



EPIC · Melchendorfer Straße 72 · 99096 Erfurt

99096 Erfurt
Germany
Melchendorfer Straße 72
Tel.: +49 361/ 744 37 001
Fax: +49 361/ 744 37 005
E-Mail: Info@EPIC-Erfurt.de
EPIC-Support@online.de

Internet: www.EPIC-Software.de

Deutsche Bank Erfurt
(BLZ 820 700 24) Kto.-Nr. 1312172

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Measurement Module Version 2.0 Manual for the Generation of Measurements

The screenshot shows an Excel spreadsheet titled 'Aufmaß14_Musterbau Haus 1.xls'. The spreadsheet contains a table with columns for 'Position - Lt. Angebot - LV' and various electrical components. The table is summarized in the following data:

Position - Lt. Angebot - LV	1.7.130	1.9.40	1.9.60	1.9.90	1.9.100	1.9.270					
Leitungsschutzschalter DIN 43 880 und DIN VDE 0641											
Wipptaster UP, 10A, 250V~, 1p, komplett											
Serientaster UP, 10A, 250V~-2p, komplett											
Schuko-Steckdose UP, 16A, 250V~, 1fach, komplett											
Schuko-Steckdose UP, 16A, 250V~, 1fach, komplett											
Schuko-Steckdose mit Klappdeckel AP											
Maßeinheit:	St	St	St	St	St	St	St				
UV04	1,00										
2.U08					2,00						
2.209		1,00	2,00	1,00	9,00						
2.U11						1,00					
Summe dieses Blattes	1,00	1,00	2,00	1,00	11,00	1,00	0,00	0,00	0,00	0,00	0,00
Zwischensumme	1,00	1,00	2,00	1,00	11,00	1,00	0,00	0,00	0,00	0,00	0,00





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1. Introduction

Controlling construction, accounting, as well as generating and evaluating measurement sheets are often very time-consuming tasks. The EPIC Measurement Module 2.0 significantly facilitates the handling of measurements for you. It reduces expenditure, prevents writing errors and reduces the subsequent accounting work. It offers the current GAEB and REB interfaces and is easy and flexible in its application. It can be used for both small and large building projects as well as for all trades. The EPIC Measurement Module 2.0 is a low-priced software with free Hotline and continuing maintenance.

1.1. Important information for users of the Measurement Module Version 1.2

The installation of version 2.0 has no impact on the existing Measurement Module Version 1.2. Both versions can be used in parallel. In order to use measurement projects created with version 1.2 in the new version 2.0, the entire project must be imported (see 4.2). Importing projects from version 2.0 into an older version is not possible.

1.2. System requirements

The EPIC Measurement Module is an Excel Add-in and requires Microsoft Excel 2003 or higher.

Required software:

- Windows XP (SP3) or higher (32bit or 64bit)
- Microsoft Excel 2003 or higher (only 32bit)
- **Note:** Office 2013 RT editions are NOT supported

1.3. Overview of the functionality of the EPIC Measurement Module Version 2.0

Selecting from different measurement templates:

To create a new project, you can choose from a selection of different templates. Thus, measurement sheets are possible in upright format or with positions in rows instead of in columns.

Supporting BOQs and ordinal numbers with up to 14 places and 5 hierarchy levels:

Version 2.0 supports all ordinal number formats of the GAEB 1990 as well as the GAEB 2000 and GAEB 2000 XML. Therefore, ordinal numbers with up to 14 places and up to 5 hierarchy levels can be used.

Importing BOQs and price lists in GAEB 1990, GAEB 2000, GAEB 2000 XML formats:

Bill of quantities and price lists from the GAEB 1990 formats *.D81, *.D83, *.D84 and *.D86, from the GAEB 2000 formats *.P81, *.P83, *.P84 and *.P86, as well as the GAEB 2000 XML formats *.X81, *.X83, *.X84 and *.X86 can be imported.

Importing room lists:

Excel formatted room lists can be imported.

Collecting bill of quantities (BOQs) and room lists (RLs) manually:

You can also enter bills of quantities and room lists manually, instead of importing them.

Importing measurements from version 1.2:

Projects, which were created in version 1.2, can be imported into version 2.0.



Importing measurements from DA11 files:

Simple DA11 files with quantity specifications in the formula number 91 (without calculation approaches) can be imported into measurements.

Transferring BOQ positions and rooms directly from the BOQ and/or the room list:

In order to save writing effort, several positions from the BOQ or several rooms from the room list can easily be transferred to the measurement sheets.

Checking for incorrect entries:

When creating measurements the program checks whether the positions, rooms or quantities entered are correct and refers you to incorrect entries.

Exporting measurements in DA11, DA11E, DA12 and X31:

Measurements can be exported in DA11 and DA11E format. The export takes place either according to the REB 23.003 edition 1979 or the new REB 23.003 from the year 2009, which also supports ordinal number formats different than 11.22.PPPP.I. Furthermore, measurements can also be exported into the DA12 format of the GAEB 23.004 or X31 format of the GAEB DA XML 3.2, whereby ordinal numbers with up to 14 places are supported.

Printing measurements with and without calculation approaches:

When printing the measurement, you can decide whether only the results or the calculation approaches like e.g. $=3.5+2.3$ should also appear in the print out.

Generating new blank measurements by push of a button:

You can create a further blank measurement to the existing project with one single mouse click. Measurement number, building project and contractor are entered automatically. The sheets are numbered consecutively.

Evaluating one or several measurements for the control of quantities, cost and accounting:

The measurement module offers different evaluative options for the control of quantities, cost and accounting. You can select which measurements are to be included into the evaluation and you can filter by rooms and positions.

Generating and importing building site measurements:

You can prepare blank measurement sheets with pre-entered positions and rooms, which you can print out and use on the building site. Alternatively, these sheets can be filled in Excel and imported.

Checking automatically for new program updates:

The measurement module automatically checks for new updates at regular intervals. Thus your program is always up to date and you will not miss any new functions.

File structure:

For each new measurement, the program generates a separate Excel file. Likewise, the BOQ and the room list are located in separate Excel files. All Excel files of an EPIC Measurement Module project are stored in a common folder. This folder is titled with the project name and contains the project file with the suffix *.amxml.

Important: The project file *.amxml may under no circumstances be deleted or changed and projects should always be copied as complete folders. Please do not rename the Excel files in the project folders. If you need a different file name, please perform the renaming in the form "Project Settings" (see 9.1).



2. Installation and activation

2.1. Installing the EPIC Measurement Module Version 2.0

For **Excel 2013 or higher**: In case you have not chosen the standard installation at the initial installation of Microsoft Office, please make sure that the .NET Programmability Support for Microsoft Excel was installed. You can check this in the list of installed programs and updates on your computer: Right-click on "Microsoft Office 20XX" → "Change" → "Add or remove features" and then select "Microsoft Excel" and set the ".NET Programmability Support" to "Run from My Computer".

Prior to the installation of the EPIC Measurement Module, please check the safety settings of Excel as follows:

- For **Excel 2003**, please go to "Tools" → "Options" → "Security" → "Macro Security" → "Trusted Publishers" and select the option "Trust all installed add-ins and templates". Otherwise, Excel will ask you at each start whether you would like to activate the macros in mscoree.dll. These macros must be active, so that the measurement module is loaded as add-in.
- For **Excel 2007**, please go to "Office" on the upper left → "Excel Options" → "Trust Center" → "Trust Center Settings" → "Add-ins" and **deactivate** the functions "Require Application Add-ins to be signed by Trusted Publisher" and "Disable all Application Add-ins".
- For **Excel 2010 or higher**, please go to "File" → "Options" → "Trust Center" → "Trust Center Settings" → "Add-ins" and **deactivate** the functions "Require Application Add-ins to be signed by Trusted Publisher" and "Disable all Application Add-ins".

Prior to the installation, please close all applications in use, in particular Excel. Make sure you have signed in as administrator. Unpack the installation package **EPIC_Aufmassmodul_2_0_Setup.zip** in a folder of your choice. Then start the installation by double clicking on the **EPIC_Aufmassmodul_2.0_Setup.exe** file. Follow the installation instructions.

In case it is not yet present on the computer, Microsoft .NET Framework 4.0 is provided and installed for the installation. To install the Framework, Windows Installer 3.1 or higher and the Windows Imaging Component are required. If these components are missing, a reference appears during the installation process and the installation is terminated. Please install the missing components (available for free on www.microsoft.de) and restart the installation of the EPIC Measurement Module.

Once you have completed the installation of the EPIC Measurement Module, you can start Excel. The entry "EPIC" will now appear at the end of the menu panel.

2.2. What to do if the menu entry "EPIC" does not appear after completing the installation?

If, after a restarting your computer and despite correct safety settings in Excel, the menu item "EPIC" is still missing, the add-in may possibly have been deactivated and needs to be reactivated manually. This may also happen after the installation of an update or after a crash of Excel. In order to activate the add-in, please proceed as follows:

- For **Excel 2003**, please select "Help"(?) → "About" → "Disabled items". If the "EPIC Measurement Module 2.0" there appears, select it and click on "Activate". After restarting Excel, the menu "EPIC" should then appear.



- For **Excel 2007 or higher**, please go to "File" → "Options" → "Add-ins" and check whether the "EPIC Measurement Module 2.0" is to be found among "Disabled application add-ins" or "Inactive application add-ins",
 - In case of "Disabled application add-ins": In the same window below, go to "Manage", select the entry "Disabled items" and click on "Go...". Another window will open in which you can activate the EPIC Measurement Module add-in.
 - In case of "Inactive application add-ins": In the same window below, go to "Manage", select the entry "COM add-ins" and click on "Go...". Another window will open in which you can place a check mark in front of "EPIC Measurement Module add-in" for activating it.

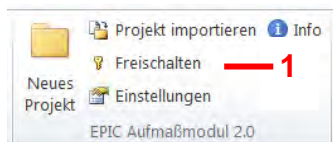
Afterwards "EPIC" should appear in the menu now. It may be necessary to restart Excel.

2.3. Activating the EPIC Measurement Module

After the installation, the EPIC Measurement Module 2.0 will be in test mode for 7 days. In order to be able to use the program beyond the testing period, you need either a job-bound license key or a dongle, which allows you to use the license on different computers. You can order both under <http://www.epic-software.de>.

Once you have received a dongle, connect the dongle to a USB port of your computer before starting Excel. Now you can start Excel and put the measurement program to use. The dongle must be connected to the computer for the entire operating time of the measurement program.

If you received a license key in place of a dongle, select "Activate" (1) in the EPIC menu to enter the license key.



An input mask will open into which you can enter the data from the license form. The license key is only valid in combination with your user name and/or the work place as well as the company name. You can enter the license key with or without separators. After the successful activation, the "Activate" button will disappear from the EPIC menu and you can use the program for an unlimited period of time.

EPIC Aufmaßmodul 2.0 freischalten

Bitte geben Sie hier Ihre vollständigen Freischaltdaten ein. Achten Sie auf korrekte Schreibweise.

Benutzer / Arbeitsplatz

Firma

Schlüssel

(mit oder ohne Trennstriche)

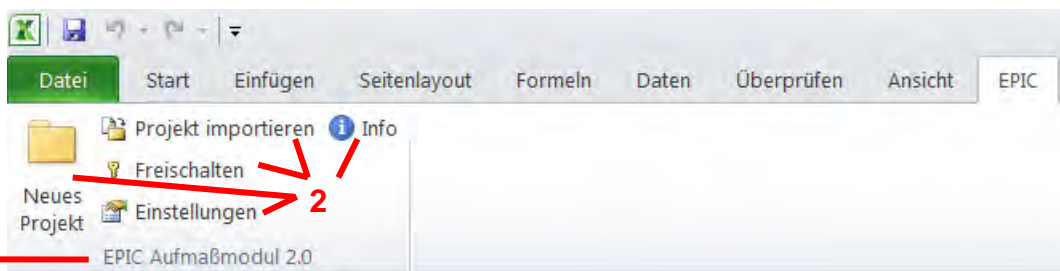
Abbrechen Freischalten



3. The EPIC-Menu

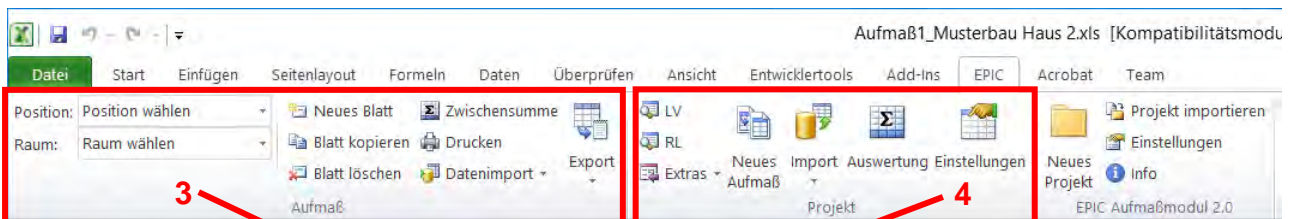
The charts provided in the manual were generated in Excel 2010. In Excel 2007 and higher Excel versions, the appearance of the menu is very similar, while Excel 2003 shows larger deviations due to its older menu structure. If you use Excel 2003, you will find in the appendix of this chapter an additional overview, which illustrates the menu graphics' appearances in Excel 2003.

After the installation of the EPIC Measurement Module 2.0 the entry "EPIC" appears at the end of the Excel menu bar, as represented in the following graphic:

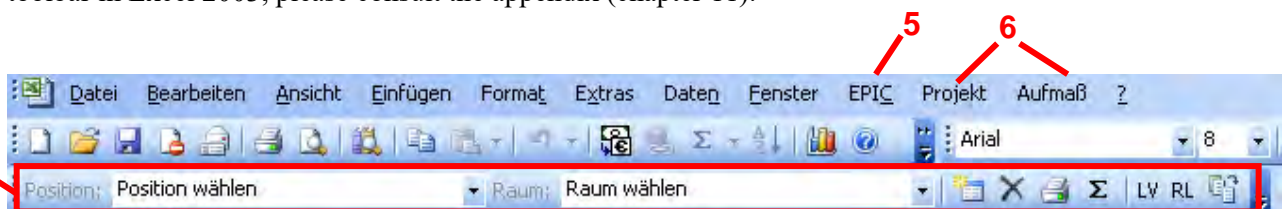


You will see the group "EPIC Measurement Module 2.0" (1) with the instructions "New Project", "Import Project", "Activate", "Settings" and "Info" (2). The group "EPIC Measurement Module 2.0" is always visible.

