

# Creating customer-specific reports

## 1 General information

### 1.1 Creating the report in the SENTRON powermanager

The SENTRON powermanager reports that use Excel are based on templates. For each report, there must be a template. The template either needs to be created, or an existing one needs to be modified and adapted to the respective needs.

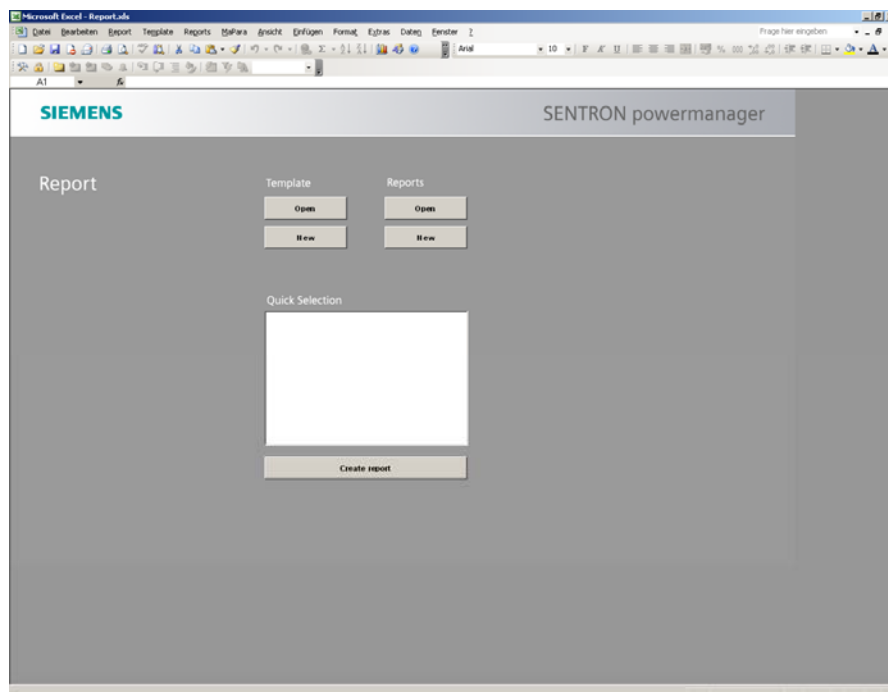
#### Template:

The template defines the format of the subsequent report (such as a standard or cost center format), and which report types can be selected (time interval for the dates). In addition, the corresponding measuring points are added for which the data are to be exported. When the report is a cost center report, the related cost centers are also added.

#### Report:

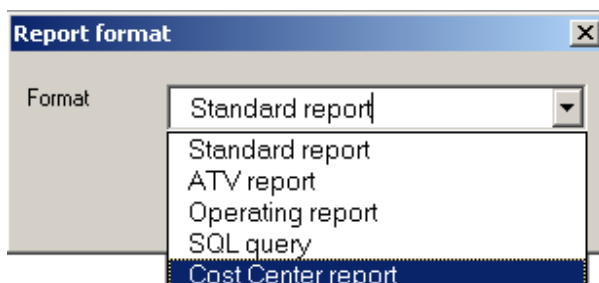
The process for generating a report is always the same. First, the template is created and saved. Then the report generation function is opened in which a template is chosen, and only the report type and period for the dates are selected.

You can create and open templates and reports using the following start window. The process will be explained in detail below.



## 1.2 Predefined report formats

The SENTRON Powermanager has five predefined report formats. Each format structures the data to be exported in a particular manner. These formats will be explained below.



### The standard report:

Any archived data can be exported by using this format. A table is offered in which the times and measurements are shown next to each other for a specific period.

Standard report				
time	DPE 1	DPE 2	DPE 3	DPE 4
00:15:00	45.1	xxx	y	zz
00:30:00	784.54	x	yy	z
00:45:00	741.65	xx	yyyy	zzz
01:00:00	65.24	xxxx	y	z
01:15:00	128.33	x	yy	zzzzz
01:30:00	257.47	x	yyyy	z
01:45:00	354.4	xx	yyy	zz
02:00:00	877.28	xxx	y	zzzz
...				

### ATV report:

The format of the data in this report is the same as that of a standard report; however, the times and values are switched. The measurements for a particular period are in rows.

ATV									
time	00:15:00	00:30:00	00:45:00	01:00:00	01:15:00	01:30:00	01:45:00	02:00:00	...
DPE 1	45.1	784.54	741.65	65.24	128.33	257.47	354.4	877.28	
DPE 2	xxx	x	xx	xxxx	x	x	xx	xxx	
DPE 3	y	yy	yyy	y	yy	yyy	yyy	y	
DPE 4	zz	z	zzz	z	zzzzz	z	zz	zzzz	

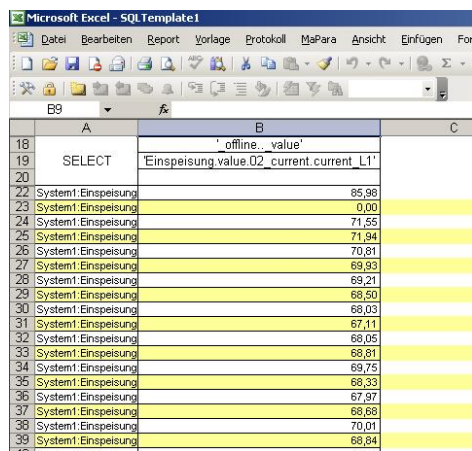
### Operating report:

With this report, you define different measured quantities. When this template is executed, you receive the value for all of the measured quantities at a specific time. All of the data are selectable in this case as well.

