# SOLAR SMART

Version 4


Solar Smart is a battery powered, solar charged, remote operated, chain drive opener system – designed for use in awnings, hopper windows, and skylights. Solar Smart is designed to be used without any additional power and wiring from the building. The operator is powered by a Lithium battery pack that is recharged from the external solar panel; an optional AC adapter is included. Solar Smart was engineered to feature ultra-low power consumption while in idle state, and in use.

**www.SolarSmartOpener.com**

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## FEATURES

**Operator Highlights:**

1. Powered by a solar charged battery pack.
2. End-user replaceable battery pack. Li-ion 7.4 volt 2200 mAh
3. Operating force rating of 60 lbs at the chain.
4. Maximum opener chain travel of 8 inches with option to program various lengths.
5. Bright White cover standard. Paintable surface for custom color match.
6. Attachment link on chain is fastened to the sash by a release pin.
7. AC trickle charger included.
8. Adaptable to awning and hopper windows, and skylights.

**Remote Highlights:**

1. Large and readable display with bi-directional feedback from the operator:
    a. Open / Close status percentage displayed.
    b. Operator and remote battery level percentage displayed.
    c. Solar charge rate displayed in mA.
    d. Temperature display.
2. 9 programmable zones with up to 9 operators assigned per zone. Able to control up to 81 operators.
3. Automatic temperature control function.
4. Multiple remotes can be used on a Main / Secondary relationship. Pairing and settings can be sent from a main remote to secondary remotes wirelessly.
5. Remote uses standard (2) AAA batteries.

## IN THE BOX

- Solar Smart Operator
- operator battery cover
- operator battery
- chain clip with release pin
- small flat head screw driver

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- remote
- remote battery cover
- (2) AA batteries
- wall mount attachment

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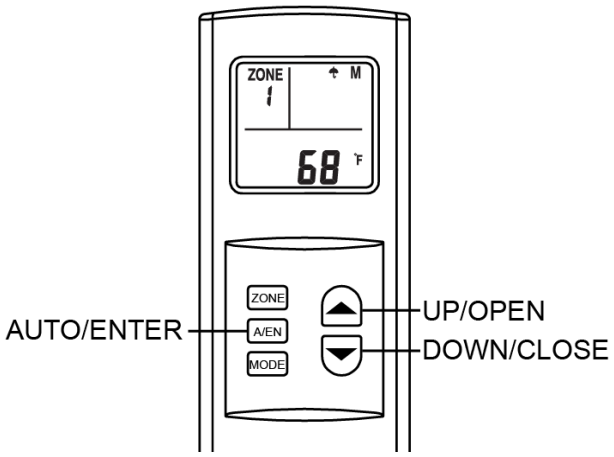
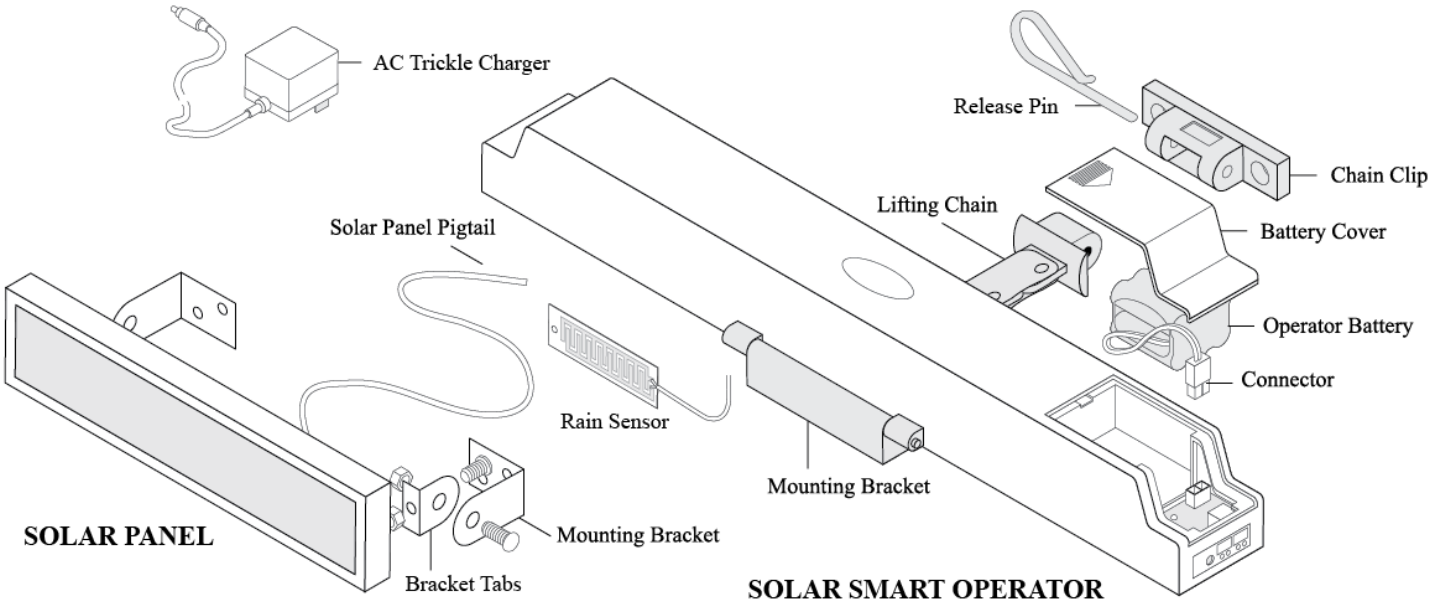
- solar panel with wiring pigtail
- rain sensor with wiring and bracket
- AC trickle charger
- stainless steel mounting bracket
- (2) stainless steel bracket tabs
- (4) stainless steel bolts
- (4) stainless steel nuts



