

# The power of smartness.

Solution Mega – Containerized energy storage systems based on Li-Ion battery technology. Combining sustainable energy storage, independence from conventional energy sources, and continuity of high-power supply with significant monetary benefits.



**Plug-and-play system**  
with factory pre-set  
parameters.



Creating the future – the Exide Technologies way:



Innovation



Reliability



Sustainability



High Performance

GNB Industrial Power becomes  
**E** / a division of Exide Technologies  
[www.exidegroup.com](http://www.exidegroup.com)

**SOLITION**  
**MEGA**

**E** / **CUSTOMIZED ENERGY SYSTEMS™**

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# It's not only charged with energy. But also full of knowledge.

All our experience, knowledge and expertise is packed into this answer to the challenges of the today's energy market. We're taking on the big picture. Energy storage systems are the key factor for energy transition.

Solition Mega based on lithium-ion technology can be used for various applications in front-of-the-meter (FTM) and behind-the-meter (BTM), providing several benefits to energy consumers and the energy market as a whole. Consumers can store surplus energy from renewable energies for later use or use the storage as a stand-alone system for energy trading and frequency stabilization to balance supply and demand and improve grid stability.

## Tailormade for these applications:



**Commercial and industrial applications**



**Agriculture**



**E-Mobility**



**Renewable energy and biogas plants**



**Utilities**

## Benefit from our expertise:



Worldwide data access



Plug-and-Play with pre-set parameters



Over-the-Air update of system software



Flexible to be placed at various locations; moveable system



Flexible modular configurations



Open infrastructure towards third party aggregators



Design and assembly based in Europe

## A perfect match.

In 2021, global player Exide Technologies acquired Ateps Nederland BV, an innovative and dynamic provider of lithium-ion based energy storage systems. Combining innovation and global energy storage expertise, they created **Customized Energy Systems**, thereby offering sustainable energy solutions for future key applications such as time shift, frequency control, peak shaving, energy trading and more.

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# Flexibility in new dimensions.

## And in various sizes.

No matter if in a 10 feet, 20 feet or 40 feet container: Solition Mega energy storage systems provide a reliable and efficient solution for a wide range of energy storage needs including micro-grid application, frequency regulation, peak shaving, back-up power, energy trading and self-consumption. The system's compact and flexible design allows it to be placed at various locations, should

local conditions change. Explore our cost-effective, environmentally friendly and high power solution and profit from cost savings and optimized energy use. All of these systems are also available as indoor solutions. Custom system sizes can also be made at the customer's request for an additional charge.



Scan for reference.

### Solition Mega energy storage systems help to:



**Frequency stabilization:**

Provide storage capacity to stabilize grid frequency for a financially rewarding solution to ensure grid availability and quality.



**Energy Trading:**

Profit by short-term imbalances in supply and demand with resulting high price differences by buying energy at low prices and selling it at high prices.



**Off-grid application:**

Supply your rural area or island with electrical energy without any public grid connection.



**Micro-grid application:**

Optimize power sources, storage, and consumers to cut costs and reduce CO<sub>2</sub> footprint efficiently.



**Self consumption:**

Store surplus renewable energy to lower bills and carbon footprint by using it later for your own consumption.



**Back-up power:**

Ensure that your operation runs 24/7, even during blackouts or public grid failures.



Utility

Front-of-the-meter

Behind-the-meter



Solition Mega ESS



Renewable energy



Main-grid



Solition Mega ESS



Renewable energy



Commercial and industrial loads



**Peak shaving:**

Charge your batteries whenever electricity is simply available and discharge them when there are high loads to avoid paying peak prices.

### Smarter software.

We designed a software that adheres to the highest reliability standards. The control system harmonizes lithium batteries, converters, accessories, and other equipment to perform optimally over a vast temperature range and an extended duration. The application software prioritizes processing speed and security, while preserving adaptability. Our autonomous software supports peak shaving applications and solar optimization, while also allowing third-party control without endangering safety features. Moreover, it communicates with the cloud for logging and reporting, which enables remote servicing and over-the-air updates, if required.

