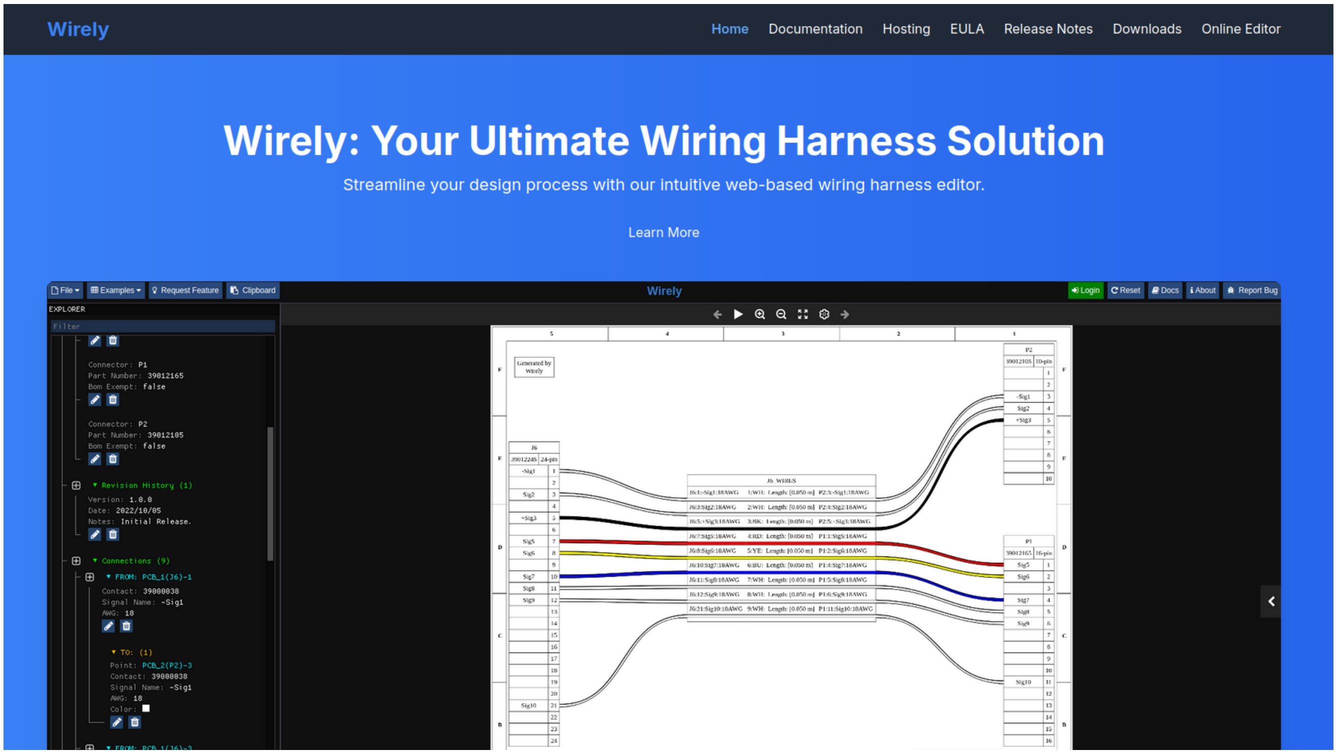
Contents

1. Accessing the Web Editor

To access the web editor, navigate to the main website, website, and select “Editor” located in the navigation bar (top right).



You may also access the editor directly at editor

2. Basic Structure

The basic structure of the json input to generate wiring diagrams is as follows:

```
{
    "Revision History" :
    {
        "1.0.0" : "Initial Release.<@>2022/10/05"
    },
    "Wire Notes" : "",
    "Connector Notes" : "",
    "Contacts" :
    {
        "39000038" : "#false"
    },
    "Contacts Vendors" :
    {
        "39000038" : ""
    },
    "Accessories" : "",
```

```
    "Wire Properties" :
    {
        "Generic" : "#false"
    },
    "Wire Properties Vendors" :
    {
        "Generic" : ""
    },
    "Part Numbers" :
    {
        "J6" : "39012245##false",
        "P1" : "39012165##false",
        "P2" : "39012105##false"
    },
    "Part Number Vendors" :
    {
        "39012245" : "",
        "39012165" : "",
        "39012105" : ""
    },
    "Vendors" : "",
    "Connections" :
    {
        "PCB_1(J6)%1{18}<39000038>[-Sig1]##==!Generic!" :
        [

"PCB_2(P2)%3{18}<39000038>[-Sig1]##&1.000,1.000,1.000,1.000&@50.000-mm@$1.000,1.
000,1.000,1.000$^true^?,true,true,false?==!Generic!"
        ],
        "PCB_1(J6)%3{18}<39000038>[Sig2]##==!Generic!" :
        [

"PCB_2(P2)%4{18}<39000038>[Sig2]##&1.000,1.000,1.000,1.000&@50.000-mm@$1.000,1.0
00,1.000,1.000$^true^?,true,true,false?==!Generic!"
        ],
        "PCB_1(J6)%5{18}<39000038>[+Sig3]##==!Generic!" :
        [

"PCB_2(P2)%5{18}<39000038>[+Sig3]##&0.000,0.000,0.000,1.000&@50.000-mm@$0.000,0.
000,0.000,1.000$^true^?,true,true,false?==!Generic!"
        ],
        "PCB_1(J6)%7{18}<39000038>[Sig5]##==!Generic!" :
        [

"PCB_2(P1)%1{18}<39000038>[Sig5]##&1.000,0.000,0.000,1.000&@50.000-mm@$1.000,0.0
00,0.000,1.000$^true^?,true,true,false?==!Generic!"
        ],
```

```
        "PCB_1(J6)%8{18}<39000038>[Sig6]##==!Generic!" :
        [
"PCB_2(P1)%2{18}<39000038>[Sig6]##&1.000,1.000,0.000,1.000&@50.000-mm@$1.000,1.000,0.000,1.000$^true^?,true,true,false?==!Generic!"
        ],
        "PCB_1(J6)%10{18}<39000038>[Sig7]##==!Generic!" :
        [
"PCB_2(P1)%4{18}<39000038>[Sig7]##&0.000,0.000,1.000,1.000&@50.000-mm@$0.000,0.000,1.000,1.000$^true^?,true,true,false?==!Generic!"
        ],
        "PCB_1(J6)%11{18}<39000038>[Sig8]##==!Generic!" :
        [
"PCB_2(P1)%5{18}<39000038>[Sig8]##&1.000,1.000,1.000,1.000&@50.000-mm@$1.000,1.000,1.000,1.000$^true^?,true,true,false?==!Generic!"
        ],
        "PCB_1(J6)%12{18}<39000038>[Sig9]##==!Generic!" :
        [
"PCB_2(P1)%6{18}<39000038>[Sig9]##&1.000,1.000,1.000,1.000&@50.000-mm@$1.000,1.000,1.000,1.000$^true^?,true,true,false?==!Generic!"
        ],
        "PCB_1(J6)%21{18}<39000038>[Sig10]##==!Generic!" :
        [
"PCB_2(P1)%11{18}<39000038>[Sig10]##&1.000,1.000,1.000,1.000&@50.000-mm@$1.000,1.000,1.000,1.000$^true^?,true,true,false?==!Generic!"
        ]
    },
    "Groups" :
    {
        "PCB_1" :
        [
            "J6-24!0&&$0$#0#?,,0,0,false,false?"
        ],
        "PCB_2" :
        [
            "P1-16!0&&$0$#0#?,,0,0,false,false?",
            "P2-10!0&&$0$#0#?,,0,0,false,false?"
        ]
    },
    "Title" : "WIRING_HARNESS",
    "Settings" :
    {
        "ResponsibleDepartment" : "Engineering",
```

```
        "TechnicalReference" : "TR_50050",
        "Creator" : "CNB",
        "Approved" : "CNB",
        "DocumentType" : "WIRING",
        "DocumentStatus" : "REVIEW",
        "Id" : "ID_50300",
        "Revision" : "A1",
        "DateOfIssue" : "08/14/2022",
        "Language" : "EN",
        "SheetXofY" : "1/1",
        "DrawTitleBlock" : true,
        "Company" : "Wirely",
        "CompanyLogo" : "",
        "BuildNotes" : "1.Instruction 1\n2.Instruction 2",
        "Units" : "m",
        "PageSize" : "A3",
        "NodeSep" : 2.0,
        "RankSep" : 5.0,
        "CompanyLogoWidth" : 1,
        "CompanyLogoHeight" : 1,
        "TrailingZeros" : 3
    }
}
<!-- RESOURCES -->
{}
```

The following keys are required (with populated consistent data):

1. Revision History
2. Contacts
3. Part Numbers
4. Groups

However, to ensure that the title block can be observed, an empty build can be utilized to visualize the title block edits.

2.1. Revision History

Revision history details the list of changes per each version of the built wiring harness. This data is loaded into the excel representation as well as the image files if (Settings: DrawTitleBock = true).

2.2. Contacts

This section details all the types of terminators part numbers that will be available within the wiring harness. Once defined, they become avaialble through a drop-down menu to be utilized by any connector that needs access to contact data. This section serves to eliminate any errors when inputing user data.

2.3. Part Numbers

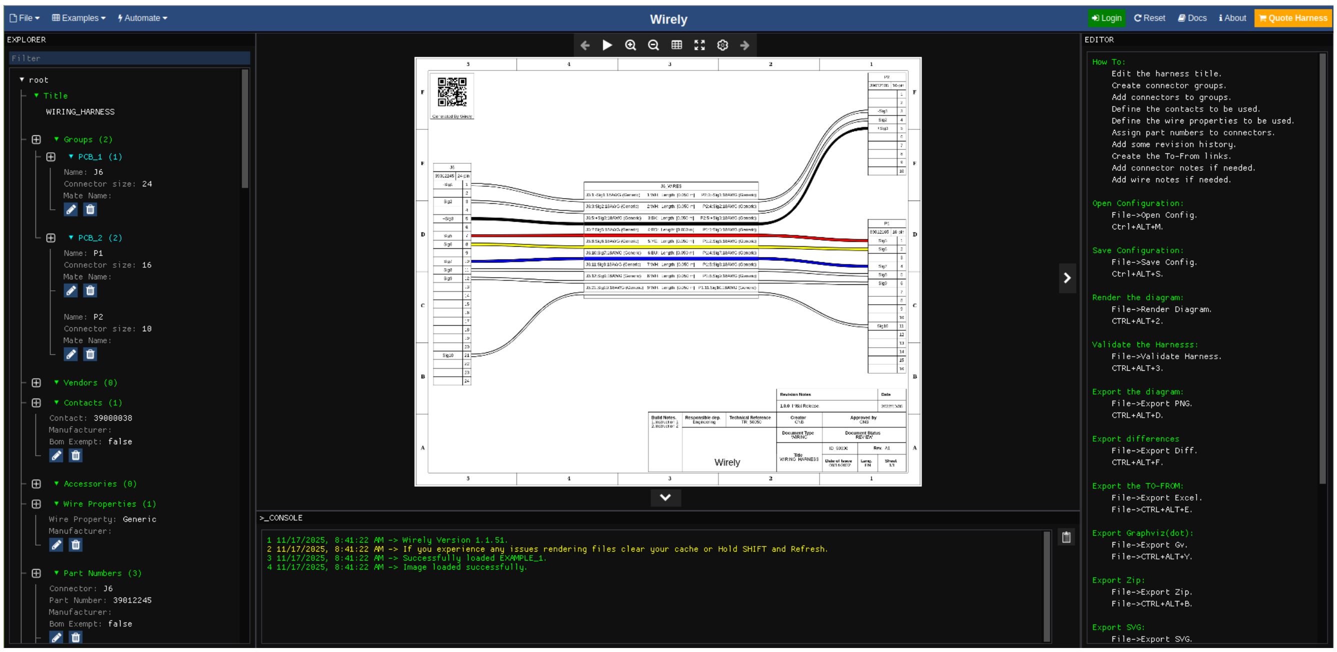
This section is for the part numbers of the connectors being used in the wiring harness.

2.4. Groups

Groups represent logical segments of functionality or large components. These tags are utilized in the excel format to denote tabs.

3. The User Interface (UI)

This is the user interface for wirely:



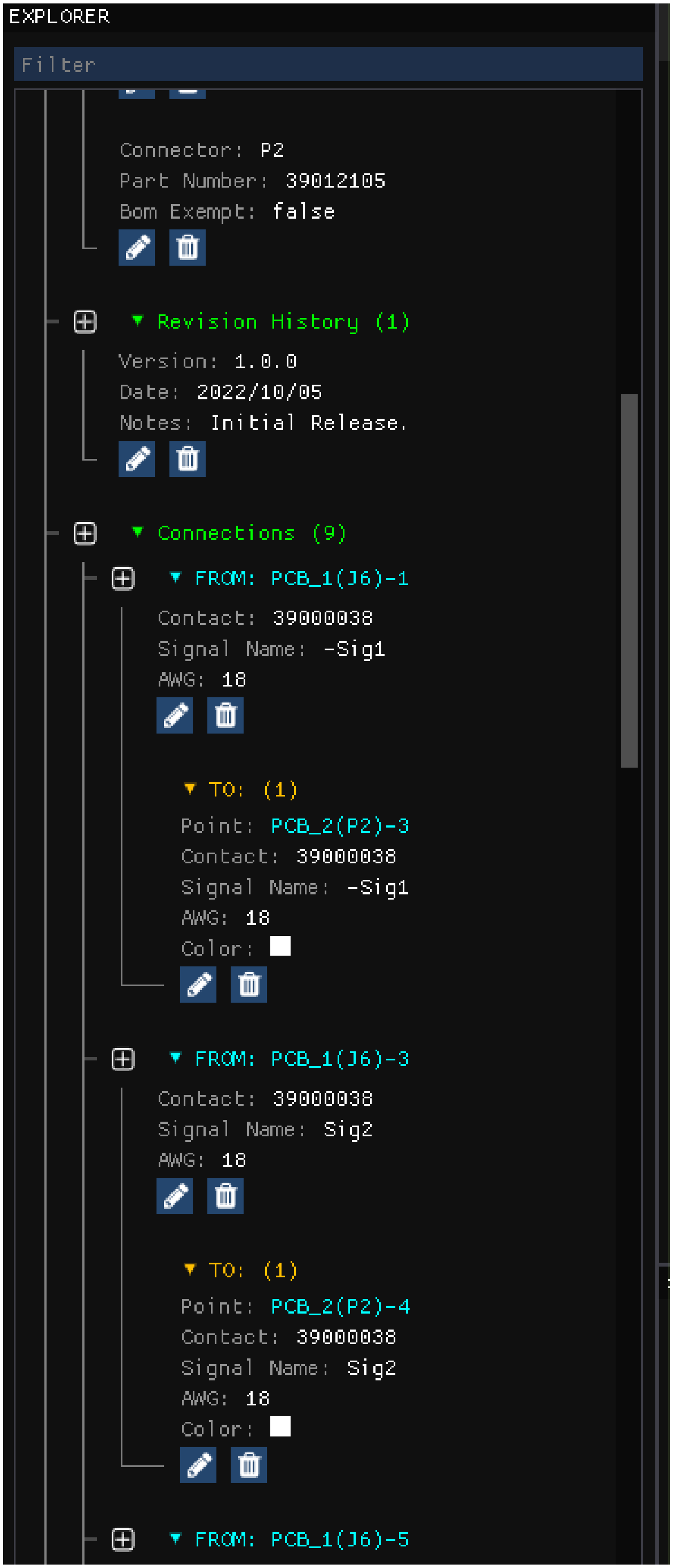
You will be able to create wiring harnesses easily and seamlessly by utilizing the user interface. The UI is designed to ensure that the data entered is kept as consistent as possible. This is done by enforcing the basics of the wiring harness to be defined, and then re-used by later components. These components are Contacts, Part Numbers, and Groups.

