2017

Smart Door Controls Install Guide

Contents

Introduction

This guide will walk you through all the steps need to get your system up and running. It will show you how to configure your system to control the doors the way you want them to work. It will help you with automating tasks like setting up car wash hours of operation and hints on how to wire your system to control your doors and other devices you want to control remotely. You can configure your site before you physically install your system. It is highly recommended to keep your smart device on a UPS system to make sure that it continues running in the case of a power outage.
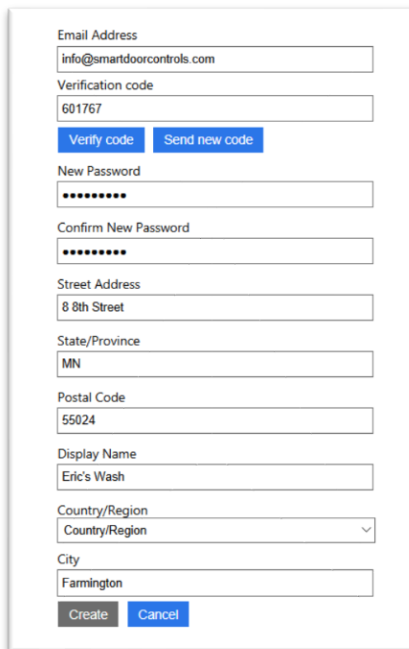
Create your Sign in Account

1. Navigate to https://www.smartdoorcontrols.com/
2. Click **Sign In** in the middle of the home page, or from the top menu.
3. On the Sign in screen, press the bottom link **"Sign up now"** to create your account.

4. Enter your email address and other information on the form. Press **Send verification code** under your email address to validate your email address. Enter the verification code and press **Verify code.** Once you've validated your email address press **Create** at the bottom of the form.

Agree to the End User License Agreement

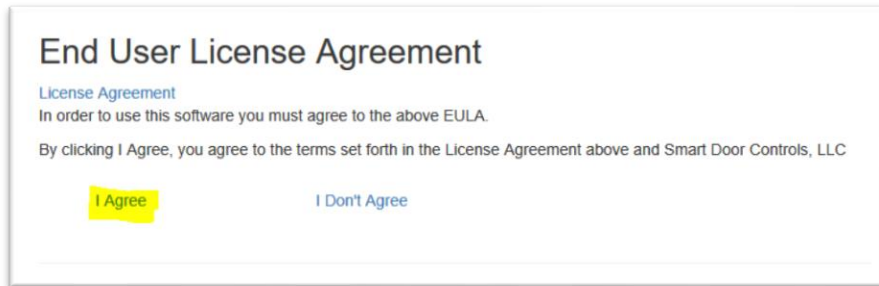You must agree to the end user license agreement to use this software. If you don't agree, you will be signed out of the system and you will not be allowed to use the software. Click **I Agree** to signify that you agree with the terms and conditions of this software. The most current license agreement can be found here
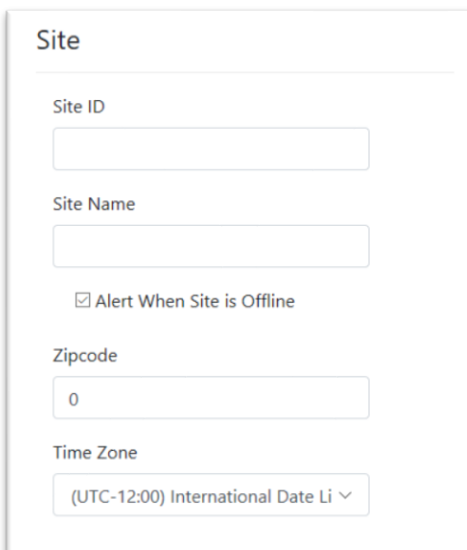
Site Configuration

Create your site

Once your logged into the system, you can follow the on-screen steps to create your site, add your devices and add your temperature sensors. This guide will walk you through the steps of getting everything you need to get your system up and running.

1. Press **Site Configuration** from the top menu.
2. Press **Add Site** to enter information about the site where you are installing your system. Once you have entered all your information, press **Create.**

Site ID: This is the id label on your Smart Door Hub ©, the brains of the system. This id is unique to your system, and can only be used once per site.

Site Name: Enter the name of your site. i.e. The Farmington Car Wash.

Alert When Site is Offline: Check this box to be alerted with an email if your site is ever disconnected from the internet.

Zipcode: This is the zip code of where your site is located.

Time Zone: Set the time zone where your site is located so that the open and close times you set are correct for your location.

Enable Auto Site Open: Check this box if your site is opens at specific time in the morning and you want the system to automatically unlock your site for you.

Site Open Time: This is the time the system will unlock your site, if the above check box is selected.

Enable Auto Site Close: Check this box if your site closes at a specific time in the evening and you want the system to automatically lock your site for you. Be aware, to make sure that your site and system is configured in a way that anyone in your bays can still exit once your site is closed.

Site Close Time: This is the time the system will lock your site, if the above check box is selected.

Enable Temperature Automation: Check this box to have the system automatically turn on any timers and periodically close doors set up as auto close when the temperature gets below the set level.

