# POWERG CERTIFICATION AND DEVELOPMENT KIT

Installation and User Guide

18 May 2024

# Contents

INSTALLING DRIVERS

**Step 1:** Download the CP210x_Universal_Windows_Driver

**Step 2:** Extract the downloaded file and note this folder

**Step 3:** Plug in your Emulator Stick to the PC



**Step 4:** Open the device manager by clicking on the Start menu or press the Windows key on your keyboard.

**Step 5:** In the search bar, type "Device Manager" (without quotes) and then click on the "Device Manager" app in the search results. This will open the Device Manager window.
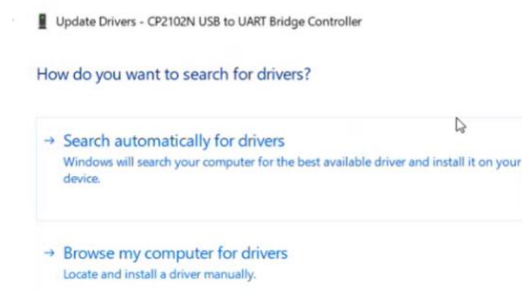
**Step 6:** Scroll down and look for the CP2102 device.



**Step 7:** Right click on the CP2102 device and choose update driver from the list
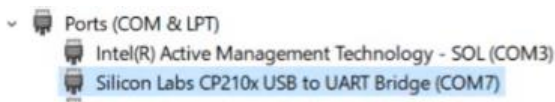


**Step 8:** On the next window, select Browse my computer for drivers



**Step 9:** Select: Search for drivers in this location and click **Browse**

**Step 10:** Select the folder where you have stored the downloaded files and click **Next**

**Step 11:** Once it finishes the installation; go back to the device manager and check which COM PORT this has been assigned to. e.g. COM 7
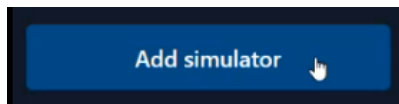
# PANEL EMULATOR

**Note:** Make sure you have

1. The credentials to log in (username / password) to the cloud:
2. Installed the drivers

**Step 1:** On the back of the Panel Emulator USB note the serial number of the device

**Step 2:** Log in to the cloud emulator and click on **Add simulator**



**Step 3:** On the dialog box, type in the device name in the name box and click **ADD**



**Step 4:** On the main screen note the IP address and port
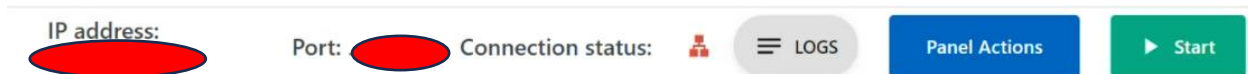


**Step 5:** Click Start
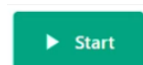


**Step 6:** Plug in the Panel Emulator USB to the computer if this is not plugged

**Step 7:** On the device manager, check which COM PORT this emulator has been assigned to. e.g. COM 7



**Step 8**: Download the Panel Stick To Cloud Emulator software

**Step 9:** Using Administrator/Elevated Privileges, install the Panel Stick To Cloud Emulator software

**Step 10:** Run the Panel Stick To Cloud Emulator software and enter the following details (COM-Port / Stick Serial from the USB Stick and IP and Port from the portal) and click **Connect**



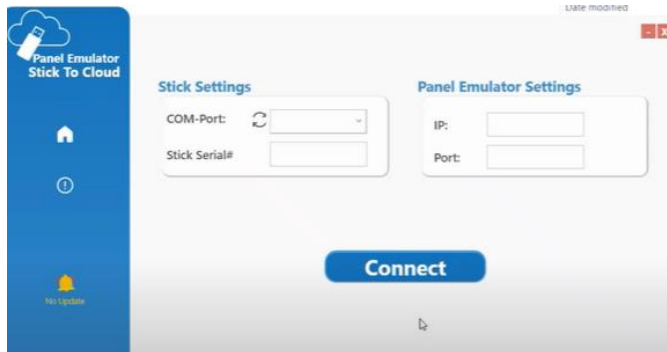**Step 11:** On the cloud panel emulator you should see the connection status turn green indicating a successful connection.



