USER GUIDE

PanL Smart Living

Part 3 ~ PanL PD40 Display

(Release 4.2.0)

Document Version: 2.0
Issue Date: 19 February 2026

Table of Contents

1 Introduction

1.1 About this Guide

This document details the procedure for using the PanL PD40 Display as a client to control various devices within the PanL Smart Living Ecosystem, such as lights, curtains/blinds, air conditioning, and others.

For System Integrators, this document includes additional sections on configuration of PanL PD40 Display using the mobile app, instructions for sending this configuration to PanL PD40 Display, and other set up information.

1.2 Intended Audience

This user guide is intended for anyone or system integrators who are interested in using PanL PD40 Display to configure or manage devices within an automated smart home.

1.3 Document References

Document Name	Document Type	Format
BRTSYS_AN_094_PSL User Guide - 1. System Installation	Application Note/ User Guide	PDF
BRTSYS_AN_095_PSL User Guide - 2. PanL PD100 Display		
BRTSYS_AN_097_PSL User Guide - 4. iOS Mobile App		
BRTSYS_AN_098_PSL User Guide - 5. Android Mobile App		
BRTSYS_AN_099_PSL User Guide - 6. Voice Assistants		

1.4 Known Issues and Limitations

NA

2 Getting Started

2.1 PanL PD40 Display Hardware

The documents listed below provide information on how to set up PanL PD40 Display hardware:

PanL PD40 Display Datasheet
PanL PD40 Display QSG

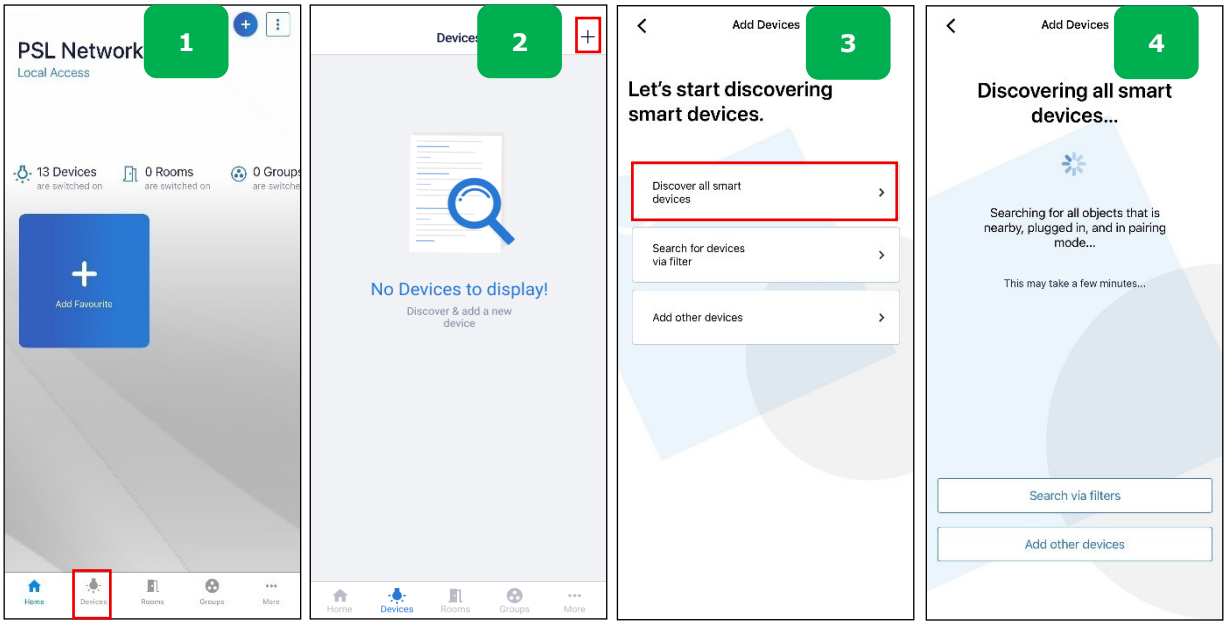
3 Onboarding PanL PD40 to the PanL Network

3.1 Discover PanL PD40 Display in PanL Network

To configure PanL PD40, the first step is to discover and add PanL PD40 into a PanL Network.

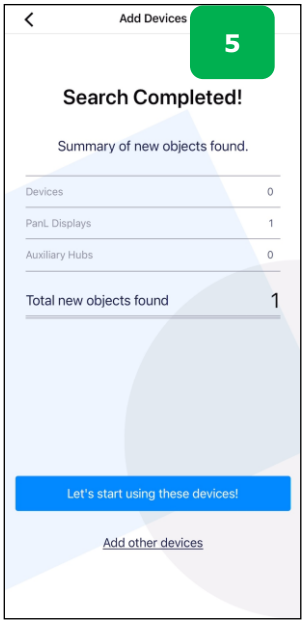
Procedure:

Use the "**Discover all smart devices**" function in PanL Smart Living mobile app to auto-discover a PanL PD40 Display in a PanL Network. They will be automatically added to the PanL Network.



To Add a PanL Display device to a PanL Network –

1. Select [**Devices**] to open the Devices page.
2. Tap on **+** to add devices.
3. Select [**Discover all smart devices**] to auto-discover devices.
4. Number of discovered devices will be displayed as auto discover is in progress. Device discovery process takes around 3-5 minutes.
5. Number of discovered PanL displays are visible.



The PD40 display devices can also be discovered and onboarded by using the *Search for Devices via filter* option and selecting 'BACnet' as the connection type.

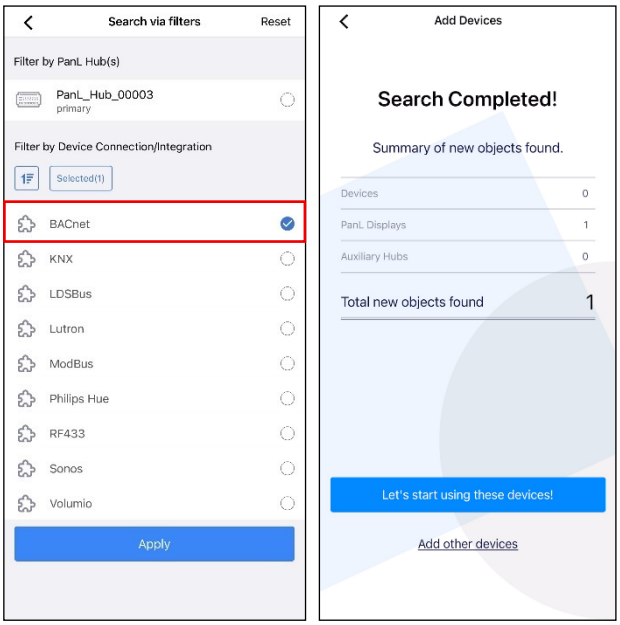


Figure 1 - Discover using filter

3.2 Viewing List of PanL Displays

Newly discovered PanL PD40 displays are assigned a generic system name by default until renamed. This page will differ based on the devices that are added to the PanL network. Click on a display to view additional information.

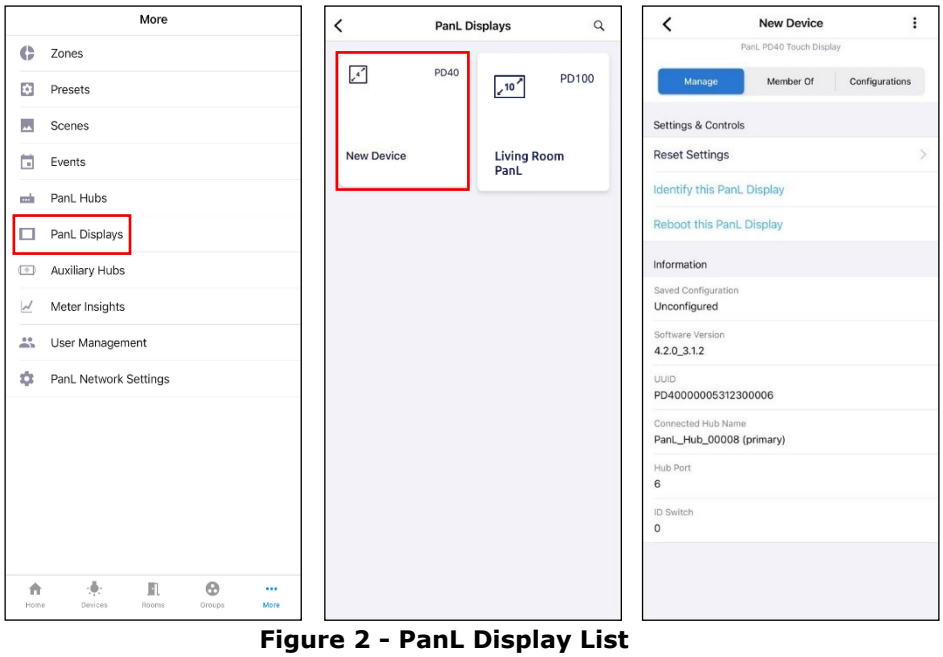


Figure 2 - PanL Display List

NOTE:
The following message will be displayed if no PanL Displays have been discovered in the PanL Network.

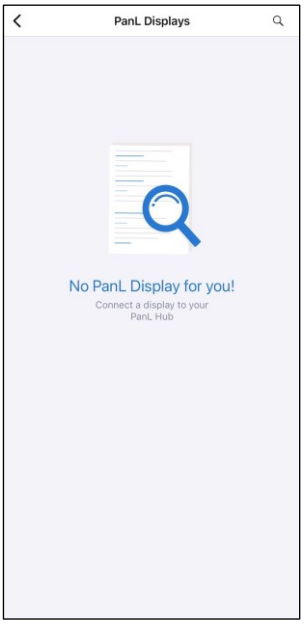


Figure 3 - No PanL Displays discovered

3.3 Creating Configuration

A configuration must be created for a PanL Display to define which objects—such as Devices, Rooms, Groups, Zones, or Scenes—should be displayed and controlled (Refer to Figure 24). These configured objects must be added to the same PanL Network as the display.

Without a configuration, the PanL Display cannot interact with or control any of the connected objects, as shown below.

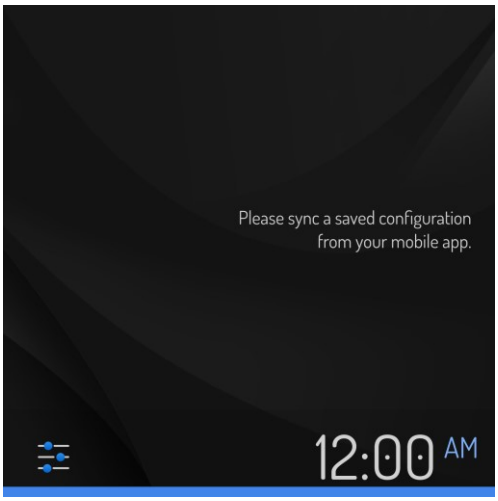


Figure 4 - PD40 Before Configuration

Under the *Configuration* tab of the selected PanL display, click [**Create Configuration**] to create a configuration for the display.

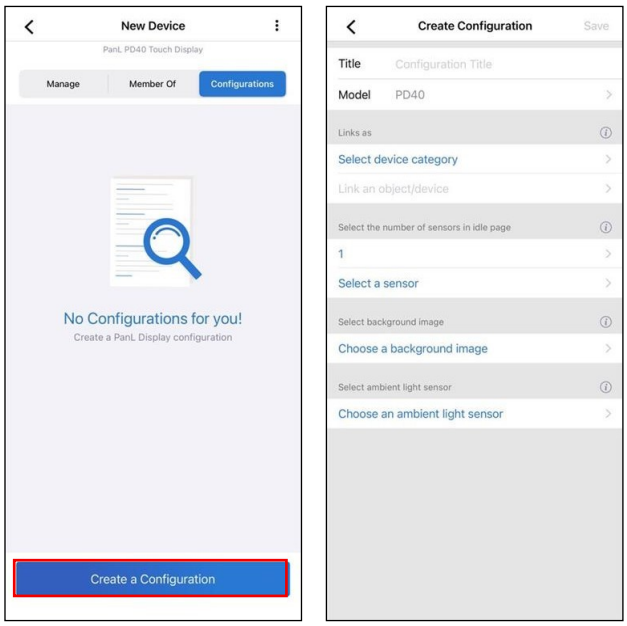


Figure 5 - Create Configuration

To create a configuration, the user must add the objects. All other settings such as, adding idle page sensors, selecting an ambient light sensor or selecting a background image are optional.

3.3.1 Adding Objects

Devices, rooms, groups, zones and scenes can be added to each PanL PD40 Display.

Tap on [**Select device category**] under *Links as* option. User can choose which device/object to add through the *Create Configuration* page.

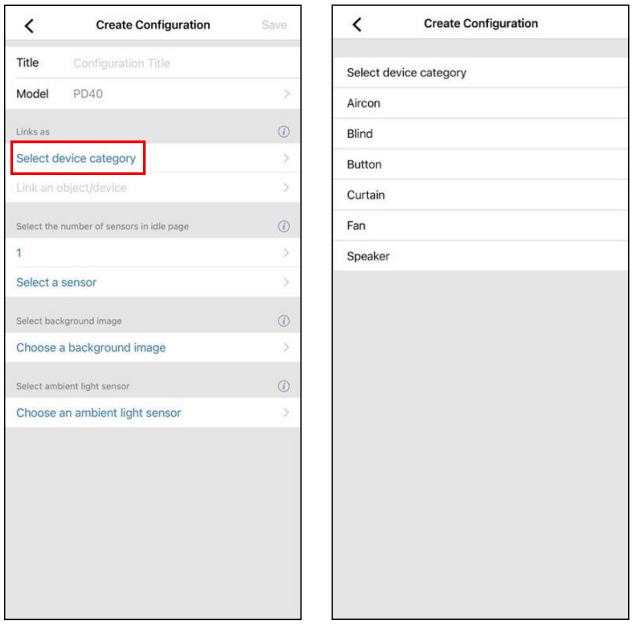
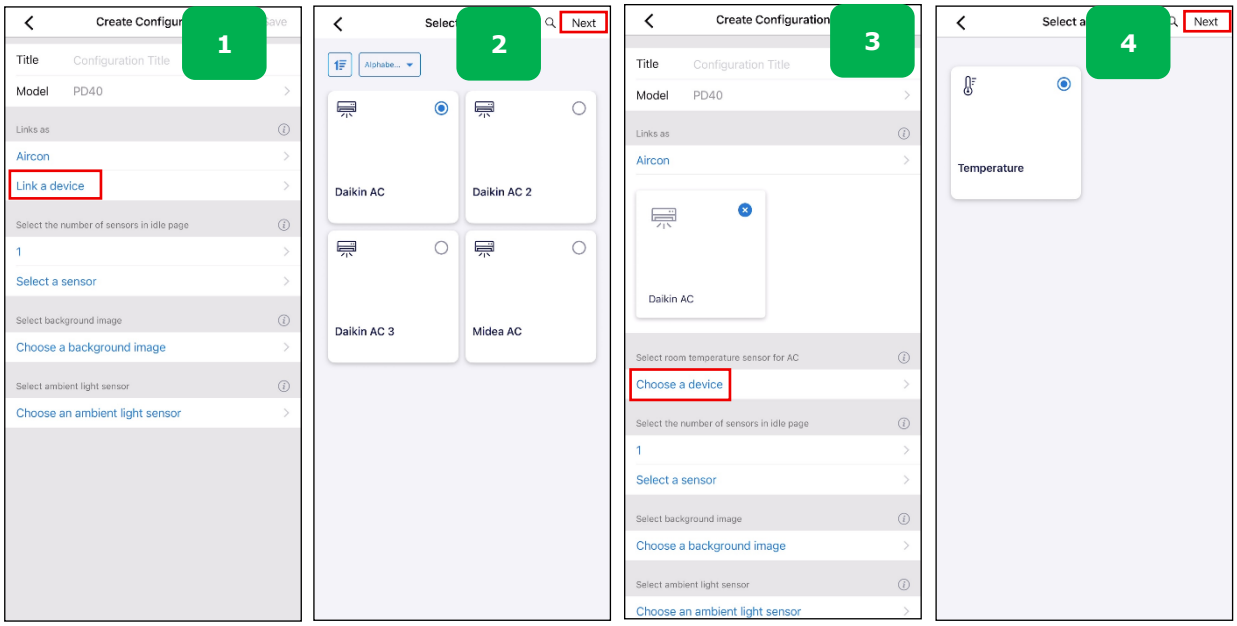


