Vertical Farming Irrigation System
Wireless Telemetry System

Industry: Agriculture

Summary

Customer Challenge

Vertical farming is the production of produce in a vertical manner using smart technology systems, while indoors using an irrigation system. A wireless force measurement solution is needed to monitor the amount of water being used, to ensure the produce is being watered just the right amount.

Interface Solution

Interface suggests installing four MBI Overload Protected Miniature Beam Load Cells under each corner of the trays of the produce. The produce is watered and the amount of water that is collected is weighed. A JB104SS 4-Channel Stainless Steel Junction Box is connected to each load cell, and to a WTS-AM-1E that wirelessly transmits the sum weight to the WTS-BS-1-HA Wireless Handheld Display for multiple transmitters, and the WTS-BS-6 Wireless Telemetry Dongle Base Station when connected to the customer's PC. Results can be displayed, logged, and graphed seen in real time.

Results

Interface's Wireless Telemetry System was able to monitor and weigh the amount of water being used on the produce in this vertical farming system.

Materials

- Four MBI Overload Protected Miniature Beam Load Cells
- JB104SS 4-Channel Stainless Steel Junction Box
- WTS-AM-1E Wireless Strain Bridge Transmitter Module
- WTS-BS-6 Wireless Telemetry Dongle Base Station with supplied Log100 software
- WTS-BS-1-HA Wireless Handheld Display for multiple transmitters
- Customer PC or Laptop

How It Works

1. Four MBI Overload Protected Miniature Beam Load Cells are installed under the tray that holds the produce. Each load cell is connected to a JB104SS 4-Channel Stainless Steel Junction Box.
2. The produce is watered and the junction box captures the sum weight of the tray.
3. The WTS-AM-1E wirelessly transmit the sum weight to both the WTS-BS-1-HA Wireless Handheld Display for multiple transmitters and the WTS-BS-6 Wireless Telemetry Dongle Base Station with supplied Log100 software on the customer's PC. Data can be displayed, logged, and graphed.

Vertical Farming Racks

MBI Overload Protected Load Cells

JB104SS Junction Box

WTS-AM-1E Strain Bridge Module

WTS-BS-1-HA Handheld

Customer PC with supplied software

WTS-BS-6 Dongle Base Station