## Add a Device

**Note:** Make sure you have the device information added into the API.

**Step 1:** On the cloud emulator; on the left, click on **Devices Info;** A new page would be loaded
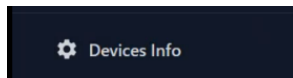


**Step 2:** Click on **Create Device Info**



**Step 3:** Select the device template for your device, click **Next**

**Step 4:** The wizard will walk you through the device setup with confirmation at the end. (Kindly Review Your Device ID)



**Note:** To limit the choices to the pre-determined items you can click on **Show Selected**

**Step 5:** Upon completion, the device would show up in the list

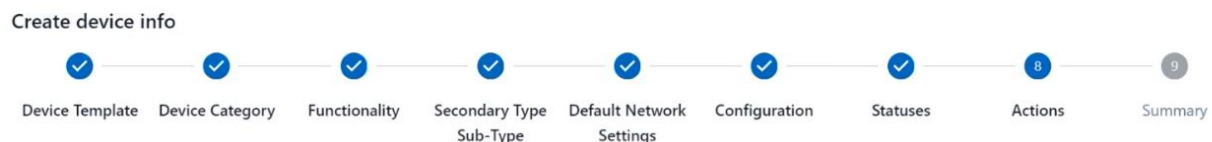| | NAME | DEVICE TYPE | DEVICE SUB-TYPE | LAST MODIFIED | | | |
|---|---|---|---|---|---|---|---|
| ☐ | DL | 14 | E8 | 2024-03-14 12:45:18 | 🪄 | ✏️ | 🗑️ |

## Enrolling Devices

**Note:** Make sure you have the added the device.

**Step 1:** On the cloud emulator, on the right Click on **Panel Actions;** a new window would show on the right.

**Panel Actions**

**Step 2:** Click on **Enroll Device**
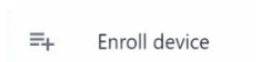
≡₊   Enroll device

**Step 3:** From your device, send an enroll command; It should show up where the Enroll Now is written

Enrollment

Enroll Now

✓ Accept     ⊘ Reject     ✕ Cancel
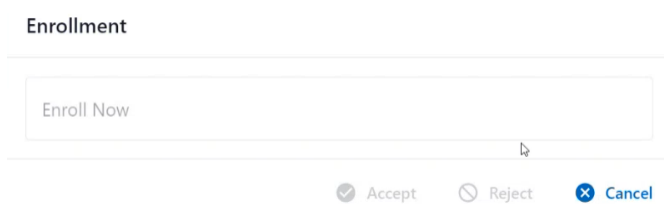
**Step 4:** Click on **Accept** to accept the device

✓ Accept

## Using The Panel Emulator

**Note:** Make sure you have the device enrolled to the panel emulator

### Device Information

On, the top of portion of the Panel Emulator main page it would show the device information and the status

| 502-5863 ✕ | | | | | |
|---|---|---|---|---|---|
| **Device Information** | Firmware Version | RF Version | Link Quality | Link Status | Notification Period (sec) |
| | 00.00.00 | 02.26 | STRONG | 2-WAY | 1 |

### Groups

On the Panel Emulator main page, the device items are grouped into the following categories

⌄ Configuration

⌄ Statuses

⌄ Actions

⌄ OTA

Each group can be collapsed

In each group, tiles can be seen if available for the device

⌄ Configuration

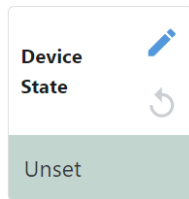| Temperature Report Configuratio | Debug Report Configuratio | Light Report Configuratio | Alarm LED Activation |
|---|---|---|---|
| See Parsed 👁 | 0 | See Parsed 👁 | Enabled |

## Tiles

**Device State**  ✏️  ↺

Unset

**Device State** - Device Name

Disable - Status

## Available Activities

Commands that can be done on the Tiles if available

✏️ **Edit:** Set the configuration; Click on the icon to edit and send the new configuration

↺ Revert: Recall the last configuration; Click on the icon to recall

👁 View: View the configuration; Click on the icon to view

↻ Send Get: Retrieve the device status; Click on the icon to perform a send-get command
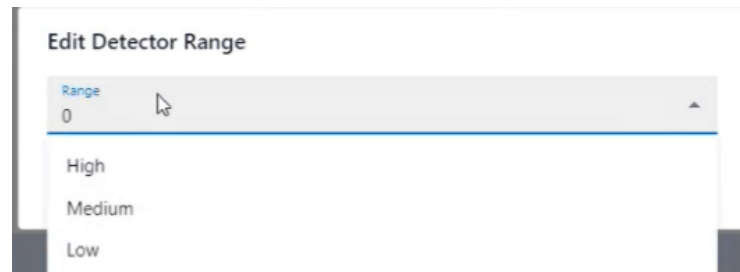
## Sending Configuration

Configuration commands that can be sent to the device

**Step 1:** Go to the configuration group

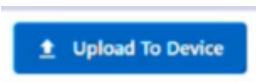**Step 2:** Click on the pencil of the configuration you want to change



