Revise Quick Start Guide

The quick start guide is provided to help you get the Revise energy monitoring system up and running as quickly as possible.

Installing components

To install components you will need the following system:

- x64 Linux operating system (Ubuntu 14.04 LTS server or Ubuntu 12.04 LTS server should work)

- Minimum of 6 GB RAM

- Minimum of 30 GB hard drive space

- TCP/IP protocol support

Before installing Revise install MySQL 5.x server, MongoDB and Tomcat 6. On Debian/Ubuntu:

```
sudo apt-get install mysql-server mongodb tomcat6
```

Set MySQL root password to 'admin'.

You can download Revise installation file from ftp site ftp://95.129.195.26

For downloading and running installation script on Debian/Ubuntu:

```
wget ftp://95.129.195.26/reviseinstall06.tgz

tar zxf reviseinstall06.tgz

cd reviseinstall06

sudo bash reviseinstall.sh
```

The installation script prompts for installing Oracle Java Runtime Environment 6 and Mango M2M.

Skip this if you have these components already installed on your system.

After installation reboot the system, and it should work.

host:8080/mango/ for Mango M2M (default user: admin, password: admin)

host:8080/revise/ for Revise

Setting up Mango M2M

When you log in to Mango M2M you will see the icon bar:

Step 1 : Data Sources

Click on the **„Data Sources"** icon, which is in the icon bar. After that you will see the **„Data Sources"** table that is empty:

For adding **Modbus Serial Data Source** open the dropdown column and choose the "**Modbus Serial"** option and click on the **„Add"** icon in the right corner of this table and the **Modbus serial properties** section opens.

You need to enter the **properties** in order to **set up** your **Data Source:**

Name – The name which describes your data source

Update period – determines how often the Modbus equipment is polled for data. For Revise set it to **5 minutes**.

Quantize – will cause the **Data Source** start-up to be delayed so that polling occur at a "rounded" point in time.

Timeout (ms) and Retries – fields will determine the system behaviour in the case of a polling failure.

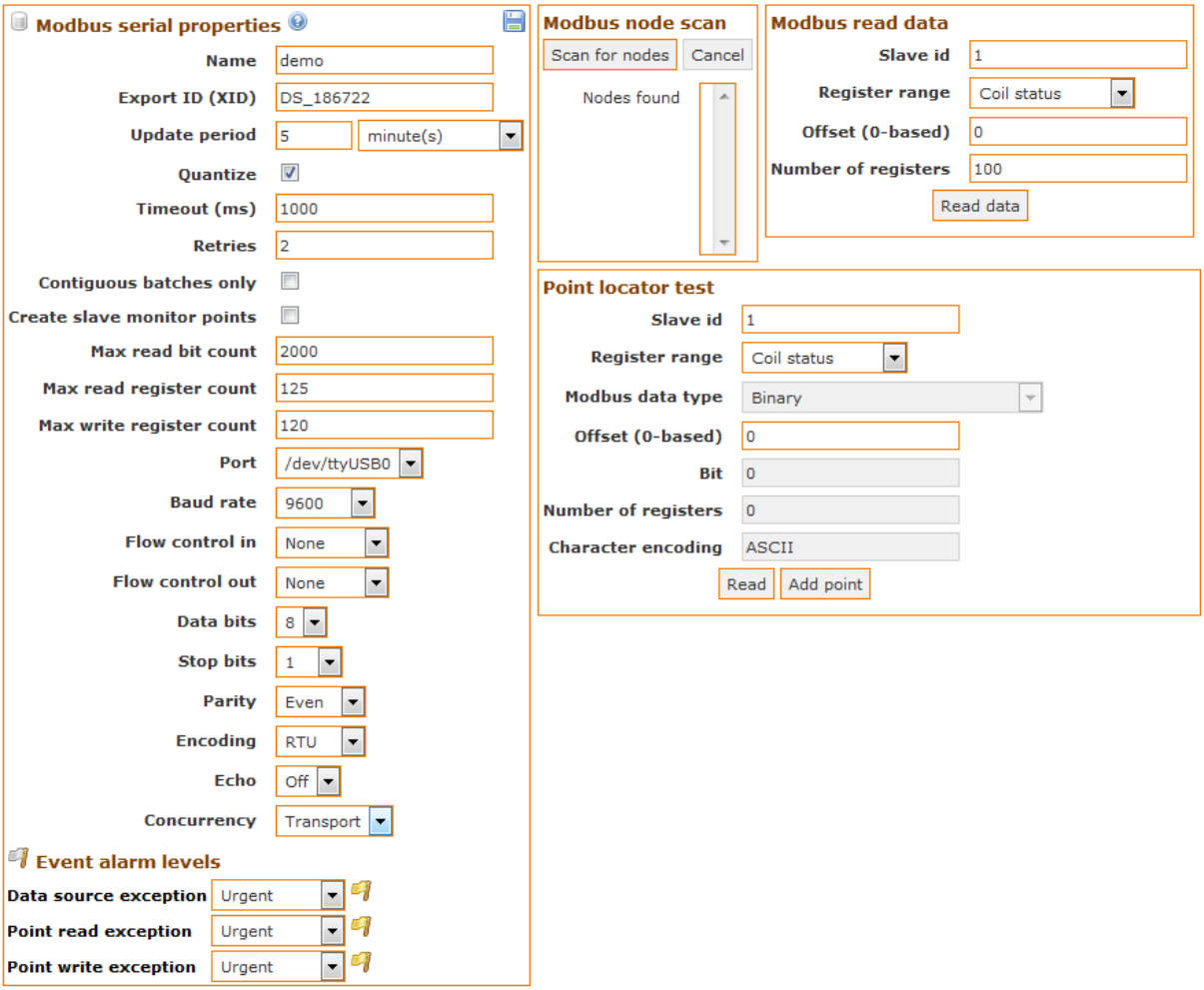
Port - the physical port for communication with connected devices.

