Full Energy Cloud Data GUI also to Smart Phones

Models: EE-404-Series



#### **FEATURES**

### **Full Data Analytics for Electrical Energy Consumption**

Supports IoT Centric Cloud Architecture with

Web Graphical User Interface and Mobile Application

For both Single and Three Phase Installations

Wide Voltage Input - 100-440VAC Three Phase

UL 94-V0 approved Polycarbonate IP2X DIN Enclosure

Standard DIN package

Six (6) Current Channel Inputs and

Three (3) Voltage Channel Inputs

Supports Current Transformers with 60A, 120A, 200A, 400A, 600A

with standard protected 333mV output

<1% (Voltage) and 0.85% +/- 0.15% of Full Scale CT Rating

(Current and Watts) Power Quality Data Accuracy

Data Communication Variants – WiFi and Cellular(Cat-1 and Cat-M1).

Remote Firmware Update

Measurement Category CAT III

Product Life of 10 years

Safety standard IEC 61010-1:2010 + AMD1:2016





#### **DESCRIPTION**

The Edge Energy Monitor real time energy monitor device is a DIN mounted unit which is installed into the switchboard of a Residential or SME Commercial facility. The product will transmit full Power Quality and Energy data to a Cloud Database which is then used to provide usage analytics and energy insights to Customers via a mobile app experience. Any additional enhancement on its software can be updated remotely.









Full Energy Cloud Data GUI also to Smart Phones

Models: EE-404-Series



| Electrical Specifications         |   |  |  |  |
|-----------------------------------|---|--|--|--|
| Available Configurations          | Single Phase or Three Phase (Wye and Delta)   |  |  |  |
| Electrical Frequency              | 50/60Hz   |  |  |  |
| Rated Voltage                     | 100-275 VAC Line – Neutral 1-Ph<br>173-440 VAC Line-Line, 3-Ph  |  |  |  |
| Rated Current                     | 60A, 120A,200A 400A, 600A split core current transformers.  |  |  |  |
| Lightning Strike                  | IEC61000-4-5 Class 1 500V   |  |  |  |
| Power Quality Data Accuracy       | Voltage < 1%<br>Current/Watts 0.85% +/- 0.15% of Full Scale CT Rating   |  |  |  |
| Power Factor Accuracy             | <u>+</u> 1 degree   |  |  |  |
| Power Quality Measurements        | vTHD, iTHD, individual harmonics up to 15th order   |  |  |  |
| Measurement Interval              | 1 — 150 second (configurable) @ 1sec data point<br>Default 30 seconds.  |  |  |  |
| Energy Transmission               | 5 second — 15-minute intervals (configurable)<br>Default 60 seconds   |  |  |  |
| Communication Outage data logging | 10 days of 15-minute interval data stored if offline and uploaded to server once reconnected.   |  |  |  |
| Current Sense Channels            | 1 – 6 channels; Single Phase and Three Phase.   |  |  |  |
| Operating Temperature Range       | -10 to 60 °C Ambient  |  |  |  |
| Data and Event Logging            |   |  |  |  |
| Power Quality Data                | Critical Parameters: Voltage per line, Current per channel, Power per channel, Power Factor per channel, THD per voltage and current channel  Non-Critical Parameters (per minute instantaneous): Frequency per line, Harmonics per current & voltage channels (odd harmonics from 3rd to 15th) |  |  |  |
| Event Logging                     | Over Voltage: >253V Under Voltage: <216V Over Frequency: >52 Hz Under Frequency: <48 Hz Over Voltage THD: >5%   |  |  |  |
| Connectivity                      |   |  |  |  |
| Communications Options            | WiFi and Cellular (CAT-1 and CAT-M1)  |  |  |  |
| Communications Architecture       | Periodic reporting to a central IoT Cloud server  |  |  |  |
| Systems Logs                      | Fully configurable measurement interval with 10 days Communication Outage Data Retention  |  |  |  |



