

Application Note – Xicato Configuration Tool (XCT) Quick Start Guide

Version 20161025

Introduction

The purpose of this application note is to provide a simple, short introductory guide to the Xicato Configuration Tool (XCT) which allows OEMs to modify pre-provisioned settings of the XIM.

Setup

The Xicato Configuration Tool is built on a Raspberry Pi single-board computer and comes packaged with a power supply and USB dongle for BLE communication. A USB keyboard & mouse is required to interface with the tool. An HDMI video output is available for connecting a display device.

First Run

Launch *XIM Config Tool* by clicking the red “X” symbol on the start menu located on the top of the desktop screen. The first time you run the application, you will see the following:

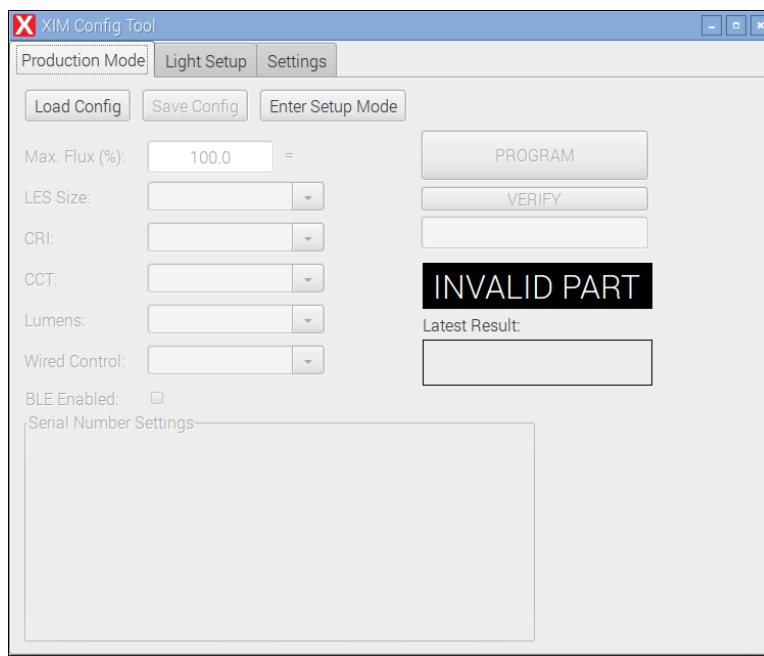


Figure 1: Typical Startup

In the Production Mode tab, you will notice that all buttons and fields are greyed out aside from “Load Configuration” and “Enter Setup Mode”. Since no configuration files have been created yet, select “Enter Setup Mode”. A dialog screen will prompt the user to enter a password to unlock Setup Mode. The default password is “**changeme**”.

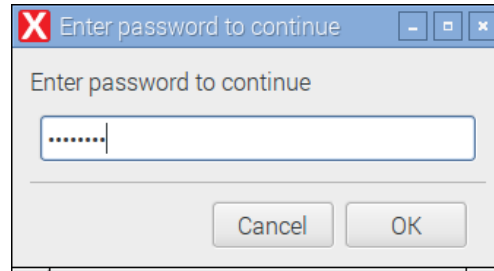


Figure 2: Enter Setup Mode Dialog Box

After entering the correct password, all setup features are unlocked in Setup Mode.

Setup Mode

The Setup Mode tab is where maximum intensity values and custom serial numbers & data can be programmed into the XIM. These configuration settings can then be saved and recalled for future use.

