

STORAGEDOCK

INTRODUCTION TO THE LOW VOLTAGE **COMMERCIAL BATTERY PACK**



PRODUCT CODES:

- LV-Com15/300
- LV-Com30/600
- LV-Com45/900
- LV-Com60/1000
- LV-Com75/1000
- LV-Com90/1000



Manufactured by SPECIALIZED SOLAR SYSTEMS

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STORAGEDOCK LV-COM

INTRODUCTION

Each Storedock battery is composed of prime A grade lithium iron phosphate (LiFePO₄) cells. The LiFePO₄ battery is one of the most stable forms of lithium-iron technologies available for this specific purpose. This battery uses a lithium-iron-derived chemistry and shares many advantages with other lithium-ion battery chemistries. However, there are significant differences. Lithium iron phosphate chemistry offers a longer cycle life than other lithium-ion approaches. Another important advantage over other lithium-ion chemistries is thermal and chemical stability, which improves battery safety, making these batteries ideal for home and business use.

The commercial Storedock batteries are also modular in design which allows one to increase the capacity of your energy system over time, if so required. Additionally, up to four stacked units can be connected in parallel to create larger capacities, up to 360 kWh.

With a Specialized Solar Systems' (SSS) custom designed and intelligent BMS (battery monitoring system) with CAN- bus, the health of the battery is automatically maintained from the charging cycle, right through to the discharging floor level State of Charge (SOC) within the various parameters from the battery cell supplier in order to ensure the optimal lifespan, safety and warranty.



The BMS CAN-bus communication protocol integrates seamlessly with the Victron CCGX, Venus GX or Cerbo GX graphical user interfaces for a fully optimised ESS (Energy Storage System). The batteries can be remotely monitored and managed, allowing optimal performance and extended battery life.

The stackable architecture of this battery design allows for effective transportation and ease of installation.

Important Terminology:

- A **module** is an individual 15 kWh battery unit.
- A **stack** is a number of modules connected in parallel (up to 6 units) and positioned on top of each other, with a foot piece and a BMU at the very top, forming a battery stack.



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COMMERCIAL BATTERY PACK CONFIGURATIONS

The LV Commercial battery is available in six different configurations:

1. **15 kWh / 300 A UNIT** (Product code: LV-Com15/300)

Control module, 1 x battery module and foot piece

Capacity: 15 kWh / 12 kWh usable at 80% depth of discharge

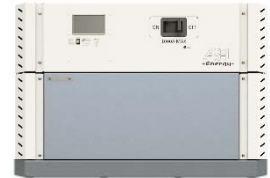
Height: 530mm

Width: 780mm

Depth: 440mm

Weight: 220kg (packaged weight)

Max recommended inverter size is 15 kVA



2. **30 kWh / 600 A UNIT** (Product code: LV-Com30/600)

Control module, 2 x battery modules and foot piece

Capacity: 30 kWh / 24 kWh usable at 80% depth of discharge

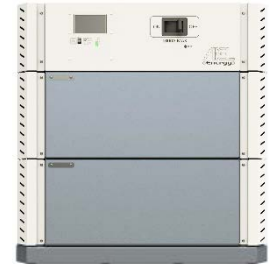
Height: 800mm

Width: 780mm

Depth: 440mm

Weight: 357kg (packaged weight)

Max recommended inverter size is 30 kVA



3. **45 kWh / 900 A UNIT** (Product code: LV-Com45/900)

Control module, 3 x battery modules and foot piece

Capacity: 45 kWh / 36 kWh usable at 80% depth of discharge

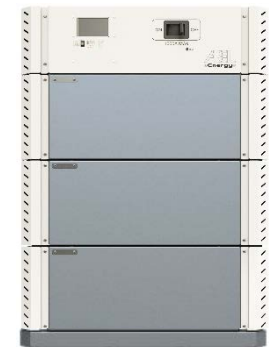
Height: 1070mm

Width: 780mm

Depth: 440mm

Weight: 494kg (packaged weight)

Max recommended inverter size is 45 kVA



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4. **60 kWh / 1000 A UNIT** (Product code: LV-Com60/1000)

Control module, 4 x battery modules and foot piece

Capacity: 60 kWh / 48 kWh usable at 80% depth of discharge

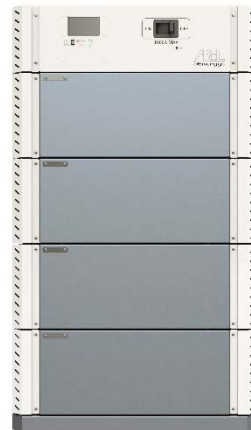
Height: 1340mm

Width: 780mm

Depth: 440mm

Weight: 631kg (packaged weight)

Max recommended inverter size is 60 kVA



5. **75 kWh / 1000 A UNIT** (Product code: LV-Com75/1000)

Control module, 5 x battery modules and foot piece

Capacity: 75 kWh / 60 kWh usable at 80% depth of discharge

Height: 1610mm

Width: 780mm

Depth: 440mm

Weight: 768kg (packaged weight)

