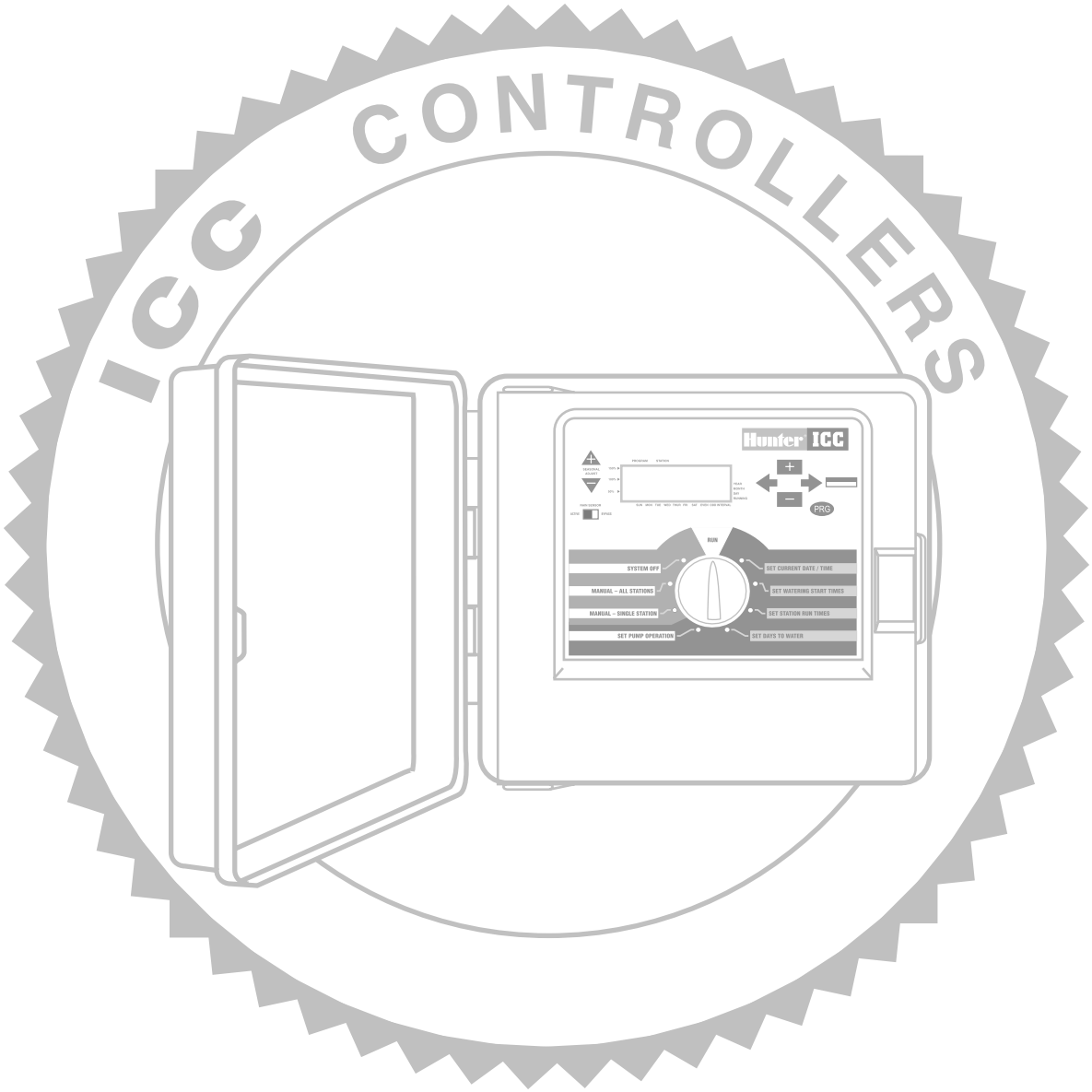
Hunter®

PRODUCT INFORMATION

ICC Controllers

Institutional Series Controllers for Heavy Duty Residential and Commercial Applications



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PRODUCT OVERVIEW

Rounding out the Institutional Series product line is the high-end residential and commercial controller that everyone has been asking for–the versatile ICC outdoor controller.

A Full Range of Controllers for All Applications

From a top-of-the-line 8-station small-project controller, up to an incredible 48-station commercial work horse, this is the largest most versatile controller for residential, commercial, sports field, and public works projects. With the simple addition of station modules, one ICC will go from 8 stations to 48 stations in 4 station increments. This controller is absolutely perfect for sports fields, parks, office buildings, shopping centers, cemeteries, schools, large residences, factories, highway planting areas, and anywhere else an easy to program, solidly constructed wall mount or pedestal mount irrigation controller is needed.

Programming Flexibility

With the ICC's extremely flexible programming capabilities, watering landscapes planted in unique soils or fitting the watering into special scheduling windows is a snap. Whether drip watering ornamentals, or applying water to turf and shrubs with rotors or sprays, the Hunter ICC has the ability to accept the watering schedule for any project. And in the event of a power outage, once that schedule is in place it will stay there virtually forever because of the ICC's nonvolatile memory.

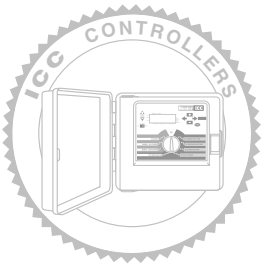
Remote Compatible and Central Control Capable

The ICC Controller is shipped remote-control compatible for instant use of the SRR and ICR remote controls. The ICC is also central control compatible with the Hunter Irrigation Management and Monitoring System™ (IMMS™). With IMMS, automatic irrigation systems at multiple sites or multiple controllers at a single site can be programmed for functions that would be typically handled directly at each controller. Scheduling of days to water, run times, start times, cycle and soak operations and more can be done from a single computer at a desk miles away from the actual installation. A key function of the IMMS is its ability to monitor changing conditions. With the aid of Hunter's Clik family of sensors, IMMS can report the status of every site and perform turf and water saving shutdowns in rain or emergencies. It's able to network Hunter controllers from the SRC to the Pro-C and ICC.

Distributors and Contractors Will Love the Modular Design

With the modular designed ICC, inventory management is easy, while the inventory investment is low. With the ICC, there are fewer SKUs and less shelf space requirements; one locking heavy-duty plastic controller and one locking metal controller and a combination of the four station module and/or the eight station module produces eighteen possible controller configurations. The right controller is always in stock. This translates into higher inventory turns per square foot and an incredible return on inventory investment.

With the time saving mounting and wiring features, dial-style intuitive programming, and the modular design for inventory management, this is the most convenient and versatile controller on the market.



