

EZ-Pad 3.0 Gym Control System

INSTRUCTIONS INSTALLATION & OPERATION



CAUTION

1. This equipment should not be installed, operated or maintained by any person who has not read all the contents of these instructions.
2. Operates on 110-120v AC, 60 Hz current.
3. Before connecting switches, controls, or electrical, make sure power is off. Wiring indicated in diagram by dashed lines must be completed by an electrician.
4. Locate the Touch screen so it is within clear view of the equipment being operated; it should also be in a location that will minimize the chance of damage.

Please Note: Custom products/installations may not be reflected by this document. Call Draper, Inc. if you have questions about your installation.

Section 1 - Overview

1. Mount Relay Boxes in desired location (*suggested in a position to minimize high voltage wire runs*) and connect circuits as outlined in **Section 2 - Wiring Notes**.
2. Connect gym equipment and auxiliary devices to relays in **Relay Box**, See **Section 2 - Wiring Notes**. Record connections on the **Relay Assignment Table** located on the inside of the **Relay Box** door.
3. Verify each connected device is working correctly using the **Operate** menu on the **Relay Box**. See **Section 3.1 – Operating Individual Devices**.
4. Mount Touch screens in desired location. Touch screens require a standard 8 5/8" x 4 1/2" electrical box (*RACO Box #942 or equivalent*).
5. Make ethernet connections between **Touch screens** and **Relay Boxes** and **Relay Box to Relay Box** (*if multiple Relay Boxes*) See **Section 2 - Wiring Notes**.
6. Check the network status from any **Relay Box** to verify that all **Relay Boxes** and **Touch screens** are communicating in the network as outline in **Section 4 – Network Verification**.
7. Perform **Initial Set Up** (**Section 5.1**) including **Loading Devices** (**Section 5.1.1**), **Changing Passcodes** (**Section 5.1.2**) and setting **Log In Time Out** (**Section 5.1.3**)
8. For each **Relay Box**, name the box and each connected device See **Sections 5.2 and 5.3**.
9. Program desired groups. See **Section 6 – Setting Groups**.

Section 2 - Wiring Notes

Section 2.1 - Connecting Relay Box to 120 Volt Power Source:

- a) The 3-position screw terminal strip at top center of each relay board is to provide power to relays that is then distributed to the connected devices. The two relay boards are referred to as **Relay Board A** and **Relay Board B**.
- b) If using only one board of relays, **Relay Board A** must be used since the processor pulls power from this circuit.
- c) Input circuit size is to be a dedicated 30 amp circuit for each relay board.
- d) Wire size will be determined by connected load. Distance from power source and distance to farthest device to be operated.

Section 2.2 - Connecting gym equipment or other directional devices to Relay Box:

- a) There are three screw terminal strips located next to each of the eight relay sets in each **Relay Box** that are labeled **UP**, **DOWN** and **NEUTRAL**. **UP** and **DOWN** are the hot supply lines that become active when the relay is on.
- b) Connect backstops, dividers, electric height adjusters or other directional items to be operated to these relay sets.
- c) Wire size will be determined by load rating of items connected to source and total distance from power source to the device.

Section 2.3 - Connecting auxiliary devices to Relay Box:

- a) Positions labeled **AUX A** & **AUX B** are for auxiliary outputs that have their own power supply (*230VAC -30A-max*), such as lights, scoreboards, PA system.
- b) One connection is to be made to the hot wire of the supply. The other connection becomes hot when the relay for the auxiliary output is on. The relay is continuous contact, and operates just like a switch opening and closing the hot wire.

Section 2.4 - Connecting Relay Boxes in a Network:

- a) If more than one **Relay Box** is being used, they are connected together using standard Ethernet network cables. See **Section 6 – Wiring Diagram** for pin out if making cables
- b) Daisy-chain **Relay Boxes** using the **Relay Box In** and **Relay Box Out** ports. If only one of these ports is used on a box, the **Relay Box In** port should be used.

Please Note: The maximum distance for this cable run is 300ft (91.44M).

Section 2.5 – Connecting Touch screens:

- a) Touch screens are connected to the system using standard Ethernet network cables. See **Section 6 – Wiring Diagram** for pin out if making cables.
- b) Connect the Touch screen to one of the yellow Touch screen ports on the nearest **Relay Box**.

