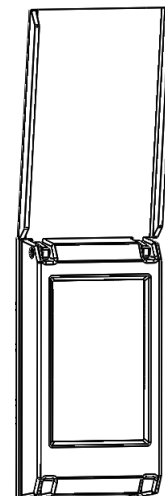


Touch Screen Pool Cover Controller Wiring and Installation Instructions

Table of Contents

Important Safety Instructions	1
Installation Notes	1
Product Summary	2
Mounting Instructions.....	2
Wiring Description	3
Standard Setup Procedure	4
Accessing the Setup Menu.....	4
Set a Primary Controller.....	4
Configure Devices	4
Verify Connections and Lock Network.....	5
Assign Main Device	5
Calibrate each device.....	5
Set Passwords	5
Edit Service Screen.....	5
User Settings	6
Wi-Fi Setup.....	6
Menu Structure	7
Mesh Configuration Options	9



WARNING! IMPORTANT SAFETY INSTRUCTIONS

READ AND FOLLOW ALL INSTRUCTIONS

Warning: To avoid fire or electrocution.

- Identify GFCI breaker at distribution panel and turn off power before attempting to service or install equipment.
- Only install the touch controller to a single gang box rated for outdoor use.
- Make motor connections in an all-weather junction box as high as possible in the cover box.
- Install this device in accordance with national and local electrical codes (NEC 680-26).
- Electrical wiring and service work should only be performed by a qualified individual.

Warning: To avoid injury or drowning.

- The control switch must be mounted in a fixed location where 100% of the pool surface is visible.

Installation Notes

- Use water tight connections at all wire junction locations.
- Install device in location where exposure to sun and water sources (e.g. sprinklers, water downspouts) are limited.
- Make sure all gaskets are undamaged and are clean and free of dirt and debris.
- To reverse motor spin directions, see the “Configure Devices” section in “Standard Setup Procedure.”
- The power circuit should be sized for 15 amps and must be sized accordingly.
- Perform a pool calibration on touch pad after installation for accurate current limits and operational cycle counts.
- Wi-Fi features require a Wi-Fi network to be present and associated to the device to receive alerts.
- Keep remote devices in line of sight of controlling devices for best performance.

Product Summary:

The touch screen pool cover controller is designed to operate all of Latham's 3 wire motor offerings either directly or through a control board. It is compatible with the 121 Motor Controls and the 3 Wire Limit control board assemblies. It also has built in Latham mesh capability to support wireless communication with multiple touch pads. In addition, the product has support for Wi-Fi notifications which can notify via text or email when your cover is operated.

Touch Controller Operation:

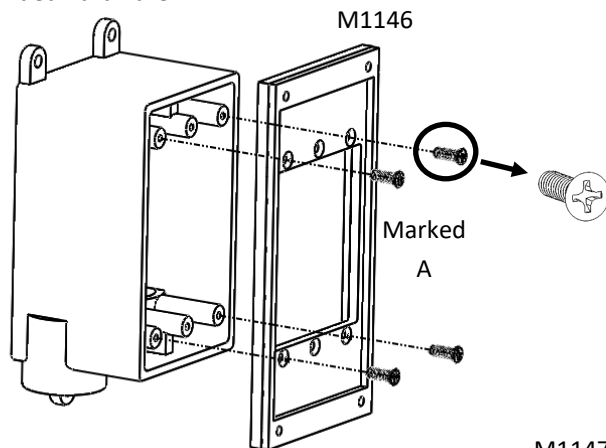
This device unlocks by entering a 4 number passcode configured by the installer or user. The touch controller can operate covers directly through high voltage power, indirectly via a control board (low power), or wirelessly through another touch controller. The device will stop the motor if 1) The operation button is released 2) Motor current exceeds the set limit or 3) A limit switch is triggered (with control board).

If motor current is exceeded, the button for the direction operated will turn red and the cover will stop. After the button is released, the cover can be operated in either direction.

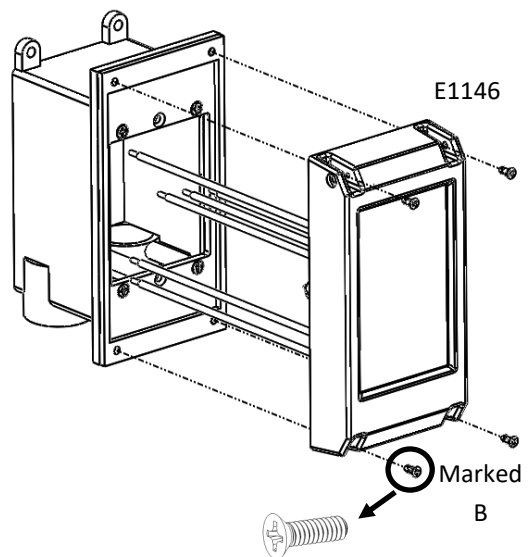
If the limit switch is triggered, movement in that direction will be disabled until the cover is operated in the opposite direction. With 121 control boards, the button in the tripped limit direction will disappear until the cover is ran in the opposite direction. With the high voltage limit board the cover will stop, but the touch controller will display as if it's operating.

