Other Questions and Information

Short articles, other un-categorized information

- Electrical Calculations

  - How is power factor calculated?
  - AC (RMS) / DC (Mean) / Frequency values

- Ratings, certifications, etc

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Electrical Calculations

All about calculations

How is power factor calculated?

We calculate power factor off of real power (P) and apparent power (S). Where pf = P/S. Real power is calculated from the product of the Instantaneous Voltage and Current. Apparent power is calculated from the product of the RMS values for Voltage and Current.

AC (RMS) / DC (Mean) / Frequency values

The Channel Checker shows 4 values for each channel input:

- AC+DC (RMS)
  - *Geometric* sum of the AC and DC values. May not match the numerical sum of the AC and DC values.
- AC (RMS)
  - AC-only RMS value of the signal input.
- DC (Mean)
  - DC-only value of the signal input.
- Frequency
  - The frequency count of the signal. Firmware **v4.0.5 and above** calculates this based on the zero-crossing of the signal, firmware **prior to v4.0.5** calculates frequency based around the mean-value of the signal.

Ratings, certifications, etc

AIC or short-circuit rating

AIC (ampere interrupting capacity) is the maximum short-circuit current that a circuit breaker can safely interrupt. The eGauge is not a circuit so it does not have an AIC rating.
Socket-meters (or any type of in-line meter) will have a maximum current that they can safely carry and such meters usually have a short-circuit current rating. For safe operation, the short-circuit current rating has to be higher than the maximum short-circuit current that could occur at a given installation location.
eGauge EG3xxx and EG4xxx meters are not inline-meters and as such do not have a short-circuit current rating. Instead, the CT sensors of the eGauge meters clamp around existing wires, so as long as those wire have suitable current rating, the installation will be safe.

Certification Documents

The EG4xxx declares the following certifications. Conformity documents are provided, individual's names and signatures have been redacted for privacy.

IEC/UL 61010-1 Ed. 3.0 B:2010
UL Category FTRZ

The UL file number for eGauge is E495717. This certification can be found via the live UL website.

At the time of writing this is located at iq.ulprospector.com. A free account is required to perform searches. Search for the UL file number or "eGauge" for the UL certification confirmation.

IEC 61000-6-1 Ed. 3.0 B:2016, IEC 61000-6-3 Ed. 2.1 B:2011

The IEC and CE conformity statement may be downloaded here or from the sidebar on the left (CE-DoC.pdf).

FCC Title 47 CFR Part 15-Subpart B Class B, ICES-003 Information Technology Equipment Class B

The FCC and ICES verification document may be downloaded here or from the sidebar on the left (fcc.pdf).

ANSI C12.1, ANSI C12.20 (0.5%)

The ANSI Accuracy results document may be downloaded here or from the sidebar on the left (EG4xxx-ANSI-cert.pdf)

LEED Credits for Submetering

See attached document for information LEED v4 credits that are applicable to the eGauge and metering.

Firmware Upgrade Bugs before v4.0.4 (EG4xxx)

Certain firmware versions prior to 4.0.4 have problems with firmware file uploads. On EG4xxx (Core/Pro), if firmware upload fails prior to v4.0.4, install v4.0.1 followed by v4.0.4:

1) Install v4.0.1 via file: download

2) If successful, install v4.0.4 via file upload: download

Newer firmware versions can be installed normally via online-connected download or manual file upload (latest versions available via eGuard).

Business Hours, Contact and Holidays

> If you're looking for our ticketing system login, please visit **egauge.freshdesk.com**.

> You can also submit a ticket by clicking the "New Ticket" button in the lower right-hand side of the window!

Normal Hours of Operation

eGauge Systems support and sales services are normally open between 9AM and 5PM Mountain Time, Monday through Friday.

Due to scheduled meetings, customer appointments and general ticket volume, service is not guaranteed at all times.

Policy

Please see our support and complimentary services policies at egauge.net/policy/#complimentary-services.

2024 Holiday Closures

New Year's Day - January 1st (Monday)
President's Day - February 19th (Monday)
Memorial Day - May 27th (Monday)
Independence Day - July 4th and 5th (Thursday/Friday)
Labor Day - September 2nd (Monday)
Thanksgiving - November 28th and 29th (Thursday/Friday)

Contact Methods

- Online Store: store.egauge.net
- Sales Email: sales@egauge.net
- Support Email: support@egauge.net