Operating report	
time	10:24:17
DPE	value
DPE 1	649.11
DPE 2	XX
DPE 3	Y
DPE 4	ZZZ

### SQL query:

With this type of report, you can use an SQL assistant to define the measured values that are output later when the report is created.



	A	B	C
18		' offline.. value'	
19	SELECT	'Einspeisung.value.02_current.current_L1'	
20			
22	System1:Einspeisung	85.98	
23	System1:Einspeisung	0.00	
24	System1:Einspeisung	71.55	
25	System1:Einspeisung	71.94	
26	System1:Einspeisung	70.81	
27	System1:Einspeisung	69.93	
28	System1:Einspeisung	69.21	
29	System1:Einspeisung	68.50	
30	System1:Einspeisung	68.03	
31	System1:Einspeisung	67.11	
32	System1:Einspeisung	68.05	
33	System1:Einspeisung	68.81	
34	System1:Einspeisung	69.75	
35	System1:Einspeisung	68.33	
36	System1:Einspeisung	67.97	
37	System1:Einspeisung	68.68	
38	System1:Einspeisung	70.01	
39	System1:Einspeisung	68.84	

### Cost center report:

This is a special report that can only be used for energy values. Measuring points are defined whose values are exported. However, the selection is restricted to compressed measured values for PAC 3100, 3200, 4200 and the virtual counter since only these values have the necessary compression levels. The measured values are assigned to different cost centers. By referring to archived rates, the energy costs are calculated and portrayed in a bar chart.

#### **Note 1:**

The standard and cost center reports will be explained further below. The location of the data after exportation will be explained along with the steps that can be taken to process the data.

#### **Note 2:**

Additional worksheets can be added to each template. This allows you to create and graphically portray invoices with their values.

### 1.3 Report types

You can use the report types to define the interval at which data are exported when generating reports as well as the period for which this is done. The period can still be changed when creating the report.

Report types				
Label	Data	Result	Period	Interval
Costcenter Daily	15 Minutes	Daily value	1 Day(s)	15 Minute(s)
Daily report	Hourly value	Daily value	1 Day(s)	1 Hour(s)
EnergyReport	15 Minutes	Daily value	1 Day(s)	15 Minute(s)
Monthly report	Daily value	Monthly value	1 Month(s)	1 Day(s)

There are four predefined types of reports:

1 – Costcenter Daily

This type contains data in intervals of 15 minutes for a period of one day.

2 – Daily report

This report contains data in intervals of one hour within one day.

3 – EnergyReport

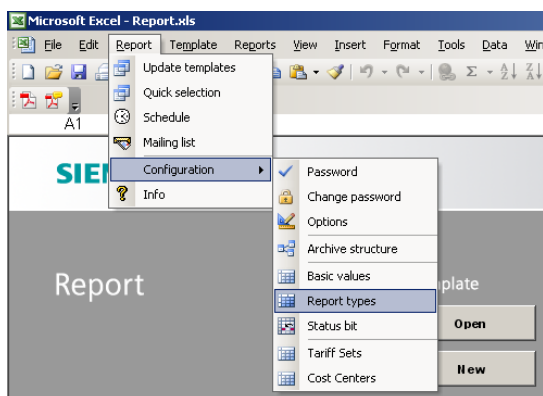
This type contains data at intervals of 15 minutes for a period of one day.

4 – Monthly report

The exported data are for intervals of one day over the period of one month.

You can also create your own types of reports if the predefined report types do not satisfy your requirements.

In the following, the creation of a new report type with 10 second values for a period of one hour will be presented as an example:



Open the dialog box for the report types which is located in the menu under Report types>Configuration> Report types. The password when you first open the dialog box is "erAdmin". Select the "New" button to create a new report type.

The fields Label, Period and Interval must be filled out, and the other fields remain optional.

The screenshot shows a 'Report type' dialog box with the following fields and values:

- Label:** 10\_sec\_values
- Basic values:**
  - Data:** (empty dropdown)
  - Result:** (empty dropdown)
- Time period:**
  - Period:** 1 (spinner), Hour(s) (dropdown)
  - Interval:** 10 (spinner), Second(s) (dropdown)
- Synchronization:**
  - Report begins at:** 12:00:00 AM (time picker)
  - ☐ On the day of the week (dropdown)
  - ☐ On the day of the month: 1 (spinner)
  - ☐ In the month: 1 (spinner)
- Buttons:** OK, Cancel

**Label:**

Indicate the name of the report type.

**Basic values:**

The selection of basic values is optional. You can find out further information about this in the online help.

**Period:**

This is the period in which the data are exported. It is a default setting that can be changed when the report is created.

**Interval:**

This is the interval at which data are exported. If 10 seconds is selected, it means that a value appears in the report every 10 seconds.

**Synchronization:**

When generating the report, you can select a starting time here for the period that changes depending on the type of report. It can also be changed when the report is created.

## 1.4 Insert and change data points and templates

Data points must be added to each template. The data points are either entered directly into the Excel form, or they are introduced in a dialog box by selecting options. The dialogue looks like this:

Function	Source
<input type="checkbox"/> Min	Query
<input type="checkbox"/> Max	Query
<input type="checkbox"/> MinTime	Query
<input type="checkbox"/> MaxTime	Query
<input type="checkbox"/> Number	Query
<input type="checkbox"/> Sum	Query
<input type="checkbox"/> Integral0	Query
<input type="checkbox"/> Integral1	Query
<input type="checkbox"/> SumNumber	Query
<input type="checkbox"/> Average	Query
<input type="checkbox"/> Average1	Query
<input type="checkbox"/> Time0	Query
<input type="checkbox"/> Time1	Query

### Archive type:

You can choose between the "AC types" or "HDB direct".

