

CERENERGY® SODIUM CHLORIDE – SOLID STATE BATTERY
THE POWERFUL AND SAFE BATTERY SOLUTION FOR GRID APPLICATIONS.

Made in Germany

GridPack USP – Macro Parameters

- Safe, Non-flammable, zero fire & explosion hazards
- No location limitation
- Stackable up to 3 Grid Pack
- Operates in any climate without external thermal management, forced cooling
- Negligible maintenance costs
- Plug and play ready to operate
- High availability (>99%)
- Battery may be idle for any period of time and be restarted without any capability loss
- Round-trip Efficiency of avg. 90% (DC)
- Lowest levelised energy storage costs
- Can be shipped fully assembled



Battery Pack ABS 60

ABS 1000 – Grid Pack

Arrangement:	18 Battery Pack, with controller BMS
Dimension:	Open standard high cube 20ft Container
Delivery:	20ft high cube container 2.4mx5.9mx<2.7m
Weight:	< 17 t
Nom. Voltage:	600 V DC
Voltage range:	410 V DC (min) to 670 V DC (max)
Current Capacity:	100Ah Nominal
Discharge Current:	cont. 25 A / trans. 33 A
Internal Ops Temp.:	min. 270 °C – max. 350 °C
Ambient Ops. Temp.:	-40°C to +60°C
IP Rating:	IP65, CE
Nominal Energy Capacity:	1 MWh / nominal 1,08 MWh
Operational SoC Range:	15%-95% (80%)
C-Rate	0.16C - 0.33C bi-directional
C-Rate Power Mode:	0.5 C for 15 Minutes
24h cycle capability:	yes, continuous without interruptions
Cycle per day:	up to 3 @ 80%
Design Life:	> 15 years
Warranty:	5 years or 5000 cycles

Cost of Operation

Estimated Cycle Cost = 0.06€/kWh

	Altech GridPack	NGK NaS	Tesla MegaPack2	Redox Flow
Assessment Basis , 100% Cycle in 24h	1.80	1.30	1.41	1.75
	€/kWh	€/kWh	€/kWh	€/kWh
Total cost per stored kWh (output) - pure storage	0.124	0.195	0.218	0.174
Levelised Cost of Storage ²				
Total cost per stored kWh (output) - grid service & storage	0.060	0.164	0.149	0.132
<i>per stored kWh (output)</i>				
End-of-life costs	-	0.005	0.005	0.005
Maintenance, Inspection costs	-	0.02	0.015	0.020
Renewal costs due to usage	-	0.03	0.055	0.050
Energy losses per cycle	0.007	0.014	0.018	0.007
Depreciation	0.053	0.095	0.057	0.050

Operations are safe and inexpensive because there are no moving parts, there is no external cooling nor heating required. There is no noise, there are no special fire hazard requirements, no special access nor distances required between the Grid Packs.

The Grid Pack is stackable 3 high and can easily and safely be transported fully assembled. At the end of service-life, the Grid Pack can be fully recycled in a simple nonhazardous, none energy intensive recycling process in which 100% of the minerals, namely nickel can be recovered.



The battery has no limitation in cycles per day and at full usage with charge level of 80% (15-95%) the battery is capable of up to 3 cycles within 24h. Because of no battery degradation the Grid Battery performs at its original capacity throughout its entire service life unlike lithium-ion batteries, which degrade through loss of lithium ions.

For more details please visit us at

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