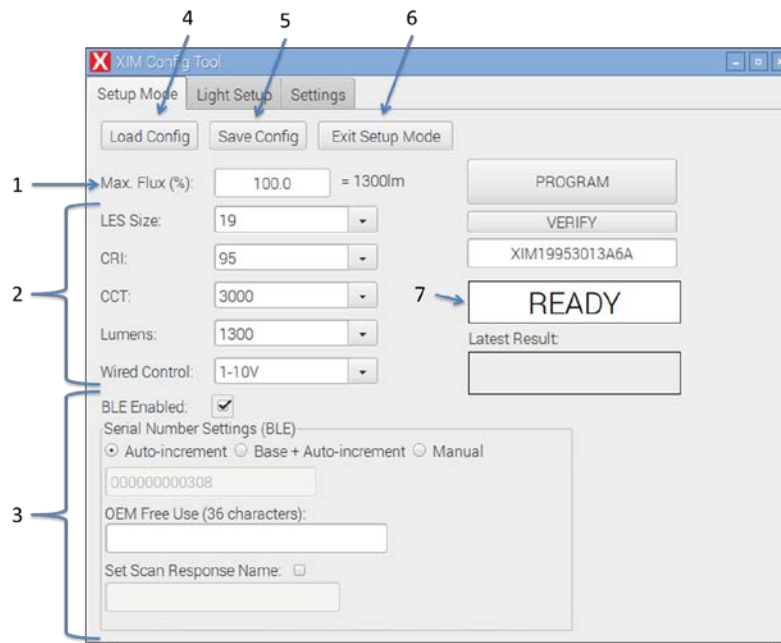
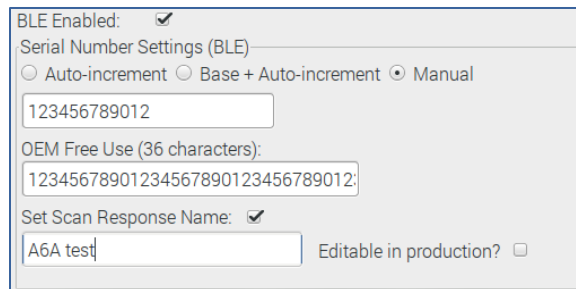


Figure 3: Setup Mode Overview

- 1. Max. Flux (%).** Enter a percentage for the maximum luminous flux for the programmed XIM. Value must be between 50% and 100%. Both commas (,) and periods (.) can be used as decimal mark symbols.
- 2. Product Description.** Enter the description of the XIM you are programming. The status indicator on the right will verify if the combination of items from the drop down menus constitute a valid XIM part.

- 3. BLE Enabled Settings.** XIMs equipped with BLE radios may have custom serial numbers programmed.



The screenshot shows a configuration window titled "BLE Enabled Settings". At the top, "BLE Enabled:" is checked. Below it, "Serial Number Settings (BLE)" has three radio buttons: "Auto-increment", "Base + Auto-increment", and "Manual" (which is selected). A text field contains the serial number "123456789012". Underneath, "OEM Free Use (36 characters):" has a text field containing "12345678901234567890123456789012:". Below that, "Set Scan Response Name:" is checked, with a text field containing "A6A test" and a checkbox labeled "Editable in production?" which is unchecked.

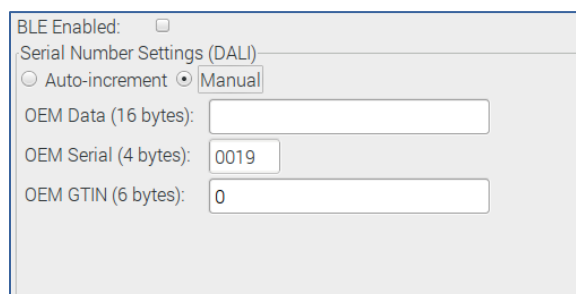
Figure 4: BLE Enabled Settings

Serial Number Settings. Choose format for generating serial numbers.

OEM Free Use. Free space to program any data (e.g. OEM name, manufacturing date, model number/name, project info, etc...)

Scan Response Name. Sets scan response name. Check the “**Editable in production?**” box to allow the field to be editable in Production Mode. When disabled, fields are locked in Production Mode.

Non-BLE Enabled Settings. Dali controlled XIMs without BLE radios may also program custom OEM data and serial numbers. The Serial Number Settings box offers different options than BLE enabled modules.



The screenshot shows a configuration window titled "Non-BLE Enabled Settings (DALI Only)". At the top, "BLE Enabled:" is unchecked. Below it, "Serial Number Settings (DALI)" has two radio buttons: "Auto-increment" and "Manual" (which is selected). There are three text fields: "OEM Data (16 bytes):" (empty), "OEM Serial (4 bytes):" containing "0019", and "OEM GTIN (6 bytes):" containing "0".