**Step 3:** Click on the title and select the configuration option from the drop-down menu



**Step 4:** Click on Save
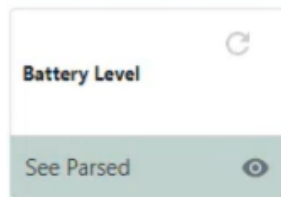


**Step 5:** Click Upload To Device

## Viewing Statuses

Device statuses that can be seen from the device

**Step 1:** Go to the status group

**Step 2:** Click on the eye icon of the status you want to view



## Sending Actions

Action are commands that can be sent to the device

**Step 1:** Go to the action group



**Step 2:** Click on the drop-down list of the action type

**Step 3:** Click on the action you want to perform

**Step 4:** Fill in the additional information (*) would be mandatory

**Step 5:** Click send



## Checking OTA (Over-The-Air) Firmware

Checking and updating OTA firmware

**Step 1:** Go to the OTA group and history and updates can be made



| FIRMWARE ID | NEW FIRMWARE VERSION (FROM OTA PACKAGE) | LAST RECEIVED OTA STATUS | | FILE DOWNLOADING STATE (CALCULATED BY SIMULATOR) |
|---|---|---|---|---|
| | | STATUS | RUNNING FIRMWARE VERSION | |
| 703861 | - | Idle | 090026 | - |

## Logs

This is to check the device activity

**Step 1:** Click on the Log Icon to view the logs

≡ LOGS

A new window opens up

**Step 2:** Double-click on the RED/BLUE text to open the additional information on the bottom.

| DATE & TIME | DIRECTION | TYPE | NODE ID | TLV |
|---|---|---|---|---|
| 14/03/2024 13:12:06.802 | RX | [0x30] Received Data Message | 0A | Show Locally Link Quality |
| 14/03/2024 13:12:06.816 | TX | [0x01] ACK | | |
| 14/03/2024 13:12:06.826 | TX | [0x10] Send Unicast Message Command | 0A | Show Locally Link Quality |
| 14/03/2024 13:12:07.078 | RX | [0x01] ACK | | |
| 14/03/2024 13:12:07.209 | RX | [0x30] Received Data Message | 0A | Hello |
| 14/03/2024 13:12:07.222 | TX | [0x01] ACK    [0x30] Received Data Message | | |
| 14/03/2024 13:12:07.230 | TX | [0x10] Send Unicast Message Command | 0A | |
| 14/03/2024 13:12:07.478 | RX | [0x01] ACK | | |

=

**Data & Time:** 14/03/2024 13:12:07.209

| NODE SHORT ID | TYPE 1 | LENGTH 1 | VALUE 1-1 |
|---|---|---|---|
| 0A | 40(64) | 01 | 00 |
| 0A | 64 - Hello | Length | Ping |

## Reporting Issues

This is to report any issues during testing

**Step 1:** Click on the Log Icon to view the logs

≡ LOGS

A new window opens up

**Step 2:** Click on the time stamp for the error you want to report

**Step 3:** On the upper-right side click on Report A Problem

❗ Report A Problem

A new window opens up with the time stamp

**Step 4:** Fill in the other details

**Report A Problem**                    ✕

Timestamp
17/05/2024 19:37:24.452

Summary
Cannot Enroll

Description
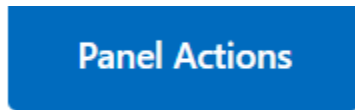Cannot enroll device

                    Dismiss   **Add**

**Step 4:** Click Add to Submit

**Add**

## Uploading OTA (Over-The-Air) Firmware

This is the process to upload any over-the-air firmware files

**Step 1:** On the main screen, on the top-right; Click on the Panel Actions



A new bar opens up

**Step 2:** Click on the OTA packages



A new window opens up;

**Step 3:** Click on Add OTA Package



**Step 4:** Fill Out The Details Of The Package

A new window opens up with the time stamp

**Step 5:** Fill in the other details



**Step 6:** Click Add to Submit

# DEVICE EMULATOR

## Setup The Device Emulator

**Note:** Make sure you have installed the drivers

**Step 1:** Plug in the Device USB to the computer if this is not plugged

**Step 2:** On the device manager, check which COM PORT this emulator has been assigned to. e.g. COM8
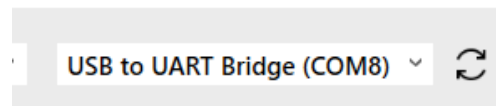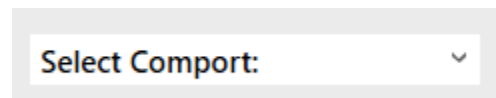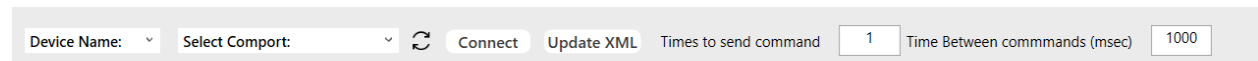