Depending on whether a measurement file, a bill of quantities or a room list is in use and displayed, the EPIC menu will open further groups, like e.g. "Measurement" (3) and "Project" (4), if a measurement file is opened and currently displayed.

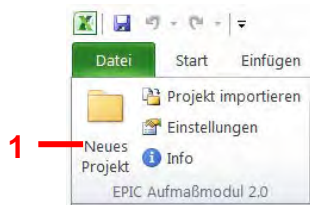


In Excel 2003, for each group its own menu entry is created. The menu entry "EPIC" in Excel 2003 (5) corresponds to the group "EPIC Measurement Module 2.0" in Excel 2007 or higher (1). In Excel 2003, the groups "Project", "Measurement", etc. appear as menu entries with the same titles (6). These menu entries contain the same instructions as the corresponding groups of the Excel 2007 (or higher) menu panel. The only exception being the dropdown fields for positions and rooms which, in Excel 2003 appear in a separate toolbar (7). For further information on the appearance of the EPIC menu and the toolbar in Excel 2003, please consult the appendix (chapter 11).





4. Creating projects



4.1. Creating a new project in Version 2.0

Selecting "New Project" (1) in the EPIC menu opens a window into which you can enter the necessary data for the project:



The screenshot shows the 'Neues Projekt erstellen' dialog box with the following fields and buttons:

- 2** points to the 'Projektdetails' section, specifically the 'Bauvorhaben' field.
- 3** points to the 'Projektname' field.
- 4** points to the 'Startblatt' dropdown menu.
- 5** points to the 'OZ-Format' dropdown menu.
- 10** points to the 'OZ-Format' text input field.
- 11** points to the 'LV' text input field.
- 12** points to the 'LV auswählen' button.
- 6** points to the 'RL auswählen' button.
- 7** points to the 'Layout' dropdown menu.
- 8** points to the 'Ordner ändern' button.
- 9** points to the 'Projekt erstellen' button.

Enter the building project and the contractor into the project details (2). The project name will be transferred into the first line of the building project (3). However, you can change the project name, if necessary. The project name indicates the title of the project file, which will be generated later and which contains the measurement files as well as the BOQ and room list file. If you wish to start the project with a sheet number different than 1, you can specify this here (4).

You can also select and import a BOQ or otherwise specify your own ordinal number format (OZ format) (5). If no BOQ is imported, an empty BOQ is generated which you can later fill out manually. The OZ format can also be changed later on. At the end of this chapter, you will find details on importing a BOQ and on specifying the OZ format.



You can import a room list from an Excel file. To do so, click on "Select RL" (6) and select the Excel file that contains the room list. This file must contain the room numbers in the first column and, optionally, the room name in the second column. You can choose whether the first row of the room list file should contain column headings only or also room names by checking the "include column headings" box. If you do not import a room list, an empty room list is generated which you can later fill out manually. You can still import room lists into the project later on.

You can select the desired measurement template for the project by going to "Layout" (7). Templates are available in portrait and landscape format with positions in rows or columns. There is also a template that permits the entry of electric circuits in addition to the rooms.

By clicking on "Change folder" (8) you can select the folder you wish the project to save in. A new folder with the project name is then generated in the selected folder. If you wish to save all future projects to this place by default, please activate the option "set as standard folder".

Selecting "Create project" (9) will generate a new folder with the title of the project in the selected storage folder. The BOQ and RL file as well as the measurement No.1 will be generated in this folder. Measurement No. 1 will be displayed.

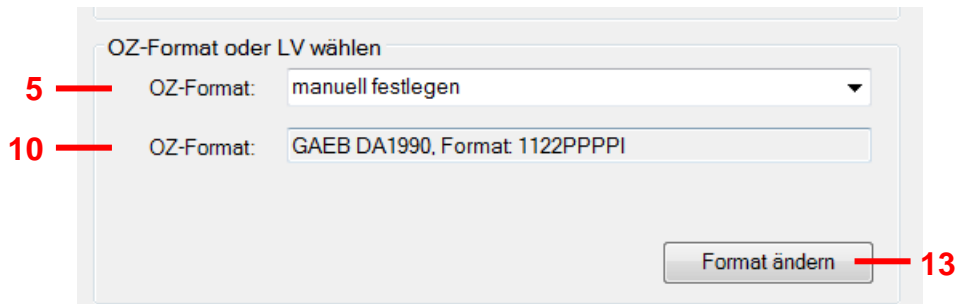
Manually specifying BOQ import or OZ format (5)

Importing BOQ:

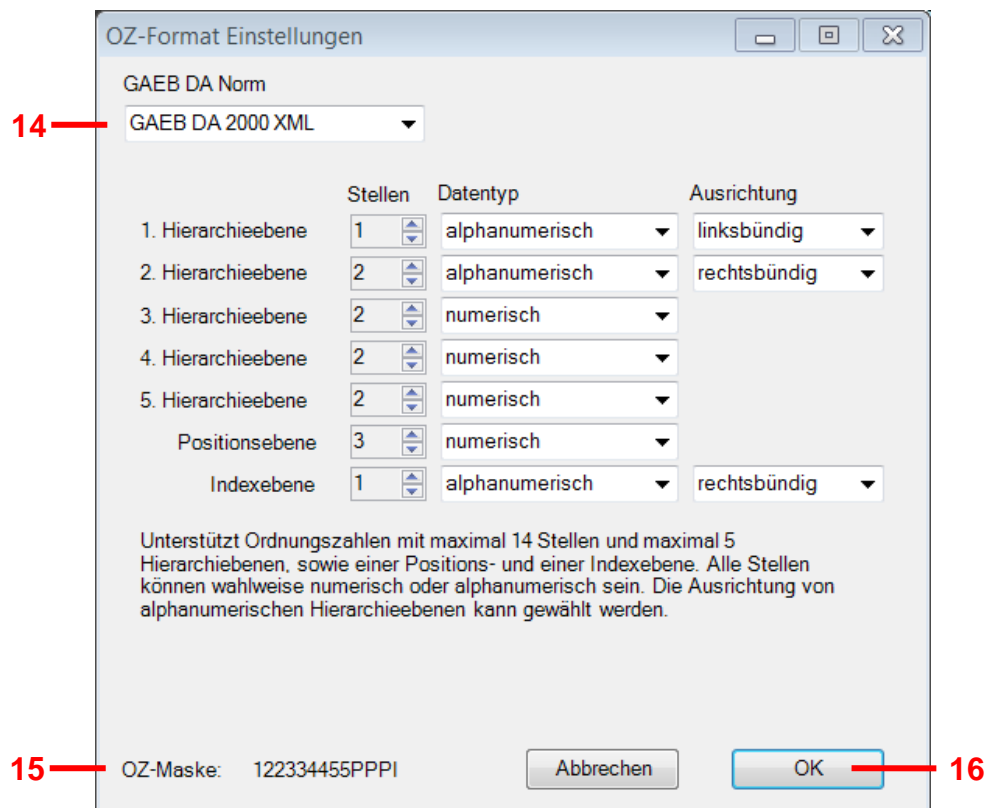
If, upon creating a project, you wish to import a BOQ from a GAEB file, select the option "Import from BOQ" in the menu item "OF-Format" (5). After clicking on "Select BOQ" (12) select the GAEB format of the BOQ to be imported. The OZ format, as it is imported from the BOQ file, appears in the line "OZ-Format" (10). The file name of the BOQ file to be imported appears in the line "BOQ" (11). After creating a project, you still can import a BOQ.

Specifying OZ format manually:

If, upon creating a project, you do not wish to import a BOQ, you must specify the OZ format manually. To do so, go to "OZ format" (5) and select "specify manually". As a standard, the menu item "OZ format" (10) is equipped with the GAEB DA1990 format: 1122PPPPPI. You can specify your own OZ format by selecting "Change format" (13). For this purpose, the window "OZ Format Settings" will open.

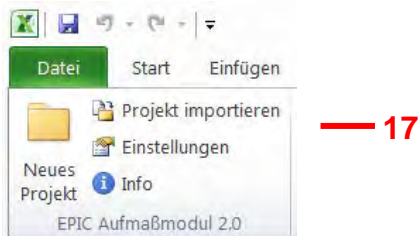


You can select the desired GAEB standard (14) in "GAEB DA Standard". GAEB DA 1990 permits ordinal numbers with up to 9 places and 4 hierarchy levels. GAEB DA 2000, as well as GAEB DA 2000 XML, supports ordinal numbers with up to 14 places and 5 hierarchy levels. In GAEB DA 2000 XML, all places can be documented alphanumerically. In GAEB DA 2000 and GAEB DA 1990, only the index may be alphanumeric. You can specify the number of places for the individual hierarchy levels; in GAEB DA 2000 XML, you can determine their data type (numeric or alphanumeric). With alphanumeric fields, you can specify the alignment of the field contents, which impacts the sorting of the item numbers. On the bottom left of the window, the current OZ format is displayed for control purposes (15). Verify the settings of the OZ format with "OK" (16). You can still change the OZ format after creating the project and/or have it changed when importing a BOQ.



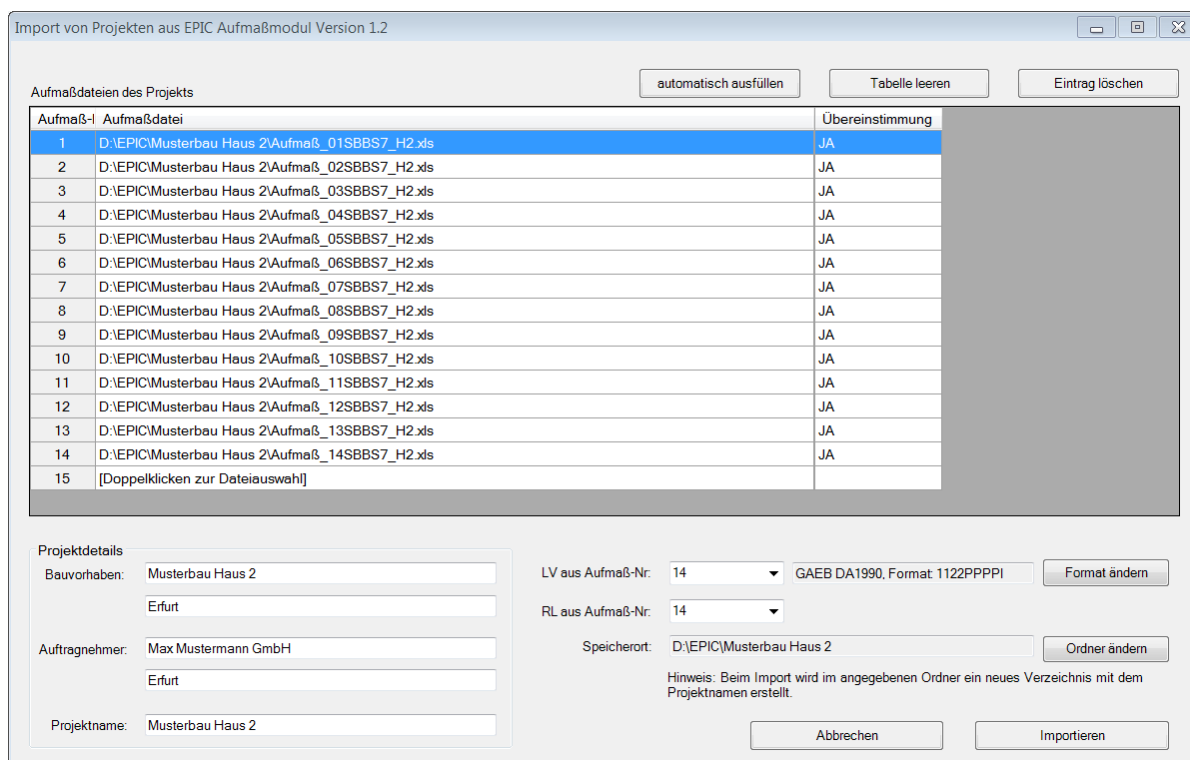


4.2. Importing a project from Version 1.2 into Version 2.0



In order to be able to use a project created with version 1.2 in version 2.0, the project must be imported via the "Import Project" button (17) in the EPIC menu. Upon selecting, a window opens from which you can select the project-related measurement files. To do so, double click into the first line of the table (18) and select the Measurement No.1 file of a version 1.2 project. The column "Match" (19) checks whether the number of the entered measurement file complies with the row number (20) of the table.

In case the file names of the further measurements of the project only differ in their measurement numbers, you can ask the program to enter the remaining measurement files of the project by using the "enter automatically" (21) button. Otherwise, you must individually select all remaining measurements of the project by double clicking into the table row. All measurement files entered can be deleted from the table by using the "Empty table" command (22); by selecting "Delete entry" (23) only the selected file will be removed from the table. You can modify the recorded measurement files by double clicking on the file name in the table.





Building project (24) and contractor (25) are read in from the first measurement file. These can also be changed, just like the project name (26). You must select from which indicated measurement files you wish to import the BOQ and the room list (27), since version 2.0 provides only one BOQ and only one room list for all measurements. Therefore, you want to select the measurement file containing the most current BOQ and the most current room list. The format of the ordinal numbers can also be changed (28), as already described under 4.1. However, the format selected here must be compatible with the positions entered in the measurement files. Next, you must select the folder (29) in which you wish to create a new project with for the imported files. This new folder is then assigned the project name (26). Select "Import" (30) and the measurements will be imported into version 2.0. The last imported measurement will be displayed.

Notes for the import of a project from version 1.2: When importing a project into version 2.0, the original files generated in version 1.2 remain unchanged! The imported project is stored in its own new folder. A project imported into version 2.0 cannot be edited again with version 1.2 or imported back into version 1.2.



5. Processing measurements

Processing a measurement is described in the following on the basis of the classic layout. In case you have selected a different layout, processing takes place analogously.

