



## Academic Evaluation and Third-Party Testing of the “Satic Global Energy Saver”

Model: ES120

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To whom it may concern,

Hello, my name is Bradley Layton, PhD. I currently serve as Director of the Energy Technology Program at the University of Montana, College of Technology (UM-COT) in Missoula Montana. As a professor of energy technology, I was recently approached by Mr. B.D. Erickson II on behalf of Satic Inc. Mr. Erickson is currently seeking academic evaluation as well as third-party product testing and evaluation of the performance of the "Satic Global Energy Saver" (GES), in particular the "ES120V Plug-in Electricity Conditioner."

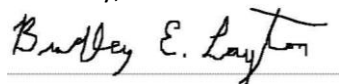
I recently had the opportunity to conduct an evaluation of the ES120V on a variety of household appliances. During data collection with a Kill-A-Watt® meter, all of these inductive load appliances experienced a drop in current and a commensurate increase in power factor while the ES120V was in use.

My preliminary data as well as that collected by EcoJAB (see attached documentation) indicate that the ES120V has the potential to benefit a consumer who implements the ES120V by reducing the current draw for a variety of household appliances and to reduce loads on utility lines by dampening inductive loads. The performance of the ES120V is appliance-dependent: the type and age of an appliance affect results. So, while the consumer's power bill is not guaranteed to drop, as prices on electricity, billing practice and even meter type used all affect billing, an overall efficiency in the energy delivery is nearly certain. As stated by Misikian et al., (2009) *"If an energy saving device of the type we have considered is used to increase the power factor, the utility will not have to supply as much current when certain electrical appliances are operated."* Currently, energy bills are calculated using the product of voltage × current × power factor × time × cents per kilowatt hour. With the advent of deregulation and smart grid technology, as indicated by the USDOE, it may become the case where customers with low power factors are charged more than customers with high power factors (DOE, 1997). Thus the ES120V will likely put these customers at a billing advantage. The primary reason that the Satic method for power factor correction is superior to other foreign-made devices is that the ES120V uses a multi-capacitor strategy that is tuned to be compatible with nearly any home appliance.

With the introduction of the national movement to the "Smart Grid," which promises to add power factor metering to the kWh and peak usage billing by utility companies, the GES module has the potential to benefit virtually any consumer's electricity bottom line. Some regions of the United States currently experience this new "efficiency of use" billing. Understandably, power factor correction largely benefits utility companies; however, micromanagement and adjustment of power factor does have the potential to benefit the consumer with upcoming billing codes. This would result in monetary savings via a reduction of total kWh consumed, efficient use, and lower demand rates.

In conclusion, if the consumer wishes to purchase a home electronics product that has the potential to reduce energy consumption without sacrificing personal comfort, the ES120V is a reasonable purchase from a "Triple Bottom Line" perspective. For more information, please read Stenzel (2010).

Sincerely,



Bradley E Layton, PhD.

DOE, 1997. <http://www1.eere.energy.gov/industry/bestpractices/pdfs/mc60405.pdf> Accessed Aug 11, 2012.

Misakian et al., 2009 Regarding Electric Energy Savings, Power Factors, and Carbon Footprints: A Primer NIST Technical Note. [http://www.nist.gov/customcf/get\\_pdf.cfm?pub\\_id=903669](http://www.nist.gov/customcf/get_pdf.cfm?pub_id=903669)

Paulette L. Stenzel, 2010 regarding Sustainability, the Triple Bottom Line, and the Global Reporting Initiative <http://globaledge.msu.edu/resourceDesk/gbr/gbr4-6.pdf>