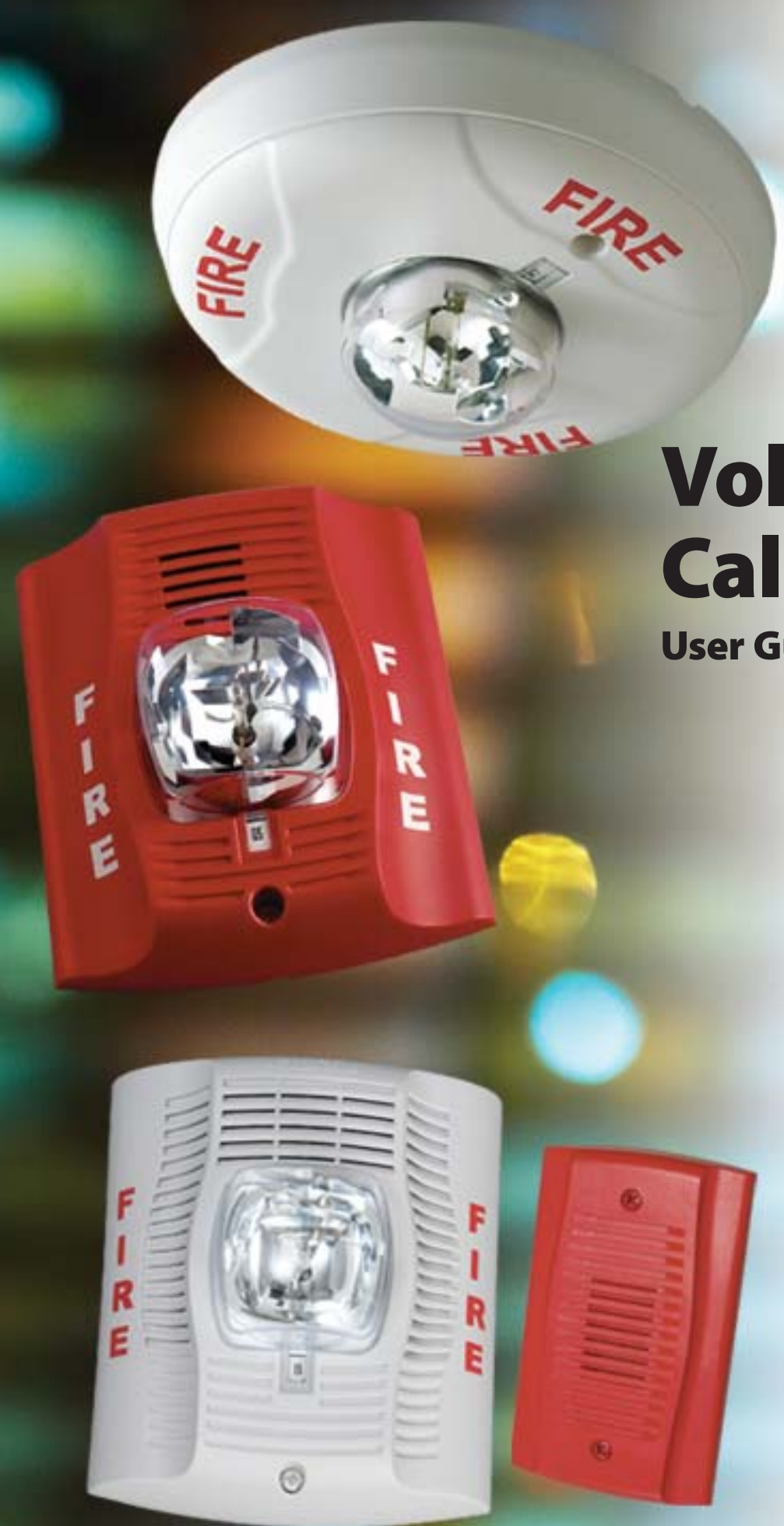

Voltage Drop Calculator

User Guide – Version 2

SYSTEM SENSOR®
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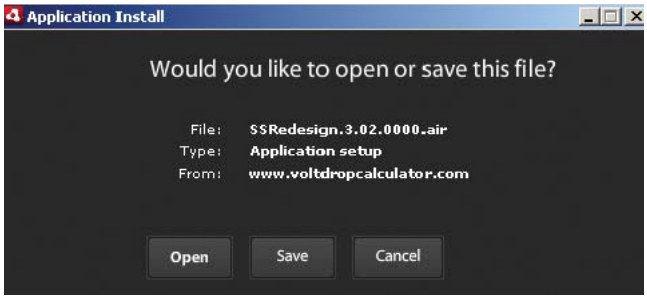
TABLE OF CONTENTS

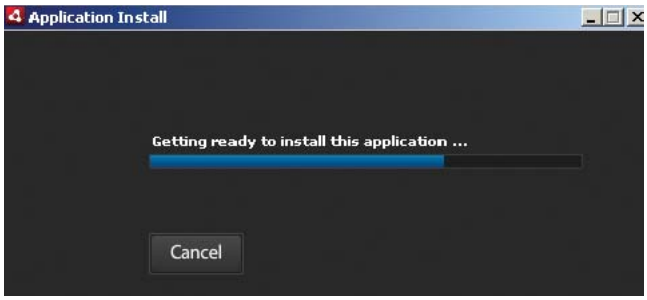
1 DOWNLOAD AND INSTALLATION

1.1 Downloading

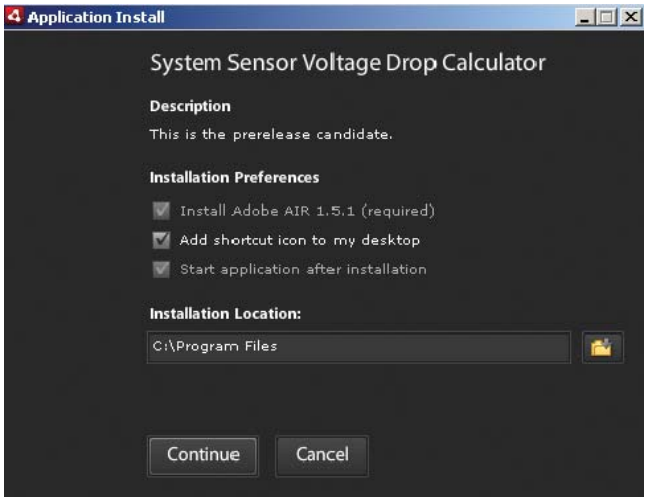
To download the Voltage Drop Calculator, point your Internet browser to **http://systemsensor.com/volt**. After filling out the required form you will be taken to the install page. Click "***Install Now***" to open the Application Installer dialogue.



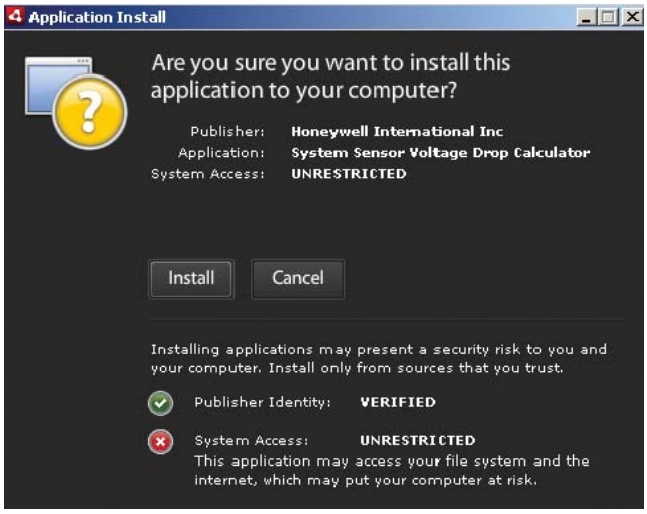
On the Application Install dialogue box, you can choose to: Click "***Open***" to install now. Click "***Save***" to download and save the file for later installation. Click "***Cancel***" to abort the download process.



The application will begin to download after "***Open***" is clicked. An action bar will track your progress through the process. You can click "***Cancel***" at any time to abort the download process.

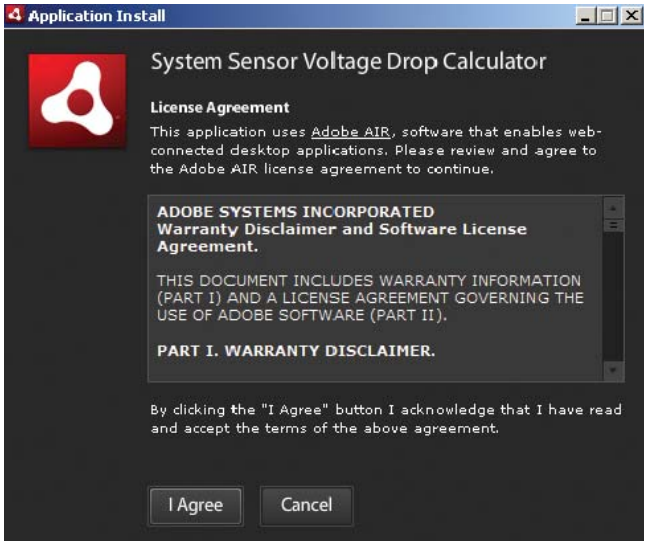


You will be prompted to set your installation preferences. Choose the default values or change them to fit your requirements. Click "***Continue***".

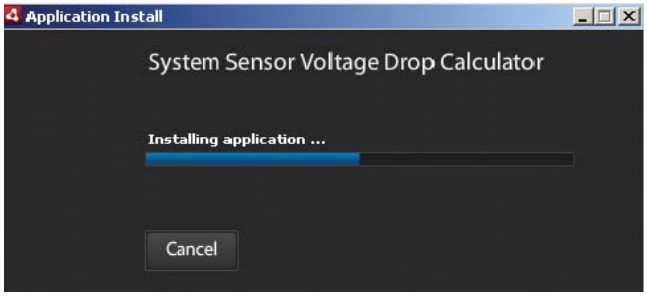


1.2 Installation

Next, the Application Install dialogue will ask you to verify that you want to install the Voltage Drop Calculator on your computer. Click "***Install***" to continue or "***Cancel***" to abort.



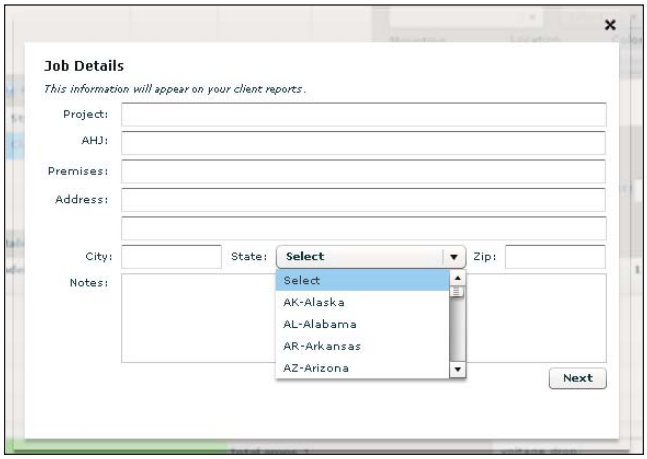
You will then be prompted to accept or decline the Voltage Drop Calculator usage terms. Click "***I Agree***" to accept the terms and continue the installation. Now, the Voltage Drop Calculator will be installed on your computer.



The action bar will indicate progress. Once the installation is complete, the Voltage Drop Calculator main page will open.

2 USING THE CALCULATOR

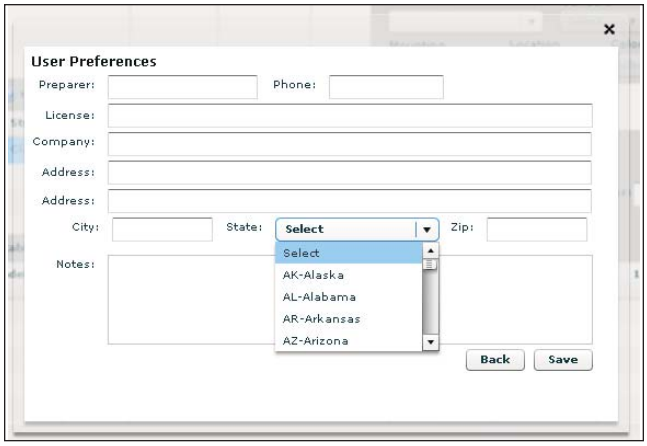
On the Voltage Drop Calculator main page, you can: Click "***New Project***" at the bottom or "***New***" on top to begin a new project, Click "***Open*** Project" at the bottom or "***Open***" on top to open a saved project. Click "***Check for Updates***" to download the latest updates for the Voltage Drop Calculator. (NOTE: The Voltage Drop Calculator checks for new updates every time it is opened.)



2.1 New Project

When you open a new project by clicking "***new project***" at bottom or "***New***" on top, you will be prompted to enter Job Details. Enter your job details, for the state, select the details from the combo box, though later in the application (for printing device reports etc.) you will only see the state abbreviation e.g. AK, AL etc. Click "***Next***" to continue.

NOTE: Job Details can be updated at any time via the "***Edit***" tab in the upper left corner of the main Page. Click the "***Preferences***" option.

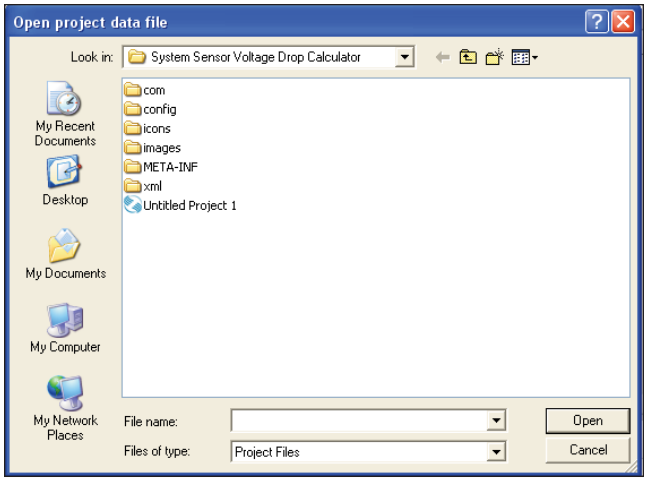


Next, you can set User Preferences. Enter your preferences Here also Select the state from the combo box, though later in the application you will only see the state abbreviation e.g. AK, AL etc. (in printing reports options). Click "***Save***" to continue or "***Back***" to return to Job Details.