# Energy that goes beyond.

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- Automotive plant
- Industrial plant
- R&D facility
- Recycling
- Global HQ
- Principle sales offices  
+ sales offices and distribution centers across the world



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Subject to alterations  
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All manufacturing plants  
**ISO 9001**  
certified

All automotive plants  
**IATF 16949**  
certified

All manufacturing plants  
**ISO 14001**  
certified

All manufacturing plants  
**ISO 50001**  
certified

Most manufacturing plants  
**ISO 45001**  
certified

**ENERGIZING  
A NEW  
WORLD**

**EXIDE<sup>®</sup>**  
TECHNOLOGIES

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# Solution containerized energy storage systems

## Technical data sheet

### Applications



Commercial and industrial applications



Agriculture



E-mobility



Renewable energy



Biogas plant



Utilities

### Technical characteristics and data

General data for 20ft Container	
Converter	Max. 2 converter racks
Inverter type	Bi-directional four quadrant
AC power	Up to 1000 kW
Scalability	In increments of 62.5 kW
AC voltage	400 V $\pm$ 10 % (3-phase + PE) (with additional transformer: 480 V $\pm$ 10 %)
AC grid current	Max. 1520 A
AC frequency	50 Hz (49.5 Hz ~ 50.5 Hz) or 60 Hz (59.5 Hz ~ 60.5 Hz)
Cos. Phi	0.1 ~ 1 leading or lagging
Peak efficiency	98.2 %
Output THD	$\leq$ 3 %
Protection	Min./max. AC voltage, frequency, battery voltage, max. power, temperature, overcharging, overdischarging
DC voltage range	600 V ~ 900 V
Certification Converter and Container	ETL listed (conforming to UL1714, UL1741SA, UL9540, CPUC Rule 21, CSA 22.2), CE, G99, IEC62109, IEC62040, EN50549, UNE206007-1, UNE 217002, UE 2016/631, AS/NZS 4777.2:2020, NRS 097-2-1, Complies to AS5139, AS4487-2013, AS61000
Off-grid	Data available on request

Battery system	
Battery technology	Li-FePO <sub>4</sub> (LFP)
Storage capacity	Up to 1104 kWh
C-rate	Up to 1C (charging and discharging)
Battery configuration	Up to 8 x 138 kWh racks with 15 modules each
Scalability	In increments of 138kWh
BMS	With mains DC-switch and protection for over and under voltage, over current, temperature, SoC, system voltage, string voltage, temperature alarms
Master BMS	LCD touch screen with graphical interface
Certification batteries	Modules and cells: UN38.3 Cells: GB/T36276, UL1973, UL1642, UL9540A, IEC62619

System	
Housing	Freestanding ISO High Cube container with double locking doors and two separate chambers for converters and batteries
Dimensions (incl. HVAC; L x W x H)	6.06 (6.64) m x 2.44 m x 2.90 m
Weight	< 18 000 kg
Auxiliary power	3 Ph5W 230V
External communication	Modbus TCP/IP
Internet	4G connection
Isolation	Via optional transformer
Nominal round trip efficiency	91%

# Solition containerized energy storage systems

## Technical data sheet

### Technical characteristics and data (continued)

Environmental conditions	
Temperature	- 20 °C to 50 °C (de-rating > 45 °C)
Noise at full power	< 78 dB @ 1m distance; silencer is possible
Operating altitude	3000 m (> 2000 m de-rating)
Space requirements	At least 2.5m around the container must be freely available for service access

Safety	
Cooling	Forced air cooling for converters. 2x 5 kW or 10kW HVAC for the batteries, UL compliant
Enclosure/Housing	Outdoor IP55
Fire extinguisher system	NOVEC, Automatic fire extinguisher system compliant with UL864, UL1638, UL464, AS-4487-2013 and FM listed
Fire extinguisher controller	Stand alone with battery backup, heat and smoke detectors and external alarm signals

Warranty conditions	
Capacity guarantee	5 years or 4000 cycles which comes first @average 0.5C/0.5C, 18-35°C, 90% DoD Capacity at EoL: 70%
System guarantee	5 years

System configuration	
Scalability	Multiple containers can be combined as one system.
Indoor	Indoor solutions without container are also possible on request.