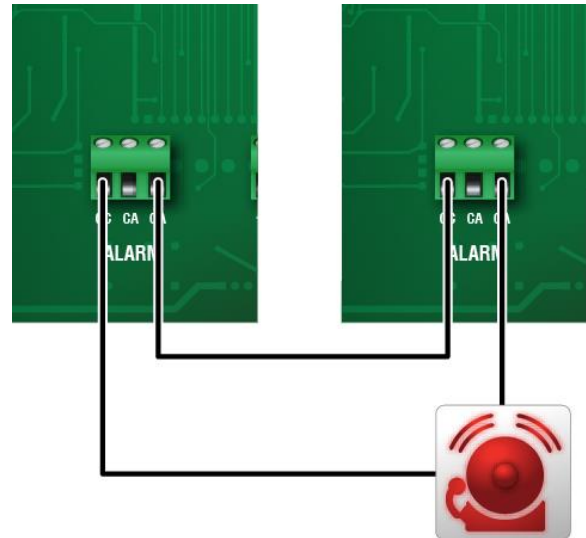
Join all the common (**CC**) connections together and all the closed-on-alarm (**CA**) connections together. The NVC-DUAL alarm relays must be in parallel with each other so any control can trigger the alarm system when an alarm condition occurs.



### To connect an alarm system that uses a normally closed connection

If you are connecting the alarm system to a network of controls and your system uses a **normally closed** connection (opens on alarm), connect the system as shown in the normally closed diagram.

Join the alarm relays in a continuous loop. The NVC-DUAL alarm relays must be in series with each other so any control can trigger the alarm system when an alarm condition occurs.

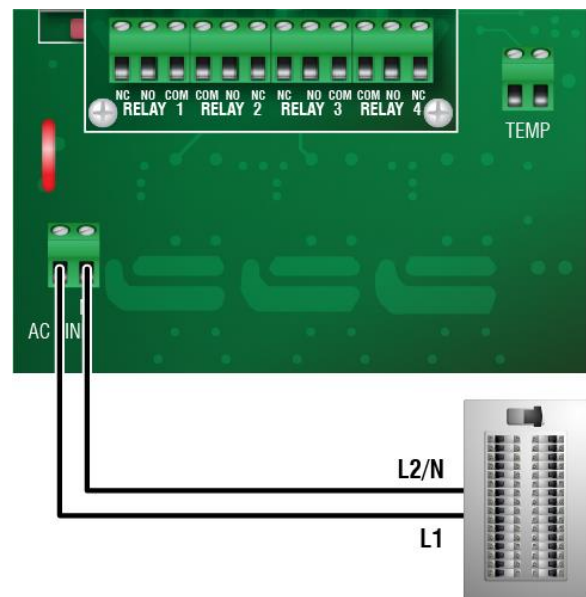


### Connecting the power source



- ◇ Before connecting the incoming power, switch OFF the power at the source.
- ◇ Do not switch ON the power until you have finished all wiring and verified all equipment is properly connected and free of obstructions.

The NVC-DUAL accepts 85 to 264 VAC, 50/60 Hz. Connect the incoming power as shown.



### Finishing the installation

After you have finished connecting all equipment:

1. Make sure all wires are properly connected to the correct terminals.
2. Connect the ribbon cable from the display to the base.
3. Place the cover on the control.
4. Switch on the power to the NVC-DUAL; it should display **8888** for three seconds, the version (for example, **v 100**) for three seconds, and then the temperature.
  - ◆ If the display does not light up, go back to step 1.
  - ◆ If the display shows an alarm message, or the LED for Alarm is flashing, press **Select** to acknowledge the alarm. For a list of alarm messages and error codes, read **Alarm messages** on page 11.
5. Test the equipment. For more information, read **Testing and maintaining the NVC-DUAL** on page 12
6. Fasten the cover to the base.