3.1. The Explorer Panel

Located on the left side of the UI is the explorer panel. This panel will allow you to make modifications to the wiring harness. The basic functions of the explorer are filtering the harness contents and modifying the data contained in the harness.

3.1.1. Adding Revision History

Adding Revision History is done by following the procedure detailed here:


EXPLORER
Filter
Connector: P2
Part Number: 39012105
Bom Exempt: false
Revision History (1)
Version: 1.0.0
Date: 2022/10/05
Notes: Initial Release.
Connections (9)
FROM: PCB_1(J6)-1
Contact: 39000038
Signal Name: -Sig1
AWG: 18
TO: (1)
Point: PCB_2(P2)-3
Contact: 39000038
Signal Name: -Sig1
AWG: 18
Color:
FROM: PCB_1(J6)-3
Contact: 39000038
Signal Name: Sig2
AWG: 18
TO: (1)
Point: PCB_2(P2)-4
Contact: 39000038
Signal Name: Sig2
AWG: 18
Color:
FROM: PCB_1(J6)-5

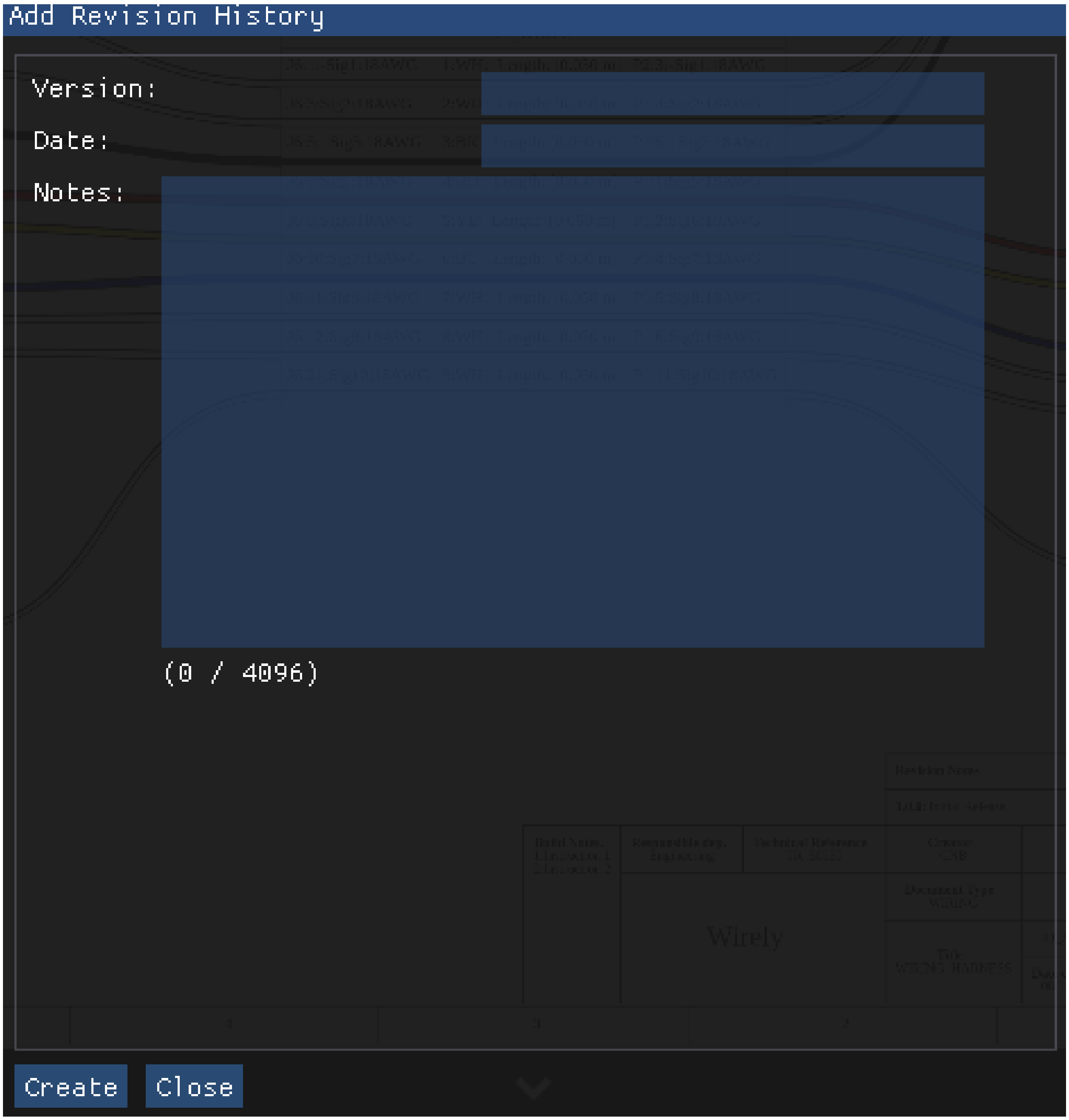
Procedure 1:

1. Scroll down until the “Revision History” tree node is within the panel.
2. Click the “+” button located to the left of the “Revision History” Tree Node.

or Procedure 2:

1. Press “ALT + R”.

Add Revision UI:



Note: The only requirement to create a Revision History is the version. The rest may be added later using the edit button on the revision history element.

3.1.2. Adding Groups

Adding Groups is done by following the procedure detailed below:

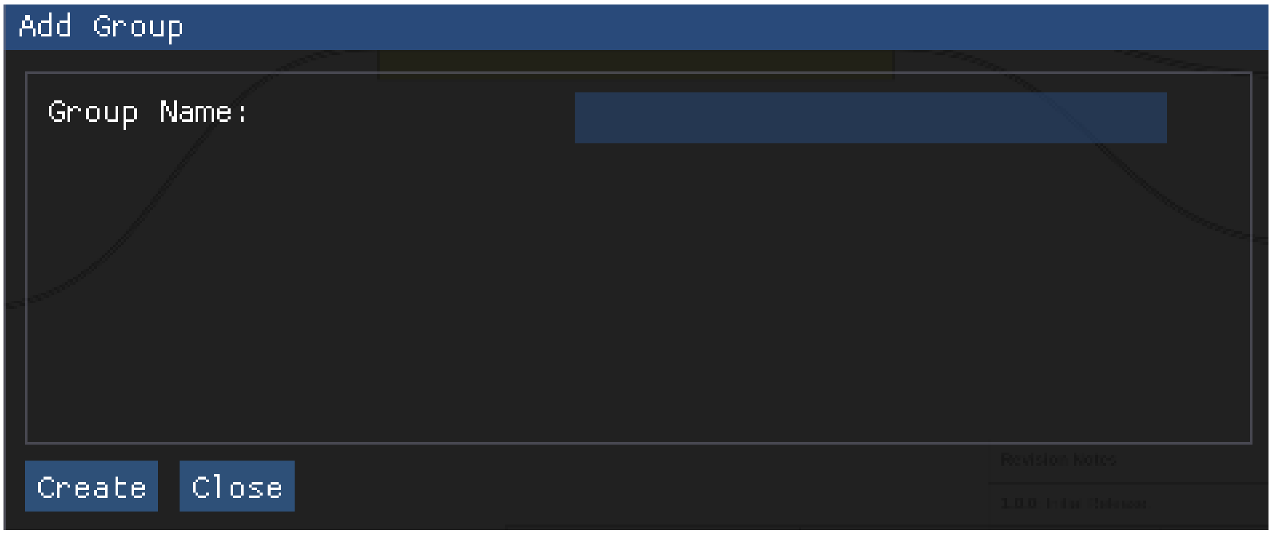
Procedure 1:

1. Scroll down until the “Groups” tree node is within the panel.
2. Click the “+” button located to the left of the “Groups” Tree Node.

or Procedure 2:

1. Press “ALT + G”.

Add Groups UI:



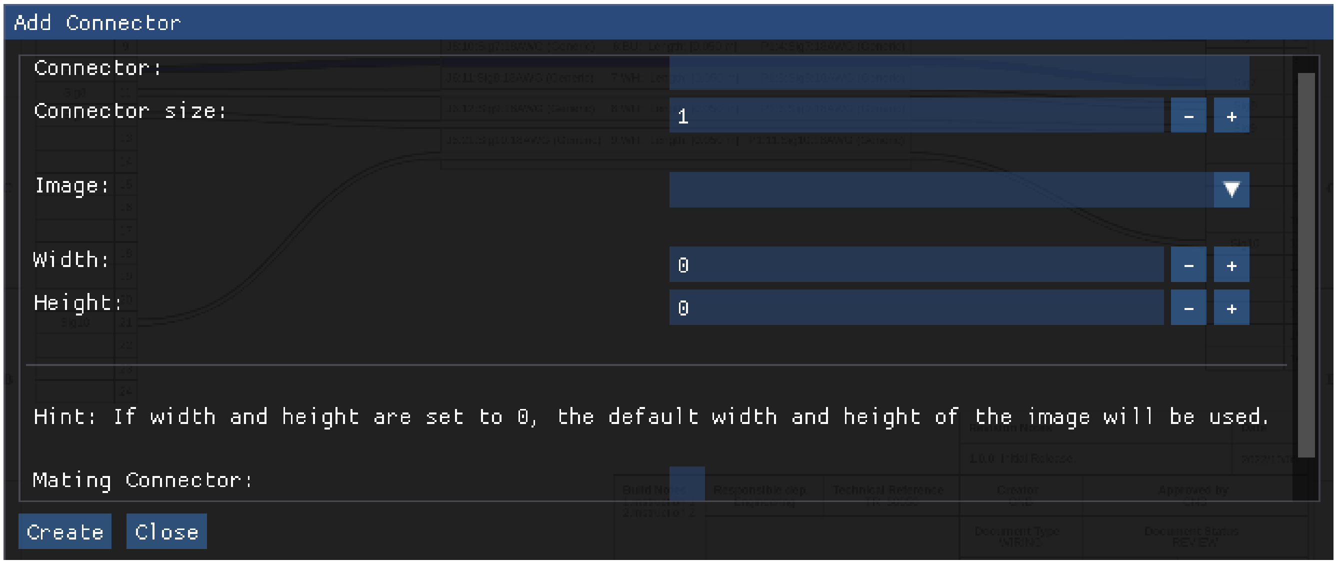
Note: The only requirement to create a Group is the Group Name.

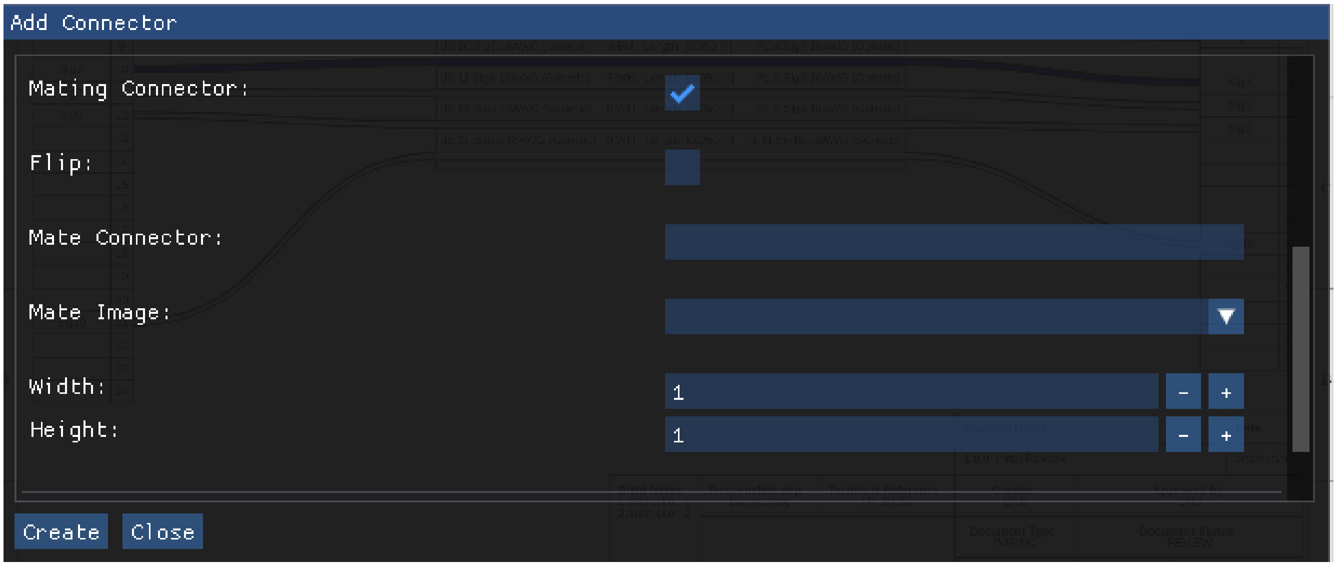
3.1.2.1. Adding Connectors

Each group will require a set of connectors for the software to generate the wiring diagrams. The connectors are added by following the procedure detailed below:

1. Scroll down until the “Groups” tree node is within the panel.
2. Locate the group you would like to add the connector to.
3. Click the “+” button located to the left of the Group which will house the new connector.

Add Connector UI:





Note: All fields are required to create the connector.

3.1.3. Adding Contacts

Adding Contacts is done by following the procedure detailed here:

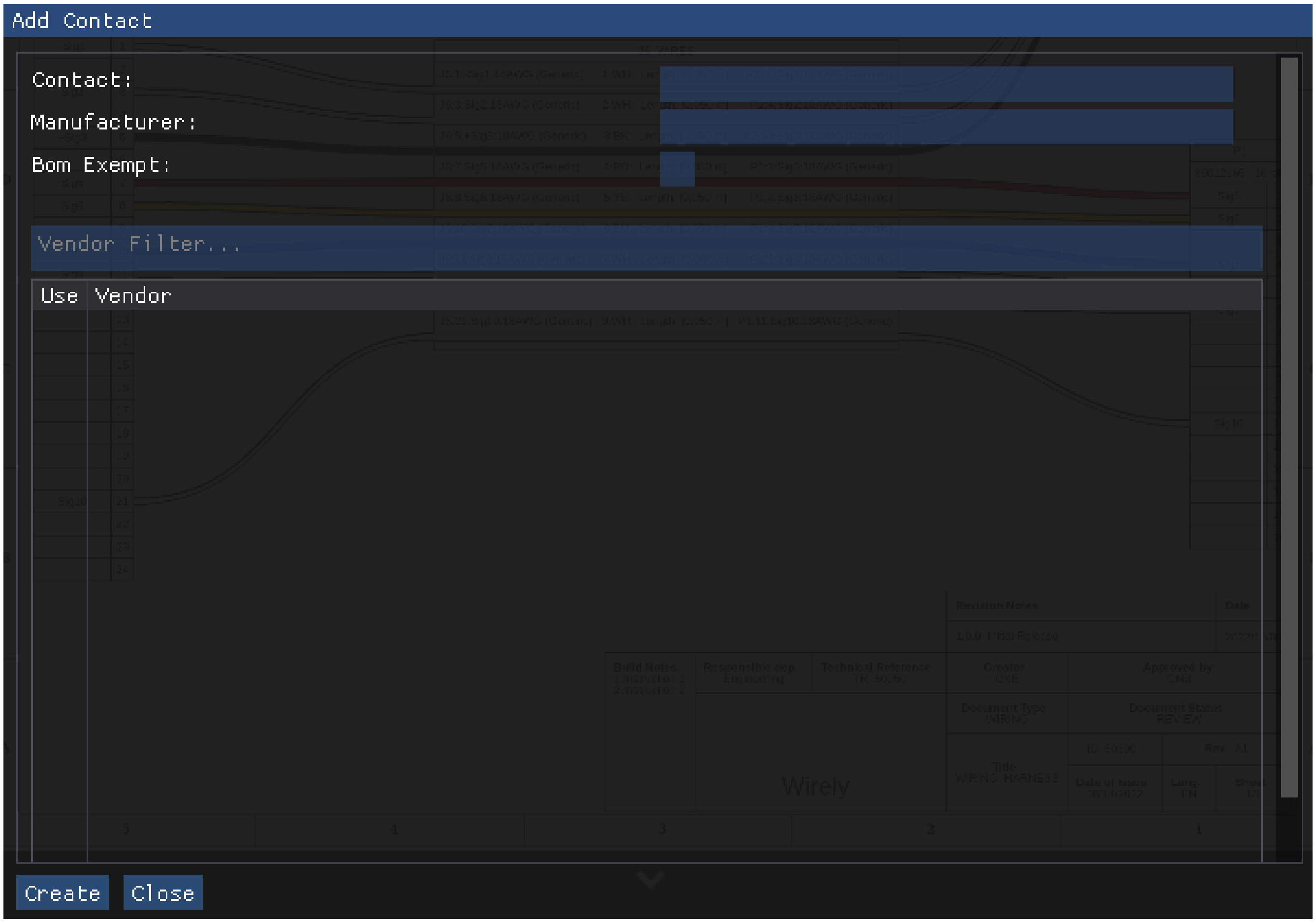
Procedure 1:

1. Scroll down until the "Contacts" tree node is within the panel.
2. Click the "+" button located to the left of the "Contacts" Tree Node.

or Procedure 2:

1. Press "ALT + C".

Add Contact UI:



Note: The only requirement to create a Contact is the part number of the contact. The rest may be added later using the edit button on the contact element. Checking “Bom Exempt” removes this item from being tabulated in the excel “BILL OF MATERIALS” tab.

