



X-PHY®  
PC Application Guide  
**Windows (version 1.0b)**

**User Guide**

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## Safety Precautions

### WARNING!

#### **Do not heat, disassemble nor dispose of in fire**

Doing so damages the insulation materials and may cause fire, heat generation, leakage or bursting.

#### **Do not short Circuit**

If the (+) and (-) come into contact with metal materials, short-circuit occurs. As a result, fire, heat generation, leakage or bursting may occur.

#### **Keep batteries out of children's reach**

It is dangerous if a child swallows the battery. When storing the batteries, please keep the batteries out of children's reach. If a battery is swallowed, consult a physician immediately.

**If alkaline liquid leaked from the battery get in the eyes, do not rub them, rinse eyes with clean water and consult a physician immediately.**

**If alkaline liquid leaked from the battery spills onto clothing, to protect from irritation, remove and wash them with clean water immediately.**

### CAUTION

\*Do not use or expose the batteries to direct sunlight or in areas with high-temperature.

\*Avoid exposing the batteries to any form of liquids.

\*In case of disposal, insulate between (+) and (-) of battery by using an insulating material. i.e.(Natural fibres, Polystyrene.)

# Disclaimer

- The width for the X-PHY M.2 2280 is 22mm x 80mm.

## Operating System

- X-PHY M.2 2280 currently supports Windows with NTFS

## X-PHY® Ransomware Detection

- X-PHY monitors the behavior of SSD and detects any malicious activity. To avoid false positive, it will take around 2 seconds for the ransomware to be detected. During this process, some small files may have been encrypted before X-PHY locked up the drive. User can expect a protection of at least 80%<sub>1</sub> of the files from ransomware attack. The protection level will increase as the number of files and file size increase
- As the duration is too short, several small files might be simply renamed by the ransomware instead of being encrypted. User needs to reboot the X-PHY to verify the file status.  
Recommend to simulate the usage in real world environment for ransomware detection.  
For example,  
Put more than 1000 files with different formats (jpg, word, ppt, pdf, excel...) and different sizes (varied from 100KB to 100MB and above) into each partition.

## **X-PHY® Cloning Detection**

- Cloning detection is based on the read access pattern of the entire disk or individual partitions. Cloning detection will apply to cloning in sectors and not for the normal copying of files. User can expect a protection of at least 80%<sup>2</sup> of the files from Cloning attack.

## **X-PHY® Physical Attack Detection and Rapid Purge**

- This feature is for advanced user only. Please do data backup to avoid data loss due to mishandling. For new user, we suggest to keep the PC power on 24 hours before triggering this feature. Disable bitlocker as X-PHY embeds the data encryption and key management function.

1 Ransomware protection level test is conducted using SSD partition of at least 1000 files with difference file sizes. Total file size accounting to at least 10GB per partition. File size is a mixture between 100KB to 100MB.

2 Cloning protection level test is conducted using SSD partition of data partition with at least 100 files with difference file sizes. Total file size accounting to at least 1GB per partition. File size is a mixture between 100KB to 100MB.

## Prerequisites

- X-PHY® Cybersecurity Laptop
- Valid email account, password and OTP (2FA) authenticator.
- Stable Internet Connection
- Minimum Microsoft Windows 10 / 11.
- An IOS/Android Mobile Device.



Ensure the upgrade is performed in a secure environment. (example: Non-Public Places)

## Step 1: Installation of the application

- Download and Install the X-PHY® PC Application:



[X-PHY® Guard PC Application](#)



***Ensure you meet the above system requirements before downloading.***

*Please take \*Note that if you have an Antivirus Software installed, it may prompt a notification asking for permission to install the X-PHY® PC Application. Click on “Allow” to add into whitelist. (refer to [appendix 1](#))*