If you have any difficulties installing or servicing your EZ-Pad Control System, call your dealer or Draper, Inc.



Section 3 - Manual Operation

Each individual device and auxiliary output can be manually operated from the relay panel. Once configured, groups can also be operated. Refer to Section 6 for details on setting groups.

Caution: Ensure a clear view, or communication with someone with a clear view, of the devices while operating them to minimize the chance of damage.

Section 3.1 – Operating Individual Devices

Operation of individual devices is done using the LCD display and menu buttons in the Relay Box where the devices are connected as follows:

1. From the Main Menu, select Operate.
2. From the Operate Menu, select Local Devices.
3. Select the device or auxiliary output that you wish to operate.
 - a. If a device was selected, use the UP and DOWN buttons to operate the device. The operation is momentary, meaning that the device will stop moving when the button is released.
 - b. If an auxiliary output was selected, toggle the status between OFF and ON with the ENTER button.
4. When finished use the BACK button to return to the previous menu.

Section 3.2 – Operating Groups

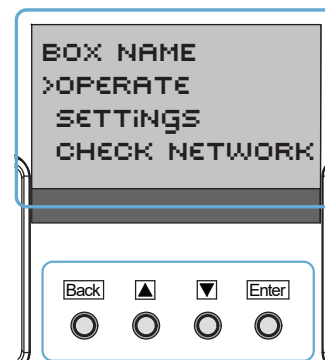
Operation of groups of devices or auxiliary outputs is done using the LCD display and menu buttons in any Relay Box on the network as follows:

1. From the Main Menu, select Operate.
2. From the Operate Menu, select Device Groups to operate a group of devices or Aux Groups to operate a group of auxiliary outputs.
3. Select the group that you wish to operate.
 - a. If a device group was selected, use the UP and DOWN buttons to operate the group. The operation is momentary, meaning that the devices will stop moving when the button is released.
 - b. If an auxiliary output group was selected, use the menu to choose to Turn OFF or Turn On the group of outputs.
4. When finished use the BACK button to return to the previous menu.

Section 4 - Network Verification

For installations where multiple Relay Boxes or Touch screens are networked together, the LCD display in a Relay Box can be used to verify the network as follows:

1. From the Main Menu select Check Network.
2. The devices on the network will then be displayed.
 - a. The number of Relay Boxes and a list of their names is shown first. Make note of each relay box Name/Number. Use the UP and DOWN arrows to scroll as needed.
 - b. The number of Touch screens and a list of their names is then shown.
3. Use the BACK button to return to the Main Menu.



Section 5 - Programming EZ-Pad System from Touch Screen

Connect only one touch screen to the network to do this programming.

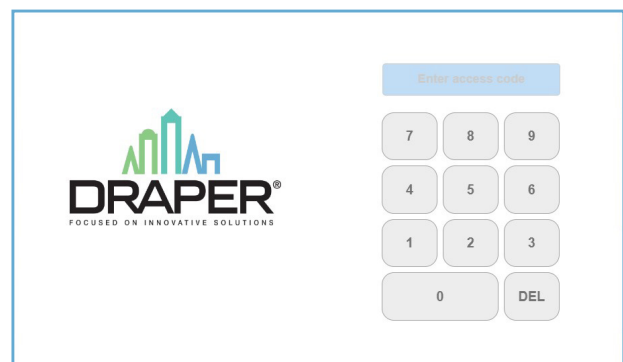
DEFAULT USER PASSCODE: 123456 **DEFAULT SUPERVISOR PASSCODE: 654321**

Passcodes should be changed during initial installation and programming.

This passcode should also be changed anytime someone that should not be authorized to operate equipment learns it or if an employee leaves the facility.

If either code is forgotten, please contact Draper, Inc.

Passcodes are stored in the touch panel. Passcodes will need to be changed on every Touch screen on network.



Section 5.1 - Initial Set Up

These instructions will allow supervisors to change passcode and make changes in setup.

Passcodes are stored in touch panel.

Passcodes will need to be changed on every Touch screen on network.

1. Touch anywhere on the one connected screen to wake it up.
2. ENTER THE DEFAULT SUPERVISOR PASSCODE: 654321

Supervisor Passcode should be changed during initial installation and programming.

Passcode should also be changed anytime someone that should not be authorized to operate equipment learns it or if an employee leaves the facility.

