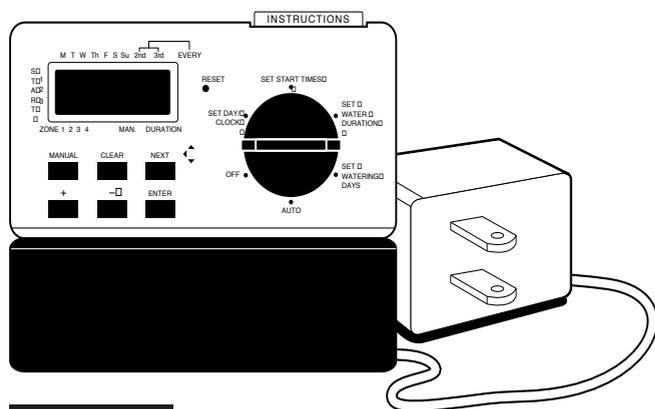


WaterMaster®

Sprinkler Timer



MODEL NUMBERS*
57114, 57116
57414, 57416
***WT2 VERSIONS**

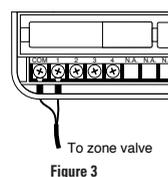
Installation and Operating Instructions

For WaterMaster® 4 and 6 Zone Timers

Installation

Connecting Valve Wires to the Timer

1. Remove cover by sliding it down.
2. Determine which valve you want to connect to which station. Connect each valve wire to its station terminal (labeled 1-6) by inserting the bare wire.
3. Connect the common wire to the terminal screw labeled "COM". (See Figure 3.)

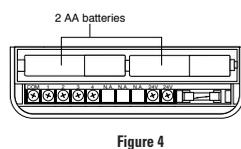


Installing Batteries—For Program Back-Up

1. Install 2 AA (1.5 volt) alkaline batteries in the battery compartment. (See Figure 4.)

CAUTION: Do not allow the battery to contact the terminal strip.

2. With weak or no batteries, the program can malfunction or be erased with power failure. If this happens, disconnect the transformer, install fully charged batteries, plug in the transformer, and reprogram the timer.

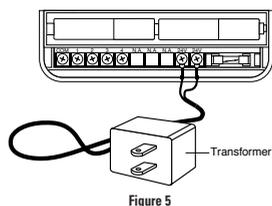


Connecting the Transformer

1. With the cover off, find the two terminal holes labeled "24V." Make sure the transformer is not plugged in. Insert one of the two power leads from the transformer into each terminal hole and turn the screw with a Phillips screwdriver until wire is secure. **Do not overtighten!**
2. Plug in transformer. (See Figure 5.)

WARNING: Do not link two or more timers together using a common transformer.

3. Slide the cover back on until it snaps.



Introduction

Thank you for purchasing a quality WaterMaster® timer. You will enjoy many years of satisfactory service, especially if proper installation and care is observed. Please read the manual completely before installation, programming and operation. For ease of use, the manual is in step by step sequence of installing, setup and operation.

The WaterMaster® timer keeps your yard beautiful whether you are at home or away. WaterMaster® gives you convenience and flexibility, letting you use an automatic watering program or override the automatic program for special watering needs.

The WaterMaster® timer divides your property into four or six stations with watering durations from 1 minute to 99 minutes each. You can water your yard up to 3 times every day. Each start time will operate all stations in sequence.

You may use one of two watering schedules. One schedule will water on specific days of the week. The other will water by periods - every other day or every 3rd day. The WaterMaster® timer includes a manual override feature that allows you to water all stations sequentially, or to manually water one station at a time.

Note: Illustrations in this booklet show only 4 station terminals & 4 stations on the display. 6 station products are fitted with 6 station terminals & show 6 stations on the display.

Note: Always check local plumbing and electrical codes for requirements when installing the timer, transformer, and sprinkling system. Use only with household current with an appropriate transformer matching your voltage and plug type.

Help

Before returning this timer to the store, contact Orbit® Technical Service at: **1-800-488-6156**.

Listings

The timer is tested to UL-1951 standard and is ETL® listed. Appropriate international models are CETL® and CE® approved.

Trademark Notice

WaterMaster® is a registered trademark of Orbit® Irrigation Products, Inc.