## Installation

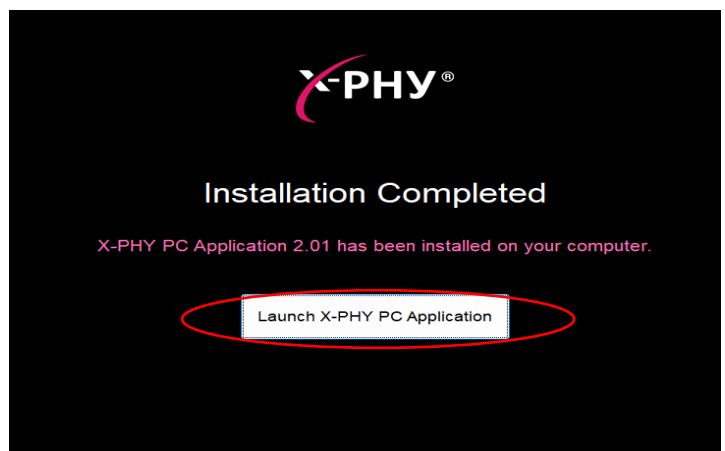
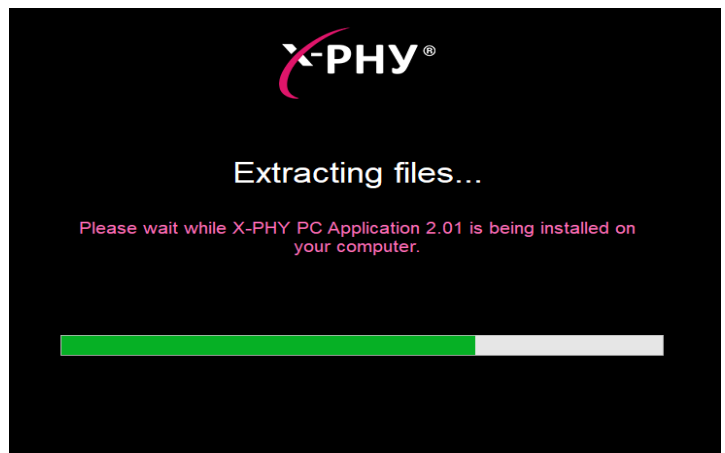
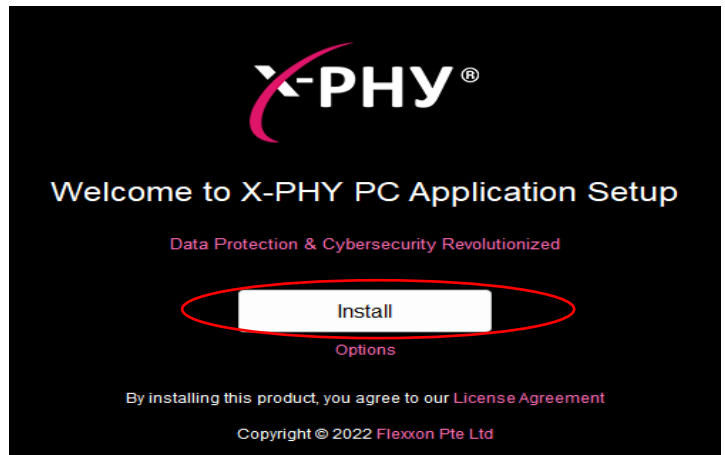
**Step 1:** Click on the “Install” button

*(\*Note: click onto option for more selection if required BUT IT IS HIGHLY RECOMMENDED to leave the default options.)*

*\*Refer to [Appendix 1](#) on how to troubleshoot in the scenario where the antivirus software blocks the installation of the X-PHY® PC Application.*

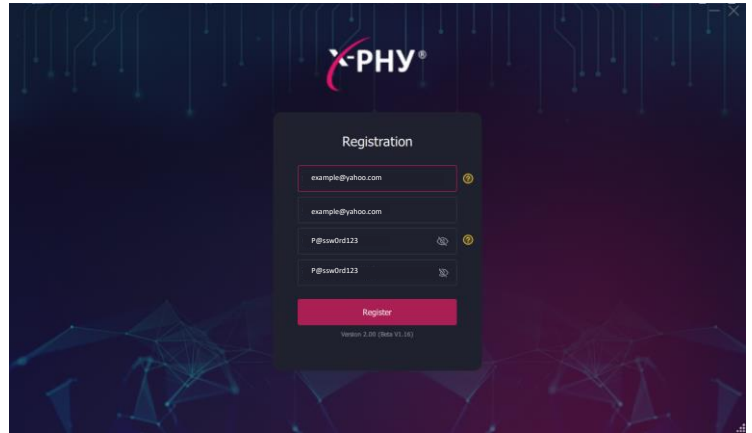
**Step 2:** Wait for installation to complete.

