

Wireless Switch AE810 User Guide

JOYWAY INDUSTRIAL LIMITED

Product Outline :

1. Overview

1.1 Wireless Switch AE810 includes a single controller (AE810-C) and 1-4 receiver units (AE810-B)

AE810-C contains a 3.2-inch LCD screen, embedded wireless transmitter module, and 6 buttons.

AE810-B comprises of a relay and a wireless receiver module. By applying preset timer function or using its physical buttons, AE810-C communicates wirelessly via 315MHz frequency with the embedded relay found in AE810-B, which is to turn on or off the attached electronic devices.

Additional functions of AE810-C include 4 individual alarm sets, alarm snoozing capability and LED daylight simulator. The LED daylight simulator will illuminate at its lowest level when its lead time is 30 minutes before the actual preset alarm time. Within this period of time, the intensity of the LED light will progress to its brightest level incrementally. It is mimicking a natural morning lighting environment to comfortably enhance the wake-up experience.

1.2 AE810-C controler units, AE810-B receiver units.

1.3 Standard Operating Environment

a) Operating Temperature: -20°C ~ +55°C

b) Storing Temperature: -25°C ~ +70°C (Resume normal operation once the unit is restored to itsoperating temperature range)

c) Humidity: < 85%

d) Atmospheric Pressure: 86kPa ~ 106kPa

e) Site Selection: Choose an indoor site that is clean, dry and free of airborne particles (other than normal room dust), and is provided with a properly grounded wall outlet.

f) Site Selection: Choose an indoor site that is well-ventilated and away from sources of heat

including direct sunlight and radiators.

2. Important Technical Specifications

2.1 AE810-C Technical Specifications

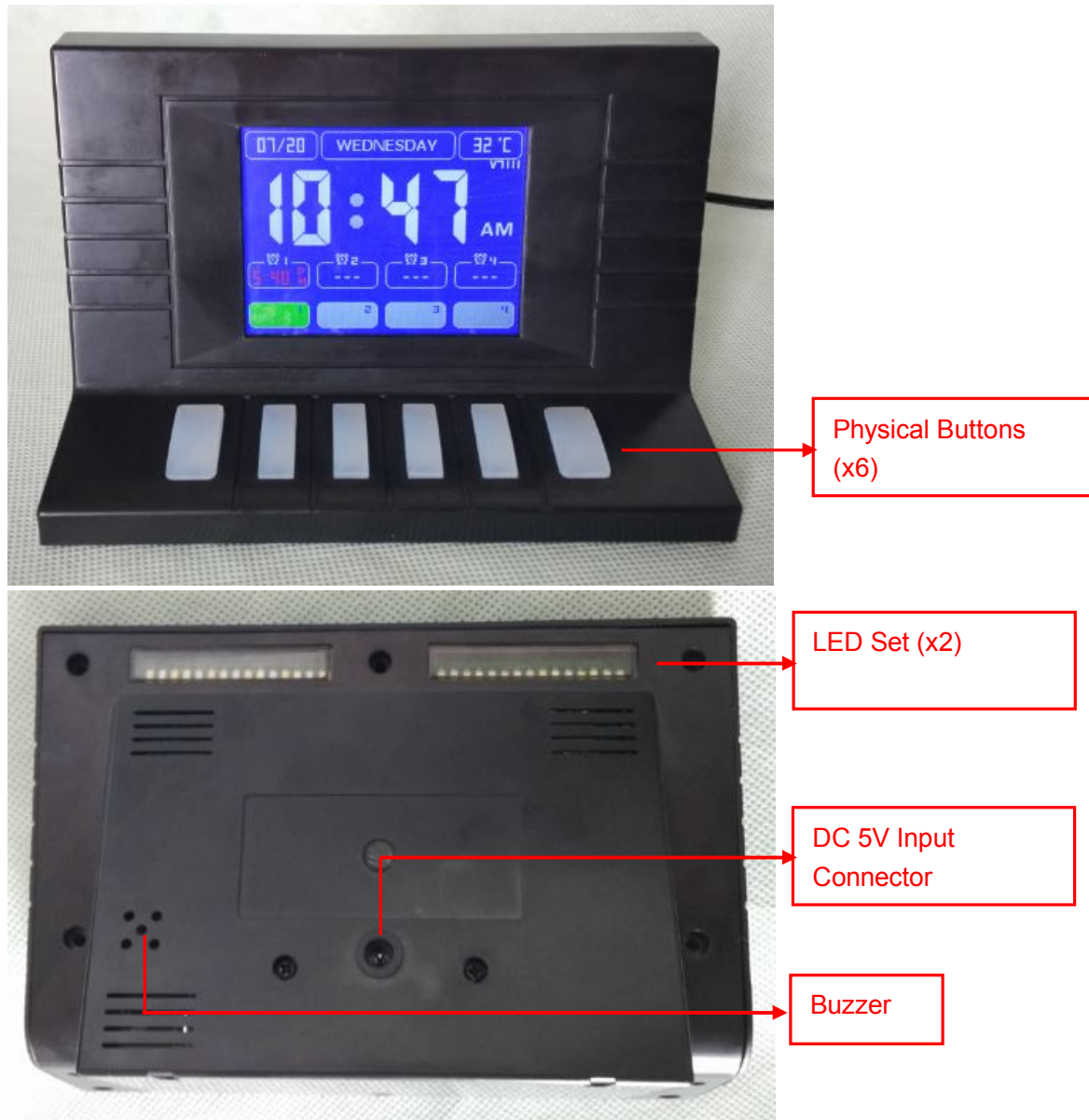
- a) Power Input: USB cable with 3.5*1.35*10mm DC plug, DC 5.0V 0.5A
- b) LCD Screen Dimension: 3.2 inches
- c) RF Transmission Distance (Obstacle free): 50m - 80m
- d) RF Transmission Frequency: 315MHz
- e) Highest Power Ratio (dB): 10dBm
- f) Dimension: 147mm(L) x 64mm(W) x 93mm(H) (not including DC plug)
- g) Supported languages: English, Spanish
- h) Auto-adjustment of background illumination based on preset Day-Night Cycles (Day-Night Cycles are defined as follows: Day Cycle: 7:00AM-8:59PM; Night Cycle: 9:00PM-6:59AM)

2.2 AE810-B Technical Specifications

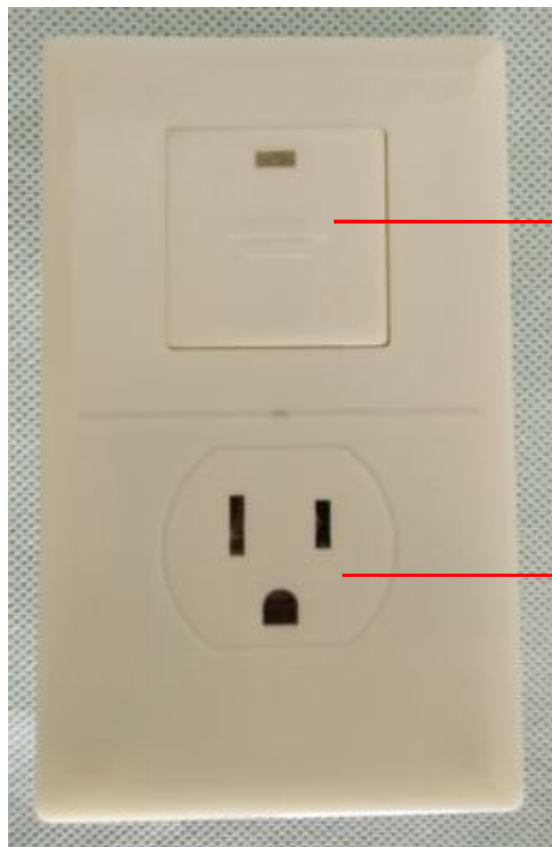
- a) Power Input: AC120V ~ 60Hz
- b) Relay Maximum Load: AC100V ~ AC120V 50Hz/60Hz 10A
- c) Supported Devices: Incandescent light, florescent light, LED light, etc.
- d) RF Transmission Distance (Obstacle free): 50m - 80m
- e) RF Transmission Frequency: 315MHz
- f) Highest Power Ratio (dB): 10dBm
- g) Dimension: 74mm(L) x 26.5mm(W) x 117mm(H) (not including DC plug)

3. Device Diagrams and Functional Components

3.1 AE810-C

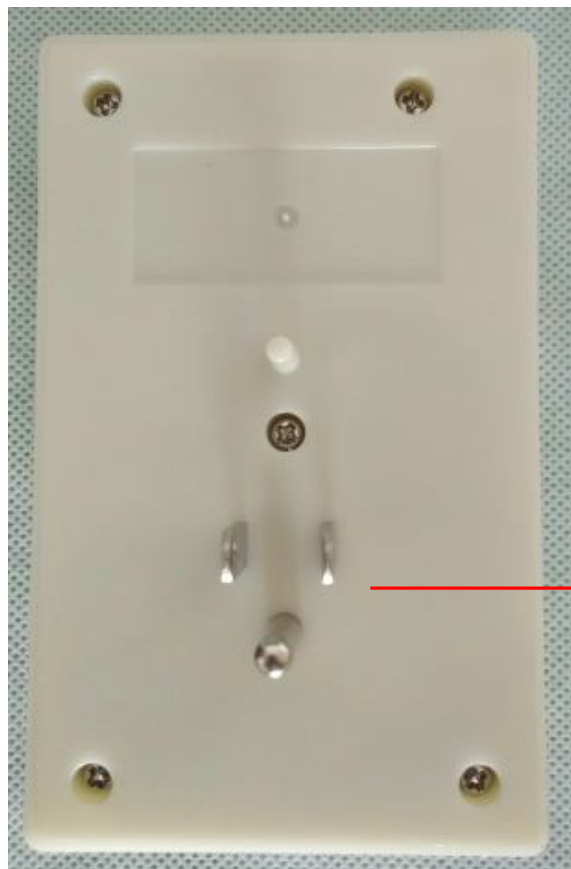


3.2 AE810-B



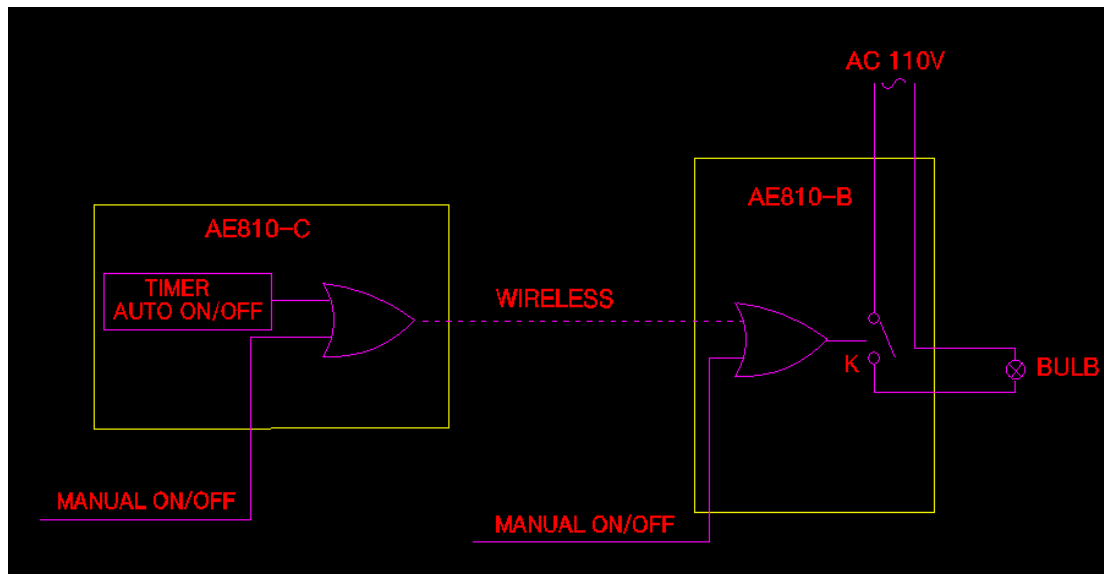
Code Pairing, On/Off
Switch

Relay-connected
Socket: attached
devices can be switched
on/off (AC 120V 10A)



AC 120V 10A power plug
– go directly into
household socket outlet

4. Schematic Diagram of Wireless Switch



As stated above, AE810-C can use either timer function or its physical button to toggle the switch (K) of AE810-B. In addition, the switch (K) can be toggled by the physical button on the AE810-B. The result switch (K) status from any of the above operations will be reflected on the LCD screen of AE810-C.