Max recommended inverter size is 60 kVA



6. **90 kWh / 1000 A UNIT** (Product code: LV-Com90/1000)

Control module, 6 x battery modules and foot piece

Capacity: 90 kWh / 72 kWh usable at 80% depth of discharge

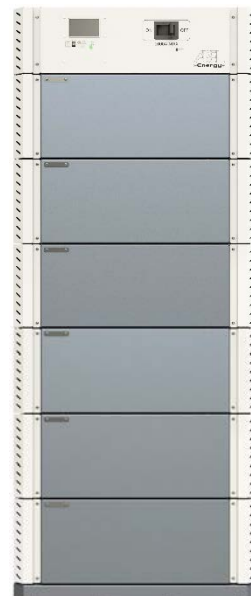
Height: 1880mm

Width: 780mm

Depth: 440mm

Weight: 905kg (packaged weight)

Max recommended inverter size is 60 kVA



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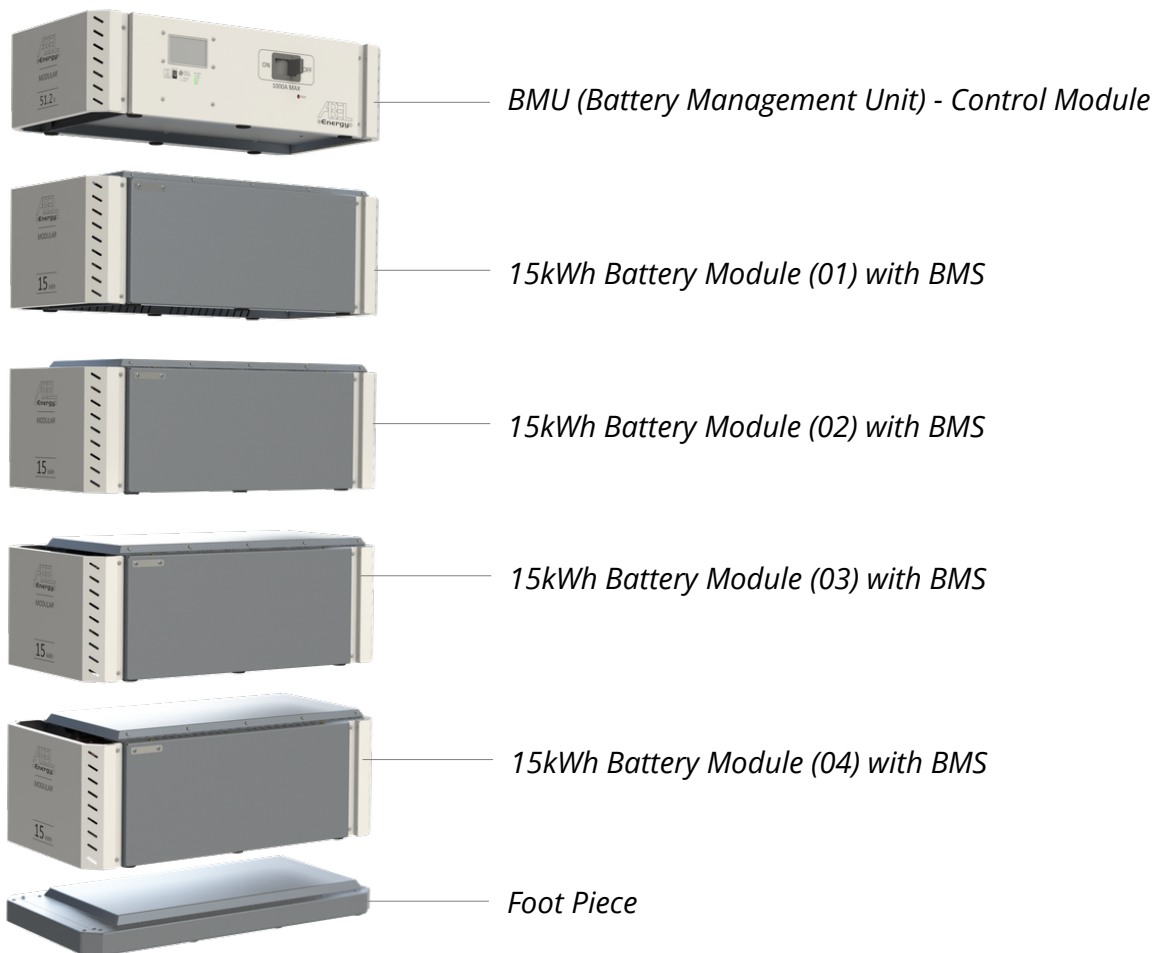
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MODULAR BATTERY UNITS

Each 51.2 Volt LV battery is modular and consists of a control module, the required number of 15 kWh battery modules (up to a maximum of six modules connected in parallel ie 90 kWh) and a foot piece.

The battery modules are connected in parallel and have a simple automatic connection process, making them easy to assemble on remote sites. Each module has its own BMS, which has been custom designed for this specific unit, together with the custom designed LCD screen.

