

# *IC Series Controller Owner's Manual*



Sprinkler Systems

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## INITIAL SETUP

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- 1** CONNECT THE CONTROLLER TO 115 V.A.C., 60Hz power supply, in accordance with installation instructions.

When your controller is first powered up, the readout panel will show 0100 A 01. Before putting your Controller into operation, the following two steps must be followed:


- 2** INSTALL BATTERY  
A new battery will protect your controller memory for about two hours in the event of power interruption, and you will avoid the necessity for re-programming.

Please read the BATTERY instructions (Page 3) to learn how to install and change batteries.

- 3** SET THE CLOCK TO THE CORRECT TIME  
Please read the CLOCK instructions (Page 5) to learn how to set and adjust the clock.

Once these two items have been completed, the controller is ready for use, and you may program it according to the programming instructions.

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A new battery will protect your controller memory for about two hours in the event of power interruption, and you will avoid the necessity for re-programming.

The IC Controller is designed to use either of the following nine-volt battery types:

Rechargeable Ni-Cad Battery (GE Type GC9 or equivalent) or Alkaline Battery (Mallory 1604 or equivalent).

OTHER BATTERY TYPES MUST NOT BE USED. THIS IS EXTREMELY IMPORTANT. YOUR IC CONTROLLER MAY NOT FUNCTION CORRECTLY UNLESS THIS INSTRUCTION IS FOLLOWED.

TO INSTALL BATTERY:

**1** Release FASTENER (4) and remove the faceplate.

**2** SET BATTERY TYPE SELECTOR  
The battery type selector switch (7), located to the left of the keyboard, must be set according to the type of battery to be installed.

NI-CAD BATTERY - SWITCH IN **DOWN** POSITION  
ALKALINE BATTERY - SWITCH IN **UP** POSITION

**3** Locate the BATTERY CONNECTOR (8), taped to the transformer cover. Remove white plastic protector and connect the battery. Stow the battery in the battery compartment (6).

### **WARNING**



**EXTREME CARE MUST BE TAKEN TO PREVENT BATTERY TERMINALS TOUCHING ANY METAL PART OF THE CONTROLLER. DAMAGE OR INJURY MAY RESULT.**

## **BATTERY**

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### **CHANGING THE BATTERY**

Under normal circumstances, an alkaline battery will provide system protection for about six months, and a NiCad battery for about three years. Of course, if there are numerous power interruptions, the battery power will be used up in less time, and it should be replaced when necessary.

### **THE 115 V.A.C. POWER MUST REMAIN ON WHEN BATTERY IS CHANGED**

This is necessary to retain controller memory. If you should lose your program, the ACTIVE DAY indicator will flash to alert you that re-programming is necessary.



#### **WARNING**






**WHEN CHANGING THE BATTERY, EXTREME CARE MUST BE TAKEN TO PREVENT BATTERY TERMINALS TOUCHING ANY METAL PART OF THE CONTROLLER. DAMAGE OR INJURY MAY RESULT.**



Your IC Controller clock uses a standard AM/PM mode. The time display will be followed by an A (A.M.) or P (P.M.). Midnight will show as 1200A and noon will show as 1200P.

The display will flash on and off if a programming error is detected. Press ERASE and re-program if this occurs.

**TO ADJUST CLOCK****PRESS KEYPADS****AS FOLLOWS:****DISPLAY EXAMPLES**

		<b>TIME</b>	<b>DAY</b>
<b>1</b>		To enter clock program. Display shows "A" for A.M. and "P" for P.M. times.	0000A 01
<b>2</b>		To adjust hours. Hold pad down to advance hours to correct time.	0600P 01
<b>3</b>		To adjust minutes. Hold pad down to advance minutes to correct time.	0645P 01
<b>4</b>		To place the time in the controller memory.	0645P 01
<b>5</b>		To return to automatic system control	0645P 01

Your controller will now continue to maintain the correct time.

