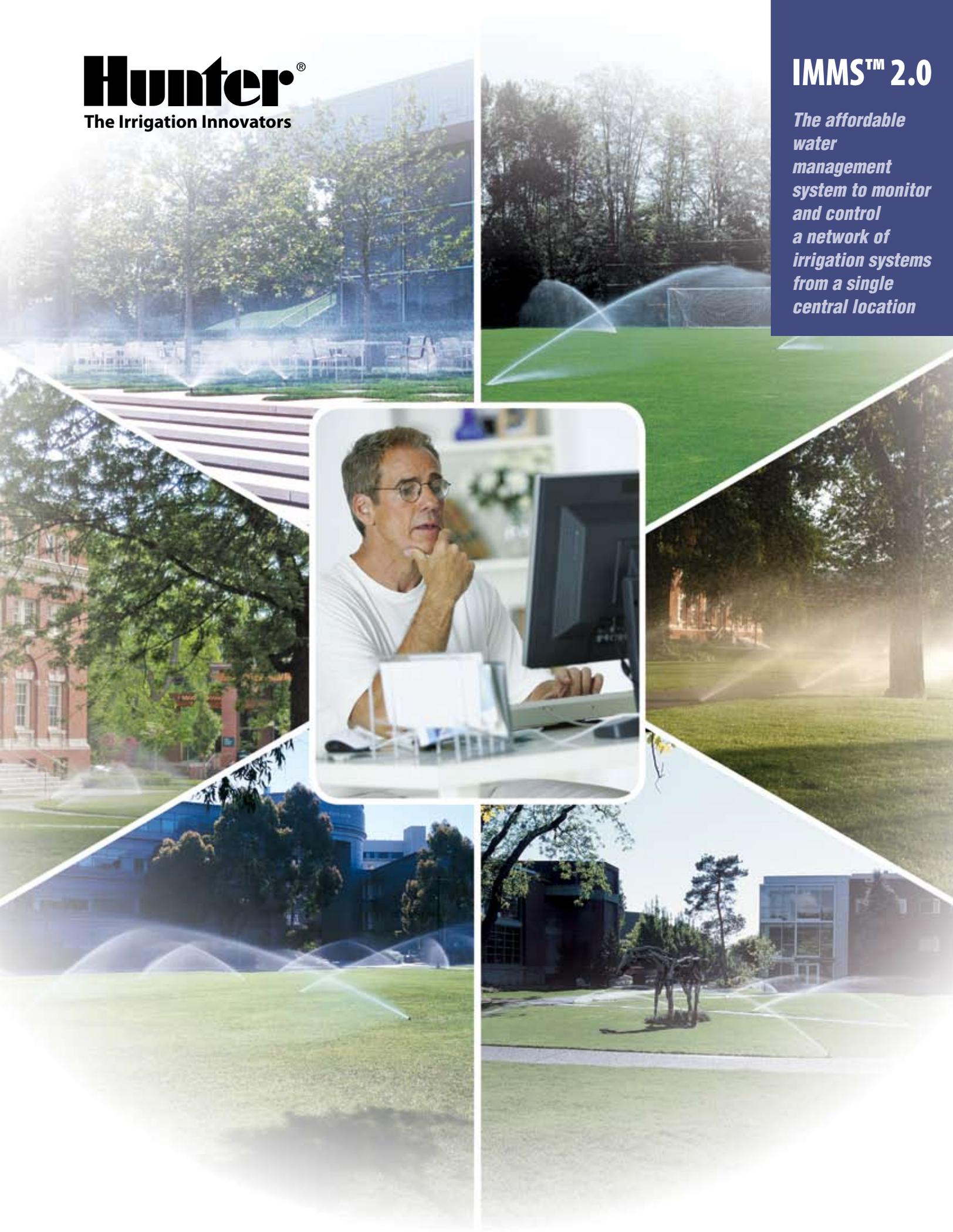


Hunter[®]
The Irrigation Innovators

IMMS™ 2.0

*The affordable
water
management
system to monitor
and control
a network of
irrigation systems
from a single
central location*





Because Every Drop Counts



As our population grows, but our sources of water do not, simple math demonstrates that there will be less of the wet stuff to go around. Never before has water conservation seemed so important.