3.1.4. Adding Wire Properties

Adding Wire Properties is done by following the procedure detailed here:

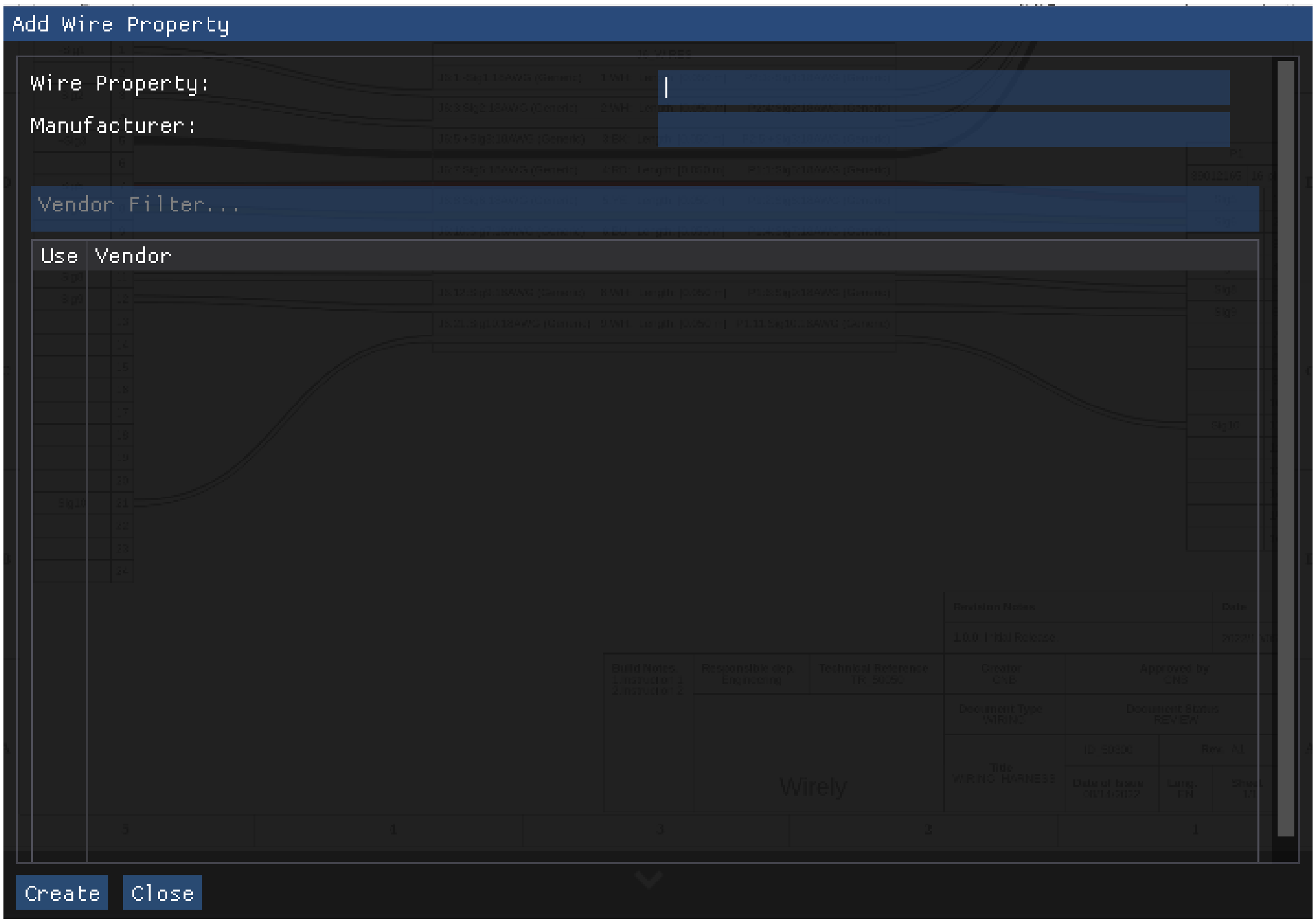
Procedure 1:

1. Scroll down until the “Wire Properties” tree node is within the panel.
2. Click the “+” button located to the left of the “Wire Properties” Tree Node.

or Procedure 2:

1. Press “ALT + Y”.

Add Wire Property UI:



Note: The only requirement to create a Wirely Property is the "wire property" of the wire. The rest may be added later using the edit button on the wire property element. Specific vendors may be attached to this accessory to further limit where it can be sourced from.

3.1.5. Adding Part Numbers

Adding Part Numbers is done by following the procedure detailed here:

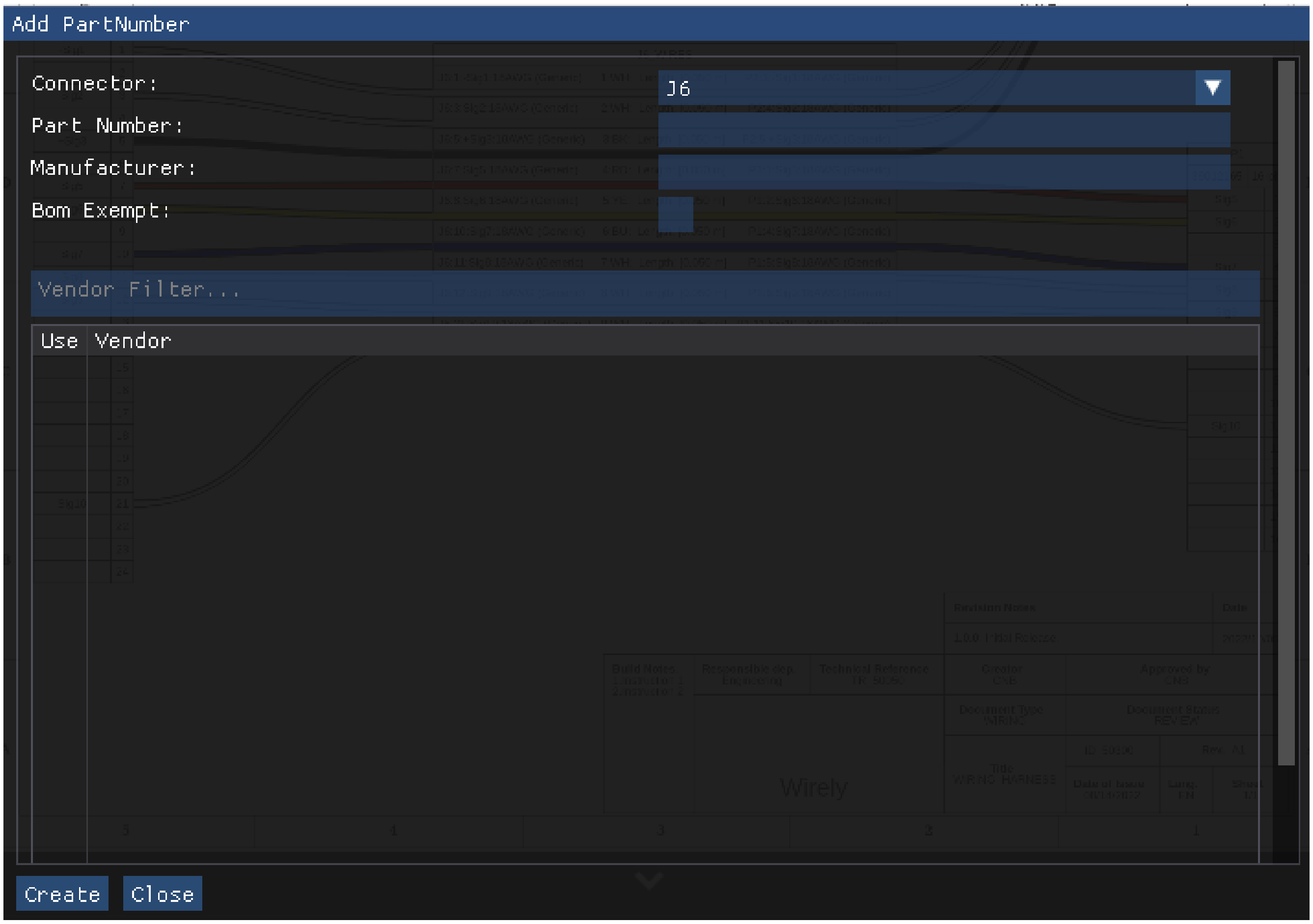
Procedure 1:

1. Scroll down until the "Part Numbers" tree node is within the panel.
2. Click the "+" button located to the left of the "Part Numbers" Tree Node.

or Procedure 2:

1. Press "ALT + P".

Add Part Number UI:



Note: The only requirement to create a Part Number is the enumerated Connector this part number will be associated with and the part number of the connector. The rest may be added later using the edit button on the contact element. Checking "Bom Exempt" removes this item from being tabulated in the excel "BILL OF MATERIALS" tab. Specific vendors may be attached to this accessory to further limit where it can be sourced from.

3.1.6. Adding Vendors

Adding Vendors is done by following the procedure detailed here:

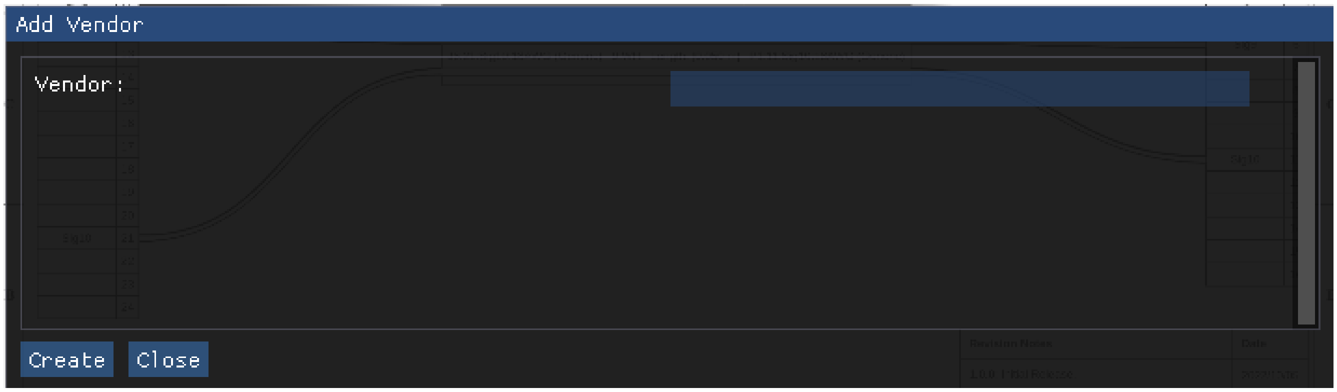
Procedure 1:

1. Scroll down until the "Vendors" tree node is within the panel.
2. Click the "+" button located to the left of the "Vendors" Tree Node.

or Procedure 2:

1. Press "ALT + O".

Add Vendor UI:



Note: The only requirement to create a Vendor is the Vendor Name. The vendor list will be automatically shown in the following places after its created: Accessories, Wire Properties, Part Numbers, and Contacts. Vendors are specific places where these specific parts of the harness can be purchased.

3.1.7. Adding Accessories

Adding Accessories is done by following the procedure detailed here:

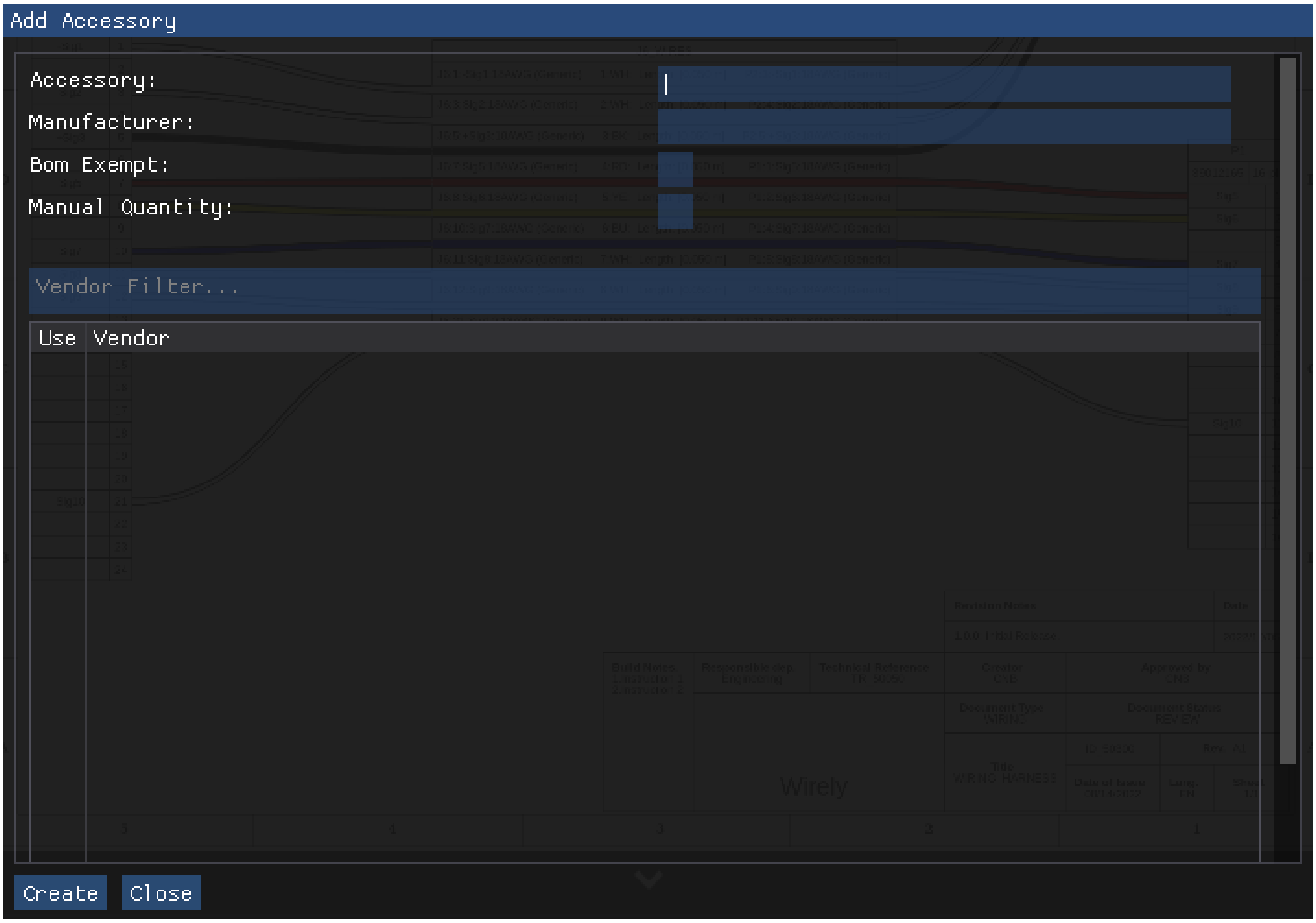
Procedure 1:

1. Scroll down until the “Accessories” tree node is within the panel.
2. Click the “+” button located to the left of the “Accessories” Tree Node.

or Procedure 2:

1. Press “ALT + I”.

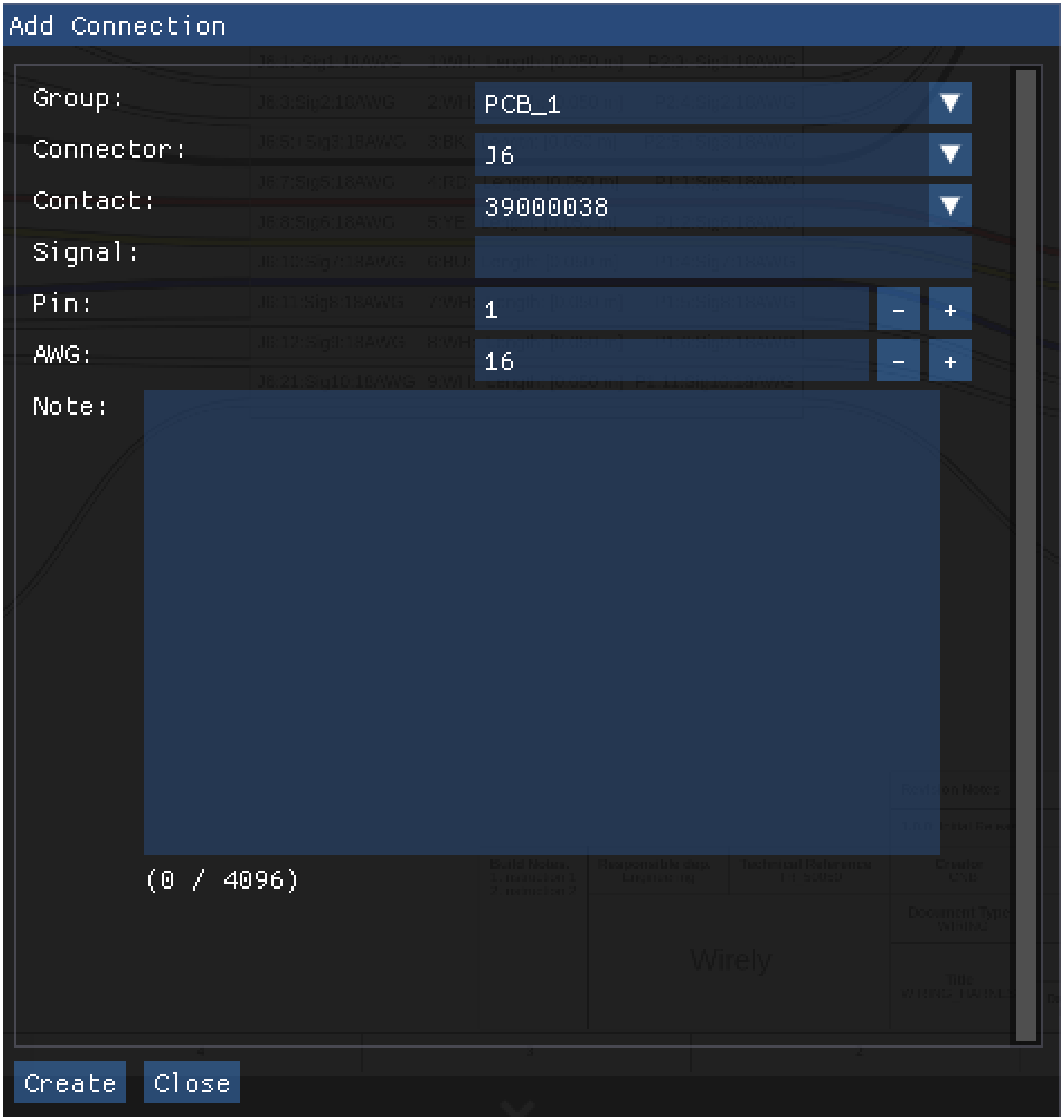
Add Part Number UI:



Note: The only requirement to create a Accessory is the accessory name / manufacturer of the accessory item. The rest may be added later using the edit button on the contact element. Checking "Bom Exempt" removes this item from being tabulated in the excel "BILL OF MATERIALS" tab. The manual quantity allows the user to override the automatic counting system in place and instead add a manual number to the Bill of Materials. Specific vendors may be attached to this accessory to further limit where it can be sourced from.

3.1.8. Adding Connections

Connections are physical wires that travel from on port (Connector) to another. In order to defined a connections the following must be defined:

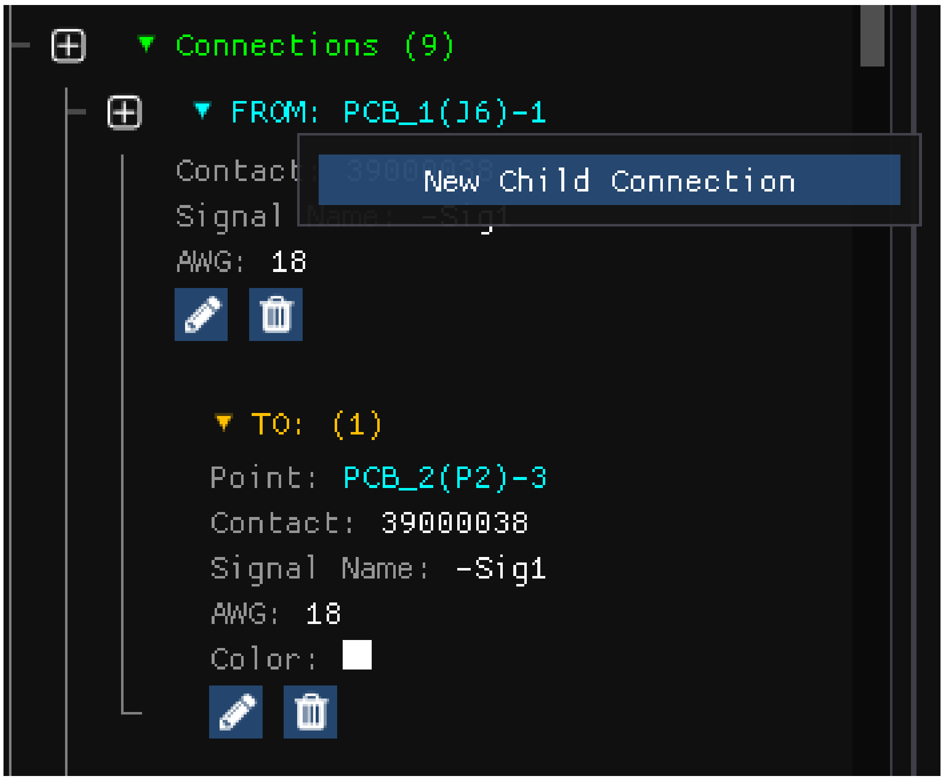


1. Group
    - This is the group the connector belongs to.
2. Connector
    - The physical connector the wire will start from.
3. Contact
    - The part number of the contact that is used to interface with the connector.
4. Signal
    - The name of the signal being passed through the wire.
5. Pin
    - The pin on the connector the wire starts from.
6. AWG
    - The gauge of the wire.

7. Note
    - Any notes regarding the connections. This will only be visible in the excel TO-FROM diagrams.

Once an initial connection point is defined the end point of the wire must also be defined.

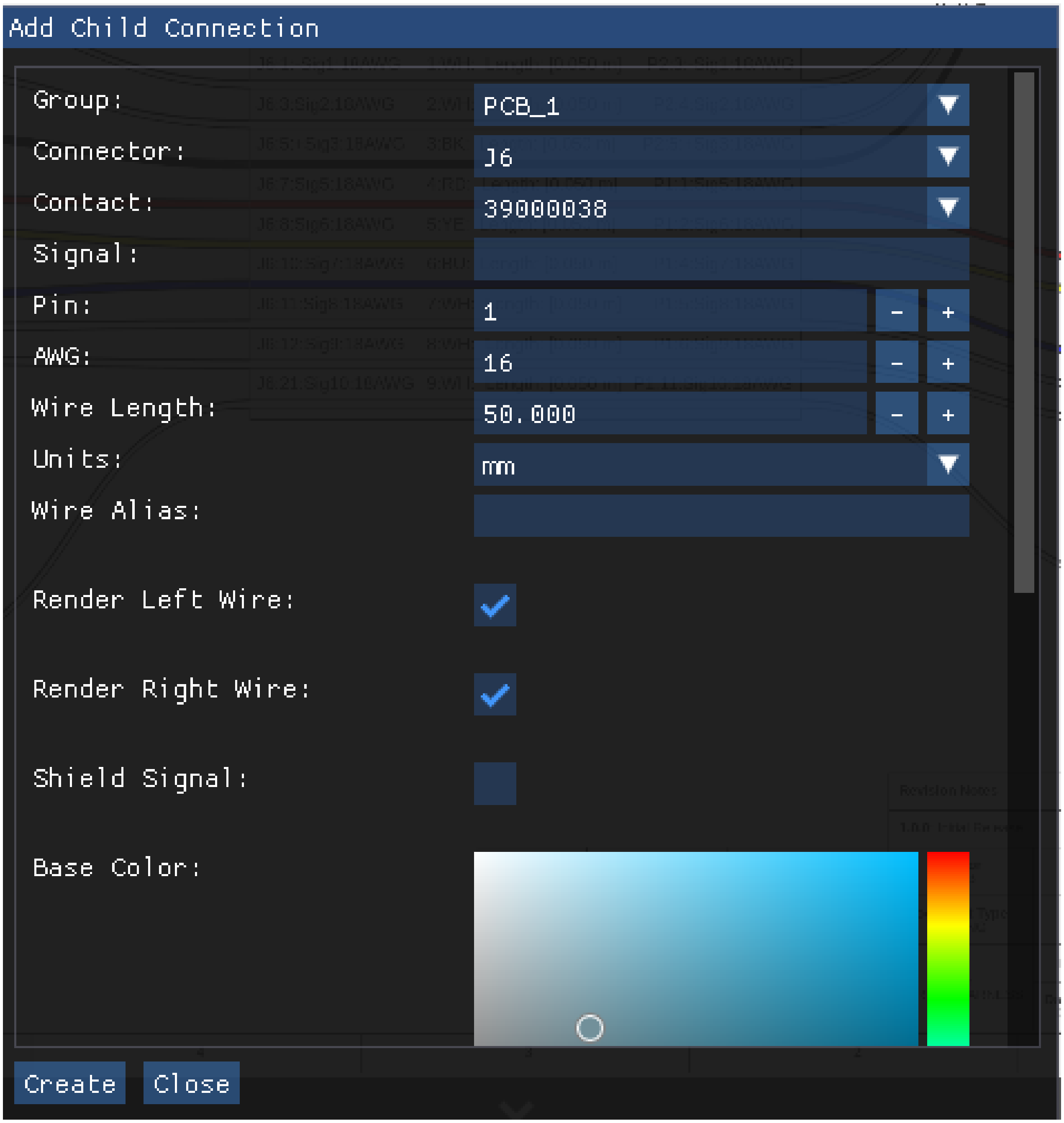
This is done through right clicking on the start of connection point and selecting "New Child Connection"