1

Programming

Step 1—Setting Clock Time and Day of Week

1. Turn dial to **SET DAY/CLOCK** position.
2. Press and release **RESET** button using a pen or pencil. Display briefly shows all functions then **12:00 PM** with blinking day of week indicator.
3. Press **NEXT** to advance the blinking indicator to the current day of week. (See Figure 6.)
4. Press **ENTER** to record current day of week. Indicator stops blinking and time begins blinking.
5. Press the **+** or **-** button to set the current time of day. For faster setting press and hold **+** or **-** button. Press **ENTER** to record current time of day.



Figure 6



Figure 7

Step 2—Setting Watering Cycle Start Times

Note: A cycle start time is the time of day that the timer begins watering the first station, and all other programmed stations will then follow in sequence. There are not separate start times for each station. If you enter **more** than one cycle start time, all stations programmed to operate will water again (in sequence).

1. Turn dial to **SET START TIMES**. Display shows Start Time 1 in the left corner and **-:-** blinking.
2. Press **+** or **-** button to select the first cycle start time. For faster setting press and hold **+** or **-** button.
3. Press **ENTER** to record first start time. (See Figure 8.)
4. Press **NEXT** and repeat steps 2 and 3 if additional start times are required.
5. Press **CLEAR** to erase a start time.
6. The WaterMaster® Timer allows up to 3 start times per day. Do not set overlapping start times. One start time will activate each station in sequence. You cannot set a cycle start time for each station. Generally only one cycle start time is required.



Figure 8

Installation

Timer Location

1. Select a location that is near a standard electrical outlet. If this is not possible, a 16 gauge electrical cord can be used to add length between the timer and the transformer (up to several hundred feet). Avoid using an outlet controlled by an On/Off switch.
2. The timer should not be exposed to water or operated at temperatures below 14° degrees or above 113° degrees Fahrenheit. (-10° c + 45° c)

Mounting the Timer

1. Screw a No. 8 screw at eye level leaving the screw head extended out from the wall about 1/8 inch. Use expanding anchors in plaster or masonry if necessary.
2. Slip the keyhole in the back of the timer over the extended screw.
3. Screw a No. 8 screw through each of the two holes at the bottom of the timer box into the wall. (See Figure 1.)

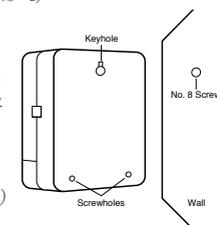


Figure 1

Wiring the Electric Valves

1. If the distance between the timer and valves is under 700 feet, use WaterMaster® sprinkler wire or 20 gauge plastic jacketed thermostat wire to connect the timer and the valves. If the distance is over 700 feet, use 16 gauge wire. The wire can be buried in the ground; however, for more protection, wires can be pulled through PVC pipe and buried underground. Be careful to avoid burying the wires in locations where they could be disturbed by digging or trenching in the future.
2. Each valve has two wires. One wire is to be connected as the common. All of the common wires for all the valves can be connected together to one common wire going to the timer. The other valve wire is to be connected to the specific station wire that is to control that valve. (See Figure 2.)
3. All wires should be joined together using wire nuts, solder, or vinyl tape. For additional protection to waterproof connections, a WaterMaster® grease cap can be used.
4. To avoid electrical hazards, only one valve should be connected to each station.
5. The rated output is 24 volts AC at less than 0.240 Amps. Do not use solenoids that exceed these values.

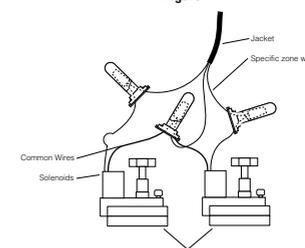


Figure 2

2

Programming

Step 3—Setting Watering Durations for Each Station

You can assign each station an automatic watering period as short as 1 minute and as long as 99 minutes.

1. Turn dial to **SET WATER DURATION**. Display shows minutes blinking **--** and station indicator **▼** on Station 1.
2. Press **+** or **-** button to select desired duration for the station. For faster setting press and hold **+** or **-** button.
3. Press **ENTER**. Station indicator steps to **Station 2**. Display shows blinking **--**. (See Figure 9.)
4. Repeat steps 2 and 3 for stations 2 through 6 as applicable.
5. Press **CLEAR** to erase a station duration.