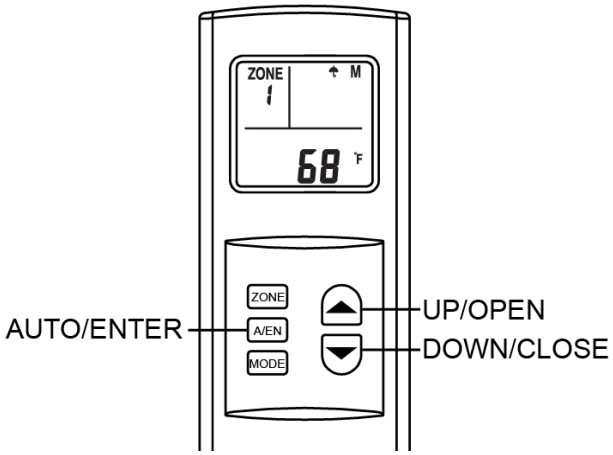

**DO NOT INSTALL THE BATTERIES UNTIL DIRECTED TO DO SO**

## FURTHER ITEMS REQUIRED

- (5) fasteners for mounting the operator
- (2) fasteners for mounting the chain clip
- (4) fasteners for mounting the solar panel and bracket



## BASIC OPERATION




- Using the operator requires that it has been paired to the remote. Refer to Initial Remote Setup and Configuration.

**Opening and Closing of an Operator**

1. Press any key to wake up the remote, if the LCD display has powered off.
2. Press ZONE to choose a single zone (**1** thru **9**) of operators or **ALL** to operate all operators in all zones.
3. Press OPEN or CLOSE to open or close the window/skylight.
4. Press OPEN or CLOSE during operation to **STOP** the operator at any time.

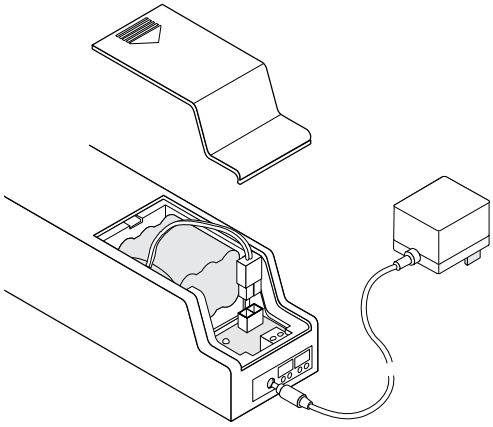
**Enable / Disable Automatic Functions**

1. Press and hold AUTO to show or remove **AUTO** from the display, thus enabling or disabling the temperature control (**TC**) or Time-to-Close (**P1**) functions.

## OPERATOR and SOLAR PANEL INSTALLATION

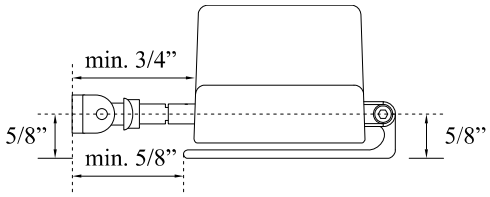
- To ensure that the operator battery pack is fully charged, the trickle charger should be used prior to installation for a minimum of 6 hours.

- Connect the battery connector to the operator circuit board, pressing firmly until the plug is locked into place.
- Plug operator into a standard wall outlet using the AC trickle charger, for a minimum of 6 hours.



- **It is important that the operator and remote control go through the pairing process while the chain is attached to the window/skylight and are under normal work load conditions.**

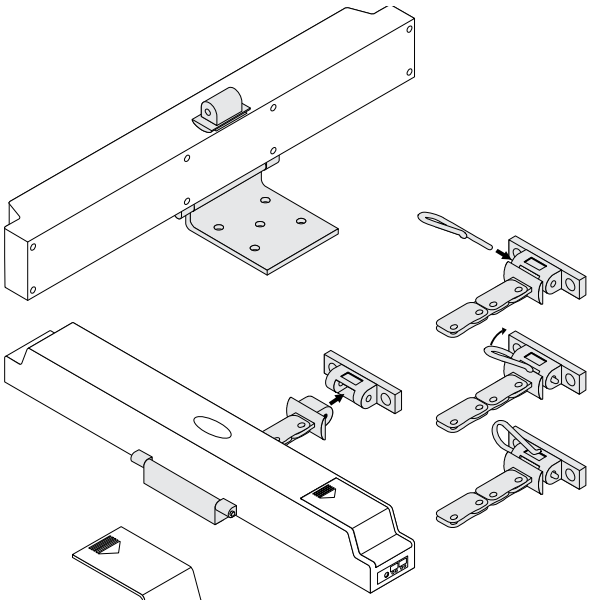
1. Align the chain clip mounting location to be parallel to that of the mounting bracket pivot screws to ensure proper operation and prevent hardware interference.




2. Position the operator with enough distance from the chain clip to ensure that the window/skylight is allowed to fully close.

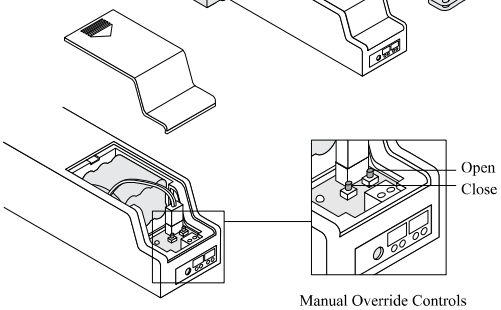
3. Mount the operator using a minimum of 3 fasteners. Fasteners are not included.

4. Mount the chain clip to the window/skylight using the two fastener holes. Fasteners are not included. The chain clip must be oriented as shown. Take care to ensure that the chain clip is parallel to the mounting bracket pivot screw.



5. Attach the chain to the chain clip using the release pin. Insert pin at an angle, rotate to secure.

- It may be necessary to temporarily connect the battery pack to the operator and use the manual override controls inside the battery compartment to extend the chain to allow for connection to the chain clip.