Mounting instructions:

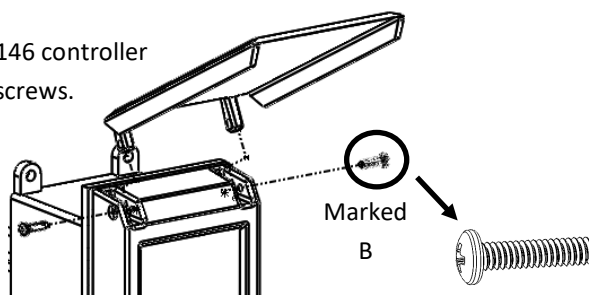
- 1) Attach M1146 adapter plate to junction box using provided hardware.



- 2) Connect wiring according to schematic.
- 3) Carefully feed connected wires into junction box and secure the E1146 touch controller to the M1146 adapter plate.



- 4) Attach M1147 lid to E1146 controller using 2 supplied hinge screws.



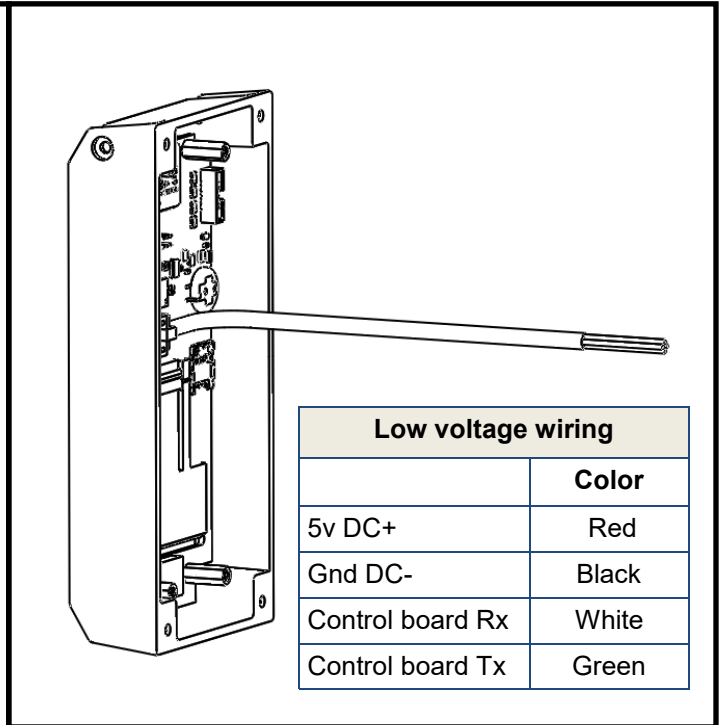
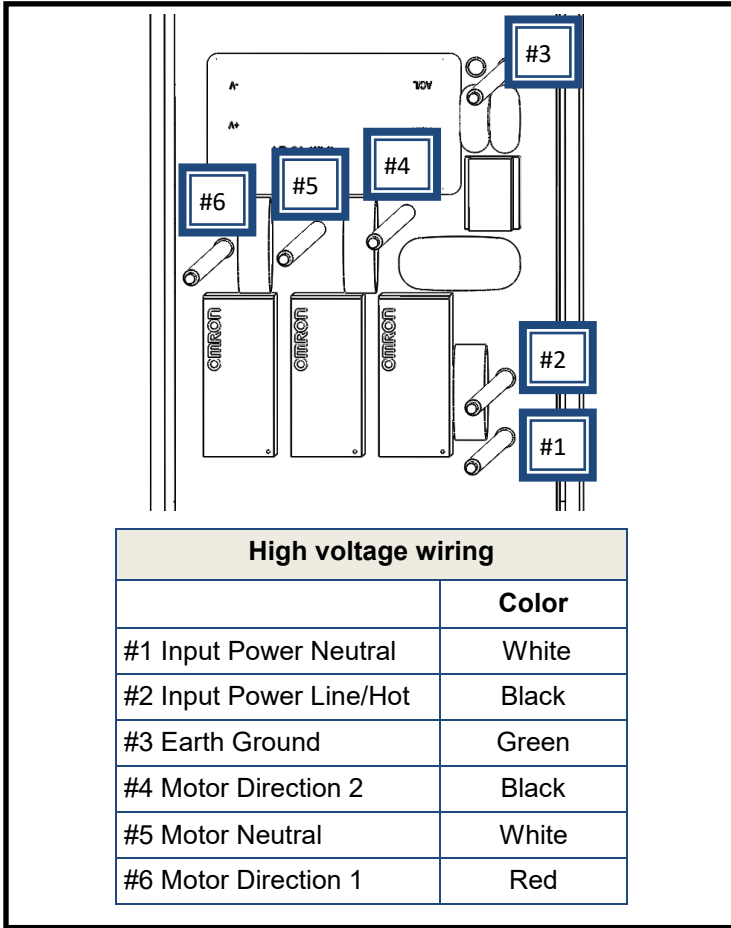
Product Applications:

- ⇒ Electric 3 Wire motor offerings
- ⇒ Hydraulic systems (with compatible control board)
- ⇒ Switch upgrades for premium features
- ⇒ Torque sensitive applications (Prevent rope breakage/system damage)
- ⇒ Multiple control locations without additional wiring
- ⇒ Multiple covers controlled from a touch pad

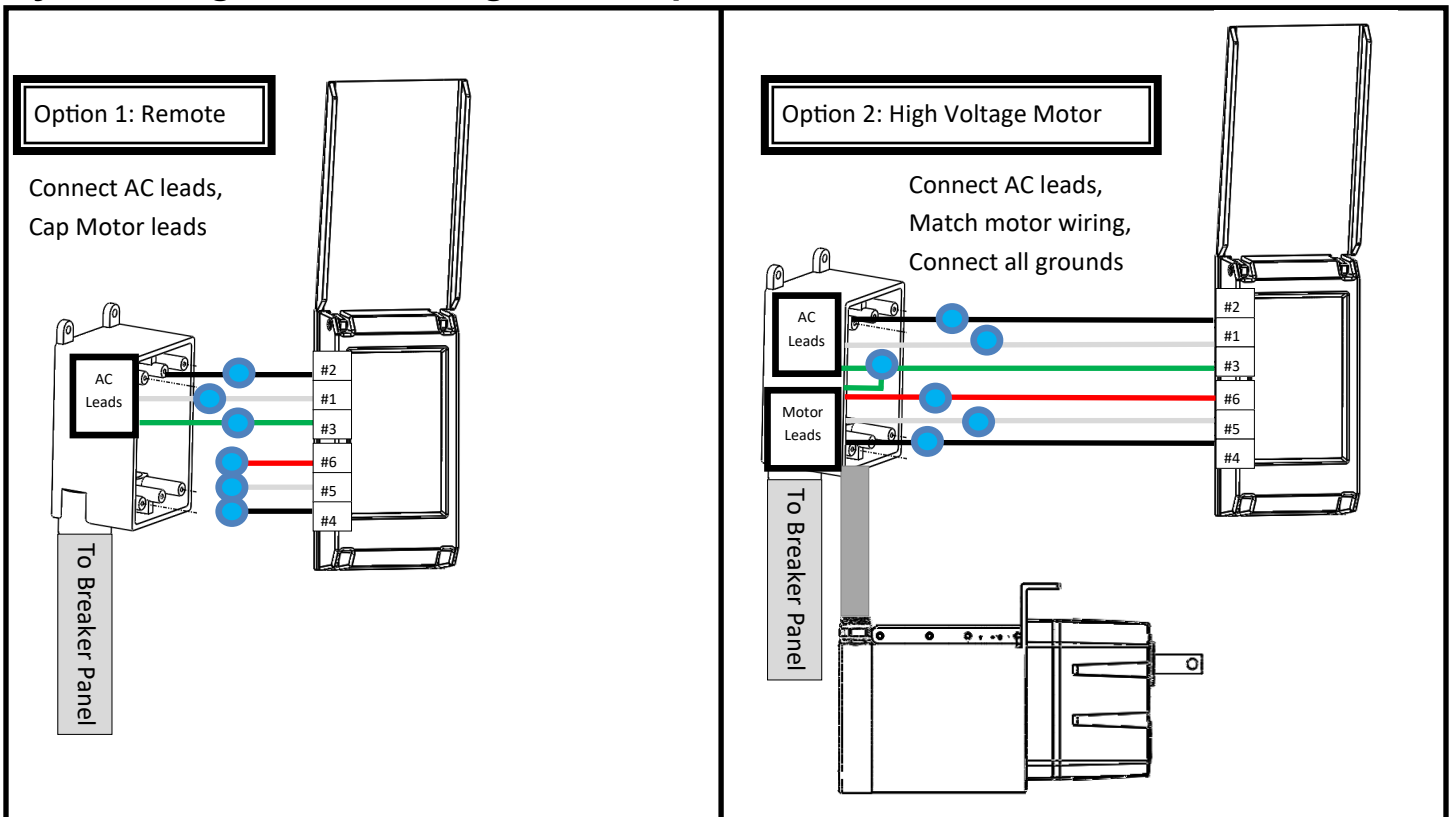
Key Features:

- ⇒ Touch screen with simplified operation and setup
- ⇒ Mesh network to wirelessly communicate with up to 4 touch controllers
- ⇒ Current limiting with setup wizard
- ⇒ Wi-Fi notifications when cover is operated or left open.
- ⇒ 4 users with unique passcodes
- ⇒ Zero power motor activation and deactivation

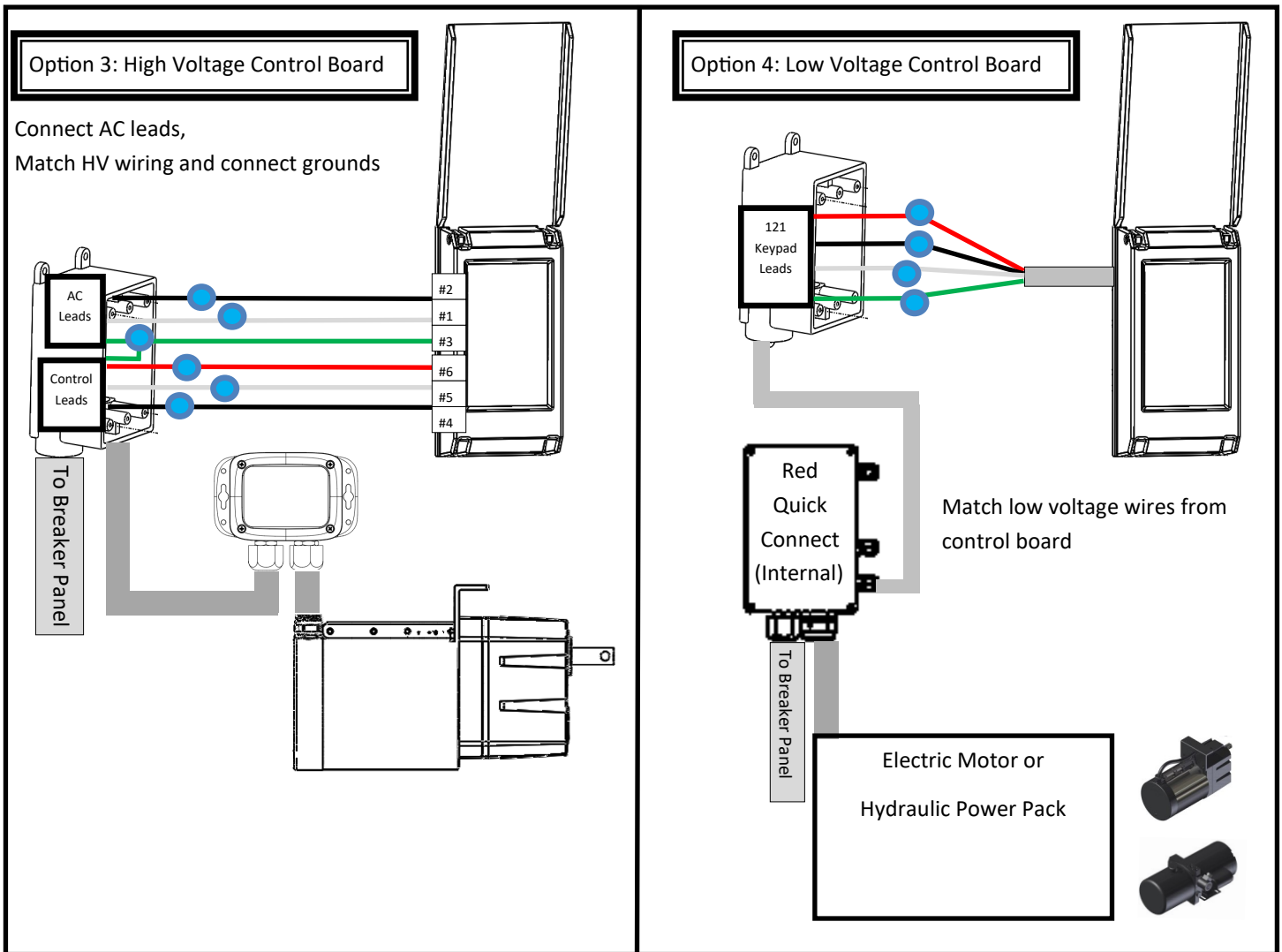
Wiring Description:



System Diagram and Configuration Options:



System Diagram and Configuration Options:



Standard Setup Procedure:

Accessing the Setup Menu:



1. Enter a 4 digit passcode (Maintenance Passcode 5991— Default User 1 Passcode 1234).
2. Select the Setup Icon in the bottom left corner.

Set a Primary Controller:

1. Select a controller to set as Primary.
 - If only one touch controller is used in the system it should be set as the Primary.
 - If multiple controllers are in the system, select the controller which is closest to the internet router.
2. Access the Setup Menu using the steps above.
3. Select Maintenance.
4. Select Force Primary to set the device as a Primary.
 - If Force Secondary is displayed the device is already configured as a primary.
5. The controller will reboot and a Wi-Fi icon will be displayed in the top left corner.

Configure Devices:

1. Access the Setup Menu
2. Select Device Setup to enter the Device Setup Menu.
3. Select Device Setup to select a device to configure.

Standard Setup Procedure (cont.):

4. Select the top Node listed to configure the device you're operating.
Enable Connection: If the device is wired to a pool cover through a motor or motor control board select enabled. If the device is only wired to power and is remotely controlling another device, select "disabled."
Connection Type: Select to "on" if this is hooked up low voltage to a motor control board. For any other case set to "off."
Name: Enter a name that represents the device. This will show up throughout the user interface and is how this will be selected on other devices.
Cover Direction: Assigns the Open/Close buttons to a cover direction. If the device operates in reverse from what the buttons list, change the direction from "cw" to "ccw."
Limit Direction: Assigns which magnet side will stop a cover for the open and close directions. If the limit is stopping the cover in the wrong direction, change the limit from "open" to "close"
5. When finished, select Done to exit Device Setup. The Controller will reboot within the next few seconds to apply the settings.

Verify Connections and Lock Network:

1. After configuring a Primary device, all touch controllers should automatically connect themselves. Touch controllers ship by default in an unlocked state to aid in installation.
2. Verify all desired controllers are wirelessly connected by logging into one and verifying the "Another keypad is currently active.." message is displayed on the others. Verify the configured devices are also listed on either the "Select Cover" or "Other Covers" list.
3. Log into the primary device with the Maintenance Passcode and access the Setup Menu.
4. Select WiFi Setup then select Lock Network to keep the current devices assigned to this network and prevent other devices in the area from connecting. If a network is not locked the system will automatically lock the network after 2 hours.

Assign Main Device:

1. For each device, log in using the Maintenance Passcode and navigate to the Setup menu.
2. Enter the Device Setup Menu.
3. Select Assign Main, then select the device to set as the Main cover.
4. The Main cover will be displayed on the large button in the Select cover screen.

Calibrate each device:

1. For every device with a connection enabled, go through the pool calibration process below.
2. Log in with Maintenance Passcode and access the Setup Menu.
3. Select Maintenance then select Calibrate Pool to display a list of covers.
4. Select the desired cover to start the calibration wizard.
5. Follow the on screen instructions stopping just before the cover is fully open or closed. Operating the cover into a physical stop can affect both calibration time and calibration current which leads to incorrect settings.
6. After Calibration a summary will display. If the values are acceptable select confirm to save settings. If there was an issue with calibration select Recalibrate to restart the wizard.

Set Passwords:

1. Log in as User 1 (1234 by default) and navigate to the Setup Menu.
2. Select Set Passwords to display the screen to Edit Passcodes.
3. Tap on the username to edit the name for each desired user.
4. Tap on each passcode number to edit the passcode.
5. The field that's selected for editing will have a box around it.
6. Select Save when all usernames and passwords are as desired.
7. Setting users and passcodes will update settings for all devices connected to that network.
8. User 1 will have access to modify all usernames and passcodes. Users 2 - 4 will only be able to set their own credentials.

Edit Service Screen

1. Log into the device using the Maintenance Passcode and navigate to the Setup Menu.
2. Select Maintenance then select Edit Service Screen.

Standard Setup Procedure (cont.):

3. Tap under Company Name to input a desired name.
4. Tap under Telephone to input a telephone number.
5. Tapping the button under the brand logo will allow switch between Coverstar and Pool Cover Specialists logos.