Door Close Temp: Enter the temperature the system will use to determine when to turn on your timers and start closing your configured doors. (i.e. entering a value of 52 would keep your doors closed once the outside temperature was at or below 52 degrees Fahrenheit.)

Auto Close Delay: This is the delay in minutes between how often the system will automatically try to close a door set with **Use in Auto Close**. The system will automatically pulse doors at this interval. The default value is 5 minutes if no value is set.

3. Repeat the above steps to add additional sites.

Edit, View Details, Delete a Site

You can make changes to your site at any time, and the changes will automatically be sent down to your Smart Door Hub ©.

1. Press **Site Configuration** from the main menu.
2. Press **Edit** on the right next to the site you wish to edit.
3. Make your changes to your site and then press **Save** to save your changes, or press **Back to List** to cancel your changes.
4. Press **Details** to view details about the site.
5. Press **Delete** to delete a site. **Warning:** Deleting a site will delete all temp sensors and devices you have added to that site. This cannot be undone.

Refresh Hub

You can refresh your smart hub configuration settings by clicking **Refresh Hub** from the **Site Configuration** menu for your site. This will cause your hub to update all of its local settings from the cloud.

Restart Hub

You can remotely reboot your smart hub by selecting **Restart Hub** from the **Site Configuration** menu for your site.

Shutdown Hub

You can shut down your hub remotely by selecting the **Shutdown Hub** from the **Site Configuration** menu for you site. It is recommended that you shut down your device before unplugging the power from your device. Doing so will make sure your device is shutdown properly before moving it to another location.

Update Hub Software

You can manually update your hub with the latest version of software by selecting **Update Hub** from the **Site Configuration** menu. This will tell the device to check to see if there is a newer version of the smart door control software available and update it.

Temperature Sensor Configuration

Add Temperature Sensors

Temperature sensors are used to show you current temperatures that you have set up at your site. You need to put at least one sensor outside to have the system automatically close your doors and enable door timers for you. You can place other sensors where ever you would like to be able to remotely see them.

1. From the **Site Configuration** screen, press **Manage Temp Sensors**.
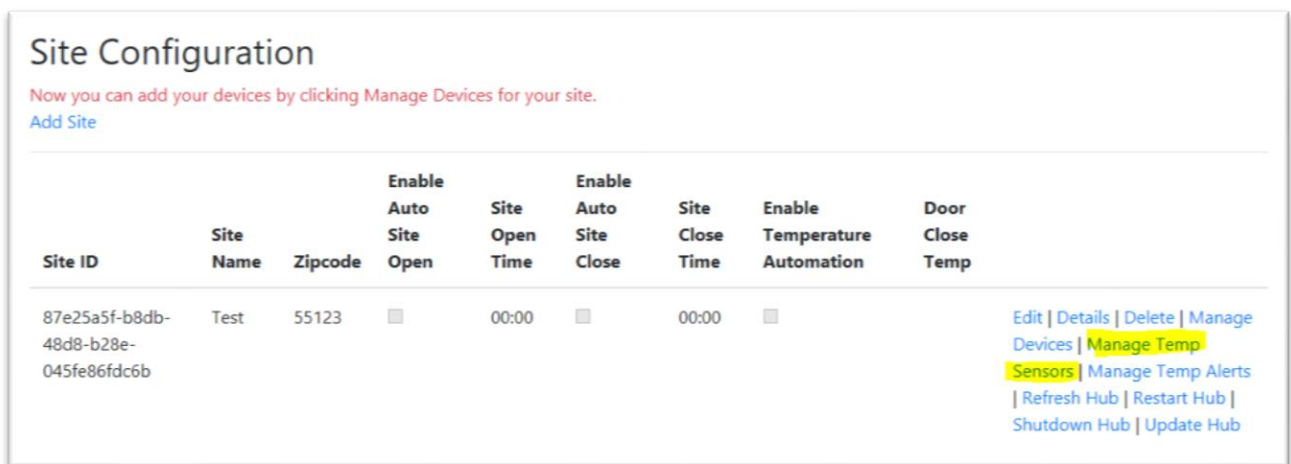
2. Press **Add Temp Sensor** to add your temp sensor and enter the sensor id's labeled on each sensor. You can give the id a human readable name that will be shown on the main devices page. Once you've entered all the information for a temperature controller, press **Create**.

Create
Temperature Sensor

IP Address

[   ]

Temp Sensor 1 Id

[   ]

Temp Sensor 1 Name

[   ]

Temp Sensor 2 Id

[   ]

Temp Sensor 2 Name

[   ]

Temp Sensor 3 Id

[   ]

Temp Sensor 3 Name

[   ]

Temp Sensor 4 Id

[   ]

Temp Sensor 4 Name

[   ]

Create

Back to List

IP Address: This is the network address of the temperature controller and is labeled on the top of it. If you only have one temperature controller, its address will be 192.168.99.200, unless a custom address was requested.

Temp Sensor *X* Id: This is the id of the temperature sensor. Each controller can have up to 4 temperature sensors hooked up to it. This Id will be matched to the name given in the **Temp Sensor *X* Name** field.

Temp Sensor *X* Name: This is the name associated with the ID given above. If you end up configuring these before installing them, you can also come back and change the name to have them match where they are installed.

