arkalumen APT-CV2 Square LED Controller User Guide

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Contents

Connecting the APT Programmer

1. Connect the APT Programmer to the PC and controller as shown in Figure 1.

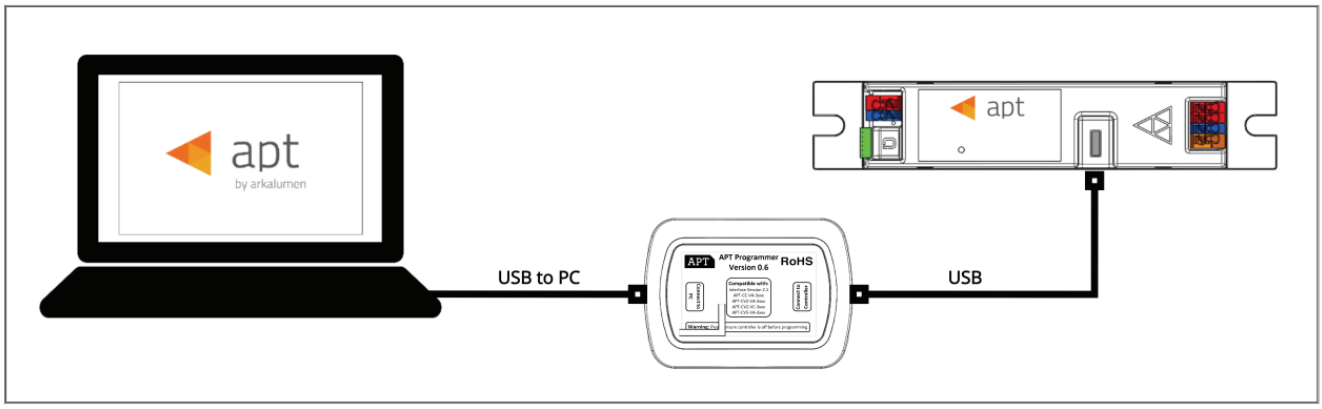


Figure 1: Wiring Diagram

Using the APT Programmer

Installing the APT Programmer Interface

1. Click on the provided link to download the APT Programmer Interface folder.
2. Open the folder APT Programmer Interface on a Windows-based PC, and select the file setup.exe
3. Launch setup.exe to install the APT Programmer Interface. The APT Programmer Interface shortcut will be added to the Start Menu.

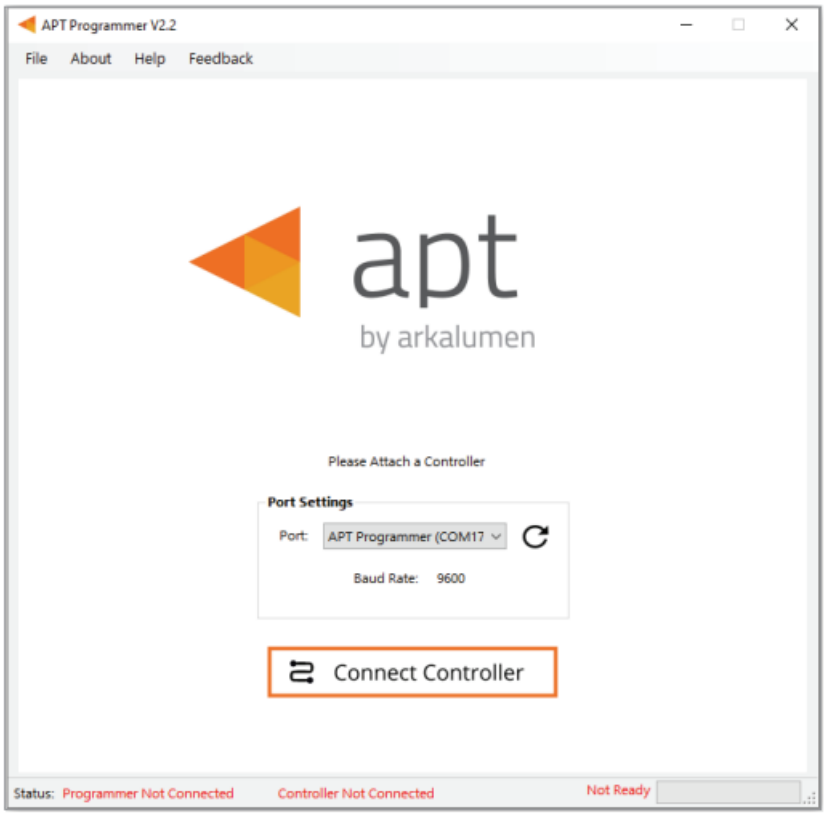


Figure 2: Programmer Connect window

Running the APT Programmer Interface

1. Launch the APT Programmer Interface software by selecting the application, **APT Programmer Interface,** from the Start Menu. The Programmer Connect window (shown in Figure 2) will open.
2. Select the COM port to which the APT Programmer is connected from the **Port** drop-down menu. If a COM port is not visible, click the ↻ button until the correct port is visible.
3. Click **Connect Controller** to establish a connection. Once connected, the APT Programmer Interface window (shown in Figure 3) will open.

Note: Once connected, if the APT Programmer is not displayed in the port list, please run the CDM212364_Setup file sent with the APT Programmer software to install the drivers.

