



Automatics Consulting bv

# Schematics v1.031 Manual

Drawing electrical diagrams has never been easier!

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13-2-2026

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# 1 Download and Installation

## 1.1 Download

On the website <https://www.schematicals.be> you can download Schematicals via the download link.

The downloaded document is called "SchematicalsInstaller.msi" and is a Microsoft installation file and will be stored in the folder: "Downloads" (unless it was indicated in the settings that downloaded files should be stored elsewhere).

### PLEASE NOTE:

The security of the browser used here may indicate that the downloaded file may damage your system. The latter is not the case. Depending on the browser used, you should indicate that the downloaded file is trustworthy.

## 1.2 Install

Open the "Downloads" folder and start the "SchematicalsInstaller.msi" file, by double-clicking on it with the left mouse button.

Depending on the security of your computer, it is possible that you will receive a message with a warning that this application is not known, as e.g. in the figure below (**Fout! Verwijzingsbron niet gevonden.Fout! Verwijzingsbron niet gevonden.**).



Figure 1

This warning can be ignored: In the example above, this can be done by clicking on the "Learn more" link (below the text) and clicking on "Run anyway" on the next screen.

Further warnings from other security applications (such as Norton Anti-virus) should also be ignored and the application should be allowed to make changes to your system.

The system files of Schematicals are stored by default in the folder "\\Program Files (x86)\\Automatics Consulting\\Schematicals\\" (recommended) but you can change this during the installation procedure (see Figure 2).

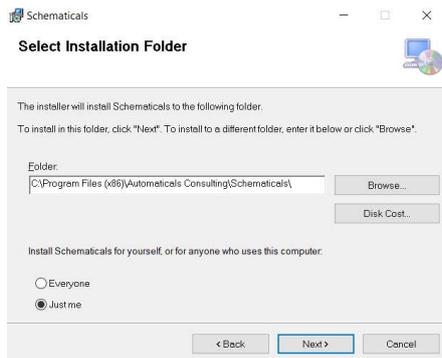


Figure 2

If you had a previous version of Schematicals installed on your computer, please make sure that this application is not currently open. If so, close it before proceeding with the installation.

By clicking on the "Continue" button, the installation is completed. This can be done a few seconds because files have to be copied in the right locations. When the window below appears (Figure 3), the installation is complete.

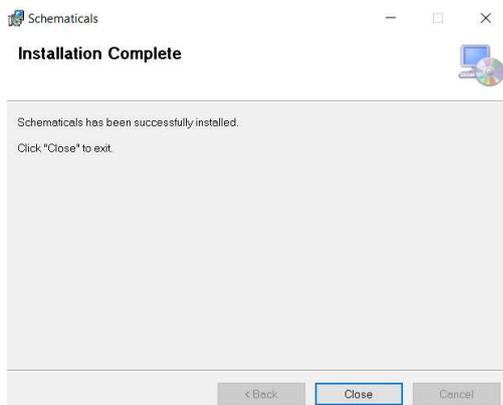


Figure 3

Schematicals can now be started by

1. Schematicals.exe to start from the folder chosen above
2. Via a shortcut on your desktop
3. Via the Windows menu where "Schematicals" has been added.

The Schematicals version that has just been installed is the trial version with limitations. In order to fully enjoy the full functionality of Schematicals, a license key must be purchased.

When you first launch Schematicals, the next pop-up window will contain the Terms of Use and the Disclaimer. Please read it first and only when you have confirmed that you accept it (by checking that box at the bottom of the respective texts) can you continue with the installation.

Click "OK" if you want to continue.

### 1.3 Add company data

When Schematicals is started for the first time, you will be asked to enter your company details. (see Figure 4) The company information requested is:

1. Company

2. E-mail address
3. VAT number (Optional)
4. Company Address
5. Logo (see [1.4](#))
6. Signature (will be used as the installer's signature on the schematics)

At the bottom you can choose whether or not to be informed of Schematics updates via e-mail.

The name, e-mail, VAT number, logo and signature will be mentioned on each page of the electrical diagrams. The address will be mentioned on the cover page (see below).

This data can be changed later via the "Company data" button in the menu bar (under tab "Home") (See Figure 4).

Eigenaar

Naam:	Domoticals			
E-Mail:	info@domoticals.be			
BTW nr.:	BE 0	867	277	295
Adres				
Straat:	Pareloesterlaan		Nr./Bus:	25
Stad:	Oostende		Postcode:	8400
<input checked="" type="checkbox"/> Ik wens op de hoogte te worden gehouden van Schematics updates op bovenstaande E-Mail.				
Annuleren			OK	

Figure 4

## 1.4 Add logo and signature

There is the possibility to save the company logo and a signature in Schematics via the "Company data" window. This logo and signature will be printed on the electrical diagrams.

Saving the company logo and signature is done as follows:

1. Open the "Owner" window via the "Company data" button in the menu bar
2. Click with the left mouse button on the field marked with "Logo" (or signature) or on any previously saved file.
3. Select a file with the logo or signature (.jpg, .bmp, .png format) in the explorer

Please note:

Files in .png format may show inverted colors. It is recommended to use files with .jpg, .jpeg, .bmp extension.

4. Click on "Open"
5. Close the "Company data" window by clicking on the "OK" button.

## 1.5 License Key Purchases

The license key can be purchased via the webshop:

<https://winkel.automaticals.com>

After payment of the order, an e-mail will be sent containing the purchased license key.

## 1.6 Install License Key

The purchased license key can be installed in Schematics. When opening Schematics you will see the following menu structure (Figure 5)



Figure 5 Home Tab

1. Click on the menu item with the key as the "View Edit" icon.

The following window opens (Figure 6):

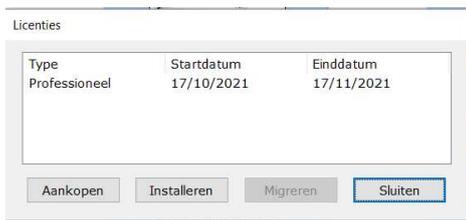


Figure 6

2. Click on the "Install" button.
3. In the next window (Figure 7) you can enter the obtained license key (copy – paste from e-mail).

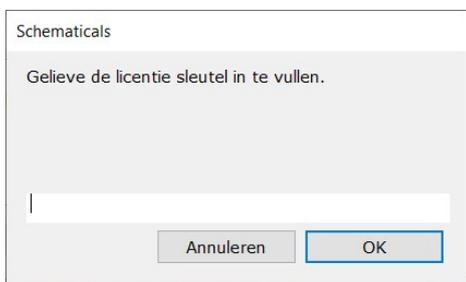


Figure 7

4. Click "OK". You will then automatically return to the first pop-up screen in which your installed licenses with start and end dates are included in the list (see Figure 6)
5. Click "Close" to complete the installation.

This license key is connected to the PC or laptop on which the license is installed. This license cannot be used on another PC or laptop, unless the license key is migrated (see [1.7](#))

## 1.7 Migrating a License Key

Migrating a license key to another PC or laptop is done through the window as shown in Figure 6.

1. Click on the license you want to migrate (click on the type). It will be highlighted in blue and the "Migrate" button will be activated and usable.

2. Click on the "Migrate" button.
3. In the next window, enter the email address to which the migrated license key should be sent.
4. After a message that there is no longer a valid key installed on this computer, a window opens where you can copy the new license key if necessary.
5. Click "OK".

The new license key will now also be sent to the specified e-mail address that can be installed on another PC or laptop (but also back on the same PC or laptop) (see [1.6](#)). The term will remain the same as the term of the original license key.

Please note:

This migration is only for the license key. The projects and institutions will not be migrated. To migrate a project: see 17.6 and 17.7.

## 2 Schematics Graphical User Interface

The GUI (Graphical User Interface) of Schematics is structured as indicated in Figure 8.

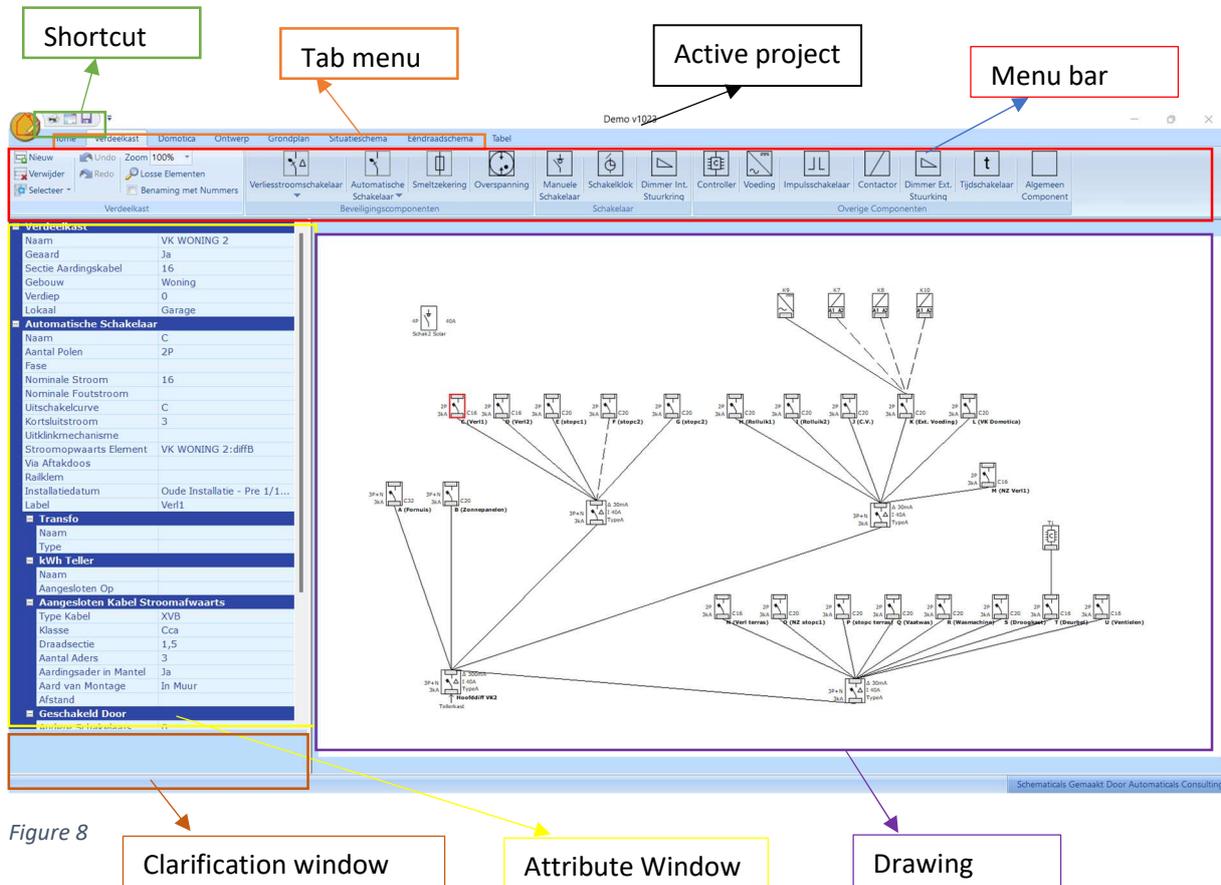


Figure 8

- **Active project:** Shows the name of the active project. In case no project is active yet, "Schematics" is listed here.
- **Shortcut menu:** this is a customizable menu (see 17.11) where one can place some shortcuts for frequently used functions within Schematics. By default, there are 3 shortcuts: "Print", "Print Preview", "Save".
- **Tab menu:** This menu consists of several tabs. Each tab represents a step in the development process of the electrical diagrams and opens a different menu bar.
- **Menu bar:** the menu bar is composed of several buttons, each with its function within the framework of the chosen tab in the tab menu.
- **Attribute window:** Displays all attributes or parameters of the component or element selected in the drawing field. These attributes can (if applicable) be adjusted according to the electrical installation to be drawn. Via a scrollbar to the right of the attribute window, attributes that are more at the bottom can be reached.
- **Clarification window:** this window provides more explanation and clarification about the selected attribute and the possible values to be assigned. This window can also be enlarged with the mouse by moving the partition between the clarification window and the attribute window upwards.

- **Drawing window:** This includes the drawing sheet where the graphical representation is formatted and displayed. The drawing field can be enlarged and reduced by moving the partition between the attribute screen and the drawing window with the mouse.

### 3 Starting a new project

#### 3.1 General

Starting a new project is done from the Schematics home screen (Home in the Tab menu). Click on the "New" button as indicated in Figure 9.

In the next window, you can choose between starting a blank project or starting a new project with a copy of an existing project as a basis.

TIP: If you will use Schematics regularly, you can create one or more basic project(s) with a certain composition of the fuse box (see below) and use them as a basis for other projects. This saves time in putting together your fuse box in each project.



Figure 9

#### 3.2 Administrative data

Regardless of the choice between a blank project or a copy, the next window (said Figure 10) the administrative data of the project.

 The image shows the 'Administratieve Informatie' dialog box. It contains the following fields and options:
 

- Project:**
  - Naam: Demo v1027 \*
  - Versie: 1.0 \*
- Backup:**
  - Bij Afsluiten Backup Creëren In Map:
  - Path: C:\Users\herwi\OneDrive\Desktop\Backups Schematics Projects
- Opdrachtgever:**
  - Naam: Automaticals Consulting bv
  - E-Mail: info@automaticals.com
- Adres:**
  - Straat: Pareloesterlaan
  - Nr./Bus: 25
  - Stad: Oostende
  - Postcode: 8400
- Adres Installatie:**
  - Straat: Pareloesterlaan
  - Nr./Bus: 25
  - Stad: Oostende
  - Postcode: 8400
- Buttons: 'Kopieer Opdrachtgever Adres', 'Annuleren', 'OK'
- Legend: \* = Verplicht Veld

Figure 10

These are:

- **Name:** this must be unique and cannot be "Demo" as this name has already been used for a demo project that was installed with the installation of Schematics. This is a required field.
- **Version:** the version of the electrical diagrams (required)
- **Backup:** By selecting "Create Backup In Folder When Shutting Down" and by selecting a folder below it (via the Windows explorer) (on your PC, laptop, NAS or other external storage), a backup file (an export) will automatically be copied to the chosen folder when closing this project. It is recommended to choose a backup folder on an external storage in case of a crash of the PC or laptop.
- **Client:** the person or body that commissioned the preparation of the electrical diagrams.
- **Client's address:** The address of the person or body that commissioned the preparation of the electrical diagrams.
- **Installation Address:** the address where the electrical installation, for which the electrical diagrams are drawn up, is located. There is the possibility to quickly make the address identical to that of the client by clicking on the button "Copy Client Address". This is a required field.

Once the necessary has been filled in: press "OK"

Some of these specified data will be displayed on the print-out of the electrical diagrams and can be changed afterwards by clicking on the "Administrative" button on the menu bar (under the "Home" tab menu).

### 3.3 Installation data

In the next window (see Figure 11) you can enter the installation data consisting of:

- **EAN:** this is the EAN number of the installation (meter box). This should be 18 digits long. This number is not mandatory to enter, but for the final inspection this number must be stated on the diagrams.
- **Power source:** here you can specify which power source is at the beginning of this installation. There is a drop-down menu where "Circuit breaker box", "Generator" or "Socket" can be selected, but a free text can also be entered in the input window.
- **Type of Connection:** in this selection menu you can choose a mono-phase 230V, 2x230V, 1x400V+N connection, a two-phase connection 2x230V+N or a three-phase connection (3x230V or 3x400V+N).
- **Nominal current:** here you can enter the nominal current of the installation by means of a choice in the drop-down menu or by entering a free value.
- **Installation earthed:** here you can indicate whether or not the electrical installation is earthed. Whether or not the installation is grounded will also be shown on the one-wire diagram.

**Please note:** The single-wire diagram shows the grounding (if specified as grounded), without a grounding breaker. This is only drawn on the single-wire diagram when it is placed on the situation diagram (see 11.2.3).

- **Spread resistance:** here you can enter the spread resistance (free value) in Ohms. This value, if specified, is also shown on the single-wire diagram.
- **Notes:** Additional comments or additional information about the installation may be displayed here. A maximum of 5 lines can be entered here. This text is then displayed on the cover page of the electrical file printouts.
- **Connection cable (cable between meter box and fuse box)**
  - **Type of cable:** choice of selection menu or free inputs
  - **Class:** choice of selection menu or free entries
  - **Wire section** choice of selection menu or free entries
  - **Number of cores:** choice of selection menu or free entries
  - **Grounding vein in sheath:** yes/no. Is the conductor or cable that provides the earthing enclosed in the same sheath or insulation as the conductors or cables that provide the voltage. Here, for example, the distinction is made between 4G16 and 4x16.
  - **Type of installation:** choice of selection menu or free entries
  - **Number of guide guides:** choice of selection menu or free entry
  - **Wire section auxiliary guides:** choice of selection menu or free entry.
- **Buildings:** Lists the buildings involved in this project. This data is used to draw up block diagrams and cable routes.
  - **Name:** name of the building
  - **Lowest floor:** Specifies the lowest floor in the building. "0" stands for ground floor, "-" values stands for basement levels, the "+" values stand for levels higher than the ground floor.
  - **Highest floor:** Specifies the highest floor in the building.

After clicking on the "Add" button, the building will be included in the list of buildings that is located below the buttons. By clicking on an already created building in this list, you can remove it from the list by clicking the "Delete" button. By changing the values in the fields "Name", "Lowest Floor" and "Top Floor" and then clicking on the "Edit" button, the characteristics of an already created building can be changed.
- **Meter Cabinet Location:** Specifies the physical location of the meter cabinet. This information is also needed for the creation of block diagrams and cable routes.
  - **Building:** Here you choose the building where the meter box is located. The list from which to choose is determined by the buildings created (see above).
  - **Floor:** Here you choose the floor where the meter box is located. The floors included in the drop-down menu correspond to the floors specified for the chosen building (see above).
  - **Room:** Here you can enter the name of the room where the meter box is located. This is a free input field.

The data given here will be displayed on the print-out of the electrical diagrams and can be changed afterwards by clicking on the "Installation" button on the menu bar (under the "Home" tab menu).

Installatiedata

EAN: 541448820056754634

Type Aansluiting: 3x400V+N      Nominale: 40 A

Installatie Geaard: Ja      Spreidingsweerstand: 7,3 Ohm

Opmerkingen: Afwijkende installatiedatums  
Kring A tot C tussen '81 en '92  
Kring D tussen '92 en 2001  
Meternummer = 4568645  
Project ID Nov1256

Verbindingskabel (Tellerkast->Verdeelkast)

Type Kabel: XVB      Aantal Aders: 5

Klasse: Cca      Aardingsader in Mantel: Ja

Draadsectie: 10 mm2      Aard van Montage: In Muur

Gebouw(en)

Naam:      Woning (-1->2)  
                  Schuur (0->0)

Laagste Verdieping: 0

Hoogste Verdieping: 0

Toevoegen      Aanpassen      Verwijderen

Tellerkast Locatie

Gebouw: Woning      Verdiep: 0      Lokaal: Kelder

Annuleren      OK

Figure 11

Once the data has been entered: click on "OK"

The project has now started and the creation of the electrical diagrams can continue

## 4 General procedure

### 4.1 Procedure

The electrical diagrams are drawn up in a certain sequence of operations.

1. Assembling the electrical fuse box(s) including residual current switches, automatic switches, impulse switches, contactors, ... where the attributes of the different components are entered (see 0)
2. Possibly compose the Domotics fuse box with, among other things, relay modules, dimmer modules, ... where the attributes of the different components are entered (see 6)
3. Drawing one or more floor plans, cable routes and/or block diagrams (see 0, 9 and 10).
4. Drawing up the situation diagrams based on the composition of the electrical fuse box(s), Domotics fuse box(s) and floor plan(s) entering the attributes or parameters of the electrical elements (see 11).

While performing these actions, the one-wire diagram of both the 230V AC installation and the Domotics installation (SELV) will be automatically created and adjusted.

### 4.2 Multi-select

In the drawing fields of the fuse box, the Domotics fuse box, the floor plan and the situation diagram, several components can be selected at the same time. The possibilities after a multiselect depend on the components included in the selection.

To select different components on the drawing sheet together, there are 2 possibilities:

1. CTRL Key + Left Mouse Button: Select the components one by one with the left mouse button while the CTRL key remains pressed.
2. Drag function with mouse: Click with the left mouse button on an empty space on the drawing field, hold down the left mouse button and drag the mouse to another place on the drawing field. During this drag, a frame is displayed. By releasing the mouse button, all components on the drawing field that fall completely into the frame will be selected.

Removing the selected components is an action that is always possible.

NOTE: in order to perform a multiselect by means of the drag function with the mouse to create a floor plan (or cable route), the selection of a construction element (wall, door, etc.) must first be deactivated by means of the ESC key. When the selection is activated, the construction element is visibly linked to the cursor. If the selection is not activated, the cursor is unlinked to a construction element and thus this form of multiselect is possible.

## 5 Assembling the fuse box 230V

### 5.1 General

On the drawing field of Fuse box, all electrical components are placed on the diagram that are actually present in the physical installation, such as residual current switches, automatic switches, contactors, timers, etc. The interconnections (230V) are also specified here (graphic). All this is shown schematically. Based on this composition, the basis of the single-wire diagram will be drawn up.

PLEASE NOTE:

Switches can also be placed in the fuse box, which are also physically present in the fuse box. These are:

Manual switch (load disconnecter, disconnecter or load switch)

Timer (minuterie)

Dimmer internal control circuit: these are dimmers to which the push buttons are connected without extra voltage (230VAC or 24VDC).

These switches are placed in the fuse box but do not have a schematic connection to another component. Once placed on the Distribution Board, these switches can be used to switch other components via the attributes (of the switch or of the component to be switched).

### 5.2 New or additional fuse box

To assemble one or more fuse boxes (230V), you need to choose "Fuse box" in the tab menu. The menu bar looks like in Figure 12.



Figure 12

**It is recommended to create a separate fuse box in Schematics for each physical fuse box in the installation, but this is not mandatory.** You can create a new fuse box by clicking on the "New" button in the menu bar (under the "Fuse box" tab menu).

If no fuse box has yet been created within the project, when opening the tab menu "Fuse box" a window will first appear to specify a unique name for the fuse box to be created. This name can be chosen freely, but since it will also be mentioned on the one-wire diagrams, it is recommended to give a clear name that does not contain too many characters.

You can also delete a created fuse box by clicking on "Delete" in the same menu bar. At that time, the open (active) fuse box will be removed.

Different fuse boxes or pages can be created in this way. To go to the desired fuse box, use the "Select" button in the menu bar and click on the desired fuse box in the menu that opens.

On the far right of the menu bar you can now also check not to display the name of the automatic switches by means of alphabetically ordered letters (A, B, C, ...) (standard) but by numerically ordered digits (1, 2, 3, ...). It should be noted that in the AREI there is an obligation to indicate automatic switches and fuses with a capital letter, numbering does not apply in residential installations.

Once a fuse box has been created, the name of the fuse box can be changed in the attribute window. The following characteristics can be specified in the attribute field:

- **Name:** name of the fuse box
- **Identification:** Each fuse box is given a unique identifier. This identification will be displayed as a label for this fuse box on all schematics and will be used as a prefix to automatically name the protection components such as the automatic switches uniquely on the schematics, separated by a colon ":" such as e.g. <Prefix>:A, <Prefix>:B, ... Schematics automatically assigns an alphabetical identifier (A, B, C,...) but this can be freely chosen. **The identification "A" is not shown on the schematics.**
- **Grounded:** here you can indicate whether the fuse box is earthed
- **Ground Cable Section:** Enter the ground cable section here.

These last 2 fields are not mandatory and are not yet used in the current version of Schematics. This data may be used in future versions.

- **Building:** indicate in which previously created building (see [3.3](#)) this fuse box is located.
- **Floor:** indicates on which floor in the building this fuse box is mounted
- **Local:** indicates in which room this fuse box is mounted.

The latter data is necessary to be able to generate a cable route and/or block diagram at a later date.

## 5.3 Adding Differential or Residual Current Switches

### 5.3.1 General

To add a residual current switch to the active fuse box:

1. Left-click 1x on the "Loss current switch" button on the menu bar
2. Click on the drawing window where you want to place the residual current switch.

When it is the first component that is placed on the schematic, you will be asked if it is connected upstream to the Meter Box.

**Please note:**

**Before Schematics can automatically create the single-wire diagrams, at least 1 component in a fuse box must be connected to the "Meter box"!**

Once the residual current switch has been placed on the drawing sheet and made active by clicking on it (bordered in red), the attributes or parameters of this component can be entered or modified in the attribute window.

These are (see Figure 13):

- **Name:** by default named as DiffA, DiffB,... This can be changed.
- **Upstream element:** indicates where the "input" of this component is connected (upstream). For the first differential in the installation, this will most likely be the "Meter box". This upstream element can also be located in another distributed fuse box.

**TIP**

**To connect a component to another component, you can also click on the black box on the component symbol on the drawing board with your left mouse button and drag the line with the left mouse button to the black box of the component you want to connect to.**

- **Upstream UPS:** When an inverter with UPS output is installed and connected, the UPS output of the inverter can be selected as an upstream element.
- **Number of poles:** choice of selection menu (1P, 2P, 3P and 3P+N)
- **Phase:** Choice of all possible phase distribution on this component. The options are adapted to the components and provisions connected upstream and downstream in the system.
- **Nominal current (in A):** choice of selection menu or free inputs
- **Nominal fault current (in mA):** choice of selection menu or free inputs
- **Type:** choice of selection menu or free entries
- **Short-circuit current (in kA):** choice of selection menu or free inputs
- **Via Transfo:** This opens the Customization window related to this component (see below 11.8.8)
- **Via kWh counter:** This opens the Customization window related to this component (see 11.8.8)
- **Via junction box:** This opens the Customization window related to this component (see 11.8.8)
- **Via Screw terminal:** This opens the Customization window related to this component (see 11.8.8 and 14.2.3). This gives the possibility to add a screw terminal for the selected component.
- **To screw terminal:** Here you can add a terminal downstream ("new") or modify an already connected terminal (downstream). You can then choose to replace all components already connected downstream such as circuit breakers, fuses, etc. to the same terminal. In this way, one can avoid making this connection component by component via the attributes of this component (see 14.2.3).

- **Installation date:** Here it can be indicated that the part of the installation connected behind this component (downstream) is part of an "old installation", installed before 1/10/1981. Another text can also be entered here. This text is displayed on the single-wire diagram vertically along **each** circle behind this component.
- **Label:** this is a freely selectable name for the component. A clear label makes it easier to choose the different components later in other menus where these components are included.
- **Connected cable Downstream:** Indicates the characteristics of the cable connecting the component to the downstream connected component (these are also indicated on the single-wire diagram when a connection is made from this residual current switch to another fuse box)
  - **Type of cable:** choice of selection menu or free inputs
  - **Class of the cable:** choice of selection menu or free inputs
  - **Number of cores:** choice of selection menu or free entries
  - **Wire section:** choice of selection menu or free entries
  - **Grounding vein in Mantel:** yes/no. Is the conductor or cable that provides the earthing enclosed in the same sheath or insulation as the conductors or cables that provide the voltage. Here, for example, the distinction is made between 4G16 and 4x16.
  - **Number of auxiliary guides:** choice of selection menu or free entry
  - **Wire section Auxiliary guides:** choice of selection menu or free entry
  - **Type of Assembly:** choice from selection menu
  - **Distance:** The distance between the residual current switch and the downstream connected component. Free entry.
- **Switched by:** Here you can choose from all switches created in the project (only in case the component is switched by a normal switch, this must be indicated via the situation diagram in the attributes of that switch (see below)).

Verdeelkast	
Naam	NOBREAK
Identificatie	B
Geaard	
Sectie Aardingskabel	
Gebouw	
Verdiep	
Lokaal	
Verliesstroomschakelaar	
Naam	diffA
Aantal Polen	2P
Fase	
Nominale Stroom	
Nominale Foutstroom	
Type	
Kortsluitstroom	3
Stroomopwaarts Element	VK1:P
Via Transfo	
Via kWh Teller	
Via Aftakdoos	
Via Raiklem	
Naar Raiklem	
Installatiedatum	
Label	
Aangesloten Kabel Stroomafwaarts	
Type Kabel	
Klasse	
Aantal Aders	
Draadsectie	
Aardingsader in Mantel	Ja
Aantal Hulpgeleiders	
Draadsectie Hulpgeleid...	
Aard van Montage	
Afstand	

Figure 13

### 5.3.2 Use, add and manage favorite residual current switch

By clicking on the arrow at the bottom of the "Residual current switch" button on the menu bar, a selection menu opens with a number of pre-programmed residual current switches. By choosing one of these, several attributes in the attribute list are already filled in (check whether everything is correct according to the installation to be drawn).

The user can also include his favorite residual current switches in this list (max. 10). This is done as follows:

1. Compose a residual current switch on the drawing sheet with the desired attributes
2. Select the Lossflow Switch and choose "Add to Favorites" in the right-click menu.
3. By default, the attributes are used as the name of the favorite. This name can be changed.

The created residual current switch is now also included in the list of favorites under the Residual current switch button in the menu bar.

All attributes or attributes are stored with the favorite component with the exception of the following attributes: Name, Upstream Element, Screw terminal, and Label.

To change the order of the favorites:

1. Open the submenu under the Loss Current Switch button in the menu bar
2. Choose "Manage Favorites"
3. Select the favorite residual current switch to move from the list
4. Move this residual current switch up or down using the arrow buttons to the right of the list
5. Once the order is correct, click on "OK".

To remove a favorite:

1. Open the submenu under the Loss Current Switch button in the menu bar
2. Choose "Manage Favorites"
3. Select the favorite residual current switch to remove from the list
4. Click on the "Remove" button below the list
5. Click "OK".

