BORDLINE® Max 500-UHP
Ultra high power battery for transportation

BORDLINE® ESS is an energy storage system designed for transportation applications with demanding requirements, such as rail, electric bus, and off-road vehicles.

---

**Key characteristics**

**Safe**
- HIGHEST SAFETY
  By design and cell selection

**>40,000**
- LONG LIFE
  Over 40,000 cycles

**80%**
- RAPID CHARGING
  Charging in less than 10 min

---

**Plug & play**

**EASY CONNECTIVITY**
Simple installation

**Flexible**
- MULTI-STRING PARALLELING
  To adapt capacity

---

**LOW-TEMPERATURE OPERATION**
Excellent performance

**BATTERY MANAGEMENT SYSTEM**
Integrated supervision

**COMPACT AND LIGHT-WEIGHT**
Designed for all applications
**Technical data**

**Rating**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominal energy</td>
<td>17.7 kWh</td>
</tr>
<tr>
<td>Nominal voltage</td>
<td>442 V</td>
</tr>
<tr>
<td>Charge cut-off voltage</td>
<td>518 V</td>
</tr>
<tr>
<td>Discharge cut-off voltage</td>
<td>288 V</td>
</tr>
<tr>
<td>Peak power charge / discharge</td>
<td>up to 200 kW / 175 kW</td>
</tr>
<tr>
<td>Continuous power charge / discharge</td>
<td>typical 85 kW</td>
</tr>
</tbody>
</table>

**Cooling**

- Coolant: water-glycol

**Mechanical data**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions</td>
<td>L1370 x H490 x W490 mm</td>
</tr>
<tr>
<td>Weight</td>
<td>340 ± 10 kg</td>
</tr>
<tr>
<td>Mounting location</td>
<td>roof/underslung</td>
</tr>
<tr>
<td>Degree of protection (EN 60529)</td>
<td>IP66/IP69</td>
</tr>
</tbody>
</table>

**Ambient conditions**

- Ambient temperature: -40 °C to + 45 °C

**Lifetime**

- Lifetime: up to 15 years
- Cycle life at 35 °C, 10-90 % SoC, 3C/3C: >40,000

**Tested and certified**

- IEC 62928, ECE R100, UN 38.3, EN 45545, IEC 62619, IEC 62620

---

**Charge/discharge characteristics**

**Voltage, V**

- 1C Charge/Discharge
- 2C Charge/Discharge
- 4C Charge/Discharge

![Charge/discharge characteristics graph](image)