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# CONTROLLER PROGRAMMING

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To simplify understanding of IC Controller programming, the procedure has been set up in a series of steps:

- 1 ACTIVE DAY PROGRAMMING**  
Programs the ACTIVE DAYS on which your system will run, and synchronizes the computer with the current day.
- 2 WATERING RUN TIME PROGRAMMING**  
Sets watering RUN TIME for each station.
- 3 WATERING START TIME PROGRAMMING**  
Sets watering START TIMES for the entire system.

Before programming your controller, it is suggested that the WATERING PLAN RECORD is used to work out and record your watering plan.

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# 1 ACTIVE DAY PROGRAMMING

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The controller operates on a 14-day repetitive program cycle. The fourteen days are pre-coded into the controller memory according to this chart:

	SUN	MON	TUE	WED	THU	FRI	SAT
WEEK 1	01	02	03	04	05	06	07
WEEK 2	08	09	10	11	12	13	14


## DAY CODE CHART

As each day is displayed, it may be retained as an ACTIVE watering day, or made INACTIVE if no watering is desired.


### PRESS KEYPADS

#### AS FOLLOWS:

#### DISPLAY EXAMPLES

**1**  To enter the DAY PROGRAM

TIME DAY  
0 0

**2**  To advance to DAY 01


TIME DAY  
0 1

PRESS EITHER:

**3**  To make Day 1 ACTIVE

ACTIVE DAY INDICATOR ON

OR

 To make Day 1 INACTIVE

ACTIVE DAY INDICATOR OFF

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(continued)

# 1 ACTIVE DAY PROGRAMMING

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Move through each day by pressing NEXT, and program each day as ACTIVE or INACTIVE.

**4** When you're finished, press NEXT as required, to reset the display to current day, according to the day code chart.

**5**  To return to automatic system control TIME, DAY NUMBER AND ACTIVE STATUS

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## 2 WATERING RUN TIME PROGRAMMING


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The watering run time for each station in your irrigation system may be programmed in one of sixteen time settings:

MINUTES: 00,01,02,03,05,07,09,12,15,20,25,30,  
35,40,50 or 60




Select the run time that you need for each watering station. You'll probably find it convenient to record them on your watering plan record before actually programming them into the controller.

Use the "00" setting for any station you do not want to run.

If you make an incorrect entry, press  and start again.

### **PRESS KEYPADS AS FOLLOWS:**

### **DISPLAY EXAMPLES**


<b>1</b>		To enter the STATION SET program	0	00
			STA NO	RUN TIME
<b>2</b>		To advance to the station you wish to program.	1	00
			STA NO	RUN TIME
<b>3</b>		To select the desired run time for that station.	1	35
		When the run time you want is displayed, press...	STA NO	RUN TIME

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
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## 2 WATERING RUN TIME PROGRAMMING

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**4**  To place your selected time for Station 1 in the controller memory. **DISPLAY WILL FLASH ONCE**

Repeat steps 2 through 4 until a watering run time has been selected and entered for each station.

**5**  To return to automatic system control **TIME, DAY NUMBER AND ACTIVE STATUS**

NOTE: CHANGES MADE IN WATERING RUN TIMES MAY ALSO AFFECT WATERING START TIMES. ALWAYS CHECK BOTH PROGRAMS.

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## WATERING START TIME PROGRAMMING

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Your sprinkler system may be programmed for up to four (4) watering start times in a 24-hour period set to start at any selected hour. Random minute start times are not programmable.

When programming start times, allow enough elapse time between start times for each station to cycle through its run time. If a start time becomes active before the previous cycle is finished, that start time will be postponed until the cycle in progress is completed.


**TO PROGRAM WATERING CYCLE START TIMES,  
PRESS KEYPADS AS FOLLOWS:**

### DISPLAY EXAMPLES

**1**  To enter START TIME program. 0000A

**2**  To display desired Start Time. 0200A

OR

 To delete Start Time displayed 0000A




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## WATERING START TIME PROGRAMMING

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### DISPLAY EXAMPLES

- 3**  To place the time in the controller memory      DISPLAY WILL FLASH ONCE
- 4**  To move to the next Start Time.      0000A  
Repeat steps 2 through 4 for all required start times. (Four Maximum)
- 5**  To return to automatic control.      TIME, DAY NUMBER AND ACTIVE STATUS


With the completion of these steps, you have programmed the controller to operate your irrigation system.