Using the Programmer Interface Window

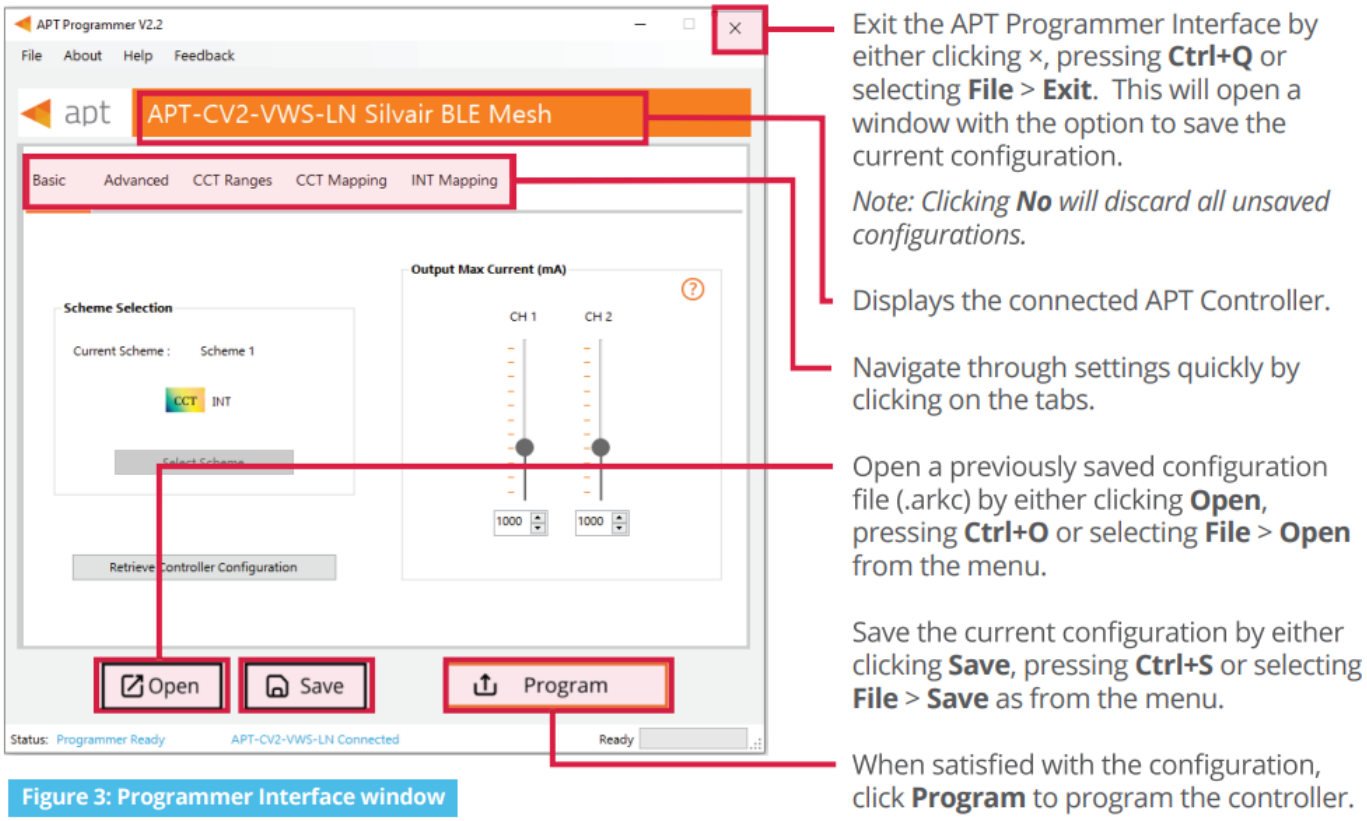


Figure 3: Programmer Interface window

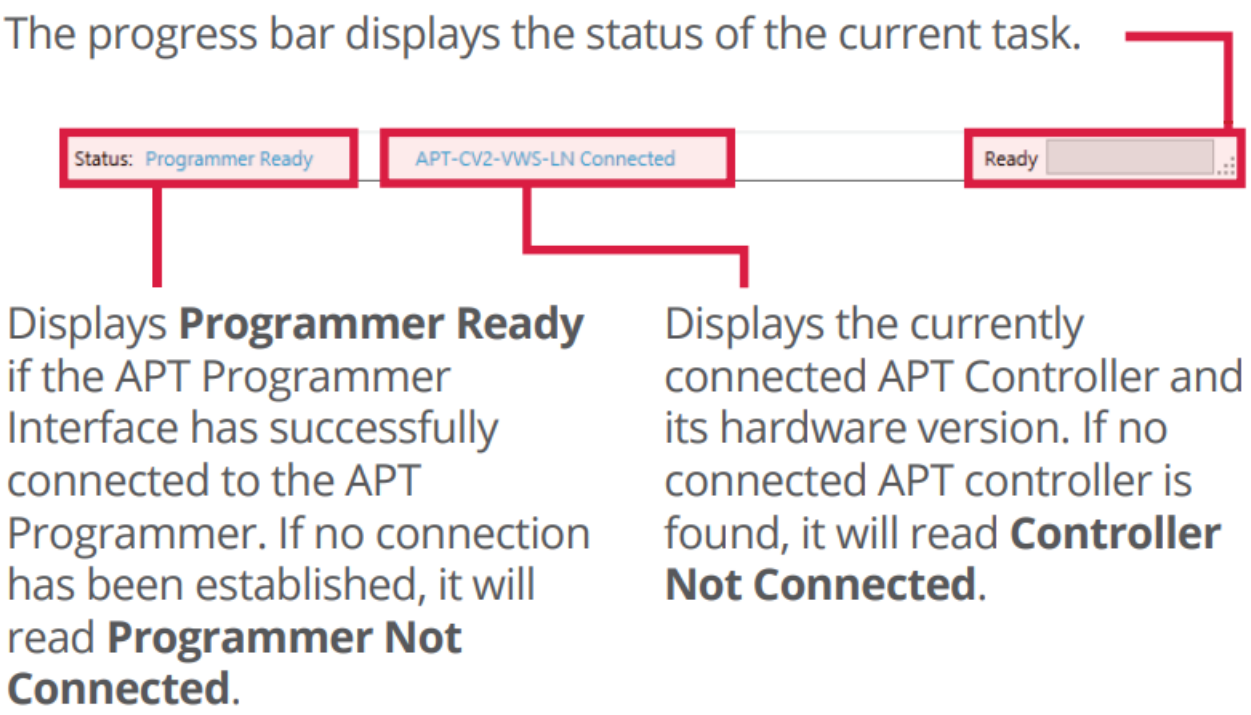


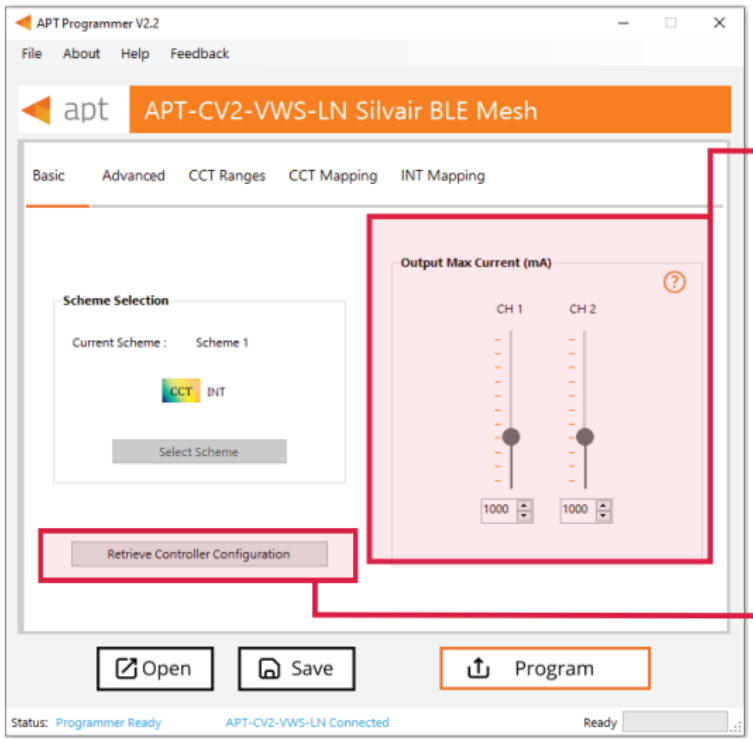
Figure 4: Programmer Interface window - Status Bar at bottom of window of Fig 3

THE Ready field in the Status Bar displays:

- Ready
- Not Ready
- Successfully Programmed
- Retrieve Successful

- Wrong Controller Connect

Basic Tab

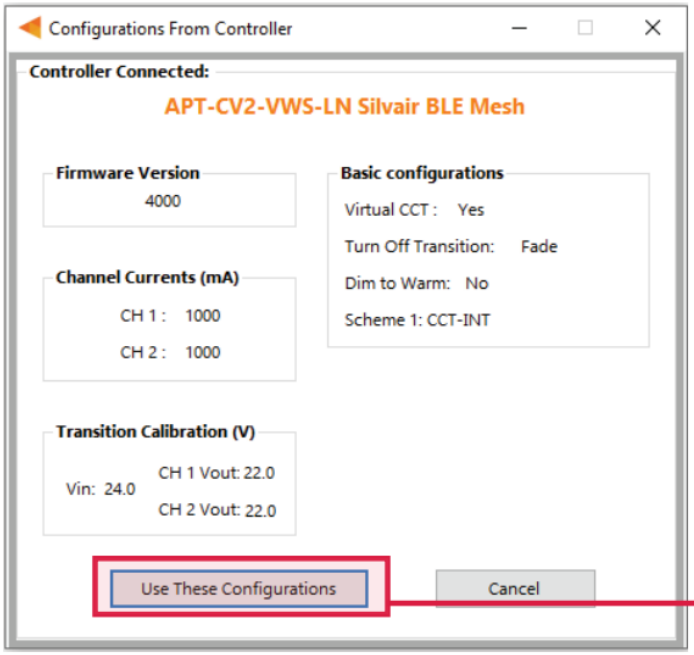


Output Max Current (mA) specifies the maximum current output of the two output channels of the APT Controller.

Note: Ensure these values are below the maximum allowable current of the output channels on the light engines to prevent damage to the LEDs.

Click **Retrieve Controller Configuration** to view the currently programmed configurations of the connected controller. A separate will open with the controller's configuration (shown in Figure 6).