PRODUCT FEATURES AND BENEFITS

Plastic
8 to 32 Stations

Metal or Stainless
8 to 48 Stations

Heavy-Duty Plastic or Metal Cabinets
Built to overcome the elements– for a long time

The ICC is offered with a robust heavy-duty plastic UL listed and NEMA 3R rated cabinet, or in a metal or stainless steel cabinet. For faster installation, the cabinet door hinge pin is removable when the door is unlocked and open. The ICC cabinet is also designed with a ¾"- 1½" knockout option on the back of the cabinet, and a 1½" opening for low voltage and a ½" opening for high voltage in the bottom of the cabinet to accommodate the wiring needs of any job. The metal and stainless controllers can be installed on an optional pedestal.

Rugged Pedestals
Flexibility when wall mounting is not an option

The ICC metal and stainless steel cabinets can be mounted on optional pedestals for outdoor installations. In addition, the ICC is also available assembled in a rugged plastic pedestal that is built to withstand the elements in virtually any environment.

Modular Design
One controller does it all; no need to stock or carry multiple units

Hunter is a leader in fulfilling customer wishes and the ICC controller simply the latest in a long history of quality irrigation products. Here is an impressive controller, with its modular design for inventory management, eight stations factory installed, and

the ability to easily add more stations, this is one well-conceived controller that will satisfy both contractor and end user alike.

Removable Front Panel for Remote Programming
Set up the controller without having to stand in front of it

A removable hinge design allows easy removal of the front panel without disturbing field wiring. With the use of a 9-volt battery, you can set the program away from the cabinet location. This timesaving feature allows the contractor to program before going out to the job (also serves as a great sales demo when talking to a potential client). The contractor can also give the homeowner the front panel while the job is being installed to allow the homeowner to try the programming functions early on. When it comes time to actually set up the

controller, the homeowner is completely clued in, making the whole programming process a very simple one.

Eight Start Times Per Program and Extended Station Run Times
Maximum programming flexibility

Hunter's ICC controller has eight start times per program available for as many as 24 start times per zone. Stations can be assigned to programs A, B, and C, and can be set to run as long as 1 hour and 59 minutes per start time. If that is not enough watering time, switch to program D where there is 12 hours of available station run time.

Plastic Pedestal 8 to 48 Stations (can also house IMMS Interfaces)

One Touch Manual Start and Rapid Advance
Simple operation for a quick check of zones

The One Touch Start and Rapid Manual Advance feature increases user-friendliness of the controller by using fewer steps to activate stations. This feature is great for a quick cycle when extra watering is needed or if you would like to scroll through the stations to inspect the system.

Cycle and Soak Capability
For maximum programming flexibility

In addition to all of the other programming features, the ICC also has a cycle and soak feature which is perfect for bringing up new seed or when watering slopes or landscapes with clay soils. Program how long you want the station to run and the minimum amount of time you want to allow the water to soak in, and the ICC divides up the run time automatically.

Seasonal Adjust
Compensates for weather changes

The simple-to-use global seasonal adjust compensates for weather changes–adjust the station run times from 10% to 150% (in 10% increments) without reprogramming. The easy-to-read adjusted level is always immediately apparent with the thermometer type display.

Choice of Independent Day Scheduling Options
Days of the week or 31-day interval for maximum flexibility

The watering day schedules in programs A, B or C may be set up independently from each other. In each program, the choice of Custom (day of the week), Interval (up to 31-days), Odd or Even days may be selected. This allows the user to water on certain days of the week such as Monday, Wednesday and Friday or water on a repeating day cycle (Interval) such as every third day, or odd/even days in any or all three of the programs.

3 Programs (A, B, C) with Multiple Start Times
Different watering requirements are met with independent programming

The ICC allows for many different irrigation applications using three completely independent programs. This is ideal for various types of plants that have separate watering day requirements. Each program has the ability to water up to four start times per day. The user has complete flexibility with watering schedules for new seed or sod lawns, multiple cycles for low infiltration-rate soils, slopes, morning or evening irrigation and other watering window restrictions.

Concurrent Station Operation with Program D
Run two stations at once

The A, B, and C programs will stack start times, while program D will run concurrently with all other programs. This program D feature is great for large projects with drip systems. Generally, the watering window on large projects is limited, while the length of necessary watering time is high. The GPM requirements are usually low on drip watering systems; the ICC will permit this low volume watering to run concurrently with other programs, allowing the project to complete watering in less time. The ICC has the capability of running up to two valves

PRODUCT FEATURES AND BENEFITS *(continued)*

per station, plus a master valve. This means up to 4 valves and a pump start relay or master valve can be operated at the same time.

Non-volatile Memory
Holds programs indefinitely; excellent insurance against unreliable power

The ICC has what every user of electronic controllers has wished for: the ability to keep all programs in memory without a backup battery. In the event of a power failure or if AC power is suspended from the controller by the user, the ICC's non-volatile memory will maintain programs forever, without need for a battery. Normal watering will resume when AC power is restored.

Superior Surge Protection
All microcircuits are protected from electrical spikes/lightning

The ICC is equipped with electronic components called MOVs (Metal-Oxide Varistor). These MOVs are designed to shunt electrical surges away from microcircuits through the controller's grounding circuit. The ICC uses these MOVs to protect the controller from minor power surges coming in through the primary (110/230VAC) input side and also the secondary output side (24VAC).

Self-Diagnostic Electronic Short Circuit Protection
No fuses to worry about; only faulty stations stop watering

The ICC automatically skips shorted stations allowing the rest of the system to operate as normal. The self-diagnostic electronic short circuit protection system is very beneficial to the user because of its ability to aid in identifying field wiring problems. It is almost as if the controller can troubleshoot the system itself.

The self-diagnostic system detects a high current path–a "short"–through an operating station (the most common causes of shorts are faulty solenoids or when a bare valve common wire touches a bare station control wire). When a short circuit is detected on a station, instead of blowing a fuse which would shut down the entire irrigation system, the controller will skip over that station and continue to water the rest of the zones in the program. The controller will indicate what zone is shorting by showing the station number followed by ERR in the LCD display. The controller will continue to "jump over" that zone during every watering until the zone is repaired. To remove the ERR message from the display, just turn the dial or push any button.

Hunter Quick Check™
Quickly diagnose field wiring problems

The ICC also provides irrigation professionals with the ability to efficiently and effectively diagnose problems in the field. Instead of having to physically check each field wiring circuit for potential problems, the user can run the Hunter Quick Check™ circuit test procedure. This circuit diagnostic is very beneficial because of its ability to aid in quickly identifying "shorts" in control wiring.

Programmable Delay Between Stations
Slow closing valves and well recovery will never be an issue

A programmable delay between stations solves the problem of slow closing valves because of a hydraulic overload condition. The delay also solves the problem of a system operating off of a slow filling well, allowing the well to recover between zones. The ICC's programming will allow it to fit into any situation where a delay is necessary, as the delay is programmable up to

ten hours. Delays from 0 to 60 seconds are allocated in 5-second increments and then up to 10 hours in 1-minute increments.

Note: If the MV circuit is programmed to operate on the zone, it will stay hot for the first minute of any programmed delay.