The screenshot shows the Microsoft Excel interface for a measurement sheet titled 'Aufmaß 1'. The ribbon includes 'Datei', 'Start', 'Einfügen', 'Seitenlayout', 'Formeln', 'Daten', 'Überprüfen', 'Ansicht', 'Entwicklertools', 'Add-Ins', 'EPIC', 'Acrobat', and 'Team'. The menu bar contains options like 'Position wählen', 'Raum wählen', 'Neues Blatt', 'Blatt kopieren', 'Blatt löschen', 'Zwischensumme', 'Drucken', 'Datenimport', 'Export', 'LV', 'RL', 'Neues Aufmaß', 'Import', 'Auswertung', 'Einstellungen', 'Projekt importieren', 'Einstellungen', 'Neues Projekt', 'Info', and 'EPIC Aufmaßmodul 2.0'. The worksheet grid shows columns A through K and rows 1 through 31. The title 'Aufmaß 1' is in cell A1, and the date '12.07.2017' is in cell K1. The project details are in rows 2-4, and the measurement description is in rows 5-7. The unit '1,40' is in cell B11. The sheet number '1' is in the bottom left corner of the grid.

5.1. Entering a date

Measurement number (1), building project and contractor (2) are pre-entered into the measurement. You only have to add the date (3) in the top right. Only enter the date into the first sheet of each measurement and it will be transferred to all further sheets. At the bottom, you see the number of the current measurement sheet displayed as the title of the worksheet (4). If the page number is highlighted in green, this means that no errors were found in the measurement sheet.



5.2. Entering positions

You can enter the ordinal numbers of the positions used in the row "Position" (6) in the position field (5). Please enter only the ordinal numbers specified in the BOQ file. Outline text and measurement unit are added automatically following the position entry. Otherwise an error message appears and the entry is marked red. The colour of the worksheet (4) also turns red, if an error was found in the sheet.

It is recommended to adopt the positions from the dropdown fields (7) in order to avoid possible writing errors. To do so, select any cell (position, outline text, unit or a cell within the quantity range (8)). Then click on the position dropdown field (7) and select the desired position. The associated values are then transferred automatically into the position fields of the selected cell.

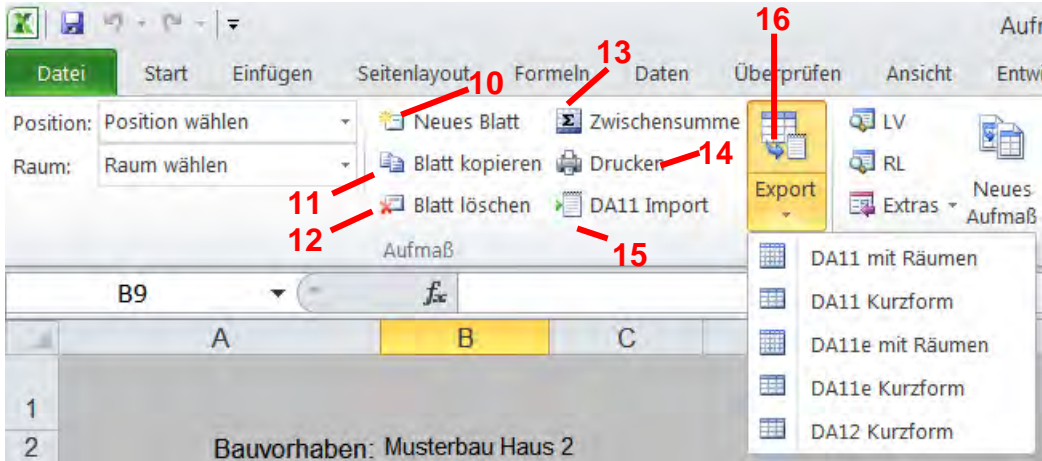
Notes for the use of supplements: All supplements must be entered into the BOQ file of the project (see 6.2). The identification of the supplements is upon you as a user. In case the ordinal number format does not permit an index, you may use the index "N", or enter supplements under a new hierarchy level.

5.3. Entering rooms

Entering the rooms can take place manually in the column "Room name" (9) or can be selected from the dropdown field "Rooms" (7). Only rooms may be entered that also appear in the room list; otherwise, an error message appears, the entry is marked red and the sheet colour will change to red (4).

5.4. Entering quantities

You can manually enter the quantities for the positions and rooms into the "Quantity" field (8), either as single quantities (e.g. 1.4) or as an Excel formula starting with the equals sign, e.g. =3.5+4*1.5. When using Excel formulae only the result appears in the cell. Printing the measurement sheet, however, the calculation approach can be displayed optionally (see section 5.9 and 9.2). The quantity specifications may not contain any measurement units.



5.5. Creating a new measurement sheet

To create a new measurement sheet select the "New sheet" button (10). Clicking on this button will generate a new, blank measurement sheet without quantities, positions and rooms at the end of the measurement.

5.6. Copying a measurement sheet

Selecting the button "Copy sheet" (11) will copy the current measurement sheet and can insert it at any place. You can select as which sheet the copied measurement sheet is to be inserted. You can also determine whether the recorded quantities are to be copied as well. Otherwise only the recorded positions and rooms are copied.

5.7. Deleting a measurement sheet

To delete the current measurement sheet use the button "Delete sheet" (12).

5.8. Calculating a subtotal

Selecting "Subtotal" (13) will calculate the intermediate total at the end of the page.

5.9. Generating a print preview of a measurement

Selecting "Print" (14) will generate a print preview of a complete measurement print out. Refer to EPIC "Options" to specify whether formula approaches should be displayed in print outs of the measurement sheets (see section 9.2).

5.10. Importing data

Selecting "Data Import" (15) will let you choose between importing DA11 files and importing EPIC measurement sheets.

Simple DA11 files containing only single quantities in the formula number 91 can be imported into a measurement in the EPIC Measurement Module. Upon clicking on "Import DA11" a file selection



window will open from which you can select the DA11 files to be imported. The quantities contained in the file are imported into the measurement.

In addition, EPIC measurement sheets from other EPIC measurement files or from building site measurements can be imported. For this, the layout of the sheets to be imported must be compatible with the layout of the current project, i.e. the number of rows and columns must be the same. After clicking on the button "Import EPIC measurement sheets", choose the measurement file from which the sheets should be imported. A preview of the file is shown along with a window that allows you to choose the sheets to be imported. Last, please select the layout of the sheets to be imported. If the layout is compatible to the layout of the current project, the selected sheets are appended to the current measurement file.

5.11. Exporting measurements

By clicking on the button "Export" (16) you can choose from different options for the export of the current measurement in DA11, DA11e and DA12. If you select to export "Plus rooms", each registered quantity will be exported individually along with the assigned room. If you select to export in "short form", only the totals of the positions of each sheet without room specifications are exported.

When exporting "Plus rooms" in DA11 or X31, only the first 9 characters of the room number are exported. If you use longer room numbers, you may want to select the DA11e format, which can take up to 33 characters of the room number.

DA11 Exporteinstellungen

DA11-Datei erzeugen nach

REB 23.003 Ausgabe 1979

REB 23.003 Ausgabe 2009

Unbelegte numerische OZ-Stellen

füllen mit Leerzeichen (z.B. 1 1 10)

füllen mit Nullen (z.B. 01010010)

Formeln exportieren

OK

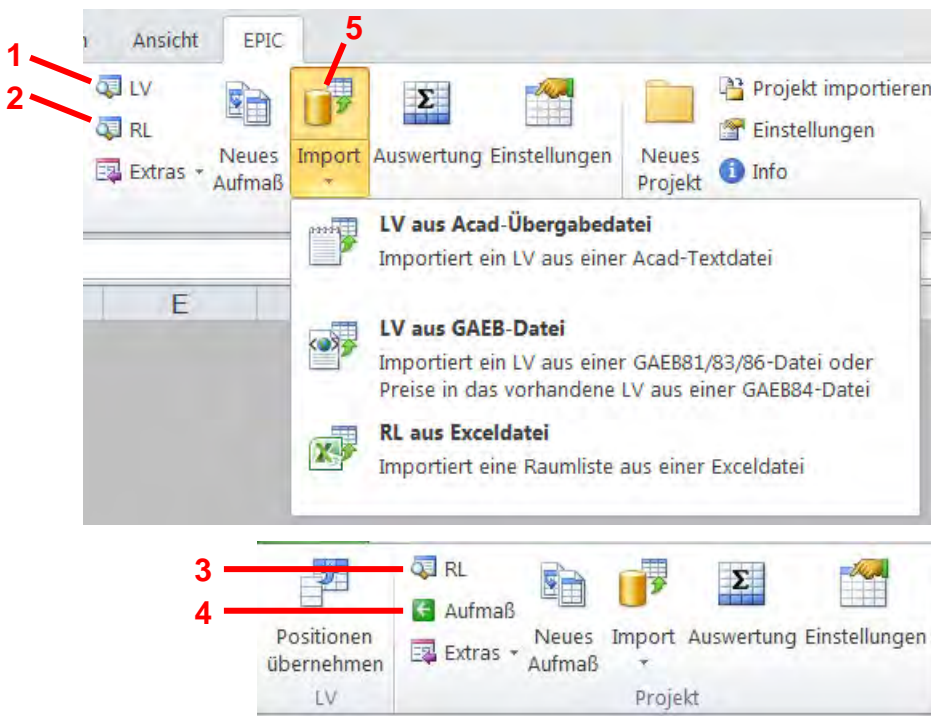
Exporting in DA11, DA11e or X31, you are being offered different export settings. If the project uses the REB ordinal numbers format 11.22.PPPP.I, you can select whether the file is to be generated according to the old 1979 REB 23.003 edition or the new 2009 edition (17). Some older programs with DA11 interface can import only DA11 and/or DA11e files according to the 1979 REB 23.003 edition. With OZ formats different than 11.22.PPPP.I, these options are greyed out and the file is generated according to the 2009 edition since deviating ordinal number formats are supported only here. When



exporting in DA11 or DA11e, you can also select whether idle numeric places of the ordinal number are to be filled with zeros or with spaces **(18)**. Here, too, the option you select depends on the program into which the DA11 and/or DA11e file is to be imported later on. Furthermore, you can select whether equations shall be exported **(19)**. Please note, that only short equations with up to 38 places can be exported. In case the equation is longer, only the result is exported. Upon selecting the desired options click on "OK" and a "Save As" window will appear. You can now choose a name and place to which you wish to save the DA11 and/or DA11e file.

In case the measurement uses an OZ format with more than 9 places, it can be exported only in DA12 or X31, since DA11 and DA11e support only ordinal numbers with a maximum of 9 places. Exporting in DA12, only the sheet totals without room specifications are exported.

6. Working with bill of quantities (BOQ) and room lists (RL)



(Menu screen when measurement is displayed)

(Menu screen when BOQ is displayed)

6.1. Navigating between measurement, BOQ and RL

To the far left of the group "Project" in the EPIC menu, you will find the buttons "BOQ" (1), "RL" (2) (3) and "Measurement" (4) which allow you to navigate between the current measurement, the BOQ and the room list. When a measurement is displayed, you can choose to display the associated bill of quantities by clicking on "BOQ" (1) or pull up the associated room list by clicking on "RL" (2). When the BOQ is displayed, you can choose to display the room list associated with the project by clicking on "RL" (3) or jump to the last measurement displayed by selecting the button "Measurement" (4). You can also navigate into the BOQ or likewise back into the measurement when the room list is displayed.

6.2. Editing BOQ and RL

By selecting "BOQ" (1) or "RL" (2) you access the file of the bill of quantities or the room list respectively. You can modify these files. In the BOQ file, you can edit and delete positions or add new ones. Enter the required information into the respective columns. In the room list, you can edit and delete rooms or add new ones. Once changes are completed, save the BOQ and/or room list file using the button "Save" (disk symbol) or the menu items "File" → "Save". When saving, the measurement program checks the changes made and sends an error message, if e.g. you have entered already existing rooms or ordinal numbers, or the latter are in the wrong format. Changes to the BOQ file and the RL are only accepted into the measurement dropdown fields after saving.



6.3. Importing BOQ and RL

In case you did not import the room list and the BOQ upon creating the project, or in case you wish to import data in updated form, you can reach for the functions of the group "Project" and use the menu item "Import" (5). When importing from an Acad transfer file and importing BOQs of the phases 81, 83 and 86, you can choose whether the existing BOQ will be overwritten or the positions will be appended to the BOQ already imported. When importing a BOQ of the phase 84, prices will be added to the BOQ already imported. The room list will always be overwritten on the import. Following the import of a room list or a BOQ, the positions and rooms of the measurement in use will be screened to check whether they exist in the BOQ and/or RL file.

6.4. Transferring positions and/or rooms from BOQ and/or RL

Selecting the button "RL" or "BOQ" will display the respective RL or BOQ files. The group "Measurement" will be hidden from the menu and the group "RL" or "BOQ" will be displayed instead. Here you will find the function "Transfer rooms" or "Transfer positions" (6), whereby marked rooms or positions can be transferred into an open measurement file of the project. To do so, please proceed as follows:

Mark the rooms or positions you wish to transfer by clicking on the respective cells. You can mark successive cells by highlighting the cells of the desired rooms or positions while holding down the mouse button. Alternatively you can highlight sequential cells by clicking on the beginning of the desired cell range and then clicking on the end of the cell range while holding down the Shift key. You can highlight incoherent cell ranges by clicking while holding down the CTRL key.

To transfer marked rooms or positions into the measurement, select "Transfer rooms" or "Transfer positions" (6).

