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A INTRODUCTION

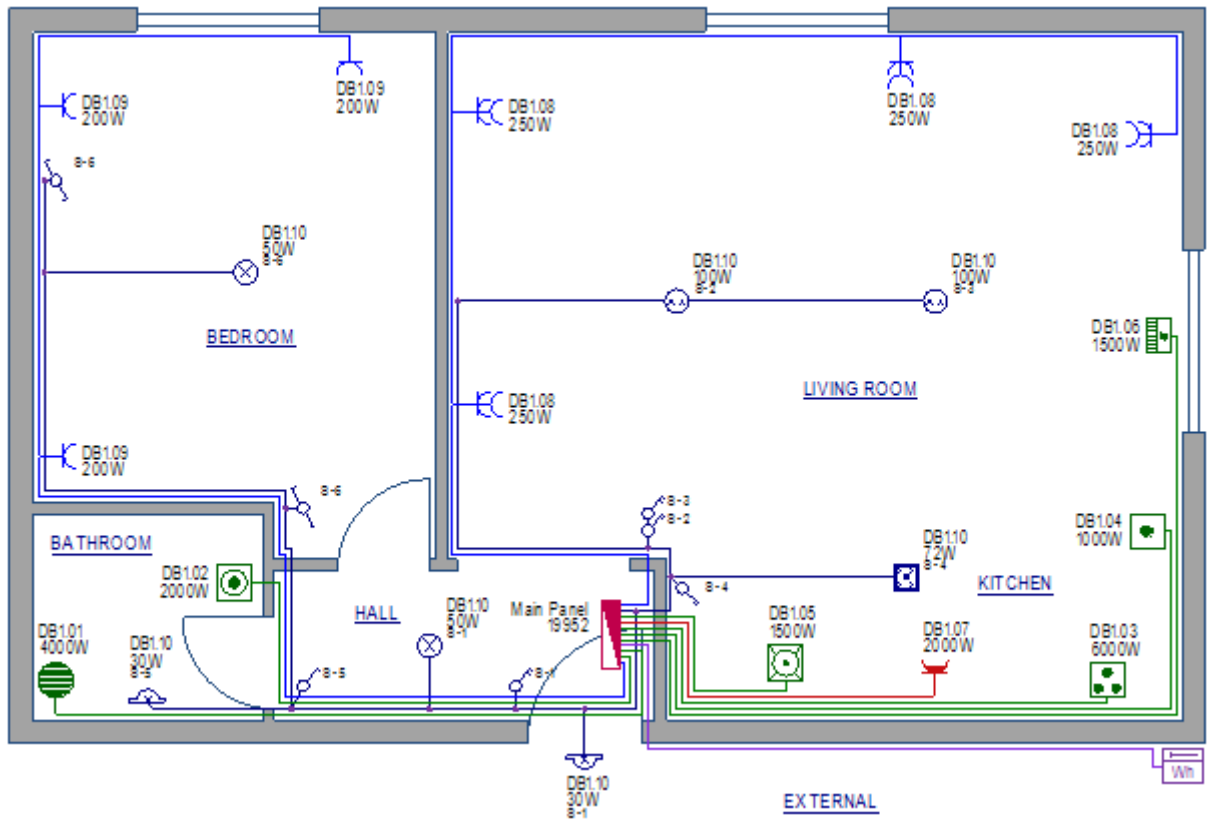
This tutorial will help you to learn most of the functionalities of **SEE Electrical Installations** and its additional module for creating a "Single – Line" diagrams called "*Distribution Diagrams*". You will learn how to create building plans, electrical installations and how to generate diagrams, based on the installation drawings.

The tutorial is divided into several chapters, and it is recommended to follow them one after another for better understanding the whole concept of the software.

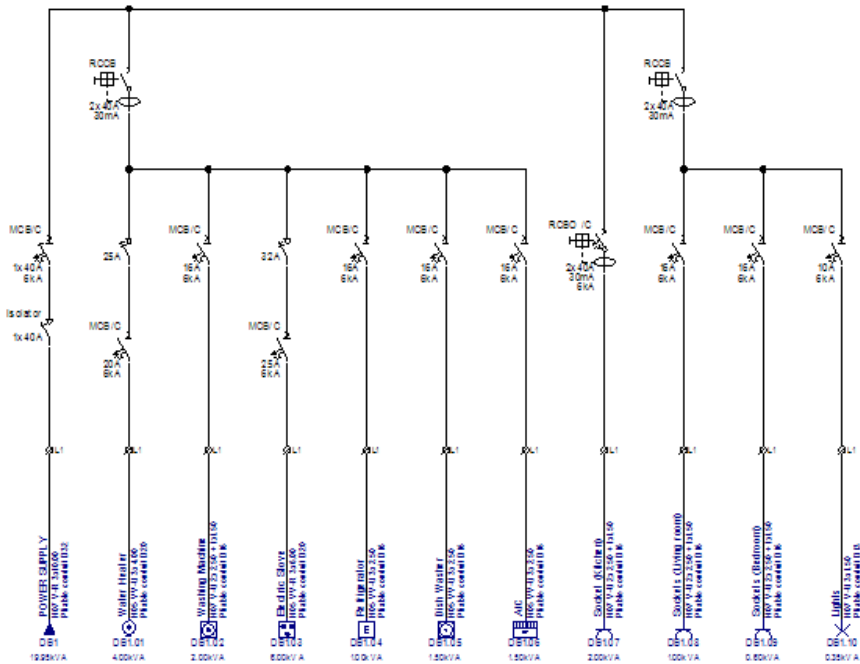
Additional information about the commands and functionalities of the software can be found in the Help documentation, which is available after pressing the F1 key.

The final result of the tutorial will be a floor plan with all the necessary electrical installations and the distribution diagram of the main panel with several fuse circuits in it.

The final floor plan:



The distribution diagram of the main panel:

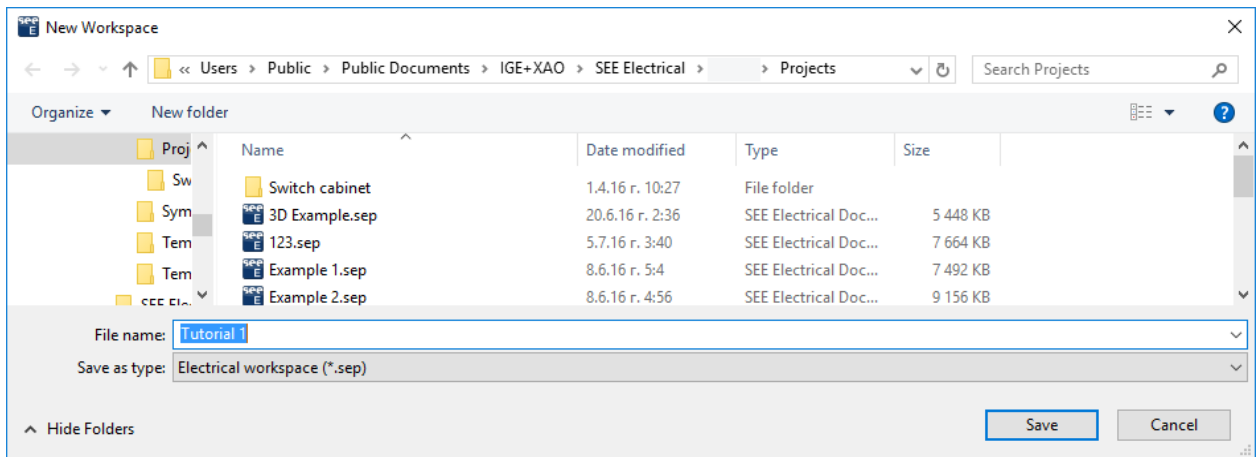


B FLOOR PLAN DESIGN

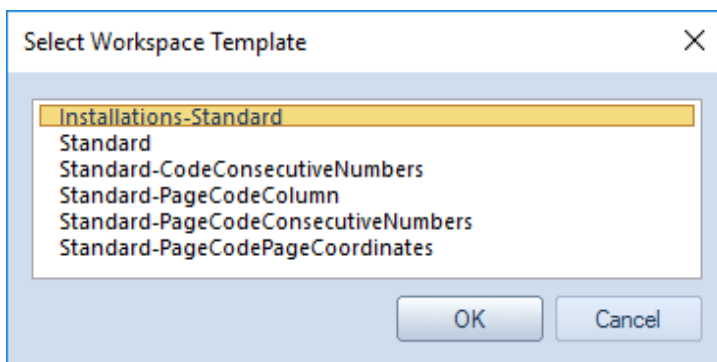
B.1. STARTING THE PROJECT

A project or workspace in SEE Electrical Installations is one file which contains installation drawings, distribution diagrams, graphical lists, database and the cover sheet. It is recommended every new project to have a different project file. We will need a new project for this tutorial, and to create one follow these steps:

- Start SEE Electrical Installations
- Click **File ► New**
The **New Workspace** window is displayed.
- Type a name for the project – "Tutorial 1"



- Click **Save**.
The **Select Workspace Template** is displayed.
- Chose "Installations-Standard" for a workspace template.

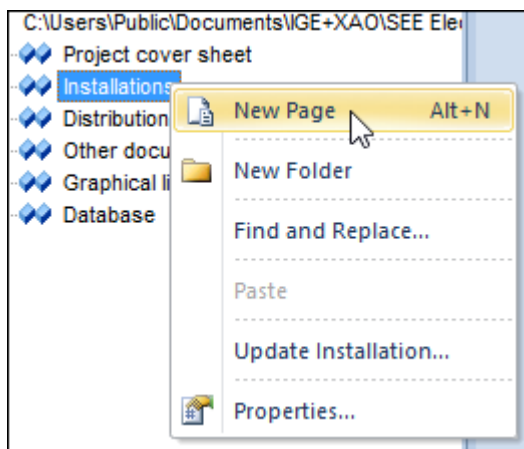


- Click **OK**.
The **"Tutorial 1.sep"** file is saved in the **Projects** folder.
The **Projects** folder location is displayed in the first row of the **Workspace Explorer**.

B.2. CREATING THE FIRST PAGE

All the building drawings are stored in the Installations folder of the project. Every drawing is one page which preferably contains one floor plan or one room.
To create a page:

- Right-click on **Installations** folder.
- Click **New Page**



The **Page information** window is displayed.

- Click **OK** to confirm the page attributes.
See the help documentation for more information about the page attributes.

Note:

When creating a new page, SEE Electrical may ask you to select a page template for the Installation drawings.

To select a default page template:

1. Right-click on **Installations** folder and click **Properties**.
 2. From the Page template drop-down list select "**Installations, A3 Scale 50**".
 3. Click **OK**.
-

B.3. BUILDING PLAN

We will create a proper floor plan which will be used later, for the electrical installations. You can also use a DWG file created in another application by using the import functionalities in *SEE Electrical*. See more in the help documentation.

B.3.1. EXTERNAL WALLS

Before starting to create walls you will have to choose an appropriate layer.

- Go to **Draw** category.
- Click the small arrow in the **Layer** command from the **Styles** pane.

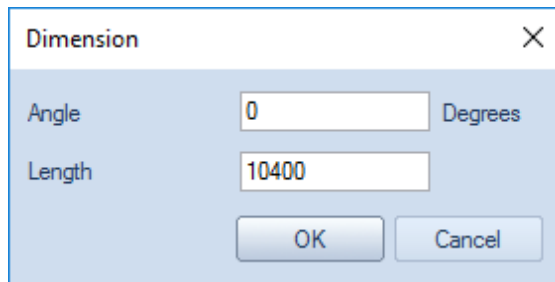


The **Layer Manager** is displayed.

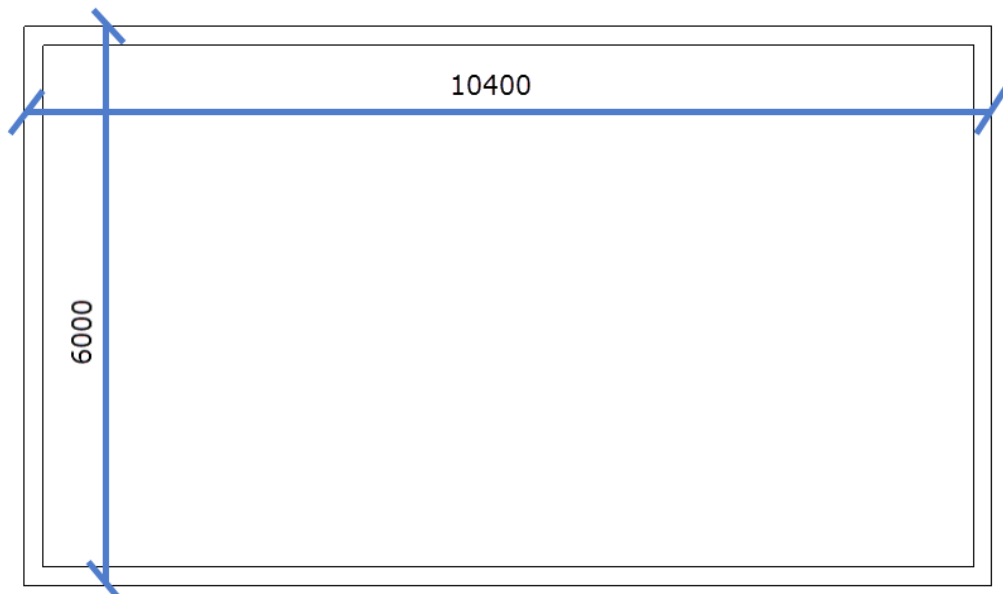
- Scroll down and double-click on layer number "10" – Building. The window closes and the active layer is set to "10".

To create the external walls:

- Click **Create** command from the **Installation** category **Walls** pane. The wall dimension window is displayed.
- Type 200 in the **Width** field and click **OK**. All dimensions in *SEE Electrical Installations* are in mm.
- Start a wall from the upper left corner of the page by clicking once and move the cursor to the right.
- Press the SHIFT key once to activate the orthogonal movement of the cursor. This will help you to draw vertical and horizontal walls.
- Press the SPACE key. The wall length dimension window is displayed.
- Type 10400 for length and make sure 0 is the value in the **"Angle"** field.