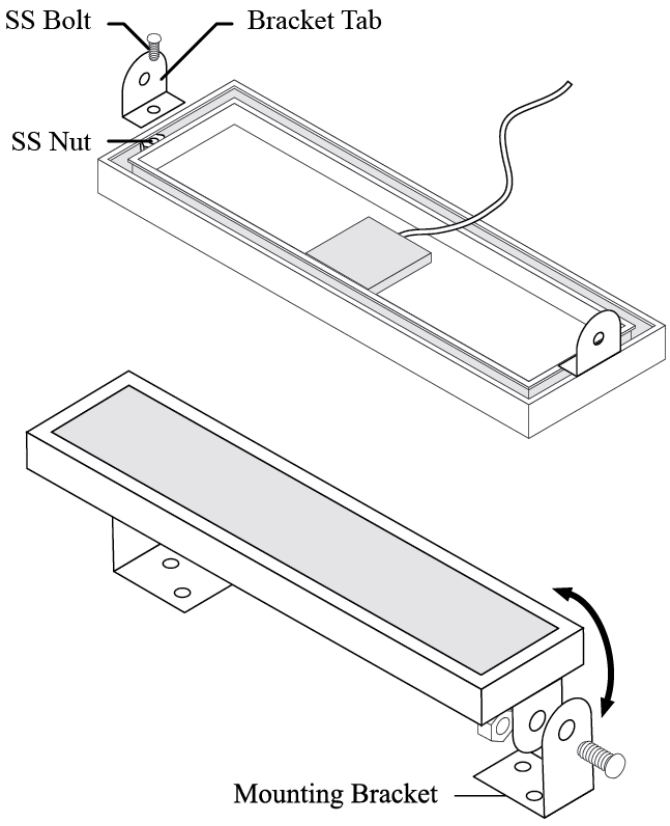


Manual Override Controls

## INSTALLATION of the SOLAR PANEL and RAIN SENSOR

- The solar panel must be mounted with airspace underneath for cooling and performance efficiency; as well as maintain the product life span.

1. Lay the solar panel face down on a flat surface. Take care not to scratch the solar panel.
2. Insert two stainless steel nuts into the channel of the perimeter frame; one each on the two short sides.
3. Use two stainless steel bolts to attach the two bracket tabs to the frame with the two nuts inserted into the channel. Do not fully tighten at this time.
4. Use the remaining stainless steel bolts and nuts to attach the mounting bracket to the solar panel.
5. Install the solar panel and bracket on to the exterior of the building near the operator installation location.
6. Tilt and rotate the solar panel to maximize the solar panels exposure to the Sun. Alignment towards the southern sky is recommended for most locations in North America for best exposure to mid-day sun.
7. Tighten all the fasteners to secure the solar panel orientation.
8. Route and waterproof the pigtail wiring to the interior of the building where the operator is to be installed.
9. Install the rain sensor and bracket on the exterior as level as possible near the operator.
10. Route and waterproof the wiring to the interior where the operator will be installed.




- It is highly recommended to only use the wiring provided for the solar panel and rain sensor.

## WIRING the SOLAR PANEL and RAIN SENSOR to the OPERATOR

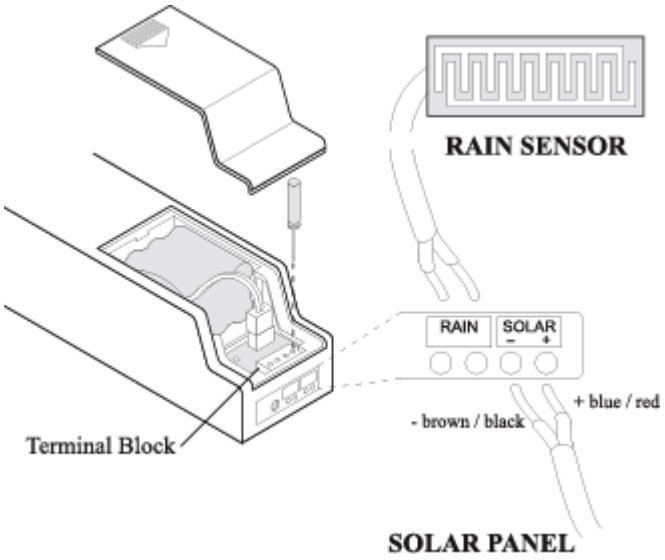
- **NOTE: the Remote must be paired to the Operator before the Solar Panel is connected.** If not already done so, skip these steps below until the Remote is paired and configured to the Operator.

**Solar Panel**

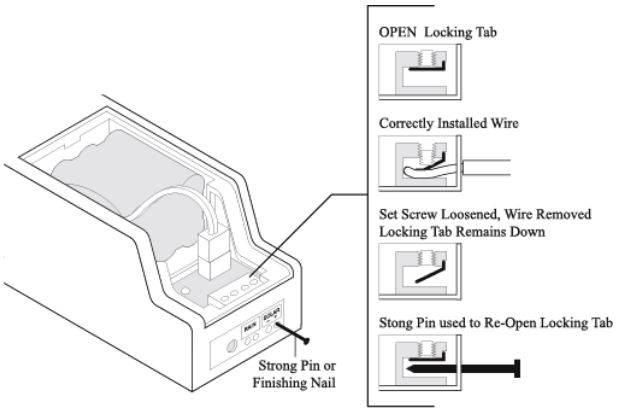
1. At this point, the solar panel wiring should be routed to the interior with any access hole(s) sealed and waterproofed.
2. Cut the wiring to the required length.
3. Cut back the wiring jacket to expose the wires.
4. Separate the two lead wires.
5. Strip back 1/2" of the wiring jackets of the two individual wires.
6. Remove the operator battery cover.
7. Loosen the two set screws located in the terminal block aligned with the SOLAR designation.
8. The wiring could be either pairing: brown and blue, or black and red. The blue (or red) wire is positive, the brown (or black) wire is negative. Insert the wire leads into the two right wiring holes (SOLAR) on the exterior of the operator associated with the two polarities.
9. Secure the wires with the set screws in the terminal block.

**Rain Sensor**

1. Strip back 1/2" of the wiring jackets of the two Rain Sensor wires.
2. Loosen the two set screws located in the terminal block aligned with the RAIN designation.
3. These wires are not polarity sensitive so either wire can be inserted in either connector.
4. Secure the wires with the set screws in the terminal block.
5. Reinstall the operator battery cover.
6. **Periodic cleaning of the Rain Sensor is required.**



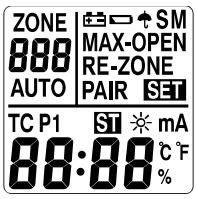

**NOTE:** If the wires for either the Solar Panel or Rain Sensor were installed then removed, the internal locking tabs may need to be re-opened to allow the wires to be fully re-inserted. To do this, simply use a strong pin, heavy paper-clip, a finishing nail or any similar small object – and insert the pin into the wire hole and press firmly but gently until you either feel the click of the locking tab opening, or you are certain that the wires can be inserted fully. Repeat for each wire hole.