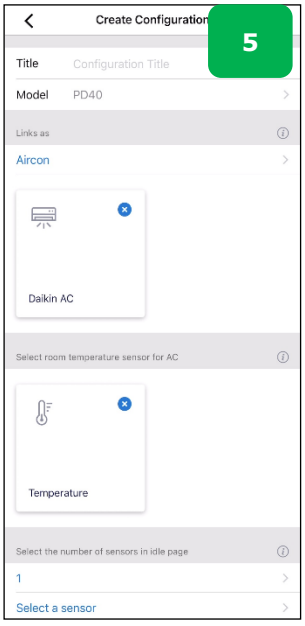
Figure 6 - Link Devices

3.3.1.1 Aircon



To link an aircon device –

1. After choosing the *Aircon* category, select [**Link a device**].
2. Choose the aircon device.
3. Selected aircon device is displayed.
4. Linking an optional temperature sensor enables the display to show the current room temperature alongside the temperature set by the aircon. To link a temperature sensor, select the [**Choose a device**] under *Select room temperature sensor for AC*.
5. Select temperature sensor is displayed.



Once the saved configuration is sent to the PD40 display (Refer Sending Configuration), it will be displayed as shown below.

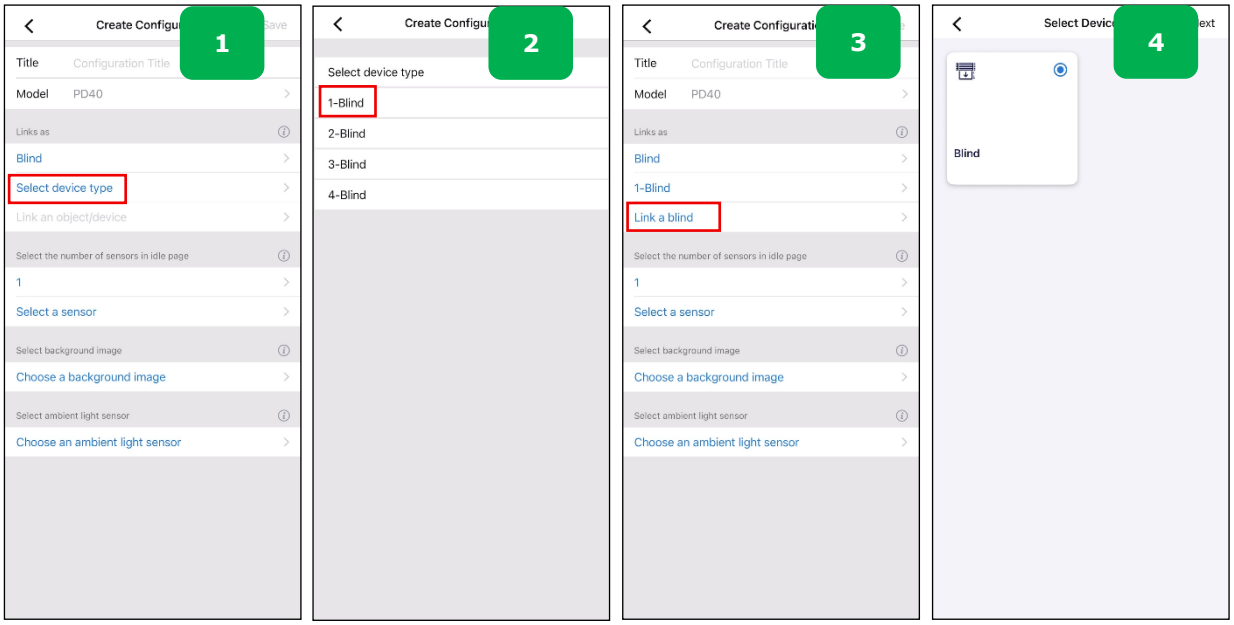
Figure 7 - Display View: Aircon

The room temperature detected by the temperature sensor will be displayed under "Current Temperature," while the air conditioners set temperature will appear as the "Set Point."

For instructions on how to operate the aircon device using the PD40 display, refer to Operating the Aircons.

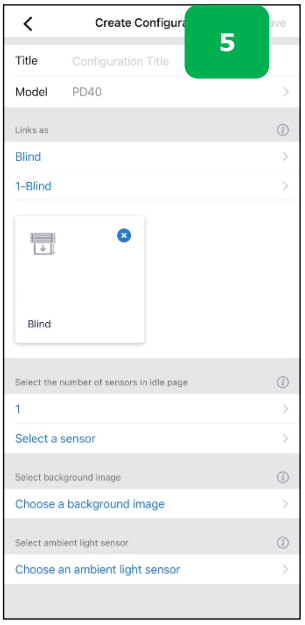
3.3.1.2 Blind/Curtain

The steps to link a curtain or blind device are similar. The instructions below demonstrate how to link a blind device.



To link a blind device –

1. After choosing the Blind Category, tap on [**Select device type**].
2. Select how many blind devices to control. In this example, only 1 blind device is chosen to be controlled by clicking on "1-Blind".
3. Link the blind device by tapping on the [**Link a blind**] button.
4. Select the device.
5. Device details are displayed.



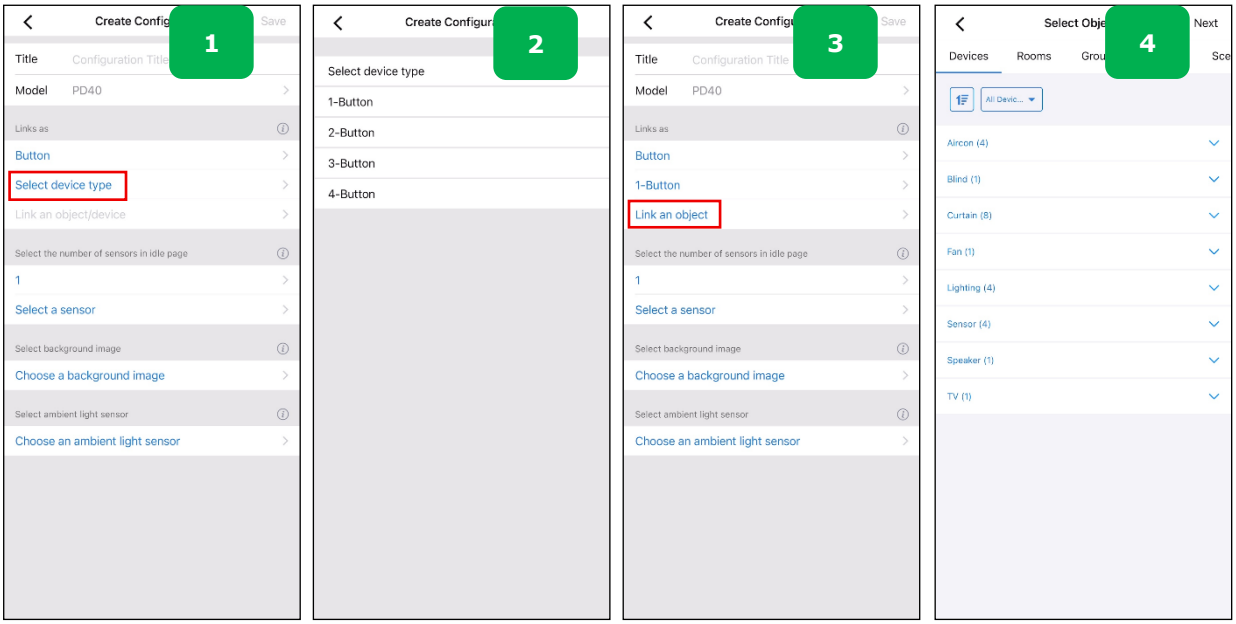
Once the saved configuration is sent to the PanL PD40 display (Refer to Sending Configuration), it will be displayed as shown below.

Figure 8 - Display View: Curtain/Blind

For instructions on operating the blind and curtain using the PanL PD40 display, refer to Operating the Shades (Blinds/Curtains).

3.3.1.3 Button

The "Button" option allows control of up to four devices, rooms, groups, zones, or scenes using the PanL PD40 display.



To configure Button category in PanL PD40 display-

1. After choosing the Button category, click on [**Select device type**].
2. User can choose to control either 1,2,3 or 4 objects by selecting on the corresponding options.
3. Once selected, click on [**Link an object**].
4. The user can link the various available objects to be controlled using the PD40 display.

NOTE:
Light devices can be linked exclusively through the Button Setup mode.

The figure below demonstrates how a 4-button configuration is presented on the PanL PD40 display, allowing control of a device (Bedroom Main Light), a room (Living Room), a zone (Main Level), and a group (All Hanging Lights Group).

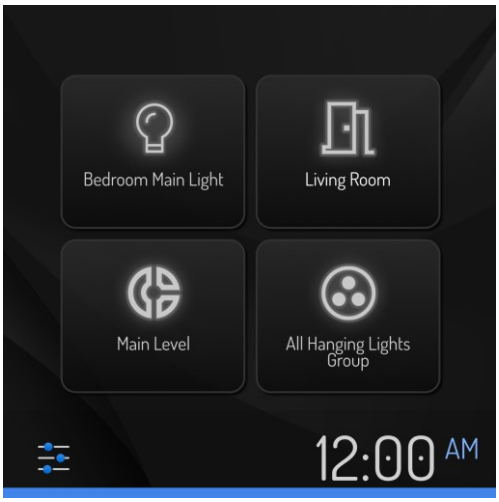


Figure 9 – 4-Button Setup

3.3.1.3.1 Configure Button Layout

For the Button category, the user can select a layout based on the type of button (only for 2,3 and 4-button) chosen. This allows customization of how the buttons are displayed on the PanL PD40 screen.

The images below illustrate how to configure the layout for a 2-button setup. Users can select either a vertical or horizontal orientation.

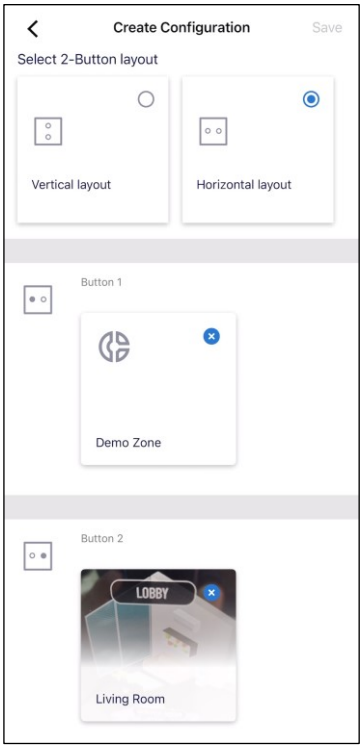


Figure 10 – 2-Button Layout

Once the saved configuration is sent to the PanL PD40 display (Refer to Sending Configuration), it will be displayed as shown below:

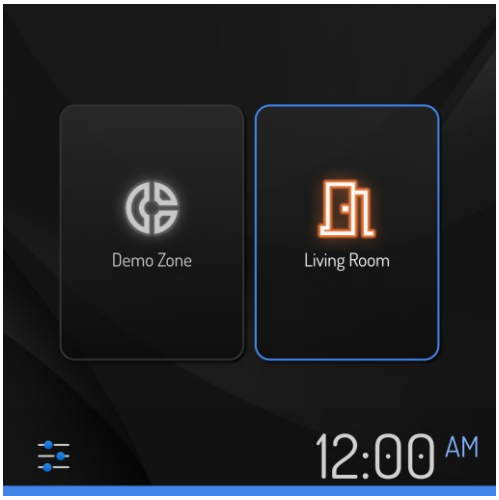


Figure 11 - 2-Button PD40 Layout

For instructions on operating the button setup using the PanL PD40 display, refer to Button Setup Operation.

3.3.1.4 Fan

User can control a fan device as shown in the image below. For instructions on operating the fan device using the PanL PD40 display, refer to Operating the Fans.

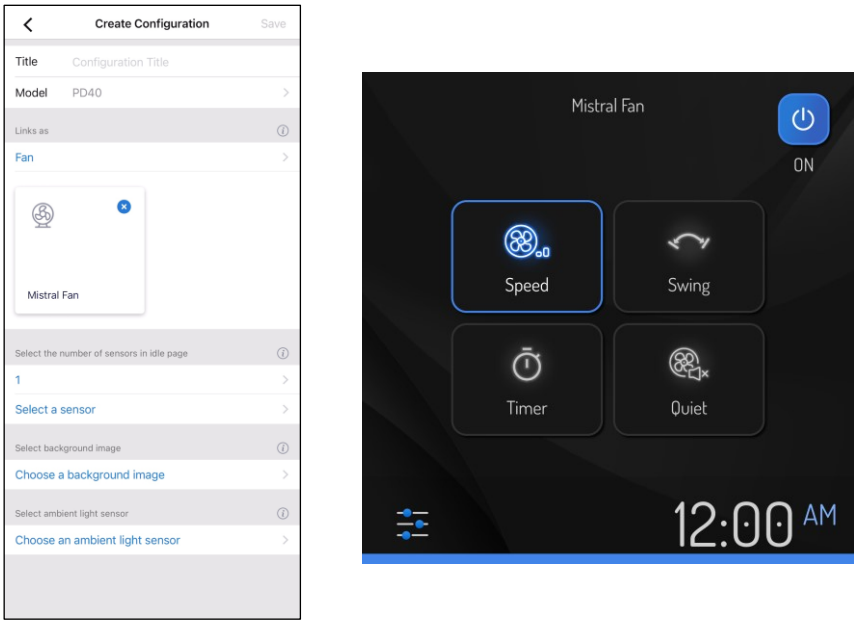


Figure 12 - Link Fan Device: Mobile App vs Display View

3.3.1.5 Speaker

User can control a speaker device as shown in the image below. For instructions on operating the speaker device using the PD40 display, refer to Operating the Speakers.