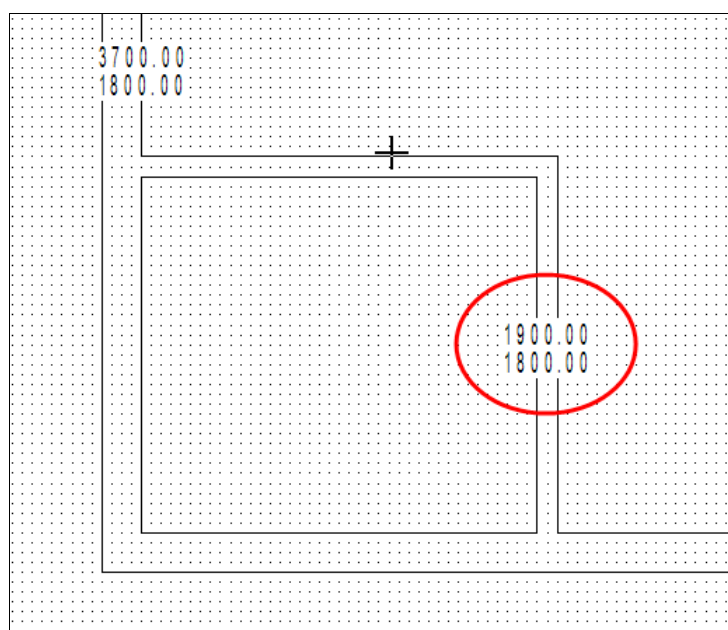
- Continue going down and make another wall with length 6000.
- Add two more walls to finish the rectangular shaped room.



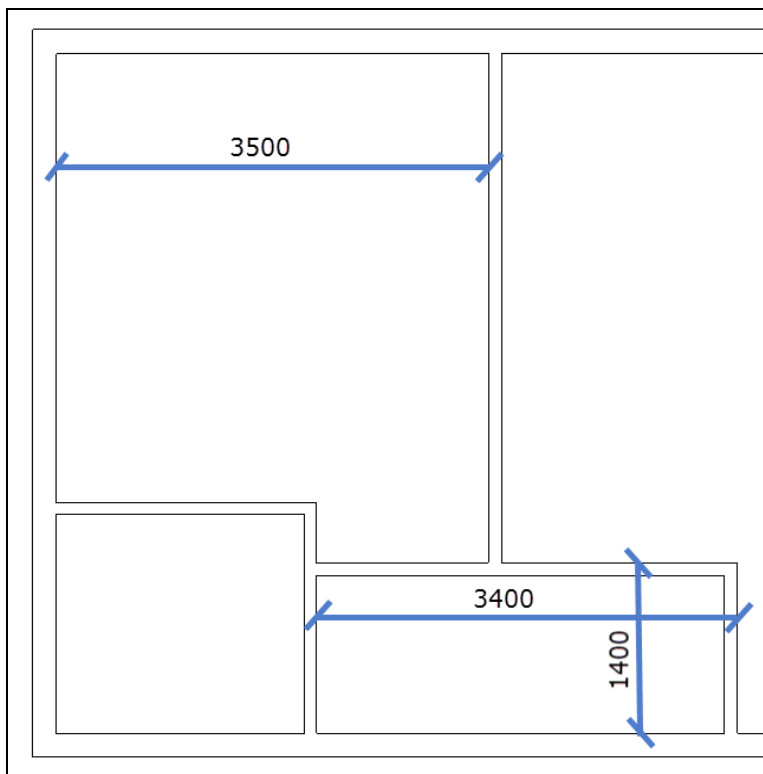
B.3.2. INTERNAL WALLS

To create the inner walls:

- Click **Create** command from the **Installation** category **Walls** pane.
The wall dimension window is displayed.
- Type **100** for wall width and click **OK**.
You will draw a small room at the lower left corner of the floor plan with dimensions 2100 x 1900.
- Click on the external wall near the lower left corner.
- Move the cursor to the right and click when the dimension shows 2100.
- Go down to the horizontal wall and click again to finish the creation of walls.
Now one of the walls (horizontal one) has the correct length, but not the vertical one.
To change the length of already inserted walls:
- Execute **Move** command located in the **Walls** pane.
- Click the horizontal wall and you will see the different offset distances of the neighboring walls.
- Move up or down until the vertical wall dimension reach 1900/1800 and click to confirm the new dimensions (Use the Grid steps to navigate easier).



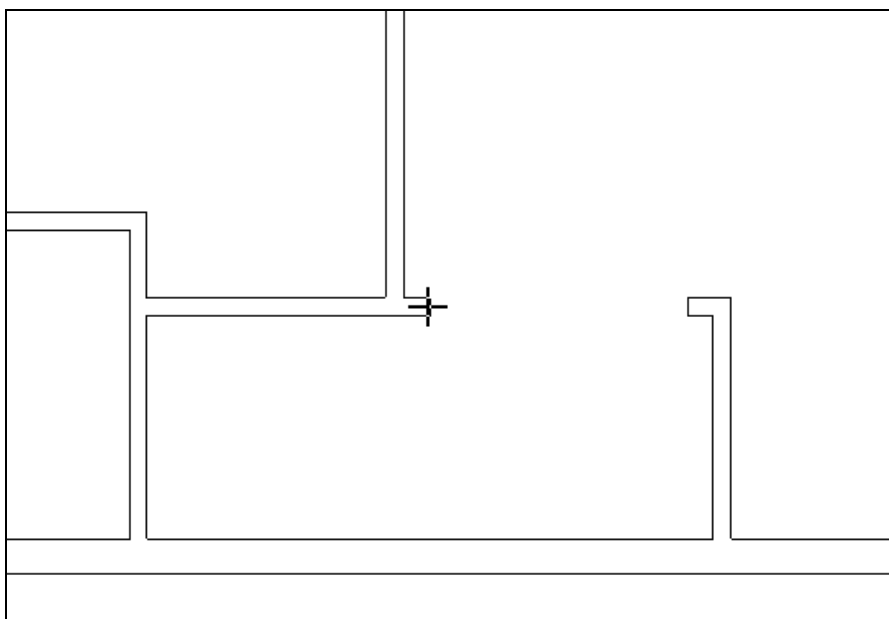
Continue and create three more inner walls. Use the same technique (free draw and then **Move** command) to achieve this result:



B.3.3. INSERT OPENING

Change the working layer to "11" – Openings (**Draw** category/**Styles** pane/**Field** command).

- Go to **Installation** category/ **Opening** pane.
- Execute **Create** command.
The openings **Dimension** window is displayed.
- Type **1500** for width and click **OK**.
- Insert the opening like it is shown in the picture below and click to confirm the position:

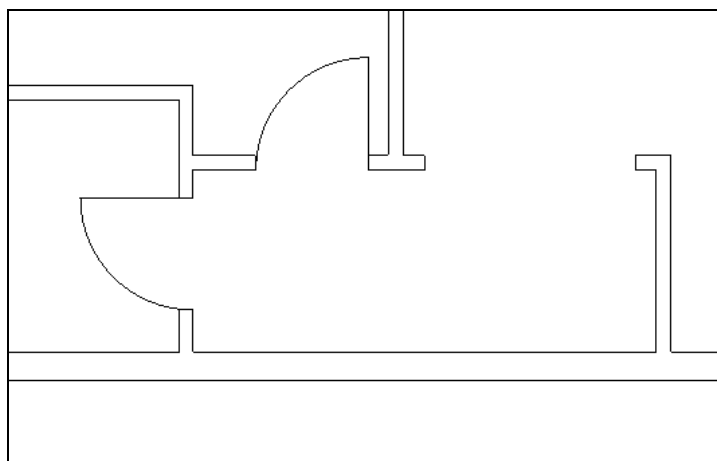


- Right-click to stop the command.

B.3.4. INSERT DOORS

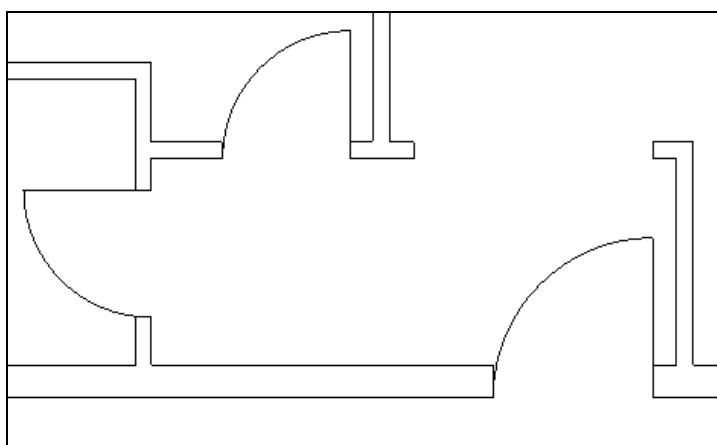
We will add three doors to the floor plan.

- Click **Create** command from the **Doors** pane.
The doors **Dimension** window is displayed.
- Type 800 for width and click **OK**.
- Place two doors on the inner wall like the picture below:
To rotate the doors through 90 degrees steps press the SPACE button.



- Right-click to stop the command.

Repeat the command, but this time create a door with 1000mm width. Place it on the external wall like the picture below:



B.3.5. INSERT WINDOWS

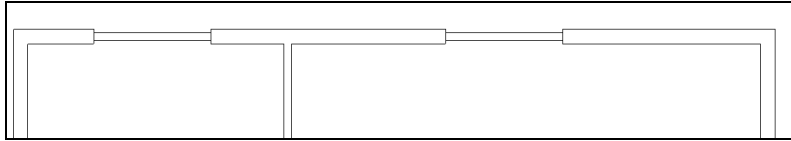
To insert windows:

- Click **Create** from the **Window** pane.
The windows **Dimension** window is displayed.
- Type **1600** and click **OK**.

Tutorial


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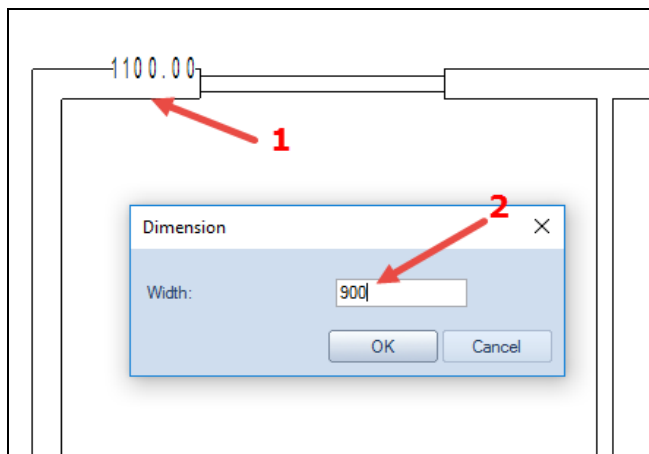
- Place two windows on the upper horizontal wall, one in each room.



- Right-click to stop the command.

To position the windows in more precise position, do the following:

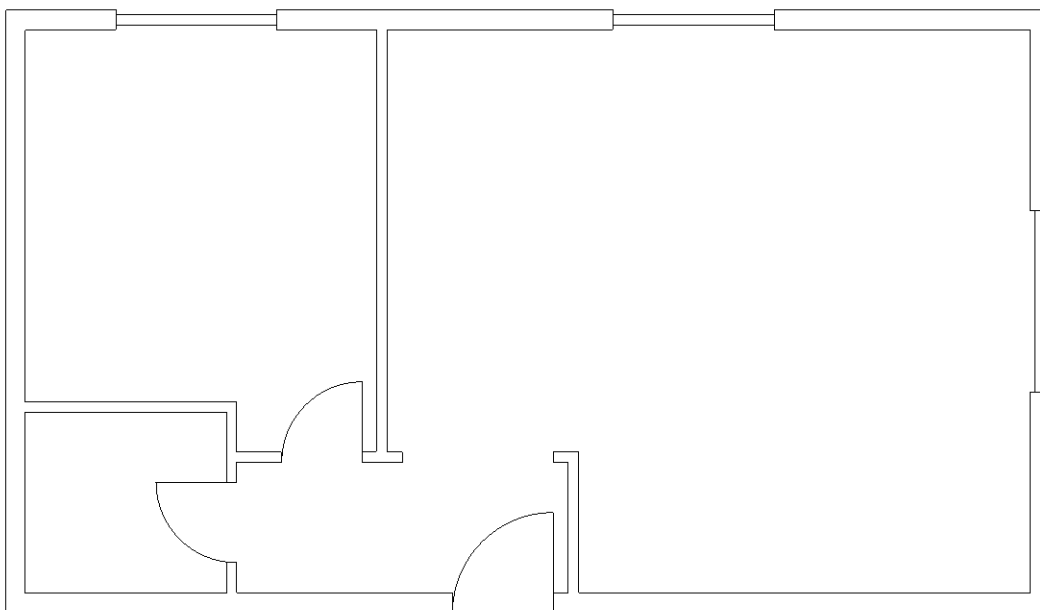
- Click  **Location** command from the **Window** pane.
- Click on the left neighbouring wall of the first window.
- Type **900** and click **OK**.



- Right-click to stop the command.

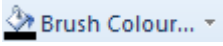
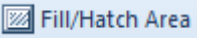
Do the same for the second window, but this time select the right neighbouring wall and type **2550**.

Insert third window on the right wall with width **1800** and offset from the upper wall **1800**.