- HDB direct:  
HDB direct needs to be selected if you want to subsequently export momentary values, power averages as well as current use values at specific times. The times depend on the selected report types. You can also display any value for any time. The value must be archived.
- AC types:  
Compressed values are displayed. The selection is therefore restricted to the energy values from PAC devices and the virtual counter. These are use values for 15 minutes (C1), one hour (C2) or one day (C3). These three compression levels are automatically calculated for energy values by the software program.

### System:

Here you indicate the system in which the data are located. If the system is a distributed system, the corresponding data source must be selected.

#### DP type:

Here you select the data point type. With the SENTRON powermanager, this is one of the following objects:

- PAC device (pmDevPAC3100, pmDevPAC3200, pmDevPAC4200)
- Generic modbus device (pmDevMB)
- Switch (pmDev3VL, pmDev3WL)
- Virtual counter (pmVirtCounter)

#### DPE:

The data point element is the actual measured value. When you select "HDB direct" as the archive type, you can select all individual measured values for the respective DP types (current, voltage, etc.). If AC types was selected as the archive type, you can select the active energy values, apparent energy values and universal counter.

#### Selection:

Here you can select the names by which the data points are filtered: Either the DP name, the alias name, or the comment. The DP name is the device name in the PM Explorer tree with the system name first.

#### Filter:

Here you can restrict the display of the devices by filtering using special names. The default is "\*" which means that there is no filter.

#### DP function:

Select what is exported by DPE.

\_offline..\_value: Actual value

\_offline..\_status64: Status of the value

\_offline..\_Zeit: Time of the respective value

#### Offset:

Here you can enter an offset for the time period that is referenced when the report is generated. When the report is being created, an offset of "-1" in the template and a period of "today" means that you receive the data from yesterday. This allows you to export values from different days or weeks and is helpful for comparing them.

#### Statistical functions:

Here you can select whether you want to display additional values in the footer. The values are either "queried" (read out of the database where they must be available), or "calculated" (calculated by Excel).

The name of the function must be the same as the name in the template footer.

The following are predefined: Min, Max, Average und Sum. If needed, you can remove these or add to them.

## 2 Creating examples of reports

When you create your own reports, note that you can only export values that are archived.

Also note that the templates are Excel files, and you can take advantage of all of the Excel functions.

### 2.1 *Portraying current values using a standard report*

This example describes how to create a report by means of which current values can be exported and a line diagram can be automatically generated with the exported data. The data will be reported at 10 second intervals over a period of one hour.

The report type is the standard report.

The following are the steps that need to be performed for this report:

- Create a new report type for 10 seconds
  - o Create new report type by opening the corresponding dialog box via Report->Configuration-> Report types.
  - o Any name can be assigned.
  - o Set the period to one hour and the interval to 10 seconds.
- Create a new template. In the start window, click on the corresponding button.
- For the report format, select standard report.
- Use the arrow keys to select the report types that are to be available for this template. The new "10 second value" type should also be in this list.
- Select a field between C2 and C19, and open the dialog to change a data point (Template-> Change DP)
- In the dialog, select "HDB direct" as the archive type. Then select the DP type by means of which this value was detected (PAC3200, 4200, etc.). For the DPE, select for example current\_L1 for the current L1.
- For the DP function, select "\_offline..\_value", for the offset, select 0 and no formatting.
- You can optionally select Min or Max values under Statistical Functions.
- On the bottom left side, select the appropriate device.
- The finished settings may look like this:



**Insert DP**

Archive type: HDB directly

System: System1

DP type: pmDevPAC3200

DPE: value.02\_current.current\_L1

Selection: DP

DP function: \_offline.\_value

Offset: 0

Filter: \*

automatic format: No format

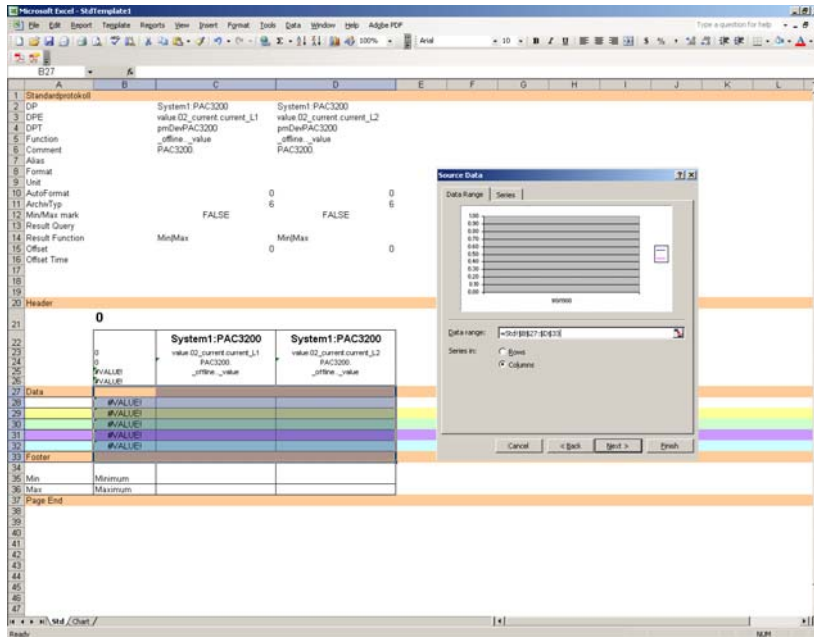
☐ Min / max marker

Statistical functions (in the footer)

