

Plant IQ is an IoT-enabled temperature, humidity, and light intensity data logger designed for precision monitoring in various agricultural settings. With its advanced sensors and versatile microcontroller, it offers real-time insights to optimize growth conditions for plants.



TECHNICAL SPECIFICATION

SHT4x 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
- Interface: I2C

Bh1750 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)
- Interface: I2C

ESP32: 32 bit Microprocessor

- Dual-core Tensilica LX6 microprocessor
- Clock Frequency: Up to 240 MHz
- RAM: 520 KB
- Connectivity: Wi-Fi, Bluetooth LE
- ADC Resolution: 12-bit SAR ADCs

LTE Module: SIM7670C

- Network Support: LTE-FDD, LTE-TDD, WCDMA
- Bands: Multi-band support
- Data Rates: LTE Cat 4 (150 Mbps DL, 50 Mbps UL)
- Interfaces: UART, SPI, I2C, GPIO

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 Racks
- Hydroponics & Aeroponics Farms
- Greenhouses
- Mushroom Farms

