

## **Disclaimer**

This device does not provide automatic protection from hurricanes. If your electric power fails, the automatic storm shutter control will not function. Of course, your conventional electric storm shutter controls will not function either. In the event of stormy weather, when an electric power outage is likely, lower your storm shutters just as you would with conventional storm shutter controls.

## **Liability**

PJNF Technologies, Inc. assumes no liability for any damage to original shutter drive equipment (motors, limit switches, slats, etc.) resulting from use of the **DryLanai™** Automatic Storm Shutter Control System. Changes or modifications not expressly approved by PJNF Technologies, Inc. could void the user's authority to operate the equipment.

# **DryLanai™**

## **AUTOMATIC STORM SHUTTER CONTROL**

### **OPERATING INSTRUCTIONS**



Thank you for purchasing the **DryLanai™** Automatic Storm Shutter Control. It will reliably protect your furniture, rugs and other valuable possessions from rain damage and relieve you of the need to mop up your porch or lanai floor after every rain shower.

**Your safety and the safety of others are very important.**

Important safety messages have been provided throughout this manual and are repeated at the beginning of these instructions in accordance with electrical safety regulations. Always read and obey all safety messages.



This is the safety alert symbol.

This symbol alerts you to potential hazards that can kill or hurt you and others.

All safety messages follow the safety alert symbol and the word “**WARNING**.” This means:



### **WARNING**

You can be killed or seriously injured if you don't follow instructions.

Safety messages will tell you what the potential hazard is and how to reduce the chance of injury.



### **WARNING Electrical Shock Hazard**

Disconnect electrical power at the circuit breaker box before installing or servicing the **DryLanai™** Controller. Failure to do so can result in death or electrical shock.



### **WARNING**

This product must be connected to a grounded, metal, permanent wiring system; or an equipment-grounding conductor must be run with the circuit conductors and connected to the equipment-grounding terminal or lead on the product.

- If the Controller detects a system fault (the **signal** light is lit continuously), you may be unable to raise or lower your shutters using the **ZONE** switches and the **UP** and **DOWN** switches as described above. If this happens, your shutters can be raised or lowered using the pushbutton switches located on the bottom of the Controller enclosure (beneath the **ZONE 1** switch) until the fault is corrected. Use a non-conductive pointed object, such as the tip of a ball-point pen, to press these switches.  
  
It may be possible to eliminate the fault indicated on the Controller panel by disconnecting the electrical power at the circuit breaker box for approximately ten seconds and then reconnecting the power. The Controller will power up again in the **auto** mode.
- If necessary, the Controller can be reset by following these steps:
  1. Touch the **ZONE 1, ZONE 2** and **MODE** switches simultaneously and continuously until both the **auto** and **manual** lights blink.
  2. The Rain Sensors must be “re-enrolled” following the procedure outlined in the previous section of these instructions.

back to the **auto** mode. Ordinarily, Rain Sensor grids will dry out spontaneously within a few minutes, and manually drying them is not required.

- Your shutters will not close automatically if rain is not coming into your lanai. Rain drops must strike the grid on the front surface of a Rain Sensor in order to trigger the automatic closure of your shutters.
- Clean your Controller and Rain Sensors periodically using a soft damp cloth. Remember to toggle the Controller to the **manual** mode when cleaning the Rain Sensors to avoid accidentally closing your shutters. Do not attempt to polish the Rain Sensor grids with solvents or abrasive materials; this will reduce the useful lifetime of the Rain Sensor.
- Each Rain Sensor supplied with your **DryLanai™** Automatic Storm Shutter Control System contains a CR-123 Lithium battery that should function for many months under ordinary conditions. The **battery** light on the Controller panel will alert you when batteries need replacement. When this happens, replace the batteries in all of your Rain Sensors.

- To replace Rain Sensor Batteries, follow these steps:
  1. Toggle the Controller to the **manual** mode.
  2. Remove the screws on the bottom panel of the Rain Sensor.
  3. Remove the old battery and replace it with a fresh CR-123 Lithium battery.
  4. Replace the bottom panel and secure it with the screws you removed in Step 1.
  5. Repeat Steps 2 – 4 for all Rain Sensors.
  6. Replace the Rain Sensors in their original locations
  7. Toggle the Controller back to the **auto** mode.



#### WARNING

To reduce the risk of fire, electric shock or injury to persons, installation work and electrical wiring must be done by a qualified person or persons in accordance with all applicable codes and standards. The controller is for indoor use only.



#### WARNING

This product has no user serviceable parts. Do not open the Wall Controller enclosure or attempt to perform alterations or maintenance on the Controller wiring. All servicing should be performed by an authorized service representative.



#### WARNING

To reduce the risk of fire or electric shock, install this controller only with tubular roll down shutter operator/motors rated maximum 2.75A each.



#### WARNING

This appliance has been evaluated for fire and shock only, not entrapment. The controller may be used only with louver and shutter operators for which the application has been evaluated by UL. The maximum weight of each shutter shall not exceed 350 pounds.

## **Important: Read and Save These Instructions.**

### **They will:**

- Make operation of your automatic storm shutters easier.
- Help you in the future if you have questions.

## **How Your Automatic Storm Shutter Control Works**

The **DryLanai™** Automatic Storm Shutter Control System consists of a Controller, which is mounted on a wall inside your home, and one or more Rain Sensors, which sit on on your porch or lanai floor.

You can raise and lower your storm shutters using the touch controls on the front panel of the Controller, the same as if you were using conventional switches.

When rain drops strike the grid on the front surface of any Rain Sensor, the Rain Sensor sends a radio frequency (RF) signal to the Controller, which automatically closes all the shutters. When rain is over, the shutters can be raised again using the touch switches on the front panel of the Controller.