B.3.6. HATCH

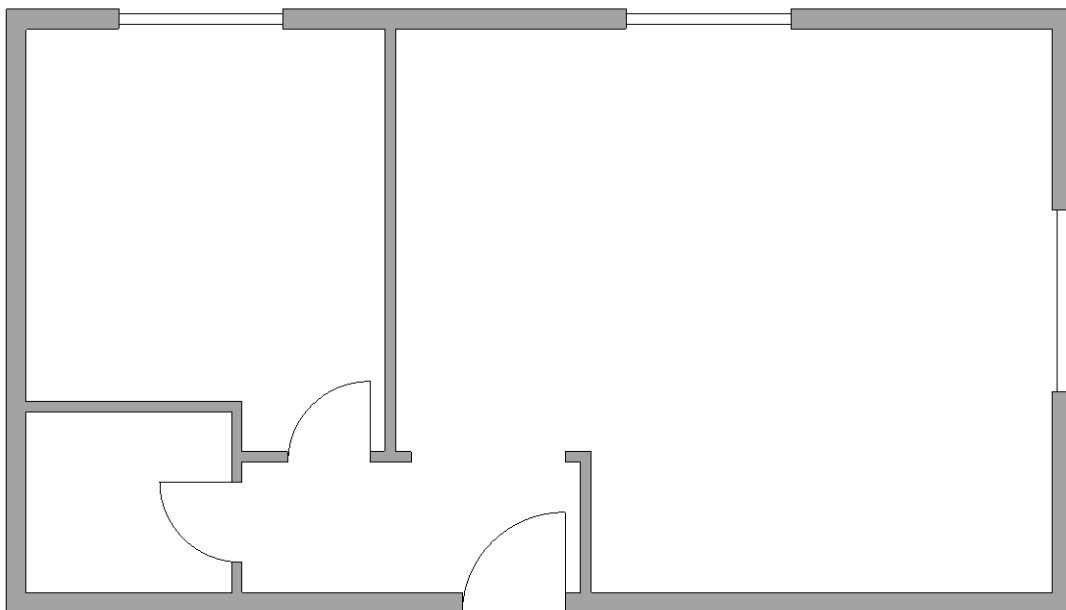
To differentiate the building objects from the electrical ones easier, we will add hatch to the walls.

- Go to **Draw** category.
- Click the small arrow on  **Brush Colour...** command from **Styles** pane and select grey colour.
- Click on  **Fill/Hatch Area** command from **Elements** pane
- Click in the **INNER** space of every wall of the plan.
- **Undo** if you make a mistake.
- Right-click to stop the command.

Important:

Save the project from **File** ► **Save** or use the  icon on the **Quick Access** toolbar.

The final result:



C PLACING SYMBOLS

After completing the building plan, we will add electrical components to the different rooms. The building plan, the electrical components and the cables are all parts of the installation drawings and after finishing them, we can make several calculations, which include cable length, power consumption, etc. The installation drawing has one "Main" panel and every consumer or subpanel is connected to it.

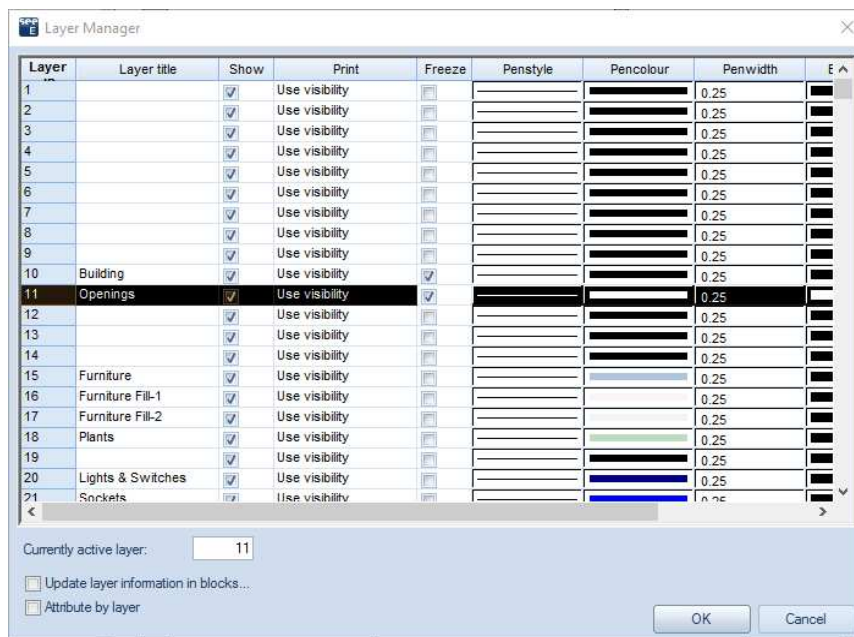
Before inserting any of the electrical components do the following :

- Click on the small arrow on the Layer command.



The **Layer Manager** window is displayed.

- Navigate to "10" and "11" layers and tick the "Freeze" check box on both of them. This way, the building plan will remain visible, but it will not interfere with the work on electrical installations.
- Double click on layer "1" to activate it.

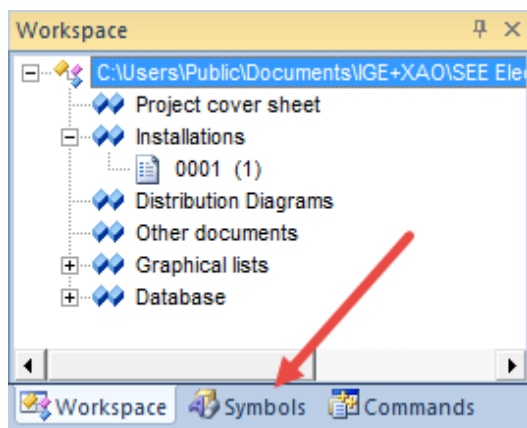


C.1. POWER METER AND PANEL

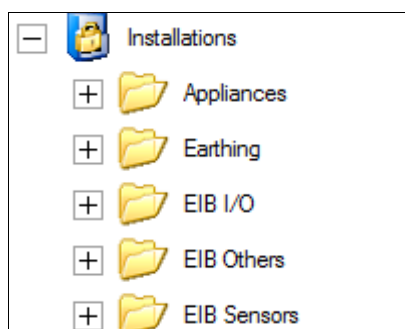
Every symbol which we will use can be found in the *SEE Electrical* symbol library, which comes with the installation files. The folder we will browse is called "Installations". You can find a great variety of specific electrical symbols in its subfolders.

To reach all the available symbol libraries:

- Click on the **Symbols** tab located in the lower area of the **Workspace Explorer**.



- The list represents the available symbol libraries. To search faster you can use the "**Find**" field, located in the upper area of the **Symbols** browser.
- Expand the "Installations" library.

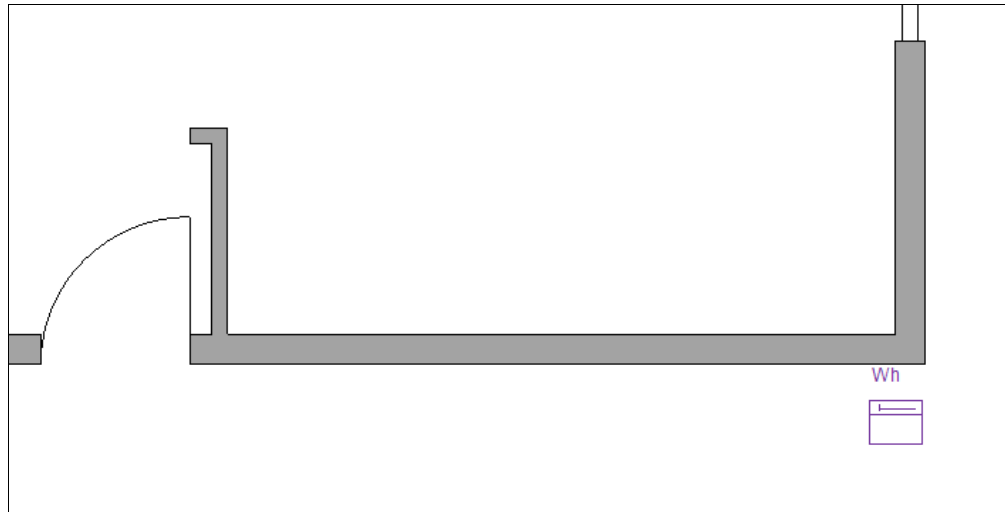


All the consumers, including the panels, needs electricity which comes from some sort of power supply.

To insert the power supply:

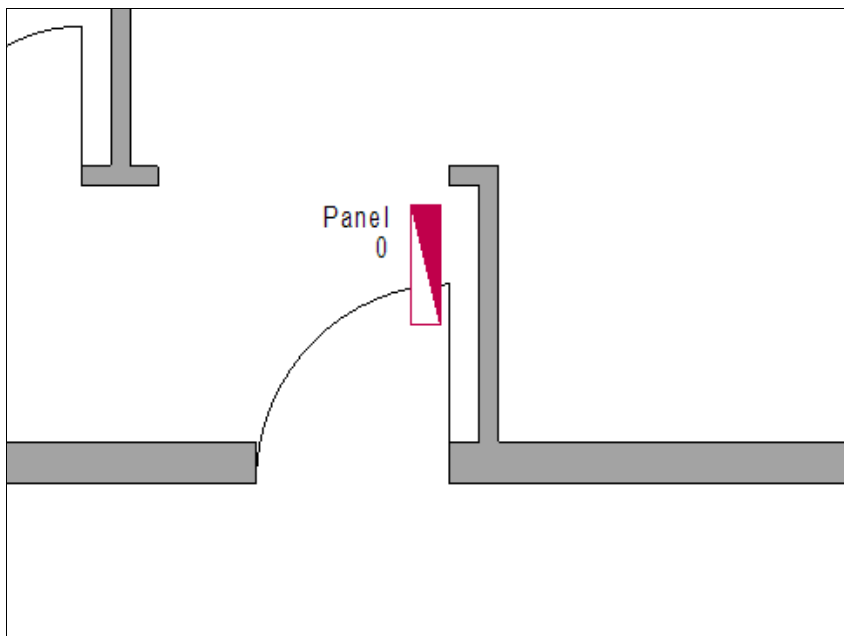
- Make sure the active layer is "1" (**Draw** category/**Styles** pane).
- Expand "Installations" symbol library and navigate to "Meters & Generators" folder.
- Expand the folder and click once on the "WHmeter (general)" symbol.
- Deactivate the **Auto Rotate** status (**Installations** category/**Auto Rotate** pane).
- Move the cursor near the lower right area of the floor plan, outside from the walls.
- Insert the symbol once, by clicking with the left mouse button.

- Right click to stop the insertion process.



Next step is to insert the panel.

- Activate **Auto Rotate**.
- Expand the **Panels** folder in the Installations symbol library.
- Click on the "**Panel 1**" symbol.
- Move the cursor the drawing and place the panel right next to the main door (1000mm width).
Make sure to leave enough space between the panel and the wall.

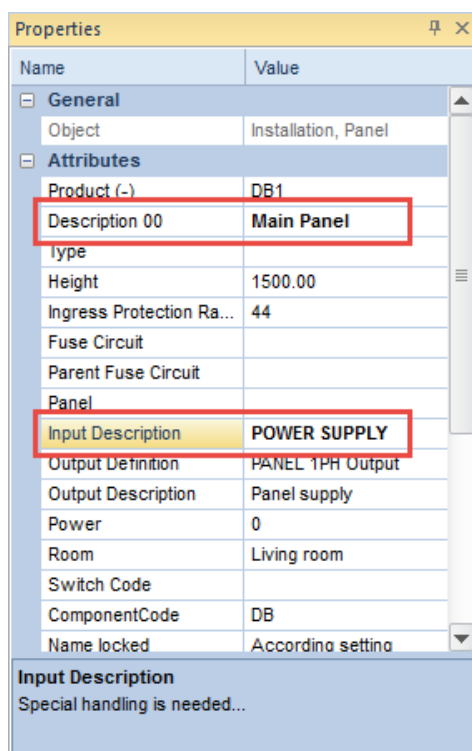


You can move the symbols by dragging, or can copy them with the standard Copy/Paste functionality.

Change panel properties.

- Click once on the panel.
The panel attributes are shown in the **Properties** window, which by default stays on the right side of the workspace.

- Type "Main Panel" in the "**Description 00**" field.
- Type "POWER SUPPLY" in the "**Input Description**" field.




These values will be automatically transferred into Distribution Diagrams.

C.2. LIGHTS AND SWITCHES

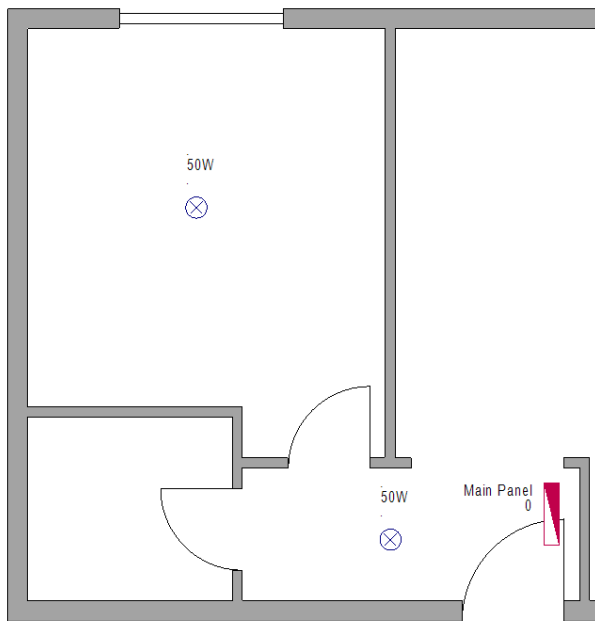
The lights which are available in *SEE Electrical Installations* can be found in their own folder called "Lights". There is another folder called "Lights (BS)", which stands for "British Standard". We are going to use the first folder.