Figure 5: Programmer Interface window - Basic tab



Click **Use These Configurations** to import the controller's current configuration into the APT Programmer Interface.

Note: All APT Programmer Interface settings will be changed to the controller's current configuration.

Figure 6: Configurations from Controller window

Advanced Tab

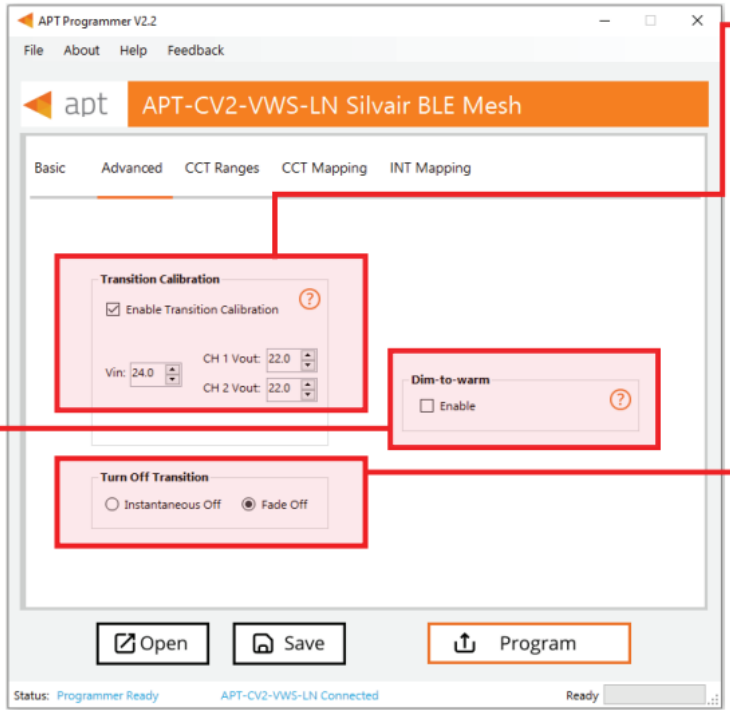


Figure 7: Programmer Interface window - Advanced tab

Transition Calibration

1. Select the **Enable Transition Calibration** checkbox.
2. Input the driver voltage and the voltage of each of the output channels to optimize the fading behaviour of the controller.

Turn Off Transition

Select either an instantaneous or fade transition when fully turning off the LEDs.