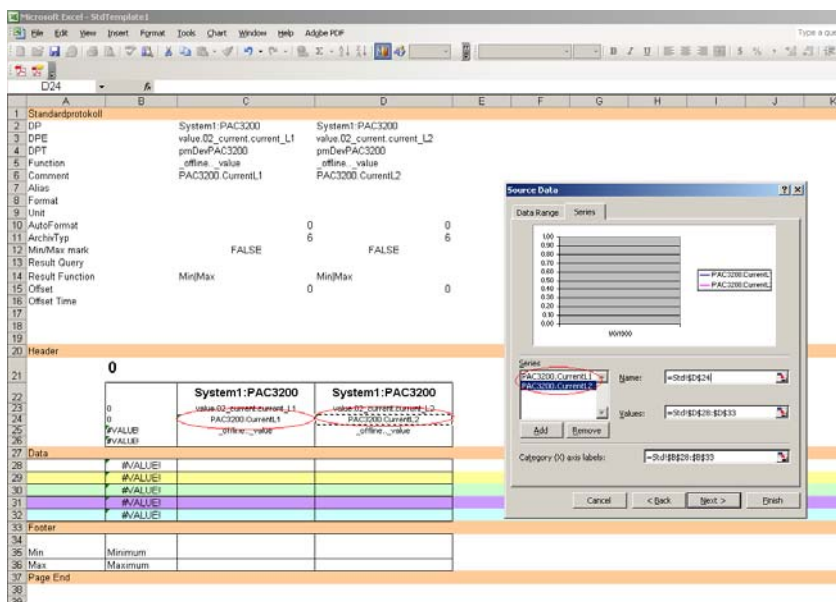
Function	Source
<input checked="" type="checkbox"/> Min	Calculate
<input checked="" type="checkbox"/> Max	Calculate
<input type="checkbox"/> MinTime	Calculate
<input type="checkbox"/> MaxTime	Calculate
<input type="checkbox"/> Number	Calculate
<input type="checkbox"/> Sum	Calculate
<input type="checkbox"/> Integral0	Calculate
<input type="checkbox"/> Integral1	Calculate
<input type="checkbox"/> SumNumber	Calculate
<input type="checkbox"/> Average	Calculate
<input type="checkbox"/> Average1	Calculate
<input type="checkbox"/> Time0	Query
<input type="checkbox"/> Time1	Query

OK Cancel

- Confirm by clicking OK.
- You will see a value in the Excel template.
- The names are automatically transferred to lines 22-25. You can change them as desired.
- In fields without links, you can insert text or images between the "Header" and "Data".
- The lines between "Data" and "Footer" are reserved for data. You can also change the colors of the field as desired.
- Between "Footer" and "Page End", values can be calculated that correspond to the statistical functions.
- For the times, you can change the formatting of the fields and for example insert seconds by selecting the field and adding "hh:mm:ss".
- To insert additional measured values, you can copy column C and insert it in D.
- Then select column D and open the "Change DP" dialog and select the new measured value.
- The entire worksheet looks as follows:



- An additional worksheet is required for a line graph. You can add a worksheet by right clicking the existing one.
- On the new worksheet, you can insert for example a line graph which can be configured using the assistant.
- For the data range, select the columns between "Data" and "Footer" starting in the "Time column" to the last DPE.
- You can also name the data rows dynamically by selecting a field with the corresponding name.



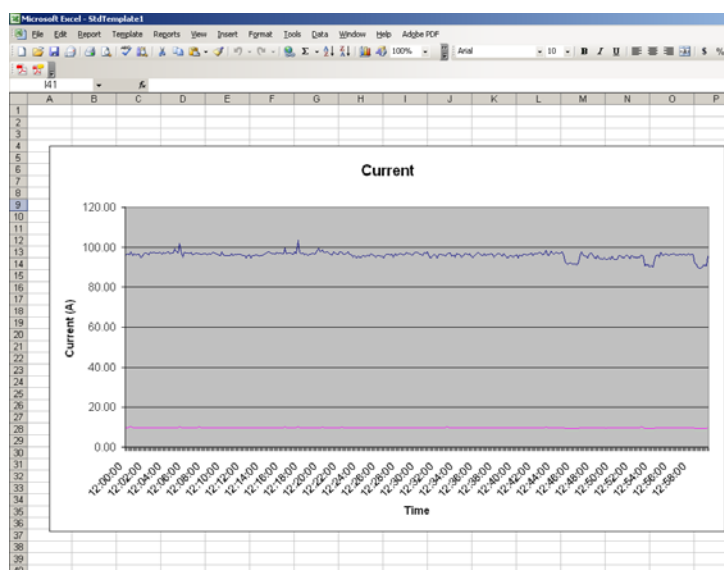
- You can now format the graph as you wish.
- Then save the created template by clicking the "Save" button. The name may not end with a number.
- You can now create the actual report.
- In the main window, select "New report" and then select the saved template.
- For the report type, select the created 10 second type.
- Use the arrow keys on the right to set the time range for the report. The intervals are the periods defined for the report type. After setting the starting time, you can manually change the end time.
- Select OK to start generating the report.
- The results look as follows:

Microsoft Excel - ShiftTemplate1

File Edit Report Template Reports View Insert Format Tools Data Window Help Adobe PDF