C.2.1. LIGHTS

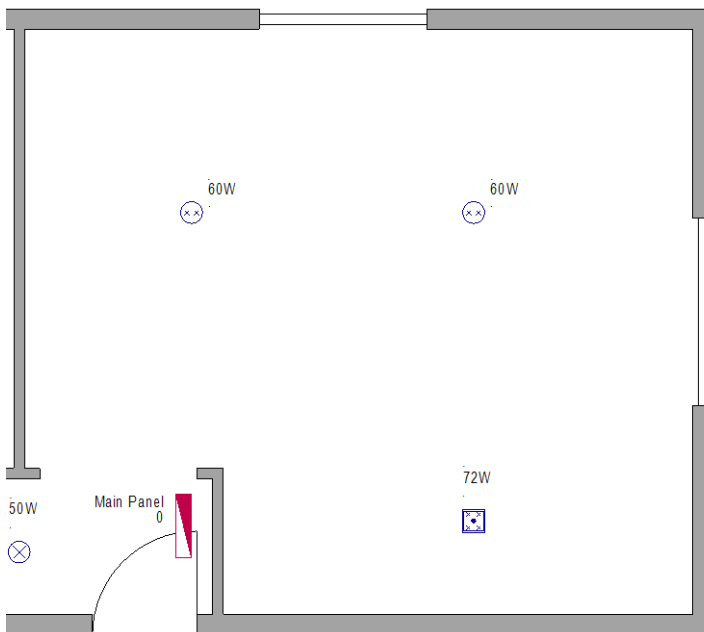
The first type of light we will insert is called "Ceiling light" -  Ceiling Light .
Insert it twice like the picture below (disable **Auto Rotate** first):

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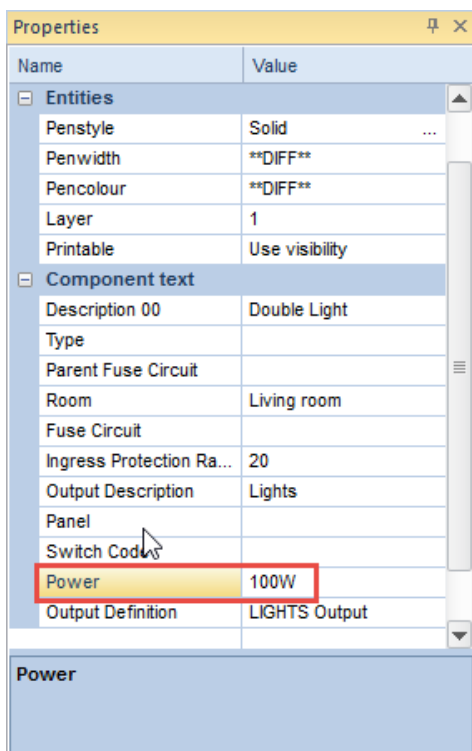



The next lights symbols are called "Ceiling Light (double)"  and "Fluorescent (square)" . Insert them in the biggest room of the building plan, as shown below:



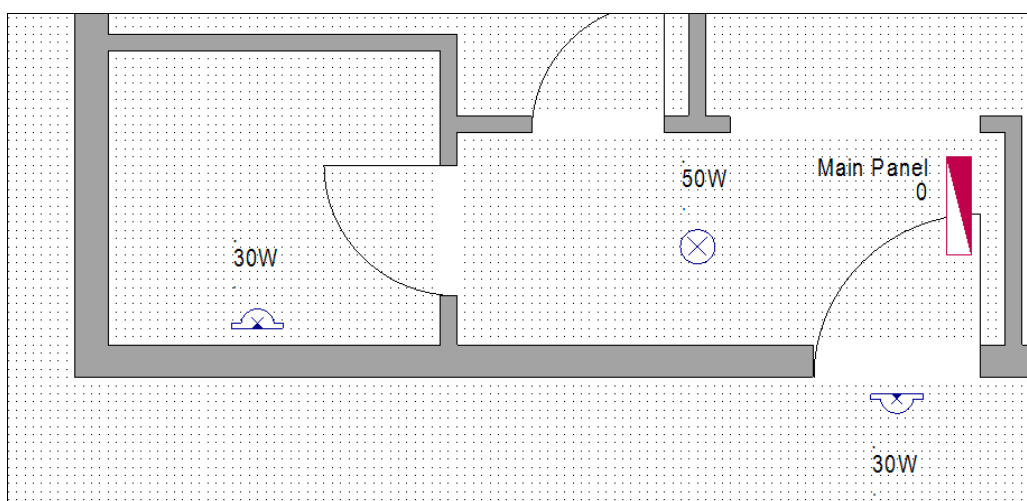
You can change the power consumption of every symbol (consumer symbols). We will change the power of two lights:

- Select both of the "Ceiling Light (double)" symbols
- Go to **Properties** window.
- Change their "**Power**" attribute to **100W**.



The last symbol light is  Wall Light (waterproof-circular) and one will be placed in the smallest room (the bathroom) the other will be placed right in front of the front door (outside).

- Activate **Auto Rotate**.
- Click on the "**Wall Light (waterproof-circular)**" symbol.
The symbol is attached to the cursor now.
- Move the light near the external wall in the lower area of the plan.
The light will adjust its orientation according to the wall.
- Click once to insert it as shown below:



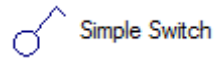
- Right-click to stop the command.

C.2.2. SWITCHES

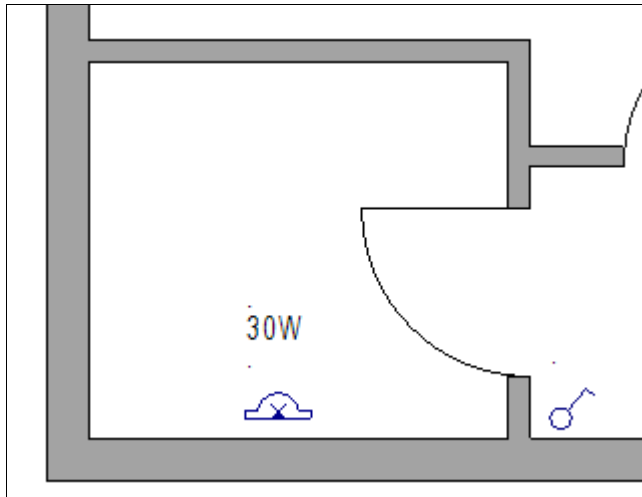
Every light needs a switch. In the "Draw Cables" chapter we will create a cable connection between them.

The switches we will use are located in the "Switches" folder.

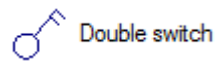
The first switch symbol we will use is



and we will put one near the bath room door.

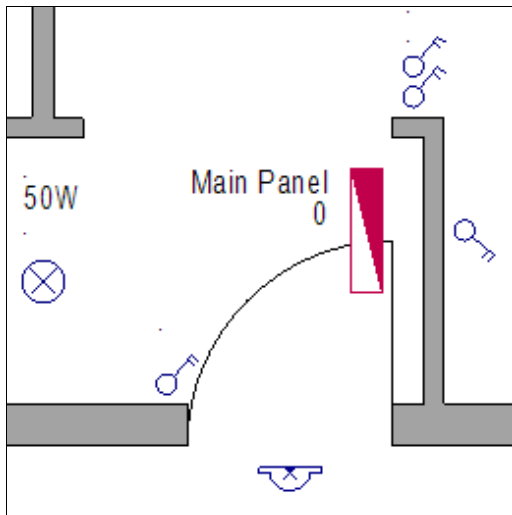



Second type of switches we will insert is

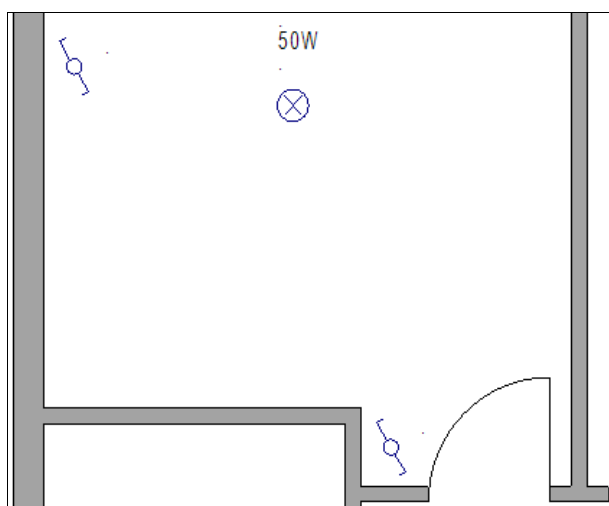


. Insert them four times as shown

below:




The third type is a  Two way switch. Insert it two times as shown:

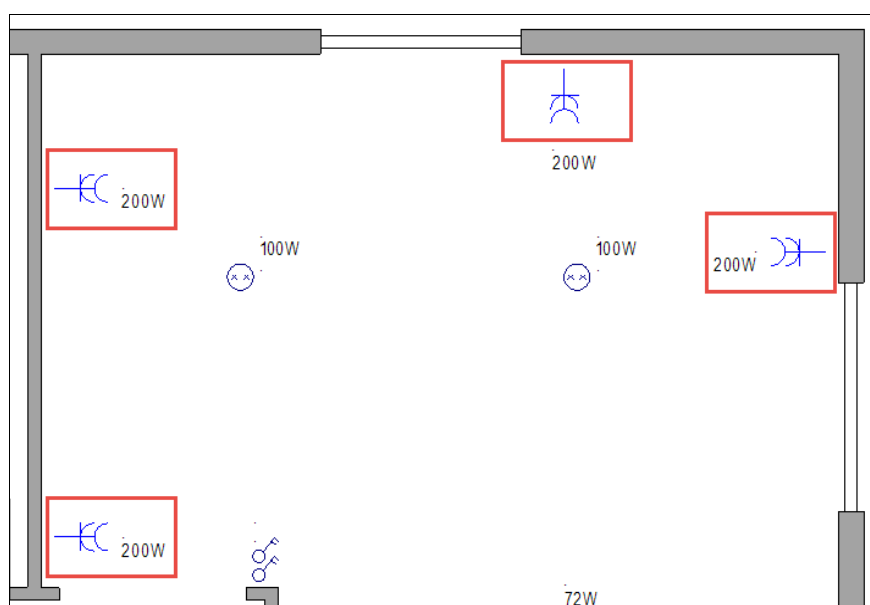


C.3. SOCKETS

The next type of symbols are the sockets. They are various types and can be found in "Sockets" symbol folder. The sockets do not need switches, so they are going to be connected to the panel directly. They must have defined power consumption.

The first type of socket symbol is  Double socket

- Click on the symbol from the "Sockets" folder.
The symbol is attached to the cursor.
- Place it four times in the biggest room as shown below:





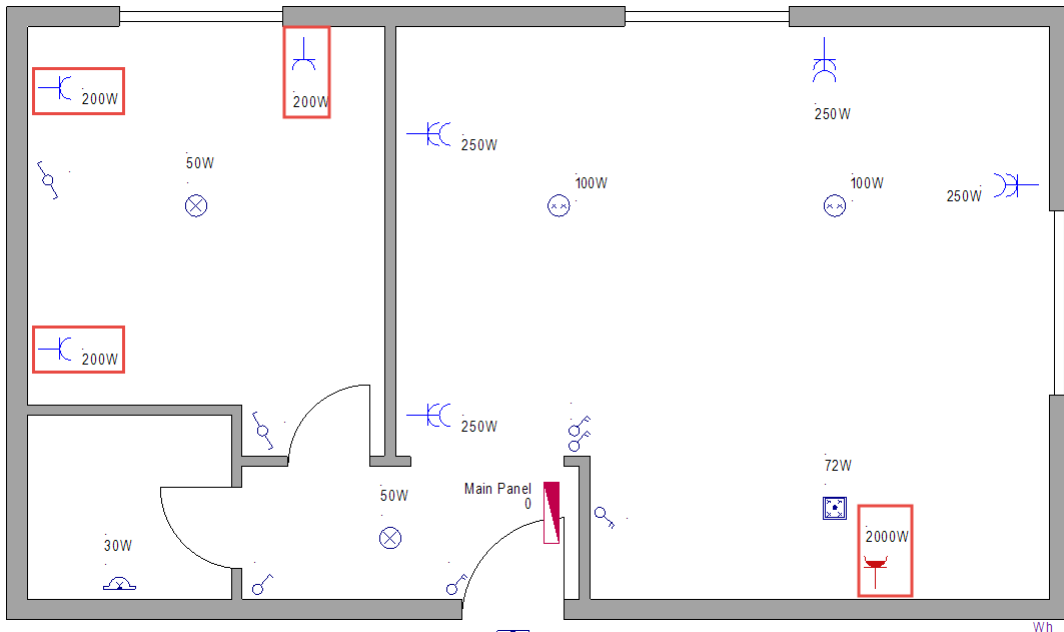
To simulate working consumers connected to these switches do the following:

- Select the four switches.
- Go to **Properties** window.
- Type **250W** in the **"Power"** field.