With that in mind, Hunter has assembled a family of products that makes it possible to create a more efficient system. IMMS 2.0 is one of these "Proven Water Saver" products and can provide the ideal way to oversee all your irrigation needs and ensure that your system's effectiveness is maximized while water consumption is minimized.

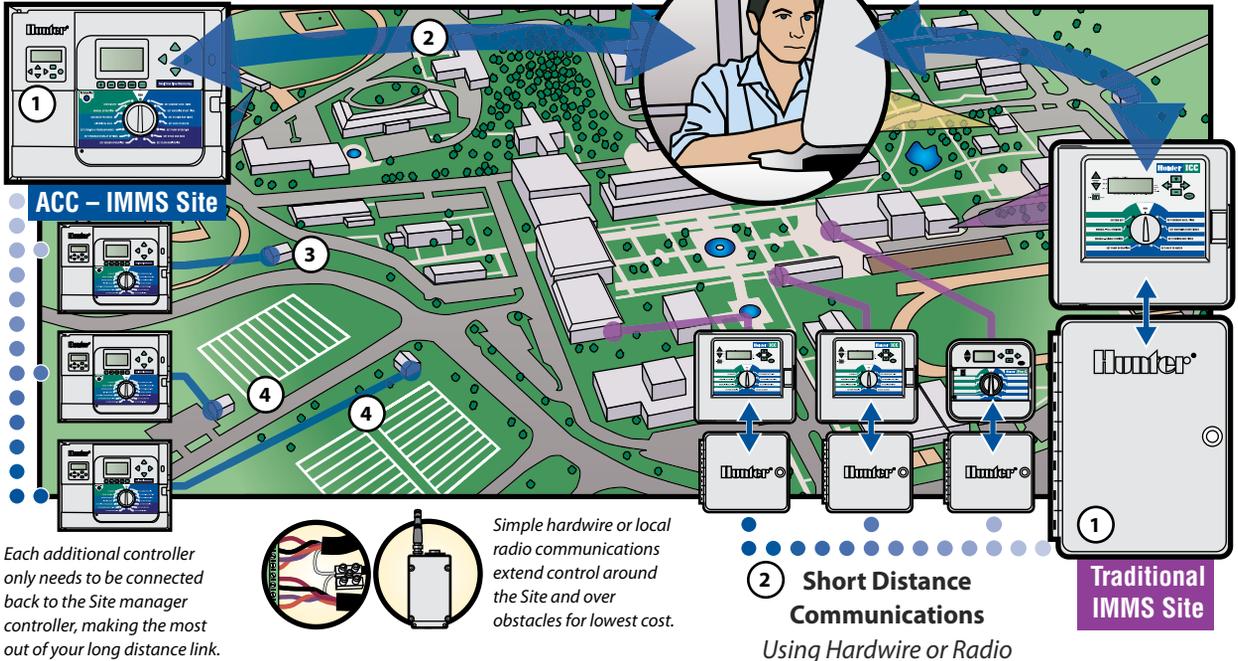
The Irrigation Management and Monitoring System™ brings affordable central computerized control of standard irrigation controllers within the reach of any water manager's budget, and usually pays for itself in the first year of operation. Now, this innovative central system adds a whole new dimension to your command and control, allowing access to the two-way communication and flow monitoring power of the new ACC, Advanced Commercial Controller. Experience simplified communications, real time flow metering, station level diagnostics, and industrial strength irrigating power...all through the industry's most affordable control software.

How IMMS Works

The first controller on each Site manages communications between the computer and all other controllers on the Site.

Long Distance Communications Using Modem or Cellular

The central computer with IMMS software communicates with all controllers via modem, cell, or hardwire.



Each additional controller only needs to be connected back to the Site manager controller, making the most out of your long distance link.



Simple hardwire or local radio communications extend control around the Site and over obstacles for lowest cost.

