



Installation and Operation

Quick Start Guide

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Indoor Timer Installation

⚠ IMPORTANT: The ECXTRA Indoor model is not weather resistant and must be installed in a sheltered area.

1. Select a location for the timer within 4' (1.2m) of an electrical outlet. Make sure the outlet is not controlled by a light switch.
2. Remove the mounting bracket from the back of the timer housing by pulling the lower edge of the bracket away and down from the timer housing.
3. Place the mounting bracket against the wall, aligning the top edge at about eye level. Secure the bracket using the two stainless steel screws provided, or use appropriate screw anchors if installing on drywall or masonry.

Note: If optional valve wiring conduit is preferred, insert 3/4" (19mm) PVC conduit into the sleeve provided on the bottom edge of the bracket.

4. Align the slotted openings on the back of timer housing with the mounting bracket tabs. Slide the timer downward to engage the tabs.

Note: Store the Quick Start guide in the pocket formed between the timer and mounting bracket.

Connecting the Valves

1. Route the valve control wires between the valves and the timer.

Note: The snap-in wire connectors accept 14 to 18 gauge wire. Using 18-gauge, multi-strand, direct-burial irrigation cable is recommended. Choose a cable that has at least one more wire conductor than the number of valves to be connected.

2. Attach the white color-coded wire to either one of the wires from each valve solenoid. This is called the **valve common** wire.
3. Attach an individual color-coded wire to the remaining wire from each valve solenoid. Make a note of the wire color used for each valve and the watering zone it controls. You will need to have this information when connecting the valve wires to the timer.

⚠ CAUTION: Use Toro waterproof wire connectors (Model # 53687) or grease caps on all exposed wire connections to prevent corrosion, connection failure and short circuit.

4. Route the wire cable into the timer through the large opening in the base of the housing or through PVC conduit (if installed). Strip insulation back 3/8" (10mm) from all cable wires.

Note: The zone modules have quick-release wire terminals. To attach wires, simply raise the lever, insert the stripped wire, and press the lever down to secure.

5. Secure the valve common wire to the terminal labeled COM. Connect the individual zone valve wires to the appropriate zone module terminals. Connect the master valve wire (if applicable) to the terminal labeled PUMP/MV.

Connecting a Pump Start Relay

Note: Connecting a master valve or pump start relay is optional and may not be required for your sprinkler system.

⚠ CAUTION: To prevent timer damage, do not connect the timer directly to the pump starter. A 24 VAC, 0.3A (max) relay must be used.

1. Route wire pair from the 24V relay into the timer.
2. Connect one wire to the terminal labeled COM. Connect the remaining wire to the terminal labeled PUMP/MV.

⚠ CAUTION: To prevent pump damage due to back pressure, remove all unused zone modules. Connect a jumper wire from an unused zone terminal to a terminal with a valve connected.

Connecting the Plug-in Transformer

⚠ CAUTION: Do not plug the transformer into an electrical outlet until all of the wiring procedures have been completed.

1. Route the cable from the transformer through the small opening in the base of the housing.
2. Connect one cable wire (in either order) to each terminal labeled 24 VAC.

Note: The display will begin flashing 12:00 AM. Press any button to halt flashing.

Outdoor Timer Installation

Preparing the Timer Cabinet

1. Remove the lower housing cover by pulling outward on the handle.
2. Remove two phillips screws from the transformer access cover. Pull the cover outward from the bottom to remove.

Note: Three lower mounting holes are provided. The center hole is open and the outer holes partially-through pilot holes. If the outer holes are to be used, open the pilot holes using a 3/16" (6mm) drill bit.

Three wiring (conduit) access holes are provided in the cabinet base as follows:

- 1 – 1/2" (13mm) for input power wires.
- 1 – 3/4" (19mm) for sprinkler valve wires.
- 1 – 1/2" (13mm) for Toro RainSensor (optional).

Note: Leave access holes plugged if not used.

Installing the Cabinet

1. For safe, reliable operation, select an installation site which will provide the following conditions:
 - Protection from irrigation spray, exposure to direct sun during the hottest hours, wind and snow.
 - Access to a grounded power source which is not controlled by a light switch or utilized by a high current load appliance, such as a refrigerator or air conditioner.
 - Access to the sprinkler control valve wiring and optional accessory wiring.
2. Drive a provided stainless steel screw into the wall at eye level. Leave a 1/4" (6.4mm) gap between the screw head and the wall.