**Step 3:** Click Launch X-PHY® PC Application to proceed.

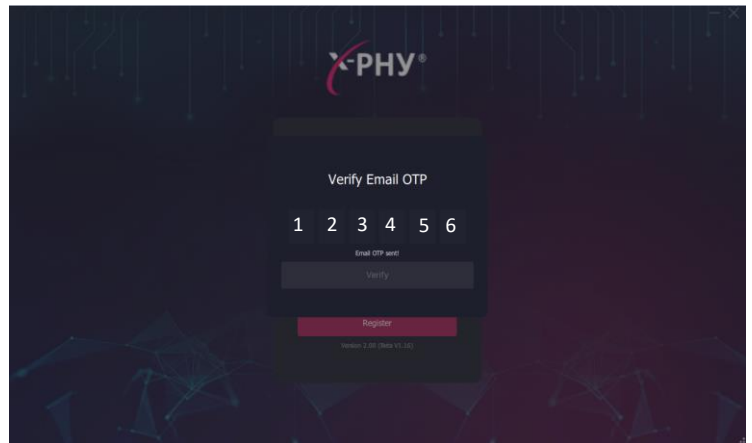


## Registration

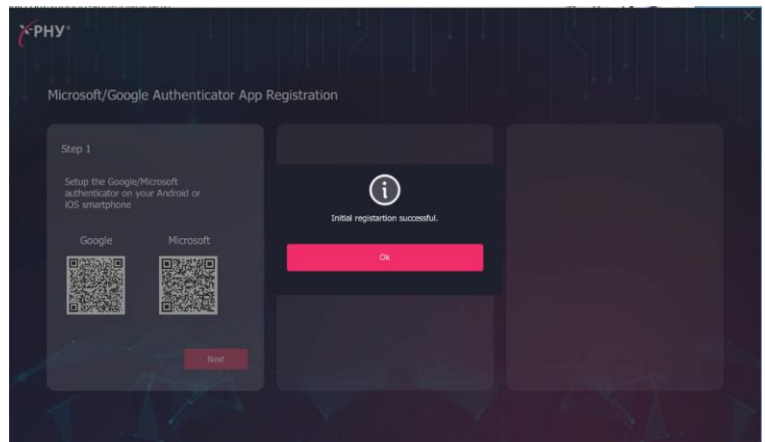
**Step 1:** Type in your desired **email address** and **password** to register.



**Step 2:** After successful verification of Email ID, a “**Verify Email OTP**” window prompt will pop-up. Check your **registered email address** for the OTP.





**Step 3:** Once the application prompts a “Initial Registration Successful” message, click “Ok” to proceed.



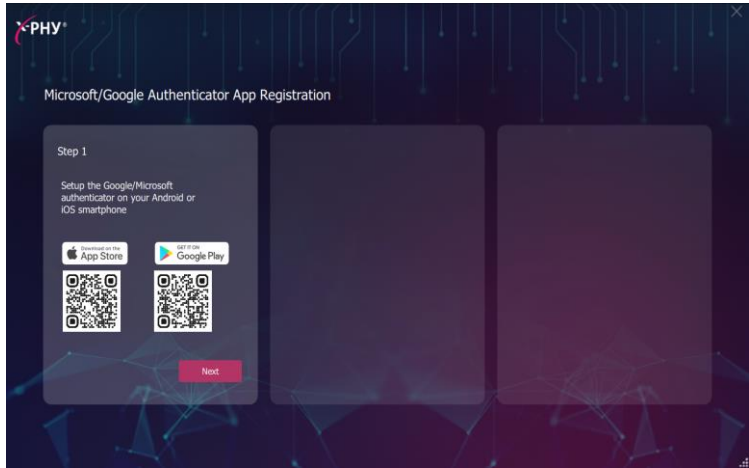
*\*Should there be any error encountered, please refer to the [Troubleshooting Menu](#)*