Tutorial

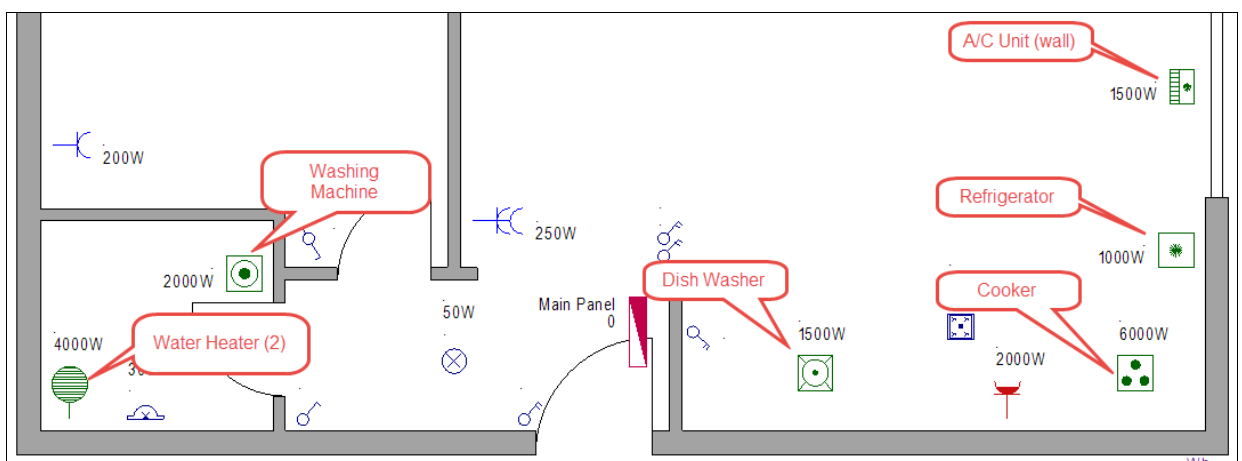
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Insert also three  Simple Socket in the smaller room, and one  Power Socket (waterproof) for more powerful consumers (like oven, for example). The **"Power"** of the simple sockets is 200W and for the power socket 2000W. See the picture below:



C.4. APPLIANCES

We will add several consumers, which are going to be connected directly to the power source – the Main panel. Their symbols are located in the folder called "Appliances". Their power is predefined, but can be changed from the **Properties** window. Add the following consumers – A/C Unit (wall); Cooker; Dish Washer; Refrigerator; Washing Machine and Water Heater. Insert them like the picture shown below:



Hint:

If you don't like the size of the symbols, use the / or * key (located near your Num Lock) to shrink or enlarge them. Bear in mind that the size of the texts changes, too.

C.5. ASSIGNING ROOMS TO SYMBOLS

Every component must be assigned to an appropriate room. This will help you to better organize your components in the database.

To assign components to a particular room:

- Go to **Defaults** pane.
- Click the small arrow in the right end of the **Room** command.

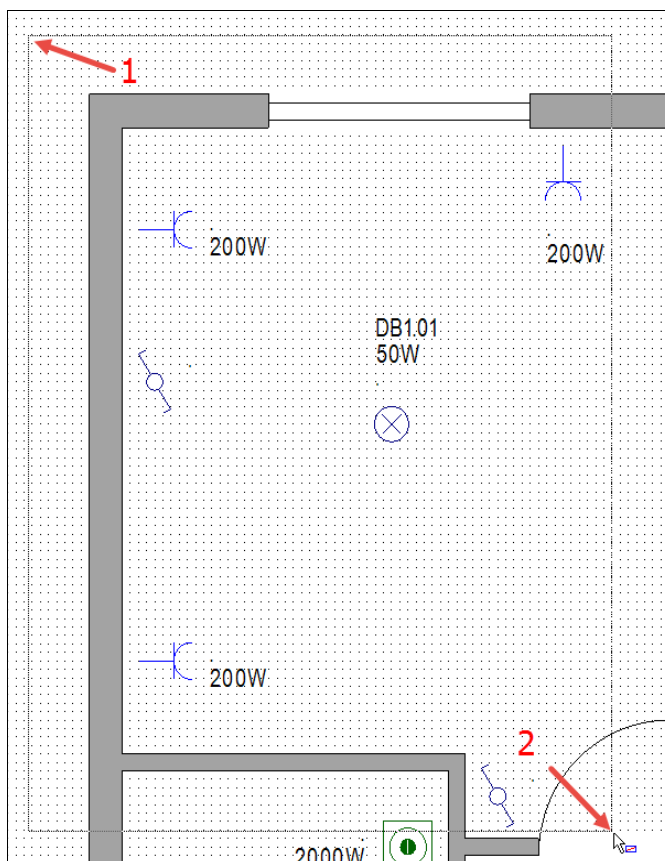


The room list window is displayed.

In this list you can change the names of the rooms or create new ones.

- Select "Bedroom" and click **OK**.
The default room now is set to this value.
- Select every component from the smaller room in the upper left area of the plan.
If you have followed the steps in the beginning of this chapter the building objects are not selectable and do not interfere with the selection.

1. Click and hold the left mouse button.
2. Move the cursor under the double switch, so the whole switch is in the selection window.




- Click on the **Room** command, which now has "Bedroom" as default value. Every selected component will receive "Bedroom" for the **"Room"** attribute/**Properties** window.

Tutorial

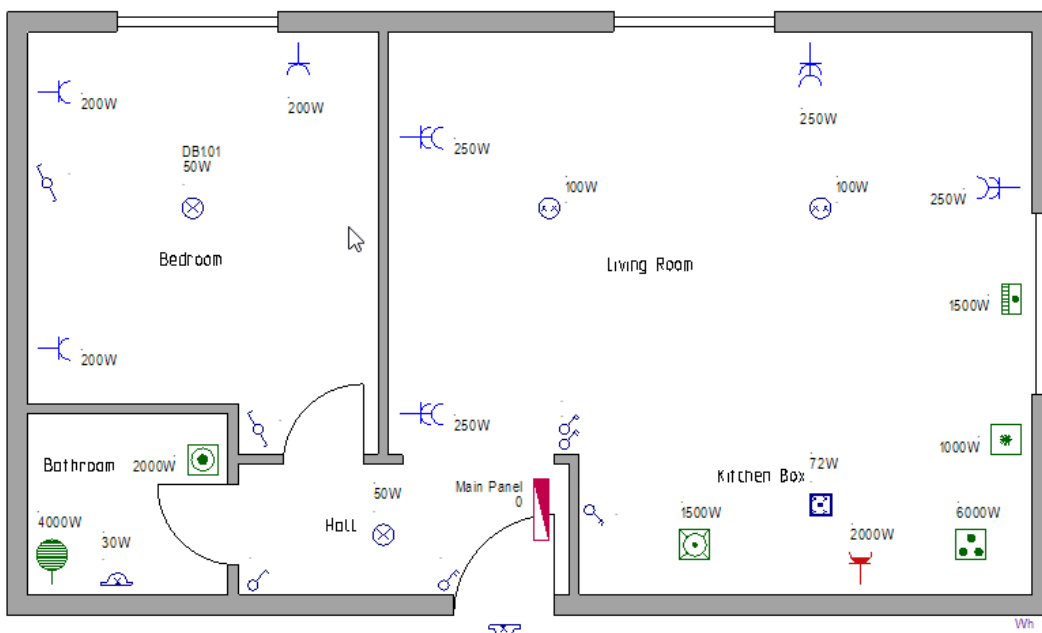
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Do the same assigning for the "Bathroom", "Kitchen" and the "Hall" symbols. The symbols which are already positioned in the living room do not need to be assigned, because the default setting of this field was "Living room".

Adding room names:

- Click **Create new text**  command, located in the **Quick Access** toolbar.
- Type "Bedroom".
- To place the text, click in the center of the smaller room on the left.

Do the same for the other four areas by typing "Bathroom", "Hall", "Living Room" and "Kitchen Box".



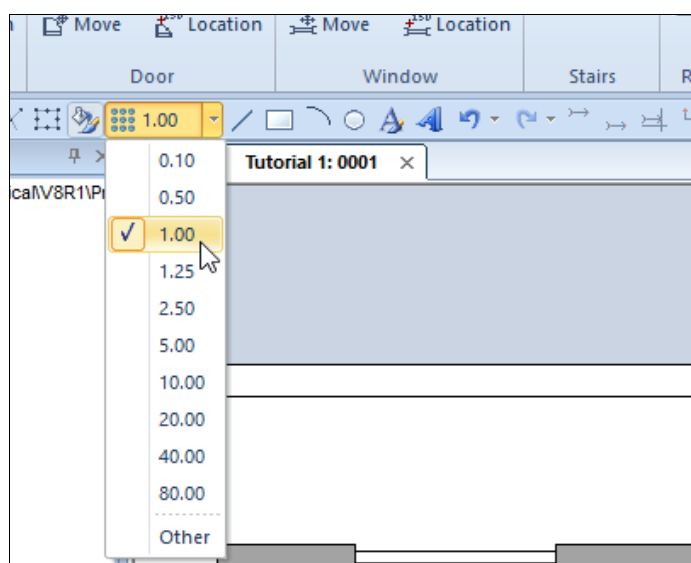
D DRAWING CABLES

We will use few specific commands to draw the cables. The commands are located in the pane called **Cable** and it is in the **Installation** category. We will draw cables using only straight lines, but you can also try the other way of creating – with spline.

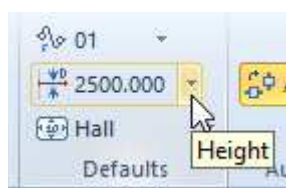
The cables define different fuse circuits. A fuse circuit is a cable connection between a panel and one or more consumers (appliances, sockets, etc.). A circuit can contain different types of consumers. Typical fuse circuit is "Lights", which contains all the lights in the building plan. We will create several circuits to show their variety.

Before starting to draw cables do the following:

- Change the grid size to 1mm from **Quick Access** toolbar command.



- Change the default layer to "1" if it is changed (from **Layer Manger / Draw** category).
- Go to **Installations** category and in the **Defaults** pane click on the small arrow on the **Height** command.



The list with default heights is displayed.

- Select **2500** and click **OK**.
Now every cable we draw will have 2500mm for default height.
- Disable **Auto Rotate**.

D.1. CABLES IN THE KITCHEN AND A/C

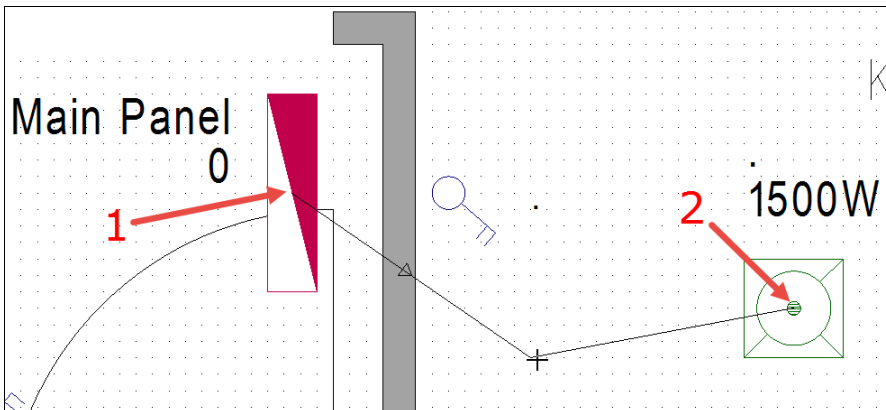
First we will draw the cable between the dishwasher and the panel:

- Go to **Cable** pane and click on **Line** command.
- Zoom in using CTRL + mouse scroll to see the Main Panel and the washing machine.
- Click first on the panel connection point (in the center of the symbol).

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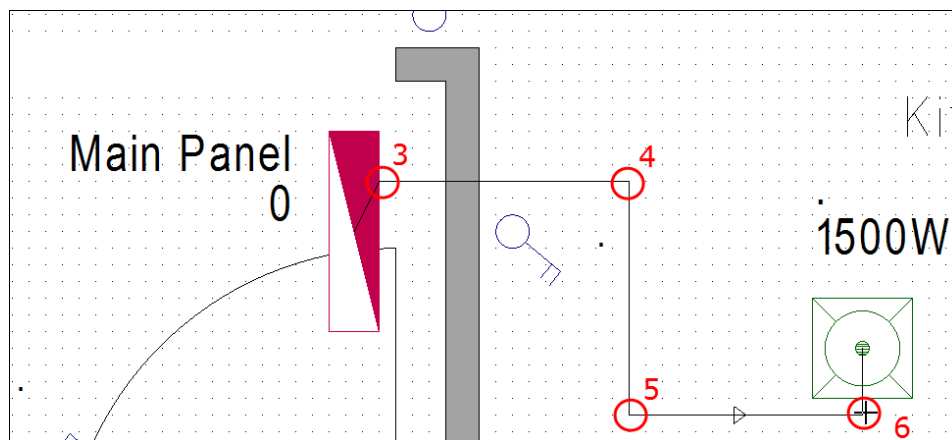
- Click again in the center of the washing machine.



Important:

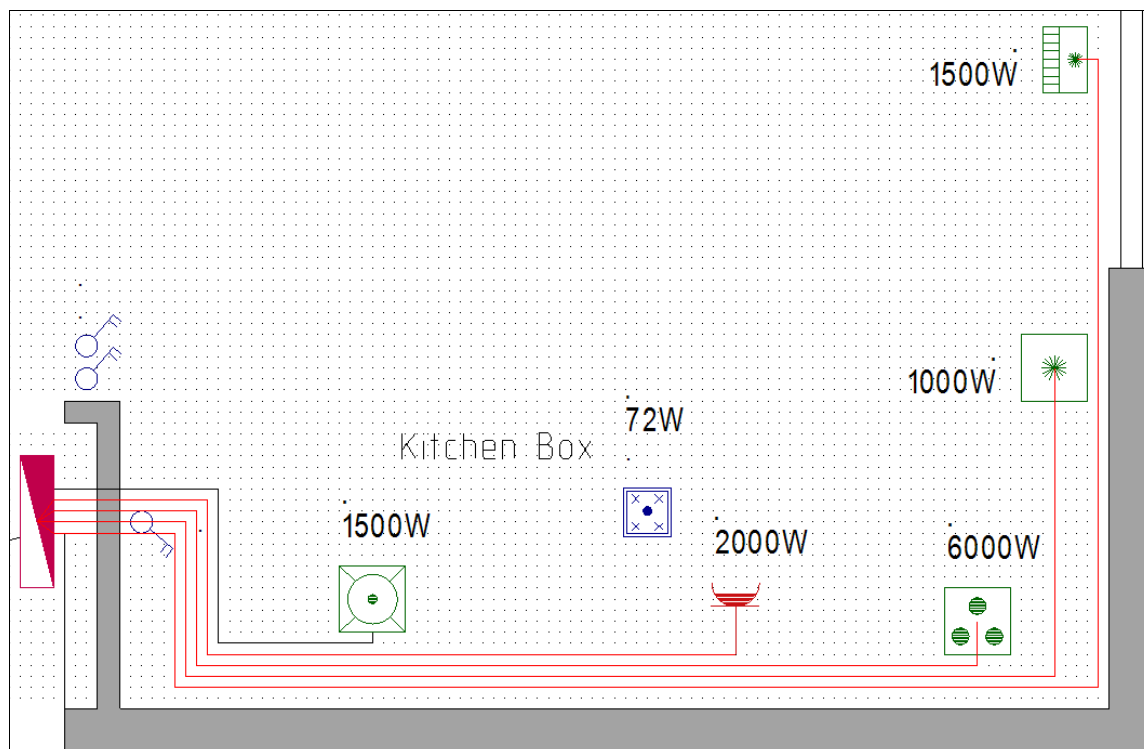
When creating a cable connecting to a Panel, ALWAYS start from the panel and then connect to the symbol. The direction must be from the panel to the components.

