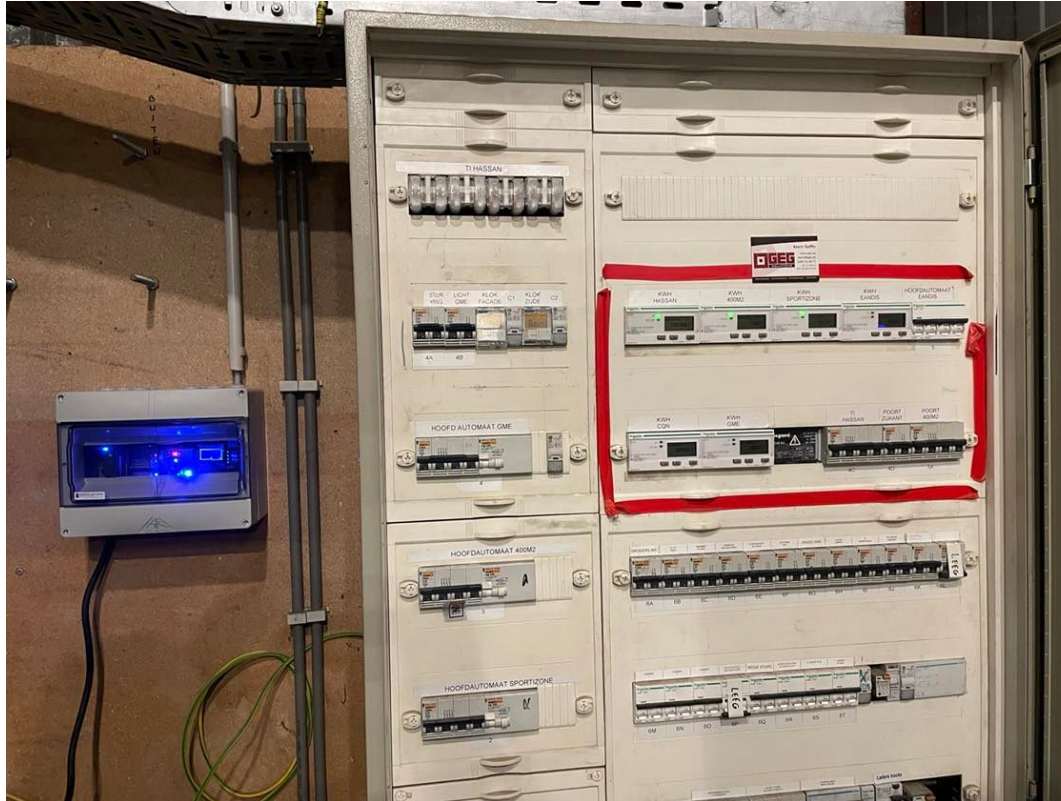# Power Metering
Follow-Up Of Your Power Consumption

In order to start controlling the energy bill it is mandatory to have an idea of the consumption of your devices. We offer a solution that communicates with the ModBus over RS485 with power meters of different vendors without the need for a PLC. With one IoT board we can read multiple devices.

Example Of One IoT Enclosure Reading Six Schneider Power Meters

Who Uses It ?

Any organization that wants to implement a power consumption management system.

What Features ?

Several Power Meters are read in parallel with one IoT enclosure by using the ModBus RS485 protocol.

Data is kept for analysis and reporting on our cloud server.

Data can be extracted via an API in order to be used by your company software platform.

In case of high consumptions it is possible to switch devices/machines off or on again when consumption is low.

Consumption charts of live data, daily and monthly aggregations can be consulted.

On monthly bases we calculate the cost based on a KW/h price that you can configure based on data from your electricity provider. That data can also be extracted by an API in order to feed a billing system.

Note that we do not need a PLC in our solution.

The measurement interval is configurable.

The data can be transferred via NBIoT, GSM, Lora, ModBus RS485, WiFi & Ethernet communication types. All HTTP and MQTT data streams are encrypted following the AES-256 CBC standard.

In order to overcome data loss in case of communication problems we keep data on local SD storage which is flushed to the database once the connection has been re-established.

Our IoT board contains three relays to steer local devices. A rule system is foreseen on the cloud application server where automated actions can be configured. In case an immediate action is required you can manually trigger one too.

Daily Charting Example

kWh Calculated Statistics
Customer '____'

Time Periods

Daily Detail ▾

Select a month:

Mar 2023 📅

Current Pricing (VAT incl.)

Eneco 0.68 (Euro/kWh)

✎

Nodes With Energy Metering (Day Level Data)

▾ PowerMeter[8C:AA:B5:84:FE:55]

Metric Name	Info
▾ energy1	HELI

Reporting Date	Active Consumption (kWh)
Mar 01 2023	271.5
Mar 02 2023	264.88
Mar 03 2023	311.88
Mar 04 2023	59.87
Mar 05 2023	65.75
Mar 06 2023	320.62
Mar 07 2023	298.76
Mar 08 2023	342.37
Mar 09 2023	331.25
Mar 10 2023	286.38
Mar 11 2023	185.5
Mar 12 2023	109.37

|◄ ◄ **1** 2 ► ►| 1 - 10 of 12 items

| ▸ energy2 | 400M2 |
| ▸ energy3 | SPOR |

CREATIVE Associates Power Metering Product Data Sheet

The actual consumption values can be visualized in a chart and reflect the value you will see on the small LCD screen of the power meter itself.

A name can be given to each power meter via a configuration menu in order to add context to the metering.

At the left side you find the connected sensor names and relay devices with their context which is configurable so that you can add extra information.

The chart on the left is an example of a daily aggregation of the consumed KW/h by each power meter.

The month of interest can be selected.

Monthly Cost Calculation

kWh Calculated Statistics
Customer '____'

Time Periods

Monthly Totals ▾

Select months period:

Start

Aug 2022

End

Feb 2023

Current Pricing (VAT incl.)

Eneco 0.68 (Euro/kWh)

✎

Nodes With Energy Metering (Month Level Data)

▾ PowerMeter[8C:AA:B5:84:FE:55]

Metric Name	Info
▾ energy1	HELI

Reporting Date	Active Consumption (kWh)	Cost (Euro)	Provider Info
Aug 2022	13784	5100.08	Eneco 0.37 (Euro/kWh)
Sep 2022	11560.12	7860.88	Eneco 0.68 (Euro/kWh)
Oct 2022	5040.09	3427.26	Eneco 0.68 (Euro/kWh)
Nov 2022	3526.2	2397.82	Eneco 0.68 (Euro/kWh)
Dec 2022	4174.58	2838.71	Eneco 0.68 (Euro/kWh)
Jan 2023	6310.5	4291.14	Eneco 0.68 (Euro/kWh)
Feb 2023	6198.12	4214.72	Eneco 0.68 (Euro/kWh)

|◄ ◄ **1** ► ►| 1 - 7 of 7 items

| ▸ energy2 | 400M2 |
| ▾ energy3 | SPORTI |

Reporting Date	Active Consumption (kWh)	Cost (Euro)	Provider Info
Aug 2022	492.12	182.08	Eneco 0.37 (Euro/kWh)
Sep 2022	660.41	449.08	Eneco 0.68 (Euro/kWh)

This chart shows the monthly power consumption per power meter and the corresponding cost.

There is an option to define the cost per KW/h given by your electricity provider.

This data can be extracted via an API in order to feed it into the company billing system.

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