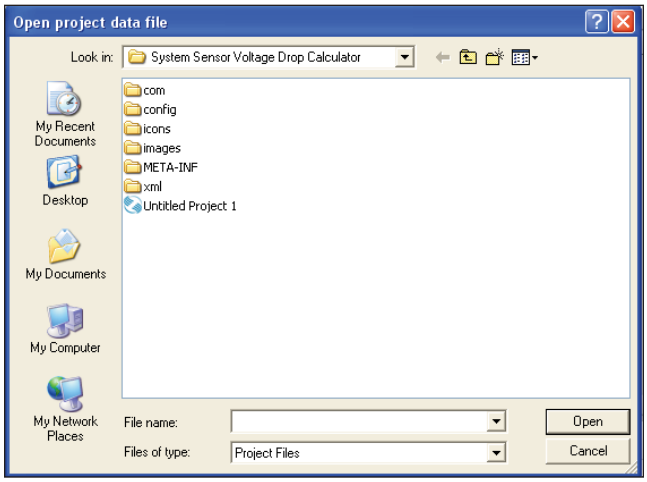
NOTE: User Preferences can be updated at any time via the "***Edit***" tab in the upper left corner of the Main Page. Click the "***Preferences***" option.

2.2 *Open* a Project

If a project has previously been already saved on the disk then it can be opened using the "***Open project***" button at the bottom or the "***Open***" button at the top of the application.



At the click of the button user will be shown the dialog box to select the previously saved pjt file. Point to the location where the file was saved and click on open button.



Now the application will open the selected project named User_Guide.pjt and the application will be as shown left with the details of panel, circuit and the devices saved in the project.

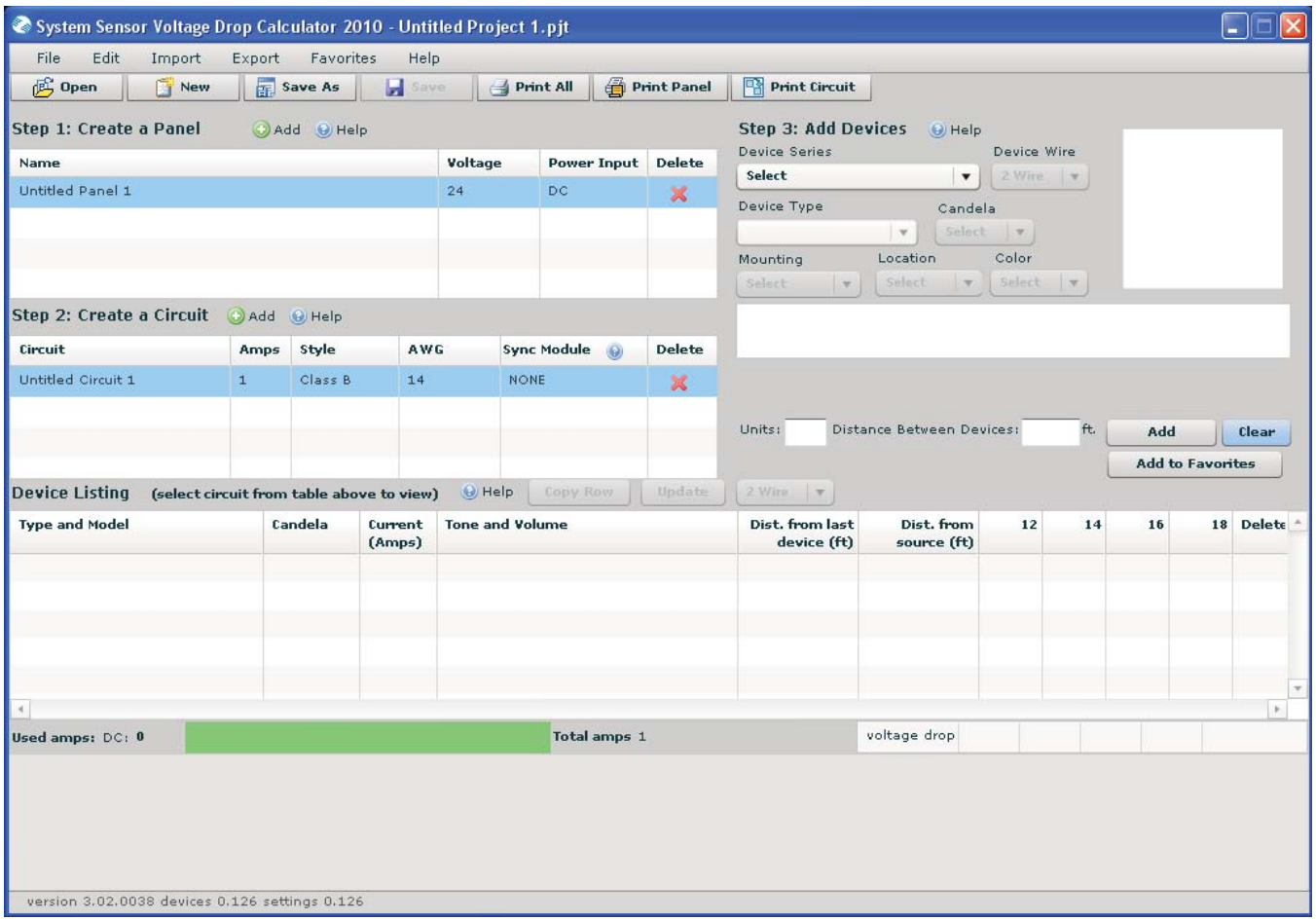
2.3 Check for Updates

At any time user can check if there are any updates with the devices details using "***Check for updates***" button at the bottom or by clicking "***Check for updates Under Help Menu***" option.

Once user clicks on Check for updates the application starts pdating the details and user will see the corresponding screen.

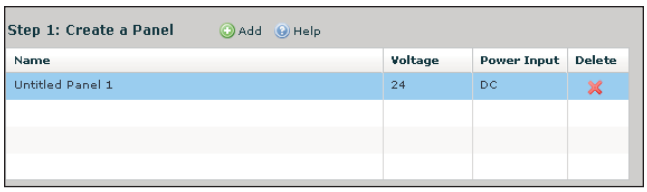
And once the update is complete user will see the corresponding screen

3 DESIGN PAGE



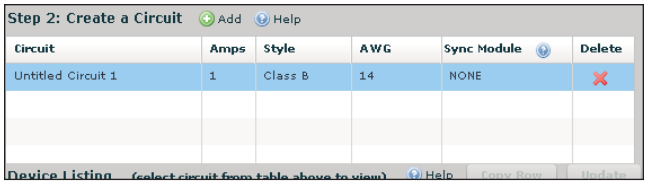
All project design work for the Voltage Drop Calculator is accessible from this page, including Create a Panel, Create a Circuit, and device listing (adding devices). While these tasks can be completed in any order, this Help Guide performs the tasks in "step" order.

NOTE: The default values for the Panel and Circuit can be updated to fit your specific job.



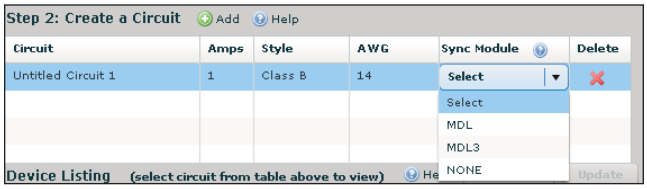
3.1 Create a Panel

When creating a panel, you can update the default values to set the panel's Name, Voltage, and Power Input. The panel's name can be changed by clicking on the default name (in this case, "***Untitled Panel 1***"), and typing a new name. Voltage and Power Input can be selected using drop-down menus that appear by clicking on the current or default value. To add another panel, click the green "***Add***" button. To remove an existing panel, click the red "***X***" in the "***Delete***" column. If more than one panel is in the design, select one at a time to add circuits.



3.2 Create a Circuit

When creating a circuit, you can update the default values to set the circuit's Name, Amps, Style, AWG, and choose or exclude a Sync Module. The circuit's name can be changed by clicking on the default name (in this case, "***Untitled Circuit 1***"), and typing a new name. Amps value is changed by clicking on the current or default value and entering your criteria. Style, AWG, and Sync Module can be selected using drop-down menus that appear by clicking on the current or default value. To add another circuit, click the green "***Add***" button. To remove an existing circuit, click the red "***X***" in the "***Delete***" column.



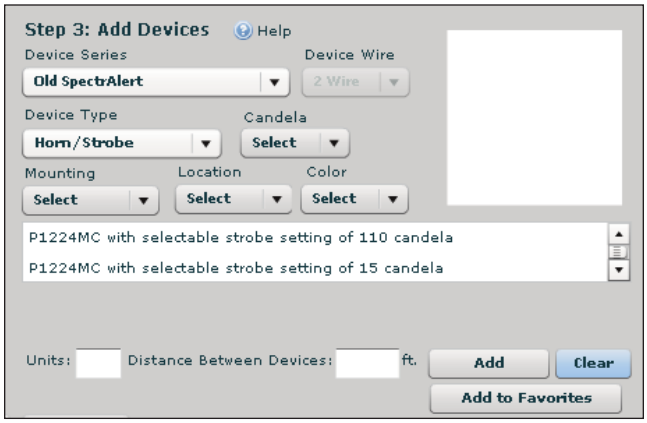
Synchronization module options include System Sensor MDL or MDL3 (new module released 4/1/09) devices. These devices should be used if the System Sensor synchronization protocol is not built into the panel or power supply. Choose "***NONE***" if a sync module is not required for your application.

3.3 Add Devices

3.3.1 Add devices as step 3

Select device characteristics from the drop-down menus.

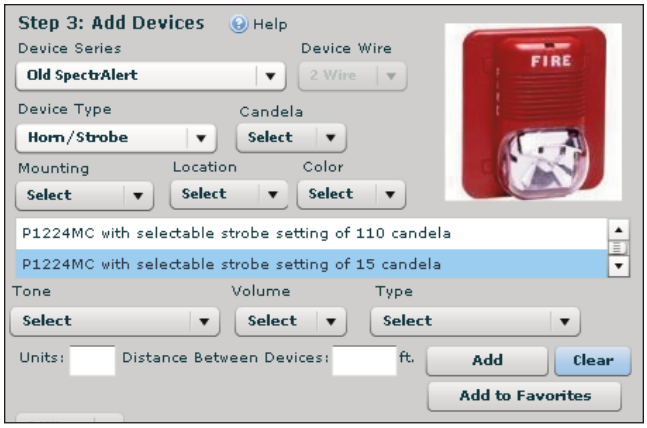
In the above screen shot, once user selects a Device series type, the Device Type will list the different types of devices. Based upon the device type selection, the other details will be enabled or disabled based on the applicability.e.g.



In the above scenario for Horn/Strobe, there can be devices of 2 wire type only in Oldlegacy SpectrAlert type and hence 2 wires is disabled (2 wire was the only option for the legacy models).

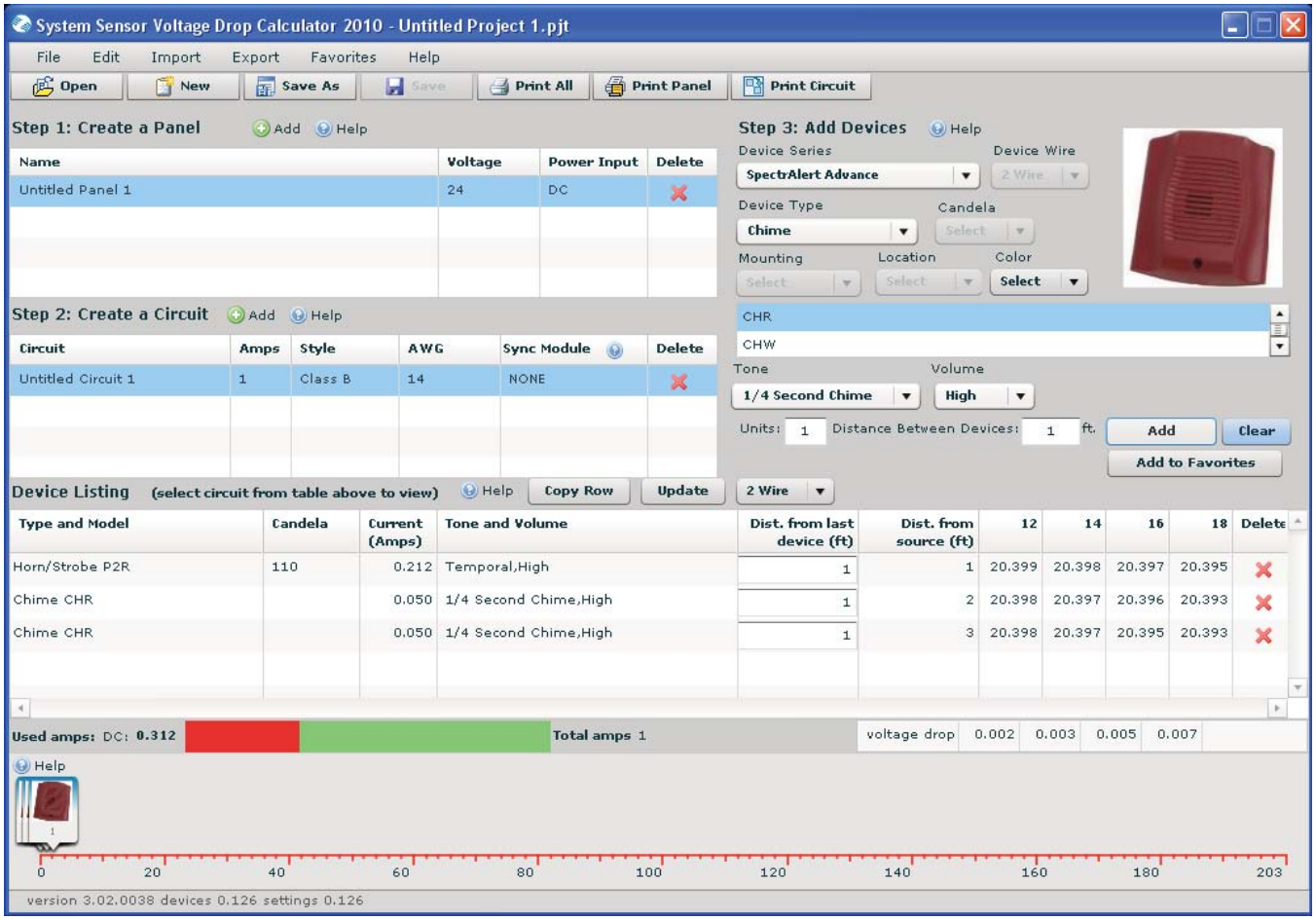
Instead of selecting individual fields user can select the device in the device details text box (The control in which the details "In the screen shot the P1224MC with selectable strobe of 110 candelas" have been displayed).