- To create more proper looking cable click in the following four points:



- Right-click to finish the command and accept the cable trace.

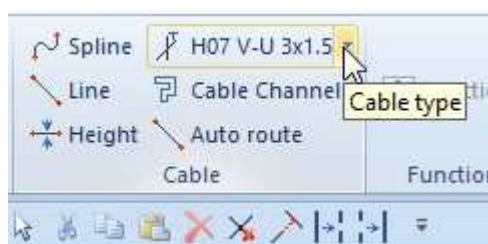
Now we will connect the other components like the picture below:



You may have to move some of the components before creating the cables. Do not move the panel because the cable connections will be lost, and you have to do them again.

The cable type which connects the cooker to the panel must be different from the other, because the power consumption is very heavy (6kW). To change the cable type:

- Select the cable which connects the panel and the cooker.
- Go to **Cable** pane.
- Click on the small arrow on **Cable type** command.



Cable types list is displayed.

- Select "**H05 VV-R 3x6**" and click **OK**.
The wire diameters of this cable type are bigger (6mm).

Before continuing with the cable creation, we have to edit the kitchen socket description. This description will be used later in the Distribution Diagrams. It will differentiate this power socket from the others.

- Select the power socket in the kitchen box.
- Go to **Properties** window.
- Type "Socket (kitchen)" in the "**Output Description**" field.

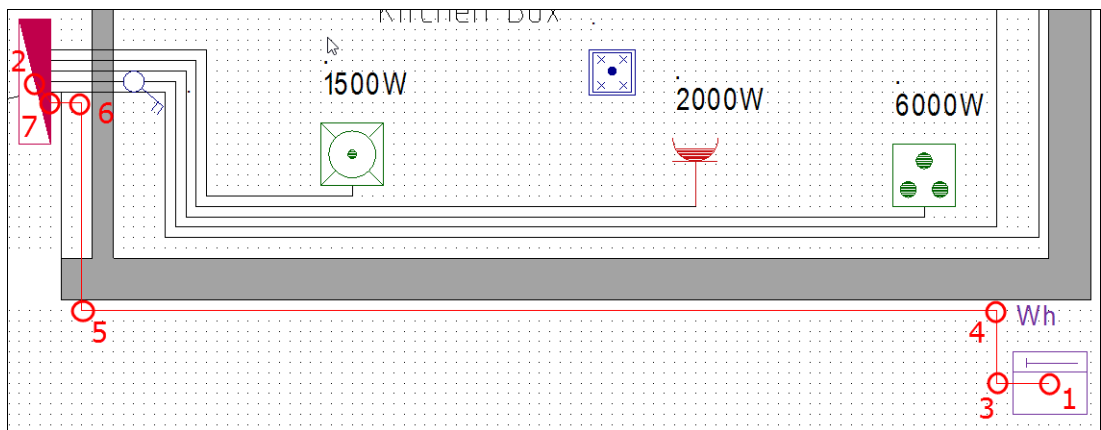
Output Definition	SOCKETS Output
Output Description	Socket (kitchen)

D.2. MAIN POWER SUPPLY

The Main Panel has to receive power from outside – the Power Meter. This is the only case when a cable finishes in the panel, not starts from it.

To connect the panel to the external power supply:

- Change the cable type to "H05 VV-R 3x4".
- Click the **Line** command from the **Cable** pane.
- Click on the center of the power meter symbol.
- Click on the center of the Main Panel.
- Create a cable trace like the one shown below:

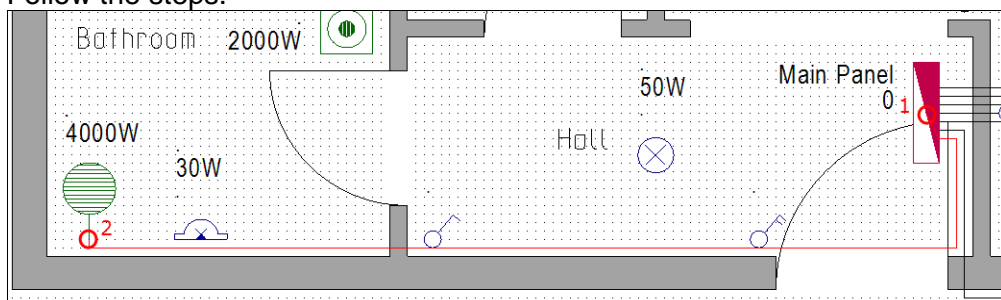


- Right-click to exit from the command.

D.3. CONNECTING THE WATER HEATER

The water heater is a heavy consumer, so it needs a better cable:

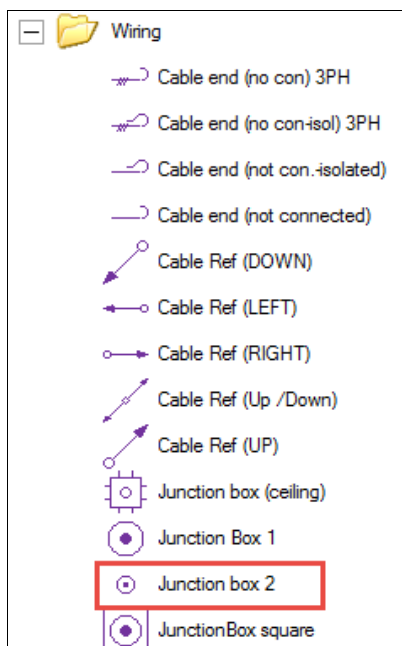
- Change the cable type to "H07 V R 3x10" (**Cable type** field/ **Cable** pane).
 - Connect the heater as shown below, starting from the Main Panel:
- Follow the steps.



- Right-click to finish the command.

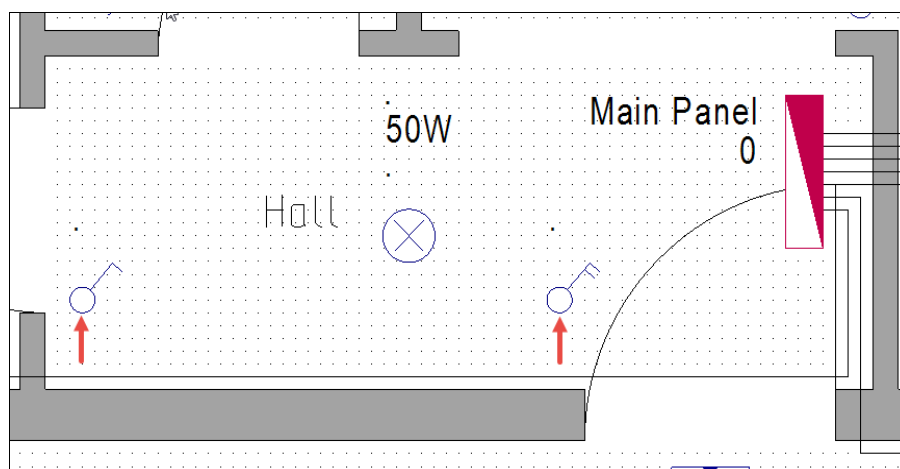
D.4. LIGHTS CIRCUIT

We will have one circuit for all the lights in the floor plan. This means we have to create several branches from one main cable in order to connect the lights from every room. In the point where a cable branch starts we will use the "Junction box 2" symbol. It is located in **Wiring** symbol folder.

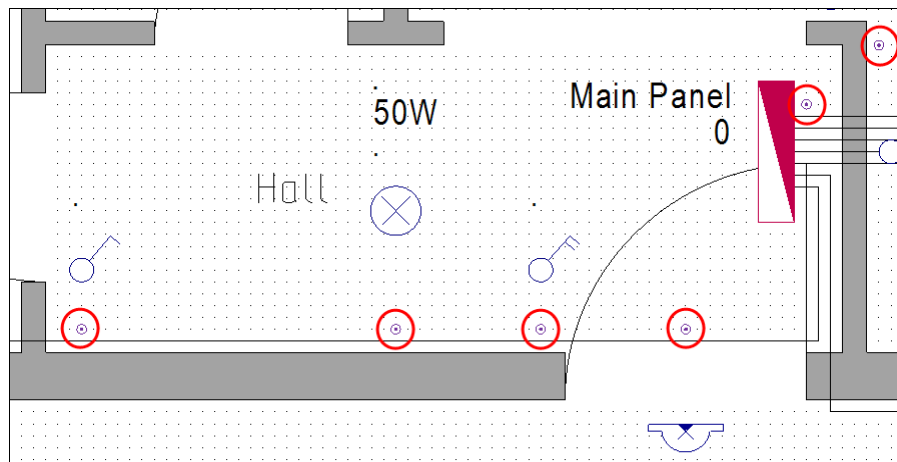


To place the first junction boxes and create cables between them:

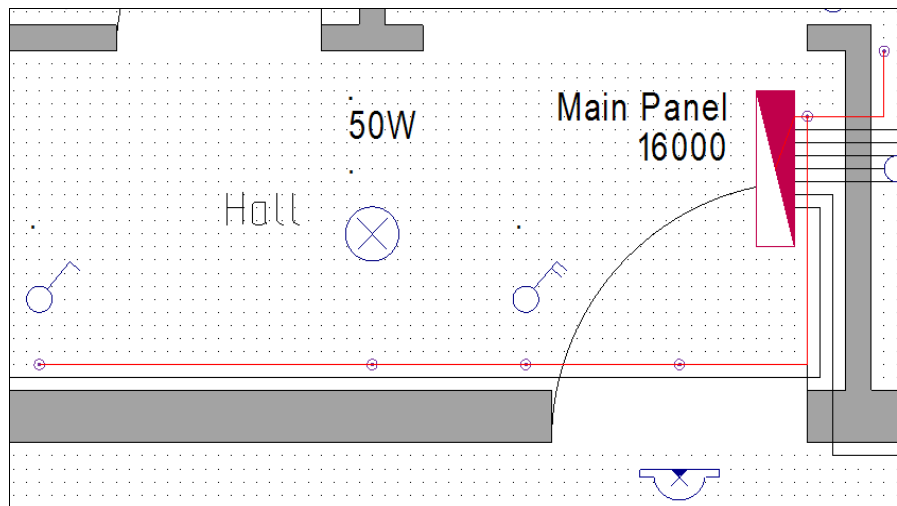
- Move the two switches from the "Hall" area a few grid steps upwards. This is needed because we will have additional cables on this wall later.



- Put one junction box for the two switches and the two lights, and two junction boxes for the lights in the living room. See the picture below:



- Change the cable type to **H07 V-U 3x1.5"**.
- Change the colour of the lines if you want to differentiate the lights cable easier, for example – "Dark Blue" (**Styles** pane/**Draw** category).
- Click **Line** command (**Cable** pane/**Installations** category) and start the cable from the Main Panel to the first junction box to the right.
- Connect the other junction boxes:



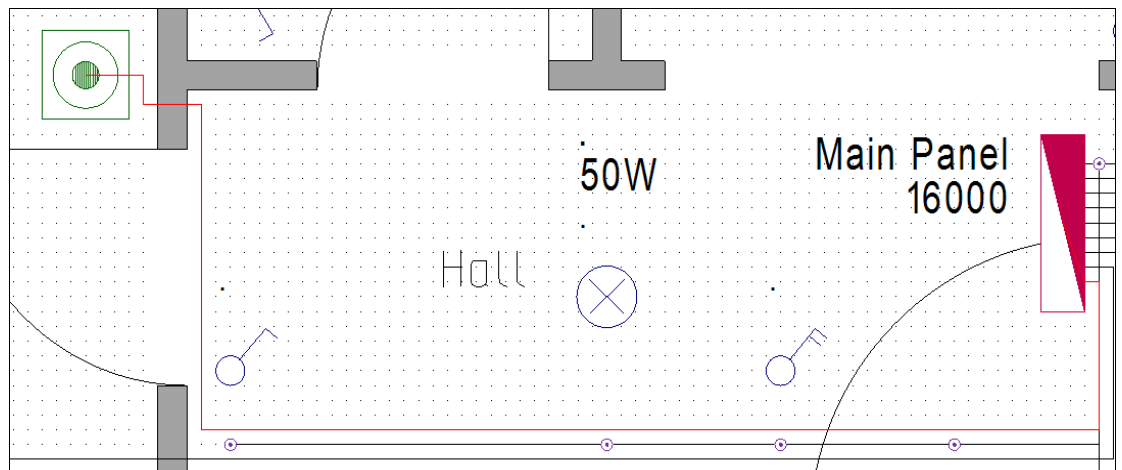
- Right-click to finish the command and accept the traces.

We will finish the lights circuit later, when we connect the other consumers.