Note: Use appropriate screw anchors if installing the timer on drywall or masonry.
3. Hang the cabinet on the screw using the keyhole slot on the back panel. Make sure the cabinet slides down securely on the screw.
4. Install the lower mounting screw(s) and tighten securely.

Note: Conduit and adapters are not provided. Install conduit as required by electrical code.

5. Install 1/2" (13mm) conduit for input power wires and 3/4" (19mm) conduit for valve wires.

Note: After installation, store the Quick Start guide on the inside of the cabinet door.

Connecting the Valves

1. Route the valve wires or wire cable from the valves, into the timer cabinet.

Note: The snap-in wire connectors accept 14 to 18 gauge (1mm²) wire. Using direct-burial irrigation cable is recommended. Choose a cable that has at least one additional wire conductor than the number of valves to be connected.

2. Attach the white color-coded wire to either one of the wires from each valve solenoid. This is called the **valve common** wire.
3. Attach an individual color-coded wire to the remaining wire from each valve solenoid. Make a note of the wire color used for each valve and the watering zone it controls. You will need this information when connecting the valve wires to the timer.

⚠ CAUTION: To prevent corrosion, connection failure and possible short circuit, use Toro waterproof wire connectors (Model # 53687) or grease caps on all exposed wire splice connections

4. Route the wire cable into the timer through the large opening in the base of the housing or through PVC conduit (if installed). Strip insulation back 3/8" (10mm) from all cable wires.

Note: The zone modules have snap-in wire terminals. To attach wires, simply raise the lever, insert the stripped wire, and press the lever down to secure.

5. Secure the valve common wire to the terminal labeled COM. Connect the individual zone valve wires to the appropriate zone module terminals. Connect the master valve wire (if applicable) to the terminal labeled PUMP/MV.

Connecting a Pump Start Relay

Note: Connecting a master valve or pump start relay is optional and may not be required for your sprinkler system.

⚠ CAUTION: To prevent timer damage, do not connect the timer directly to the pump starter. A 24 VAC, 0.3A (max) relay must be used.

1. For pump relay wires, install a 1/2" (13mm) conduit adapter and conduit.
2. Connect a wire pair to the pump relay terminals and route the cable through the conduit and into the timer housing.
3. Connect one wire to the terminal labeled COM. Connect the remaining wire to the terminal labeled PUMP/MV.


⚠ CAUTION: To prevent pump damage due to back pressure, remove all unused zone modules. Connect a jumper wire from an unused zone terminal to a zone terminal with a valve connected.

Connecting the Power Source

⚠ WARNING: AC power wiring must be installed and connected by qualified personnel only. All electrical components and installation procedures must comply with all applicable local and national electrical codes. Some codes may require a means of disconnection from the AC power source installed in the fixed wiring and having a contact separation of at least 0.120" in the line and neutral poles. **Make sure the power source is OFF prior to connecting the timer.**

1. Route 120 VAC power and equipment ground wires from the power source, through the conduit and into the timer transformer compartment.

Note: The input power terminal block accepts wire size up to 14 gauge (2mm²).

2. Remove 3/8" (10mm) insulation from each wire.
3. Using a small common screwdriver, secure the wires to the terminal block as follows: Hot to **L**, Neutral to **N**, and Equipment Ground to  **G**.


4. Replace the transformer compartment cover.
5. Apply power to the timer.

Note: The display will begin flashing 12:00 AM.
Press any button to halt flashing.

Connecting a Rain Sensor (optional)

A rain sensor is a remote device that can be connected directly to your ECXTRA to automatically interrupt watering during rain.

A sensor control switch is provided to enable the sensor operation to be turned On and Off as needed

When the rain sensor detects a specified amount of rain, it automatically signals the ECXTRA to suspend all watering operations. The  "No Watering" symbol will appear in the upper right corner of the display until the sensor automatically resets for dry conditions. The symbol will then disappear, and timer operation will resume as programmed.

1. Route the two sensor wires from the device into the timer housing through the access hole provided.
2. Remove the U-shaped plastic piece from the Sensor terminal connectors. Connect the two sensor wires in any order.

3. Set the Sensor Configuration Switch to **NC** (Normally Closed) or **NO** (Normally Open) operation as required by the type of sensor connected.

Note: Refer to the instructions provided with the rain sensor to determine NC or NO switch type and for additional installation and operating information.

4. Set the Sensor Control Switch as required:
ENB (enable) allows the rain sensor to interrupt watering; **DIS** (disable) bypasses the rain sensor input.