Figure 5: Non-BLE Enabled Settings (DALI Only)

- 4. Load Config.** Loads a previously saved configuration from an .ximcfg file. See Save Config below for more information on .ximcfg files.
- 5. Save Config.** Saves current configuration settings to an .ximcfg file. All configuration settings in Setup Mode and Light Setup tabs are stored into this configuration file. Once saved, configuration settings for specific luminaires or modules can be quickly restored (using the **Load Config** button) without having to rebuild the custom configuration each time.

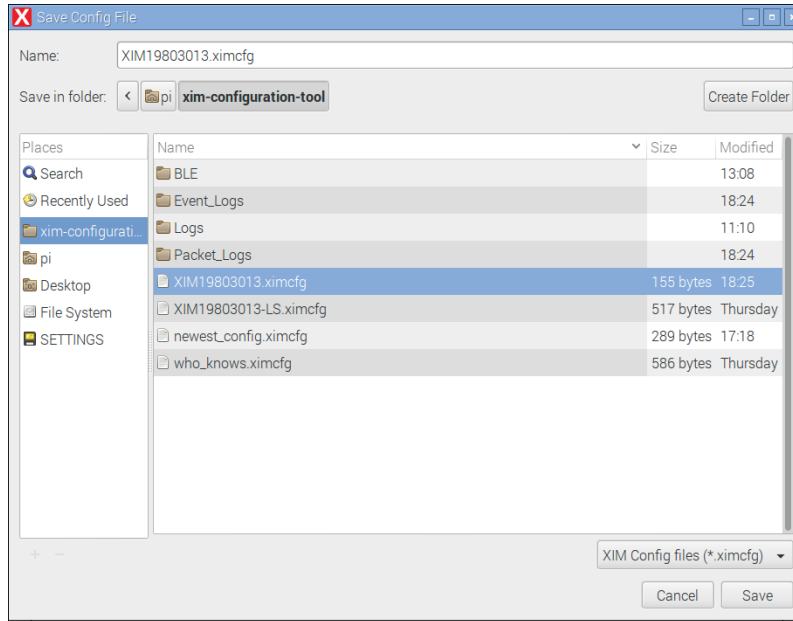


Figure 6: Saving XCT Configuration (.ximcfg) Files

- 6. Exit Setup Mode.** Exits Setup Mode & enters Production Mode.
- 7. Status Display.** Display will let user know if there are any issues with the parameters chosen in the setup drop-down fields. Otherwise, display will show indicating that the XCT is ready to program the XIM using the current configuration settings.

Program Mode

In Program Mode, XIMs connected to the XCT can be programmed with the active configuration settings. Configuration settings cannot be modified in Production Mode with the exception of the OEM Data and Serial Number fields.

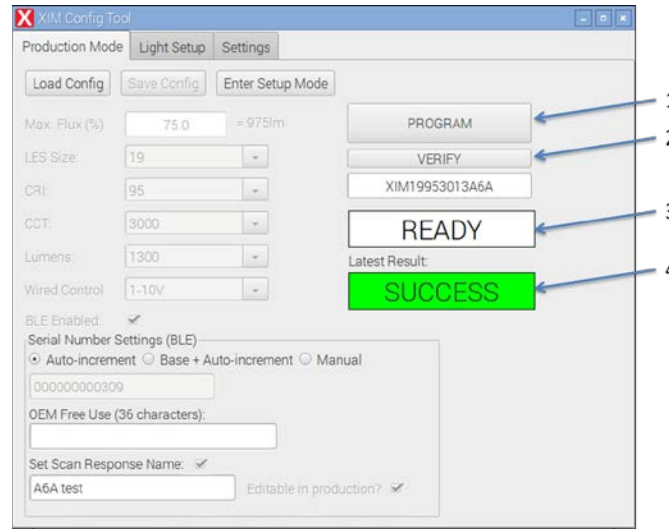


Figure 7: Production Mode Overview

1. **Program Button.** Programs XIM with active configuration settings.
2. **Verify Button.** Verifies that connected XIM matches current configuration file. After verification process completes, a dialog box displays programmed serial number and OEM data. If module configuration file does not match the active configuration settings in the XCT tool, verification process will result in a failure.

