

## TFS-01

FarmSense revolutionizes indoor farming with our cutting-edge monitoring and automation solution. Our high-end wireless sensor ecosystem, powered by IoT and AI, provides real-time data on environmental conditions. With FarmSense, users enjoy full control of their indoor farms from anywhere, ensuring optimal growth conditions and efficient resource management. Experience the future of farming with precision and convenience, all at your fingertips.

## FEATURES

- 24/7 Real-time Access via Smartphone and Web Dashboard
- Customizable for Specific Requirements
- Real-time Graphs & Report Generation
- Notifications & Alerts for Escalations
- Scalable and Modular Design
- Standalone or Integrated Mesh Network Operation Modes



## APPLICATIONS

Tissue Culture Lab

Hydroponics & Aeroponics Farms

Greenhouse

Mushroom farms

Vertical Farms

## TFS-01

### Module

#### Name/Module

FarmSense/TFS-01

#### Technology

GSM/GPRS/GNSS/WiFi/BLUETOOTH

### Cellular

#### Technology

GSM/GPRS, FDD-LTE

#### Data Transfer Rates

- LTE(Mbps): 10(DL)/5(UL)
- GPRS(Kbps): 85.6(DL/UL)

#### Bands

- LTE-FDD: B1/B3/B5/B7/B8/B20/B28#
- GSM/GPRS/EDGE 900/1800 MHz

#### Data Transfer Rates

TCP/IP/IPV4/IPV6/  
Multi-PDP/FTP/ FTPS  
/HTTP/HTTPS/DNS/MQTT

### Interface

#### Microprocessor

- Dual-core 32 bit Microprocessor
- RAM: 520 KB
- Filesystem: 4Mb

#### WiFi

- 802.11 b/g/n Wi-Fi

#### Display

- Display Type: OLED
- Dimension: 120x 60px

#### Inputs/Outputs

- 2 Channel Relay interface
- 2 digital inputs 3.3V to 5V
- 2 digital outputs 3.3V to 5V

### Sensors

#### Temperature and Humidity Sensor

- Temperature Range: -40°C to +125°C
- Humidity Range: 0% to 100% RH
- Accuracy:  $\pm 0.2^\circ\text{C}$  for temperature,  $\pm 1.8\%$  RH for humidity

#### Light intensity sensor

- Measuring Rang: 1-65535lx
- Spectral Sensitivity: Close to human eye response
- Accuracy:  $\pm 20\%$  (50,000 lux),  $\pm 30\%$  (100,000 lux)

TFS-01

---

## Physical

---

### Dimension

- (LxBxH): 4.5in x 3.5in x 2in

### Ingress Protection Range

- IP65

---

## Power

---

### Input Voltage Range

- 5V DC with Reverse Voltage & over voltage protection

---

## SOFTWARE SPECIFICATION

---

### ThingHz Android Mobile Application

- QR code provisioning to add a new device
- Real Time data monitoring of Smart tissue culture rack
- Remote automation of lights.
- 2Hr, 12Hr, 24Hr data download
- Report Download: download report of 2 days, week, 15 days and custom date.
- Set escalation condition for temperature and humidity.
- save records of experiment at each shelf.
- multi user management.