Test Program

Simple operation allows user to run all zones for a specified amount of time

The ICC allows the user a simplified method for running a test program. This feature operates each station in numerical sequence, from the lowest to the highest. You can start with any station. This is a great feature to check the operation of your irrigation system.

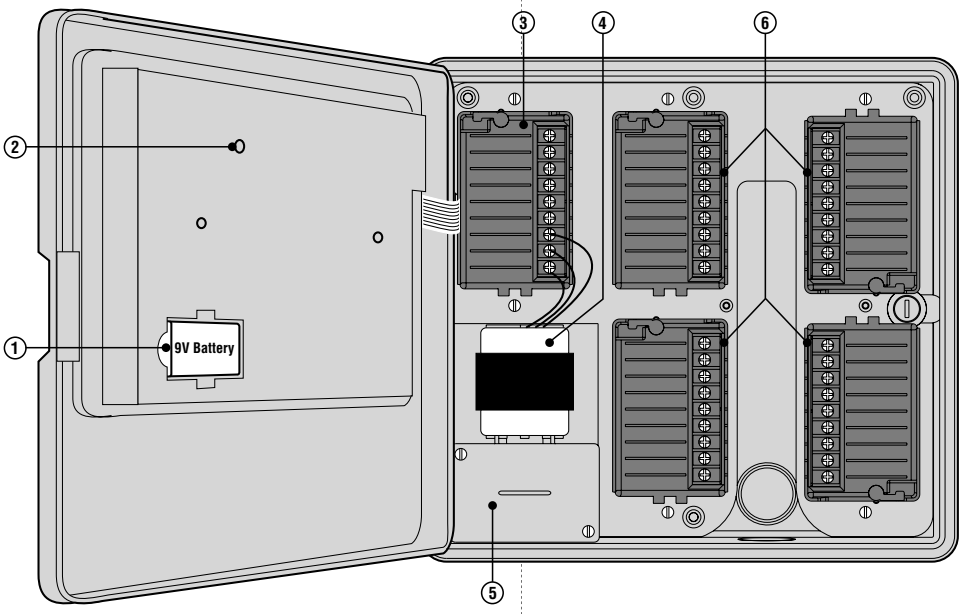
Easy Access Wire Compartment

Simplified wire hookups

The ICC permits fast and easy connection of wiring in the spacious wiring compartment. With the sturdy terminal block, the wire can be inserted without bending for simplified installation. The primary terminal block has dedicated terminal screws for both a sensor hookup and a 24VAC connection for accessories. Each terminal will accommodate two 20-12 gauge wires.

Wiring Cabinet

1. **9-Volt Battery** – The alkaline battery keeps time during power outages or if the transformer is disconnected. The user may also program the controller without AC power.
2. **Reset Button** – This button will restart the computer in case of power surge or display freezing. No programmed data will be lost.
3. **Power Module Area** – Used to attach transformer, master valve, and other systems from their source to the controller.
4. **Transformer** – A transformer is installed in the controller to route AC power from the power cable to the terminal strip area and to ground the controller.
5. **Junction Box** – This box contains connections for 115 volt and 230 volt power connections.
6. **Station Modules** – There are 4 (plastic cabinet) or 6 (metal or stainless steel cabinet and plastic pedestal) modular positions inside the controller. With the addition of 4 or 8 station ICM modules, you have the ability to run anywhere from 8 to 32 stations (plastic cabinet), and 8 to 48 stations (metal, stainless steel cabinet, and plastic pedestal).



PRODUCT FEATURES AND BENEFITS *(continued)*

Programmable 0-7 Day Rain Delay
No need to return to the controller to turn it back on

The ICC allows you to turn off the controller for a predetermined period of time (1-7 days) during rainy weather. All programs are affected, as this delay is global. After the specified period has elapsed, the controller will return to automatic mode and water as scheduled. This delay feature is very convenient because when the controller is turned off for an event such as rain or a social activity, the operator will not have to make a trip to the site to reactivate the controller. In residential systems, when the operator uses the watering delay feature there's no need to worry about remembering that the controller has been turned off.

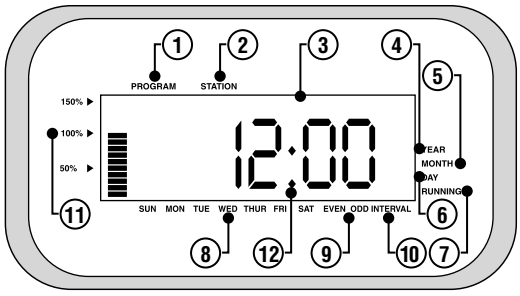
Note: If the controller is programmed with a 3-day or higher interval-watering schedule in a program, the controller will operate at the next watering start time, regardless of the interval period, effectively resetting the start of the interval period.

Weather Sensor Compatible
Built-in bypass switch eliminates extra watering

The ICC allows easy connection of any rain or weather sensor device including the Hunter Mini-Clik®. With the sensor circuit on the controller, wiring is fast and easy. There's a built-in bypass switch to turn off the sensor for maintenance. Best of all, the controller will display **Sen Off** in the LCD display indicating when the sensor is interrupting irrigation. In all cases, use of the sensor does not alter any programmed watering schedule. The hookup is as simple as removing the jumper that is attached across the SEN terminals of the controller and connecting the sensor wires to the terminals.

Large LCD Display
Easy to read for schedule entry and review

The huge 1" by 3" display (2.5 by 7.6 cm) makes entries easy to read and verify. With the ICC controller, Hunter simplified programming at every step.



LCD Display

1. **Program Selector** – Identifies the program in use A, B, C, or D.
2. **Station Number** – Identifies currently selected station number.
3. **Main Display** – Indicates various times, values, and programmed information.
4. **Year** – Arrow identifies current calendar year.
5. **Month** – Arrow identifies current calendar month.
6. **Day** – Arrow identifies current calendar day.
7. **Running** – Arrow indicates when watering is occurring.
8. **Day of the Week** – Arrow identifies days of the week to water. You can also select odd or even and an interval watering schedule.
9. **Odd/Even Watering** – Arrow identifies if odd or even watering is selected
10. **Interval** – Arrow identifies if interval watering has been selected.
11. **Seasonal Adjust** – Displays in increments of 10%, the percentage of seasonal adjust that has been selected.
12. **Start time** – Identifies selected start time. (Only appears on LCD main display when **SET WATERING START TIMES** is selected.)

Intuitive Dial Programming
For easy program entry

For contractors and homeowners alike, the ICC provides step by step programming. No complicated entry functions or repetitive keystrokes. Just turn the dial to the section of the program that needs to be changed and use the plus, minus and next buttons to make the adjustments. No other programming method is easier.

