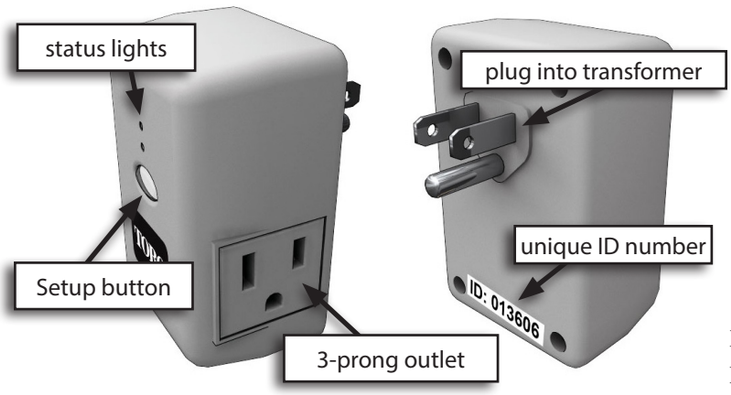
EVOLUTION® Series Add-On:
EVO-AR Auxiliary Relay

Auxiliary Relay Overview

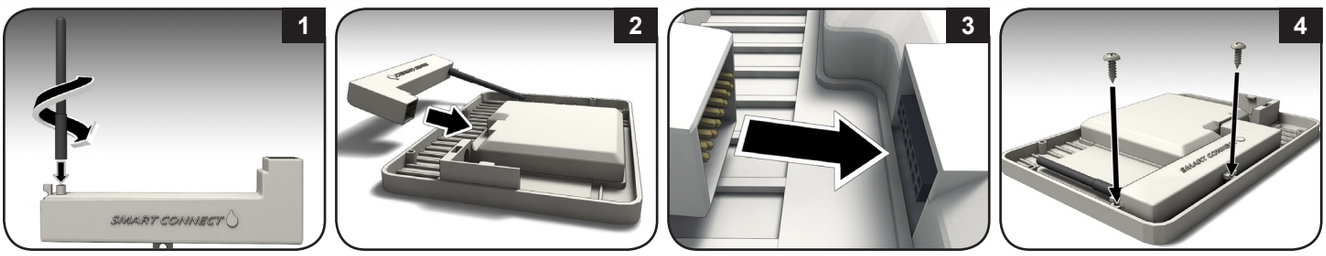


Specifications

- **RF reception range**: externally mounted: 1000' (305 m) LOS (line of sight) inside a metal transformer cabinet: 500' (152 m) LOS
- **Operating temperature range**: 14° – 140° F (-10°– 60°C)
- **Warranty: Five years**

FCC-ID: OF7LPCU
IC: 3575A-LPCU

Smart Connect™ Installation



EVO-AR Installation

WARNING: Disconnect power to transformer before installing EVO-AR.

The EVO-AR works with any residential transformer with an internal AC outlet. One can also plug the AR unit directly into a wall outlet and then plug an electronic device into the AR's own outlet, such as holiday lights or a fountain.

Controlling the Auxiliary Relay from the EVOLUTION Controller

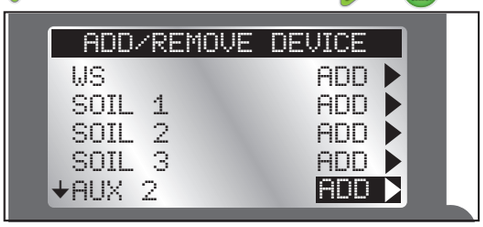
EVOLUTION Menu Navigation

1. Use ▲ or ▼ to navigate the menu commands.
2. Press ▶ or ◀ to *move* to the desired field.
3. Press ▲ and ▼ to *adjust* the value.
4. Press SELECT **SELECT** to input the desired value.

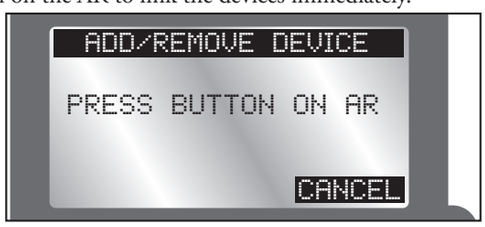
Adding the Auxiliary Relay

1. Note the unique ID number on the back of the device. Plug back into transformer when done.
2. Press ⌂ then SELECT.
3. Press ▼ to ADD/REMOVE DEVICE. Press SELECT.

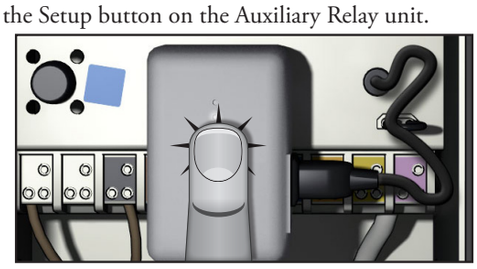
4. Press ▼ to AUX 2 or AUX 3. Press ▶ or SELECT to ADD.



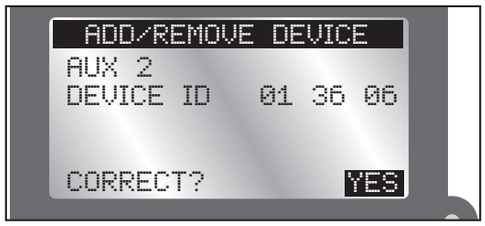
5. The EVOLUTION controller prompts the user to press the button on the AR to link the devices immediately.



6. Press the Setup button on the Auxiliary Relay unit.



7. The controller will detect the AR. Confirm that the device ID detected matches the AR ID.

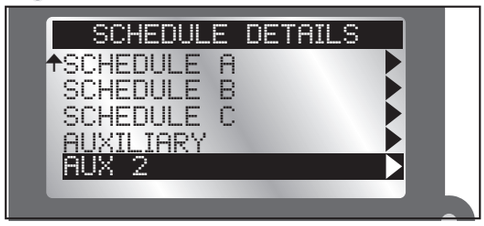


8. If it does match, press SELECT.
   If it does *not* match, change to NO, press SELECT, and repeat steps 3-8.

Getting to the Auxiliary Relay Menu

1. Press **ADVANCED** then SELECT.
2. Press DOWN to SCHEDULE DETAILS then press SELECT.

3. AUX 2 and AUX 3 are the schedules to control the EVO-AR relays (for AUXILIARY, see note below).
4. Press DOWN to move to the schedule to adjust.



5. Press RIGHT or SELECT to enter the selected AUX menu.

AUXILIARY allows the controller to control a wired device such as a wired relay pump or fountain. AUX 2 and AUX 3 are for wireless devices connected to an EVO-AR.

The AUX Menu

Status

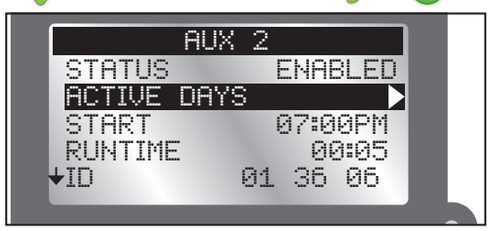
Enable or disable the AUX 2 or 3 schedule without having to actually delete the schedule. For example, one might disable backyard lights and/or fountain while one is on vacation.

1. Press RIGHT to ENABLED field.
2. Press UP or DOWN to enable or disable the schedule.
3. Press SELECT to commit the selection.

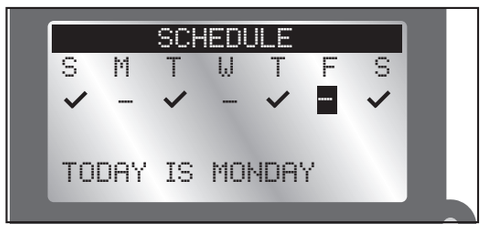
Active Days

Set the days that the AUX schedule will be active.

1. Press DOWN to ACTIVE DAYS. Press RIGHT or SELECT.



2. Press RIGHT or LEFT to move from day to day.
3. Press UP or DOWN to enable or disable a day.
   (A ✓ is an "enabled" day.)



4. Press SELECT to commit the changes.

Start / End

Set the start and end times of the AUX 2/3 schedule. For a residential transformer controlling lights, a start time and end time of 7pm and 11pm (respectively) might be desirable.

To turn the schedule off, "OFF" is between 11AM and 12AM.)

1. Press DOWN to START.
2. Press RIGHT or SELECT. The hour field will be highlighted.
3. Press UP or DOWN to change the hour value.
4. Press RIGHT to move to the next field.
5. Press UP or DOWN to change the highlighted value.
6. Repeat steps 4 and 5 to adjust AM/PM.
7. Press SELECT to commit the changes.

ID

This field is display-only and shows the ID of the AUX device.

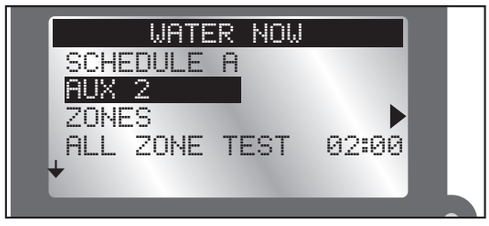
Erase Schedule

Erase the schedule of the AUX device. You will be prompted to cofirm schedule deletion.

Manual Operation

It is possible to manually begin the AUX2 or AUX3 schedule from the EVOLUTION® controller. The Auxiliary Relay must be enabled and scheduled.

1. Press **WATER NOW**.
2. Press DOWN to select the enabled auxiliary schedule: AUX 2 or AUX 3.



   Press SELECT. The auxiliary system will turn on.
3. At the **HOME** screen, press DOWN to review how long the auxiliary sytem will be active.
4. To stop an auxiliary schedule, press **WATER OFF**.

For more information about the EVO-AR, including support information, please point your browser to **www.toro.com/evolution**.

FCC Notice

This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions:

(1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that my cause undesired operation.

FCC Note: The manufacturer is not responsible for any radio or TV interference caused by unauthorized modifications to this equipment. Such modifications could void the user's authority to operate the equipment.

Note: This equipment has been tested and found to comply with the limits 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 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 more of 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.