Baud rate, Flow control, Data bits, Stop bits, Parity and Encoding – serial communication settings for connection must comply with the settings in connected devices.

Concurrency – determines how Modbus requests are synchronized. For reliable communication use **Transport** option.

After you have changed all these fields and your **Data Source** is set up correctly you have to **save** it, which is the icon.

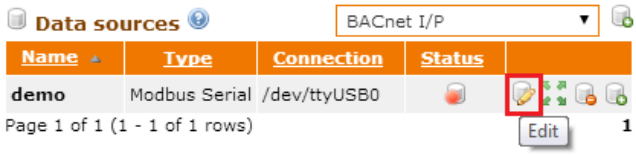
Here's the example of **Modbus Serial Data Source**, which has already been setup:



Step 2: Adding points to your data source

When you are done with creating your **Data Source**, you can start **adding Metering Points** to your created **Data Source.**

To do so you have to **edit** your newly created **Data Source** by choosing the **edit** icon:



Now if you want to add new points to your **Data Source** you can use the **„Point locator test"** section, which is on the right.

You have to change following parameters in order to make a working **Metering Point:**

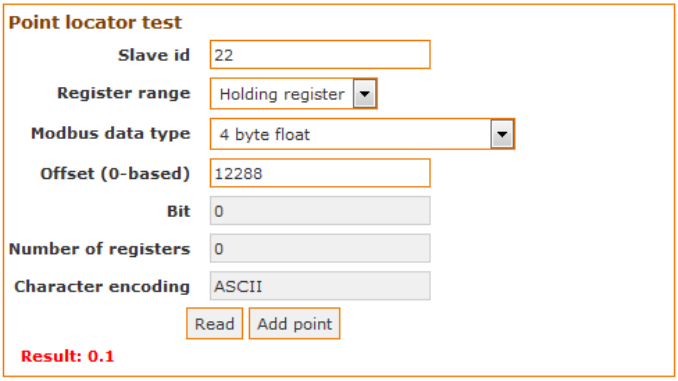
Slave id – is the id with which the Modbus node was configured, it is a number between 1 and 256.

Register range – determines in which of the four ranges the metering value is to be found. Consult the documentation for your Modbus equipment to determine what should be used.

Modbus data type – field reflects the ways in which data can be encoded. Consult the documentation for your Modbus equipment to determine the proper setting.