## 5.4 Add automatic switches and fuses

### 5.4.1 General

To add an automatic switch or fusible link to the active fuse box:

1. Left-click the "Automatic switch" or "Fuse link" button 1x on the menu bar
2. On the drawing window, click where you want to place the automatic switch or fuse.

Once the automatic switch or fuse is placed on the drawing sheet and made active by clicking on it (bordered in red), the attributes or parameters of this component can be entered or adjusted in the attribute window.

These are (see Figure 14):

- **Name:** by default named A, B, C, ... (shown in the field as <Name of fuse box>:<Name> (Label). This name can be changed manually by typing in the field.

**NOTE: In case of manual change of name, the automatic lettering will be interrupted and the names of the following automatic switches will not be automatically changed in the event of any changes, such as the removal of an automatic switch!**

**It is recommended to first put the assembly of the distribution box completely with automatic name, then place the automatic switches that need to change names at the very end of the alphabet by "switching" them via the dropdown menu and only then make the manual name change.**

- **Upstream element:** indicates where the "input" of this component is connected (upstream). This upstream connected element can also be located in another distributed fuse box.

#### **TIP**

**To connect a component to another component, you can also click on the black box on the component symbol on the drawing board with your left mouse button and drag the line with the left mouse button to the black box of the component you want to connect to.**

- **Upstream UPS:** : When an inverter with UPS output is installed and connected, the UPS output of the inverter can be selected as an upstream element.
- **Number of poles:** choice of selection menu (1P, 2P, 3P, 3P+N)
- **Phase:** Displays the phase distribution. The options in the drop-down menu depend on the type of connection specified in the Installation data (see under the Home tab -

> menu bar: Installation) and the number of poles (see above) and also depend on the phase distribution made on a upstream element.

- **Nominal current (in A):** choice of selection menu or free inputs
  - **Nominal fault current (in case of automatic differential):** Indicate here whether it is an automatic differential by selecting or entering a nominal fault current. This field is only active if no "knock-out mechanism" has been chosen (see below).
  - **Switch-off curve:** choice of selection menu or free entries
  - **Short-circuit current (in kA):** choice of selection menu or free inputs
  - **Separating mechanism:** Choose the number and type of separating mechanism here. If a type has been chosen, this is also indicated on the single-wire diagram. This field is only active if no "nominal fault current" is chosen (see above).
- 
- **Via Transfo:** This opens the Customization window related to this component (see below 11.8.8)
  - **Via kWh counter:** This opens the Customization window related to this component (see 11.8.8)
  - **Via junction box:** This opens the Customization window related to this component (see 11.8.8)
  - **Via Screw terminal:** This opens the Customization window related to this component (see 11.8.8 and 14.2.3). This gives the possibility to add a screw terminal for the selected component.
  - **To screw terminal:** Here you can add a terminal downstream ("new") or modify an already connected terminal (downstream). You can then choose to install all components that are already connected downstream such as light points, sockets, etc. to the same terminal. In this way, one can avoid making this connection component by component via the attributes of this component (see 14.2.3).
  - **Installation date:** Here it can be indicated that the part of the installation connected behind this component (downstream) is part of an "old installation", installed before 1/10/1981. Another text can also be entered here. This text is displayed on the single-wire diagram vertically along **each** circle behind this component.
  - **Label:** this is a freely selectable name for the component. A clear label makes it easier to choose the different components later in other menus where these components are included.
  - **Connected Cable Downstream:**
    - **Type of cable:** choice of selection menu or free inputs
    - **Class of the cable:** choice of selection menu or free inputs
    - **Number of cores:** choice of selection menu or free entries
    - **Wire section:** choice of selection menu or free entries
    - **Grounding vein in Mantel:** yes/no. Is the conductor or cable that provides the earthing enclosed in the same sheath or insulation as the conductors or cables that provide the voltage.
    - **Number of Auxiliary Guides:** choice of selection menu or free entry
    - **Wire section Auxiliary guides:** choice of selection menu or free entry
    - **Nature of Assembly:** choice of selection menu or free inputs. Shows how the cable is attached

- **Distance** (in m): The length of the cable between the automatic switch and the consumer is indicated here. This distance is also indicated on the single-wire diagram
- **Switched by:** Here you can choose from all switches created in the project (only in case the component is switched by a normal switch, this must be indicated via the situation diagram in the attributes of that switch (see below)).

Verdeelkast	
Naam	VK1
Identificatie	A
Geraard	Ja
Sectie Aardingskabel	10
Gebouw	Woning
Verdiep	0
Lokaal	
Automatische Schakelaar	
Naam	A
Aantal Polen	3P+N
Fase	
Nominale Stroom	16
Nominale Foutstroom	
Uitschakelcurve	C
Kortsluitstroom	3
Uitklinkmechanisme	
Stroomopwaarts Element	VK1:diffB
Via Transfo	
Via kWh Teller	
Via Aftakdoos	
Via Raiklem	
Naar Raiklem	
Installatiedatum	
Label	verlichting1
Aangesloten Kabel Stroomafwaarts	
Type Kabel	XVB
Klasse	Cca
Aantal Aders	3
Draadsectie	1,5
Aardingsader in Mantel	Ja
Aantal Hulpgeleiders	
Draadsectie Hulpgeleid...	
Aard van Montage	In Muur

Figure 14

When a switch, kWh meter and/or transformer is part of the connection between 2 components in the fuse box, this connection will be shown schematically by means of a broken line (dotted line) instead of by a solid line.

#### 5.4.2 Use, add and manage favorite automatic switch

By clicking on the arrow at the bottom of the "Automatic switch" button on the menu bar, a selection menu opens with some pre-programmed automatic switches. By choosing one of these, several attributes in the attribute list are already filled in (check whether everything is correct according to the installation to be drawn).

The user can also include his favorite automatic switches in this list (max. 10). This is done as follows:

1. Compose an automatic switch on the drawing sheet with the desired attributes
2. Select the automatic switch and choose "Add to Favorites" in the right-click menu.
3. By default, the attributes are used as the name of the favorite. This name can be changed.

The created automatic switch is now also included in the list of favorites under the Automatic Switch button in the menu bar.

All attributes or attributes are stored with the favorite component with the exception of the following attributes: Name, Phase, Upstream Element, Screw terminal, and Label.

To change the order of the favorites:

1. Open the submenu under the Auto Switch button in the menu bar
2. Choose "Manage Favorites"
3. Select the favorite automatic switch to move from the list
4. Move this automatic switch up or down using the arrow buttons to the right of the list
5. Once the order is correct, click on "OK".

To remove a favorite:

1. Open the submenu under the Auto Switch button in the menu bar
2. Choose "Manage Favorites"
3. Select the favorite automatic switch to remove from the list
4. Click on the "Remove" button below the list
5. Click "OK".

### 5.5 Mention "Old Installation" or other additional entry on a circuit

It is mandatory to indicate the parts of the electrical installation whose installation date dates from before 1/10/1981 on the single-wire diagram marked "Old installation".

This can be done at the level of the residual current switch (see 5.3.1) and at the level of the automatic switch (see 5.4.1) must be specified.

It should be taken into account that if a residual current switch or an automatic switch is given the message "Old installation" (or other marking), all circuits downstream connected to this component will receive this message.

In this field you can also enter another comment so that you can place extra information next to a circle, so not just an installation date.

### 5.6 Surge protection

To add a surge protector to the active distribution box, left-click 1x on the button with the respective component in the menu bar and then click on the drawing window at the place where you want to place this component and connect the component to the "output" of the appropriate protection component.

Once the surge protector has been placed on the drawing sheet and made active by clicking on it (bordered in red), the attributes or parameters of this component can be entered or modified in the attribute window.

These are:

- **Number of poles:** choice of selection menu (1P, 2P, 3P, 3P+N)
- **Phase:** Displays the phase distribution. The options in the selection menu depend on the type of connection specified in the Installation data (see under the Home tab -> menu bar: Installation) and the number of poles and also on any upstream phase distribution.
- **Upstream element:** indicates where the "input" of this component is connected (upstream). This upstream connected element can also be located in another distributed distribution box.
- **Via Junction Box:** This opens the Customization window related to this component (see 11.8.8)

- **Via Rail Clamp:** This opens the Fitting window for this component (see 11.8.8 and 14.2.3). This gives the possibility to add a rail clamp for the selected component.
- **Nominal Discharge Surge Current:** The maximum nominal discharge surge current for this component (in kA) can be specified here. You can choose from the drop-down menu or type in a value freely.
- **Label:** this is a freely selectable name for the component. A clear label makes it easier to choose the different components later in other menus where these components are included.

## 5.7 Adding components with control and circuit

To add an impulse switch, a contactor, a modular dimmer with external control circuit or a timer to the active fuse box, click with the left mouse button 1x on the button with the respective component in the menu bar and then click on the drawing window at the place where you want to place this component.

Components such as an impulse switch, a contactor, a modular dimmer and a timer switch are divided into 2 circuits, viz.

- The control circuit: voltage on this circuit will result in switching or dimming the output on the circuit. This input (A1-A2) is therefore switched by itself.
- Circuit: this is the circuit on which the consumer is located and which is switched by the component.

In Schematics this distinction is also made clear and thus represented on the single-wire diagrams.

On the drawing sheet of the Fuse box, the connection is made between the control circuit component and a component connected upstream such as an automatic switch (see Figure 15).

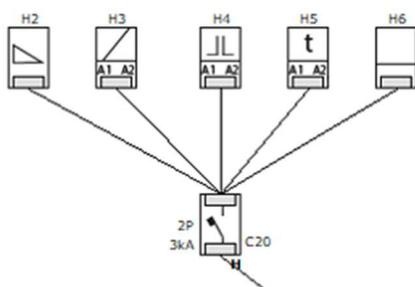


Figure 15

In the attribute window you can enter or change the following attributes (see Figure 16) when the component is selected:

- **Current path:** To which component is the control circuit connected? The selection menu shows all possible components to which the control circuit can be connected.

**TIP**

To connect a component to another component, you can also click on the black box on the component symbol on the drawing board with your left mouse button and drag the line with the left mouse button to the black box of the component you want to connect to.

- **Name:** Choice from drop-down menu, type of component
- **Maximum Consumption (in W):** How many Watts does this component consume when switched on. This value is not yet used in the current version of Schematics.
- **Number of Poles (not for Modular Dimmer):** choice from selection menu. How many poles does the circuit contain?
- **Nominal Current (not for Modular Dimmer):** choice of selection menu or free inputs
- **Via Transfo:** This opens the Customization window related to this component (see below 11.8.8)
- **Via kWh counter:** This opens the Customization window related to this component (see 11.8.8)
- **Via junction box:** This opens the Customization window related to this component (see 11.8.8)
- **Via Screw terminal:** This opens the Customization window related to this component (see 11.8.8 and 14.2.3). This gives the possibility to add a screw terminal for the selected component
- **Label:** this is a freely selectable name for the component. A clear label makes it easier to choose the different components later in other menus where these components may be included.
- **Linked by:** Here you can choose which other component switches the control circuit. If switched by a switch, push button or motion detector, this is indicated on the situation diagram (see 11.8)
- **Switches:**
  - **Parallel to:** here you can indicate to which other component the circuit of the circuit (the consumer) is connected in parallel. This parallel connection is therefore shown as a parallel connection on the single-wire diagram.
  - **All other connection points:** Here you can indicate by means of selection menus which load is switched via the circuit. In the list, all elements (light points, sockets, appliances, locks, bells, inverters, charging stations and other components that are installed and connected in the fuse box e.g. Most circuits (except those of other components) can also be indicated via the situation diagram (see 11.8).

**TIP**

When many elements are installed on the fuse boxes and situation diagrams, the list of switched consumers or elements can be relatively long and you sometimes have to scroll down far before you find the right element. By pressing the "-" sign in front of the type of element, the list closes, bringing up child lists.

This list can also be shown collapsed by default by checking the "Expand Simplifies" setting under the Home Tab.

<b>Verdeelkast</b>	
Naam	VK1
Identificatie	A
Geraard	Ja
Sectie Aardingskabel	10
Gebouw	Woning
Verdiep	0
Lokaal	
<b>Overig Component</b>	
Stroombaan	VK1:N
Naam	Impulsschakelaar
Aantal Polen	1P
Nominale Stroom	
Via Transfo	
Via kWh Teller	
Via Aftakdoos	
Via Raiklem	
Label	vr cont1
<b>Geschakeld Door</b>	
Andere Schakelaars	0
Schakelklok	
Dimmer Int. Stuurkring	
Manuele Schakelaar	
Impulsschakelaar	
Contactoor	VK1:O1 (cont1)
Dimmer Ext. Stuurkring	
Tijdschakelaar	
Algemeen Component	
Domotica Module	
<b>Schakelt</b>	
Via Aftakdoos	
Via Raiklem	
<b>Parallel Met</b>	
<b>Verlichtingspunten</b>	

Figure 16

## 5.8 Adding a manual switch/disconnector in fuse box

To add a manual switch/disconnector to the active fuse box, click with the left mouse button 1x on the "Manual switch" button in the menu bar and then click on the drawing window at the place where you want to place this component.

A manual switch/disconnector has no control circuit but is a direct circuit of a connected consumer and is therefore on the same circuit.

Once the switch is placed on the drawing sheet and activated (red border) you can enter or adjust the following attributes or parameters in the attribute window (see Figure 17):

- **Type:** Select from the selection menu from "Load switch", "Switch-disconnector", "General manual switch", "Disconnector", "Isolator switch" or "Power circuit breaker". The symbol is adjusted to the correct type on both the drawing sheet of the fuse box and on the single-wire diagram.
- **Current path:** not applicable for this type of switch
- **Number of poles:** here you indicate how many poles the switch/disconnector has. This is also shown on the single-wire diagram.
- **Rated current:** Enters the rated current of this component (in A). This is also shown on the single-wire diagram.
- **Label:** Freely gives a label to the component. This is also shown on the single-wire diagram. By default, a name is given to this component with composition MSx with x = sequence number.

- **Switches:** Choose the component that is switched by this switch/disconnector. The components are sorted by type.

TIP: Under the attribute "Switches" there is a list of all components that can be switched, ordered by type of component and is shown expanded by default. However, the list can become very long in larger installations. To make this list clearer and to speed up the finding of the component, you can also have this list collapsed by default. This can be done by checking the setting "Expand Switches" under the "Home" tab.

<b>Verdeelkast</b>	
Naam	zolder
Geaard	
Sectie Aardingskabel	
Gebouw	
Verdiep	
Lokaal	
<b>Manuele Schakelaar</b>	
Type	Lastschakelaar
Aantal Polen	2P
Nominale Stroom	
Label	zolder5
<b>Schakelt</b>	
Verlichtingspunten	
Contactdozen	
Toestellen	
Sloten	
Bellen	
Omvormers	
Laadpalen	
Overige Componenten	
Beveiligingscomponenten	
Garage:A	
Garage:AA	
Garage:AB	
Garage:AC	
Garage:AD	
Garage:AE	
Garage:AF	
Garage:B	
Garage:C	
Garage:D	
Garage:E	
Garage:F	

Figure 17

## 5.9 Add timer switch

To add a timer to the active fuse box, click with the left mouse button 1x on the "timer switch" button in the menu bar and then click on the drawing window at the place where you want to place this component.

A timer has no control circuit but is a direct circuit from a connected consumer and is therefore on the same circuit.

Once the timer has been placed on the drawing sheet and activated (red border), you can enter or adjust the following attributes or parameters in the attribute window (see Figure 18 ):

- **Label:** a name that can be freely chosen, which makes it easier to find this timer in any selection menus. By default, a name is given to this component with composition SKx with x = sequence number.
- **Switches**
  - **Parallel with:** here you can indicate with which other component this timer is connected in parallel for switching a consumer or connection point.
  - **Input module:** here you can indicate whether the timer switches an input from any input module (Domotics). In the input module's selection menu, all input or input modules are listed together with an input number. So an input module with 4 inputs will appear 4 times in the list with a different input number each time (in this case from 1 to 4).

- **Lighting points, sockets, ...:** here you can indicate which consumer or connection point is switched by the timer by selecting "Yes" after the appropriate connection point. By default, these fields are empty, which indicates that this connection point is NOT switched by this timer.

Verdeelkast	
Naam	vk1
Geaard	Ja
Sectie Aardingskabel	16
Gebouw	Woning
Verdiep	0
Lokaal	
Schakelklok	
Stroombaan	
Label	SK1
Schakelt	
<input type="checkbox"/> Parallel Met	
<input type="checkbox"/> Verlichtingspunten	
<input type="checkbox"/> Contactdozen	
<input type="checkbox"/> Toestellen	
<input type="checkbox"/> Overige	
<input type="checkbox"/> Overige Componenten	
<input type="checkbox"/> Beveiligingscomponenten	
vk1:A (Verl. Glv)	
vk1:B	
vk1:C	
vk1:D	
vk1:E	
vk1:diffA (Hoofddiff)	

Figure 18

## 5.10 Add Dimmer Internal Control Circuit

To add a dimmer with an internal control circuit to the active fuse box (where in reality the push buttons are connected directly and without voltage to the dimming module), click with the left mouse button 1x on the button "Dimmer Int. Control circuit" in the menu bar and then click on the drawing window at the place where you want to place this component.

A dimmer with internal control circuit does not have an external control circuit but is a direct circuit from a connected consumer and is therefore on the same circuit.

Once the dimmer with internal control circuit is placed on the drawing sheet and activated (red border), you can enter or adjust the following attributes or parameters in the attribute window (see Figure 19):

- **Label:** a name that can be freely chosen, which makes it easier to find this component in any drop-down menus. By default, a name is given to this component with composition DISx with x = sequence number.
- **Switches**
  - **Parallel with:** here you can indicate with which other component this dimmer with internal control circuit is connected in parallel for switching a consumer or connection point.
  - **Lighting points, sockets, ...:** here you can indicate which consumer or connection point is switched by the component by selecting "yes" after the appropriate connection point. By default, these fields are empty, which indicates that this connection point is NOT switched by this dimmer with internal control circuit.

<b>Verdeelkast</b>	
Naam	VK101
Geraard	Ja
Sectie Aardingskabel	16
Gebouw	Woning
Verdiep	0
Lokaal	
<b>Dimmer Int. Stuurkring</b>	
Label	DIS2
<b>Schakelt</b>	
<b>Parallel Met</b>	
Schakelaar	
Bewegingsmelder	
Drukknop	
Schakelklok	
Dimmer Int. Stuurk...	
Overig Component	
Domotica Module	
<b>Verlichtingspunten</b>	
VK101:C1 (inkom2...	
VK101:C2 (testka...	
VK101:C3 (berging)	
VK101:C4 (bureau)	
VK101:C5 (inkom)	
VK101:C6 (badka...	
VK101:C7	
VK101:E3	
VK101:F1 (test)	
VK101:G3 (testlabel)	
<b>Contactdozen</b>	
VK101:E1	
<b>Toestellen</b>	
VK101:E1	
VK101:E2	

Figure 19

### 5.11 Add a general module without a coil

To add a general module without a control circuit or coil to the active fuse box, click with the left mouse button 1x on the "General Without Coil" button in the menu bar and then click on the drawing window at the place where you want to place this component.

A general module without a coil is a direct connection from a connected consumer and is therefore on the same circuit as the connected consumer.

Once the general module without coil has been placed on the drawing sheet and activated (red border), you can enter or modify the following attributes or parameters in the attribute window:

- **Label:** a name that can be freely chosen, which makes it easier to find this module in any drop-down menus. By default, a name is given to this component with composition ALGx with x = sequence number.
- **Schakelt**
  - **Parallel with:** here you can indicate with which other component this module is connected in parallel for switching a load or connection point.
  - **Lighting points, sockets, ...:** here you can indicate which consumer or connection point is switched by the module by selecting "yes" after the appropriate connection point. By default, these fields are empty, which indicates that this connection point is NOT switched by this timer.
  - **Input module:** here you can indicate whether the module switches an input of a possible input module (home automation). In the input module's selection menu, all input or input modules are listed together with an input number. So an input module with 4 inputs will appear 4 times in the list with a different input number each time (in this case from 1 to 4).

## 6 Assembling the fuse box Domotics

### 6.1 General

To integrate a Domotics system into Schematics and the electrical diagrams in general, a Domotics fuse box must be created (even if the Domotics modules are contained in the same fuse box as the 230V components). All modules that are part of your Domotics system are attached to this Domotics fuse box and connected to a power supply.

### 6.2 Adding a new or additional Domotics fuse box

To put together one or more Domotics fuse boxes (SELV), you need to choose "Domotics" in the tab menu. The menu bar looks like in Figure 20.

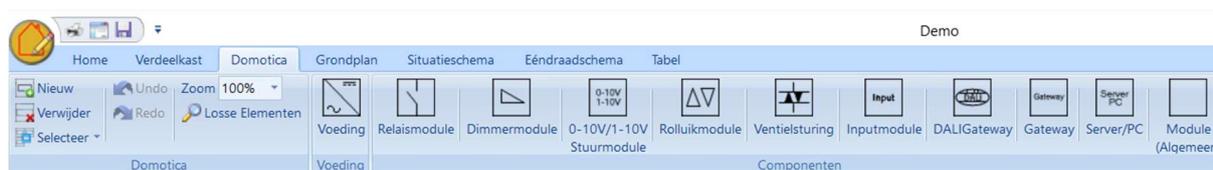


Figure 20

It is recommended to also create a separate Domotics fuse box in Schematics for each physical Domotics fuse box in the installation. You can create a new fuse box by clicking on the "New" button in the menu bar (under the "Domotics" tab menu).

If no Domotics fuse box has yet been created within the project, when opening the tab menu "Domotics", a window will first appear to specify a unique name for the Domotics fuse box to be created. This name can be chosen freely, but since it will also be mentioned on the one-wire diagrams, it is recommended to give a clear name that does not contain too many characters.

You can also delete a created Domotics fuse box by clicking on "Delete" in the same menu bar. At that time, the open (active) Domotics fuse box will be removed.

Different Domotics fuse boxes or pages can be created in this way. To go to the desired Domotics fuse box, use the "Select" button in the menu bar and click on the desired Domotics fuse box in the menu that opens.

Once a Domotics fuse box has been created, the name of the Domotics fuse box can be changed in the attribute window.

### 6.3 Adding components and assembling a bus

A Domotics installation usually contains a transformer or power supply for the bus voltage. This power supply is selected in the menu bar by clicking on the "Power supply" button and then clicking on the drawing sheet where you want to place the power supply. This can always be moved afterwards by dragging with the mouse.

The attribute list of the power supply contains the following parameters (see Figure 21):

- **Current path:** here is indicated on which 230V component from the fuse boxes 230V this power supply is connected. In the selection menu, all possible 230V components are displayed with "name fuse box: component (label)"
- **Name:** power supply (cannot be changed)

- **Maximum consumption:** is not yet applicable in this version. This can be applied in subsequent versions, but it is not mandatory to enter. Free inputs.
- **Protocol:** here you can indicate which Domotics system or protocol is used. Choice of a selection menu or free entries possible.
- **Via kWh counter:** This opens the Customization window related to this component (see 11.8.8)
- **Via junction box:** This opens the Customization window related to this component (see 11.8.8)
- **Via Screw terminal:** This opens the Customization window related to this component (see 11.8.8 and 14.2.3). This gives the possibility to add a screw terminal for the selected component
- **Label:** free to choose name for the food. This is also displayed on the one-wire diagram and makes it easy to find the correct power supply in certain selection menus.

Domotica	
Naam	Domo
Overig Component	
Stroombaan	VK WONING 2:K (VK Domo...
Naam	Voeding
Op Transfo	Neen
Maximum Verbruik (W)	
Schakeling Voor/Na Transfo	Na
Protocol	KNX
Label	Voeding Domot.

Figure 21

To connect other modules to the Domotics power supply (bus), choose the desired module in the menu bar (under menu tab "Domotics") and place it on the drawing board. You can then connect this module to the Domotics power supply via either the attribute list (see further under 6.4) or by dragging with the mouse (left mouse button held) from the black field in the symbol of the module to the black field of the "output" of the power supply. (see Figure 20).

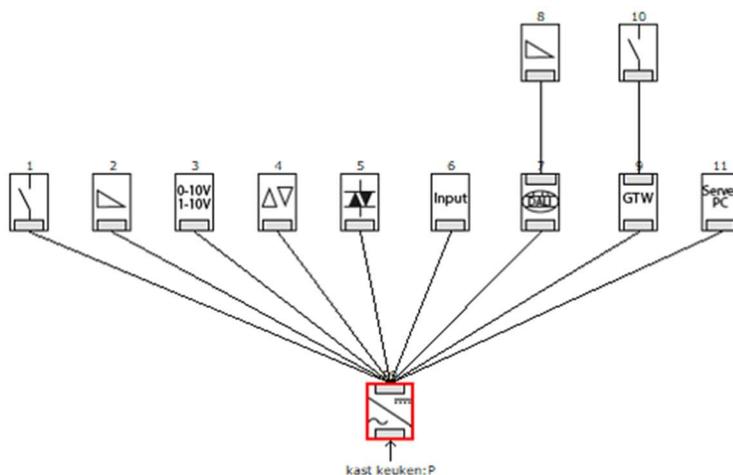


Figure 22

## 6.4 Type of components

### 6.4.1 Relay module

The relay module is a switching module with relay outputs.

Once placed and connected to the appropriate power supply (see above) you can enter or adjust the following attributes in the attribute field (see Figure 23):

- **Name:** non-committal entries, together with the Label (see below) this name is printed on the one-wire diagram of the Domotics installation.
- **Extra Operating Voltage:** some Domotics modules require an additional 230V power supply, outside the bus power supply, to function (e.g. some dimmer modules, blind modules, ...). Here the current path is specified to which this extra power supply is connected. This extra power supply will also be indicated on the single wire diagram of the 230V installation.  
**NOTE: if in reality the module is only connected to a bus power supply, this field must be left empty.**
- **Number of outputs:** Indicates how many relay outputs this module has. These outputs are displayed, together with a reference to the connected consumer or connection point, on the single-wire diagram of the Domotics installation (see below).
- **Manufacturer:** (optional) enters the manufacturer of the module here. This is then indicated in the bill of materials (see below).
- **Model:** (optional) enters the model or type number of the module. This is then indicated in the bill of materials (see below).
- **Maximum Power Consumption (in mA):** (optional) this value is not used in the current version but may be used in subsequent updates.
- **Connected to:** here it is indicated to which Domotics power supply this module is connected, and thus to which Domotics bus it should be drawn on the single wire diagram of the Domotics installation.

This upstream element can be selected

- via the selection menu, which includes all possible power supplies
  - by drawing a line between the black "input" field in the module icon on the drawing field and the black "output" field in the power supply icon. (Hold down the left mouse button while dragging the connector).
- **Switches:** Indicates which consumer or connection point switches each output of the module.
    - **Via output:** here you can choose an output via the drop-down menu for which the parameters or attributes below apply.
    - **External Contact:** if the chosen output is connected to an external de-energized contact, you can provide a label that will be displayed on the Domotics single-wire diagram.

**PLEASE NOTE:**

**If you have manually assigned an External contact, this output is considered used and will no longer be able to be used to perform a circuit elsewhere. This output will therefore no longer be displayed in the "Switched Door" attributes of e.g. a light point.**

- **Via Junction box:** cannot be changed. This is determined in the attributes of the switched component.
- **Via Screw terminal:** not changeable. This is determined in the attributes of the switched component.
- **Label:** A non-binding label can be entered here for the output, which will also be indicated in the SELV single-wire diagram. In contrast to the External contact, this output will not yet be considered as used and will still be included in the list of "switched by" in the attributes of other components such as a light point. In this list, the label will also be indicated to make it easier to find the correct exit.

(The following attributes only become available when the module is connected to a power supply, see attribute "Upstream element")

- **Parallel to:** here you can indicate that the chosen output is connected in parallel with another switch. You can indicate this via the selection menu behind each type of switch. The circuit will also be drawn as parallel on the single-wire diagram of the 230V installation.
- **Different types of connection points (only the possible connection points are included in the list):** here you can indicate which load(s) or which connection point(s) will be switched directly or in series. This is done by selecting "yes" in the list via the selection menu after the correct consumer or connection point. An empty field equals "no".

■ Domotica	
Naam	dom
■ Relaismodule	
Naam	1.1.1
Supplementaire Stroomb...	
Aantal Uitgangen	6
Fabrikant	Theben
Model	relais1
Maximum Stroomverbrui...	
Aangesloten Op	VK1:D2
■ Schakelt	
Via Uitgang	1
Extern Contact	
Label	testlabel
■ Parallel Met	
Schakelaar	
Bewegingsmelder	
Drukknop	
Schakelklok	
Dimmer Int. Stuurk...	
Overig Component	
Domotica Module	
■ Verlichtingspunten	
VK1:A1	
VK1:A2	
VK1:A3	
VK1:A4	
VK1:A5	
VK1:A6	
VK1:B1	
VK1:B2	
VK1:B3	
VK1:B4	
VK1:B5	

Figure 23

#### 6.4.2 Dimmer module

The dimmer module is a module with outputs to dim a lighting point or other consumer.

Once placed and connected to the appropriate power supply (see above) you can enter or adjust the following attributes in the attribute field (see Figure 24):

- **Name:** non-committal entries, together with the Label (see below) this name is printed on the one-wire diagram of the Domotics installation.
- **Extra Operating Voltage:** some Domotics modules require an additional 230V power supply, outside the bus power supply, to function (e.g. some dimmer modules, blind modules, ...). Here the current path is specified to which this extra power supply is connected. This extra power supply will also be indicated on the single wire diagram of the 230V installation.  
**NOTE:** if in reality the module is only connected to a bus power supply, this field must be left empty.
- **Number of outputs:** Indicates how many outputs this module has. These outputs are displayed, together with a reference to the connected consumer or connection point, on the single-wire diagram of the Domotics installation (see below).
- **Manufacturer:** (optional) enters the manufacturer of the module here. This is then indicated in the bill of materials (see below).
- **Model:** (optional) enters the model or type number of the module. This is then indicated in the bill of materials (see below).
- **Maximum Power Consumption (in mA):** (optional) this value is not used in the current version but may be used in subsequent updates.

