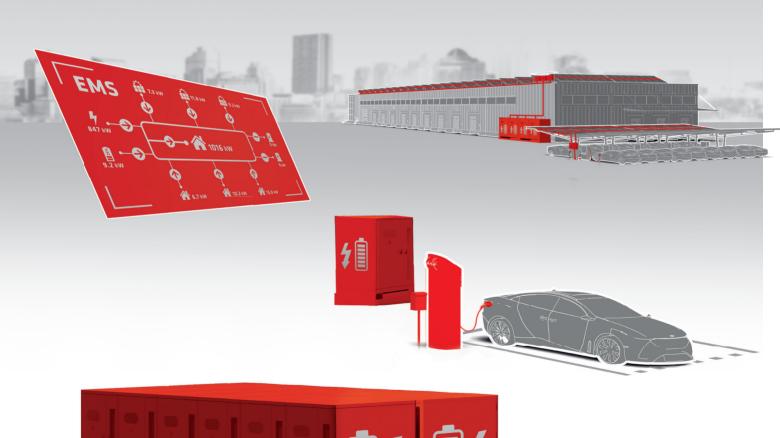


EMPOWERING TOMORROW SMARTLY.

2024/2025

E-MOBILITY - INDUSTRY - AGRICULTURE - SUPERMARKETS - GREEN HYDROGEN - REAL ESTATE













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EMPOWERING TOMORROW SMARTLY WITH TURNKEY ENERGY STORAGE AND EV CHARGING SOLUTIONS

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HISENERGY MISSION A CLEAR MISSION

We at HISENERGY ingeniously simplify complex renewable energy integration challenges with user-friendly plug-andplay solutions. We are steadfast in our commitment to fostering sustainability and amplifying customer empowerment, steering towards a greener future with every Innovation. Our solutions are not only empowering but also straightforward and accessible, resonating with the plug-and-play aspect. The term "Smartly" nods to innovation and our clever approach! With the safest and most reliable LFP battery technology, a state-of-the-art smart Energy Management System and a modular battery solution, you can maximize your profits, lower dependency on the grid and open new revenue streams.

EUROPEAN SOLUTIONS FOR THE EUROPEAN MARKETS

HISENERGY storage solutions (BESS) are carefully designed to meet the specific needs of commercial and industrial applications across Europe. We offer a comprehensive, turnkey solution that is smart, safe and simplifies the installation and commissioning process to a mere plug-and-play operation, reducing effort and time by up to 90 % compared to traditional BESS systems.

- All-in-One Turnkey BESS Solutions:

Our systems are pre-assembled and factory-tested, incorporating all necessary components – LFP batteries, Energy Management System (EMS), inverter, and switchgear – ensuring compliance with European regulations.

- Integrated Protection Systems (Multi-Level BMS):

Our multi-level Battery Management System (BMS) safeguards the battery at the cell, module, and cabinet levels. Equipped with numerous sensors for temperature, voltage, current, environmental conditions (such as humidity), and gases (including carbon monoxide and hydrogen), our systems ensure comprehensive protection. Additionally, an environmentally friendly, independent active fire safety system enhances the safety of our solutions.

- Transport and Installation Efficiency:

Certified under UN3480, our battery modules, inverters, and EMS are pre-installed in outdoor IP55-rated battery cabinets. This integration eliminates the need for separate onsite transportation and installation, streamlining the setup process.

- Regulatory Compliance:

Each unit meets all European grid codes and safety standards. Features like Anti-Islanding and NA-Schutz, along with an independent, comprehensive fire safety system, provide enhanced protection.













T[HIS] IS PERFECTLY MATCHED FOR RE:ENERGY EXPERTS





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ALL-IN-ONE BATTERY SOLUTION FOR COMMERCIAL AND INDUSTRIAL APPLICATIONS

HISbatt[®] All-in-One battery energy storage systems (BESS) have been specifically engineered for effortless and uncomplicated installation. It boasts a plug-and-play design complete with an integrated efficient SiC-based Inverter and a smart energy management system (HISems) to optimize your project's return on investment (ROI). This allows you to concentrate on your business while alleviating any worries about energy matters.