Do this for each temperature sensor you have.

Repeat this step if you purchased more than one temperature controller.

Edit, View Details, Delete a Temperature Sensor

You can rename your temperature sensors at any time and the changes will automatically reflect on your Smart Door Device © as soon as you save your changes.

1. Press **Site Configuration** from the main menu.
2. Press **Manage Temp Sensors** on the site you wish to modify.
3. Press **Edit** on the sensor you wish to modify and press **Save** to save your changes, or press **Back to List** to cancel your changes.
4. Press **Details** to see all the details of the temp sensor.
5. Press **Delete** to delete the temp sensor.

Update your Site

Add Temperature Sensor to your Site

Now that you have added your temperature controller and sensors to your system, you can tell the site which sensor to use as your outside sensor.

1. Press **Site Configuration** from the main menu and then press **Edit** next to the site you wish to modify.
2. You will now see a selection for **Outside Temp Sensor**. Press the dropdown menu and select the temperature sensor you have installed outside your building.
3. Press **Save** to save your selection and return to the **Site Configuration** screen.

Edit

Site

Site ID

87e25a5f-b8db-48d8-b28e-045fe86

Site Name

Test

☑ Alert When Site is Offline

Zipcode

55123

Time Zone

(UTC-06:00) Central Time (US & C ⌄

Hours of Operation

☐ Enable Auto Site Open

Site Open Time

12:00 AM

☐ Enable Auto Site Close

Site Close Time

12:00 AM

Temperature Automation

☐ Enable Temperature Automation

Door Close Temp

Outside Temp Sensor

Outside   ⌄

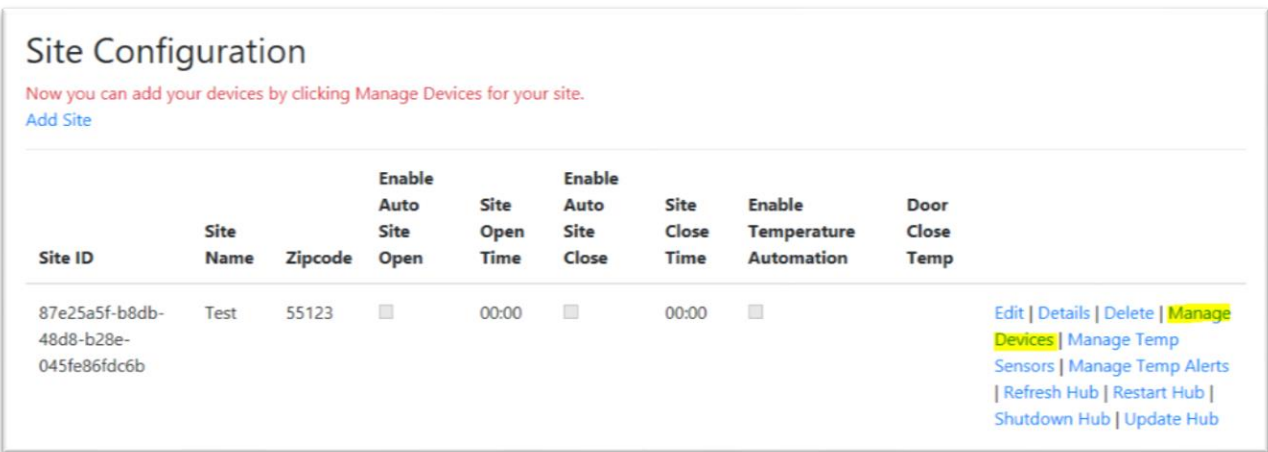**Auto Close Delay**

Save

Back to List

Add Your Devices

Once you've created your site and added your temperature controller and sensors, you should add your devices. Devices include your doors open, close and timer buttons. You can also control other items you connect to any spare or additional relays you purchase. You can add each door open, close, timer button manually, or you can use the **Set up Default Doors** link to have the system generate the proper configuration for each of your devices wired into the system. This makes setting up a new system quick and easy. After setting the defaults, you can go in and edit them.
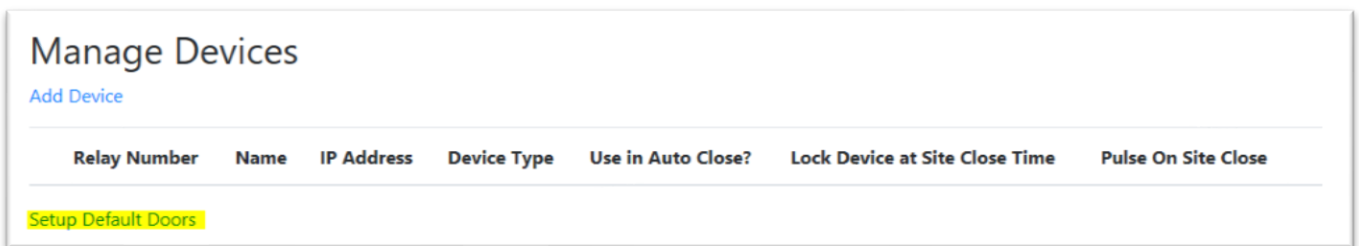
Set up Default Doors

When you first create a site and you have no devices configured, the link to **Set up Default Doors** will be available. Press this to quickly configure a new site.