Enabling Dim-to-Warm

CCT Ranges Tab

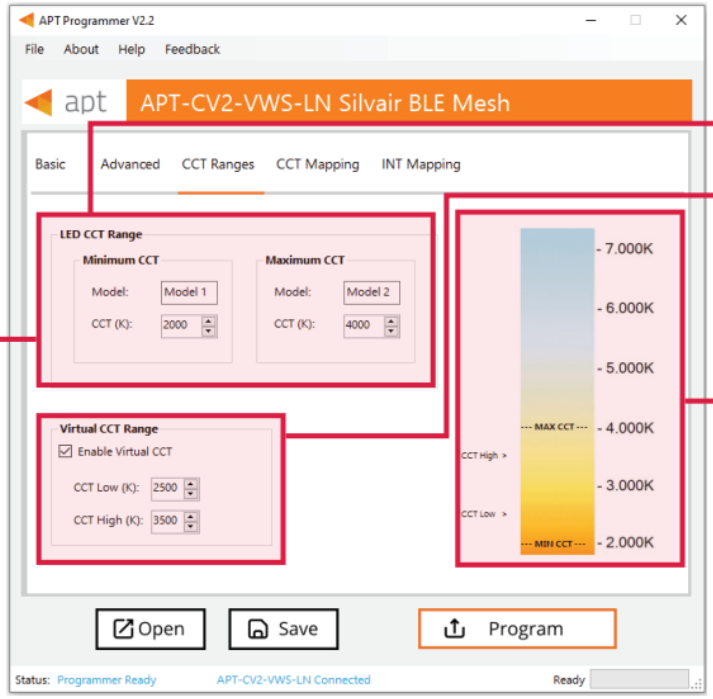


Figure 8: Programmer Interface window - CCT Ranges tab

Setting a virtual (custom) CCT range

1. Enter the **LED CCT Range** using the **Minimum CCT** and **Maximum CCT** values supported by the connected LED module.

   Note: The current settings will be shown as MIN CCT and MAX CCT in the right-hand column.
2. Click the box to enable **Virtual CCT**.
3. Enter **CCT low** and **CCT high** values.

   *Note: **CCT low** must be greater than or equal to **Minimum CCT**, while **CCT high** must be less than or equal to **Maximum CCT**.*

*The selection will be shown as **CCT Low** and **CCT High** in the column on the right-hand side of the Programmer Interface window.*

*Note: If enabled, the **Virtual CCT Range** takes precedence over the **LED CCT Range**.*

Enter the LED **Model** numbers associated with the minimum and maximum CCT to add further information for the

CCT Mapping Tab

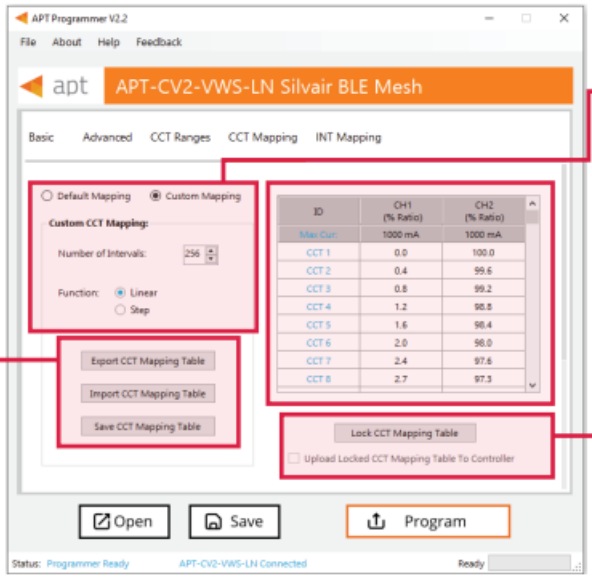


Figure 9: Programmer Interface window - CCT Mapping tab

Uploading CCT Custom Mapping

1. Click the **Custom Mapping** button in the **CCT Mapping** tab.
2. Enter the number of CCT Intervals, ranging from 2 to 256.
3. Select either **Linear** or **Step** function. Linear will create a CCT mapping with linear transitions between each interval point. Step will create a CCT mapping with step transitions between each interval point.
4. Add the values into the table to enter a percentage CCT ratio for either **CH1** or **CH2**.

*Note: Reselecting **Default Mapping** will open a window with option to save current custom mappings.*

Displayed in the table, each CCT value is mapped to a percentage ratio for the particular channel ranging from minimum (0%) to maximum (100%). Default mapping evenly spreads out 256 values along a linear curve in which CH1 increases from 0% to 100% and CH2 decreases from 100% to 0%. Click the box to enable Default Mapping.

Click **Lock CCT Mapping Table** to prevent changes from being made to the mapping table, this will also update the graph (shown in Figure 10).

Tip: Scroll to the bottom of the window to see the graph (Figure 10) of the current mapping configuration.

Click the **Upload Locked CCT Mapping To Controller** box to upload the mapping table when clicking **Program**.

Enable **Import**, **Export**, or **Save** of the CCT Mapping Table by selecting button. Detailed steps on page 7.

Click **Unlock CCT Mapping Table**, when the mapping table is locked, to make changes to the table.