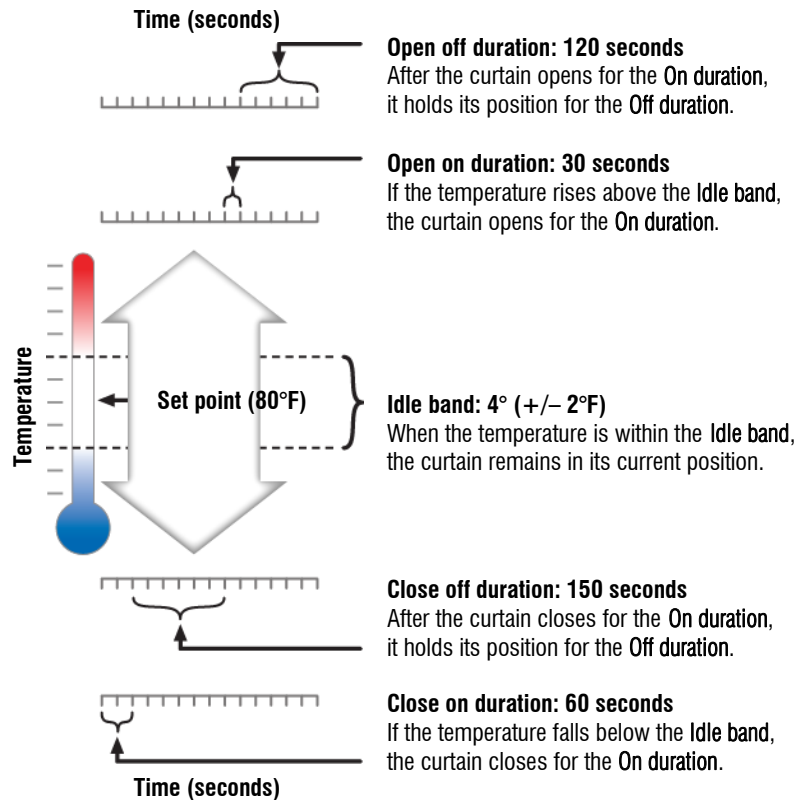
## Programming the NVC-DUAL

Before you begin programming the NVC-DUAL, make sure the control has power and you have **properly connected** all equipment to the **correct terminals**.

### How the curtain settings work

There are six curtain settings.

- ◆ **Set point:** the temperature at which the curtain holds its position.
- ◆ **Idle band:** the buffer around the set point within which the curtain holds its position.
- ◆ **Open on duration:** the duration the curtain opens during the open cycle
- ◆ **Close on duration:** the duration the curtain closes during the close cycle
- ◆ **Open off duration:** the duration the curtain holds its position during the open cycle
- ◆ **Close off duration:** the duration the curtain holds its position during the close cycle



Curtains hold their position while the temperature is within the **Idle band**. For example, if the **Set point** is 80°F and the **Idle band** is 4°F (+/- 2°), the curtain holds its position when the temperature is between 78°F and 82°F.

If the temperature rises above the **Idle band** (above 82°F in our example), the curtain opens for the **Open on duration**. After opening, the curtain holds its position for the **Open off duration**. If the temperature is still above the **Idle band**, the curtain again opens for the **Open on duration**, and the process repeats.

If the temperature drops below the **Idle band** (below 78°F in our example), the curtain closes for the **Close on duration**. After closing, the curtain holds its position for the **Close off duration**. If the temperature is still below the **Idle band**, the curtain again closes for the **Close on duration**, and the process repeats.

**To program the Set point**

Default: 70.0°F, range: -13 to 125 (-25 to 51.7°C)

1. Press **Down** until the display shows **SET** for the curtain you want to program.
2. Press **Select**.  
The current setting (in degrees) displays and the **Set point** LED flashes.
3. Press **Up** or **Down** to adjust the setting and then press **Select**.  
The change is saved and the display shows **SET**.
4. Press **Down** to move to the next setting, or **Back** to return to the main display.