The user may find the following booklet prepared by the Federal Communications Commission helpful:

"How To Identify and Resolve Radio-TV Interference Problems." This booklet is available from the U.S. Government Printing Office, Washington, DC 20402, stock # 004-000-00345-4.

This Class B digital apparatus complies with Canadian ICES-003. International: This is a CISPR 22 Class B product.

EVOLUTION® Series Add-On:
EVO-HH Handheld Remote

Introduction

Congratulations on purchasing Toro's new EVOLUTION Series Controller with the EVO-HH Handheld Remote Add-On. With the Handheld Remote Add-On, you will quickly realize savings in both time and money while keeping your landscape healthy and beautiful.

The EVO-HH system is designed exclusively for your Toro EVOLUTION Series Controller to allow the user to remotely control watering and auxiliary zones. The user can walk the site, testing, troubleshooting, and/or providing supplemental watering without walking back to the controller every time.

To familiarize yourself with EVO-HH handheld system, please take a few moments to read through this guide in its entirety.

Specifications

Handheld Remote

- Dimensions:
  2.75" (7 cm) W x 7" (17,8 cm) H (over 2" antenna) x 1.25" (3,2 cm) D (including mounting clip)
- 9V Alkaline battery (not included)
- RF reception range: 1000' (152 m) LOS (line of sight)
- Operating temperature range: 14° – 140° F (-10°– 60°C)

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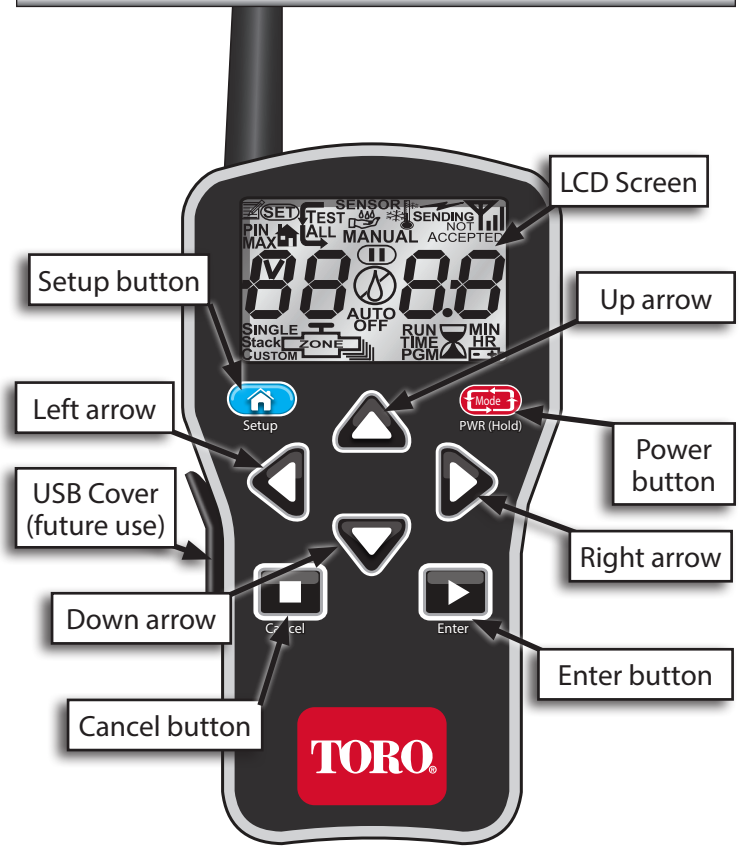
FCC-ID: OF7CLR1

IC: 3575A-CLR1

Table of Contents

Overview



Installation

EVOLUTION® Smart Connect®

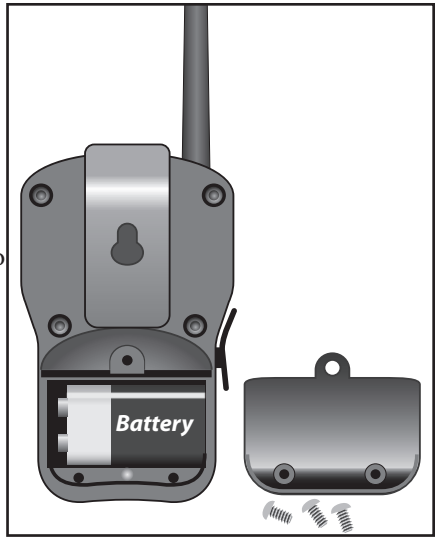
Please see the install sheet that came with the Smart Connect device.

Installing the Remote Batteries

The remote receives power from a 9-volt battery (not included).

To install the battery:

1. Remove the three (3) screws from the battery cover on the back of the remote, then remove the battery cover.
2. Snap the battery onto the battery clip and place the battery into the compartment.
3. Reinstall the battery cover with the three screws.



At the Controller

Menu Navigation

- Use or to navigate the menu commands.
- To change a value, press or to move to the desired field, then press and to adjust the value.
- Press **SELECT** to input the desired value.

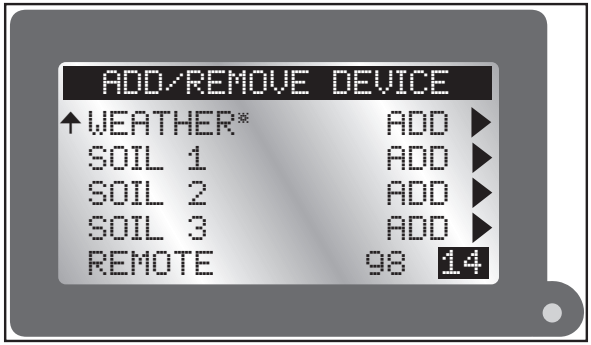
Adding the Device

For the EVOLUTION® Series controller and remote to successfully communicate, identical PINs must be set in both the controller and remote.

At the controller:

1. Press **ADVANCED** then .
2. Press to ADD/REMOVE DEVICE. Press .

3. Press to REMOTE.



4. Press to enter the PIN field of the remote.
   Press or to change the value.
   Use or to move between the numeric fields.
5. Press to input the desired value.
6. Press to return to the home screen.

* The WEATHER sensor is not available for the Australia region.

At the Remote

Set the PIN

1. Press Mode PWR(Hold) to turn on the remote transmitter.
2. Press Setup twice. "SET PIN" appears on the screen.
3. Press ▲ or ▼ to set the first digit of the PIN number. Press ▶ to move to the next digit.
4. Repeat step 3 to set the other numbers in the 4-digit PIN.
5. Press ▶ Enter to save the PIN.

Powering the Remote

- Press Mode PWR(Hold) to turn on the remote.
- Press and hold Mode PWR(Hold) about two seconds to turn off.

Turning off the remote does not turn off irrigation operations in operation.

Automatic Power Down of Transmitter

The remote powers down after five minutes of button inactivity to extend battery life.

Set the Number of Stations

To save time using the remote, set the number of stations in the transmitter to match the number of stations on the EVOLUTION® Series controller. For example, for a 8-station controller, set the transmitter to a station maximum of 8.

1. Press Setup once to view the Max Station screen.
2. Press ▲ or ▼ to set the desired maximum station number.
3. With the desired number displayed, press ▶ Enter.

Start Program "A" or "B" or "C"

1. In manual station mode, press ▲ to go beyond the highest station. "P- A" (Program A) appears. Press ▲ again for "P- B" (Program B) or again for "P- C" (Program C).
2. With the desired Program displayed, press ▶ Enter for a sequential station run.

A remotely started program runs continuously.

Run an All Stations Cycle (ASC)

Running an All Stations Cycle is useful for troubleshooting a sprinkler system.

1. Follow Step 1 above.
2. Press ▲ to move above P- C to "TEST ALL".
3. Press ▶ to start the run time blinking.
4. Press ▲ or ▼ to set the run time.
   All stations will run the same length of time, in sequence, from lowest to highest possible.
5. Press ▶ Enter to start. (Leave the transmitter on during the ASC sequence.)

Turn On a Station or Zone Manually

1. Turn on the remote and press ▲ or ▼ to scroll to the station number desired.
2. Press ▶ once to move to run time.
3. Press ▲ or ▼ to set the station's one-time manual running time.
4. Press ▶ Enter to start the station. A flashing rain-drop indicates a running station.

The controller may display a differing countdown. If so, it has been overridden by the remote's countdown.

Stop All

Press ■ Cancel. A slashed-out raindrop indicates an interrupted irrigation program.

Change from One Running Station to Another

1. Press ▲ or ▼ to select the desired station.
2. Press ▶ once to move to run time.
3. Press ▲ or ▼ to set the run time.
4. Press ▶ Enter to start the station. The previously running station will shut off .

Remote Auxiliary Operation

The controller is capable of controlling an auxiliary system (such as a lighting system) using AUX devices. The EVO-HH handheld remote can control the auxiliary system too.

Switch to Auxiliary Operation

1. Hold down the Mode PWR(Hold) button for a few seconds until "A U" appears in the screen.
2. Release the button. The remote is in Auxiliary mode.
3. Set the PIN on the remote (see page 5) to communicate with the auxiliary controller.

Start a Single Auxiliary Scene

1. Turn on the remote. It defaults to Manual mode.
2. Press ▲ or ▼ to select the desired Auxiliary Scene (A1 - A4).
3. Press ▶ to move to run time.
4. Adjust runtime with ▲ and ▼.
5. Press Enter to begin auxiliary run.

Auxiliary scene 2 is set to run for 5 minutes.

The Auxiliary Scene numbers (A1, A2, and A3) correspond with the EVOLUTION® controller's Auxiliary numbers (AUX 1, AUX 2, and AUX 3).

Cancel a Single Scene

Select the currently running scene and press Cancel.

Run All Auxiliary

Running all scenes is useful for troubleshooting an auxiliary system.

1. Press ▲ several times to display "AA ON".
2. Press Enter to turn on all auxiliary scenes.

Stop All Auxiliary

1. Press ▲ several times to display "AA OF" (off).
2. Press Enter to turn off all auxiliary scenes.

Change from One Running Scene to Another

It is possible to run more than one individual scene at a time. Start a single auxiliary scene (above), then simply move to the next scene and repeat the same steps. Previously running scenes continue.

