# WCS-9

Substrate Sensor Set (VWC, EC & Temp)



The TrolMaster WCS-9 Substrate Sensor is a 3-in-1 device designed for the Aqua-X, Hydro-X, Tent-X, and Green-X Control Systems (NFS-1, NFS-2, NFS-3, HCS-2, TCS-1, GCS-1). Represents the pinnacle of the WCS series, engineered to deliver unparalleled precision in monitoring both traditional soil and high-bulk EC soilless substrates. Recognizing the inherent limitations of single-sensor monitoring—which can frequently misrepresent the root zone due to localized anomalies like "hot spots" or water channeling—the WCS-9 introduces an advanced, completely redesigned internal multi-node architecture.

This innovative framework permits the daisy-chaining of up to four individual Sensor Nodes directly into a single Sensor Display. By aggregating data across multiple points in the growing medium, the system calculates and provides a highly accurate and trustworthy average of the root zone's Volumetric Water Content (VWC), Electrical Conductivity (EC), and Temperature.

By providing hyper-accurate, verified root zone data, the WCS-9 serves as the crucial mechanism for TrolMaster's advanced "Feed on Demand" irrigation strategy. This sensor-based control replaces traditional timer-based guessing by utilizing real-time moisture parameters to automatically trigger irrigation events, allowing cultivators to execute precise dry-backs and sophisticated crop steering strategies effortlessly.

Users can monitor the water content, temperature, and EC on their smartphone using TrolMaster's free TM+ Pro App. The app also allows viewing historical data graphs and receiving notifications if sensor readings exceed customised high or low alarm settings.

# Specifications

WCS-9

## Input Voltage

| | |
|---|---|
| **Input Voltage** | 12V ⎓ 0.1A |

## Sensor Display Capacity

| | |
|---|---|
| **Aqua-X (NFS-1)** | Up to 1 |
| **Aqua-X Pro (NFS-2)** | Up to 50 |
| **Aqua-X Plus (NFS-3)** | Up to 20 |
| **Hydro-X Pro (HCS-2)** | Up to 50 |
| **Tent-X (TCS-1)** | Up to 1 |
| **Green-X (GCS-1)** | Up to 1 |
| **Sensor Nodes per Display** | Up to 4 |

## Package Dimensions

| | |
|---|---|
| **Size** | 5.43inch / 138mm(L) x 6.69inch / 170mm(W) x 2.52inch / 64mm(H) |
| **Gross Weight** | 1.34lbs / 0.61kg |

## Package Contents

| | |
|---|---|
| **WCS-9 Sensor Display** | 1pc |
| **WN-9 Sensor Node** (Additional nodes sold separately) | 1pc |
| **16ft RJ12 Cable Set** | 1pc |
| **T-Splitter** | 1pc |

## Measurement Range

| | |
|---|---|
| **Water Content (VWC)** | 0~100% |
| **Electrical Conductivity (EC)** | 0-30 mS/cm |
| **Normal Measurement Interval** | Every 1 min |
| **"Feed on Demand" Interval** | Every 10 sec |

