

# BSO MAX 90/188



## FEATURES:

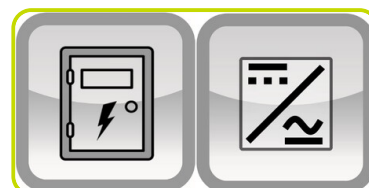
- All-in-one battery storage systems for outdoor use
- Pure ON-Grid solution in a IP54 Outdoor cabinet
- Easy & Quick installation - components pre-installed
- High safety standard - smoke-/ heat-sensors, Aerosol extinguishing system, water pipe connector
- Heating & cooling included
- Side-by-side installation for modular expansion without losing much space
- Redundant air conditioning units for optimal cooling and heating
- Battery inverter and energy management system (EMS) perfectly harmonised by in-house development
- High accessibility for user-friendly maintenance (max. once a year)
- Easy installation via crane eyes and forklift pockets for full flexibility
- 10-year performance warranty with a wide temperature range

### General technical data

|                             |      |                        |
|-----------------------------|------|------------------------|
| Rated apparent power        | kVA  | 90                     |
| Rated voltage               | Vac  | 400                    |
| Frequency                   | Hz   | 50                     |
| Maximum AC current          | A    | 130                    |
| Battery cell                | Type | Li-Ion (LFP) Prismatic |
| Total capacity              | kWh  | 188                    |
| Rated net capacity (95%DoD) | kWh  | 179                    |

### Inverter

|                                      |     |               |
|--------------------------------------|-----|---------------|
| Quantity                             | n.  | 1             |
| Rated apparent power                 | kVA | 90            |
| Maximum AC current                   | A   | 130           |
| Power factor / Range                 |     | 1 / 0i ... 0c |
| Initial short circuit current (Ik'') | A   | 130           |



## Battery

|                            |      |                        |
|----------------------------|------|------------------------|
| Quantity of module         | n.   | 12                     |
| Module capacity            | kWh  | 15.68                  |
| Rated Voltage              | V    | 768                    |
| Max. C-rate                |      | 0.5C                   |
| Battery cell               | Type | Li-Ion (LFP) Prismatic |
| Cycles @ 95% DoD   65% SoH | n.   | 7300                   |

## Technical data - Energy Management System

|                                                                                      |     |    |
|--------------------------------------------------------------------------------------|-----|----|
| Voltage supply                                                                       | VDC | 24 |
| RJ45 dedicated MAC addresses for OT/IT use                                           | n.  | 2  |
| Encrypted MQTTS communication                                                        |     | ✓  |
| Digital cloud twin                                                                   |     | ✓  |
| 2-factor authentication                                                              |     | ✓  |
| Communication Interface Ethernet (Modbus TCP/IP / local and cloud-to-cloud REST API) |     | ✓  |

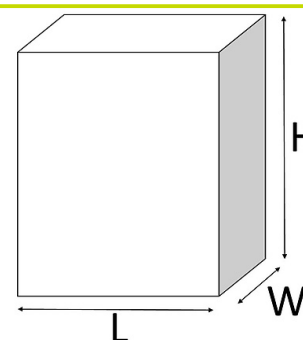
|                                                        |   |
|--------------------------------------------------------|---|
| • Possible Applications                                | : |
| Self-consumption optimization (SCO)                    | ✓ |
| Peak shaving (PS)                                      | ✓ |
| Time-based charging/discharging (ToU)                  | ✓ |
| Combined operation (multi-use e.g. PS and SCO)         | ✓ |
| Energy trading                                         | ✓ |
| Smart Self Consumption                                 | ✓ |
| Simple management of charging stations                 | ✓ |
| Load management and prioritisation for charging points | ✓ |
| Integration of Plant controllers                       | ✓ |
| Microgrid                                              | ✓ |

## Installation data

|                                          |                        |                |
|------------------------------------------|------------------------|----------------|
| Cooling capacity (Battery room)          | kW                     | 2x1.5          |
| Heating capacity (Battery room)          | kW                     | 2x1            |
| Forced air cooling (Inverter room)       |                        | ✓              |
| AC-Grid connection ON-Grid               | 3P, N, PE / TT, TN-C-S |                |
| Communication Interfaces RJ45 (Ethernet) |                        | ✓              |
| Dimensions (LxWxH)                       |                        | 1300x1354x2387 |
| Max. permissible installation height     | m                      | 3000           |
| Corrosion resistance                     |                        | C3H            |
| Weight                                   | kg                     | 2600           |
| Protection rating                        | IP                     | 54             |
| Operating temperature range              | °C                     | -20~50         |
| Product warranty                         | Years                  | 5              |
| Performance warranty                     | Years                  | 10             |

## Safety devices

|                                           |   |
|-------------------------------------------|---|
| Permanent monitoring of the battery cells | ✓ |
| Temperature and smoke sensor              | ✓ |
| Overpressure flap                         | ✓ |
| Aerosol Generator                         | ✓ |
| Firefighter connector Storz 52-C          | ✓ |



Certificates / Approvals

Battery System

Modul:

UN38.3 / UL 9540A

**Battery System:** CE / UKCA / UN 38.3 / UN 3481 / IEC 62619 / UL 1973 / UL 9540A / VDE 2510-50 / IEC 61000-6-2 / IEC 61000-6-4

Battery Inverter

EU- Directives:

2014/30/EU / 2014/35/EU / 2011/65/EU / 2015/863/EU

**Safety Battery Inverter:**

IEC 62109-1 / IEC 62109-2 / IEC 62477-1 / IEC 61439-1 / IEC 61439-2

**EMC:**

EN 61000-6-2 / EN 61000-6-4 / EN 61000-3-12 / EN 61000-3-11

**Grid codes:**

DIN VDE V 0126-1-1 / VDE AR-N 4105:2018 / VDE AR-N 4110:2023 / C10/C11 / G99/1-9 / TOR Stromerzeugungsanlagen Typ A/B / CEI 0-16, CEI 0-21 / EN 50549-1/-2 / AS4777.2 / NTS 631, UNE 27002

For other grid codes please contact your local sales representative



| Optional features              |   |
|--------------------------------|---|
| Optional Energy Meter Ethernet | • |
| Optional Energy Meter RS485    | • |
| PSTS Box + STS                 | • |
| Extension Kit 188 without Rack | • |

