

# LOW VOLTAGE IP65 LITHIUM BATTERY

## POWERBOX ES-BOX12F SERIES



## FEATURES:

### IP65 PROTECTION – BUILT FOR EVERY ENVIRONMENT

Smart Cell Balancing Maintains

Integrated Automatic Fire Suppression Module



10,000 Cycles  
at 80% DOD



1C/1C  
Charge/Discharge



Standard 10-Years  
Warranty



IP65 RATED  
Dustproof & Water-Resistant



Safety Low  
Voltage System



60 Battery Modules  
in Parallel



Remote Monitoring  
via Wi-Fi, APP



Compatible with Multiple  
Inverter Brands



Online Firmware  
Updates

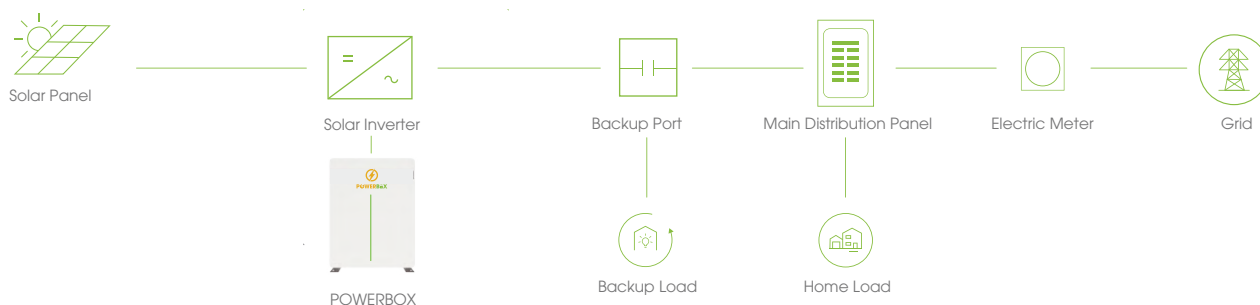
## Compatible with Multiple Inverter Brands

The POWERBOX BMS supports communication and compatibility with multiple solar inverter brands



# IP65 POWERBOX ES-BOX12F SERIES

14KWH 16KWH



**ES-BOX12F MAX**



**ES-BOX12F MAX+**

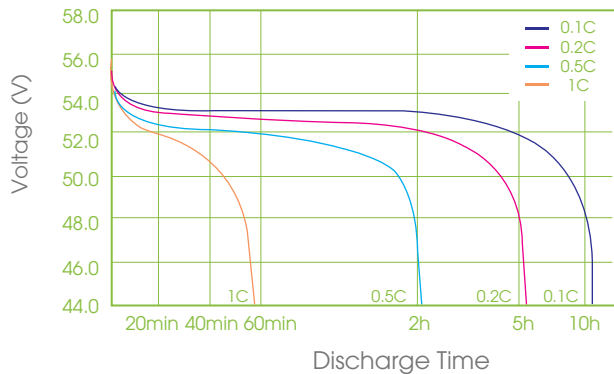
## Specifications

| Model                       | ES-BOX12F MAX                                                                     | ES-BOX12F MAX+                   |
|-----------------------------|-----------------------------------------------------------------------------------|----------------------------------|
| Nominal Energy              | 14.34kWh                                                                          | 16.08kWh                         |
| Nominal Voltage             | 51.2V                                                                             | 51.2V                            |
| Nominal Capacity            | 280Ah                                                                             | 314Ah                            |
| Cell Type                   | LFP                                                                               | LFP                              |
| Standard Charge Voltage     | 56V                                                                               | 56V                              |
| Max. Discharge Current      | 200A                                                                              | 200A                             |
| Discharge Cut-off Voltage   | 44.8V                                                                             | 44.8V                            |
| Parallel Connection         | Up to 60 units in parallel                                                        |                                  |
| Communication Protocol      | RS485、RS232、CAN                                                                   |                                  |
| Cycle Life *                | 10000 cycles (25° C ± 2° C, 0.2C/0.2C, 80%DOD)                                    |                                  |
| Charge Temperature Range    | 0~55℃                                                                             |                                  |
| Discharge Temperature Range | -20~55℃                                                                           |                                  |
| Certifications              | CE IEC 62619 by TUV, UL1973 by Intertek MSDS, UN38.3                              |                                  |
| Dimensions                  | 490*840*250mm (excluding wheels)                                                  | 490*840*250mm (excluding wheels) |
| Net Weight                  | 123Kg                                                                             | 129Kg                            |
| Installation Method         | Wall-Mounted / Floor-Standing                                                     |                                  |
| Optional Warranty           | 10 Years (subject to warranty terms)                                              |                                  |
| Optional                    | Automatic Heating, Automatic Fire Suppression Module, Remote Monitoring via Wi-Fi |                                  |