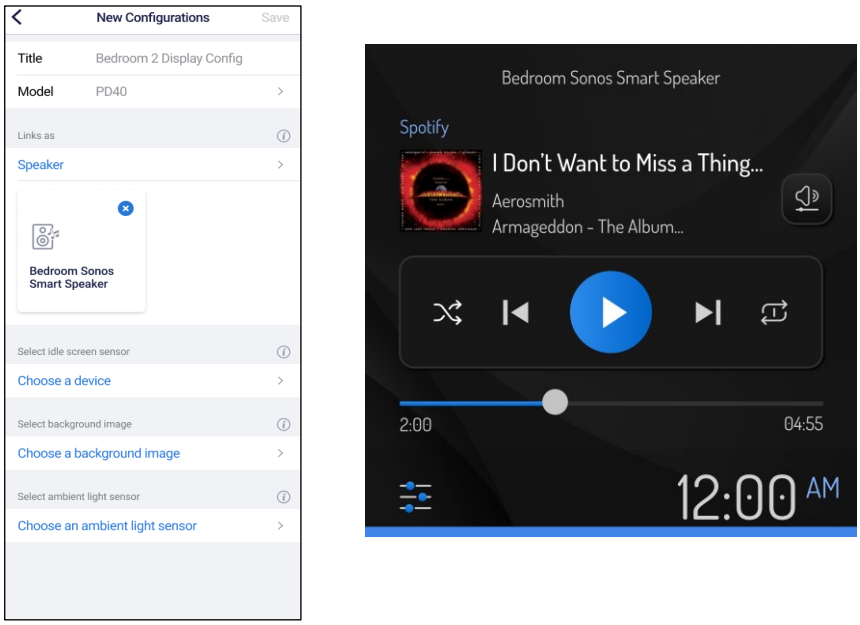
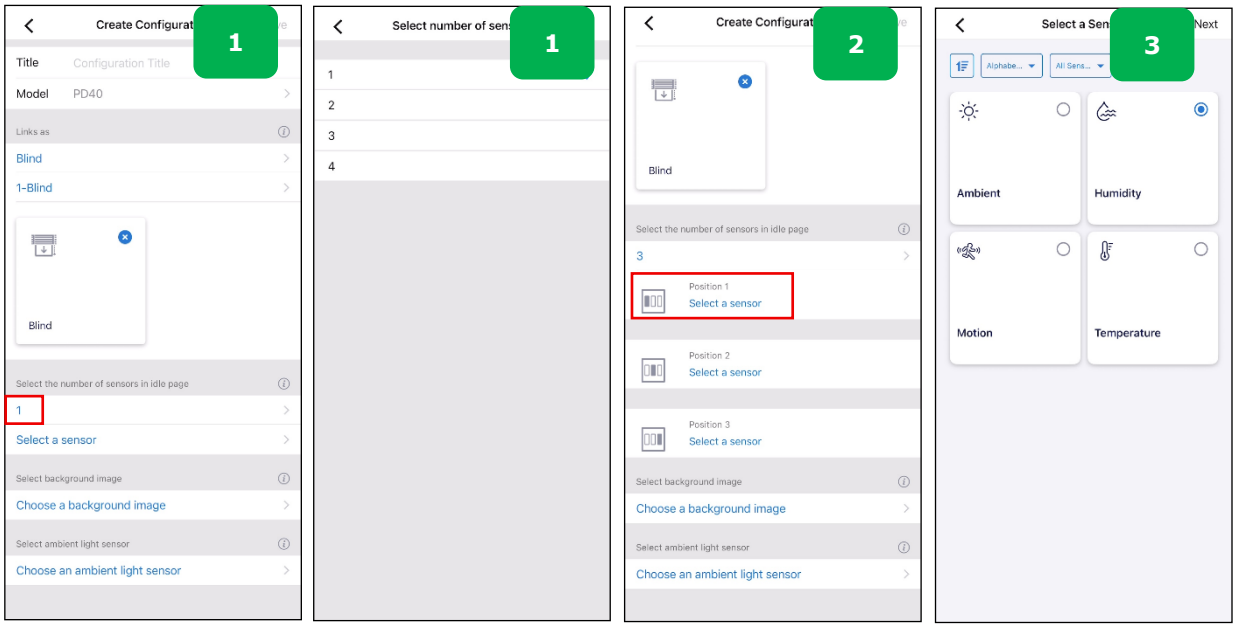


Figure 13 - Link Speaker Device

3.3.2 Select Idle Sensors

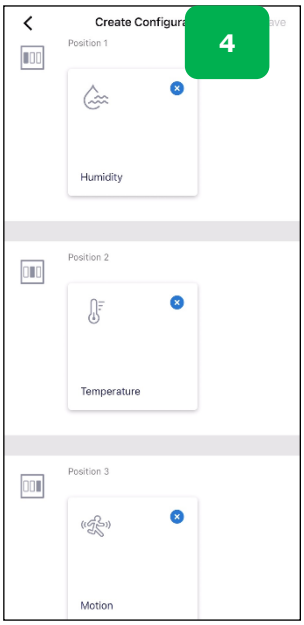
PanL display devices enter idle mode after a configured period of inactivity. The user can select up to four sensors whose real time data are displayed while the device is in idle mode.



To add idle page sensors –

1. Select the number of sensors to be displayed during idle mode. In this example, three sensors are selected.
2. Choose the first sensor.
3. The Humidity sensor is selected for the first sensor, as an example.

4. The Selected sensors are displayed.



Once configuration is sent to the display, the display cycles through each sensor value at a set interval(default is 5 seconds).

For details on configuring the interval between sensor displays, see Idle Timeout Control.

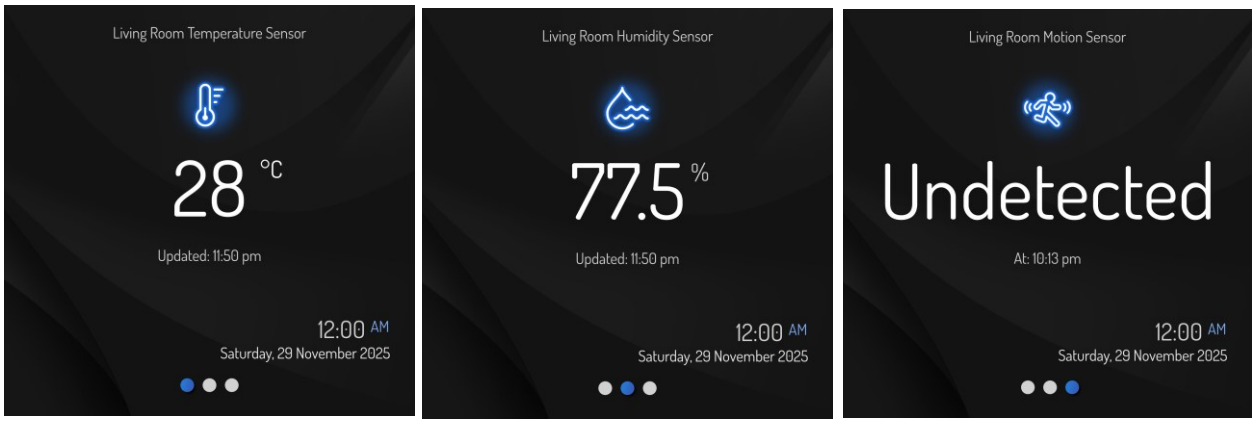


Figure 14 - 3 Sensors Idle Page

3.3.3 Select a Background Image

User can click on [**Choose a background image**] to choose between a default or custom background for the PanL PD40 display.

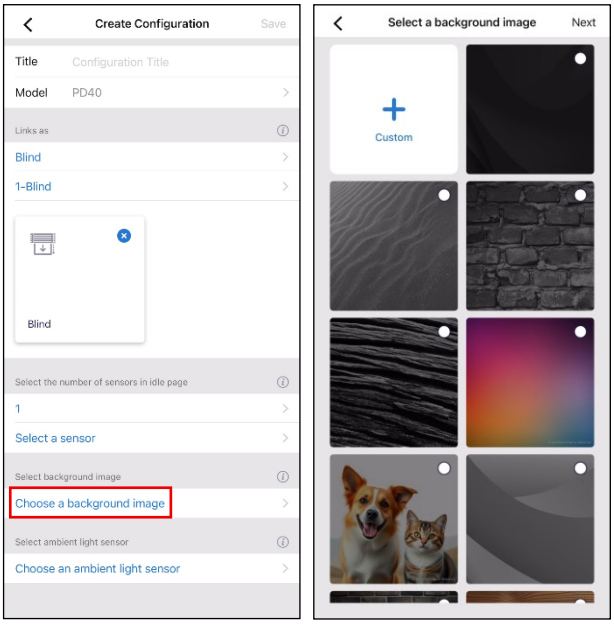


Figure 15 - Select Background Image

The selected background will be displayed as shown below:

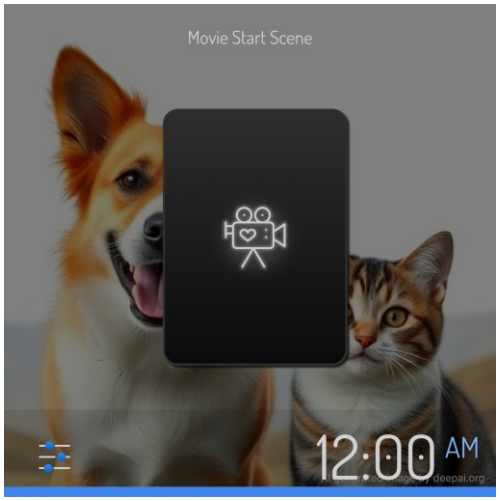


Figure 16 - Custom Background

3.3.4 Select an ALS Sensor

PanL PD40 does not include a built-in ambient light sensor (ALS). However, the user can link an external ALS sensor using the [**Choose an ambient light sensor**] option. Once configured, the display will automatically adjust screen brightness based on ambient lighting conditions to improve visibility and conserve power.

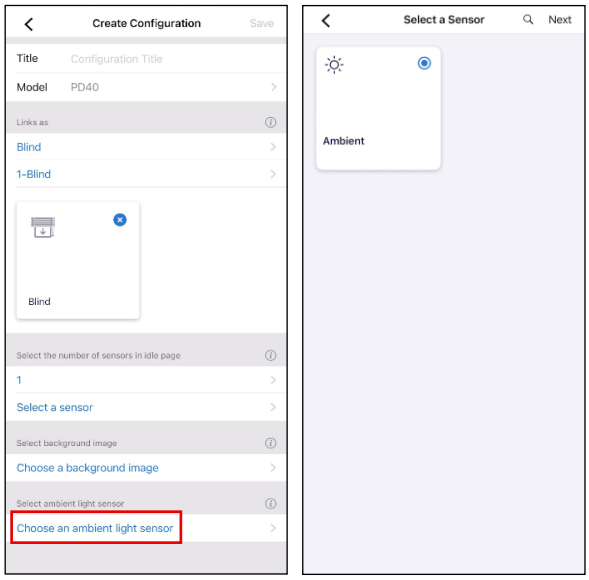


Figure 17 - Choosing an ALS Sensor

On the PD40 display, once the ALS sensor is linked, the user can enable the *Auto Brightness* button (Refer to Figure 46) to ensure the screen brightness is adjusted automatically.

3.4 Using an Existing Configuration

Alternatively, an existing configuration can be sent to the PanL PD40 Display. Selecting a display presents all available configurations that can be applied to it.

NOTE:
A PanL PD40 Display can have multiple configurations.

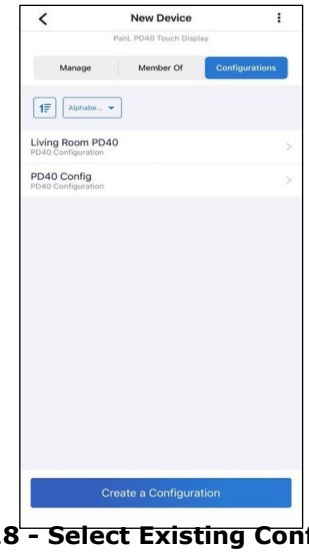


Figure 18 - Select Existing Configuration

User can click on any of the configurations to view it. On clicking the ⋮ , user can choose to edit or delete the configuration.

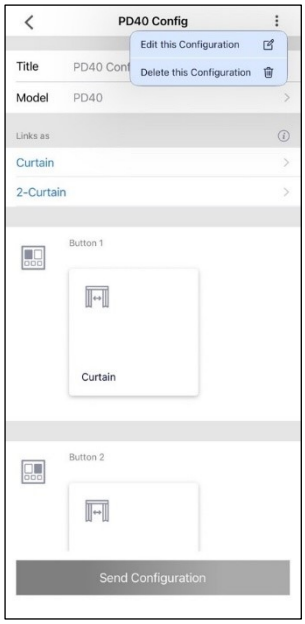


Figure 19 - Existing Configuration Features

3.5 Sending Configuration

After creating a new configuration or selecting an existing one, the configuration must be transmitted to the PanL PD40 Display to take effect. This is done by selecting the [**Send Configuration**] button.

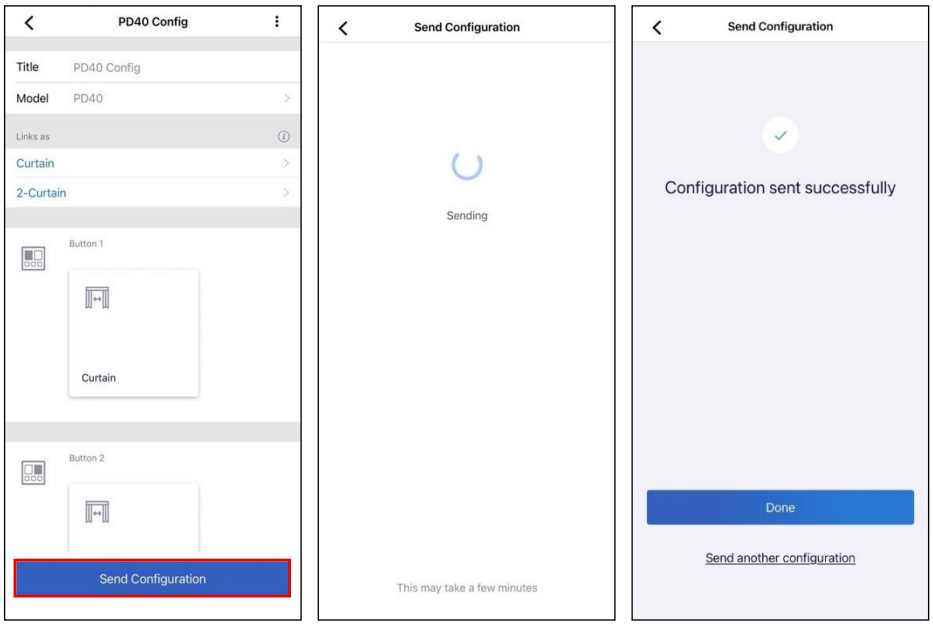


Figure 20 - Sending Configuration

3.6 Receiving Configuration at PanL PD40 Display End

When a configuration is sent from the PanL Smart Living mobile app, the following takes place on the PanL Display.

