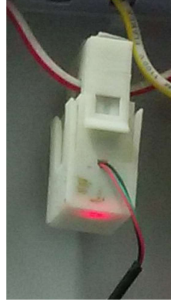


IoT Enabled Power Monitor



Overview:

IoT Enabled Power Monitor is designed and developed at IIT Hyderabad. It is a low-cost and compact solution for monitoring power consumption of any electric equipment. It wirelessly sends data to server computer, where it is stored for graphical visualization and analysis. To prevent intermediate tampering of power values by any intruder, the data is encrypted using AES algorithm with 128 bit security key. This gives additional security to the power monitor. The data stored on the server is available for remote viewing on Internet. The metering and communication modules are integrated along with non-invasive clip-on current sensor in a compact custom made 3d printed casing designed at IITH facilities.

Features:

- Compact size and Low Cost
- Non-invasive Operation
- In-house developed small size current sensor
- Active (Real) Power Measurement
- Equipped with WiFi Communication
- AES Encryption for secure communication of power data
- Storage and analysis of data on server computer
- Remote access of data from Internet (Link: <http://iot.iith.ac.in:8084/IOT/>)
- Custom made 3d printed casing

Specifications:

| | |
|-------------------------|------------------------------------|
| Connection Type | Single Phase 2-Wire (Non-Invasive) |
| Accuracy | < 5% of reading |
| Voltage | Nominal 230 Vrms (L-N) |
| Current | 0.1 – 5 A |
| Power Factor Range | Zero Lag – Unity – Zero Lead |
| Frequency | 50 Hz \pm 10% |
| Power Consumption | 0.4 W (5 volts Adapter) |
| Communication Interface | WiFi |
| Measured Values | Instantaneous Active (Real) Power |
| Enclosure | Custom Designed using 3d Printing |
| Dimension (LxWxH in mm) | 60 x 25 x 20 |
| Weight | 0.1 kg (Approx.) |