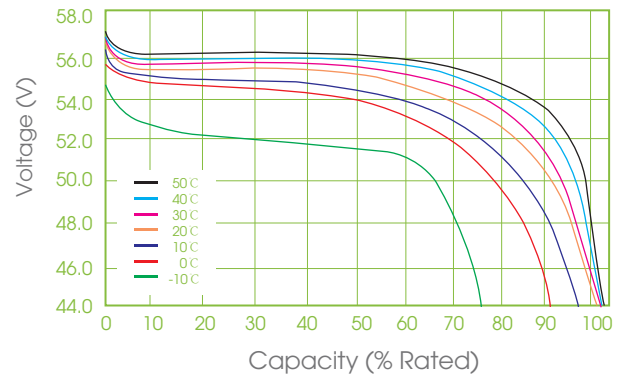
\*Test conditions: 80% DOD, 0.2C charge & discharge at 25° C

## ● DISCHARGE CURVES AT DIFFERENT CURRENTS AND TEMPERATURES

Discharge Curves at Different Currents at 25°C

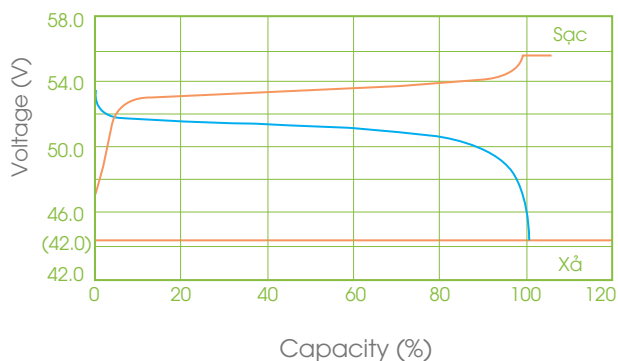


Discharge Curves at Different Temperatures at 0.5C

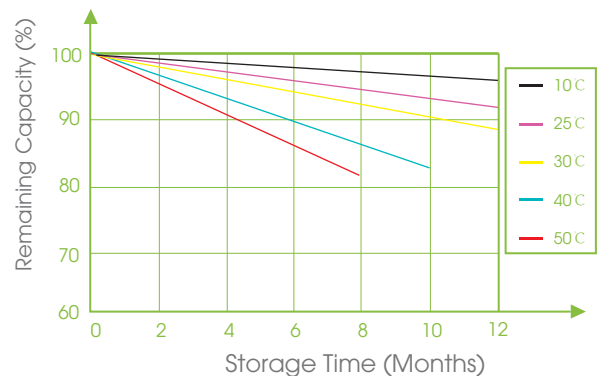


## ● CHARGE & DISCHARGE CURVES

Battery Charge & Discharge at 25°C, 0.5C

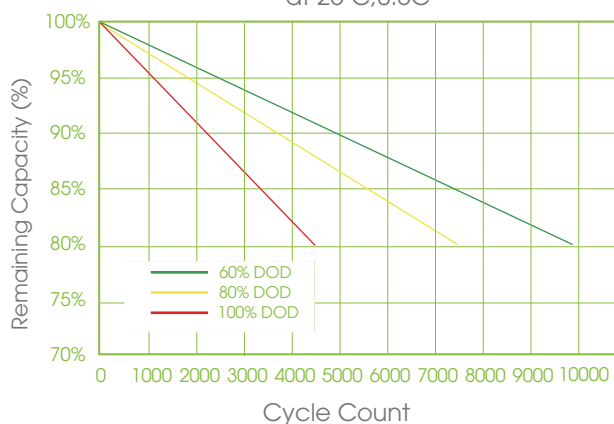


Self-Discharge Curves at Different Temperatures

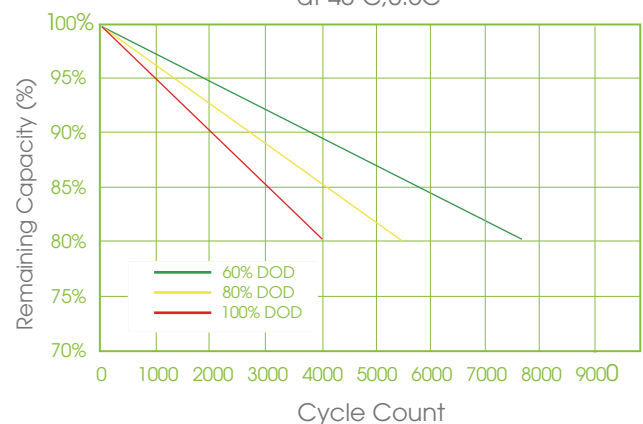


## ● CYCLE LIFE CURVES

Cycle Life at Different DOD Levels at 25°C, 0.5C



Cycle Life at Different DOD Levels at 40°C, 0.5C





**POWERB****X**