Return to Irrigation Mode

Press and hold down Mode PWR(Hold) until the screen displays "toro". Release.

Toro Support

Toro Commitment to Quality

Toro is committed to developing and producing the highest quality, best performing, most dependable products on the market. Because your satisfaction is our first priority, we have provided the Toro Helpline to assist you with any questions or problems that may arise. If for some reason you are not satisfied with your purchase or have questions, please contact us toll free at 1-877-345-8676.

Warranty

The Toro Company and its affiliate, Toro Warranty Company, pursuant to an agreement between them, jointly warrants, to the owner, against defects in material and workmanship for a period of one year from the date of purchase. Neither The Toro Company nor Toro Warranty Company is liable for failure of products not manufactured by them, even though such products may be sold or used in conjunction with Toro products.During such warranty period, we will repair or replace, at our option, any part found to be defective. Return the defective part to the place of purchase. Our liability is limited solely to the replacement or repair of defective parts. There are no other express warranties. This warranty does not apply where equipment is used, or installation is performed, in any manner contrary to Toro's specifications and instructions, nor where equipment is altered or modified. Neither The Toro Company nor Toro Warranty Company is liable for indirect, incidental or consequential damages in connection with the use of equipment, including but not limited to: vegetation loss, the cost of substitute equipment or services required during periods of malfunction or resulting non-use, property damage or personal injury resulting from installer's negligence.

Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. All implied warranties, including those of merchantability and fitness for use, are limited to the duration of this express warranty. Some states do not allow limitations of how long an implied warranty lasts, so the above limitation may not apply to you. This warranty gives you specific legal rights and you may have other rights which vary from state to state.

FCC Part 15 Rules

This equipment has been tested and found to comply with the limits 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 generates interference to radio or television reception, which can be determined by turning the equipment on and off, the user is encouraged to try to correct the interference by one or more of the following measures:

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

The user may find the following booklet prepared by the Federal Communications Commission helpful: "How To Identify and Resolve Radio-TV Interference Problems". This booklet is available from the U.S. Government Printing Office, Washington, DC 20402. Stock No. 004-000-00345-4.

Australian Warranty Statement

This product comes with a manufacturer's guarantee against defects in material and workmanship when used for its intended purpose. Our obligation under this guarantee is limited to the repair or replacement of the product at our discretion for the period stated. In the event of a claim, you must immediately cease using the product and return the product, together with your proof of purchase and an explanation of the fault to the store you purchased it from. All costs associated with the return of the product are the purchasers' responsibility. To process the warranty, the retailer must contact Toro Australia via their representative or the phone number listed below.

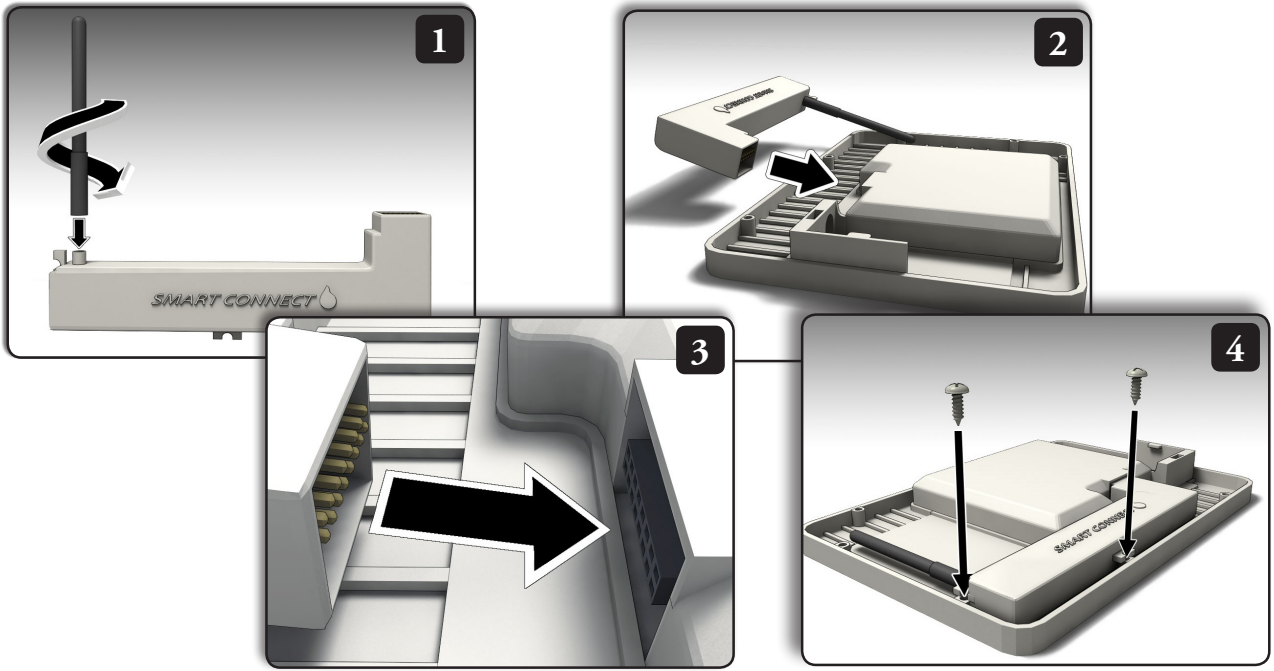
Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and for compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure.

Toro Australia Pty Ltd, 53 Howards Road, Beverley SA 50091300 130 898, info.au@toro.com

Form Number 373-0808 Rev. B

TORO. Count on it.

EVOLUTION® Series Add-On:
EVO-SC Smart Connect® Installation



For more information on the EVOLUTION controller and integrated accessories, please go to ***www.toro.com/evolution*** (US and Canada) or ***www.toroevolution.com*** (international).

Technical Information

Specifications

- Dimensions:
  6.5” (16,5 cm) wide x 6” (15,2 cm) high (over 3.75” [9,5 cm] antenna) x .75” (1,9 cm) deep
- receives power from controller
- RF reception range:
  500’-1000’ (152-305 m) LOS (line of sight)
  depending on equipment used
- Operating temperature range:
  14° – 140° F (-10°– 60°C)

FCC-ID: OF7ESC
IC: 3575A-ESC

FCC Part 15 Rules

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Toro Australia Pty Ltd, 53 Howards Road, Beverley SA 50091300 130 898, info.au@toro.com

Technical Support: 1-877-345-8676 (US & Canada)
evolution@toro.com (international)

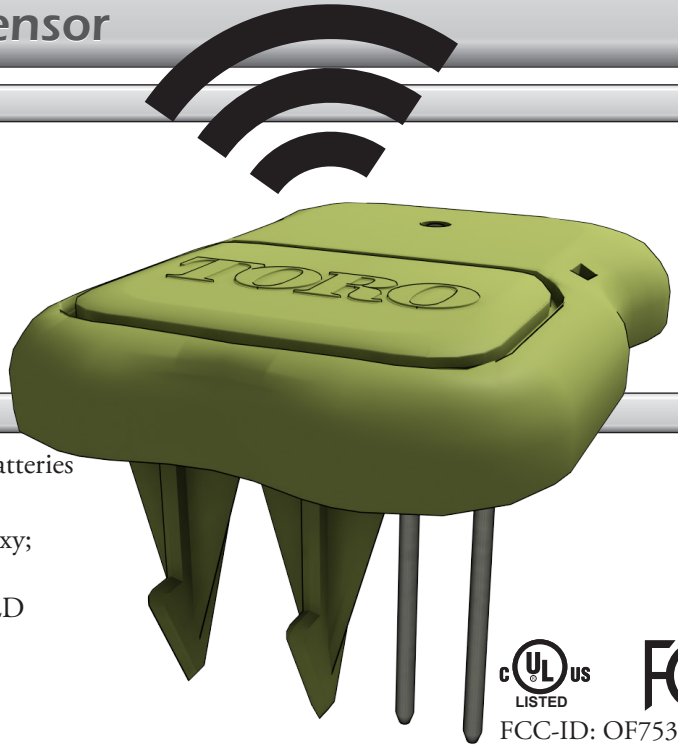
Form Number 373-0812 Rev. B

TORO Count on it.

EVOLUTION® Series Add-On:
Precision™ Soil Sensor

Introduction

Congratulations on purchasing Toro's new EVOLUTION® controller with the Precision™ Soil Sensor add-on. With the Precision™ Soil Sensor add-on, you will quickly realize savings in both time and money while keeping your garden healthy and beautiful.



Specifications

- Power Supply: 4.5 VDC supplied by three size-AA alkaline batteries
- Housing Material: High-impact, UV-resistant ABS
- Moisture Protection: Electronic circuitry encased in solid epoxy; battery compartment sealed by O-ring
- Signal Quality Indicator: Tri-colored (Red, Yellow, Green) LED
- Stainless steel electrodes
- Built-in installation anchor stakes
- RF reception range: 500' (152 m) LOS (line of sight)
- Operating Temperature: 14° F – 131° F (-10°C to +55°C)

c UL us LISTED

FCC-ID: OF753851

IC: 3575A-53851

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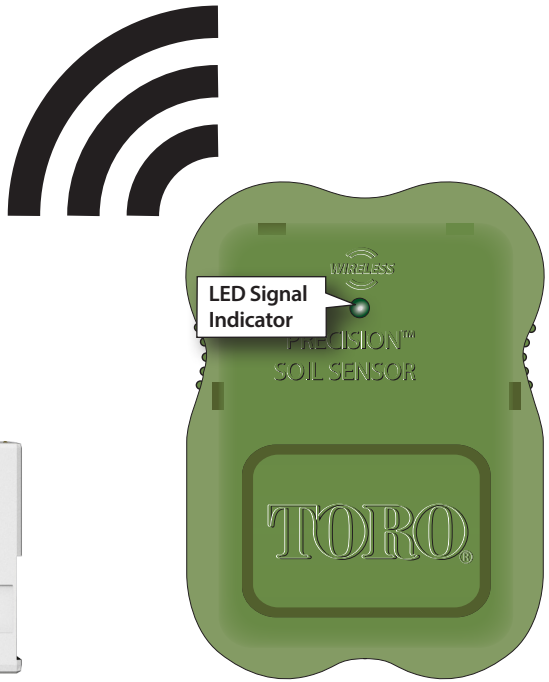
Overview

