

Energy monitoring

Efficient energy monitoring provides the basis for your energy management. Our coordinated portfolio of sensors and measuring technology can save you a great deal of effort when it comes to energy data acquisition. Whether complex energy monitoring or simple cost center billing: the wide variety of multifunctional energy measuring devices and energy meters for billing purposes covers every application. Current transformers, current measuring transducers, and voltage measuring transducers complete the portfolio.



Your advantages

Intuitively configurable energy measuring devices for energy measurement in just three steps

Cost center-specific energy data billing with energy meters for billing purposes

Easily retrofit current sensor technology without having to dismantle system parts; with Rogowski coils and current transformers for retrofitting

Quickly install current sensors in new installations with window-type current transformers with Push-in Technology

Find the right measuring transducer for a range of requirements in current and voltage measuring technology

Our energy measuring devices are at the heart of our energy monitoring portfolio. Design your future energy management system with EMpro energy measuring devices:
Integrate the energy data into your local network from any browser via the integrated REST interface. Or go directly to the cloud with EMpro. Access your measurement and device data from anywhere in the world, and take advantage of the additional Smart Services in the Internet of Things.

Multifunctional energy measuring devices

EMpro energy measuring devices measure your energy data and communicate it to higher-level control and management systems.



Multifunctional energy measuring devices with current transformer input or with direct connection option for manufacturer-independent Rogowski coils

IoT-capable energy measuring devices with current transformer input or with direct connection option for manufacturer-independent Rogowski coils

Energy measuring devices with 24-volt supply and current transformer input or with direct connection option for manufacturer-independent Rogowski coils

The multifunctional EMpro energy measuring devices acquire your energy data and offer numerous options for communicating the data to higher-level control and management systems. Configure and integrate your energy measuring devices in just a few steps using the web-based, user-guided installation wizard. You can also benefit from the simple, direct connection of conventional Rogowski coils, and from the many practice-oriented web server and device functions.

Your advantages

Energy measuring in just three steps with intuitive installation assistants

Reduce wiring and configuration effort with direct connection to conventional Rogowski coils

Easy commissioning and service with smart web server and display functions

Data protection through the targeted deactivation of button configuration functions and interfaces

Fast integration into control and management systems with future-oriented communication solutions and digital services



EMpro energy measuring devices – the fastest way to measure energy

Your advantages in detail



Intuitive Installation Wizard

Just three steps to energy measuring:

Set up the communication interface, select the power grid type, and configure the measuring input. EMpro measuring devices can be configured and integrated into the network in just three steps. The installation wizard starts up automatically when the device is switched on for the first time. Alternatively, you can set the configuration baseline directly on the device via the user-guided operating keys.

Fast Wiring & Configuration

The Rogowski measuring input saves you a great deal of time when it comes to wiring and configuration. Connect any conventional Rogowski coil directly: the products process the mV signal directly. The measuring transducer that is normally used is no longer required. Configure your current input with a single click. The coil parameters are already stored on the web server.

Smart Web Servers & Device Functions

A range of convenient web server and device functions simplifies your every-day work, such as monitoring the correct operation of the system and error analysis in the event of service and support actions. In addition to configuring the devices, you can use the web server to log data, the assess the grid quality, and display the energy flows in clear trend diagrams.

Errors and alarm statuses that occur in the system are quickly and unambiguously detected on site with a color change on the display.

Increased Data Security

Protect your energy data from unauthorized access: shutting down operating elements at the device will prevent manipulative operations on site. Deactivating the interfaces, you avoid unwanted access to your energy data or unintentional changes of the configuration.

Easy Integration Into Control & Management Systems

EMpro energy measuring devices measure your energy data and communicate it to higher-level control and management systems. In addition to interfaces for classic industrial communication, the products also have an integrated REST API.

The IoT-capable EMpro device is able to transfer its data directly and securely to the cloud using a router. Access your measurement data and component data anywhere in the world. You won't need an IoT gateway to aggregate data, to convert between local network protocols and IoT protocols, or for encryption.



Easy networking with REST API

Easy integration into local networks from any browser

In local networks, the devices can be easily accessed via the integrated REST API. REST or “Representational State Transfer” is a widely used architecture in the field of IT, which is also gradually being adopted in industrial applications. The user-friendly interface architecture uses the well-known Internet protocols. Data can be queried with just a few commands from any browser, e.g., via an HTTP GET request. You do not need long register tables or special knowledge of industrial communication protocols.