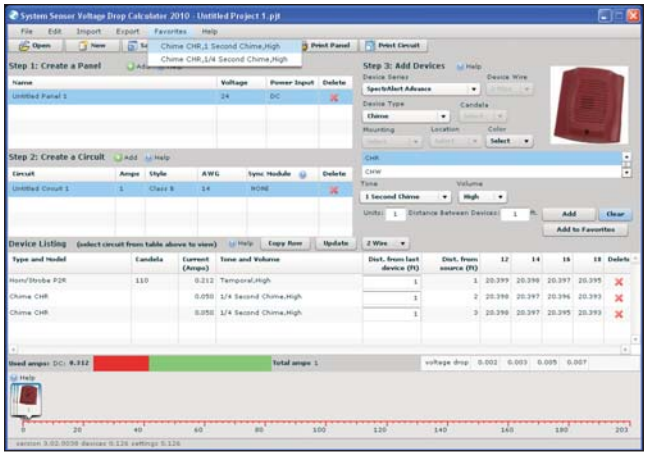
Also for some devices user must select Tone, volume and /Or frequency to be able to add device in the circuit as shown left.



Above selection of P1224MC with selectable strobe setting of 110 candelas uniquely selects a device and hence even if we do not select Mounting, location or color, user will be allowed to add devices to the circuit.

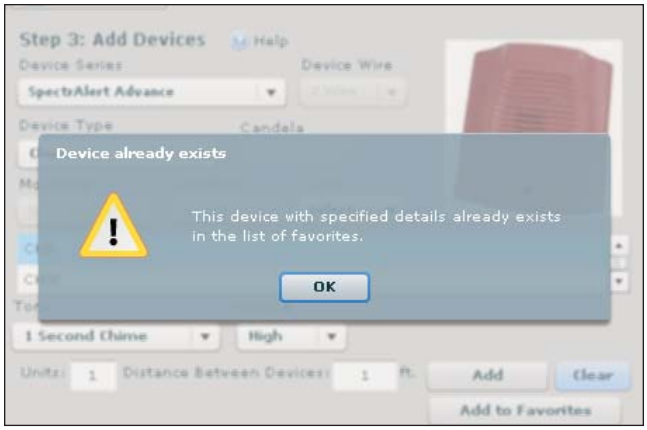
Once selections are made, at the click of Add button, devices are shown in the Device Listing section of the design page and also graphically across the bottom device spacing line. Power usage is shown via the Used Amps bar graph (green shows power remaining and red shows power used). Changes can be made within the Device Listing by clicking on the specific value you want to change. In addition, dragging and dropping a device on the device spacing line will make changes throughout the entire page.





3.3.2 Add devices using favorites

After all the selections for a device to be added in the circuit is done, you can optionally add the selected/configured device as your favorite device based on the usage and need of the device for quick reference and the device will be added in the favorites menu list immediately.



Once you add a device as a Favorite device, it will be listed under favorites in one of the following format based on the device type

1) Label Model : If no tone, volume, frequency and candela is applicable e.g.

Chime CH1224W

2) Label Model, Tone Volume : If no frequency and candela is applicable

Chime CHR, 1 Second chime, High

3) Label Model, Tone Volume Frequency : If no candela is applicable

Horn H12/24, Temporal, High, Electromechanical

4) Label Model, Tone Volume Frequency , candela: If all are applicable

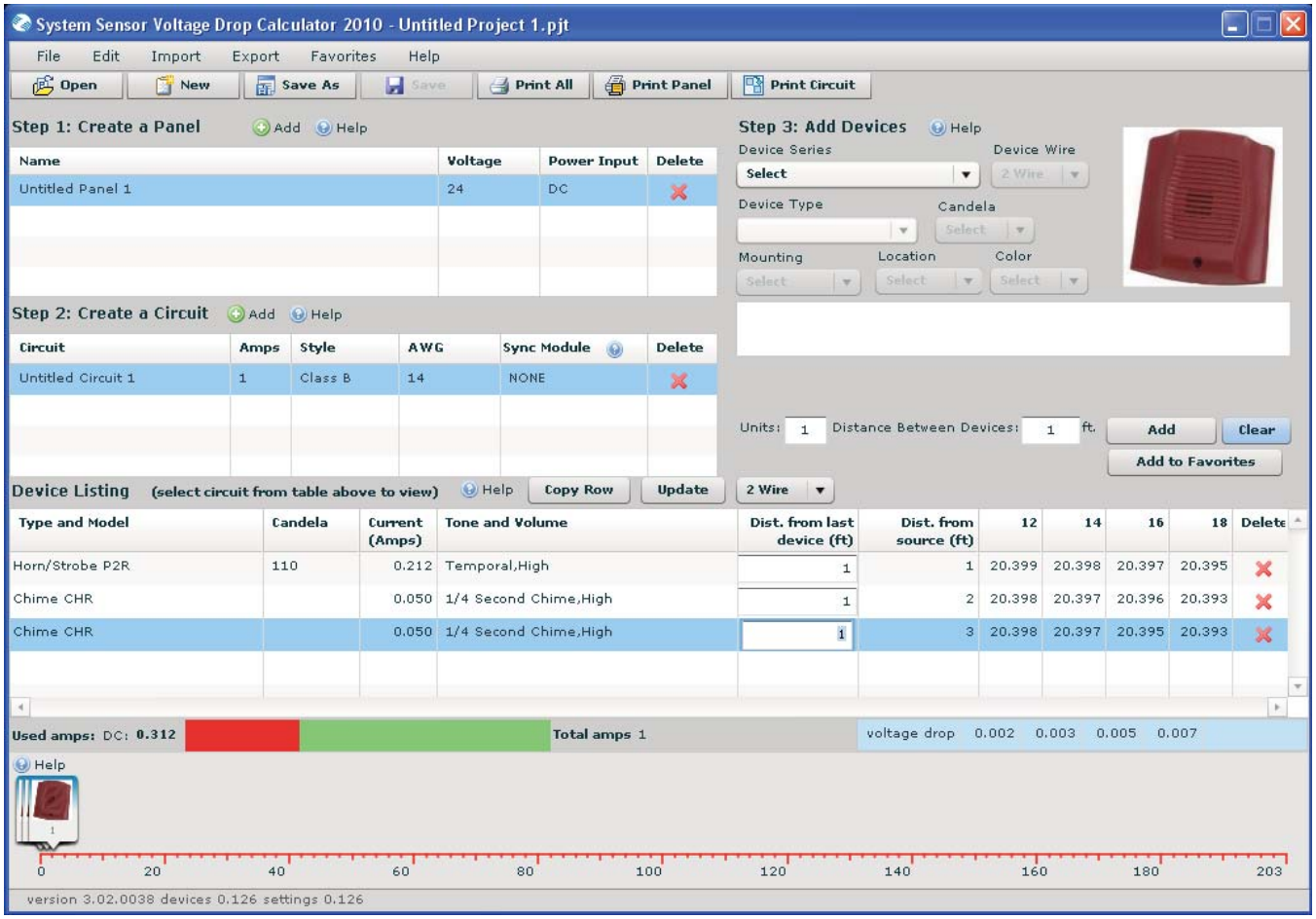
Horn/Strobe P2R Temporal, High, 110 candela

If a specific device with selected configuration already exists in the favorite's list then user will be intimated about it as shown

3.3.3 Add devices in the device listing Grid

Alternately, to add devices you do not need to return to step 3 every time. The devices can be added in the Device Listing section of the design page grid also as explained below.

User can simply select a row and click on the copy row button. Once user clicks on the "***copy row***" button, a new row with the same details of the row being copied is listed but without any calculations.

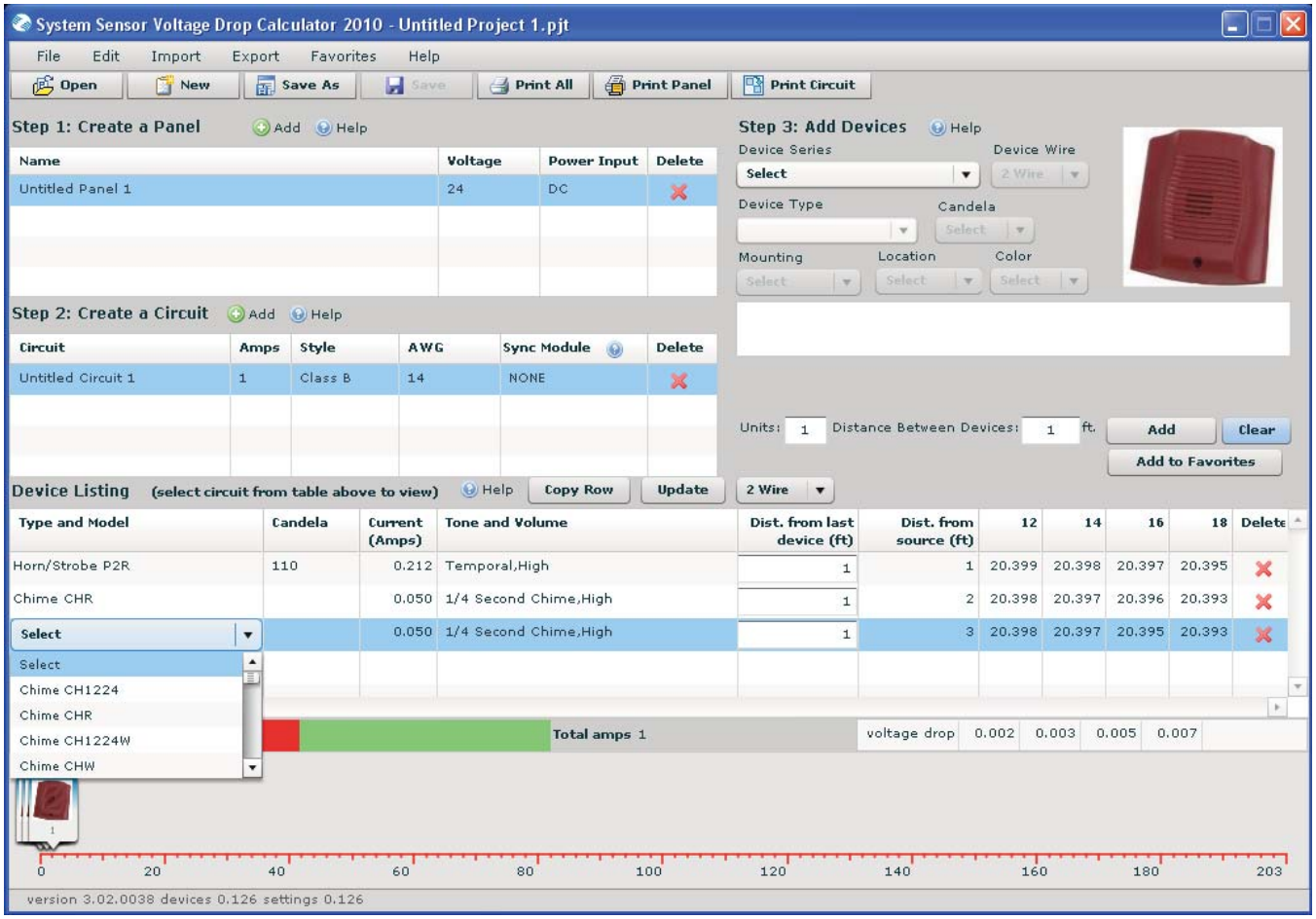


For a device already existing in the device listing section of application (e.g. when an already saved project is opened), the changes will not be allowed initially but if user clicks Type and Model column in the grid and changes the type and model for a specific row only then candela, tone, volume or frequency can be changed based on device type applicability.