Multi-language Capability
User friendly in all parts of the world

The ICC line is available as a multi-language controller family. Separate customization kits are available in Spanish (INT-321), French (INT-322), Italian (INT-323), and German (INT-370). These kits include an owner's operation manual, door instruction card and a faceplate overlay that replaces the English version included with the controller.

Semi-Automatic Operation
Quick manual watering of all stations

Simply turn the dial to "Manual-All Stations" and choose either a program or a specific station within that program to start irrigating. Then turn the dial back to "Run," and the ICC runs through the remaining stations. Station run times can be changed during semi-automatic operation to create a custom manual program. After the controller completes the manual watering, it will return to the original schedule.

Single Station Manual Start
If all that is needed is a little extra on a single zone

Many times throughout the year and for many reasons (e.g., watering fertilizer or pesticides into the soil, spot seeding), the user will want to add extra water to a particular zone. With single station manual start, the ICC is able to accomplish that task. Just turn the dial to Manual-Single Station, use the arrow button to move to the desired station, then turn the dial to the Run position. The user may also increase or decrease the run time setting if preferred. After the zone is finished, the controller will return to automatic mode with its original schedule, even if modified for the manual operation.

Remote Ready
Provide your controller with simple and reliable operation away from its mounting location

The ICC is remote ready! A SmartPort® wire harness is supplied with the ICC controller to permit the attachment of a Hunter SRR or ICR remote receiver. The easy-to-install handy option can help save time and effort by allowing remote valve operation away from the controller. The receiver and transmitter can be used on several jobs by simply installing a wiring harness at each controller; the receiver can be unplugged at one site and plugged into a wiring harness at another ICC site.

Optional pedestal allows free-standing installations.

PRODUCT COMPARISONS

Features	Hunter® ICC	Rain Bird® ESP-LX	Rain Bird® ESP-MC	Hardie® Total Control	Irritrol® MC	Rain Master® Sentar	Nelson® Smart Zone
Number of Stations	8-48	6-24	8-40	6-18	4-42	4-36	8-36
Modular Design	✔						✔
Dial Programming	✔	✔	✔	✔			✔
Number of Programs	4	4	4	4	4	4	4
Watering Day Scheduling Options	4	4	4	4	1	2	4
Interval Day Programming	31	31	99	30	16	30	30
True Odd/Even Scheduling	✔	✔	✔	✔			✔
Start Times per Program	8	6	8	16	3	5	4
Maximum Station Run Time (minutes)	720	720	720	600	1440	599	599
Season Adjust/Water Budget	✔	✔	✔	✔	✔	✔	✔
Cycle and Soak Feature	✔		✔				
Programmable Delay Between Stations	✔	✔	✔		✔	✔	✔
Simultaneous Program Operation	✔	✔	✔			✔	✔
Non-Volatile Memory	✔	✔	✔	✔	✔	✔	✔
Plastic or Metal Cabinet	both	plastic	both	plastic	metal	metal	both
Rain Sensor Bypass Switch	✔	✔	✔	✔		program	✔
Programmable Rain Delay	✔	✔	✔	✔	✔	✔	✔
Valves per Station (Plus Master Valve)	2+1	2+1	2+1	2+1	2+1	2+1	2+1
Programmable Master Valve by Station	✔	✔	✔	✔			✔
Diagnostic Circuit Breaker	✔	✔	✔	✔	✔	✔	
Factory Remote Ready	✔	✔				✔	
Central Control Compatible	✔		✔				
Warranty (years)	5	3	3	1/5	1/5	5	2

Interchangeable modules reduce inventory requirements.

ICC QUICK REFERENCE CHART

PLASTIC CABINET (8 to 32 Stations)

Number of Stations	Controller	Number of Add-on Modules	Specify as:
8	ICC-800-PL	No additional module needed	ICC-800-PL
12	ICC-800-PL	One ICM-400	ICC-1200-PL
16	ICC-800-PL	One ICM-800	ICC-1600-PL
20	ICC-800-PL	One ICM-400 & one ICM-800	ICC-2000-PL
24	ICC-800-PL	Two ICM-800	ICC-2400-PL
28	ICC-800-PL	One ICM-400 & two ICM-800	ICC-2800-PL
32	ICC-800-PL	Three ICM-800	ICC-3200-PL

METAL, STAINLESS STEEL CABINET or Plastic Pedestal (8 to 48 Stations)

Number of Stations	Controller	Number of Add-on Modules	Specify as:
8	ICC-800-M	No additional module needed	ICC-800-M
12	ICC-800-M	One ICM-400	ICC-1200-M
16	ICC-800-M	One ICM-800	ICC-1600-M
20	ICC-800-M	One ICM-400 & one ICM-800	ICC-2000-M
24	ICC-800-M	Two ICM-800	ICC-2400-M
28	ICC-800-M	One ICM-400 & two ICM-800	ICC-2800-M
32	ICC-800-M	Three ICM-800	ICC-3200-M
36	ICC-800-M	One ICM-400 & three ICM-800	ICC-3600-M
40	ICC-800-M	Four ICM-800	ICC-4000-M
44	ICC-800-M	One ICM-400 & four ICM-800	ICC-4400-M
48	ICC-800-M	Five ICM-800	ICC-4800-M

Note: For stainless steel cabinet, replace “M” with “SS”.
For plastic pedestal, replace “M” with “PP”.

SPECIFICATION GUIDE

EXAMPLE: **ICC - 800-PL**

MODEL **ICC**	**FEATURES** **800-PL** = 8-Station Base Unit Controller, Plastic Cabinet, Internal Transformer, Expands to 32 Stations **800-M** = 8-Station Base Unit Controller, Metal Cabinet, Internal Transformer, Expands to 48 Stations **800-SS** = 8-Station Base Unit Controller, Stainless Steel Cabinet, Internal Transformer, Expands to 48 Stations **800-PP** = 8-Station Base Unit Controller, Plastic Pedestal, Expands to 48 Stations	**OPTIONS** **PED** = Optional Metal Pedestal **PED-SS** = Optional Stainless Steel Pedestal **PWB** = Pedestal Wiring Board
ICM	**400** = 4-Station Plug-in Module for use with any ICC Controller Model **800** = 8-Station Plug-in Module for use with any ICC Controller Model	

Optional pedestal wiring boards (PWB) simplify field wiring.

TECHNICAL INFORMATION

Operating Specifications

- *Station Run Time:*
  0 to 1 hour and 59 minutes in 1 minute increments for programs A, B, C; 0 to 12 hours in 1 minute increments in program D; global seasonal adjust from 10-150% in 10% increments.
- *Start Times:*
  Eight start times per program, programmable delay between stations, programmable master valve circuit.
- *Programs:*
  A, B, C programs have independent day cycles, will stack start times, program D will run concurrently with all programs.

  Built-in test program, 2 minutes each station.