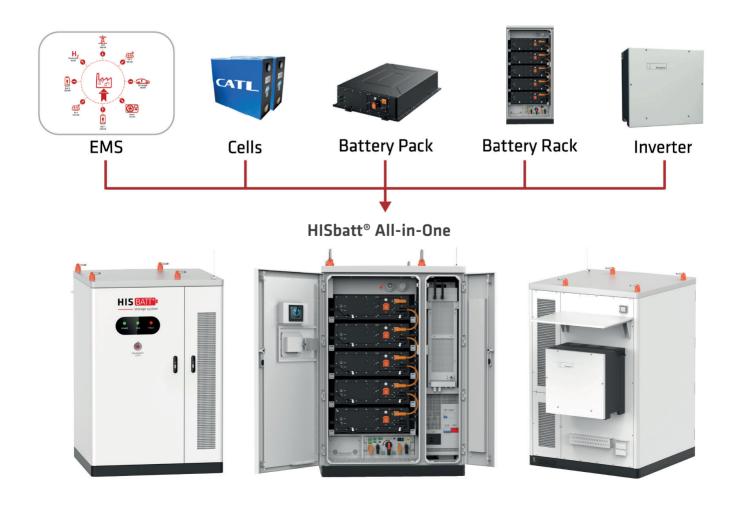
- Plug-and-play, battery energy storage system with an integrated Inverter & EMS
- Outdoor (IP54) as well as indoor solution, designed for forklift handling & easy Installation
- All-in-One standardized and modular BESS solution, expandable up to 10 MWh
- Intelligent AI-equipped, energy management system with remote monitoring & maintenance
- The safest Lithium-Iron-Phosphate (LFP) battery cells from CATL are equipped with a 3-level robust Battery Management System (BMS), assuring long product life and maximum safety
- Outdoor (IP54) as well as indoor solution, designed for forklift handling & easy Installation

PLUG-AND-PLAY

At HISENERGY, we prioritize your safety and comfort by designing solutions that are not just reliable but also user-friendly. Our battery systems are forklift and crane lift-ready, ensuring effortless and flexible on-site installation.

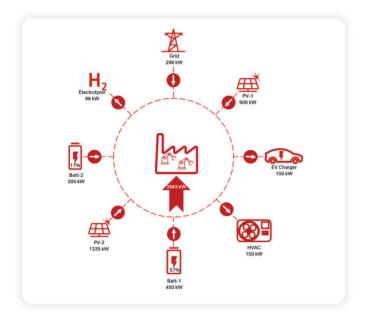
The HISbatt[®] 233L is a testament to convenience, arriving fully prepared with all essential components for a seamless plug-and-play experience. We've engineered this system to simplify your installation process, promising that your setup will be up and running in just a few hours. Simply connect the AC cables, adjust your application settings from my HIS-Flow, and you're all set for immediate use!

Your business deserves the best, and at HISENERGY, we deliver just that. We've meticulously considered every detail in the design phase to ensure your peace of mind. With HISENERGY, you can focus on your business, confident in the knowledge that we've got everything else covered.





HISems – ENERGY MANAGEMENT SYSTEM



The Energy Management System (EMS) is arguably the most crucial component of any Battery Energy Storage System (BESS). It intelligently controls, records, and monitors the energy flow during the charging and discharging processes of the BESS, ensuring that this information is readily available to the operator.

Our HISENERGY Management System (HISems) can be split into two components: HIS-Energy-Manager (Hardware) and HIS-Flow-Portal (Software & HMI). Together, HIS-Energy-Manager and HIS-Flow-Portal empower operators to gain a comprehensive understanding of the Battery Energy Storage System's (BESS) performance, including the volume of energy transferred in each direction, and provide insights into the current expectations from the BESS. With the HISems, operators have the ability to adjust parameters, select applications, and tailor the system to best suit their business needs and industry requirements.

