Part 1 - General

1.1 The controller shall be a full-featured nursery/greenhouse/open field product for the purpose of irrigation operation, management, and monitoring of control valves and sensors. The controller shall be of a fixed design that is provided in a one-, two-, or four-station model.

Part 2 – Controller Enclosures

2.1 Controller shall be available in the following options:
  A. Single-station with no solenoid
    1. The controller shall be Senninger model SENNODEBT-1-LS.
    2. Pre-assembled controller shall have a height of 3¼" (8 cm) and a diameter of 3½" (9 cm).
    3. The controller shall be furnished in an outdoor, weather-resistant enclosure.
    4. The controller shall provide one station.
    5. The enclosure shall be IP68 rated.

  B. Single-station with DC-latching solenoid
    1. The controller shall be Senninger model SENNODEBT-1.
    2. Pre-assembled controller shall have a height of 3¼" (8 cm) and a diameter of 3½" (9 cm).
    3. The controller shall be furnished in an outdoor, weather-resistant enclosure.
    4. The controller shall provide one station.
    5. The enclosure shall be IP68 rated.
    6. The controller shall use a DC-latching solenoid.

  C. Two-station
    1. The controller shall be Senninger model SENNODEBT-2.
    2. Pre-assembled controller shall have a height of 3¼" (8 cm) and a diameter of 3½" (9 cm).
    3. The controller shall be furnished in an outdoor, weather-resistant enclosure.
    4. The controller shall provide two stations.
    5. The enclosure shall be IP68 rated.
    6. The controller shall use a DC-latching solenoid.

  D. Four-station
    1. The controller shall be Senninger model SENNODEBT-4.
    2. Pre-assembled controller shall have a height of 3¼" (8 cm) and a diameter of 3½" (9 cm).
    3. The controller shall be furnished in an outdoor, weather-resistant enclosure.
    4. The controller shall provide four stations.
    5. The enclosure shall be IP68 rated.
    6. The controller shall use a DC-latching solenoid.

2.2 Warranty

  A. The controller shall be installed in accordance with the manufacturer's published instructions. The controller shall carry a conditional two-year exchange warranty. The automatic controller(s) shall be the SENNODE-BT series controller as manufactured for Senninger Irrigation, Clermont, Florida USA.

Part 3 – Controller Hardware

3.1 Control display

  A. All programming, manual station, manual program, and manual run all operation shall be accomplished by a smartphone app via Bluetooth® connection.
  B. Manual station operation and battery status buttons shall be located on controller.
  C. A protective rubber cover shall protect the buttons and LEDs from dirt and moisture.

3.2 Control panel

  A. The controller shall be equipped with non-volatile memory that retains current time, date, and program data.

3.3 Controller power

  A. Each station output shall supply 11 VDC with a capacity of up to 1.5 mA.
  B. All models shall use one or two nine-volt alkaline batteries.

3.4 Sensor inputs

  A. The controller shall be compatible with an external wired weather sensor that can stop the controller from irrigation based on local weather conditions, for maximum water savings. The external weather sensor shall include rain or freeze shutoff functions.
    1. The external weather sensor shall be Hunter Industries model Mini-Clik®, Freeze-Clik®, or Rain-Clik®.

2. The sensor input shall also be compatible with standard, normally closed rain or other sensors for shutdown purposes.

B. The controller shall be compatible with an external soil sensor probe that can stop the controller from irrigating when the moisture level reaches a trip point for maximum water savings. Programming shall be set within the controller app.

1. The sensor input shall be Senninger Irrigation model #594174.

3.5 Pump/master valve outputs

A. The controller shall have one built-in P/MV (11 VDC) output with a capacity of 1.5 mA in multi-station models.

3.6 Common wire

A. A common wire shall be provided on the controller.

3.7 Bluetooth information

A. The controller shall be equipped with a built-in Bluetooth 5.0 BLE module.

Part 4 – Programming and Operational Software

4.0 Programming

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

B. Only one program may be running at any given time in conjunction with a pump/master valve.

C. Each program shall offer up to eight start times.

D. The controller programs shall have four weekly schedule options to choose from:
    1. Seven-day calendar
    2. Up to 31-day interval calendar
    3. Odd-day programming and even-day programming
    4. It shall also have a 365-day calendar clock to accommodate true odd-even watering

E. Each station shall be programmable in seconds of run time, from one second to 12 hours with cycle and soak capabilities

F. The controller shall be equipped with programmable Non-Water Days to prevent watering on selected days of the week.

G. A pump start/master valve circuit shall be included and shall be programmable by station (SENNODE-BT-200, and SENNODE-BT-400 only).

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

I. The controller shall have programmable station delay between each zone starting to a maximum of 36,000 seconds

J. The controller shall have programmable days off up to 99 days.

K. Program backup shall be provided by a non-volatile memory circuit that will hold the program data indefinitely.

4.1 Software

A. The controller shall connect to the Hunter NODE-BT app on Apple® and Android™ devices.

B. The software shall display unique controller serial number, battery strength, signal strength and watering status.

C. The software shall allow for the controller to be in a permanent off state.

D. The controller shall have global and monthly Seasonal Adjust settings of 0% to 300%.

E. The controller shall be capable of determining and displaying the total run time input for each program, for the day and for the week.

F. The software shall allow setting the manual run-time button on the controller from one second to 12 hours.

G. The software shall allow renaming of controller, stations, and program names.

H. The software shall allow a photo to be uploaded to each station and controller and assign a location.

I. The software shall have battery-change reminder notifications.

J. The software shall store and send irrigation logs.

K. The software shall allow a passcode to protect the controller from schedule changes.

L. The software shall allow for over-the-air firmware updates.

M. The software shall allow for factory reset of the controller.

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