MIMOS Smart Control Panel (Mi-SCP)

A control and measuring system to track and manage plants health and needs in greenhouse, nursery or even open field, designed in such a way to ease the installation and integration into existing or new environments. The integration of wireless technology in a smart environment becomes beneficial when cost and maintenance are the main concern among operators.

Overview

MIMOS Mi-SCP is an intuitive menu driven touch screen control panel lets you easily program, remote controls, adjust settings/threshold as well as sensors monitoring that can turn a greenhouse, nursery or open field into a smart Internet of Things (IoT) self-regulating system equipped with micro-climate-controlled environment for optimal plant growth. It is designed to meet the demand of fully automated greenhouse for researcher or commercial use regardless of greenhouse sizes and locations. Mi-SCP is a reliable system at a fraction of the cost towards IR4.0.

Features

Mi-SCP comprises the following features:

- **Real-Time Data Acquisition**
  Real-time sensor data acquisition and data graph plot for up to nine sensor parameters. Currently supports four-parameter graph plot, ambient temperature, ambient humidity, light intensity and CO2 gas sensor.

- **Automated Threshold Adjusts and Scheduling**
  Four greenhouse parameters can be controlled according to sensor readings. Misting control is based on ambient humidity sensor, thermal screen is based on light intensity sensor, circulation fan and ventilation fan are based on ambient temperature sensor.

- **Touch Screen Display**
  10.1-inch capacitive touch screen display with USB interface for data retrieval.

- **Easy Interface**
  Easy interface to greenhouse AC distribution box (DB).

Technology Benefits

The main impacts of Mi-SCP are:

- **Automated Environment**
  The variables important for crops success such as, temperature, humidity, light, soil moisture is continuously monitored. The automated actions evaluate change and take corrective action thus maintaining optimal conditions for plant growth.

- **Integration to Mobile Application for Remote Monitoring**
  A visual administrator dashboard mapped to mobile phone for ease of use and ability to manage and monitor the sensors and devices.

Technology Summary

Mi-SCP

A control and measuring system for tracking and managing plant health.

**Industries:** Agriculture, Aquaculture

**Features**

- Real time data acquisition
- Automated threshold adjusts and scheduling
- Touch screen display
- Easy interface

**Technology Benefits**

- Automated environment
- Integration to mobile application

Specifications

<table>
<thead>
<tr>
<th><strong>Mi-SCP</strong></th>
<th><strong>Product Specifications</strong></th>
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<tbody>
<tr>
<td><strong>Processor</strong></td>
<td>Intel Celeron J3455 (2M Cache, 2.3GHz)</td>
</tr>
<tr>
<td><strong>Memory</strong></td>
<td>4GB DDR3 RAM 256GB SSD Drive</td>
</tr>
<tr>
<td><strong>WiFi Wireless Communication</strong></td>
<td>Intel Wireless-AC 3168 802.11b/g/n, 100Mbps, 2.4000GHz-2.4035GHz, WP/WPA2 security, WEP/TKIP/AES</td>
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<tr>
<td><strong>Network Protocol</strong></td>
<td>HTTP Json, Proprietary MSCAN frame</td>
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<tr>
<td><strong>Wired Communication</strong></td>
<td>USB-RS485 3-wire internal, surge protected</td>
</tr>
<tr>
<td><strong>Control Parameter</strong></td>
<td>Schedule/automated</td>
</tr>
<tr>
<td><strong>Operating Temperature</strong></td>
<td>0 to 55°C</td>
</tr>
<tr>
<td><strong>Operating Humidity</strong></td>
<td>0 to 90%RH (non-condensing)</td>
</tr>
<tr>
<td><strong>Output Control</strong></td>
<td>16 channel, Configurable via text file</td>
</tr>
<tr>
<td><strong>Output Rating</strong></td>
<td>Dry Contact, Normally Open, 30V 5A max</td>
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<tr>
<td><strong>Power Requirement</strong></td>
<td>240VAC, 50Hz, 50W</td>
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<tr>
<td><strong>Overall Dimensions (WxHxD)</strong></td>
<td>400x400x200 (mm)</td>
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