At the heart of our intelligent Energy Management System (HISems) lies the HIS-Energy-Manager. This pivotal hardware is specifically designed for commercial and industrial applications, meticulously controlling and recording all critical data.

The HIS-Energy-Manager is an integral component of our HISbatt[®] All-in-One energy storage solutions. It seamlessly connects with energy generators, such as photovoltaic (PV) systems, as well as with the energy loads within your system. Armed with this comprehensive data, you can efficiently regulate and optimize your project. Additionally, the system offers Al-based optimization and forecasting capabilities, further enhancing the performance and efficiency of your energy system.



The smart hardware at the core of your HISbatt[®] energy storage solutions enables you to:

 Control and optimize your BESS, adapting it for your business and your project

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- Measure, record, and process critical parameters every second
- View the performance of your system with transparency and authority
- Export recorded data in comprehensible form and analyze the performance of your BESS

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APPLICATIONS AND USAGE SCENARIOS



Peak Shaving

Shave off load peaks for your commercial or industrial business with reliable battery storage.



PV Self consumtion optimization

Store excess energy from your solar panels to increase PV self-consumption and decrease dependence on the expensive grid.



Maximize the revenue from your Fast EV charging infrastructure by integrating smart energy storage solutions.



Emergency / Backup Power

Ensure reliable uninterruptible power supply for your critical sensitive loads using our robust BESS solutions



Use our smart state-of-the-art EMS to optimize energy consumption by charging during off-peak hours.



Maximize ROI by combining multiple applications, such as PV self-consumption, peak shaving, and forcast-based charging.



E-Trucks & E-Fleet

HISENERGY advances E-Trucks & E-Fleets towards an efficient, eco-friendly future with reliable, smooth charging, even in areas with limited grid connections.



Virtual Powerplants (VPP)

HISENERGY solutions offer a gateway to Virtual Power Plant (VPP) companies, creating an additional revenue stream for our customers.



Forecast based Charging

Intelligent battery charging predicts solar PV output to optimize charging, maximizing renewables energy use and extending battery life.



Implement customized Energy Management System (HISems) strategies by intelligently controlling numerous loads and energy sources.

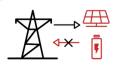


Offer grid services, such as frequency stabilization and reactive power support, thereby enhancing grid stability and generating revenue.



Green Hydrogen

Smart battery storage solutions for green hydrogen production via carbon-free electrolysis using renewable energy.



Semi-Offgrid & Zero Feed-In

Increase your sustainable energy project's generation capacity without overloading the grid or feeding energy back into it.



Microgrid

Capture excess renewable energy, deliver consistent, eco-friendly power, and bolster grid resilience, making energy reliability a reality for off-grid and remote areas.



Direct Marketer Interface

Say goodbye to feed-intariffs and hello to direct marketing on the electricity exchange, opening up lucrative revenue opportunities.



FAST CHARGING SOLUTIONS FOR CHARGE POINT OPERATORS AND COMMERCIAL EV FLEETS

Experience smart and safe EV charging with the most advanced Fast DC charger. EVtap® the Fast DC Charger to ensure reliable charging of your electric vehicles with the greenest energy possible. Compatible with all PV systems (regardless of manufacturer).



- Simultaneous charge to up to 2 EVs or E-buses (Dual CCS-2)
- Easy to install with up to 240 kW DC charging power
- Plug-and-charge ISO 15118-2
- Charge electric vehicles with 100 % solar power
- Intelligent operation with PV self-consumption optimization, Dynamic load management, and Scheduled Charging
- Cable Length: 2 x 5 m
- Easy HISbatt[®] integration for small grid connections
- OCPP 1.6 and OCPP 2.0.1 support for easy backend integration
- Secure User Identification via RFID or Mobile App or Payment Terminal

Whether you're installing a private fast charger for your green logistics business or setting up a commercial EV charging station, the EVtap® Fast DC Charger is the perfect choice. Its simple design ensures easy handling, increased safety, and effortless operation. The EVtap® Fast DC Chargers are compatible with all electric and hybrid vehicles available on the European market, ensuring wide-ranging applicability.