1. PanL PD40 Display will display the configuration's downloading progress page.

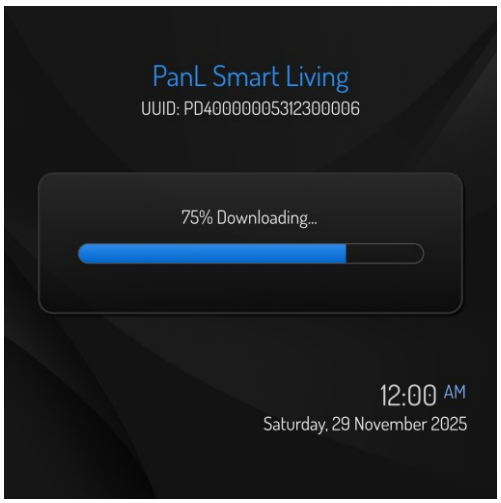


Figure 21 - Downloading Configuration

2. After the configuration has finished downloading, PD40 Display will automatically reboot to load the new configuration.

3.7 Launching PanL PD40 Display

When powered ON, the PanL PD40 Display initiates its bootup sequence and proceeds to show Idle mode.

Figure 22 - Initial Animation Page

Before vs After Configuration Setup

The images below compare the display in Idle mode before and after the configuration is downloaded to the display.

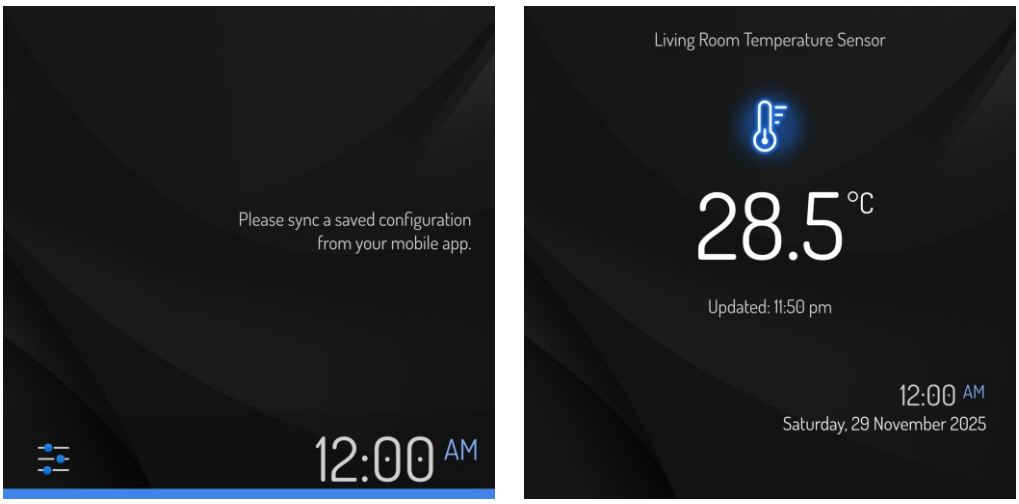


Figure 23 - Default Idle Page: Before vs After Configuration Setup

When the user taps the display, the page with configured objects (devices, rooms, zones, groups etc.) will be displayed.

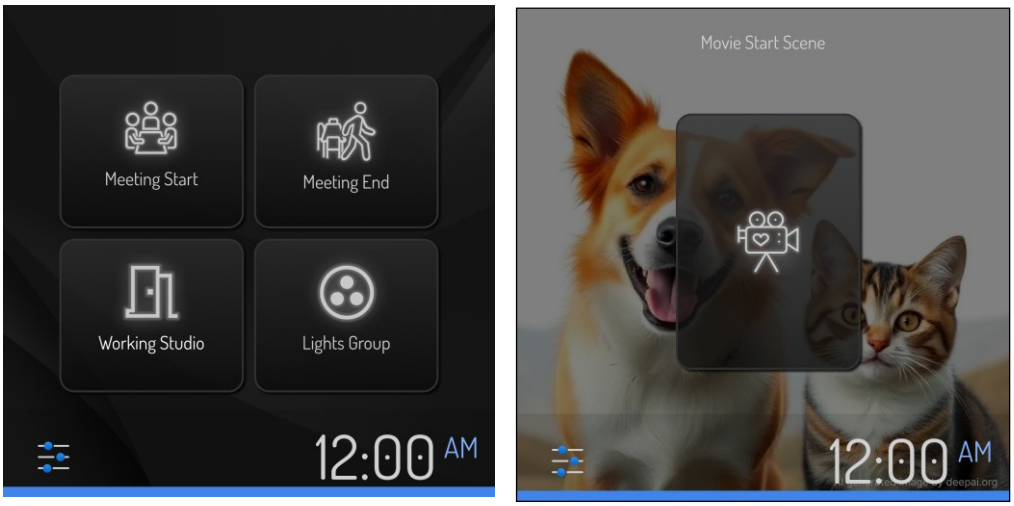


Figure 24 - PD40 Display Examples

Now, the user can proceed to fine-tune their display preferences, monitor, and control objects using the PanL PD40 Display.

4 Operating Objects

PanL PD40 display can be configured to control devices by 2 methods:

1. Single devices - PanL PD40 can be configured to control only one device such as aircon, fan or speakers.

2. Multiple devices/Categories - User can monitor and control up to 4 devices/objects using 1-button, 2-button, 3-button, and 4-button setup. This feature is available for lights, curtains, blinds, groups, rooms, zones etc.

User can do short tap to activate the object or perform a long tap to open additional functions.

4.1 Button Setup Operation

The following functions are common across 1-, 2-, 3-, and 4-button setups.

Short Tap on the object button to turn it on (indicated by luminous blue button) and off (indicated by dimmed white button).

Figure 25 - Button Control Example: Short Tap

Perform a long tap on any button to open the device's detailed page. From there, user can control the device's attributes using the available controls.

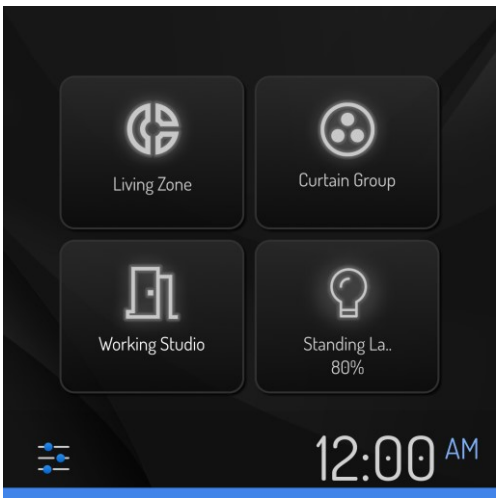


Figure 26 - Button Control Example: Long Tap

In the example above, a 4- button configuration is shown. Performing a long tap on a room or a zone button will open the detail page where user can turn ON/OFF the room/zone.

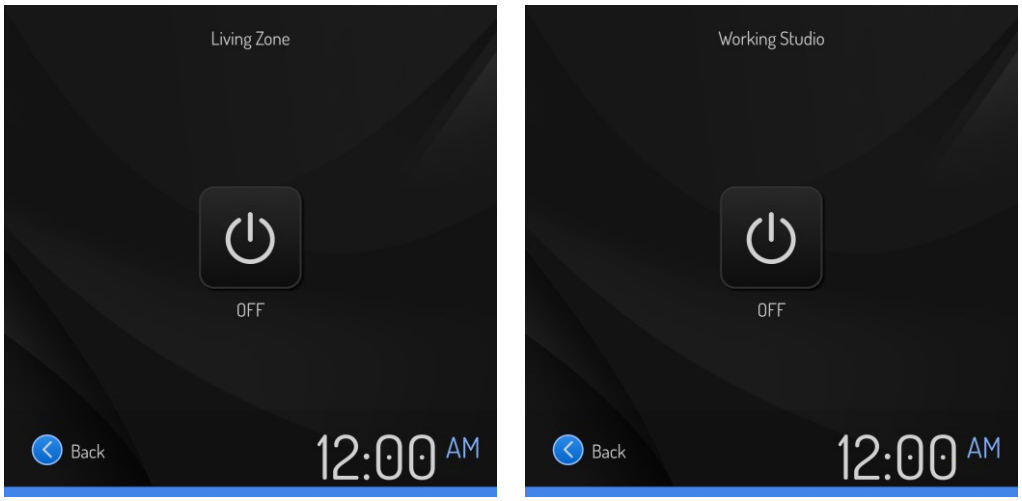


Figure 27 - Long Tap Example: Room/Zone

Performing a long tap on the curtain group button opens the detail page, where you can control all curtains within the group.

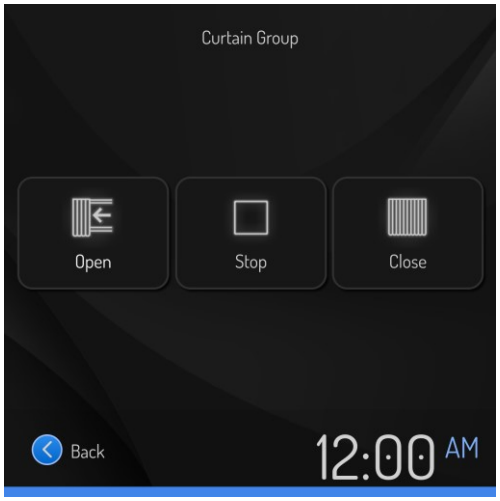


Figure 28 - Long Tap Example: Group

Long tap on the light device to access and control its available features.

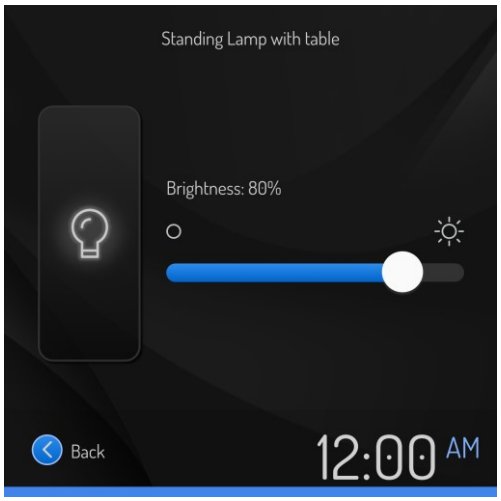


Figure 29 - Long Tap Example: Device

4.2 Operating the Lights

Lights are configured to be used as button setup. Below images depict how a light device can be controlled using the 1-button setup.

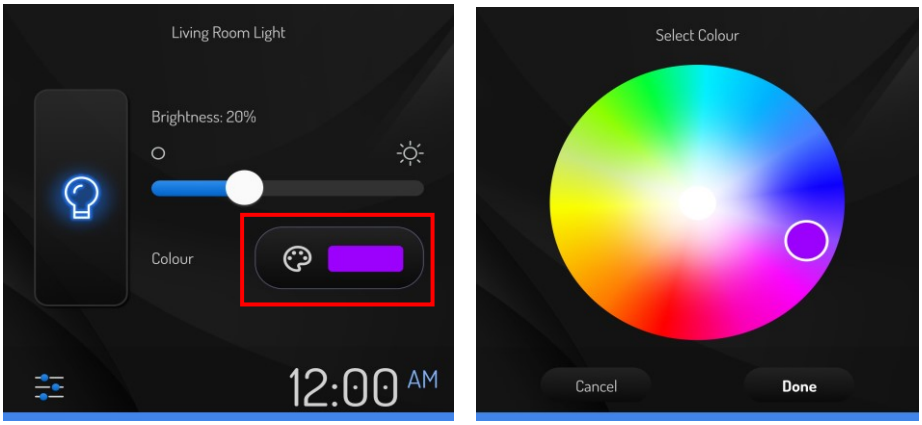


Figure 30 - Light Control example

If the lights support both color and color temperature, user will be able to select and control both features.

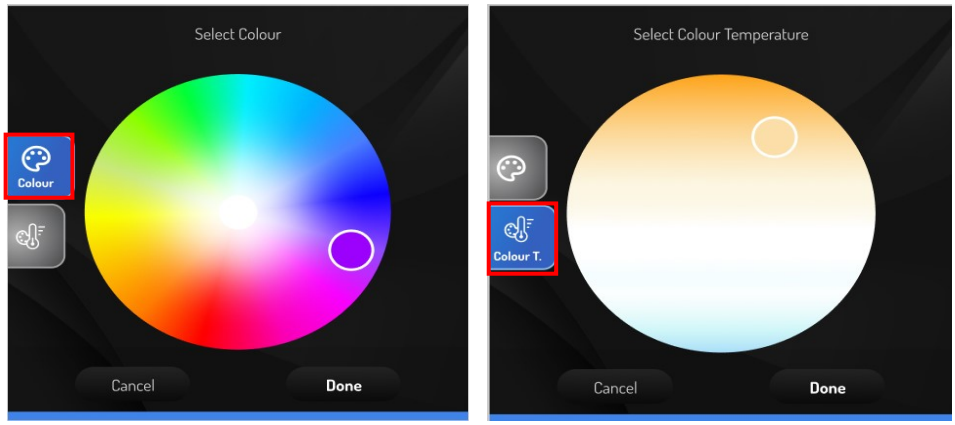


Figure 31 - Button Setup Example: Controlling Color and Color Temperature

4.3 Operating the Aircons

Users can control an individual aircon or a group using the PanL PD40 display. The additional controls available will be subject to the aircon model.

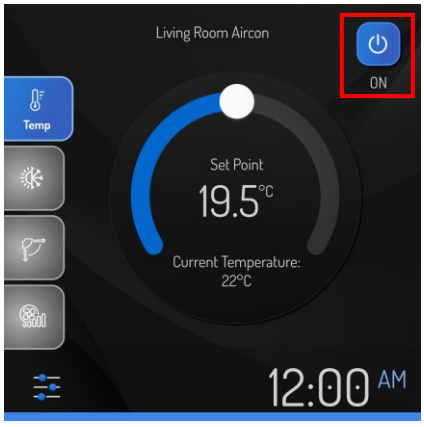


Figure 32 - Operating the Air-cons

The images below illustrate the different aircon features that can be controlled using the PanL PD40 Display.