**To program the Open on duration**

Default: 20 seconds, range: 1 to 900 (up to 15 minutes)

1. Press **Up** or **Down** until the display shows **ON** for the curtain you want to program.
2. Press **Select**.  
The current setting (in seconds) displays and the **On duration** LED flashes.
3. Press **Up** or **Down** to adjust the setting and then press **Select**.  
The change is saved and the display shows **ON**.
4. Press **Down** to move to the next setting, or **Back** to return to the main display.

**To program the Open off duration**

Default: 180 seconds, range: 1 to 900 (up to 15 minutes)

1. Press **Up** or **Down** until the display shows **OFF** for the curtain you want to program.
2. Press **Select**.  
The current setting (in seconds) displays and the **Off duration** LED flashes.
3. Press **Up** or **Down** to adjust the setting and then press **Select**.  
The change is saved and the display shows **OFF**.
4. Press **Down** to move to the next setting, or **Back** to return to the main display.

**To program the Close on duration**

Default: 30 seconds, range: 1 to 900 (up to 15 minutes)

1. Press **Up** or **Down** until the display shows **ON** for the curtain you want to program.
2. Press **Select**.  
The current setting (in seconds) displays and the **On duration** LED flashes.
3. Press **Up** or **Down** to adjust the setting and then press **Select**.  
The change is saved and the display shows **ON**.
4. Press **Down** to move to the next setting, or **Back** to return to the main display.

**To program the Close off duration**

Default: 120 seconds, range: 1 to 900 (up to 15 minutes)

1. Press **Up** or **Down** until the display shows **COFF** for the curtain you want to program.
2. Press **Select**.  
The current setting (in seconds) displays and the **Off duration** LED flashes.
3. Press **Up** or **Down** to adjust the setting and then press **Select**.  
The change is saved and the display shows **COFF**.
4. Press **Down** to move to the next setting, or **Back** to return to the main display.

**To program the Idle band**

Default: 2.0°F, range: 1.0 to 10.0°F (0.6 to 5.5°C)

1. Press **Up** or **Down** until the display shows **band** for the curtain you want to program.
2. Press **Select**.  
The current setting (in degrees) displays and the **Idle band** LED flashes.
3. Press **Up** or **Down** to adjust the setting and then press **Select**.  
The change is saved and the display shows **band**.
4. Press **Down** to move to the next setting, or **Back** to return to the main display.

**Alarm settings and conditions**

When there is an alarm condition, the alarm relay activates and the Alarm LED flashes. The display alternates between the ambient temperature and the alarm message.

When the condition goes away, the alarm relay deactivates and the Alarm LED switches off. The display continues to alternate between the temperature and alarm message until you acknowledge the alarm. To acknowledge an alarm, press **Select**.





There are four alarm conditions.

- ◆ **High temperature:** when the temperature is above the high temperature alarm setting. You can adjust the high temperature alarm from the **Low alarm** value to 125°F (51.7°C).
- ◆ **Low temperature:** when the temperature is below the low temperature alarm setting. You can adjust the low temperature alarm from -13°F (-25°C) to the **High alarm** value.
- ◆ **Probe short:** when the temperature probe is shorted (temperature circuit is closed).
- ◆ **Probe damage:** when the temperature probe is missing or broken (temperature circuit is open).



- ◇ The alarm settings are the same for Curtain 1 and Curtain 2.
- ◇ When there is a probe damage or probe short condition, the control switches all relays off.

## Alarm messages

Message and description	Possible cause	Possible solution
 High temperature alarm	The ambient temperature is too high.  The high temperature alarm setting is too low.	<ul style="list-style-type: none"> <li>◇ Increase ventilation/cooling.</li> <li>◇ Increase the high temperature alarm setting. For more information, read <b>To program the High alarm</b> below.</li> </ul>
 Low temperature alarm	The ambient temperature is too low.  The low temperature alarm setting is too high.	<ul style="list-style-type: none"> <li>◇ Decrease ventilation/cooling.</li> <li>◇ Decrease the low temperature alarm setting. For more information, read <b>To program the Low alarm</b> below.</li> </ul>
 Probe damage alarm	The temperature probe is damaged, missing, or the connecting wire is broken. The temperature probe circuit is open.	<ul style="list-style-type: none"> <li>◇ Check the wire between the control and the probe. Wire damage can cause the alarm.</li> <li>◇ Replace or reconnect the temperature probe. The control should recover automatically.</li> </ul>
 Probe short alarm	The temperature probe is damaged. The temperature probe circuit is closed.	<ul style="list-style-type: none"> <li>◇ Check the wire between the control and the probe. Wire damage can cause the alarm.</li> <li>◇ Replace the temperature probe. The control should recover automatically.</li> </ul>