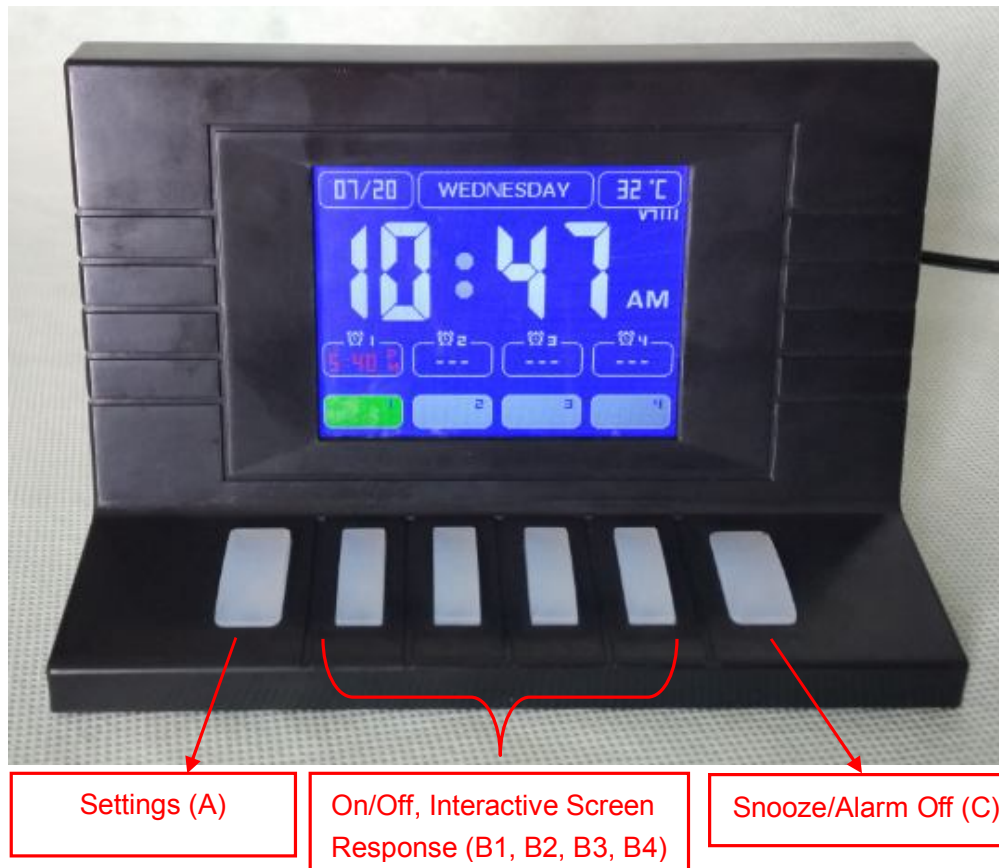
5. Operations

5.1 Power Supply



As shown above, first insert the DC connector plug of the power adaptor into the 3.5mm connector on the back of the AE810-C, then insert the USB plug into USB Socket of power adapter, or PC, etc. Upon proper connection, LCD screen will turn on and a short beep is sounded to confirm the operation.

5.2 Physical Button Functionalities



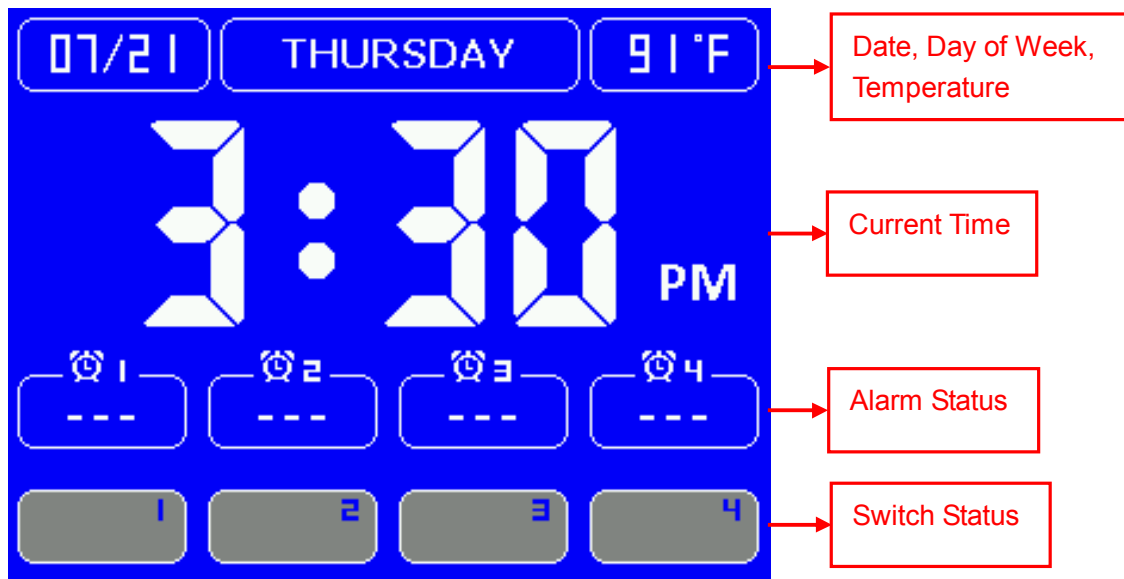
As shown above, AE810-C has 3 categories of buttons, namely A, B (group of 4) and C, and their respective functions are stated below:

A: Press and hold this button for 3 seconds on the Main Screen (refer to 5.3), the system will enter into the Settings Screen (refer to 5.4). Press and hold this button for 3 seconds on any screen other than the Main Screen, the system will return to the Main Screen.

B1, B2, B3, B4: Toggle any of these 4 buttons will respectively control the statuses of their paired AE810-B devices, even if they are currently preset and enabled with timer functions.

C: Toggle this button will activate Snooze function (10 minutes for each snooze; alarm will turn off after a maximum of 3 snoozes). Press and hold this button for 3 seconds will turn off the active alarm, and/or all alarms that will go off within the next three hours.

5.3 AE810-C: Main Screen



Alarm Status has the following 5 states (the example shown here is based on Alarm clock 1 during the Day Cycle):

-  Alarm clock 1 is disabled
-  Alarm clock 1 is enabled
-  Alarm clock 1 is enabled and has an active alarm within next 12 hours
-  Alarm clock 1 is currently going off when the time (red portion) is blinking
-  Alarm clock 1 is in snooze state, the word SNOOZE is blinking

(Note: Based upon Day-Night Cycles defined above (refer to 2.1.i). Night Cycle that starts at 9:00PM and ends at 6:59AM will present a different color scheme than the one shown here)

Switch Status has the following 5 sets (Day/Night Cycles) of states (the example shown here based on Timer Switch 1):

1. Switch does not have any preset timers and AE810-B is turned on:

Switch Status 1 shows: Day Cycle , Night Cycle 

2. Switch does not have any preset timers and AE810-B is turned off:

Switch Status 1 shows: Day Cycle , Night Cycle 

3. Switch has one or more preset timers and AE810-B is turned on:

Switch Status 1 shows: Day Cycle , Night Cycle 

4. Switch has one or more preset timers and AE810-B is turned off:

Switch Status 1 shows: Day Cycle , Night Cycle 

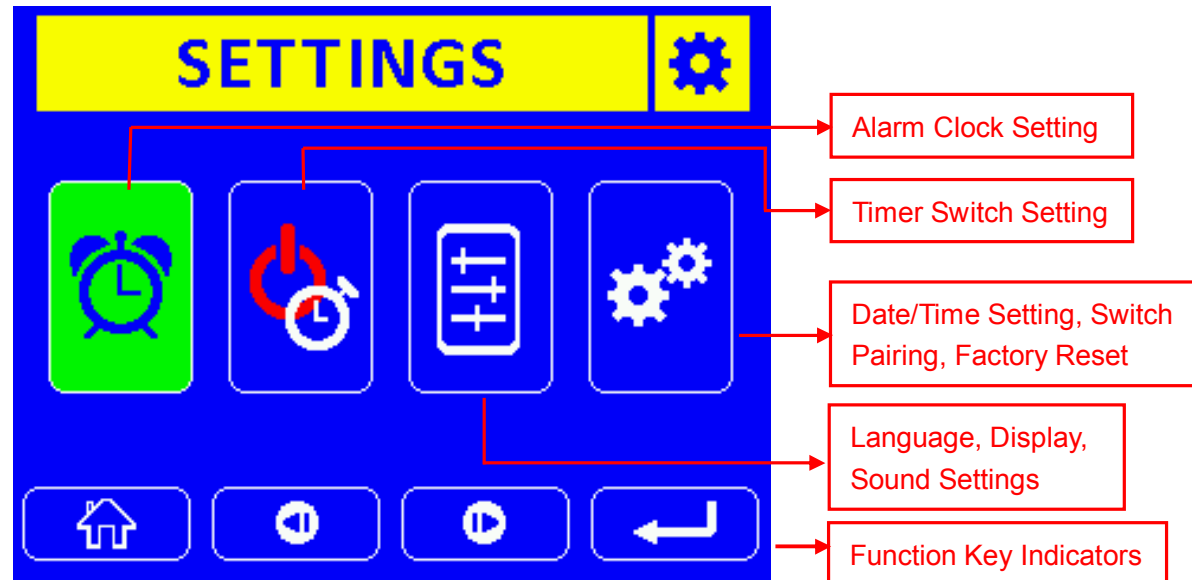
5. Un-paired AE810-B, disrupted communication due to distance or unexpected interference:

Switch Status 1 shows: Day Cycle , Night Cycle , as communication between AE810-B and AE810-C has failed.