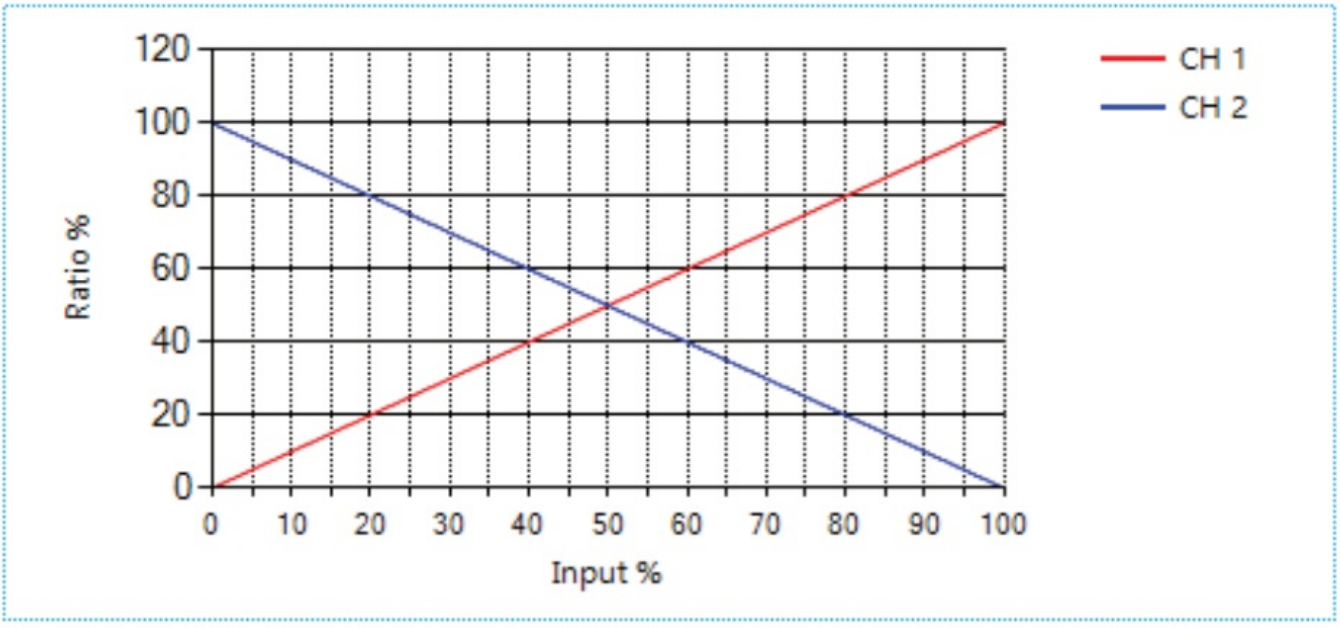


Figure 10: CCT mapping graph

Using Excel to Customize the mapping table

1. Click Export Mapping Table to generate a spreadsheet containing the mapping table that is currently open.
2. Modify the mapping table directly in the spreadsheet, make sure all editable cells contain a value.
3. Save the spreadsheet (.xlsx).

Saving the mapping table

1. Click Save Mapping Table to save the current mapping table.
2. Find a save location for the generated spreadsheet file (.xlsx) containing the mapping table that is currently open.
3. Name and save the file to the desired location.

Importing a previously saved mapping table

1. Click **Import Mapping Table** to open a previously saved mapping table in the APT Programmer Interface.
2. Select a previously saved mapping table spreadsheet file (.xslx) in the file browser.
3. Click **Open** in the file browser, to import the file. If the spreadsheet is formatted correctly, it will be successfully imported otherwise an error message will be displayed and the file will not be imported.

INT Mapping Tab

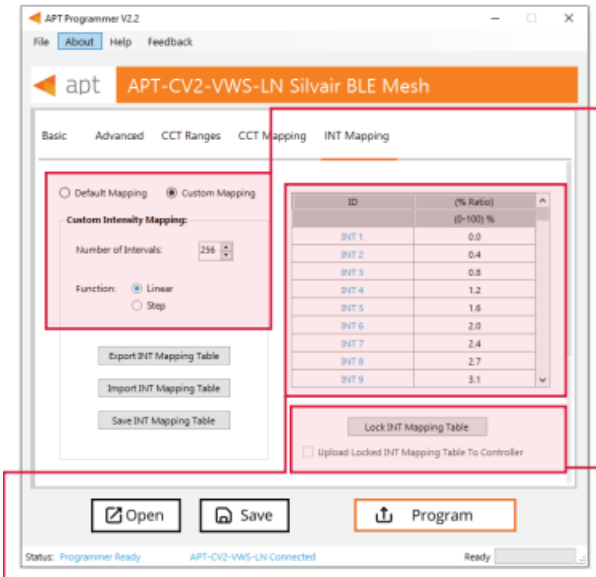


Figure 11: INT Mapping Tab - Uploading Intensity of CCT

Uploading INT Mapping for Intensity of CCT

1. Click the **Custom Mapping** button in the **INT Mapping** tab.
2. Enter the number of intensity intervals, ranging from 2 to 256.
3. Select either **Linear** or **Step function**. Linear will create an INT mapping with linear transitions between each interval point. Step will create an INT mapping with step transitions between each interval point.
4. Add the values into the table to enter an intensity ratio for the CCT.

Displayed in the table, each INT value is mapped to a percentage of the maximum current ranging from minimum (0%) to maximum (100%). Default mapping evenly spreads out 256 values along a linear curve in which the percentage ratio increases from 0% to 100%. Click the box to enable Default Mapping.

Click **Lock INT Mapping Table** to prevent changes from being made to the mapping table.

Click the **Upload Locked INT Mapping Table To Controller** box to upload the mapping table when clicking **Program**.

Click **Unlock INT Mapping Table**, when the mapping table is locked, to make changes to the table.