1. Press **Site Configuration** from the main menu and then press **Manage Devices**.
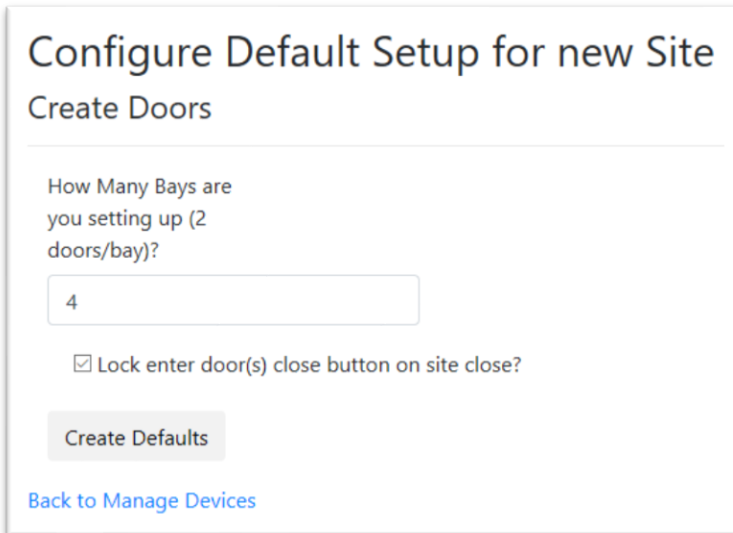

2. Press **Set up Default Doors** to go to the new device set up page.

3. Create all your open, close, timer device settings with one click for all your bays. Once you have entered the information on the page, press **Create Defaults** to create all your device configuration defaults for your system. Press **Back to Manage Devices** to cancel creation of default devices.

How Many Bays are you setting up (2 doors/bay)?: Put the number of bays you have at your site. If you have a 4 bay self-serve, and each bay has an enter and an exit door, enter 4 here (the default). This will create an open, close, timer for each bay, starting with bay 1, and ending with bay 4.

Lock enter doors close buttons on site close? Check this if you enabled your site close feature, or if eventually you will want the system to automatically close at night and open in the morning. This will set the **Lock Device at Site Close Time** for the enter doors only.

Below you can see the results from using the defaults to create a 2-bay system.

Manage Devices

Add Device

Relay Number	Name	IP Address	Device Type	Use in Auto Close?	Lock Device at Site Close Time	Pulse On Site Close	
1	Bay 1 Enter Open	192.168.99.201	Open Button	☐	☐	☐	Edit | Details | Delete
2	Bay 1 Enter Close	192.168.99.201	Close Button	☑	☑	☐	Edit | Details | Delete
3	Bay 1 Enter Timer	192.168.99.201	Timer	☐	☐	☐	Edit | Details | Delete
4	Bay 1 Exit Open	192.168.99.201	Open Button	☐	☐	☐	Edit | Details | Delete
5	Bay 1 Exit Close	192.168.99.201	Close Button	☑	☐	☐	Edit | Details | Delete
6	Bay 1 Exit Timer	192.168.99.201	Timer	☐	☐	☐	Edit | Details | Delete
1	Bay 2 Enter Open	192.168.99.202	Open Button	☐	☐	☐	Edit | Details | Delete
2	Bay 2 Enter Close	192.168.99.202	Close Button	☑	☑	☐	Edit | Details | Delete
3	Bay 2 Enter Timer	192.168.99.202	Timer	☐	☐	☐	Edit | Details | Delete
4	Bay 2 Exit Open	192.168.99.202	Open Button	☐	☐	☐	Edit | Details | Delete
5	Bay 2 Exit Close	192.168.99.202	Close Button	☑	☐	☐	Edit | Details | Delete
6	Bay 2 Exit Timer	192.168.99.202	Timer	☐	☐	☐	Edit | Details | Delete

4. You can make changes to any of the defaults created if you want them to be different.

Manually Add Your Devices

1. Press **Site Configuration** from the main menu and then press **Manage Devices**.

Site Configuration

Now you can add your devices by clicking Manage Devices for your site.

Add Site

Site ID	Site Name	Zipcode	Enable Auto Site Open	Site Open Time	Enable Auto Site Close	Site Close Time	Enable Temperature Automation	Door Close Temp	
87e25a5f-b8db-48d8-b28e-045fe86fdc6b	Test	55123	☐	00:00	☐	00:00	☐		Edit | Details | Delete | Manage Devices | Manage Temp Sensors | Manage Temp Alerts | Refresh Hub | Restart Hub | Shutdown Hub | Update Hub

2. Press **Add Device** to add a new device to the system. Once you have entered all the information for a device, press **Create.**

Relay Number: This is the relay number that is wired to the device you are configuring.

Name: This is the name of the device that is wired into this relay at the above number. (i.e. Bay 1 Enter close button)

IP Address: This is the network address of the Relay controller that is wired to the device you are controlling. For 4 bay car wash with 8 doors, these would typically be configured with addresses of 192.168.99.201-192.168.99.204. It's easiest to have your Bay 1 doors wired to XXX.XXX.XXX.201, and bay 2 to XXX.XXX.XXX.202, etc.