The Rain Sensors are powered by long-life batteries. Each Rain Sensor continuously monitors the voltage of its battery. When the battery voltage falls below a predetermined level, the Rain Sensor sends a special RF signal to the Controller that closes all the shutters and lights a warning light on the front panel of the Controller, advising you to replace the batteries. This assures that your automatic shutter control will not fail because of dead batteries.

- If the **signal** light on the Controller panel does not light when a Rain Sensor pushbutton switch is pressed, the Rain Sensor must be “enrolled” so the Rain Sensor and Controller can communicate. This is achieved by bringing the Rain Sensor into close proximity with the Controller (4 feet or less) and performing the following steps:
- Touch **ZONE 1** switch and **ZONE 2** switches simultaneously and continuously until all the **ZONE** lights begin to flash. While the lights are flashing, momentarily press the pushbutton switch on the rear side of the Rain Sensor. The **signal** light will light momentarily and the flashing **ZONE** lights will go out. Test to ensure the process was successful by momentarily depressing the pushbutton switch on the rear side of the Rain Sensor again. The **signal** light on the panel will momentarily light.
- Repeat this sequence for the other Rain Sensors.

Your automatic shutter control system is now fully operational.

## **Additional Important Information**

- The Rain Sensor sends a signal to the Controller when it senses that the grid on its front surface is changing from dry to wet. Even though it takes only one rain drop on a grid to initiate the signal, the grid must be completely dry when rain first strikes it. Raising your shutters immediately after a rain shower may cause the automatic system to malfunction if another shower occurs before your Rain Sensor grids have completely dried off. You can prevent this from happening by toggling the Controller to the **manual** mode, drying the Rain Sensor grids with a tissue, paper towel or soft cloth, and then toggling the Controller

## The Rain Sensors



Figure 2

## Locating the Rain Sensors

One Rain Sensor is required for each screened exposure. For example, if your lanai has screens facing East, South and West, you need three Rain Sensors.

- Place a Rain Sensor on the floor within 12 inches of each screened exposure with its detection grid facing the screen. Check for viable RF links between the Rain Sensors and the Controller by momentarily pressing the pushbutton switch on the rear side of each Rain Sensor. The **signal** light on the Controller panel will momentarily light when each Rain Sensor switch is pressed.

## The Wall Controller



Figure 1

## Description of the Wall Controller Touch Panel

The front Touch Panel of the Wall Controller provides means for manually controlling your storm shutters and monitoring the state of the **DryLanai™** Automatic Storm Shutter Control System.

- The **MODE** switch toggles the controller from **manual** mode to **auto** (automatic) mode and back. In the **auto** mode, the Controller is activated by RF signals from the Rain Sensors. This is the normal operating mode of the Shutter Control System. In the **manual** mode, the

Controller is not activated by signals from the Rain Sensors. This enables you to clean the surfaces of the Rain Sensors without activating the shutter controls and prevents accidental closure of the shutters when you are using liquids such as water, cleaning solutions and insecticides in the vicinity of the Rain Sensors.

- The Controller reverts to the **auto** mode approximately sixty minutes after having been toggled to the **manual** mode. This helps to ensure that your shutters will be controlled automatically if you forget to toggle the Controller back to **auto** mode. The small lights above the

**MODE** switch indicate whether the Controller is in the **manual** mode or the **auto** mode. Touch the **MODE** switch and watch the mode lights change from **auto** to **manual**. Touch the **MODE** switch again and watch the mode lights change from **manual** back to **auto**. If the electric power fails, the Wall Controller will start up again in the **auto** mode.

- The light immediately to the right of the **auto** and **manual** lights indicates the status of the Rain Sensor batteries. If the battery in any Rain Sensor requires replacement, the Controller will automatically close all the shutters and the **battery** light will light continuously, alerting you to replace the Rain Sensor batteries.

- The light immediately to the right of the **battery** light indicates the status of the RF link between the Rain Sensors and the Controller. Momentary lighting of this light indicates that an RF signal is being received from a Rain Sensor. If the system encounters a fault, such as RF interference or malfunction of a component, the **signal** light will light continuously, alerting you to seek technical assistance.

- The touch switches labeled **1**, **2**, **3** and **4** near the bottom of the panel enable you to raise or lower your storm shutters. This works in both the **auto** mode and the **manual** mode. Touching one or more of the **ZONE** switches lights the light directly above the respective switch. While these lights are lit, you can raise or lower the selected shutters by touching the triangular **UP** switch or the triangular **DOWN** switch. You cannot raise or lower a shutter if the light above its corresponding switch is not lit. You can stop the moving shutters at any time by touching the rectangular **STOP** switch. The **STOP** switch overrides all **manual** mode or **auto** mode operations.



#### **WARNING Electrical Shock Hazard**

Do not open the Controller enclosure to attempt to remedy a system fault. Failure to observe this warning can result in electrical shock or death. If your Controller requires repair or replacement, call a qualified electrical service technician.

### **FCC Statements for the Wall Controller:**

**NOTE:** This equipment has been tested and found to comply with the limit for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Changes or modifications not expressly approved by the responsible party could void the user's authority to operate the equipment.

**FCC Statements for the Rain Sensor:**

Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

This device may only be used with the approved antennas that are shipped with the unit and installed by the manufacturer. The use of any other antennas will invalidate the unit's FCC Part 15 certification.

To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotropically radiated power (e.i.r.p.) is not more than that permitted for successful communication. Operating the device with the supplied, internal antennas will ensure that this requirement is met.

Changes or modifications not expressly approved by the responsible party could void the user's authority to operate the equipment.

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