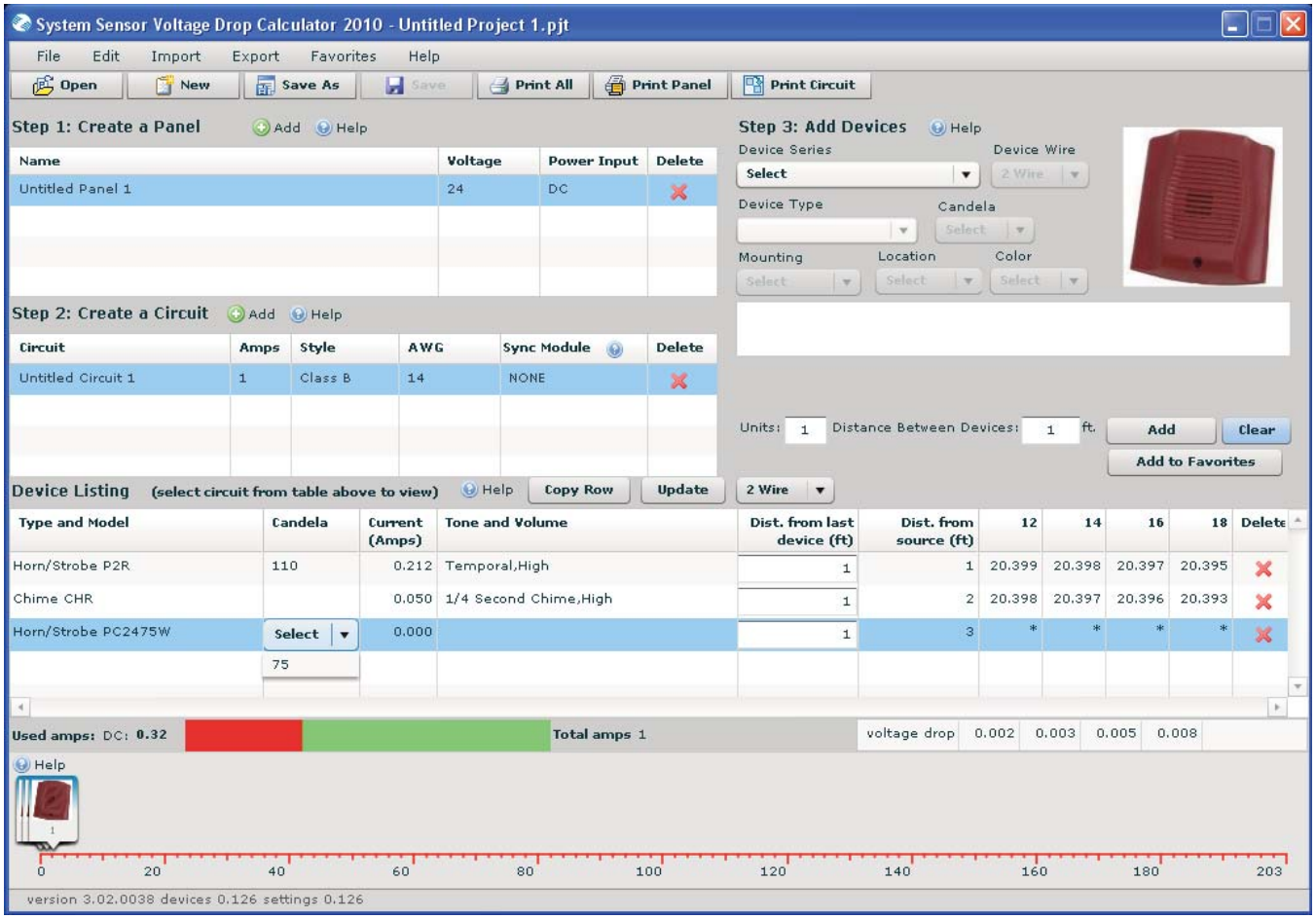
Note:

1) It is strongly advised to update the "Type and Model" and then update details for the device such as candela and tone volume and/or frequency.

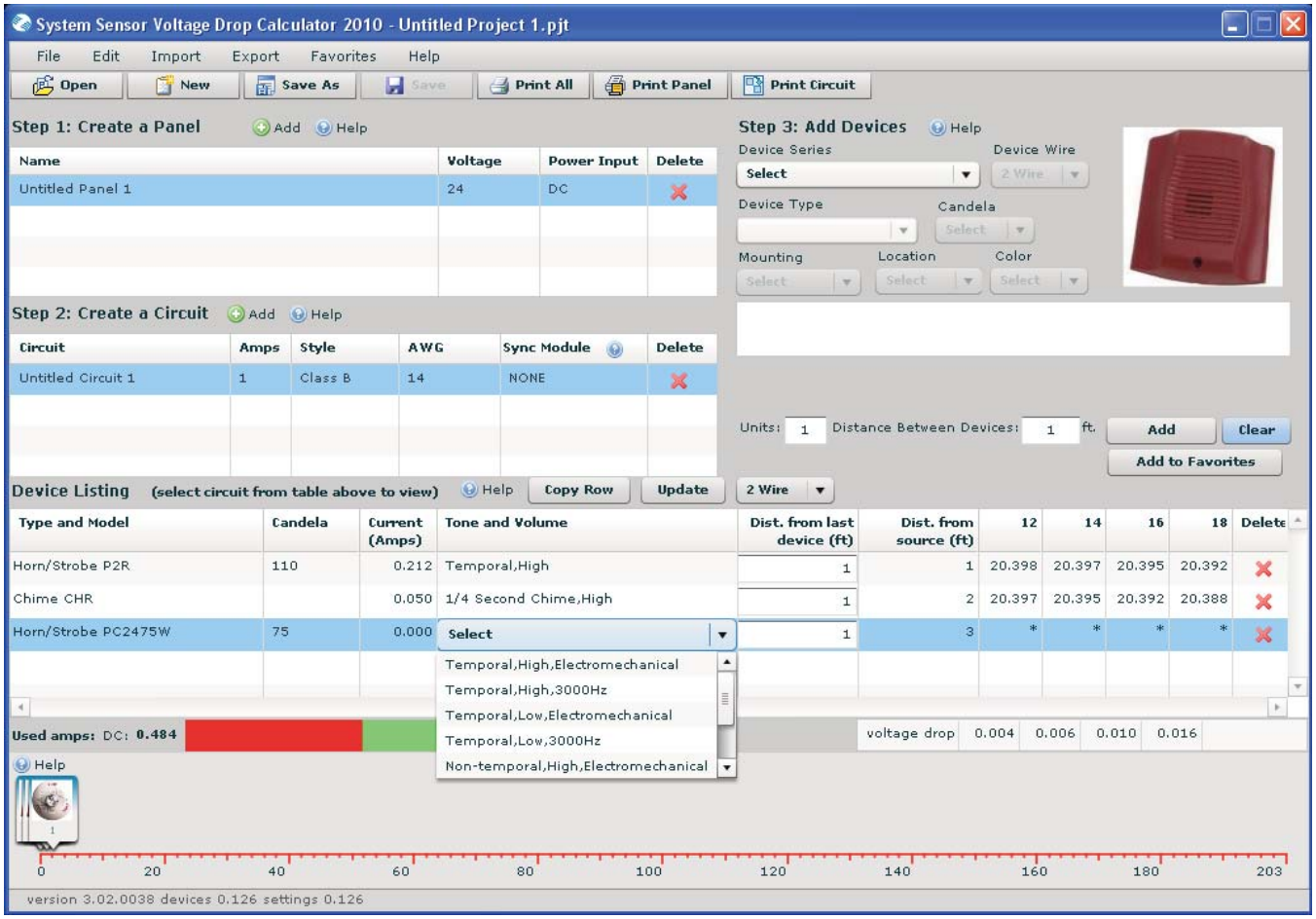
2) If user changes the Distance from last device (ft), then the calculations will be done automatically without clicking update button.



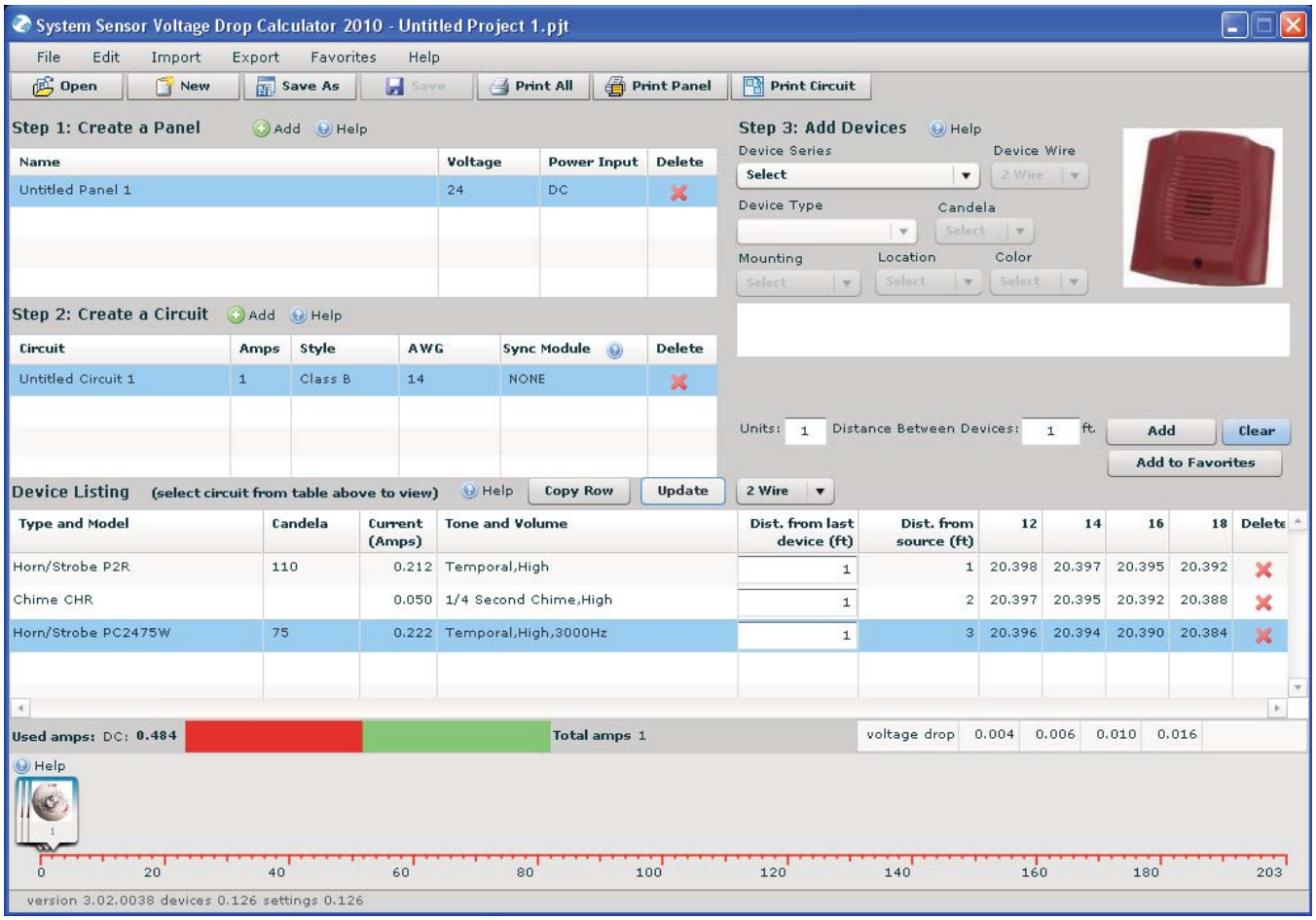
For a Horn/Strobe tone of type PC2475W the candela is applicable hence the candela column will be as shown below.

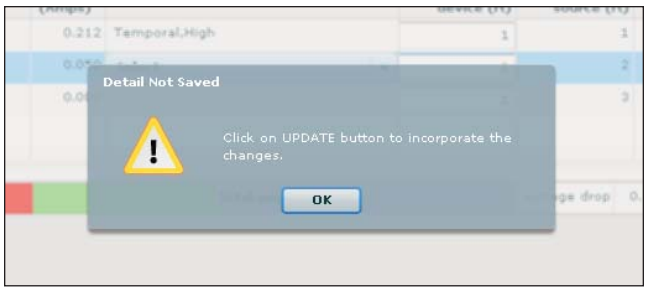


For a Horn/Strobe tone of type PC2475W the Tone and volume are applicable and hence they can be modified as shown below.



After all the changes are done for a device configuration click the update button on top. All of the calculations to be updated and the row which was copied without calculations now will be updated with the voltage drop calculations. Once user clicks on update button the device listing grid again is disabled and if any changes are made, user again needs to select the Type and Model column.



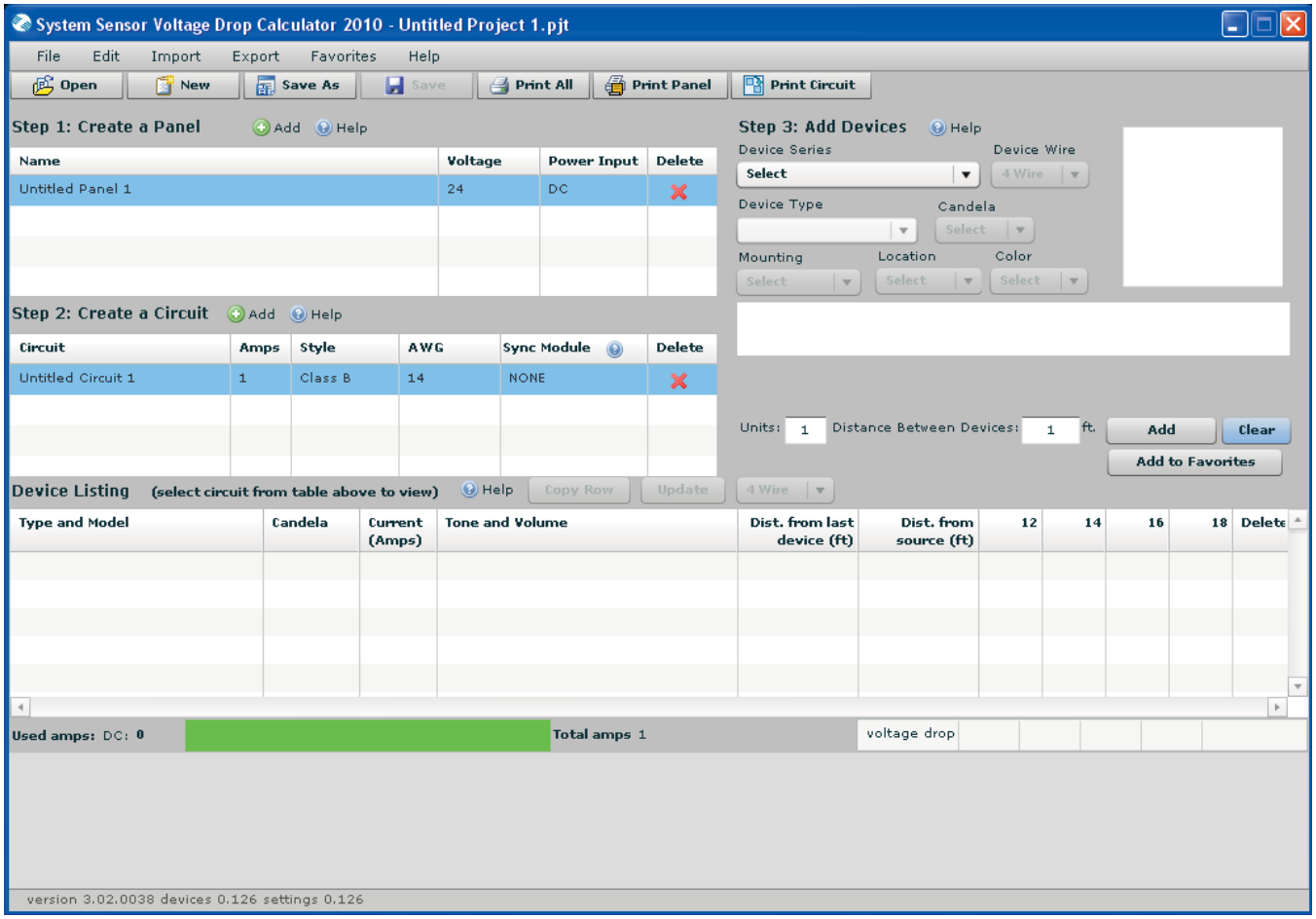


Note: If user clicks on copy row and there is any previous row which has not been updated the user will be given a message to update the previously unsaved rows as shown left.