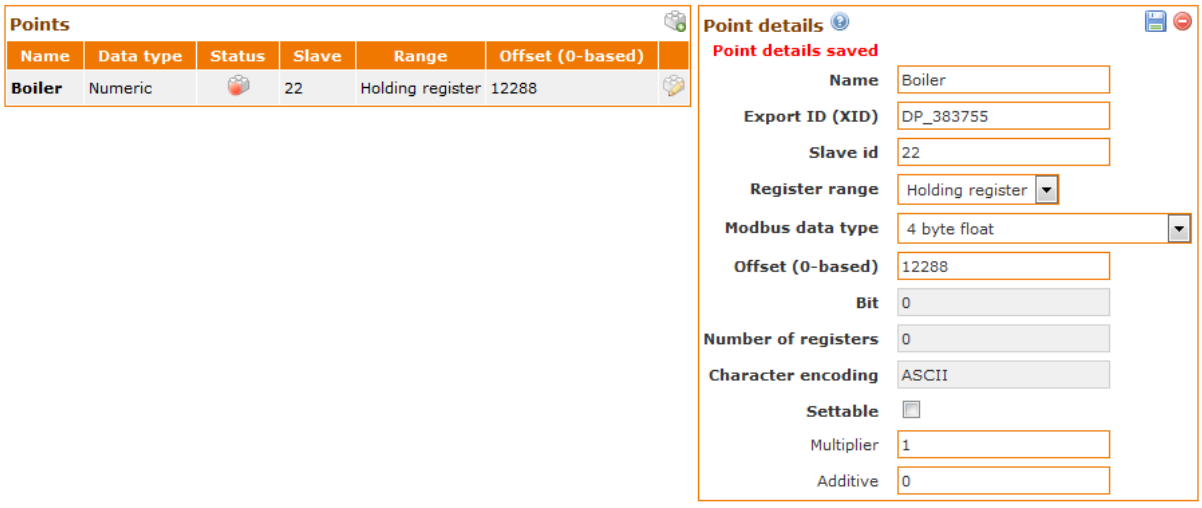
Offset (0-based) – For choosing the right offset (register address) for your metering point, you also have to consult the documentation for your Modbus equipment.

Here is an example of how this might look like after you are done editing those fields:



For testing click on the **„Read"** button and if you have put in correct information, you will get reading from the register as the result. All you have to do now is to click on **„Add point"** and down below pops up a new **„Point details"** section, where you can set the name and additional settings to your **Metering Point** and **save it.**

Here is an example:



After your **Point details** have been set up correctly just click on the **save** icon . The added **Metering Point** it will appear in your **„Points"** list.

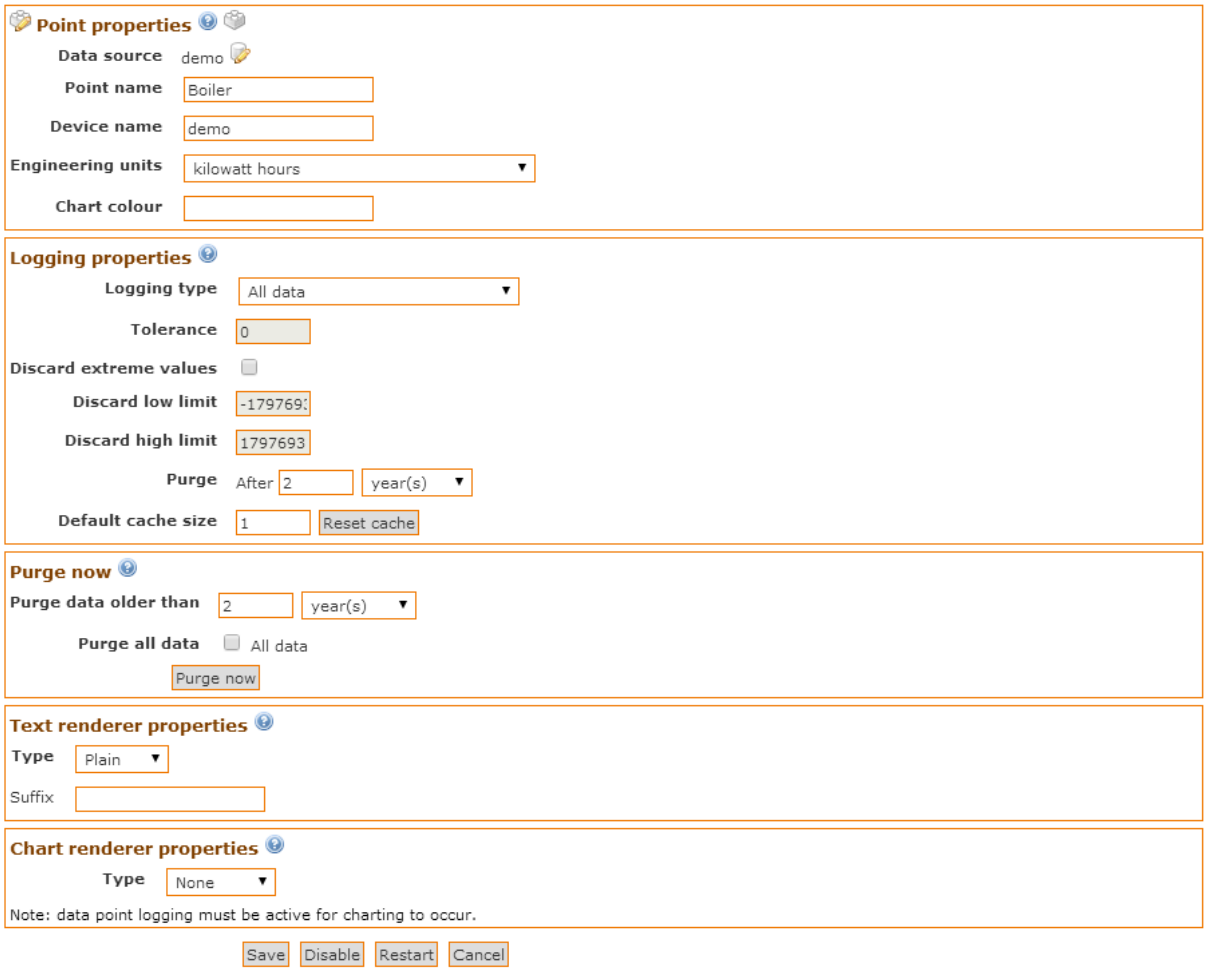
Next click again **Data sources** icon and then **„Show points"** option in the **Data Sources table.** This will open list of the **Points**. Click on the **„Point properties"** icon.