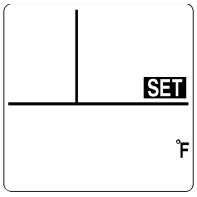


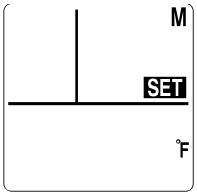
## INITIAL REMOTE SETUP and CONFIGURATION

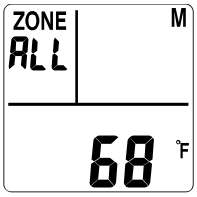
- The following are applicable for configuring the main remote only. To configure additional remotes, refer to 'Multiple Remotes' for more information.
- Pressing MODE does not work when zone in remote display is set to **ALL**. Press ZONE to exit zone **ALL**.
- All steps must be performed within 30 seconds or the remote control will default to the previous settings.

1. Open the remote battery cover and install the two AA alkaline batteries and replace the cover.
2. All the screen display segments will be visible while the remote runs a self-test which lasts for a few seconds. After which, **SET** will be displayed.
3. Press ▲ ▼ to choose either **C** (Celsius) or **F** (Fahrenheit).
4. Press ENTER A/EN to save your selection.
5. Press ▲ ▼ to choose either **M** (main) or **S** (secondary). Select **M** for main.
   **Note:** Secondary is only used when using additional remotes. Refer to 'Multiple Remotes' for more information.
6. Press ENTER A/EN to save your selection.
7. **ZONE ALL** and the temperature should now be displayed.



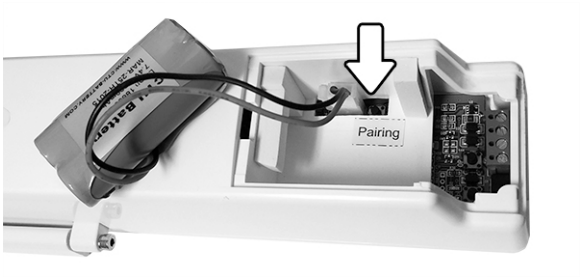
## PAIRING the REMOTE to the OPERATOR

- Pairing sets up communication between the remote and the operator.
- The remote will be able to control all operators assigned within a single zone simultaneously, or control all zones at once.
- There are 9 zones (**1** thru **9**), with each zone containing 9 ID numbers (**1** thru **9**). Each operator will need to be assigned to a zone and ID number. Each zone and ID number combination can only be assigned one operator.
- The following instructions are applicable to pairing the first and additional operators to a single remote.
- Each operator can only be paired with one main remote, however multiple secondary remotes may be used once setup and configured.

### The Operator

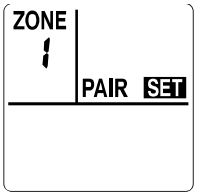
- The Remote will need to be paired within 2 minutes, or the operator will default back to the previous settings. No need to rush, 2 minutes might seem short – but is actually a long time for this short process.

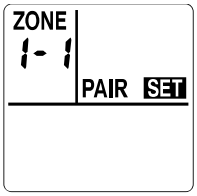
1. Remove the battery cover from the operator.
2. Connect the battery connector to the operator circuit board, pressing firmly until the plug is locked into place.
3. Press the PAIRING button, located near the battery plug.
4. The red light on the circuit board will continually blink while it is in pairing mode.




### The Remote

1. Press any key to wake up the remote, if the display has powered off.
2. Press and hold the [MODE], release when **PAIR SET** is displayed.
3. Press ENTER [A/EN] to entering Pairing Setup.
4. Press [ZONE] as necessary to choose the appropriate zone (**1** thru **9**).
5. Press [ENTER] to save your selection.
6. Press [▲][▼] to choose the ID number (**1** thru **9**) within the zone. ID numbers already in use will not be displayed.
7. Press ENTER [A/EN] to save your selection. The remote will attempt to pair to the operator.

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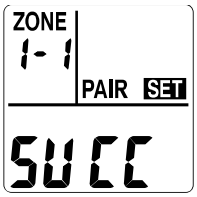
8. **SUCC** will be displayed to indicate a successful pairing. The operator will then fully open then close one cycle. DO NOT press any buttons on the remote until this cycle completes.
    a. If a **FAIL** message is displayed, press ENTER on the remote to try to pair again.
    b. If a **FAIL** message is displayed again, ensure that the operator is in pairing mode. If the red light is not still blinking, disconnect and reconnect the battery connector on the operator and repeat steps 1-7 again.



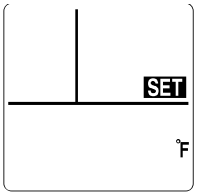

## MULTIPLE REMOTES

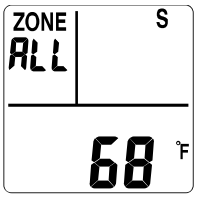
- It is intended that one or multiple operators may be controlled from multiple secondary remotes. This is done by sending the pairing and settings stored in the first configured **M** (main) remote, to the additional **S** (secondary) remote(s). Secondary remotes will be 'copies' of the main.
- Any changes to operator zones, ID numbers, and/or adding additional operators can only be performed using the main remote. The changed settings would then need to be re-sent from the main to the secondary remote(s).
- Ensure that a main remote has been configured as outlined in 'Remote Setup and Configuration' and that it has been paired to the operator(s) as described in 'Pairing Remote to Operator.'

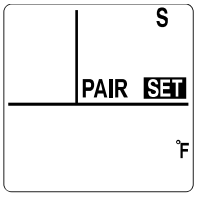
### Secondary Remote Configuration

- All steps must be performed within 30 seconds or the remote control will default to the previous settings.