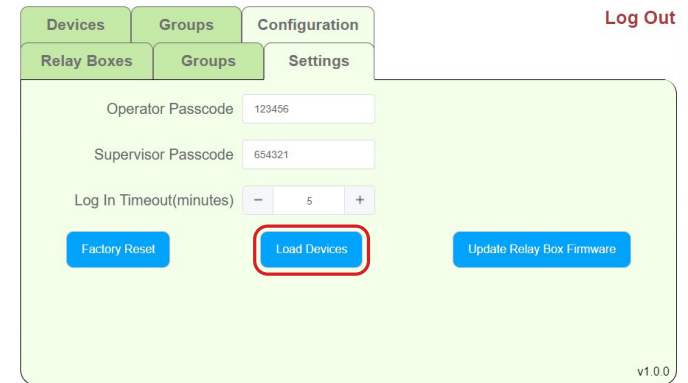


Section 5.1.1 - Load Devices

This is required to allow the touch screen and relay panels to communicate and define all components on the network.

1. If you are not already on the setting screen, after logging in using supervisor passcode, select **Configuration** on top of touch screen display.
2. Select **Settings**.
3. Press **Load Devices** in middle, bottom of screen display.

Display will load and connect to all devices on EZ-Pad network.



Section 5.1.2 - Change Passcodes

Passcodes are intended to prevent unauthorized or untrained users operating equipment and other devices connected to the EZ-Pad control system.

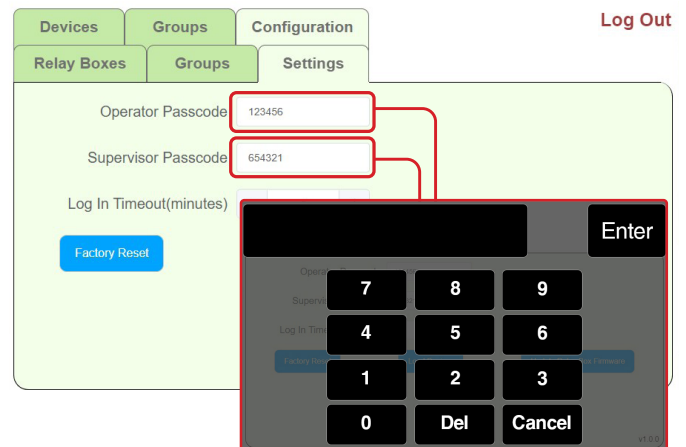
Passcodes should be changed from defaults during initial set up See Section 5.1.

Facilities should guard passcodes and only provide to users that have been properly trained in the safe operation of connected equipment.

Passcode should also be changed anytime someone that should not be authorized to operate equipment learns it or if an employee leaves the facility.

EZ-Pad has a secure backdoor passcode that can be provided by Draper, or your local installing dealer should user programmed passcode be lost or forgotten.

1. If you are not already on the setting screen, after logging in using supervisor passcode, select **Configuration** on top of touch screen display.
2. Select **Settings**.
3. Enter new Operator Passcode by pressing on existing pass code and typing new code and pressing **Enter**.
Passcodes are any desired combination of 6 digits.
4. Change Supervisor Passcode by pressing current passcode and entering new in the same manner as above.

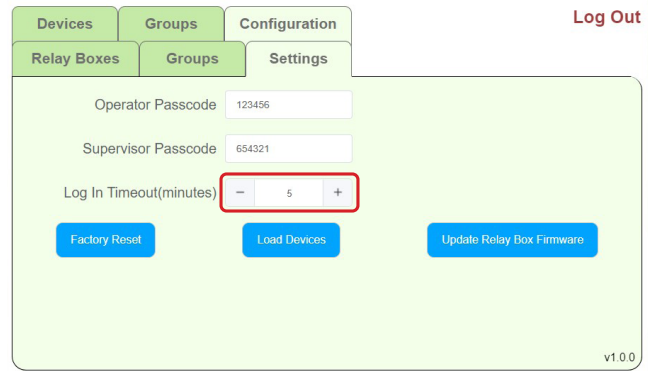


Section 5.1.3 - Log In Time Out

Log In Time Out sets the time between when the last on-screen button is pressed to when the screen returns to the new home page and requires user to log back in with the passcode.