(Note: Based upon Day-Night Cycles defined above (refer to 2.1.i). Night Cycle that starts at 9:00PM and ends at 6:59AM will present a different color scheme than the one shown here)

5.4 Settings Screen:

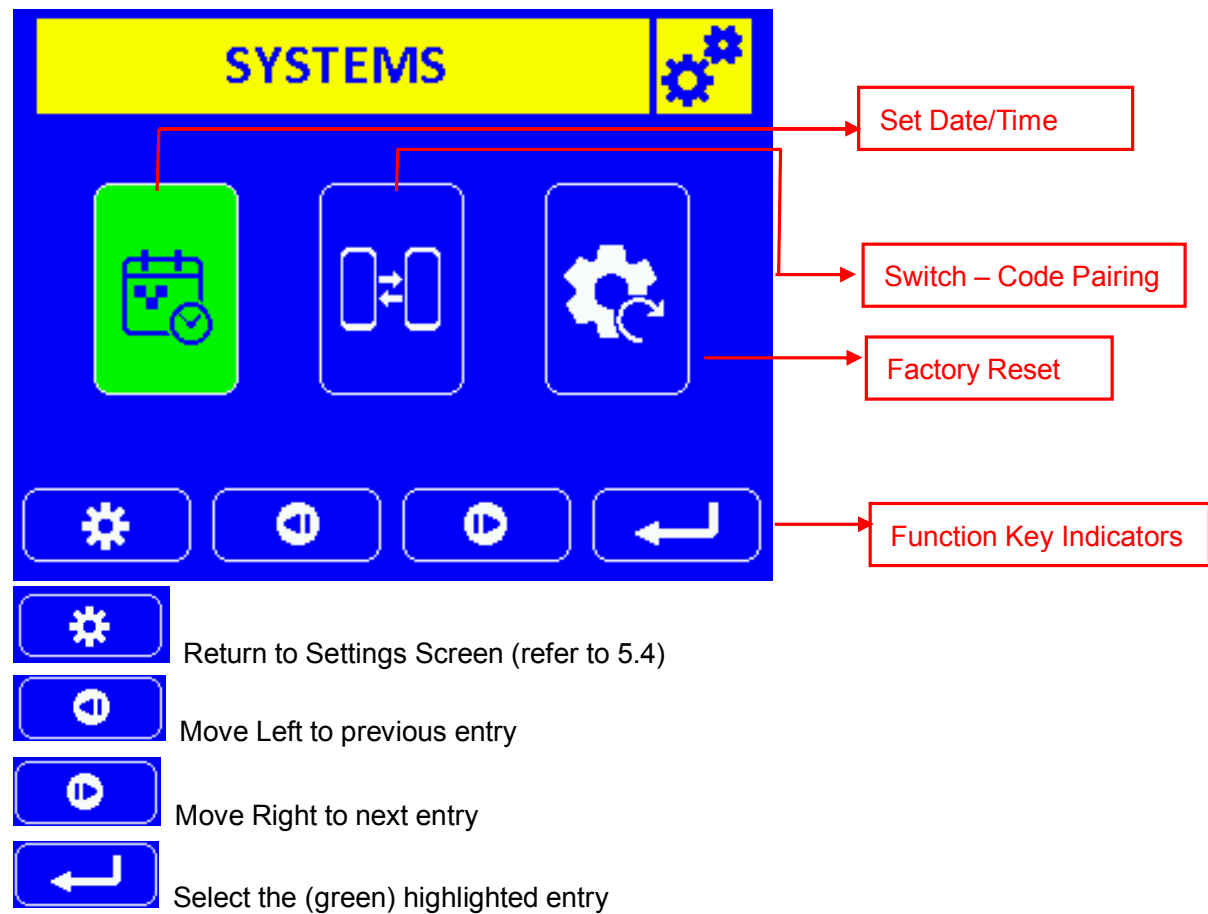
Enter this screen by pressing and holding the Settings Button (A) for 3 seconds while on Main Screen:



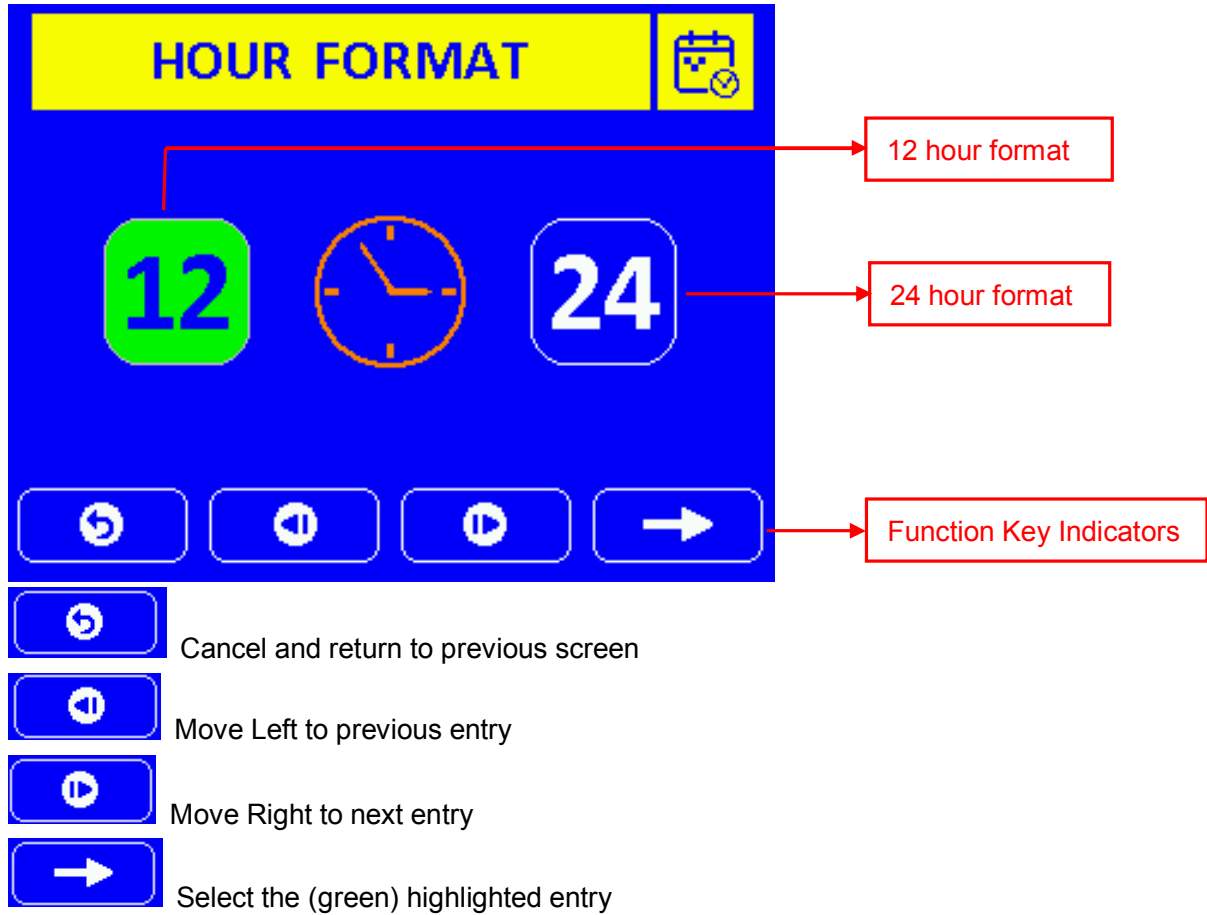
-  Return to Main Screen (refer to 5.3)
-  Move Left to previous entry
-  Move Right to next entry
-  Select the (green) highlighted entry

Attention: Timer Switch Setting will not be available, if none of the four switches has been paired.

5.5 Systems Screen: Set Date/Time, Switch - Code Pairing and Factory Reset (from screen 5.4)



5.5.1 Set Date/Time Screen: Highlight  (from screen 5.5), then toggle  to enter into the following screen:



HOUR FORMAT

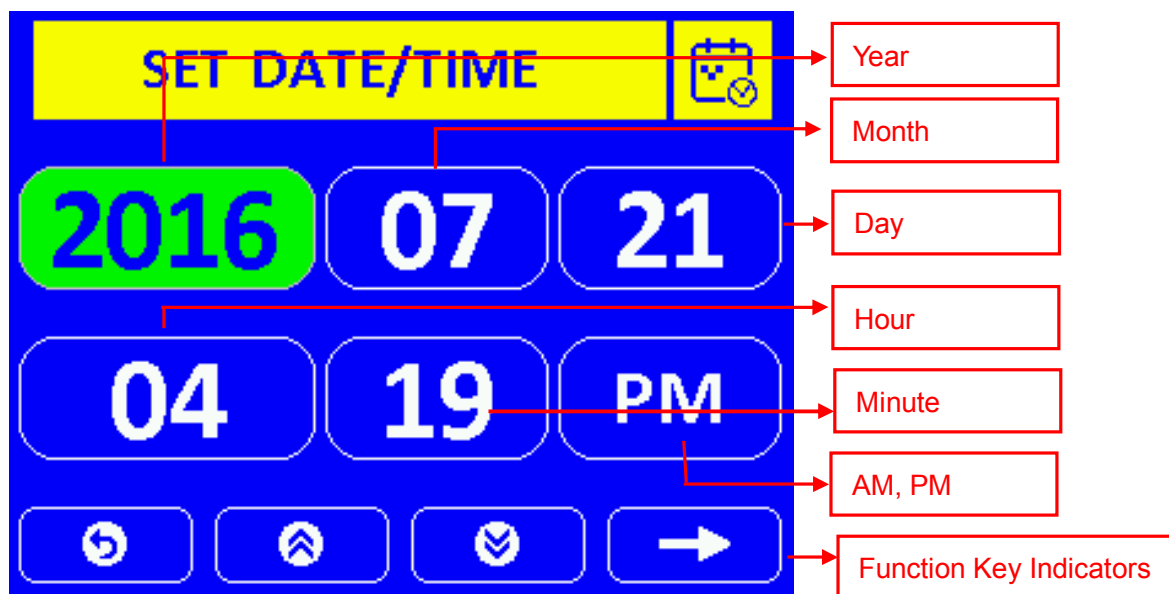
12 hour format

24 hour format

Function Key Indicators

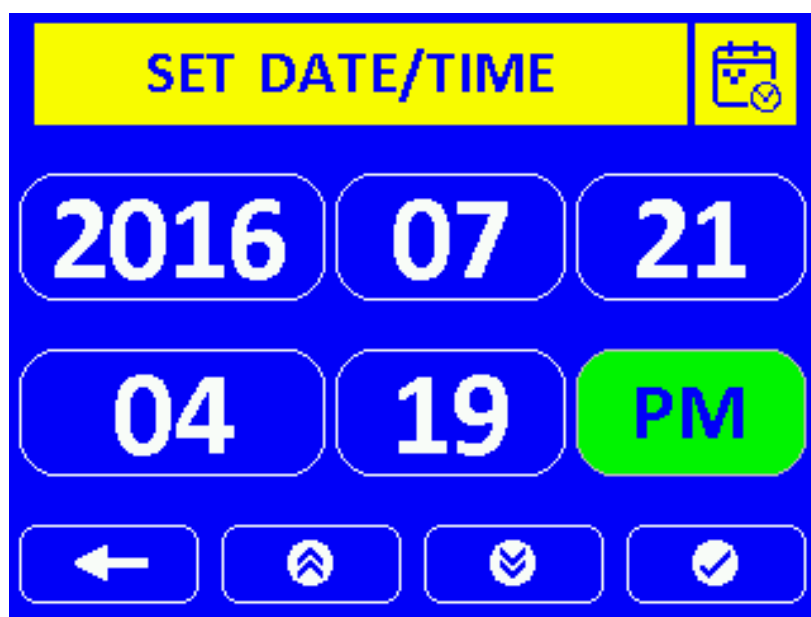
-  Cancel and return to previous screen
-  Move Left to previous entry
-  Move Right to next entry
-  Select the (green) highlighted entry

