X-Core Irrigation Controller Product Specification

**Part 1 – General**

1.1The controller shall be a full-featured residential product for the purpose of smart irrigation management.

The automatic controller(s) shall be the X-Core Series with 2, 4, 6 or 8 station indoor models, and 4, 6 or 8 station outdoor models, as manufactured by Hunter Industries Incorporated, San Marcos, California.

**Part 2 – Controller Enclosure & Mounting**

## 2.1 Controller Shall be available in the following options:

* + - * 1. Indoor Wall Mount Enclosure

1. Pre-assembled controller dimensions shall be: Height 6.5”/17 cm, Width 5.75”/15 cm, Depth 2”/5 cm, with .5”/1 cm knockout for field wires

2. The enclosure shall be plastic for indoor use, mounted to a wall

 3. Station outputs shall be 2, 4, 6 or 8 individual stations

 4. The controller shall have electronic short circuit protection

 5. Approvals shall be CE, UL, cUL, C-tick, FCC

* + - * 1. Outdoor Wall Mount Enclosure

1. Pre-assembled controller dimensions shall be: Height 8.6”/22 cm, Width 7”/18 cm, Depth 3.75”/10 cm, with 2 .5”/1 cm knockouts for AC power and field wires

2. The enclosure shall be plastic for outdoor use, mounted to a wall

 3. Station outputs shall be 4, 6 or 8 individual stations

 4. The controller shall have electronic short circuit protection

5. Approvals shall be CE, UL, cUL, C-tick, FCC

6. A 751CH key lock shall be mounted in the enclosure door for security

 a. 2 keys shall be provided per each controller

2.2 Warranty:

 A. The controller shall carry a conditional 2-year exchange warranty

**Part 3 – Controller Hardware**

3.1Controller Display:

 A. Display shall be high resolution digital LCD

3.2 Control Panel:

 A. The controller shall have buttons to select values

 B. The controller shall have a dial to select functions

 C. The controller shall have a hard-reset feature returning existing settings to factory conditions

 D. The controller shall have a removable panel to shield and allow access to the wiring terminals

 E. The controller shall have a sensor switch to bypass or activate a wired sensor

3.3 Controller Power:

A.  The controller shall offer constant 120 VAC power with a wall plug-in for indoor models or accept 120 VAC or 230 VAC primary power 50/60Hz for outdoor models

Transformer input shall be 120 VAC, 60Hz, 35W

Transformer output shall be 24 VAC, 1 Amps

B.  Each station output shall supply .56 Amps 24 VAC for solenoid activation

3.4 Controller Surge Protection:

A. The controller shall have a Metal Oxide Varistors (MOV) on the power output portion to help protect the micro-circuitry from power surges

B. The controller shall have electronic short circuit protection protecting the controller from faulty field wiring or damaged AC Solenoids

 C. The controller shall have a hard-reset feature returning existing settings to factory conditions

 1. An indication of a fault shall be provided to the user on the LCD display

 2. The controller shall continue to run non-faulty stations as programmed

3.5 Station Terminal Strip:

 A. The controller shall have 2, 4, 6 or 8-station metal screw and washer terminals

 B. The controller shall have a terminal output for a remote control

3.6 Sensor Inputs:

A. The controller shall have 1 sensor terminal input for a soil moisture sensor, freeze sensor or rain sensor that interrupts power from the irrigation controller to the valves when rainfall, freeze or moisture exceeds a pre-selected amount

B. The controller shall provide power from the controller to the sensor

C. The controller shall work with normally-closed wired or wireless sensors

3.7 Pump/Master Valve Output:

A. The controller shall have 1 built-in pump/master valve (P/MV) terminal output

B. The P/MV output shall supply .28 Amps for valve activation

**Part 4 – Controller Programming and Operational Software**

4.0General:

A. The controller documents shall include dial function layover translation stickers in Spanish, Italian, German, French and Portuguese languages

 B. Display settings shall read current day, month, year, and AM/PM or 24-hour clock

4.1 Programming:

A. The controller shall have 3 independent programs with unique day schedules, start times, and station run times

 B. The controller shall have 4 start times per program per day

 C. The controller shall operate 1 program at a time

 D. Schedule:

1. The controller shall have a weekly 7-day schedule that allows user to choose day(s) of week for desired watering

 2. Interval watering shall be between 1 and 31 days

 3. It shall also have a 365-day calendar clock to accommodate true odd and even watering

 4. Operation shall be available in automatic, semi-automatic and manual modes

5. All programming shall be accomplished by use of a programming dial and selection buttons with user feedback provided by a LCD display

E. Watering times shall be available from 0 minutes to 4 hours in 1-minute increments per station

F. The controller shall provide the option to turn off specific watering days Monday through Sunday to comply with any state and local regulations

 G. Programmable Delay:

1. The controller shall have a programmable rain delay that turns off the controller for a predetermined period from 1 to 7 days

2. The controller shall have programmable delay between valve stations in 5 second increments from 0 to 60 seconds and in 1-minute increments from 60 seconds up to 4 hours

H. The controller shall be equipped with a sensor bypass switch that allows the user to override a wired sensor that has suspended watering

 I. Backup:

1. The controller shall have a non-volatile memory circuit that holds program data indefinitely for easy retrieval

2. The controller shall keep the current day, month, year, and AM/PM or 24-hour clock with an onboard 3V CR2032 lithium battery

4.2 Additional Features:

A. The controller shall work with Solar Sync® weather sensor for automatic water savings with rain and freeze shutdown

 1. Solar Sync® shall automatically adjust station run times based on ET region settings

2. Wireless Solar Sync® models shall be mounted to a wall or roof structure in direct sunlight and not exceed a distance greater than 200’/60 m from the controller

3. Wired Solar Sync® models shall be mounted to a wall or roof structure in direct sunlight and not exceed a distance greater than 40’/12 m from the controller

3. Wireless Solar Sync® models shall be mounted to a wall or roof structure in direct sunlight no longer than 200’/60 m from the controller

4. The Solar Sync® Sensor shall include individual sensors for solar radiation, air temperature, and a rain sensor

B. The controller shall have seasonal adjust allowing for station run time adjustment from 0% to 150% in 10% increments to compensate for weather changes

 C. The controller shall provide total irrigation run times for each station

D. The controller shall have test programming to verify each station running successfully

E. The controller shall have a diagnostic function to identify field wiring problems

F. The controller shall have a terminal input for a SmartPort® for remote control with ROAM and ROAMXL