## Microsoft/Google Authenticator Registration

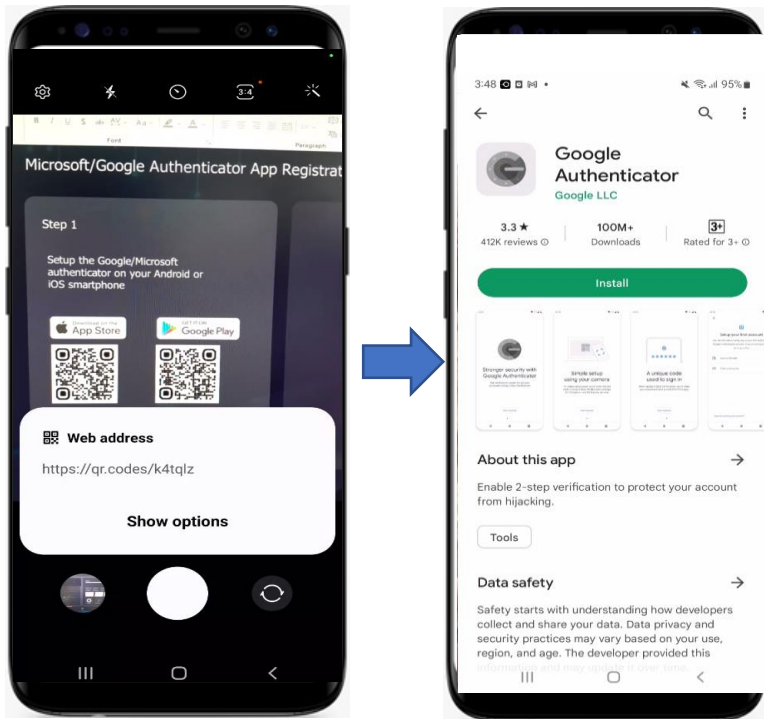
 If you already have Google/MS Authenticator installed, please skip this page


 A smartphone is required for this section.

**Step 1:** Standby your smartphone's QR code scanner upon reaching the Authenticator registration page.  
*(\*Note: Android and iOS versions are both available)*

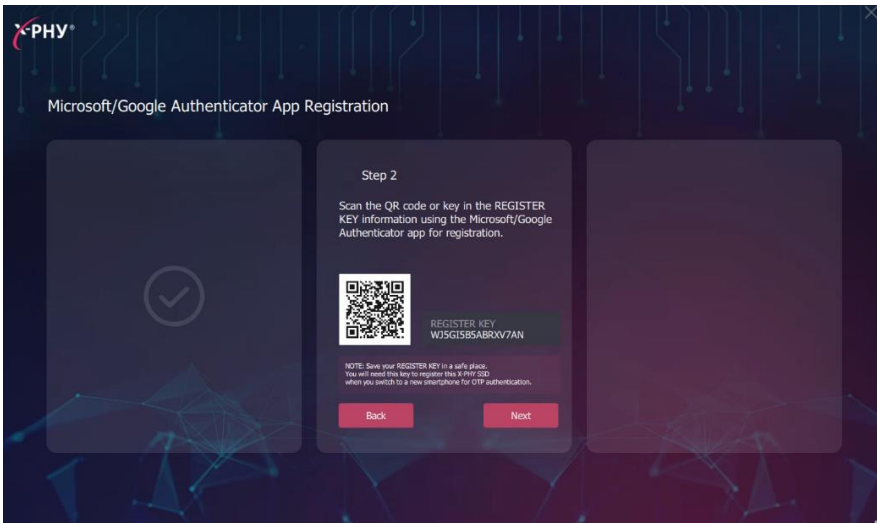


**Step 2:** Scan the desired QR Code using the smartphone's QR code scanner. Proceed to install the authenticator of your choice. Once installed, click on the "Next" button.



 (The image used is using an android phone for illustrative purposes)

**Step 3:** Open MS/Google Authenticator upon reaching Step 2 of the MS/Google Authenticator App Registration.



(\*Note: A new QR code and REGISTER KEY will be generated upon pressing the “Back” button and returning to “Step 2” of the Authenticator Registration. )

**Step 4:** Tap on the “ +” button and then the “Scan a QR code” button. Proceed to open the Google/Microsoft Authenticator app on your mobile device and scan the on screen QR code to add the OTP account as shown below. Click on “Next” once the OTP account has been added.



For illustrative purposes we will be scanning the QR code using an android device.

