

EcoFlex Energy Storage Module

Battery energy storage system MV or LV connected




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EcoFlex ESM

The EcoFlex Energy Storage Module (ESM) is an ISO sized housing that provides electrical energy storage and can be connected to an LV or MV grid. The enclosure accommodates the DC section; Li-Ion batteries; a battery management system and battery protections; the AC section with power conversion; AC distribution panels and an optional transformer; the eStor energy management system as well as all auxiliary systems including an HVAC system, and fire detection and fighting system.

The EcoFlex ESM has been designed to fit into an ISO enclosure for ease of transport, loaded and downloaded. The solution features the ABB eStore energy management system which, through specific application algorithms, provides typical applications such as peak shaving, load leveling, ancillary services, and load shifting. It can be connected to renewables and functions in an islanding mode that features black start functionality.

The solution is modular, compact and stackable enabling it to be placed over other ISO enclosures that provide different applications or solutions, such as high power EV charging, or transformers stations, which enable the EcoFlex ESM to easily be upgraded or expanded as required. This ease of installation reduces site activities in terms of manhours, excavation and civil works activities.

 **Modular solution easy to ship, load and offload**

 **Reduces site activities and safety related risks**

 **Plug-and-play functionality provides a simple, quick installation**

 **Scalable, stackable and relocatable**

The EcoFlex enclosure not only protects the electrical components from vandalism, it can also be easily relocated.

Solution features

- Factory tested and pre-wired
- Easy to install, plug-and-play with compact dimensions
- Scalable and stackable, based on a modular standard design
- Relocatable, adapts to temporary power needs
- Easy to ship, load and offload
- Lockable enclosure prevents unauthorized entry
- Pre-engineered solution reduces project engineering time and risk

Technical data

	Ratings
Energy storage inverter power	Up to 500 kW
Energy capacity	Up to 550 kWh
Connection method	3 phase
AC voltage	Up to 24 kV
Network frequency	50Hz/60Hz +/- 5%
Efficiency	>98,6% (converter)
Reactive power compensation	4 quadrants
IP rating	IP 54
Temperature	-20+40 °C

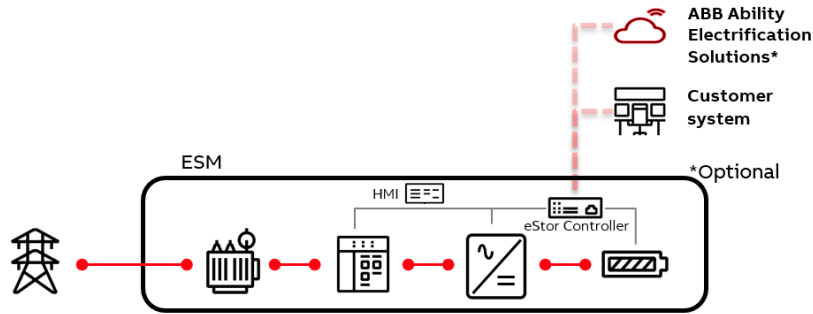
Optional equipment

- Shock damper protects power electronics
- Remote monitoring and control

Installation

- MV or LV network connection needed at site
- Reduced site works
- Compact design for reduced footprint

Single line diagram for: 500 kW 500kWh, MV or LV connected



EcoFlex ESM 20' enclosure with DC section, power conversion, AC section and control system

Internal view: EcoFlex ESM

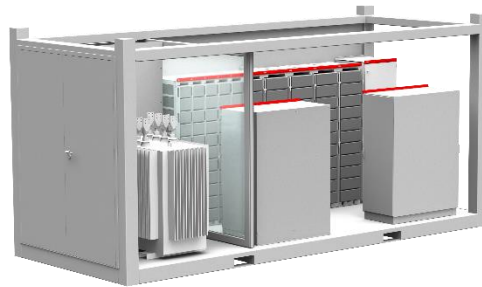


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