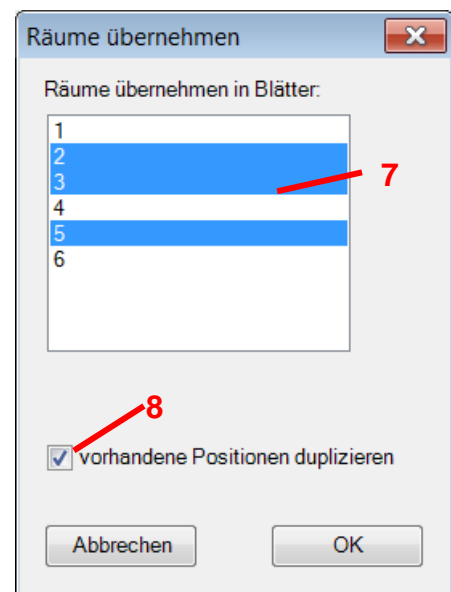


6

Position	Kurzbezeichnung	Anzahl	Einheit	Einzelpreis	Gesamtpreis
1.10.10.10.	Gelände abräumen	1,00	psch	5.400,00	5.400,00
1.10.10.20.	Plattenbelag Beton 30x30x4cm durchgefärbt	200,00	St	2,61	522,00
1.10.10.30.	Oberboden abtragen, lagern d 20cm	150,00	m2	3,07	460,50
1.10.10.40.	Boden Suchgraben lösen, lagern BK 3/4	3,00	m3	44,14	132,42
1.10.10.50.	Hinterfüllen profilgerecht ' 'D 20-30 cm	300,00	m2	20,00	6.000,00
1.10.10.60.	Boden Fundamente lösen,lagern	40,00	m3	20,00	720,00
1.10.10.70.	Verblendung Innenwand VHSV 20 - 1,6 - NF MGIIa H bis 6m	20,00	m2	83,10	1.662,00
1.10.11.10.	Mulden- u. Grabenbefestig. ausbauen Rasengittersteine In Beton Moertelfuge Dicke 20	200,00	m2	10,00	2.000,00
1.10.11.20.	Schächte abbrech. Mauerwerk	1,00	St	5.000,00	5.000,00
1.10.11.30.	Lichtzeichenanla- ge bedienen Werktag 6 - 20	10,00	h	20,00	200,00
1.10.11.40.	einseitig bearbe Schrauben verzink Gummidtg. Stahl incl. Einbau	200,00	kg	10,00	2.000,00
1.10.11.50.	150 MN/m2 0/56 mm DPr 103 % Kalkstein 1 m2	10,00	Stck	2.000,00	20.000,00
1.10.15.10.	Trennwand bis 3,5 m 100 mm F 30	2.500,00	m2	20,00	50.000,00
1.10.16.10.	Gartentisch Holz	2,00	St	213,00	426,00
1.10.16.20.	Gartenbank 'aus Holzlattenprofilen'	8,00	St	180,00	1.440,00
1.10.16.30.	Sitzrost Holz	15,00	St	35,00	525,00
1.10.20.10.	Schacht 1000 mm Gerinne gerade über 2 bis 2,5 m	1,00	St	200,00	200,00
1.10.20.11.	lichte Schachttiefe bis 2 m.	180,00	St	50,00	9.000,00

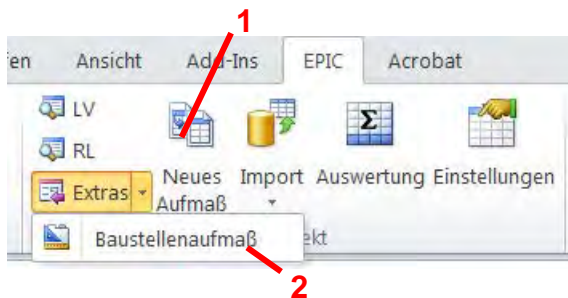
When transferring positions from the BOQ, the highlighted positions will be transferred into the measurement continuously, starting with the last empty position cell. If necessary, new, blank measurement sheets will be created.

When transferring rooms from the room list, a window appears asking you to select into which measurement sheet you wish to transfer the rooms (7). You can also choose whether you wish to duplicate the existing BOQ positions in these sheets or not (8). Otherwise, the rooms will continuously be written into the blank room cells of the selected sheet. When the option "duplicate existing positions" is activated, you can select several measurement sheets by holding down the SHIFT or CTRL key (7). The rooms will be transferred into all the measurement sheets and, if necessary, the sheets will be copied so that for each position in the selected sheets the respective room is recorded.





7. Creating new measurements



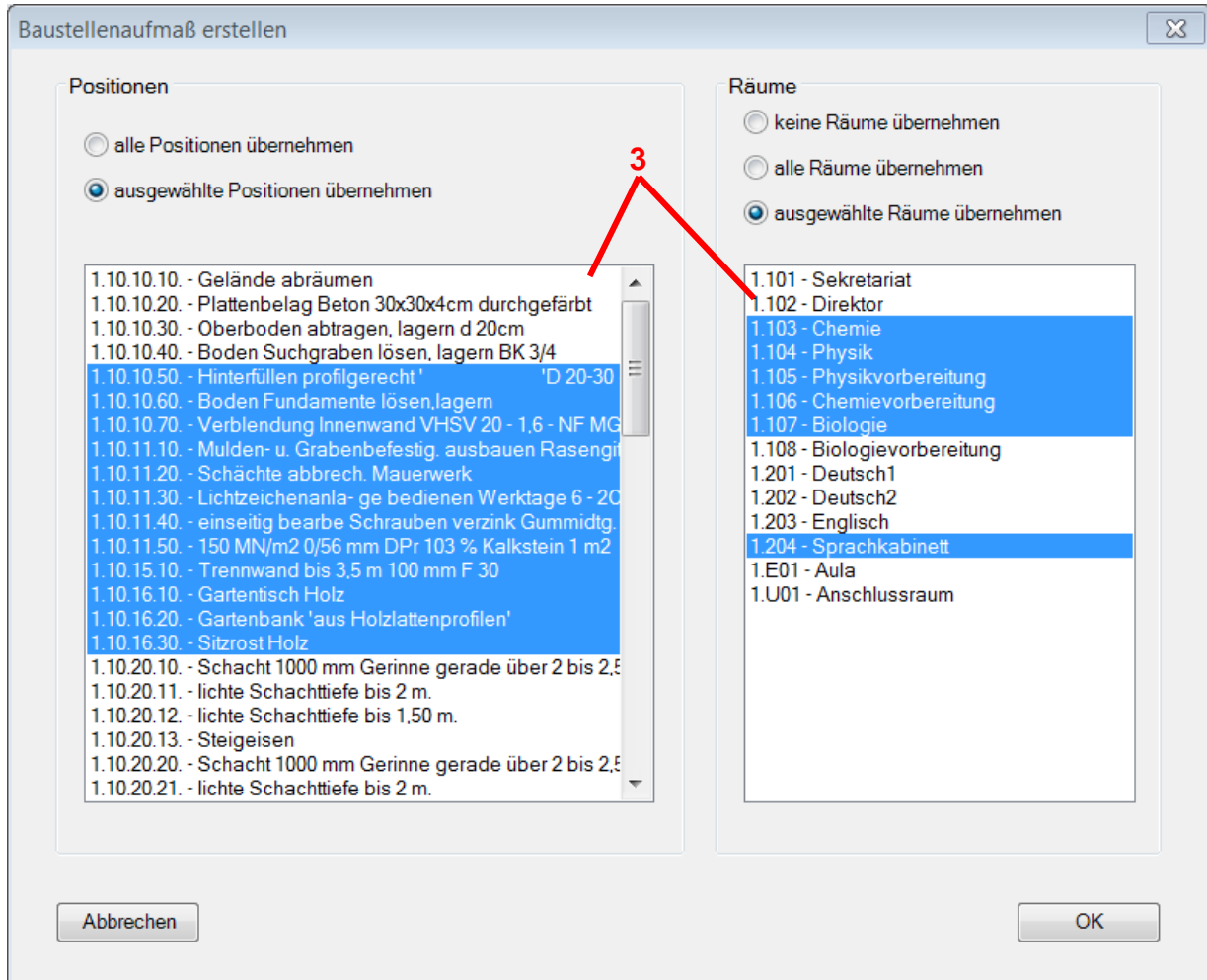
7.1. Creating a new measurement for the project

Once a measurement is complete, you can create the next measurement for the project by using the button "New Measurement" (1) in the group "Project". Now, a new measurement file will be generated, the new measurement number, the building project and the contractor are entered, and the file will be saved into the project folder. The numbering of sheets follows the last number of the preceding measurement. With that, the preceding measurement is complete. Only the date must be entered into the new measurement and now it can be modified as described in section 5.

7.2. Creating a template for building site measurement

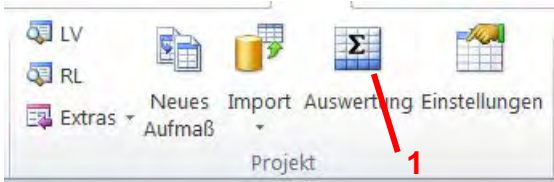
The function "Building site measurement" in the menu item "Extras" (2) generates a blank measurement with positions of the BOQ and, alternatively, also with rooms of the room list. This measurement is a regular Excel file and exclusively serves the printing of individual measurement sheets to be used on the building site. The building site measurement is not a component of the EPIC Measurement Module project and therefore does not provide any functions for entering data.

When clicking on "Building site measurement" (2), a window appears in which you can select which positions and rooms you wish to transfer to the building site measurement. In case you wish to transfer only certain rooms or positions, highlight these by holding down the SHIFT or CTRL key (3). The program generates a file titled "buildingsitemeasurement.xls" and saves it to the project folder. You can enter a measurement number and a date into the first sheet and print out individual measurement sheets using the function "File" → "Print". You can use these templates to register quantities on building sites.