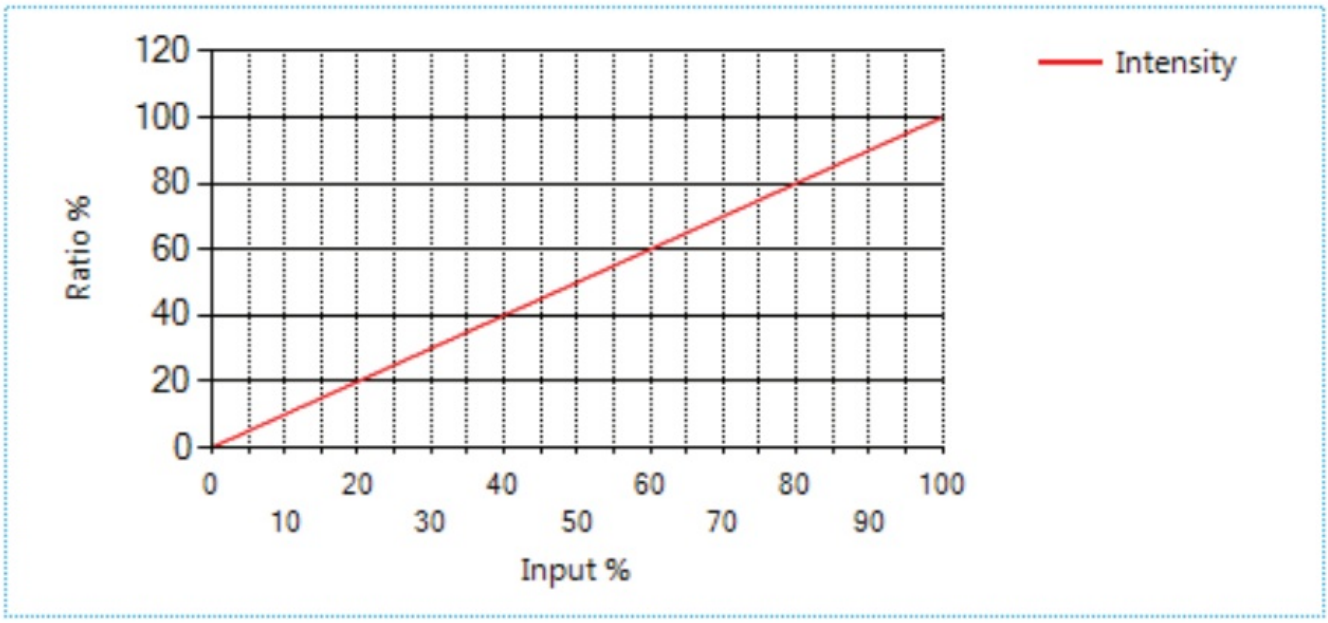


Figure 12: Intensity Mapping graph for the CCT

Using Excel to Customize the INT mapping table

1. Click Export INT Mapping Table to generate a spreadsheet containing the mapping table that is currently open.
2. Modify the mapping table directly in the spreadsheet without changing the formatting.
3. Save the spreadsheet (.xslx).

Saving the INT mapping table

1. Click Save INT Mapping Table to save the current mapping table.
2. Find a save location for the generated spreadsheet file (.xslx) containing the mapping table that is currently open.
3. Name and save the file in the desired location.

Importing a previously saved INT mapping table

1. Click **Import INT Mapping Table** to open a previously saved mapping table in the APT Programmer Interface.
2. Select a previously saved mapping table spreadsheet file (.xslx) in the file browser.
3. Click **Open** in the file browser to import the file; if the spreadsheet is formatted correctly, it will be successfully imported.
   Tip: Scroll to the bottom of the window to see graph (shown in Figure 9) of the current INT mapping configuration.

Generating Labels

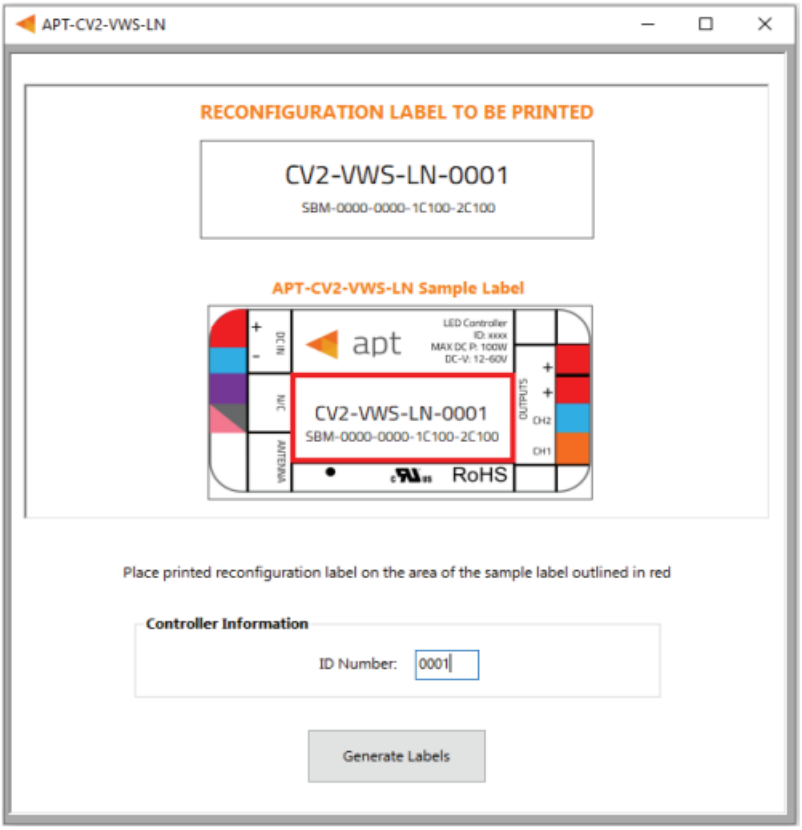


Figure 13: Label Generation window

1. Select **File > Generate Label** or press **Ctrl +L** to open the Label Generation window (shown in Figure 13).
2. Input the 4-digit ID Number written on the original label (shown in Figure 13). The ID Number indicates the production build of the APT Controller.
3. Click **Generate Labels.**
4. Input the starting and finishing rows and columns that will fit on the back or front labels. The selected range is highlighted in blue (Figure 14).
5. Select **Print Full Range** to print the whole page.
6. Click **Generate Labels,** the default web browser will open and display a preview of the print.

   Note: Arkalumen recommends using Google Chrome and setting margins to None in the printing options.

To obtain blank labels, contact Ark lumen or visit **onlinelabels.com** Labels: **https://www.onlinelabels.com/products/ol1930lp** When ordering, Ark lumen recommends selecting Weatherproof Polyester labels in a material suited for your printer.