- 1 **Interfaces** – Each controller requires an interface for communications with the central. Choose internal modules for the ACC, or external cabinets for other Hunter controllers (ICC, Pro-C, SRC).
- 2 **Communications** – The central computer uses special hardwired cable (GCBL) for local sites, and dial-up telephone lines or cellular to remote sites. Interfaces on each individual site can be networked with hardwired cable or UHF radio (FCC license required for radio).
- 3 **Weather Sensors** – Connected to the interfaces for off-line alarm protection (doesn't need the computer) and on-line alarm notification (received on your next communication) of rain, freeze, or wind shutdowns.
- 4 **Flow Sensors** – With the HFS wired into your ACC controllers, add station level diagnostics and real-time flow monitoring!

ACC/IMMS 2.0 System

Components for an ACC/IMMS System

Software

IMMS 2.0: Powerful, yet easy-to-use software for Windows™ compatible computers.

Controllers

ACC Controller: Hunter's most powerful controller for the command of large and sophisticated sites.

ACC Decoder Controller: The decoder version allows up to 99 stations on a single two wire path.

Communications Modules

Telephone Modem Communications Module: Communicates with central via Telephone Line (part # ACC-COM-POTS).

Cell Modem Communications Modules: Communicates with central via GSM Cell modem. For use in North America only order ACC-COM-GSM. For use outside North America order ACC-COM-GSM-E. Cell antenna included.

Hardwire Communications Module: Communicates with central via hardwire (part # ACC-COM-HWR). Requires Hardwire Interface Module (ACC-HWIM).

Radio Module: Includes UHF radio, cable and mounting hardware (part # RAD3). Requires any one of the ACC-COM-xxx to be installed in the ACC. Antenna sold separately.

Hardwire Site Interface Module: Allows hardwire communication between devices (part # ACC-HWIM). Requires any one of the ACC-COM-xxx to be installed in ACC.

International Radio Kit: Includes I/O cable, adapter plate, and mounting screws. Requires any one of the ACC-COM-xxx to be installed in the ACC. Does not include radio or antenna.

ACC Plastic Pedestal Bracket: Includes all necessary mounting hardware and cables (part # APPBRKT) required to install any ACC-COM Module into an ACC Plastic Pedestal.

Radio Antenna: Antenna for use with RAD3 and ACC (part # IMMS-ANT3).

Plastic Pedestal Radio Antenna: Antenna (part # IMMS-ANT2) for use with Radio Module (RAD3) and ACC Plastic Pedestal inside lid.