After selecting the desired Hour Format, press  to continue to Set Date/Time screen, as shown below:



-  Cancel and return to previous screen
-  Adjust date or time (up)
-  Adjust date or time (down)
-  Enter into next date or time entry

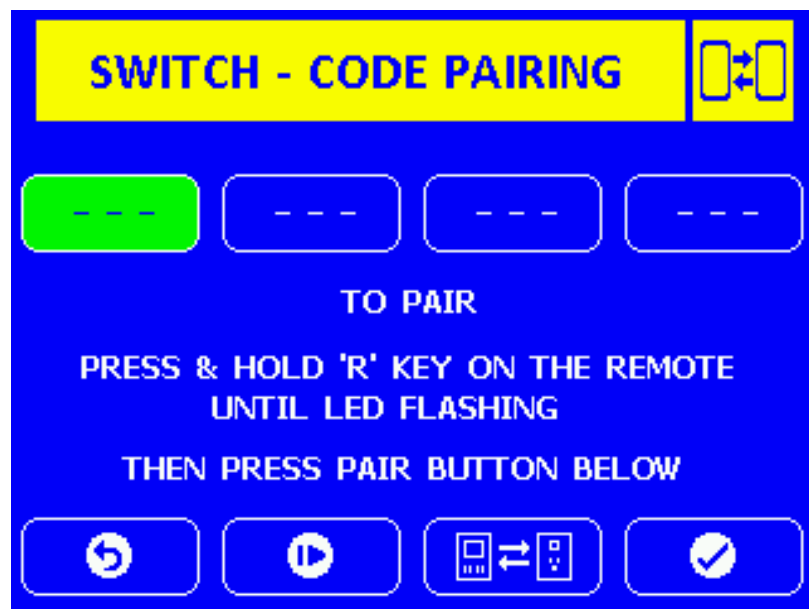
During the adjustment of date/time, by keep toggling  will continue to advance to the next entry. When the last and final entry is reached, press  to save change(s), as shown below:



5.5.2 Switch – Code Pairing Screen: Highlight  (from screen 5.5), then toggle



to enter into the following screen:



Select the switch to be paired. (from left to right are switch #1, #2, #3 and #4)

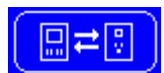
Function Key Indicators



Cancel and return to previous screen



Move Right to next entry

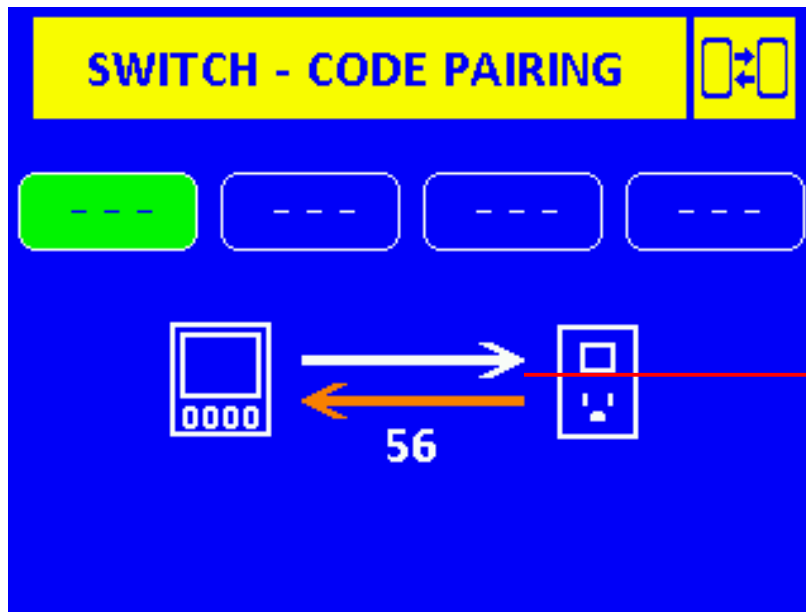


Begin code pairing on highlighted switch



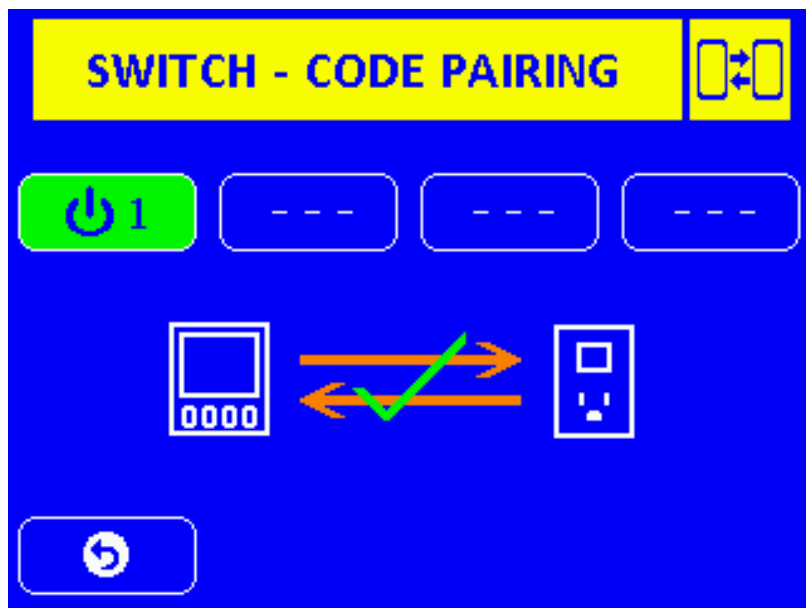
Save the changes and return to previous screen

Press  to advance to the desire switch, and then toggle  to begin code pairing process. (Before this pairing process, pairing button on AE810-B must first be pressed and held for at least 5 seconds or until the green LED on the button starts flashing (that indicates that the AE810-B is in pairing mode). Release the button. Now AE810-C is ready to perform the code pairing process and it will enter into the following screen:



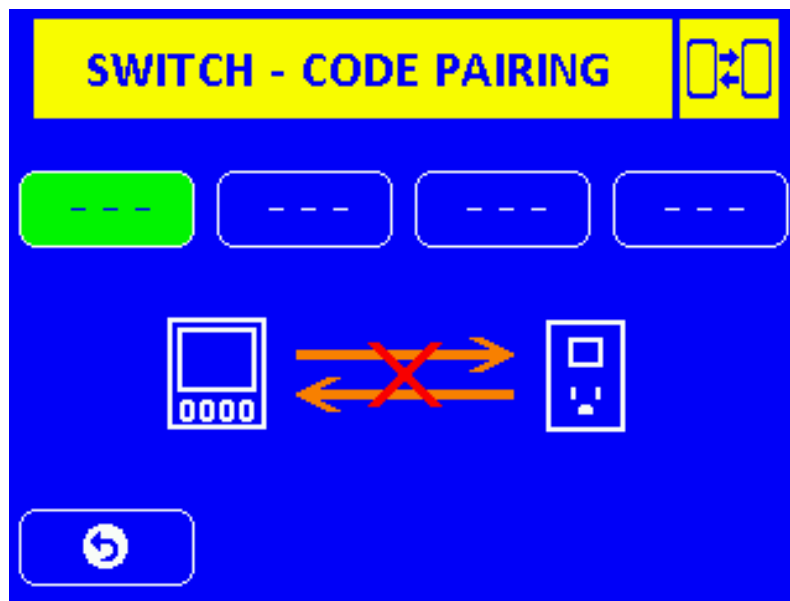
If code pairing process between AE810-B and AE810-C is engaged, both arrows will flash in orange and white color. If not, only the top arrow will flash intermittently between orange and white color.

If code pairing process is completed successfully within the next 60 seconds, it will provide feedback as follow:



Paired code will be saved automatically. Press  to return to the previous screen to repeat code pairing with other switches, or exit.

If code pairing process fails to engage within 60 seconds, the following screen will appear:



The screen indicates that the pairing process has failed. Press  to return to previous screen and retry, or exit.

(Hint: It works best if the distance between AE810-C and AE810-B is over one meter. Strong signal due to close proximity may create unnecessary interference)

5.5.3 Factory Reset: Highlight  (from screen 5.5), then toggle  to enter into the following screen:

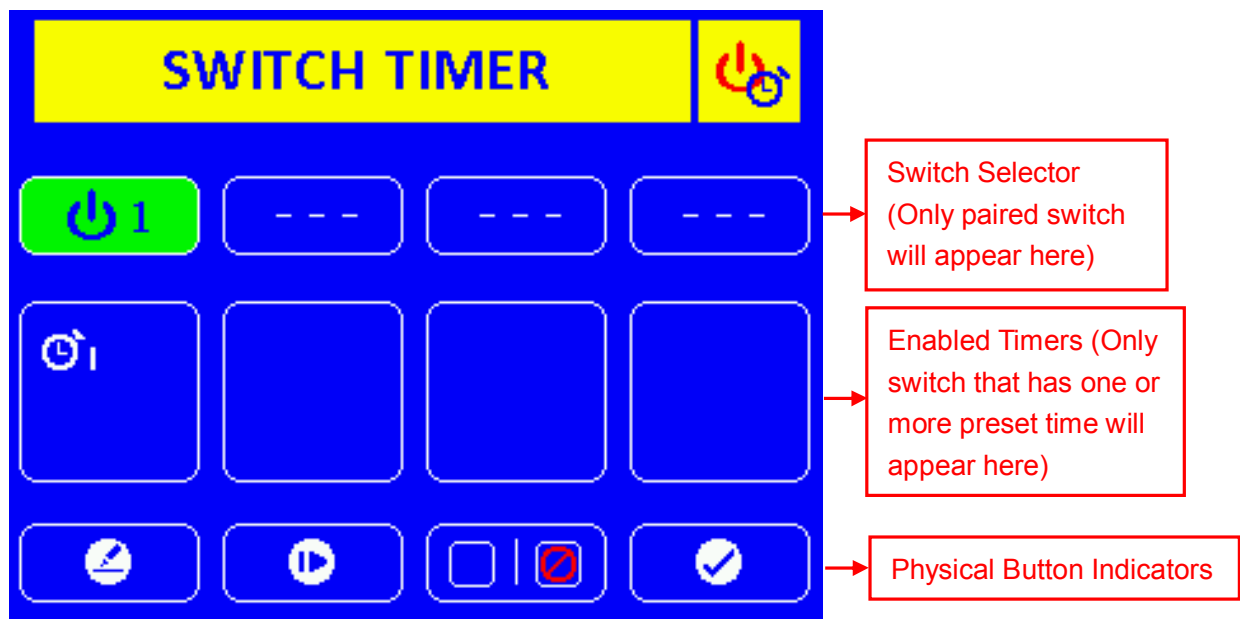


Toggle  will cancel the reset process, and return to previous screen.

