

Pro-C® Irrigation Controller Written Specifications

Part 1 – General

1.1 The controller shall be a full-featured residential and light commercial product for the purpose of irrigation operation, management, and monitoring of control valves and sensors. The controller shall be of a fixed or modular design that is provided with either a 6- or 12-station fixed output or a base 4-station modular controller that uses 3-, 9-, or 16-station expansion modules. The modular controller shall also accommodate a PC-DM decoder output module for use with EZ-1 decoders. The modular controller shall be expandable up to 23 conventional stations, or up to 32 stations when used with the EZ Decoder System. The controller shall be available in indoor and outdoor models for US, Australian, European, and Japanese applications.

Part 2 – Controller Enclosures

2.1 Controller shall be available in following the options:

A. Plastic wall-mount enclosure, 6-station fixed

1. The indoor option shall be Hunter Industries model PCC-600i.
2. The outdoor option shall be Hunter Industries model PCC-600.
3. Pre-assembled controller shall have a height of 9" (22.9 cm), width of 10" (25.4 cm), and depth of 4½" (11.4 cm).
4. The outdoor controller shall be furnished in a weather-resistant, plastic wall-mount enclosure, with a key lock.
5. The controller shall provide 6 stations.
6. All station outputs shall have MOV and copper induction coil surge suppression.
7. Outdoor cabinet is NEMA 3R, IP44 rated.
8. A 751CH key shall be mounted in the enclosure door for security.
 - a. Two (2) keys shall be provided per each controller.

B. Plastic wall-mount enclosure, 12-station fixed

1. The indoor option shall be Hunter Industries model PCC-1200i
2. The outdoor option shall be Hunter Industries model PCC-1200.
3. Pre-assembled controller shall have a height of 9" (22.9 cm), width of 10" (25.4 cm), and depth of 4½" (11.4 cm).
4. The outdoor controller shall be furnished in a weather-resistant, plastic wall-mount enclosure, with a key lock.
5. The controller shall provide 12 stations.
6. All station outputs shall have MOV and copper induction coil surge suppression.

7. Outdoor cabinet is NEMA 3R, IP44 rated.
 8. A 751CH key shall be mounted in the enclosure door for security.
 - a. Two (2) keys shall be provided per each controller.
- C. Plastic wall-mount enclosure, modular 4-station base
1. The indoor option shall be Hunter Industries model PC-400i
 2. The outdoor option shall be Hunter Industries model PC-400.
 3. Pre-assembled controller shall have a height of 9" (22.9 cm), width of 10" (25.4 cm), and depth of 4½" (11.4 cm).
 4. The outdoor controller shall be furnished in a weather-resistant, plastic wall-mount enclosure, with a key lock.
 5. The controller shall provide modular expansion up to 23 conventional stations, 28 stations for two-wire only, or 32 hybrid conventional/two-wire stations.
 6. All station outputs shall have MOV and copper induction coil surge suppression.
 7. Outdoor cabinet is NEMA 3R, IP44 rated.
 8. 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 2-year exchange warranty. The automatic controller(s) shall be the Pro-C series controller as manufactured for Hunter Industries Incorporated, San Marcos, California.

Part 3 – Controller Hardware

3.1 Control display

- A. Display shall be 2.2" (5.6 cm) diagonal LCD.
- B. All programming shall be accomplished by use of a programming dial and selection buttons with user feedback provided by an LCD display.

3.2 Control panel

- A. The front panel of the controller shall be removable to allow for programming without AC power, via 9 VDC battery.
- B. Front panel shall include a replaceable CR2032 battery for date/time backup during power outages.

3.3 Controller power

- A. Depending on requirements, transformer input shall be 120 VAC, 60 Hz or 230 VAC, 50 Hz.
- B. Transformer output shall be 24 VAC, 1A maximum. Output per individual station shall be 24 VAC, up to 0.56A.

3.4 Controller surge protection

- A. The controller transformer shall be equipped with an internal, self-resetting thermal circuit breaker to protect against overheating.