User Settings

1. Log into the device using any user code and navigate to the Setup Menu.
2. Select User Settings to enter the settings screen.
3. Adjust the Key Beep, Screen Timeout, and Screen Brightness to the desired settings.
4. Enter the Set Time screen using the on screen button and verify time and date are set correctly. Adjust time and date as needed.

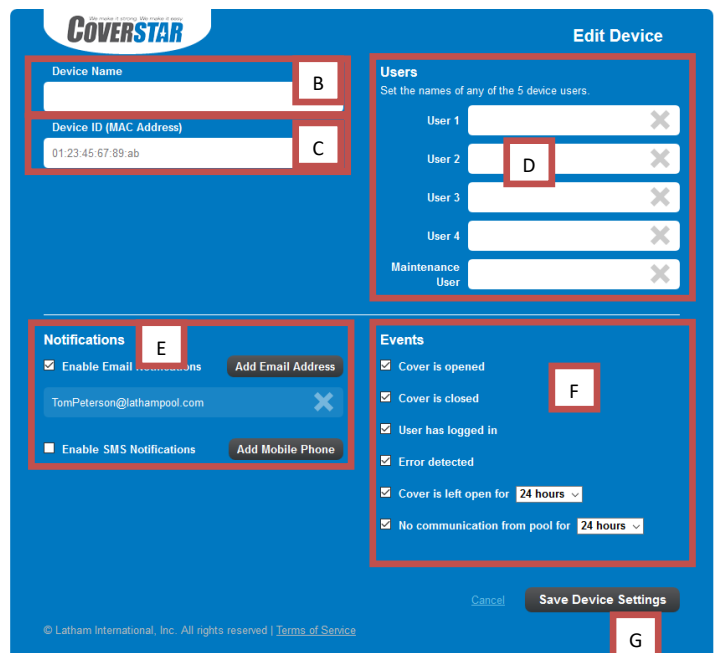
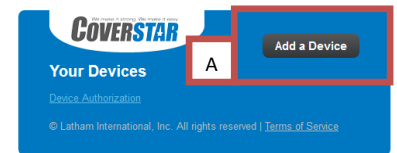
WiFi Setup:

1. On the Primary device, log in with any user and navigate to the Setup Menu.
2. Select WiFi Setup to enter the WiFi menu, then select WiFi Setup.
3. Take note of the MAC ID displayed on the bottom of the screen. This is required when registering a device for notifications.
4. Select the desired WiFi network name (SSID), then enter the password using the on screen keyboard.
5. Press Test to check settings and attempt a network connection. If successful the device will list “Connected to Wifi successfully.” If there was an error connecting check the password and try again.
6. After a successful test select Save to store you settings.
7. To complete the connection to WiFi a reboot is required. Log in using the Maintenance Passcode and navigate to the Setup Menu, then the Maintenance menu. In the Maintenance Menu select the Reboot button to restart the device.
8. After approximately 5 minutes the device will finish connecting to the WiFi network. Once connected, the WiFi icon on the top left of the device will change from a disconnected icon to a connected icon.



Coverstar Connect:

1. Navigate to Connect.Coverstar.com on your laptop, phone, or preferred device with an internet browser.
2. If you do not have an account, select Create an account to sign up. Otherwise log in using your email and password.
3. Add a Touch Controller by selecting Add a Device [A]
4. An Edit Device Screen will display with the information below.
5. [B] Is the Device Name that will display for notifications.
6. [C] Is the MAC address for the device being added. To find the MAC ID for your device, On the Touch Controller go into Setup -> WiFi Setup -> WiFi Setup and read the ID displayed. If the message “The Device ID is not authorized...” is displayed, contact Latham to authorize your device.
7. [D] are the usernames that will be sent when a notification is sent for that user.
8. [E] is the Email and is the Mobile Phone number where notifications will be sent.
9. [F] Events are the notification types that are supported to send. Which notifications and how frequent are selected here.
10. [G] will save all entered settings to the account.



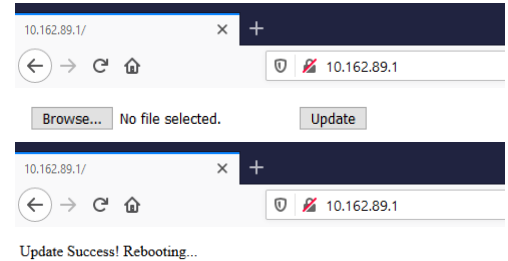
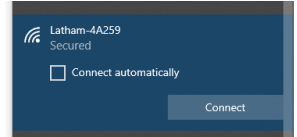
Over The Air (OTA) Update:

Over the air updates allow you to update device firmware wirelessly using an internet connection. OTA updates allow for bug fixes and additional features to be added to the device. To perform an OTA a device with WiFi, an internet browser, and an update file (.bin) is required.