D.5. CONNECTING THE WASHING MACHINE

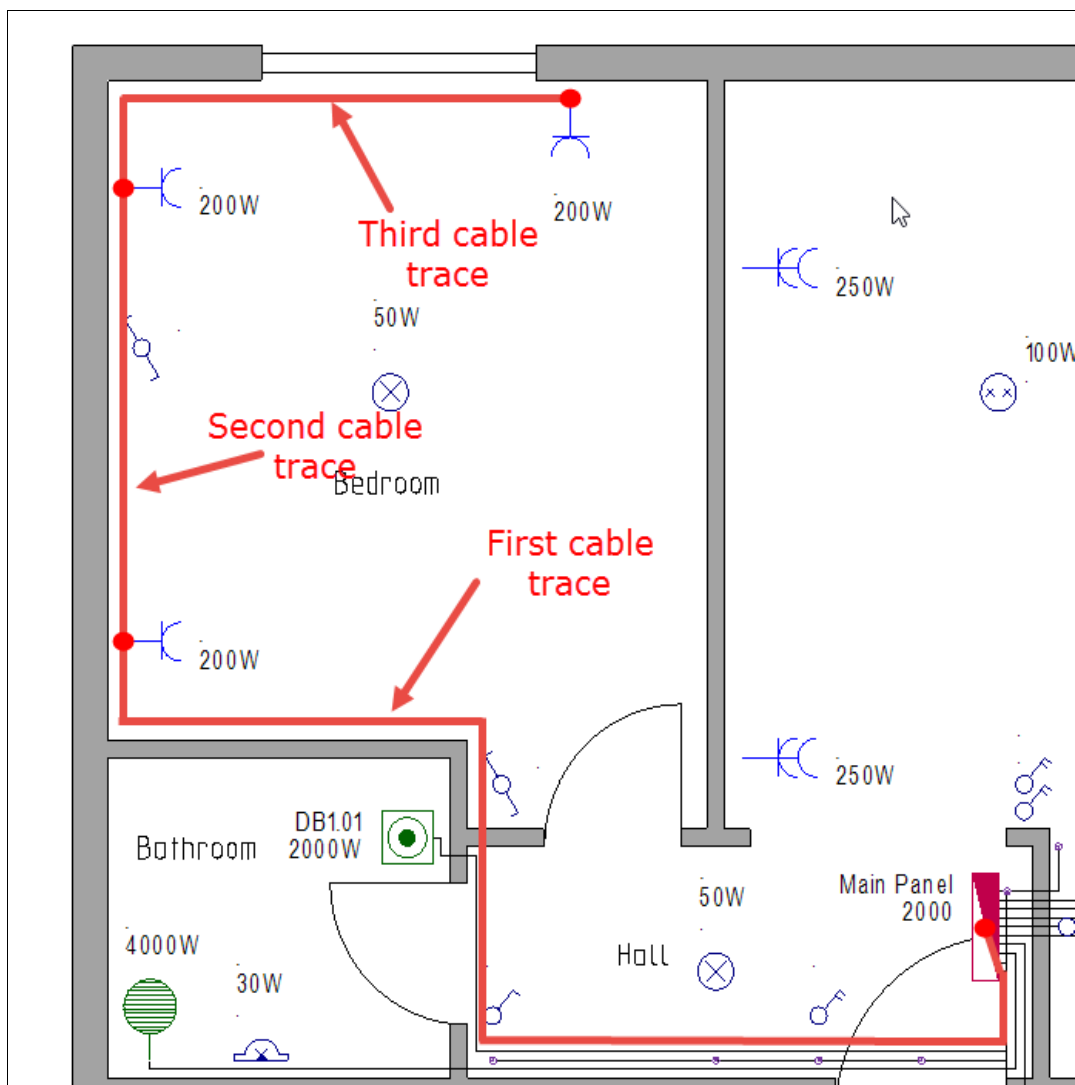
To connect the washing machine, follow these steps:

- Change the cable type to **"H05 VV-U 3x2.5"**.
- Draw a cable like the picture below. Remember to start the cable from the Main Panel.



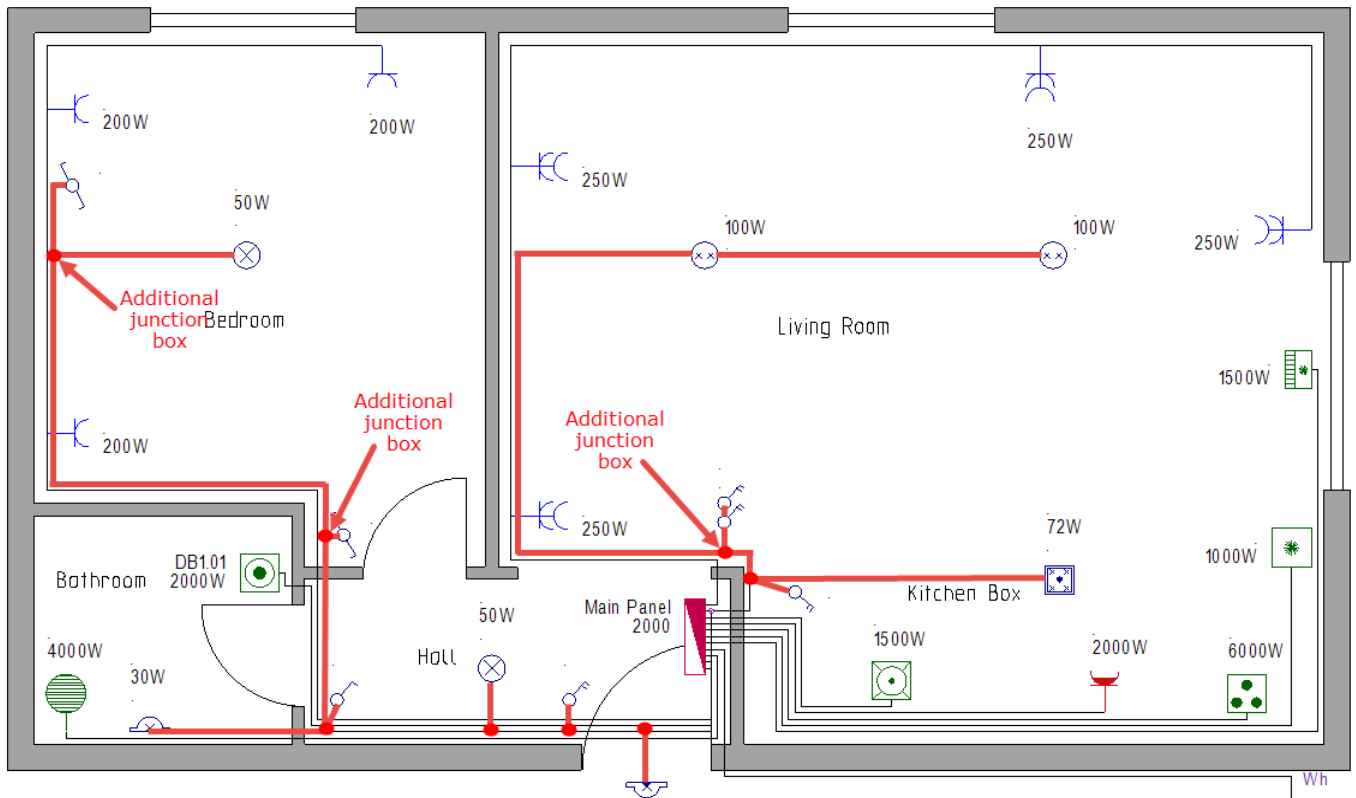
D.6. CONNECTING THE SOCKETS IN THE BEDROOM

We will connect the first socket to the Main Panel. The other two sockets will be connected to the first one.



(the cables are highlighted)

- Change the cable type to "H07 V-U 3x1.5".
- Change the cable colour to "Dark Blue", if you have changed it in D.4. chapter.
- Create the cable connections like it is shown in the picture below. The sequence of the cables is not important. Move some of the symbols before connecting them with cables, add more "Junction box 2" if needed.

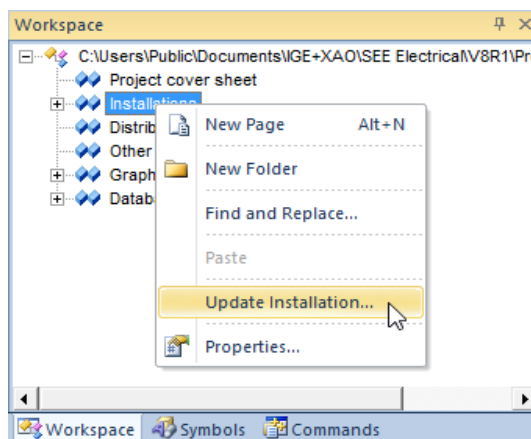


(the cables are highlighted)

D.9. UPDATE INSTALLATION

After creating the cables between the symbols, we have to update the circuit information.

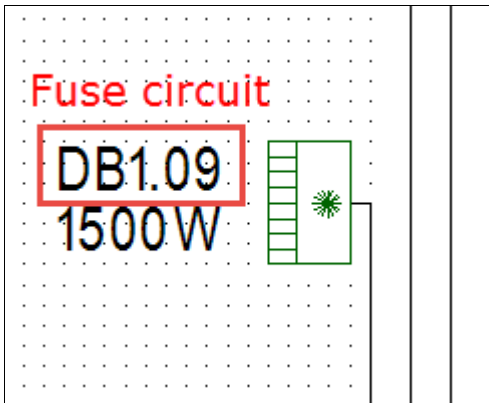
- Go to **Workspace Explorer**.
- Right-click on **Installations** folder.
- Click **Update Installation...** command.



Every symbol receives a text, which indicates to which circuit it belongs. For example:

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The "DB1" part of the text comes from the "**Product (-)**" attribute of the panel (in our case the Main Panel), which the symbol is connected to. "09" is the number of the fuse circuit based on the creation time. The order of the fuse circuits can be manipulated in the Distribution Diagrams generation window, which we will do in the next chapter.

Check every symbol for Fuse circuit info text. If there is a symbol without Fuse circuit, but it is connected, delete the cable and create it again. Then repeat the **Update Installation...** command.

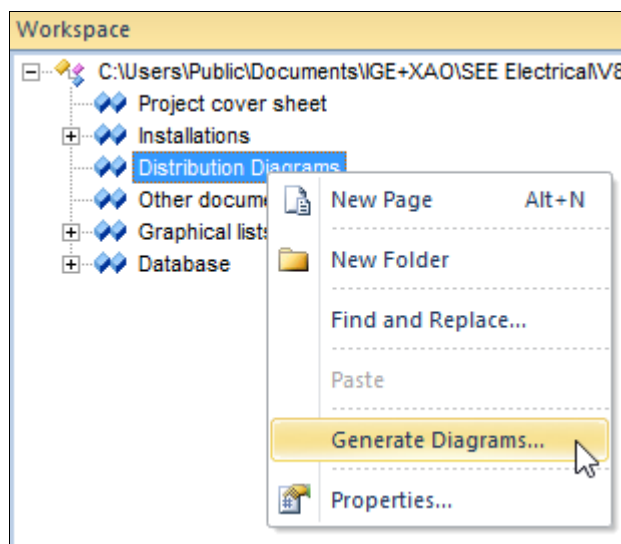
E DISTRIBUTION DIAGRAMS

Distribution diagrams in *SEE Electrical Installations* are generated automatically. They are drawings which show all fuse circuits connected to a single panel (including the panel's power supply). Every panel has its own folder which contains one or more drawings. If there are too many circuits connected to one panel and there is not enough space in the drawing, *SEE Electrical* automatically creates a second drawing with the additional circuits in it.

E.1. GENERATING THE DIAGRAM

To generate a distribution drawing of the Main Panel:

- Right-click on **Distribution Diagrams** folder in the **Workspace Explorer**.
- Click **Generate Diagrams...** command.


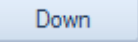


The **Select Panel** window is displayed. If there is more than one panel, they will be shown in this list.

- Select "DB1 Main Panel" and click **OK**.

The **Panel Definition** window is displayed.

The **Panel Definition** window gives variety of options, depending on the information we have entered in the Installations. Let us change the order of the fuse circuits, for example:

- Select the fuse circuit of the Water Heater.
- Click the  button several times until the fuse circuit becomes first on the list.
- Use the  button, also to create the following order:


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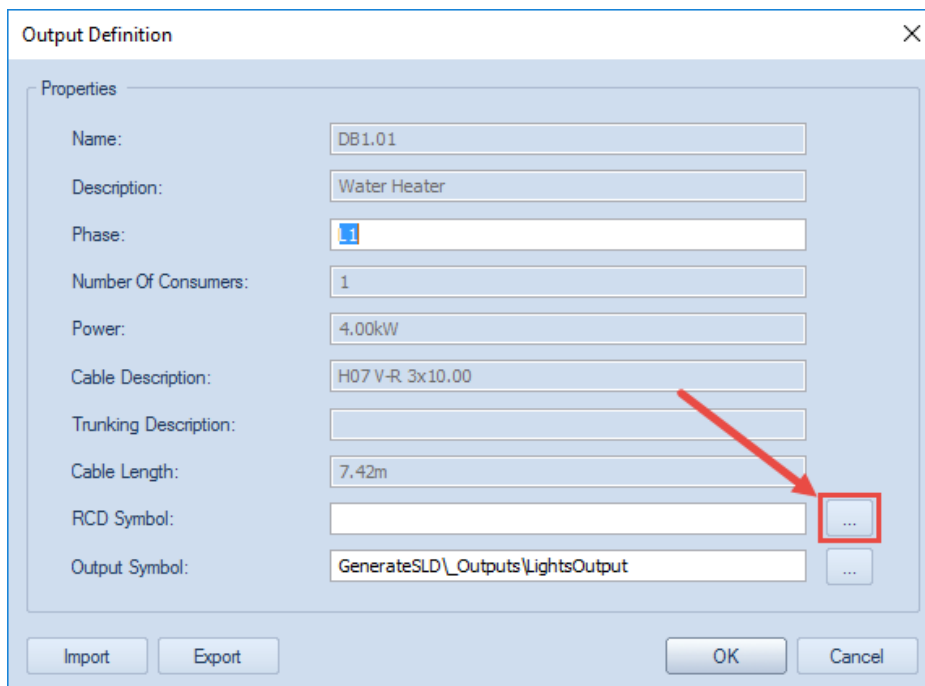
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Name	Description
DB1.01	Water Heater
DB1.02	Electric Stove
DB1.03	Washing Machine
DB1.04	Dish Washer
DB1.05	Refrigerator
DB1.06	A/C
DB1.07	Socket (Kitchen)
DB1.08	Sockets (Living Room)
DB1.09	Sockets (Bedroom)
DB1.10	Lights

You can see additional information about every circuit; for example total length of the cables, the type of cables used, the total power consumption, etc. If there are mistakes, click **Cancel**, go to the Installation drawing and make the necessary changes.