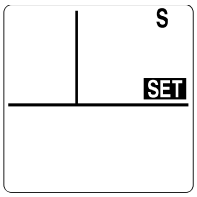
1. Open the remote battery cover; remove and reinstall two AA alkaline batteries and replace the cover.
2. All the screen display segments will be visible while the remote runs a self-test which lasts for a few seconds. After which, **SET** will be shown on the Display to indicate input is required.
3. Press ▲ ▼ to choose either **C** (Celsius) or **F** (Fahrenheit).
4. Press ENTER A/EN to save your selection.
5. Press ▲ ▼ to choose either **M** (main) or **S** (secondary). Select **S** for secondary.
6. Press ENTER A/EN to save your selection.
7. **ZONE ALL** and the temperature should now be displayed.

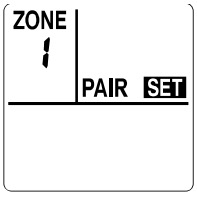


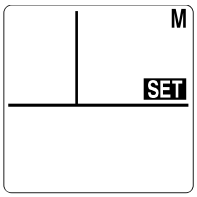



1. **SECONDARY REMOTE STEPS**
   a. Press and hold [MODE], release when **PAIR** **SET** is displayed and the **S** in the upper-right corner is flashing.
   b. Press ENTER [A/EN]. The secondary remote will now be waiting to receive the transmission from the main remote. It will wait for 30 seconds.




2. **MAIN REMOTE STEPS**
   a. Press and hold [MODE], release when **PAIR** **SET** is displayed.
   b. Press [▲] [▼] to display **M** in the upper-right corner as flashing.
   c. Press ENTER [A/EN] to begin transmitting the settings to the secondary remote.
   d. **SUCC** will be displayed on a successful transfer of settings.
      i. If a **FAIL** message is displayed instead, be sure that the secondary remote is still configured to be waiting to receive the transmission. Press ENTER [A/EN] to retry.

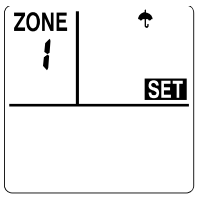


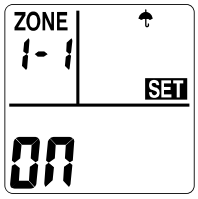

## RAIN SENSOR

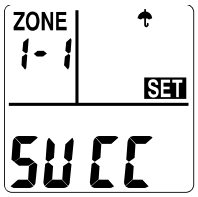
The rain sensor should be installed horizontally, with a slight tilt to prevent water from pooling. The sensor location depends on many factors. The key to proper installation is that the sensor must be **level and exposed** when the operator opens the unit. The wires from the sensor to the operator must be run to the operator in a water proof manner so as to not induce water penetration that could damage the interior. The sensor is not polarity sensitive so it does not matter which wire goes to which connector in the operator.

**By default, the rain sensor is <u>disabled</u> when the remote is initially paired to the operator regardless of whether the rain sensor is attached or not.** When the rain sensor is enabled a small ☂ umbrella will be displayed in the top right hand display box.

1. To enable or disable the rain sensor, press any key to wake up the remote if the LCD display has powered off.
2. If **ZONE ALL** is displayed, press [ZONE] to display any Zone other than ALL.
3. Press [MODE] .
4. Press [ZONE] as necessary to choose the desired zone.
5. After the desired zone is flashing, Press ENTER [A/EN] .
6. **MAX-OPEN** will now be flashing.
7. Press [▲][▼] until the ☂ icon is displayed and flashing, press ENTER [A/EN] .
8. Press [▲][▼] to choose the ID number (**1** thru **9**) within the zone.
9. Press ENTER [A/EN] to confirm your selection.
10. Press [▲][▼] to choose between **ON** and **OFF** while they are flashing.
11. Press ENTER [A/EN] to save your setting.
12. LCD displays steady **ON** or **OFF** for one second, then **SUCC** for 2 seconds, indicating success. Press [MODE] a few times to return to the home screen
    a. If setting not successful, LCD displays **FAIL** for 1 second, then returns to the same step #8 to retry setting.




## RAIN SENSOR OPERATION

When a drop of water is on the sensor the operator may not react immediately. The control system actually takes multiple readings in an effort to avoid false readings and possible "cycling" of the operator before it sends the close or open commands.

**If the operator is manually opened when the rain sensor is enabled AND there is water present on the sensor, the operator will close and the ☂ umbrella icon will <u>blink</u> on the Remote.** If you desire to open the operator at this time, the sensor will need to be disabled before it will stay in the open position.

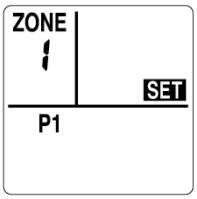
If the Rain Sensor and the Automated Temperature Control are enabled at the same time, the Rain Sensor will take precedence over the Temperature Control. In other words, if rain is detected, the operator will close regardless of the temperature until such time as water is no longer detected on the sensor before it will automatically re-open.

As noted above, the rain sensor is designed to detect a lowering of the resistance between the metallic strips on the sensor. The resistance can be lowered by a number of factors including moss, sap, heavy dew, or condensation drops from surrounding structures. Therefore it is important to periodically clean the sensor to maintain proper operation. If all operations function properly except when the Rain Sensor is enabled, cleaning the Rain Sensor is recommended.

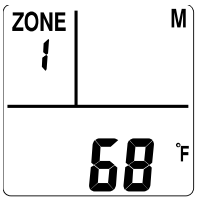
## TIME TO CLOSE

The Time to Close (**P1**) function will automatically close the operator after a user defined time period. The user selected time period is in 10 minute increments from 0 to 1 hour. From 1 to 24 hours, the increments change to 30 minutes.

1. Press any key to wake up remote, if the LCD display has powered off.
2. If **ZONE ALL** is displayed, press [ZONE] to display any Zone other than ALL.
3. Press [MODE] - the LCD should display **SET**, and **ZONE** should be flashing.
4. Press [ZONE] as necessary to choose the appropriate zone (1-9).
5. When the correct zone is flashing, press [ENTER]
6. **MAX-OPEN** will be displayed and flashing.
7. Press [▲][▼] until **P1** is displayed and flashing.
8. Press ENTER [A/EN] .
9. Press [▲][▼] until the desired Time To Close is displayed and flashing or **NULL** to turn function off.
10. Press ENTER [A/EN] .
11. **ST** is now displayed and flashing. Press [MODE] to return to the home screen OR press [▲][▼] to scroll and set other features.
12. The Time To Close selection will be retained in memory until changed by the user. However, you must activate the **AUTO** feature for either the Time To Close or the Temperature Control (TC) function for it to operate. NOTE: The Time To Close and Temperature Control cannot be enabled simultaneously for the same zone.