- **Connected to:** here it is indicated to which Domotics power supply this module is connected, and thus to which Domotics bus it should be drawn on the single wire diagram of the Domotics installation.

This upstream element can be selected

- via the selection menu, which includes all possible power supplies
  - by drawing a line between the black "input" field in the module icon on the drawing field and the black "output" field in the power supply icon (keep the left mouse button pressed while dragging the connector).
- **Switches:** Indicates which consumer or connection point switches each output of the module.
    - **Via output:** here you can choose an output via the drop-down menu for which the parameters or attributes below apply.
    - **External Contact:** when the chosen output is connected to an external contact, you can provide a label that will be displayed on the Domotics single-wire diagram.

**PLEASE NOTE:**

**If you have manually assigned an External contact, this output is considered used and will no longer be able to be used to perform a circuit elsewhere. This output will therefore no longer be displayed in the "Switched Door" attributes of e.g. a light point.**

- **Via Junction box:** cannot be changed. This is determined in the attributes of the switched component.
- **Via Screw terminal:** not changeable. This is determined in the attributes of the switched component.
- **Label:** A non-binding label can be entered here for the output, which will also be indicated in the SELV single-wire diagram. In contrast to the External contact, this output will not yet be considered as used and will still be included in the list of "switched by" in the attributes of other components such as a light point. In this list, the label will also be indicated to make it easier to find the correct exit.

(The following attributes only become available when the module is connected to a power supply, see attribute "Upstream element")

- **Parallel to:** here you can indicate that the chosen output is connected in parallel with another switch/dimmer. You can indicate this via the selection menu behind each type of switch. The circuit will also be drawn as parallel on the single-wire diagram of the 230V installation.
- **Different types of connection points (only the possible connection points are included in the list):** here you can indicate which load(s) or which connection point(s) will be switched directly or in series.

This is done by selecting "yes" in the list via the selection menu after the correct consumer or connection point. An empty field equals "no".

<b>Domotica</b>	
Naam	dom
<b>Dimmermodule</b>	
Naam	2
Supplementaire Stroomb...	
Aantal Uitgangen	4
Fabrikant	
Model	
Maximum Stroomverbrui...	
Aangesloten Op	VK1:D2
<b>Schakelt</b>	
Via Uitgang	1
Extern Contact	
Label	test
<b>Parallel Met</b>	
Schakelaar	
Bewegingsmelder	
Drukknop	
Schakelklok	
Dimmer Int. Stuurk...	
Overig Component	
Domotica Module	
<b>Verlichtingspunten</b>	
VK1:A1	
VK1:A2	
VK1:A3	
VK1:A4	
VK1:A5	
VK1:A6	
VK1:B1	
VK1:B2	
VK1:B3	
VK1:B4	
VK1:B5	

Figure 24

#### 6.4.3 0-10V control module

A 0-10V or 1-10V control module is a module where the outputs can vary between 0 to 10V or 1 to 10V to dim the connected load.

Once placed and connected to the appropriate power supply (see above) you can enter or adjust the following attributes in the attribute field (see Figure 25):

- **Name:** non-committal entries, together with the Label (see below) this name is printed on the one-wire diagram of the Domotics installation.
- **Extra Operating Voltage:** some Domotics modules require an additional 230V power supply, outside the bus power supply, to function (e.g. some dimmer modules, blind modules, ...). Here the current path is specified to which this extra power supply is

connected. This extra power supply will also be indicated on the single wire diagram of the 230V installation.

**NOTE:** if in reality the module is only connected to a bus power supply, this field must be left empty.

- **Number of outputs:** Indicates how many outputs this module has. These outputs are displayed, together with a reference to the connected consumer or connection point, on the single-wire diagram of the Domotics installation (see below).
- **Manufacturer:** (optional) enters the manufacturer of the module here. This is then indicated in the bill of materials (see below).
- **Model:** (optional) enters the model or type number of the module. This is then indicated in the bill of materials (see below).
- **Maximum Power Consumption (in mA):** (optional) this value is not used in the current version but may be used in subsequent updates.
- **Connected to:** here it is indicated to which Domotics power supply this module is connected, and thus to which Domotics bus it should be drawn on the single wire diagram of the Domotics installation.

This upstream element can be selected

- via the selection menu, which includes all possible power supplies
  - by drawing a line between the black "input" field in the module icon on the drawing field and the black "output" field in the power supply icon (keep the left mouse button pressed while dragging the connector).
- **Switches:** Indicates which consumer or connection point switches each output of the module.
    - **Via output:** here you can choose an output via the drop-down menu for which the parameters or attributes below apply.
    - **External Contact:** when the chosen output is connected to an external contact, you can provide a label that will be displayed on the Domotics single-wire diagram.

**PLEASE NOTE:**

**If you have manually assigned an External contact, this output is considered used and will no longer be able to be used to perform a circuit elsewhere. This output will therefore no longer be displayed in the "Switched Door" attributes of e.g. a light point.**

- **Via Junction box:** cannot be changed. This is determined in the attributes of the switched component.
- **Via Screw terminal:** not changeable. This is determined in the attributes of the switched component.
- **Label:** A non-binding label can be entered here for the output, which will also be indicated in the SELV single-wire diagram. In contrast to the External contact, this output will not yet be considered as used and will still be included in the list of "switched by" in the attributes of other components

such as a light point. In this list, the label will also be indicated to make it easier to find the correct exit.

(The following attributes only become available when the module is connected to a power supply, see attribute "Upstream element")

- **Parallel to:** here you can indicate that the chosen output is connected in parallel with another switch/dimmer. You can indicate this via the selection menu behind each type of switch. The circuit will also be drawn as parallel on the single-wire diagram of the 230V installation.
- **Different types of connection points (only the possible connection points are included in the list):** here you can indicate which load(s) or which connection point(s) will be switched directly or in series. This is done by selecting "yes" in the list via the selection menu after the correct consumer or connection point. An empty field equals "no".

<b>Domotica</b>	
Naam	dom
<b>0-10V/1-10V Stuurmodule</b>	
Naam	3
Supplementaire Stroomb...	
Aantal Uitgangen	2
Fabrikant	
Model	
Maximum Stroomverbrui...	
Aangesloten Op	VK1:D2
<b>Schakelt</b>	
Via Uitgang	1
Extern Contact	
Label	
<b>Parallel Met</b>	
Schakelaar	
Bewegingsmelder	
Drukknop	
Schakelklok	
Dimmer Int. Stuurk...	
Overig Component	
Domotica Module	
<b>Verlichtingspunten</b>	
VK1:A1	
VK1:A2	
VK1:A3	
VK1:A4	
VK1:A5	
VK1:A6	
VK1:B1	
VK1:B2	
VK1:B3	
VK1:B4	
VK1:B5	

Figure 25

#### 6.4.4 Roller shutter module

A roller shutter module is a module with outputs that are provided to connect motors for roller shutters, screens, etc. .

Once placed and connected to the appropriate power supply (see above) you can enter or adjust the following attributes in the attribute field (see Figure 26):

- **Name:** non-committal entries, together with the Label (see below) this name is printed on the one-wire diagram of the Domotics installation.
- **Extra Operating Voltage:** some Domotics modules require an additional 230V power supply, outside the bus power supply, to function (e.g. some dimmer modules, blind modules, ...). Here the current path is specified to which this extra power supply is connected. This extra power supply will also be indicated on the single wire diagram of the 230V installation.  
**NOTE:** if in reality the module is only connected to a bus power supply, this field must be left empty.
- **Number of outputs:** Indicates how many outputs this module has. These outputs are displayed, together with a reference to the connected consumer or connection point, on the single-wire diagram of the Domotics installation (see below).
- **Manufacturer:** (optional) enters the manufacturer of the module here. This is then indicated in the bill of materials (see below).
- **Model:** (optional) enters the model or type number of the module. This is then indicated in the bill of materials (see below).
- **Maximum Power Consumption (in mA):** (optional) this value is not used in the current version but may be used in subsequent updates.
- **Connected to:** here it is indicated to which Domotics power supply this module is connected, and thus to which Domotics bus it should be drawn on the single wire diagram of the Domotics installation.

This upstream element can be selected

- via the selection menu, which includes all possible power supplies
  - by drawing a line between the black "input" field in the module icon on the drawing field and the black "output" field in the power supply icon (keep the left mouse button pressed while dragging the connector).
- **Switches:** Indicates which consumer or connection point switches each output of the module.
    - **Via output:** here you can choose an output via the drop-down menu for which the parameters or attributes below apply.
    - **External Contact:** when the chosen output is connected to an external contact, you can provide a label that will be displayed on the Domotics single-wire diagram.

**PLEASE NOTE:**

**If you have manually assigned an External contact, this output is considered used and will no longer be able to be used to perform a circuit elsewhere. This output**

**will therefore no longer be displayed in the "Switched Door" attributes of e.g. a light point.**

- **Via Junction box:** cannot be changed. This is determined in the attributes of the switched component.
- **Via Screw terminal:** not changeable. This is determined in the attributes of the switched component.
- **Label:** A non-binding label can be entered here for the output, which will also be indicated in the SELV single-wire diagram. In contrast to the External contact, this output will not yet be considered as used and will still be included in the list of "switched by" in the attributes of other components such as a light point. In this list, the label will also be indicated to make it easier to find the correct exit.

(The following attributes only become available when the module is connected to a power supply, see attribute "Upstream element")

- **Parallel to:** here you can indicate that the chosen output is connected in parallel with another switch/dimmer. You can indicate this via the selection menu behind each type of switch. The circuit will also be drawn as parallel on the single-wire diagram of the 230V installation.
- **Different types of connection points (only the possible connection points are included in the list):** here you can indicate which load(s) or which connection point(s) will be switched directly or in series. This is done by selecting "yes" in the list via the selection menu after the correct consumer or connection point. An empty field equals "no".

<b>Domotica</b>	
Naam	dom
<b>Rolluikmodule</b>	
Naam	1.1.4
Supplementaire Stroomb...	
Aantal Uitgangen	4
Fabrikant	
Model	
Maximum Stroomverbrui...	
Aangesloten Op	VK1:D2
<b>Schakelt</b>	
Via Uitgang	1
Extern Contact	
Label	test
<b>Parallel Met</b>	
Rolluikschakelaar	
Domotica Module	
<b>Toestellen</b>	
VK1:D3	
VK1:D4	
VK1:D5	

Figure 26

#### 6.4.5 Valve control

The valve control module is the module whose outputs are connected to electronic valves, usually for controlling the heating circuits.

Once placed and connected to the appropriate power supply (see above) you can enter or adjust the following attributes in the attribute field (see Figure 27):

- **Name:** non-committal entry, together with the Label (see below) this name is printed on the one-wire diagram of the Domotics installation.
- **Extra Operating Voltage:** some Domotics modules require an additional 230V power supply, outside the bus power supply, to function (e.g. some dimmer modules, blind modules, ...). Here the current path is specified to which this extra power supply is connected. This extra power supply will also be indicated on the single wire diagram of the 230V installation.  
**NOTE:** if in reality the module is only connected to a bus power supply, this field must be left empty.
- **Number of outputs:** Indicates how many outputs this module has. These outputs are displayed, together with a reference to the connected consumer or connection point, on the single-wire diagram of the Domotics installation (see below).
- **Manufacturer:** (optional) enters the manufacturer of the module here. This is then indicated in the bill of materials (see below).
- **Model:** (optional) enters the model or type number of the module. This is then indicated in the bill of materials (see below).
- **Maximum Power Consumption (in mA):** (optional) this value is not used in the current version but may be used in subsequent updates.
- **Connected to:** here it is indicated to which Domotics power supply this module is connected, and thus to which Domotics bus it should be drawn on the single wire diagram of the Domotics installation.

This upstream element can be selected

- via the selection menu, which includes all possible power supplies
  - by drawing a line between the black "input" field in the module icon on the drawing field and the black "output" field in the power supply icon (keep the left mouse button pressed while dragging the connector).
- **Switches:** Indicates which consumer or connection point switches each output of the module.
    - **Via output:** here you can choose an output via the drop-down menu for which the parameters or attributes below apply.
    - **External Contact:** when the chosen output is connected to an external contact, you can provide a label that will be displayed on the Domotics single-wire diagram.

**PLEASE NOTE:**

**If you have manually assigned an External contact, this output is considered used and will no longer be able to be used to perform a circuit elsewhere. This output**

**will therefore no longer be displayed in the "Switched Door" attributes of e.g. a light point.**

- **Via Junction box:** cannot be changed. This is determined in the attributes of the switched component.
- **Via Screw terminal:** not changeable. This is determined in the attributes of the switched component.
- **Label:** A non-binding label can be entered here for the output, which will also be indicated in the SELV single-wire diagram. In contrast to the External contact, this output will not yet be considered as used and will still be included in the list of "switched by" in the attributes of other components such as a light point. In this list, the label will also be indicated to make it easier to find the correct exit.

(The following attributes only become available when the module is connected to a power supply, see attribute "Upstream element")

- **Parallel to:** here you can indicate that the chosen output is connected in parallel with another switch/dimmer. You can indicate this via the selection menu behind each type of switch. The circuit will also be drawn as parallel on the single-wire diagram of the 230V installation.
- **Different types of connection points (only the possible connection points are included in the list):** here you can indicate which load(s) or which connection point(s) will be switched directly or in series. This is done by selecting "yes" in the list via the selection menu after the correct consumer or connection point. An empty field equals "no".

<b>Domotica</b>	
Naam	dom
<b>Ventielsturing</b>	
Naam	5
Supplementaire Stroomb...	
Aantal Uitgangen	4
Fabrikant	
Model	
Maximum Stroomverbrui...	
Aangesloten Op	VK1:D2
<b>Schakelt</b>	
Via Uitgang	1
Extern Contact	
Label	
<b>Parallel Met</b>	
Domotica Module	
<b>Toestellen</b>	
VK1:D3	
VK1:D4	
VK1:D5	

Figure 27

#### 6.4.6 Input module

An input module or input module is a module with inputs that are connected to a switching element (push button, switch, relay output, etc.).

Once placed and connected to the appropriate power supply (see above) you can enter or adjust the following attributes in the attribute field (see Figure 28):

- **Name:** non-committal entries, together with the Label (see below) this name is printed on the one-wire diagram of the Domotics installation.
- **Extra Operating Voltage:** some Domotics modules require an additional 230V power supply, outside the bus power supply, to function (e.g. some dimmer modules, blind modules, ...). Here the current path is specified to which this extra power supply is connected. This extra power supply will also be indicated on the single wire diagram of the 230V installation.  
**NOTE:** if in reality the module is only connected to a bus power supply, this field must be left empty.
- **Number of inputs:** Indicates how many inputs this module has. These inputs are displayed, together with a reference to the connected switching element, on the single-wire diagram of the Domotics installation (see later).
- **Type of inputs:** here you can choose between:
  - Voltage-free
  - 12V
  - 24V
  - 230V

**ATTENTION:** When a "type of inputs" has been chosen and one or more components are already connected to 1 or more of the inputs, the "Type of inputs" can no longer be changed. As soon as no more components are connected to the inputs, this can be adjusted again. Only an adjustment from 12V to 24V or vice versa is always possible.

- **Manufacturer:** (optional) enters the manufacturer of the module here. This is then indicated in the bill of materials (see below).
- **Model:** (optional) enters the model or type number of the module. This is then indicated in the bill of materials (see below).
- **Maximum Power Consumption (in mA):** (optional) this value is not used in the current version but may be used in subsequent updates.
- **Connected to:** here it is indicated to which Domotics power supply this module is connected, and thus to which Domotics bus it should be drawn on the single wire diagram of the Domotics installation.

This upstream element can be selected

- via the selection menu, which includes all possible power supplies
  - by drawing a line between the black "input" field in the module icon on the drawing field and the black "output" field in the power supply icon (keep the left mouse button pressed while dragging the connector).
- **Inputs:**

- **Via Input:** here you can choose an input via the drop-down menu for which the parameters or attributes below apply.
- **Current path (only available if the input type is specified as 12V, 24V or 230V in attribute "Type Inputs" above):** below is a list of all inputs (number = number specified in attribute "Number of Inputs"). Via the selection menu, you can choose a current path or power supply for each input that provides the voltage on the input. If it is a 12V or 24V input, a power supply must therefore be connected, and not directly an automatic switch, for example.

**TIP**

The extra power supply is specified in the "Fuse box" where you can then connect this power supply to a power track, e.g. an automatic switch. By assigning an unambiguous label to the power supply, it becomes easy to find in the selection menu of the attribute "Power supply" or "Power path" of the input module.

- **External Contact:** when the chosen input is connected to an external contact, you can provide a label that will be displayed on the Domotics single-wire diagram.

**PLEASE NOTE:**

**If you have manually assigned an External contact, this input is considered used and will no longer be able to be used to connect to elsewhere. This input will therefore no longer be displayed in the "Switched by" attributes of e.g. a push button.**

- **Via junction box:** only available for **12V, 24V and 230V** Inputs. This opens the Customization window related to this component (see 11.8.8)
- **Via Screw terminal:** only available for **12V, 24V and 230V** Inputs. This opens the Customization window related to this component (see 11.8.8 and 14.2.3). This gives the possibility to add a screw terminal for the selected component
- **Label:** A non-binding label can be entered here for the entrance, which will also be indicated in the SELV single-wire diagram. In contrast to the External contact, this input will not yet be considered as used and will still be included in the list of "Switched by" in the attributes of other components such as a push button. In this list, the label will also be indicated to make it easier to find the correct exit.
- **Switched by:** below is a list of all inputs (number = number specified in attribute "Number of Inputs"). Via the selection menu, you can choose the switching element that is connected to each input. At this point, only those switching elements that are specified in the fuse box are included in the selection menu, such as a contactor, an impulse switch, etc. If the input is switched via a switch or push button, this will be indicated later via the situation diagram, NOT here via the attribute list.

**TIP:**

To switch an input by a timer, you must indicate this in the attribute list of the timer in the Fuse box. By assigning an unambiguous name and/or label to the input of the module, you can easily recognize it in the attribute list of the timer. In the drop-down menu behind the appropriate input module (in the attribute list of the timer) you can indicate the correct input of the module).

<b>Domotica</b>	
Naam	dom
<b>Inputmodule</b>	
Naam	1.1.6
Supplementaire Stroomb...	
Aantal Ingangen	4
Type Ingangen	230V
Fabrikant	
Model	
Maximum Stroomverbrui...	
Aangesloten Op	VK1:D2
<b>Inputs</b>	
Via Ingang	1
Stroombaan	VK1:D
Extern Contact	
Label	test
<b>Geschakeld Door</b>	
Andere Schakelaars	0
Schakelklok	
Dimmer Int. Stuurk...	
Manuele Schakelaar	
Impulsschakelaar	
Contactoor	
Tijdschakelaar	
Component (Algem...	

Figure 28

#### 6.4.7 Dali-Gateway and Gateway (general)

A Gateway module is a module that connects 2 protocols together and thus allows 2 different protocols to communicate with each other. The Dali-Gateway is therefore a kind of "translation module" that translates the protocol of the underlying Domotics installation (e.g. KNX) into the DALI protocol so that the modules on the underlying Domotics installation can communicate with the DALI modules or electronic ballasts (EVSA) connected to the DALI gateway.

Once placed and connected to the appropriate power supply (see above) you can enter or adjust the following attributes in the attribute field (see Figure 29):

- **Name:** non-committal entries, together with the Label (see below) this name is printed on the one-wire diagram of the Domotics installation.

- **Extra Operating Voltage:** some Domotics modules require an additional 230V power supply, outside the bus power supply, to function (e.g. some dimmer modules, blind modules, ...). Here the current path is specified to which this extra power supply is connected. This extra power supply will also be indicated on the single wire diagram of the 230V installation.  
**NOTE:** if in reality the module is only connected to a bus power supply, this field must be left empty.
- **Connection to:** Indicates the protocol to which the Gateway connects from the underlying Domotics installation. For the Dali-Gateway, this is a fixed, unchanging attribute. For the General Gateway, you can choose between some pre-programmed protocols from the drop-down menu, but you can also type a free input in the field.
- **Manufacturer:** (optional) enters the manufacturer of the module here. This is then indicated in the bill of materials (see below).
- **Model:** (optional) enters the model or type number of the module. This is then indicated in the bill of materials (see below).
- **Maximum Power Consumption (in mA):** (optional) this value is not used in the current version but may be used in subsequent updates.
- **Upstream element:** here it is indicated to which Domotics power supply this module is connected, and thus to which Domotics bus it should be drawn on the single wire diagram of the Domotics installation.

This upstream element can be selected

- via the selection menu, which includes all possible power supplies
- by drawing a line between the black "input" field in the module icon on the drawing field and the black "output" field in the power supply icon (keep the left mouse button pressed while dragging the connector).

- **Label:** free entry. This label is displayed together with the name (see above) on the one-wire diagram of the Domotics installation. This label is also used in other drop-down menus, making it easier to identify this module.

<b>Domotica</b>	
Naam	Domo
<b>DALIGateway</b>	
Naam	1.1.8
Supplementaire Stroomb...	VK WONING 2:J (Ext. Voedi...
Verbinding Naar	DALI
Fabrikant	Siemens
Model	Dal01
Maximum Stroomverbrui...	
Stroomopwaards Element	VK WONING 2:K1 (Voeding ...
Label	DaliGtw1

Figure 29

#### 6.4.8 Server/PC

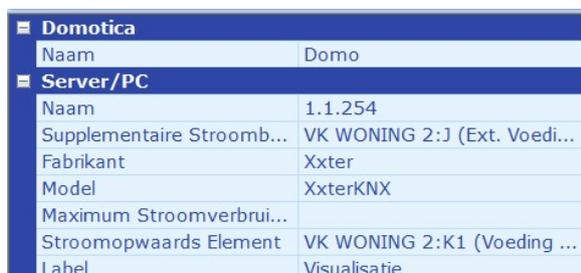
This includes all modules for visualization, logic, ... that have no explicit inputs or outputs.

Once placed and connected to the appropriate power supply (see above) you can enter or adjust the following attributes in the attribute field (see Figure 30):

- **Name:** non-committal entries, together with the Label (see below) this name is printed on the one-wire diagram of the Domotics installation.
- **Extra Operating Voltage:** some Domotics modules require an additional 230V power supply, outside the bus power supply, to function (e.g. some dimmer modules, blind modules, ...). Here the current path is specified to which this extra power supply is connected. This extra power supply will also be indicated on the single wire diagram of the 230V installation.  
**NOTE:** if in reality the module is only connected to a bus power supply, this field must be left empty.
- **Manufacturer:** (optional) enters the manufacturer of the module here. This is then indicated in the bill of materials (see below).
- **Model:** (optional) enters the model or type number of the module. This is then indicated in the bill of materials (see below).
- **Maximum Current Consumption (in mA):** (optional) This value is not used in the current version but may be used in subsequent updates.
- **Upstream element:** here it is indicated to which Domotics power supply this module is connected, and thus to which Domotics bus it should be drawn on the single wire diagram of the Domotics installation.

This upstream element can be selected

- via the selection menu, which includes all possible power supplies
  - by drawing a line between the black "input" field in the module icon on the drawing field and the black "output" field in the power supply icon (keep the left mouse button pressed while dragging the connector).
- **Label:** free entry. This label is displayed together with the name (see above) on the one-wire diagram of the Domotics installation. This label is also used in other drop-down menus, making it easier to identify this module.



<b>Domotica</b>	
Naam	Domo
<b>Server/PC</b>	
Naam	1.1.254
Supplementaire Stroomb...	VK WONING 2:J (Ext. Voedi...
Fabrikant	Xxter
Model	XxterKNX
Maximum Stroomverbrui...	
Stroomopwaards Element	VK WONING 2:K1 (Voeding ...
Label	Visualisatie

Figure 30 Server/PC

#### 6.4.9 Module (General)

This includes all modules without inputs or outputs that are part of the Domotics system.

Once placed and connected to the appropriate power supply (see above) you can enter or adjust the following attributes in the attribute field (see Figure 31):

- **Name:** non-committal entries, together with the Label (see below) this name is printed on the one-wire diagram of the Domotics installation.
- **Extra Operating Voltage:** some Domotics modules require an additional 230V power supply, outside the bus power supply, to function (e.g. some dimmer modules, blind modules, ...). Here the current path is specified to which this extra power supply is connected. This extra power supply will also be indicated on the single wire diagram of the 230V installation.  
**NOTE:** if in reality the module is only connected to a bus power supply, this field must be left empty.
- **Manufacturer:** (optional) enters the manufacturer of the module here. This is then indicated in the bill of materials (see below).
- **Model:** (optional) enters the model or type number of the module. This is then indicated in the bill of materials (see below).
- **Maximum Current Consumption (in mA):** (optional) This value is not used in the current version but may be used in subsequent updates.
- **Upstream element:** here it is indicated to which Domotics power supply this module is connected, and thus to which Domotics bus it should be drawn on the single wire diagram of the Domotics installation.

This upstream element can be selected

- via the selection menu, which includes all possible power supplies
  - by drawing a line between the black "input" field in the module icon on the drawing field and the black "output" field in the power supply icon (keep the left mouse button pressed while dragging the connector).
- **Label:** free entry. This label is displayed together with the name (see above) on the one-wire diagram of the Domotics installation. This label is also used in other drop-down menus, making it easier to identify this module.

<div style="background-color: #0056b3; color: white; padding: 2px;"> <span style="font-size: 0.8em;">▣</span> Domotica         </div>	
Naam	Domo
<div style="background-color: #0056b3; color: white; padding: 2px;"> <span style="font-size: 0.8em;">▣</span> Module (Algemeen)         </div>	
Naam	1.1.10
Supplementaire Stroomb...	
Fabrikant	Theben
Model	
Maximum Stroomverbrui...	
Stroomopwaards Element	VK WONING 2:K1 (Voeding ...
Label	Weerstation

Figure 31

## 6.5 Create and use favorite Domotics modules

By creating favorite Domotics modules, you can reuse them in the same project or in other projects without having to fill in all the attributes again. Attributes that are always variable for each project or module are not stored in the favorites such as Name, Additional operating voltage, Label,...

To create a favorite module:

1. Place a module of your choice in the Domotics fuse box
2. Complete the attributes of your choice
3. Right-click on the module
4. click on "Add Favorite"
5. Give a name to the favorite or choose the automatically generated name
6. Click OK.

To use a favorite module:

1. click on the arrow below the button of the module (in the menu under the Domotics tab)
2. Choose a favorite module from the list that opens here
3. Click on the drawing field and the module will be placed

To customize the list of favorite modules:

1. click on the arrow below the button of the module (in the menu under the Domotics tab)
2. choose Manage Favorites in the menu that opens
3. In the window that opens, you can delete favorites or change the order of modules in the list.

## 7 Design of fuse box

Here, a fuse box can be built as it is or will be assembled in reality, starting from the modules created in the 230V fuse box(s) and SELV fuse box(s).

Figure 32 shows the menu under the Design tab.



Figure 32

### 7.1 Create new design

By clicking on the "Design" tab, you can open the initial dialog for designing your fuse box if no design has yet been created for this project, or go to an already created design. By clicking on "New" in the menu under the "Design" tab, you can also bring up the initial dialog to create a new design.

In the initial dialog, first enter a unique name of the fuse box and in the next pop-up window (see Figure 33) you can enter the following specifications of the fuse box:

1. Number of rows: how many rows or separate rails are present in the fuse box (max 12 rows)

2. Number of modules/row: how many modules can you place on 1 row or rail (max 35 modules). 1 Module corresponds in reality to a width of 18mm.
3. Label height (in mm): Specify how high the labels should be printed later.

Figure 33

## 7.2 Compose design

### 7.2.1 The attribute window

Ontwerp	
Naam	verdeelkast 1
Aantal Rijen	7
Aantal Modules Per Rij	18
Label Hoogte	25

Componenten	
Beveiligingscomponenten	
Schakelaar	
Overige Componenten	
Domotica Voeding	
Domotica Componenten	

Geselecteerde Component	
Naam	VK1:diffB
Breedte	4
Label	Hoofddiff

Figure 34

In the attribute window of the design, you can find the data entered in 7.1 under "Design" and adjust it if necessary.

When adding a row, the new row will always be added at the bottom. When the number of rows is reduced, only the completely empty rows, starting at the bottom, will be removed. Rows with 1 or more modules on them cannot be deleted.

When increasing the number of modules per row, these modules will be added to all rows on the right. When reducing the number of modules per row, these modules will also be removed from the right side, as long as there are no components in those places (not in any row).

### 7.2.2 Positioning and adjusting components

Under Components, you can find and select the relevant components via drop-down menus. All components that have been created in all fuse boxes (both 230V fuse boxes and Domotics fuse boxes) will be included in these lists.

After selecting a component, the mouse can be used to place this component in a row in the drawing field. A red marker will indicate the place where the component will be placed when you click.

After placing a component, it can always be moved with the mouse in the fuse box, as long as there is enough space in the chosen row. When moving a module to an already occupied place on the row, all modules on that row will be moved to the right from that place. If there is not enough free space on the row on the right, this will be reported and the move will not take place.

When selecting a module to be installed or an inserted module, both the width and the label of the component can be adjusted in the attribute list under "Selected component".

Note: when changing the label of the component, this label will also be adjusted for this component in the rest of the project.

If there is not enough space on the row (to the right of the component) due to the widening of a component, this will be reported and the widening will not be carried out.

### 7.2.3 Autocomplete

It is possible to place multiple automatic switches at once in the fuse box. This means that after placing 1 automatic switch, the other automatic switches from the same level (behind the same upstream element) can be placed one after the other in one go, over different rows.