Here is the list of properties you should change by your needs:

Point properties – you should choose your **Engineering units,** it has a dropdown column, where you can choose the right measuring unit for your point.

Logging properties – select **All data** option, that means all data will be logged into database.

You can also set up **Purge option**, which determines how long a point's historical values should be kept in the database.



If you are done with these options you can click on the **save** button to save your progress.

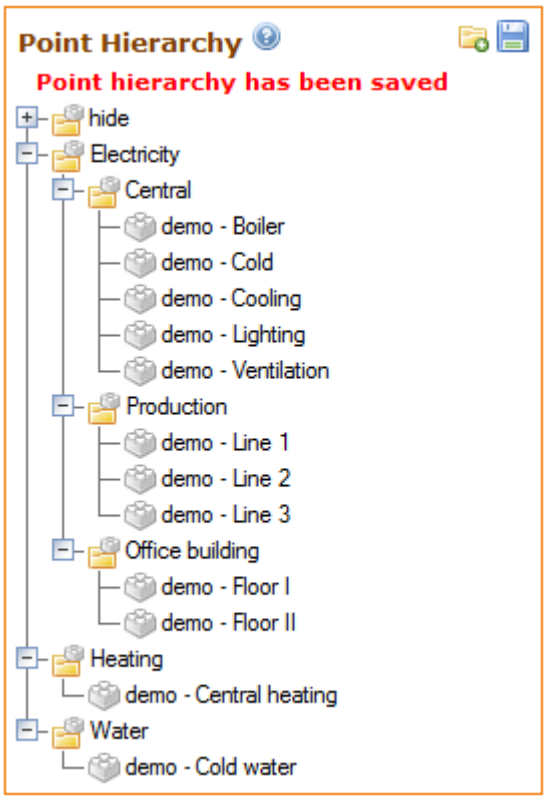
Step 3: Setting up Point Hierarchy

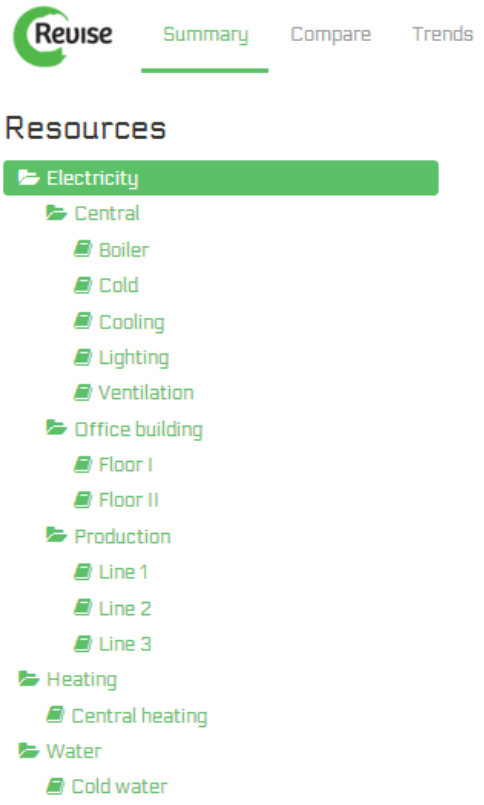
Next you should move on to the **Point Hierarchy**.