F394

10 second values			
	System1:PAC3200	System1:PAC3200	
	value R2_current current_L1	value R2_current current_L2	
	PAC3200 Current_L1	PAC3200 Current_L2	
	_offline_value	_offline_value	
26	06.10.2010 11:00:00	95.57	9.80
29	06.10.2010 11:00:10	96.09	9.66
30	06.10.2010 11:00:20	97.30	10.20
31	06.10.2010 11:00:30	97.89	10.43
32	06.10.2010 11:00:40	96.17	9.77
33	06.10.2010 11:00:50	96.96	9.71
34	06.10.2010 11:01:00	96.64	9.75
367			
370	06.10.2010 11:56:20	95.92	9.68
371	06.10.2010 11:56:30	95.90	9.72
372	06.10.2010 11:56:40	97.02	9.72
373	06.10.2010 11:56:50	96.53	9.68
374	06.10.2010 11:57:00	95.89	9.74
375	06.10.2010 11:57:10	96.48	9.74
376	06.10.2010 11:57:20	96.09	9.69
377	06.10.2010 11:57:30	96.93	9.69
378	06.10.2010 11:57:40	97.26	9.77
379	06.10.2010 11:57:50	95.59	9.71
380	06.10.2010 11:58:00	96.96	9.71
381	06.10.2010 11:58:10	96.49	9.71
382	06.10.2010 11:58:20	96.41	9.71
383	06.10.2010 11:58:30	96.53	9.71
384	06.10.2010 11:58:40	96.55	9.71
385	06.10.2010 11:58:50	96.70	9.71
386	06.10.2010 11:59:00	96.00	9.71
387	06.10.2010 11:59:10	96.06	9.71
388	06.10.2010 11:59:20	96.64	9.66
389	06.10.2010 11:59:30	96.24	9.71
390	06.10.2010 11:59:40	95.92	9.71
391	06.10.2010 11:59:50	96.49	9.65
393			
394	Min	94.20	9.54
395	Max	102.07	10.66



- You can also perform calculations with the exported values in an additional column. For example, the total current for the exported values can be calculated.
- Save the logic in another column.
- You can add this column to the graph.

**Microsoft Excel - Stofftemple1**

File Edit Format View Insert Tools Window Help Add-Ins PDF  
G75 A B C D E F G H

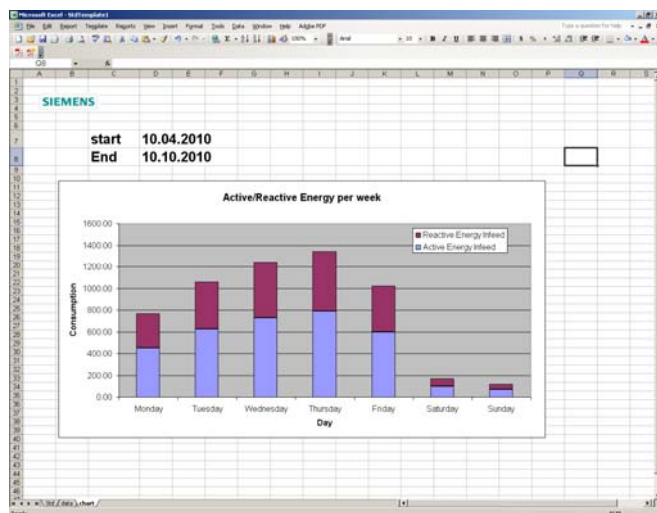
Standardprotokoll						
CP	System1-PAC3200		System1-PAC3200			
CPE	value I02_current current_L1		value I02_current current_L2			
CPT	pmDevPAC3200		pmDevPAC3200			
Function	_offline_value		_offline_value			
Comment	PAC3200 CurrentL1		PAC3200 CurrentL2			
Alias						
Format						
Unit						
AutoFormat		0		0		
AzchTyp					6	
MinMax mark		FALSE		FALSE		
Result Query						
Result Function	MinMax		MinMax			
Offset		0		0		
Offset Time						
Header						
0						
System1:PAC3200				Total Current		
value I02_current current_L1			value I02_current current_L2	0		
PAC3200.CurrentL1			PAC3200.CurrentL2	Total Current		
_offline_value			_offline_value	0		
Data	#VALUE!	1.00	2.00	3.00		
#VALUE!	1.00	2.00	3.00			
#VALUE!	1.00	2.00	3.00			
#VALUE!	1.00	2.00	3.00			
#VALUE!	1.00	2.00	3.00			
#VALUE!	1.00	2.00	3.00			
Error						
Min	Minimum					
Max	Maximum					
Page End						

## 2.2 Depicting the use of energy using the standard report

This example of a report describes how to depict active energy and blind energy as a bar chart for the period of one week.

The 1 day use values for active energy and blind energy are exported and copied to a second Excel worksheet where the basis for the bar chart is formed with the weekdays of Monday through Sunday.

An example of the results is as follows:



To regenerate a report for a period of one week, a series of steps are required. First a new report type must be created, then the report template must be created, and finally the actual report must be created.

A detailed description of the steps will be provided in the following.

#### Create new protocol type:

Open the dialog window for the protocol types, and create a new one. The basic values and the results are the "Daily value" since the 1 day use values are required as a basis for data. Set the period to one week and the interval to one day. For the synchronization, select Monday" as the weekday. This ensures that you will start on a Monday when creating the report for the period, and the period (time range) will be one week.

The screenshot shows a 'Report type' dialog box with the following settings:

- Label:** 1\_Week
- Basic values:**
  - Data:** Daily value
  - Result:** Daily value
- Time period:**
  - Period:** 1, **Unit:** Week(s)
  - Interval:** 1, **Unit:** Day(s)
- Synchronization:**
  - Report begins at:** 12:00:00 AM
  - ☒ **On the day of the week:** Monday
  - ☐ **On the day of the month:** 1
  - ☐ **In the month:** 1

Buttons: OK, Cancel

#### Create new protocol template:

Select the corresponding button on the start screen to create a new template. Select standard report as the format, and add "1 week" to the report type.

Add the active and blind energy of a PAC device in the template. Select "AC types" for the archive type; the DP type is the corresponding PAC type (pmDevPAC3100, pmDevPAC3200, pmDevPAC4200) and the DPE is the corresponding energy value (in the example, counter.W\_t1 and counter.Q\_t1 are used – the active energy and blind energy). Also select the corresponding device from your configuration.