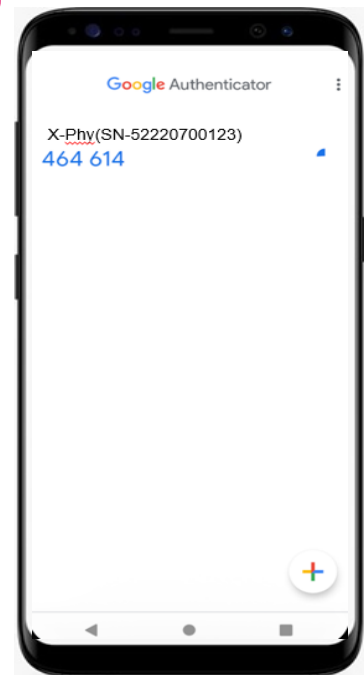
1



2



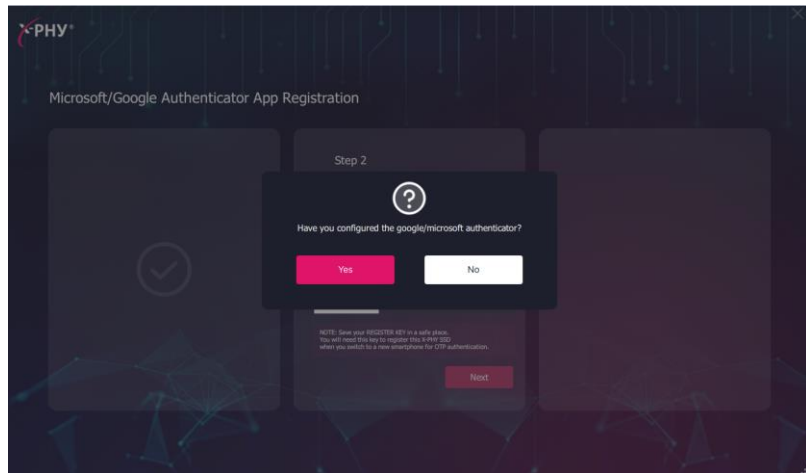
3



### Step 5: Confirmation of registration of the secret key


A confirmation window prompt “Have you configured the Google/Microsoft authenticator?” will pop-up. Click on “Yes” to proceed.

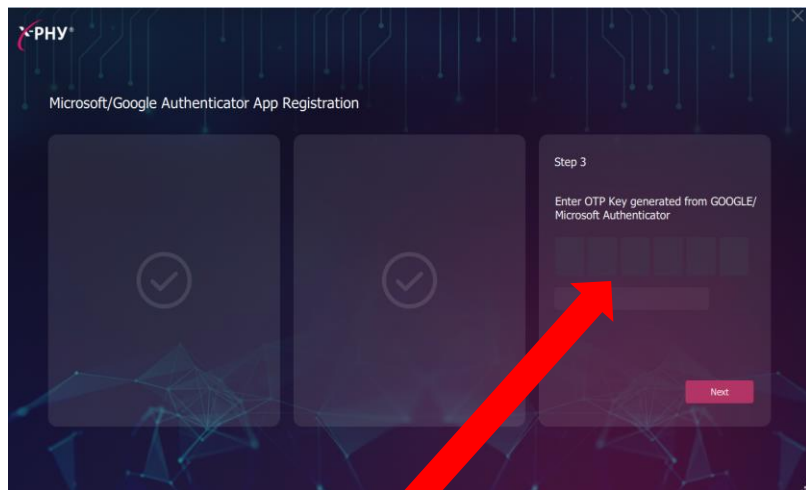
(\*Note: if “No” is selected, refer to Step 4 of the Guide)



### Step 6: Verification of the OTP

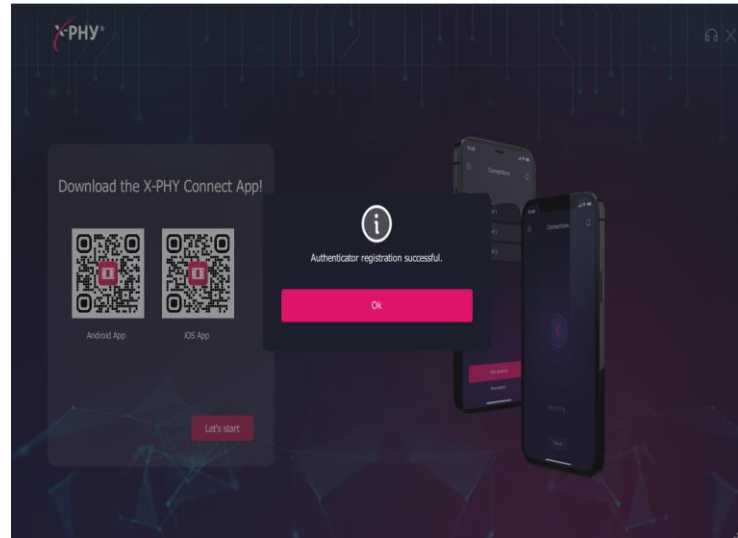
Open your installed Google/Microsoft Authenticator mobile app, enter the OTP key generated from the Authenticator app and click on “Next” to proceed.