Choose **Point Hierarchy**  icon from the MangoM2M icons bar on the top.

For **Metering Points** to appear in **Revise** you should set up **Point Hierarchy** in Mango M2M.

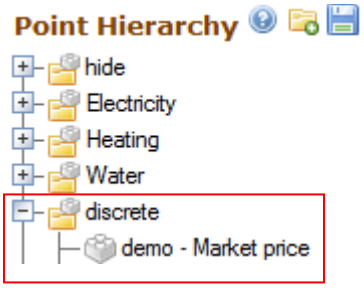
For the demo on our website the **Point hierarchy** looks like this:





The first folder from the root corresponds to the **Resource name** in **Revise**. **Metering Points** under **same Resource** should have **similar Engineering units** (kWh, Cubic Meters, etc.) You can group **Metering Points** by adding **subfolders**. Revise will aggregate lower level folders or **Metering Points** in the upper folders of hierarchy. The root folder named **'hide'** and **'discrete'** is not shown in Revise.

Instead of **Resource Metering Points** that are counters you can also use **Discrete Metering Points** in the system (e.g. temperature, energy market price, etc.). Place **Discrete Metering Points** into hierarchy folder named **'discrete'**.



Discrete Metering Points will show up in **Revise** under icon . You can show **Discrete Metering Points** in any charts of **Revise** resource folders as a line.

After making changes in the **Point hierarchy** don't forget to **save** the changes.

Now when everything has been set up we need to **enable Data Source and Metering Points.**

Click **Data Sources**  icon and then **„Show points"** option  , in the **data sources table.** This will open list of the **Points**.

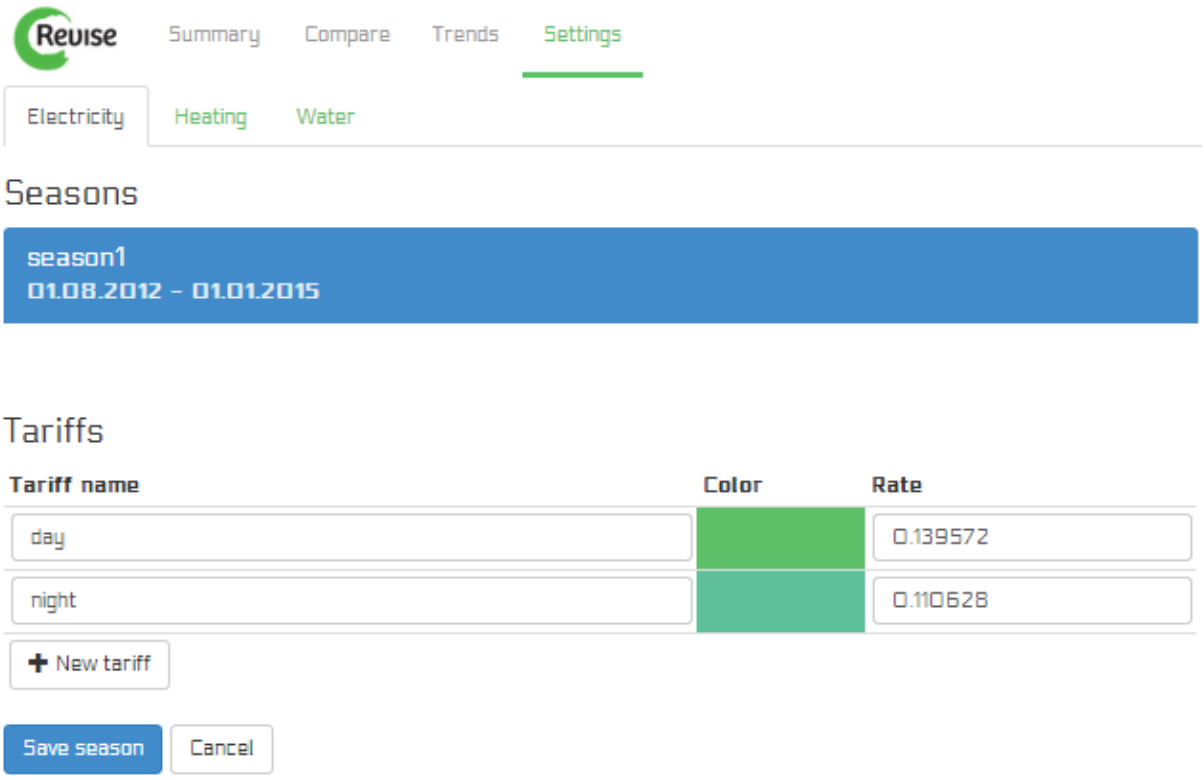
Next you need to change your data source **status** from **disabled**  to **enabled**, just click on the **disabled** icon. You will see that your data source turns to enabled .