⚠ IMPORTANT: Do not use the ENB switch position with the NC switch position unless a Normally Closed rain sensor is connected. Watering operation will be suspended if this condition occurs.

ECXTRA Scheduling Advisor™ Installation and Use

Minimum PC System Requirements

*Windows® 98, SE, 2000 or XP operating system, one USB Port, CD-R drive, 800 MHz Intel® (or equivalent) processor, 64 MB RAM, 40 MB available hard disk space, 1024 X 768, 16-bit color monitor.

1. Launch Windows.
2. Place the provided ECXTRA CD into the CD-R drive. Windows will automatically launch the installation setup. Follow the on-screen instructions to complete installation.
Note: If the installation setup does not launch automatically, choose **RUN** from the **Start** menu. Type **d:/setup** (**d:/** is the CD drive location) into the text field and click **OK**. Follow the on-screen instructions to complete installation.
3. Once the software is properly installed, click the ECXTRA icon located in **C:/Program Files/ECXTRA/** to launch the application.

4. Follow the step-by-step programming setup procedures provided by the Scheduling Advisor. Enter the required data into all the text fields as prompted.
5. To transfer the programming data from the PC to the ECXTRA timer, plug the Time Pod™ into the computer's USB port when instructed.
6. After successful data transfer, unplug the Time Pod and carefully connect it to your ECXTRA timer.

Note: Refer to pages 4 and 5 of the ECXTRA User's Guide for the location of the Time Pod connection port.



7. Verify that the ECXTRA timer is set to **RUN**, then press the Time Pod button to initiate the data transfer. The ECXTRA display will prompt **DONE** when the procedure is completed.

Note: Any setup, programming or operational changes made at the ECXTRA timer cannot be transferred or uploaded to the PC via the Time Pod device or connection port.

*Windows® is a registered trademark of Microsoft Corporation in the United States and other countries. Intel® is a registered trademark of Intel Corporation in the United States or other countries.



Basic ECXTRA Timer Operations

To Set or Change Time/Date:

1. Turn the control dial to the **CURRENT TIME/DAY**  position.
2. To adjust the flashing portion of the display, press the **+ / ON** or **- / OFF** button.
3. Press the **NEXT** button.
4. Repeat steps 2 and 3 to set the following current information: **minutes, year, month, and day**.
5. Return the control dial to **RUN** .



To Change a Watering Day Schedule:

Calendar Schedule



1. Turn the control dial to the **WATERING DAYS**  position.
2. Set the **PROGRAMS** switch as necessary to select the desired program.
3. Press the **+ / ON** or **- / OFF** button as needed to select **CAL**.
4. Press the **NEXT** button.
5. To select the day (flashing), press the **+ / ON** button. To remove the day, press the **- / OFF** button. Repeat this step until only the desired watering days are shown.
6. Return the control dial to **RUN** .

To Change a Watering Day Schedule (continued):

Interval Schedule


1. Turn the control dial to the **WATERING DAYS**  position.
2. Set the **PROGRAMS** switch as necessary to select the desired program.
3. Press the **+ / ON** or **- / OFF** button to select **Int**.
4. Press the **NEXT** button.
5. To select the Interval number (1–7), press the **+ / ON** or **- / OFF** button.
6. Press the **NEXT** button.
7. To select the Interval start day, press the **+ / ON** or **- / OFF** button.
8. Return the control dial to **RUN** .

Odd or Even Date Schedule

1. Turn the control dial to the **WATERING DAYS**  position.
2. Set the **PROGRAMS** switch as necessary to select the desired program.
3. Press the **+ / ON** or **- / OFF** button to select **Odd** or **Even**.
4. Return the control dial to **RUN** .



Day Exclusion

Note: The selected program must have an Interval or Odd/Even watering schedule to use the Day Exclusion feature.


1. Turn the control dial to the **WATERING DAYS**  position.
2. Set the **PROGRAMS** switch as necessary to select the desired program.

3. Press the **NEXT** button as needed to display **dE**. The currently eligible days of the week will be displayed and **SU** (Sunday) will begin flashing.
4. To exclude Sunday from the watering schedule, press the **-/OFF** button. To keep Sunday and skip to the next day, press the **+/ON** button; **MO** (Monday) will now begin flashing. Continue to exclude or skip each day of the week as needed.

Turn Program Off


1. Turn the control dial to the **WATERING DAYS**  position.
2. Set the **PROGRAMS** switch as needed to select the desired program.
3. Press the **+/ON** or **-/OFF** button to select **OFF**.
4. Return the control dial to **RUN** .