**To program the High alarm**

Default: 95.0°F, range: **Low alarm** to 125°F (51.7°C), or OFF

1. Press **Up** or **Down** until the display shows **Hi RL**.
2. Press **Select**.  
The current setting (in degrees) displays and the **High alarm** LED flashes.
3. Press **Up** or **Down** to adjust the setting and then press **Select**.  
The change is saved and the display shows **Hi RL**.
4. Press **Down** to move to the next setting, or **Back** to return to the main display.

**To program the Low alarm**

Default: 50.0°F, range: -13°F (-25°C) to **High alarm**, or OFF

1. Press **Up** or **Down** until the display shows **Lo RL**.
2. Press **Select**.  
The current setting (in degrees) displays and the **Low alarm** LED flashes.
3. Press **Up** or **Down** to adjust the setting and then press **Select**.  
The change is saved and the display shows **Lo RL**.
4. Press **Down** to move to the next setting, or **Back** to return to the main display.

## Changing the temperature units

The NVC-DUAL can display temperatures in Fahrenheit or Celsius. The default is Fahrenheit.

### To change the Units

1. Press **Up** or **Down** until the display shows **Units**.
2. Press **Select**.  
The current setting (°F or °C) displays and the **Units** LED flashes.
3. Press **Up** or **Down** to adjust the setting and then press **Select**.  
The change is saved and the display shows **Units**.
4. Press **Down** to move to the next setting, or **Back** to return to the main display.

## Enabling the optional rain sensor

With the optional Phason Rain Sensor installed, the NVC-DUAL automatically closes the curtain when rainfall is detected. When the sensor detects rain, it sends a signal to the NVC-DUAL. When the NVC-DUAL receives the signal, it completely closes the curtain, bypassing the on and off durations. After 15 minutes with no new rainfall, the NVC-DUAL returns to normal operation. For more information, read **Phason Rain Sensor** on page 16.

If you are installing a Phason Rain Sensor, you must enable the sensor input. By default, the input is not enabled.

### To enable the sensor

1. Press **Up** or **Down** until the display shows **Sens** and the **Sensor** LED is lit.
2. Press **Select**.  
The current setting (on or off) displays and the **Sensor** LED flashes.
3. Press **Up** or **Down** to adjust the setting and then press **Select**.  
The change is saved and the display shows **Sens**.
4. Press **Back** to return to the main display.

## Testing and maintaining the NVC-DUAL

### Using temperature test mode

Temperature test mode allows you to test your equipment and settings by simulating the temperature. In temperature test mode, you adjust the “test temperature”.

As you increase or decrease the test temperature, the relays operate according to their settings and the test temperature. This gives you an idea of how your system performs over a full range of temperatures. The relays remain operating according to the test temperature until you exit test mode.



- ◇ When the NVC-DUAL is in temperature test mode, it operates the equipment according to the test temperature, not according to the measured temperature.
- ◇ The NVC-DUAL does not exit test mode automatically. When you are finished testing, press **Back** or **Select** to exit test mode.

### To use temperature test mode

1. Press **Up** or **Down** until the display shows **t E S t**.
2. Press **Select**.  
The display shows **t E n P**.
3. Press **Select**.  
The **Test** LED flashes and the display shows the test temperature. The NVC-DUAL is now in temperature test mode.
4. Press **Up** or **Down** to adjust the test temperature.  
The NVC-DUAL operates the equipment according to the test temperature.
5. When finished, press **Back** twice to return to the main display.