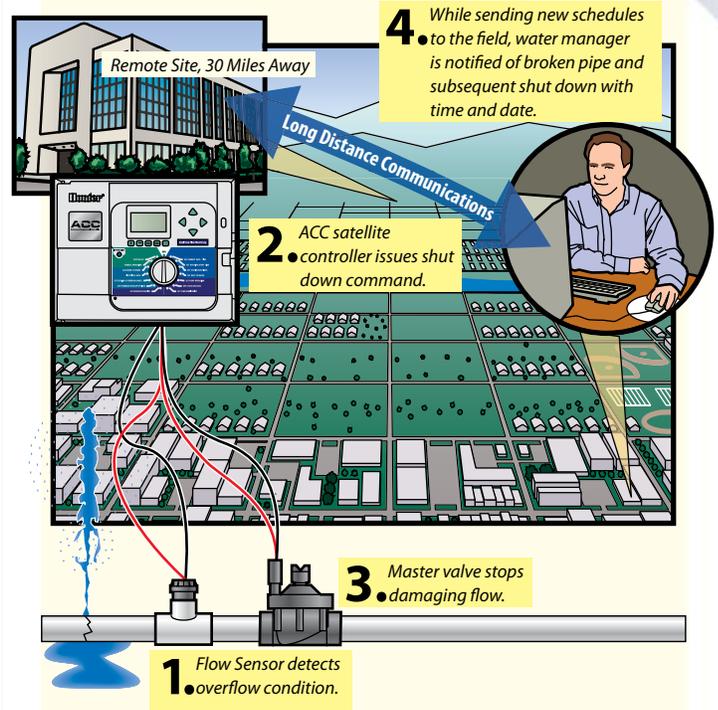
ACC Gives You Complete Command

- Send out and retrieve controller programs and status from the field.
- Access actual flow histories (with the optional HFS Flow Sensor).
- Communicate through the optional internal communications interface.
- Create and remote-start Custom Manual Programs for unique irrigation events.
- Stack programs or run them independently. Predict and display every start and stop time of even the most complex irrigation schedules.
- Stations expand with plug-in modules to customize the controller to your site.

HFS Flow Sensor

Measures real-time flow with ACC controllers

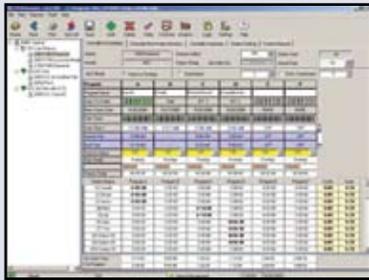
Hunter Flow Sensor (HFS) connects to the ACC family of controllers to measure actual flow, and provide automatic reaction to high or low flow conditions during irrigation. Designed for installation in up to 4" (100 mm) pipe. HFS provides a simple and economical solution for metering and reacting to actual flow conditions.



Irrigation Management and Monitoring System 2.0 Software

Expanded options allow more frequent alarm and status checks, with rapid communications. Single-click flow status details up-to-the-minute activity and water usage, while flow histories specify how much water went where and when. In addition, IMMS 2.0 offers ample easy-to-use graphs and calendar overviews, as well as true non-water windows.

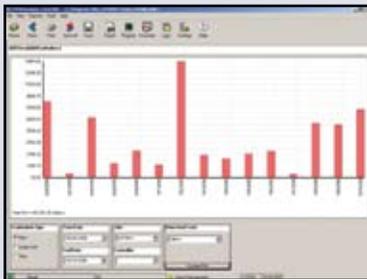
In tandem with ACC controllers, status updates can indicate at a glance whether a controller is irrigating, off, or has been changed in the field since the last communications. In addition, entire programs can be retrieved from controllers in the field. And, irrigation changes can be made at the controller and used to update the software with a few simple mouse clicks.



Simple, organized schedules operate all controller functions.



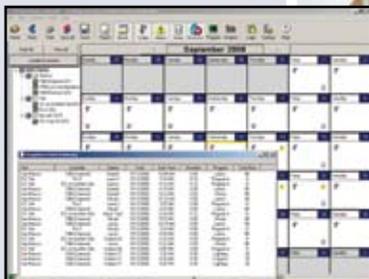
Retrieve screens organize information by category for rapid analysis.



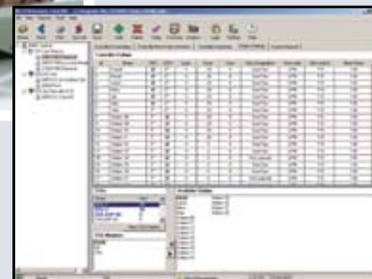
Graph time, flow, and even cost of water...with actual flow histories (ACC with HFS flow sensor).



See current flow and recent totals by day, week, month, and year (ACC with HFS flow sensors).



Calendar Overview shows irrigation events, alarms, reminders, and more, with printable reports.



Station Database controls Pump/Master Valve use, Cycle and Soak settings, and flow limit settings.

What Makes IMMS 2.0 Better

- Windows XP, Home or Pro compatible
- Controls up to 100 sites, each with up to 100 controllers
- Communicates with ACC controllers up to 4x faster!
- Operates traditional (Site Interface/Controller Interface) and ACC sites from same central (on different Sites)
- No high-end computer hardware or special training requirements
- Five-year warranty with free software update.
- Multi-language support, password protection, extensive built in Help system

Add Long Range, Multi-site Remote Control that's Reliable and Powerful

The ICR is a single unit that can be carried from job to job and used to remotely access dozens of different irrigation systems, making it the perfect accessory to round out a network managed by IMMS 2.0. This remote control has a signal strong enough to go through obstructions such as buildings, walls, or trees for a half a mile or more. And, when there is nothing in its path, the ICR can function up to two miles from a controller.