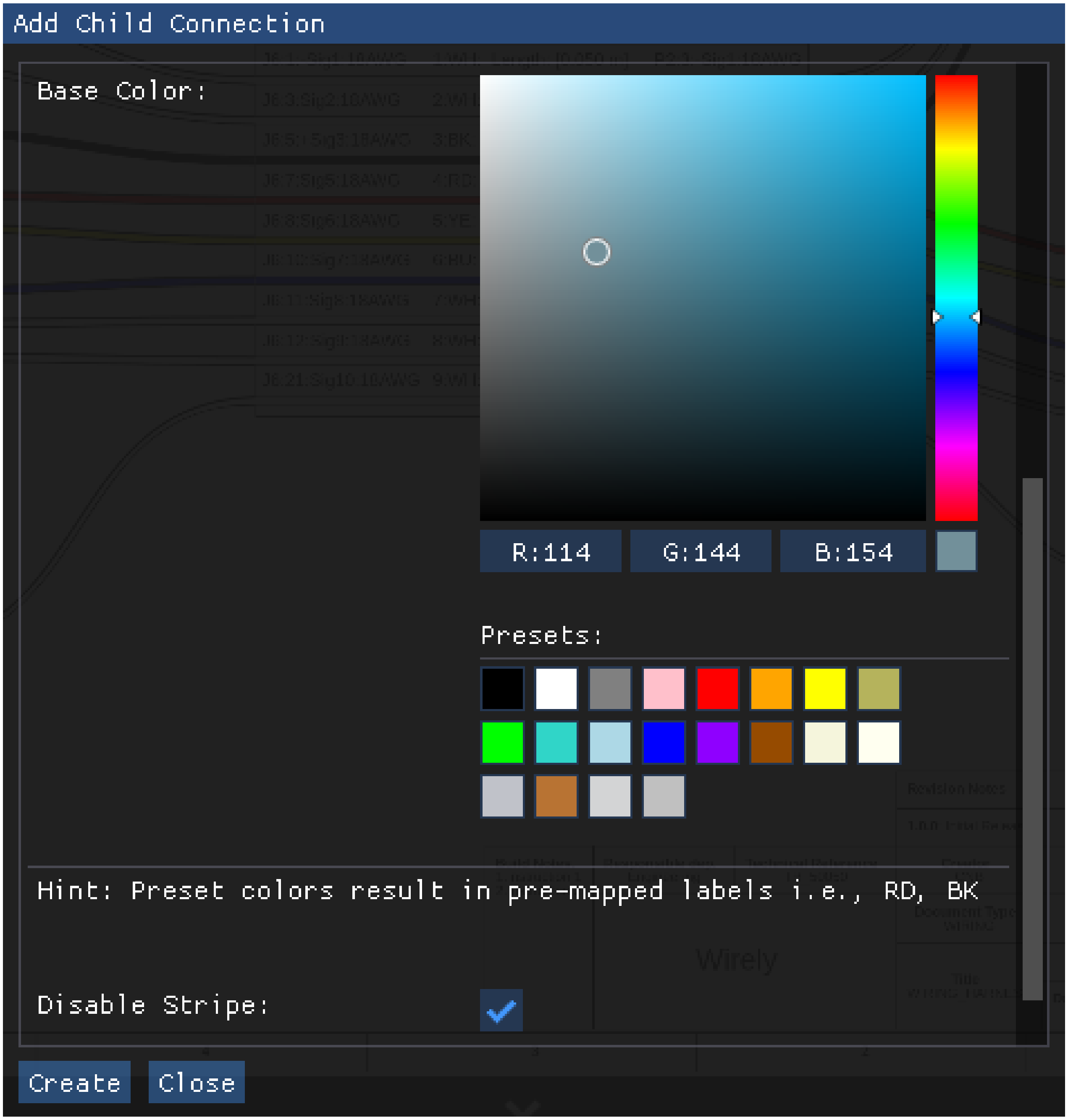


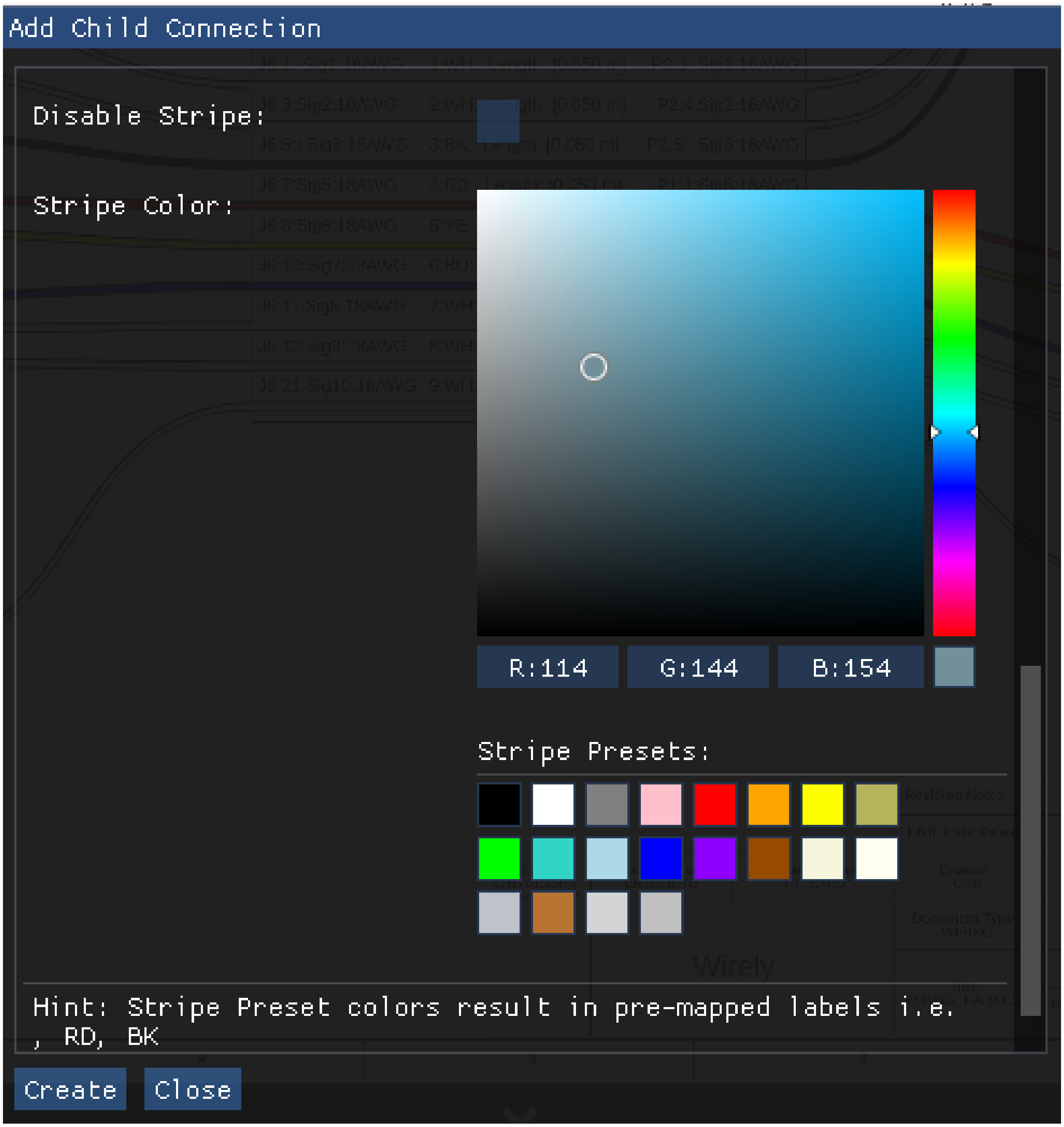
Note: It's also possible to simply press the "+" icon next to the start of connection node in the tree view.

After clicking this button, the end point of the wire must be created.

To create the end point the following must be populated:


Add Child Connection
Group:
PCB_1
Connector:
J6
Contact:
39000038
Signal:
Pin:
1
AWG:
16
Wire Length:
50.000
Units:
mm
Wire Alias:
Render Left Wire:
Render Right Wire:
Shield Signal:
Base Color:
Create
Close

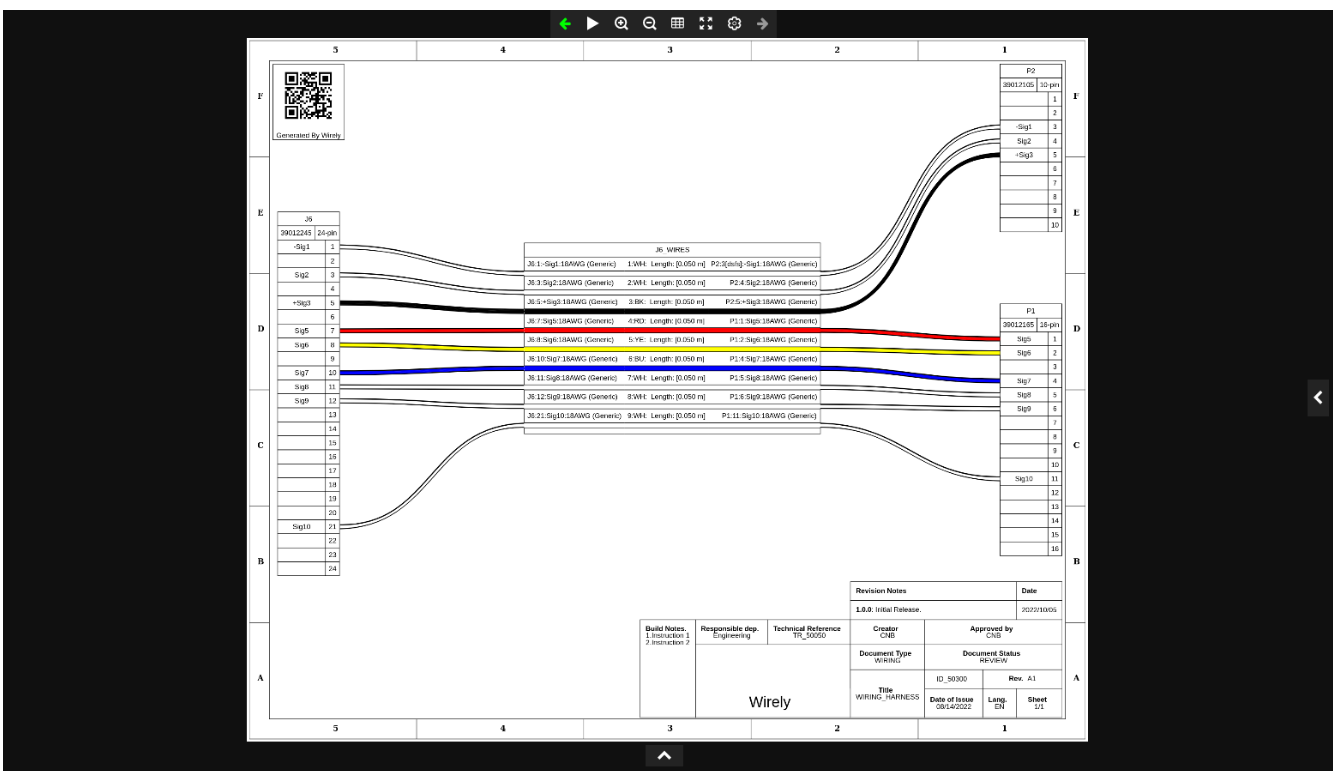

Add Child Connection
Base Color:
R:114
G:144
B:154
Presets:
Hint: Preset colors result in pre-mapped labels i.e., RD, BK
Disable Stripe:
Create
Close



1. Group
    1. This is the group the connector belongs to.
2. Connector
    1. The physical connector the wire will start from.
3. Contact
    1. The part number of the contact that is used to interface with the connector.
4. Signal
    1. The name of the signal being passed through the wire.
5. Pin
    1. The pin on the connector the wire starts from.
6. AWG

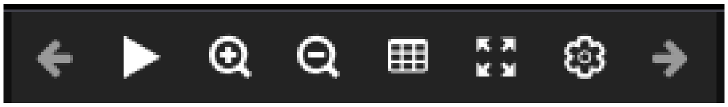
    1. The gauge of the wire.
7. Wire Length
    1. The length of the wire. This will be drawn on the diagram as well as factored into the Bill of Materials (BOM) for the overall wire lengths.
8. Units
    1. The units of the length being entered. This is only a local unit. To select global units (all units will be converted to this representation after they are calculated), use the settings parameter “units”.
9. Wire Alias (Optional)
    1. In order to escape wires from the automatic naming convention for wirely, if this parameter is set to anything besides an empty character set, a wire will travel through a seperate bundle with the bundle named as the “Wire Alias” parameter.
10. Render Left Wire (Optional)
    1. Checking this will enable the rendering of the left side of the wire.
11. Render Right Wire (Optional)
    1. Checking this will enable the rendering of the right side of the wire.
12. Shield Signal (Optional)
    1. Shield signals will be rendered last. Shield signals will not be added to the BOM.
13. Base Color
    1. The base color for the wire.
14. Disable Stripe (Optional)
    1. Unchecking this feature will allow for the selection of a stripe color for the wire.

3.2. The Canvas View



The canvas is located in the center of the screen. This canvas is where the harness is rendered. You may zoom into the wiring harness diagram by pointing the mouse within the canvas window and scrolling up or down with the mouse. The canvas view also allows the user to pan by pressing the right mouse button and dragging the mouse in the direction of panning. This same action may also be done by pressing the center mouse wheel and dragging the mouse to pan in the direction panned.

The canvas view also houses a multi-button view located in the top center of the view:



1. Undo
2. Render
3. Zoom In
4. Zoom Out
5. Excel Preview
6. Zoom To Fit
7. Settings
8. Redo

3.2.1. Undo Button

The undo button is either white or a washed out gray. This option is available if and only if there is a previous version of the harness available to go back to.

3.2.2. Render Button

This button is used to initiate a render of the wiring harness using the values set in the explorer. This can also be initiated by using the shortcut "CTRL + 2".

3.2.3. Zoom In Button

The zoom in button allows the user to zoom into the canvas. This option is only available if the user has a render available (if the harness has been built and a graphic display is available). The maximum zoom available is 250%.

3.2.4. Zoom Out Button

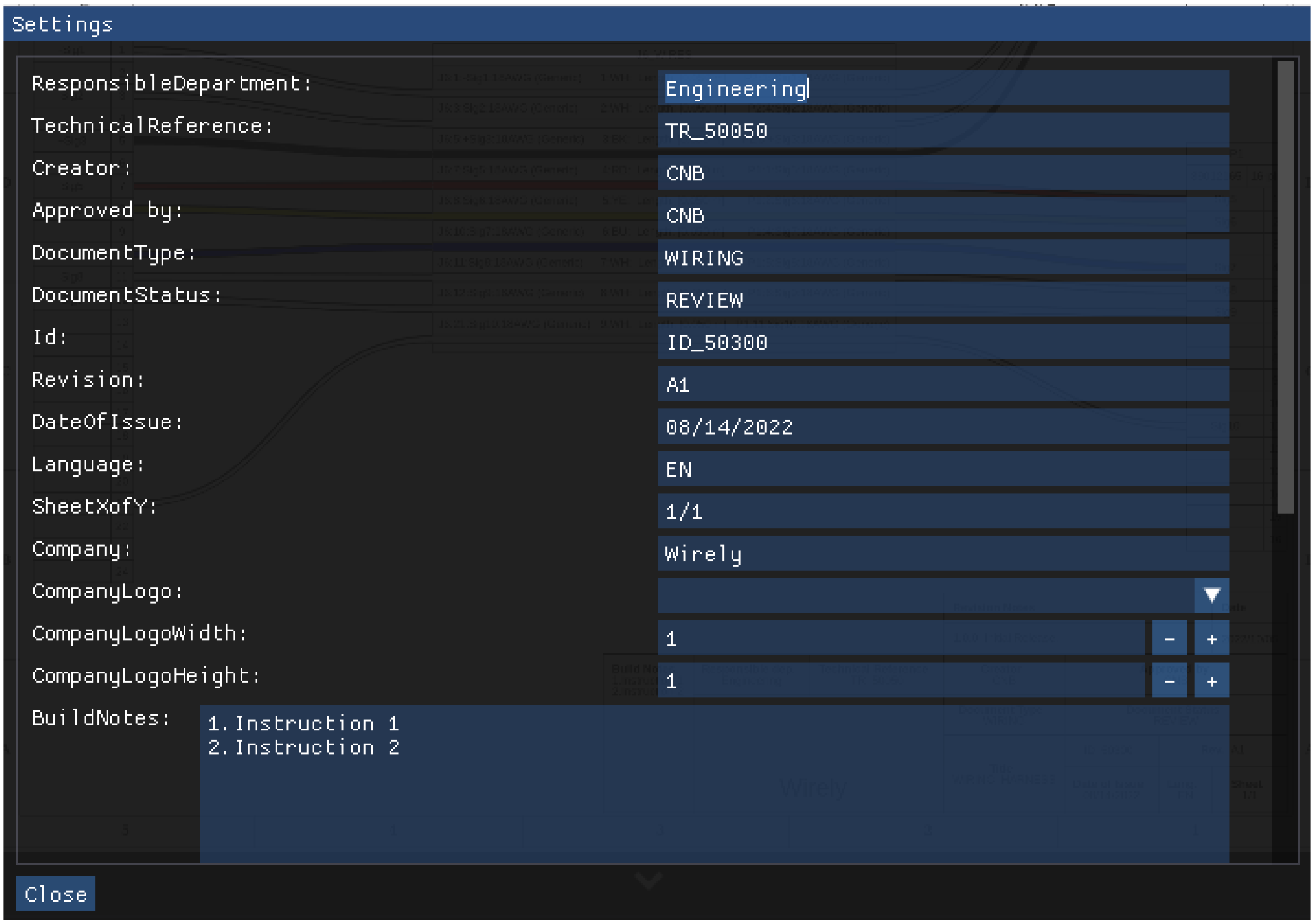
The zoom out button allows the user to zoom out of the canvas. This option is only available if the user has a render available (if the harness has been built and a graphic display is available). The minimum zoom available is 10%.

