

TECHNICAL DATA SHEET

ABB eStorage Flex 20 Fully integrated Energy Storage System

The state-of-the-art ABB eStorage Flex is a compact and walk-in, fully integrated, preengineered energy storage system designed to maximize the return of investment with an industrialized solution that reduces installation time and complexity as well as transportation costs. The solution is optimized for functionality featuring digital intelligence that improves solution performance and operating costs.



Plug-and-play

Provides all required batteries, power conversion, coupling transformer, safety features, cooling, and protection and controls.

Factory tested

Factory built solution integrates comprehensive safety features that bring extensive quality control for the highest level of safety.

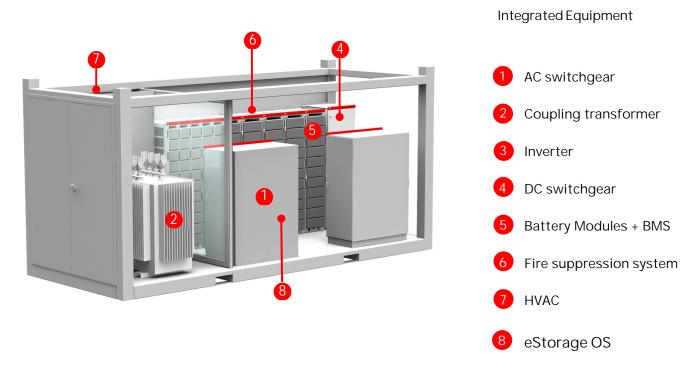
Pre-engineered

Designed with careful equipment selection, catering for a long lifespan in all conditions.

eStorage Flex outside view

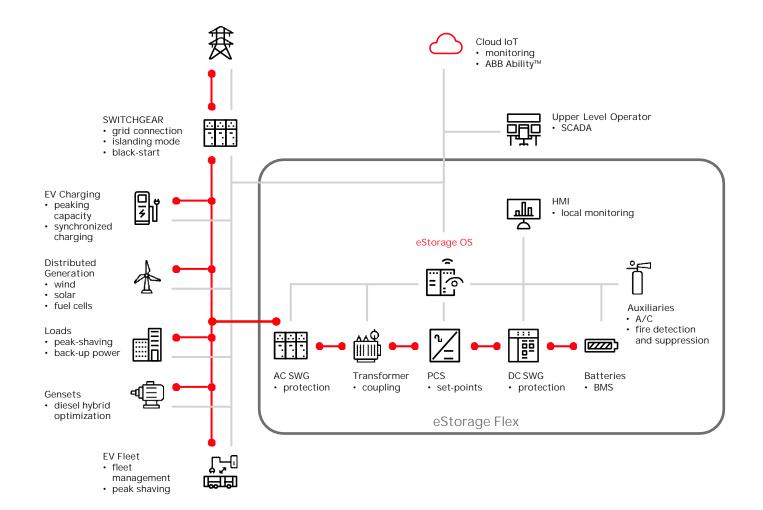
Applications

- Peak shaving: reducing energy and power tariffs by capping the consumption peaks.
- Grid support: compensating grid fluctuations by regulating reactive and active power or frequency.
- Diesel genset optimization: optimizing diesel hybrid systems for consumption by delaying the start and managing ramp rates.
- Intermittent power generation: using more of the power generated with distributed energy resources.
- Charging infrastructure: integrating charging stations by providing peak shaving, self-consumption optimization and grid system services.
- Islanding: supporting microgrids and loads during power outages with seamless transition and black start capabilities.
- Time of use: using of the storage system is dependent on the electricity cost (charge when low, discharge when high).
- Multiuse applications: combining several applications with dedicated priorities.



System Architecture

The eStorage OS is a fully integrated digital operating system for the energy storage that provides asset management, monitoring, control and protection; Fieldbus connectivity for remote control and monitoring as predefined option and embedded energy management functions for different applications and remote connectivity are available upon request.



Technical data

Description	eStorage Flex 20-330	eStorage Flex 20-450	eStorage Flex 20-550	eStorage Flex 20-660	eStorage Flex 20-770
Electrical specifications	3				
Maximum Output power (S) ¹	350kVA	430kVA	520kVA	600kVA	700kVA
Typical Output power (P) ^{1, 2}	300kW	400kW	480kW	550kW	630kW
Installed Energy	330kWh	450kWh	550kWh	660kWh	770kWh
Max C-rate	<1C	<1C	<1C	<1C	<1C
Nominal voltage	400Vac, 480Vac				
Frequency	50/60Hz	50/60Hz	50/60Hz	50/60Hz	50/60Hz
Power factor range	4-quadrant, 0 to 1				
Connection method	3-phase	3-phase	3-phase	3-phase	3-phase
Equipment	·		·		
Enclosure	ABB EcoFlex				
Inverter operations	VSI PQ, VSI Vf, CSI PQ,				
modes	Islanding, Black-start				
Battery chemistry	NMC	NMC, LFP	NMC	NMC	NMC, LFP
Transformer type	Oil-filled, dry-type				
Environmental conditio	ns				
Ambient temp. range					
(nom. ratings)	-20°C to +50°C				
Relative humidity	5% to 95% non-condensing				
IP degree transformer compartment	IP23D	IP23D	IP23D	IP23D	IP23D
IP degree battery compartment	IP54	IP54	IP54	IP54	IP54
General specifications					
Overall dimensions (LxWxH)	6000x2450x2900mm (ISO 20ft)				
Weight (maximum)	9700kg	11000kg	11600kg	12700kg	14000kg
Product compliance					
Power conversion system	IEC 62103, IEC 61000-6-2, UL1741, IEEE1547				
Batteries	IEC 62619, UL1973, UN 38.3, UL9540A				
Transformer	IEC 60076				
Low-voltage distribution	IEC 61439				
User interface and com	munications options				
Fieldbus connectivity (predefined option)	Modbus, Ethernet for remote control and monitoring				
Local user interface (upgrade package)	ABB local control panel and embedded ABB Energy Management System				
Remote connectivity (upgrade package)	Advanced SCADA and cloud connection, IEC62351				

abb.com/mediumvoltage

¹ Derating applies above 1000m ² Power factor and performances considered

ABB Ltd.



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