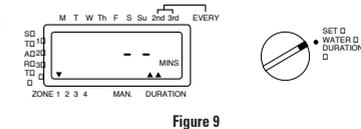


Figure 9

Step 4—Setting Watering Days

You decide which days of the week you want to water. You may choose to water every day, every second day, every third day, or any combination of days of the week.

1. Turn dial to **SET WATERING DAYS**.
2. Press **NEXT** to move indicator to the day you wish to water.
3. Press **ENTER** to record the day. (See Figure 10.) The indicator will remain solid on the days assigned to watering. The indicator will advance to the next day automatically and blink after you press **ENTER**. To skip to the next day press **NEXT**.
4. Repeat steps 2 and 3 for other days as desired.
5. Press **CLEAR** to make the highlighted day a non-watering day.

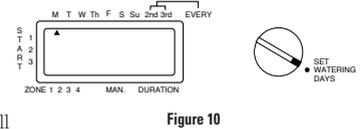


Figure 10

Step 5 — Setting Periodic Watering Schedule

Instead of selecting a particular day (or days) of the week, you may choose to water every second day or every third day.

Note: If you have selected days of the week in step 4 you cannot select every 2nd or 3rd day watering also.

1. Turn dial to **SET WATERING DAYS**.
2. Press **CLEAR** until blinking indicator is pointing to either **2nd** or **3rd** day as desired. This clears any settings on week days.
3. Press **ENTER**. Indicator stops blinking. (See Figure 11.) The blinking indicator steps to the other selection.

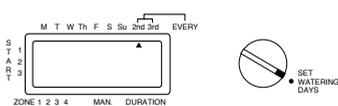


Figure 11

Step 6 — Completing Automatic Operation

1. Turn dial to **AUTO**. Display shows current time and day. (See Figure 12.) Colon is blinking.



Figure 12

TIMER IS NOW PROGRAMMED AND WILL OPERATE AUTOMATICALLY.

6

Other Features/Default

Stop the Automatic Watering for 24 hours

1. Turn the dial to **AUTO**.
2. Press **CLEAR**. This will stop watering for 24 hours. An **X** appears on the display to indicate that watering has been temporarily stopped or inhibited. The number of hours remaining in the 24 hour period will appear on the display and will count down to 1 hour.
3. To cancel the inhibit mode with the dial in the **AUTO** position, press **ENTER**. The **X** disappears and automatic watering resumes.

Note: This feature will work even during watering, but you must press CLEAR twice.

System Shut Down

Turn dial to **OFF** position. Timer remains programmed but will not water. For automatic rain shut-off, contact your WaterMaster® dealer to purchase a WaterMaster® Model 57091 automatic rain shut-off switch.

Note: The rain shut-off easily connects to existing timer and prevents sprinklers from watering during excessive rainfall.

System Reset

Using a pen and pencil, press and release RESET button to erase all programming.

Fuse

The 0.5 amp slow-blow fuse provides circuit protection. For replacement use WaterMaster® fuses, Radio Shack® Part #270-1061, or equivalent.

Easy Access to Batteries

Two AA alkaline batteries.

Caution

In areas where heavy electrical equipment or lightning strikes are prevalent, an “EMI Filter” is recommended. (Radio Shack #61-2791 or equivalent).

Default Program

In the event of a power failure and you have no batteries or your batteries are dead, the timer will revert to the default program when power resumes. The clock reverts back to 12:00 p.m. and each station will be watered for 10 minutes when the clock shows 5:00 a.m. every day until reprogrammed.

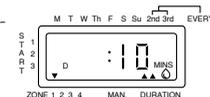


Figure 15

If watering begins in the default mode, the display shows as illustrated. (See Figure 15.)

9

The WaterMaster® Timer provides 2 separate manual settings. These manual settings will not alter the automatic setting during or after use.

All Stations Cycle Once

1. Turn dial to **AUTO**. Press **MANUAL**. Display shows **ALL**, solid ▼ over stations with programmed durations, and ▼ over **MANUAL**. (See Figure 13.)
2. Press **ENTER**. The timer will automatically water all assigned stations in sequence for the time assigned to each (a water droplet drawing will appear on the display) and then shut off and return to the automatic mode.