  Programmable delay between stations of up to 10 hours.
- *Watering Schedule:*
  Four schedule options – any day on or off with 7 day calendar; any day on or off with 31 day calendar; odd day programming; or even day programming with 365 day, leap year intelligent calendar.
- *Cycle/Soak:*
  Cycle can be programmed for up to 60 minutes; Soak can be programmed for up to 60 minutes.
- *Rain Delay:*
  1 to 7 day delay can be programmed to temporarily interrupt the watering schedule.

Default Settings

- *None pre programmed. With a non-volatile memory, a default setting is not necessary.*

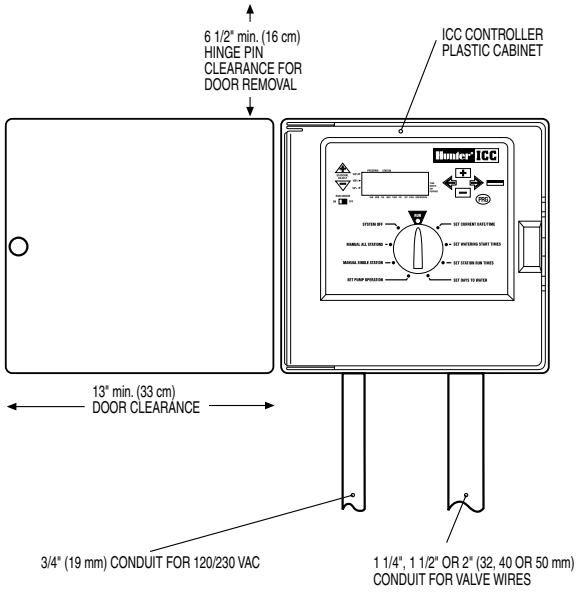
Electrical Specifications

- *Transformer input:* *115VAC, 60Hz/230-240VAC, 50Hz*
- *Transformer output:* *24VAC, 1.5A (40VA)*
- *Station Output:* *24VAC, 0.56A*
- *Master Valve output:* *24VAC, 0.28A*
- *Maximum total output:* *24VAC, 1.4A (up to two zone valves per station output plus master valve or pump start relay)*
- *Program Backup:* *Non-volatile memory, battery programmable*

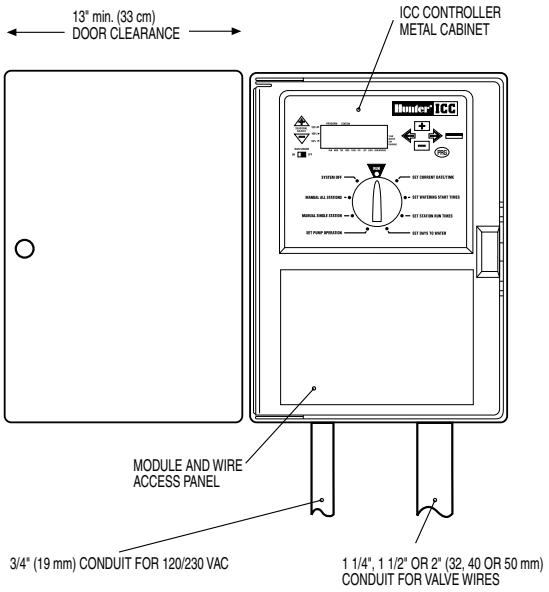
Dimensions

Plastic Cabinet	**Metal or Stainless Steel Cabinet**	**Metal or Stainless Steel Pedestal**	**Plastic Pedestal**
• *Height: 11" (28 cm)*	• *Height: 15¾" (40 cm)*	• *Height: 30" (76 cm)*	• *Height: 38" (97 cm)*
• *Width: 12" (30.5 cm)*	• *Width: 11⅜" (29 cm)*	• *Width: 11⅜" (29 cm)*	• *Width: 21½" (55 cm)*
• *Depth: 3¾" (9.5 cm)*	• *Depth: 4½" (11.4 cm)*	• *Depth: 4" (10 cm)*	• *Depth: 15½" (40 cm)*

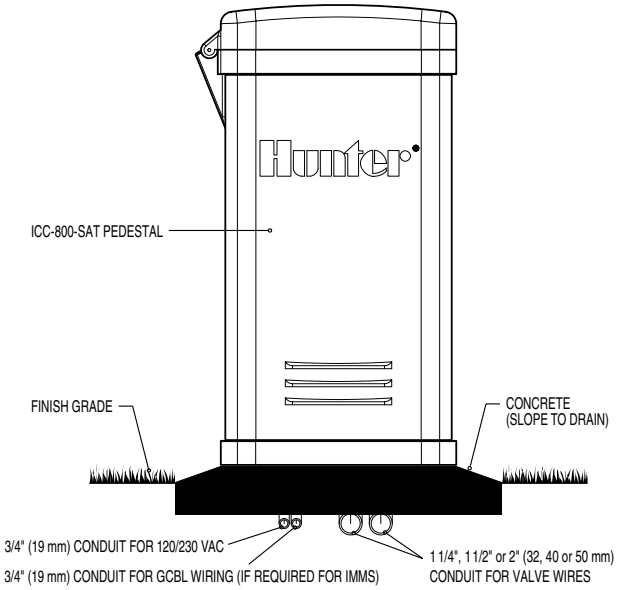
INSTALLATION DETAIL



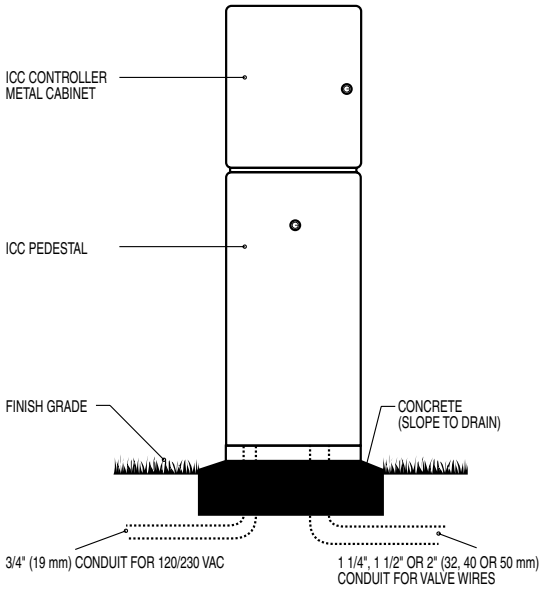
Hunter® **ICC-PL**



Hunter® **ICC-M**



Hunter® **ICC-PLASTIC-PED**



Hunter® **ICC-PED**

EASY PROGRAMMING INSTRUCTIONS

Setting the Date and Time

1. Turn dial to the SET CURRENT DATE / TIME position.
2. YEAR: The year will be flashing in the display: Press + and − to change the year. After setting the correct year press → to advance to MONTH.
3. MONTH: The month will be flashing. Press + and − to change the month. Press → to advance to DAY.
4. DAY: The date will be flashing: Press + and − to change the date. (The day of the week [e.g. Monday, Wednesday, etc.] is automatically indicated by the arrow in the display.) Press → to advance to TIME.
5. TIME: The time will be displayed: Press + and − to select AM, PM or 24 hr. Press → to select hours. The hour will be flashing. Press + and − to change the hour shown on the display. Press → to select minutes. Minutes will be flashing. Press + and − to change the minutes shown in the display. The date, day and time have now been set.