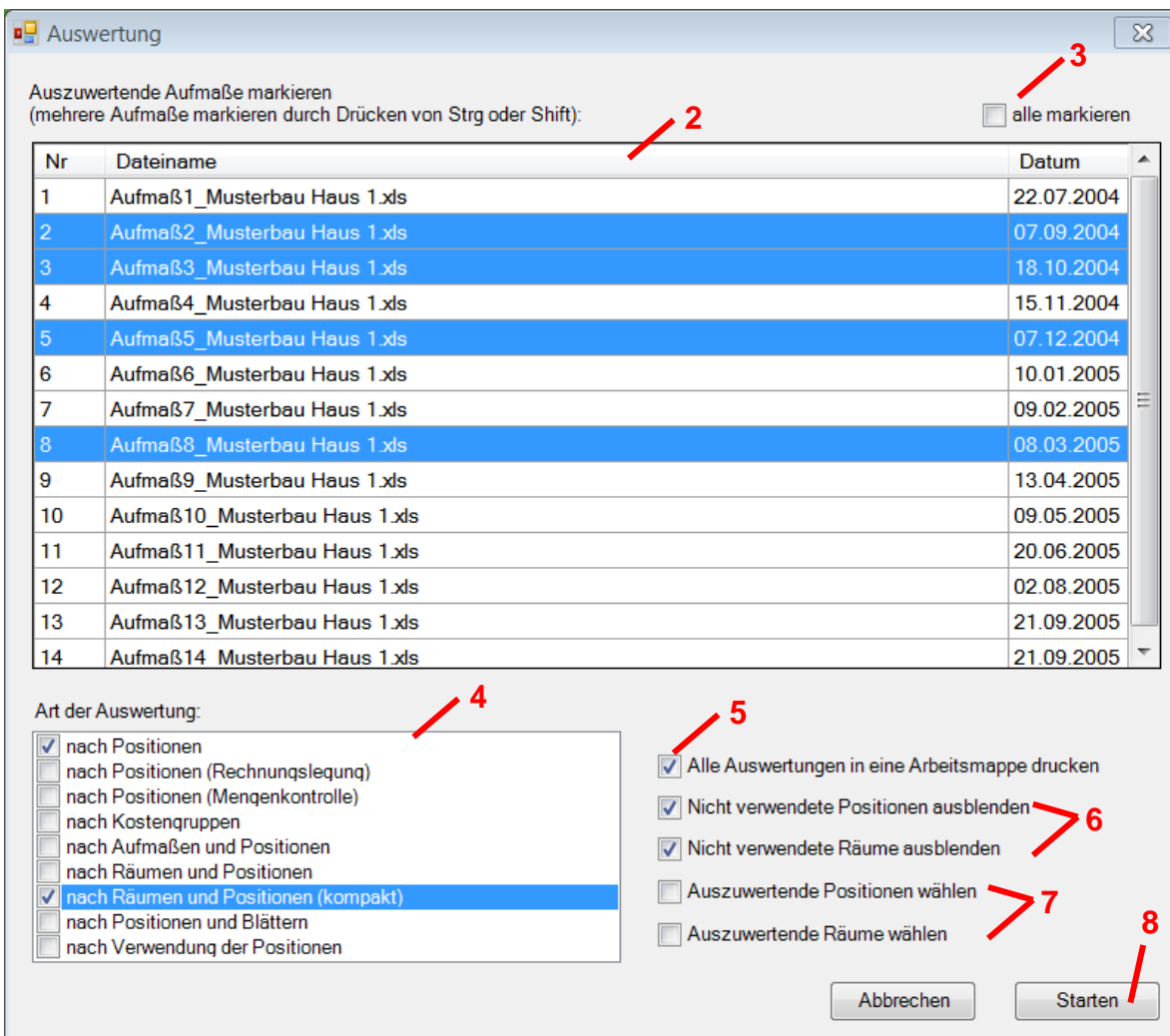




8. Evaluating measurements (according to quantities, costs and for accounting)

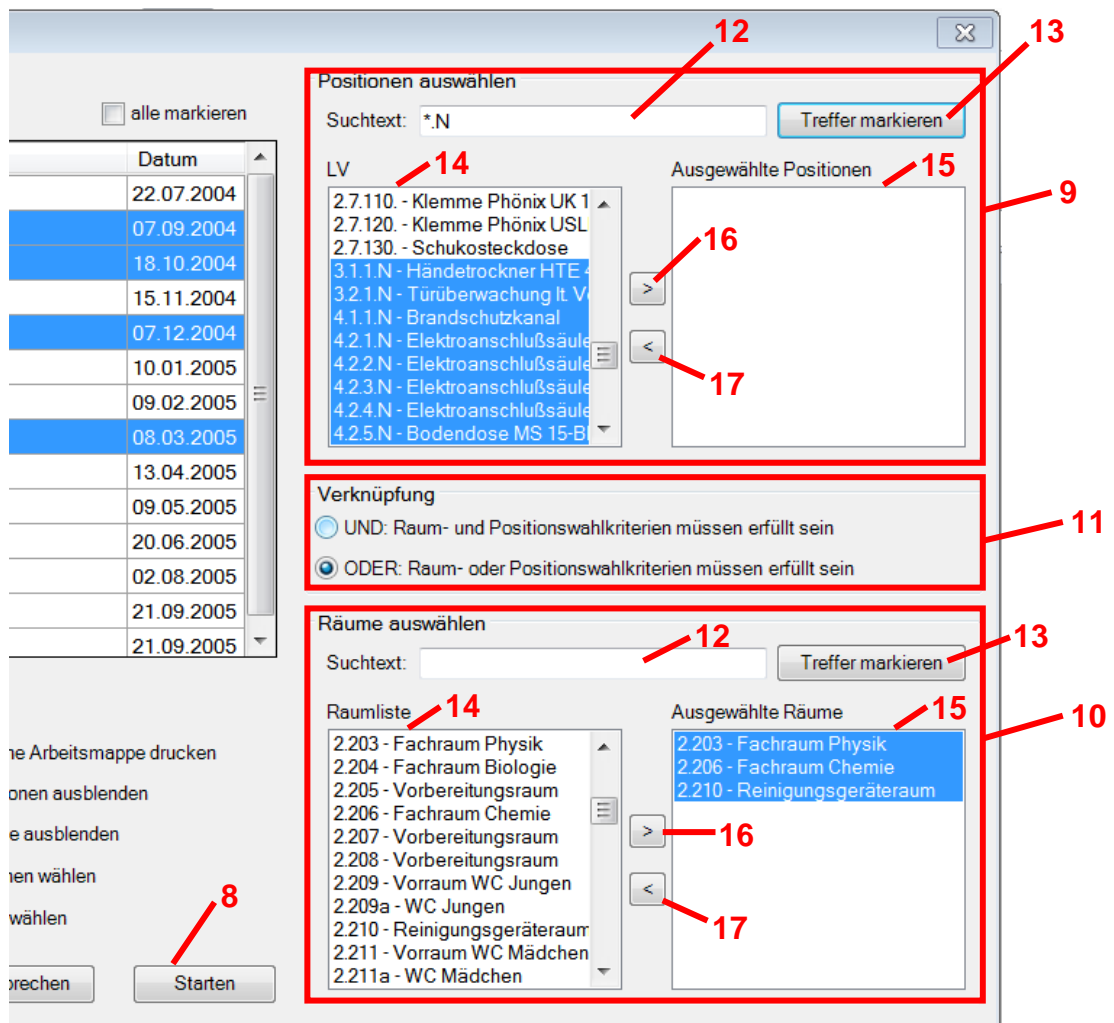


Upon clicking on "Evaluation" (1), a window with a list of measurements belonging to the project will open (2). Select the measurements to be evaluated by mouse click while holding down the SHIFT or CTRL key. In order to select all measurements, activate the small control box "Mark all" (3). Also, select which kinds of evaluation types you wish to use (4).



On the right, you can select different options, like e.g. whether all kinds of evaluation types are to be printed into a folder (5), or whether positions and rooms not used are to be listed (6).

It is also possible to include only particular rooms or positions into the evaluation (7). When clicking on "Select positions to evaluate" or "Select rooms to evaluate" the evaluation window will unfold to the right and further options will appear (7):



In the windows "Select positions" (9) and "Select rooms" (10) you can select the positions or rooms to be evaluated. This procedure is exemplified with the help of the selection of the positions (9); the selection of the rooms (10) takes place the same way.

The positions of the BOQ (14) are displayed in the text window "Select positions" (9) on the left (14). Only positions that appear in the text window "Positions selected" (15) on the right will be included in the evaluation. In order to transfer positions to the text window on the right (15), highlight the positions in the "BOQ" text field by mouse-click and holding down SHIFT or CTRL key (14), and then accept them into the text window on the right (15) with a click on the ">" button (16). In order to remove positions again, highlight them and click on the "<" button (17).



Alternatively, you can also select positions using a search text. To do so, use the entry field to enter a search text (12). The following special characters can be used in the search text:

- * indicates at least one optional character
- ? indicates exactly one optional character
- # indicates exactly one optional number

[symbol] indicates one of the symbols listed in square brackets

Examples:

Search text	Marked are...
*.N	... all positions containing an "N" in the index, e.g.. 1.1.1.N, 2.30.10.N, 9.10.1110.N, except: 1.1.10.
*.?	... all positions with an index, e.g. 1.1.1.N, 2.10.30.A, 3.1.110.X, except: 1.1.10. or 2.3.110.
#.*	... all positions containing one-digit ticket numbers, e.g.. 1.20.120., 3.10.25., 9.3.10., except: 10.20.120.
1.1.*	... all positions of the group 1.1, e.g.. 1.1.10., 1.1.20., 1.1.110., except: 1.2.10. or 2.1.10.
[12].1.*	... all positions of the group 1.1. and 2.1, e.g. 1.1.10., 2.1.20.,1.3.120., except: 1.2.10.

After entering the search text, click on "Mark hits" (13) and the corresponding positions in the BOQ text field (14) will be marked. In order to transfer these to the selection text field (15), click on ">" (16).

In case you wish to select both rooms and positions for the evaluation, you must indicate how both search criteria should be linked (11). If you select the linkage "AND", then only the quantities, which correspond to either a selected position or a selected room, will be considered for the evaluation. When linking with "OR", all quantities, which belong to the selected positions or the selected rooms, will be considered.

Example: Selected rooms are: **110, 111, 112**
Selected positions are : **1.1.1., 1.1.2., 1.1.10.**

Position	Room	Quantity	Selection (11)
1.1.1.	110	3,0	With „AND“ und „OR“
1.1.2.	113	4,0	With „OR“
1.1.3.	111	1,2	With „OR“
1.1.10.	112	4,5	With „AND“ and „OR“
1.1.11.	113	12	Neither with „AND“ nor with „OR“

After clicking on "Start" (8) the desired evaluations are performed.



The following evaluations are possible:

"According to positions" (incl. quantity and cost control):

Max Mustermann GmbH Erfurt **Auswertung der Aufmaße Nr. 1-9** vom 31.05.2011

Postion Nr.	Kurztext	Einh	Menge Aufm	Menge LV	Preis Einh	Preis Gesamt
1.1.1.N	Mont. Leuchten 1x58W m. Schutzfolie	St	79,00	310,00	3,39	267,81
1.1.10.	vollüberwachtes Zentralbatteriesystem	St	1,00	1,00	10.519,13	10.519,13
1.2.1.N	Mont. Leuchten 2x58W m. Schutzfolie	St	66,00	180,00	3,72	245,52
1.2.20.	Anschluß der Kabel an die vorhandene GHV bis 5x35	St	11,00	7,00	5,50	60,50
1.3.10.	Zählerschrank DIN 43870 DIN VDE 0603	St	1,00	1,00	270,57	270,57
1.5.70.	C-Schienen zur Montage von Steigetrassen	m	10,00	10,00	4,82	48,20
1.5.90.	Kabelrinnen 300x60 mm E30 mit Trennsteg	m	56,00	30,00	18,27	1.023,12
1.5.100.	Kabelrinnen 400x60 mm E30 mit Trennsteg	m	54,50	60,00	21,06	1.147,77
1.5.140.	C-Schienen zur Montage von Steigetrassen	m	50,00	40,00	4,85	242,50
1.6.20.	Kunststoffkabel NYCWY 4x25/16	m	447,00	450,00	6,28	2.807,16
1.6.30.	Kunststoffkabel NYCWY 4x35/16	m	35,00	100,00	8,24	288,40
1.6.40.	Kunststoffkabel NYCWY 4x50/25	m	64,00	30,00	12,71	813,44
1.7.10.	Installationsverteiler als Standschrank	St	10,00	10,00	743,10	7.431,00

(Total price at the end of the table)

"According to positions" (incl. increase and reduction):

Max Mustermann GmbH Erfurt **Mengenmehrungen und -minderungen der Aufmaße Nr. 1-14** vom 26.10.2015

Objekt: Musterbau Haus 1 Erfurt						Mehrun d Minderung aus AufmaBrechnung			
LV-Pos.	Kurztext	Einh	Menge	EP	GP	HAUPTAUFTRAG			
						aktuelle Menge	GP _{aktuel}	GP _{Mehrun g}	GP _{Minderun g}
1.1.1.N	Mont. Leuchten 1x58W m. Schutzfolie	St	310,00	3,39 €	1050,90 €	79,00	267,81 €		-783,09 €
1.1.10.	vollüberwachtes Zentralbatteriesystem	St	1,00	10519,13 €	10519,13 €	1,00	10519,13 €		
1.1.50.	Einweisung und Grundprogrammierung	psch	1,00	195,00 €	195,00 €	1,00	195,00 €		
1.2.1.N	Mont. Leuchten 2x58W m. Schutzfolie	St	180,00	3,72 €	669,60 €	66,00	245,52 €		-424,08 €
1.2.20.	Anschluß der Kabel an die vorhandene GHV bis 5x35	St	7,00	5,50 €	38,50 €	11,00	60,50 €	22,00 €	
1.3.10.	Zählerschrank DIN 43870 DIN VDE 0603	St	1,00	270,57 €	270,57 €	1,00	270,57 €		
1.5.10.	Kabelrinnen 300x60 mm mit Trennsteg	m	10,00	14,87 €	148,70 €	4,00	59,48 €		-89,22 €
1.5.70.	C-Schienen zur Montage von Steigetrassen	m	10,00	4,82 €	48,20 €	10,00	48,20 €		
1.5.90.	Kabelrinnen 300x60 mm E30 mit Trennsteg	m	30,00	18,27 €	548,10 €	56,00	1023,12 €	475,02 €	
1.5.100.	Kabelrinnen 400x60 mm E30 mit Trennsteg	m	60,00	21,06 €	1263,60 €	66,50	1400,49 €	136,89 €	
1.5.130.	Steigetrasse, 300 mm breit als E 30	m	20,00	14,69 €	293,80 €	4,00	58,76 €		-235,04 €
1.5.140.	C-Schienen zur Montage von Steigetrassen	m	40,00	4,85 €	194,00 €	50,00	242,50 €	48,50 €	
1.6.20.	Kunststoffkabel NYCWY 4x25/16	m	450,00	6,28 €	2826,00 €	592,00	3717,76 €	891,76 €	
1.6.30.	Kunststoffkabel NYCWY 4x35/16	m	100,00	8,24 €	824,00 €	55,00	453,20 €		-370,80 €
1.6.40.	Kunststoffkabel NYCWY 4x50/25	m	30,00	12,71 €	381,30 €	64,00	813,44 €	432,14 €	
1.7.10.	Installationsverteiler als Standschrank	St	10,00	743,10 €	7431,00 €	10,00	7431,00 €		
1.7.30.	Niederspannungsverteiler nach VDE 0660	St	6,00	176,72 €	1060,32 €	6,00	1060,32 €		
1.7.60.	Niederspannungsverteiler nach VDE 0660	St	1,00	260,00 €	260,00 €	1,00	260,00 €		
1.7.70.	Hauptschalter nach DIN VDE 0632 und DIN 43880	St	10,00	38,00 €	380,00 €	1,00	38,00 €		-342,00 €
1.7.80.	Hauptschalter nach DIN VDE 0632 und DIN 43880	St	5,00	15,00 €	75,00 €	15,00	225,00 €	150,00 €	
1.7.90.	Überspannungs-Ableiter TT Netz	St	10,00	107,00 €	1070,00 €	10,00	1070,00 €		
1.7.110.	Fehlerstromschutzschalter DIN 43 880 und DIN VDE 0664	St	24,00	37,00 €	888,00 €	35,00	1295,00 €	407,00 €	
1.7.120.	Fehlerstromschutzschalter DIN 43 880 und DIN VDE 0664	St	24,00	37,00 €	888,00 €	20,00	740,00 €		-148,00 €

(Total price at the end of the table)





"According to positions (accounting)":

Max Mustermann GmbH Erfurt		Rechnung der Aufmaße Nr. 1-14		vom 31.08.2012	
Objekt: Musterbau Haus 1 Erfurt					
Postion Nr.	Kurztext	Einh	Menge Aufm	Preis Einh	Preis Gesamt
1.1.1.N	Mont. Leuchten 1x58W m. Schutzfolie	St	79,00	3,39	267,81
1.1.10.	vollüberwachtes Zentralbatteriesystem	St	1,00	10.519,13	10.519,13
1.1.50.	Einweisung und Grundprogrammierung	psch	1,00	195,00	195,00
1.2.1.N	Mont. Leuchten 2x58W m. Schutzfolie	St	66,00	3,72	245,52
1.2.20.	Anschluß der Kabel an die vorhandene GHV bis 5x35	St	11,00	5,50	60,50
1.3.10.	Zählerschrank DIN 43870 DIN VDE 0603	St	1,00	270,57	270,57
1.5.10.	Kabelrinnen 300x60 mm mit Trennsteg	m	4,00	14,87	59,48
1.5.70.	C-Schienen zur Montage von Steigetrassen	m	10,00	4,82	48,20
1.5.90.	Kabelrinnen 300x60 mm E30 mit Trennsteg	m	56,00	18,27	1.023,12
1.5.100.	Kabelrinnen 400x60 mm E30 mit Trennsteg	m	66,50	21,06	1.400,49
1.5.130.	Steigetrasse, 300 mm breit als E 30	m	4,00	14,69	58,76
1.5.140.	C-Schienen zur Montage von Steigetrassen	m	50,00	4,85	242,50
1.6.20.	Kunststoffkabel NYCWY 4x25/16	m	592,00	6,28	3.717,76
1.6.30.	Kunststoffkabel NYCWY 4x35/16	m	55,00	8,24	453,20
1.6.40.	Kunststoffkabel NYCWY 4x50/25	m	64,00	12,71	813,44
1.7.10.	Installationsverteiler als Standschrank	St	10,00	743,10	7.431,00

(Total price at the end of the table)

"According to positions (quantity control)":