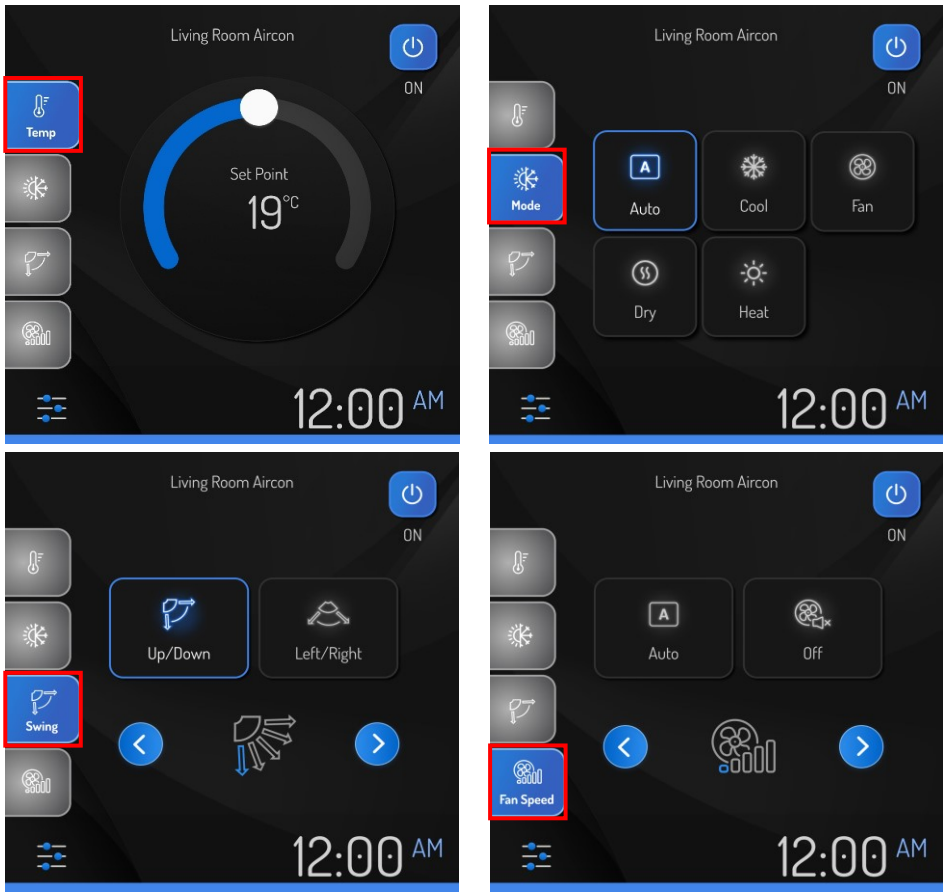


Figure 33 - Aircon Configuration

4.4 Operating the Shades (Blinds/Curtains)

Users can control single or multiple curtain/blind devices using the PanL PD40 display. The additional controls available will be subject to the device model. Up to 4 curtains/blinds can be configured in the PanL PD40 Display configuration.

NOTE:
The primary difference in operating a curtain versus a blind is the direction of movement: curtains move sideways, whereas blinds move vertically.

As shown in the images below, the top row displays the configured curtain/s. Curtains that are switched on are indicated by a glowing blue button.

In the left example, both *Curtain – Day* and *Curtain – Night* is turned on. Tapping *Open*, *Stop*, or *Close* will control both curtains simultaneously.

In the right example, three curtains are configured: *Curtain – Day (L)*, *Curtain – Day (R)*, and *Curtain – Night (L)*. Only *Curtain – Night (L)* is turned on, so tapping *Open*, *Stop*, or *Close* will control only that curtain.

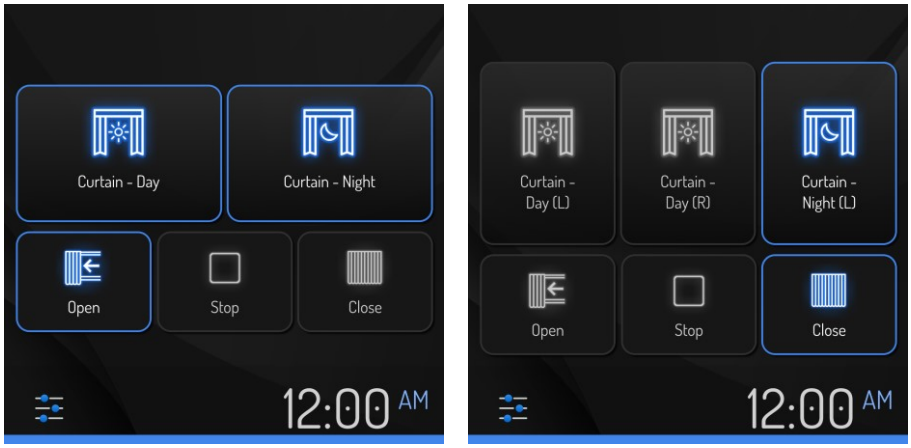


Figure 34 - Curtain Control

Similar layout is followed by blinds as well. In the left example, only a single blind, *Recreation Room Blinds*, is configured. Tapping *Open*, *Stop*, or *Close* will control just this blind.

In the right example, two blinds are configured: *Blinds – Day* and *Blinds – Night*. Only *Blinds – Night* is turned on, so tapping *Open*, *Stop*, or *Close* will control only that blind.

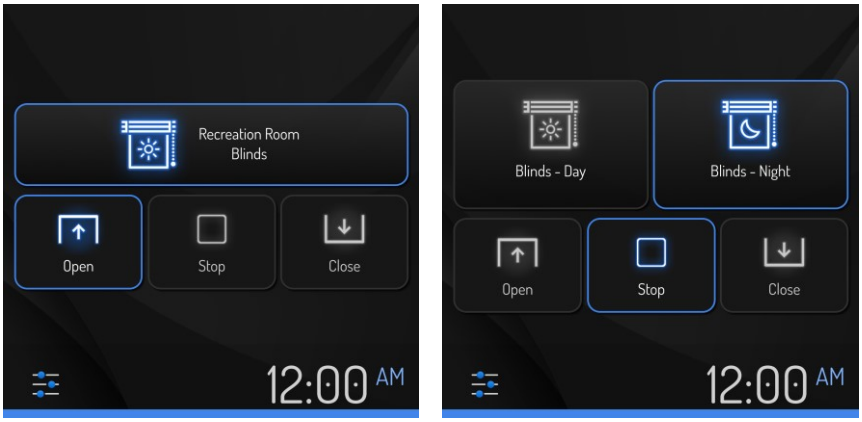


Figure *35* - Blind Control

4.5 Operating the Speakers

Users can control a speaker device using the PanL PD40 display. The additional controls available will be subject to the speaker model.

User can adjust volume level by tapping on the volume icon as highlighted below.

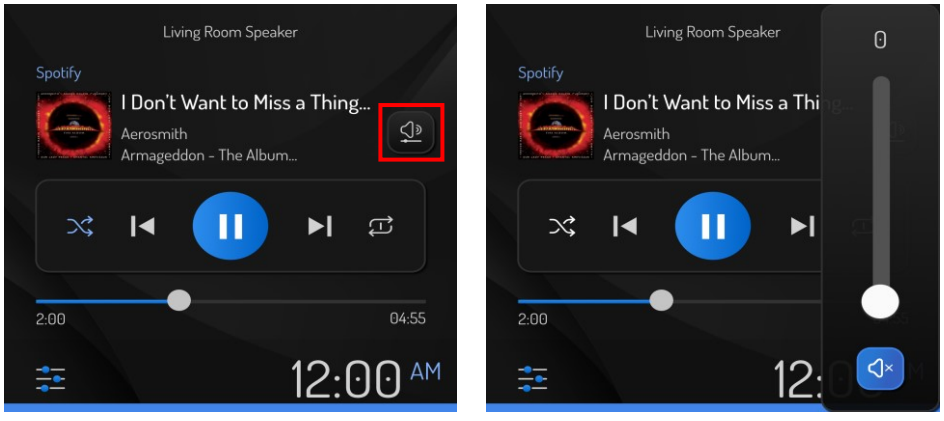


Figure 36 - Speaker Configuration

4.6 Operating the Fans

Users can control a fan device using the PanL PD40 display. The additional controls available will be subject to the fan model.

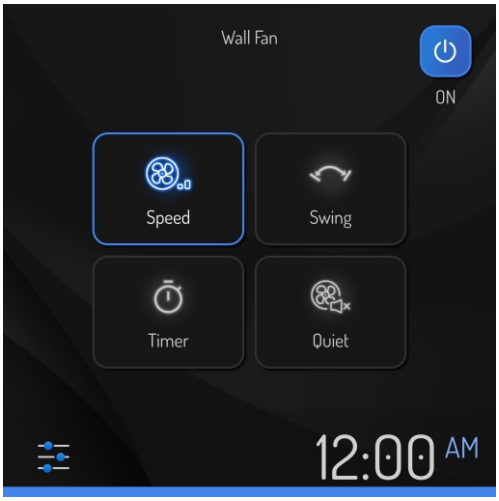


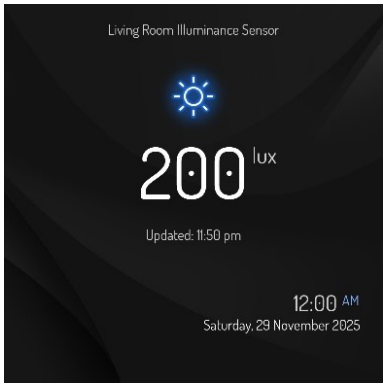
Figure 37 - Operating the Fans: Short Tap

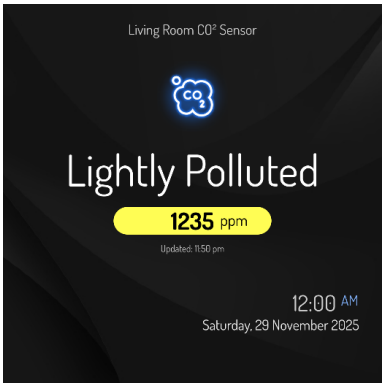
4.7 Monitoring Sensors

If user has configured any sensor to be displayed in the PanL PD40 Display configuration, the sensor measurement will be shown during the idle state. Below images illustrate examples of how the idle state looks like with different sensors. Additionally, sensors can be pushed via button configuration aside from idle page.

The following sensors are currently supported by the PSL system:

- Ambient
- CO2
- Temperature
- Door/Window
- Humidity
- IAQ
- TVOC
- Motion
- Pressure
- Smoke Detector
- Water Leak





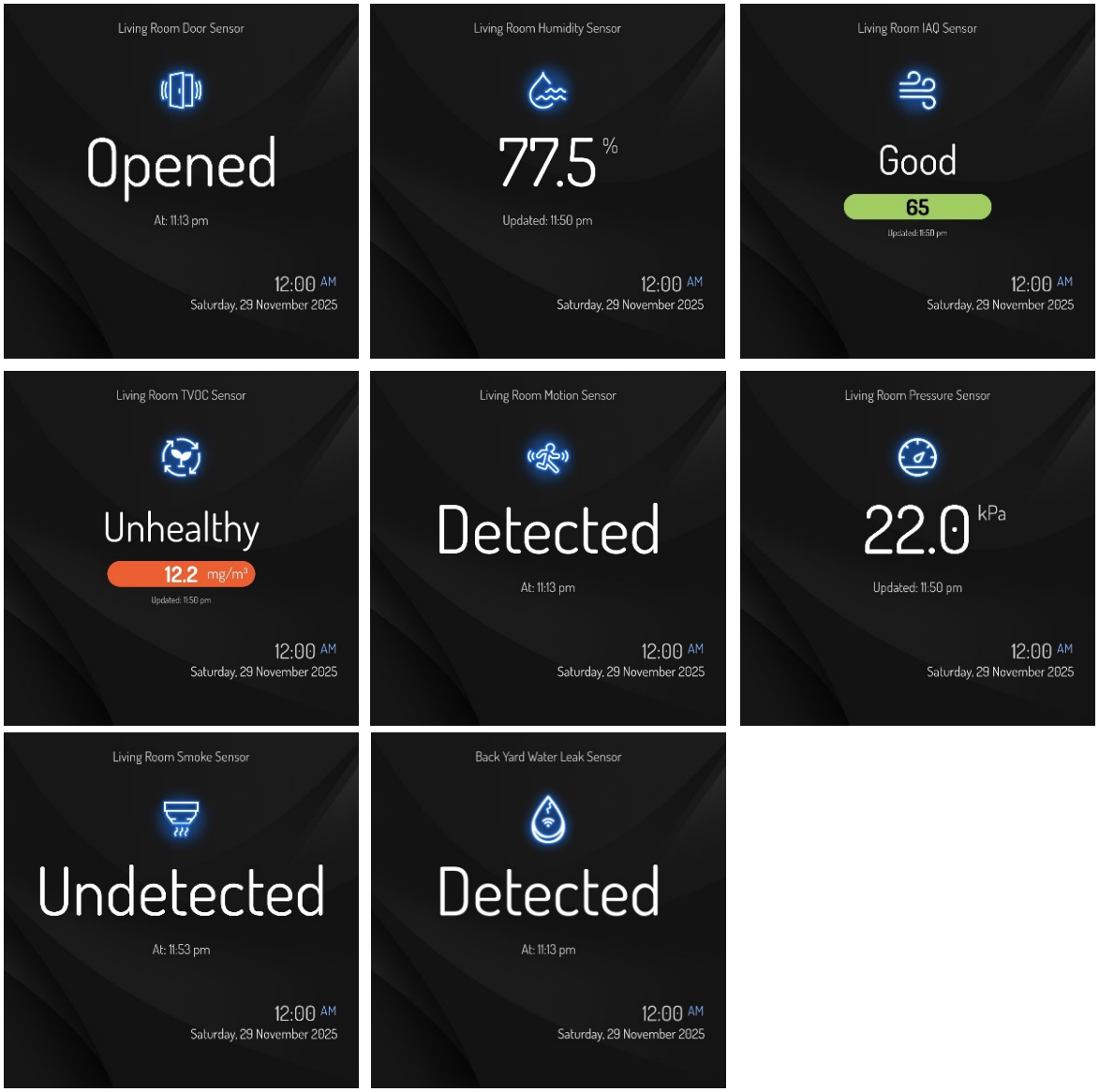


Figure 38 - Monitoring Sensors

4.8 Operating Other Objects

4.8.1 Operate a group

When controlling a group of devices, the available controls depend on the capabilities of the devices within the group.

If all devices share the same control options, the full set of controls—such as fan speed or shade open/close—will be available, allowing the user to manage the entire group at once. However, if the devices have different control features, only the basic ON/OFF functionality will be available.

Figure 39 Shows a *Lights Group* made up of lights that share the same set of controls. Using these controls, the user can adjust the brightness and change the color of all lights in the group at once.

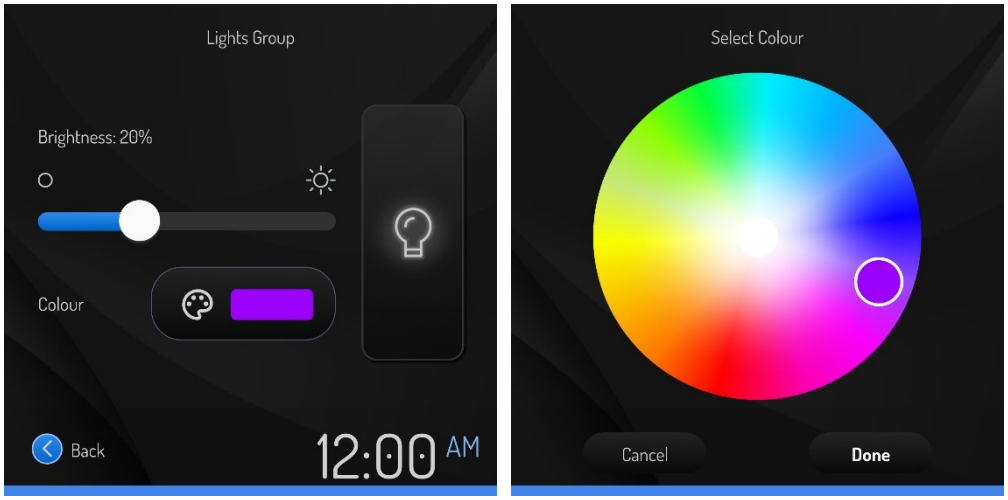


Figure 39 - Operating devices: Same controls

Figure 40 shows a *Fan Group* consisting of fan devices with different control capabilities. Only basic On/Off functionality is available, allowing all devices in the group to be turned on or off together.