**Modify DP**

Archive type: AC types  
System: System1  
DP type: pmDevPAC3200  
DPE: counter.W\_11

Selection: DP  
DP function: Sum  
Offset: 0

Filter: \*  
automatic format: No format  
☐ Min / max marker

System1.PAC3200

Statistical functions (in the footer)

Function	Source
<input checked="" type="checkbox"/> Min	Calculate
<input checked="" type="checkbox"/> Max	Calculate
<input type="checkbox"/> MinTime	Query
<input type="checkbox"/> MaxTime	Query
<input type="checkbox"/> Number	Query
<input type="checkbox"/> Sum	Query
<input type="checkbox"/> Integral0	Query
<input type="checkbox"/> Integral1	Query
<input type="checkbox"/> SumNumber	Query
<input type="checkbox"/> Average	Query
<input type="checkbox"/> Average1	Query
<input type="checkbox"/> Time0	Query
<input type="checkbox"/> Time1	Query

OK Cancel

After inserting the data point elements, copy line 29 in the template and insert it five times. This is necessary since the amount of data is predefined. The inserted lines must be above the "Footer".

You can format the document above "Data" as you wish. The area can also be enlarged for logos or company addresses.

Here is an example of a finished worksheet of the template:

Microsoft Excel - Subtemplate1

File Edit Insert Format Tools Data Window Help

Standardprotokoll

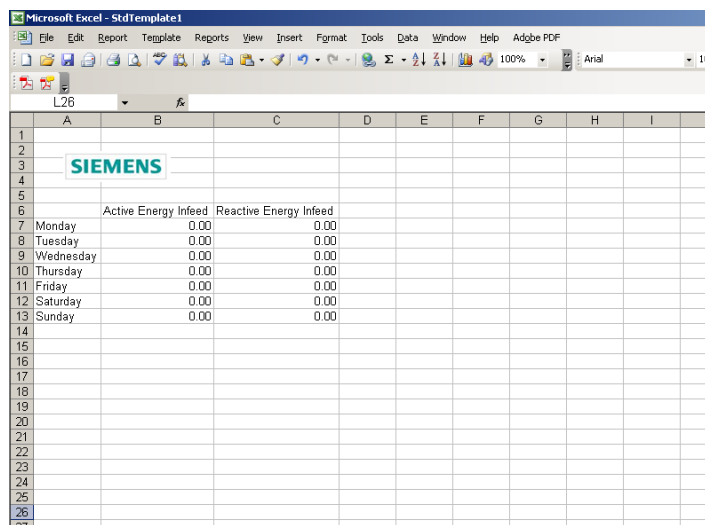
	A	B	C	D	E	F	G	H	I	J	K	L
1	Standardprotokoll											
2	DP	System1.PAC3200		System1.PAC3200								
3	DPE	counter.W_11		counter.Q_11								
4	DPT	pmDevPAC3200		pmDevPAC3200								
5	Function	Sum		Sum								
6	Comment	PAC3200 counter.W_11 value		PAC3200 counter.Q_11 value								
7	Alias											
8	Format	%7.1f		%7.1f								
9	Unit	Wh		varh								
10	AutoFormat			0		0						
11	ArchivTyp			4		4						
12	Min/Max mark	FALSE		FALSE								
13	Result Query											
14	Result Function	Min/Max		Min/Max								
15	Offset			0		0						
16	Offset Time											
17												
18												
19												
20	Header											
21												
22												
23												
24		0										
25			System1.PAC3200	System1.PAC3200								
26			counter.W_11	counter.Q_11								
27			PAC3200 counter.W_11 value	PAC3200 counter.Q_11 value								
28			Sum	Sum								
29												
30	Data											
31		#VALUE!										
32		#VALUE!										
33		#VALUE!										
34		#VALUE!										
35		#VALUE!										
36		#VALUE!										
37		#VALUE!										
38	Footer											
39												
40	Min	Minimum										
41	Max	Maximum										
42	Average	Average										
43	Sum	Sum										
44	Page End											
45												
46												
47												

Ready

Insert another Excel worksheet and name it "Data".

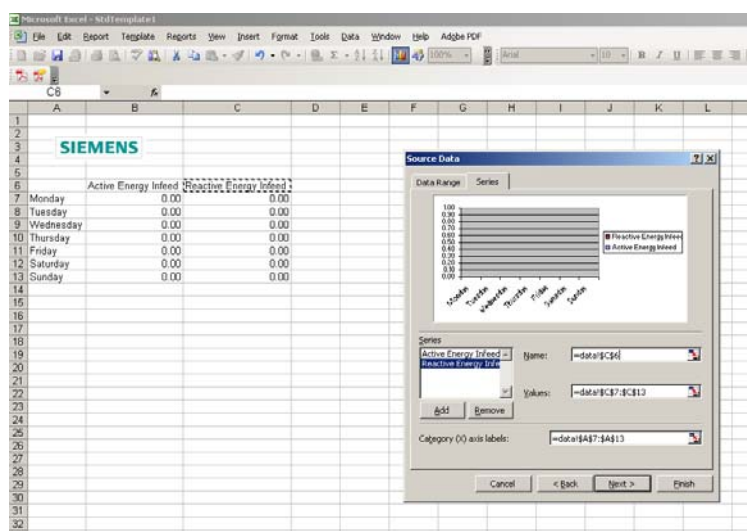
You can also insert your logo in this worksheet. In addition, the days Monday through Sunday should also be entered on this page. The name of the measured values can be fixed or linked to the names of the first worksheet. The fields with values must be linked to those on the first sheet. In this step, Wh can also be calculated as kWh. The measured value field then looks as follows: "=Std!C32/1000".

