

Solutions for Power-to-X & hydrogen

**Activating the power of new energy**

Our expertise for industrialisation and digitalisation



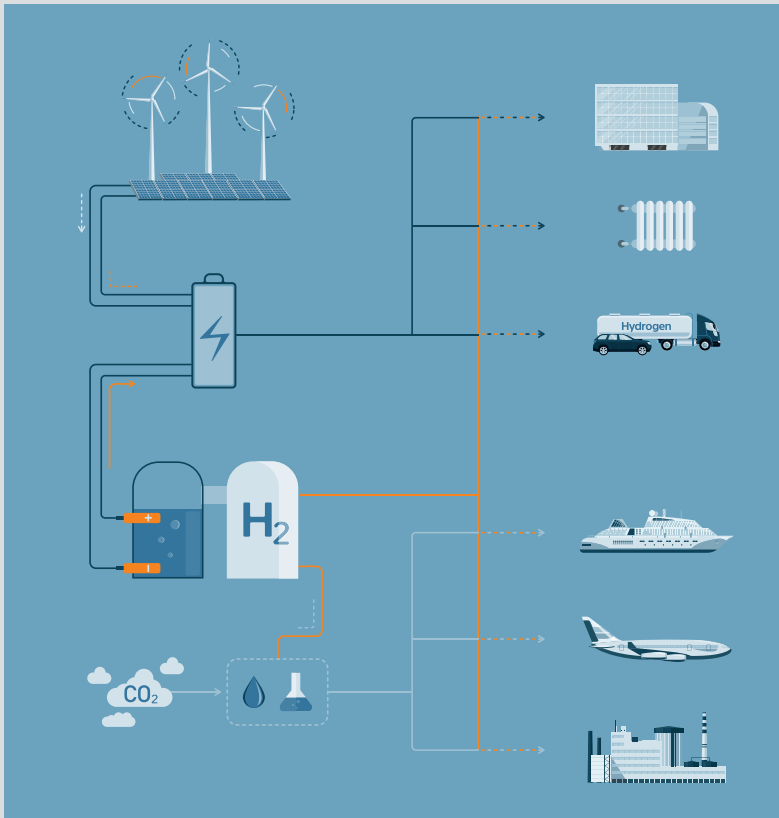
**Weidmüller** 

# Our expertise for a decarbonised future

## Pioneering mindset and know-how for the industrialisation

The use of fossil fuels will and must end to protect our natural habitat for the future. With our extensive experience in traditional process connection, protection and plant control, coupled with our strong involvement in photovoltaic and wind industry, we are the ideal partner for the Power-to-X industrialisation.

With our specialised know-how in products, systems and solutions and our pioneering spirit, we aim to enable your easy way to industrial IOT – Be it in Power-to-Hydrogen, Power-to-Heat or Power-to-X.



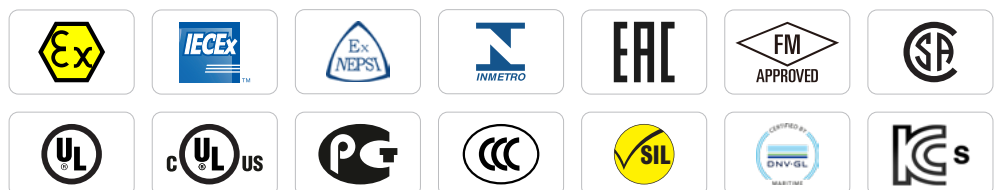
### The Power-to-X concept

Power-to-X describes the conversion of renewable energies into hydrogen, hydrogen-based synthetic fuels and basic materials. In combination with smart energy grids, this enables the use of renewable energies such as solar and wind energy even when they are not available. Furthermore, the technology also allows use in transport sectors such as aviation and long-haul shipping, where direct use of electricity is not expected to be possible in the future.

Power-to-X is therefore seen as a key technology on the road to the energy transition in the medium and long term.

### Industry Competence

- Certification Expertise
- Hazardous Area Approvals
- Engineering Competence



# Our solutions for renewable energy

## Experience for the energy-efficient value chain



### Photovoltaic

Reliable solutions for your PV projects. Explore our whole range of solutions for residential, commercial and industrial utility applications.