Setting Watering Start Times

NOTE: A single watering start time will start the program (A, B, C, D) and all stations assigned to the program will run sequentially. Multiple start times can be used to activate multiple daily waterings.

1. Turn dial to the SET WATERING START TIMES position.
2. Select program A, B, C or D by pressing the PRG button.
3. Press + and − to change the start time.
4. Press → to select the next start time, or PRG for the next program.
5. To eliminate a Programmed Start Time: Press + and − to set the start time to OFF (which is between 11:45 p.m. and midnight).

Setting Station Run Times

1. Turn the dial to the SET STATION RUN TIMES position.
2. Select program A, B, C or D by pressing the PRG button.
3. The display will show the station number and the program letter selected (A, B, C or D). The run time will be flashing.
4. Press + and − to change the run time.
5. Press → to advance to the next station.
6. Repeat steps 4 and 5 for each station. NOTE: If a station is assigned a run time on program A, B, or C, then that station cannot be assigned to Program D. If this is attempted, the word USED will appear in the display.

Setting Days to Water

1. Turn dial to SET DAYS TO WATER.
2. Select program A, B, C or D by pressing the PRG .
3. The controller displays currently programmed day information. This dial position provides four different day options: specific days of the week, Odd Days, Even Days, or Intervals between waterings.

Selecting Specific Days of the Week for Watering

1. With the cursor on a specific day, press + to activate on a particular day of the week to water. Press − to cancel watering for that day. (After pressing a button, the cursor automatically advances to the next day.)
2. Repeat step 1 until all desired days have been selected.

Selecting Odd or Even Days for Watering

1. Press → until the arrow cursor is over either even or odd on the display.
2. Press + to select or − to cancel either Odd Days or Even Days. NOTE: The 31st of any month and February 29 are always “Off” days if Odd watering is selected.

Selecting an Interval Between Waterings

1. Press → and move the flashing arrow cursor over the interval designator.
2. Press + . The display will now show two numbers, the Interval and the days remaining in the interval.
3. The number of days between waterings, or the Interval will be flashing. Press + and − to select the number of days desired between waterings.

4. Press → the days remaining in the Interval are now flashing. Press + and – to select the number of days until the next desired watering. One day remaining means it will water the next day.

Automatic Operation

After programming, set dial to RUN to enable automatic operation of all scheduled waterings.

Rain Sensor Bypass Switch

If a sensor is preventing system operation (or no sensor is installed and the switch is in the ON position), SEN OFF will be displayed. Move the switch to OFF and the rain sensor will be bypassed.

Seasonal Adjust

Press ▲ and ▼ to change the seasonal adjust from 10% to 150% in 10% increments. The station run times displayed will automatically be recalculated.

System Off

Turn dial to the SYSTEM OFF position. Shuts down all programmed waterings indefinitely until the dial is returned to the RUN position. Can be used to cancel waterings in progress.

Programmable Rain Off

This feature permits the user to stop all programmed waterings for a designated period from 1-7 days. At the end of the rain delay, the controller will resume normal automatic operation.

1. Move the rotary switch to the OFF position.
2. Press the + button and a 1 will be displayed and the DAYS icon will illuminate.
3. Press + as many times as needed to set the desired number of days off, up to 7 days.
4. Turn the dial back to the RUN position. NOTE: The days off remaining will decrease at midnight of each day. When days off gets to zero, the display will show the normal time of day and normal irrigation will resume at the next scheduled start time.

Advanced Features

This controller is capable of Cycle and Soak watering, Master Valve / Pump programming and also features a programmable delay between stations. Please refer to your owner's manual for programming instructions regarding these advanced features.

Manually Operating a Single Station

1. Turn dial to the MANUAL-SINGLE STATION position.
2. Station run time will flash in the display. Press → to move to the desired station. Press + and – to change the amount of time for valve to water.
3. Turn the dial to the RUN position to run the station. (Station designated will water, then controller will return to automatic mode.)

Manually Operating All Stations

1. Turn dial to the MANUAL-ALL STATIONS position.
2. Select program A, B, C or D, by pressing PRG.
3. To start on a station other than #1, press → until desired starting station is displayed.
4. Return dial to RUN (stations in designated program will water, then controller will return to automatic mode).

A complete copy of the ICC Programming Instructions is in the ICC Owner's Manual, Hunter literature number: LIT-237

Hunter Quick Check™

To initiate the Hunter Quick Check™ test procedure, press the + , – , → , PRG buttons at the same time. In the standby mode, the LCD will display all segments (helpful when troubleshooting display problems). Press the + button to begin the Quick Check test procedure.
If a field wiring "short" is detected, an "ERR" symbol preceded by the station number will momentarily flash on the LCD display.

One-Touch Manual Start and Rapid Advance

1. Hold down the → button for 2 seconds.
2. This feature automatically defaults to Program A. You can select Program B, C or D by pressing the PRG button.
3. The station number will be flashing. Press the ← or → button to scroll through the stations and use the + or – buttons to adjust the start run times. (If no buttons are pressed during step 2 or 3, the controller will automatically begin Program A.)
4. Press the → button to scroll to the station you wish to begin with. After a 2-second pause, the program will begin.

Test Program

To initiate the test program:

1. Press and hold the PRG button. The station number will be flashing.
2. Press the ← or → button to scroll to the station you would like the test program to start with. Use the + or – button to set the run time up to 15 minutes. The run time needs to be entered only once.
3. After a 2-second pause, the test program will begin.

The ICC is popular for commercial and public area applications.

PRODUCT OVERVIEW

For shopping centers, industrial complexes, college campuses, condominium clusters, large residential and other expansive sites, if a remote control is going to work, it needs power to cover these long-range distances. The new Hunter Institutional Commercial Remote (ICR) has what it takes. You want power? Sites obstructed by buildings, walls and trees are no problem for the ICR. With a ½-mile range on these difficult sites, the ICR can communicate with controllers where other remotes fail. When there is nothing in its path, the ICR can function up to two miles from the controller. But this handy accessory is more than big and strong. The ICR is the true contractor's tool–a single unit that can be carried from job to job and used to access dozens of different irrigation systems. A single ICR can interface with any Hunter controller that operates with a SmartPort® system. That means you can eliminate going back and forth to a controller to start and stop a cycle during maintenance or installation, and you can make that task of wintering a system a one-person job instead of two...not just on one site, but every site you handle. But what truly sets the ICR apart is its price–no other long-range remote is more affordable.

