



Weather Reach Receiver

Specifications

The weather receiver shall provide control to an irrigation system controller based on weather data received from a local weather radio broadcast. The weather receiver shall use hourly weather data from the local weather radio broadcast and actual site elevation to calculate hourly evapotranspiration. The weather receiver shall interface the calculated evapotranspiration value with an irrigation system controller using one of the following methods: 1) Control two (A & B) common-wire interrupts to allow irrigation based on the calculated irrigation requirement. 2) Pulsed output, a single momentary switch contact closure for every .01” of calculated evapotranspiration. 3) Single momentary switch contact closure based on programmed settings to initiate an irrigation cycle. 4) Serial communication.

The weather receiver shall have a sensor input circuit for connection to a tipping bucket rain collector. The rain sensor input shall accommodate either a 1mm or .01” per pulse from the tipping bucket rain collector. The weather receiver shall use rainfall values from a local weather radio broadcast or an on-site tipping bucket rain collector. Rainfall values shall provide irrigation system control in the following applications: 1) the calculated irrigation requirement shall be based on accumulated evapotranspiration, with a crop adjustment percentage, less defined effective rainfall values. Effective rainfall shall be controlled based on a programmed maximum hourly rate and soil moisture holding capacities. 2) Interrupt irrigation once rainfall values reach a programmed set point. 3) Pulsed output, a single momentary switch contact closure for every .01” of measured rain.

The weather receiver shall have two separate common-wire interrupts that are controlled based on two separate accumulated evapotranspiration values. The weather receiver shall use two red lights to indicate irrigation is interrupted. The evapotranspiration value added to the accumulated evapotranspiration shall be adjusted by a landscape adjustment percentage. The weather receiver shall allow a complete irrigation cycle to occur once the accumulated evapotranspiration value reaches a programmable set point. The accumulated evapotranspiration value shall be adjusted by measured effective rainfall. The time period of the irrigation cycle programmed in the associated irrigation controller shall be programmed in the weather receiver. The weather receiver shall allow a complete irrigation cycle to complete before interrupting the common-wire circuit. The weather receiver shall detect electrical current across the common circuit to verify irrigation during time period of controller operation. The weather receiver shall adjust the accumulated evaporation value when current is detected by subtracting the programmable set point value from the accumulated evapotranspiration value.

The weather receiver shall interrupt irrigation if temperature or wind values from the most recent local weather radio broadcast exceed programmed limits. The weather receiver shall use red lights to indicate irrigation is being suspended. The display shall report the weather condition that causes the irrigation

interrupt. The weather receiver will log and display the date and time of the last irrigation interrupt and the condition causing the interrupt.

The weather receiver shall display current operating status including: 1) Last detected irrigation cycle operated on the A or B common-wire interrupts. 2) Counter displaying the number of irrigation cycles operated on the A or B common-wire interrupts. 3) Date and time of the last weather radio broadcast. 4) Crop coefficient value included in the last weather radio broadcast. 5) A log of any missed weather radio broadcasts during the last 14 days.

The weather receiver shall have a manual override button to temporarily allow irrigation in the event that manual operation of the associated irrigation controller is required. The manual override function shall automatically revert back to the automatic mode after the selected time period of the manual override has elapsed.

The weather receiver shall automatically use a default evapotranspiration value in the event a weather data radio broadcast is not received for 25 hours. The default mode of operation shall automatically cease when a weather data radio broadcast is received.

The weather receiver shall display current weather information obtained from local weather radio broadcasts. This shall include high, low and current temperature, wind, and humidity conditions. The weather display shall include accumulated rainfall measurements for the last 24 hours and the last 7 days using data from the on-site rain collector or local weather radio broadcast. The weather receiver will use the current date and time received from the local weather radio broadcast.

The weather receiver evapotranspiration and rain pulse output frequency shall be programmable to either one or ten pulses per minute. The pulse duration shall be programmable from 0.1 to 4.8 seconds. The units per pulse shall be programmable from .01 to .5 inches per pulse.

The weather receiver housing shall be a wall-mount style suitable for indoor installations. A weather resistant enclosure shall be used to protect the weather receiver when the application requires an outdoor installation. The weather receiver shall be capable of operating on 12 to 28 volts AC or 12 to 35 volts DC drawing 0.1-amp max. The weather receiver shall be equipped with electrical surge protection complete with a grounding terminal. The weather receiver shall have a built-in internal antenna. The weather receiver shall have a BNC terminal suitable for use with an external antenna when the application requires an alternative antenna location. The weather receiver shall have terminals for up to 14-gauge wire.

The weather receiver shall be installed in accordance with the manufacturer's published instructions. The weather receiver shall carry a one-year warranty. The weather receiver shall be a model WR-7 Weather Reach Receiver as manufactured for Irrisoft Inc., North Logan, Utah.