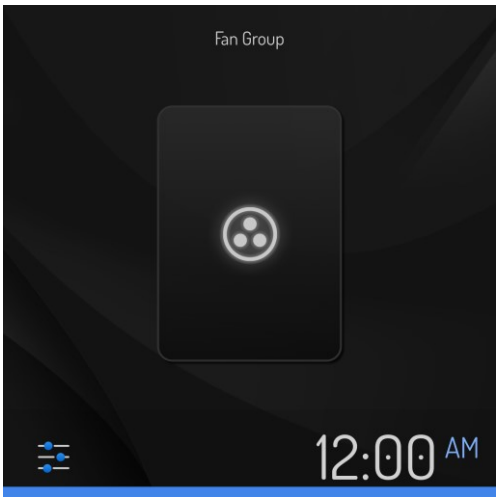


Figure 40 - Operating devices: Different controls

NOTE:
For AC and Speaker groups, support is currently limited to basic controls.

4.8.2 Control Other Devices

A switch, plug, socket, button or relay can be configured to control other devices, such as fans, lights, or air conditioners if that device is connected behind the switch/plug/socket/relay/button. This can be done by modifying the device *Control Category* via the PSL mobile app.

In the image below, a plug is linked to control an aircon device using the PSL app. Once the plug has been added to the PD40 configuration, the aircon device can be operated using a basic ON/OFF function through the PanL PD40 display.

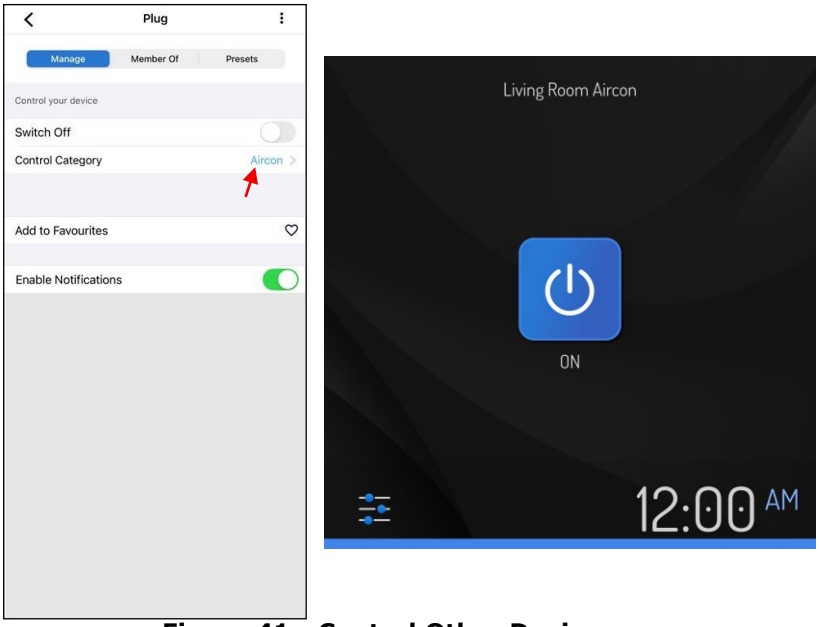


Figure 41 - Control Other Devices

5 Display Information & Settings

When user taps on the settings icon  , the following page is displayed.

Figure 42 - View Display Information

5.1 View Display Information

PanL PD40 display information can be viewed by selecting the "**About**" option as highlighted below.

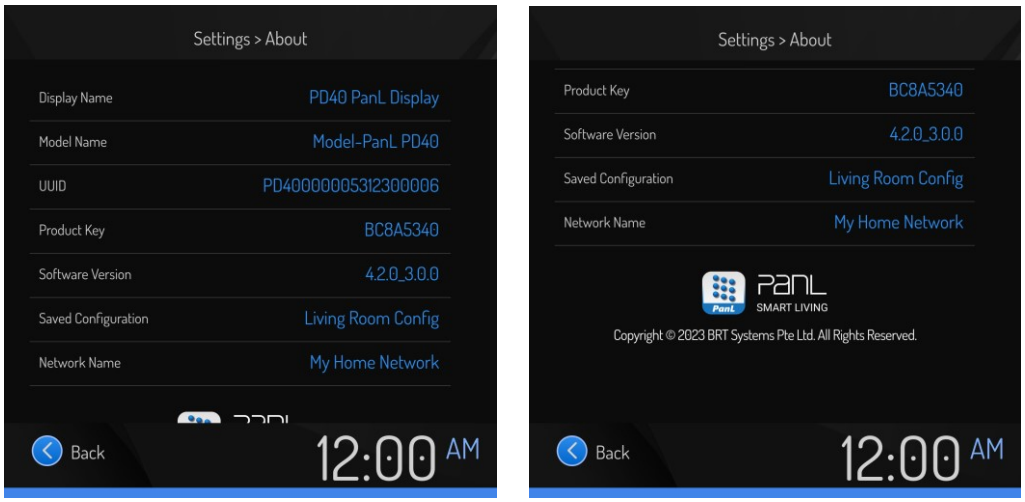


Figure 43 - View Display Information

5.2 Device Settings

To view/update device settings, select the "**Device Settings**" option as depicted in the figure shown below.

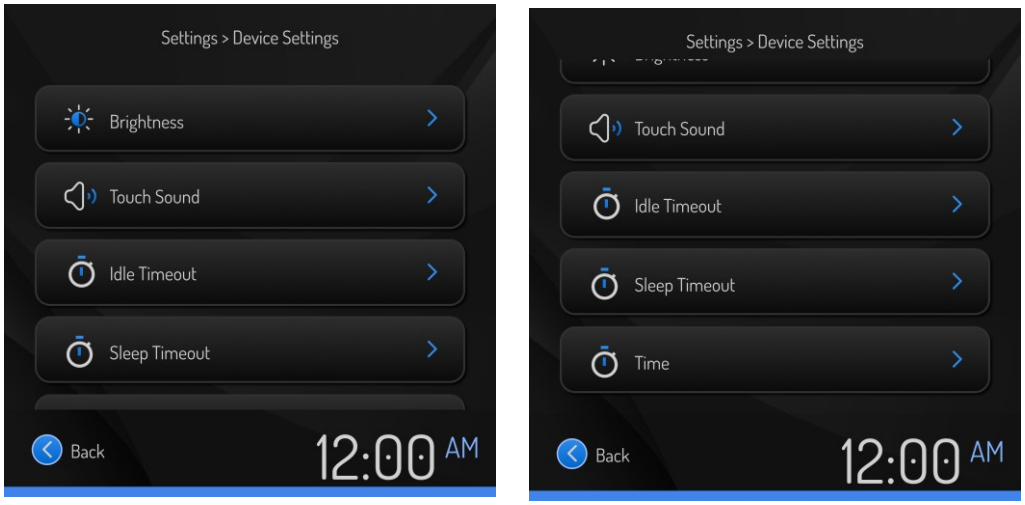


Figure 44 - Device Settings

5.2.1 Brightness Control

User can control the brightness of the device by using the slider feature as shown in the below picture.

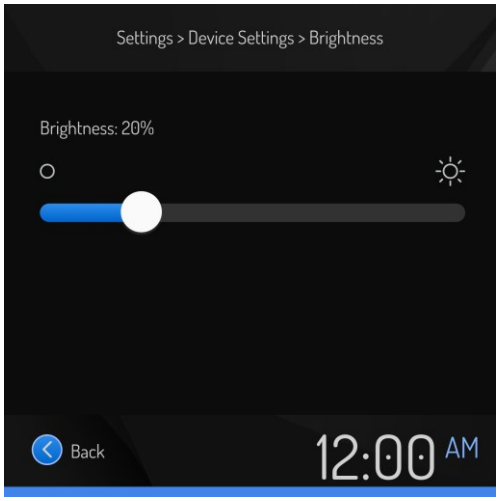


Figure 45 - Set Brightness

If there is an ALS sensor linked to the PanL PD40, there is an option to enable/disable auto brightness setting as shown in figure below.

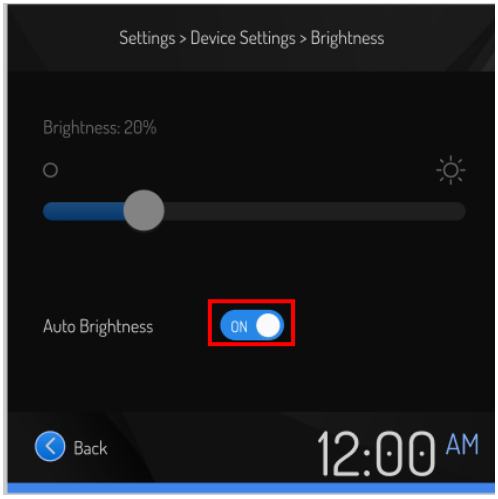


Figure 46 - Set Brightness: ALS Sensor Linked

5.2.2 Touch Sound Control

For touch sound control, users can select from a list of available sounds.

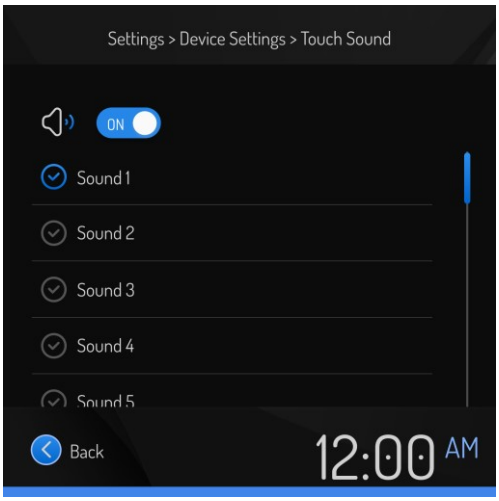


Figure 47 - Set Touch Sound

5.2.3 Idle Timeout Control

Idle timeout refers to the time delay that PanL PD40 Display will wait before displaying its idle page (see Figure 23). On enabling the Show Idle Screen button, user will be presented with the options as shown in figure below.

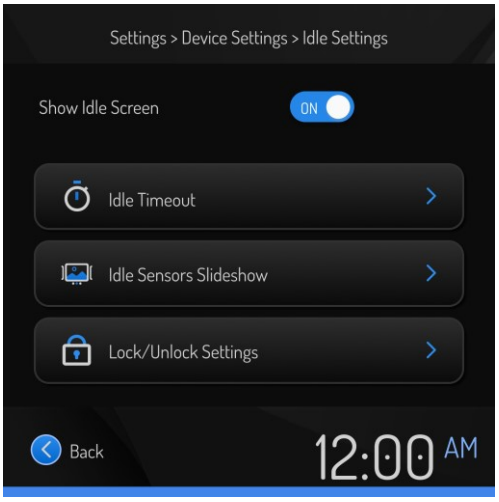


Figure 48 – Idle Timeout Control

- **Idle Timeout**

  User can configure the duration the display device waits before showing the idle page.

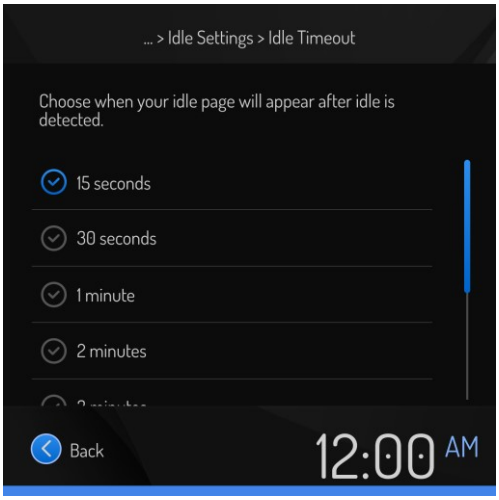


Figure 49 – Idle Timeout

- **Idle Sensors Slideshow**

  When two or more sensors are configured (refer to Select Idle Sensors), the display shows the sensor readings as a slideshow when the system enters idle mode. The user can configure the interval between the displayed sensor readings as shown below.

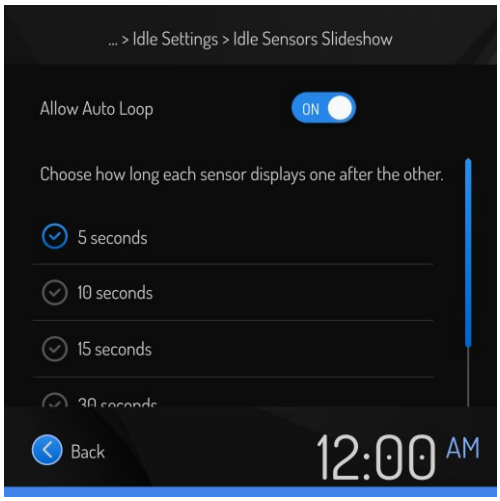


Figure 50 - Idle Sensors Slideshow

- **Lock/Unlock Settings**

  Users can enable the display lock by toggling the **Allow Auto Lock** option. When enabled, the display automatically locks after a predefined period of inactivity to prevent unintended interactions.

  The display can be unlocked either by tapping the **Lock** button on the display page in the PSL app or by using a registered RFID card.

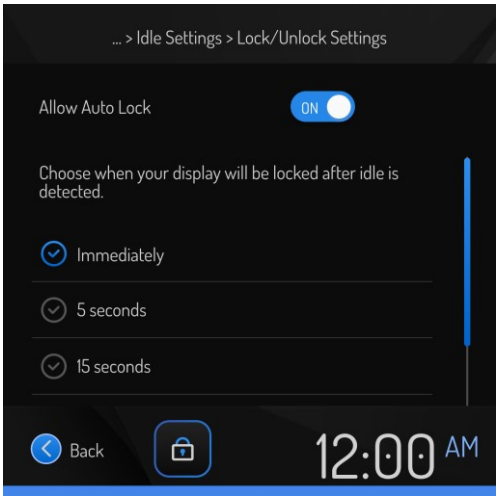


Figure 51 - Lock/Unlock Settings

Once Auto Lock is enabled, users can manually lock or unlock the display device from the PSL app, as shown below:

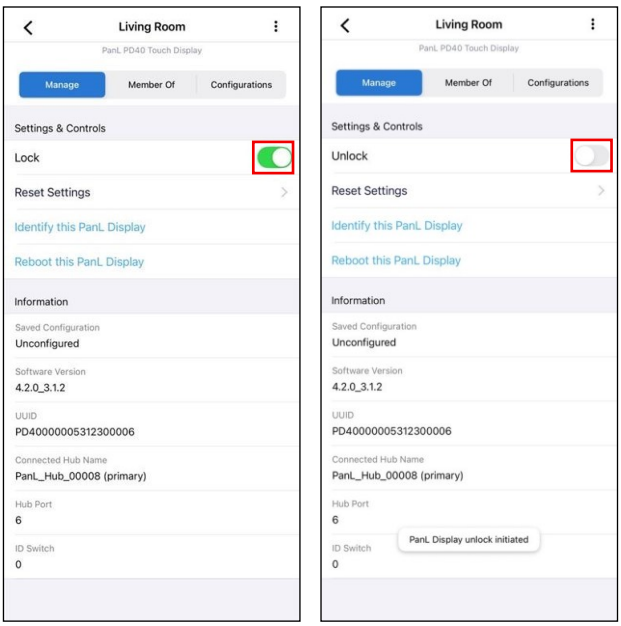


Figure 52 - Auto Lock Feature: PSL App

Another method to unlock the display device is by creating an event in the PSL app. When an RFID card is tapped on the RFID reader, the display device is unlocked. The unlock progress is shown on the display, as illustrated below.