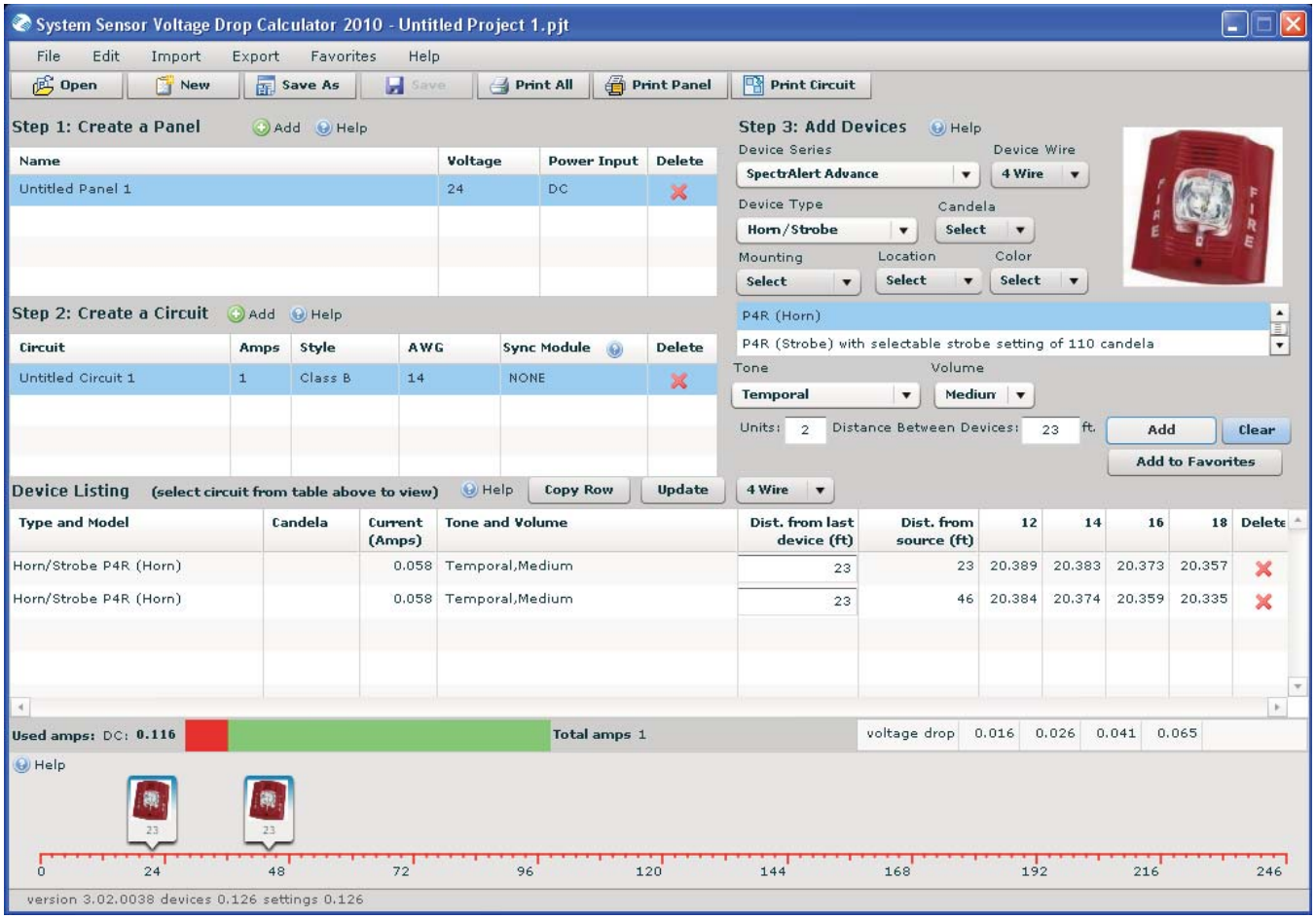
Consider a scenario where the user is supposed to select candela for the device or Tone and Volume and they don't select it, in that case user will see the corresponding message.

Also in a circuit user can not combine 2-wire devices and 4-wire devices, hence when user tries to change the wire type either in step 3 to add devices or in the grid section using Wire Type combo box, user will be given a message as seen left.

If user clicks on OK button, the grid will be cleared of all the 2-wires devices.

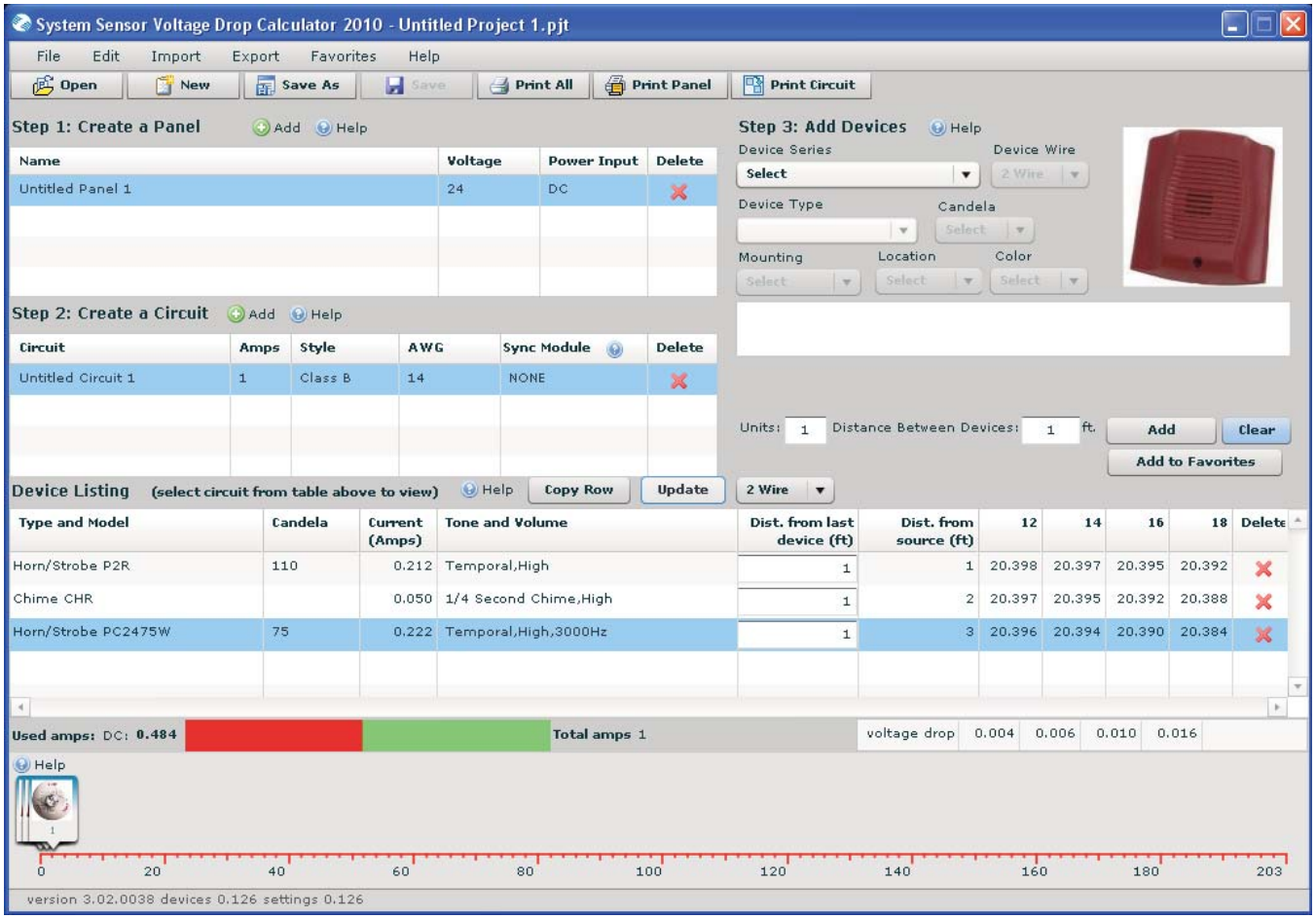


Now in the step 3 to Add devices 4 wire devices will be available as shown below.

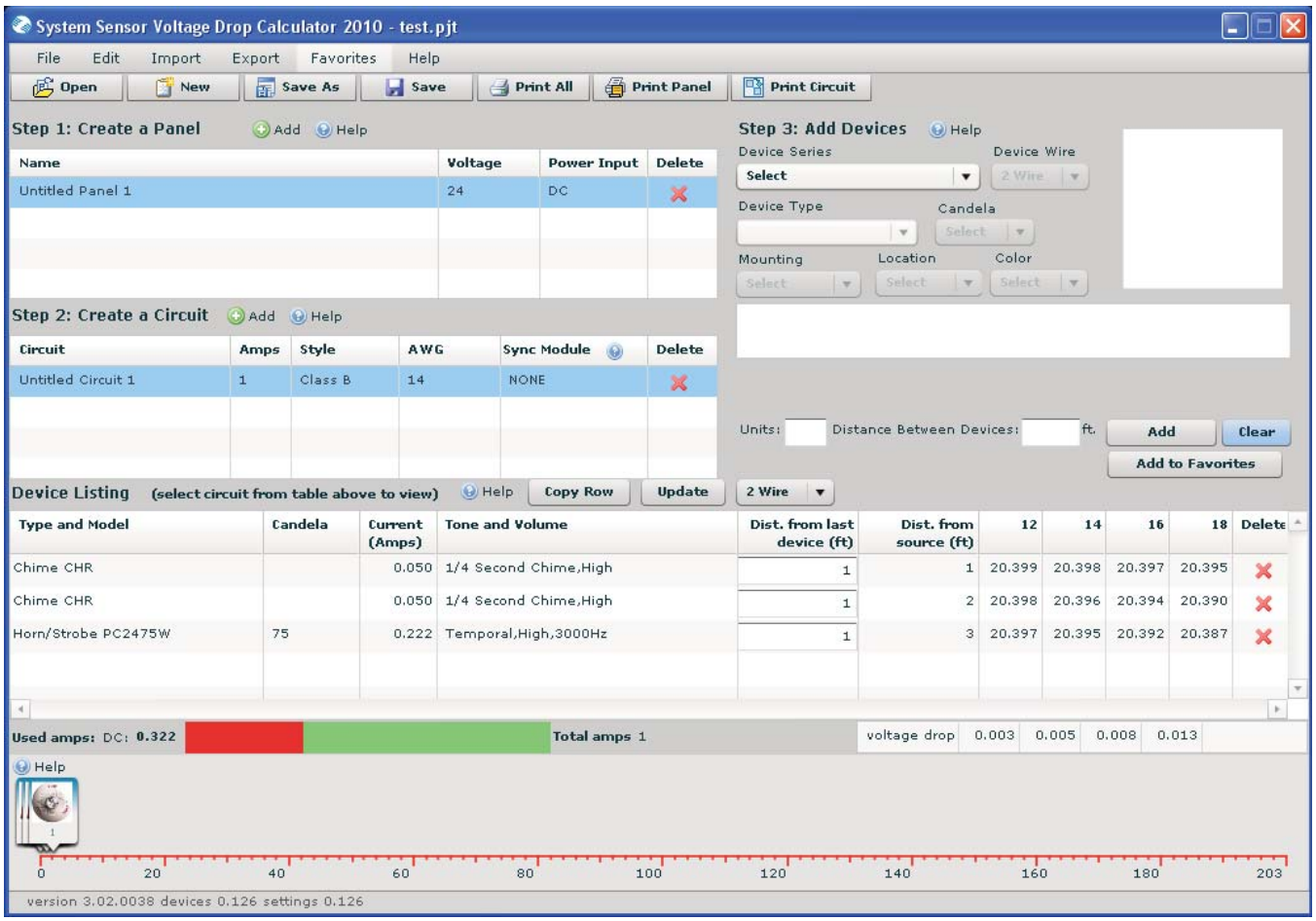


And if user clicks cancel when the option to change the circuit wire type is given as shown left.

In this scenario the circuit will remain as it is with the wire type being the previous type.