Traditional IMMS System

Backwards Compatibility with Your Existing Hunter Controllers



IMMS 2.0 works great with cost-effective ICC, Pro-C, and even SRC controllers, making it a painless update for existing IMMS customers. The addition of a simple interface cabinet can enable telephone, hardwire, and UHF radio communications with a central computer and allow more frequent alarm check intervals (without full sync), more frequent time updates, and other streamlined operations. It allows system operators to tailor hardware on each site to fit the budget and the needs without imposing one solution on all sites.

Sensor Monitoring: Respond to a Site's Unique and Changing Conditions

IMMS interfaces accept up to three Hunter sensors each, and can be pre-programmed to shutdown irrigation in unfavorable conditions. There are sensors to stop wasteful watering during rainfall, high wind, and freezing temperatures (or a combination of the above). Plus, thanks to its unique flow-learning ability, IMMS can prevent damaging overflow situations—and with an ACC controller (with HFS) can report actual flow histories with station-level alarm shutdowns.



Projects that can benefit from Hunter's IMMS™

- 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

Components for a Traditional IMMS System

Software

IMMS 2.0: Powerful, yet easy-to-use software for Windows™ compatible computers.

Controllers

ICC-SAT Controller: Weatherproof plastic pedestal ICC controller and IMMS interfaces pre-wired. Optional lid antenna IMMS-ANT-2 not shown, internal to lid.

Other Controllers: The IMMS also works with the ICC, ICC Metal, ICC Plastic pedestal and Pro-C, and SRC Controllers.

Communications Hardware

Central Computer Communications

Unit: Used for hardwired connections to the field from the central computer (part # IMMS-CCC). Limit one per system, not required for modem communications.

Site Interface: First interface on each Site, available in two versions. The IMMS-SI-HW is hardwire cable and cellular module ready, with color-coded wire connections; the IMMS-SI-MOD is equipped with internal dial-up modem for direct telephone jack connection.

GSM Cellular Communications Module: Communications option for the Site Interface—goes where your phone company doesn't!

Controller Interface: Weatherproof, color-coded, small... put one at each additional controller on a Site (part # IMMS-CI-HW). Communicates with Site Interface via hardwired cable or radio.

Radio Communications

Module: Optional UHF radio communications module (part # IMMS-R), for Site Interfaces and Controller Interfaces.

ICC-SAT Radio Antenna: Antenna for use with ICC-SAT inside the controller lid (part # IMMS-ANT2).

Radio Communications Module Antenna: Optional external antenna for greater range with the Radio Communications Module (part # IMMS-ANT3).

Directional Radio Antenna for Controller Interface: Antenna for Controller Interface in tough coverage situations (part # IMMS-ANT-YAGI 3).



Models - Software

IMMSCD – Central Control Software with CD-ROM, built-in printable Help Manual

IMMS-CCC – Central Interface for hardwired Sites (-E, -A versions for international)*

* Dial-up and GSM Sites do not require the CCC, but require a standard telephone modem in the host computer.

Computer Specifications: Standard PC with Windows XP operating system, at least 128 Mb RAM, 10 Mb disk space, and CD-ROM drive required. VGA monitor of at least 800 x 600 resolution or higher. V.92 compatible dial-up modem required for telephone connections, free serial port or USB required for use with IMMS-CCC. Mouse or other pointing device required.

Models – Communications Modules (for ACC controllers)

Each ACC controller can accept one Communications module, plus hardwire interface terminal and/or UHF radio as required. All communications components are installed internally in the ACC except antennas.

ACC-COM-HWR – Hardwire/Radio only (in or out)

ACC-COM-POTS – Dial Up Telephone from PC (also enables hardwire/radio out)

ACC-COM-GSM – GSM Cellular from PC (also enables hardwire/radio out). –E version for International. SIM not included.