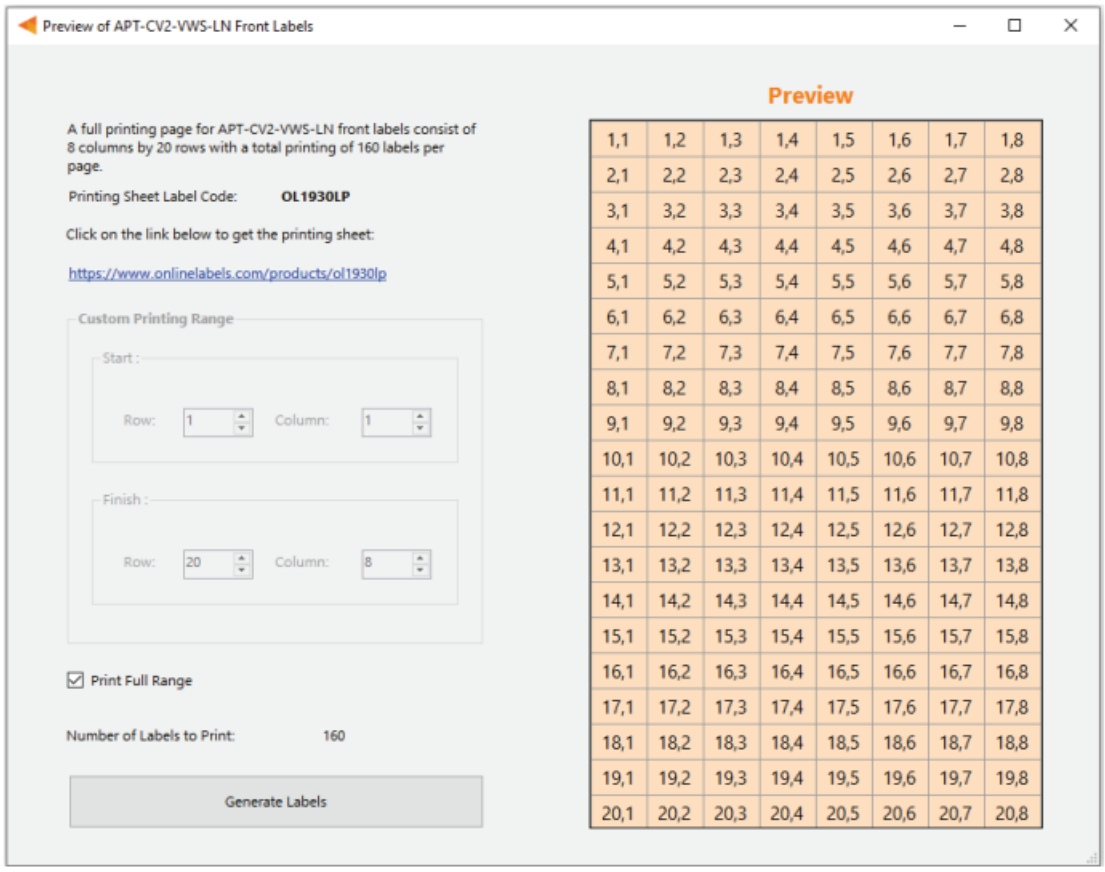


Figure 14: Label generation print preview window

Generating a Report

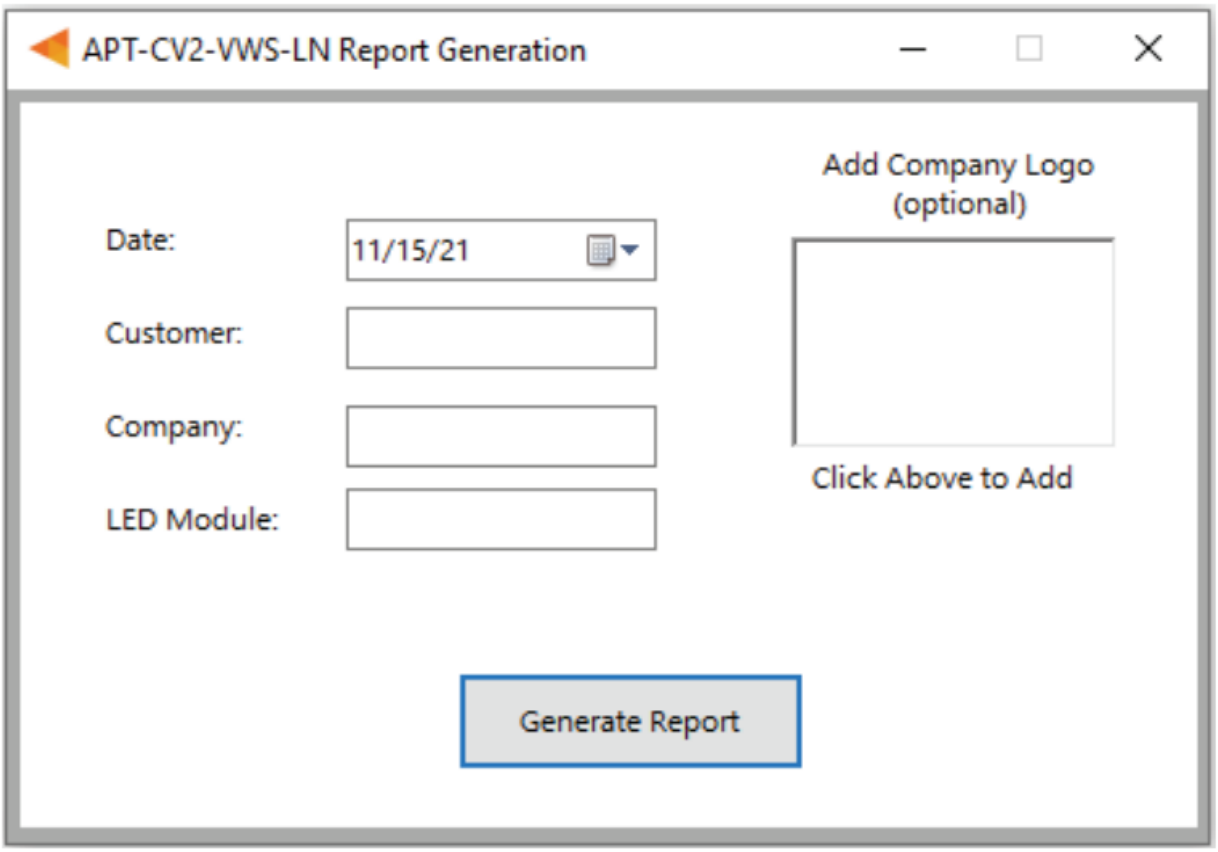
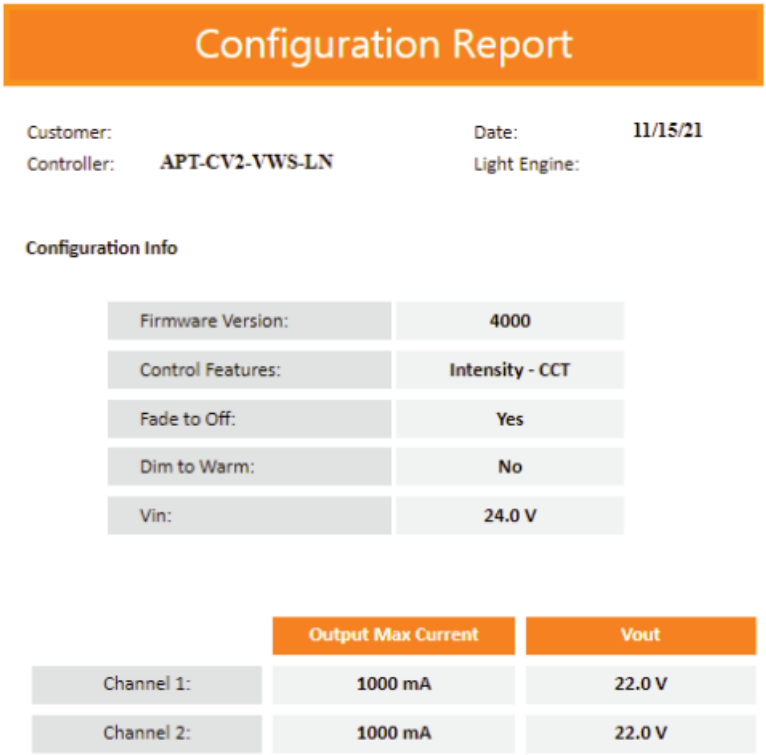