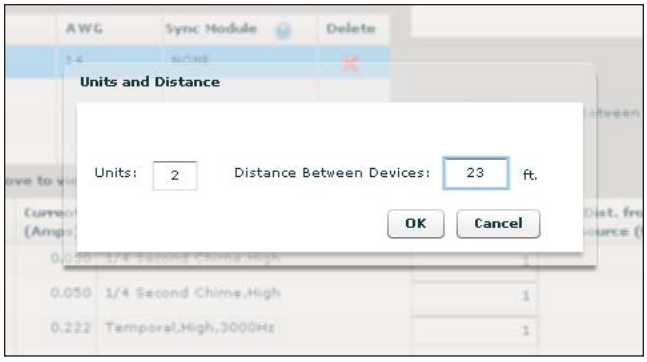
4 FAVORITES MENU



Initially if a project is not opened then Favorite devices will be disabled. Once a new project or an already existing project is opened the selected favorite devices will be enabled under favorite menu option.

Note:

1. Even if user closes the application, the favorites will be listed under favorite menu, next time the application is opened.
2. At a time there can be 15 favorite devices and if user adds favorites more than 15 then automatically the device which was added first will be removed first and the recent device will be added in the list of favorites.

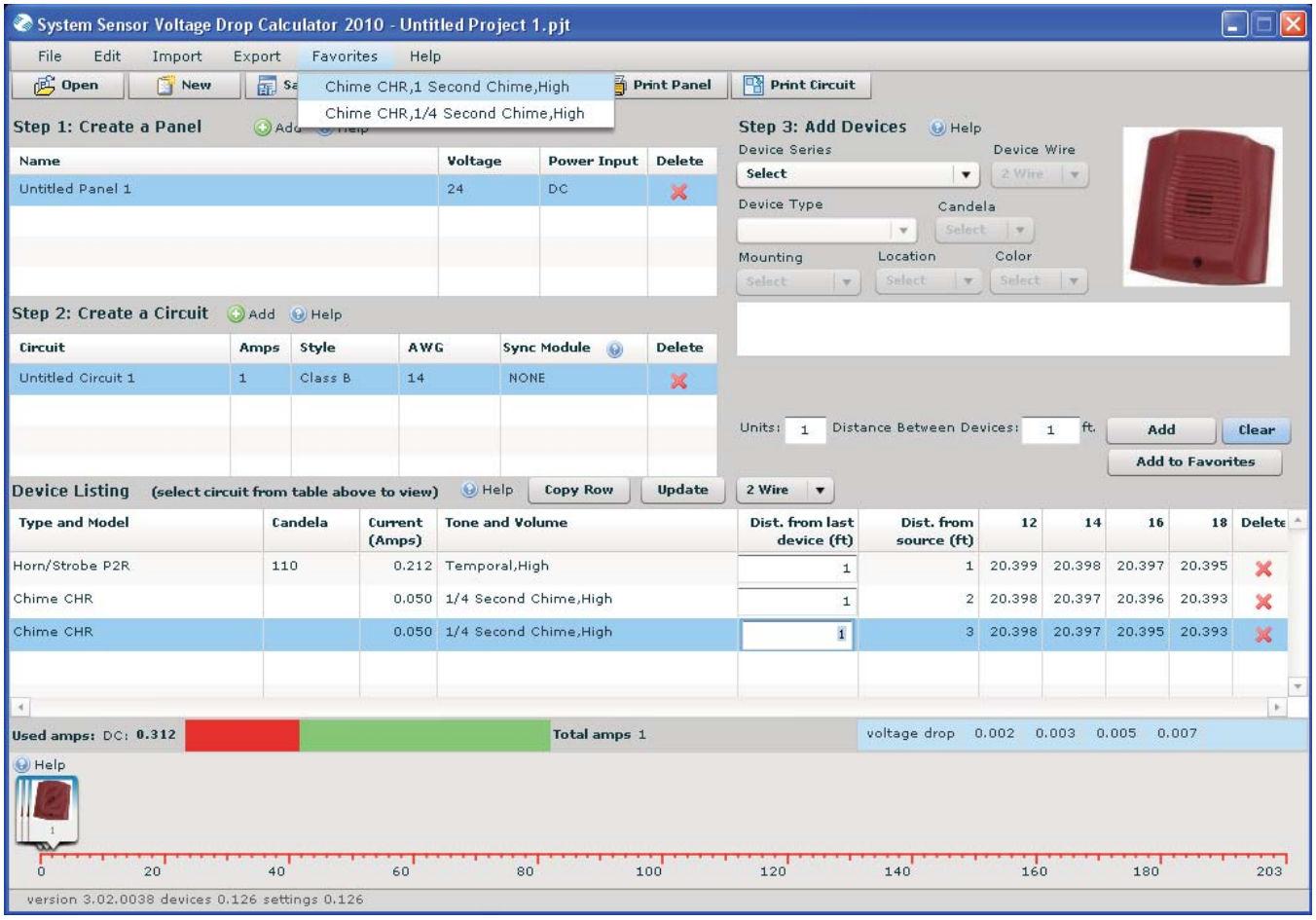


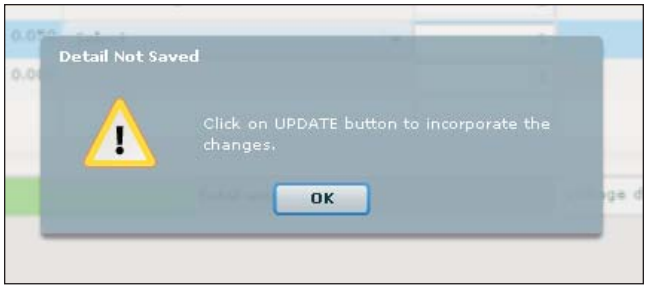
Once user selects a device in the favorites menu, user is prompted to give details of number of units and distance between the devices in the corresponding pop up form.

Based on number of units and distance between devices, the devices with specified configuration are added in the circuit.

Consider a scenario where the user is supposed to select candela for the device or Tone and Volume and they don't select it, in that case user will see the message left when they select a device in Favorites.

As shown below there is a row which is not updated in the below grid and user is selecting a device from Favorites.

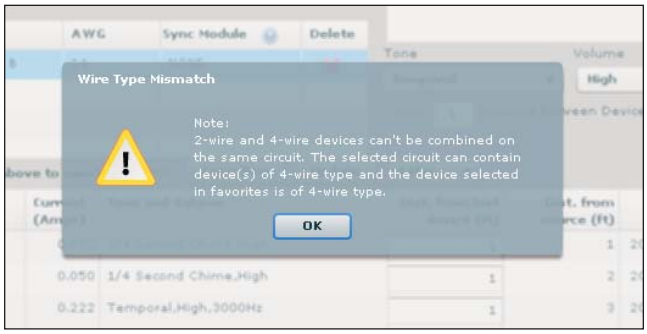




When user clicks on the device, they will see the corresponding message.

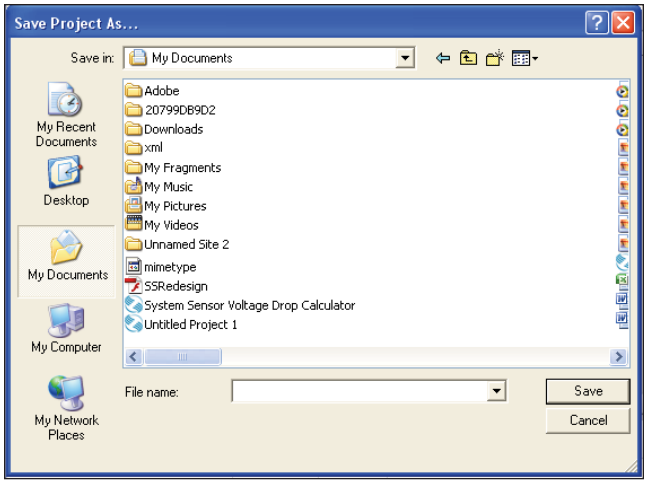
As shown in the screen shot the CHR does not have Tone and Volume selected hence when user clicks on Update button, they will see the message shown left.

Now if user goes and fills details for Tone and Volume and click on update button, user can continue adding devices from favorites.



If currently a circuit has all the 4-wire devices and user tries to add a 2-wire device from the favorites, then user will be given a message as shown left and the device will not be added, but any 4-wire device can be added.

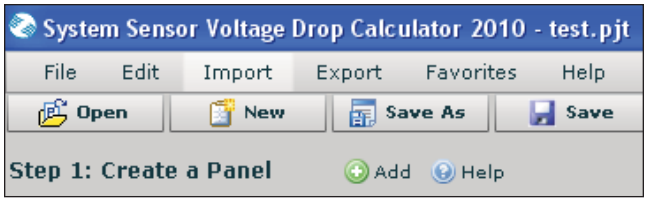
Similarly if the circuit contains 2-wire devices then 4-wire devices from favorites can not be added.



5 SAVING AND E-MAILING

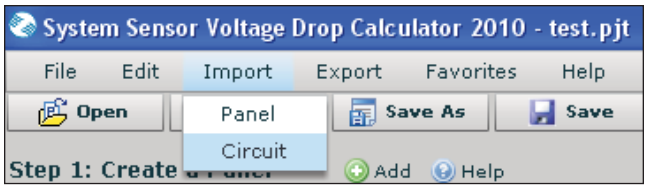
To save your project, click on ***Save*** as button on top or choose "***File***" in the upper left corner and click on "***Save As***". Name the file and save it onto your computer. This file can now be shared with anyone in your network or can be e-mailed to the design team. To open a saved project, choose "***File***" in the upper left corner and click on "***Open***". You can then navigate to the file's saved location on your computer and open the file. You can also open saved projects directly from your computer's file system. However, the VDC application must be on the computer in order to open the file.

Once a file is saved to your computer, it can be sent via e-mail to everyone on the project team that needs to review the design or installation. However, the VDC application must be on the destination computer to open the file. See the Download section for step-by-step instructions.



6 IMPORTING/EXPORTING PANELS OR CIRCUITS

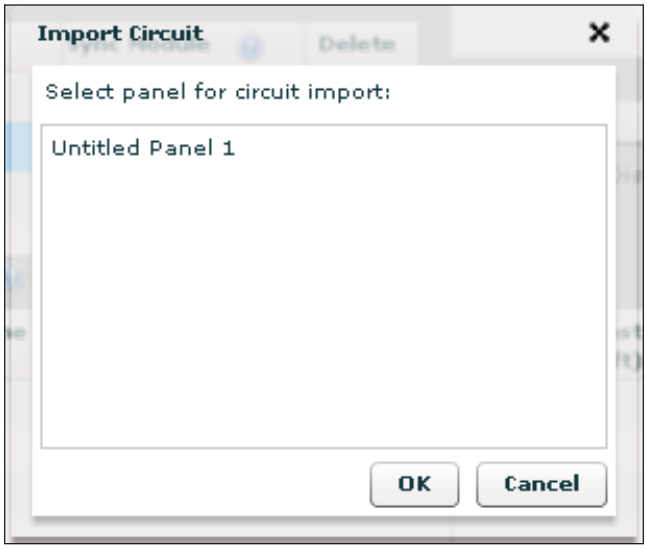
Select "***Import***" from the top menu bar to import panels or circuits.



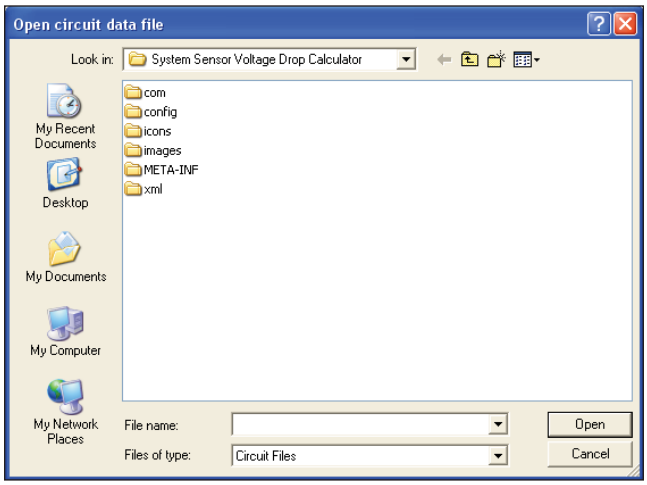
6.1 Import

6.1.1 Importing Circuit

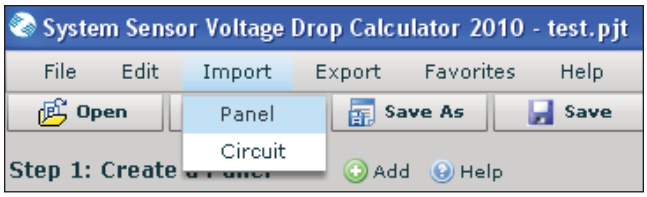
Select "***Circuit***" from the drop-down menu to import a circuit.



Selecting "***Circuit***" opens a dialogue to choose which panel the import will be used in. Click on the panel you want to use. Then click "***OK***" to continue or "***Cancel***" to abort.

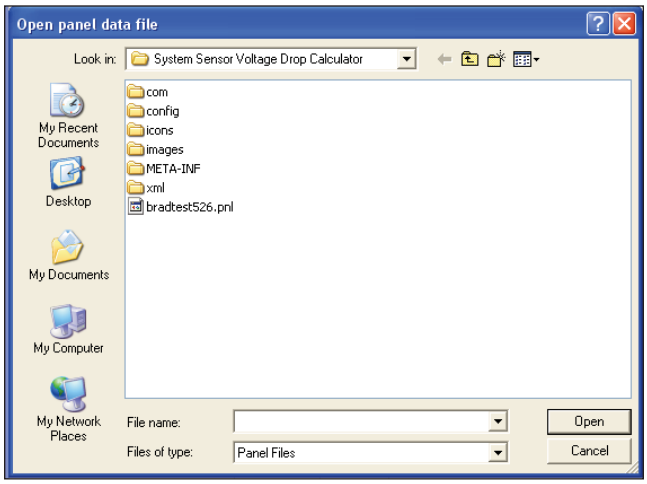


A window showing your computer files will open next. Navigate to the circuit you want to import, select it, and click "***Open***".