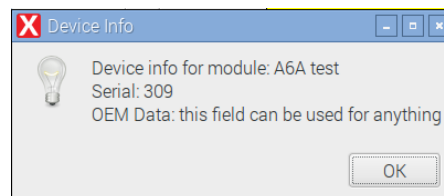


Figure 8: Verification Results

3. Status Display.

- | | |
|--------------|--|
| READY | XCT ready to program or verify connected module. |
| WORKING | XCT establishing connection to module. |
| LIGHT SETUP | XCT programming configuration data into module. |
| VERIFICATION | XCT verifying configuration settings. |

4. **Latest Result.** Displays outcome of Program or Verification procedure.

SUCCESS

Programming or Verification process completed successfully.

FAILURE

XCT failed to program or verify XIM configuration settings.

Light Setup

The Xicato Configuration Tool can program additional settings into XIM modules beyond those found on the Setup Mode tab. These advanced settings can be accessed through the Light Setup tab. In order to enable these settings for editing, the user must first enter Setup Mode in the previous tab.

Note: All Light Setup settings can also be modified in the Light Setup tab of the XIM Control Panel for Windows.

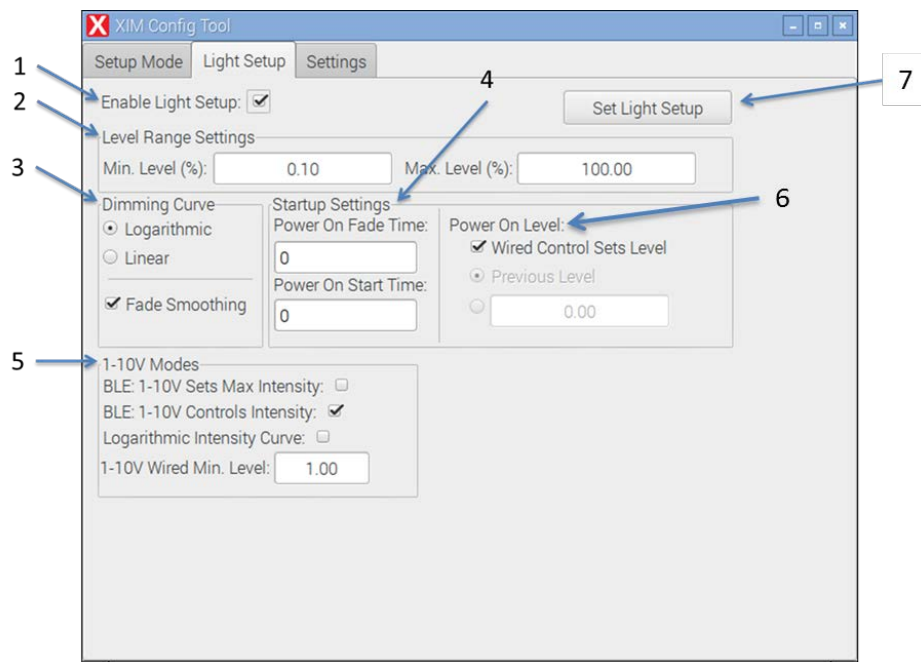


Figure 9: Light Setup Overview (1-10V Version)

1. **Enable Light Setup.** Click checkbox to enable light setup settings. Checkbox will be greyed out and disabled unless user has entered Setup Mode on previous tab.
2. **Level Range Settings.** Use these fields to adjust minimum and maximum intensity levels. Max level (%) is not the same as the max flux (%) setting from the Setup Mode tab. See examples for use below.

- 2000lm XIM module with **Max. Flux (%)** set to 80%.

At 100% intensity, XIM will emit 1600lm. XIM will follow standard dimming curve from 0% to 100%. This cannot be modified in the field.

- 2000lm XIM Module, with **Max. Flux (%)** set to 80% & **Max. Level (%)** set to 90%.

The XIM module's maximum flux is set to 80% and the maximum intensity level is capped at 90%. The unit will emit 1440lm (90% of 1600lm) at this level. The XIM will only follow the dimming curve from 0% to 90%. On 1-10v wall dimmers, dead zone will be present when slider is between 90-100%. The maximum (and minimum) level can be modified in the field using the XIM Control Panel; however, Max Flux (%) values cannot be modified without the use of an XCT tool.