Next is to **enable Metering Points**. To do so simply click on **status off** icon  of the **Metering Point** and it will turn green, which means, that your point is now **enabled**  and ready to measure**.**

Setting up Revise

If you have everything up and running in **Mango M2M**, you can move on to open and set up **Revise**.

Before metered data will appear in **Revise** charts you need to set up **Tariffs for the Resources**. **Tariffs** are needed for cost calculations. First thing, you need to do, is to click on the **Settings** tab. In there you have to set up the **Seasons and the Tariffs**, for each **Resource**. For **Season**, you have to click on the **"add new season"** button and fill in the period for the tariffs to be valid. In the **Tariffs** section you can set the tariffs that correspond to different times of a day. For example, if you have created an Electricity Resource you can set up 2 different **Tariffs**, one could be daily rate and other for nightly rate. Here is an example of how it could look:



As you can see, all the **Tariffs** you create, have their own **color**. That comes in handy while filling in the **weekly timetable**, on the right.

In there you can simply click on specific day and time, to mark selected **Tariffs**.

	Sun	Mon	Tue	Wed	Thu	Fri	Sat
0:00	0.110628	0.110628	0.110628	0.110628	0.110628	0.110628	0.110628
1:00	0.110628	0.110628	0.110628	0.110628	0.110628	0.110628	0.110628
2:00	0.110628	0.110628	0.110628	0.110628	0.110628	0.110628	0.110628
3:00	0.110628	0.110628	0.110628	0.110628	0.110628	0.110628	0.110628
4:00	0.110628	0.110628	0.110628	0.110628	0.110628	0.110628	0.110628
5:00	0.110628	0.110628	0.110628	0.110628	0.110628	0.110628	0.110628
6:00	0.110628	0.110628	0.110628	0.110628	0.110628	0.110628	0.110628
7:00	0.110628	0.139572	0.139572	0.139572	0.139572	0.139572	0.110628
8:00	0.110628	0.139572	0.139572	0.139572	0.139572	0.139572	0.110628
9:00	0.110628	0.139572	0.139572	0.139572	0.139572	0.139572	0.110628
10:00	0.110628	0.139572	0.139572	0.139572	0.139572	0.139572	0.110628
11:00	0.110628	0.139572	0.139572	0.139572	0.139572	0.139572	0.110628
12:00	0.110628	0.139572	0.139572	0.139572	0.139572	0.139572	0.110628
13:00	0.110628	0.139572	0.139572	0.139572	0.139572	0.139572	0.110628
14:00	0.110628	0.139572	0.139572	0.139572	0.139572	0.139572	0.110628
15:00	0.110628	0.139572	0.139572	0.139572	0.139572	0.139572	0.110628
16:00	0.110628	0.139572	0.139572	0.139572	0.139572	0.139572	0.110628
17:00	0.110628	0.139572	0.139572	0.139572	0.139572	0.139572	0.110628
18:00	0.110628	0.139572	0.139572	0.139572	0.139572	0.139572	0.110628
19:00	0.110628	0.139572	0.139572	0.139572	0.139572	0.139572	0.110628
20:00	0.110628	0.139572	0.139572	0.139572	0.139572	0.139572	0.110628
21:00	0.110628	0.139572	0.139572	0.139572	0.139572	0.139572	0.110628
22:00	0.110628	0.139572	0.139572	0.139572	0.139572	0.139572	0.110628
23:00	0.110628	0.139572	0.139572	0.139572	0.139572	0.139572	0.110628

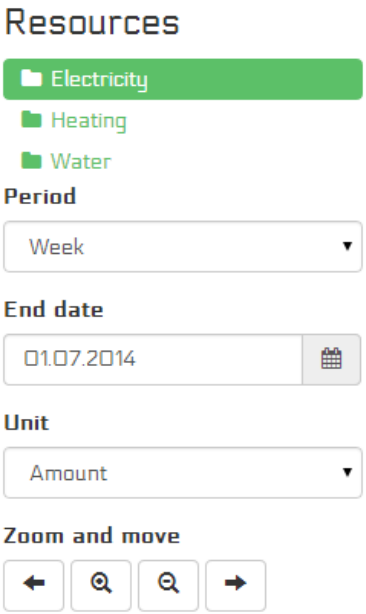
If you want to choose the whole row or column you can just click on the specific time or day on the edge of the table. After you have filled in **Seasons** and **Tariffs**, and **Weekly timetable** you can click on the **Save season** button.