Device Type: This tells the system what is hooked up to this relay.

> **Close Button** – Use this if it is wired to the close button on a door. The system will pulse this when the temperature initially gets below your set temperature.
>
> **Open Button** – Use this if it is wired to the open button on a door.
>
> **Timer** – Use this if it is wired to a timer for a door. The system will lock this on when the temperature gets below your set temperature.
>
> **Other** – Use this for any other device wired to the system, or if you don't want the system to use this device in any automation features.

Use in Auto Close: Check this if this is wired to a close button on a bay door and you want the system to automatically close the door when the outside temperature is at or below the set temperature for the site.

Lock Device at Site Close Time: Check this if you want to lock this on when your site close time is enabled, and unlock it when your site open time is enabled. This should be set on the close button for all doors you want to lock when your site close time is reached. Typically, this would be your enter doors, but not your exit doors so that customers can leave if they are at your site during the closing time. You would allow them to open the exit door only from the inside, and the timer will automatically close the door after they leave.

Pulse on Site Close: Check this for all the close buttons on doors that may not get locked, but you want to close when it is time to close your site for the day. This would typically be set for your close buttons on your exit doors.

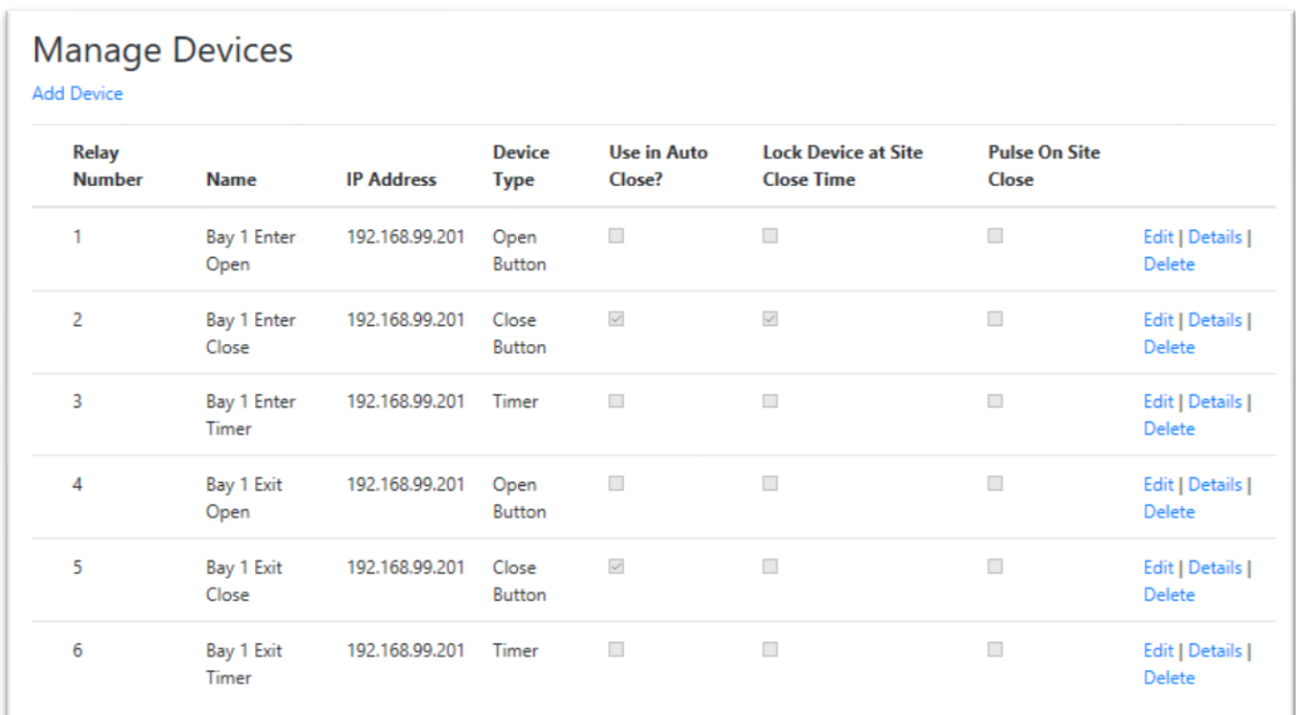Repeat this step for every device you want to automate or control remotely.

Example: You have a 2 self-serve bays with a total of 4 doors.
You would have 2 relay controllers, one for each bay, the first bay you would wire to your relay controller with the IP Address of 192.168.99.201 and wire your enter door open button to relay 1, your enter close button to relay 2, and the enter timer to relay 3. Then you would wire the exit door open button to relay 4, exit door close button to relay 5 and exit door timer to relay 6.

For Bay 2, you would do the same as above, only you would use the relay controller with the IP Address 192.168.99.202.

You can do this for any number of doors you wish to control on your system. You can use the spare relays, or you can purchase additional relay controllers to control other devices on your system. Once you wire them to the relay, you can configure them by adding them as devices, and then turn them on or off from anywhere.