Max Mustermann GmbH Erfurt		Mengenkontrolle der Aufmaße Nr. 1-14		vom 31.08.2012	
Objekt: Musterbau Haus 1 Erfurt					
Postion Nr.	Kurztext	Einh	Menge Aufm	Menge LV	
1.1.1.N	Mont. Leuchten 1x58W m. Schutzfolie	St	79,00	310,00	
1.1.10.	vollüberwachtes Zentralbatteriesystem	St	1,00	1,00	
1.1.50.	Einweisung und Grundprogrammierung	psch	1,00	1,00	
1.2.1.N	Mont. Leuchten 2x58W m. Schutzfolie	St	66,00	180,00	
1.2.20.	Anschluß der Kabel an die vorhandene GHV bis 5x35	St	11,00	7,00	
1.3.10.	Zählerschrank DIN 43870 DIN VDE 0603	St	1,00	1,00	
1.5.10.	Kabelrinnen 300x60 mm mit Trennsteg	m	4,00	10,00	
1.5.70.	C-Schienen zur Montage von Steigetrassen	m	10,00	10,00	
1.5.90.	Kabelrinnen 300x60 mm E30 mit Trennsteg	m	56,00	30,00	
1.5.100.	Kabelrinnen 400x60 mm E30 mit Trennsteg	m	66,50	60,00	
1.5.130.	Steigetrasse, 300 mm breit als E 30	m	4,00	20,00	
1.5.140.	C-Schienen zur Montage von Steigetrassen	m	50,00	40,00	
1.6.20.	Kunststoffkabel NYCWY 4x25/16	m	592,00	450,00	
1.6.30.	Kunststoffkabel NYCWY 4x35/16	m	55,00	100,00	
1.6.40.	Kunststoffkabel NYCWY 4x50/25	m	64,00	30,00	
1.7.10.	Installationsverteiler als Standschrank	St	10,00	10,00	
1.7.30.	Niederspannungsverteiler nach VDE 0660	St	6,00	6,00	



"According to Positions (with single masses)":

Max Mustermann GmbH
Erfurt

Auswertung mit Einzelmassen
der Aufmaße Nr. 1-14

vom
26.10.2015

Objekt: Musterbau Haus 1
Erfurt

1.6.40.	Kunststoffkabel NYCWY 4x50/25	m
Aufm. 2	Bl. 7: 17,00 + 15,00 + 7,00 + 25,00=	64,00
	<i>Summe Aufmaß 2</i>	64,00
	Gesamtsumme	64,00
1.7.10.	Installationsverteiler als Standschrank	St
Aufm. 6	Bl. 57: 1,00 + 1,00 + 1,00 + 1,00=	4,00
	<i>Summe Aufmaß 6</i>	4,00
Aufm. 7	Bl. 62: 1,00 + 1,00 + 1,00 + 1,00=	4,00
	<i>Summe Aufmaß 7</i>	4,00
Aufm. 8	Bl. 94: 1,00 + 1,00=	2,00
	<i>Summe Aufmaß 8</i>	2,00
	Gesamtsumme	10,00
1.7.30.	Niederspannungsverteiler nach VDE 0660	St
Aufm. 7	Bl. 61: 1,00 + 1,00=	2,00
	<i>Summe Aufmaß 7</i>	2,00
Aufm. 8	Bl. 92: 1,00 + 1,00 + 1,00 + 1,00=	4,00
	<i>Summe Aufmaß 8</i>	4,00
	Gesamtsumme	6,00
1.7.60.	Niederspannungsverteiler nach VDE 0660	St
Aufm. 8	Bl. 92: 1,00=	1,00
	<i>Summe Aufmaß 8</i>	1,00
	Gesamtsumme	1,00



"According to cost categories" (cost category control):

Max Mustermann GmbH
Erfurt

Kostengruppenkontrolle
der Aufmaße Nr. 1-9

Musterbau Haus 1
Erfurt

Position/Gruppe	Kurztext	Soll lt. LV	Ist lt. Aufmaß
1		239.308,88	225.907,17
1.1		11.570,03	10.786,94
1.1.1.N	Mont. Leuchten 1x58W m. Schutzfolie	1.050,90	267,81
1.1.10.	vollüberwachtes Zentralbatteriesystem	10.519,13	10.519,13
1.2		708,10	306,02
1.2.1.N	Mont. Leuchten 2x58W m. Schutzfolie	669,60	245,52
1.2.20.	Anschluß der Kabel an die vorhandene GHV bis 5x35	38,50	60,50
1.3		270,57	270,57
1.3.10.	Zählerschrank DIN 43870 DIN VDE 0603	270,57	270,57
1.5		2.053,90	2.461,59
1.5.70.	C-Schienen zur Montage von Steigetrasse	48,20	48,20
1.5.90.	Kabelrinnen 300x60 mm E30 mit Trennsteg	548,10	1.023,12
1.5.100.	Kabelrinnen 400x60 mm E30 mit Trennsteg	1.263,60	1.147,77
1.5.140.	C-Schienen zur Montage von Steigetrasse	194,00	242,50
1.6		4.031,30	3.909,00
1.6.20.	Kunststoffkabel NYCWY 4x25/16	2.826,00	2.807,16
1.6.30.	Kunststoffkabel NYCWY 4x35/16	824,00	288,40
1.6.40.	Kunststoffkabel NYCWY 4x50/25	381,30	813,44
1.7		17.939,92	19.322,92
1.7.10.	Installationsverteiler als Standschrank	7.431,00	7.431,00
1.7.30.	Niederspannungsverteiler nach VDE 0660	1.060,32	1.060,32
1.7.60.	Niederspannungsverteiler nach VDE 0660	260,00	260,00
1.7.70.	Hauptschalter nach DIN VDE 0632 und DIN 43880	380,00	38,00
1.7.80.	Hauptschalter nach DIN VDE 0632 und DIN 43880	75,00	225,00
1.7.90.	Überspannungs-Ableiter TT Netz	1.070,00	1.070,00
1.7.110.	Fehlerstromschutzschalter DIN 43 880 und DIN VDE 0664	888,00	1.295,00

(Sum totals at the end of the table)

"According to measurements and positions" (incl. quantities and costs):

Max Mustermann GmbH
Erfurt

Gesamtstand
der Aufmaße Nr. 1-9

Musterbau Haus 1
Erfurt

Position	1.1.1.N	1.1.10.	1.2.1.N	1.2.20.	1.3.10.	1.5.70.	1.5.90.	1.5.100.	1.5.140.	1.6.20.	1.6.30.	
Kurztext	Mont. Leuchten 1x58W m. Schutzfolie	vollüberwachtes Zentralbatteriesystem	Mont. Leuchten 2x58W m. Schutzfolie	Anschluß der Kabel an die vorhandene GHV bis 5x35	Zählerschrank DIN 43870 DIN VDE 0603	C-Schienen zur Montage von Steigetrasse	Kabelrinnen 300x60 mm E30 mit Trennsteg	Kabelrinnen 400x60 mm E30 mit Trennsteg	C-Schienen zur Montage von Steigetrasse	Kunststoffkabel NYCWY 4x25/16	Kunststoffkabel NYCWY 4x35/16	
Aufmaß	St	St	St	St	St	St	m	m	m	m	m	m
1												
2				11,00		10,00	56,00	54,50	50,00	447,00	35,00	
3												
4	79,00		66,00		1,00							
5												
6		1,00										
7												
8												
9												
Summe:	79,00	1,00	66,00	11,00	1,00	10,00	56,00	54,50	50,00	447,00	35,00	
Anzahl LV:	3,38	10.519,13	3,72	5,50	270,57	4,82	18,27	21,06	4,85	6,28	8,24	
Einzelpreis LV:	267,81	10.519,13	245,52	60,50	270,57	48,20	1.023,12	1.147,77	242,50	2.807,16	288,40	
Ges. preis lt:	267,81	10.519,13	245,52	60,50	270,57	48,20	1.023,12	1.147,77	242,50	2.807,16	288,40	

(Sum totals at the end of the table)





"According to rooms and positions" (incl. quantities and costs):

Max Mustermann GmbH Erfurt		Raumweiser Gesamtstand der Aufmaße Nr. 1-9											Musterbau Haus 1 Erfurt	
Position	1.1.1.N	1.1.10.	1.1.1.N	1.2.20.	1.3.10.	1.3.70.	1.3.90.	1.3.100.	1.3.140.	1.6.20.	1.6.30.			
Kurztext	Mont. Leuchten 1x38W m. Schutzfolie	vollüberwachte s Zentralbetriebs- system	Mont. Leuchten 2x38 W m. Schutzfolie	Anschluß der Kabeln die vorhandene GHV die 3x3	Zählerschrank DIN 43870 DIN VDE 0603	C-Schienen zur Montage von Steigtrassen	Kabelrinnen 300x60 mm E30 mit Trennsteg	Kabelrinnen 400x60 mm E30 mit Trennsteg	C-Schienen zur Montage von Steigtrassen	Kunststoffkabel NYC WY 4x25/16	Kunststoffkabel NYC WY 4x35/16			
Raum	St	St	St	St	St	m	m	m	m	m	m			
2.E20														
2.E21														
2.E22									5,00	13,50				
2.E23														
2.E24						2,50								
2.E25														
2.E26									5,00	13,50				
2.E27														
2.E28														
2.U01														
2.U02														
2.U03														
2.U04														
2.U05														
2.U06					1,00									
2.U07														
2.U08		1,00												
2.U09					11,00									
2.U10										153,00	17,00			
2.U11														
2.U12														
2.U13														
2.U14														
2.U15														
2.U16														
2.U17														
Teilsomme:	79,00	1,00	66,00	11,00	1,00	10,00	0,00	0,00	40,00	213,00	17,00			
Anzahl LV:	310,00	1,00	180,00	7,00	1,00	10,00	30,00	60,00	40,00	450,00	100,00			
Einzelpreis LV:	3,39	10.519,13	3,72	5,50	27057	4,82	18,27	21,06	4,85	6,28	8,24			
Ges.preis Ist:	267,81	10.519,13	245,52	60,50	27057	48,20	0,00	0,00	194,00	1.337,64	140,08			

(Sum totals at the end of the table)

"According to rooms and positions (compact)" (incl. quantities and costs):

Max Mustermann GmbH Erfurt		Raumweise Auswertung der Aufmaße Nr. 1-4				vom 31.08.2012	
Objekt: Musterbau Haus 1 Erfurt							
Raumnr.	Position	Kurztext	Einh	Menge Aufmaß	Einzelpreis LV	Gesamtpreis Aufmaß	
2.101					SummeRaum	72,30	
1.23.10.	Steckdosen 2-fach Aufputz/ Unterputz sind zu		St	7,00	0,45	3,15	
1.23.20.	Aus-/Serien-/Wechselschalter und Taster Aufputz/		St	4,00	0,42	1,68	
1.23.30.	TAE Anschluß-/TV Anschlußdose Aufputz /Unterputz sind		St	1,00	0,47	0,47	
1.23.40.	NOT AUS Taster Aufputz / Unterputz sind zu demontieren		St	2,00	1,00	2,00	
1.23.70.	Leuchten 2x36 W		St	18,00	3,50	63,00	
1.23.140.	Blechgekapselte Verteilungen sind		St	1,00	2,00	2,00	
2.102					SummeRaum	19,66	
1.23.10.	Steckdosen 2-fach Aufputz/ Unterputz sind zu		St	3,00	0,45	1,35	
1.23.20.	Aus-/Serien-/Wechselschalter und Taster Aufputz/		St	2,00	0,42	0,84	
1.23.30.	TAE Anschluß-/TV Anschlußdose Aufputz /Unterputz sind		St	1,00	0,47	0,47	
1.23.40.	NOT AUS Taster Aufputz / Unterputz sind zu demontieren		St	1,00	1,00	1,00	
1.23.70.	Leuchten 2x36 W		St	4,00	3,50	14,00	
1.23.140.	Blechgekapselte Verteilungen sind		St	1,00	2,00	2,00	
2.103					SummeRaum	78,20	
1.23.10.	Steckdosen 2-fach Aufputz/ Unterputz sind zu		St	8,00	0,45	3,60	
1.23.20.	Aus-/Serien-/Wechselschalter und Taster Aufputz/		St	5,00	0,42	2,10	
1.23.70.	Leuchten 2x36 W		St	19,00	3,50	66,50	
1.23.120.	Notlichtsockel demontieren und fachgerecht zu		St	1,00	2,00	2,00	
1.23.130.	Kleinverteiler Aufputz/ Unterputz		St	1,00	2,00	2,00	
1.23.140.	Blechgekapselte Verteilungen sind		St	1,00	2,00	2,00	
2.104					SummeRaum	71,65	
1.23.10.	Steckdosen 2-fach Aufputz/ Unterputz sind zu		St	10,00	0,45	4,50	
1.23.20.	Aus-/Serien-/Wechselschalter und Taster Aufputz/		St	4,00	0,42	1,68	
1.23.30.	TAE Anschluß-/TV Anschlußdose Aufputz /Unterputz sind		St	1,00	0,47	0,47	
1.23.70.	Leuchten 2x36 W		St	18,00	3,50	63,00	
1.23.140.	Blechgekapselte Verteilungen sind		St	1,00	2,00	2,00	

(Sum totals at the end of the table)





"According to positions and sheets" (overview of the used positions and quantities):

Max Mustermann GmbH Erfurt Übersicht der Mengen der Aufmaße Nr. 1-9 vom 31.05.2011