Finally after you have set up **Seasons** and **Tariffs** for all **Resources** just click on the **Recalculate** option in the top right corner of the page. It might take 15 minutes before **data appears** in the **Revise** after **recalculation.** From now on data will be **automatically synchronised** from **Mango M2M** to **Revise.**

Using Revise

Once you have set up your **settings**, you start to get new updated information in **Revise**.

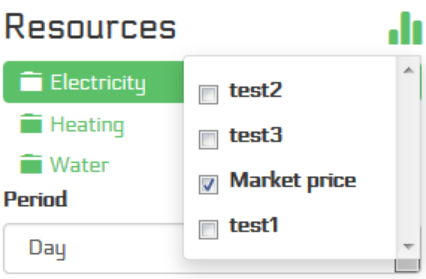
On the left of the **Revise** page is the **Resource Tree** for selecting the data to be shown on the charts**.** As an example in the demo on our webpage we have set up 3 **Resources**: Electricity, Heating and Water. Each of the **Resources** has its tab in the **settings** page as well to set up related **Tariffs**.



In the **Resource Tree** you can just click on any of the **Resources** you want and you will see a **graphical chart** about this **Resource** on the right. You can also get more detailed data, when you click on the **folder icon** on the left of the **Resource name,** this will open the **subfolders** for the **Resource.** You can choose **Period** and the **End Date** for the data to be shown on the chart. By selecting **Unit** as **Amount** or **Cost** you can view data in measured units or in financial terms. **Zoom and move buttons** moves the chart forth and back in time and let you zoom into the time periods.

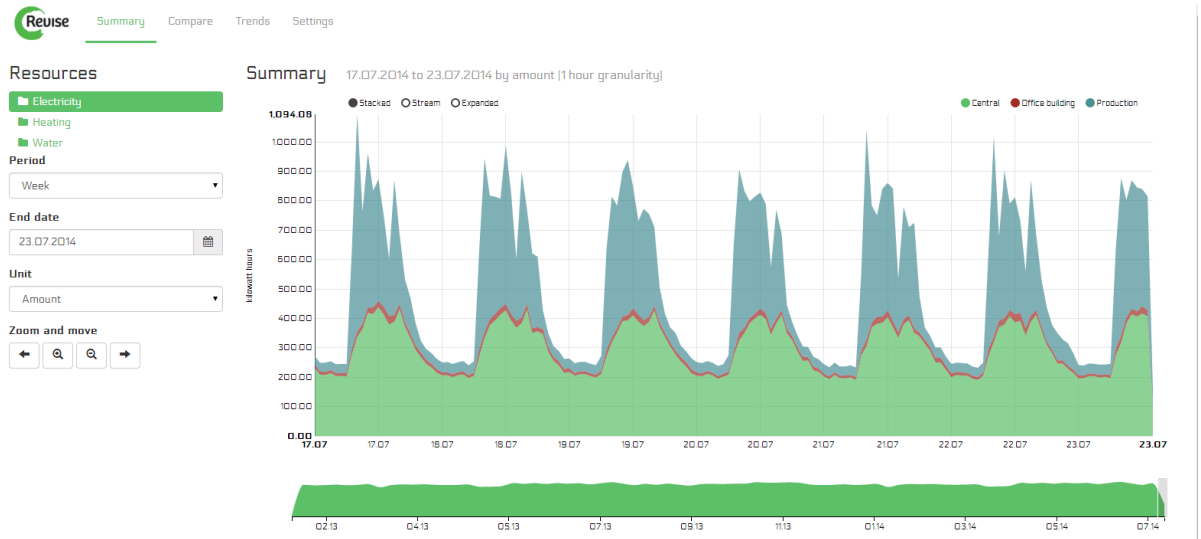
The data on the chart can be easily **exported into Excel** by clicking on the icon .

Discrete Metering Points will show up in **Revise** under icon . You can show **Discrete Metering Points** by selecting them for any chart of the resource folder.

