Enapter electrolyser technology leverages AEM (Anion Exchange Membrane) technology, which is the most cost-effective solution for on-site high purity hydrogen production. Our electrolyser technology allows for high efficiency, low requirements for input water purity, and native operation with Enapter Energy Management System. Our patented Anion Exchange Membrane electrolyser requires no noble metals to achieve good performance and lifetime. It also has a simple balance of plant, so we can produce high quality, pressurized hydrogen gas at an extremely low cost.

Simple installation and low maintenance. Stackable to form larger electrolyser systems.

Up to four EL 2.0 modules and one optional Dryer 2.0 can be combined in a single 19” cabinet by Enapter or a qualified system integration partner.

Our AEM electrolyser technology is the most cost-effective solution for on-site high purity hydrogen production.

Our electrolyzers are freely stackable to reach any desired flow rate.
Building blocks for the future of energy

EL 2.0 data sheet

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>H₂ production rate</td>
<td>500 NL/hr</td>
</tr>
<tr>
<td>Working pressure</td>
<td>35 Bar</td>
</tr>
<tr>
<td>Operational power consumption (at standard conditions)</td>
<td>2.4 kW</td>
</tr>
<tr>
<td>Peak power consumption (max power draw at anytime)</td>
<td>3.0 kW</td>
</tr>
<tr>
<td>Power supply options</td>
<td>AC 200-240 Vac, 50 Hz</td>
</tr>
<tr>
<td>Water consumption</td>
<td>0.4 L/hr</td>
</tr>
<tr>
<td>Water specification</td>
<td>&lt;20 µS/cm</td>
</tr>
<tr>
<td>Water input pressure</td>
<td>1-4 Bar</td>
</tr>
<tr>
<td>Ambient temperature</td>
<td>5–45 °C</td>
</tr>
<tr>
<td>Ambient humidity</td>
<td>20–95%</td>
</tr>
<tr>
<td>Module dimensions (WxDxH)</td>
<td>483 x 490 x 354 mm (8U)</td>
</tr>
<tr>
<td>Module weight (without water)</td>
<td>53 Kg</td>
</tr>
</tbody>
</table>

Simple Modular Integration

Dryer 2.0

The optional dryer module can process up to 2 Nm³/hr of hydrogen gas from the EL 2.0 and bring the output purity to >99.999%.

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>H₂ flow rate</td>
<td>Up to 2 Nm³/hr (4 x EL 2.0)</td>
</tr>
<tr>
<td>Operative power consumption</td>
<td>375 W</td>
</tr>
<tr>
<td>Dimension</td>
<td>483 x 490 x 178 mm (4U)</td>
</tr>
</tbody>
</table>

19” Cabinet Integration

Enapter offers integration of EL 2.0 in a standardized cabinet/rack for deployment directly on the customer site.

Enapter Water Supply System Components

Water Purification Module (WPM)

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input water</td>
<td>tap/rain water</td>
</tr>
<tr>
<td>Output water</td>
<td>&lt;20 µS/cm</td>
</tr>
<tr>
<td>Operative power consumption</td>
<td>200 W (20 W standby)</td>
</tr>
<tr>
<td>Typical flow rate</td>
<td>0.2-0.4L/min</td>
</tr>
</tbody>
</table>

Mounted on sidewall of cabinet or other wall surface

Water Tank

An optional 35L clean water tank can be integrated into the cabinet. It can be filled by the WPM or other clean water supply and includes a pumping system to supply the electrolysers. Size in cabinet: 8U.

Enapter’s water supply system is completely optional and our customers are welcome to use any water supply system to EL that meets the specifications (<20 µS/cm).
Energy Management System

Enapter’s unique Energy Management System allows for easy integration of the building blocks of any energy system. All of Enapter's hardware, as well as third party hardware, can easily be monitored and controlled to understand both your system and the environment it operates in.

Cloud Platform + Energy Monitoring Gateway

The Enapter Cloud aggregates the data from connected devices and sites. It provides online analytics, reporting and monitoring with Machine Learning algorithms.

The Mobile Application is the interface for the end-user's connected devices. It allows for easy system setup, management and monitoring all over the world.

The IoT Gateway serves multiple functions:
- Aggregate the connections of Communication Modules to save data locally
- Mitigate connectivity issues, and minimize amount of traffic pushed to the Cloud
- Provide rule-based engine to control connected devices.

The IoT Communication Module connects analog and digital sensors, and devices to the internet to allow real time monitoring and control.

Energy Management Platform
# Use Cases

Enapter technology is used in a variety of applications globally

Hydrogen’s versatility is showcased with our plug-and-play building blocks. More examples are available upon request.

<table>
<thead>
<tr>
<th>Off-grid telecom power</th>
<th>Microgrids</th>
<th>Residential storage</th>
<th>District heating system</th>
</tr>
</thead>
<tbody>
<tr>
<td>Digi</td>
<td>EDF, Powidian</td>
<td>Phi Suea House</td>
<td>DNV GL</td>
</tr>
<tr>
<td>Malaysia</td>
<td>Mafate la Réunion</td>
<td>Thailand</td>
<td>The Netherlands</td>
</tr>
</tbody>
</table>

Hydrogen powers remote towers during a grid outage, since 2016.
Electrolyser: 1000 NL/hr
Fuel Cell: 5 kW
PV: 16kWp

Only accessible by foot or helicopter, the community is energy secure since 2017.
Electrolyser: 500NL/hr
Fuel Cell: 3kW
Storage: 3kg
Autonomy: 10 days
PV: 8.7kWp

Electrolyser: 2000 NL/hr
Fuel Cell: 4.5 kW
Storage: 7.5kg
Autonomy: 30 hours

Hydrogen is supplied through a pipeline to the boiler room of nearby apartments.
Electrolyser: 4000 NL /hr

<table>
<thead>
<tr>
<th>Seasonal storage</th>
<th>Rural electrification</th>
<th>Refueling station</th>
</tr>
</thead>
<tbody>
<tr>
<td>Powidian</td>
<td>Tiger Power</td>
<td>Bshark</td>
</tr>
<tr>
<td>France</td>
<td>Uganda</td>
<td>China</td>
</tr>
</tbody>
</table>

Hydrogen keeps this refuge in the Alps operational year-round, since 2015.
Electrolyser: 500 NL/hr
Fuel Cell: 2 kW
Storage: 5kg
Autonomy: 16 days

Container based solar and storage solution provide households, businesses and social institutions reliable electricity.
Electrolyser: 500NL/hr

Enapter electrolysers are integrated into the first drone refueling station. Underway in 2019.

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**Enapter**

Germany
Reinhardtstr. 35, 10117
Berlin
+ 49 30 3394 1380

Italy
Via di Lavoria, 56/G - 56040
Crespina Lorenzana (PI)
+ 39 050 644281

Thailand
45 Atsadatorn Rd., Pa-tan, A. Muang, Chiang Mai, 50300
+ 66 53 231735

www.enapter.com
info@enapter.com