Autocomplete process:

1. Place a vending machine in the fuse box
2. Select this machine
3. Right-click
4. Choose "Autocomplete" from the pop-up menu

If there is not enough space on the same row during the auto-refill, the other machines will be placed on the next row. If there is not enough free space, this will be indicated in a pop-up window and auto-completion will not happen.

### 7.2.4 Component search in Schematics fuse box

It is possible to click through from the design of the fuse box to a component in the schematic 230V or Domotics fuse box.

Click-through method:

1. Select the component
2. Right-click
3. Choose "Show Component" from the pop-up menu

### 7.2.5 Insert a free module

Via the "Free Module" button in the menu you can place it in a row in the same way as an existing component. This module is standard 1 module wide and has no label. The attributes can be used to adjust the width in number of modules and also to give a label to this component.

### 7.2.6 Inserting the screw terminal

See below 14.2.1

### 7.2.7 Move row (or rail)

A row or rail can be moved by

clicking on a free space (or completely left or right) on the row with the right mouse button and choose "Move" in the pop-up menu. By moving the mouse to another row (a red marker will indicate the place), the row to be moved will be placed at the chosen place and the other rows will be moved downwards.

## 7.3 Delete design

By clicking on the "Delete" button, the open design will be deleted after a warning. This is an action that can NOT be undone.

## 7.4 Select design

Clicking on the "Select" button opens a pop-up menu where an already created design can be opened.

## 7.5 Printing labels

The labels of this fuse box can be printed via the "Print Labels" button. This can be done to a chosen printer (physical printer or PDF) or to an Excel (.csv) file. These choices can be made in the first pop-up menu.

The labels are composed per component as follows:

- The name of the component (in bold)
- The label of the component.

### 7.5.1 Print to printer

When choosing to print to a printer, the standard Windows print menu is called where the usual settings of printing can be adjusted (choice of printer, print to A4, A3,... ). Once all settings have been selected and OK is pressed, a window with a print preview will be called. From this window, the print job can then be started (button "Print") or cancelled (button "Cancel"). Via the buttons with the arrows, the possibly different pages can be viewed.

### 7.5.2 Print to Excel (.csv) file

When choosing to "print" to an Excel file, you will be able to choose a folder in the next window where this file will be saved. The file will be stored in that folder under the name: "<Projectname>\_LabelExport.csv" and this file will be automatically opened in Excel. This file consists of 2 columns: name and label of the component.

This excel file can be imported from many label printers and used to compose the labels.

## 8 Drawing a floor plan

### 8.1 General

Via the tab menu "Floor plan" you will be taken to the Schematics drawing program where you can draw the following plans:

1. Floor plan: service as a basic floor plan for the situation diagrams
2. Cable route: on the basis of created buildings and fuse boxes, their mutual location and connections with characteristics can be shown on a floor plan
3. Block diagram: this partly automatically generated diagram shows the position of the fuse boxes in 1 building and the interconnections with characteristics.

NOTE: in order to perform a multiselect by means of the drag function with the mouse to create a floor plan (or cable route), the selection of a construction element (wall, door, etc.) must first be deactivated by means of the ESC key. When the selection is activated, the construction element is visibly linked to the cursor. If the selection is not activated, the cursor is unlinked to a construction element and thus this form of multiselect is possible.

## 8.2 New or additional floor plan

To create a new floor plan, click on the "New" button in the menu bar (under the "Floor plan" tab in the tab menu). In the drop-down menu that opens, choose "Floor plan".

After this, a pop-up window will open where you can choose between creating a new, empty floor plan or creating a new floor plan as a copy of an already created floor plan (within the same project).

When choosing a "New floor plan" you can choose to immediately load a background for this floor plan (can also be done later) by checking the box for "Add Plan/Background" or not. When this box is checked when continuing, the next pop-up window will be the option to choose and load a file (jpg, bmp, png, or pdf).

When choosing one to start a new floor plan based on a copy, you have to choose the floor plan to be copied in the drop-down menu behind "Copy".

Regardless of the choice above, you must enter a name for the new floor plan in the field behind "Unique Name".

If no floor plan has yet been created within the active project, the same window will immediately appear when opening the drawing program under "Floor plan".

The specified name of a floor plan can be changed afterwards via the attribute "Name" in the attribute field (of the active floor plan).

The drawn floor plans are used as the basis for the situation diagrams (see 11)

### PLEASE NOTE:

The drawing program within Schematics has been developed to allow the user to draw a basic floor plan, not extensive architectural plans.

Figure 35 shows the menu bar of the drawing program.



Figure 35

Different floor plans or pages can be created in this way. To go to the desired floor plan, you have to use the "Select" button in the menu bar and click on the desired floor plan in the menu that opens. The list also contains any cable routes and block diagrams that have been created (see 9 and 10)

## 8.3 Drawing walls

Within the drawing program there is the possibility to draw both straight walls and curved walls (inner and outer walls).

### 8.3.1 Drawing to scale

There are several ways to draw to scale:

1. Use the grid on the drawing field.
2. Loading plan to scale as background and draw the walls over it (see 8.9)
3. Calibrate the drawing field and enter the width or height of the drawing field in meters.



To do the latter, click on the "Calibrate Length" button in the menu bar.

In the following pop-up window, you can specify the maximum value of the drawing field (height or width) in meters. When drawing the walls, the length of the walls is also displayed from then on.

TIP: This tool can also be used to enlarge or reduce your floor plan if necessary.

Also note that if this floor plan is already used as the basis of a situation diagram, this situation diagram will also be adjusted. The components on the situation diagram are moved along so that they remain relatively in the same place on the plan.

However, if components of both the floor plan and the situation diagram would fall outside the drawing field due to the rescaling of the plan, the rescaling is not made possible.

ATTENTION: Once you have confirmed a rescaling, you cannot return via the Undo function. If, for example, a floor plan becomes relatively small compared to the size specified on your drawing sheet, the floor plan will become unusable and will have to be redrawn! So be careful not to make your bowl too big once you have already drawn walls.

### 8.3.2 Straight walls

To draw a straight wall

1. Click on the "Straight Wall" button on the menu bar. The symbol of the cursor indicates the type of element you are going to draw.

TIP:

By clicking on the arrow at the bottom of the button, you open a submenu where you can choose between drawing a thinner (inner) wall and a thicker (exterior) wall. By default, a thinner (inner) wall is selected

2. Click with the left mouse button on the drawing field, at the place where you want to start drawing the wall
3. Hold down the left mouse button and drag the mouse to where you want the wall to end. A line indicates where the wall will be drawn.
4. Release the left mouse button after which the wall is drawn on the floor plan.

TIP

Sometimes it is a bit difficult to draw the wall nice and straight, especially if you want to draw quickly. To do this, you can check the box at the top right of the menu bar, for "Horizontal/Vertical only" or use the **CTRL key while drawing the wall**. When this is active, you can only draw horizontal or vertical lines.

#### CAUTION

**This is only useful for drawing walls, not for drawing other elements. For drawing other elements, this function can even be disturbing and it is therefore recommended to disable this "Horizontal/Vertical only" function when you want to draw another element on the floor plan.**

In the attribute field you can change the following attributes or attributes for the selected wall (see Figure 36):

- **Thickness:** in the selection menu you can choose between an inner wall (thinner) and an outer wall (thicker).

Grondplan	
Naam	GLV
Muur	
Dikte	Binnen Muur

Figure 36

To adjust the wall after drawing (see Figure 37):

1. Select the wall with the left mouse button
2. Open a pop-up menu with the right mouse button
3. Choose between
  - a. Remove: removes the wall,
  - b. Move: this allows you to drag the entire wall with the same length and direction,
  - c. Change: this allows you to change the length and direction of the wall by dragging the ends of the wall.

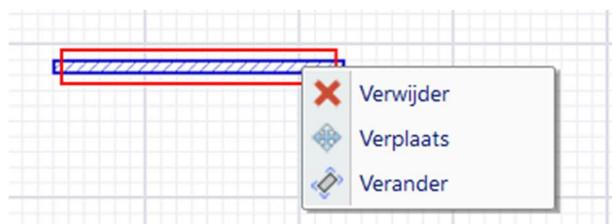


Figure 37

### 8.3.3 Curved walls

To draw a curved wall:

1. On the menu bar, click on the "Round Wall" button. The symbol of the cursor indicates the type of element you are going to draw.

TIP:

By clicking on the arrow at the bottom of the button, you open a submenu where you can choose between drawing a thinner (inner) wall and a thicker (exterior) wall. By default, a thinner (inner) wall is selected

2. Click with the left mouse button on the drawing field, at the place where you want to start drawing the wall
3. Hold down the left mouse button and drag the mouse to where you want the wall to end. A line indicates where the wall will be drawn.
4. Then release the left mouse button after which a thin line is drawn on the floor plan.
5. Click with the left mouse button on this line and, while holding the left mouse button pressed, drag the cursor in the direction you want to make the curve. The thin line shows you the curve.
6. Release the left mouse button and the crooked wall will be drawn.

In the attribute field you can change the following attributes or attributes for the selected wall (see Figure 38):

- **Thickness:** in the selection menu you can choose between an inner wall (thinner) and an outer wall (thicker)

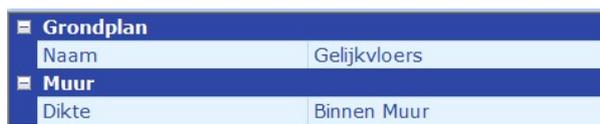


Figure 38

Via the right mouse menu the wall can be removed or moved (same length and direction).

#### 8.3.4 Drawing a closed wall

With this function, you can draw a walled space in one movement.

1. On the menu bar, click on the "Closed Wall" button. The symbol of the cursor indicates the type of element you are going to draw.

**TIP:**

By clicking on the arrow at the bottom of the button, you open a submenu where you can choose between drawing a thinner (inner) wall and a thicker (exterior) wall. By default, a thicker (exterior) wall is selected

2. Click with the left mouse button on the drawing field, at the place where you want to start drawing the wall
3. Release the left mouse button and drag the mouse to the place where you want the wall to form a corner. A line indicates where the wall will be drawn.
4. Click on the left mouse button after which a thin line is drawn on the floor plan.
5. Repeat steps 3 and 4
6. Finish the drawing by clicking on the same location 2x with the left mouse button.

### 8.3.5 Adjusting Straight Wall (Length and Direction)

1. Select the wall
2. Right click
3. Choose "Change"
4. Click on the desired end of the wall and drag with the mouse button
5. Release the mouse button when the wall is in the desired direction or is the correct length.

### 8.3.6 Moving walls

1. Select the wall by clicking on it with the left mouse button
2. Press the right mouse button
3. Choose "Move" from the drop-down menu that appears
4. Drag the wall to the correct position
5. Click on the left mouse button

### 8.3.7 Remove wall

1. Select the wall by clicking on it with the left mouse button
2. Press the right mouse button
3. Choose "Delete" from the drop-down menu that appears

Or

1. Select the wall by clicking on it with the left mouse button
2. Use the "Delete" button on the keyboard

## 8.4 Draw, move and remove doors

To place a door on the floor plan:

1. On the menu bar, click on the "Door" button. The symbol of the cursor indicates the type of element you are going to draw.
2. Click with the left mouse button on the drawing field, at the place where you want to start drawing the door
3. Hold down the left mouse button and drag the mouse to where you want the door to end. The direction in which you drag determines the rotation of the door, which can be changed afterwards via the attributes in the attribute field (see below)
4. Release the left mouse button when the door is in the right place.

To remove the door:

1. Select the door with the mouse (left mouse button)
2. Use the delete button on the keyboard or choose "delete" from the menu that pops up after pressing the right mouse button.

On the door to move:

1. Select the door with the mouse (left mouse button)
2. Hold down the left mouse button and drag the door to the desired position
3. Release the left mouse button.

In the attribute list of the selected door you can enter or adjust the following attributes (see Figure 39):

- **Angle:** Here you can turn the door according to the entered angle (in degrees)
- **Mirror:** Here you can mirror the door or not, which changes the direction of rotation.

Grondplan	
Naam	Gelijkvloers
Deur	
Hoek	270
Spiegel	Neen

Figure 39

## 8.5 Draw, move, and remove gates and windows

To place a gate or window on the floor plan:

1. On the menu bar, click on the "Port" or "Window" button. The symbol of the cursor indicates the type of element you are going to draw.
2. Click with the left mouse button on the drawing field, at the place where you want to start drawing the gate or window
3. Hold down the left mouse button and drag the mouse to the place where you want the gate or window to end
4. Release the left mouse button when the gate or window is in the right place.

To remove a gate or window:

1. Select the port or window with the mouse (left mouse button)
2. Use the delete button on the keyboard or choose "delete" from the menu that pops up after pressing the right mouse button.

To move a gate or window:

1. Select the port or window with the mouse (left mouse button)
2. Hold down the left mouse button and drag the gate or window to the desired position
3. Release the left mouse button.

In the attribute list of a selected gate or window, you can enter or edit the following attributes (see Figure 40):

- **Angle:** here you can turn the gate or window according to the entered angle (in degrees).

Grondplan	
Naam	Gelijkvloers
Poort	
Hoek	0

Figure 40

## 8.6 Draw, move, and delete other elements

Other elements contain:

- Straight Stairs

- Curved staircase
- Spiral staircase
- Bath
- Shower
- Sink
- Toilet

For all these elements, drawing, removing and moving is identical.

To place an other element on the floor plan:

1. On the menu bar, click the corresponding button. The symbol of the cursor indicates the type of element you are going to draw.
2. Click with the left mouse button on the drawing field, at the place where you want to start the element
3. Hold down the left mouse button and drag the mouse until the element is drawn at the right size and angle.
4. Release the left mouse button.

To delete an element:

1. Select the element with the mouse (left mouse button)
2. Use the delete button on the keyboard or choose "delete" from the menu that pops up after pressing the right mouse button.

To move an element:

1. Select the element with the mouse (left mouse button)
2. Hold down the left mouse button and drag the element to the desired position
3. Release the left mouse button.

In the attribute list of a selected element you can enter or edit the following attributes (see Figure 41):

- **Angle:** here you can rotate the element according to the entered angle (in degrees).
- **Mirror (only with Curved stairs):** here you can mirror the curved stairs over the longitudinal axis or not.

Grondplan	
Naam	Gelijkvloers
Trap Met Bocht	
Hoek	270
Spiegel	Neen

Figure 41: these are the attributes of the Staircase with Curve, the other elements cannot be mirrored.

## 8.7 Drawing, moving and removing lines and fixed structure

There is the possibility to draw lines and/or your own fixed constructions on the floor plans. To draw a fixed construction:

1. Click on the "Fixed Construction" button on the menu bar. The cursor symbol indicates the type of element you are going to draw
2. Left-click on the place where the line or fixed structure begins
3. Release the left mouse button: a thin line will now move between the mouse cursor and the starting point when you move the mouse
4. Left-click on the next corner of the line or fixed structure
5. Repeat steps 2 to 4 as many times as necessary
6. Using the "delete" button, you can go back to the previous vertex
7. Left-click back on the last end point to finish drawing the fixed structure
8. When the fixed construction is bordered with a red line, the fixed construction is completely
9. Via the attributes of the line, you can adjust the thickness (from 1 pixel to 10 pixels) by choosing the correct value in the drop-down menu behind the "Thickness" field
10. By means of the right mouse button and the option "Color" in the pop-up menu, the color of the line can be adjusted.

#### TIP

To make it easier and faster to draw horizontal and vertical lines, you can hold down the CTRL key to make sure that you can only draw horizontal and vertical lines. The same can be achieved by checking the field for "Horizontal/Vertical only" in the menu bar (top right).

#### CAUTION

**This option can be annoying when drawing other elements outside a straight wall, a round wall or a fixed structure, so it is recommended to deactivate this option for this.**

To remove a fixed structure:

3. Select the fixed structure with the mouse (left mouse button)
4. Use the delete button on the keyboard or choose "delete" from the menu that pops up after pressing the right mouse button.

To move on a fixed structure:

4. Select the element with the mouse (left mouse button)
5. Hold down the left mouse button and drag the element to the desired position
6. Release the left mouse button.

**When the length of the floor plan has been calibrated, the dimensions for all elements (doors, windows, fixed structures, stairs, etc.) will be displayed when drawing it.**

## 8.8 Add text

There is the possibility to add text fields on the floor plans:

1. On the menu bar, click on the "Text" button
2. Click on the floor plan on the location where you want to place text
3. In the pop-up window you can type a free text or choose a pre-programmed text from the drop-down menu. When clicking on "OK", the text is placed on the floor plan.
4. By selecting the text, it can be dragged onto the plan by means of the mouse.

**TIP**

The pre-programmed text is translated when the language settings of Schematics are changed. Self-entered texts are not.

The entered text can also be saved as a favorite, so that this text will also be included in the drop-down menu. Up to 25 texts can be stored. You can save by clicking on the "Add to Favorites" button.

The list of favorite texts can also be edited by clicking on the "Manage Favorites" button. In the subsequent pop-up window, the order can be changed by means of the arrows on the right or texts can be removed from this list by clicking the "Delete" button.

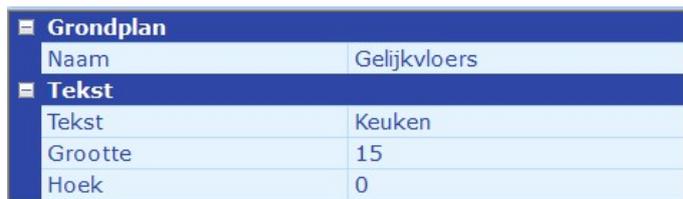
In the attribute field, the following attributes or parameters can be changed (see Figure 42):

- **Text:** here you can change the original text
- **Size:** Here you can change the font size of the selected text box by entering a free value.

Please note

After this change, this attribute will also change for all subsequent text boxes.

- **Angle:** Here you can change the angle of the text area relative to horizontal (in degrees).



<b>Grondplan</b>	
Naam	Gelijkvloers
<b>Tekst</b>	
Tekst	Keuken
Grootte	15
Hoek	0

Figure 42

## 8.9 Use background

It is possible to load a background into the Schematics drawing program as a guide for your floor plan. The files that can be read can have the following file format:

- .pdf
- .Bmp
- .jpeg
- .jpg
- .poison
- .png
- .tiff

**CAUTION**

However, it is still necessary to draw the walls and other elements yourself if the components such as sockets are to be displayed perpendicular to the walls.

To read in a background or to show a background that has already been read, click on "Show background" in the menu bar (under the menu tab "Floor plan").

If no background has yet been read in for this floor plan, a Windows explorer immediately opens where you can select and open the file. If a background has already been selected for this floor plan, there will first be a pop-up where you can choose between showing the previous background (which will then immediately appear in the background) or reading in a new background.

If the option "Show background" is activated, this background will also be printed on the situation diagram. If this is not desired, the option "Show background" must be deactivated.

Reading a PDF file is slightly different from reading a file with another file format mentioned above. See below.

### 8.9.1 Background based on a PDF file

In the following steps, we assume that no background has yet been read into this floor plan:

1. Click on "Show background" in the menu bar (under the menu tab "Floor plan")
2. Select the PDF file in the Windows Explorer
3. Click on "Open"  
Opening may take a few seconds, depending on the size of the file and the speed of the computer.  
The file will open in a new pop-up window with a PDF reader integrated
4. If the PDF file consists of several pages: Scroll to the page with the desired background and click on the "Select PDF Page" button at the top of the window (see Figure 43)

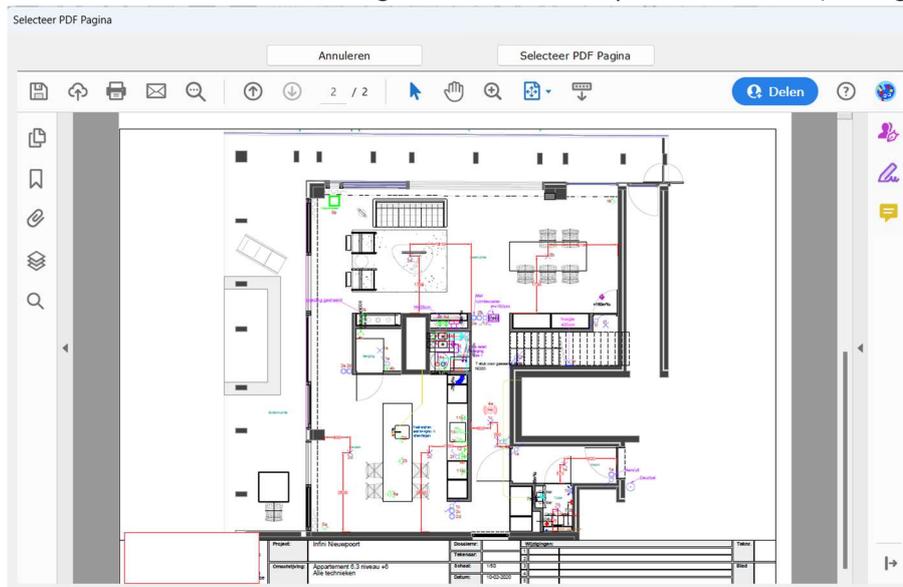


Figure 43

5. In the next screen you can crop and rotate the background (see Figure 44). Cropping is done by clicking on the "Crop" button, which brings up a large frame whose corners can be dragged with the mouse. In this way, a selection of the chosen page can be cut out. Click "Crop Done" when you've made the selection. You will automatically return to the previous window and the selected selection will now be displayed full page.

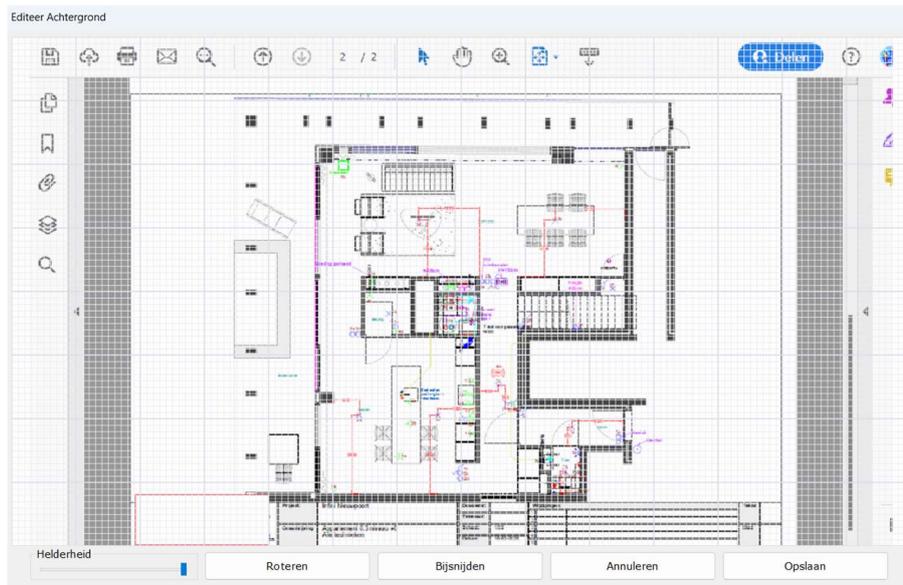


Figure 44

TIP: When you select a part of a page, the final background will stretch this selection so that the width or height of the selection fits on a full page. This can result in a loss of resolution. It is therefore best to show the selected part of the page as large as possible before cropping. This can be done by using the zoom function of the PDF reader and collapsing any menus on the sides and top.

6. To rotate the background: click on the "Rotate" button. The page or selected selection rotates 90° counterclockwise with each click on the "Rotate" button.
7. The Brightness slider allows you to lighten the background in color and intensity.
8. When the background is as desired: click on the "Save" button
9. The background is now shown on the drawing field.

To make the background invisible again: deselect "Show background" in the menu bar.

### 8.9.2 Background based on a .bmp, .jpg, .png-, ... file

In the following steps, we assume that no background has yet been read into this floor plan:

1. Click on "Show background" in the menu bar (under the menu tab "Floor plan")
2. Select the file in the Windows Explorer
3. Click on "Open"
4. In the next screen you can crop and rotate the background (see Figure 44). Cropping is done by clicking on the "Crop" button, which brings up a large frame whose corners can be dragged with the mouse. In this way, a selection of the chosen page can be cut out. Click "Crop Done" when you've made the selection. You will automatically return to the previous window and the selected selection will now be displayed full page.
5. To rotate the background: click on the "Rotate" button. The page or selected selection rotates 90° counterclockwise with each click on the "Rotate" button.
6. With the Helderheid slider you can make the background lighter in color and intensity.
7. When the background is as desired: click on the "Save" button
8. The background is now shown on the drawing field.

To make the background invisible again: deselect "Show background" in the menu bar.

## 8.10 Changing the position of the floor plan

To move the drawn floor plan in its entirety on the drawing sheet:

1. Click on "Show Positoner Toolbox"
2. Next movable window will appear (see Figure 45)



Figure 45

3. Click on the arrows in the direction in which you want to move the floor plan or click centrally to center the floor plan on the drawing field.

## 9 Creating a cable route

### 9.1 General

Via the tab menu "Floor plan" you enter the Schematics drawing program where you can draw a cable route plan in addition to a floor plan.

### 9.2 New or additional cable route

To create a new cable route, click on the "New" button in the menu bar (under the "Floor plan" tab in the tab menu). In the drop-down menu that opens, choose "Cable route".

After this, a pop-up window will open where you can choose between creating a new, empty cable route or creating a new cable route as a copy of an already created floor plan (within the same project).

When choosing a "New cable route", you can choose to immediately load a background for this cable route (can also be done later) by checking the box for "Add Plan/Background" or not. When this box is checked when continuing, the next pop-up window will be the option to choose and load a file (jpg, bmp, png, or pdf).

When choosing one to start a new cable route based on a copy, you have to choose the floor plan/cable route to be copied in the drop-down menu behind "Copy".

Regardless of the choice above, you must enter a name for the new cable route in the field after "Unique Name".

The specified name of a cable route can be changed afterwards via the attribute "Name" in the attribute field (of the active cable route).

After this, the drawing field becomes available to draw a cable route. Unlike when drawing a floor plan, the "Building" and "Fuse box" buttons are available in the menu bar (active).

### 9.3 Add building

NOTE: In order to add a building to the floor plan of the cable route, this building must first be specified in the installation dates (see 3.3)

Adding a building is done as follows:

1. Click on the "Building" button in the menu bar (floor plan tab) and choose the building you want to add from the drop-down menu
2. Click briefly with the mouse on the drawing board, where you want to place the building on the floor plan
3. Draw the line in the desired direction and click with the left mouse button on the place of the next corner point.
4. Repeat steps 2 and 3 and draw the outline of your building.
5. The building is placed when you close the drawn structure (end point coincides with starting point).

At the moment, the building is shown on the floor plan together with all the fuse boxes that are included in that building (with any interconnections). With the help of the mouse, you can change the location of the building, the individual fuse boxes and their name. The course of a connection (the "cables") can also be adjusted by means of the mouse (see 9)

When a 2nd building is added afterwards, any connections between the fuse boxes of these buildings will also be drawn on the plan.

Each compound has a unique color and is labeled with a text (in the same color) with the following composition:

```
<Fuse box name1>:<Component name (automatic/diff/...)> <-> <Fuse box  
name2>:<Component name (automatic/diff/...)> <Cable Type> <Number of cores><x or  
G><Section cores> <Type of assembly>
```

This label can be moved with the help of the mouse and can also be displayed in a specified angle by adjusting the attributes.

NOTE: All other drawing attributes can also be used to draw your cable route, just like with a normal floor plan.

### 9.4 Removing the building

To remove a building from the cable route plan:

1. Select the building by clicking on the blue outline with the mouse.
2. Delete the keyboard by using the "delete" button or by clicking on "delete" in the right mouse button menu.

When a building is removed, all fuse boxes that are included in this building, with all connections to these fuse boxes, are also removed from the plan. The removed building will be available again under the "Building" button to add back to the plan if desired.

### 9.5 Drawing a cable route

To change the course of the automatically generated connections and to draw up a cable route, proceed as follows.

1. Left-click on the line or connection that needs to be moved. It is best to start as close as possible to the "terminus" or the most electrically downstream point.
2. A corner point is created at this place and by moving the cursor you also move this corner point. By clicking again with the left mouse button, this vertex is fixed and you can move to the next vertex.
3. In this way, the entire connection can be drawn and the connection is recorded by clicking on the fuse box to which the connection is made.

The selected line can always be "released" by means of the "Esc" key.

### 9.6 Remove and add fuse box

The fuse boxes and inverters with UPS-output are automatically placed on the cable route at the moment that the building to which these fuse boxes are physically assembled and assigned is placed on the plan. The meter box may also be drawn on the plan.

Fuse boxes and inverters with UPS-output that are not important for this cable route can be removed from the plan by selecting the fuse box and pressing the "Delete" button on your keyboard or choosing "delete" after clicking on the right mouse button

To add a fuse box or inverters with UPS-output (back), choose this fuse box from the drop-down menu in the menu bar under "Fuse box". This list only includes the fuse boxes that belong to the buildings that are drawn on the plan and that are not yet present on the plan. Once a fuse box has been added to the plan, it cannot be chosen a 2nd time on that particular cable route. For other cable routes, these are still available if they have not yet been placed on that cable route.

### 9.7 Using background as a guide

It is possible to place a background on the drawing sheet, which can then be used as a guide for drawing the outlines of the buildings. For example, an image from a Google Maps or an environmental plan by the architect can be used to show everything in scale and in the right position.

The use of a background is done in the same way as with a normal floor plan (see 8.9).

When a background for a certain cable route is activated and visible on the screen, it is also printed with the print-outs of this project. If this is not desired, "Show Background" in the menu bar under tab "Floor plan" must be deactivated.

### 9.8 Removing the cable route

To delete a created cable route, open the cable route to be deleted and click on "Delete" in the menu bar. On the subsequent pop-up window, this deletion still needs to be confirmed.

NOTE: Once deleted, this change cannot be undone.