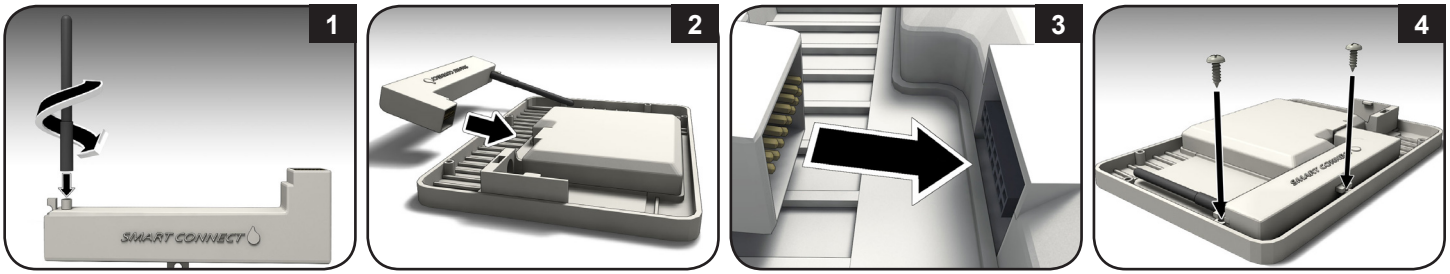
The Precision™ Soil Sensor Add-On works with the EVOLUTION® Smart Connect® receiver.
It is possible to add up to three soil sensors per controller.

(sold separately)



Installation

EVOLUTION® Smart Connect®



Precision™ Soil Sensor

Battery Installation

The Soil Sensor works on three "AA" Alkaline or Lithium batteries (not included).

1. Remove four Phillips screws securing the sensor battery compartment cover (**Figure 1**). Set cover aside.
2. Install the batteries (**Figure 2**).
3. Ensure the O-ring is in place then install the battery compartment cover.

When batteries are initially installed, the LED signal indicator is red. When the receiver links with the sensor, the LED changes to green. The LED will remain on for 30 minutes to facilitate sensor installation.

Figure 1

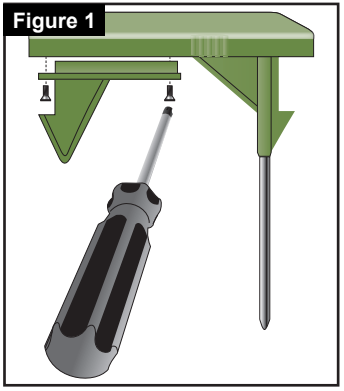
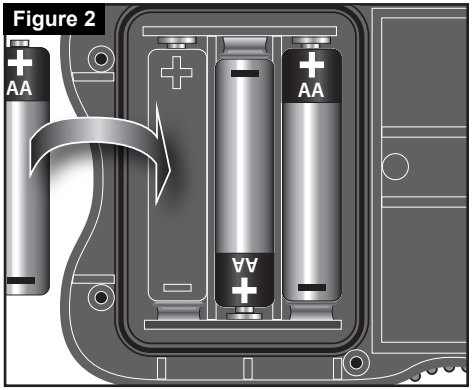


Figure 2



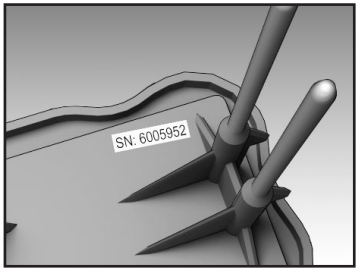
Sensor Setup

Implement the following two procedures to successfully setup Toro's Precision™ Soil Sensor:

1. "Add" the sensor to the controller for successful wireless communication.
2. Calibrate the sensor for proper irrigation operation.

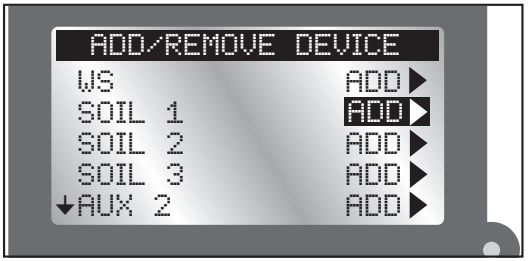
1. *Add the Sensor to the Controller*

Every soil sensor has a unique ID number. That number must be "added" to the controller.



1. Press **ADVANCED** then SELECT.
2. ▼ to ADD/REMOVE DEVICE. SELECT to confirm.

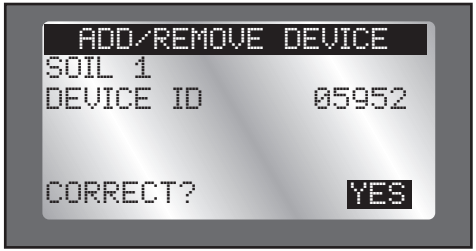
3. ▼ to SOIL 1. ▶ to ADD. SELECT to confirm.



4. The EVOLUTION® controller waits for the identification signal from the soil sensor.

- If the soil sensor has had batteries installed *in the last 30 minutes*, the controller should detect and add the sensor immediately.
- If the sensor is out in the field, it could take up to a half an hour to detect and add the sensor.
- One can remove and reinstall the soil sensor's batteries to achieve immediate sensor detection.

5. The controller will detect the soil sensor. Confirm that the sensor ID detected matches the sensor's SN ID.



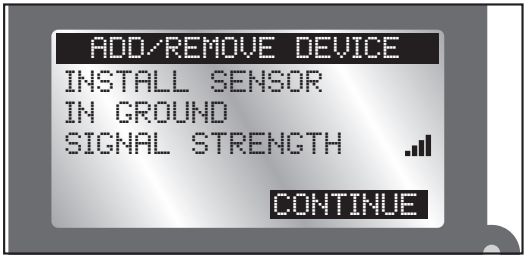
6. If it does match, press SELECT and continue to **Calibrate the Sensor**.
   If it does *not* match, change YES to NO, press SELECT, and repeat steps 3-5.

2. Install and Calibrate the Sensor

The Precision™ Soil Sensor interprets soil moisture content on a scale of 0% (extremely dry) to 100% (very wet). The key to understanding how to calibrate a soil sensor is that *the operator must teach the 100%* moisture level to the sensor.

1. After selecting YES from the previous screen, follow the onscreen instructions below. Install the soil sensor in the ground.

(See **Appendix B: Site Selection and Earth Installation** for complete instructions on good sensor location.)



If soil sensor is not installed in the ground within that 30 minute "window", the controller removes the sensor and installation will have to be redone.

2. Return to the controller and confirm that the signal strength (see above graphic) is good. If signal strength is weak, relocate the sensor to a spot closer to the controller.
3. Press SELECT when satisfied.Use the ▲ and ▼ to adjust the calibration setting (default 5: approximately a 1-day "watch window"). Press SELECT.

The "Cal Setting" number adjusts the time it takes to calibrate the sensor. A Cal Setting of '0' calibrates the sensor to the *current* moisture level in the ground. The

calibration will be set using the next sensor reading (within 30 minutes).

Additional calibration settings are available. From '1' (~1 day "watch window") to '168' (~7 day "watch window").

4. Move to the YES field after CALIBRATE NOW? Press SELECT. Sensor calibration begins.
5. Press HOME to return to the Home screen. A message on the bottom of the Home screen indicates that the sensor is calibrating. The message clears when calibration is finished.

The Soil Sensor Menu

The EVOLUTION® controller's Soil Sensor menu displays sensor information as well as allows the user to modify certain settings.

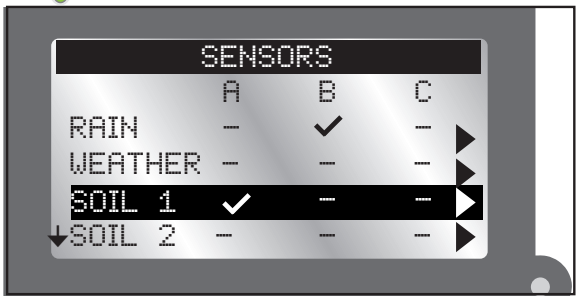
Navigating the Menu Interface

- Use UP or DOWN to navigate the menu commands.
- To change a value, press RIGHT or LEFT to move to the desired field, then press UP and DOWN to adjust the value.
- Press SELECT to input the desired value.

Getting to the Sensors Menu

1. Press ADVANCED then SELECT.
2. Press DOWN to SENSORS. Press SELECT.

3. Press ▽ to select the desired soil sensor.



4. **To add a sensor to a schedule:**

   Press ▷ or ◁ to select the desired Schedule (A, B, or C).

   Press △ or ▽ to make the sensor active for the selected schedule.

   ✓: Sensor is active.
   –: Sensor is disabled.

In the screen above, a rain sensor is assigned to schedule B and a soil sensor to schedule A.

5. Press ▷ until the Soil Sensor menu appears.

Menu Settings

MOISTURE NOW

This displays the current moisture level, as a percentage, of the soil. 100% is the soil level set after the first calibration (see **Calibrate the Sensor**, page 6).

LOW THRESHOLD

This is the point at which the soil sensor will let the controller resume irrigation of the landscape. If you were to compare the soil to a gas tank, the "low threshold" would be the point at which you refill the gas tank.

For a detailed explanation of the low threshold setting, please read **Appendix A** of this manual.

Fine-tuning the "Low Threshold" Moisture Level

Changes to the 50% setting should be made initially in 5% increments in order to see results within a few days. The objective is to find the moisture setting that results in a mild stress condition in the lawn, indicated by slight wilting and dryness. At that point, adjust the setting 5% in the opposite direction. This should result in moisture maintenance level that's very close to optimum.

1. Press ▲ or ▼ to increase or decrease the Low Threshold point by 1%.
2. Press SELECT to input the desired value.

SIGNAL STRENGTH

Indicates signal strength as a series of bars (▂▄▆).