Once you have entered your information for one bay, your configuration should look like the following:

Manage Devices

Add Device

Relay Number	Name	IP Address	Device Type	Use in Auto Close?	Lock Device at Site Close Time	Pulse On Site Close	
1	Bay 1 Enter Open	192.168.99.201	Open Button	☐	☐	☐	Edit | Details | Delete
2	Bay 1 Enter Close	192.168.99.201	Close Button	☑	☑	☐	Edit | Details | Delete
3	Bay 1 Enter Timer	192.168.99.201	Timer	☐	☐	☐	Edit | Details | Delete
4	Bay 1 Exit Open	192.168.99.201	Open Button	☐	☐	☐	Edit | Details | Delete
5	Bay 1 Exit Close	192.168.99.201	Close Button	☑	☐	☐	Edit | Details | Delete
6	Bay 1 Exit Timer	192.168.99.201	Timer	☐	☐	☐	Edit | Details | Delete

The assumption on this configuration is that you want to enable your timers when the temperature is below your set temperature. You want to lock your close button on for your enter door when the site close time is reached, but not for your exit door (so people can still exit your bay…this assumes you don't have buttons on the outside of your exit door). Both enter and exit door have **Use in Auto Close** checked because we want the system to automatically shut these doors, and keep them shut when the temperature is cold.

Edit a Device, View Device Details or Delete a Device

You can make changes to any of your devices at any time. Once you save your changes to your device, they will be updated on your Smart Door Device © immediately.

1. Press **Site Configuration** from the main menu.

2. Press **Manage Devices** on the site where the device you wish to change exists
3. On the **Manage Devices** screen, you can press **Edit** on any device to edit it, press **Details** to view the details or press **Delete** to delete a device you no longer have installed.

Working with Devices

The default start page once your site is configured shows you all your devices and gives you access to pulse and lock them. This page will also show you the status of your sites and devices and will show you all your temperatures for each site. You can expand or contract a site, or each section within a site to allow you to focus in on the area you wish to see.

Press **Devices** from the main menu to go to the Devices page. This page will list all your devices grouped by site.

If your site is down or not connected to the internet (i.e. no cloud connection), you will see a red message stating your site is currently down. If you have notifications turned on for your site, you will also receive an email alert every 5 minutes while your site is down.

Your temperatures will show at the top of the site listing, just below your site name. If the temperatures could not be retrieved from the site, and error message will be shown there instead.

From this screen, you can **Pulse** a device, or turn it on for a moment and then off again. This simulates a button press like that of a user pressing a button at your site.

You can also **Lock** and **Unlock** devices. Locking a device will turn the relay on and keep it on until it is unlocked. In the case of a close button on a door, this will hold the door down and will keep the door from opening, essentially locking the usage of that door. You can manually do this to close a single bay locking both your entrance and exit doors for that bay.

Sites

➕ ▓▓▓▓▓▓▓ - Site is currently down!

➖ **The Farmington Car Wash**

Automatic: 50.56° F   Bay 1: 53.37° F   Bay 2: 52.12° F   Bay 3: 51.46° F   Equipement Room: 51.35° F   Outside: 26.83° F

Doors configured to lock on site close

Lock All
Unlock All

Close Buttons

| Bay 1 Enter Close | 192.168.1.201 | 2 | Pulse | Lock |
Bay 1 Exit Close	192.168.1.201	5	Pulse	Lock
Bay 2 Enter Close	192.168.1.202	2	Pulse	Lock
Bay 2 Exit Close	192.168.1.202	5	Pulse	Lock
Bay 3 Enter Close	192.168.1.203	2	Pulse	Lock
Bay 3 Exit Close	192.168.1.203	5	Pulse	Lock
Bay 4 Enter Close	192.168.1.204	2	Pulse	Lock
Bay 4 Exit Close	192.168.1.204	5	Pulse	Lock

Pulse All Close Buttons

Door Timers
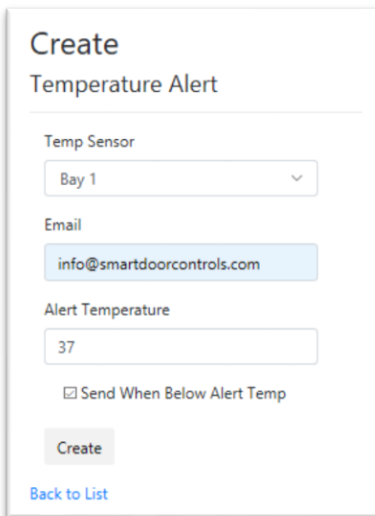
Temperature Alerts

Add a Temperature Alert

You can create alerts for any of your temperature sensors you have installed. You can have the alert send you an email when the temperature is either above your set temperature (hi temp alert) or below it (low temp alert).