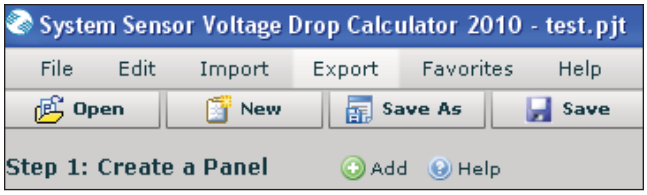


6.1.2 Importing Panel

Select "***Panel***" from the drop-down menu to import a panel.



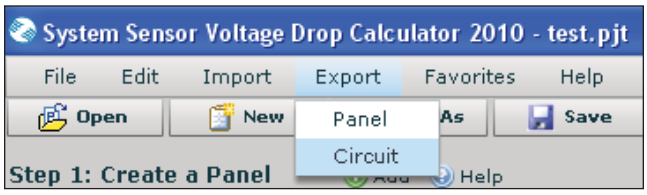
A window showing your computer files will open next. Navigate to the panel you want to import, select it, and click "***Open***".



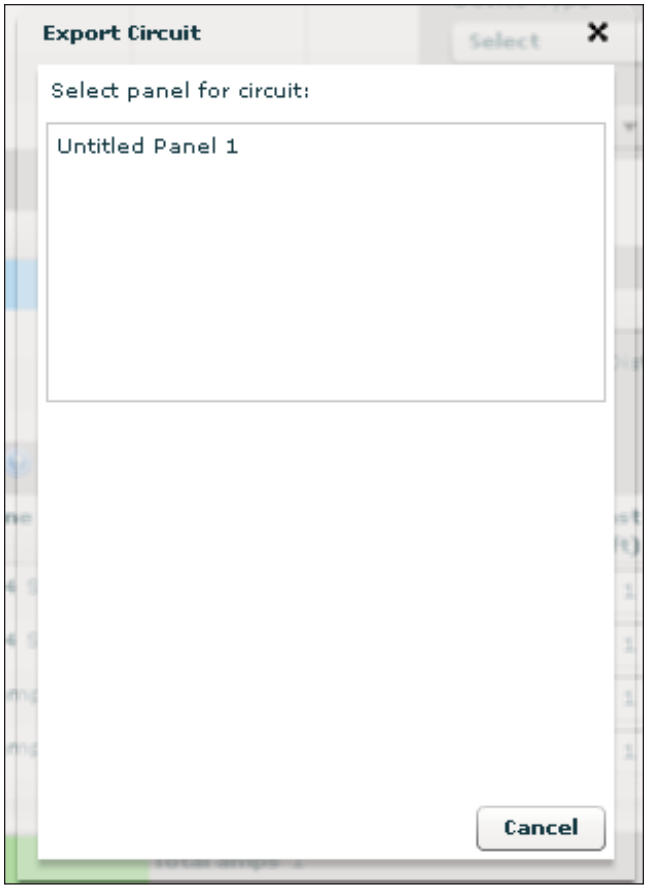
6.2 Export

6.2.1 Export Circuits

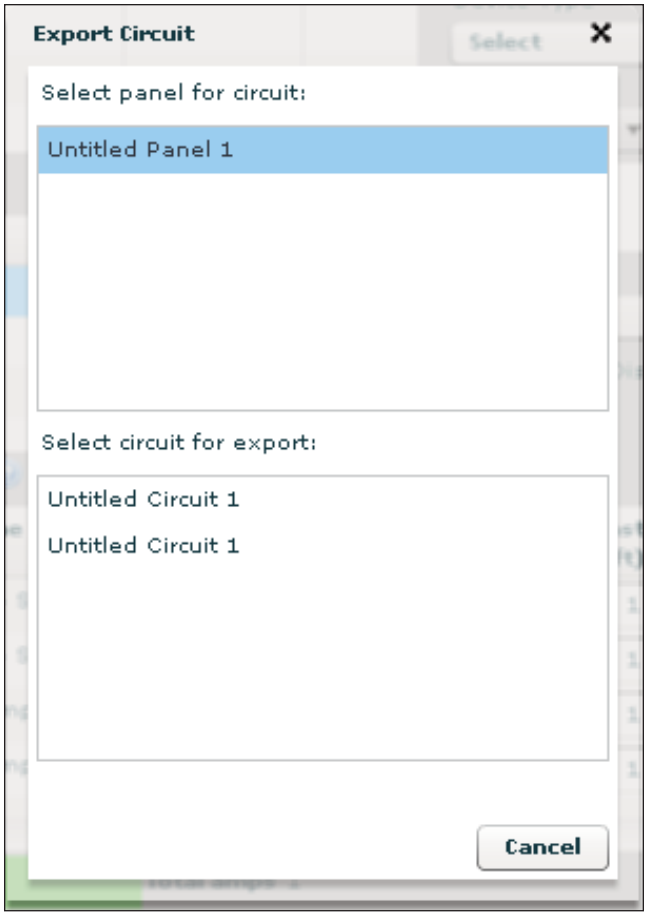
To export panels or circuits, select "***Export***" from the top menu bar.



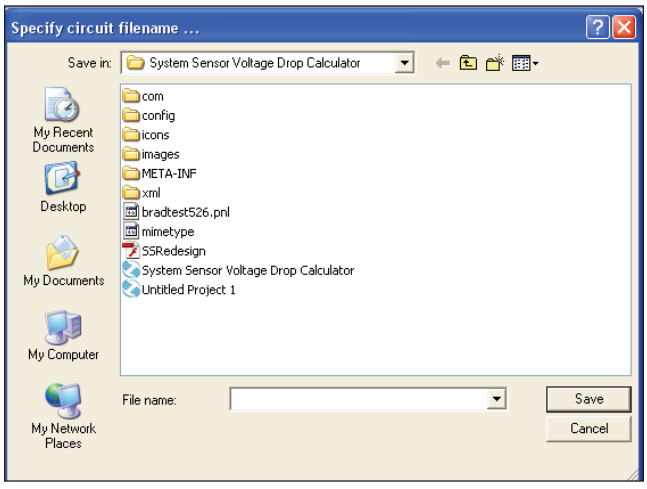
To export a circuit, select "***Circuit***" from the drop-down menu.



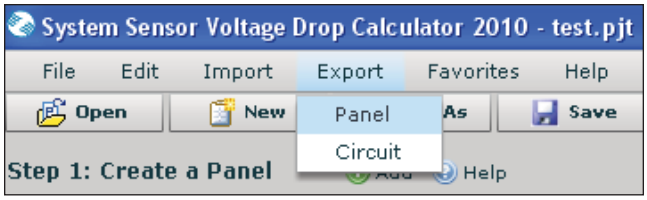
Selecting "***Circuit***" opens a dialogue to choose which panel the export will be taken from. Click on the panel you want to export the circuit from.



Then click on the circuit that you want to export. At any time, you can click on "***Cancel***" to abort.

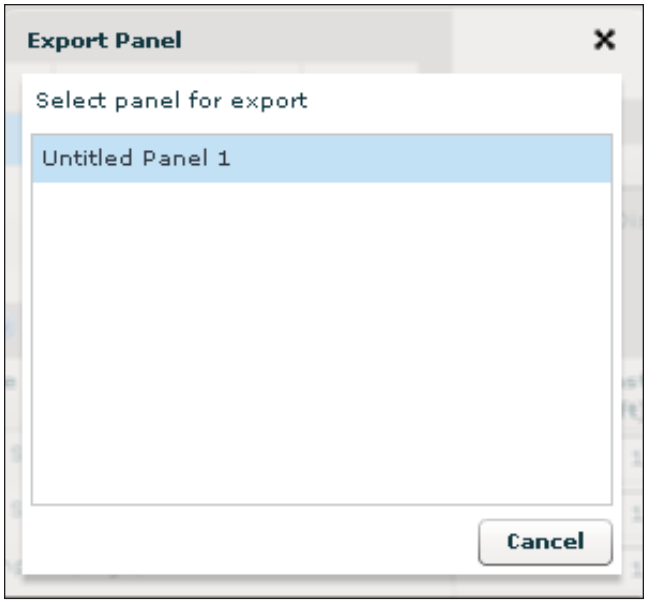


A window showing your computer files will open next. This allows you to export and save the circuit file to your computer. Name the file and save it to your computer network. This file can now be accessed and shared with anyone in your network or can be e-mailed to the design team. Opening your saved file is done just like opening any other files.

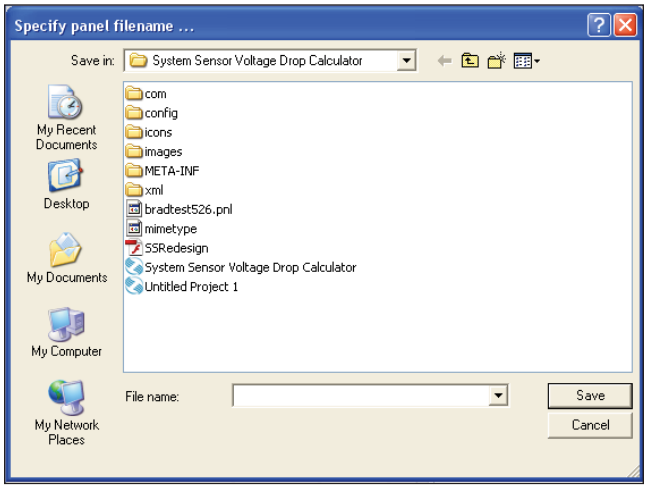


6.2.2 Export Panel

Click on the panel that you want to export.



Click on the panel that you want to export.



At any time, you can click "***Cancel***" to abort. A window showing your computer files will open next. This allows you to export and save the panel file to your computer. Name the file and save it to your computer network. This file can now be accessed and shared with anyone in your network or can be e-mailed to the design team. Opening your saved file is done just like opening any other files.

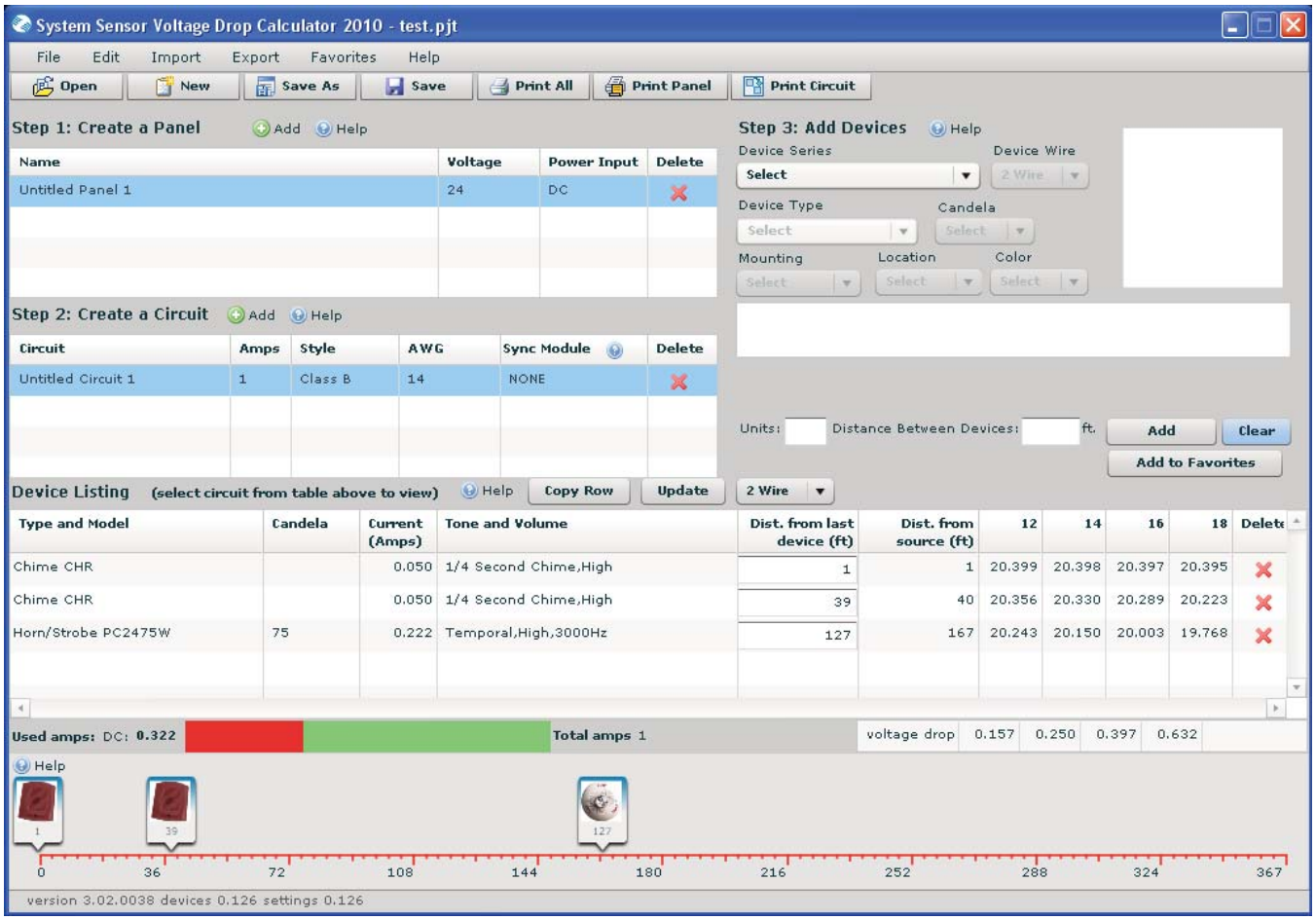
7 PRINTING

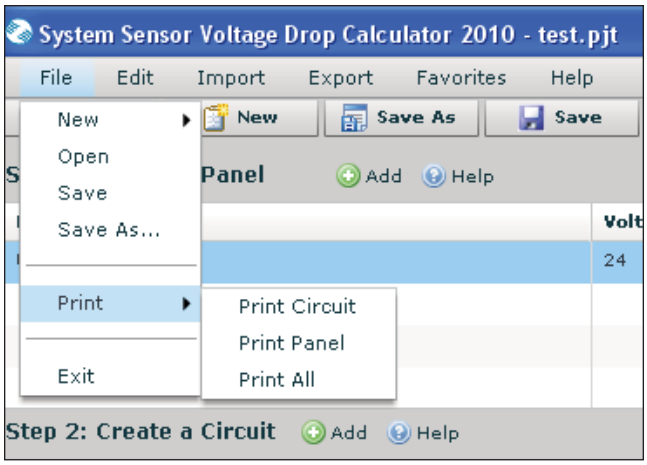
The printing feature accommodates multiple types of submission forms.