Toggle  will begin the reset process.

Upon successful reset, AE810-C will return to Main Screen. At this point all the paired codes, preset alarms and timers will be erased, while display and sound settings will be restored to factory default values. (Previously set date and time values will remain unchanged)

5.6 Switch Timer Screen (refer to 5.4 for entry point)



Edit timers



Move Right to next entry

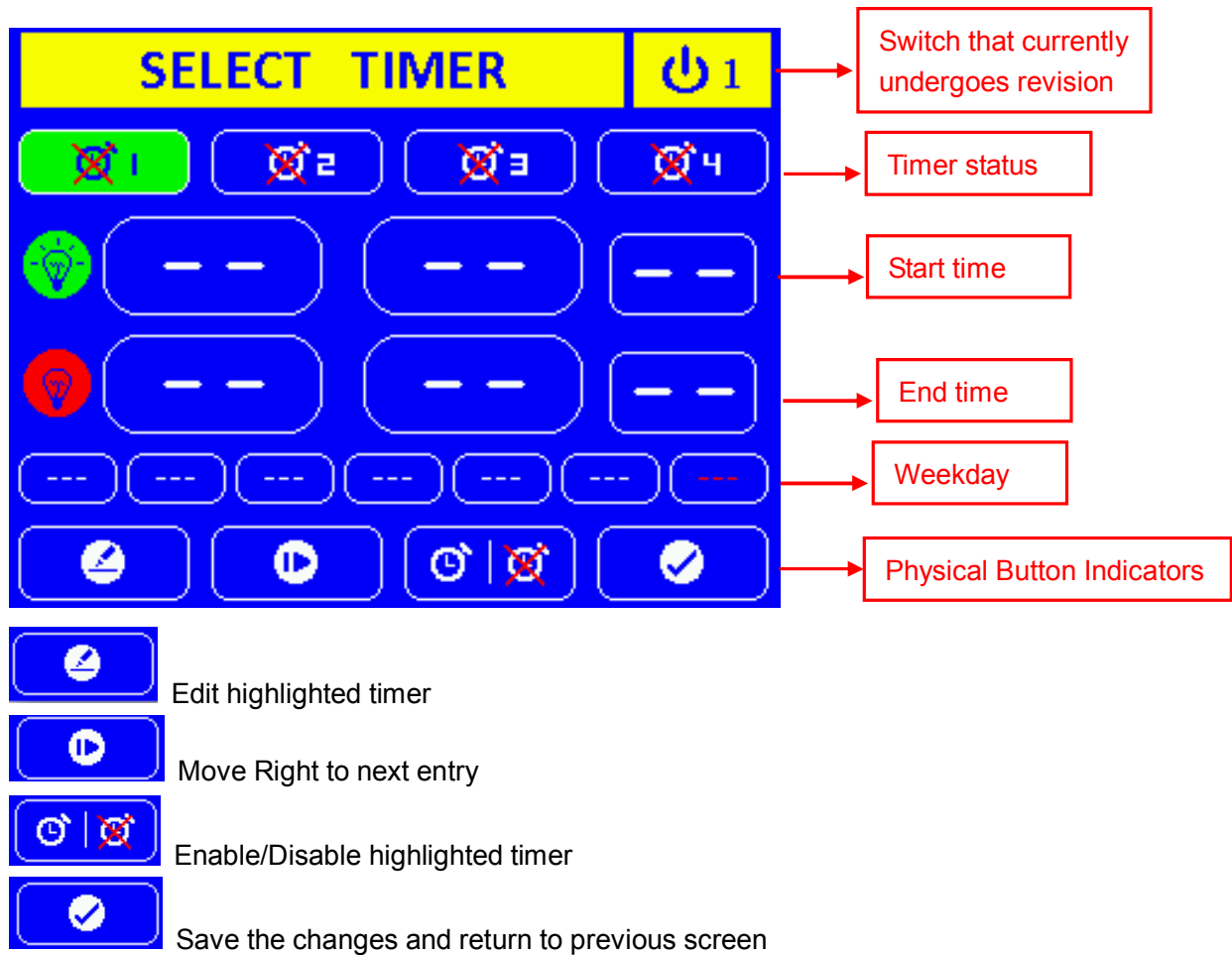


Enable/Disable the highlighted switch (only available if there is at least one enabled timer with the switch)

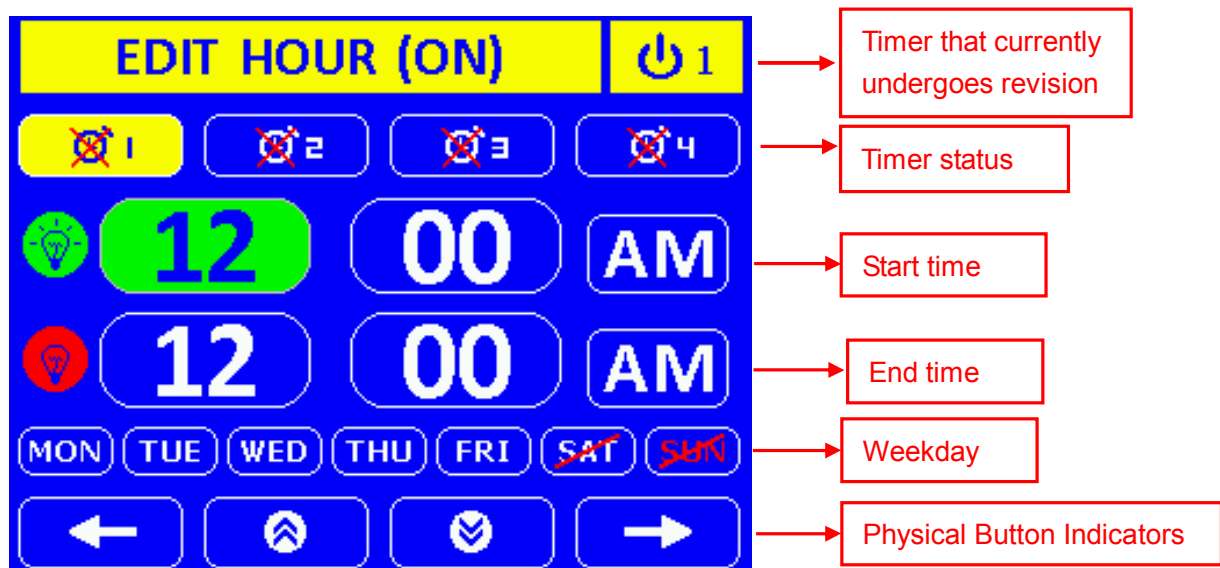


Save the changes and return to previous screen

5.6.1 Select Time Screen: Toggle  to enter into Select Timer screen (as shown below):



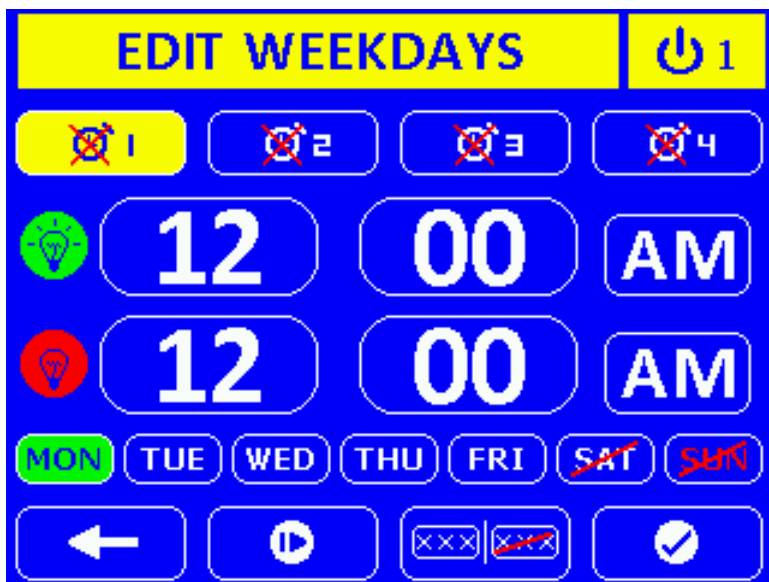
To edit a timer, toggle  and the following screen will appear:



-  Move Left to previous entry
-  Adjust time (up)
-  Adjust time (down)
-  Move Right to next entry

The above 4 buttons can be used to revise the timers on each switch to effectively control the respective statuses of the embedded relays in AE810-B.

Toggle  until the following screen appears. Revise the weekday entries:



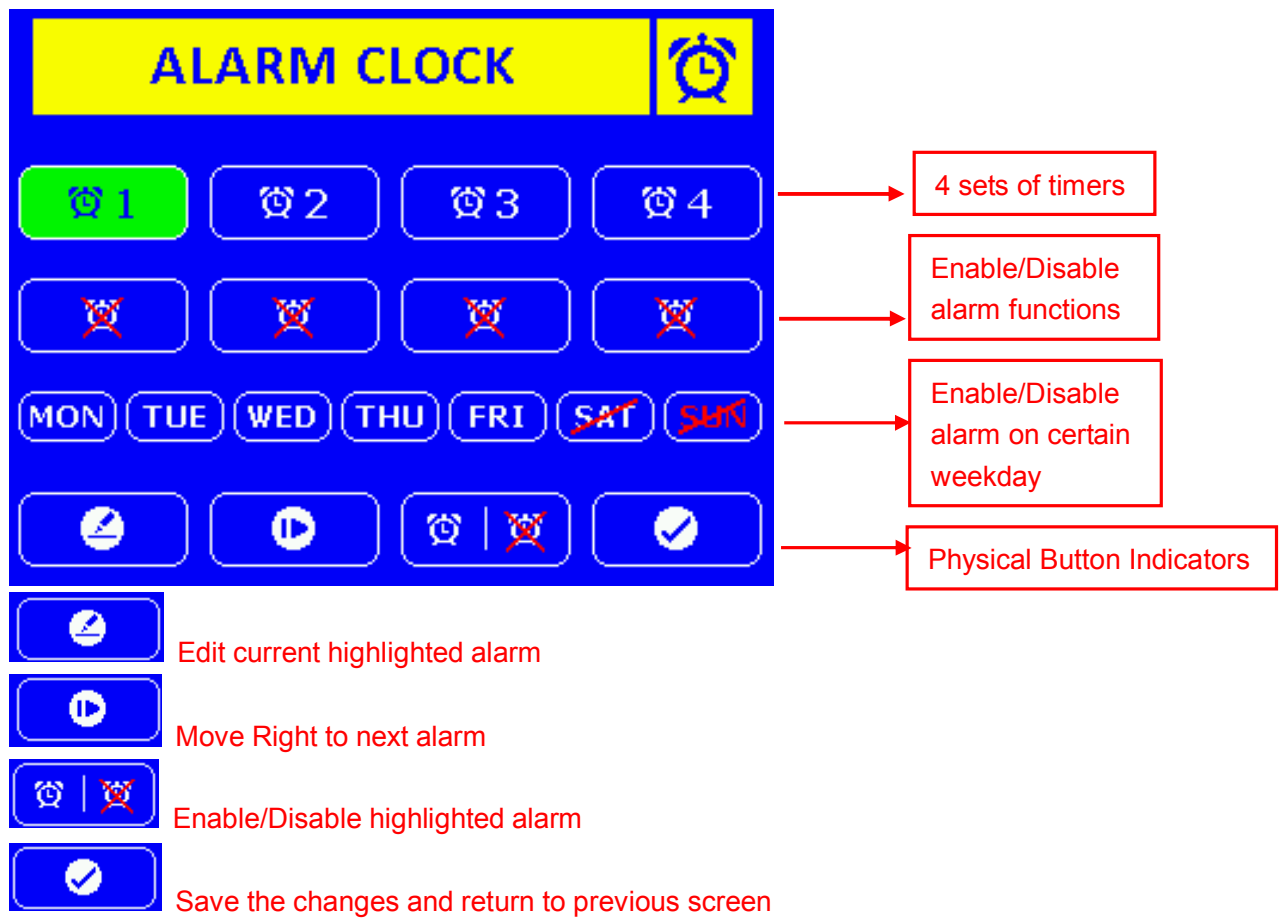
-  Move Left to previous entry
-  Weekday selection
-  Enable/Disable the timer on highlighted weekday