**Step 3.** Download the device emulator software

**Step 4:** Using Administrator/Elevated Privileges, install the Device Emulator software

**Step 5:** Run the Device Emulator software
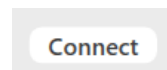
**Step: 6** On the top bar, Click on **Select Comport** and select your ComPort e.g.COM 8



**Step 7.** On the Left of the Com Port list**,** select the device from the dropdown list to use e.g. "Test" and this would send out a "Hello World" transmission.



**Step 8:** Click **Connect;** and this would send out a "Hello World" transmission.

## Using The Device Emulator

**Note:** Make sure you have the device setup in the device emulator

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### Viewing Device Activities

When the device is connected, all ongoing interactions can be seen in this window

☑ Scroll To End

| Date & Time | ComPort | Type | Parameters | TLV | Data |
|---|---|---|---|---|---|
| 21/03/2024 08:17:37.343 | RX | [0x35] Hello Message | | | 5A 0F BE 00 00 07 35 02 01 3F 0A EB 90 |
| 21/03/2024 08:17:37.344 | TX | [0x01] ACK | | | 5A 0F BE 00 00 07 01 00 3F 47 0A EB 90 |
| 21/03/2024 08:17:51.810 | RX | [0x35] Hello Message | | | 5A 0F BE 01 00 07 35 02 06 44 0A EB 90 |
| 21/03/2024 08:17:51.810 | TX | [0x01] ACK | | | 5A 0F BE 01 00 07 01 00 44 4C 0A EB 90 |
| 21/03/2024 08:17:59.422 | RX | [0x33] Status Change Message | | | 5A 0F BE 02 00 06 33 01 3A 0A EB 90 |
| 21/03/2024 08:17:59.422 | TX | [0x01] ACK | | | 5A 0F BE 02 00 07 01 00 3A 42 0A EB 90 |

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### Viewing Detailed Breakdown Of Device Activities

This is to view the details of an activity

**Step 1:** On the type column, click on the activity type

0x33] Status Change Message

**Step 2:** On the bottom of the activity screen, the details would be shown

Data:   5A 0F BE 02 00 06 33 01 3A 0A EB 90

| SOM | Sequance | Retries | Length | Type | Data | CS | EOM |
|---|---|---|---|---|---|---|---|
| 5A 0F BE | 02 | 00 | 06 | 33 | 01 | 3A | 0A EB 90 |
| | | | | [0x33] Status Change Message | Lost network | | |

## Parsing Device Activities

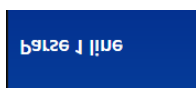This is to change the values of an activity

**Step 1:** On the data, column of the activity, right-click
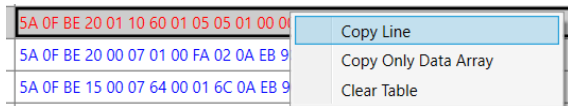


0x33] Status Change Message

**Step 2:** Click on Copy Only Data Array

**Step 3:** On the left panel, Click on Parse 1 Line



**Step 4:** Right-Click and Paste the Text



**Step 5:** Click On Do Parse

The details would be shown



**Step 6:** Data can be changed on the paste text portion and once you click on Do Parse it would be updated.

**Setup The Device Parameters in The Device Emulator**

**Note:** Make sure you have the device connected in the device emulator

**Step 1:** Click on the Parameters Box and select the first on the list (Long ID)

Parameters
Select parameter
Get Set

Parameters
Long ID
Get Set
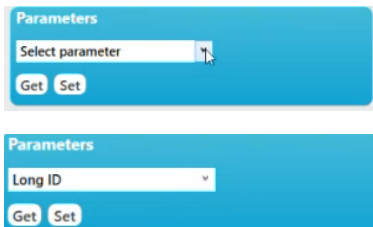
**Step 2:** Click on **Set** and a new window pops up

Set

**Step 3:** Enter the details on the text box this window and click **OK** to confirm

`_ _ _ _`
Ok    Cancel

**Step 4:** Click on **get** and the response to this activity can be viewed on the activity window under the parameters column with details also available

Get

Parameters
Long ID
Long ID
Long ID

| Data: | 5A 0F BE 18 01 0B 04 00 04 12 34 56 78 27 0A EB 90 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| SOM | Sequence | Retries | Length | Type | parameter address | Data Length | Parameter Value | CS | EOM |
| 5A 0F BE | 18 | 01 | 0B | 04 | 00 | 04 | 12 34 56 78 | 27 | 0A EB 90 |
| | | | | [0x04] Response to Get Parameter Command | Long ID | | Long ID | | |

**Step 5:** Complete each information for the device to be enrolled. In some cases, this has been pre-populated based on the device type previously selected.