Objekt:	Musterbau Haus 1 Erfurt											
Position Nr.	Kurztext	Einh	Blatt 1	Blatt 2	Blatt 3	Blatt 4	Blatt 5	Blatt 6	Blatt 7	Blatt 8	Blatt 9	
1.22.30.	Universal-Anschlußdose 2 fach	St										
1.22.50.	Netzwerk-Verteilerschrank 42 HE	St										
1.22.60.	Server-Netzwerk-Verteilerschrank 42 HE	St										
1.22.70.	19"-Patchfeld Cat. 7 für Rangierverteiler 1 HE	St										
1.22.80.	Anschluss der Datenleitung	St										
1.22.90.	LWL Anschlußsystem 19" Spielboxen	St										
1.22.100.	Referenzmessung NVP-Faktor	psch										
1.22.110.	Datenkabelmessungen und Protokollermittlung	St										
1.22.130.	Datenkabel S/STP 100 Ohm, Cat. 7	m										
1.22.140.	LWL Kabel I-D(ZN)H 1x12 G50/125	m										
1.23.10.	Steckdosen 2-fach Aufputz/ Unterputz sind zu	St	66,00	75,00	63,00							72,00
1.23.20.	Aus-/Serien-/Wechselschalter und Taster Aufputz/	St	59,00	55,00	57,00							101,00
1.23.30.	TAE Anschluß-/ TV Anschlußdose Aufputz /Unterputz sind	St	6,00	11,00	5,00							15,00
1.23.40.	NOT AUS Taster Aufputz / Unterputz sind zu demontieren	St										9,00
1.23.50.	Leuchten 2x58W	St	11,00		25,00							
1.23.60.	Leuchten 1x36 W	St	3,00									2,00
1.23.70.	Leuchten 2x36 W	St			15,00							76,00
1.23.80.	Leuchten 4x18 W	St	8,00	13,00	10,00							7,00
1.23.90.	Rasterleuchten 1x58W	St	12,00	29,00	10,00							18,00
1.23.100.	Rasterleuchten 2x58W	St			26,00							
1.23.120.	Notlichtsokkel demontieren und fachgerecht zu	St	3,00	8,00	8,00							8,00
1.23.130.	Kleinverteiler Aufputz/ Unterputz	St	2,00		2,00							4,00
1.23.140.	Blechgekapselte Verteilungen sind	St	2,00	2,00		1,00						
1.23.150.	Leitungen und Kabelträgersysteme bestehend aus:	St				2,00						
1.24.30.	Monteur	h										
1.25.10.	Anzeichnen der Mauerschlitze, Durchbrüche	psch									1,00	
1.25.20.	Herstellen von Durchbrüchen	St										
1.25.30.	Herstellen von Durchbrüchen	St		6,00							6,00	
1.25.40.	Herstellen von Durchbrüchen	St									6,00	
1.26.10.	Vorhandene RWA Anlage bestehend aus	St						2,00				
1.28.10.	Baustrom Anschlußverteilerschrank VDE 0100/ 0612,	St						3,00				
1.28.20.	Baustrom Anschlußverteilerschrank VDE 0100/ 0612,	St						2,00				

(Sum totals at the end of the table)

"According to positions, rooms and sheets":

Max Mustermann GmbH Erfurt Raumweise Übersicht der Mengen der Aufmaße Nr. 1-3

Objekt:	Musterbau Haus 1 Erfurt										
Position Nr.	Kurztext	Raum	Aufmaß 1 Blatt 1	Aufmaß 1 Blatt 2	Aufmaß 1 Blatt 3	Aufmaß 1 Blatt 4	Aufmaß 1 Blatt 5	Aufmaß 1 Blatt 6	Aufmaß 2 Blatt 7	Aufmaß 2 Blatt 8	
1.23.10.	Steckdosen 2-fach Aufputz/ Unterputz sind zu	2.307			5,00						
1.23.10.	Steckdosen 2-fach Aufputz/ Unterputz sind zu	2.309			6,00						
1.23.10.	Steckdosen 2-fach Aufputz/ Unterputz sind zu	2.310		10,00							
1.23.10.	Steckdosen 2-fach Aufputz/ Unterputz sind zu	2.311		3,00							
1.23.10.	Steckdosen 2-fach Aufputz/ Unterputz sind zu	2.312		6,00							
1.23.10.	Steckdosen 2-fach Aufputz/ Unterputz sind zu	2.313		5,00							
1.23.10.	Steckdosen 2-fach Aufputz/ Unterputz sind zu	2.314		9,00							
1.23.10.	Steckdosen 2-fach Aufputz/ Unterputz sind zu	2.315			3,00						
1.23.10.	Steckdosen 2-fach Aufputz/ Unterputz sind zu	2.317			3,00						
1.23.10.	Steckdosen 2-fach Aufputz/ Unterputz sind zu	2.318			4,00						
1.23.10.	Steckdosen 2-fach Aufputz/ Unterputz sind zu	2.320			2,00						
1.23.10.	Steckdosen 2-fach Aufputz/ Unterputz sind zu	2.321			2,00						
1.23.10.	Steckdosen 2-fach Aufputz/ Unterputz sind zu	2.322			6,00						
1.23.10.	Steckdosen 2-fach Aufputz/ Unterputz sind zu	2.323		3,00							
1.23.10.	Steckdosen 2-fach Aufputz/ Unterputz sind zu	2.E01									
1.23.10.	Steckdosen 2-fach Aufputz/ Unterputz sind zu	2.E02									
1.23.10.	Steckdosen 2-fach Aufputz/ Unterputz sind zu	2.E03									
1.23.10.	Steckdosen 2-fach Aufputz/ Unterputz sind zu	2.E04									
1.23.10.	Steckdosen 2-fach Aufputz/ Unterputz sind zu	2.E05									
1.23.10.	Steckdosen 2-fach Aufputz/ Unterputz sind zu	2.E06									

(Sum totals at the end of each row)



"According to the use of the positions" (position proof for overview):

Max Mustermann GmbH
Erfurt

Positionsnachweis
der Aufmaße Nr. 1-9

Musterbau Haus 1
Erfurt

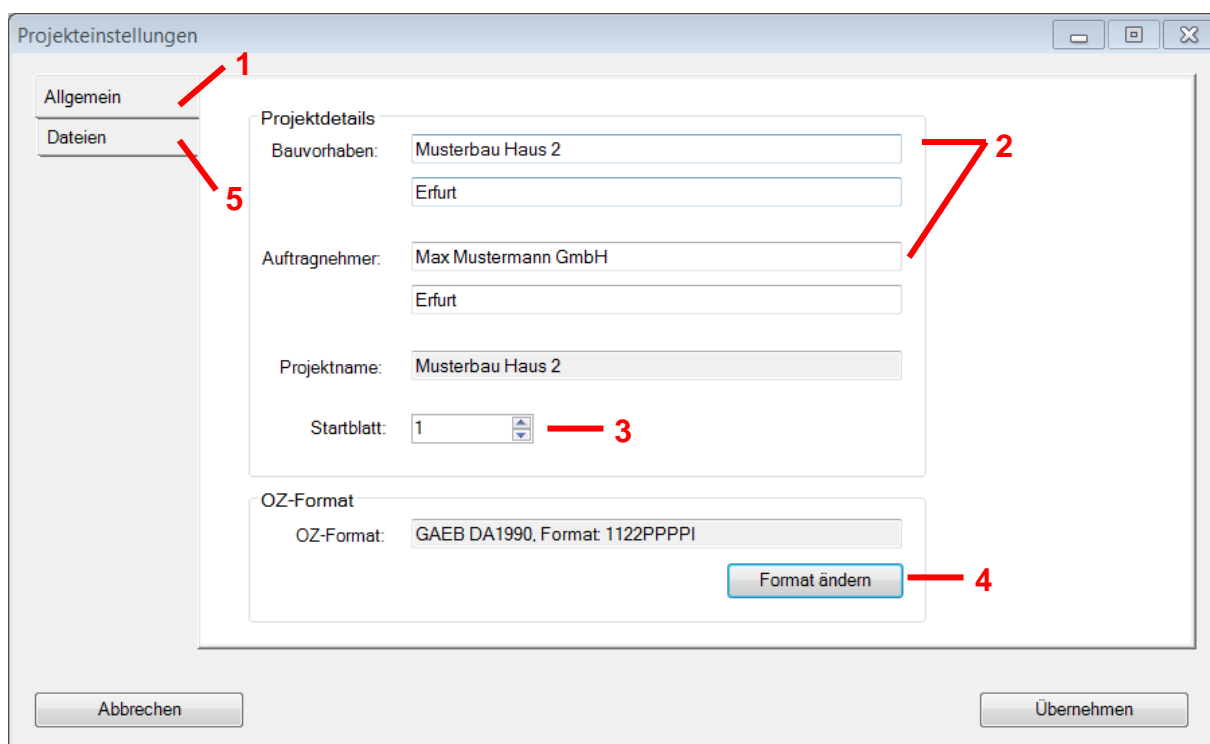
Position	Kurztext	Vorkommen der Position in Aufmaß/Blatt									
1.1.1.N	Mont. Leuchten 1x58W m. Schutzfolie	4/30									
1.1.10.	vollüberwachtes Zentralbatteriesystem	6/54									
1.2.1.N	Mont. Leuchten 2x58W m. Schutzfolie	4/30									
1.2.20.	Anschluß der Kabel an die vorhandene GHV bis 5x35	2/7									
1.3.10.	Zählerschrank DIN 43870 DIN VDE 0603	4/20									
1.5.70.	C-Schienen zur Montage von Steigtrassen	2/7									
1.5.90.	Kabelrinnen 300x60 mm E30 mit Trennsteg	2/7									
1.5.100.	Kabelrinnen 400x60 mm E30 mit Trennsteg	2/7									
1.5.140.	C-Schienen zur Montage von Steigtrassen	2/7									
1.6.20.	Kunststoffkabel NYCWY 4x25/16	2/7									
1.6.30.	Kunststoffkabel NYCWY 4x35/16	2/7									
1.6.40.	Kunststoffkabel NYCWY 4x50/25	2/7									
1.7.10.	Installationsverteiler als Standschrank	6/57	7/66	8/98							
1.7.30.	Niederspannungsverteiler nach VDE 0660	7/65	8/96								
1.7.60.	Niederspannungsverteiler nach VDE 0660	8/96									
1.7.70.	Hauptschalter nach DIN VDE 0632 und DIN 43880	8/98									
1.7.80.	Hauptschalter nach DIN VDE 0632 und DIN 43880	6/57	7/65	7/66	8/96						
1.7.90.	Überspannungs-Ableiter TT Netz	6/57	7/66	8/98							
1.7.110.	Fehlerstromschutzschalter DIN 43 880 und DIN VDE 0664	6/57	7/65	7/66	8/96	8/98					
1.7.120.	Fehlerstromschutzschalter DIN 43 880 und DIN VDE 0664	6/57	7/66	8/98							
1.7.130.	Leitungsschutzschalter DIN 43 880 und DIN VDE 0641,	6/57	7/65	7/66	8/96	8/98					
1.7.140.	Leistung wie zuletzt in vollem Wortlaut	6/61	7/65	8/96	8/98						
1.7.160.	Hilfsschalter 6A 230V~	6/57	7/67	8/99							
1.7.170.	D-Sicherungs-Lasttrennschalter DIN VDE 0638,	6/57	7/65	7/66	8/96	8/98					
1.7.180.	D-Einbausicherungssockel DIN VDE 0636 Teil 1	6/57	7/66	8/98							
1.7.210.	Geräuscharmes 4poliges Wechselstromschütz	8/96	8/98								
1.7.230.	Einbausteckdose DIN VDE 0620	6/59	7/66	8/99							
1.8.10.	Kunststoff-Mantelleitung NYM-J 3x1,5	3/15									
1.8.20.	Kunststoff-Mantelleitung NYM-J 5x1,5	3/15									
1.8.30.	Kunststoff-Mantelleitung NYM-J 3x2,5	3/15									
1.8.110.	Kunststoff-Mantelleitung NYM-J 3x1,5	3/15									



9. Changing project and program settings

9.1. Project settings

In the group "Project" in the EPIC menu, you will find the button "Settings". Here, the project details are displayed in the tab "General" (1). Here, you can make changes to the building project and contractor (2) as well as the starting sheet number (3). The changes will be transferred to all measurement files of the project.



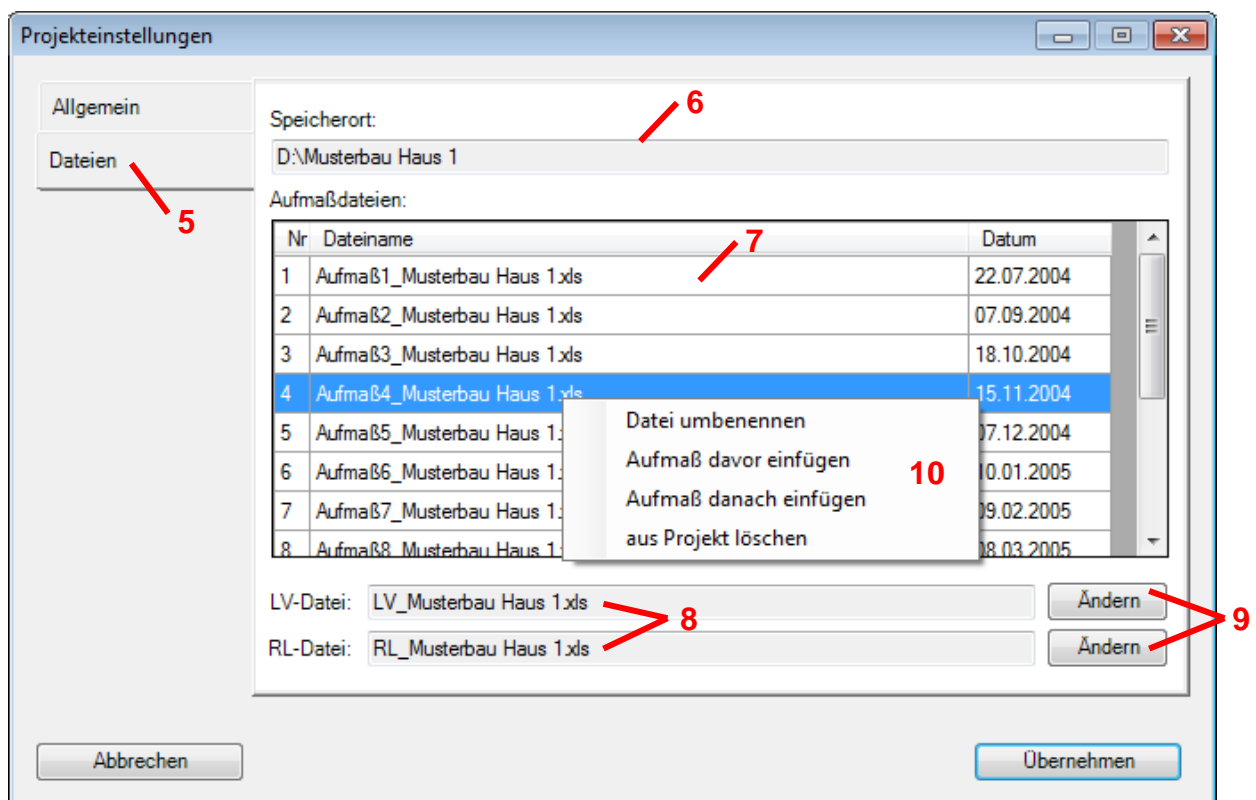
The OZ format, which you have either selected when creating the project or which you imported with the BOQ, can also be changed by selecting "Change format" (4). For details on how to import the OZ, please refer to section 4.1.