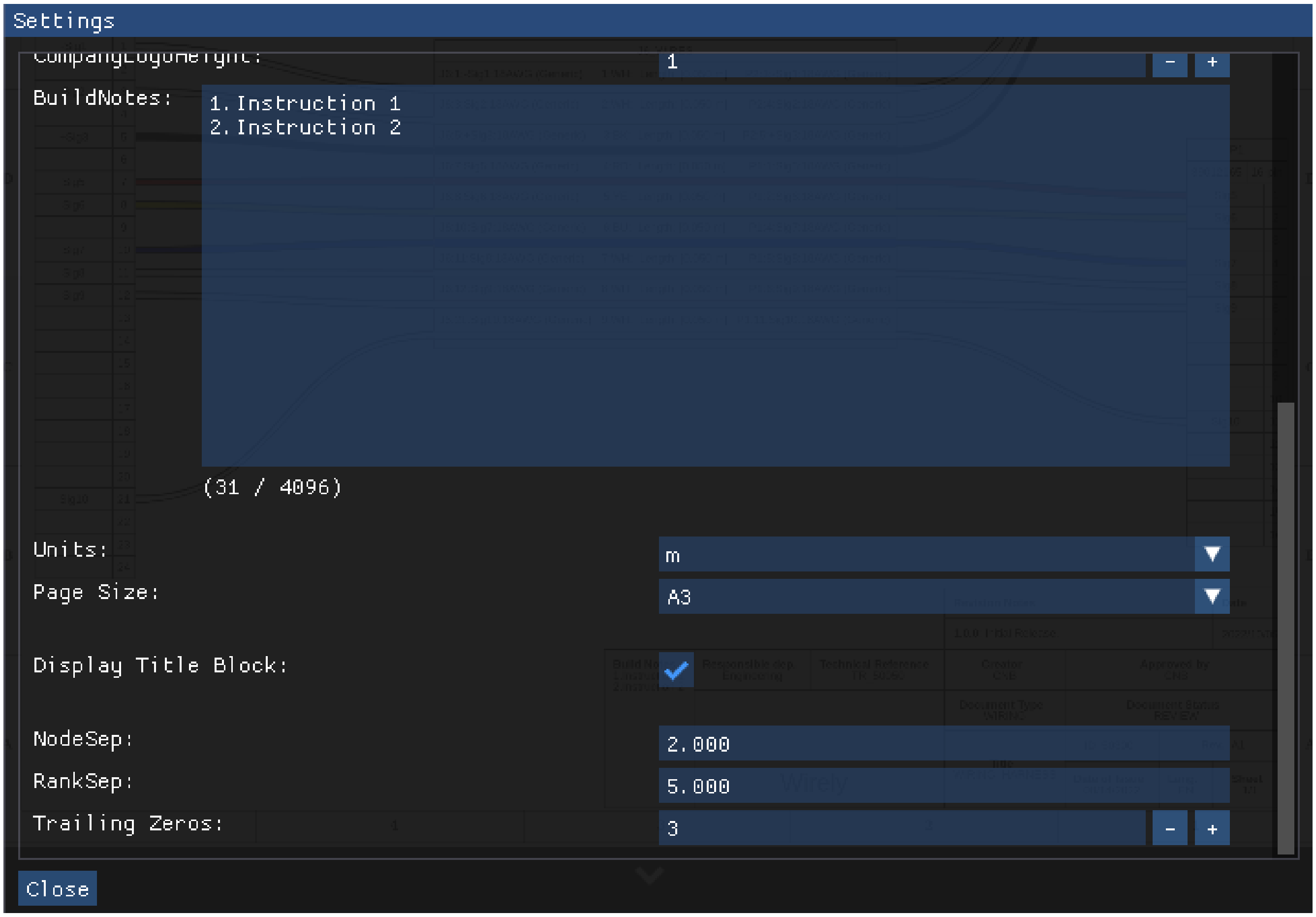
3.2.5. Zoom To Fit Button

The zoom to fit button allows the user fit the contents of the wiring harness into the available view space. This option is only available if the user has a render available (if the harness has been built and a graphical image is available).

3.2.6. Settings Button

The settings button opens a Popup UI:





These settings are displayed on the bottom right of the wiring harness if the option “Display Title Block” is checked.

The following parameters are drawn directly in the title block:

1. Responsible Department
2. Technical Reference
3. Creator
4. Approved
5. Document Type
6. Document Status
7. Id
8. Revision
9. Date of Issue
10. Language
11. Sheet X of Y
12. Company
13. Build Notes
14. Units
    - These are the global units of the output files.
15. Page Size
    - The output PDF sizes “A3”, “A4”, “A5”, “B4”, “B5”, “Letter”, “Tabloid”
16. Display Title Block

17. NodeSep
    - The top and bottom spacing of connectors within the wiring diagram.
18. RankSep
    - The left and right spacing of connectors within the wiring diagram.
19. Trailing Zeros
    - This controls the precision of the numbers (floating point) displayed and exported in the documents.

<table>
<tr><td colspan="3"></td><td colspan="3">Revision Notes</td><td>Date</td></tr>
<tr><td colspan="3"></td><td colspan="3">1.0.0: Initial Release.</td><td>2022/10/05</td></tr>
<tr><td rowspan="4">Build Notes.
1.Instruction 1
2.Instruction 2</td><td>Responsible dep.
Engineering</td><td>Technical Reference
TR_50050</td><td>Creator
CNB</td><td colspan="3">Approved by
CNB</td></tr>
<tr><td colspan="2" rowspan="3">Wirely</td><td>Document Type
WIRING</td><td colspan="3">Document Status
REVIEW</td></tr>
<tr><td rowspan="2">Title
WIRING_HARNESS</td><td>ID_50300</td><td colspan="2">Rev. A1</td></tr>
<tr><td>Date of Issue
08/14/2022</td><td>Lang.
EN</td><td>Sheet
1/1</td></tr>
</table>

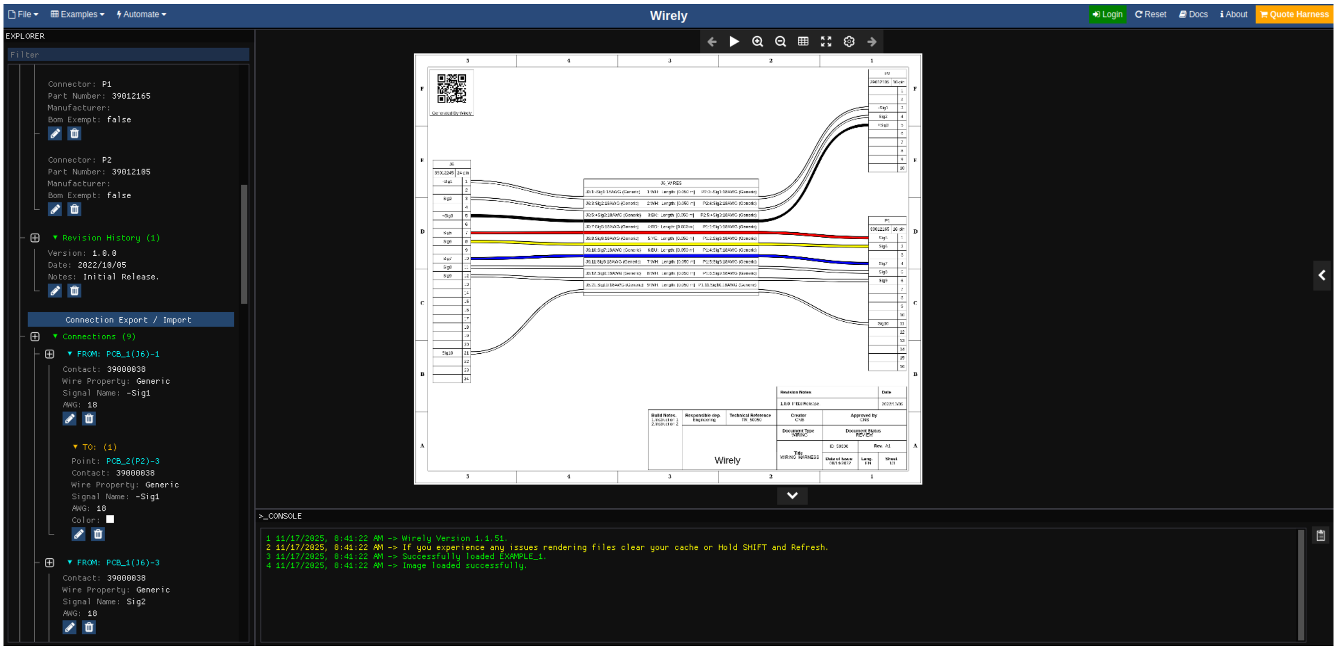
The user may also play around with the spacing of the elements in the diagram. This is done through Node Sep and Rank Sep. These are direct variables utilized from graphviz.

3.2.7. Redo Button

The redo button is either white or a washed out gray. This option is available if and only if there is a newer version of the harness available to go forward to.

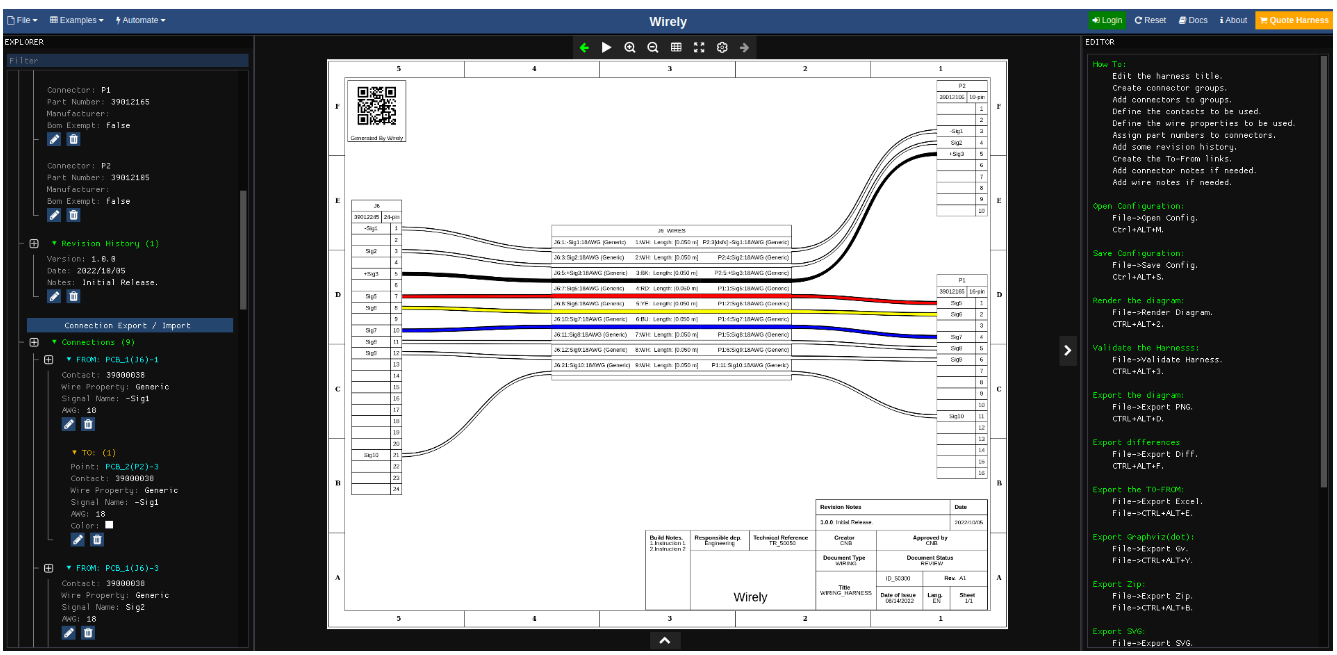
3.2.8. Hiding the Editor Panel

To hide the editor panel and allow for more viewing area of the wiring harness, locate the “right” arrow in the canvas view. This will hide the editor unless it is being requested by the user. To enable the editor panel, simply click on the “left” arrow that will be available inside the canvas view.

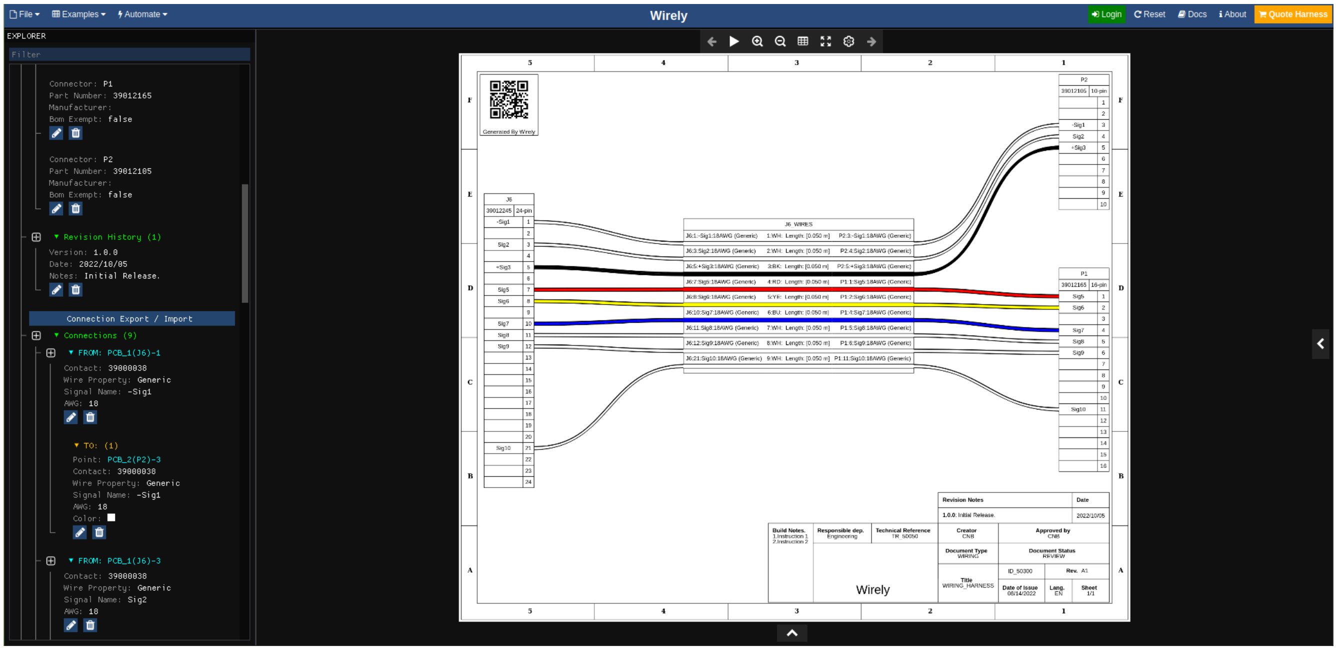


3.2.9. Hiding the Console View

To hide the console view and allow for more viewing area of the wiring harness, locate the “down” arrow in the canvas view. This will hide the editor unless it is being requested by the user. The newly created up button will blink blue every second if there’s information for the console view to display that was not seen by the user. To enable the console view, simply click on the “up” arrow that will be available inside the canvas view.