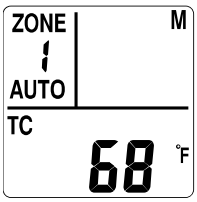


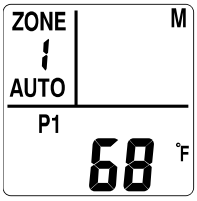



### Enable / Disable the TIME TO CLOSE Function

1. To activate the **AUTO** function you must start in the Home screen.
2. Press [ZONE] to select the Zone (other than ALL) to have the function applied to.
3. Press and hold the [AUTO] button for 2 seconds until the screen changes. The screen will read either **AUTO/TC**, **AUTO/P1**, or be blank which disables both automatic functions. Each time you press and hold the [AUTO] button for 2 seconds it will scroll the screen to the next option. When the correct Auto Function is displayed, you are done.
4. When the Auto function is enabled, it will stay enabled until it is turned off.

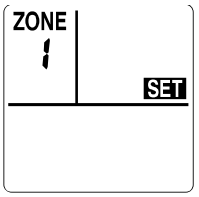


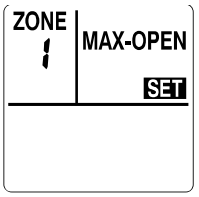



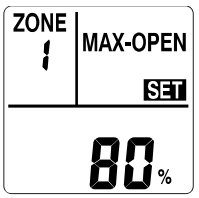
## SETTING MAX-OPEN LIMIT

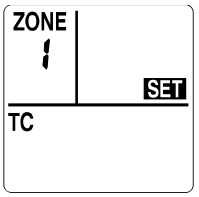
- The travel distance that the operator(s) will open a window/skylight (**MAX-OPEN**) can be reduced for all operators within a zone; and each zone may have a unique **MAX-OPEN** value. This may be beneficial to prevent rain or excess wind from entering when the operator(s) is open.
- The factory setting **MAX-OPEN** limit is set to open up to 80% of full open position.

1. Press any key to wake up the remote, if the LCD display has powered off.
2. If **ZONE ALL** is displayed, press [ZONE] to display any Zone other than ALL.
3. Press [MODE].
4. Press [ZONE] as necessary to choose the appropriate zone **1** thru **9**.
5. Press ENTER [A/EN] to save your selection.
6. **MAX-OPEN** will be displayed and flashing.
7. Press ENTER [A/EN] .
8. Press [▲] [▼] to set the percentage, in increments of 10%.
9. Press ENTER [A/EN] to save your setting.
10. **TC** is now displayed.
11. Press [MODE] to return to the home screen - OR - to continue on to set the Temperature Control (TC).



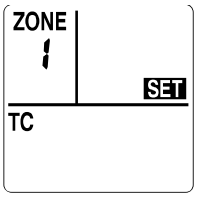



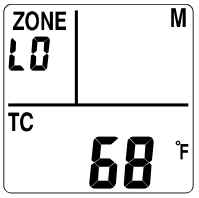



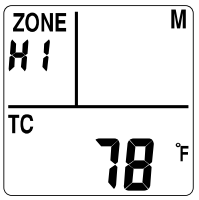



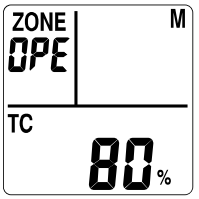
## SETTING TEMPERATURE CONTROL (TC)

- Automated temperature control (**TC**) can be set for all operators within a zone; and each zone may have unique **TC** values.
- When set and the remote is set to **AUTO**, the temperature control will open the operator(s) within a zone when the **LO** temperature setting is reached.
- Optionally, in order to allow AC equipment to work in tangent with natural ventilation (without allowing the conditioned air to escape) the operator can close if the temperature continues to rise to the **HI** temperature setting. This is set to **NULL** by default. The **HI** temp setting should be set below an AC equipment trigger temperature.
- **TC** will also close the operator(s) when the temperature drops more than 5 degrees (F) or 2 degrees (C) below the **LO** temperature level.
- This automatic function is based on the temperature at the remotes location and must be maintained for approximately 5 minutes.

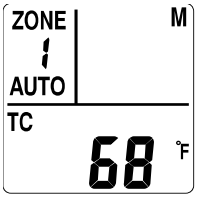


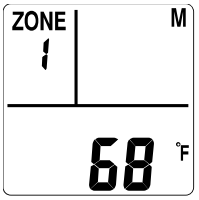



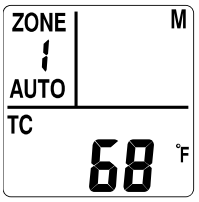




1. Press any key to wake up the remote, if the LCD display has powered off.
2. If **ZONE ALL** is displayed, press [ZONE] to display any Zone other than ALL.
3. Press [MODE].
4. Press [ZONE] as necessary to choose the appropriate zone (**1** thru **9**).
5. Press ENTER [A/EN] to save your selection.
6. **MAX-OPEN** will be displayed and flashing.
7. Press [▲] [▼] until **TC** is displayed and flashing. Press ENTER [A/EN] .
8. Press [▲] [▼] to set the desired temperature for the **LO** setting, or **NULL** to turn function off, for this zone. Press ENTER [A/EN] to save your selection.
9. Press [▲] [▼] to set the desired temperature for the **HI** setting. Set to high value if you wish to keep open for rising temperatures. Set as **NULL** if no upper limited is desired. Press ENTER [A/EN] to save your selection.
10. Next set the percentage the operator will open during **TC** operation. Press [▲] [▼] to set the opening distance, in increments of 10%. Press ENTER [A/EN] to save your setting.
11. **P1** is now displayed.
12. Press [MODE] to return to the home screen - OR - to continue on to check the status of the batteries and charge current.