To Change Program Start Times:


1. Turn the control dial to the **START TIME**  position.
2. Set the **PROGRAMS** switch as needed to select the desired program.
3. Press the **+/ON** or **-/OFF** button to select the desired program start time number.
4. Press the **NEXT** button.

Note: To remove a start time, select OFF by pressing the **+/ON** and **-/OFF** buttons **at the same time**, and continue at step 8.


5. To set the hour, press the **+/ON** or **-/OFF** button.
6. Press the **NEXT** button.
7. To set the minutes, press the **+/ON** or **-/OFF** button.
(continued)

8. Press the **NEXT** button. The next program start time number will begin flashing.
9. To review or change another start time, return to step 3.
10. Return the control dial to **RUN** .


To Change Zone Run Times:

1. Turn the control dial to the **SET ZONE TIMES**  position.
2. Set the **PROGRAMS** switch as needed to select the desired program.
3. Zone number 1 will be flashing and its current run time or OFF will be shown. To select a different zone number, press the **+ / ON** or **- / OFF** button.
4. Press the **NEXT** button.
5. To set the run time, press the **+ / ON** or **- / OFF** button.

Note: To remove a zone run time, select OFF by pressing the **+ / ON** and **- / OFF** buttons **at the same time**.

6. Press the **NEXT** button.
7. To review or change a run time for another zone, repeat steps 5 and 6.
8. Return the control dial to **RUN** .


To Turn the Timer Off:

When the control dial is turned to **OFF**, the timer immediately shuts off any watering operation currently in progress. Leaving the control dial in the **OFF** position will prevent all automatic and manual watering operations. For extended shutdown of the sprinkler system, leave the control dial in the **OFF** position. Timer operation is resumed by turning the control dial to **RUN** .

Manual Operations

Operating Programs Manually

Note: Watering programs (A, B and C) can be operated individually or set to run consecutively in alphabetical order.

1. Ensure the control dial is in the **RUN**  position.
2. Position the **PROGRAMS** switch to select a program you wish to start.
3. Press the **MANUAL START** button **two times**.
4. To place additional programs in queue, repeat steps 2 and 3.

Note: When more than one program is selected to start, the programs will operate one at a time in alphabetical order regardless of the order selected.

Manual Program Controls

Note: During automatic program operation, the following manual controls are available:

♦ **Pause Watering**

Press the **+ / ON** and **- / OFF** buttons **at the same time**.

♦ **Resume Watering (when paused)**

Press the **NEXT** button.

♦ **Cancel Watering**

Press the **+ / ON** and **- / OFF** buttons **at the same time - two times**.


♦ **Skip Zones**

Press the **NEXT** button one time.

♦ **Adjust Zone Run Time**



Press the **+ / ON** button to **increase** run time, or the **- / OFF** button to **decrease** run time.

Operating Zones Manually

1. Return the control dial to **RUN** .
2. Position the **PROGRAMS** switch as needed to select the program with the assigned zone(s).
3. Press the **MANUAL START** button.
4. The first zone assigned to the program will begin flashing. To select this zone, press the **+ / ON** button. To skip this zone, press the **- / OFF** button. Continue selecting any additional zones in this manner.
5. Press the **MANUAL START** button.
6. To select zones from another program, repeat steps 2 through 5.

Rain Delay Feature

This feature enables all watering operations to be delayed from 1 to 7 days.


1. Turn the control dial to the **RAIN DELAY**  position.
2. To set the number of Rain Delay days, press the **+ / ON** or **- / OFF** button.
3. Turn the control dial to the **RUN** .

Note: To cancel Rain Delay operation, turn the control dial momentarily to **OFF**.

Note: The indicated Rain Delay number will decrease as each day passes. When the number reaches 0 (zero), automatic operation will resume.

Season Adjust Feature

Note: Prior to using the Season Adjust feature for the first time, refer to the ECXTRA User's Guide for additional important operating information.

1. Turn the control dial to the **SEASON ADJUST** position.
2. Set the **PROGRAMS** switch to select the desired program.
3. Press the **+ / ON** or **- / OFF** until the desired adjustment value (10% to 200%) is flashing.
4. Return the control dial to **RUN** .

Electromagnetic Compatibility

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:

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.

The Toro Promise - Limited One-year 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.

Zone	Description / Location
1	
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Questions? Call the Toro HelpLine —1-800-367-8676