BATTERY LEVEL

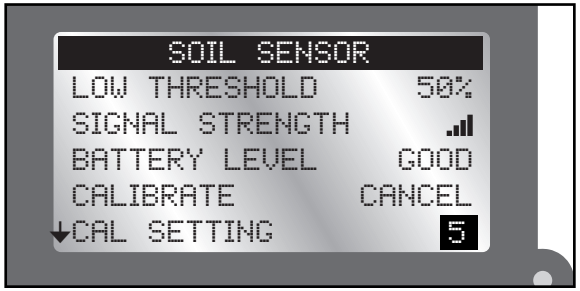
Indicates the battery strength in the soil sensor.

CALIBRATE

Calibration is required to establish the maximum amount of usable moisture in the soil. The sensor will then recognize this soil moisture level as the maximum capacity (100%). From this fixed reference point, the sensor determines when the soil moisture has dropped enough (to the "Low Threshold") to allow watering.

Manual calibration: At some point, it might be necessary to recalibrate the sensor (in the event of a sensor relocation for example).

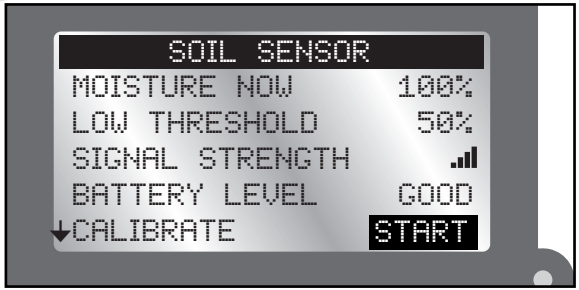
1. Run an automatic or manual watering operation to thoroughly irrigate the sensor zone.
2. Go to the Sensor Menu of the soil sensor to calibrate.
3. Press ▼ to CAL SETTING. Use ▶ to move to the number field. Use ▲ or ▼ to adjust the calibration number (default 5: approximately a 1-day "watch window"). Press SELECT to confirm.



The "Cal Setting" number adjusts the time it takes to calibrate the sensor. A Cal Setting of '0' calibrates the sensor to the *current* moisture level in the ground. The calibration will be set using the next sensor reading (within 30 minutes).

Additional calibration settings are available. From '1' (~1 day "watch window") to '168' (~7 day "watch window").

4. Press ▲ to CALIBRATE. ▶ to START. SELECT to confirm.



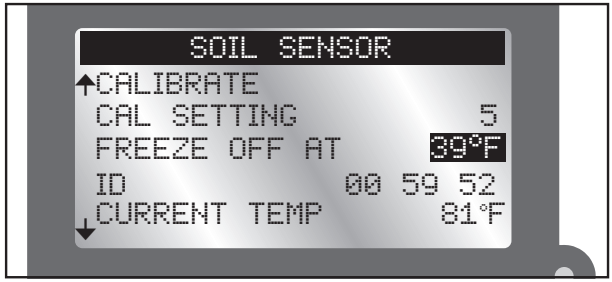
5. START will turn to CANCEL.

Over the specified time period (see note above), the soil sensor will "learn" the 100% mark and transmit that information to the controller. At the end of the time period, soil sensor calibration is done.

6. If you have not already directed the soil sensor to control a schedule (page 8), please do so now.

FREEZE OFF AT

Freeze Off is the temperature at which irrigation will be turned off due to cold temperatures.



1. ▲ or ▼ raises or lowers the temperature value.
2. Press SELECT to input the value.

ID

Displays the ID of the selected soil sensor.

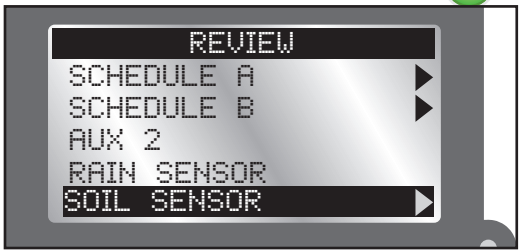
CURRENT TEMP

Displays the temperature of the sensor at ground level (*not* at "spike" level).

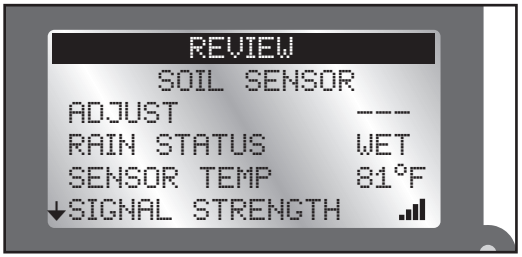
Review Screen

The Review screen allows operators to review settings for the various sensors added to the controller.

1. Press the Review button.
2. Press to the SOIL SENSOR. Press .

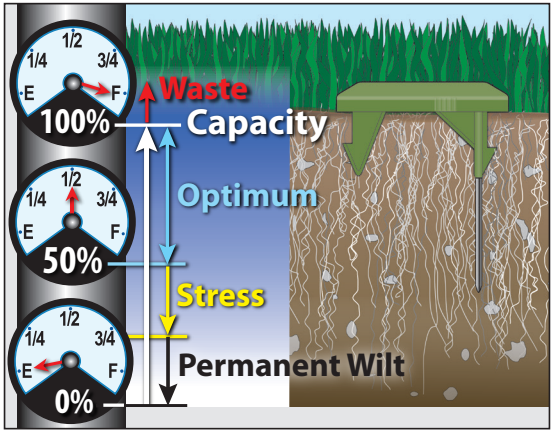


3. Use to scroll through the various sensor settings.



Appendix A: The Low Threshold Setting

Landscape plants are the heartiest when their roots become established several inches down where water is stored for the longest period of time. Watering often, for short periods of time, promotes root growth near the top of the soil, where the moisture evaporates quickly.



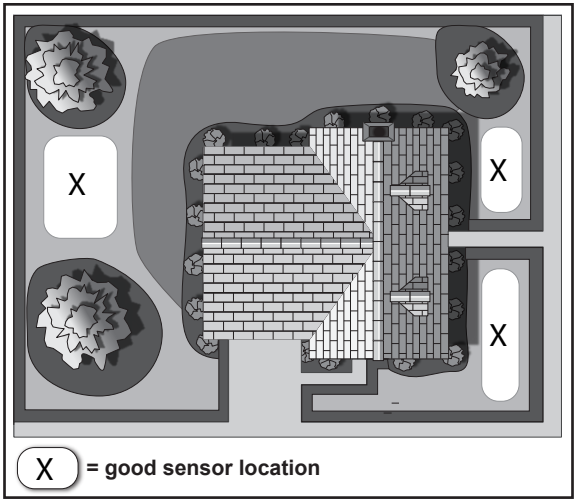
The key to maintaining healthy plants with minimum water waste is to water thoroughly–only when it's needed. The Precision™ Soil Sensor is preset to restrict watering until the soil moisture level drops to 50% of capacity, or 1/2 of the total moisture that can be retained in the soil. If you were to draw a comparison to a car's fuel tank, 50% of the soil moisture capacity would be similar to using 1/2 of the fuel in the tank before stopping to refill. A 50% setting restricts the sprinklers from refilling the soil to capacity until 1/2 of the moisture has been lost; causing the roots to go deeper for water. With the capability to adjust the setting incrementally from 0% to 100%, the Precision Soil Sensor can be fine-tuned for virtually any soil condition.

Appendix B: Site Selection and Earth Installation

Site Selection

Choosing the right location for the sensor is important for the overall effectiveness of the Precision Soil Sensor system.

The below graphic represents a typical residential landscape. 'X' indicate good locations for sensor placement.

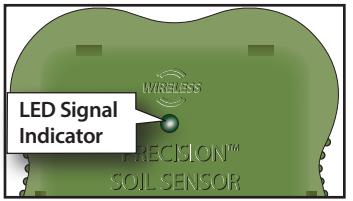


For your garden, make sure the site selected is:

- representative of the overall soil type and condition
- the highest elevation
- not over a septic tank or drain field
- well within receiver communication range (500' line-of-sight)
- at least 4 feet away from a driveway, roof overhang or downspout
- not in a footpath or recreational area
- not exposed to overspray from nearby watering zones

Earth Installation

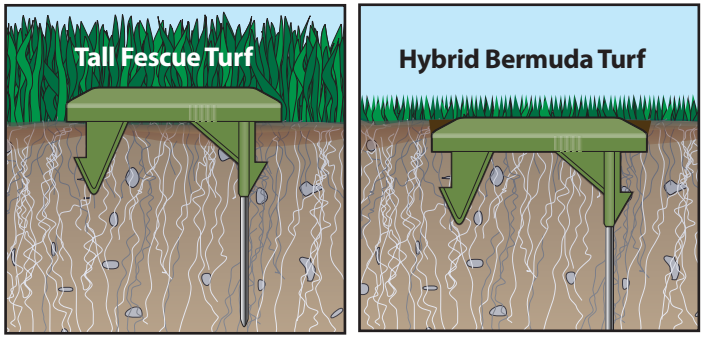
1. Move the sensor to the proposed installation site. Signal strength is indicated by the LED color as follows:



Green = Excellent
Yellow = Acceptable
Red = Not Acceptable - Relocate Sensor

2. Thoroughly irrigate the sensor location and surrounding landscape area. *This step is crucial to establish the "100%" moisture level for sensor calibration.*
3. Trim the grass close to ground level where the sensor will be placed.

For close-cut turf varieties, such as Hybrid Bermuda, the top of the sensor must be installed at grade level to prevent damage by mowing equipment.



4. Applying even, downward pressure on top of the sensor, insert the sensor probes and retention spikes completely into the soil.

FCC Statement

This equipment has been tested and found to comply with the limits 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 generates interference to radio or television reception, which can be determined by turning the equipment on and off, the user is encouraged to try to correct the interference by one or more of the following measures:

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

The user may find the following booklet prepared by the Federal Communications Commission helpful: “How To Identify and Resolve Radio-TV Interference Problems”. This booklet is available from the U.S. Government Printing Office, Washington, DC 20402. Stock No. 004-000-00345-4.

Toro Support

Toro Commitment to Quality

Toro is committed to developing and producing the highest quality, best performing, most dependable products on the market. Because your satisfaction is our first priority, we have provided the Toro Helpline to assist you with any questions or problems that may arise. If for some reason you are not satisfied with your purchase or have questions, please contact us toll free at 1-877-345-8676.

