XC Hybrid Stainless Steel Solar Irrigation Controller Product Specification

**Part 1 – General**

1.1The controller shall be a full-featured professional product for the purpose of irrigation management powered by solar energy.

The automatic controller(s) shall be the XC Hybrid Stainless Steel Solar Series with 6- or 12-station outdoor models, as manufactured by Hunter Industries Incorporated, San Marcos, California.

**Part 2 – Controller Enclosure & Mounting**

2.1The controller shall be available in a stainless steel outdoor enclosure:

1. Pre-assembled controller dimensions shall be: Height 10.75”/25 cm, Width 9.13”/23 cm, Depth 4.25”/11 cm, with 1.5”/4 cm knockout for field wires and .5”/1 cm knockout for optional AC power

2. The enclosure shall be stainless steel for outdoor use, mounted to a wall or metal pole sweep attached to a mounting adapter secured in concrete

3. The pre-assembled solar panel shall be on top of the controller enclosure wired to the charging cell and placed in outdoor sunlight exposure or ambient light for at least 4 hours daily

4. The optional metal pole mounting sweep dimensions shall be: Height (minimum) 4’/1.2 m, Width 1.94”/5 cm

 5. Station outputs shall be 6- or 12-individual stations

 6. Approvals shall be CE, UL, cUL, C-tick

7. 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. Stainless steel solar models 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 be powered by the following: Solar panel with an 800 mAh charging cell or optional 6 C (1.5 V) alkaline batteries

B.  Each station output shall supply .05 mA 11 VDC per station current for solenoid activation

C. The controller shall have an optional wall plug-in adapter, Hunter model 526500

Optional transformer input shall be 120 VAC, 60Hz, 35W

Optional transformer output shall be 24 VAC, 1000 mA

D.  When using either power source, any valves attached to the controller shall have only DC-latching solenoids, Hunter model 458200

3.4 Controller Surge Protection:

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

3.5 Station Terminal Strip:

 A. The controller shall have 6- or 12-station metal screw and washer terminals

3.7 Sensor Inputs:

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

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

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

3.8 Pump/Master Valve Output:

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

**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

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 store and restore program data for easy retrieval

4.2 Additional Features:

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

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

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