Standard Setup Procedure (cont.):

Over The Air (OTA) Update:

1. On your device with the update file, open the list of WiFi networks. Connect to the Touch Controller's WiFi Network
 - a) The Touch Controller network will be listed as a "Latham-ABCDEF" where ABCDEF will be a letter number combination specific to your device.
 - b) The Password for the network will be "59915991"
2. Open a web browser and type in the IP address of your primary touch controller.
 - a. To find the IP address log into the touch controller under the service code and enter the Setup menu.
 - b. Enter the Device Setup menu then enter Device Setup. The IP address will be displayed on the top of the screen. (ex. 10.100.10.1).
3. Click the Browse... button and navigate to the update file saved on your device.
4. Select the Update button to begin the update. The update will take up to 2 minutes, do not attempt to refresh the connection or click additional buttons. This could lead to device issues or disturb the update process.
5. After a successful update the message "Update Success! Rebooting..." will display.
6. The Touch Controller will reboot into updated firmware.



Menu structure:

Lock Screen:

The Touch Controller will default to this screen on restarts and after screen timeouts. The device can be unlocked using one of 4 user passwords or the maintenance password. By default, User 1 will be "1234" and the maintenance code will always be "5991." The service icon will display contact information set by the installer which a homeowner can use in case of issues.

To download the latest firmware either scan the QR code or enter the URL below into your browser.

<https://rb.gy/suvbuu>



SCAN ME

Select Cover Screen:

From this screen you can either select a cover to operate or select Setup to go further into available options. A large button will either select the default cover or move to a screen to set the default cover depending on if one is configured. The Other Covers button will allow the user to select other covers in the network to operate if available.

Cover Operation Screen:

Allows operation of a pool cover via the Open and Close buttons. For safety, the cover will only operate when an operation button is held.

The top bar will display the cover selected in addition to any notifications during operation. This screen will timeout by default with 20 seconds of inactivity (max allowable).

Set Passwords:

Passwords to unlock the device are configured on this screen. User 1 and Maintenance User are able to modify all 4 passwords. All other users can only modify their own password and name.

To modify a user's name, tap the name and edit with the onscreen keyboard. To modify a password, tap the number to edit and set using the onscreen key pad.

User Settings:

Allows configuration of settings on the device. Key Beep will adjust the tone played during button presses. There are 4 options including off. Touchpad Timeout will set how long the screen stays unlocked during cover operation when no button is pressed. Screen brightness can be adjusted using the displayed slider. The Set time button will bring up a screen to adjust the time, date, and time zone. If connected to a WiFi network, internet time can be used to automatically set the time.

WiFi Setup:

From this screen you can connect the device to the internet through a home WiFi network, or lock/unlock the local wireless network.

1) Lock Screen

a) Service Screen

b) Select Cover Screen

i) **Cover Operation Screen** (Main device configured)

ii) Set Default Cover (Main device not configured)

iii) **Other Covers**

iv) Setup

(1) Set Passwords

(2) User Settings

(a) Key Beep

(b) Touchpad Timeout

(c) Screen Brightness

(d) Set Time

(i) Hour, Minute, Second

(ii) Month, Day, Year

(iii) Time Zone

(iv) Use Internet Time

(3) WiFi Setup

(a) WiFi Setup

(b) Lock or Unlock Network

(4) Device Setup*

(a) Device Setup*

(i) Enable connection

(ii) Connection Type

(iii) Name

(iv) Cover Direction

(v) Cover Limit

(b) Assign Main*

(5) Maintenance*

(a) Calibrate Pool*

(i) Uncover

(ii) Cover

(iii) Uncover

(iv) Confirm settings

(b) Current Limits*

(i) Select cover

(c) Edit Service Screen*

(i) Company Name

(ii) Telephone

(iii) Logo

(d) Reboot

(e) Force Secondary

(f) Reset Factory Defaults*

(i) Confirm Screen

v) Lock

* Menu option only visible for maintenance user

WiFi Setup (Configuration):

Displays a list of available networks with the strongest signal listed first. Tap on the name to select the network then type in the password using the on screen keyboard. Use the Test button to confirm the connection and press the Save button to set the network.