FAST, SMART AND RELIABLE

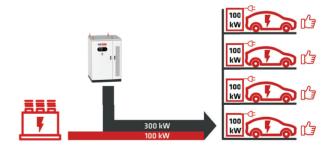
The EVtap[®], designed by industry experts, is suited to withstand a wide range of European weather conditions from extreme cold in the north to scorching heat in the south. The LCD screen provides live feedback to give your customers maximum control.

- RCD inbuilt
- 4G modem inbuilt
- 8 inch LCD touchscreen display

Rush hours without HISbatt®

- Metallic Frame
- RFID compatible
- MID metering
- OCPP 1.6J, 2.0.1 (fleet and billing software)
- Plug-and-charge ISO 15118-2

Rush hours with HISbatt®



Operating high-power fast-charging stations requires a significant grid connection, leading to considerable connection costs and high demand charges. With smaller grid connections, capacity is often quickly reached during peak hours each day, resulting in slower charging speeds and customer dissatisfaction. Moreover, upgrading the grid connection for existing facilities, such as supermarkets and industrial parks, is both complex and costly.

25 kW

> EVtap[®], when seamlessly integrated with the HISbatt[®] turnkey energy storage solution, enables Fast EV Charging businesses to maintain their small grid connections while benefiting from lower demand charges, without experiencing any power degradation during daily rush hours at their EV charging stations. This strategy ensures increased profitability and enhanced customer satisfaction. For logistics companies, the combination of EVtap[®] and HISbatt[®] becomes even more beneficial when the advantages of PV selfconsumption and peak shaving are included, thereby providing the cheapest and greenest energy for their electric fleets.



SMART CHARGING SOLUTIONS FOR PRIVATE AND COMMERCIAL EV CHARGING

Experience smart and safe EV charging with the most advanced Wallbox chargers. EVtap[®] Smart Wallbox to ensure reliable charging for your electric vehicles with the greenest energy possible. Compatible with all PV systems (regardless of manufacturer).

- Charge electric vehicles with 100 % solar power
- Intelligent operations with PV self-consumption optimization, Dynamic load management, and Scheduled Charging
- Vehicle-to-Home & Vehicle-to-Grid capable (V2H & V2G)
- OCPP 1.6 and OCPP 2.0.1 interface for remote monitoring and WiFi
- User friendly control with Android and IOS app
- Easy to install Wallbox with up to 22 kW AC Charging Power

Whether you're installing a private electric vehicle (EV) charger or setting up a commercial EV charging station the Smart EVtap® wallbox is a perfect choice. Its simple design ensures easy handling, increased safety, and effortless operation. The EVtap® wallboxes are compatible with all electric and hybrid vehicles available on the European market, ensuring wide-ranging applicability.



EVTAP[®] CONNECT - CONVENIENCE AT A GLANCE





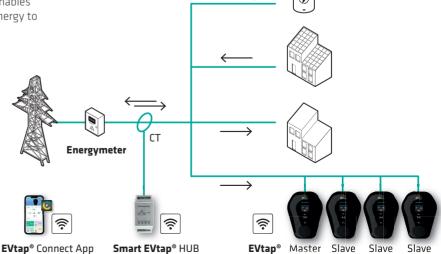


SMARTER THAN ANY EV CHARGER

Connect with our Load Management HUB (EVtap® accessory) and unleash the full potential of the EVtap® wallboxes. Use PV-generated electricity to charge your electric cars with 100 % green energy. EVtap® Load Management HUB enables PV self-consumption optimization by routing excess energy to EV chargers.

