



**MARTINSON
MACHINE**

747 SW 2ND AVE #325
Gainesville, FL 32601
(415) 900 - 4659
martinson@martinsonmachine.com

New energy meter shows how much dollars you spend in real-time

September 17, 2019

Product Overview

How about being able to monitor electricity consumption? And knowing that “we can reduce the cost of power outages by over 75 percent and save America over \$150 billion” (source: Electric Power Research Institute).



This is the proposal of the energy meter (Martinson Smart Meter) developed by the company Martinson Machine, by the engineer Rodrigo Henrique Martinson Santos. “What makes us stand out is our display, which translates technical information into data that can easily be understood by the consumer”. Says Rodrigo Martinson. “Having access

to data remotely has been the advancement in recent years, replacing those conventional meters that were known by “electricity meter”. Our innovation is being able to read electricity data in a way that anyone can understand their consumption in monetary representation, he added.

To contextualize the importance of this innovation, we must emphasize the fact that we are in a time when everything is controlled. The data package of mobile phone, internet consumption, the number of friends on social networks, everything can be measured and monitored. If there are disagreements, the user can decrease usage, add load, decide their actions. “But when it comes to electricity consumption, without meters, this is not yet possible.

Technical data that is issued to our account at the end of the month indicates the amount of consumption, measured in kilowatt-hours (kWh), within that billing cycle. But the consumer has no control, no understanding of the data,” explains Mr. Martinson.



With the equipment developed by the engineer Rodrigo Martinson, the consumers will be able to know how much energy was consumed on any given date. For example, today consumers do not know what they will spend until the end of the month and how much they will pay. Nor will they know what the period was, the cycle that was measured if the user doesn't read the bill in

detail. "With our meter installed in your home, you will be able to look at the display and know how much you have spent so far. With this information, you can maintain or change your habits," says the creator of Martinson Smart Meter".

Rodrigo Martinson believes that it is important for the population to have access to this information in order to control their electricity expenses.

Energy savings x differentiated tariffs (TOU)

Considered the first meter with an intelligent display, this device also contributes to a worldwide issue: energy usage awareness. As we increase the exploitation of natural resources, there is a depletion of raw material and, therefore, the prioritization and valorization of consumer awareness are very important.

And Rodrigo warns: "energy is limited". According to him, as much as we can in the near future capture all the energy that comes from all renewable sources, transmission, and distribution systems are technically limited.

For this reason, within the American reality, the engineer remembers the differentiated tariffs that were created after situations of collapse and large blackouts. "One of the solutions that some power companies have put in place to discourage energy waste has been to offer consumers cheaper rates for those who use energy at off-peak hours, and more expensive rates for those who do the opposite, explains Rodrigo. These peak hours vary from company to company but are usually between 6 pm and 10 pm.

According to the equipment's creator, engineer Rodrigo Martinson, the United States has its source of energy based on fossil fuel, which is a limited resource. With the increasing use of electrical appliances, the energy demand only tends to grow and consumer awareness of energy becomes necessary so that new investments in power generation, transmission and distribution don't need to be made.

Practical Advantages of Smart Meter

Behavior change

As proven in Google and IBM's study in Dubuque, Iowa, 2012, it was shown that informed people tend to change their spending habits. In this experiment, 2,000 families were notified by email of daily consumption. As a result, there was an 11% reduction in consumption and a change in behavior in 78% of the participants. Therefore, knowing how much has been spent in a one-hour shower, the consumer will decide whether to continue spending the same amount of time in the shower. Applying the same reality throughout the country in 2018 this would represent savings of nearly 400,000 GWh / year, which in monetary value is equivalent to about 40 billion dollars in savings for the population.

Security

As the equipment outputs data to the user's mobile phone, any changes in consumption may be monitored in real-time. If a homeowner has turned everything off and left home, the system will notify the customer if something was turned on. And if it wasn't he, there's someone else in the house.

'Theft Energy'

This gain is for the power utility company. If the user maintains an average power consumption and suddenly that consumption decreased considerably, the system will identify if a clandestine electrical connection has been made, then the consumer will be monitored.

Late Payment/Power interruption

In the case of a customer not paying the utility bill, instead of the utility company sending professionals to cut and later to reconnect power, everything can be done remotely. Also, if the home is out of power, notification calls to the utility company won't be necessary. The system is able to identify power outage, open an opportunity for prepaid options as well.

Prepaid System

If utility companies decide to adopt the prepaid system, this could improve the companies' finances. To better understand: currently, when the customer does not pay their utility bill, the company will bear the loss so that the company does not lose the right to provide services. It pays the bills and taxes for energy that has already been consumed. If we apply the prepaid system, we will have cash in advance even before the energy is consumed, and this is advantageous for the company's profit.

Measurement of differentiated tariffs

Considering the aforementioned differentiated tariffs 'Time-of-Use'; how would readings be done with the current meters? It is technically impossible for the utility technician to visit every house at those peak hours. And the smart meter is able to read, understand, and translate these tariffs; separating prices by time and even showing it to the user in a way that everyone can understand.

About the company

Currently, the technology developed by Rodrigo Martinson is also being developed focusing on the North American market. His project has already been approved by the University of Florida technology department and by the technology department of Itajuba-MG (Brazil).



The project was developed by Rodrigo Martinson and has been located in the city of Gainesville-FL, within the program of the Incubator of Technology-Based Companies (The HUB | UF Innovate). The growth projection includes the construction of a factory in the United States or the beginning of activities in partnership with American companies.