Default time out is set at 5 minutes which is sufficient for any gym equipment device. However, if you find that the screen returns to log in screen while operating a device or if you want the touch screen to return to login in screen faster, this time-out period can be changed per the below steps:

1. If you are not already on the setting screen, after logging in using supervisor passcode, select **Configuration** on top of touch screen display
2. Select **Settings**.
3. Use + and – signs next to **Log in Timeout** to adjust period to desired value.
4. Once you have logged out of touch screen, **Log in Timeout** will be set to selected value.



Section 5.2 - Name Relay Box(es)

Each relay box is factory set with a unique numerical identifier, noted in Section 3.

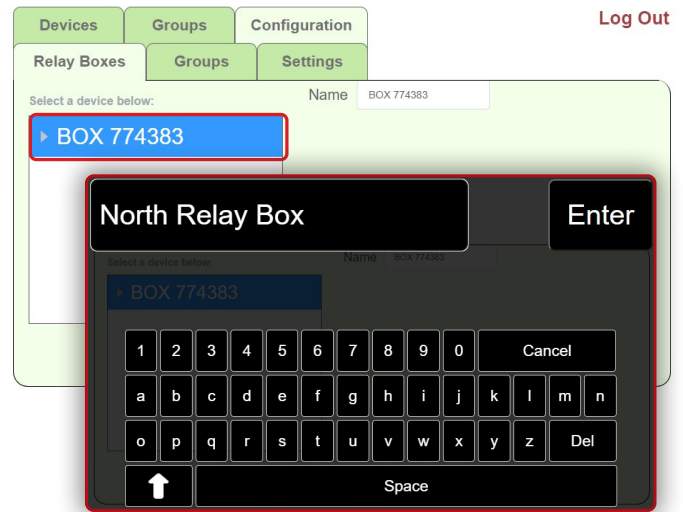
EZ-Pad allows users to assign new names to relay boxes so that they are easier to identify.

To change relay box name, do the following:

1. Touch anywhere on the screen to wake it up. Enter the supervisor passcode to login.
2. Select **Configuration** on top of touch screen display.
3. Select **Relay Boxes**.
4. Select **Relay Box** that you want to rename, then press on the current name that is displayed to the right of screen after the word name.
5. Use keyboard to enter new relay box name.

Names can be alpha-numeric and up to 25 characters long – including spaces.

Names should be something that allows you to easily identify each relay box – i.e., “North Relay Box”, “Main Court Relay Box” or something similar.



5.3 Name Devices

Each relay box will operate up to 8 directional devices and 2 auxiliary on/off devices.

By default, these are identified as **Devices A-1 to A-4, Devices B-1 to B-4, Aux A and Aux B**.

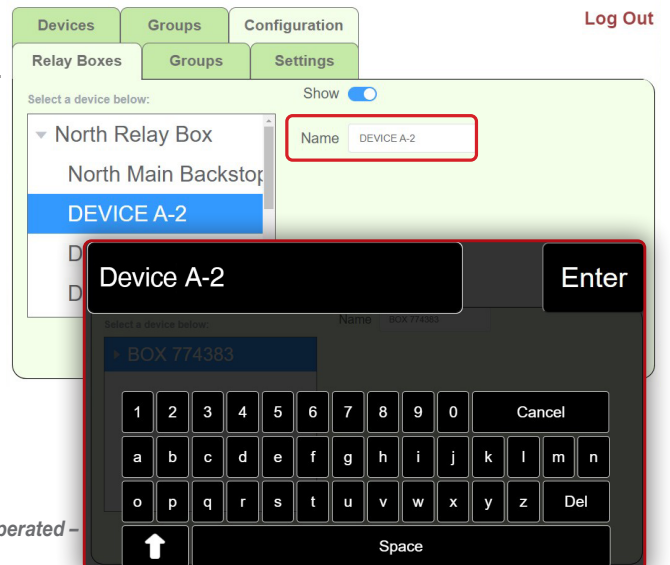
Users can assign names to all devices and auxiliaries, so that they are easier to identify.

To change names for these items, do the following:

1. Touch anywhere on the screen to wake it up. Enter the supervisor passcode to login.
2. Select **Configuration** on top of touch screen display.
3. Select **Relay Boxes**.
4. Select **Device** that you want to rename. This will display names of all items in that relay box.
5. Press the current name of any device or auxiliary, then press on the current name that is displayed to the right of screen after the word name.
6. Use keyboard to enter new device name.