### Wind

Operate wind turbines more efficiently with our tailored solutions for maximum profitability.



### Hydrogen Production

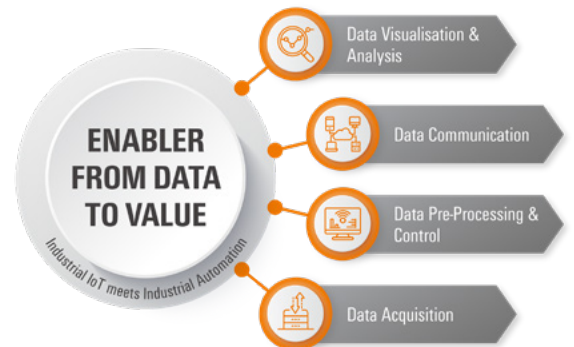
With specific products and broad experience, we actively support the process industry in developing and building sustainable solutions for hydrogen production.

## Our value-added solutions for Power-to-X

### Decentralised control & operation stations

#### Industrial IoT Solutions - More availability and productivity

Our comprehensive and cutting-edge IIoT portfolio applies for both, greenfield and brownfield applications. We offer components and solutions from data acquisition, data pre-processing, data communication and data analysis. The added value is exploited in the specific use case, whether this is increasing the energy efficiency or deploying service technicians more efficiently thanks to remote maintenance. And last but not least, we enable our customers to develop new business models by using artificial intelligence.



#### Your special advantages



#### Easy

Whether easy and fast retrofit of IoT solutions, open and webbased engineering or the building of machine learning models without any data science skills – discover the easy way to the Industrial IoT.



#### End to End

From “data to value”: with our IIoT portfolio we enable our customers to go from sensor to cloud and beyond: data acquisition, data preprocessing and data communication form the infrastructure which the data analysis is based on.

# Our competencies to support decarbonisation

## Supporting the zero emission concept in all energy sectors

### Fuel Cells

- PCB and Heavy Duty Connectors
- Decentralised Automation
- Power Management
- Cyber Security
- Automated Machine Learning
- Energy Flow Management
- Cell Voltage Monitoring (CVM)

### Electrolysis

- Process Control
- Power Optimisation
- Data Acquisition
- Automated Machine Learning
- Energy Management
- Instrumentation & Control Stations
- Cell Voltage Monitoring (CVM)

### Photovoltaics

- AC / DC Combiner Boxes
- Monitoring
- PV Connectors

### Micro Smart Grid Solutions

- Energy Management & Uninterruptible Power Supply
- Remote Access
- Cloud Systems
- Cabinet Products
- Web based SCADA

### Mobility

- RockStar® Heavy Duty Connectors
- Enclosure Systems and Components
- Lightning and Surge Protectors
- Connection Solutions

### Hydrogen Refueling Station

- Modular Control Systems / IOs
- EX I Signal Conditioners and Enclosures
- Web based scalable Visualization
- Cyber Security

- Hydrogen
- Electricity
- Heat



## Hydrogen Compressors

- Modular Controllers
- Compact and Modular Remote IOs
- Engineered and Assembled Safety, Power and Control Cabinet
- Hardware and Software Visualization
- Security Routers and Ethernet

## Wind

- Condition Monitoring
- Data Analysis
- LED Solutions
- Customer-specific Assemblies

## H2 Storage & Supply

- Control Panels
- Industrial Analytics
- Electronic Load Monitoring
- Condition Monitoring Sensors

## Battery Storage & Re-Electrification

- Battery Cell Control
- Battery Management
- Industrial Security Routers and Ethernet
- Digital Switching Modules

## Process Industry

- Control Panels
- DCS Package
- Electrical Package
- Field Marshalling
- Industrial Ethernet

# Our value-added solutions for Power-to-X

## Predictive concepts for sector coupling Industrial Analytics

The Industrial Analytics offering from Weidmüller stands for application-oriented AI applications to help you detect and classify anomalies, thereby effectively reducing downtimes. Through predictive maintenance, you can plan service intervals in a targeted manner as and when required. What's more, you can make reliable predictions with regard to the quality of your products (predictive quality), based on seamless recordings of sensor, condition and process data.



