# HCC Irrigation Controller Product Specification

**Part 1 – General**

* 1. The controller shall be a full-featured commercial-industrial product for the purpose of irrigation operation, management, and monitoring of control valves and sensors. The controller shall be fully integrated with Wi-Fi connectivity to the internet and Hydrawise™ software. The controller shall be of a modular design that is provided with a standard 8-station output module. The controller shall be expandable with 4-, 8-, or 22-station conventional modules or one 54-station decoder output module.

**Part 2 – Controller Hardware**

* 1. Control Display
1. Display shall be a 3.2" (8.1 cm), full graphical touchscreen interface allowing for programming and manual operation.
2. All programming shall be accomplished by use of the touchscreen interface or with a smartphone, tablet, or PC.
	1. Control Panel
3. Operation from the control panel shall be via touchscreen only, with no buttons or dials.
	1. Sensor Inputs

A. The controller shall be equipped with two dedicated general-purpose sensor ports.

1. The sensor inputs shall be compatible with any standard normally closed or normally open “Clik-type” sensors for automatic shutdown during rain, freeze, soil moisture, and/or wind events.
2. The sensor inputs shall also be compatible with a designated flow sensor for flow monitoring, alerts, and reporting.
	1. Pump/Master Valve Outputs
3. The controller shall have one built-in P/MV (24 VAC) output with a capacity up to 0.56 A.
4. The P/MV output shall be selectable as active or disabled per each individual station.
	1. SmartPort®

A. The controller shall be pre-wired with a SmartPort connector for easy connection of optional wireless remote controls.

B. For international or short-range uses, the wireless remote control shall be the Hunter model ROAM with a useful range up to 1,000' (330 m).

C. For uses within the United States and longer-range uses, where permitted, the wireless remote shall be Hunter model ROAM-XL with a useful range up to 2 mi. (3.2 km).

3.10 Wi-Fi Information

A. The controller shall be equipped with built-in Wi-Fi.

B. Wi-Fi operation shall be 802.11 b/g/n.

C. Wi-Fi frequency is 2.4 GHz.

D. Security shall have the ability to autodetect and offer the following security settings: WPA2, WPA Personal, and WPA Auto.

**Part 4 – Programming and Operational Software**

4.0 General

1. The control panel shall be available in an English-language display. The display shall include selectable settings for date, time, and units of measurement.
2. The Hydrawise software shall be fully translated and available in Czech, English, French, German, Greek, Hungarian, Italian, Polish, Portuguese, Russian, Spanish, Thai, and Turkish.

4.1 Programming

1. The controller shall be programmed via station-based programming, up to 54 total zones available. Each zone may be named to facilitate management of large systems.
2. The controller shall have 54 total start times available.
3. The controller shall be capable of running any two stations (+P/MV) simultaneously.
4. The controller programs shall have 5 weekly schedule options to choose from:
5. 7-day calendar
6. Up to 31-day interval calendar
7. Odd day/even day programming
8. Odd/even week programming
9. 365-day calendar clock to accommodate true odd-even watering
10. Each station shall be programmable in minutes of run time, from 1 minute to 24 hours.
11. The controller shall be equipped with programmable Non-Water Days to prevent watering on selected days of the week.
12. Each zone may be assigned a programmable Delay Between Stations, to allow for slow-closing valves or pressure recharging.
13. Delays between stations shall be programmable in 1-second increments from 0 to 3,600 seconds (60 minutes).
14. A P/MV delay shall be programmable in 1-second increments from 0 to 60 seconds (1 minute).

4.2 Software

1. The controller shall be connected to Hydrawise software.
	* + 1. Hydrawise software is available via web login, and as a mobile application that is downloadable via the Apple® App Store℠ and Google Play™ Store.
2. The controller shall utilize Predictive Watering™ adjustments to automatically modify irrigation scheduling based on local weather data and forecast information.
3. The controller shall also have manual Seasonal Adjust settings from 0% to 300% for offline programming.
4. The controller shall report both the monthly schedule as set by the user, and the actual irrigation performed as a result of automatic adjustments and triggers, to demonstrate water savings in response to environmental conditions.
5. The controller shall provide flow sensor data to the cloud-based software, for reporting, analysis, and high- or low-flow alerts to the operator.
6. The controller shall provide station-level current monitoring via a built-in milliamp sensor that shall record and display individual station electrical consumption. The software shall alert the user when out-of-range station current values are experienced for preventive maintenance.
7. The controller shall feature a built-in zone tester for immediate diagnostic review of all attached stations for short circuits or overload conditions.
8. The software shall allow actual photos of each station or zone location in the landscape to be attached and used for station settings.
9. The software shall allow informative files to be attached to each controller record.
10. The software shall allow users to create digital job sheets for service and maintenance records related to the controller.

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