The complete unit has three levels of protection, ensuring the highest safety standards. The main 1000 A circuit breaker is housed in the control module along with the main contactors. Each battery module also has its own contactor installed. The current threshold has been pre-programmed to a maximum of 1100 Amps when four modules are connected.



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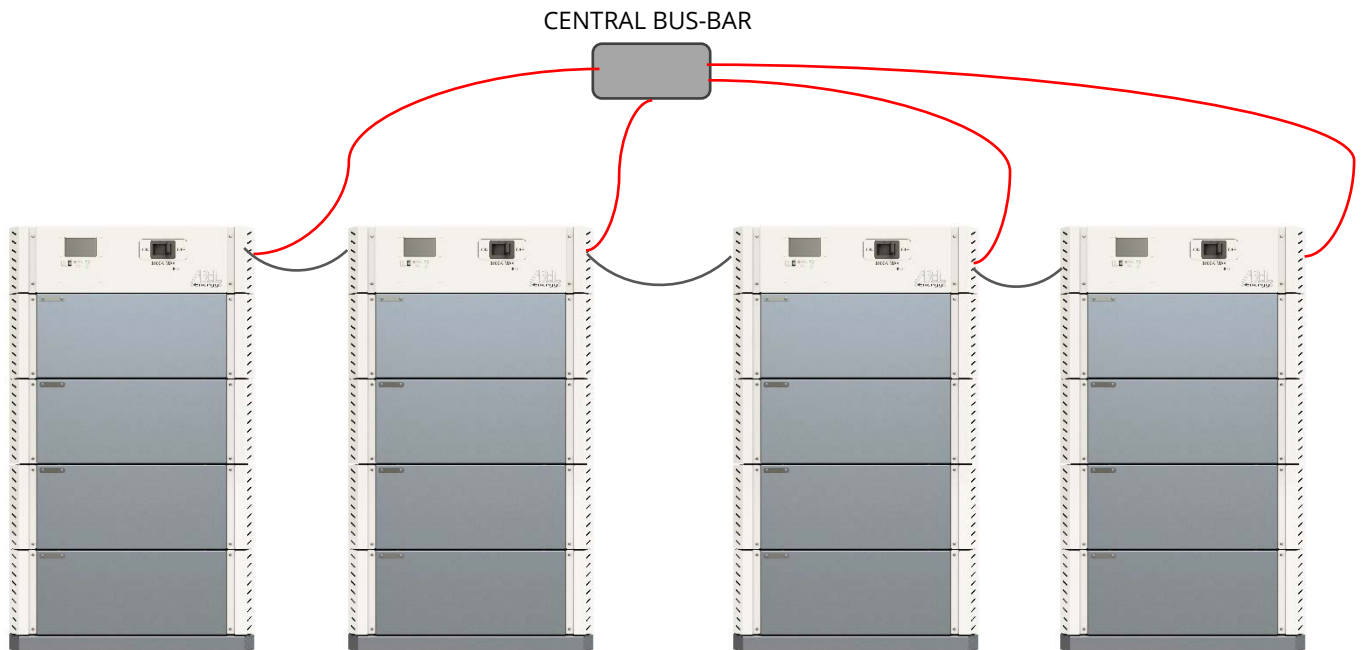
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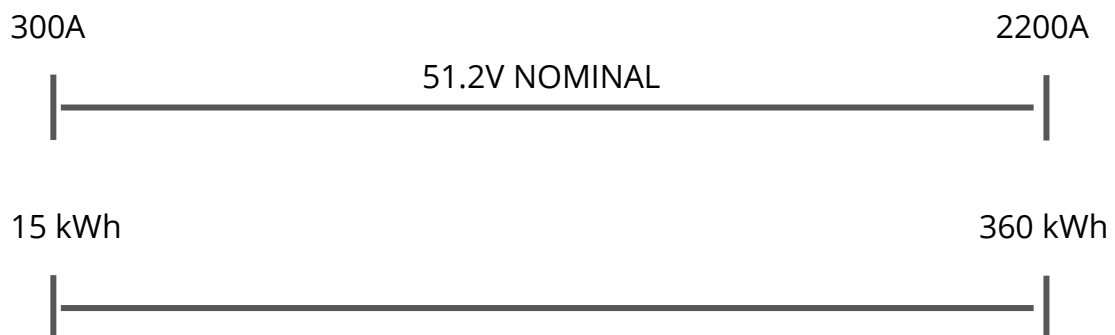
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CONNECTING BATTERIES IN PARALLEL

The Storedock commercial LV batteries are completely modular in design. These are stackable units which also allow parallel connections. The battery allows for up to four stacked units to be connected in parallel.



Please note that above image is illustrative only.



WARRANTY

The service life of the LV modular commercial battery will achieve at least a 10 year service life or deliver an equivalent in kWh of at least 6000 charge/discharge cycles at 80% depth of discharge (DoD), whichever event should occur first. A comprehensive warranty document is available.

For more information on the lithium iron phosphate battery cells used within the LV Commercial battery, please see our document "*LiFePO₄ Battery Range: Standards and Certification – Introduction Document*" which is available on www.specializedsolarsystems.co.za or via email to info@specializedsolarsystems.co.za.



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