Warranty

The Toro Company and its affiliate, Toro Warranty Company, pursuant to an agreement between them, jointly warrants, to the owner, against defects in material and workmanship for a period of one year from the date of purchase. Neither The Toro Company nor Toro Warranty Company is liable for failure of products not manufactured by them, even though such products may be sold or used in conjunction with Toro products. During such warranty period, we will repair or replace, at our option, any part found to be defective. Return the defective part to the place of purchase. Our liability is limited solely to the replacement or repair of defective parts. There are no other express warranties. This warranty does not apply where equipment is used, or installation is performed, in any manner contrary to Toro's specifications and instructions, nor where equipment is altered or modified. Neither The Toro Company nor Toro Warranty Company is liable for indirect, incidental or consequential damages in connection with the use of equipment, including but not limited to: vegetation loss, the cost of substitute equipment or services required during periods of malfunction or resulting non-use, property damage or personal injury resulting from installer's negligence.

Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. All implied warranties, including those of merchantability and fitness for use, are limited to the duration of this express warranty. Some states do not allow limitations of how long an implied warranty lasts, so the above limitation may not apply to you. This warranty gives you specific legal rights and you may have other rights which vary from state to state.

Australian Warranty Statement

This product comes with a manufacturer's guarantee against defects in material and workmanship when used for its intended purpose. Our obligation under this guarantee is limited to the repair or replacement of the product at our discretion for the period stated. In the event of a claim, you must immediately cease using the product and return the product, together with your proof of purchase and an explanation of the fault to the store you purchased it from. All costs associated with the return of the product are the purchasers' responsibility. To process the warranty, the retailer must contact Toro Australia via their representative or the phone number listed below.

Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and for compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure.

Toro Australia Pty Ltd, 53 Howards Road, Beverley SA 50091300 130 898, info.au@toro.com

Form Number 373-0807 Rev. B

EVOLUTION® Series Add-On:
EVO-WS Weather Sensor

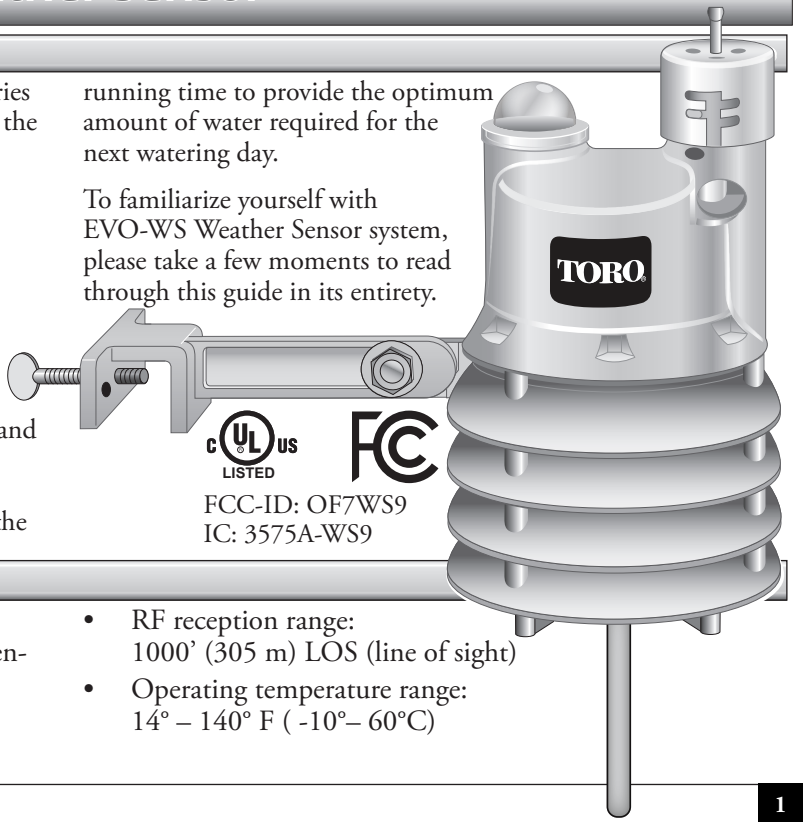
Introduction

Congratulations on purchasing Toro's new EVOLUTION Series Controller with the EVO-WS Weather Sensor Add-On. With the Weather Sensor Add-On, you will quickly realize savings in both time and money while keeping your garden healthy and beautiful.

The EVO-WS Wireless Weather Sensor system is designed exclusively for your Toro EVOLUTION Series Controller to continuously monitor and adjust automatic watering to suit current watering needs.

The Wireless Sensor system consists of a remote Weather Sensor. The sensor detects current sunlight level, temperature and rainfall, then transmits this information wirelessly to the Smart Connect™ (offered seperately) device plugged into the EVOLUTION Series Controller. The controller then adjusts the running time to provide the optimum amount of water required for the next watering day.

To familiarize yourself with EVO-WS Weather Sensor system, please take a few moments to read through this guide in its entirety.



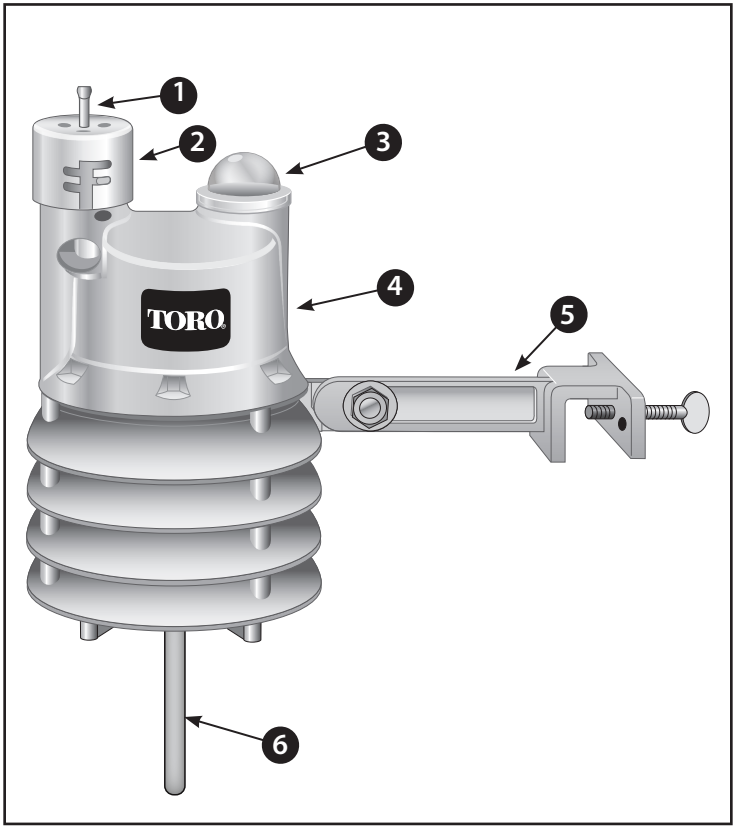
FCC-ID: OF7WS9
IC: 3575A-WS9

Specifications

- Dimensions:
  2.75" (7 cm) W x 7" (17,8 cm) H (over 2" [5 cm] antenna) x 6.25" (15,9 cm) D (over 4" [10,2 cm] mounting bracket)
- 9V Alkaline battery (included)
- RF reception range:
  1000' (305 m) LOS (line of sight)
- Operating temperature range:
  14° – 140° F (-10°– 60°C)

Table of Contents

Weather Sensor Overview

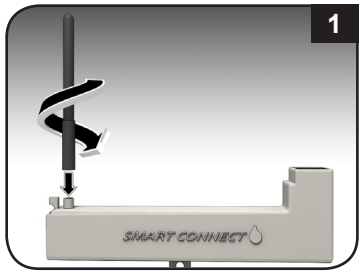


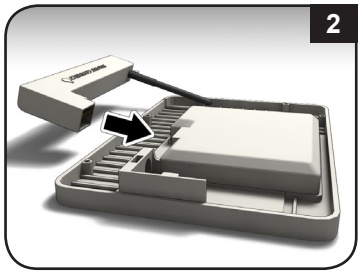
1. **Rain Sensor Test Pin**
   Pressing the test pin simulates operation of the Rain Sensor by transmitting a signal to the Smart Pod.
2. **Rain Sensor Adjustment Cap**
   The Rain Sensor sensitivity is adjustable to suspend watering at 1/8", 1/4",, 1/2" and 3/4" (3 mm, 6 mm, 12 mm and 19 mm) of accumulated rainfall.
3. **Solar Collector**
   Solar radiation and temperature are used by the Smart Pod to calculate and adjust watering to suit current weather conditions.
4. **Battery Compartment**
   A 9V Alkaline battery (installed) can provide Weather Sensor operation up to five years.

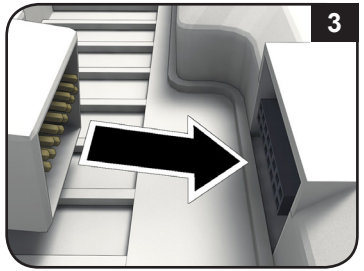
See battery service information on page 9 for additional information.

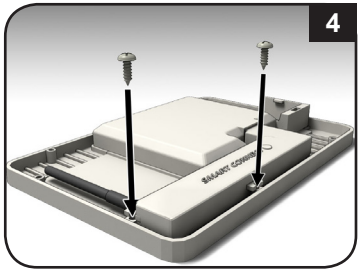
5. **QuickClip™ Mounting Bracket**
   The QuickClip bracket design enables the Weather Sensor to be easily installed and aligned.
6. **Antenna**

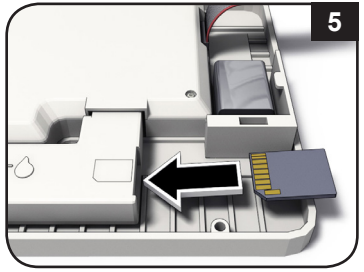
EVOLUTION® Smart Connect®











SD Card Explained

The supplied SD card contains forty years of weather data for all latitudes, longitudes, and zip codes in North America. When the weather sensor's location is entered in the controller (page 6), historical weather data is loaded into the controller.