Long ID
Long ID
Type and SubType
Configuration Parameters
Serial Keep-alive Period
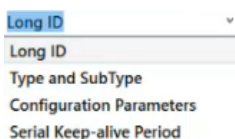
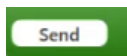## Sending Enrollment Request To The Panel

This is to send a device enrollment command to the panel

**Note:** Make sure you have the panel set to enroll (consult the specific panel manual for instructions)

**Step 1:** On the device under the General Commands select **Publish Registration Request**
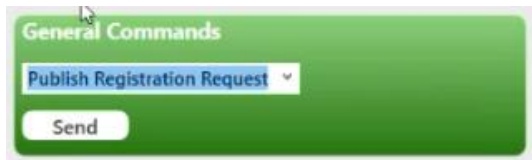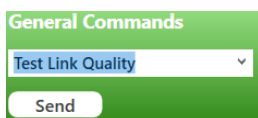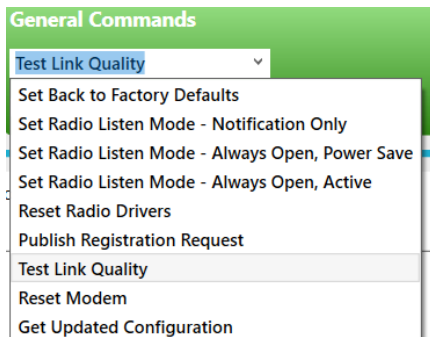


**Step 2:** Click **Send**



This should send an enrollment request to the panel, continue operation on the panel side.
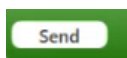
## Sending General Commands To The Panel

This is to send a device enrollment command to the panel

**Note:** Make sure you have the device enrolled on the panel

**Step 1:** On the device under the General Commands select your command, list may vary depending on device type. e.g. Test Link Quality
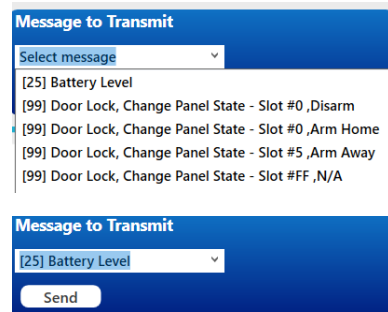




**Step 2:** Click **Send**



This would send a Test Link Quality Command to the panel

## Sending Messages To The Panel

This is to send a device messages to the panel

**Note:**  Make sure you have the device enrolled on the panel

**Step 1:** On the device under the Messages to Transmit select your message, list may vary depending on device type. e.g. Battery Level

**Message to Transmit**

Select message

[25] Battery Level
[99] Door Lock, Change Panel State - Slot #0 ,Disarm
[99] Door Lock, Change Panel State - Slot #0 ,Arm Home
[99] Door Lock, Change Panel State - Slot #5 ,Arm Away
[99] Door Lock, Change Panel State - Slot #FF ,N/A

**Message to Transmit**

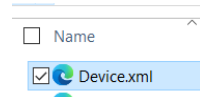[25] Battery Level

Send

**Step 2:** Click **Send**

Send

This would send a Battery Level message to the panel;


## Editing Device Messages, Parameters and  Commands

This is to edit the new settings for a device

**Step 1:** Navigate to C:\Visonic\DeviceEmulator\XML

**Step 2:** Open in your editor the file Device.xml

☐ Name

☑ Device.xml

**Step 3:** Edit the desired the items under <DeviceReport>, <Parameters> or <GeneralCommands>

**Step 4:** Save the file

**Note:** If you want to add another device with these new parameters, you can copy the items between

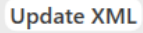<Device> and  </Device>

and paste this below </Device>

Make sure you change the name in between the quotes in the Device Name="New_Name"

**Load XML Device Messages, Parameters and Commands**
This is to load the new settings for a device

**Step 1:** On the device Emulator, click on Update XML

Update XML

**D-309743** PANEL&DEVICE EMULATOR INST&USER

REV.00 (11/2024)