 Please take \*Note that an OTP will be regenerated every 30 seconds.



## Step 7: Completion of the OTP registration.

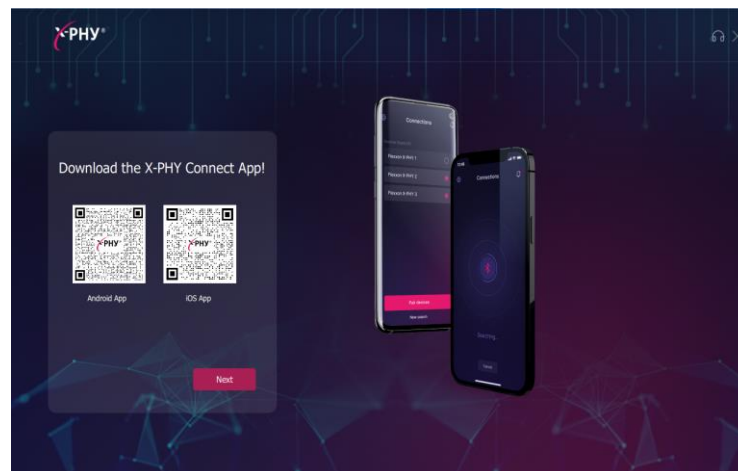
After successful Authenticator registration, a pop up message “Authenticator registration successful.” will be prompted.



## Step 8: Install the X-PHY® Connect Mobile Application.

Scan the QR code and proceed to install the X-PHY® connect mobile app compatible to your smartphone.

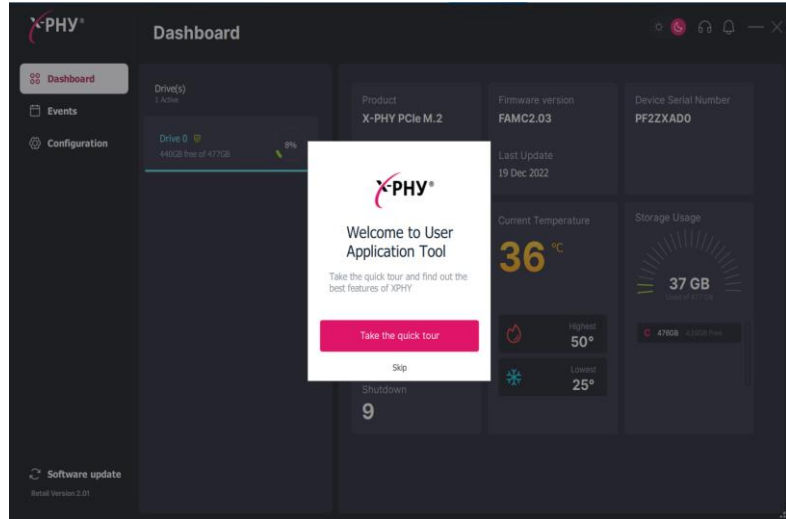
Click on the “Next” button to complete the registration.



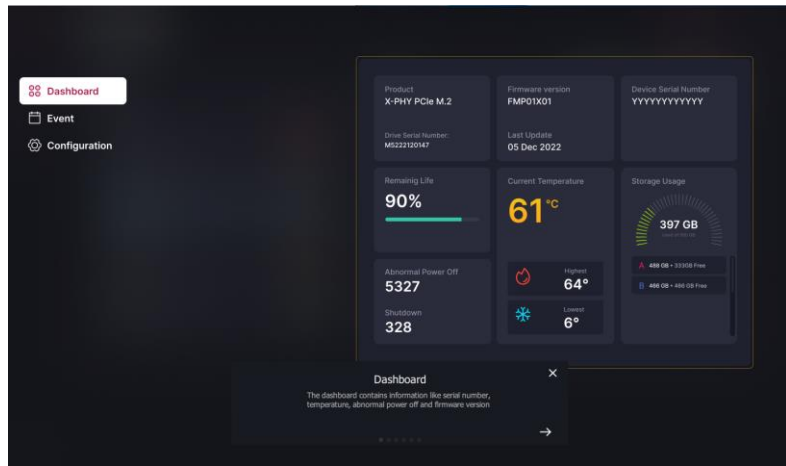
*\*Note: For the detailed X-PHY® Connect mobile application guide please refer to [Appendix 4](#).*