In the event your controller loses connectivity to the weather sensor, the controller will use the the historical weather data to determine the irrigation run time until connectivity is restored.

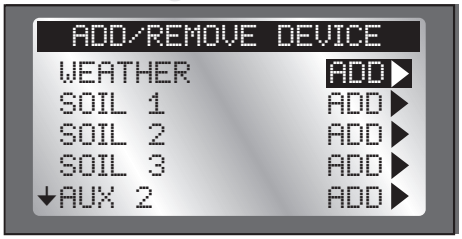
Adding the Sensor to the Controller

For the EVOLUTION® controller to communicate with the weather sensor, the sensor (with its unique ID) must be "added" to the controller.

(For assistance with menu navigation, please see the "Menu Navigation" section on page 9.)

1. Press **ADVANCED** then SELECT.
2. to ADD/REMOVE DEVICE. SELECT to confirm.

3.  to WEATHER.  to ADD.  to confirm.



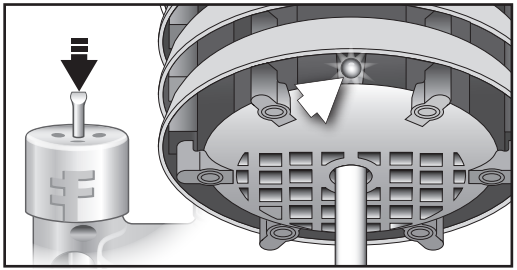
4. The EVOLUTION® controller waits for the identification signal from the weather sensor.

5. Activate the sensor.

The EVO-WS Weather Sensor is shipped with the battery circuit deactivated. *It is necessary to activate the sensor prior to installation*.

To activate the sensor:

For new sensors, press and hold the Test Pin for 10-15 seconds. A red LED, viewable from the lower vent area, will illuminate twice after 10 seconds (if not already active).

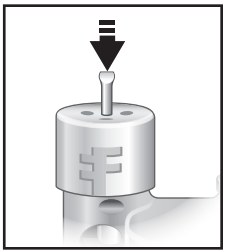


If the sensor is already installed, there are two ways to establish communication:

- Go to the sensor and press and release the test pin for 15 seconds

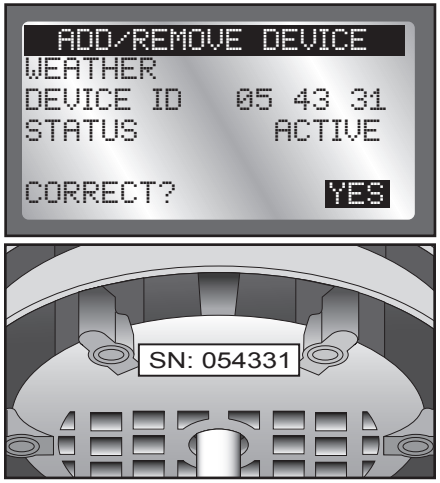
- OR -

- Simply wait 30 minutes for the sensor to communicate with the controller.



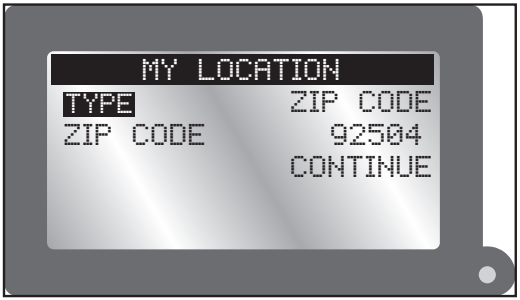
Return to the controller.

6. The controller should detect the sensor. Confirm that the device ID detected matches the sensor's actual ID.



If it does match, press SELECT and continue to add the sensor. If it does *not* match, change to NO, press SELECT, and repeat steps 3-6.

7. The next step is to enter the location information. It is possible to enter either by zip code or Latitude and Longitude coordinates (available from Google Maps®).



To adjust TYPE, press ▷ to move to ZIP CODE. Press ▽ to select LONG/LAT or ZIP CODE.

8. Press SELECT. Adjust the Zip Code or Latitude and Longitude values with the △ and ▽ buttons. Use ▷ and ◁ to switch between number fields.
9. When done, move to CONTINUE. Press SELECT. After a moment, the screen returns to the ADD/REMOVE DEVICE screen.

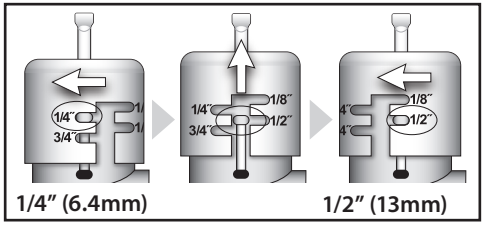
The sensor is now added. ***To actually control irrigation, it must be added to a schedule*** (see page 9)**.**

Adjusting the Rain Sensor Threshold

The Weather Sensor is preset to suspend watering at 1/4" (6 mm) of accumulated rainfall. Three alternate settings of 1/8" (3 mm), 1/2" (12 mm) and 3/4" (19 mm) are provided. Prior to installing the Weather Sensor, adjust the threshold to the preferred setting as required.

Increasing the threshold setting results in extending the length of timer required for the sensor to shut off or postpone watering during rain, as well as extending the dry-out period before scheduled watering will resume. In areas where heavy fog or mist is common, the 1/8" (3 mm) setting may not provide accurate rain detection, and is not recommended.

1. Turn the cap slightly, releasing it from the two retaining pins.
2. Adjust the cap to engage the pins at the preferred slot setting.



The Weather Sensor

Important: The Weather Sensor must have full exposure to sun, wind and rain, and must not be installed inside a rain gutter, or in any location where immersion, runoff, or contact with irrigation spray will occur. Avoid installation near a heat source, such as a heater vent or chimney. Also avoid installation near any large metal structure or high current-draw equipment that may generate signal interference. Ensure the antenna wire hangs unobstructed below the Weather Sensor.

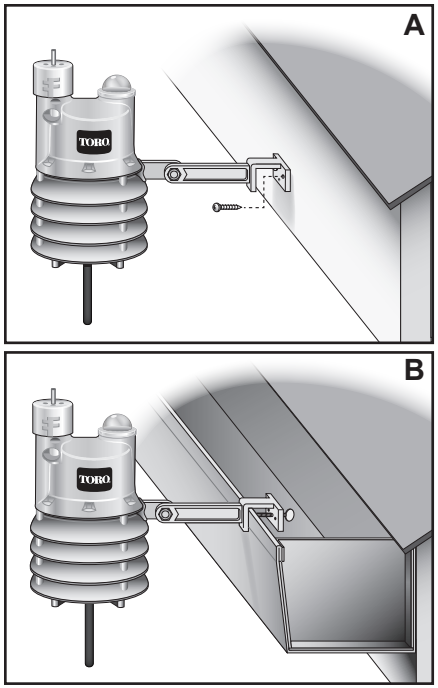
The communication range of the Wireless Weather Sensor system is 1000' (305 m) LOS (line of sight). Some loss of range can be expected due to interference from obstacles in the signal path. Test the signal reception from the proposed installation site prior to mounting the Weather Sensor, as described in the following procedure.

1. Start a manual watering operation for a zone that can be seen from the proposed Weather Sensor location. Press and hold the Rain Sensor test pin to send a signal to the Smart Connect. If the signal is received, watering should shut off within a short time. If not, repeat the test from a slightly different location, until communication is established.

2. (A) For rain gutter installation: back the bracket thumbscrew out to clear the rain gutter edge. Holding the Weather Sensor in position, tighten the thumbscrew securely.

   (B) For solid structure installation: remove the thumbscrew and secure the bracket using the provided stainless screws (or other appropriate stainless fasteners).

3. With the mounting bracket securely fastened, check the vertical alignment of the Weather Sensor. To adjust, loosen the phillips screw at the bracket joint, adjust to vertical, then tighten the screw securely.

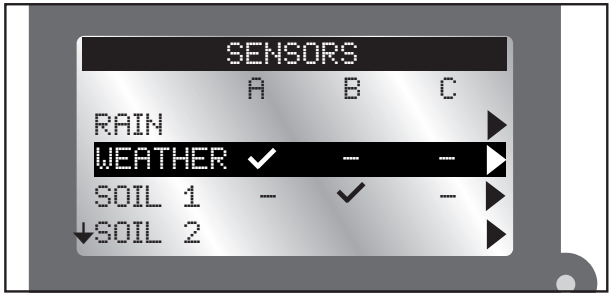


Menu Navigation

- Use or to navigate the menu commands.
- To change a value, press or to move to the desired field, then press and to adjust the value.
- Remember to press to input the desired value.

Getting to the Sensors Menu

1. Press **ADVANCED** then .
2. Press to SENSORS. Press .
   The Sensors screen appears.



3. **To add a sensor to a schedule:**

   Press or to select the desired Schedule (A, B, or C).

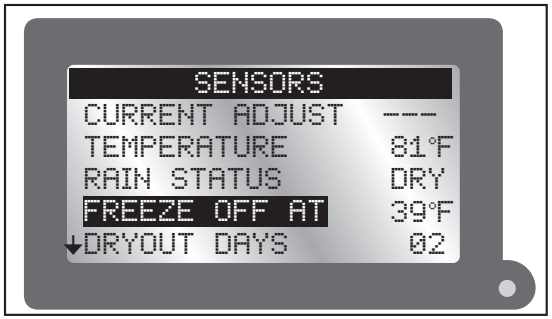
   Press or to make the sensor active for the selected schedule.

   ✓: sensor is active.
   –: sensor is inactive.

   In the screen above, a weather sensor is assigned to schedule A and a soil sensor to schedule B.

4. To access the settings for the Weather Sensor, press to WEATHER then press four times.
   The WS Sensor menu appears.

Weather Sensor Menu



Current Adjust
The percentage that the weather sensor is going to adjust the irrigation runtime. Possible values range between OFF and +150, though realistically, values will display between ±35%. For example, if the evapotranspiration (ET) historical data calls for a hot season, but the week has in fact been cloudy, the "Current Adjust" might show "-20%" to reflect the decreased runtime. It can also display "OFF".