ACC-HWIM – Hardwire Interface Module (provides hardwire connections for GCBL cable)

RAD3 – UHF Radio module – license required, antenna not included. Not available in all markets.

Models – Communications Interfaces and Accessories (for ICC, Pro-C, SRC controllers)

Other Hunter SmartPort compatible controllers can be IMMS connected with these external cabinets and accessories.

IMMS-SI-HW – Hardwire Site Interface (use also for GSM communications), -E for international

IMMS-SI-MOD – Dial Up Telephone Site Interface, -E for international

IMMS-CELL-GSM – GSM Cellular IMMS-SI-HW. E version for International. SIM not included.

IMMS-CI-HW – Controller Interface for additional controllers on site. E version for International.

IMMS-R – UHF Radio for all Site/Controller Interfaces, license required. Not available in all markets.

Dimensions

IMMS-SI cabinets (all): 16" H x 11.5" W x 4.25" D (400mm H x 292mm W x 108mm D)

IMMS-CI cabinets (all): 8.9" H x 9.9" W x 4.3" D (226 H x 251mm W x 109mm D)

All other devices are internal to the controllers or interface cabinets.

Electrical Specifications

(IMMS Site Interface and Controller Interface cabinets require a separate primary AC power connection)

IMMS-SI, US/E versions: ~120V .5 A/240V .25A

IMMS-CI, US/E versions: 120V .5 A/240V .25A

Specifications and Features

- Locations, controllers and stations can be user-assigned actual names and site descriptions for easy reference, and download to ACC controllers.
- Built-in calendar program allows for scheduling of maintenance events (mowing, fertilizing, etc.).
- Extensive standardized reporting section allows generation of graphs showing estimated water usage and dollar costs. Data can be viewed for current and historic time periods to ascertain trends.
- ACC controllers may also be retrieved and saved from the field to the central computer.

Control Capabilities

- Manage irrigation systems at up to 100 different sites from a single central computer.
- Each site managed can have up to 100 controllers connected to the Site Interface, or Master Controller (ACC). The IMMS™ system can network with Hunter ACC, ICC, Pro-C, and SRC controllers.
- ACC controllers are organized on different Sites from the Site Interface/Controller Interface connected controllers, and can coexist within the same software system.
- 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” and “non water windows” (ACC only) 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
- Manages watering windows and no-water days with global and site specific settings.

Monitoring Capabilities

- Monitor rain, wind and freeze sensors for real-time responses to weather conditions.
- Monitor, retrieve, and report actual flow and usage (ACC controllers with HFS flow sensors)
- Read system flow conditions through optional Flow-Click flow sensors.
- This will shut specific zones down during over-flow conditions (line breaks, broken sprinklers), saving water and reducing liability concerns.



Hunter offers two options for remote control: the Hunter ICR (license free in North America) or UHF Maintenance Radio, which can also be used for voice to communicate to your crews (FCC license required).

Communications Capabilities

- IMMS can operate as an on-site hardwired central system, directly connected to a network of up to 100 irrigation controllers via the site and controller interfaces or Master Controller. IMMS can also operate as a wide-area network via telephone modem to multiple sites (up to 100), each with multiple controllers (up to 100 controllers per site!).
- Hardwire, dial-up, cellular GSM, and UHF radio communications for lowest cost communications to fit most needs.
- ICR compatible for wireless remote control.
- Radio-equipped ACC controllers also respond to UHF Maintenance Radio remote control.

Communications Type	General Rules	Used for
Hardwire	GCBL cable, up to 10,000 ft/3km between each device	PC-to-Site, and/or on-Site (to connect downstream controllers)
Dial-up	Standard telephone modem with analog line	PC-to-Site
Cellular/GSM	GSM cellular with Circuit Switched Data (CSD)	PC-to-Site
UHF Radio*	450-470 MHz, 2 Watts, narrowband	On-Site (to connect downstream controllers).

* See System Design guide for antenna selection and placement assistance.