# Tour of the Application

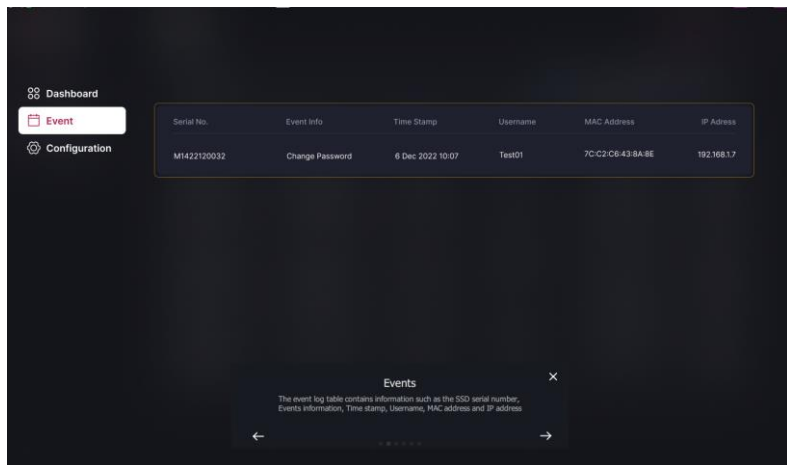
This is the start page of the application tour. Click on “Take the quick tour” to begin the tour of the X-PHY® PC Application, else click on “Skip” to begin access to the dashboard as seen in [page 14](#) of the guide.



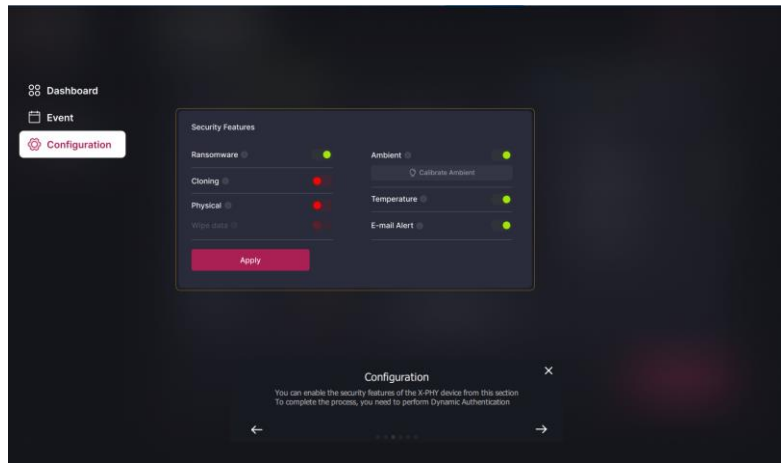
This tour page shows the various items on the dashboard page such as the Current Temperature, Remaining Life and Abnormal Power Off count.



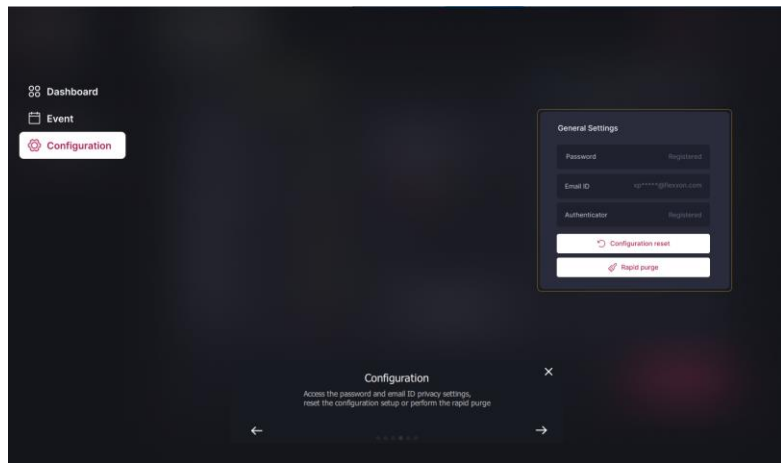
This tour page shows the various items on the events log. It shows items such as Event Info, Username and Time Stamp.