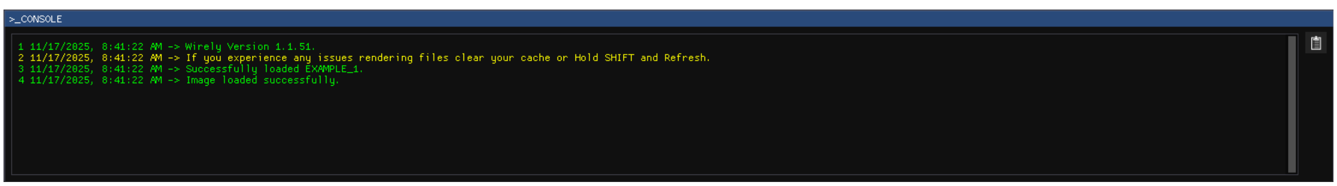


Note: These two actions may be stacked together:



3.3. The Console View

The console is located in the bottom center of the editor:

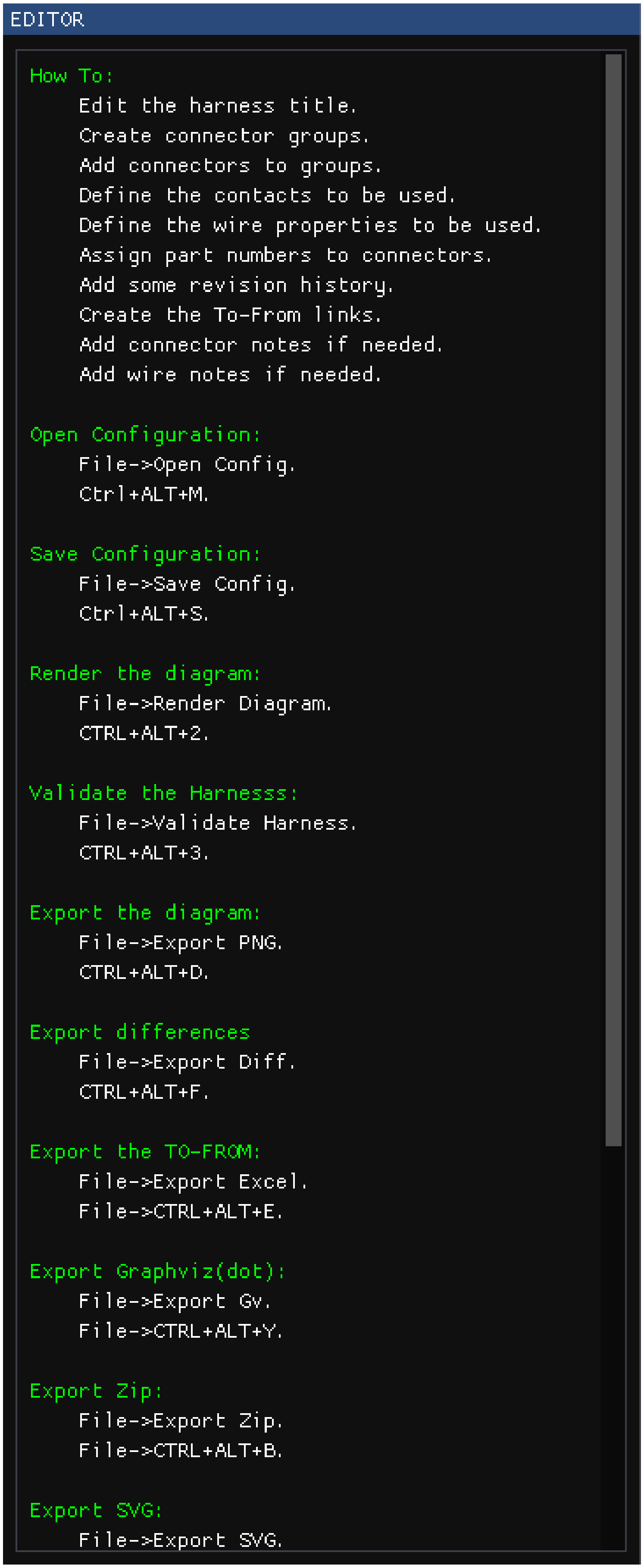


The console provides feedback to the user. This feedback is color coded to detail the severity of the feedback. If there's something that occurs during the process that isn't expected, please refer to here first.

If the error cannot be resolved, click the "Copy to Clipboard" button located in the top right of the console view and please include this text as well as the json file when reaching out to phasorsys@gmail.com.

3.4. The Editor Panel

The editor panel is located on the right side of the user interface:

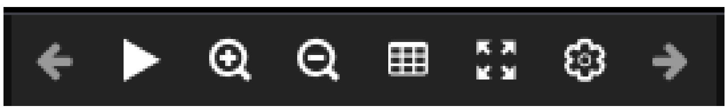

EDITOR
How To:
Edit the harness title.
Create connector groups.
Add connectors to groups.
Define the contacts to be used.
Define the wire properties to be used.
Assign part numbers to connectors.
Add some revision history.
Create the To-From links.
Add connector notes if needed.
Add wire notes if needed.
Open Configuration:
File->Open Config.
Ctrl+ALT+M.
Save Configuration:
File->Save Config.
Ctrl+ALT+S.
Render the diagram:
File->Render Diagram.
CTRL+ALT+2.
Validate the Harnesss:
File->Validate Harness.
CTRL+ALT+3.
Export the diagram:
File->Export PNG.
CTRL+ALT+D.
Export differences
File->Export Diff.
CTRL+ALT+F.
Export the TO-FROM:
File->Export Excel.
File->CTRL+ALT+E.
Export Graphviz(dot):
File->Export Gv.
File->CTRL+ALT+Y.
Export Zip:
File->Export Zip.
File->CTRL+ALT+B.
Export SVG:
File->Export SVG.

The editor displays the basic instructions of the user interface as well as useful hints on the shortcuts available to the user.

To modify some parameters of the explorer panel, simply locate the pencil icon (drawn on various components in the explorer panel), and click on it.

3.5. The Excel Preview

Wirely comes with a preview for the excel data. That way changes can be visualized in the editor before exporting. This limits the number of exports required to reach a stable output. To preview the excel spreadsheet, a complete render must be done first. Afterwards navigate to the multi-button view and select the "Table" icon (5th button from left). This will switch from Canvas Mode to Excel Preview Mode.

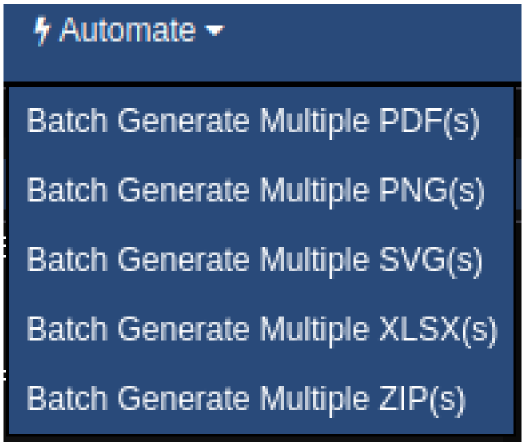


3.6. The Image Explorer

Wirely comes with a built in image explorer. This allows users to manage the images that will be utilized within the application. Users can add / delete / filter images and even preview what they look like in order to make sure they were loaded appropriately. This can be found in the UI near elements that take image inputs, or it can be visited using the menu bar ("Image Explorer (CTRL+ALT+1)").

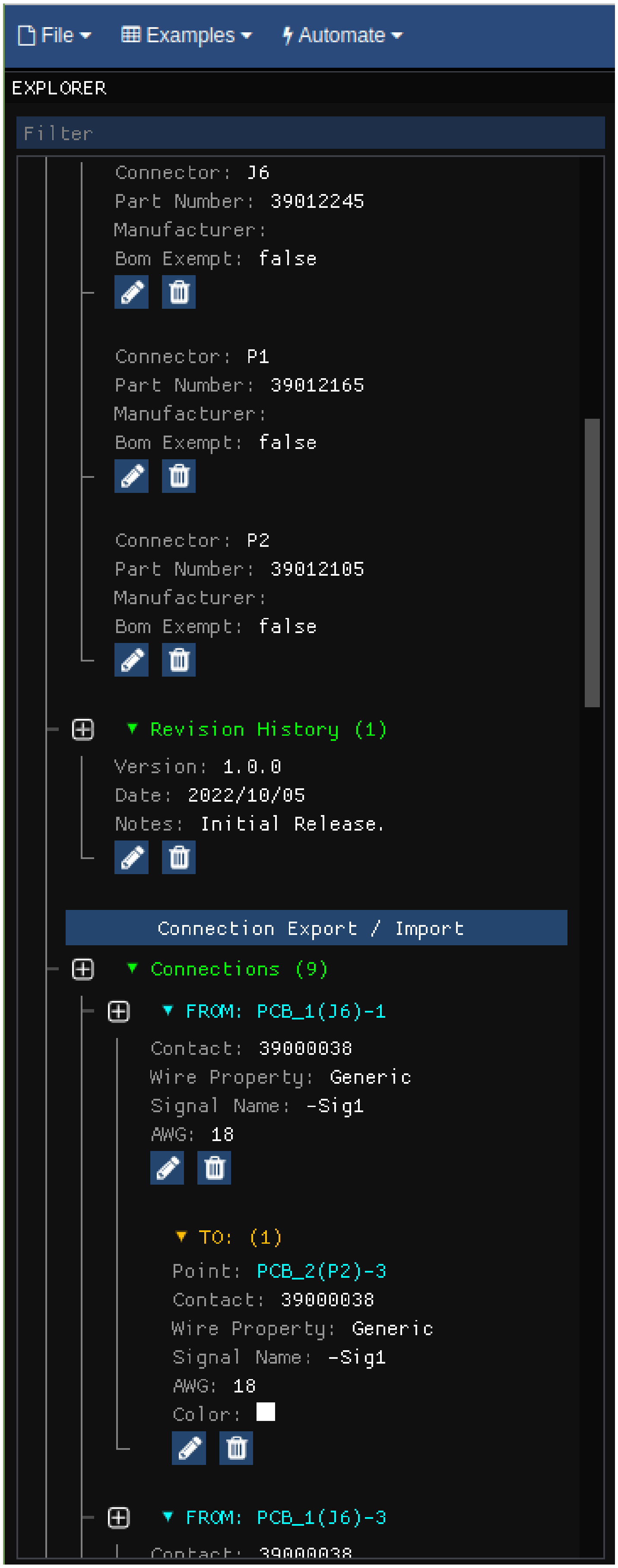
3.7. Automate

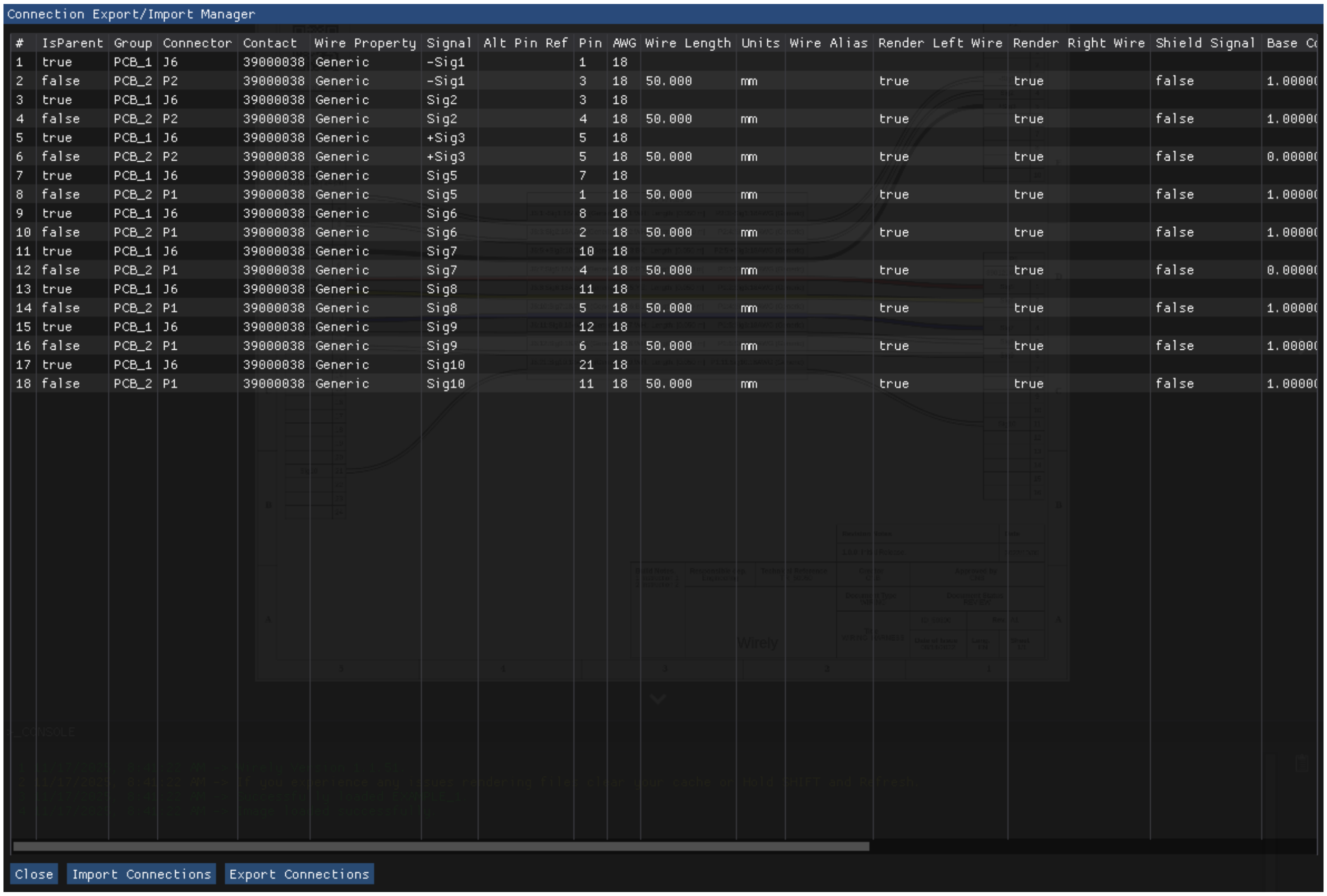
There are alot of repetitive elements in building the various outputs from Wirely. To help streamline this an "Automate" feature was added. This feature allows one to Generate Multiple PDFs, PNGs, SVGs, XLSXs or ZIPs. Clicking any of these menu options will open a file explorer where multiple elements can be selected to be run in an automated fashion.



3.9. The Connection Export / Import Manager

The connection export / import mananager is a user interface that is designed to allow a user to export the to-from connections to a csv. This UI can be accessed through the Explorer Panel near the "Connection" tree node. This feature allows for faster modification of the connections through an excel based interface. After the modifications are completed, one can import them back into wirely using this same interface. Since the connections of wirely are rather intricate, the user interface will highlight any incorrect or misspelled entries in red to alert the user.


File
Examples
Automate
EXPLORER
Filter
Connector: J6
Part Number: 39012245
Manufacturer:
Bom Exempt: false
Connector: P1
Part Number: 39012165
Manufacturer:
Bom Exempt: false
Connector: P2
Part Number: 39012105
Manufacturer:
Bom Exempt: false
Revision History (1)
Version: 1.0.0
Date: 2022/10/05
Notes: Initial Release.
Connection Export / Import
Connections (9)
FROM: PCB_1(J6)-1
Contact: 39000038
Wire Property: Generic
Signal Name: -Sig1
AWG: 18
TO: (1)
Point: PCB_2(P2)-3
Contact: 39000038
Wire Property: Generic
Signal Name: -Sig1
AWG: 18
Color:
FROM: PCB_1(J6)-3



#	IsParent	Group	Connector	Contact	Wire Property	Signal	Alt Pin Ref	Pin	AWG	Wire Length	Units	Wire Alias	Render Left Wire	Render Right Wire	Shield Signal	Base Co
1	true	PCB_1	J6	39000038	Generic	-Sig1		1	18							
2	false	PCB_2	P2	39000038	Generic	-Sig1		3	18	50.000	mm		true	true	false	1.00000
3	true	PCB_1	J6	39000038	Generic	Sig2		3	18							
4	false	PCB_2	P2	39000038	Generic	Sig2		4	18	50.000	mm		true	true	false	1.00000
5	true	PCB_1	J6	39000038	Generic	+Sig3		5	18							
6	false	PCB_2	P2	39000038	Generic	+Sig3		5	18	50.000	mm		true	true	false	0.00000
7	true	PCB_1	J6	39000038	Generic	Sig5		7	18							
8	false	PCB_2	P1	39000038	Generic	Sig5		1	18	50.000	mm		true	true	false	1.00000
9	true	PCB_1	J6	39000038	Generic	Sig6		8	18							
10	false	PCB_2	P1	39000038	Generic	Sig6		2	18	50.000	mm		true	true	false	1.00000
11	true	PCB_1	J6	39000038	Generic	Sig7		10	18							
12	false	PCB_2	P1	39000038	Generic	Sig7		4	18	50.000	mm		true	true	false	0.00000
13	true	PCB_1	J6	39000038	Generic	Sig8		11	18							
14	false	PCB_2	P1	39000038	Generic	Sig8		5	18	50.000	mm		true	true	false	1.00000
15	true	PCB_1	J6	39000038	Generic	Sig9		12	18							
16	false	PCB_2	P1	39000038	Generic	Sig9		6	18	50.000	mm		true	true	false	1.00000
17	true	PCB_1	J6	39000038	Generic	Sig10		21	18							
18	false	PCB_2	P1	39000038	Generic	Sig10		11	18	50.000	mm		true	true	false	1.00000

3.9.1 Column Definitions

The connection export / import manager is best used by exporting a minimal design first in order to make sure all the appropriate columns are available. The required columns are listed below.