An example of a finished worksheet is as follows:



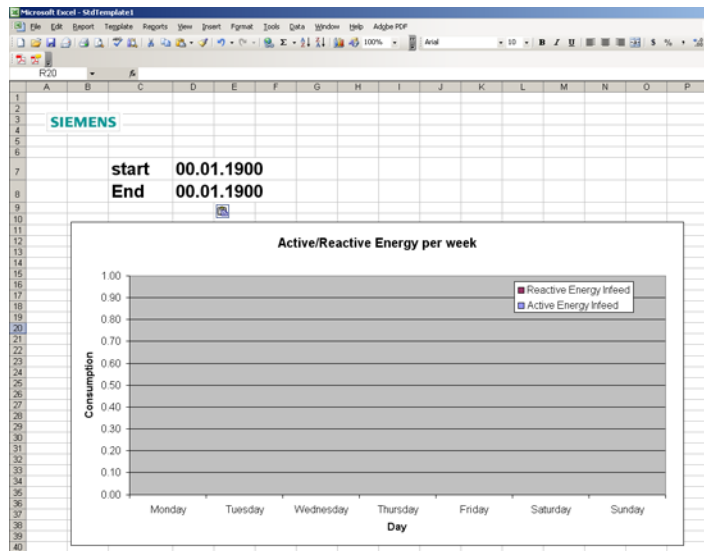
	A	B	C	D	E	F	G	H	I
1									
2									
3		SIEMENS							
4									
5									
6		Active Energy Infeed	Reactive Energy Infeed						
7	Monday	0.00	0.00						
8	Tuesday	0.00	0.00						
9	Wednesday	0.00	0.00						
10	Thursday	0.00	0.00						
11	Friday	0.00	0.00						
12	Saturday	0.00	0.00						
13	Sunday	0.00	0.00						
14									
15									
16									
17									
18									
19									
20									
21									
22									
23									
24									
25									
26									
27									

Insert another worksheet for the graph. Use the assistant to select "Stacked columns" for the graph type. The data range is formed by the data just created in the "Data" worksheet. For the time range, select "Monday-Sunday", and the rows for the values can be dynamically named with the names of the DPEs.



The naming of the diagram and axes and the formatting can be done individually.

To show the period for the data, insert a link to the fields "Start 00.01.1900" and "End 00.01.1900" in the worksheet "Std". When the report is created, these are filled with the respective times.

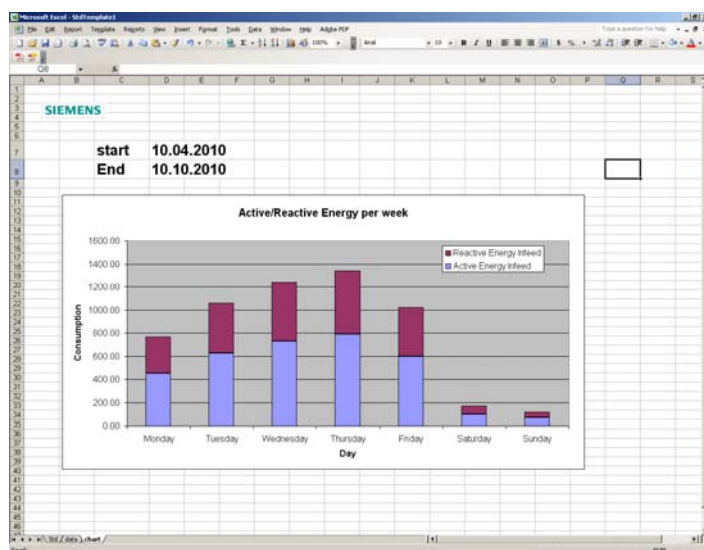


Save this template by clicking the "Save" button.

#### Create new report:

Navigate to the reporting start page and select "new report". Select the created template; for the report type, select the one that you created. This contains the daily use values for a week. For the period, use the arrow keys or calendar symbol to set a week of your choice.

Here is an example of a finished report:





## **2.3 Depiction of performance averages using the template "EnergyReport.xlt"**

The following offers a description of how to create a report with 15 minute power averages and automatically create a bar chart in the form of a staircase graph. The provided template "EnergyReport.XLT" is used. This allows you to export the 15 minute power averages with the correct timestamp. The bar chart is shown on a second worksheet.

The template is created for a selected measuring point, and the data are exported from the database into the report.

The data are automatically calibrated from the basic unit of "Watt" into "Kilowatt". This recalculation is done using the same worksheet as for the data export. The calculated values are portrayed using a bar graph. This example will conclude with the formatting of the graph.

### Creation of the template:

Click the button "Open template" and select the file "EnergyReport.XLT". In the file that opens, select column D and open the dialog box for inserting a new data point.

For the archive type, select "Direct HDB", then the PAC type, and finally the "cumulative active power export" from the list of DPEs. This can be found under "value.04\_powerPeriod...." .

### **Important:**

Please note that the cumulative active power with the ending "EM" needs to be selected for the PAC 3100 and PAC 3200.

After inserting the DPEs, add the following logic to columns E28 and E29:

=D28/1000

=D29/1000

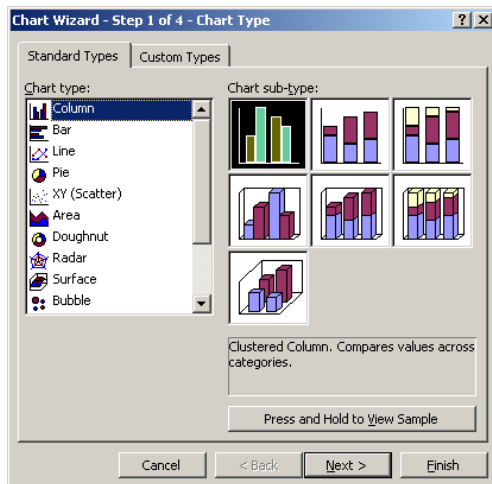
This causes the exported values to be converted to kW. You can name this value in cells E22 to E26.

