

HANDCRAFT SUPERCAPACITORS

We have been working on supercapacitors since 2016. World industry (China - USA, etc.) has been producing supercapacitors for years, but manufactures them with chemical compounds and in small series.

Instead, we have created simple and ecological supercapacitors of large dimensions especially for the home and for industry and for large systems.

Supercapacitors have the same energy storage properties as a battery. (lithium, lead, iron phosphates etc.)

But there are substantial differences between supercapacitors and batteries, listed below.

OUR SUPERCAPACITORS – ‘ I call HandCraft Supercapacitors’

- Almost infinite duration. Millions cycles.
- Loads very fast. (They can be charged in fractions of a minute if - the charging source has a high power).
- They can also be discharged quickly providing high energy boosts.
- They do not suffer damage from fast discharge and charge, being a physical device and not a chemical one like a battery.
- Construction with simple materials (activated carbon - salt water – steel – plastic box). Therefore they are completely sustainable and recyclable.
- Very high volume and weight (about 15 times higher than a lithium battery)
- They do not change over time as they have no chemical reactions.
- Ease of construction. You can build them in any garage with normal tools available. Anyone can make them even at home.

They have no danger. They cannot ignite or explode.
-They do not get hot during use.

BATTERIES

- Small volume - 15 times smaller about then my supercapacitors
 - Short life (5-10 years)
 - Rare and expensive building materials – often only found in certain localized parts of the world. They are often heavily polluting materials
 - They cannot be loaded quickly – nor can they be unloaded quickly
 - Construction difficulty. Only industry can produce them.
 - Very dangerous such as explosion – fire etc.
 - At the end of their life they end up in special landfills and cannot be recycled (recycling would be too expensive, it is not convenient)
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USE OF OUR SUPERCAPACITORS

HOME

An average house needs to accumulate about 7-8 KWh per day. This can be accomplished with about 2 cubic meters of our supercapacitors. The connection to photovoltaic panels takes place directly in a simple way and without the use of any electronics. A house with supercapacitors and photovoltaic panels can achieve total energy independence. It no longer needs to connect to the trunk line.

INDUSTRY

Covering the roof of an industrial warehouse with photovoltaic panels (for example 10,000 panels) and building 1,000 cubic meters of supercapacitors could accumulate about 3 MegaWatt hour, which is the average daily consumption of a small town of about 3,000 persons.

AUTOMOTIVE- CARS

You can't use our supercapacitors. They are too bulky and heavy.

BUS – TRAM

They can be used for short journeys (5-6 km) and then when the bus stops they can be charged in one minute with a very powerful source. They are already doing it in Switzerland with industrial supercapacitors (which supercaps however do not have our ecological characteristics

BACKUP SYSTEMS FOR LARGE ENERGY SPEAKS

In these situations supercapacitors are perfect. For example where large engines or industrial machines have to be started.

OTHER USES

We have used them in electric fences for animals, in areas where there is no power line, to protect fields against the intrusion of dangerous external animals. The results have been exciting.

IMAGE OF OUR SUPER CAPACITORS

They appear as small cells about the size of a car battery.

For a house you can build modules of 40 supercapacitors in series. Each module of 40 cells accumulates 4 KW hour

Images of the supercapacitor system in my colleague Claudio's house with 40 cells for 4 KWh - Weight 1400 Kg - Volume 1.4 Cubic Meters



Single Cell – Capacity about 360.000 Farad

Weight 35 Kg - Storage 120 Watt hour – Voltage cell 1,8 Volt



Single Cell Measure - 30 cm x 40 cm x 30 cm



FUTURE DEVELOPMENTS & SOCIAL GOALS

After summer 2023 probably november december, we will offer the opportunity for anyone who wants to build these supercapacitors to learn how to build them themselves. We will do a small building class. The course will be free. Location Region Veneto and Marche.

Sorry, no course online !

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