

# GUARDIAN INDOOR

## Indoor BESS 11 KWh

EticaAG's **modular design** enables easy customization and scalability for a wide range of project needs. With **immersion cooling**, advanced fire suppression mechanisms, and a proprietary MBMU, it's the **safest and most efficient** option for Battery Energy Storage.



## KEY FEATURES



### Patented Immersion Cooling

Battery cells are submerged in non-toxic dielectric oil for direct active thermal management, fire suppression, and propagation prevention.



### Integrated BMS & EMS

Our non-Chinese BMS and EMS ensure optimal performance, safety, and efficiency, offering unmatched reliability and control.



### Thermal Management

Liquid immersion cooling offers superior thermal management by enhancing heat transfer efficiency through direct contact with the cooling liquid.



### Enhanced Durability

Our battery modules have an IP67 rating while our cabinet is rated at IP54, ensuring reliable performance in demanding environments.

| GENERAL                                   |                                                                   |
|-------------------------------------------|-------------------------------------------------------------------|
| Dimensions                                | 280.5 x 965 x 1350 mm (WxDxH)                                     |
| Weight                                    | < 170kg                                                           |
| IP Rating                                 | Container: IP54   Module: IP67                                    |
| Operating Temperature                     | -10°C to +45°C                                                    |
| Relative Humidity                         | 10% ~ 90% RH, non-condensing                                      |
| Altitude <sup>1</sup>                     | ≤ 2000m                                                           |
| Thermal Control                           | Immersion cooling circulated system & HVAC                        |
| DC Efficiency                             | >=93.5% @ 0.5P, >=95.2% @ 0.25P                                   |
| CELL CHARACTERISTICS                      |                                                                   |
| Chemistry                                 | LiFePO4                                                           |
| Warranty <sup>3</sup>                     | 10 Years                                                          |
| Depth of Discharge <sup>5</sup>           | 80% to 100%                                                       |
| PERFORMANCE                               |                                                                   |
| Energy Capacity (max) <sup>4</sup>        | 11 KWh                                                            |
| Rated Duration of Discharge               | 2 Hours                                                           |
| DC Power @ Rated Duration <sup>1</sup>    | 5.5 KW                                                            |
| DC Capacity @ Rated Duration <sup>1</sup> | 11 KWh                                                            |
| Operating Voltage                         | 39 V to 53.3 V                                                    |
| SAFETY                                    |                                                                   |
| Explosion Prevention                      | Immersion cooling circulated patented to prevent cell propagation |
| Fire Detection                            | Heat, smoke, and gas detectors (option)                           |
| Fire Suppression                          | Fire-fighting aerosol gas (option)                                |
| Compliances & Certifications              | UN38.3, UL1973, UL60730-1, UL9540                                 |
| SOFTWARE                                  |                                                                   |
| Communication Interface                   | Ethernet Modbus/TCP protocol                                      |
| Operating System                          | Modbus/TCP Side controller                                        |
| Operations & Maintenance                  | Cloud IoT                                                         |

Contact EticaAG for a project-specific estimates, final values depend on system design, location, and user application.

1. OS may automatically derate power as necessary to maintain proper cell temperatures.

2. Test ambient temperature at 25°C.

3. The end-of-life (EOL) of a Battery Energy Storage System (BESS) is influenced by its age, usage application, and environmental temperature, which may result in an actual lifespan of less than 10 years.

4. Assumes 1 cycle per day in fresh cell period, not including aging situation.

5. DOD 80% is the recommended specification to delay aging.