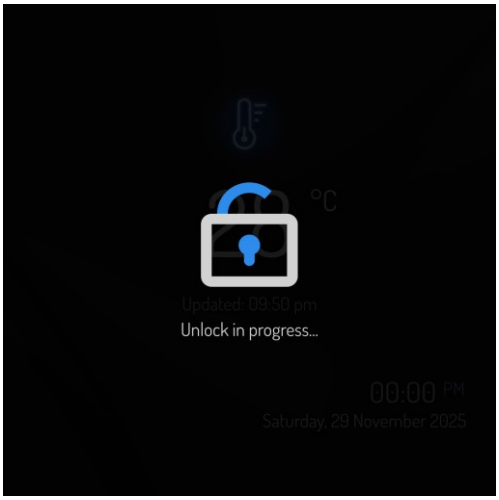


Figure 53 - Display Unlock in Progress

5.2.4 Sleep Timeout Control

Sleep timeout refers to the time delay that PanL PD40 Display will wait before going to sleep mode. If both idle and sleep modes are enabled, the display will first enter idle mode and then transition into sleep mode.

The user can activate the sleep timeout by enabling the toggle switch and configuring the settings as shown in the image below.

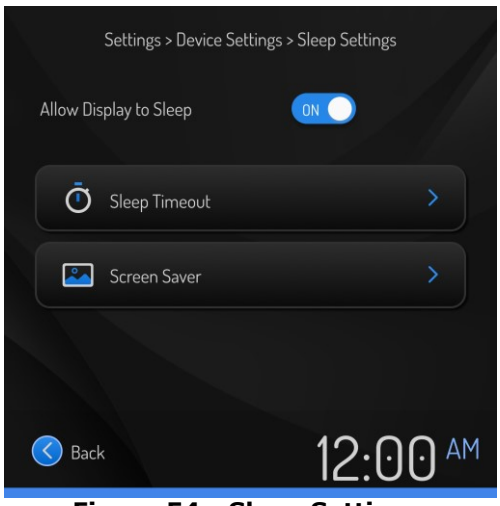


Figure 54 - Sleep Settings

- **Sleep Timeout**

  The user can configure the duration the display device waits after entering idle mode before transitioning to sleep mode.

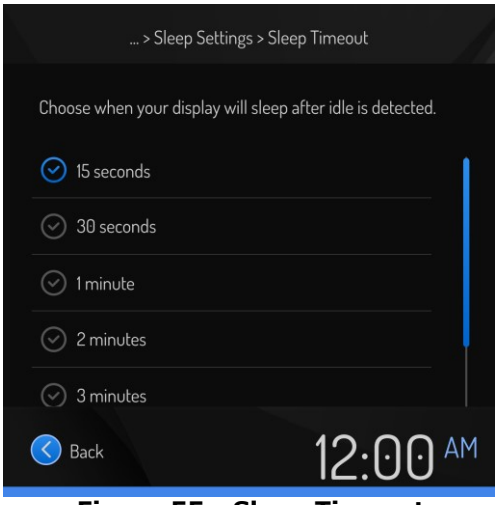


Figure 55 - Sleep Timeout

- **Screen Saver**

  The user can configure the content displayed on the device while it is in sleep mode.

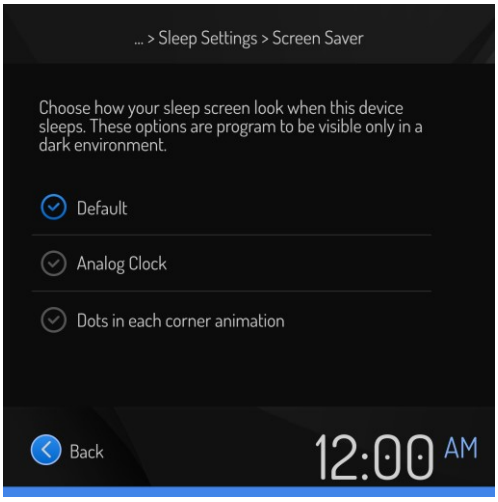


Figure 56 - Sleep Screen Saver

Below images illustrate the available sleep display options:

Default:

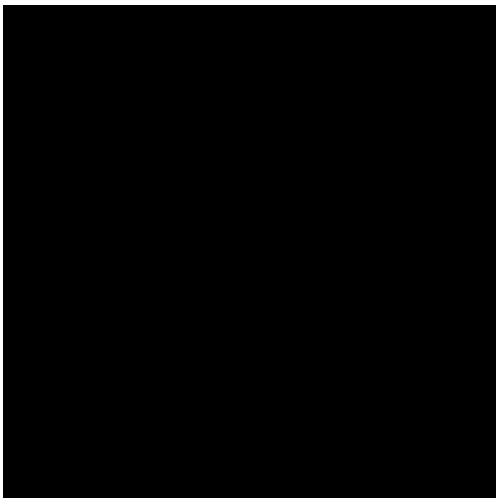


Figure 57- Sleep Screen: Default

Analog Clock:

Figure 58 - Sleep Screen: Analog Clock

Dots in each corner animation:

Dots animate around all four corners in a random sequence.

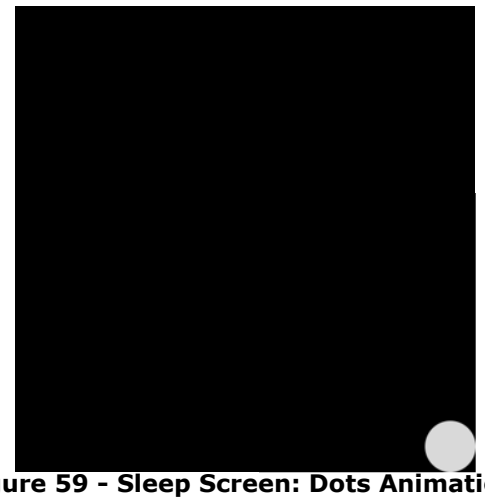


Figure 59 - Sleep Screen: Dots Animation

5.2.5 Setting Time on Screen

User can choose to display time on the screens for the PanL PD40 display using this feature.

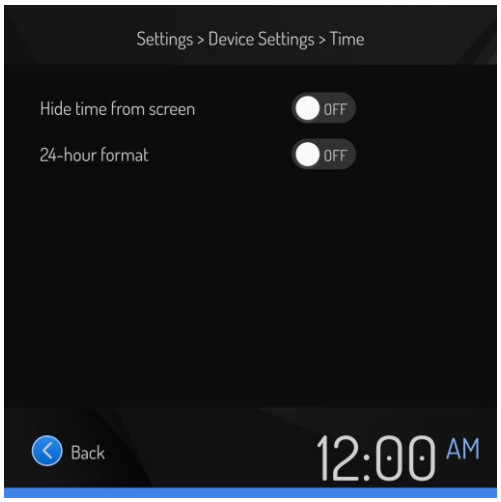


Figure 60 - Set Time

5.3 Theme & Style Settings

The following page will be displayed when a user clicks on the **Theme & Style** button in the Settings menu.

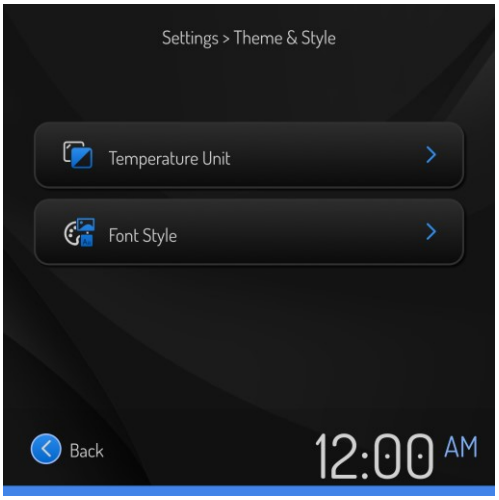


Figure 61 - Theme & Style Menu

User can assign which temperature unit to use in the PanL PD40 display by selecting one of the options in the page shown below.

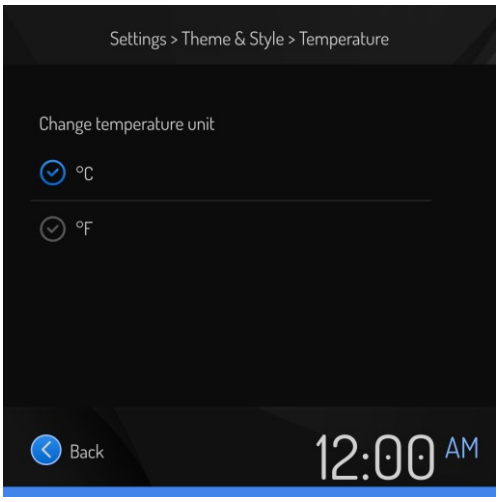


Figure 62 - Set Temperature Unit

The PanL PD40 currently supports three font sizes, with an option to display text in bold.

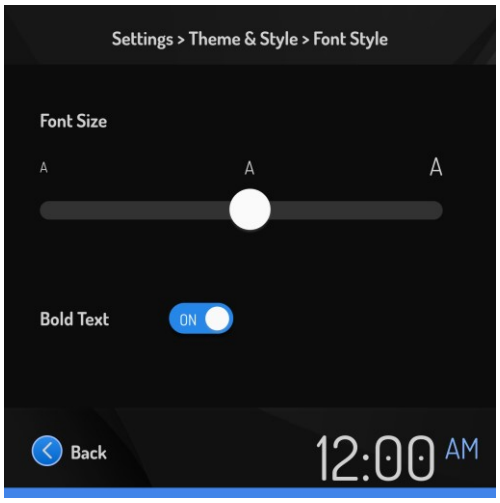


Figure 63 - Set Font Style

5.4 Reboot PanL Display

Users can initiate a display reboot by selecting the **Reboot PanL Display** option.

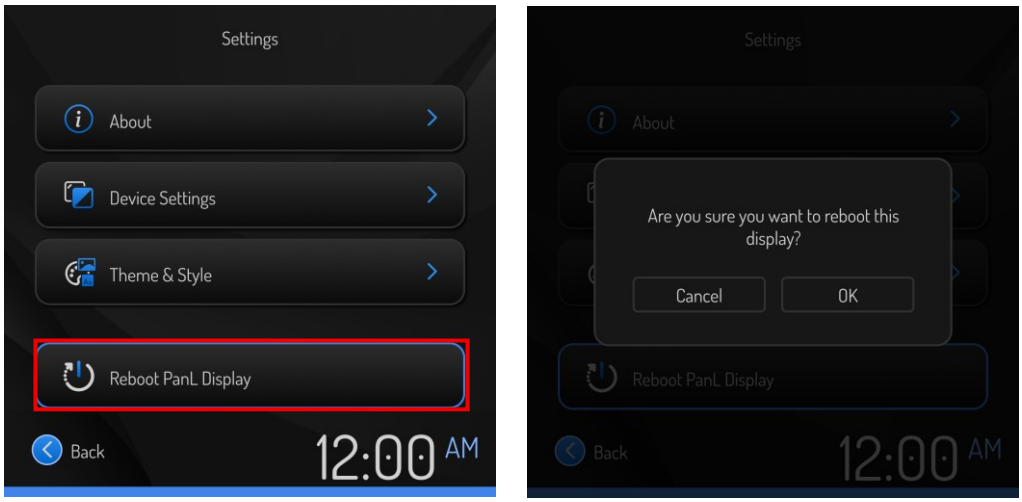


Figure 64 - Reboot PanL Display

NOTE:
The same operation can be initiated from the PSL mobile app. Refer to Reboot Display for more information.

6 Additional Mobile App Features

Click on ⋮ to view the additional available features for PanL PD40 display.

Figure 65 - PD40 Additional Features

6.1 Add to Room/Group/Zone

Users can add the display to a room, group, or zone by selecting one of the following options:

- Add to Group
- Add to Room
- Add to Zone

6.2 Rename PanL PD40 Display

Select ⋮ -> **Edit this PanL Display** option to rename the device**.**

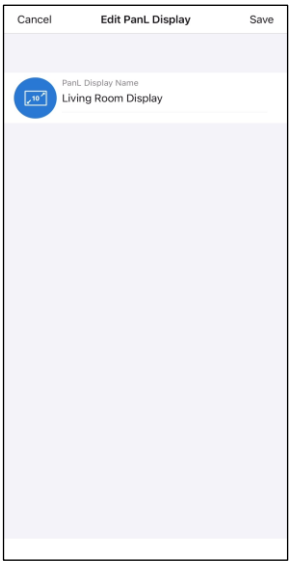
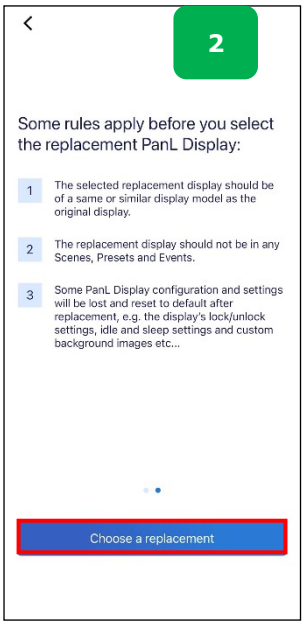
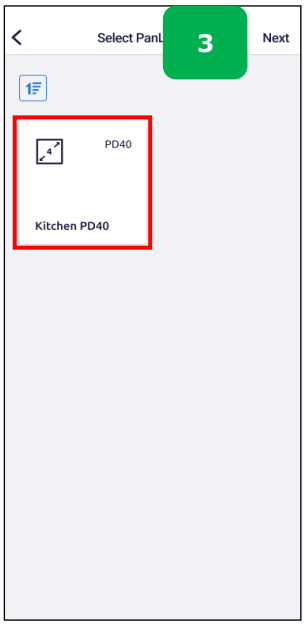