### Testing the alarm

You can manually switch the alarm relay on and off so that you can test your alarm system.

#### To test the alarm

1. Press **Up** or **Down** until the display shows **AL Ar**.
2. Press **Select**.  
The display shows **o F F** (off) and the **Alarm** LED flashes.
3. Press **Up** or **Down** to change the relay state.
4. When finished, press **Back** twice to return to the main display.

### Using manual override mode

Manual override mode allows you to override the automatic settings and manually control the curtain and/or alarm relay. You can open, close, or pause the curtain, and switch the alarm relay on or off. Manual mode is also useful for testing equipment.

When the main display is showing and the curtain is in override mode:

- ◆ **For the curtain**, the **Open** and **Close** LEDs will blink three times and then stay off for one second.
- ◆ **For the alarm relay**, the LED will blink three times and then stay OFF for one second.

**To override the curtain**

The instructions below are for Curtain 1. To use Curtain 2, press **2** instead.

1. Press **1** until the function you want (**oPEn** or **cLoS**) displays.
2. Press **Select** to manually open or close the curtain.



- ◇ There is a three-second delay when switching between Open and Close. This is to allow the motor to stop before switching directions.
- ◇ The NVC-DUAL remains in override mode until you select Auto; it does not timeout or exit automatically.

**To exit override mode**

The instructions below are for Curtain 1. To use Curtain 2, press **2** instead.

1. Press **1** until the display shows **Auto**.
2. Press **Select**.

**Restoring the factory default settings**

Setting	Default	Range/options
Set point	70.0	-13 to 125°F (-25 to 51.7°C)
Open ON duration	20	1 to 900 seconds
Open OFF duration	180	1 to 900 seconds
Close ON duration	30	1 to 900 seconds
Close OFF duration	120	1 to 900 seconds
Idle band	2.0	1.0 to 10.0°F (0.6 to 5.5°C)
Low alarm	50.0	-13°F (-25°C) to High alarm
High alarm	95.0	Low alarm to 125°F (51.7°C)
Units	°F	°F/°C
Sensor	Off	Off/On

You can restore the default settings using one of two methods: the **power on method** or the **power off method**. The power on method is the easiest way to restore the factory defaults. If, for some reason, the power on method does not work, use the power off method.

**To restore the factory defaults using the POWER ON method**

1. Press **Up** or **Down** until the display shows **t E S t**.
2. Press **Select**.  
The display shows **t E n P**.
3. Press **Up** or **Down** until the display shows **F R C t**.
4. Press **Select**.  
The **Test** LED flashes and the display shows **n o**.
5. Press **Up** or **Down** to until the display shows **y E S**.
6. Press **Select** to restore the factory defaults.  
The control resets, displays the version for a few seconds, and then displays the temperature.

**To restore the factory defaults using the POWER OFF method**

We recommend having someone assist you if using the power off method.

1. Switch off the power to the control.
2. Switch on the power to the control while holding the **Up** and **Down** buttons. Keep holding the buttons until **d E F** displays.
3. Release the buttons.  
The control resets, displays the version for a few seconds, and then displays the temperature.

**Troubleshooting**

If you see an error code and are not sure what it means, look it up in **Alarm settings and conditions** on page 10, and then follow the instructions to resolve the condition.

The following table lists some problems, possible causes, and possible solutions. If you are having a problem using the NVC-DUAL, see if the problem is in the following table and then follow the directions for correcting the problem.