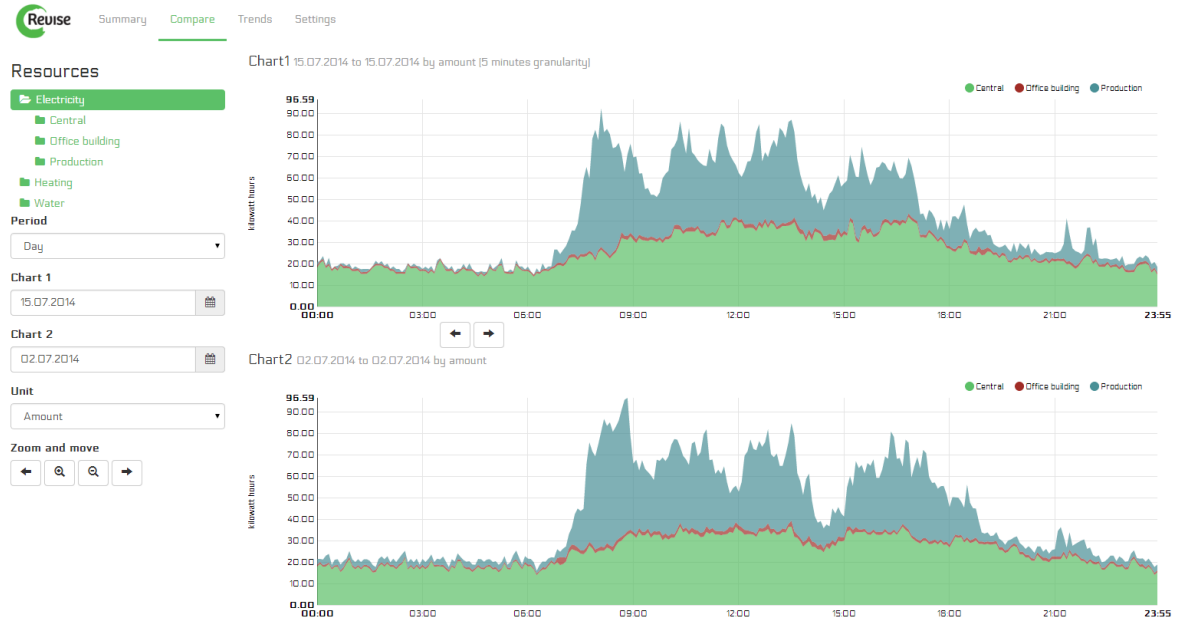


There are 4 main pages in Revise: **Summary, Compare, Trends and Settings.**

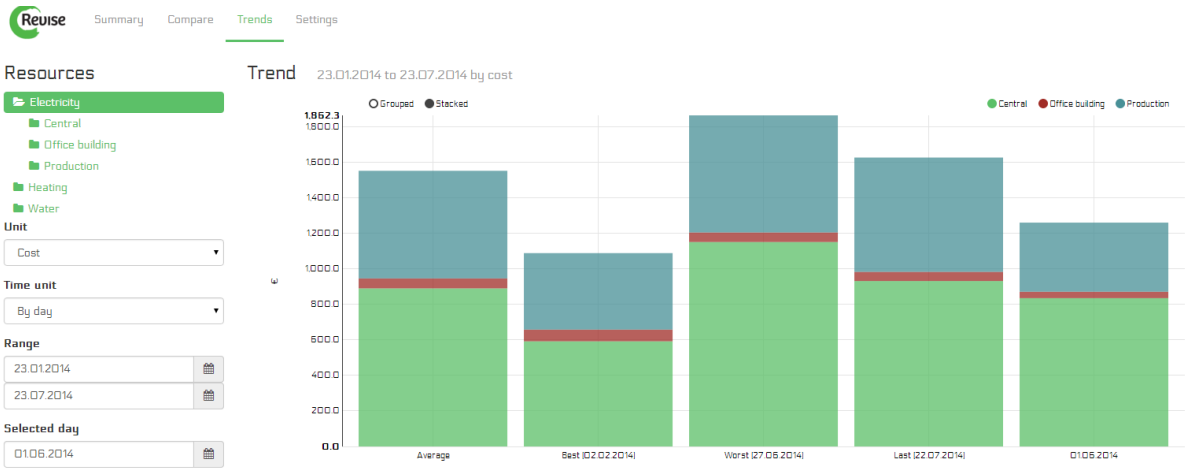
Summary page shows only one resource at a time.



On the Compare page, you can compare the use of the one **Resource** in the two different periods of time. All you have to do is, to choose the **Resource** you want to compare, set the **Period of time** you want to see, set the **End dates** of the charts you are comparing and the **units**, whether you want to compare the **Amount** or **Cost** of the **Resource** for specific period. After you have filled in these fields you will get 2 charts on the right. By mousing over the charts individual **Move buttons** appear for each chart.



The **Trend** page lets you analyse the **avarage, best and worst uses of Resources** for selected **Time unit** within selected **Time range,** in addition **Last period** and your own freely **Selected period** are shown.



For support please visit our webpage www.enetic.ee.