Your advantages with REST API:

The HTTP/REST/JSON format enables the quick and convenient development of system integration
Simplified data analysis with configurable requests and additional information, such as the serial number and device designation

Read-only concept provides added security

Communication interfaces such as Modbus/TCP can be used in parallel

Continuous expansion of the scope of functions with firmware updates

[More about the REST programming Interface](#)

Unboxing EMpro

Energy measurement – easy to install in just three steps:

Set up the communication interface

Select the power grid type

Configure the current and voltage measuring input



[Installation video](#)

Discover the online documentation for our EMpro energy measuring devices

With the new format of online documentation for the EMpro energy measuring devices, we are taking a completely new approach to passing on our product information to you. Whether you use a phone, tablet, notebook, or desktop PC, you will save a lot of time searching for installation instructions, functional descriptions, and technical data for our products.

You will find this and much more information in our EMpro online documentation. Use the dynamic content filter to display the information that relates to your specific product. You can also use the favorites list to save preferred subjects, enabling you to quickly call them up again if necessary.

[Explore the EMpro online documentation now](#)

Direct to the cloud without a gateway

Worldwide data access



EMpro energy measuring devices with a direct connection to the cloud enable interaction with the devices from anywhere, and at any time. Access your energy data and component information anywhere in the world, without an additional gateway.



Your advantages

Direct connection of the energy measuring device to Proficloud.io without using an IoT gateway

Flexible access to energy data and component information anytime, anywhere with Smart Services on Proficloud.io

Secure communication between the IoT-capable energy measuring device and Proficloud.io via TLS encryption

Easy extension and scalability with dynamic IT resources that can be quickly and individually tailored to new requirements

Smart Services for energy and power data analysis

EMMA Smart Service

Energy Monitoring, Management, Analytics: the EMMA service and the IoT-capable EMpro energy measuring devices are empowering your energy management system of the future. Go straight into the IoT with EMpro energy measuring devices and benefit from cloud-based data collection and intuitive, flexible functions for targeted, informative visualization.

[More about the EMMA service](#)

Data visualization & analysis

User-friendly dashboards and widgets

With just a few clicks, you can draw initial conclusions regarding your data and energy consumption. Set up dashboards to suit your needs and use the variety of visualization options such as pie charts, bar charts, line charts, and more.

Use these widgets to compare individual production lines, systems, or time periods and identify potential savings.

Overview of Functions

External data sources can be integrated for additional data transparency

Export of data for use in other systems

Warning directly in the Smart Service about limits that will be imminently over- or undershot

Visualization of Energy Performance Indicators (EnPI) displayed with the reporting feature



Continuous further development

Constantly increasing value benefits for your energy data analysis with continuous, user-oriented further development. To meet rapidly changing challenges, the agile team behind the Smart Services focuses on customer needs and market requirements.

Device Management Service

Manage and monitor your cloud-capable energy measuring devices and other Smart Devices from Phoenix Contact with the Device Management Service. A digital nameplate gives you a direct overview of device information, such as the device type, serial number, and installed firmware and hardware version.

In addition, the health status is visible. Via Traffic Light, you directly see when a warning or a fault has occurred on the device. More specific information can be accessed in the device logs.

To ensure the security of devices, it is essential that the firmware is updated regularly. A direct update function is available for this in the service.

Your advantages

Overview of your devices

State of health of devices

Firmware update from the cloud

Digital nameplate and device logs

[More about the Device Management Service](#)

Time Series Data Service

The Time Series Data Service, one of the Smart Services of the Proficloud.io IIoT platform, allows you to access your production data anywhere and at any time.

Other advantages of the Time Series Data Service:

- Downtimes and workloads can be planned
- Increased product quality through data
- Warnings in the Smart Service or via email indicate impending problems
- Expertise accessible to every employee

[More about the Time Series Data Service](#)

Topology of IoT-based energy management

Direct connection to the Proficloud.io cloud platform via plug-and-play

IoT-capable measuring devices, i.e., Smart Devices, can be integrated directly to a Proficloud.io cloud platform via an Ethernet interface and the MQTT protocol via plug-and-play. Within the cloud environment, the measuring devices can be easily and quickly integrated into a new or existing system via the Device Management Service. The selected measured values are automatically transferred and stored. Energy management managers have immediate access to this data via the EMMA Smart Service and can use it directly. Complex configurations of classic industrial networks (e.g., Modbus or PROFINET) are now a thing of the past.



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