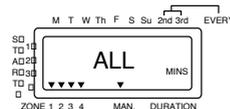


Figure 13

One Station Watering

1. Turn dial to **AUTO**. Press **MANUAL**.
2. Press **NEXT** until indicator is on the station to be watered. (See Figure 14.)
3. Press the **+** or **-** keys for the desired watering duration—up to 99 minutes.
4. Press **ENTER**. A water droplet drawing will appear on the display. Timer will water for the desired duration and return to the automatic mode.

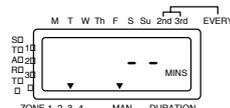


Figure 14

To discontinue watering in the manual mode, press **CLEAR**. Timer will return to automatic mode.

Note: After MANUAL has been pushed, if ENTER is not pushed within 10 seconds, the display will return to Time of Day.

7

Troubleshooting

PROBLEM POSSIBLE CAUSES

One or more valves do not turn on:

1. Faulty solenoid.
2. Wire broken or not connected.
3. Flow control stem screwed down, shutting valve off.
4. Programming is incorrect.

Continuous loss of program:

1. Battery is not hooked up.
2. Battery is too weak to keep the program in timer.

Stations turn on when they are not supposed to:

1. Water pressure is too high.
2. More than one start time is programmed.

One station is stuck on and will not shut off:

1. Faulty valve.
2. Particles of dirt or debris stuck in valve.
3. Valve diaphragm faulty.

All valves do not turn on:

1. Transformer defective or not connected.
2. Programming is incorrect.
3. Fuse blown.

Timer will not power up:

1. Fuse needs replacing.

Valves continue to turn on and off when they are not programmed to:

1. More than one start time is programmed with overlapping schedules.
2. Excessive pressure.

Fuse blows repeatedly:

1. Short in wiring or solenoids.
2. Solenoid rating too high (max 24 VAC 240mA).

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To Change Time and Current Day

1. Follow programming instruction in Programming section “Step 1.”

To Review Start Times

1. Turn dial to **SET START TIMES**.
2. The first start time will be displayed.
3. Press **NEXT** to review remaining start times, if applicable.
4. To make changes, press **+** or **-** for any Start Time and follow instructions in Step 2 of “Programming.”

To Review Watering Durations

1. Turn dial to **SET WATER DURATION**.
2. Station 1 duration will be displayed.
3. Press **NEXT** to review other station durations.
4. To make changes, press **+** or **-** for any station duration and follow instructions in Step 3 of “Programming.”

To Review Watering Days:

1. Turn dial to **SET WATERING DAYS**. Display will show current settings.
2. To make changes, press **CLEAR** on any day or schedule (to skip to the next day press **NEXT**.) Follow instructions in Step 4 and/or Step 5 of “Programming.”

Note: When watering begins, the display will show a water droplet and will count down the programmed time on the display.

8

Troubleshooting

PROBLEM POSSIBLE CAUSES

No Display/Function:

1. Check that batteries are fresh and transformer is connected.
2. Press **RESET** and reprogram.

Display locked up:

1. Check that batteries are fresh.
2. Press **RESET** and reprogram.

Waters each station 10 mins at 5 am:

1. In default mode.
2. Press **RESET** and reprogram.

Questions: Please call toll-free

1-800-488-6156

or visit us on the world wide web at

www.orbitonline.com

WaterMaster® Limited 2 Year Warranty

Orbit® Irrigation Products, Inc. warrants to its customers that its WaterMaster® products will be free from defects in materials and workmanship for a period of two years from date of purchase. We will replace, free of charge, the defective part or parts found to be defective under normal use and service — for a period of up to two years after purchase, proof of purchase required. We reserve the right to inspect the defective part prior to replacement. Orbit® Irrigation Products, Inc. will not be responsible for consequential or incidental cost or damage caused by the product failure. Orbit® Irrigation Products, Inc. liability under this warranty is limited solely to the replacement or repair of defective parts.

To exercise your warranty, return the unit to your dealer with a copy of the sales receipt.

Orbit® Irrigation Products Inc.

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North Salt Lake, Utah 84054

ENGLISH