Temperature
Displays the current temperature at the sensor location. Temperature unit (Celcius or Farenheit) can be changed in the controller preferences settings (see the EVOLUTION® user manual).

Rain Status
Displays the state of the rain sensor: "Dry" or "Wet".

Freeze Off
The temperature at which irrigation will be turned off due to cold temperatures. Selections range from 35°-45°F in 2 degree increments.

1. Press or to raise or lower the temperature value.
2. Press to input the value.

Dryout Days
After a rain, it is not always necessary to resume irrigation right away. Setting a Dryout Days period, from zero to 14 days, delays the automatic resumption of irrigation.

1. Press or to increase or decrease the number of days to "dryout".
2. Press to input the value.

Water Adjust
Water Adjust allows the runtime of all stations in all schedules to be adjusted by a maximum of ±35%. So, for example, if the programmed runtime for station 1 is 10 minutes, setting a Water Adjust of +35% would adjust that run time to 13 minutes, 30 seconds. This is useful for seasonal changes.

1. Press or to increase or decrease the percentage of irrigation runtime.
2. Press to input the value.

Update Time
This is the time at which the sensor will update the controller with new ET data. If irrigation were to commence at 6am, for example, it might be advantageous to have ET data sent to the controller at 5:45am to optimize watering runtimes.

1. Press ▲ or ▼ to adjust the hour, minute, and AM/PM fields.
2. Press ▶ or ◀ to switch from one field to another.
3. Press SELECT to input the value.

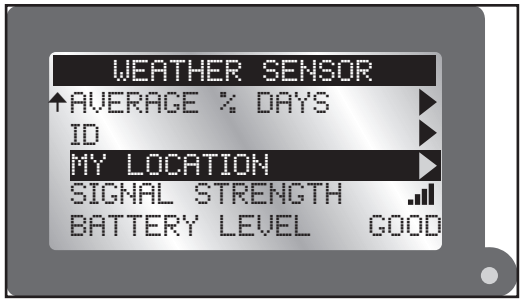
Average % Days
This is the previous number of days from which the sensor will use to generate an average runtime value. This is done to minimize the impact of unseasonably cold or hot days. Values range from 1-7 (days).

1. Press ▲ or ▼ to change the number of days.
2. Press SELECT to input the value.

My Location
Setting the My Location is necessary for ET data to work. It is possible to set the location by either U.S. ZIP Code or by Latitude and Longitude. (See Step 7 illustration, page 6.)

1. To adjust TYPE, press ▶ to move to ZIP CODE. Press ▼ to select LONG/LAT or ZIP CODE.
2. Press SELECT. Adjust Zip Code or Latitude and Longitude values with the ▲ and ▼ buttons. Use ▶ and ◀ to switch between number fields.
3. When done, move to CONTINUE. Press SELECT. After a moment, the screen should display SUCCESS.

Signal Strength
Indicates signal strength as a series of bars (▂▄▆).



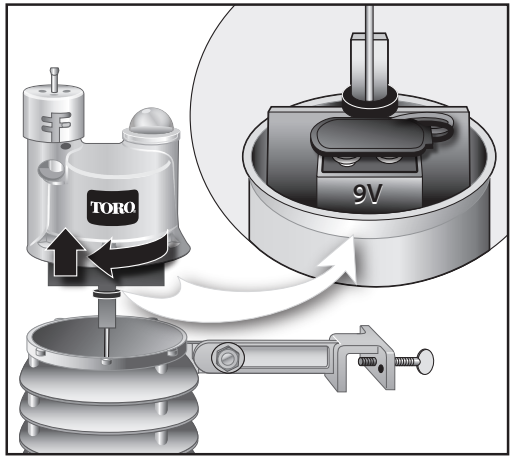
Battery Level
Displays the charge level of the battery in the weather sensor. (See above illustration.)

Battery

Under normal operating conditions, the Weather Sensor battery can last up to five years. A weak battery condition in the sensor is indicated on the EVOLUTION controller: the red LED will flash and you will be prompted to check the Alerts screen. A weak battery can result in loss of communication with the sensor.

To replace the battery:

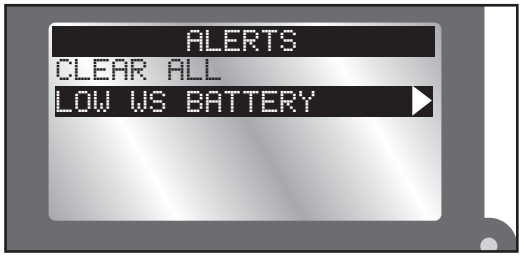
1. The battery is stored in the upper half of the sensor housing. To access the battery, release and remove the upper housing by twisting it clockwise.



2. Disconnect the battery wire clip. Remove and replace the used battery with a fresh 9V Alkaline battery. Reconnect the battery wire clip.
3. To reassemble the sensor housing, thread the antenna wire through the lower housing, exiting the center hole in the bottom grid.
4. Mate the two halves squarely, aligning the translucent dome above the mounting bracket.
5. Turn the upper housing counterclockwise to securely engage the lower housing.

To clear a weak battery alert condition

1. At the controller, press ?.
2. On ALERTS, press ▶.
3. On the Alerts screen, press ▼ to move to the LOW WS BATTERY alert. Press SELECT.

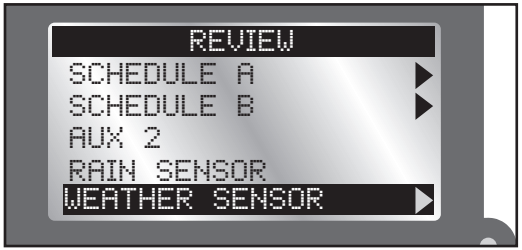


4. You will be prompted to CLEAR ALERT? Press ▼ to change to YES. Press SELECT.

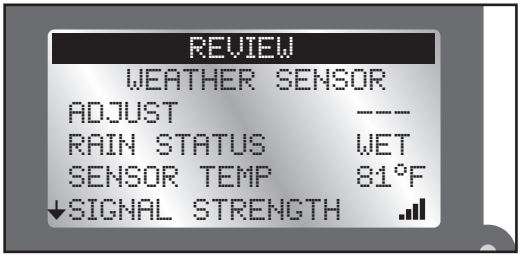
Review Screen

The Review screen allows operators to review settings for the various sensors added to the controller.

1. Press the Review button.
2. Press ▽ to the WEATHER SENSOR. Press SELECT.



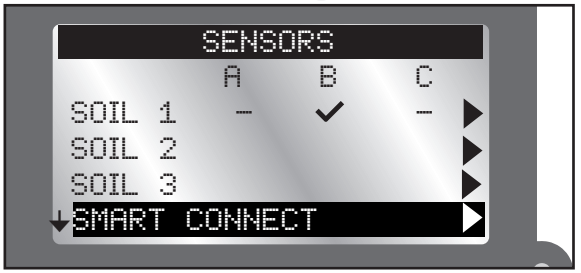
3. Use ▽ to scroll through the various sensor settings.



Resetting to Factory Defaults

Resetting to Factory Defaults clears ALL SENSOR SETTINGS and ALL ADDED IDs.

1. Go to the Sensors screen (page 10) and scroll down to SMART CONNECT. Press SELECT.



2. Change the value to YES and press SELECT.

Wireless Communication Problems

The effective range of the EVO-WS Weather Sensor is 1,000 feet. That range can be impacted by walls and/or electrical appliances that cause radio interference.

If you experience wireless communication problems, try the following:

- Install the sensor as close to the controller location as possible. If the signal strength is not good in one location, try another location nearby. Sometimes moving the sensor only a few feet can greatly improve signal strength.

Toro Support

Toro Commitment to Quality

Toro is committed to developing and producing the highest quality, best performing, most dependable products on the market. Because your satisfaction is our first priority, we have provided the Toro Helpline to assist you with any questions or problems that may arise. If for some reason you are not satisfied with your purchase or have questions, please contact us toll free at 1-877-345-8676.

Warranty

The Toro Company and its affiliate, Toro Warranty Company, pursuant to an agreement between them, jointly warrants, to the owner, against defects in material and workmanship for a period of five years from the date of purchase. Neither The Toro Company nor Toro Warranty Company is liable for failure of products not manufactured by them, even though such products may be sold or used in conjunction with Toro products.During such warranty period, we will repair or replace, at our option, any part found to be defective. Return the defective part to the place of purchase. Our liability is limited solely to the replacement or repair of defective parts. There are no other express warranties. This warranty does not apply where equipment is used, or installation is performed, in any manner contrary to Toro's specifications and instructions, nor where equipment is altered or modified. Neither The Toro Company nor Toro Warranty Company is liable for indirect, incidental or consequential damages in connection with the use of equipment, including but not limited to: vegetation loss, the cost of substitute equipment or services required during periods of malfunction or resulting non-use, property damage or personal injury resulting from installer's negligence.

Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. All implied warranties, including those of merchantability and fitness for use, are limited to the duration of this express warranty. Some states do not allow limitations of how long an implied warranty lasts, so the above limitation may not apply to you. This warranty gives you specific legal rights and you may have other rights which vary from state to state.

Australian Warranty Statement

This product comes with a manufacturer's guarantee against defects in material and workmanship when used for its intended purpose. Our obligation under this guarantee is limited to the repair or replacement of the product at our discretion for the period stated. In the event of a claim, you must immediately cease using the product and return the product, together with your proof of purchase and an explanation of the fault to the store you purchased it from. All costs associated with the return of the product are the purchasers' responsibility. To process the warranty, the retailer must contact Toro Australia via their representative or the phone number listed below.

Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and for compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure.

Toro Australia Pty Ltd, 53 Howards Road, Beverley SA 50091300 130 898, info.au@toro.com

FCC Part 15 Rules

This equipment has been tested and found to comply with the limits 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 generates interference to radio or television reception, which can be determined by turning the equipment on and off, the user is encouraged to try to correct the interference by one or more of the following measures:

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

The user may find the following booklet prepared by the Federal Communications Commission helpful: “How To Identify and Resolve Radio-TV Interference Problems”. This booklet is available from the U.S. Government Printing Office, Washington, DC 20402. Stock No. 004-000-00345-4.

Installation Notes

TORO® **Count on it.**

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