Lock (Unlock):

Locks or Unlocks the Latham Mesh Network. When the network is unlocked, other unlocked devices will automatically connect to each other. Locking the network will assign the connected devices to each other and not allow new devices to connect. To add new devices, unlock the primary device and the newly added unlocked device will connect. The network will automatically lock after 2 hours.

Device Setup:

The Device Setup menu is where you configure what the device is connected to and how it shows up on the mesh.

Device Setup:

Will bring up a list of connected nodes that can be configured. The current device will be the first listed. After selecting a device more options will be displayed. Enable Connection should be **enabled** if the device is wired to a pool cover motor or pool cover control board. If the device is not wired to a cover and is functioning as a remote control, Enable Connection should be set to **disabled**. Device type should be set to **Low voltage** if this is connected to a 920 control board through low voltage wiring. In any other configuration this should be set to **High voltage**. Name will set the name displayed on both this device and the mesh. Cover Direction will assign a default open direction. Changing this setting will reverse the direction for open and close. Cover Limit: configures which magnet side is assigned to stop the cover. Changing this will reverse the magnet side for both cover directions.

Assign Main:

This setting will assign which device on the mesh is the default or main for this device. The main device will be the cover listed after unlocking.

Device Setup
Secondary-XXXXX
XXX.XXX.XX.X

Enable Connection: Enabled

Connection Type: High Voltage

Name:

Cover Direction: Default

Keyboard

Cancel Done

Cover Maintenance

Calibrate Pool

Current Limits

Edit Service Screen

Reboot

Force Secondary

Reset Factory Defaults

←
BACK

Maintenance:

The maintenance menu lists configuration options and tools useful to an installer or service technician.

Calibrate Pool:

Is used to assign how long a cover takes to fully open and close while also setting values for current limits. After selecting a device to operate, the calibration wizard will start and guide the installer through the process. Step 1) the cover is fully opened to set a starting point for the process. For step 2) the cover is fully closed and both operation time and average current are logged. In step 3) the cover is fully opened while operation time and average current are logged for this direction. After step 3 the results are displayed and they can either be saved to the device or the process can be restarted.

Current Limits:

Will display a slider to manually adjust the overcurrent limit for each cover direction. Setting this value higher will allow the motor to run with more power before shutting off. By default the overcurrent limit will be 1 amp higher than the average recorded in calibration.

Edit Service Screen:

This is where contact information displayed on the lock screen can be configured. This is useful to give the homeowner a contact for future service needs. Tapping under Company Name will display a text box and keyboard to input. Tapping under Telephone will display a text box and keyboard to input a number. Both letters and numbers can be used (1-800-867-5309 or 1-800-Company). Below the Telephone field there is a radio button to configure brand logo. Either Coverstar or Pool Cover Specialists can be selected. Updating this will update the logo throughout the user interface.

Reboot:

Will power cycle the device. This is useful for troubleshooting or refreshing the device.

Force Primary (Secondary):

Assigns the device to be a primary or secondary device. The Primary device can connect to the internet and 1 primary device is required to connect devices on the mesh. Only one primary device can be connected per mesh network.

Reset Factory Defaults:

Will reset all configured settings on the device.

Displayed information:

The bottom of the setup menu will display information about the device. The top line will show the base name of the device. The next line shows the local network name the device is connected to. The following line shows the current firmware version. The last line shows how many cycles the device has been operated.



Mesh Configuration Options:

The Latham Mesh Network is used to connect touch screen controllers to each other in a variety of combinations. All connection options can be used for any of the touch controllers connected on a mesh network. Up to 4 touch controllers can be connected on a network. Below are a few examples for connection options, but more options are possible.

With the mesh network **any touch controller can operate any other touch controller** connected to the mesh. This allows multiple controllers to operate a single cover while also allowing a single controller to operate multiple covers.

Standard Setup:

A touch controller is wired to a pool cover is located near pool. An additional remote touch controller is located near the house. The remote connects wirelessly to the unit wired to the pool cover and also connects to the internet for notifications. Both devices can operate the pool cover.

Spa and Pool:

A touch controller is wired to pool cover is located near pool. An additional touch controller is wired to a spa pool cover and is located near the spa. Both controllers can operate both covers and one can be setup to connect to the internet for notifications. Additional remote touch controller(s) can also be added to the system.

Irregular or Long Length Pools:

Two pool covers are used to cover a single pool. One touch controller is wired to and located near Pool Cover #1. An additional touch controller is wired to and located near Pool Cover #2. Both covers can be controlled from either location and one can be connect to the internet for notifications. Additional remote touch controller(s) can also be added to the system.