1. Press **Site Configuration** from the main menu.
2. Press **Manage Temp Alerts** for the site you wish to modify
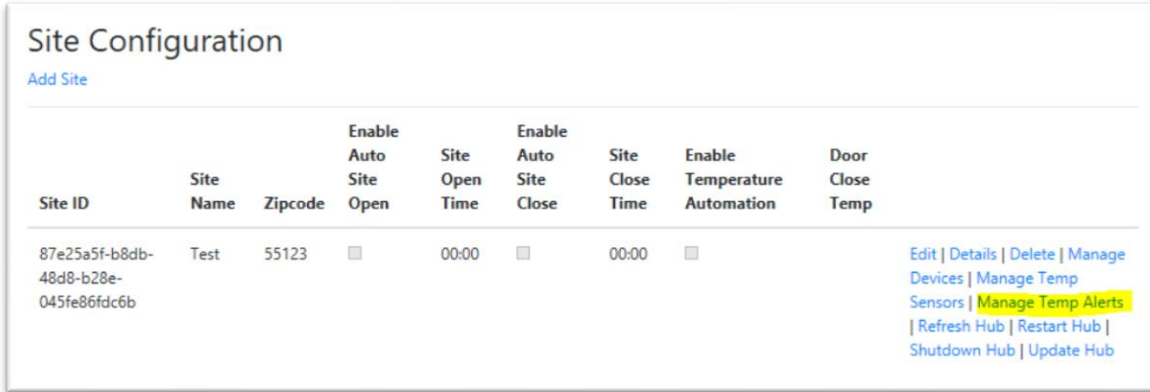
3. Select **Add Temp Alert** to add a new temperature alert. Then press **Create** to save your changes.

> **Temp Sensor**: Select the temperature sensor name from the drop down of the sensor you want to use for your alert.
>
> **Email**: Enter the email address of the recipient(s) you wish to receive the email alert. Separate emails with a semicolon (";").
>
> **Alert Temperature**: This is the temperature that will trigger the alert.
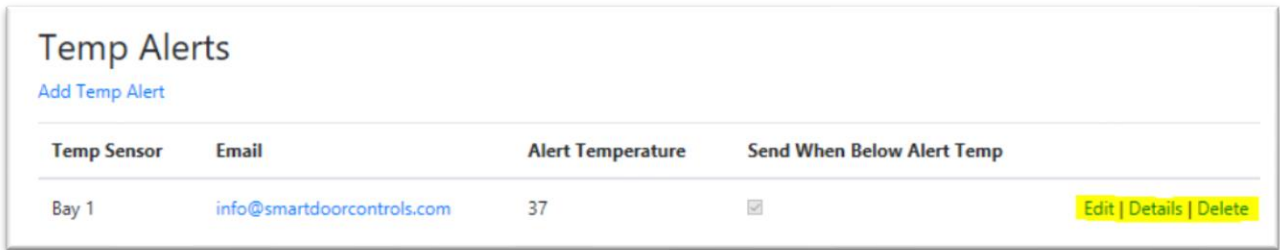>
> **Send When Below Alert Temp**: Check this box to trigger the alert when the temperature is below the set temp (low temp alert). Keep this unchecked if you want the alert triggered when the temperature is above the set temp (high temp alert).

Edit, View or Delete a Temperature Alert

You can make changes or remove any alerts you've created at any time.

1. Press **Site Configuration** from the main menu.
2. Press **Manage Temp Alerts** for the site you wish to modify.

3. Press **Edit** to edit an alert, **Details** to view details of an alert, or **Delete** to remove an alert from the available alerts for a site.

4. Once you have made your changes to the alert, press **Save** to save your changes (if editing) or **Back to List** to cancel your changes.

Wiring

Smart Door Hub

The Smart Door Hub © is the brains of the system. This is a computer and should be connected to a UPS to make sure that it stays up and running and has a good clean power source. Locate this device with any other computers you have on site. Just plug in the power and a network cable and it will be ready to use. Make a note of the device id label on the top of the unit. This device id is what you will need when creating your site.

Relay Controllers

Relay controllers allow you to control your doors (or other devices) remotely. You just need to wire a relay to each part of your door…the close button, open button, and the timer. This will allow you to remotely open, close or turn your timers on and off. This will also allow the system to do automated tasks for you, like close your doors and turn your timers on automatically when it gets cold outside, and turn your timers off when the temperature warms up.

The following diagram gives you an example of how to wire the open, close, timer for a single door. The controller can also be powered by the internal door 24v transformer.