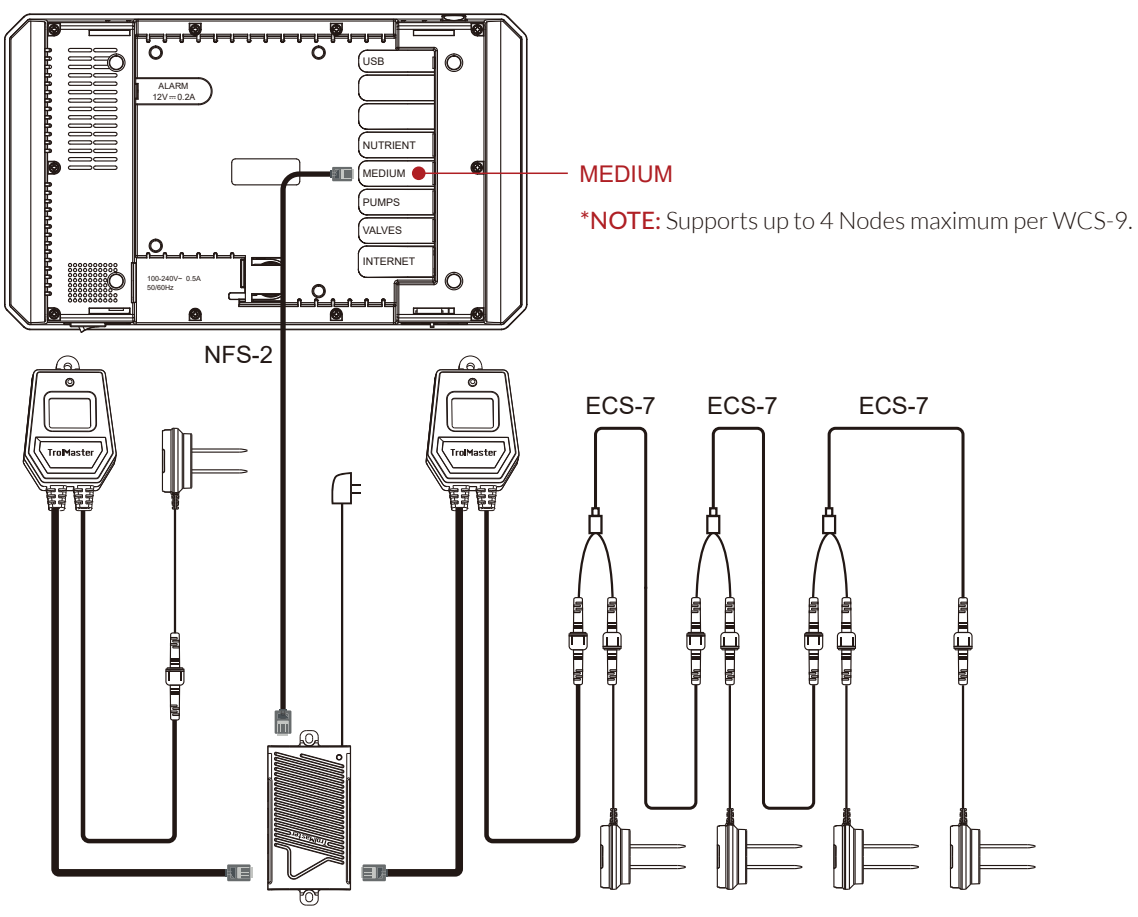
## Operating Environments

| | |
|---|---|
| **Temperature** | 32~122°F (0~50°C) |
| **Humidity** | ≤90%RH |

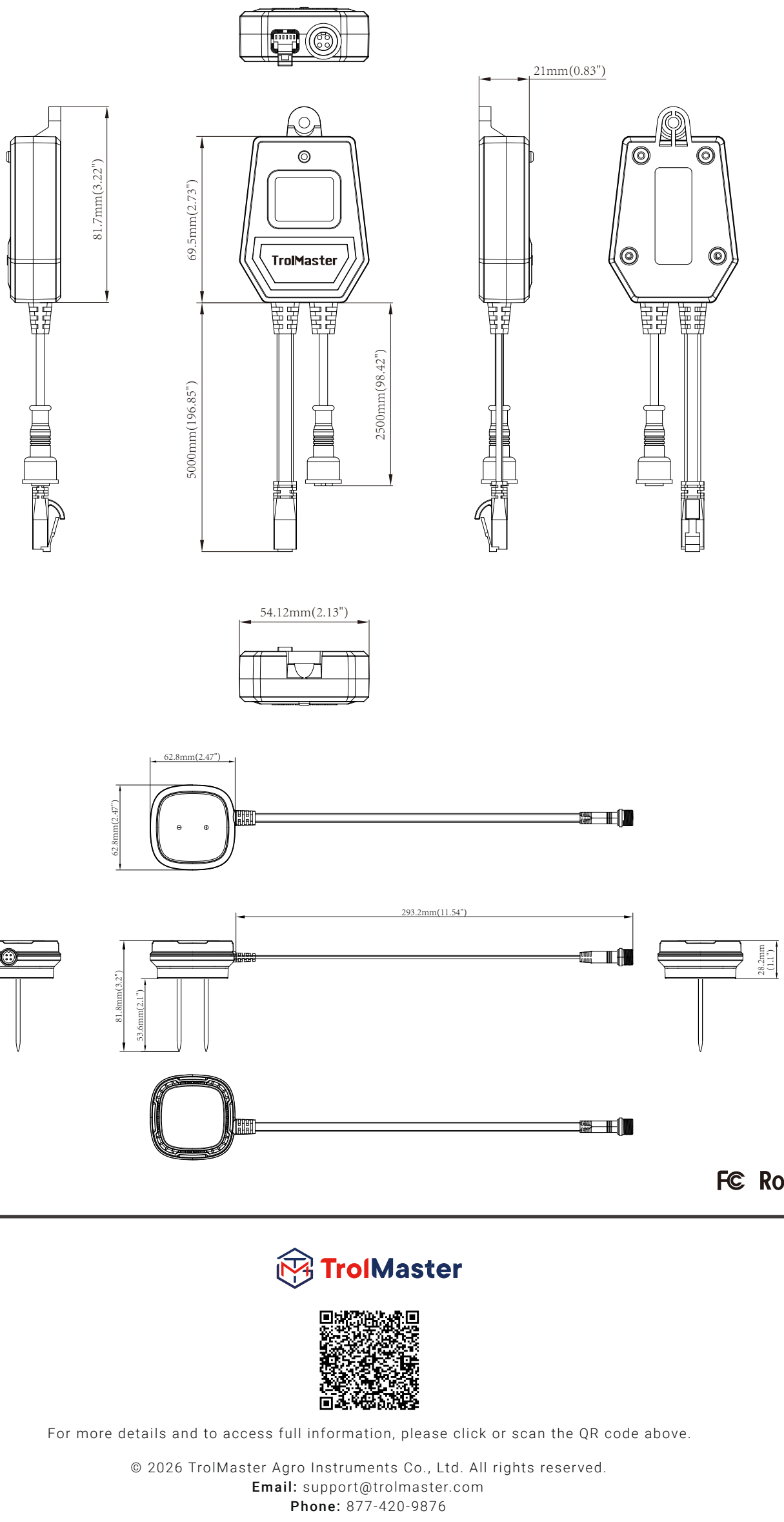
# Link Up

WCS-9

## Connection Diagram




## Product Dimensions




FC RoHS

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