

HCC Irrigation Controller Product Specification

Part 1 – General

1.1 The controller shall be a full-featured commercial-industrial product with 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 Hydrowise™ software. The controller shall be of a modular design that is provided with a base 8-station output module. The controller shall be expandable with 4-station, 8-station, or 22-station output modules up to 38 total stations (plastic enclosure) or up to 54 total stations (metal and pedestal enclosures).

Part 2 – Controller Enclosures

2.1 Controller shall be available in the following options:

A. Plastic Wall Mount Enclosure

1. The controller shall be Hunter Industries model HCC-800-PL.
2. Pre-assembled controller shall have a height of 12" (30 cm), width of 14" (35 cm), and depth of 5" (12 cm).
3. The controller shall be furnished in an outdoor, weather-resistant, wall mount plastic enclosure, pre-wired for remote control, with a key lock.
4. The controller shall provide modular expansion from 8 to 38 stations.
5. All station outputs shall have MOV and copper induction coil surge suppression.
6. The enclosure shall be NEMA 3R and IP44 rated.
7. A 751CH key shall be mounted in the enclosure door for security.
 - a. Two (2) keys shall be provided per each controller.

B. Gray Powder-Coated Metal Wall Mount Enclosure/Gray Powder-Coated Metal Pedestal

1. The controller shall be Hunter Industries model HCC-800-M. The metal wall mount may also be mounted on a matching gray powder-coated metal pedestal. The pedestal shall be Hunter Industries model ICC-PED.
2. Pre-assembled wall mount controller shall have a height of 20" (51 cm), width of 13" (33 cm), and depth of 4.8" (12 cm).
3. The controller shall be furnished in an outdoor, weather-resistant, wall mount gray powder-coated metal enclosure, pre-wired for remote control, with a key lock.
4. The controller shall provide modular expansion from 8 to 54 stations.
5. All station outputs shall have MOV and copper induction coil surge suppression.
6. The enclosure shall be NEMA 3R and IP44 rated.

7. A 751CH key shall be mounted in the enclosure door for security.
 - a. Two (2) keys shall be provided per each controller.

C. Stainless Steel Wall Mount/Stainless Steel Pedestal

1. The controller shall be Hunter Industries model HCC-800-SS. The stainless wall mount may also be mounted on a matching type 316 stainless steel pedestal. The pedestal shall be Hunter Industries model ICC-PED-SS.
2. Pre-assembled wall mount controller shall have a height of 20" (51 cm), width of 13" (33 cm), and depth of 4.8" (12 cm).
3. The controller shall be furnished in an outdoor, weather-resistant, type 316 stainless steel wall mount metal enclosure, pre-wired for remote control, with a key lock.
4. The controller shall provide modular expansion up to 54 stations.
5. The enclosure shall be NEMA 3R and IP44 rated.
6. All station outputs shall have MOV and copper induction coil surge suppression.
7. A 751CH key shall be mounted in the enclosure door for security.
 - a. Two (2) keys shall be provided per each controller.

D. Plastic Pedestal

1. The controller shall be Hunter Industries model HCC-800-PP.
2. Pre-assembled controller shall have a height of 39" (99 cm), width of 24" (61 cm), and depth of 17" (43 cm).
3. The controller shall be furnished in an outdoor plastic pedestal with removable doors, a key lock, and prewired for remote control.
4. The controller shall provide modular expansion from 8 to 54 stations.
5. The enclosure shall be NEMA 3R, IP34 rated, and be provided with a template and mounting hardware for installing into concrete.
6. All station outputs shall have MOV and copper induction coil surge suppression.
7. A 751CH key shall be mounted in the enclosure door for security.
 - a. Two (2) keys shall be provided per each controller.

2.2 Warranty

- A. The controller shall be installed in accordance with the manufacturer's published instructions. The controller shall carry a conditional five-year exchange warranty. The automatic controller(s) shall be the HCC series controller as manufactured for Hunter Industries Incorporated, San Marcos, California.

Part 3 – Controller Hardware

3.1 Control Display

- A. Display shall be a 3.2" (8 cm) full graphical touch screen interface allowing for programming and manual operation.

3.2 Control Panel

- A. Operation from the control panel shall be via the touch screen only, with no available buttons or dials.
- B. Control panel door shall fully close and protect the wiring and internal components from moisture and dust.