1) Click on "***Print all***" button if you want to print all the content

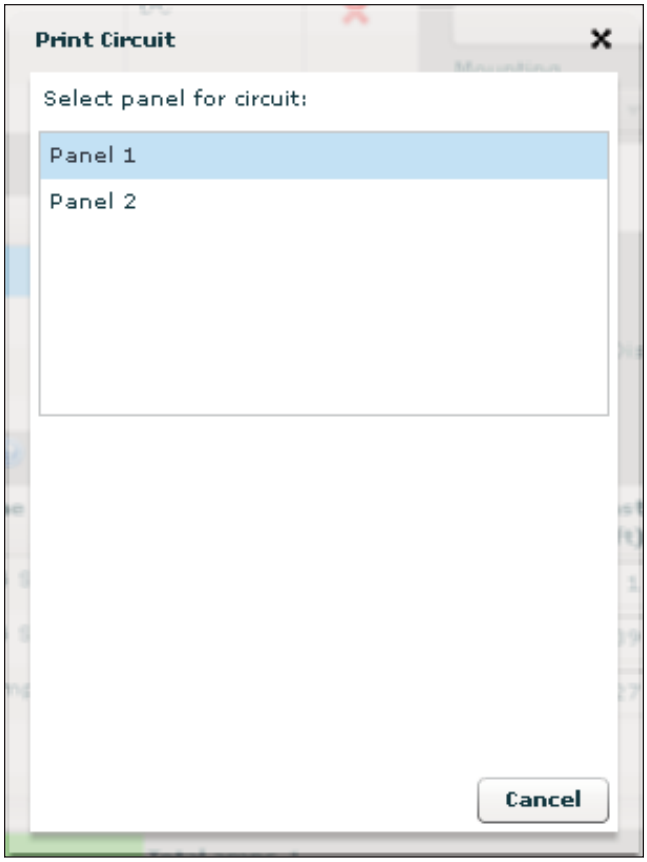
2) Click on "***Print panel***" if you want to print all the details of a specific Panel

3) Click on "***Print Circuit***" if you want to Print all the details of a specific circuit.



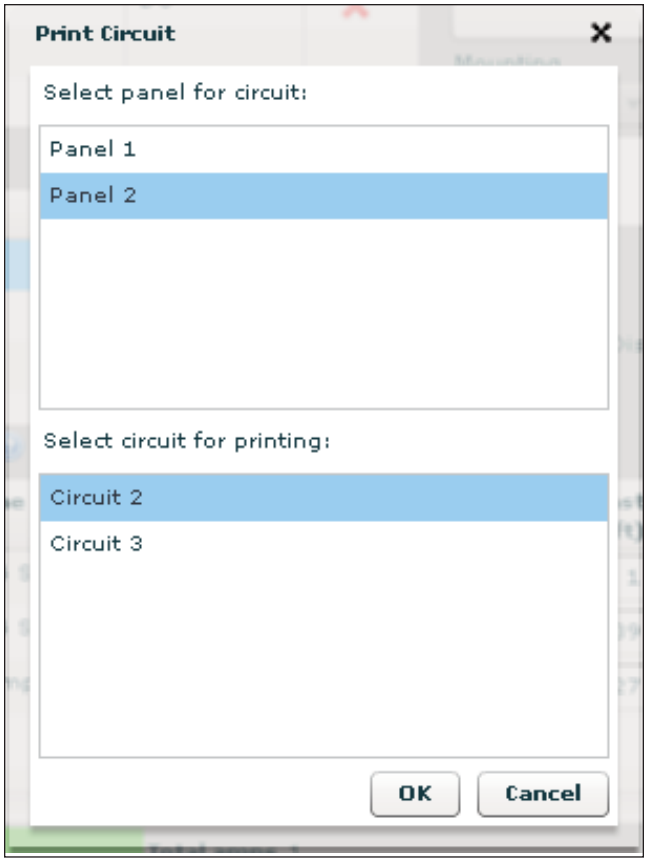


Alternately click on or choose "***File***" in the upper left corner and choose "Print". Three options appear: "***Print Circuit***", "***Print Panel***", and "***Print All***".



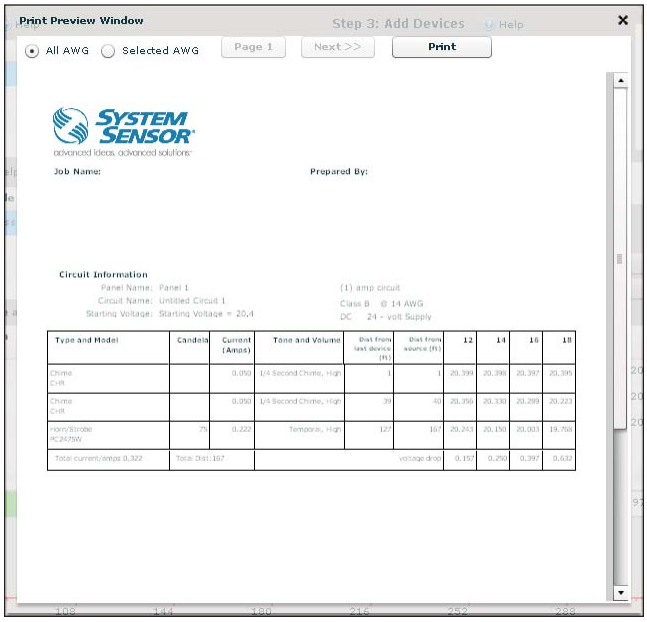
7.1 Print Circuit

Selecting "***Print Circuit***" button on top of application or under "***File->Print->Print circuit menu*** " option opens a window to choose which panel should be printed. Click on the panel you want to print.



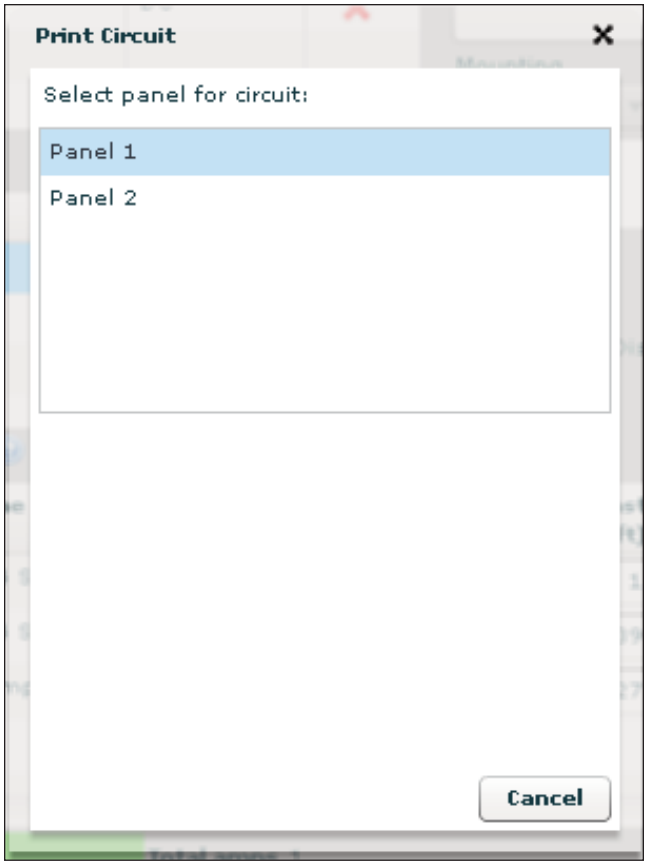
The window will expand so that you can select the circuit. Click on the circuit you want to print.

Click "***OK***" to continue or "***Cancel***" to abort.



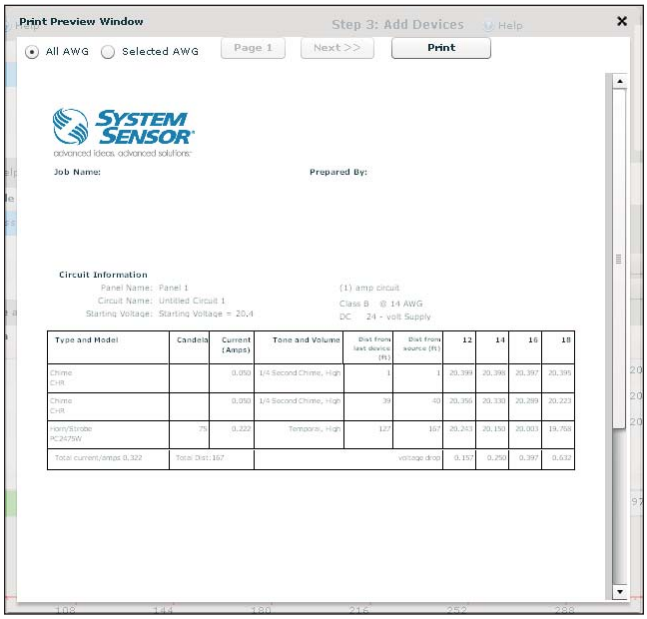
A window with a sample of the form will open next. If this is the submission form format needed, click the "***Print***" tab.

This will direct you to your printer settings.

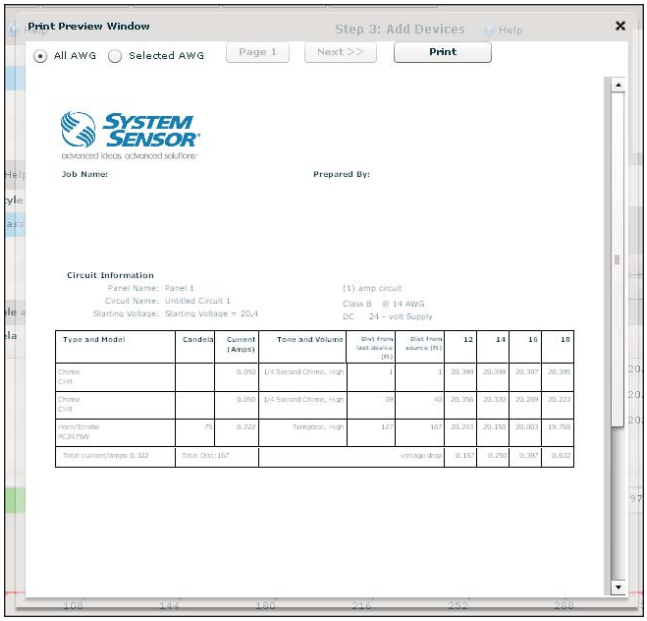


7.2 Print Panel

Selecting "***Print Panel***" button on top of the application or "***File-> Print->Print Circuit menu***" option opens a dialogue to choose which panel should be printed. Click on the panel you want to print. Click "***OK***" to continue or "***Cancel***" to abort.



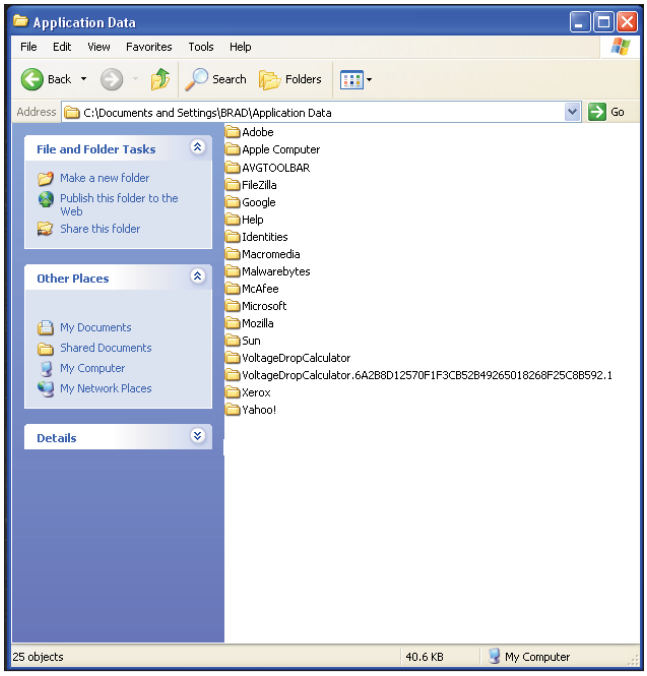
A window with a sample of the form will open next. If this is the submission form format needed, click the "***Print***" tab. This will direct you to your printer settings.



7.3 Print All

Selecting "***Print All***" button at the top of the application or "***File->Print->Print All menu***" option opens a window with a sample of the form. Multiple pages will appear based upon the number of devices that are contained in the circuit. A separate page will be generated for each panel and corresponding circuits.

If this is the submission form format needed, click the "***Print***" tab. This will direct you to your printer settings.



8 ISSUES ENCOUNTERED IN VDC AND RESOLUTION

1) Sometimes when VDC is opened it will be blank and no panel and circuit will be created.

Resolution: If a user encounters such a problem please go to C:\Documents and settings\<EID folder> e.g. **C:\Documents and Settings\E343810\Application Data** and delete any folder with voltage drop calculator name, it can have different folders with a unique ID appended to it, delete all those folders also if there is any other folder with the name SSRedesign delete that folder also as shown left.

Restart VDC tool and the application will execute properly.

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