## 10 Create block diagram

### 10.1 General

A block diagram or functional plan is a diagram showing the position (floor and room) of the various fuse boxes in 1 building and their interconnections (with characteristics).

A block diagram is not automatically generated by Schematics from the moment a fuse box is created and assigned to a building and floor. A block diagram is only created and added to the schematics when it is started under the tab "Floor plan". 1 block diagram is generated per building.

### 10.2 New or additional block diagram

Creating a block diagram of a certain building is done under the "Floor plan" tab. To do this, click on "New" in the menu bar and choose "Block diagram" in the drop-down menu that opens.

In the pop-up window that opens, choose the building for which you want to create a block diagram in the drop-down menu. Once the building has been selected and clicked on "OK", a block diagram is automatically generated based on the floors (specified in the installation data) and the fuse boxes assigned to this building with interconnections.

The course of these connections can be adjusted by means of the mouse in the same way as with the connections on the cable route (see [above](#)).

Also, these compounds are represented with a label that is composed of the following:

```
<Fuse box name1>:<Component name (automatic/diff/...)> <-> <Fuse box name2>:<Component name (automatic/diff/...)> <Cable Type> <Number of cores><x or G><Section cores> <Type of assembly>
```

This label can be moved with the help of the mouse and can also be displayed in a specified angle by adjusting the attributes.

### 10.3 Delete block schema

To delete a created block schema, open the block schema to be deleted and click on "Delete" in the menu bar. On the subsequent pop-up window, this deletion still needs to be confirmed.

NOTE: Once deleted, this change cannot be undone.

## 11 Drawing up a situation diagram

### 11.1 General

After creating a 230V fuse box (see 0), possibly a Domotics fuse box (see 6) and a floor plan (see 0) a situation diagram can be drawn up.

A situation diagram shows all light points, switches, sockets, ... with their respective circuit and their serial number on it, on a floor plan that reflects the actual situation.

### 11.2 A new or additional situation diagram

To create a new situation diagram, open the tab (on the tab menu) "Situation diagram" (see Figure 46).



Figure 46

To create a new situation diagram, click on the "New" button in the menu bar. If no situation diagram has yet been created in the active project, you will be asked to create a situation diagram when opening the "Situation diagram" tab.

After this, a pop-up window will open where you can choose between creating a new, empty situation diagram or creating a new situation diagram as a copy of an already created situation diagram (within the same project).

When choosing a "New situation schedule", an empty situation schedule will be created after completing this pop-up window.

When choosing one to start a new situation schedule based on a copy, you have to choose the situation schedule to be copied in the drop-down menu after "Copy".

In the first field behind "Unique Name" you choose the floor plan on which this situation diagram will be based in the drop-down menu. In the second field, you enter a unique name for the situation schedule.

The specified name of a situation schema can be changed afterwards via the attribute "Name" in the attribute field (of the active situation schema).

#### CAUTION

The name in the attribute field is a compound name with the following structure:

<Floor plan name>\_<Situation diagram name>

E.g. Gelijkvloers\_Verlichting

To change the name of the situation diagram, one must therefore make a change to the 2nd part of the compound name. The first part of this compound name can only be changed in the attribute field of the floor plan used for this situation diagram.

#### TIP

The order in which the different situation diagrams will be printed is determined by the numerical and then the alphabetical arrangement based on the name of the situation diagram. To determine the order, one can therefore e.g. "1", "2", "3", ... or "a", "b", "c", ... for the situation diagram name.

E.g. Gelijkvloers\_1.Lighting

Different situation diagrams or pages can be created in this way. To go to the desired situation diagram, use the "Select" button in the menu bar and click on the desired situation diagram in the menu that opens.

Once the background and name have been chosen, one can proceed to place and name electrical components on the situation diagram.

### 11.2.1 Resize symbols (draw on A3 size)

From version 1.004 it is possible to change the size of the symbols on the situation diagram. There are 4 possible formats:

1. 55%
2. 70% (according to A3 size)
3. 85%
4. 100% (according to A4 size)

The format can be changed at any time and does not need to be determined in advance. However, it is recommended that when resizing when components have already been added to the situation diagram, verify the location of these components. Schematics does try to place all components correctly when changing the format, but for individual components this is not always easy to estimate.

Resizing is done from the menu bar, section "Situation diagram" (see Figure 47).



Figure 47

### 11.2.2 Rotate components manually

From version 1.030 it is possible to manually rotate all components on the situation diagram (connection points, sockets, appliances, etc.). All components have the attribute "Angle" available in their attribute list.

To rotate a component:

1. Select the component on the situation diagram
2. Click on the field behind "Angle" in the attributes
3. Open the drop-down menu by clicking on the arrow on the right side of the field
4. Choose the angle at which you want to place the component on the situation diagram (the component rotates counterclockwise)

**TIP: after step 2 (above) the component can also rotate by means of the arrows on the keyboard:**

**Arrow upwards: component rotates clockwise by 10° each time**

**Down arrow: component rotates 10° counterclockwise each time**

By turning the components, the text (circuit number) belonging to this component rotates too.

### 11.2.3 Add Meter Box, Fuse box, and Ground Breaker

On a situation diagram, both the meter box, the fuse box(s) and the earth breaker (if present) must be placed, according to the actual position in the building.

The installation of one of these components is done as follows:

1. Click on the "Other" button in the menu bar (under the "Situation diagram" tab)
2. Choose the corresponding component from the menu that opens  
The symbol near the cursor indicates which component has been chosen
3. Place the cursor at the place on the situation diagram where the component is located in the building and click on the left mouse button.
4. The component can be moved by dragging it (after selection: red border around component) with the mouse to the chosen location.

#### CAUTION

The earthing circuit breaker is only shown on the single-wire diagram from the moment the grounding circuit breaker is installed on the situation diagram.

These components have the following modifiable attributes in the attribute field:

Counter box:

Label: free to enter. This label is indicated on the situation diagram.

Fuse box:

Name: In the selection menu, a choice can be made between all created fuse boxes (including the Domotics fuse boxes) (see [Chapter 5](#) and [Chapter 6](#)).

Grounding Breaker:

No attribute.

### 11.2.4 Add and name light points

To place bright spots on the situation diagram:

1. Click on the corresponding button in the menu bar  
The symbol near the cursor indicates which component has been chosen
2. Place the cursor on the location where you want to place the light point on the situation diagram
3. Left click

A selected light point (selection by clicking on it with the mouse: red border) can be dragged to another location afterwards by means of the mouse.

The menu bar already contains a number of different types of light points or types of luminaires, each with its corresponding symbol. The type can be changed afterwards via the attributes in the attribute field (see Figure 48).

The following attributes are included:

- **Circuit:** via the selection menu you can indicate to which component in a 230V fuse box this light point is connected. In the list within the drop-down menu, all possible components are included and are shown with the following name structure:

<Fuse box Name>: <Component Name>(<Component Label>)

"Component name" and "component label" = Name and label specified to the component in the fuse box

When this component is selected, the light point on the situation diagram is also named (e.g. with the name of the connected automatic switch with sequence number) and it is also automatically drawn on the single-wire diagram (see below).

- **Shared Circuit:** here the lighting point can be added to an already created light circuit. In this way, this light point is displayed with the same name on the situation diagram and placed on the same circuit on the one-wire diagram (see 11.2.5).
- **Angle:** Rotate components manually, see 11.2.2
- **Type:** in the selection menu, the type of light point or fixture can be chosen. The symbol on the situation diagram and single-wire diagram will also be adjusted.
- **Number of fluorescent lamps (only active for fluorescent lamps):** the number of fluorescent lamps in a fluorescent fixture is specified here. The number (except for the default value "1") is also indicated in the symbol on the situation diagram and single-wire diagram.
- **Angle (only active for fluorescent lamps):** here you can enter the angle with which the symbol is drawn on the situation diagram (by default this is horizontal, 0°) (in degrees).
- **(Semi) Waterproof:** here you can indicate whether the fixture is semi- or completely waterproof. If the fixture is semi-(waterproof), select "Yes" in the selection menu. The letter "h" will be displayed next to the symbol on the situation diagram.
- **Built-in switch (only at Connection point):** here you can indicate by means of a selection menu whether the light point has a built-in switch. The symbol on the situation diagram and single-wire diagram will also be adjusted.
- **Local push-button control:** indicate here whether the luminaire is equipped with a local push-button (Wireless Domotics)
- **Wireless control:** indicate here whether the luminaire is equipped with a wireless control (Wireless Domotics)
- **Programmed control:** indicate here whether the luminaire is equipped with programmed control (Wireless Domotics)
- **Detection control:** indicate here whether the luminaire is equipped with a built-in detector (Wireless Domotics)
- **Extension with push-button control:** indicate here whether the luminaire is connected to a connected push button (Wireless Domotics)
- **Connection (only with Emergency Lighting):** here you can indicate whether an emergency lighting is connected autonomously (standard) or on a safety power track. The symbol is also adapted to the situation diagram and the single-wire diagram.
- **Via Transfo:** This opens the Customization window related to this component (see below 11.8.8)
- **Via kWh counter:** This opens the Customization window related to this component (see 11.8.8)

- **Via junction box:** This opens the Customization window related to this component (see 11.8.8)
- **Via Screw terminal:** This opens the Customization window related to this component (see 11.8.8 and 14.2.3). This gives the possibility to add a screw terminal for the selected component.
- **Label:** free inputs. This label is displayed on the single-wire diagram if it is the last component on the circuit that has been assigned a label.
- **Linked by:**
  - **Different switching elements:** The list includes all possible types of switching elements. For each type, there is a selection menu in which all possible and previously created switching elements or outputs are included (This will be discussed further 11.8).

<b>Situatieschema</b>	
Naam	glv_Stopc
<b>Verlichting</b>	
Stroombaan	VK1:A
Type	Aansluitpunt
(Half) Waterdicht	
Ingebouwde Schakelaar	
Lokale Drukknop Sturing	
Draadloos Sturing	
Geprogrammeerd Sturing	
Detectie Sturing	
Uitbreiding Met Drukknop...	
Aansluiting	Autonoom
Gedeelde Kring	VK1:A10
Via Transfo	
Via kWh Teller	
Via Aftakdoos	
Via Raiklem	
Label	
<b>Geschakeld Door</b>	
Andere Schakelaars	0
Schakelklok	
Dimmer Int. Stuurkring	
Manuele Schakelaar	
Impulsschakelaar	
Contactoor	
Dimmer Ext. Stuurking	
Tijdschakelaar	
Algemeen Component	
Domotica Module	

Figure 48

### 11.2.5 Create shared circuits (name multiple light points together)

By a "shared circle" we mean a light circuit with several separate light points or fixtures. These light points or fixtures are given the same name on the situation diagram and the single-wire diagram. It is not necessary that these light points are of the same type.

As seen in 11.2.4 adding a light point to a shared circle can be done via the attributes of that light point (attribute: "Part of Shared Circle").

However, it is also possible to place different light points directly on 1 light circle at the same time or to add different light points to an existing light circle at the same time:

1. Place the different light points on the situation diagram

2. Select all the light points together by clicking on them with the left mouse button while holding down the CTRL key on your keyboard.  
The selected light points are indicated by a red border.
3. Only the following attributes are now included in the attribute field:
  - **Current path:** connect the selected light points as 1 new light circuit to the correct electrical component from the selection menu.
  - **Shared Circle:**
    - i. **New:** Connect the selected light points together to a new light circle.
    - ii. **Existing:** connect the selected light points to an already existing light circle from the drop-down menu.

NOTE: As of version 1.026, it is possible to completely transfer a shared circuit to another stream. By selecting 1 light point of a shared circle, in combination with the CTRL key (multi-select function), all light points of this shared circle are selected together. By assigning these to a different flow track, these light points will be placed as a shared circuit on the new power track.

TIP: If you want to change the order of branch points on 1 current path, you can use the multi-select function (mouse button + CTRL key) to select the different light circuits (shared and others) in the correct order, then assign them to another current path and then assign them back to the correct current path. In this way, the branch points on the flow path will be placed in the same order as the multiselect has happened.

### 11.2.6 Add and name sockets

To place sockets on the situation diagram:

1. Click on the corresponding button in the menu bar
2. The symbol near the cursor indicates which component has been chosen  
Place the cursor at the location where you want to place the socket on the situation diagram
3. Click with the left mouse button.

A selected socket (selection by clicking on it with the mouse: red border) can be dragged to another location afterwards by means of the mouse.

When the socket is placed very close to a wall, the orientation of the socket will be adjusted so that it is drawn perpendicular and tangent to the wall. The socket is drawn on the side of the wall where you clicked.

The menu bar already includes 3 types of sockets, namely a simple socket, a double socket and a triple socket. Multiple sockets can also be placed by means of the attribute "Number of sockets" in the attribute field (Figure 49).

With each change of attribute, the symbol on the situation diagram and/or single wire diagram will be adjusted.

The following attributes are included:

- **Circuit:** via the selection menu you can indicate to which component in a fuse box 230V this socket is connected. In the list within the drop-down menu, all possible components are included and are shown with the following name structure:

<Fuse box Name>: <Component Name>(<Component Label>)

"Component name" and "component label" = Name and label specified to the component in the fuse box

When this component is selected, the socket is also named on the situation diagram (e.g. with the name of the connected automatic switch with sequence number) and it is also automatically drawn on the single-wire diagram (see below).

#### **Multiselect sockets (or other components)**

**By means of the left mouse button in combination with the CTRL key (held during selection) different sockets can be selected at the same time and assigned to a circuit. These components will then be given a serial number on this circuit in order of selection.**

- **Angle:** Rotate components manually, see 11.2.2
- **Type:** the type of socket can be selected in the selection menu. There is a choice between
  - Socket
  - Junction box
  - USB
- **Number of sockets:** here the number of sockets in 1 housing (frame) is specified.
- **Number of phases:** a selection menu indicates whether it is a single-phase socket or a three-phase socket. The choice consists of:
  - Monophase
  - Three-phase
  - Three-phase+N
- **Grounded:** Indicates whether the selected socket is earthed or not.
- **Touch protection:** Indicates whether or not the selected socket is equipped with a touch protection (child protection).
- **Built-in switch:** indicates whether the socket is equipped with a built-in switch.
- **(Semi) Waterproof:** here you can indicate whether the socket is half or completely waterproof. If the socket is half (waterproof), the letter "h" will be displayed next to the symbol on the situation diagram.
- **Built-in Transformer:** indicates whether the socket is equipped with a built-in transformer
- **Local push-button control:** indicate here whether the luminaire is equipped with a local push-button (Wireless Domotics)
- **Wireless control:** indicate here whether the luminaire is equipped with a wireless control (Wireless Domotics)
- **Programmed control:** indicate here whether the luminaire is equipped with programmed control (Wireless Domotics)
- **Detection control:** indicate here whether the luminaire is equipped with a built-in detector (Wireless Domotics)
- **Extension with push-button control:** indicate here whether the luminaire is connected to a connected push button (Wireless Domotics)

- **Installation:** here you can indicate, by means of a selection menu, whether the socket is built-in or has been mounted in surface mounting. "Built-in" is not mentioned in the schematics, "Surface-mounted" is.
- **Mounting height:** The mounting height of the socket is indicated here by means of a selection menu or by means of free inputs. "Standard" is not mentioned on the situation diagram, other values are.
- **Via Transfo:** This opens the Customization window related to this component (see below 11.8.8)
- **Via kWh counter:** This opens the Customization window related to this component (see 11.8.8)
- **Via junction box:** This opens the Customization window related to this component (see 11.8.8)
- **Via Screw terminal:** This opens the Customization window related to this component (see 11.8.8 and 14.2.3). This gives the possibility to add a screw terminal for the selected component.
- **Label:** free inputs. This label is displayed on the single-wire diagram if it is the last component on the circuit that has been assigned a label.
- **Linked by:**
  - **Different switching elements:** The list includes all possible types of switching elements. For each type, there is a selection menu in which all possible and previously created switching elements or outputs are included (This will be discussed further 11.8).
- **Connected Devices:** the list below consists of all devices that can be connected to a socket. In the selection menu for each type of device, you can indicate (or via a free entry) how many of this type of devices are connected to this socket. Each device has its own symbol. There is also the possibility to connect a general landline ("General Landline" in the menu). This device is represented with a unique sequence number in a frame. In the attribute field of this device, you can then use the attribute "Label" to indicate which type of device this is. This label will also be indicated on the one-wire diagram.

Situatieschema	
Naam	glv_Stopc
Contactdoos	
Stroombaan	VK1:A
Type	Contactdoos
Aantal Contactdozen	1
Aantal Fasen	Monofasig
Geaard	Ja
Aanraakbeveiliging	Ja
Ingebouwde Schakelaar (Half) Waterdicht	
Ingebouwde Transfo	
Lokale Drukknop Sturing	
Draadloos Sturing	
Geprogrammeerd Sturing	
Detectie Sturing	
Uitbreiding Met Drukknop...	
Montage	Inbouw
Montagehoogte	Standaard
Via Transfo	
Via kWh Teller	
Via Aftakdoos	
Via Railklem	
In Verdeelkast	
Label	
Geschakeld Door	
Andere Schakelaars	0
Schakelklok	
Dimmer Int. Stuurkring	
Manuele Schakelaar	
Impulsschakelaar	
Contactoor	
Dimmer Ext. Stuurking	
Tijdschakelaar	

Figure 49

### 11.2.7 Add devices

Devices can be connected directly to a power track or via a socket.

Connecting a device directly to a power track is done as follows:

1. Click on the "Device" snip in the menu bar (under the "Situation Schedule" tab)
2. Choose the device from the menu that opens
3. Place the cursor at the desired location on the situation diagram
4. Click on the left mouse button

You can always move the device by dragging the mouse

Via the attribute "Circuit" in the attribute field of the appliance, the electrical component to which the appliance is directly connected can be selected by means of the selection menu.

The following attributes can be entered or adjusted in the attribute field, resulting in an adjustment of the symbol on the situation diagram and/or single-wire diagram if necessary:

- **Circuit:** the device can be assigned directly to a circuit: see above.
- **Angle:** Rotate components manually, see 11.2.2
- **Type:** all types of devices are included in the selection menu.
- **Power:** Specifies the power of the device. This value is not yet used in the current version of Schematics but will be able to be used in future versions.
- **Via Transfo:** This opens the Customization window related to this component (see below 11.8.8)
- **Via kWh counter:** This opens the Customization window related to this component (see 11.8.8)

- **Via junction box:** This opens the Customization window related to this component (see 11.8.8)
- **Via Screw terminal:** This opens the Customization window related to this component (see 11.8.8 and 14.2.3). This gives the possibility to add a screw terminal for the selected component.
- **Label:** free inputs. This label is displayed on the single-wire diagram if it is the last component on the circuit that has been assigned a label.
- **Linked by:**
  - **List of all possible switching elements:** here you can find the list of all possible switching elements that can switch this device.

To connect a device to a socket, there are 2 options:

Option 1: via the attribute field of the socket to which the device is connected (see 11.2.6)

Option 2:

1. Click on the "Device" snip in the menu bar (under the "Situation Schedule" tab)
2. Choose the device from the menu that opens
3. Place the cursor anywhere on the situation diagram
4. Click on the left mouse button
5. Drag the device with the mouse (hold down the left mouse button) to the socket where the device is connected. When the mouse button is released, the device will be placed on the socket and also drawn on the one-wire diagram.

Please note

When a label has been assigned to the socket in the attributes and a device is connected to that socket, the label assigned to the device will be shown on the one-wire diagram. The label of the socket will not be displayed, even if no label has been assigned to the device.

### 11.2.8 Adding Other Components

Under "Other" components, components or devices are included that have different attributes and can be connected in different ways.

#### 11.2.8.1 Grounding Breaker

The grounding breaker has no attributes but must be placed on the situation diagram where it is actually present.

**Attention: if the earthing circuit breaker is not placed on the situation diagram, it will not be drawn on the one-wire diagram either!**

#### 11.2.8.2 Junction box, junction box

According to the AREI, junction boxes must also be indicated on the electrical diagrams. To do this, place the junction boxes on the situation diagram. These junction boxes are automatically named (see in attribute list and on situation diagram). This name can be changed in the attribute field but must be a unique name.

To indicate that an element in the installation has a connection in this junction box, this must be specified in the attributes of the element itself or via the "Customize" window of the element (see in this manual under the type of element).

#### 11.2.8.3 Battery

When a battery is placed on the situation diagram, it can be a battery of an alarm system, for example, or a home battery, connected to an inverter.

For an alarm system battery: see 13.2.1.1

For a house battery: see 11.5

#### 11.2.8.4 Doorbell

See 11.8.6 and 11.8.7

#### 11.2.8.5 Intercom

The Intercom has the same attributes as a device (except for "Power" and "Type") but can also be connected via the attributes to a controller that is placed in the fuse box. In this way, the intercom can either be connected (and switched) in the traditional way, or indicated as an intercom connected to a central control module or controller.

#### 11.2.8.6 Clock

The clock has the same attributes as a device (except for "Power" and "Type") but can also be connected via the attributes to a controller that is placed in the fuse box. In this way, the clock or chime can either be connected and switched in the traditional way, or indicated as a clock connected to a central control module or controller (see Figure 50).

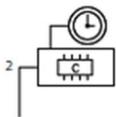


Figure 50

#### 11.2.8.7 Charging station

In the attributes of a charging station, the current path, the power, the number of phases, manufacturer, model, serial number and a label can be indicated. Furthermore, it can also be connected via a kWh meter and/or transformer and switched and junction boxes can be assigned to it.

#### 11.2.8.8 Loudspeaker

The speaker has the same attributes as a device (except for "Power" and "Type") but can also be connected via the attributes to a controller that is placed in the fuse box. In this way, the loudspeaker can either be connected (and switched) in the traditional way, or indicated as a loudspeaker connected to a central control module or controller.

#### 11.2.8.9 Siren

There are 2 types of siren possible: without and with flickering light (each with its own symbol).

The siren has the same attributes as a device (except for "Power" and "Type") but can also be connected via the attributes to a controller that is placed in the fuse box. In this way, the siren can either be connected (and switched) in the traditional way, or indicated as a siren connected to a central control module or controller.

#### 11.2.8.10 Lock

An electronic door lock has the same attributes as a device (except for "Power" and "Type") but can also be connected via the attributes to a controller placed in the fuse box. In this way, the lock can either be connected and switched in the traditional way, or displayed as connected to a central control module or controller (see Figure 50 above).

#### 11.2.8.11 Telecom

To indicate a telecom connection on a situation diagram, the telecom symbol can be placed on the situation diagram and the following attributes can be specified:

- **Type:** displays the type of connection here by choosing from the drop-down menu or by freely entering a text. This type is shown on the situation diagram.
- **Label:** gives a non-binding label here. This label is also displayed on the situation diagram.
- **Mounting height:** indicates the height at which this telecom connection is placed in reality. This value is also displayed on the situation diagram.

#### 11.2.8.12 Transformer

When a transformer is specified for an appliance, light point, socket, ... you can also place this transformer on the situation diagram. In the attributes you can then choose an already created transformer from the drop-down menu behind the attribute "name". The name of the transformer is also indicated on the situation diagram.

#### 11.2.8.13 Counter box

Place the counter box on the situation diagram. You can use the attributes to give a label, which will also be displayed on the situation diagram.

#### 11.2.8.14 Fuse box

Place a fuse box on the situation diagram. Via the attribute "Name" you can choose a created fuse box via the drop-down menu.

The drop-down menu includes both the fuse boxes created under the "Fuse box" tab and the fuse boxes designed under the "Design" tab.

The name of the fuse box is therefore displayed on the situation diagram.

#### 11.2.8.15 Customize Component Color

To adjust the color of a component on the situation diagram=

1. Select the component
2. Right-click
3. Choose "Color" from the pop-up menu
4. Choose a color
5. Click OK

### 11.3 Installing the inverter (Solar panels)

When an inverter is placed on the situation diagram and connected to a power circuit, an inverter with 1 string of solar panels is automatically displayed on the one-wire diagram. Via the attributes (see Figure 51 ) the following may be specified:

- **Circuit:** indicates which circuit breaker or fuse this inverter is connected to
- **Angle:** Rotate components manually, see 11.2.2

- **Type:** Please indicate the type of inverter here (Inverter or Rectifier/Inverter)
- **Grounded:** Indicate here whether the inverter is earthed.
- **Type of Cable Grounding:** Indicate the type of cable with which the inverter is grounded.
- **Wire Section Grounding:** Specify the section of the grounding cable here.
- **Number of strings:** Indicate here how many strings of solar panels are connected to this inverter.
- **Total peak power (kVA):** enter the peak power of the inverter here.
- **Serial number:** enter the serial number of the inverter here.
- **Manufacturer:** Enter the manufacturer of the inverter here.
- **Model:** Enter the model of the inverter here.
- **Via Transfo:** This opens the Customization window related to this component (see below 11.8.8)
- **Via kWh counter:** This opens the Customization window related to this component (see 11.8.8)
- **Via junction box:** This opens the Customization window related to this component (see 11.8.8)
- **Via Screw terminal:** This opens the Customization window related to this component (see 11.8.8 and 14.2.3). This gives the possibility to add a screw terminal for the selected component.
- **Label:** gives a non-binding label here. This label is also displayed on the single-wire diagram.
- **Building:** Indicates in which building (as indicated in the installation data under the Home tab) the inverter is located. This is important for a possible cable route and/or block diagram.
- **Floor:** Indicates on which floor (as indicated in the installation data under the Home tab) the inverter is located. This is important for a possible block schedule.
- **Room:** Indicates here in what room the inverter is located. This data is not currently used in the program.
- **UPS Output:**
  - **With UPS Output:** Here you can indicate whether the inverter is equipped with a UPS output. Once indicated here that there is a UPS output present, it will be available as an "Upstream element" for the protection components in the distribution box.
- **Linked by:**
  - **Different switching elements:** The list includes all possible types of switching elements. For each type, there is a selection menu in which all possible and previously created switching elements or outputs are included (This will be discussed further 11.8).
- **Strings:** Below you can enter the attributes of the individual strings and solar panels (see Figure 52)
- **String:** choose for which string you want to change the attributes. The dropdown menu only includes the number of strings specified in the "Number of Strings" field at the inverter.
- **Number of Panels:** Indicate how many solar panels are connected to this string.
- **Characteristics of the same string:** Here you can set the attributes of the string to be the same as the attributes of another string.
- **Favorites Features:** Here you can choose your favorite solar panels or string. To create a favorite: see below Create and manage your favorite inverter and solar panels
- **Power:** Enter the power of 1 solar panel connected to this string (in kW)
- **Grounded:** Indicate here whether the solar panels are grounded.

- **Type of Cable Grounding:** Indicate the type of cable with which the solar panels are grounded.
- **Wire Section Grounding:** Specify the section of the grounding cable here.
- **Manufacturer:** Enter the manufacturer of the solar panels here.
- **Model:** Enter the model of the solar panels here.
- **Type of cable:** specify the type of cable that is used between the inverter and the solar panels.
- **Wire section:** Specify the section of the cable that is used between the inverter and the solar panels.
- **Via junction box:** This opens the Customization window related to this component (see 11.8.8)
- **Via Screw terminal:** This opens the Customization window related to this component (see 11.8.8 and 14.2.3). This gives the possibility to add a screw terminal for the selected component.
- **Distance:** indicates the distance between the inverter and the solar panels (m).
- **Label:** gives a non-binding label here. This label is also displayed on the single-wire diagram.
- **Switched by**
  - Here you can indicate which component this string is switched by.

<b>Situatieschema</b>	
Naam	glv_Stopc
<b>Omvormer</b>	
Stroombaan	VK1:B
Type	Omvormer
Geaard	Ja
Type Kabel Aarding	
Draadsectie Aarding	
Aantal Strings	1
Totaal Piekvermogen (kVA)	
Serienummer	
Fabrikant	
Model	
Via Transfo	
Via kWh Teller	
Via Aftakdoos	
Via Raikklem	
Label	
<b>Geschakeld Door</b>	
Andere Schakelaars	0
Schakelklok	
Dimmer Int. Stuurkring	
Manuele Schakelaar	
Impulsschakelaar	
Contactor	
Dimmer Ext. Stuurkring	
Tijdschakelaar	
Algemeen Component	
Domotica Module	
<b>Strings</b>	

Figure 51

■ Strings	
String	1
■ String	
Aantal Panelen	1
Kenmerken Idem A...	
Kenmerken van Fa...	
Vermogen	
Geraard	Ja
Type Kabel Aarding	
Draadsectie Aarding	
Fabrikant	
Model	
Type Kabel	Solar
Draadsectie	
Afstand	
Via Aftakdoos	
Via Railklem	
Label	
■ Geschakeld Door	
Andere Schakela...	0
Schakelklok	
Dimmer Int. Stu...	
Manuele Schakel...	
Impulsschakelaar	
Contactoer	
Dimmer Ext. Stu...	
Tijdschakelaar	
Algemeen Comp...	
Domotica Module	

Figure 52

To draw up a situation diagram or location plan of the PV installation: go to 12.1

#### 11.4 Create and manage your favorite inverter and solar panels

By creating a favorite inverter or favorite solar panel (or string) you can call it up again and again in the same or other projects. This means you don't have to re-enter all attributes every time. Certain attributes of the inverter or strings are not included in the settings of the favorites because they are different for each project (such as e.g. Flow Path, Number of Strings, Serial Number, Label, ...).

To create a favorite inverter and/or string

1. you place an inverter on the situation diagram
2. assign it to a circuit via the attributes
3. Customize the other attributes or fill them in as desired
4. Right-click on the inverter
5. choose "Add Favorite" in the menu
6. In the next popup window you can choose whether you want to create a favorite for the inverter or for 1 of the configured strings on that inverter. Choose from the drop-down menu.
7. In the next window you can change the name for this favorite.
8. click OK

After this, the favorite inverter will become available in the list of favorite inverters that you can find by clicking on the arrow under the "Inverter" button in the menu under the Situation diagram tab. At the bottom of this menu, you can click on "Manage favorites". Clicking here opens a window with the

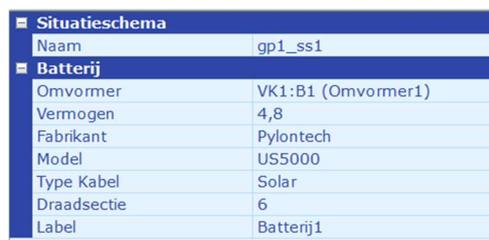
option to delete a favorite and change the order of the favorites in the list. In this case, this is only for the inverter, not for the solar panels.

To use a created favorite solar panel for a string on an inverter or to manage the list: see Chapter 12.2

### 11.5 Battery (Home battery PV installation)

When placing a battery on the situation diagram, you have the following characteristics in the attribute list:

- **Angle:** Rotate components manually, see 11.2.2
- **Inverter:** Choose the inverter to which this battery is connected from the drop-down menu. This inverter must therefore be installed first (see above).
- **Power:** Enter the power of the battery here (in kWh)
- **Manufacturer:** Enter the manufacturer of the battery here.
- **Model:** Enter the type number or model of the battery.
- **Serial Number:** Enter the battery serial number here.
- **Cable Type:** Indicates the type of cable that connects the battery to the inverter
- **Label:** Please provide any additional information regarding the battery here.



Situatieschema	
Naam	gp1_ss1
Batterij	
Omvormer	VK1:B1 (Omvormer1)
Vermogen	4,8
Fabrikant	Pylontech
Model	US5000
Type Kabel	Solar
Draadsectie	6
Label	Batterij1

Figure 53

- The end result of an inverter with 2 strings and 2 batteries on the single-wire diagram can be seen in the figure below (Figure 54)

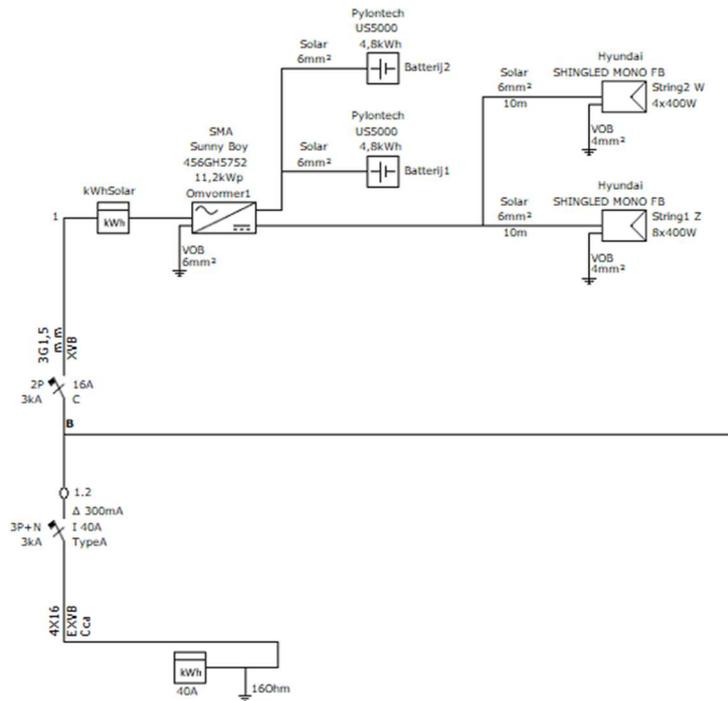


Figure 54

## 11.6 Create and manage favorite battery

By creating a favorite battery, you can call it up again and again in the same or different projects. This means you don't have to re-enter all attributes every time. Certain attributes of the battery are not included in the settings of the favorites because they are different for each project (such as serial number, label, ...).

To create a favorite battery

1. If you place a battery on the situation diagram
2. assign it to an inverter via the attributes
3. Customize the other attributes or fill them in as desired
4. Right click on the battery
5. choose "Add Favorite" in the menu
6. In the next window you can change the name for this favorite.
7. click OK

After this, the favorite battery will become available in the list of favorite batteries that you can find by clicking on the arrow under the "Battery" button in the menu under the Situation Diagram tab. At the bottom of this menu, you can click on "Manage favorites". Clicking here opens a window with the option to delete a favorite and change the order of the favorites in the list.

## 11.7 Solar panels

See chapter 12

## 11.8 Circuits

This chapter explains how to proceed via the situation diagram to switch switches, dimmers, ... to circuits so that these circuits are correctly displayed on the one-wire diagram. A distinction is made

between traditional circuits (via switches, built-in dimmer switches, roller shutter switches, etc.) and circuits by means of Domotics modules.

### 11.8.1 Traditional circuits

To add a switch (of any type) to a circuit, proceed as follows:

1. Click on the button in the menu bar (under the "Situation diagram" tab) of the desired type of switch. Certain types of switches are included in the menu bar. The type can be changed later via the attributes (see below)
2. Place the cursor at the desired location on the situation diagram
3. Click left mouse button

When the switch is placed near a wall, the switch will be placed on this wall in the correct orientation. The switch can still be moved afterwards by means of the mouse.

To assign the placed switch to a certain circuit (e.g. a light circuit) there are 2 options:

Option 1: via the attribute "Toggles" in the attribute field of the switch. See below.

Option 2:



1. Select the switch (left mouse button). The selected switch is now bordered in red.
2. Click the switch with the **left mouse button** while the **CTRL key** is pressed. Hold down both the left mouse button and the CTRL key while dragging the cursor **from the switch to an electrical element** (e.g. a light point, a socket, a device, ...) that has already been assigned to a circuit (see previous chapters)
3. Release the mouse button and the CTRL key. The name (circuit + serial number) of the switched element is now taken over and also mentioned with the switch on the situation diagram. Also on the one-wire diagram the switch will now be included in this circuit.
4. By following the same procedure (from step 1) you can also disconnect the switch from the circuit.

#### CAUTION

**It is possible to include 1 switch in different circuits. All connected circuits will therefore be listed on the situation diagram at the switch.**

**When a switch is assigned to 2 or more different circuits (e.g. A6 and D3), a warning will appear via a pop-up window to inform you of this. It is up to the user to restore this if desired.**

A change in the attributes will, if applicable, result in a change of the symbol on the situation diagram and/or single wire diagram.

The attributes associated with a switch are the following (see **Figure 55**):

- **Type:** here the type of switch can be adjusted.  
The different types of switch are:

- Push button (different attribute field, see below)
- Ordinary (=1-pole standard switch)
- Motion detector (different attribute field, see below)
- Two-way switch
- Cross switch
- Series switch
- Dimmer
- Roller shutter switch
- Thermostat (different attribute field: see below)

Please note:

The possible types depend on the type of circuit to which this switch is added. For example, a switch that switches a light circuit cannot be changed into a roller shutter switch or thermostat.

- **Circuit:** this attribute is only available when it is indicated further in the attributes that this component has an individual domotic asturing (see below). When available, it can be indicated to which circuit this component is connected. However, if this switch is already connected to another component assigned to a circuit (light point, socket,...), this switch will be drawn on the circuit of that component (and this attribute will be deactivated again).
- **Angle:** Rotate components manually, see 11.2.2
- **Number of poles:** here you can indicate how many poles this switch switches.
- **Pull cord:** this indicates whether the switch is equipped with a pull cord.
- **(Semi) Waterproof:** here it is indicated whether the switch is mounted in a (semi) waterproof housing.
- **Delayed Opening:** Indicates whether a switch is equipped with a delayed opening function.
- **With Status Lamp:** Indicates whether the switch is equipped with a status lamp. The drop-down menu includes 3 options:
  - Empty field: no status lamp present
  - Indicator lamp
  - Signal lamp
- **Local push-button control:** indicate here whether the luminaire is equipped with a local push-button (Wireless Domotics)
- **Wireless control:** indicate here whether the luminaire is equipped with a wireless control (Wireless Domotics)
- **Programmed control:** indicate here whether the luminaire is equipped with programmed control (Wireless Domotics)
- **Detection control:** indicate here whether the luminaire is equipped with a built-in detector (Wireless Domotics)
- **Extension with push-button control:** indicate here whether the luminaire is connected to a connected push button (Wireless Domotics)
- **Installation:** here is indicated whether the switch was installed in or mounted on surface.
- **In Fuse box:** Indicates whether the component is in a fuse box.

- **Label:** free inputs. In some cases, this label will also be displayed on the single-wire diagram.
- **Switches:**
  - **Parallel with:** here you can indicate with which type and specifically which other switching element this switch is connected in parallel.
  - **List of all known and possible circuits to be switched:** below you will find all known circuits (elements that are already connected to a circuit) that can be switched by the chosen type of switch. By choosing "Yes" in the selection menu belonging to a certain circuit, this switch is assigned to this circuit and this switch will be added to the circuit on the one-wire diagram.

■ <b>Situatieschema</b>	
Naam	gp1_ss1
■ <b>Schakelaar</b>	
Type	Gewoon
Stroombaan	
Aantal Polen	1P
Trekkoord	
(Half) Waterdicht	
Vertraagde Opening	
Met Status Lamp	
Lokale Drukknop Sturing	
Draadloos Sturing	Ja
Geprogrammeerd Sturing	
Detectie Sturing	
Uitbreiding Met Drukknop...	
Montage	Inbouw
In Verdeelkast	
Label	
■ <b>Schakelt</b>	
■ Parallel Met	
■ Verlichtingspunten	
■ Contactdozen	
■ Toestellen	
■ Overige	
■ Overige Componenten	
■ Beveiligingscomponenten	

Figure 55

### 11.8.2 With Domotics installation

In 6.4 it is discussed how you can control a circuit from the attribute field of a Domotics module (switching, dimming, ...) via the attribute fields under "Switches".

This control can also be defined based on the branch point to be switched (light points, sockets, devices, etc.):

To do this, select the branch point to be sent and open the drop-down menu behind "Switched by" – "Domotics Module" in the attribute field. The selection menu contains all known (i.e. specified in the Domotics fuse box and connected to a power supply) Domotics modules that can control this type of branch point (see Figure 56). The modules and outputs are indicated as follows:

Domotics Fuse box Name: Domotics Module Name #nummer Output/Input (Domotics Module Label)

E.g. Domo:1.1.1#6 (Relaym1)

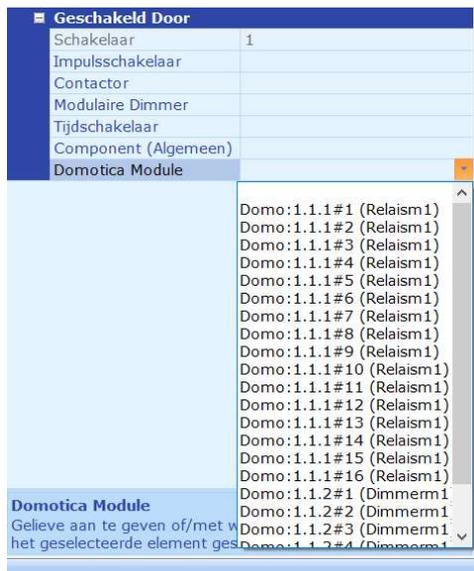


Figure 56

Select the appropriate output on the appropriate module from the drop-down menu.

### 11.8.3 Add push button

As indicated earlier, a push button has a different attribute field than the other types of switches (see Figure 57)

- **Type:** here the type of switch can be adjusted.  
The different types of switch are:
  - Push button (different attribute field, see below)
  - Ordinary (=1-pole standard switch)
  - Motion detector (different attribute field, see below)
  - Two-way switch
  - Cross switch
  - Series switch
  - Dimmer
  - Roller shutter switch
  - Thermostat (different attribute field: see below)

Please note:

The possible types depend on the type of circuit to which this switch is added. For example, a switch that switches a light circuit cannot be changed into a roller shutter switch or thermostat.

- **Flow path:** this attribute is only available when it is indicated further in the attributes that this component has an individual domotic asturing (see below). When available, it can be indicated to which circuit this component is connected. However, if this switch is already connected to another component assigned to a circuit (light point, socket,...), this switch will be drawn on the circuit of that component (and this attribute will be deactivated again).
- **Number of buttons/outputs:** here you can indicate how many individual buttons or how many outputs this push button contains.

- **Connected to:** here you can indicate whether this push button is connected to a (bus) power supply. If a power supply is selected, this push button will also be drawn on the bus connected to this power supply on the single wire diagram.
- **(Semi) Waterproof:** here it is indicated whether the push button is mounted in a (semi) waterproof housing.
- **Delayed Opening:** Indicates whether a push button is equipped with a delayed opening function.
- **With Status Lamp:** Indicates whether the switch is equipped with a status lamp. The drop-down menu includes 3 options:
  - Empty field: no status lamp present
  - Indicator lamp
  - Signal lamp
- **Local push-button control:** indicate here whether the luminaire is equipped with a local push-button (Wireless Domotics)
- **Wireless control:** indicate here whether the luminaire is equipped with a wireless control (Wireless Domotics)
- **Programmed control:** indicate here whether the luminaire is equipped with programmed control (Wireless Domotics)
- **Detection control:** indicate here whether the luminaire is equipped with a built-in detector (Wireless Domotics)
- **Extension with push-button control:** indicate here whether the luminaire is connected to a connected push button (Wireless Domotics)
- **With shielding:** Indicate whether this is a push button with shielding or not (empty field is not shielding).
- **Installation:** here is indicated whether the push button was installed or mounted in surface mounting.
- **Switches:**
  - **Via Button/Output:** Indicates which individual button or output the attributes below relate to.
  - **Label:** free inputs. In some cases, this label will also be displayed on the single-wire diagram. This label can therefore be set separately for each button of the multiple push button.
  - **Parallel with:** here you can indicate with which type and specifically which other switching element this switch is connected in parallel.
  - **List of all known and possible circuits to be switched:** below you will find all known circuits (elements that are already connected to a circuit) that can be switched by the chosen type of switch. By choosing "Yes" in the selection menu belonging to a certain circuit, this switch is assigned to this circuit and this switch will be added to the circuit on the one-wire diagram.
  - **Input module:** here you can indicate to which input of which input module this individual push button is connected. The list contains all input modules specified in the Domotics Fuse box. Behind each input module is a drop-down menu with all specified inputs that this input module has (also specified in the attribute list of the input module)

<b>Situatieschema</b>	
Naam	gp1_ss1
<b>Schakelaar</b>	
Type	Drukknop
Stroombaan	
Aantal Knoppen	1
Aangesloten Op	
(Half) Waterdicht	
Vertraagde Opening	
Met Status Lamp	
Lokale Drukknop Sturing	
Draadloos Sturing	
Geprogrammeerd Sturing	
Detectie Sturing	
Uitbreiding Met Drukknop...	
Met Afscherming	
Montage	Inbouw
In Verdeelkast	
<b>Schakelt</b>	
Via Knop	1
Label	
<b>Parallel Met</b>	
<b>Verlichtingspunten</b>	
VK1:A1	
VK1:A2 (Hue Inkom)	
<b>Contactdozen</b>	
<b>Toestellen</b>	
<b>Overige</b>	
<b>Overige Componenten</b>	
<b>Dimmer Int. Stuurkring</b>	
<b>Beveiligingscomponenten</b>	
<b>Inputmodule</b>	

Figure 57

#### 11.8.4 With other components (contactors, impulse switches, modular dimmers, timer, general component)

Controlling a load or branch point via an external module such as contactors, impulse switches, modular dimmers and timer switches can also be done via the attribute field of the load to be controlled or the branch point to be controlled (see Figure 58):

1. Select the branch point to be sent
2. Open the drop-down menu behind "Switched by" – "the type of module" in the attribute field. The selection menu includes all known components (i.e. specified and connected in the fuse box) that can control this type of branch point (see Figure 58). The components are indicated as follows:

<Fuse box name>: <Circuit number> (<label component>)

E.g. UK HOUSE:J2 (cont slpk)

<b>Geschakeld Door</b>	
Schakelaar	1
Impulsschakelaar	
Contactor	
Modulaire Dimmer	
Tijdschakelaar	VK WONING 1:J2 (cont slpk)
Component (Algemeen)	VK WONING 1:J4 (cont Buiten)
Domotica Module	VK WONING 2:J7 (cont slpk)
	VK WONING 2:J8 (cont buiten)

Figure 58

3. Choose the appropriate component from the drop-down menu.

### 11.8.5 Parallel circuits

In the attributes of the switching elements discussed earlier in this document, it can be indicated whether the switching element is connected in parallel with another switching element that is already specified and defined in Schematics.

If a switching element is indicated as being connected in parallel with another switching element, this is also shown on the single-wire diagram. You can see the difference in Figure 59 (serially switched) and Figure 60 (connected in parallel).

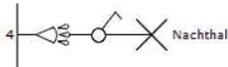


Figure 59: serial circuit

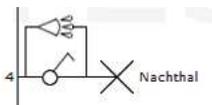


Figure 60: Parallel Circuit

TIP: However, it is not possible to draw 2 or more ordinary switches in parallel on the single wire diagram. There is a possibility to indicate these switches as being connected in parallel with each other. This has the advantage that if you place a motion detector or a Domotics relay in parallel over 1 of those switches, for example, it will be drawn in parallel over the various ordinary switches. If the ordinary switches are specified in series, the motion detector will be drawn in parallel with that one switch, for example, and in series with the other ordinary switches.

To quickly place components (which are on the situation diagram) parallel to each other, proceed as follows:

1. Select a switching component such as a switch, motion detector,... and connect it to e.g. a light point by means of the CTRL key and mouse combination (see earlier)
2. Then select another switching component and connect it, d.m.v. the mouse and CTRL key, with the switching component previously connected to the light point (and not directly to the light point itself).
3. From now on, the program will consider these 2 switching components as parallel switches. This also applies to 2 regular switches.

### 11.8.6 Add traditional doorbell

To add a traditional doorbell (i.e. a push button connected to a transformer and a chime) to the electrical diagrams, proceed as follows:

1. Click in the menu bar under the tab "Situation schedule" on the "Other" button
2. Click on "Doorbell" in the menu that opens
3. Use the mouse to place your doorbell in the right place on your situation diagram
4. In the doorbell's attribute list, select the appropriate "Circuit" to which the doorbell is connected.
5. Click on the "Push button" button in the menu bar under the "Situation schedule" tab
6. Place this push button in the correct place on the situation diagram

7. Connect the push button to the doorbell via the attribute field (switch – ring) or by dragging the left mouse button, together with the CTRL key on your keyboard, from the push button to the doorbell.
8. Right-click on the doorbell or click on "Via Transfo" in the attribute field
9. In the Edit window that opens: Click on the push button in the line (where the transformer should be placed) and in the menu on the right under "Transfo" you choose a new transformer or an existing transformer.
10. At the top right of the menu of the Customization window you can change the name and also indicate the type of the transformer. You can do the latter by choosing a pre-programmed type in the drop-down menu or you can type in a type yourself.

The result looks as indicated in Figure 61.

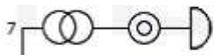


Figure 61

#### 11.8.7 Add videophone and intercom (with central control)

To add a processor-controlled doorbell (i.e. intercom or videophone) to the electrical diagrams, proceed as follows:

1. Place a controller in the distribution board
  - a. Click on "Controller" in the menu field under tab "Fuse box"
  - b. Place the controller on the drawing board (Fuse box)
  - c. Connect the input of the controller to the appropriate protection component (automatic switch, differential switch,...) via the attribute field or by using the mouse to draw the connection between the 2 components (from black box to black box)
2. Go to the situation diagram (via the "Situation diagram" tab)  
Click in the menu bar under the tab "Situation schedule" on the "Other" button
3. Click on "Doorbell" in the menu that opens
4. Use the mouse to place your doorbell in the right place on your situation diagram
5. In the attribute field, under Doorbell – Controller, choose the correct controller (indicated by the circle and sequence number)
6. Click on the "Push button" button in the menu bar under the "Situation schedule" tab
7. Place this push button in the correct place on the situation diagram
8. Connect the push button to the doorbell via the attribute field (switch – ring) or by dragging the left mouse button, together with the CTRL key on your keyboard, from the push button to the doorbell.
11. If necessary, add an electric lock: Click on the "Other" button in the menu bar under the "Situation diagram" tab
12. Click on "Lock" in the menu that opens
13. Place the lock with the mouse in the right place on your situation diagram
9. In the lock's attribute list, select the appropriate "Controller" to which the lock is connected.

The result looks like Figure 62.

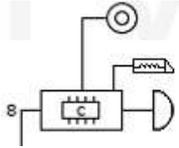


Figure 62

### 11.8.8 The Fitting Window

The "fitting window" is a pop-up window in Schematics where 1 branch of a circuit or 1 line of the single wire diagram is displayed separately. In this window, one or more transformers, kWh meters, junction boxes and rail terminals can be added on this line and possibly also moved over other components, so that the order can be adjusted as desired.

The adjustment window can be called up either via the "Customize" function in the right-click menu of a selected component or via the attributes of the selected component by clicking on the field "Via Transfo", "Via kWh Counter", "Via Junction Box" or "Via Screw terminal".

The adjustment window can only be called up via the last component on a certain line. For example, the last component in a line with 2 two-way switches and a connection point is the connection point. Even if you want to add a transformer for the 2 two-way switches, you will have to call up the adjustment screen via the connection point.

#### 11.8.8.1 Add transformer

To add a transformer to a line or for a component such as a switch, a light point, a circuit breaker, ... Select the last component in the line in the fuse box, Domotics fuse box or on the situation diagram (not on the one-wire diagram) and call up the adjustment window.

In the fitting window, select the component on the line you want to place the transformer just in front of. If no selection is made, the transformer will be placed in front of the last component in the line by default. This can then be moved if necessary (see below).

In the menu at the bottom right of the adjustment window, in the box "Add" click on the field under "Transfo". Here you can choose to create a new transformer in the project or add an existing transformer to the line. Only the transformers that are electrically possible on this line will be included in the selection menu.

The characteristics of the chosen transformer are right at the top of the menu of the adjustment window. These characteristics are

**Name:** by default, a name consisting of TR followed by a sequence number is created for each new transformer, but this can be changed to your own choice.

**Type:** In the drop-down menu under Type there are some pre-programmed types to choose from. However, it is also possible to enter a type in the window yourself. When choosing a pre-programmed type, the program will also take into account the output voltage of the transformer if voltage-dependent choices have to be made downstream. For example, after a transformer of the type 230VAC/24VDC it will not be possible to choose e.g. a Phase or Neutre when adding rail terminals, only + and - will be able to be chosen there. With self-

entered type, this will not be taken into account and all possible voltages will still be available downstream.

#### *11.8.8.2 Add kWh Counter*

To add a kWh counter on a line or for a component such as a switch, a light point, a circuit breaker, ... Select the last component in the line in the fuse box, Domotics fuse box or on the situation diagram (not on the one-wire diagram) and call up the adjustment window.

In the adjustment window, select the component on the line where you want to place the kWh counter just in front of it. If no selection is made, the kWh counter will be placed in the line by default for the last component. This can then be moved if necessary (see below).

In the menu at the bottom right of the adjustment window, in the "Add" box, click on the field under "kWh Counter". Here you can choose to create a new kWh counter in the project or add an existing kWh counter to the line. Only the kWh meters that are electrically possible on this line will be included in the selection menu.

The characteristics of the chosen kWh counter are right at the top of the menu of the adjustment window. These characteristics are

**Name:** by default, a name consisting of kWh followed by a serial number is created for each new kWh, but this can be changed to your own choice.

**Connected to:** here you can indicate that the kWh counter has a connection to a Domotics system or Domotics bus by indicating the power supply of this Domotics system. The kWh counter will therefore be included in the one-wire diagram of the Domotics system.

#### *11.8.8.3 Add junction box*

Before a junction box can be added to a line, this junction box must first be placed on the situation diagram. It is also there that the name of the junction box is defined.

To add a junction box on a line or for a component such as a switch, a light point, a circuit breaker, ... Select the last component in the line in the fuse box, Domotics fuse box or on the situation diagram (not on the one-wire diagram) and call up the adjustment window.

In the adjustment window, select the component on the line where you want to place the junction box just in front. If no selection is made, the junction box will be placed in front of the last component in the line by default. This can then be moved if necessary (see below).

In the menu at the bottom right of the customization window, in the "Add" box, click on the field under "Junction box". Here you can choose which junction box that is already included on the situation diagram you want to add to the line.

The characteristics of the chosen junction box are at the top right of the menu of the adjustment window. These characteristics are

**Name:** This is determined in the branch box attributes on the situation diagram

#### *11.8.8.4 Add Screw terminal*

See 14.2.3

11.8.8.5 Change the sequence of circuits, transformers, kWh counters, junction boxes and terminals and/or place multiple kWh counters, transformers, junction boxes and/or terminals on 1 line.

When different components such as switches, kWh meters and transformers are connected to 1 line (1 branch point of a circuit or for a protection component in the fuse box), they are drawn on the line by the program in a certain order. This is not always the order in which these components are connected in reality. To change this order, proceed as follows:

1. Select the component on the situation diagram that is preceded by the components to be changed in order.
2. Right click on the right mouse button and choose "Customize" from the menu that appears.
3. The fitting window opens (as in Figure 63)
4. Select the component you want to move on the line.
5. Via the <<< and >>> buttons, you can move the selected component on the line.

**ATTENTION: When you add a transformer, kWh counter or screw terminal (not with a junction box) you must take into account whether or not this element has been used elsewhere in this installation. For example, if you place a transformer between a switch and a light point and this transformer is already used for another light point, then the switch of this line will also be placed on the other line where this transformer is also used. This is because there is no other electric way in reality. When you then move the transformer to in front of the switch, the switch will still be present on that other line as well. You will then have to adjust this manually on the other line. Hence the possible importance of placing this element correctly in one go by first selecting the component in front of which the new element should be placed (in the case of the previous example the switch) and then adding the new element.**

By clicking on the red cross you remove the selected component.

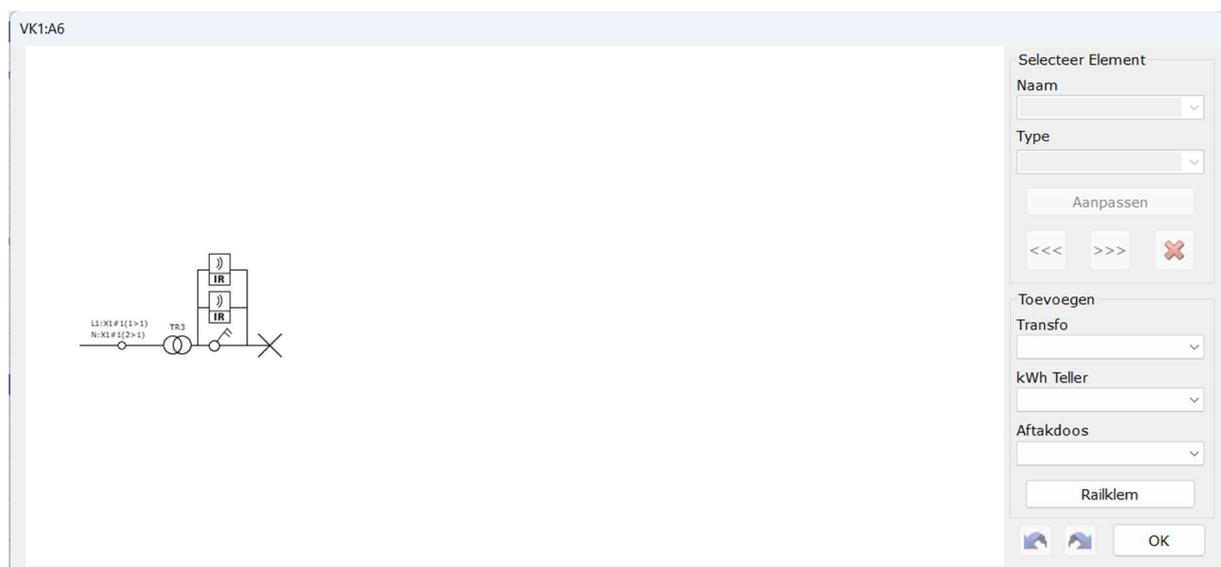


Figure 63 The Fitting window of a light point or connection point

NOTE: If you have placed switches in parallel with each other (see 11.8.5) they cannot be changed in order among themselves. This group of switches will therefore always be moved together. The components that are moved together are surrounded by a green frame.

### 11.8.9 Finding individual elements

In both the fuse box, the Domotics fuse box and the situation diagram, all "separate components", components that are not assigned or connected to a circuit or other component can be requested by means of the button .

When clicking on this button, all individual elements will be in focus (red frame).

## 12 Solar panels

### 12.1 Situation diagram PV installation (location plan)

A situation diagram or location plan of solar panels, inverter, etc. is a plan where the location of the components of the PV installation is indicated. You do this by placing the separate parts on the situation diagram, based on the appropriate floor plan. The installation of the inverter was previously discussed in 11.3.

The location plan of the solar panels can be as follows:

1. In the menu (Situation Diagram tab) under section "PV", select the solar panels
2. Click with the mouse on the top corner of where your solar panel or row of solar panels starts and drag the mouse to the other extreme corner.
3. In the pop-up window, indicate how many solar panels need to be drawn along this drawn line.
4. Once clicked on OK, the number of specified solar panels will be drawn.
5. While all solar panels are still selected: indicate in the attribute list to which inverter these solar panels are connected and indicate which string these solar panels are part of.
6. Each solar panel will then display the circuit and circuit number of the inverter, followed by the number of the string. Both are separated from each other by a dot "." E.g. G1.1 means that the panel is connected to string 1 of the inverter on circuit G where it has circuit number 1.

When drawing the line that indicates the top of the solar panel or the row of solar panels, the direction of the drawing determines in which direction the solar panels will be drawn.

1. from left to right or from top to bottom, the solar panels will be drawn up or right of the line,
2. From right to left or from bottom to top, the solar panels will be drawn down or left of the line.

When a row of solar panels is drawn, all solar panels of this row can also be selected separately or in via a multi-select via the CTRL key or the drag function of the mouse.

In the attributes of a solar panel, the width, height and angle of the solar panels can also be adjusted. When the floor plan on which this situation diagram is based has been drawn in a calibrated manner, the dimensions of the solar panels will also be indicated in proportion.

To add a solar panel, you can also use the copy-paste function by means of the right mouse button or CTRL-C and CTRL-V.

NOTE: When adjusting attributes of 1 solar panel, the same attributes for all solar panels on that string are adjusted in the same way.

## 12.2 Using and managing favorite solar panels

How favorite solar panels can be created and stored is discussed in chapter 11.4.

To use a created favorite solar panel in a project:

1. Place an inverter on the situation diagram and enter its attributes or use a favorite inverter.
2. In attributes of a string click on the field behind "Attributes of Favorite"
3. In the drop-down menu that opens, choose a favorite

To manage the list of favorite solar panels:

1. click on "Manage Favorites" in the menu window that opens in step 3 above.
2. In the window that opens, you can delete favorites or change the order of the favorites.

## 13 Alarm system situation diagram

### 13.1 General

Using a floor plan, it is possible to draw up a situation diagram for an alarm system, such as for a fire alarm and a burglar alarm.

The general procedure is the same as for a situation diagram of the electrical installation (see 11).

The difference with the situation diagrams of the electrical installation is that for the components of the alarm systems, the possible flow path, address and label are also shown on the situation diagram.

The symbols included in Schematics are according to the ISO 7010 Standard insofar as they are included herein.

### 13.2 Components

In the menu of the situation diagram (see Figure 64) distinguishes between

- General components (usable with both fire alarm and burglar alarm systems)
- Components of a fire alarm system
- Components of a burglar alarm system

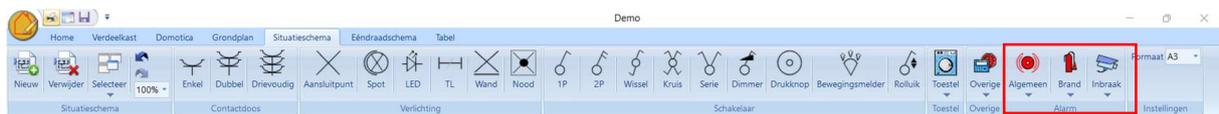


Figure 64

The menu buttons "General", "Fire" and "Intrusion" open a submenu with various components. Click on the component you want to add to your situation chart.

Tip: The alarm components on the situation diagram can also be copied and pasted via the right mouse button or via the CTRL-C and CTRL-V key combinations. Any attributes "Type of Cable",

"Manufacturer", "Model" and "Sound Volume" are copied. "Flow Path", "Address", "Serial Number" and "Label" do not.

## 13.2.1 General Components

### 13.2.1.1 Battery

Once the battery has been placed on the situation diagram, the following parameters can be set via the attribute list:

- **Type of Cable:** Specify the type of cable that connects this component to the upstream component. There are different types of cables included in the drop-down menu, but a free text entry can also be done.
- **Manufacturer:** enter the manufacturer of the component here, if necessary. This component will also be included in the bill of materials and when the manufacturer and the model (see below) are entered, this will also be included in the bill of materials.
- **Model:** Enter the model of the component.
- **Label:** give a non-binding label to the component here. This label is also shown on the situation diagram.

### 13.2.1.2 Component (General)

This component can be used if the specific component is not in the list of components. Once the component has been placed on the situation schema, the following parameters can be set via the attribute list:

- **Power Path:** Indicate the power path to which this component is connected directly (not via a wall outlet). This component will therefore be shown on the single-wire diagram. This current path and sequence number is shown on the situation diagram.
- **Address:** Enter a unique address such as the component is known in the alarm center. This address is also shown on the situation diagram.
- **Type of Cable:** Specify the type of cable that connects this component to the upstream component. There are different types of cables included in the drop-down menu, but a free text entry can also be done.
- **Manufacturer:** enter the manufacturer of the component here, if necessary. This component will also be included in the bill of materials and when the manufacturer and the model (see below) are entered, this will also be included in the bill of materials.
- **Model:** Enter the model of the component.
- **Serial number:** Enter the serial number of this component. This serial number will also be displayed on the situation chart.
- **Label:** give a non-binding label to the component here. This label is also shown on the situation diagram.

### 13.2.1.3 GSM module

Once the GSM module has been placed on the situation diagram, the following parameters can be set via the attribute list:

- **Address:** Enter a unique address such as the component is known in the alarm center. This address is also shown on the situation diagram.

- **Type of Cable:** Specify the type of cable that connects this component to the upstream component. There are different types of cables included in the drop-down menu, but a free text entry can also be done.
- **Manufacturer:** enter the manufacturer of the component here, if necessary. This component will also be included in the bill of materials and when the manufacturer and the model (see below) are entered, this will also be included in the bill of materials.
- **Model:** Enter the model of the component.
- **Label:** give a non-binding label to the component here. This label is also shown on the situation diagram.

#### 13.2.1.4 I/O module

Once the I/O (input/output) module is placed on the situation diagram, the following parameters can be set via the attribute list:

- **Address:** Enter a unique address such as the component is known in the alarm center. This address is also shown on the situation diagram.
- **Type of Cable:** Specify the type of cable that connects this component to the upstream component. There are different types of cables included in the drop-down menu, but a free text entry can also be done.
- **Manufacturer:** enter the manufacturer of the component here, if necessary. This component will also be included in the bill of materials and when the manufacturer and the model (see below) are entered, this will also be included in the bill of materials.
- **Model:** Enter the model of the component.
- **Label:** give a non-binding label to the component here. This label is also shown on the situation diagram.

#### 13.2.1.5 Siren

Once the siren is placed on the situation diagram, the following parameters can be set via the attribute list:

- **Type:** here you can choose (via drop-down menu) between a siren with and without flickering light. The symbol on the situation diagram depends on this choice.
- **Address:** Enter a unique address such as the component is known in the alarm center. This address is also shown on the situation diagram.
- **Type of Cable:** Specify the type of cable that connects this component to the upstream component. There are different types of cables included in the drop-down menu, but a free text entry can also be done.
- **Manufacturer:** enter the manufacturer of the component here, if necessary. This component will also be included in the bill of materials and when the manufacturer and the model (see below) are entered, this will also be included in the bill of materials.
- **Model:** Enter the model of the component.
- **Volume:** Indicates the sound volume of the siren in decibels (db). This value is also displayed on the situation diagram.
- **Label:** give a non-binding label to the component here. This label is also shown on the situation diagram.

## 13.2.2 Fire alarm

### 13.2.2.1 AED or Defibrillator

Once the AED symbol is placed on the situation diagram, the following parameters can be set via the attribute list:

- **Manufacturer:** enter the manufacturer of the component here, if necessary. This component will also be included in the bill of materials and when the manufacturer and the model (see below) are entered, this will also be included in the bill of materials.
- **Model:** Enter the model of the component.
- **Label:** give a non-binding label to the component here. This label is also shown on the situation diagram.

### 13.2.2.2 Alarm push button

Once the alarm push button is placed on the situation diagram, the following parameters can be set via the attribute list:

- **Address:** Enter a unique address such as the component is known in the alarm center. This address is also shown on the situation diagram.
- **Type of Cable:** Specify the type of cable that connects this component to the upstream component. There are different types of cables included in the drop-down menu, but a free text entry can also be done.
- **Manufacturer:** enter the manufacturer of the component here, if necessary. This component will also be included in the bill of materials and when the manufacturer and the model (see below) are entered, this will also be included in the bill of materials.
- **Model:** Enter the model of the component.
- **Label:** give a non-binding label to the component here. This label is also shown on the situation diagram.

### 13.2.2.3 Fire extinguisher

Once the extinguisher has been placed on the situation diagram, the following parameters can be set via the attribute list:

- **Manufacturer:** enter the manufacturer of the component here, if necessary. This component will also be included in the bill of materials and when the manufacturer and the model (see below) are entered, this will also be included in the bill of materials.
- **Model:** Enter the model of the component.
- **Expiry date:** enter the expiry date of the extinguisher if necessary. This date will also be shown on the situation schedule.
- **Label:** give a non-binding label to the component here. This label is also shown on the situation diagram.

### 13.2.2.4 Fire reel

Once the fire hose reel has been placed on the situation diagram, the following parameters can be set via the attribute list:

- **Manufacturer:** enter the manufacturer of the component here, if necessary. This component will also be included in the bill of materials and when the manufacturer and the model (see below) are entered, this will also be included in the bill of materials.
- **Model:** Enter the model of the component.
- **Label:** give a non-binding label to the component here. This label is also shown on the situation diagram.

#### 13.2.2.5 Central (Fire Plant)

Once the brand central is placed on the situation diagram, the following parameters can be set via the attribute list:

- **Power Path:** Indicate the power path to which this component is connected directly (not via a wall outlet). This component will therefore be shown on the single-wire diagram. This current path and sequence number is shown on the situation diagram.
- **Manufacturer:** enter the manufacturer of the component here, if necessary. This component will also be included in the bill of materials and when the manufacturer and the model (see below) are entered, this will also be included in the bill of materials.
- **Model:** Enter the model of the component.
- **Serial number:** Enter the serial number of this component. This serial number will also be displayed on the situation chart.
- **Type of Cable:** Specify the type of cable that connects this component to the upstream component. There are different types of cables included in the drop-down menu, but a free text entry can also be done.
- **Wire section:** Enter the section of the cabling or choose a section from the drop-down menu.
- **Via Transfo:** This opens the Customization window related to this component (see below 11.8.8)
- **Via kWh counter:** This opens the Customization window related to this component (see 11.8.8)
- **Via junction box:** This opens the Customization window related to this component (see 11.8.8)
- **Via Screw terminal:** This opens the Customization window related to this component (see 11.8.8 and 14.2.3). This gives the possibility to add a screw terminal for the selected component
- **Label:** give a non-binding label to the component here. This label is also shown on the situation diagram.
- **Switched by:** Indicates which switch this component is switched by.

#### 13.2.2.6 Detector (fire)

Once the detector has been placed on the situation diagram, the following parameters can be set via the attribute list:

- **Type:** here you can choose (via drop-down menu) between
  - CO detector
  - Smoke detector
  - Heat detector
  - Dual Detector (Smoke + Heat)

- Gas detector
- Moisture detector

The symbol on the situation diagram depends on this choice.

- **Address:** Enter a unique address such as the component is known in the alarm center. This address is also shown on the situation diagram.
- **Type of Cable:** Specify the type of cable that connects this component to the upstream component. There are different types of cables included in the drop-down menu, but a free text entry can also be done. This is not yet used up to and including version 1.011 but will be able to be used for future applications.
- **Manufacturer:** enter the manufacturer of the component here, if necessary. This component will also be included in the bill of materials and when the manufacturer and the model (see below) are entered, this will also be included in the bill of materials.
- **Model:** enter the model of the component here.
- **Label:** give a non-binding label to the component here. This label is also shown on the situation diagram.

#### 13.2.2.7 Repetition board

Once the repetition board is placed on the situation diagram, the following parameters can be set via the attribute list:

- **Power Path:** Indicate the power path to which this component is connected directly (not via a wall outlet). This component will therefore be shown on the single-wire diagram. This current path and sequence number is shown on the situation diagram.
- **Manufacturer:** enter the manufacturer of the component here, if necessary. This component will also be included in the bill of materials and when the manufacturer and the model (see below) are entered, this will also be included in the bill of materials.
- **Model:** Enter the model of the component.
- **Serial number:** Enter the serial number of this component. This serial number will also be displayed on the situation chart.
- **Type of Cable:** Specify the type of cable that connects this component to the upstream component. There are different types of cables included in the drop-down menu, but a free text entry can also be done. This is not yet used up to and including version 1.011 but will be able to be used for future applications.
- **Wire section:** Enter the section of the cabling or choose a section from the drop-down menu.
- **Via Transfo:** This opens the Customization window related to this component (see below 11.8.8)
- **Via kWh counter:** This opens the Customization window related to this component (see 11.8.8)
- **Via junction box:** This opens the Customization window related to this component (see 11.8.8)
- **Via Screw terminal:** This opens the Customization window related to this component (see 11.8.8 and 14.2.3). This gives the possibility to add a screw terminal for the selected component

- **Label:** give a non-binding label to the component here. This label is also shown on the situation diagram.
- **Switched by:** Indicates which switch this component is switched by.

#### *13.2.2.8 Medical grab bag*

Once the medical grab bag has been placed on the situation diagram, the following parameters can be set via the attribute list:

- **Manufacturer:** enter the manufacturer of the component here, if necessary. This component will also be included in the bill of materials and when the manufacturer and the model (see below) are entered, this will also be included in the bill of materials.
- **Model:** Enter the model of the component.
- **Label:** give a non-binding label to the component here. This label is also shown on the situation diagram.

#### *13.2.2.9 Emergency button*

Once the emergency button is placed on the situation diagram, the following parameters can be set via the attribute list:

- **Address:** Enter a unique address such as the component is known in the alarm center. This address is also shown on the situation diagram.
- **Type of Cable:** Specify the type of cable that connects this component to the upstream component. There are different types of cables included in the drop-down menu, but a free text entry can also be done. This is not yet used up to and including version 1.011 but will be able to be used for future applications.
- **Manufacturer:** enter the manufacturer of the component here, if necessary. This component will also be included in the bill of materials and when the manufacturer and the model (see below) are entered, this will also be included in the bill of materials.
- **Model:** Enter the model of the component.
- **Label:** give a non-binding label to the component here. This label is also shown on the situation diagram.

#### *13.2.2.10 "You are here" indication*

Once the "You are here" indication symbol is placed on the situation diagram, the following parameters can be set via the attribute list:

- **Manufacturer:** enter the manufacturer of the component here, if necessary. This component will also be included in the bill of materials and when the manufacturer and the model (see below) are entered, this will also be included in the bill of materials.
- **Model:** Enter the model of the component.
- **Label:** give a non-binding label to the component here. This label is also shown on the situation diagram.

#### *13.2.2.11 Evacuation assembly point*

Once the symbol for the assembly point has been placed on the situation diagram, the following parameters can be set via the attribute list:

- **Manufacturer:** enter the manufacturer of the component here, if necessary. This component will also be included in the bill of materials and when the manufacturer and the model (see below) are entered, this will also be included in the bill of materials.
- **Model:** Enter the model of the component.
- **Label:** give a non-binding label to the component here. This label is also shown on the situation diagram.

#### 13.2.2.12 *Escape route (signage)*

Once the escape route signage has been placed on the situation diagram, the following parameters can be set via the attribute list:

- **Type:** here you can choose (via drop-down menu) between
  - Right
  - Left
  - Up
  - Down

The symbol on the situation diagram depends on this choice.

- **Angle:** Indicate the angle in which the symbol should be drawn on the situation diagram.
- **Manufacturer:** enter the manufacturer of the component here, if necessary. This component will also be included in the bill of materials and when the manufacturer and the model (see below) are entered, this will also be included in the bill of materials.
- **Model:** enter the model of the component here.
- **Label:** give a non-binding label to the component here. This label is also shown on the situation diagram.

### 13.2.3 Burglar alarm

#### 13.2.3.1 *Camera*

Once the camera is placed on the situation diagram, the following parameters can be set via the attribute list:

- **Type:** here you can choose (via drop-down menu) between
  - Bullet
  - Bullet PTZ
  - Dome
  - Dome PTZ

The symbol on the situation diagram depends on this choice.

- **Address:** Enter a unique address such as the component is known on the network or the camera control panel. This address is also shown on the situation diagram.
- **Type of Cable:** Specify the type of cable that connects this component to the upstream component. There are different types of cables included in the drop-down menu, but a free text entry can also be done. This is not yet used up to and including version 1.011 but will be able to be used for future applications.

- **Manufacturer:** enter the manufacturer of the component here, if necessary. This component will also be included in the bill of materials and when the manufacturer and the model (see below) are entered, this will also be included in the bill of materials.
- **Model:** Enter the model of the component.
- **Label:** give a non-binding label to the component here. This label is also shown on the situation diagram.

### 13.2.3.2 Camera control panel

Once the camera control panel has been placed on the situation diagram, the following parameters can be set via the attribute list:

- **Power Path:** Indicate the power path to which this component is connected directly (not via a wall outlet). This component will therefore be shown on the single-wire diagram. This current path and sequence number is shown on the situation diagram.
- **Manufacturer:** enter the manufacturer of the component here, if necessary. This component will also be included in the bill of materials and when the manufacturer and the model (see below) are entered, this will also be included in the bill of materials.
- **Model:** Enter the model of the component.
- **Serial number:** Enter the serial number of this component. This serial number will also be displayed on the situation chart.
- **Type of Cable:** Specify the type of cable that connects this component to the upstream component. There are different types of cables included in the drop-down menu, but a free text entry can also be done. This is not yet used up to and including version 1.011 but will be able to be used for future applications.
- **Wire section:** Enter the section of the cabling or choose a section from the drop-down menu.
- **Via Transfo:** This opens the Customization window related to this component (see below 11.8.8)
- **Via kWh counter:** This opens the Customization window related to this component (see 11.8.8)
- **Via junction box:** This opens the Customization window related to this component (see 11.8.8)
- **Via Screw terminal:** This opens the Customization window related to this component (see 11.8.8 and 14.2.3). This gives the possibility to add a screw terminal for the selected component
- **Label:** give a non-binding label to the component here. This label is also shown on the situation diagram.
- **Switched by:** Indicates which switch this component is switched by.

### 13.2.3.3 Central (Alarm Center)

Once the alarm center is placed on the situation diagram, the following parameters can be set via the attribute list:

- **Power Path:** Indicate the power path to which this component is connected directly (not via a wall outlet). This component will therefore be shown on the single-wire diagram. This current path and sequence number is shown on the situation diagram.
- **Manufacturer:** enter the manufacturer of the component here, if necessary. This component will also be included in the bill of materials and when the manufacturer and the model (see below) are entered, this will also be included in the bill of materials.
- **Model:** Enter the model of the component.
- **Serial number:** Enter the serial number of this component. This serial number will also be displayed on the situation chart.
- **Type of Cable:** Specify the type of cable that connects this component to the upstream component. There are different types of cables included in the drop-down menu, but a free text entry can also be done. This is not yet used up to and including version 1.011 but will be able to be used for future applications.
- **Wire section:** Enter the section of the cabling or choose a section from the drop-down menu.
- **Via Transfo:** This opens the Customization window related to this component (see below 11.8.8)
- **Via kWh counter:** This opens the Customization window related to this component (see 11.8.8)
- **Via junction box:** This opens the Customization window related to this component (see 11.8.8)
- **Via Screw terminal:** This opens the Customization window related to this component (see 11.8.8 and 14.2.3). This gives the possibility to add a screw terminal for the selected component
- **Label:** give a non-binding label to the component here. This label is also shown on the situation diagram.
- **Switched by:** Indicates which switch this component is switched by.

#### 13.2.3.4 *Detector (intrusion)*

Once the detector has been placed on the situation diagram, the following parameters can be set via the attribute list:

- **Type:** here you can choose (via drop-down menu) between
  - PIR Indoor
  - PIR Outside
  - IR
  - Curtain
  - Glass breakage
  - Magnet (contact)

The symbol on the situation diagram depends on this choice.

- **Address:** Enter a unique address such as the component is known on the network or the camera control panel. This address is also shown on the situation diagram.
- **Type of Cable:** Specify the type of cable that connects this component to the upstream component. There are different types of cables included in the drop-down

menu, but a free text entry can also be done. This is not yet used up to and including version 1.011 but will be able to be used for future applications.

- **Manufacturer:** enter the manufacturer of the component here, if necessary. This component will also be included in the bill of materials and when the manufacturer and the model (see below) are entered, this will also be included in the bill of materials.
- **Model:** Enter the model of the component.
- **Label:** give a non-binding label to the component here. This label is also shown on the situation diagram.

#### 13.2.3.5 Keyboard

Once the keyboard is placed on the situation diagram, the following parameters can be set via the attribute list:

- **Type:** here you can choose (via drop-down menu) between
  - With Display (screen)
  - Without display

The symbol on the situation diagram depends on this choice.

- **Address:** Enter a unique address such as the component is known on the network or the camera control panel. This address is also shown on the situation diagram.
- **Type of Cable:** Specify the type of cable that connects this component to the upstream component. There are different types of cables included in the drop-down menu, but a free text entry can also be done. This is not yet used up to and including version 1.011 but will be able to be used for future applications.
- **Manufacturer:** enter the manufacturer of the component here, if necessary. This component will also be included in the bill of materials and when the manufacturer and the model (see below) are entered, this will also be included in the bill of materials.
- **Model:** Enter the model of the component.
- **Label:** give a non-binding label to the component here. This label is also shown on the situation diagram.

## 14 Rail-mount terminals

### 14.1 General

Up to and including version 1.026, it was only possible to place terminals in the fuse box immediately after a circuit breaker in Schematics and these terminals could only be given a self-entered label and had no further meaning in the program. From version 1.027 it is possible to add terminals anywhere in the schematics and there is the possibility to indicate which type of voltage (phase/neutre, +/-, Signal/Commun) is connected to which terminal. For each terminal you can also specify how many connections for incoming voltage or signal (in Schematics indicated as "inputs") are present, and for each of those connections you can specify how many connections there are for the outgoing voltage or signal (in Schematics indicated as "outputs"). For example, up to max. 4 "inputs" are chosen with each input a maximum of 4 "outputs". A terminal with 3 inputs and 4

outputs/input means that you can have a phase L1 as an incoming voltage on 1 "input" where this voltage can be "distributed" to the rest of the installation via 4 outputs.

Below is the schematic representation of a terminal with 3 inputs and 4 outputs per input.

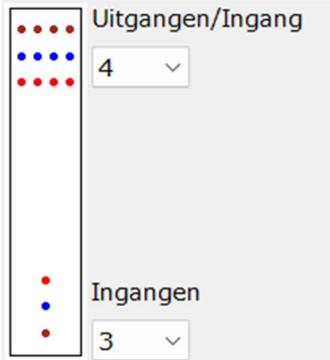


Figure 65 Schematic representation of a terminal with 3 inputs and 4 outputs per input

The type of electrical signal that can be connected to the input of a terminal depends on the first upstream element where a type of voltage is indicated with respect to this terminal. For example, after a 2-pole circuit breaker to which N and L2 are connected, it will only be possible to specify a terminal for N and for L2 (and for the earthing "G"). This also directly means that in order to be able to assign this type of connection, it must also be indicated on an upstream element such as a circuit breaker with phase distribution or a transformer with an indication of outgoing voltage e.g. 24VDC.

Possible type of incoming voltage or signals:

Type of upstream element	Upstream element feature	Possible voltage or signal to be specified
Automatic / Residual current switch	With phase distribution N-L1	N, L1, G*
	With phase distribution L1-L2-L3	L1, L2, L3, G*
	With phase distribution N-L1-L2-L3	N, L1, L2, L3, G*
		*G = Grounding
Transformer 24VDC, 12VDC		+ -
(Note: only the transformers with this output voltage pre-programmed in Schematics will give rise to a selection of the output voltage. Self-entered types of transformers do not give rise to a selection and all types of outputs will be available as a choice)		
Power supply input module		C (Common) S (Signal)

--	--	--

Furthermore, in Schematics, a terminal is defined as part of a terminal sequence and a terminal number.

**NOTE: In order to be able to assign the neutral and/or a phase to different terminals, inputs or outputs of terminals, a phase distribution must first be assigned on the circuit via the attributes of the circuit breakers or fuses.**

## 14.2 Add Terminals

Adding terminals to a project is done either through the cabinet design or through the fitting window (via "Customize" in the right mouse button menu of the elements)

### 14.2.1 Adding a terminal to a cabinet design (Design tab)

#### *14.2.1.1 The terminal was already created in this project*

If a terminal has already been created in the project (earlier in the design or via method 2 (see below), the terminal will be included in the dropdown that opens when you click with the mouse on the field behind "Rail terminals". Once the terminal has been chosen here, you can place it in the design in a place of your choice.

#### *14.2.1.2 The terminal has not been created before in this project*

If the terminal has not been created before in the project, you can add a new terminal by clicking on the "Rail terminal" button in the top menu (under the Design tab). You can then place this screw terminal at a place of your choice in the design.

Once placed and selected on the design, you can adjust the attributes or attributes of this terminal in the attribute list on the left side of the screen (see below).

#### *14.2.1.3 Attributes of a terminal*

The attributes of a terminal are shown in the design in the attribute list (under "Selected element")

These attributes are:

##### Selected Component

1. Width (modules): here you can enter the width of the terminal in relation to a module width (1 module = 18mm)
2. Width (mm): here you can enter the width of the terminal in mm.

The entered width in a certain "measure of length" will give rise to an automatic calculation of the width in the other "measure of length". It is therefore only necessary to enter 1 of these 2 values yourself.

3. Terminaling machine: the name of the terminaling row to which this terminal is a part
4. Terminal number: the number of the terminal
5. Inputs: The number of "inputs" that this terminal contains. Choice of 1 to 4
6. Outputs/Input: The number of outputs connected to each input. Choice of 1 to 4

Input -> Exit

Here is a list of the number of inputs (left column) and the number of outputs/input (straight column). The fields always contain the number of the input and the output with any element in the installation that is connected to it.

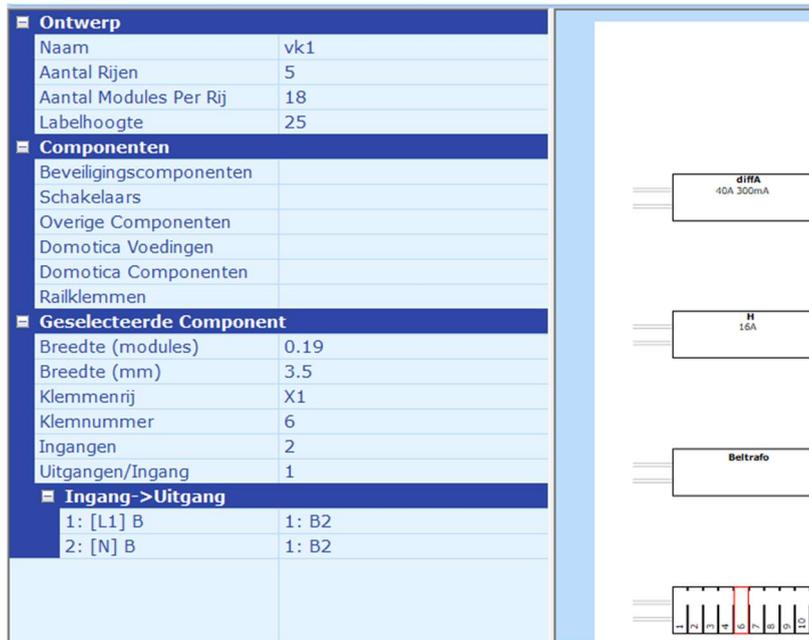


Figure 66 Attributes of a terminal

In the example in the figure, terminal 6 of terminal row X1 is selected. This has a width of 3.5mm (=0.19 modules). This module has 2 inputs and 1 output each that is connected to each input.

Input 1 is connected to circuit B with L1 and input 2 is connected to circuit B but with the Neutre.

Outlet 1 coupled to input 1 and output 1 linked to input 2 are both connected to the element (or elements) with circuit number B6 (e.g. a light circuit B6).

#### 14.2.1.4 Placing multiple terminals at once

If a terminal is part of a row with multiple terminals and this terminal is not the last terminal number of this row, you can use the right mouse button and by choosing **"Autocomplete"** in the drop-down menu to complete the terminal row with already existing terminals in the project (which are part of the same row) or you can add a number of terminals of your choice to the terminal row and the design. These terminals are then automatically added to the design until the last terminal in the row (as long as there is free space in the design following the selected terminal).

The terminals that have already been created in this project will be placed in the design with the attributes that these terminals have previously been assigned.

New terminals that are created during autocomplete and placed on the design will be assigned identical attributes as the selected terminal (with the exception of the connections on the inputs and outputs, which will be empty).

#### *14.2.1.5 Adjusting Terminal Numbers*

The terminal numbers can be freely selected and assigned by filling in the attribute field "Terminal number" but it is also possible to reconnect terminal numbers on a row that has been interrupted to an uninterrupted numbering of terminals on that row. This can be done by standing on the terminal where the interruption occurs and clicking on "Connect automatically" via the right mouse menu. If this is chosen, all terminal numbers (until the possible next interruption) will be renumbered so that they match the previous terminal numbers.

#### *14.2.1.6 Terminating intermediate joints in the design*

If you want to add a terminal and place it in a place in the design where there is already an element (a terminal or another element), you can place the terminal in the right place (indicated by the red selection box) and the remaining elements will move (to the right) as long as there is room in the row of the fuse box.

#### *14.2.1.7 Freeing a connected terminal through the design*

It is possible to "disconnect" a terminal that is already used in the project and has one or more connections at the inputs and/or outputs and to completely free it per input of the terminal.

You can do this by clicking with the left mouse button on the row of the input you want to detach in the attributes of the terminal (under Input>Output). This will open a selection window where you can choose between navigating to the element connected to the output (see below) or "Free". When selecting "Free" and clicking the OK button, the connections on the selected input and the respective outputs will be removed.

#### *14.2.1.8 Navigating to an element connected to the terminal output*

You can do this by clicking with the left mouse button on the row of the output where the element you want to navigate to is connected (under Input>Output). This will open a selection window where you can choose between navigating to the element connected to the output (see below) or "Free". By selecting the element you want to navigate to from the list and clicking on the OK button, the screen will jump to the situation diagram, distribution board, ... where the element is located.

### *14.2.2 Removing terminals by design*

To remove terminals from a design or from a project via the cabinet design, select the terminal on the cabinet design (selecting multiple terminals at once can also be done by dragging the mouse with the left mouse button pressed over the terminals you want to select or by holding down the CTRL key while selecting different terminals) and click on "Delete" in the right mouse menu or press the "Delete" button on your keyboard.

When deleting, you will be able to choose between removing the selected terminals from the design or removing these terminals from the project. If removed from the design, these terminals will remain in the project and nothing will change in the attributes or connections of these terminals. When removed from the project, these terminals will therefore be completely removed, including their connections to any elements in the project. These terminals will therefore no longer be present on the single wire diagrams etc.

### *14.2.3 Connecting a terminal to an element*

Connecting a terminal to an element or inserting it into a line for an element is done via the situation diagram, the fuse box or the Domotics box, depending on where the terminal is to be placed.

1. Select the element on the situation diagram, in the fuse box or in the Domotics fuse box and click on either the attribute field behind "Via screw terminal" or on "Customize" in the right mouse button menu.
2. After this, the "Customize" window opens where you will only see the line where you want to insert the terminal or terminals.

NOTE: To add a terminal, the Adjust window (called by means of "Edit" in the right mouse button menu) must be called via the last element on that line or branch point. E.g. on a line with a transformer, switch and light point, the adjustment window must be called up via the selection and right mouse button of the light point on the situation diagram.

3. In the fitting window, select the element on the line where you want to place the screw terminal directly.
4. Click on the "Screw terminal" button in the menu on the right.
5. Now the "Add Screw terminal" window opens with the following parameters that can be set:

Under the "Connection" section:

- a. Phase or Power supply: Depending on the type of voltage that is connected here, you can specify the type of voltage to which the input of the terminal will be connected (see above under "General").
- b. Terminal row: Enter a name of the terminal row here or select an already created terminal row
- c. Terminal number: Here you can choose whether you **want to create a new terminal number** or use an already created terminal.

If a new terminal is chosen, the drop-down menu will include all intermediate terminal numbers that have not yet been created in that terminal row and the terminal number following the last known terminal number of that terminal row. If an existing terminal is selected, all terminals of that terminal row that have already been created are available to choose from in the dropdown.

NOTE: Once a new terminal has been selected (a new terminal number has been activated), this terminal has also been created in Schematics, even if it has not yet been clicked on "Add". If a terminal has been created unintentionally, it can be removed from the project via the Design or via the Table (see later).

- d. Input: the input of the chosen terminal to which the voltage will be connected
- e. Output: the output from which the voltage is transmitted.

Under "Type"

Here you can see a schematic representation of the chosen terminal and the number of inputs and the number of outputs/inputs can be adjusted.

Note: if you set the number of inputs to 0, the terminal will be removed from the project. If you want to use the same terminal number on the same terminal row afterwards, you need to create and define this terminal again.

Under "Connections"

In this window you can see the connected elements and voltage on the input(s) (left column) and output(s) (straight column) of the chosen terminal.

Once the terminal has been selected and all the necessary parameters have been specified, the "Add" button will become active. After clicking on "Add", the terminal will be added to the line and the window will be emptied again and a new terminal can be added at the same place in the line. When all terminals have been added, the window can be closed by clicking on the cross at the top right (close window).

#### 14.2.4 Adjust Terminal in a Line

To adjust a terminal already placed in a line, click on the terminal in the Fitting window (right mouse button menu – Edit) and choose the terminal you want to change in the "Name" field (in the "Screw terminal" box at the top right of the menu of the fitting window). Once the choice of terminal has been made, press "Adjust". The same window as when adding the terminals opens and the parameters can be adjusted here. Once the necessary adjustments have been entered, the adjustment can be made by clicking on the "Edit" button.

#### 14.2.5 Shifting the Terminal on a Line

In the fitting window, you can also slide the terminal over other components on this line. To do this, select the terminal(s) you want to move and optionally choose an individual terminal in the field under "Name" (in the "Screw terminal" box at the top right) and use the buttons with the three arrows to move the terminal(s) in the desired direction

#### 14.2.6 Removing the terminal from single-wire diagram

In the fitting window, a terminal can also be removed from a line. This can be done by selecting the desired terminal, choosing the desired terminal in the "Screw terminal" box in the dropdown menu under "Name" and then clicking on the button with the red cross.

NOTE: this way the terminal will be removed from this line, not from the project. To remove a terminal from a project, this must be done via the Design (see earlier) or via the table (see below)

### 14.3 Table of terminals

Under the "Table" tab in Schematics you can generate a table automatically. To do this, click on the "Select" button in the "Terminal row" menu item. After this, a drop-down menu opens where you can choose between a table of all the terminals included in a particular design ("Design: <name of the design>") or all the terminals that are not included in a design ("Other").

The layout of the table is discussed later in the manual.

#### 14.3.1 Removing terminals via table

By right-clicking on a row of a terminal number in the table, you can click on "Delete" in the pop-up menu. This terminal will therefore be completely removed from the project, not just from the table or from the design.

### 14.4 Display of the terminals

#### 14.4.1 On the single-wire diagram

On the single-wire diagram, terminal on row X1 and with number 15 will be shown as

X1#15

When a voltage is known to which this terminal is connected, the display of the terminal on the single wire diagram is:

L1:X1#15

If the terminal has multiple inputs and/or multiple outputs per input, the input and output will also be displayed with the terminal such as e.g.

L1:X1#15(1>2)

This last terminal is therefore a terminal part of row X1 with number 15, where a phase L1 is connected to input 1. The output 2 of this input 1 is connected to the element located downstream (right) of this terminal on the single-wire diagram.

L1:	X1	#15	(1 > 2)
Tensionrow	Terminal number		(input > exit)

#### 14.4.2 In the table

The table of terminals consists of 4 columns:

Row	#	Input #: [F/V/S] Info	Output #: Info
Name of the terminal row	Terminal number	Input number: [connected voltage] upstream connected element (circuit, switch, ...)	Output number: upstream connected element (switch, light circuit, ...)

The information in columns 3 and 4 therefore always refers to the connected element in the installation. This element is represented by a current path if, for example, the terminal is directly connected to a circuit breaker, current path with circuit number if it is connected to a light circuit, etc. When this connection is made via another element such as a switch, this will also be indicated at e.g. the current path and circuit number.

Example:

Row	#	Input #: [F/V/S] Info	Output #: Info
X1	15	1: [L1] A	2: A6 connector

Terminal 15 of terminal row X1 is connected to the phase L1 on circuit breaker A on input 1 and the output 2 (of input 1) is connected to a switch that switches circuit A6.

## 15 Legend

Together with the situation diagram, a page will also be created with a legend on which all symbols that were used on the situation diagrams and single-wire diagrams, and that are not known in the A.R.E.I., will be named.

## 16 Tables

### 16.1 Table of external influencing factors

It is possible to include a table with the external influencing factors in the print-out of the schematics. This table is necessary in some cases for a technical inspection.

To create a table with external influencing factors, proceed as follows:

1. Open the "Table" tab in the tab menu
2. Click on "New" in the submenu 'External influence factors' to create a new table. A pop-up window asks for a unique name for a new table. Enter this name and click ok "OK"
3. A template of a table with External Influence Factors is shown in the drawing field.
4. To add a row to the table, click on the "+" sign to the right of the row "Local"
5. In the attribute field you can specify a name or type of the room and also specify/change the values of the external influencing factors.

For example, a maximum of 26 rows can be created per table.

By clicking on the "-" sign next to a row, you can remove this row from the table.

Several tables can be created via the "New" button in the menu bar under the "Table" tab and via the "Select" button you can switch to another created table.

### 16.2 Table of Circuits or Circuits

It is possible to generate a list or table with a list of all current paths or circuits in this fuse box for each created fuse box and created design of a fuse box.

To display a table, choose the fuse box or design from the menu that opens after clicking "Select" in the "Power Paths" submenu. The selected table opens in the "drawing field".

This table is created with 2 columns:

1. Column 1: the circuit name (A, B, C, ...) followed by the label included in brackets at the circuit breaker of this circuit
2. Column 2: the description of the flow path. The automatically generated description is created based on the labels given to all components assigned to this flow path (label of spotlights, sockets, appliances, ...)

The automatically generated description of the current paths can be edited manually by clicking on the field with the description with the left mouse button. In the window that opens, the text can be removed and/or modified.

The buttons on this window have the following functions:

1. Manage Favorites: the window that opens after clicking on this button allows you to delete text favorites (created under the Floor Plan – Text and under the table of streams) or to change the order of favorites in the list.
2. Add Favorite: by clicking on this button, the text entered in the text field is saved as the last favorite in the list of favorites.
3. Reset: clicking this button will restore the automatically generated text
4. Cancel: any changes to the description will be removed and the text when opening the pop-up window will be replaced. The pop-up window closes.
5. OK: any changes in the text field are accepted and the description will be included in the table. The pop-up window closes.

To remove all descriptions in the table, click on "Delete All" in the submenu "Streams". To revert all descriptions to the original, auto-generated descriptions, click "Reset All" in the "Power Paths" submenu.

These tables are not included in the print-outs of the entire electrical file and must be printed separately.

To print an open table:

1. Click on the "Print" button in the "Streams" submenu
2. Choose between printing to a printer (or PDF) on the one hand or saving as a CSV file that can be opened in e.g. MS Excel.

If chosen to print to a printer: Choose the physical print in the list in the Windows Print pop-up window or choose to print it to a pdf file by choosing "Microsoft print to pdf" in the printer list, set the printer properties of your choice and click OK. After this, a popup will open with a print preview. Click on "Print" to print the table. If you have chosen to print to pdf, you will then have to choose a folder and enter a file name where the pdf file should be stored.

### 16.3 Tables with rail-mount terminals

See 14.3 and 14.4.2

### 16.4 Bom

Clicking on the "Bill of Materials" button in the menu bar (under the "Table" tab) opens a window with a list of all the components included in the electrical installation (i.e. specified in "Fuse box", "Domotics" and the situation diagrams).

The BOM contains the following columns:

- Component: The type of component.
- Quantity: the number of units of this component that are included in the installation.
- Specifications: The specified attributes that are important for a quotation or order.

This list can be printed directly via the "Print" button or exported as a CSV file via the "To Excel" button, which can then be read into MS Excel, among others.

Remark:

By default, this list only includes the components that are connected to a circuit or power supply. By checking the option "Add Separate Elements" in the menu bar at the top, the individual elements, i.e.

elements that are not connected to a circuit or power supply, will also be included in the bill of materials.

By clicking on "Show Separate Elements" at the top of the menu bar, you will open a drop-down menu with pages (Situation Diagram, Design and Fuse box) where there are non-connected elements. By clicking on the desired page in the drop-down menu, the screen will jump to this page and the non-connected elements will be selected (red box).

## 17 Extras

In this chapter we will discuss some functions included in the menu bar under tab "Home" (see Figure 67).



Figure 67

### 17.1 Opening a project

To open a project:

1. Click on the "Open" button in the menu bar
2. In the next window, select the project to open from the drop-down menu
3. Click "OK"

### 17.2 Closing a project

Click the "Close" button to close the active project.

### 17.3 Deleting a project

To delete a project:

1. Click on the "Delete" button in the menu bar
2. In the next window, select the project to be deleted from the drop-down menu
3. Click OK

#### CAUTION

An active project cannot be deleted. That project must first be closed.

### 17.4 Saving a project

A project is stored in a dedicated folder on your computer that is specific to Schematics under the name that is identical to the name given to the project when the project was created (see 3).

#### 17.4.1 Manual saving

To save the project: Left-click on the "Save" button in the menu bar

Via the "Save As" button, an identical copy of the open project can be saved. After clicking on the "Save As" button, a new name must be given to the project and the administrative data can also be

changed. After saving, the new project will also be opened and the copied project will be closed. Both projects are therefore stored in the specific folder provided for this purpose.

#### 17.4.2 Autosave

The project can also be saved automatically at any time (every minute).

You can turn the "AutoSave" option on and off by checking and unchecking the "AutoSave" field in the menu bar under the Home tab. By default, this option is enabled.

#### 17.4.3 Backup

An export file can be created separately for each project at the end of the project or Schematics, and this at a location of your choice: see 3.2

### 17.5 Fold Switches Together

Under the attribute "Switches" of components that can perform a circuit, there is a list of all components that can be switched, ordered by type of component and is shown expanded by default. However, the list can become very long in larger installations. To make this list clearer and to speed up the finding of the component, you can also have this list collapsed by default. This can be done by checking the setting "Expand Switches" under the "Home" tab.

### 17.6 Export a project

A project can also be exported (as a compressed .tar file). To export a project, follow these steps:

1. Click on the "Export" button in the menu bar
2. In the next window, choose the project to be exported from the drop-down menu and press the "OK" button
3. In the explorer, choose a location where the exported file should be saved and click on "Select Folder"

The file will now be available at the chosen location as a compressed file with .tar extension.

#### **Please note:**

**Only closed projects can be exported. If a project is open, this project will not appear in the drop-down menu (from step 2).**

### 17.7 Import a project

An exported project can then be imported. To import a project, follow these steps:

1. Click on the "Import" button in the menu bar
2. In the explorer, select the exported file (.tar format) and click "OK"
3. If a project is already present in the specific folder of Schematics, the choice will be given whether or not to overwrite the existing project.
4. If overwriting the existing project is not desired, a different name must be given to the project in the next window.

The project is now imported and also active.

## 17.8 Preview

Via the "Print preview" button in the menu bar an example of the total print-out of the electrical diagrams can be viewed (see Figure 68). The arrow buttons at the top left of the screen allow you to gradient between the different pages of the final report.

At the top right, you can use the "Print" button to call up the Windows print menu to print the document (also in .pdf format).

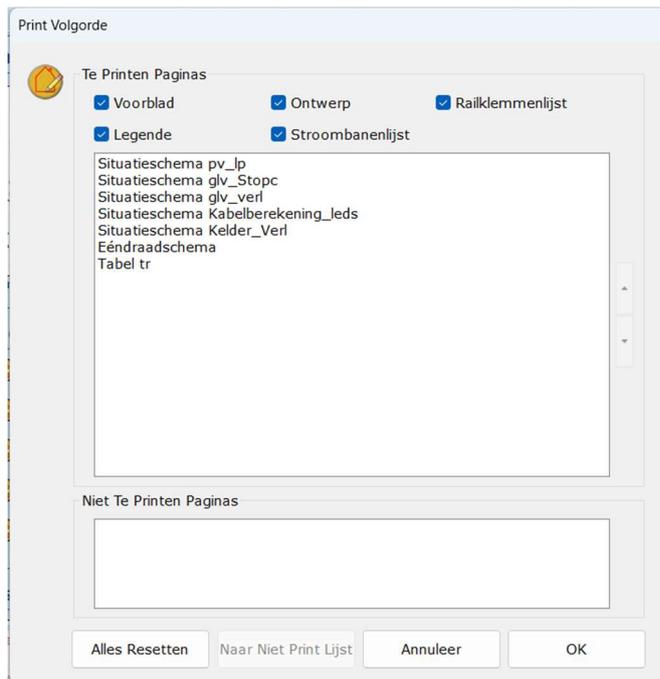


Figure 68

## 17.9 Print schedules

### 17.9.1 General

The document with the electrical diagrams (possibly also block diagrams, cable routes and tables with external influencing factors) can be printed:

- via the Print Preview screen (see 17.8)
- via the "Print" button in the menu bar under the "Home" tab: After clicking on this button, the standard Windows print window opens. From here, a printer can select, print only certain pages, ... It is also possible to choose to print the document to a .pdf file instead of to a physical printer.

### 17.9.2 Export to PDF

Exporting the electrical file to PDF is done via the print function.

Once OK is clicked in the "Print Order" window, the default Windows Print window opens where you can choose the printer and optionally adjust the properties of the printer or print-out. In the drop-down list behind Name: you can choose "Microsoft Print to PDF" instead of your physical printer.

Here you can also indicate exactly which pages you want to print if you do not want to print the entire file.

### 17.9.3 Reorder pages

By default, the pages are arranged alphanumerically by name by type of diagram (situation diagrams, single-wire diagrams, cable routing & block diagrams and tables). This order can be changed. It is true that the different types of diagrams are always printed in groups. All single-wire diagrams are printed in the standard order and this order cannot be changed. The single-wire diagrams can be printed in group before or after the situation diagrams.

The different pages of the situation diagrams can be changed in order with each other.

### 17.9.4 Exclude pages from printing

It is possible to exclude the cable routes & block diagrams and/or tables from printing. This means that they will not be printed and will not be included in the total number of pages displayed.

In the Print Order window you can choose at the top whether or not to print the cover page (see below), the design, the rail terminal list, the legend and the power track list. If you choose not to print one or more of these pages, they will not be included in the total number of pages in the page numbering on the diagrams.

### 17.9.5 Print cover page or cover page

The front page of the electrical report created by Schematics contains:

1. EAN number
2. Connection type
3. Date of creation schedules
4. Address of the installation
5. Name, address, email, VAT number and logo of the installer (if provided)
6. A table of contents

By checking or unchecking the "Cover page" in the "Print Order" peddler (which opens when printing or calling up the print preview), you can print this front page with the electrical report or not.

### 17.9.6 Print Legend

The legend of the electrical report created by Schematics contains a symbol list of all components used in the open project whose symbols are not included in the AREI.

By checking or unchecking the "Legend" in the "Print Order" peddler (which opens when printing or calling up the print preview), you can print this legend page with the electrical report or not.

## 17.10 Choose language

Schematics can be used with 3 languages:

1. Dutch
2. French
3. English

To change the language of the software package:

1. Go to the "Home" tab

2. In the menu bar under “Other” you click on the button "Settings"
3. In the new window you will find "Language" at the top with a drop-down menu.
4. Choose the desired language from the drop-down menu.

Once the choice has been made, Schematics will always start in this chosen language, until another language is chosen.

### 17.11 Customize quick menu

At the very top left of your screen you will find a shortcut menu with shortcuts to frequently used functions (see in red box on Figure 69).

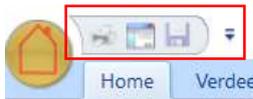


Figure 69

These shortcuts can be customized as follows:

1. Click on the small downward facing arrow to the right of the shortcut menu
2. In the menu that opens (see Figure 70) for "More Commands" (the language depends on the language settings of your Windows configuration)

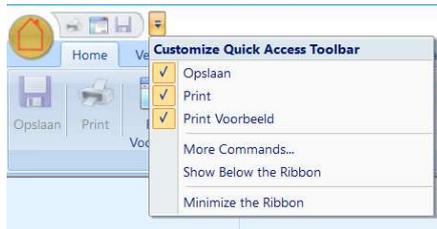


Figure 70

3. The window below will open (see Figure 71)

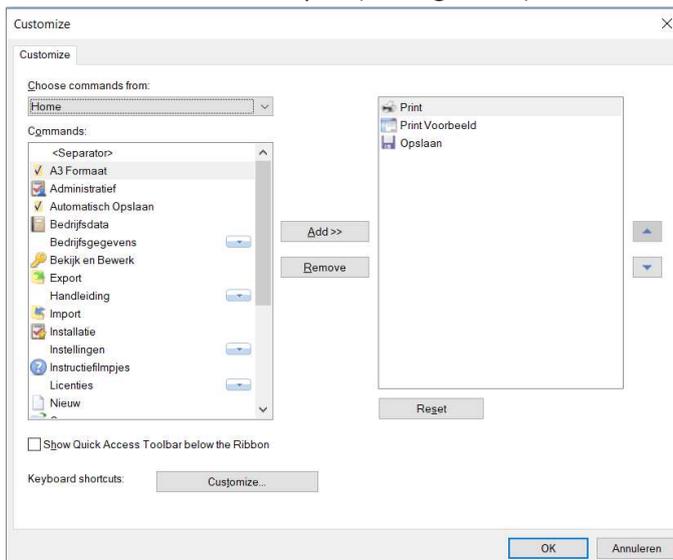


Figure 71

4. In the drop-down menu under "Choose commands from" you can choose from the different tabs from the Schematics tab menu. Choose the tab under which the desired function is located.
5. Click on the desired function in the "Commands" field
6. Click on the "Add" button in the middle of the window
7. To delete a function already included in the shortcut menu, click on this function in the right window and click on the "Remove" button.
8. By clicking on the "OK" button, you confirm the choice and the shortcut menu will be adjusted

### 17.12 Undo and Redo

In the menu bars under the tabs "Fuse box", "Domotics", "Floor plan" and "Situation diagram" the buttons "Undo" and "Redo" are also included. With these buttons you can undo or recall most actions. The "Undo" button goes back a maximum of 10 actions.

### 17.13 Border

In the menu bars under the tabs "Fuse box", "Domotics", "Floor plan", "Situation diagram" and "Single wire diagram" is the possibility to zoom in or out on the drawing field. This can be done using the pre-programmed values in the drop-down menu or by entering a free value in the field.

### 17.14 Scroll with mouse

When a page is zoomed in (more than 100%), the position of the page can be changed with the mouse via

1. the scroll bars on the side and bottom of the page
2. The "roller" of the mouse. Depending on the position of the cursor on the page, using the mouse roller will result in a horizontal movement across the page or in a vertical movement (cursor more to the right of the page, close to the vertical scroll bar)
3. By pressing the roller of the mouse (if this function is present) one can navigate over the page with a movement of the mouse. A second press on the roller will reactivate the regular cursor.

### 17.15 Instructional videos

This manual can also be found in the form of short instructional videos on our YouTube channel.

The channel can be reached via the following link:

<https://www.youtube.com/watch?v=60aNL14STa0&list=PLfrkPxJiTznk1JzU0FdAjsZDF0zV0OdO>

## 18 Single wire diagrams

The single-wire diagrams are built fully automatically based on the composition of the fuse boxes (230V and Domotics) and the situation diagrams.

The one-wire diagrams can be viewed via the "One-wire diagram" tab in the tab menu as in Figure 72.



Figure 72

Via the buttons "Previous" and "Next" in the menu bar one can go through all the pages of the one-wire diagrams. Via the "Select" button, you can immediately go to the chosen page.

Each created distribution board starts on a new page, both for the low voltage installation and the Domotics installation.

If there are many different layers in the electrical installation (e.g. several automatic switches in series one after the other), the height page may not be sufficient. In that case, the display in size (format of symbols) will be adjusted in such a way that the entire diagram will still fit in height on 1 page.

Via the "View" button in the menu at the top, you can also manually adjust this display to your choice by changing the percentage in order to be able to draw more circles on 1 sheet, for example.

Via the "Zoom" function, you can zoom in on the one-wire diagram. However, this has no effect on the display and printouts.

### 18.1 The display of the short-circuit current

By default, the short-circuit current on the single-wire diagram is shown in kA. For domestic installations, you can also choose to display this short-circuit current in A, surrounded by a frame. This can be done by checking "Short-circuit current in A" in the menu of the single-wire diagram tab.

### 18.2 Low voltage single wire diagram

In the low-voltage single-wire diagrams, all components included in the "Fuse boxes" and the "Situation Diagrams" that are connected to the low voltage are drawn with their interconnections.

The beginning of each separate fuse box has a reference to the upstream connected component such as the meter box or an automatic switch in another fuse box.

In Figure 73 you can see a Schematics screenshot of a one-wire diagram.

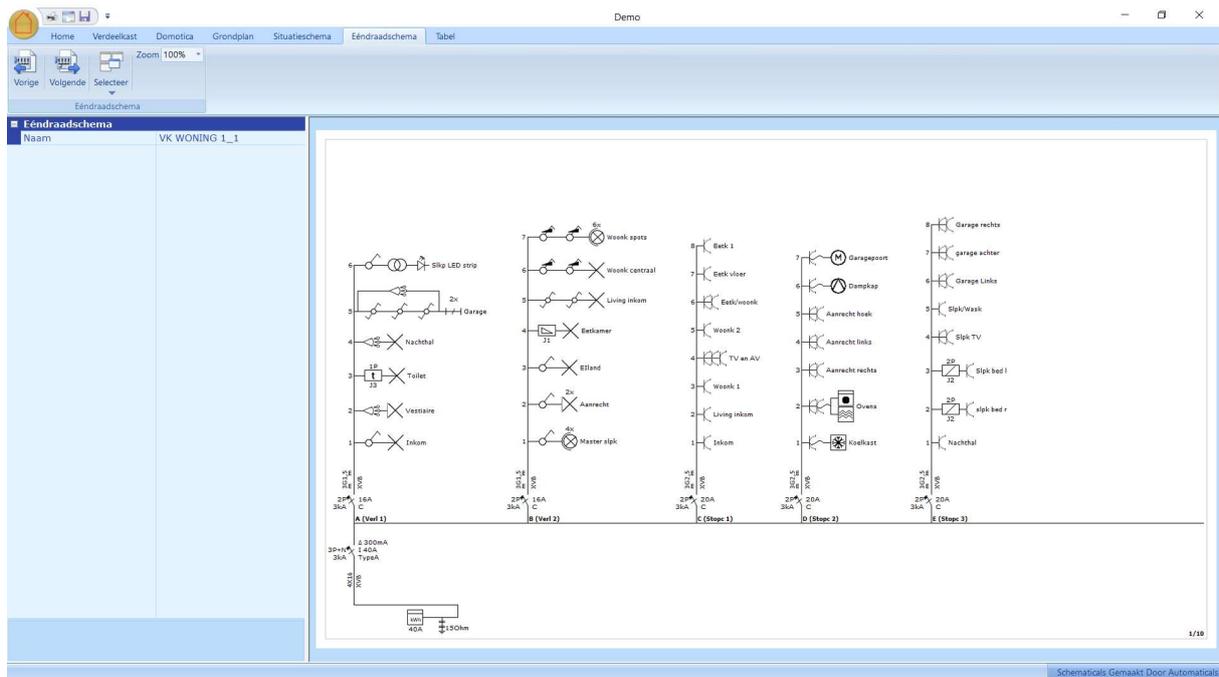


Figure 73

### 18.3 Domotics or SELV single wire diagram

The Domotics installation or the SELV (secure extra low voltage) installation is also drawn in a one-wire diagram.

This includes all modules and components that are connected to the power supply of the Domotics installation, as shown in the screenshot Figure 74. The components are also drawn with their outputs and inputs with a reference to the connected circuit. For example, you can see in Figure 75 (detail of relay module) that e.g. relay output 4 is connected to circuit B:B2. This makes this single-wire diagram also an ideal connection diagram.

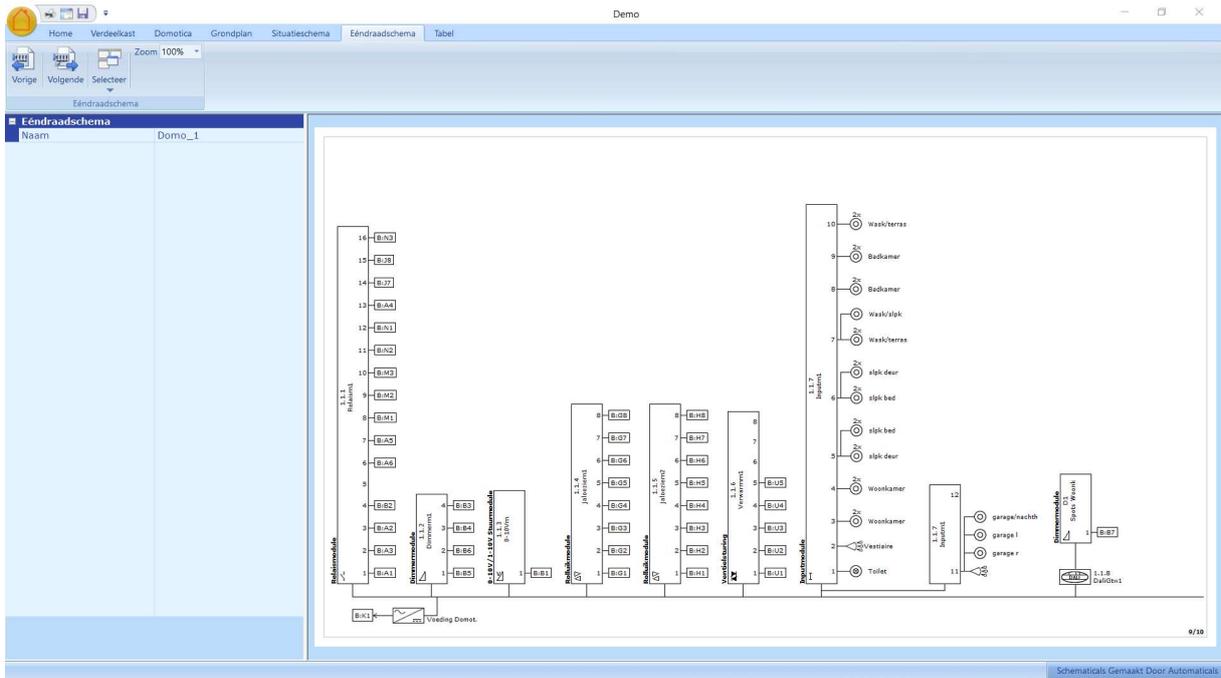


Figure 74

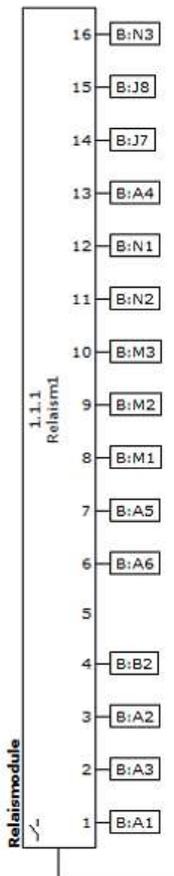


Figure 75

## 19 Final report

The final report includes the following diagrams (if not included in the "Pages not printable" list):

- Front page
- All created situation diagrams.
- Legend
- All low voltage single wire diagrams.
- All Domotics or SELV single wire diagrams.
- All created tables.
- All cable routes
- All block diagrams
- All Fuse box Designs