Figure 66 - Rename PanL PD40 Display

6.3 Replace PanL Display Device



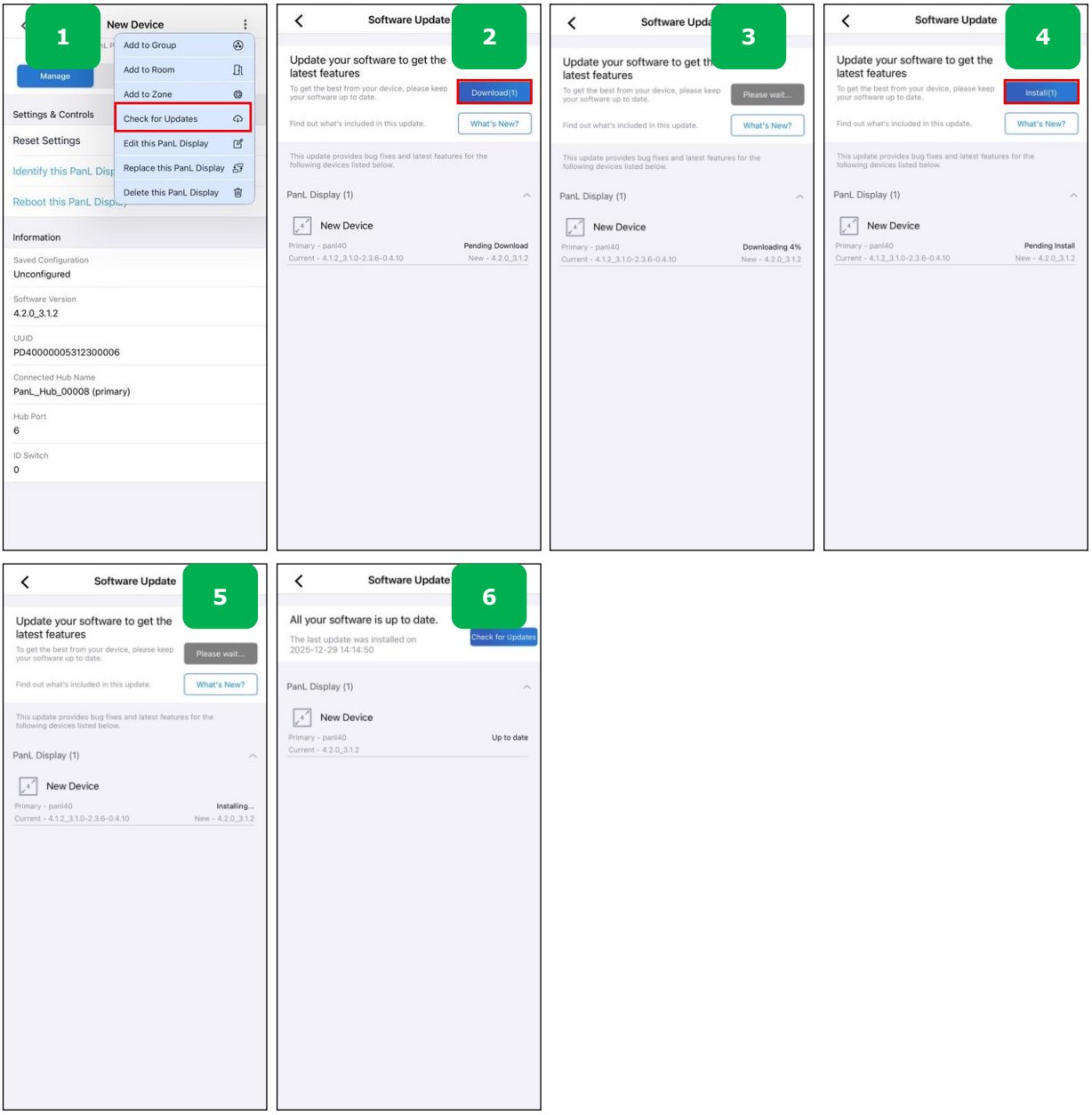


To replace a PanL display -

1. Select ⋮ to open the additional functions menu. Click on [**Replace this PanL Display**].
2. Follow the on-screen instructions.
3. Select the new display to be replaced with. Click [**Next**] to continue.
4. The PanL Display has been successfully replaced. The user can choose to configure the display immediately by selecting the [**Configure**] button or configure it later. When configuring, the user can either apply an existing configuration or create a new one for the replaced display.

6.4 Firmware Update

Select ⋮ -> **Check for Updates** option to update the PanL display software. The user will be able to see the most recent update and install the latest available version.



To update the firmware on a PanL display:

1. Select ⋮ to open the additional functions menu. Click on [**Check for Updates**].
2. Click on [**Download**] to retrieve the latest version.
3. Download in progress.
4. Install the latest version by selecting on [**Install**] button.
5. Install in progress.
6. The latest version has been successfully downloaded. To check for newer versions, tap [**Check for Updates**].

6.5 Delete PanL Display

When required, a primary user of a PanL Network may wish to offboard a PanL Display from PanL Smart Living. This action is significant and should be approached with caution.

Select ⋮ -> **Delete this PanL Display** option to delete the device. On selecting [**Confirm**], the device will be removed from the PanL network.

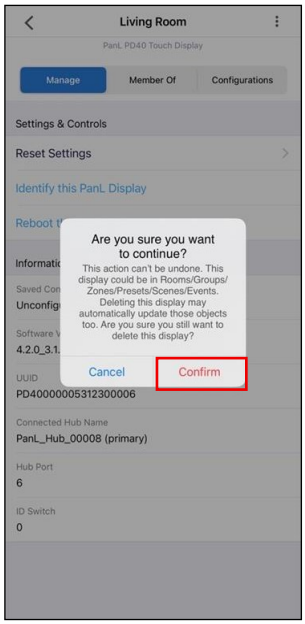


Figure 67 - Delete PanL Display

To add a new display, refer to **Add Devices – Smart Search (Auto)** in BRTSYS_AN_097_PSL User Guide - 4. iOS Mobile App or BRTSYS_AN_098_PSL User Guide - 5. Android Mobile.

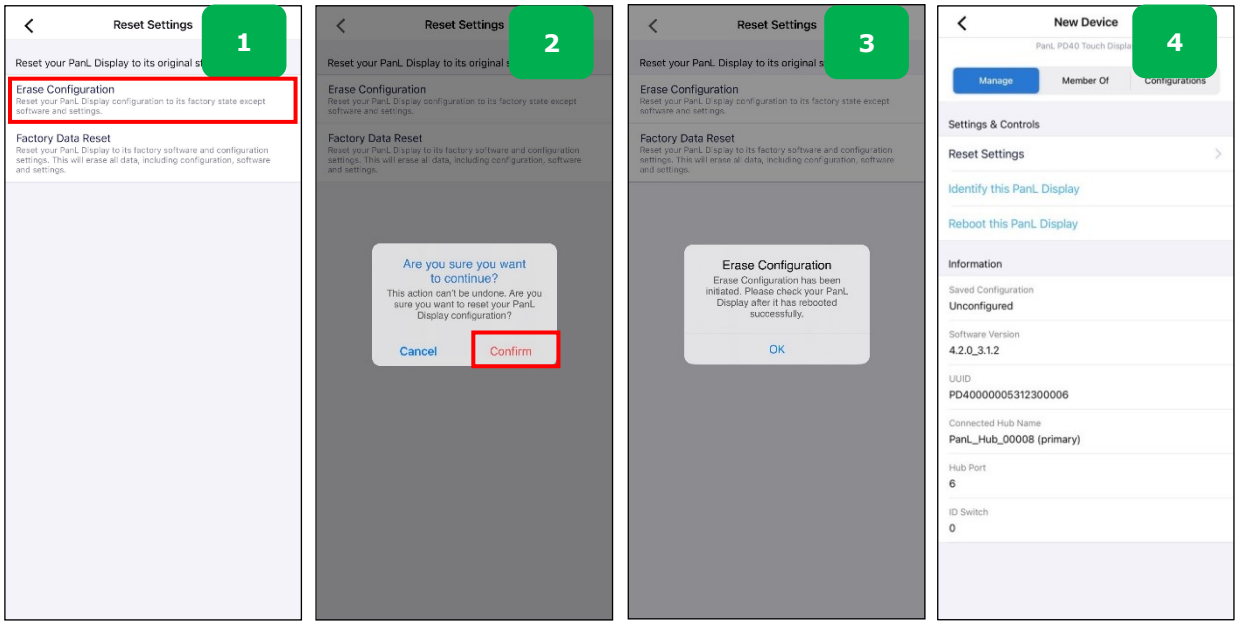
6.6 Reset Settings

A reset is required to restore the PanL Display to a stable and reliable state, resolving errors, clearing incorrect settings, or preparing the device for transfer or reuse.

A PanL Display device can be reset using either of the following methods:

6.6.1 Erase Configuration

This option restores the PanL Display configuration to its factory default state while retaining the installed software and system settings.

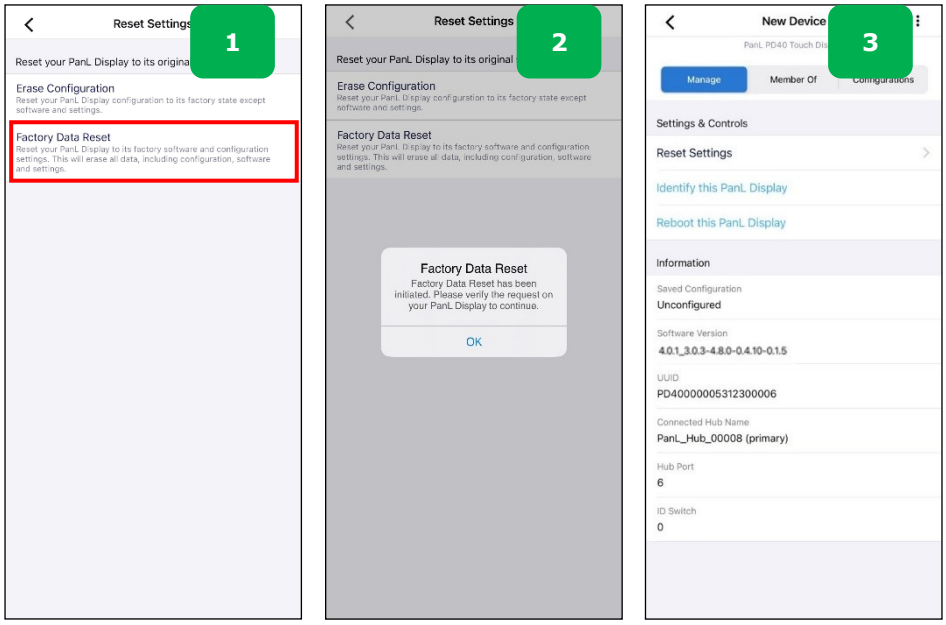


To erase display configuration –

1. Select [**Erase Configuration**] from *Reset Settings* page.
2. Proceed by clicking on [**Confirm**].
3. Successful message will be displayed.
4. Display configuration is successfully removed and *Saved Configuration* will display **Unconfigured**. To create a new configuration for the display device, follow steps listed under Creating Configuration.

6.6.2 Factory Data Reset

This option restores the PanL Display to its factory software and configuration state.



To initiate a factory reset –

1. Select [**Factory Data Reset**] from *Reset Settings* page.
2. On the display, the user is presented with the following options. Select one to proceed with the reboot process:
    a. **Reboot Now** – Performs a standard reboot. The configuration is removed, while the software and system settings remain intact.
    b. **Start Recovery** – Resets the display device to factory defaults, restoring the original software and settings.
3. Successful message will be displayed.
4. The display device has been successfully reset. To create a new configuration for the display device, follow steps listed under Creating Configuration.

For both operations listed above, the PanL Display reboots and shows the unconfigured screen, as illustrated below.

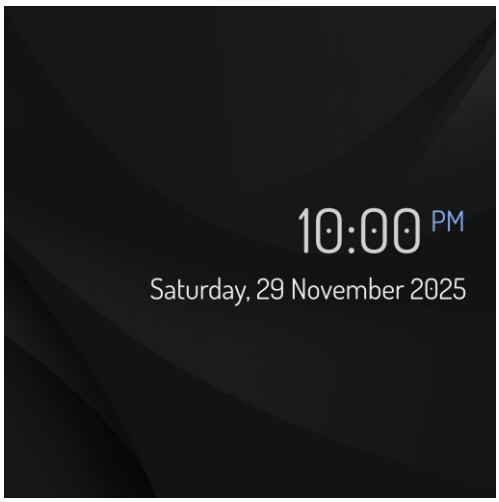


Figure 68 - PanL Display – Unconfigured Screen After Reboot

6.7 Identify Device

Use **Identify this device** option to identify a particular physical PanL PD40 Display device among many PanL PD40 devices.

Figure 69 - Identifying a PanL Display – Mobile App

NOTE:
At the PanL PD40 Display end, the correct PanL PD40 Display will identify itself as shown below. It will also beep to notify the user.

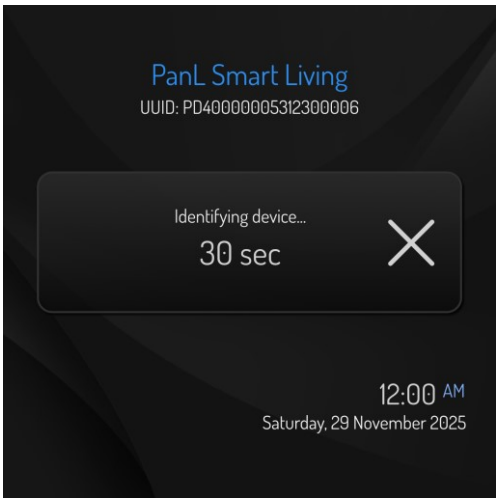


Figure 70 - Identifying a PanL Display – PD40 Display

6.8 Reboot Display

Use the "**Reboot this PanL Display**" option to restart the PanL PD40 Display device.

Figure 71 - Rebooting a PanL Display

NOTE:
At the PanL PD40 Display end, the reboot process will be displayed. The same operation can be initiated from the display side. Refer to Reboot PanL Display for more information.

6.9 Out-of-Sync Configuration Error Message

If the user encounters the following page while using the PanL PD40 Display, it indicates that the synced configuration in PanL PD40 Display is outdated – typically due to devices being removed from the PSL system without updating the configuration to the display.

To resolve the error, user should update and send the new configuration to the display device.

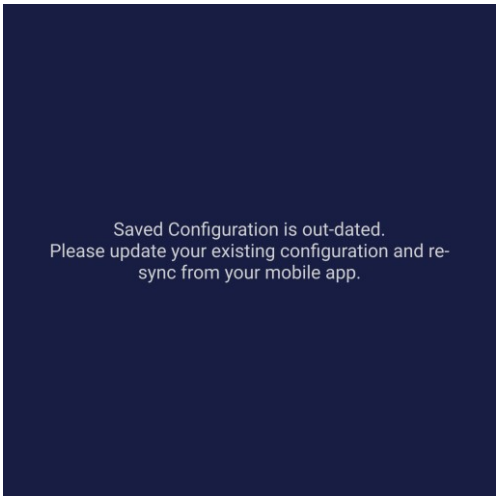


Figure 72 - Configuration Error Message

7 Appendix

7.1 Web References

PanL Smart Living

Display Panels - BRT Systems Pte Ltd

7.2 Acronyms/ Abbreviations

Acronym	Definition
CO_2	Carbon Dioxide
IAQ	Indoor Air Quality
PSL	PanL Smart Living
RFID	Radio Frequency Identification
ToF	Time of Flight
TVOC	Total Volatile Organic Compounds

7.3 List of Figures

7.4 List of Tables

No table of figures entries found.

Revision History

Document Title : BRTSYS_AN_096 PSL User Guide #3. PanL PD40 Display
Document Reference No.: BRTSYS_00224
Clearance No. : BRTSYS#153
Product Page : https://brtsys.com/smart-living/
Document Feedback : Send Feedback

Revision	Changes	Date
Version 1.0	Initial Release for PSL Version 4.1.0	15-09-2025
Version 2.0	Updated Release for PSL Version 4.2.0	19-02-2026