Initially, enter placeholder values in the fields for the measured values. This enables the user-defined formatting of the graph. The finished worksheet then looks as follows:

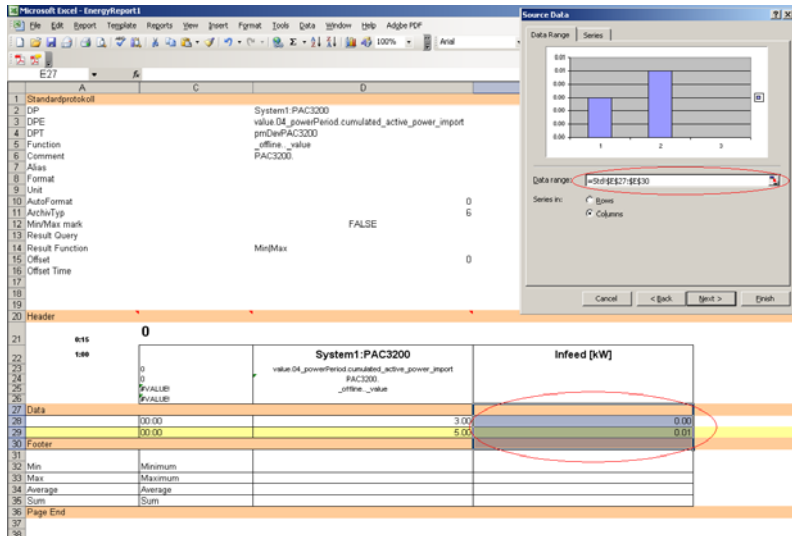
Header	0	System1:PAC3200	Infeed [kW]
00:00	0.00	3.00	0.00
01:00	0.00	5.00	0.01

To export several values, add an additional measured value in the template to the next column.

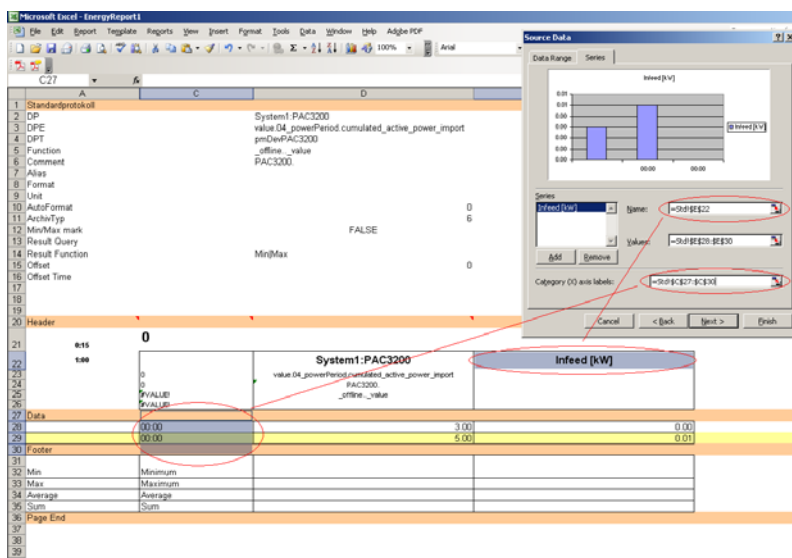
Insert another worksheet for displaying the graph. Select the type "Grouped columns".



The value fields for the calculated average power are used as an area for data. Select the fields from lines 27-30 so that the fields for the runtime filled with data are included.



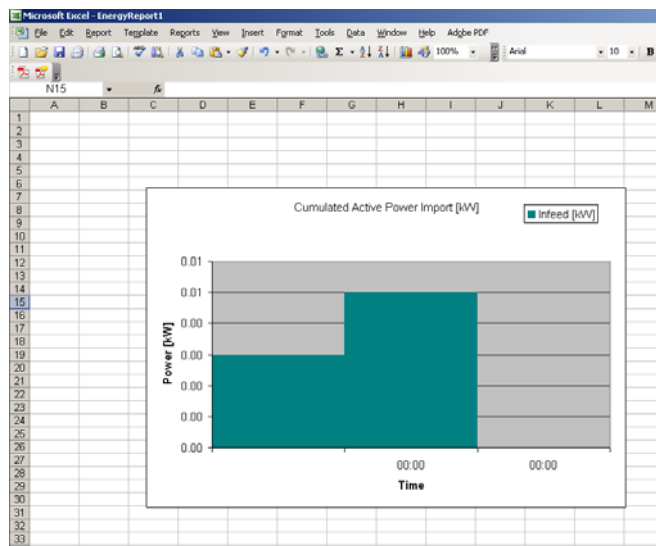
You can then dynamically name the values and label the time axis by using the name of the DPEs for the values and the time fields for the X-axis label. Also select the fields from lines 27-30 in this case as well.



In addition, the entire graph can be labeled as desired. Once the graph is created, select the bars and open the associated menu. Under the "Options" tab, set the gap width to 0, and under the "Patterns" tab, select no border. Change the colors as desired.

You can edit the time axis so that not every timestamp is shown. The value axis can be scaled dynamically or fixed. Open the related menu by double-clicking the respective graph axis.

Here is an example of the graph in the template:



**Note:**

Save the template under a different name. This ensures that the existing template is retained in its original state. To save the file, click the "Disk" button.

Generate the report:

To generate a report, select "New report" in the start window. For the template, select the just created "Energy report" as the report type along with a period of your choice. The report type has 15 minute values for a period of one day as its result. In the generated report, you will find the exported data on the first worksheet and the graph on the second worksheet which should look as follows:

