



ant

EFFICIENCY
SAVING
ENVIRONMENT

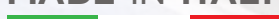
For your Business
choose efficiency,
switch to **Ant!**



Energy efficiency system
Business & Industry

IoT **INDUSTRY 4.0** Ready

MADE IN ITALY



**Control, protection, savings
in one device**

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- » A revolutionary device designed by ESE capable of calculating and identifying the Optimal Minimum Impedance generated by household appliances and electrical equipment in homes, offices, shops, companies. When this value is calculated it gives to the equipment a constant voltage, despite having a variable downstream of the energy meter.
- » The operating principle optimizes the input impedance of the distributed loads present in the building, thus protecting the appliance from external overvoltages and considerably limiting the electrical dissipation on the conductors and in the loads present in the structure, with a consequent increase in the useful life of the devices and the electrical system in general.
- » By optimizing the management of the electrical system, the instantaneous power used decreases with the limitation of the disconnection phenomena of the meter. On balance, and considering the elimination of disturbances from the electricity network, it allows savings of about 10-30%.

The industries **ranch**

- » Over 200 kVA, ESE offers a range of products, generally aimed at production companies, healthcare facilities, shopping centers, public and private buildings in which there are multiple and different needs, highly innovative and modular, capable of covering any size of power.
- » Thanks to specialized and qualified technicians, ESE is able to offer the customer an analysis of the electrical system and to provide a personalized industry-type solution parameterized according to the actual need and use of the electricity network.

» OUR OBJECTIVE /

» **Energy efficiency**
IoT INDUSTRY 4.0 Ready
+ Bonus Sud Tax Credit

» **Resource saving**
Reduction of climate-altering emissions



Why choose ant for your business

all the **advantages** for **company**

01

System for adapting the impedance of the user circuits to the impedance of the generators for improving the efficiency of the systems, safeguarding the devices and saving energy.

02

Once connected to the electricity grid, the device calculates the impedance seen by the generator towards the load and optimizes this value in order to improve the energy transfer between the generator (meter) and the load (system), effectively reducing the energy dissipated by the system due to factors not attributable to the use of the devices themselves.

03

The device also acts as an optimizer of the Power Quality of the input line. Power Quality is the characteristic of the electricity grid to transfer power efficiently to the users, eliminating waste as much as possible.

04

The system is completely remote managed, and is equipped with a series of integrated sensors, capable of monitor all the operating parameters of the device, promptly detect any anomalies and effectively and efficiently manage the state of wear of the internal components.

05

In the Business and Industry segments, the solutions range from 22.5 to 4000 MVA, managing to serving the most disparate groups of users.

sector of specialization



RESTAURANT



LARGE SCALE DISTRIBUTION



HOTEL



INDUSTRY



SANITARY



SHOPS

More Opportunities for the companies that want to **improve Power Quality** and **save costs of electricity**.

ESE provides a Hardware and Software platform to companies that want to improve "Power Quality", optimize consumption and further reduce energy costs. Each company, according to laboratory tests and from the measurements made on the ANT devices, it has an energy saving of about 20-25% with peaks higher than 30%.

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The ANT Device has been tested *in the laboratory of*



» Execution of tests

Below is the list of tests performed:

1. NON LINEAR LOAD

- a. 253 V, con ANT, R
- b. 230 V, con ANT, R
- c. 207 V, con ANT, R
- d. 253 V, senza ANT, R
- e. 230 V, senza ANT, R
- f. 207 V, senza ANT, R

2. RESISTIVE LOAD

- a. 253 V, con ANT
- b. 230 V, con ANT
- c. 207 V, con ANT
- d. 253 V, senza ANT
- e. 230 V, senza ANT
- f. 207 V, senza ANT

For each test repeated measurements ($N = 120$) of the:

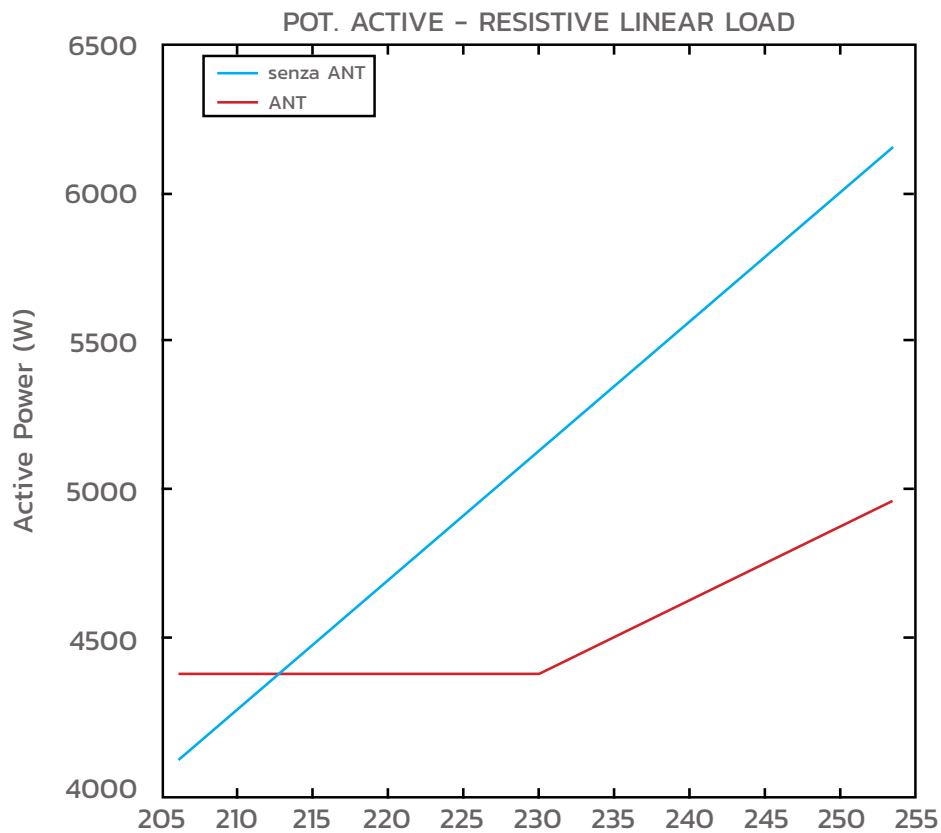
- star voltages ($V1, V2, V3, VSUM$)
- of the input currents ($I1, I2, I3, ISUM$)
- of active power ($P1, P2, P3, PSUM$)
- of apparent power ($S1, S2, S3, SSUM$)
- power factors ($PF1, PF2, PF3$)

The following tables show the average values (VM) and the Standard Deviation (STD) of the measurements.

THE SCIENTIFIC MANAGER

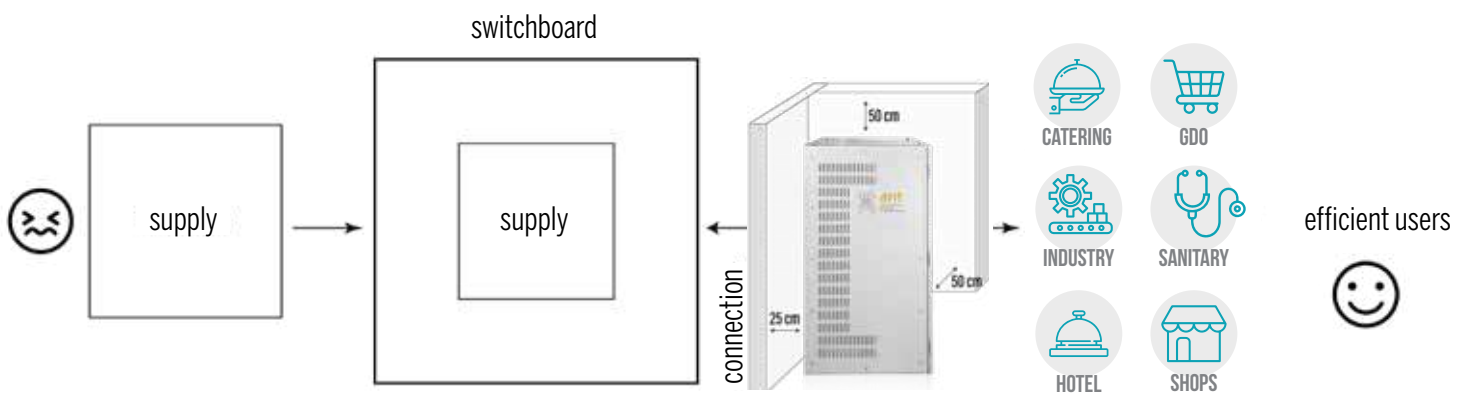


» Example of one of the tests



» Machine installation diagram

The ANT device is installed in low voltage. After the transformer cabins (if any) and downstream of the main switch on the general panel of the electrical systems.



* Necessary condition is that ANT is connected to the network with an Ethernet connection and free DHCP.



energy efficiency division



Company awarded by



The ANT Device has been tested in the laboratory of: industrial energy department - Federico II University



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We are proud to be part of



**It is written ESE,
but it is read EASY,
as easy as
saving energy**

**ESE_Energy efficiency division
Clesi s.r.l.**

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