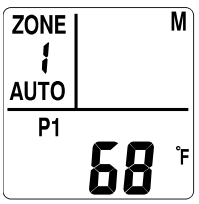




After any change to the TC settings, the TC function will be enabled and AUTO will be displayed.

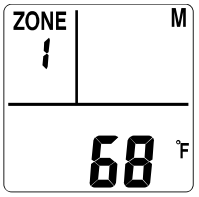
### Enable / Disable the TC Function

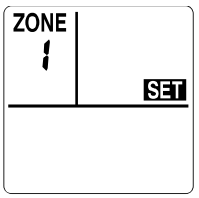
1. Press [ZONE] to select the Zone (other than ALL) to have the function applied to.
2. Press and hold the [AUTO] button for 2 seconds until the screen changes. The screen will read either **AUTO/TC**, **AUTO/P1**, or be blank which disables both automatic functions. Each time you press and hold the [AUTO] button for 2 seconds it will scroll the screen to the next option. When the correct Auto Function is displayed, you are done.

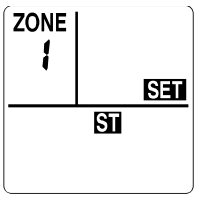


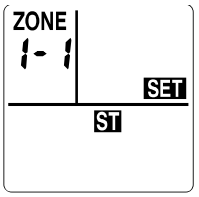
## CHECKING STATUS OF BATTERIES AND CHARGING CURRENT

1. Press any key to wake up the remote, if the LCD display has powered off.
2. If **ZONE ALL** is displayed, press [ZONE] to display any Zone other than ALL.
3. Press [MODE].
4. Press [ZONE] as necessary to choose the appropriate zone (**1** thru **9**).
5. Press ENTER [A/EN] to save your selection.
6. **MAX-OPEN** will be displayed and flashing.
7. Press [▲] [▼] until **ST** is displayed and flashing. Press ENTER [A/EN].
8. Press [▲] [▼] to choose the ID number (**1** thru **9**) of the operator within the zone.
9. Press ENTER [A/EN] to save your selection.
10. Press [▲] [▼] to cycle viewing either the solar charging rate in mA, operator battery status, or the remote battery.
    - Solar charging rate is measured in Milliampere (mA). Refer below for more information on charging rate.
11. Press [MODE] to return to main screen.



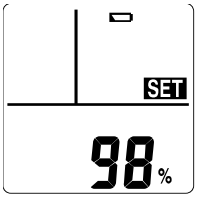



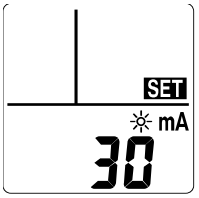




### Charging Rate

- mA is the abbreviation for Milliampere, which is a unit of electrical current flow. In this case, it is the measurement of current into the battery when charging, and it will range between 0 and 150 mA.
- The charging measurement is taken each time the status is requested and is a 'snap shot' of the conditions at that particular moment in time.
- This measurement is highly variable and depends directly upon the level of sunlight on the solar panel. Be aware of external influences which affect the light level, these are: direction and angle of exposure of the solar panel to the light source, sky conditions, clouds, man-made structures or trees which cause shadows on all or part of the solar panel, and maintenance of the solar panel itself, to keep it clean.
- Current flow is also highly dependent upon the battery state of charge and the status measurement may report zero or low mA, even when solar and all other conditions are optimum. For example, the solar panel could be outputting 40 mA on a battery that has a low charge, however on a battery with near full charge the output may only be 10 mA.
- Solar Smart limits the maximum charge current for safety reasons, to extend battery life, and to prevent over-charging damage to the battery.



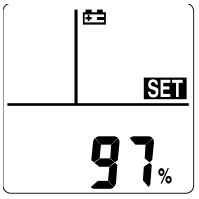

Remote Battery Status




Solar Charging Rate

### Battery Alerts

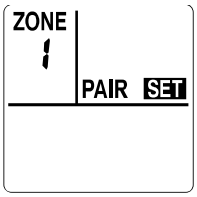
- The icon will be displayed on the remote when the remote batteries are in need of replacement.
- The icon will be displayed when the operator battery is low. When the operator battery is critically low, the operator will be allowed to close; however will not be able to open until the battery is recharged to a sufficient level.



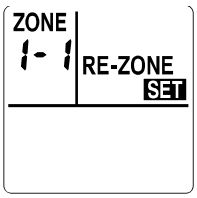

Operator Battery Status

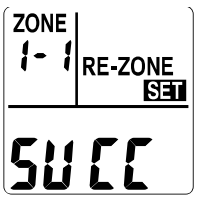
## RE-ZONING

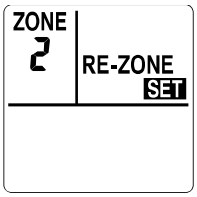
- Recommended only for when multiple operators are used with a single remote.
- This process removes the operator from the assigned zone and/or ID number, but remains paired to the remote. The operator then is reassigned to a new zone and/or ID number on the same remote.
- **CAUTION - If this is not done correctly, you will have to re-pair the Remote to the Operator, which would involve unplugging the Operator's battery. Please read these instructions carefully first, before performing this operation.**

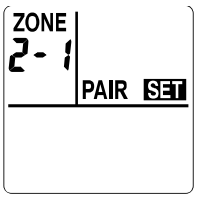


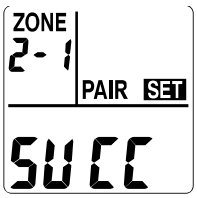

1. Press any key to wake up the remote, if the display has powered off.
2. Press and hold MODE, release when **PAIR** **SET** is displayed.
3. Press ▲ ▼ as needed to display **RE-ZONE**. Press ENTER A/EN.
4. Press ZONE as necessary to choose the appropriate zone (**1** thru **9**) of the operator to be moved to another zone. Press ENTER A/EN.
5. Press ▲ ▼ to choose the ID number (**1** thru **9**) within the zone in which the operator is assigned to. Press ENTER A/EN.
6. **SUCC** will be displayed. The operator will now be unassigned from the previous zone and ID number. **DO NOT STOP HERE, steps 8, 9 and 10 must be completed.**
    a. Press ENTER A/EN to retry, if a **FAIL** message is displayed instead.
7. Press ZONE to choose the new zone (**1** thru **9**) the operator shall be assigned to.
8. Press ENTER A/EN to save your selection.
9. Press ▲ ▼ to choose the ID number (**1** thru **9**) within the zone in which the operator shall be reassigned to.
10. Press ENTER A/EN to save your selection.
11. **SUCC** will be displayed. The Operator will run through an entire open and close cycle.