PRODUCT FEATURES AND BENEFITS

One Transmitter, One Receiver Does the Job

Portable and reusable at every location

With the ICR, a contractor can visit one site, attach the receiver to the SmartPort® wiring harness at the controller, complete the irrigation operations, remove the receiver and travel on to the next job. Or the receiver can be left permanently mounted, if desired, to permit operation by the homeowner or building manager.

Large LCD Display and Five-Button Operation

Easy to view and a snap to operate

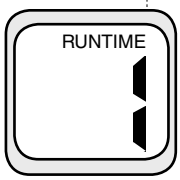
Simply press the ▲ and ▼ buttons to display the station or program that is desired, then press the "ON" or "OFF" buttons. The mode button provides easy navigation among ICR functions.

Activate sprinklers from up to 2 miles from the controller

Sturdy ABS Construction
Tough and rugged for any user

The ICR transmitter and receiver are made of heavy-duty ABS plastic that will withstand the toughest conditions and repeat uses. The transmitter and receiver are designed to be water resistant.

8 Different Remote-Activated Run Time Settings
Quick or lengthy, for total versatility



The ICR can be programmed for 8 different run time remote-activated settings (1, 2, 5, 10, 15, 20, 25 and 30 minute increments are available) for the many irrigation functions that may be required. The default setting is 10 minutes.

Operates on Four AA Batteries For Up to a Year
Automatic shutoff extends battery life when not in use

Any convenience, hardware or building supply store carries standard AA alkaline batteries.

User Programmable Address
Added user security

Both the ICR transmitter and receiver have an "address" that they use when communicating with each other. If the addresses do not match, the receiver will ignore the transmission. The ICR comes from the factory with both addresses set at 0. The transmitter address may be changed to any setting from 0-127 for added security. The receiver will then "learn the address." The programmable address is useful for areas where multiple homes or buildings are utilizing ICR remotes.

Programmable Number of Stations Controlled
Customize the remote to the number of stations on the controller

The ICR is fully reprogrammable and can access up to 48 stations, allowing for increased flexibility as well as use with future controller products.

Receiver

Transmitter

PRODUCT OVERVIEW

The Hunter Irrigation Management and Monitoring System™ Saves Time

Managing a network of irrigation controllers–on a single site or multiple sites–requires time-consuming work. Setting up and synchronizing controller operations can take hours of time. Plus, every time a program change needs to be made, or a system needs to be shut down for a special event, you have to physically travel to the controller.

With the Irrigation Management and Monitoring System (IMMS™), these hassles are removed, since the entire system can be monitored and controlled from the comfort of your office. Additionally, by reacting to localized sensors, the system can alert you to potential service problems such as a ruptured pipe or sprinklers that have been broken by vandals.

The Hunter Irrigation Management and Monitoring System Saves Water

The centralized control of your irrigation controller network allows you to take advantage of the latest water saving benefits. Modify controller schedules, taking into account daily and seasonal weather conditions and weather forecasts...shut down all systems during rain with just a few keystrokes...increase watering for thirsty annuals during hot days. Any and all changes can be made to each controller's program in a matter of seconds.

In addition, the program's reporting module allows you to estimate your water usage over time, both in total gallons used and estimated water costs. This will allow you to plan ahead for future needs and identify areas for improvement.

The Hunter Irrigation Management and Monitoring System Saves Money

Saving time and saving water ultimately adds up to an even greater savings: that of your irrigation budget. IMMS reduces your labor expenses, including the time it takes to travel from site to site and the time it takes to program and update controllers and verify system operations. Not to mention the fact that the IMMS is priced at a level that makes it affordable and not a luxury item. With the IMMS, you possess a powerful tool designed to manage and monitor your irrigation needs.

Typical Applications

- School and Industrial Campuses
- Parks
- Town Centers and Urban Plazas
- Businesses with Branch Locations
- Shopping Malls
- Apartment Buildings
- Condominiums
- Homeowner Associations
- Large Residential Estates
- Sports Field Complexes
- Cemeteries

System Overview

With the Irrigation Management and Monitoring System, automatic irrigation systems at multiple sites can be programmed for functions that would typically be handled directly at each site's controller. Scheduling of days to water, run times, start times, cycle and soak operations and more can now be done from a single computer at a desk, miles away from the actual installation. In addition, scheduled operation of non-irrigation

components also in use at these sites – for example, lighting systems at athletic fields or fountains at shopping centers – as well as pumps and sensors can also be programmed and monitored from a single central location.

A key function of the Irrigation Management and Monitoring System™ is its ability to monitor changing conditions. With the aid of Hunter's Clik family of sensors, the Irrigation Management and Monitoring System can report the status of each sensor at every site it is linked with. Should any conditions go beyond the limits that have been defined, the IMMS™ system may then respond with a protective controller shutdown.

No central irrigation control system available today is more cost-effective than the Hunter Irrigation Management and Monitoring System. Plus, it upgrades easily to accommodate an expanding network of Hunter controllers, providing the most essential features needed for water management.

System Capabilities

- Manage irrigation systems at up to 100 different sites from a single centralized computer.
- Each site managed can have up to 100 controllers networked into the site interface. The IMMS system can network with Hunter ICC, Pro-C, and SRC controllers.
- Manage all controller programming data from the central computer.
- Manual functions: activate, deactivate manual or automatic waterings from the central computer.
- Initiate rain-off or rain-delay features by controller or globally.
- Manage "no water days" up to 365 days in advance globally, by site, or by controller. This allows an irrigation manager to set specific days for maintenance, events, etc.
- Easily program cycle and soak waterings for maximum water efficiency (ICC only).
- Manage watering windows.

Monitoring Capabilities

Monitor weather sensors including rain, wind and freeze sensors for real-time responses to weather conditions. Sensor data can be implemented locally with individual controllers or shared globally across the entire site.

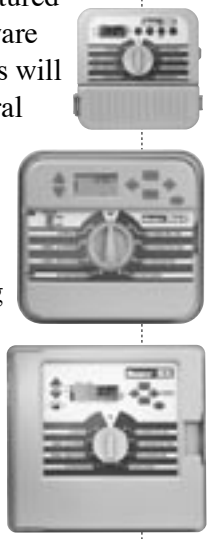
Flow-Clik IMMS can react automatically to high system flow conditions, even offline from the central computer. This high-tech "Clik" family member learns the flow of your largest zone, then shuts down the controller and master valve to prevent flooding and landscape damage.

PRODUCT FEATURES AND BENEFITS

Operates With Standard Hunter Industries Irrigation Controllers

Retrofit all past and present Hunter controllers

Hunter controllers including the ICC, Pro-C and SRC which were manufactured after February 1997 are IMMS software compatible. This means that installers will NOT have to purchase special "Central Control" models of irrigation controllers which significantly reduces the cost of a Hunter IMMS central control system. Also, the retrofit capability supports sites with existing Hunter controllers, allowing those sites to become more easily managed from a central location. This is just one reason of many how the Hunter IMMS system saves time, labor and money.