1. IsParent
   - {boolean} This details if a connection is "From" or "To". If IsParent is set to true, it is assumed to be a "From".
2. Group
   - {string} A valid group name from the list of defined groups.
3. Connector
   - {string} A valid connector name from the list of connectors per the specified group.
4. Contact
   - {string} A valid contact name from the list of defined contacts.
5. Wire Property
   - {string} A valid wire property from the list of defined wire properties.
6. Signal
   - {string} The signal name for the specified connection.
7. Alt Pin Ref
   - {string} A property to add a label to the wiring diagram (to improve clarity).
8. Pin
   - {integer} The pin number the connection either starts from or goes to. This must be within the defined connectors size to be valid.

9. AWG
   - {integer} The AWG of the connection.
10. Wire Length
    - {float} The length of the connection.
11. Units
    - {string} A valid unit from the list of supported units: “mm”, “in”, “ft”, “cm”, “m”, “yd”
12. Wire Alias
    - {string} A property to pull out a specific connection outside the pre-defined bundling.
13. Render Left Wire
    - {boolean} This property controls if the left side of the wire will be drawn or not.
14. Render Right Wire
    - {boolean} This property controls if the right side of the wire will be drawn or not.
15. Shield Signal
    - {boolean} This property determines if a connection is represented as a shield connection (will be last in rendering order).
16. Base Color
    - {string} This property determines the base color of the connection. RED#BLUE#GREEN#ALPHA RED = [0, 1], BLUE = [0, 1], GREEN = [0, 1], ALPHA = [0, 1]
17. Disable Stripe
    - {boolean} This property determines if a connection will be drawn with the stripe color or not.
18. Stripe Color
    - {string} This property determines the base color of the connection. RED#BLUE#GREEN#ALPHA RED = [0, 1], BLUE = [0, 1], GREEN = [0, 1], ALPHA = [0, 1]
19. Notes
    - {string} This column allows the user to supply any notes to be added to the connection. Notes will show up in the excel TO-FROM tables.

3.9. The Menubar

The menu bar is located at the top of the editors UI:

3.9.1. Loading Files

To load saved work, you may locate the file menu icon located in the file menu bar.

Simply select, “File -> Open Config” or use the shortcut “CTRL+ALT+M” and then nagivate to the location where the json description file of the wiring harness is located on your local machine.

Once selected, you may press open in the file explorer to load the configuration into wirely.

The editors’ console view will provide feedback about the loading process. This will detail errors or successes for the given action.

3.9.2. Saving Files

To save work, you may use the file menu ("File -> Save Config) or the shortcut"CTRL+ALT+S" to save the json configuration file.

3.9.3. Rendering Diagrams

To save work, you may use the file menu ("File -> Render Diagram) or the shortcut"CTRL+ ALT+2" to start the rendering process. A loading widget will appear while the system renders the wiring harness. Once complete, it will disappear:

3.9.4. Exporting

Export Document Types:

1. PNG
   - Actions:
     1. File -> Export PNG
     2. CTRL + ALT + D
2. Excel
   - Actions:
     1. File -> Export Excel
     2. CTRL + ALT + E
3. ZIP (SVG + Excel)
   - Actions:
     1. File -> Export ZIP
     2. CTRL + ALT + B
4. Graphviz (dot)
   - Actions:
     1. File -> Export Graphviz
     2. CTRL + ALT + Y
5. SVG
   - Actions:
     1. File -> Export SVG
     2. CTRL + ALT + Q
6. Diff (Difference from beginning of json file until the current time)
   - Actions:
     1. File -> Export Diff
     2. CTRL + ALT + F

3.9.5. Loading Examples

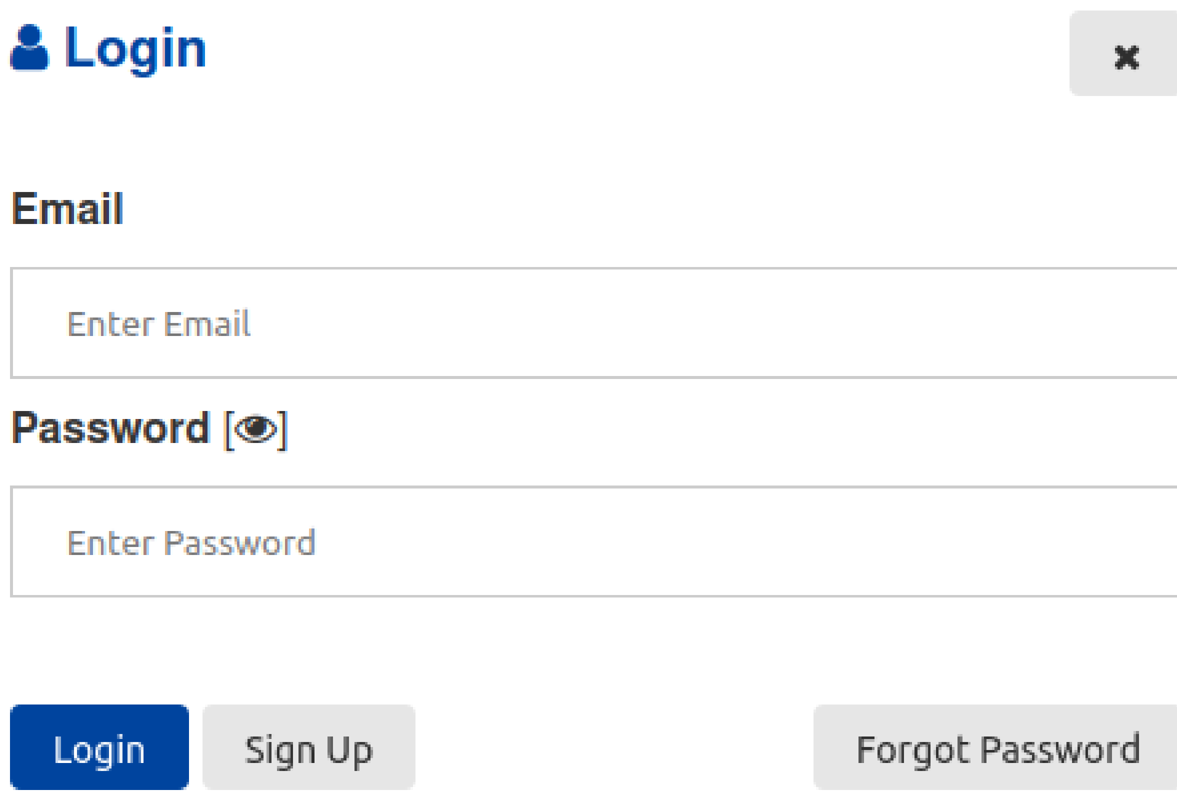
To load examples use the menu bar:

"Examples -> Load EXAMPLE_1" "Examples -> Load EXAMPLE_2"

In order to display the diagram, you will have to render it.

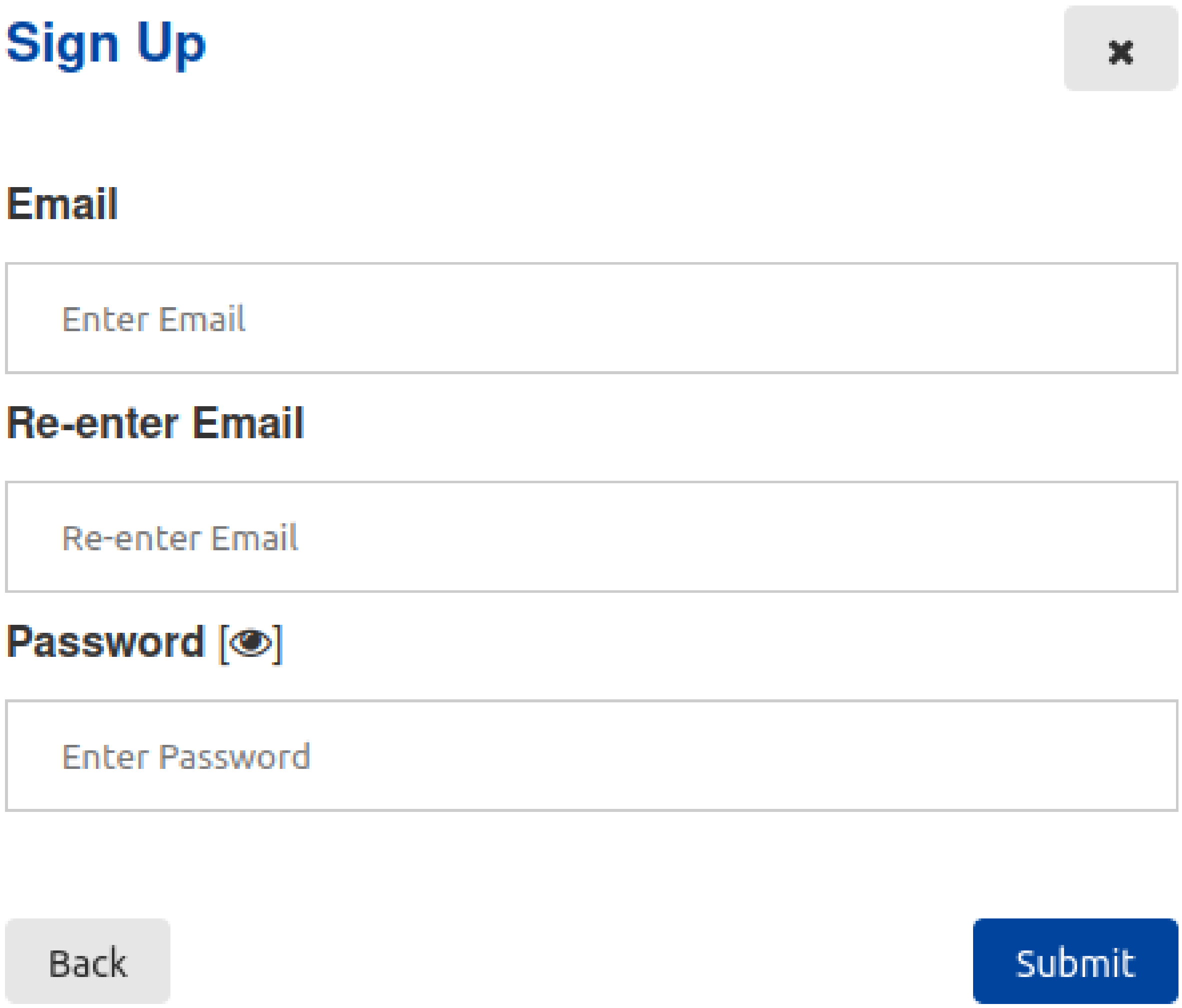
3.9.6. Creating An Account

In order to create an account, locate the green “Login” button in the menu. Click it to open up the login UI:



1. Click “Sign Up” to create a new account.

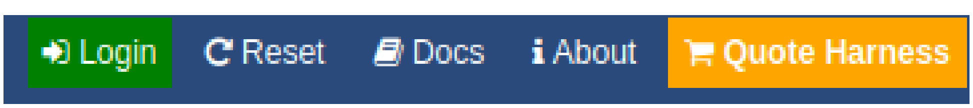
This should take you to the sign up UI:



Simply enter the email and password and hit submit. There will be an email sent out to document the signup. Afterwards, you may follow the same steps to reach the login screen and provide the newly created username and password and hit "Login" instead.

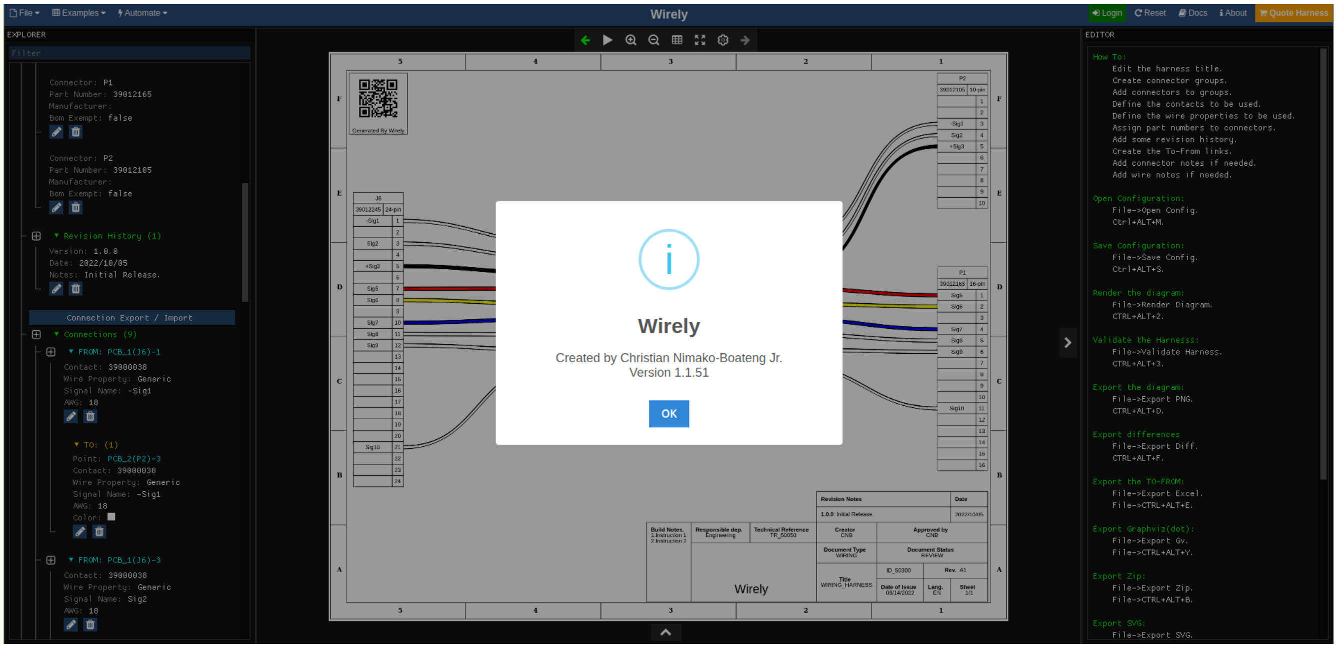
Note: Account creation will become a quick way of getting wiring harnesses built in the future.

3.9.7. Clearing the Json Configuration File (Reset)



To clear all the data in the explorer window (starting a new harness). Simply located the "Reset" button located at the top right of the menu bar. This will instruct you to make sure this was your intended action. After this button is pressed and confirmed, the wiring harness we be purged and you may begin creating a new harness.

3.9.8. About



The about button displays the creator of the application as well as the version information.