The "Settings" window under "Files" (5) displays the location of the saved project (6), the measurement files assigned to the project (7) as well as the BOQ and RL files (8). If necessary, you can integrate other BOQ and RL files into the project by clicking on "Change" (9). Here, you can also rename a measurement file by marking and right-clicking it, add measurement files before or after existing measurements, or even delete measurements from the project (10).

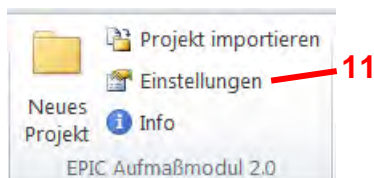
To delete a measurement file, first delete the file in the "Project Settings" window by selecting the function "Delete from project" (10). The measurement will then be removed from the project and the measurement numbers and sheet numbers of the following measurements will be updated. However, the file names of the measurements remain unchanged. The measurement file removed from the project remains in the file system and can be deleted via Window Explorer when it is no longer needed

Important: Never delete a measurement file in Windows Explorer without prior removal from the project! Only perform the renaming in the "Project Settings" and never in any other programs, like e.g. Windows Explorer. If measurement files, BOQ files or room list files of a project are changed outside of the "Project Settings", they can no longer be linked to the project!

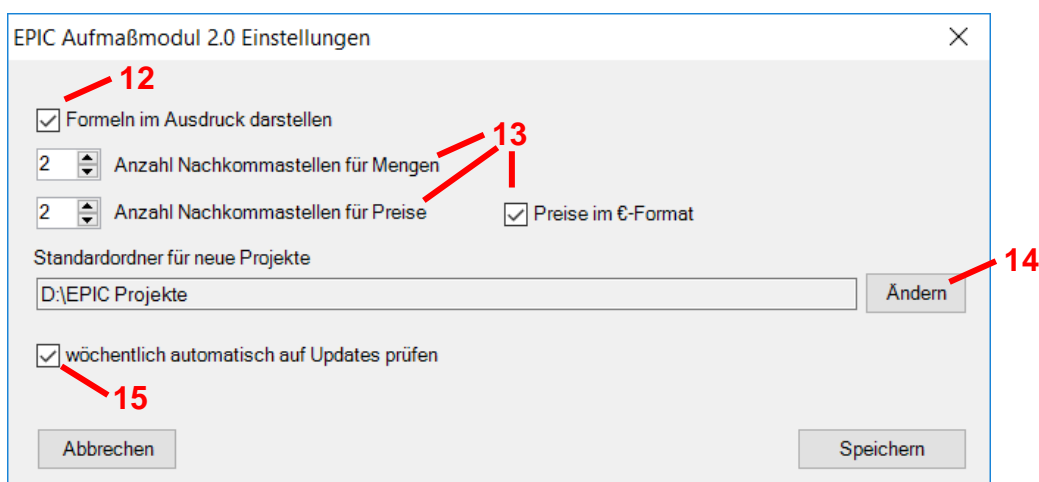




9.2. Program settings



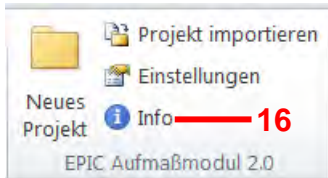
By clicking on "Settings" (11) in the group "EPIC Measurement Module 2.0" of the EPIC menu, a window will open which allows you to select different settings for the measurement program. These settings will then be applied to all projects.



Here, you can also select whether Excel formulas entered into the quantity range of the measurement should appear in the print out, or whether only the result of the formula should be displayed (12). In addition, you can indicate how many decimal places for quantities and prices you wish to see displayed in the measurements and evaluations (13). Furthermore, prices can alternatively be displayed in euro format. The standard folder in which new projects are created can be changed (14) and you can specify whether you wish the program to search for updates automatically on a weekly basis (15). You may want to activate this option in order to stay informed about updates. Thereby no personal information will be transferred to the EPIC server.



9.3. Info



The button "Info" (16) provides you with information on the latest installed version of the measurement program and offers you the option of checking for available updates (17).

In case the measurement program is not yet activated, you will be informed on how long the program will remain in test mode. After activating with a license key, your license data will appear again in this place.





10. General information

10.1. Notes on the use of the measurement module

- Do not waive the sheet protection of the measurement sheets
- Please do **not** add new rows or columns (if needed, create a new sheet instead)
- Please do not change the sheet titles or their sequence
- Only write into designated **white** areas
- You may modify or adjust column width and the row height
- Do not delete or modify the project file *.amxml, and do not rename the files in Windows Explorer. Instead, please use the functions for files in the "Project Settings".

10.2. Troubleshooting

Should you determine any errors or problems when using the EPIC Measurement Module, please send an email to epic-support@online.de providing the following information:

- Windows version used
- Excel version used
- EPIC Measurement Module version used (see here: "EPIC" → "Info")
- Detailed description of the problem including, if possible, the exact wording of the error message displayed
- If possible, please attach the project file in which the error occurred as a zip file

We will do our best to locate and eliminate the error as fast as possible and get back you.

We also welcome your feedback for improvements.

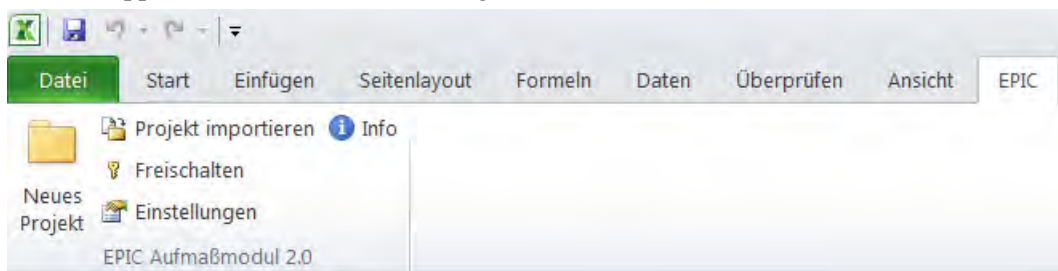


11. Appendix: Structure of the EPIC menu in Excel 2003

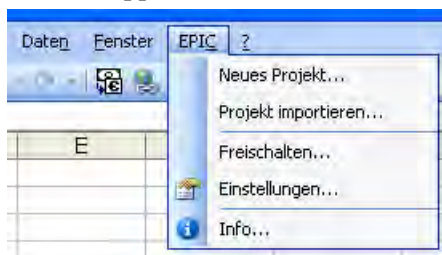
11.1. Group "EPIC Measurement Module 2.0" (Excel 2007 and higher) and/or "EPIC" (Excel 2003)

In Excel 2003, the group "EPIC Measurement Module 2.0" is labelled "EPIC" due to lack of space. The button "Activate" will disappear once you have successfully entered the license key.

- Appearance in Excel 2007 or higher:



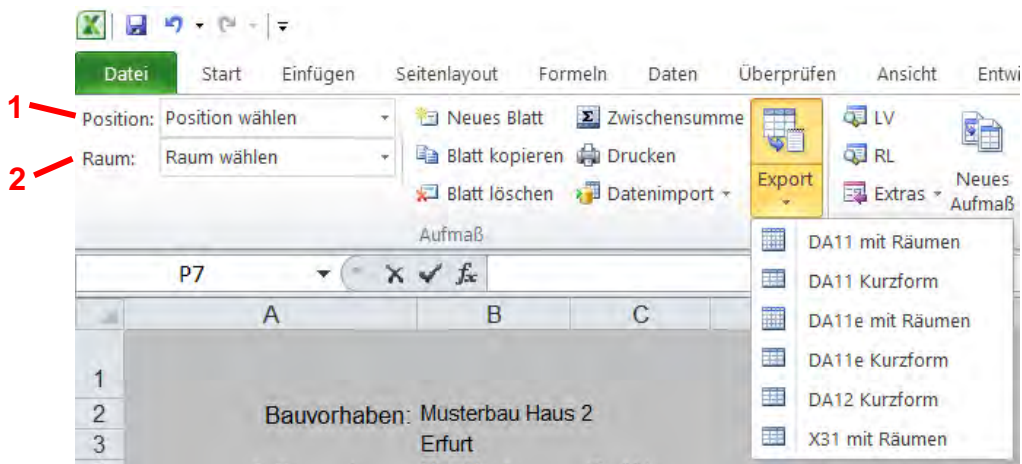
- Appearance in Excel 2003:



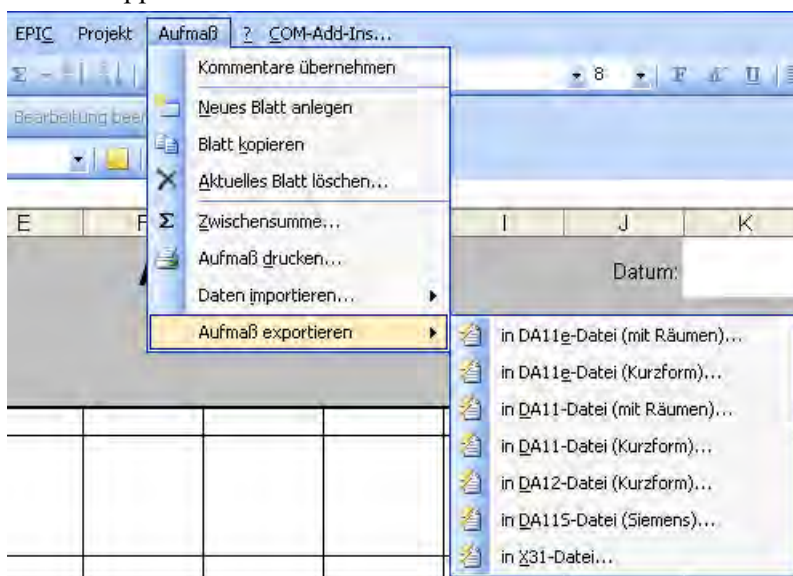


11.2. Group "Measurement"

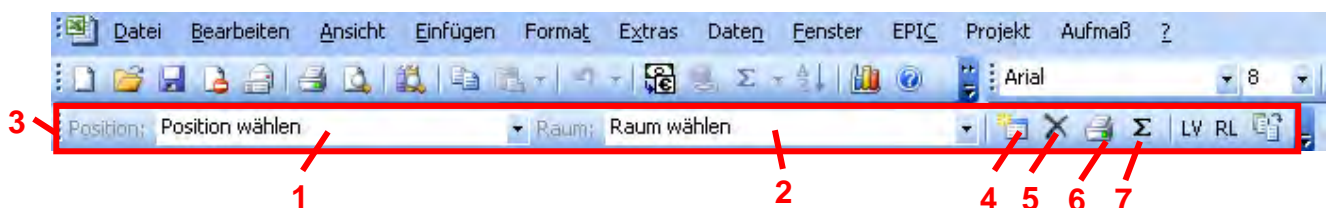
- Appearance in Excel 2007 or higher:



- Appearance in Excel 2003:



In Excel 2003, you will find the dropdown fields for positions (1) and rooms (2) in the toolbar (3).

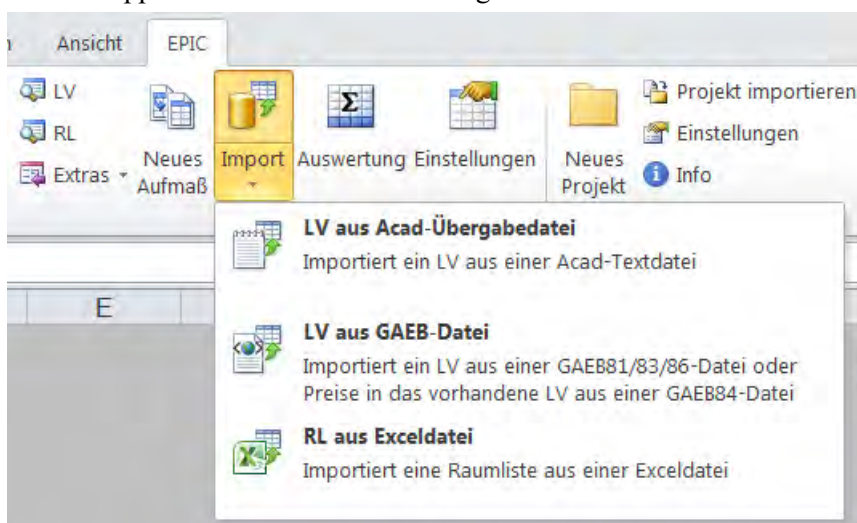




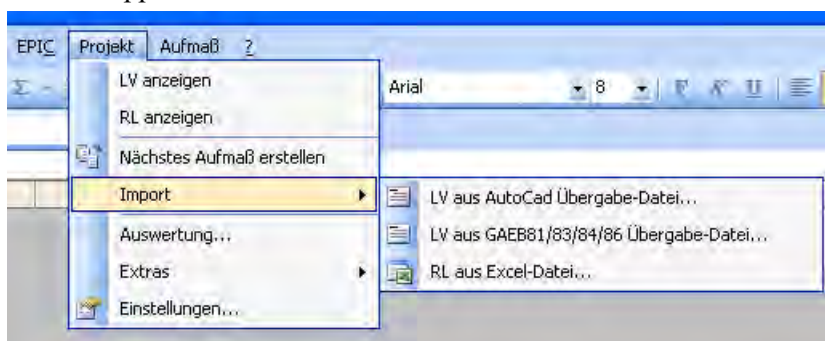
Aside from dropdown fields for positions and rooms, the Excel 2003 toolbar also contains buttons for the most frequently used functions of the group "Measurement". These are: "Create new sheet" (4), "Delete current sheet" (5), "Print measurement" (6) and "Subtotal" (7).

11.3. Group "Project"

- Appearance in Excel 2007 or higher:



- Appearance in Excel 2003:



Additionally, the toolbar contains buttons for the navigation to the bill of quantities (BOQ) (8) and the room list (RL) (9) as well as for the creation of the next measurement (10).