Hunter Field Controllers Provide the System Programming Features

Simple and reliable irrigation management

A simple approach to retaining program information is to let each individual controller retain its own information. Each model of Hunter controller including the ICC, the Pro-C and SRC has a programming feature set unique to it. Features such as 4 programs in the ICC, 6-hour run times in the Pro-C or 9 zones in the SRC are utilized by the IMMS™ software when setting scheduling parameters for the irrigation manager. This speeds up the learning curve for the successful operation of the IMMS system.

Program Memory Resides in the Controller

Computer power outages do not affect operation

Any program downloaded from the IMMS central into a controller is kept within that controller's memory. This feature eliminates the possibility of losing a program due to power outages or downtime at the main central computer. Also, with the ICC and Pro-C's non-volatile memory, the program in the controller is not lost or altered due to any power outages at the controller.

Sensor Input for Maximum Landscape Protection

Up-to-date information will save water

Sensor monitoring enhances the ability of the system manager to become a better manager of water resources. Any Hunter Industries Rain-Clik™, Mini-Clik®, Flow-Clik™, IMMS™, Wind-Clik®, Freeze-Clik® and the Mini-Weather Station will operate within the IMMS system. These sensors interface with either the Site Interface or the Controller Interface to provide maximum irrigation control.

IMMS manages sensors in one of three ways:

1. A report is generated informing the irrigation manager of what happened but no action is taken.
2. The sensor installed on a Controller Interface will provide localized shutdown.
3. The sensor installed on a Site Interface can provide global shutdown for the entire site.

Maximum Control with Minimal Startup Time or Costs

As easy as plug 'n play

Using a regular computer and a Central Control Communications Unit plus a simple cable (GCBL), or phone line or cellular link to the Site Interface will get you up and running with communication between the two. Just turn the computer on, install the IMMS software and begin programming as if you were standing in front of a Hunter ICC or Pro-C controller. It's as easy as plug 'n play.

Control Irrigation Systems at Multiple Sites

Reduces travel time and labor costs

Increase controller run times, delete start times, shut down zones with broken sprinklers, program event days, reprogram the day schedule at any site. These are just a few of the features which can be quickly implemented from your desk with just a few keystrokes at the computer. Travel time between sites for programming issues is virtually eliminated from the work schedule. With the cost of labor increasing every year, the potential for savings in a single season will offer a fast payback.

Manual Operation of Systems from Central Computer
A few keystrokes to apply additional water

Adding additional waterings is a simple procedure: with a few keystrokes it's done. This convenience is a must-have for extra waterings when fertilization is done or during over-seeding of warm season turf. Being able to make adjustments at a central location means local crews do not have to change irrigation programs for a special maintenance event.

Reduce Water Costs
Increased monitoring equals reduced watering

It's a proven fact that when irrigation systems are consistently adjusted there will be a substantial reduction in the amount of water used. Typically a reduction is possible when a system can not be monitored constantly – for example, irrigation and landscape maintenance personnel would rather err on the side of over-irrigating (longer run times) than to return to a job site with large patches of brown turf.

With the Hunter IMMS™ monitoring a system, it becomes as easy as powering up the computer and making a few keystrokes to adjust the run times according to the local weather conditions, thus reducing water costs.

Forecast Water Use by the Day, Week, Month or Year
Calculate future water costs for budgeting purposes

Irrigation water costs are becoming a significant factor in city budgets. Managers need to know what the costs will be before they occur. With the Hunter IMMS, managers are able to make accurate and informed decisions with the IMMS' forecasting capabilities.

Reduce System Monitoring Efforts
Control all irrigation functions from a central point

An irrigation manager is able to control each controller without the need to travel to each site. Usually, maintaining controller programming is only one of the many tasks for which this individual is responsible. Driving around in a truck to different sites requires effort that could be put to better use in other aspects of the business.

Alarms Warn When Site Visits May be Necessary
Accurate remote monitoring

When sensors are installed on site. IMMS will react immediately with pre-programmed responses to alarms. The IMMS software will then display an alarm if (for example) excess flows occur in the normal watering pattern through sensor feedback. The alarm icon informs the irrigation manager of a potential problem at the site.

Cycle and Soak Optimizes Watering Run Times

Keep runoff to a minimum when using a Hunter ICC irrigation controller

In addition to other programming features, IMMS™ simplifies use of the Cycle and Soak feature in all ICCs. Cycle and Soak programming is the preferred way to water slopes, heavy soils or any area that cannot allow a runoff situation. The Cycle and Soak feature works by programming the total amount of run time needed for the zone, then selecting a maximum cycle time and a minimum soak time. The ICC Controller does the rest, breaking up the total run time into a number of cycle times with a soak time countdown between each cycle time. With IMMS, each station is easily set to its own optimum Cycle and Soak settings...and the effects of each change are immediately calculated and displayed.

Operates in Windows® 2000 or XP

Takes advantage of latest computer technology

Using the newest popular computer technology makes sense when coupled with a sophisticated irrigation management tool. With all of the features available in the IMMS package, Windows 2000 or XP provides the best choice to ensure its "behind the scenes" technology will run without hindrance.

Historical Logs Keep System Operating Data for Later Use

Stores important information to solve issues

The IMMS control system will store schedule and alarm histories for later analysis. This includes information associated with station start and stop times, sensor and alarm data, etc.

See effects of irrigation scheduling before they take place

In many cities and towns, the irrigation of parks and streetscapes must be completed within a certain period of time – this is called a "watering window." This is important because it decreases the likelihood of liability issues or calls to City Hall about cars and people getting wet. With the IMMS™, simulations of different irrigation schedules can be run to make sure all irrigation is complete within a certain "watering window." This feature is a convenient tool to help the irrigation manager with irrigation scheduling.

Efficient Irrigation Within Prescribed Watering Windows

Keeps track of cumulative run time to control operating time

The IMMS software keeps track of the accumulated run times of all stations as they are programmed into a controller to control irrigation scheduling and provide "what-if" scenarios.

Ability to Retain Pertinent Information by Site

When special instructions are in order

The notes text box feature allows instructions and other pertinent information about a certain site to be entered and kept readily available for immediate viewing.

Flow Sensing with the Flow-Clik-IMMS for Liability Reduction

Provide monitoring 24 hours a day, 7 days a week

Today, the reality of lawsuits is a real concern to installers and property owners alike. They cannot ignore any hazardous situation that can be easily prevented, including an event such as an irrigation system that has excess flow due to a ruptured mainline pipe or a damaged sprinkler head. The Flow-Clik-IMMS is a flow sensing device that learns flow in the system piping, always checking for "high-flow" condition such as a pipe rupture or sprinkler break. The IMMS software will automatically identify the over-flow condition and initiate flow shutdown, and send an alarm message to the central computer identifying where and when the problem occurred.

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