1. <u>**Warning:**</u> Unplug the door you are about to wire to make sure all power is off. **Failure to do so could result in injury to yourself and damage to the equipment.**
2. Wire the NO on the network relay (Enter Open) to the Open label on the door controller.
3. Wire the C on the network relay (Enter Open) to the Common label on the door controller.
4. Wire the NO on the network relay (Enter Close) to the Close label on the door controller.
5. Wire the C on the network relay (Enter Close to the common label on the door controller.
6. Wire NO (Enter Timer) to the 24V on the door Controller.
7. Wire the C (Enter Timer) to the Where the 24v Hot on the timer plug is. Note: You will remove the current Hot (24v) wire that runs to the timer, unless you have switches installed to turn your timers off and on, in that case you will just keep those switches always in the off position. Leave the wire from the timer to the common alone.
8. Run a wire from the 24v to the power (+), and a wire from common to power (-) to power the network relay.
9. Plug a standard Cat 5e network cable into the LAN port of the network relay, and into an open port on either the provided router or switch.
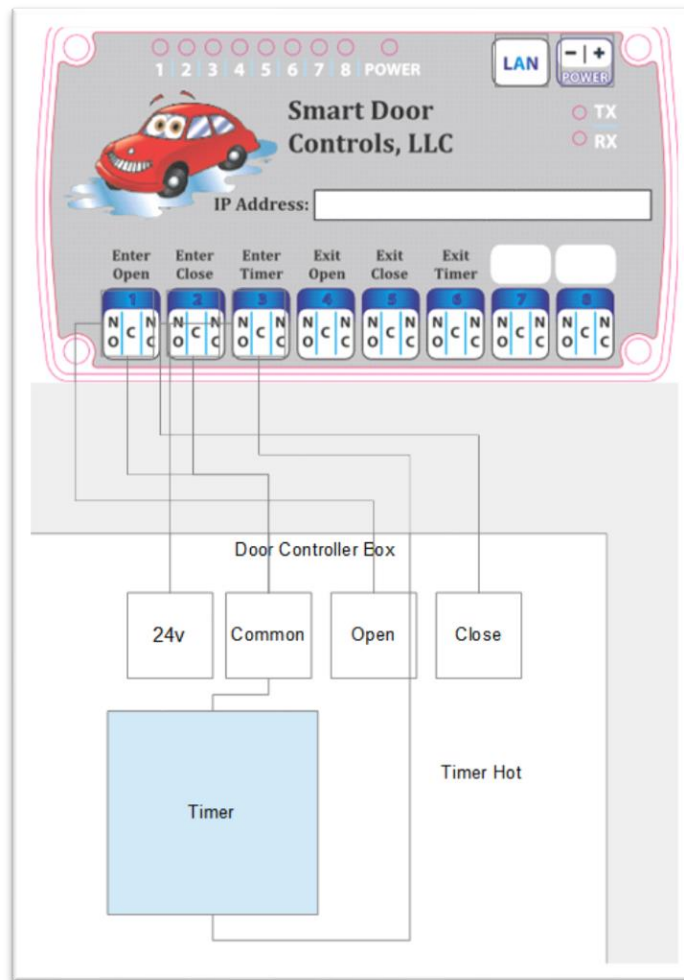
Temperature Controllers

The temperature controller can have up to 4 temperature sensors attached to it. Each temperature sensor has a 1-meter cable. You can extend the distance of the cable by using a Cat 5E cable. The temperature controller can be located anywhere in your equipment room close enough to a power outlet (or you can extend the power with a longer cable). Wire your temperature probes to the controller and connect it to any open port on the supplied router or switch.

To ease the wiring of the temperature sensors, we have provided a female cat 5 connector prewired to the temperature probe, and one to the temperature controller for each temperature sensor. All you need to provide is a standard cat 5e cable to connect the sensor to the controller. Make sure to put the connection of the temp sensor and cat 5e cable in a water tight enclosure to prevent moisture from corroding the connection.

Sensor can be wired in parallel.
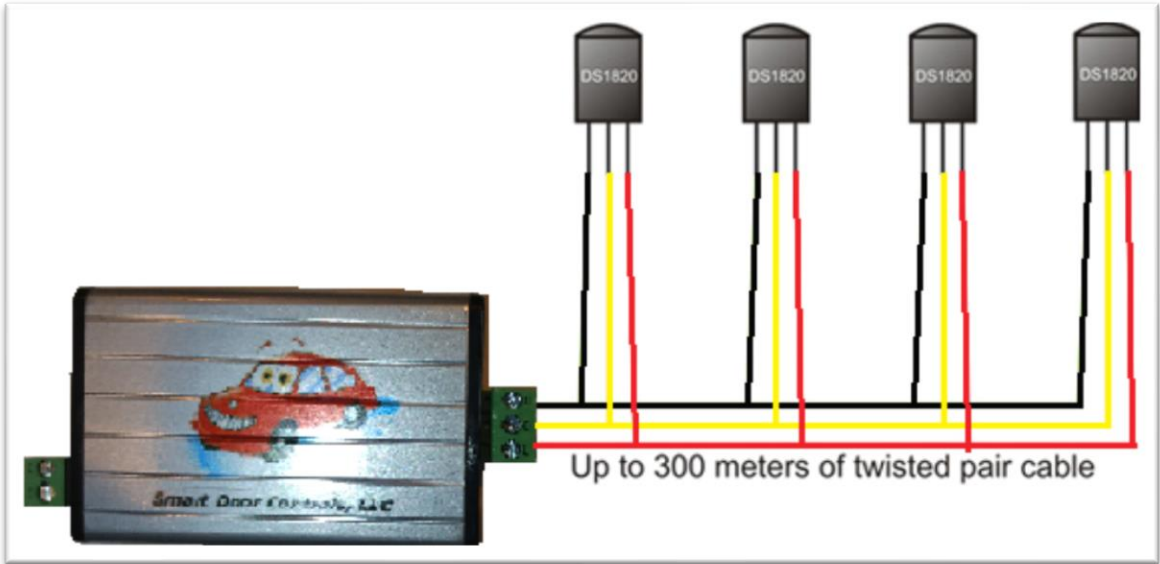
For more information on 1-Wire sensors, you can see https://www.maximintegrated.com/en/app-notes/index.mvp/id/148

If you are having issues with proper sensor readings with long wires, try one of the options listed in the picture, starting with the first option. The resistors and capacitor come with your temperature controller.