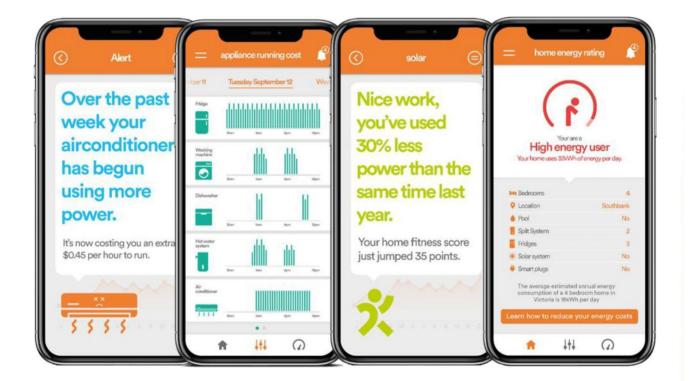
Full Energy Cloud Data GUI also to Smart Phones

Models: EE-404-Series



| Mechanical and Environmental       |  |
|------------------------------------|--|
| Dimensions                         | Two-pole, 35mm DIN package             |
| Weight                             | 100g                                   |
| IP Rating                          | IP2X                                   |
| Operating Temperature and Humidity | -10°C to 60°C, 0-95% RH non-condensing |
| Storage Temperature                | -30°C to 80°C                          |
| Operating Altitude                 | 1000m                                  |

### **GRAPHICAL USER INTERFACE**





Full Energy Cloud Data GUI also to Smart Phones

Models: EE-404-Series



### **LED indicators for Cellular Variant**

| Device Status (4G Cat-1/LTE Cat-M1) |                    |                        |                                 |                            | Power LED | Comms LED        |
|-------------------------------------|--------------------|------------------------|---------------------------------|----------------------------|-----------|------------------|
|                                     |                    |                        |                                 |                            | (Green)   | (Amber)          |
| Power to<br>Hardware                | Hardware Error     | Modem<br>Communication | Cellullar<br>Network Connection | Cloud Server<br>Connection |           |                  |
| OFF                                 | X                  | X                      | Х                               | Х                          | OFF       | OFF              |
| ON                                  | CRITICAL<br>ERROR* | Х                      | Х                               | Х                          | OFF       | OFF              |
| ON                                  | NONE               | ERROR                  | Х                               | Х                          | ON        | OFF              |
| ON                                  | NONE               | CONNECTED              | DISCONNECTED                    | Х                          | ON        | FAST BLINK (4Hz) |
| ON                                  | NONE               | CONNECTED              | CONNECTED                       | DISCONNECTED               | ON        | PULSE (5 Sec)    |
| ON                                  | NONE               | CONNECTED              | CONNECTED                       | CONNECTED                  | ON        | ON (SOLID)       |

### **LED indicators for WiFi Variant**

| Device Status (WIFI) |                    |                               |                            |                            | Power LED<br>(Green) | Comms LED (Amber) |
|----------------------|--------------------|-------------------------------|----------------------------|----------------------------|----------------------|-------------------|
| Power to<br>Hardware | Hardware Error     | WiFi Chipset<br>Communication | WiFi Network<br>Connection | Cloud Server<br>Connection |                      |                   |
| OFF                  | X                  | X                             | X                          | Х                          | OFF                  | OFF               |
| ON                   | CRITICAL<br>ERROR* | Х                             | ×                          | Х                          | OFF                  | OFF               |
| ON                   | NONE               | ERROR                         | ×                          | Х                          | FAST BLINK (4Hz)     | OFF               |
| ON                   | NONE               | CONNECTED                     | DISCONNECTED               | Х                          | ON                   | OFF               |
| ON                   | NONE               | CONNECTED                     | WPS Configuration          | Х                          | ON                   | SLOW BLINK (1Hz)  |
| ON                   | NONE               | CONNECTED                     | AP Configuration           | Х                          | ON                   | FAST BLINK (4Hz)  |
| ON                   | NONE               | CONNECTED                     | CONNECTED                  | DISCONNECTED               | ON                   | PULSE (5 Sec)     |
| ON                   | NONE               | CONNECTED                     | CONNECTED                  | CONNECTED                  | ON                   | ON (SOLID)        |



Full Energy Cloud Data GUI also to Smart Phones

Models: EE-404-Series



### **ENERGY MONITOR PART NUMBERS – EE-404-XXX**

Cellular

CAT-1: EE-404-001 CAT-M1: EE-404-009

WiFi

WiFi: EE-404-006

### **Contact**

Magis Innovations Inc. www.magisinov.com info@magisinov.com