3. **Dimming Curve.** Choose between logarithmic or linear dimming. Linear dimming recommended when XIM is targeting a specific lux in sensor response mode. If **Fade Smoothing** is enabled, the module fade rate will slow down as intensity approaches target intensity.

4. **Startup Settings.**

Power On Fade Time sets the fade time (in seconds) to the target intensity when unit is powered on.

Power On Start Time is the delay (in seconds) from when power is first delivered to the module to when the module begins transition to target intensity.

5. **1-10V Modes.** Adjust wired control settings for 1-10V XIM models in this section. For a 0-10V dimmer + BLE, there are three supported modes of operation (four if disabling the 0-10V interface is included).

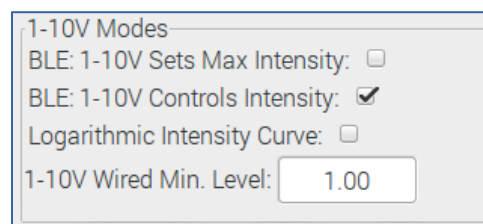


Figure 10: 1-10V + BLE Control Modes

1-10V sets Max Intensity. In this mode, the 0-10V interface sets the upper intensity limit. The BLE interface can then adjust the intensity to any value up to the limit. If an intensity value above the limit is sent over the BLE interface, the XIM will simply stop at the limit. If the intensity limit is adjusted down the lamp intensity will track it. If the intensity limit is adjusted up there will be no change in the lamp intensity.

1-10V Controls Intensity. In this mode the light is controlled by whichever system (wired or wireless) set the last intensity command. This is the default operating mode.

Max Intensity + Control. When both boxes are checked, the 0-10V sets the upper intensity limit, but if the 0-10V control is adjusted the light will track the adjustment (up or down).

6. **Power On Level.** Up to 3 power on settings are available depending on the type of module being programmed.

	1-10V	1-10V + BLE	DALI	DALI + BLE
Wired		✓		✓
Previous	✓		✓	✓
Custom	✓		✓	✓

Wired. Intensity at power on is determined by wired control line.

Previous. Intensity at power on is controlled by whichever system (wired or wireless) set the last intensity command.

Custom. User may enter any value from 0-100%. XIM will power on to that intensity regardless of whichever system set the last intensity command.

7. **Set Light Setup.** Applies Light Setup settings to active configuration file. You may then save these settings to the current configuration file by first clicking “Set Light Setup” and then selecting “Save Config” in the Setup Mode tab. You must set Light Setup settings in the configuration file before programming the module for settings to take effect.

Settings Tab

In this tab, Setup Mode and OEM Passwords can be changed. Additional Xicato copyright information is also displayed. Change Password buttons are only enabled in Setup Mode.

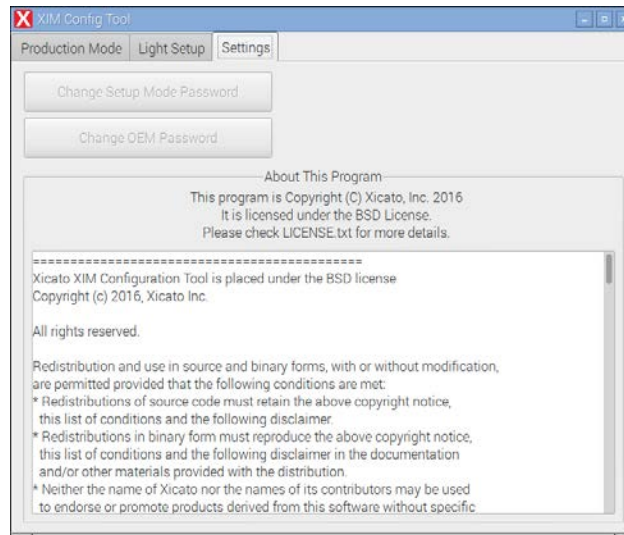


Figure 11: XCT Settings Tab

Change Setup Mode Password. Password which allows access to Setup Mode. Default password is “changeme”.

Change OEM Password. Select to add an additional layer of security that prevents tampering of a module’s configuration settings in the field. OEM Password is stored in the XIM when programmed using the XCT and its configuration settings cannot be modified unless connected to an XCT that shares the same OEM password. XCT is shipped without a default OEM Password.