3.5 Station modules (if modular)

- A. The controller shall have a base model capacity of 4 stations, consisting of one 4-station output module.
- B. Controller shall provide 3 additional station module slots.
 - 1. Controller shall be expandable to a maximum of 32 stations.
 - 2. Controller shall use a maximum of 4 station output modules.
 - 3. Station modules shall be secured against field wiring tension by the power lock.
- C. Each station output shall supply up to 0.56A (at 24 VAC) 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 program, and reports the faulty station on the display. The diagnostic function shall also be capable of being initiated manually by the user.

3.6 Sensor Inputs

- A. The controller shall be supplied with 1 sensor input.
- B. The controller shall be compatible with an external weather sensor that can change seasonal adjustment automatically, based on local weather conditions, for maximum water savings. The external weather sensor shall include rain and freeze shutoff functions.
 - 1. The wireless external weather sensor shall be Hunter Industries model WSS-SEN.
 - 2. The hardwired wired external weather sensor shall be Hunter Industries model SOLAR-SYNC-SEN.
- C. The sensor input shall also be compatible with standard normally closed rain, freeze, soil moisture, or other sensors for shutdown purposes. Additional compatible sensors from Hunter Industries include: RAIN-CLIK, WR-CLIK, RFC, WRF-CLIK, MINI-CLIK, SOIL-CLIK, and FLOW-CLIK.

3.7 P/MV outputs (Pump/Master Valve)

- A. The controller shall have one built-in P/MV (24 VAC) output with a capacity of up to 0.28 A.
- B. The P/MV output shall be selectable as active or disabled per each individual station.

3.8 Common wire

- A. One fixed common wire terminal available within the controller chassis to be used in conjunction with station output and P/MV wiring.

3.9 SmartPort®

- A. The controller shall be compatible with a SmartPort connector for easy connection of optional wireless remote controls.
- B. For international or short-range uses, the wireless remote shall be Hunter Industries model ROAM with a useful range of up to 1,000' (330 m).
- C. For use in the United States or long-range uses, where permitted, the wireless remote shall be Hunter Industries model ROAM-XL with a useful range of up to 2 mi. (3.2 km).

Part 4 – Programming and Operational Software

4.1 General

- A. The controller shall have optional language customization kits that allow the front panel, display, and programming instructions inside the door to be changed from English to French, German, Italian, Portuguese, Russian, Spanish, Turkish, or Japanese.

4.2 Programming

- A. The controller shall have 3 independent programs with unique day schedules, start times, and station run times.
- B. Each program shall offer up to 4 start times.
- C. The controller programs shall have 4 weekly schedule options to choose from:
 - 1. 7-day calendar
 - 2. Up to 31-day interval calendar
 - 3. Odd-day and even-day programming
 - 4. It shall also have a 365-day calendar clock to accommodate true odd-even watering
- D. Each station shall be programmable in minutes of run time, from 1 minute to 6 hours.
- E. The controller shall be equipped with programmable non-water days to prevent watering on selected days of the week.
- F. Each program 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 59 seconds, and then in 1-minute increments from 60 seconds up to 4 hours.
- G. The controller shall be equipped with a rain sensor bypass switch that allows the user to override a sensor that has suspended watering.
1. The controller shall allow the sensor input to be programmed by station, to exempt specified stations from sensor shutdowns.
- H. Program backup shall be provided by a non-volatile memory circuit that will hold the program data indefinitely.
1. The controller shall also track time of day and date during power outages by means of a replaceable, commonly available CR2032 lithium battery.

4.3 Software

- A. The controller shall have manual Seasonal Adjust settings in 5% to 300% in 5% increments.
- B. The controller shall have automatic Seasonal Adjust settings when installed with a Solar Sync® weather sensor.
- C. The controller shall be capable of determining and displaying the total run time input for each program.
1. It shall have the capability to store a program in backup memory for easy retrieval and shall also have a test program for quick system checks.
- D. The controller shall allow Easy Retrieve® backup of all programming and configuration to preserve the original configuration, which may be restored at any time.