Names can be alpha-numeric and up to 25 characters long – including spaces.

Names should be something that will allow you and others to easily identify the device to be operated – i.e., “Southeast Side Backstop”, “Divider Curtain”, “Scoreboard” or something similar

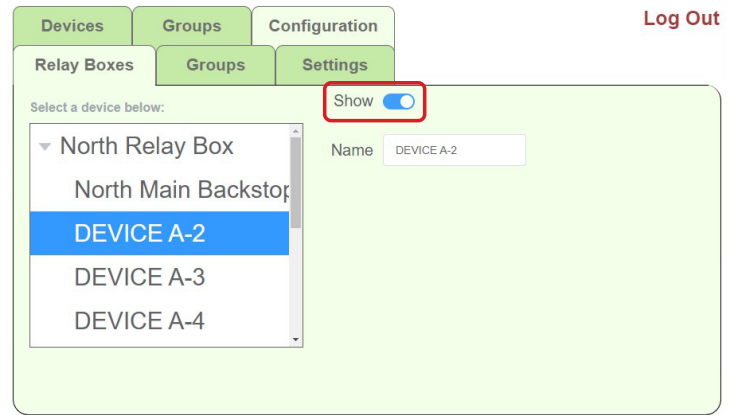


5.4 Hide Unused Devices

After naming all connected devices, unconnected relays may still show default device names. You can hide unused devices and auxiliaries, so the operator does not see any options that do not operate connected devices.

To hide unused devices, do the following:

1. Touch anywhere on the screen to wake it up. Enter the supervisor passcode to login.
2. Select **Configuration** on top of touch screen display
3. Select **Relay Boxes** **Device**
4. Select **Device** for which you want to hide devices. This displays names devices in that relay box.
5. Select any relay set that does not have an item attached, which will likely still have the default device name (*Device A-1, Aux B, etc.*)
6. Use Show (on/off) slider to hide device from user view.



Section 6 - Create Groups

EZ-Pad has the capability to simultaneously operate groups of up to 8 devices with a single command.

The control system includes logic that will prevent the creation of groups that will overload any single circuits, provided the system is properly wired with a dedicated 30-amp circuit for each relay board (2 circuits per relay box).

EZ-Pad allows up to 64 directional device groups and 64 auxiliary device groups.

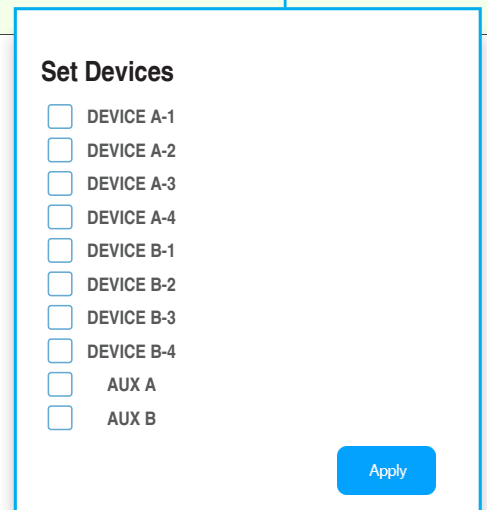
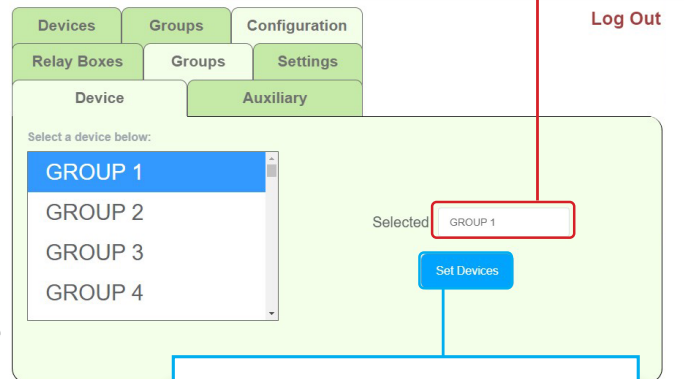
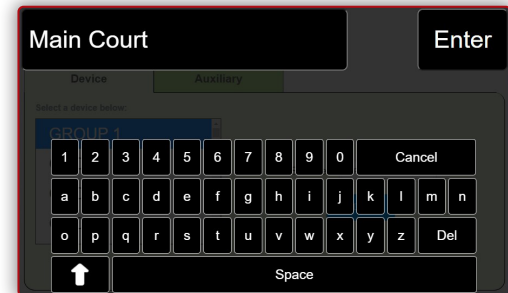
To create groups, do the following:

1. Touch anywhere on the screen to wake it up. Enter supervisor passcode to login.
2. Select **Configuration** on top of touch screen display
3. Select **Groups**
4. Select type of devices to be grouped – **Devices** or **Auxiliary**
5. Select **GROUP #** you want to create
6. Name the Group by pressing the current name that is displayed to the right of screen after the word selected.
7. Use keyboard to enter new group name.

Names can be alpha-numeric and up to 25 characters long – including spaces.

Names should be something that will allow you and others to easily identify the group to be operated – i.e., "Main Court Backstops", "Cross Court Backstops", "Scoreboards" etc.

8. Add items to group by pressing **Set Devices** button which will display all individual device names. Press check box next to items to include in group – box turns blue and shows a check mark. If the box does not turn blue next to selected device, then you already have the maximum number of devices for that circuit.
9. Press **Apply** to create Group



Section 7 - Connect Additional Touch Screens

After system is programmed, you will want to connect additional touch screens and do the following:

1. Touch anywhere on screen to wake it up. Enter the default supervisor passcode to login.

2. Load Devices: *(refer to section in necessary 5.1.1 if necessary)*

a. Select **Configuration** on top of touch screen display.

b. Select **Settings**.

c. Press **Load Devices** button in middle, bottom of screen display.

Display will load and connect to all devices on EZ-Pad network and screen will now display device names, group configurations and group names that were programmed in initial screen.

3. Change Passcodes: *(refer to section in necessary 4.1.2 if necessary)*

Passcodes are stored in touch screen and touch screens added to system at this stage will still have the default supervisor and user passcodes, so you will need to change these setting.

It is not require that each touch screen have the same password.

a. Select **Settings**.

b. Enter new Operator Passcode by pressing on existing pass code and typing new code and pressing **Enter**.

Passcodes are any desired combination of 6 digits

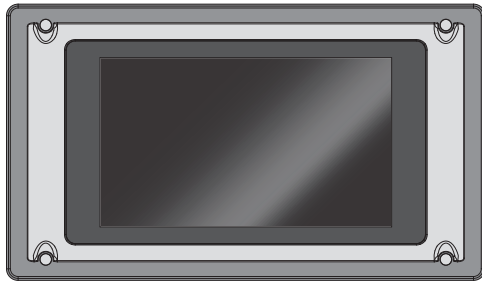
c. Change Supervisor Passcode by pressing current passcode and entering new in the same manner as above.

The screenshot shows the EZ-Pad configuration interface. At the top right is a "Log Out" button. The main menu has tabs for "Devices", "Groups", and "Configuration". Under "Configuration", there are sub-tabs for "Relay Boxes", "Groups", and "Settings". The "Settings" tab is active, showing the following fields and buttons:

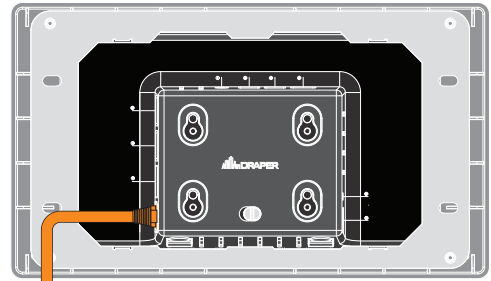
- Operator Passcode: 123456 (highlighted with a red box)
- Supervisor Passcode: 654321 (highlighted with a red box)
- Log In Timeout(minutes): 5 (with minus and plus buttons)
- Buttons: "Factory Reset", "Load Devices", and "Update Relay Box Firmware".

A numeric keypad overlay is shown in the bottom right, with an "Enter" button at the top right. The keypad has buttons for digits 0-9, "Del", and "Cancel".

Section 8 - Wiring Diagram



Front of Touch Screen
Touch Screen should be mounted in location to allow view of equipment to be operated.



Back of Touch Screen
8⁵/₈" x 4¹/₂" x 2¹/₂" (219x114x64mm)
Electrical Box Required
(RACO #942 or equivalent)