3.3 Controller Power

- A. Transformer input shall be 120 VAC, 60 Hz or 230 VAC, 50 Hz, depending on requirements.
- B. Transformer output shall be 24 VAC, 1.4 A. The maximum output per individual station shall be 24 VAC, up to 0.56 A. Maximum output per Pump/Master Valve terminal shall be 24 VAC, up to 0.56 A.

3.4 Controller Surge Protection

- A. The controller transformer shall be equipped with an internal, self-resetting thermal circuit breaker to protect against overheating.
- B. The controller transformer shall also be equipped with a ground lug for connecting to proper earth ground hardware.

3.5 Station Modules

- A. Controller shall provide 4 (plastic enclosure) or 6 (metal and pedestal enclosures) separate station module slots.
 - 1. Controller shall be expandable from 8 to 38 stations (plastic) and 8 to 54 stations (metal and pedestals).
 - 2. Controller shall use 4-, 8-, or 22-station output modules.
 - 3. Station modules shall be secured against field wiring tension by locking levers.
- B. The controller shall have a base model capacity of 8 stations, consisting of one 8-station output module.
- C. Each station output shall supply 24 VAC, up to 0.56 A current for solenoid activation.
- D. Each station output shall have Metal Oxide Varistor (MOV) surge protection, supplemented by copper induction coils.

E. The controller shall have self-diagnostic, electronic short circuit protection that detects a faulty circuit, continues watering the remainder of the schedule, and reports the faulty station via alert/notification to the user's smartphone, tablet, or computer. The built-in milliamp sensor shall constantly be measuring the current draw of each individual station.

F. Module Hardware

1. The controller output modules shall have Metal Oxide Varistors (MOVs) and copper induction coils on each station output circuit to help protect the micro-circuitry from power surges.

3.6 Sensor Inputs

- A. The controller shall be equipped with two (2) 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 input shall also be compatible with the Hunter HC Flow Meter for flow monitoring, alerts, and reporting.

3.7 Pump/Master Valve Outputs

- A. The controller shall have one built-in P/MV output supplied with 24 VAC, up to 0.56 A.
- B. The P/MV output shall be selectable as active or disabled per each individual station.

3.8 Common Wire

- A. A common wire terminal is provided on the controller's power module, and additional commons are provided on each station output module.

3.9 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 of up to 1,000' (305 m).
- C. For the United States and long-range uses where permitted, the wireless remote shall be Hunter model ROAM-XL with a useful range of 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 auto detect and offer the following security settings: WPA2, WPA Personal, and WPA Auto.

Part 4 – Programming and Operational Software

4.0 General

- A. The controller shall be available in an English language display. The display shall include selectable setting for date, time, and units of measurement.
- B. The Hydrawise software shall be fully translated and available in English, Spanish, French, Italian, German, Portuguese, Turkish, and Russian.

4.1 Programming

- A. The controller shall be programmed via station-based programming, up to 54 total zones available.
- B. Each station can have as many Start Times programmed as desired.
- C. The controller shall be capable of running any two stations (+ P/MV output) simultaneously.
- D. The controller shall have 5 weekly schedule options to choose from:
 - 1. 7-day calendar
 - 2. Up to 31-day interval calendar
 - 3. Odd day/even day programming
 - 4. Odd week/even week programming
 - 5. 365-day calendar clock to accommodate true odd-even watering
- E. Each station shall be programmable in minutes of Run Time, from 1 minute up to 24 hours.
- F. The controller shall be equipped with programmable Non-Water Days to prevent watering on selected days of the week.
- G. Each zone may be assigned a programmable Delay Between Stations, to allow for slow-closing valves or pressure recharging.
 - 1. Delays between stations shall be programmable in 1-second increments from 0 to 3,600 seconds (60 minutes).
 - 2. A P/MV delay shall also be programmable in 1-second increments from 0 to 60 seconds (1 minute).

4.2 Software

- A. The controller shall connect 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.

- B. The controller shall utilize Predictive Watering™ adjustments to automatically modify irrigation scheduling based on local weather data and forecast information.
- C. The controller shall also have manual Seasonal Adjust settings from 0% to 300% for offline programming.