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## CHECKING YOUR WATERING PROGRAM


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Any portion of your watering program can be checked on the Controller display without affecting the programming.

- To check ACTIVE DAYS, press ..... 

Cycle through the days by pressing ..... 


**Remember to return DAY setting to CURRENT DAY**

To return to clock control, press ..... 


- To check STATION RUN TIMES, press ..... 

Cycle through each STATION by pressing ..... 

To return to clock control, press ..... 

- To check START TIMES, press ..... 

Cycle through all Start Times by pressing ..... 

To return to clock control, press ..... 



REFER TO PROGRAMMING INSTRUCTIONS TO MAKE ANY REQUIRED CHANGES.


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## MANUAL SYSTEM OPERATION

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To over-ride the automatic clock control, your IC Controller is provided with a MANUAL keypad switch. MANUAL operation will enable you to start a programmed watering cycle immediately, but will not affect the program memory. Following completion of any MANUAL cycle, your Controller will return to automatic clock control.


To halt manual operation in progress, press  and then  to return to automatic clock control.

Press:  To switch your controller to MANUAL OPERATION.

Note: If you wish to exit manual program and have not yet pressed , press  controller will return to automatic clock control.


You now have four options:


To start the **full watering program** immediately, press:

 The programmed watering sequence will start.

OR:

To start a **portion of the watering program** immediately, press:

 To move the display to the Station Number at which you want to begin.

 To start the programmed watering sequence at the selected station.

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(continued)

OR:

To operate **one selected station** immediately, press:



To move the display to the Station Number which you want to operate.



THE RUN TIME MUST BE CHANGED.  
(Program memory will not be affected).



To start watering immediately.

OR:

To operate **each programmed station in numerical sequence**, press:



The first station will begin watering.



To index through programmed stations.

## SYSTEM SHUTDOWN

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Shutdown may be attained by pressing  keypad repeatedly, until "C" or "PC" appears on the display. In the "C" mode, the system will shutdown until midnight of the same day; in the "PC" mode, shut down will be permanent.

### DISPLAY EXAMPLES

	TIME	DAY
TEMPORARY SHUTDOWN	0 1 3 7 P	C
PERMANENT SHUTDOWN	0 1 3 7 P	PC

Press  to re-activate the watering system.

A convenient sprinkler system ON-OFF SWITCH(3) is also provided on the controller front panel for system shutoff and re-activation. Power to the irrigation valves is controlled by this switch, and the controller memory is not affected by its use.

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### FUSE REPLACEMENT

A fuse is provided to protect your IC Controller circuitry.  
IN CASE OF A BLOWN FUSE, DETERMINE CAUSE OF FAILURE AND TAKE CORRECTIVE ACTION BEFORE RECONNECTING POWER.

#### TO REPLACE FUSE:

Insure that 115 V.A.C power is OFF.

Release faceplate and locate fuse (9).

Replace fuse with 1.5 ampere, 250-volt fuse  
(Littlefuse 312 3AG or equivalent.)

**CAUTION: USE OF ANY HIGHER-RATED FUSE IS DANGEROUS AND MAY RESULT IN SEVERE DAMAGE TO THE CONTROLLER.**

If you are experiencing a controller problem, check the following possible solutions before calling a service technician:

- DISPLAY GOES BLANK (Indicates a power loss):

Check electrical connection.

Check fuse and replace if necessary.


- STATION AUTOMATIC WATERING DOES NOT OPERATE

This may be due to programming error.  
Check program.

Display will show 0100A 01 on initial power up, and when the controller memory is clear or has been erased.

Re-program as necessary.

- WATERING WILL NOT STOP

Press ; set sprinkler system switch to OFF; disconnect power or turn off Main Valve.