The water heater circuit must have additional protection device. This device will be represented in the distribution diagram. To add protection symbol:

- Select the "Water Heater" circuit and click the  button. Alternatively, you can double click on the circuit.
The **Output Definition** window is displayed.
- Click the browse button at the end of the "**RCD Symbol**" field.



Output Definition

Properties

Name: DB1.01

Description: Water Heater

Phase: [Phase Selection]

Number Of Consumers: 1

Power: 4.00kW

Cable Description: H07 V-R 3x10.00

Trunking Description:

Cable Length: 7.42m

RCD Symbol: [Browse Button]

Output Symbol: GenerateSLD_Outputs\LightsOutput [Browse Button]

Buttons: Import, Export, OK, Cancel

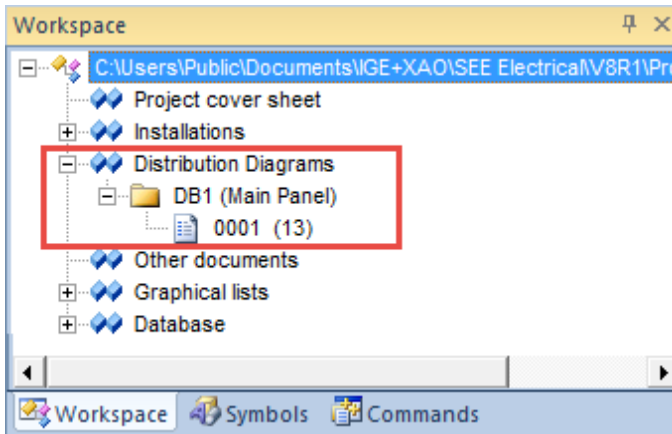
The **Symbol Browser** window is displayed.

- Navigate to **GenerateSLD ► Protective, RCD** and select **RCCB 2P** symbol (Residual Current Circuit Breaker - two phases). Click **OK**.
- Click **OK** in the **Output Definition** window.
- Select the same protective device for "DB1.08 (Sockets Living Room)".
- Select a protective device for "DB1.07 Socket (Kitchen)" circuit, but this time chose **RCBO 2P** symbol (Residual Current Circuit Breaker with overcurrent protection).

To generate the diagrams, click **OK** in the **Panel Definition** window.

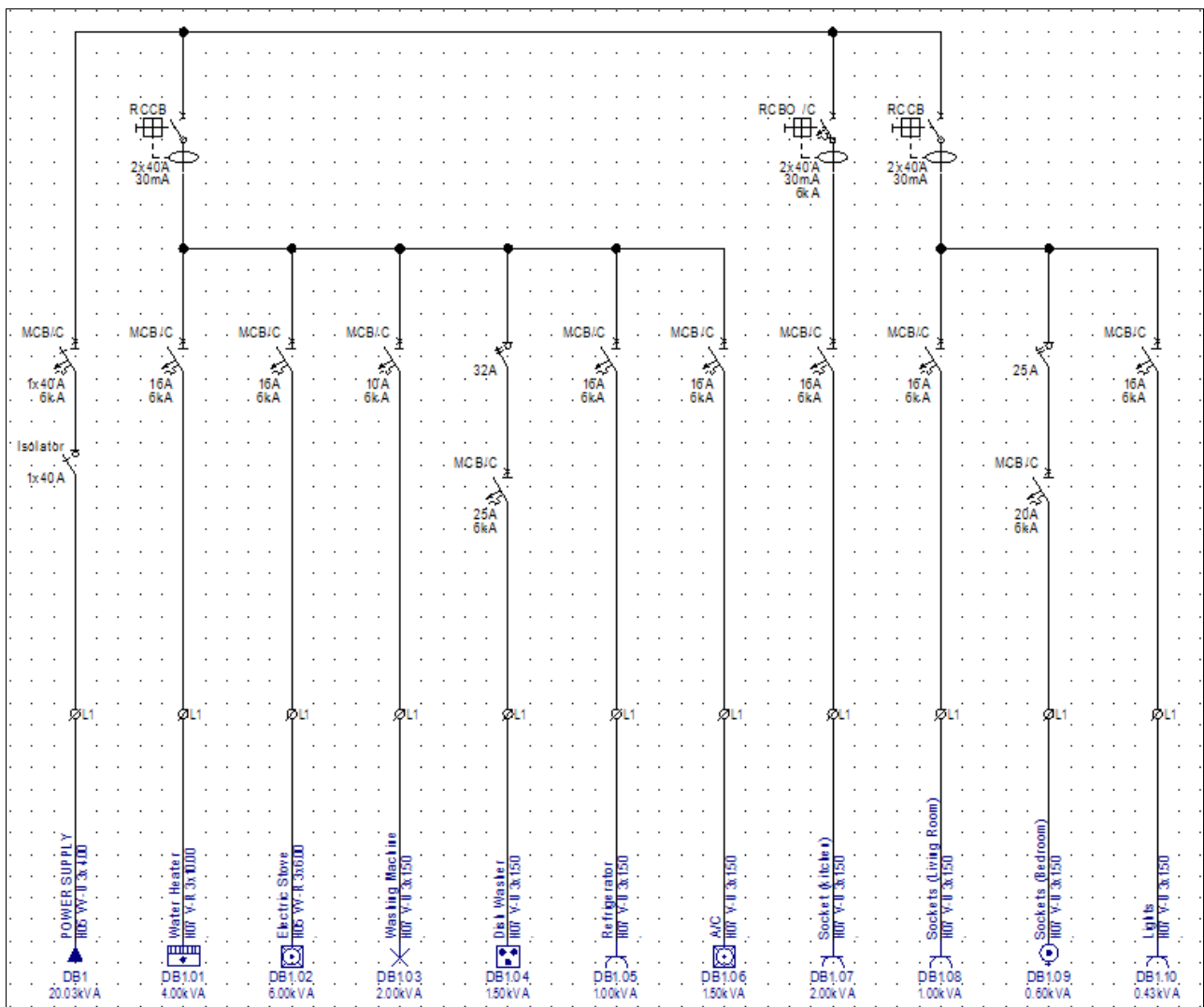
The distribution diagram of the Main Panel is generated in the folder called "DB1 (Main

Panel)".



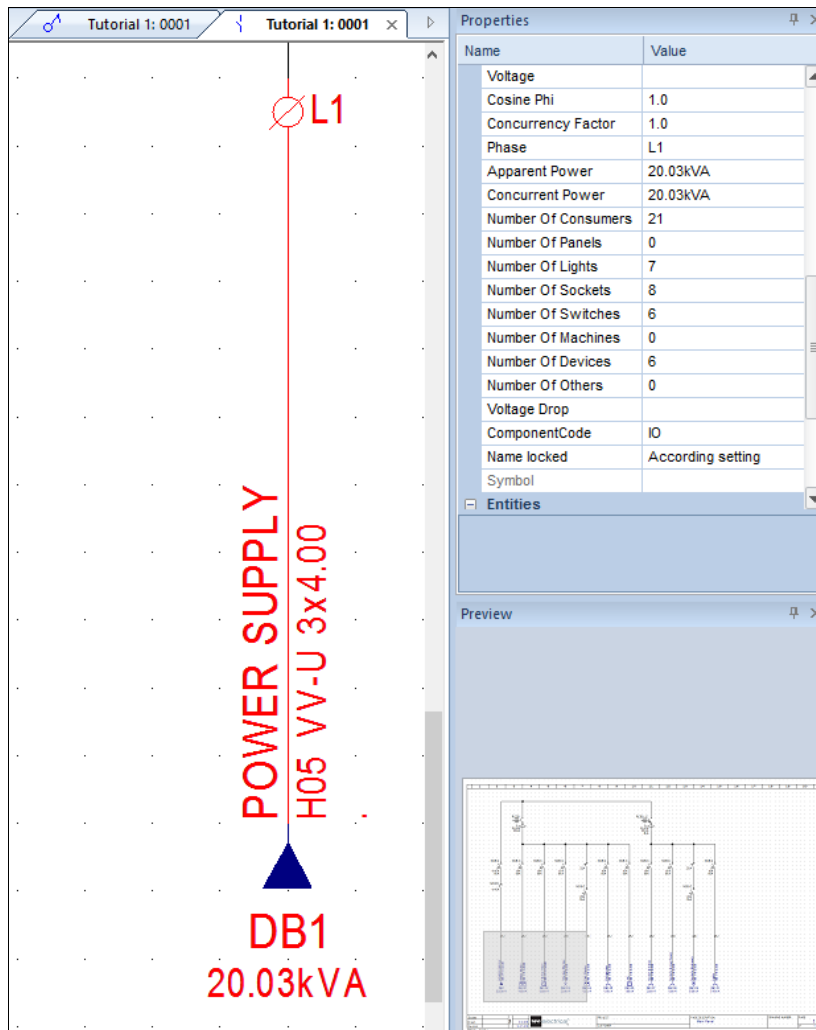
E.2. CHANGES IN THE DISTRIBUTION DIAGRAM

- Double-click on the diagram to open it.
The distribution diagram of the Main Panel includes ten output circuits and one input, which is coming from the power supply (WH Meter symbol).



The first circuit (from left to right) is the Input Circuit.

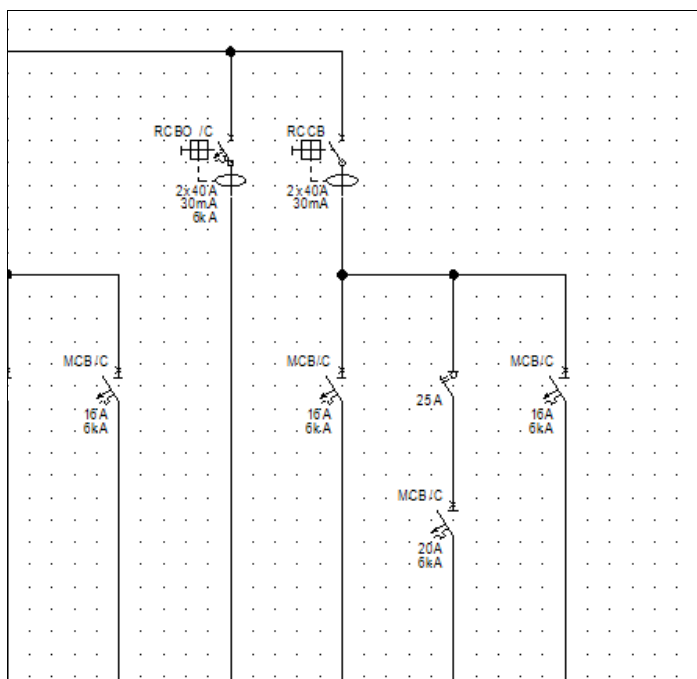
- Zoom-in by holding the CTRL key and the mouse roller to navigate to the lower area of the input.
- It shows the overall power consumption of the whole building plan and a description.
- Select the lower part of the input (the texts).
- Go to the **Properties** window.
- Scroll down and you can see a summary of all connected symbols in our building plan.



Number of Lights, Socket, Switches, etc.

The socket circuit does not need additional protective device, except the one we have chosen (RCBO 2P), so we will delete it.

- Navigate to DB1.07 (Socket Kitchen) output circuit.
- Select the MCB/C symbol (Miniature Circuit Breaker).
- Press the DELETE key.
SEE Electrical will recover the cable under the symbol.



E.3. CONCURRENCY FACTOR

We will change the "Concurrency Factor" of the diagram. Concurrency factor is a relative coefficient which varies from 0 to 1. It shows the possibility of all consumers to be turned on in the exact same moment. Value of 1 means 100% of the consumers are turned on.

- Select all of the ten outputs.
- Go to **Properties** window.
- Scroll down and change the **"Concurrency Factor"** from 1 to 0,70.

The value of the Concurrent Power of every circuit is changed (decreased).

The overall value, which is shown in the Input symbol group, will be changed after we generate the Circuit List in the next chapter.

E.4. CIRCUIT LIST

After finishing the Installation drawings and the distribution diagrams, we have a rich database which is managed by *SEE Electrical*. We will analyze the "View, Circuit List" from the **Database** folder.

- Expand the **Database** folder from the **Workspace Explorer**.
- Double-click on **View, Circuit List**.

A new page is displayed, containing a table with the eleven circuits (one input and ten outputs).

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The screenshot shows a software interface with a workspace tree on the left and a table on the right. The table contains the following data:

	Product (-)	Description 00	Type	Length	Number Of Poles	Ra
1	IO1	POWER SUPPLY			1	1x
2	IO2	Water Heater		7.42m		16
3	IO3	Electric Stove		8.69m		16
4	IO4	Washing Machine		8.96m		10
5	IO5	Dish Washer		5.72m		25
6	IO6	Refrigerator		10.23m		16
7	IO7	A/C		9.89m		16
8	IO8	Socket (kitchen)		6.92m	2	2x
9	IO9	Sockets (Living Room)		29.01m		16
10	IO10	Sockets (Bedroom)		24.76m		20
11	IO11	Lights		40.53m		16

This list contains the whole information about the circuits.

F CLOSING REMARKS

SEE Electrical Installations is easy to learn software, which will help you to create precise building electrical installations. It is intuitive and fast and can be used together with another types of software, which specialized in creating building plans. The automatic creation of the distribution diagrams can save you a lot of time and boost your productivity.