(e.g.  means timer is enabled on Friday, while  means timer is disabled on Saturday)

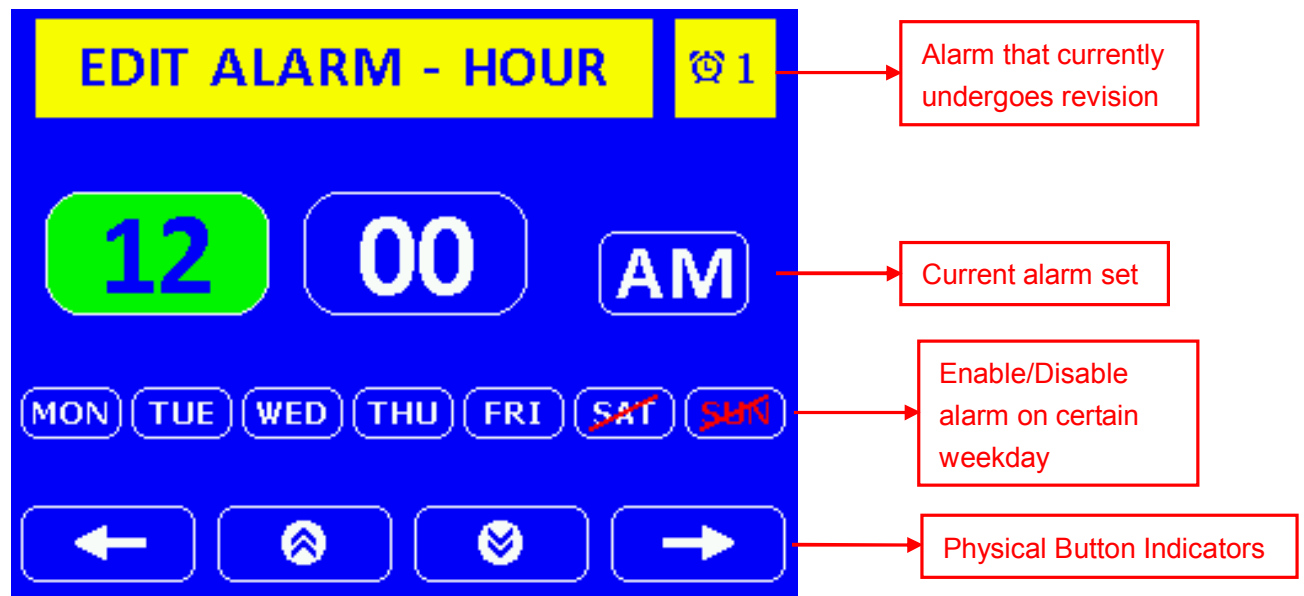
-  Save the changes and return to previous screen.

If the selected switch only set one timer, The system will auto turn on this timer after you set and save the timer, else make sure your had turn on which timer you want to use please !

5.7 Alarm Clock Change Screen (refer to 5.4 for entry point)



To change an alarm, toggle  to enter into the following screen:



Move Left to previous entry / Return to previous screen



Adjust date or time (up)



Adjust date or time (down)



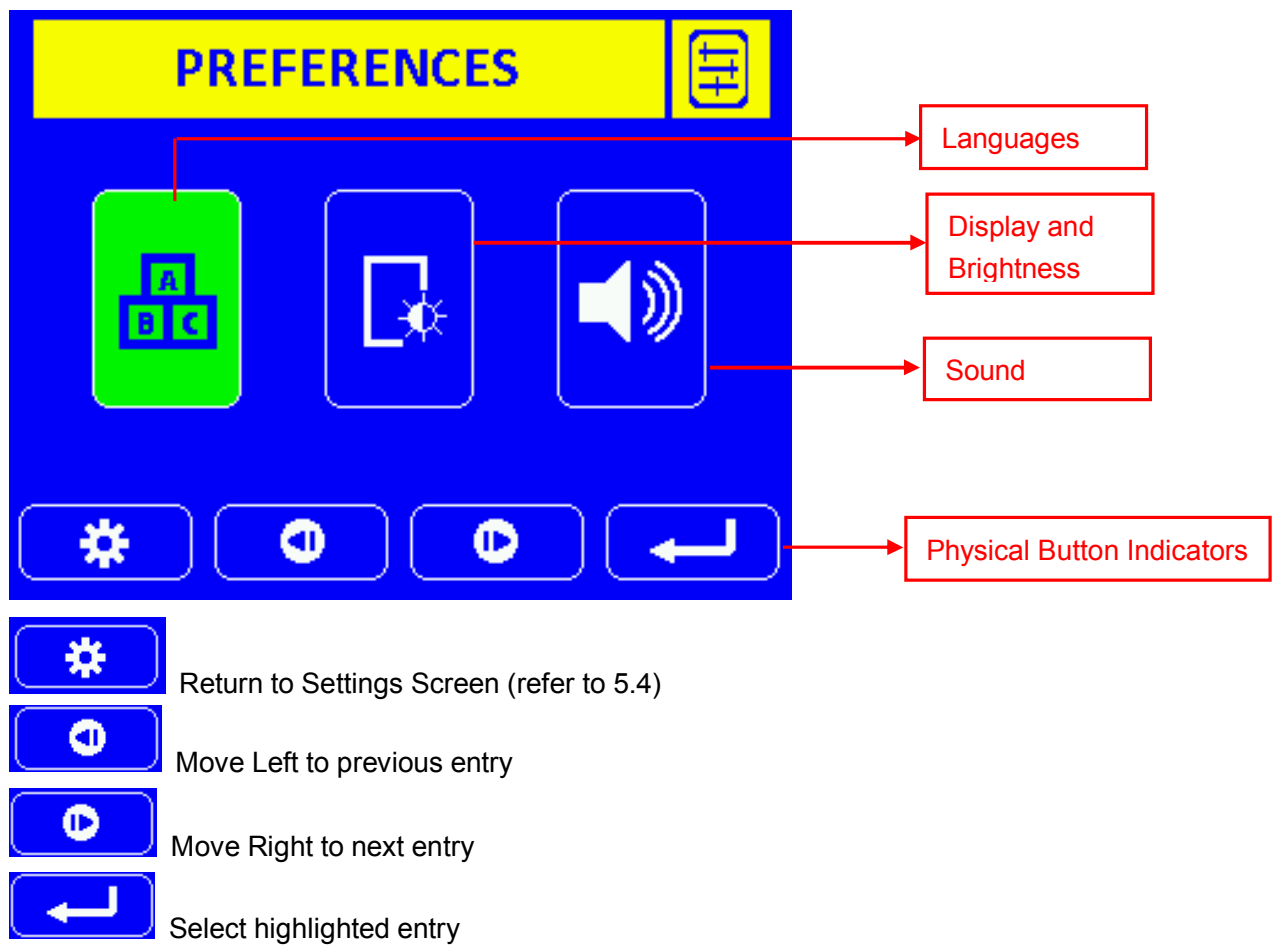
Move Right to next entry

Toggle  until it reaches the weekday section. Use  to highlight the desired weekday, then toggle  to enable or disable it.

After all weekdays are configured, toggle  to save the changes and return to previous screen.

(Attention: Please make sure the configured alarm is enabled on screen 5.7)

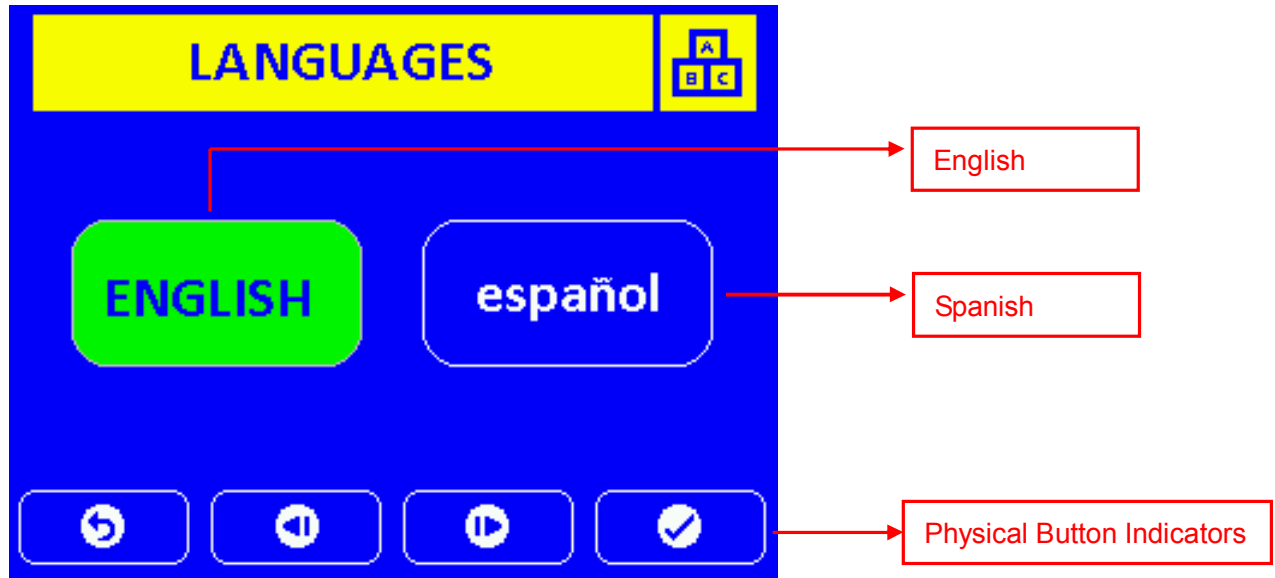
5.8 Preferences Screen: Language, Brightness, Sound Preferences Change Screen (refer to 5.4 for entry point)



5.8.1 Language Screen: To change language, highlight  (from screen 5.8), and toggle



to enter into the following screen:



Cancel and return to previous screen



Move Left to previous entry



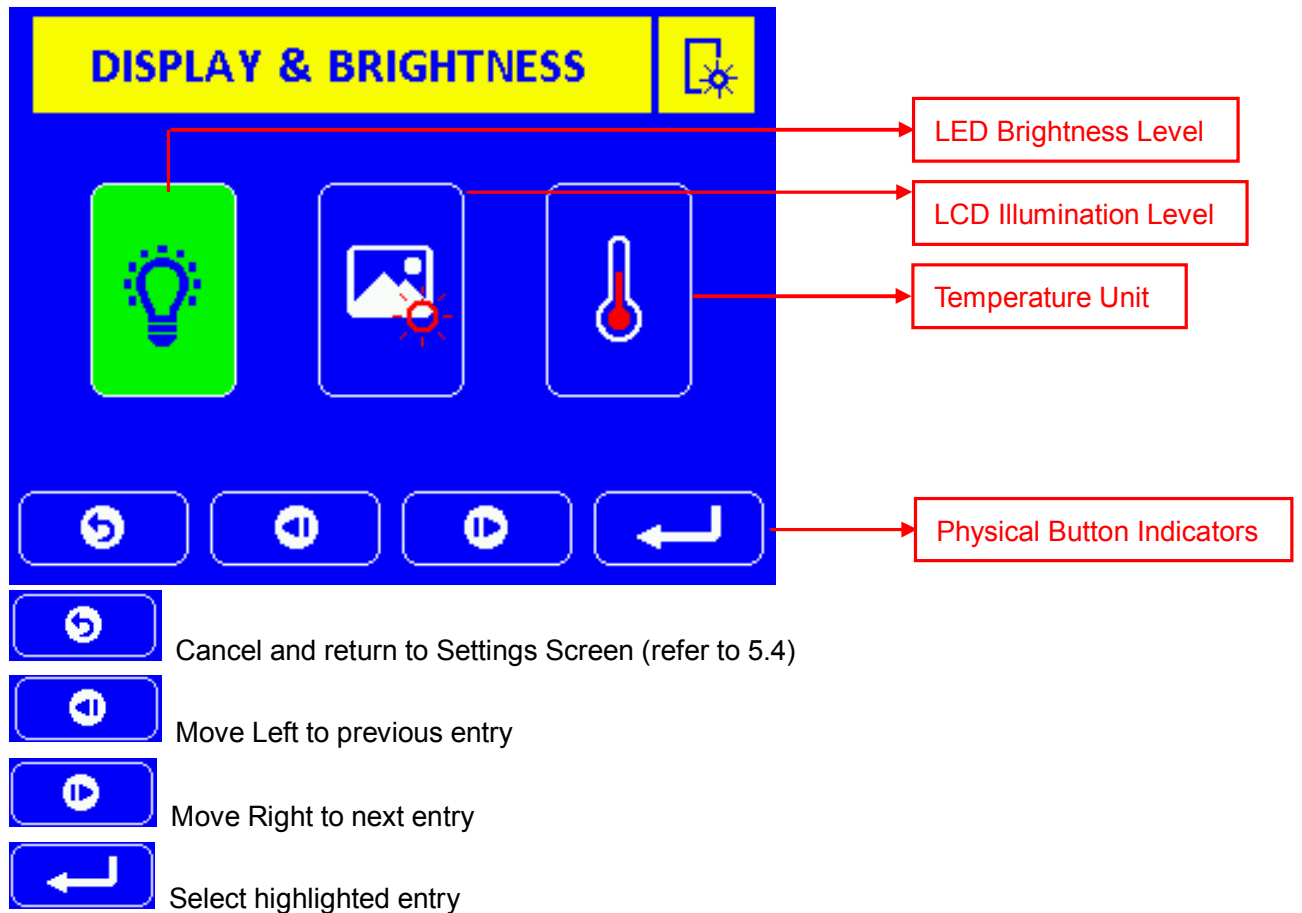
Move Right to next entry



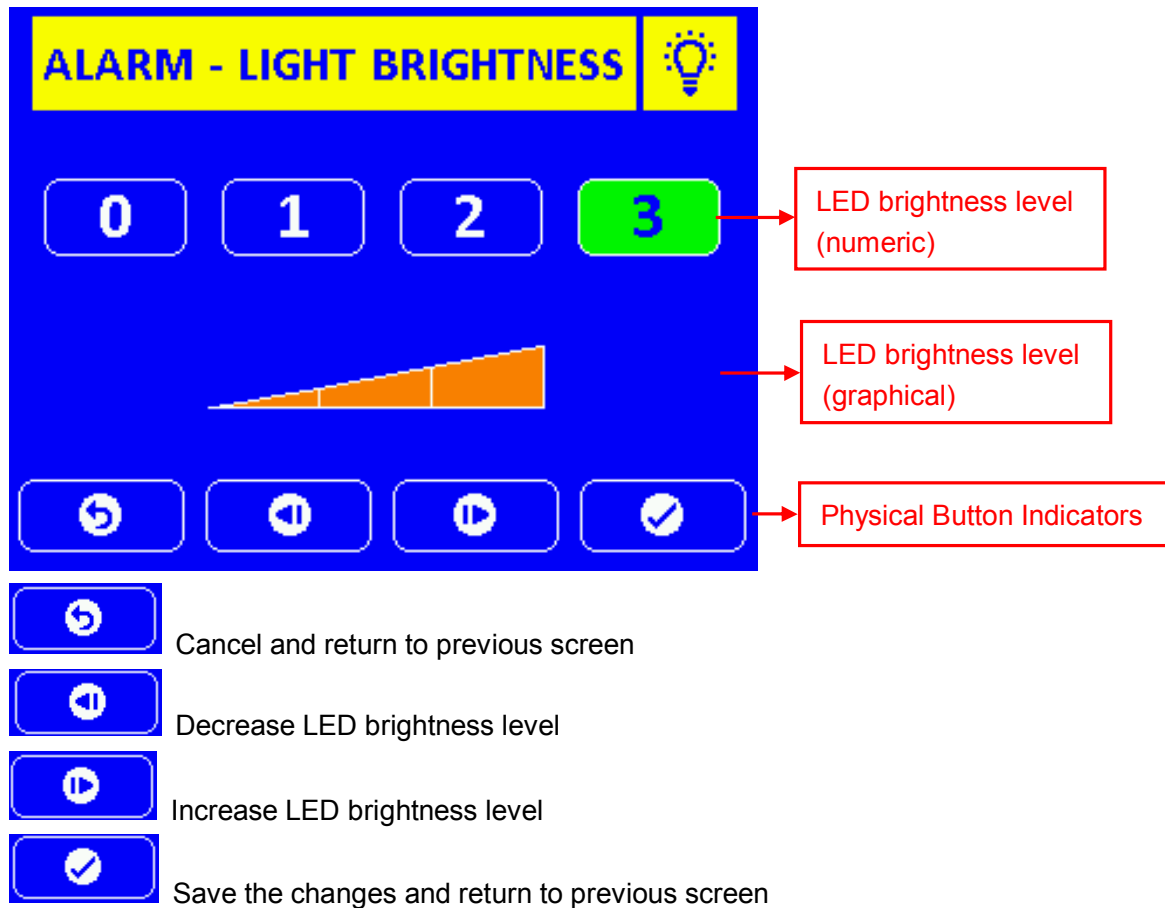
Save the changes and return to previous screen

5.8.2 TDisplay & Brightness Screen: To change LED Intensity Level, Background

Brightness or Temperature Unit, highlight  (from screen 5.8) and toggle  to enter into the following screen:

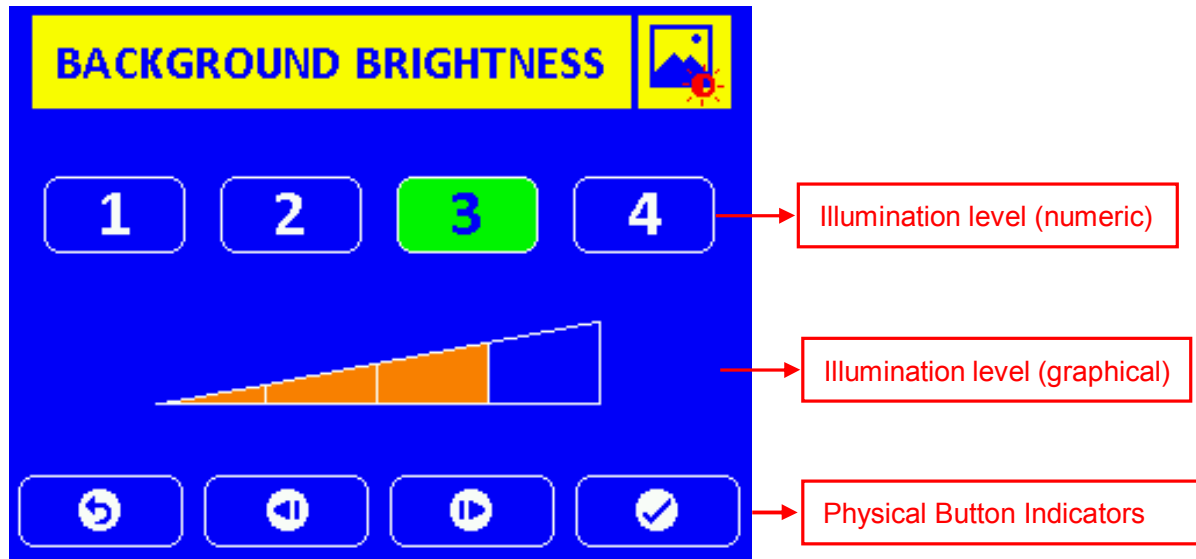


A. To edit Alarm Light Brightness level, highlight , then toggle  to enter into the following screen:



Note: The stated LED will be turned on 30 minutes before the actual alarm time. The intensity of the LED will go from lowest to its highest designated level. When level 0 is selected, the LED will not be turned on in the 30 minute lead time period. When level 1-3 is selected, however, the LED will gradually light up from lowest to its designated level (1, 2, or 3).

