Distributed Energy Storage module
EcoFlex eHouse to support the grid with battery energy storage

The energy storage module in EcoFlex eHouse solution, with integrated energy storage, provides a buffer of power and energy in parallel to the grid. Typical application is the peak power demand control and energy back-up. The ease of installation of a pre-wired solution drastically reduces site activities in terms of man hours, excavation and civil works activities. The different versions of the pre-engineered and industrialized ESM allow scalability, high reliability and reduced project execution times.

Features of solution
- ISO dimensions for ease of transportation
- Lockable enclosure to prevent unauthorized entry
- Compact design to reduce footprint installation
- Plug-and-play solution
- Pre-tested at factory
- Relocatable
- Robust design

Equipment description
The EcoFlex eHouse typically houses medium voltage switchgear (up to 40.5 kV), transformers (oil or dry type), low voltage switchboard with protection devices, i.e., circuit breakers or fused disconnects, and integrated energy storage. The enclosure is compartmentalized to isolate the sections to reduce risk of accidental handling.

Technical data

<table>
<thead>
<tr>
<th>Key specifications</th>
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<tbody>
<tr>
<td>Medium voltage level</td>
<td>from 2.4 – 40.5 kV</td>
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<tr>
<td>Typical ratings (kVA)</td>
<td>up to 2000 kVA</td>
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<tr>
<td>Secondary voltage</td>
<td>400-480 V</td>
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<tr>
<td>Storage power</td>
<td>Up to 1800 kW</td>
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<tr>
<td>Storage capacity</td>
<td>Up to 1800 kWh</td>
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<tr>
<td>Trafo type</td>
<td>Oil or dry</td>
</tr>
<tr>
<td>Protection degree</td>
<td>IP 54/23D (MV SWGR, LV and storage /trafo)</td>
</tr>
<tr>
<td>Applicable standards</td>
<td>IEC, GB, AS, GOST, ANSI, CSA, and more</td>
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Optional equipment
- Seismic certifications
- HVAC
- Fire extinguishing system
- SCADA ready
- Remote monitoring
- Remote monitoring and control
- Energy management systems

Installation
- One-piece delivery factory assembled and tested
- MV and LV connection needed at site
- Reduced site works
- Compact design for reduced footprint
- No heavy crane needed
- Standard lifting devices to be used

Single line diagram

Energy storage module EcoFlex solution with integrated energy storage