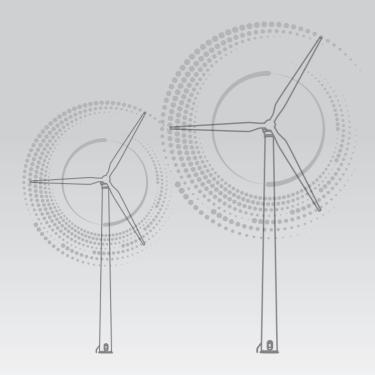
With Dynamic Load Management of up to 252 EVtap[®] wall boxes, you can distribute available charging power optimally to all electric vehicles. Prevent peak loads and save on the high investment costs required for expanding grid connections.

Use EVtap[®] chargers for EV fleets and optimize charging and performance with master and slave mode for EV fleets and small businesses. Monitor everything remotely with OCPP 1.6 and OCPP 2.0.1 interface for remote monitoring or with our EVtap[®] Connect App.



Use EVtap[®] Connect (Android and IOS) to check charge status, view charging history, export tax-compliant billing documents, create and manage user groups and more!

- See exactly how much your EV has been charged or how long until it is fully charged.
- View user-specific charging history at any time and export documents for tax purposes.
- Take the extra step to prevent unauthorized by easily turning your EVtap[®] wallbox off and on. Your openly accessible EVtap[®] wallboxes are only for approved users!



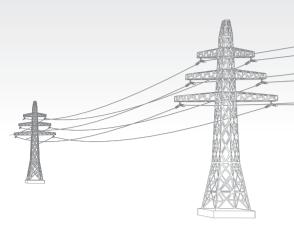
HIS – THE DRIVING FORCE IN THE IMPLEMENTATION OF YOUR RE:PROJECTS

HIS Renewables is one of the leading European providers of system solutions for the integration of renewable energy. Whether integrated photovoltaics, storage solutions, self-consumption optimization or EV charging technology: All HIS solutions have been developed at the company's location in Germany for more than 25 years and are manufactured on state-of-the-art machines and systems.

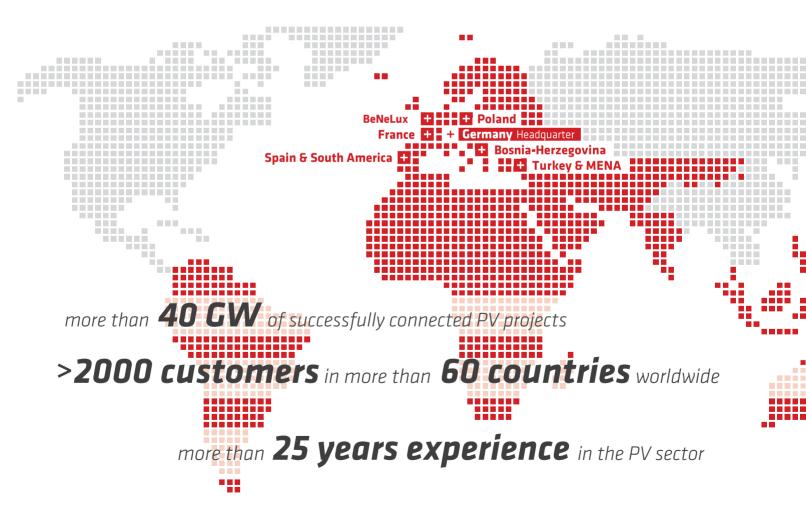
The result: Holistic, innovative and reliable solutions based on the plug-and-playapproach, which ensure fast project implementation and a reduced risk of errors, and which enable HIS customers to carry out their tasks in the implementation of the energy transition quickly, safely and affordably in the long term.

FIELDS OF ACTIVITY





HEADQUARTER AND OFFICES



EUROPEAN TURNKEY ENERGY STORAGE AND EV CHARGING SOLUTIONS





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