Figure 15: Report Generation window



Configuration Report

Customer:
Controller: APT-CV2-VWS-LN
Date: 11/15/21
Light Engine:

Configuration Info

Firmware Version:	4000
Control Features:	Intensity - CCT
Fade to Off:	Yes
Dim to Warm:	No
Vin:	24.0 V

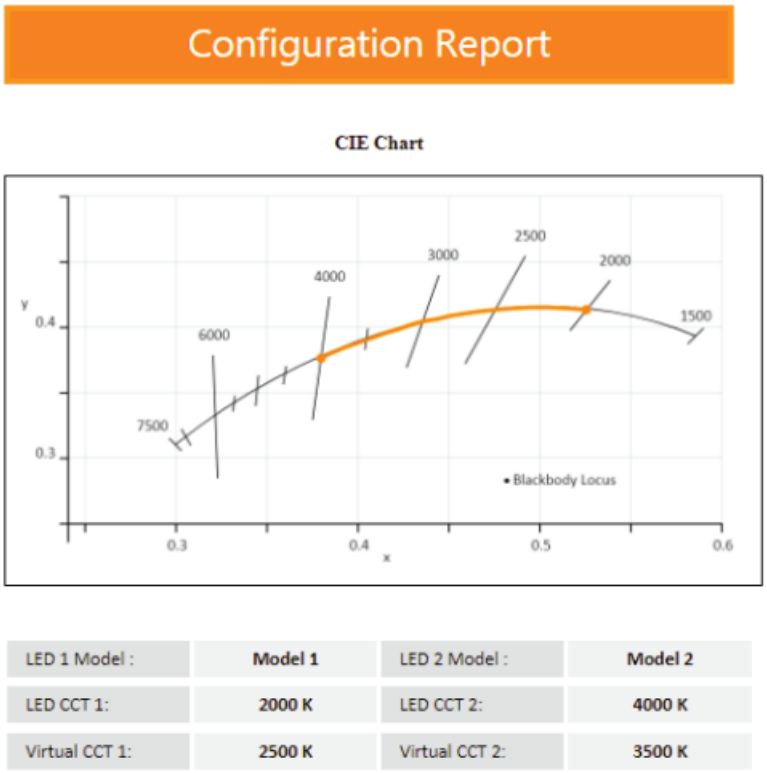
	Output Max Current	Vout
Channel 1:	1000 mA	22.0 V
Channel 2:	1000 mA	22.0 V

Figure 16: Example of the first page of a generated report

1. Select **File > Generate Report,** or press **Ctrl+R,** to open the Report Generation Window (shown in Figure 15).

2. Enter the **Date, Customer, Company,** and **Light Engine** part number to customize the report.
3. Click on the white box under **Add Company Logo** to include a logo in the report (optional).
4. Select the desired logo (.jpg) in the file browser and click **Open** (optional).
5. Click **Generate Report,** the default web browser will open and display a preview of the print (shown in Figures 16 & 17).

Note: Arkalumen recommends using Google Chrome and setting margins to None in the printing options.



LED 1 Model :	**Model 1**	LED 2 Model :	**Model 2**
LED CCT 1:	**2000 K**	LED CCT 2:	**4000 K**
Virtual CCT 1:	**2500 K**	Virtual CCT 2:	**3500 K**

Figure 17: Example of the second page of a generated report

If at any time you have comments or suggestions regarding the APT Programmer or APT Controller, please click on the **Feedback** tab in the top menu bar to submit information to our team. We appreciate all feedback and are committed to continuously improving our products. For immediate support, please contact the Ark lumen team at 1-877-856-5533 or email support@arkalumen.com

Documents / Resources

	arkalumen APT-CV2 Square LED Controller [pdf] User Guide APT-CV2 Square LED Controller, APT-CV2, Square LED Controller, LED Controller, Controller

References

- Home - Arkalumen | LED Modules and Controllers
- Blank & Custom Labels | OnlineLabels®
- 1" x 0.5" Labels - Weatherproof Polyester Laser - OL1930LP