B. To edit LCD Background Brightness, highlight , then toggle  to enter into the following screen:



Cancel and return to previous screen



Decrease background illumination intensity



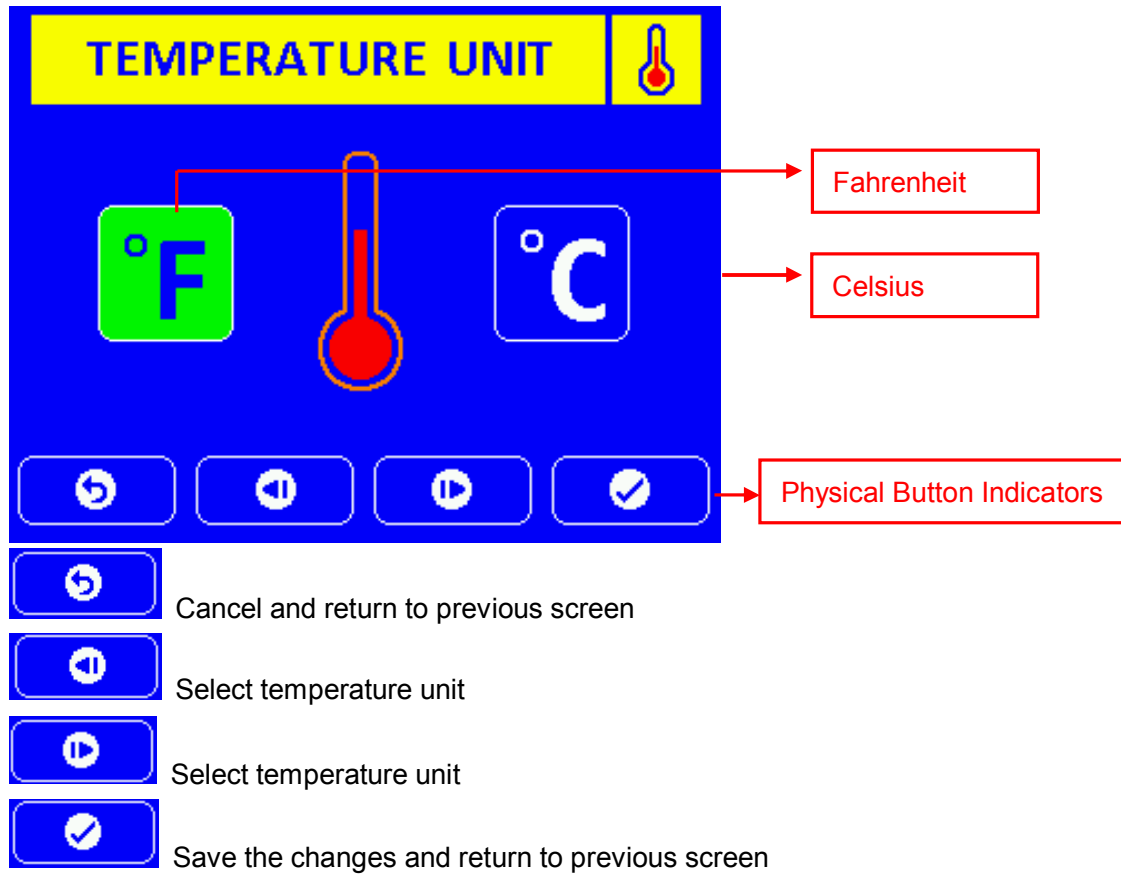
Increase background illumination intensity



Save the changes and return to previous screen

Note: LCD background illumination has 4 levels; level 1 is lowest, while 4 is highest.

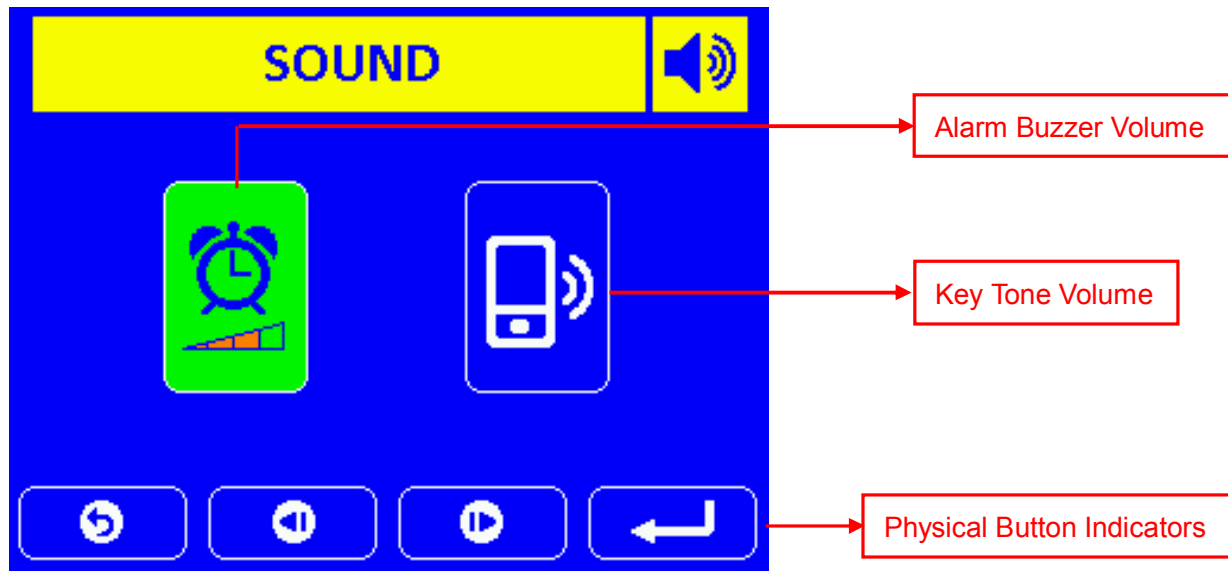
C. To adjust Temperature Unit, highlight , then toggle  to enter into the following screen:





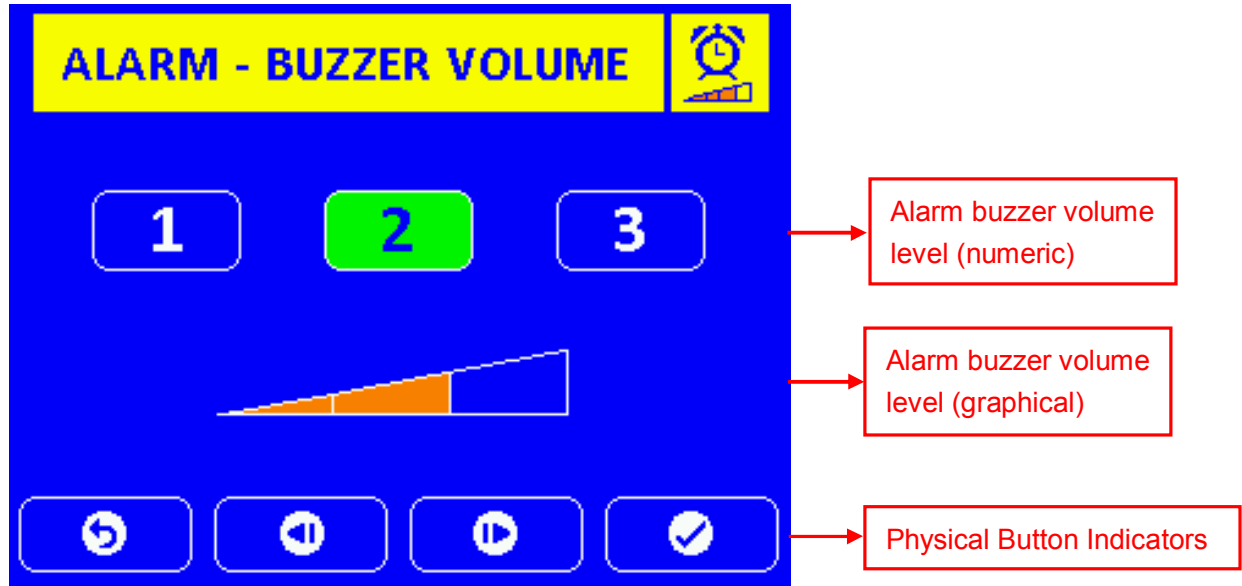
5.8.3 Sound Screen: To change LED Buzzer Volume and Key Tone Volume, select

(from screen 5.8) and toggle  **to enter into the following screen:**



-  Cancel and return to previous screen
-  Move Left to previous entry
-  Move Right to next entry
-  Select highlighted entry

A. To adjust alarm buzzer volume, highlight , then toggle  to enter into the following screen:



Cancel and return to previous screen



Decrease Alarm Clock volume

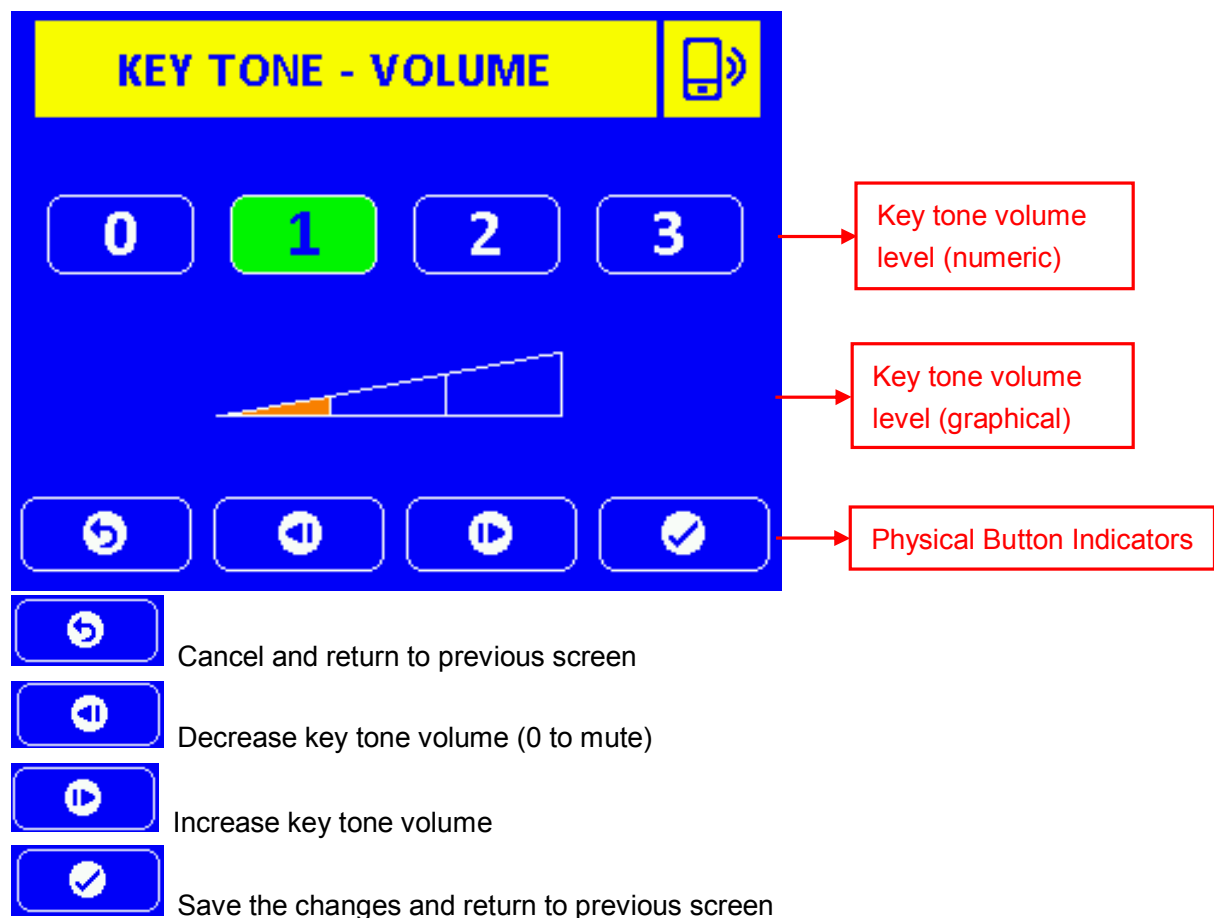


Increase Alarm Clock volume



Save the changes and return to previous screen

B. To adjust key tone volume, highlight , then toggle  to enter into the following screen:



FCC Statement:

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference, and
- (2) This device must accept any interference received, including interference that may cause undesired operation.

Warning: Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference

by one or more of the following measures:

Reorient or relocate the receiving antenna.

Increase the separation between the equipment and receiver.

Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

Consult the dealer or an experienced radio/TV technician for help.