### Your special advantages



#### Local or in the cloud

100% security for your data. With our cross-platform Industrial Analytics solutions, you can decide for yourself how you want to use your data. Our services work on all standard cloud solutions, "on premise" on internal servers or directly on the machine.



#### Complete solutions from a single source

We will help you to design an optimal data infrastructure and to select the perfect sensors and components. Our analytics modules are tailored to your use cases in order to adapt to your existing IT environment.s.

## Product highlights for Power-to-X



#### Industrial Analytics

The Industrial Analytics offering from Weidmüller stands for application-oriented AI applications to aid the detection and classification of anomalies, in order to increase process reliability.



#### Energy Monitoring Systems

Weidmüller's range of analogue converter and monitoring relays makes it a powerful partner in light of the increasing use of automation.



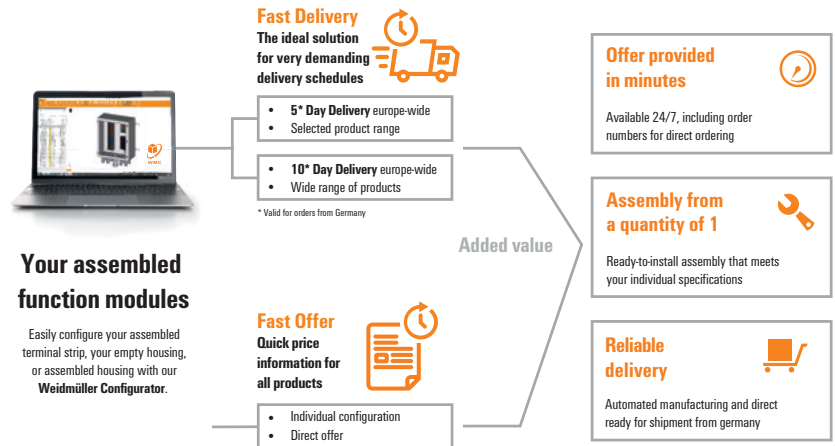
#### Controls (PLC) and I/O

Implement small, large, and connected control solutions flexibly with high-performance, modular controller hardware

# Remote Control Stations

## Fast Delivery Service - Individually assembled function modules

The Weidmüller Configurator software offers the possibility that you could configure your terminal rail or enclosure and get an automatic offer with delivery promise for the individual configuration. The Fast Delivery Service delivers to you within days.



### Your special advantages



#### Increase your Quality

With Fast Delivery, you receive individual, ready-to-install assembled terminal strips, and empty or unassembled enclosures in the shortest possible time. In this way, you avoid assembly errors and increase the reliability of your products.



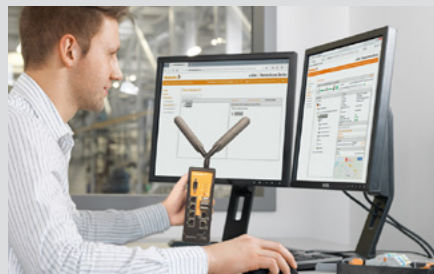
#### Reduce your costs

Your plants are becoming more and more specific and complex. With Fast Delivery, you receive complete assembled function modules and can significantly minimise your purchasing and storage costs.



#### Functional Safety and Ex Areas

Specific safety relays required for signals in process safety-related systems



#### Safe Remote Acces

Quick remote access for simplified maintenance and increased availability of machines and systems via u-link



#### Remote Control Stations

Weidmüller's standardised Klippon® Protect enclosures, developed and crafted exclusively to meet the Power-to-X requirements, are assembled from high-quality individual components.

## **Weidmüller – Partner in Industrial Connectivity.**

As a market leader we support our customers and partners around the world with products, solutions and services in the industrial environment of power, signal and data. We are at home in their industries and markets and know the technological challenges of tomorrow. We are therefore continuously developing innovative, sustainable and useful solutions for their individual needs. Together we set standards in Industrial Connectivity.

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