

EEI ENERGY STORAGE SYSTEMS



WE ADD INTELLIGENCE TO THE GRID

The possibility to store the energy in order to reduce peak of absorption or to use renewable energy sources more efficiently is one of the most important part of the Smart Grid implementation

EEI design and manufactures a full range of Energy Storage System, specifically designed for Industrial users. EEI systems are made with its strong expertise in power electronics, joined with the more modern technology for the energy storage.



Navicelli Project – 1MW peak

Energy Storage System manufactured by EEI can contribute effectively to the implementation of Smart Grid, giving to the customer a solution that can bring to an improvement of energy quality and availability, together with a cost reduction for power supply.

EEI Storage System are designed to work in parallel with the main electrical grid, performing a wide range of important functions: main functions of the Storage System are:

- Peak-shaving and load-levelling
- Power supply in case of grid failure and black-start
- Management of unbalanced loads
- Management of active and reactive power
- Active filter

STORAGE TECHNOLOGY

EEI Energy Storage System includes Battery banks based on Li-polymer technology, particularly suitable for peak-shaving and energy quality purpose, thanks to high energy density and possibility to withstand charge and discharge currents up to 5 times the nominal.

Li-polymer batteries are empowered by an Active BMS designed and patented by EEI. In case of a cell with a state of charge different from the other, the EEI Active BMS automatically re-distributes the charge between the cells rather than dissipate it, increasing overall conversion efficiency. The same active equalization is done between batteries in a string, with negligible energy dissipation in the process.



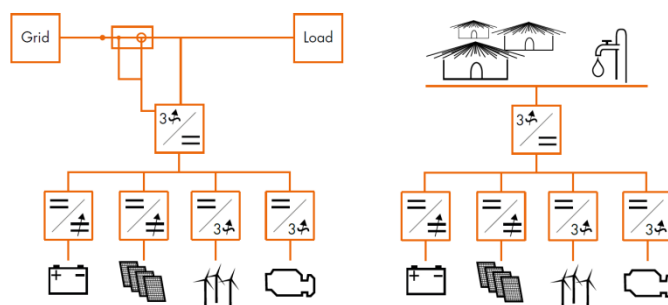
FLEXIBILITY

Upon request EEI Energy Storage System can be coupled with different type of storage system and different technology of batteries, with the target to maximize the performance of the equipment and provide the best solution, tailoring equipment on customer needs.



INTEGRATION WITH RENEWABLE ENERGY SOURCES

EEI can easily develop system for the integration of different energy sources, both conventional and renewable, with the aim to achieve the best management of energy fluxes in grid-tied and off-grid applications.

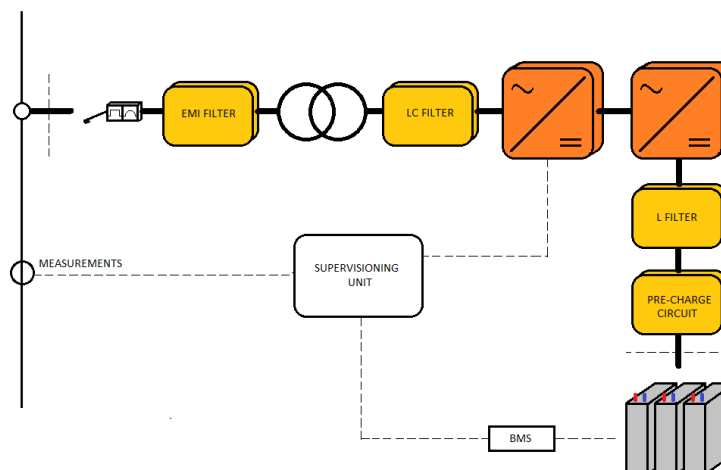


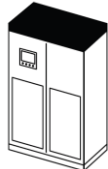

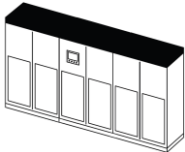
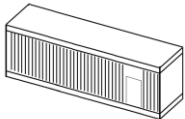
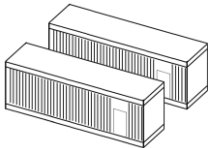
EEl ENERGY STORAGE SYSTEM INCLUDES
AC Side

Main Circuit Breaker
 EMI Filter
 Insulation Transformer
 LC Filter
 EEl AC/DC Regenerative Inverter
 Supervising Unit

DC Side

EEl DC/DC buck/boost
 Filter
 Pre-charge Circuit for Black Start
 Battery Bank with BMS


PRODUCT RANGE - MAIN TECHNICAL PARAMETERS

Series	Product Range	Dimensions	Power / grid type	Energy Storage
EEl-ESS-Q2		1600x2200x800	30 kW – 80 kW Low Voltage 230V/400V	From 15 kWh to 25 kWh
EEl-ESS-Q3		2400x2200x800	110 kW – 250 kW Low voltage 400V	From 25 kWh to 75 kWh
EEl-ESS-Q5		4800x2200x800	200 kW – 500 kW Low Voltage 400V/690V	From 50 kWh to 125 kWh
EEl-ESS-C.1		40' High Cube	Container 500 kW / 1 MW Medium Voltage	up to 500 kWh in a single container
EEl-ESS-C.x		40' High Cube	Multiple Container Solution Medium Voltage	Starting from 500 kWh