Problem	Possible cause	Possible solution
<ul style="list-style-type: none"> <li>◇ The power supply components are blown, or there are burn marks on boards and components.</li> <li>◇ Motors and fans slow down or stop.</li> </ul>	There has been a power surge, brownout, or power outage.	<ul style="list-style-type: none"> <li>◇ Avoid the problem in future by providing proper voltage and protection for the control.</li> </ul>
There is no power/display.	<ul style="list-style-type: none"> <li>A circuit breaker at service panel is off or tripped.</li> <li>The incoming power wiring is incorrect.</li> </ul>	<ul style="list-style-type: none"> <li>◇ Reset the circuit breaker.</li> <li>◇ Correct the wiring.</li> </ul>
The display shows unusually high or low temperature.	<ul style="list-style-type: none"> <li>The probe is not a Phason probe.</li> <li>The extension cable connected to the temperature probe is providing a poor connection</li> <li>The temperature probe is damaged.</li> </ul>	<ul style="list-style-type: none"> <li>◇ Remove the probe and then install a Phason probe.</li> <li>◇ Check the extension cable connection and re-solder it if necessary.</li> <li>◇ Replace the probe.</li> </ul>
The curtain opens when it should close, or closes when it should open	The wiring is incorrect; the close and open wires are reversed.	<ul style="list-style-type: none"> <li>◇ Correct the wiring. For more information, read <b>Connecting a curtain machine</b> on page 5.</li> </ul>
The alarm relay is not operating the alarm system.	The alarm wiring is incorrect.	<ul style="list-style-type: none"> <li>◇ Correct the wiring. For more information, read <b>Connecting an alarm system</b> on page 6.</li> </ul>

## Optional accessories and kits

### Phason Rain Sensor

The Phason Rain Sensor (**model PRS**) connects to the NVC-DUAL and adds the ability to close the curtains when rainfall is detected.

When the sensor detects rain, it sends a signal to the NVC-DUAL. When the NVC-DUAL receives the signal, it completely closes the curtains, bypassing the on and off durations. After 15 minutes with no rain, the control returns to normal operation.



The advanced optical sensor uses infrared light to detect water hitting its surface. This method of detection is more sensitive and reliable than other methods, is nearly immune to false detection, and is not affected by movement and most environmental conditions.

The Phason Rain Sensor's durable and rugged enclosure is completely sealed, so there are no electronics to corrode, and no openings for debris to collect.

### Curtain Control Panel

The Curtain Control Panel is a manual and remote-controlled 24 VDC power supply for operating a curtain or awning motor. The panel comes in a rugged enclosure, and includes operation mode and manual override switches.

- ◆ Place the operation mode switch in the MANUAL position to control the motor using the manual override (OPEN/CLOSE) switch.
- ◆ Place the switch in the AUTO position to control the motor using the NVC-DUAL, or third-party automatic control system.

### Features

- ◆ Operation mode switch (AUTO/OFF/MANUAL)
- ◆ Manual override switch (OPEN/CLOSE)
- ◆ NEMA4X enclosure
- ◆ Line cord for easy 120 VAC power connection
- ◆ Limited warranty (90 days)

### Electrical ratings

- ◆ Input: 120/240 VAC, 60 Hz
- ◆ Output: 24 VDC, 13.33 A, 320 W

### Manual Override Box

The Manual Override Box (**model MOB-4**) increases the load handling capability of your control's relays and provides an external disconnect.

The MOB-4 includes four 240 V power contactor relays with AUTO-OFF-MANUAL switches and snubber filters. If you need to override an actuator or curtain machine, the Actuator Override Kit (**model KMOB4-ACTUATOR**) is available.



**Temperature probes and extension cable**

Temperature probes monitor temperatures ranging from  $-49$  to  $122^{\circ}\text{F}$  ( $-45$  to  $50^{\circ}\text{C}$ ). The probes are available in 1, 6, 30, 75, or 150-foot cable lengths and can be extended up to 500 feet using extension cable. Extension cable is available in 500-foot lengths.

**Features**

- ◆ Easy installation
- ◆ Rugged and durable design
- ◆ Weather and UV-resistant cable
- ◆ Limited warranty (90 days)





## Limited warranty

This warranty applies only to the Natural Ventilation Control (NVC-DUAL). If you need warranty service, return the product and original proof of purchase to your dealer.

Phason Inc. (Phason) warrants the NVC-DUAL 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 the NVC-DUAL 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 our 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 the NVC-DUAL. Any implied warranties are excluded.

Phason is not liable for consequential damages caused by the NVC-DUAL.

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 NVC-DUAL without notice.

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