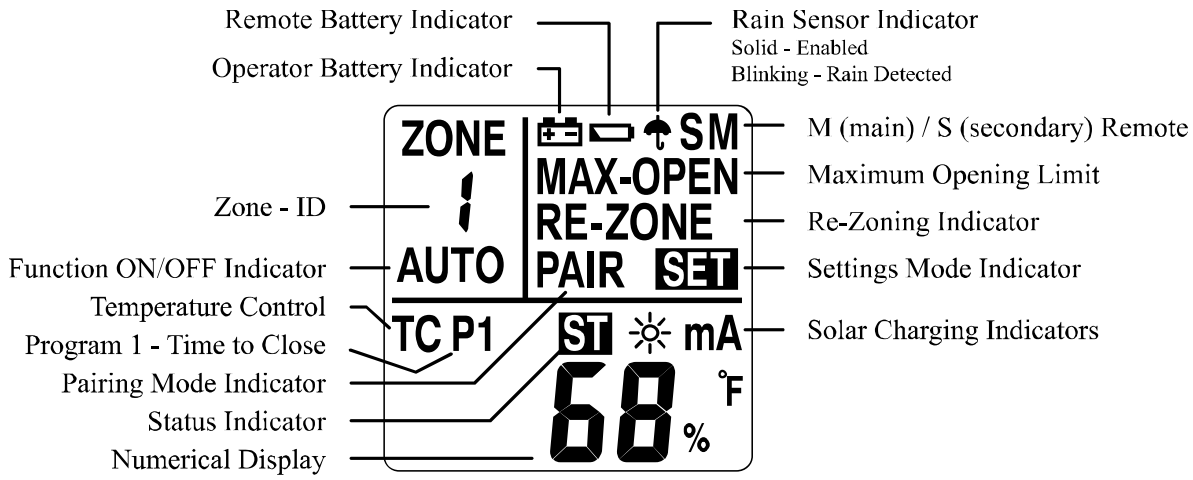




## DELETE an ID from REMOTE

- If an ID is occupied from an Operator no longer in use, the memory of that Operator needs to be deleted from that Remote, to allow another Operator to be paired with the Remote at that ID.
- To do this, follow the REZONE instructions Steps 1 – 7 as listed above. Since the Remote can no longer communicate with the Operator, **FAIL** will be displayed.
- Press ENTER A/EN again to retry. After third failed attempt, **DELE** will be displayed. Press ENTER A/EN to confirm deletion of the Operator no longer in use.

## REMOTE DISPLAY




## TROUBLESHOOTING TIPS

1. If in **AUTO** mode and operator(s) is not working as expected, make sure none of the secondary remotes are set to **AUTO** mode and that temperature control (**TC)** for all zones on secondary remotes are set to **NULL**.
2. **MAX-OPEN** can be set to different values on both the main and secondary remotes. The operator will open to the **MAX-OPEN** setting of the remote used to open it. If the operator is not opening the proper amount be sure to check that **MAX-OPEN** is set properly on the remote used.
3. Temperature control (**TC**) may also have to be set to have a lower **MAX-OPEN** value than the otherwise set **MAX-OPEN**.
4. Temperature change must be maintained for 10 minutes before the temperature control (**TC**) function will operate.

**For more Trouble Shooting Tips, please visit www.SolarSmartOpener.com**

## ADVANCED SERVICE OPERATIONS

### RESET OF REMOTE TO FACTORY SETTINGS

1. Press any key to wake up the remote, if the display has powered off.
2. Press and hold [MODE], release when **PAIR** **SET** is displayed.
3. Press [▲] [▼] to display **M** in the upper-right corner as flashing.
4. Press ENTER [A/EN] **FAIL** is displayed as flashing.
5. Press and hold [MODE], release when **rF TEST** is displayed.
6. Press [MODE] repeatedly until **rET FAC** is displayed.
7. Press ENTER [A/EN], all the screen display segments will be visible while the remote runs a self-test which lasts for a few seconds. After which, **SET** will be displayed.

   **The remote has now been reset to factory settings; it is no longer paired to any operators.**

Please record your Remote settings for ease of reference as well as assist in troubleshooting.

| ZONE | ID | Location |
|---|---|---|
| 1 | 1 | |
| | 2 | |
| | 3 | |
| | 4 | |
| | 5 | |
| | 6 | |
| | 7 | |
| | 8 | |
| | 9 | |
| 2 | 1 | |
| | 2 | |
| | 3 | |
| | 4 | |
| | 5 | |
| | 6 | |
| | 7 | |
| | 8 | |
| | 9 | |
| 3 | 1 | |
| | 2 | |
| | 3 | |
| | 4 | |
| | 5 | |
| | 6 | |
| | 7 | |
| | 8 | |
| | 9 | |
| 4 | 1 | |
| | 2 | |
| | 3 | |
| | 4 | |
| | 5 | |
| | 6 | |
| | 7 | |
| | 8 | |
| | 9 | |
| 5 | 1 | |
| | 2 | |
| | 3 | |
| | 4 | |
| | 5 | |
| | 6 | |
| | 7 | |
| | 8 | |
| | 9 | |

| ZONE | ID | Location |
|---|---|---|
| 6 | 1 | |
| | 2 | |
| | 3 | |
| | 4 | |
| | 5 | |
| | 6 | |
| | 7 | |
| | 8 | |
| | 9 | |
| 7 | 1 | |
| | 2 | |
| | 3 | |
| | 4 | |
| | 5 | |
| | 6 | |
| | 7 | |
| | 8 | |
| | 9 | |
| 8 | 1 | |
| | 2 | |
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| | 4 | |
| | 5 | |
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| 9 | 1 | |
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