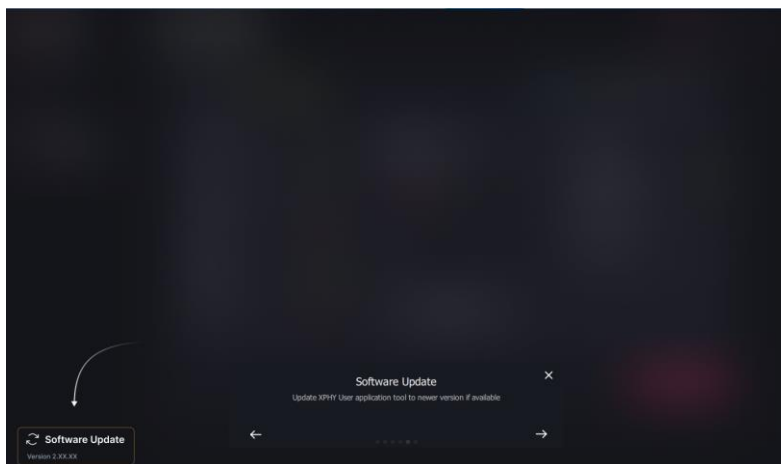
This tour page showcases the Configuration (Security Features) page of the application. It shows information such as the security features of the X-PHY.



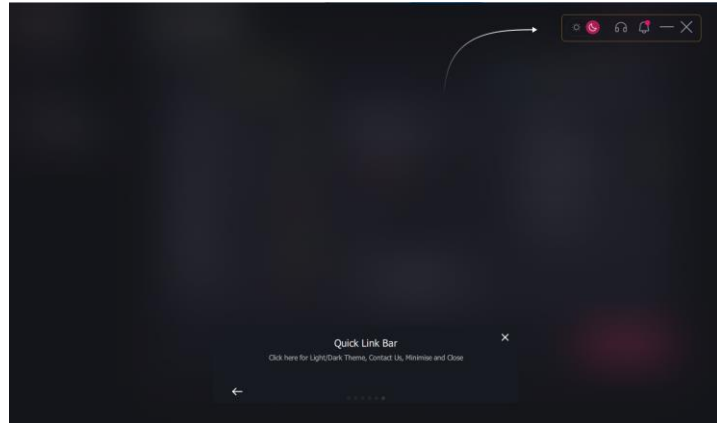
This tour page showcases the configuration (General Settings) page of the application. It shows information such as the Password Status, Email ID and Authenticator status.



This tour page showcases the Software Update button present in the side menu of the application. It updates the application to the latest version whenever an update is available.



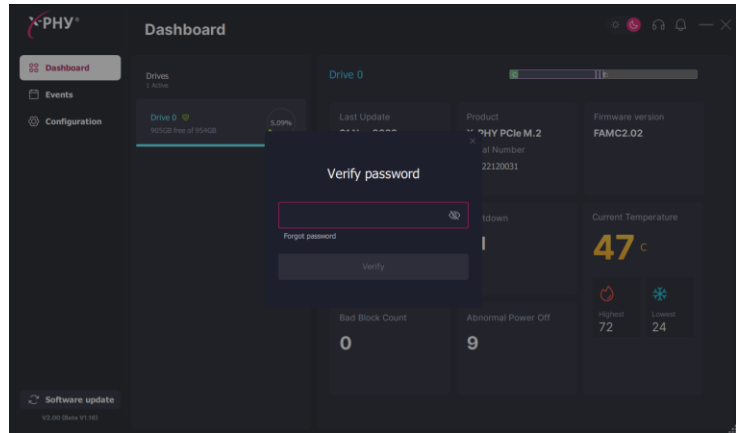
This tour page showcases the Quick Link Bar tab. It shows features such as the light and dark mode change theme option, contact us button, minimize and close buttons.



## Accessing the X-PHY® PC Application

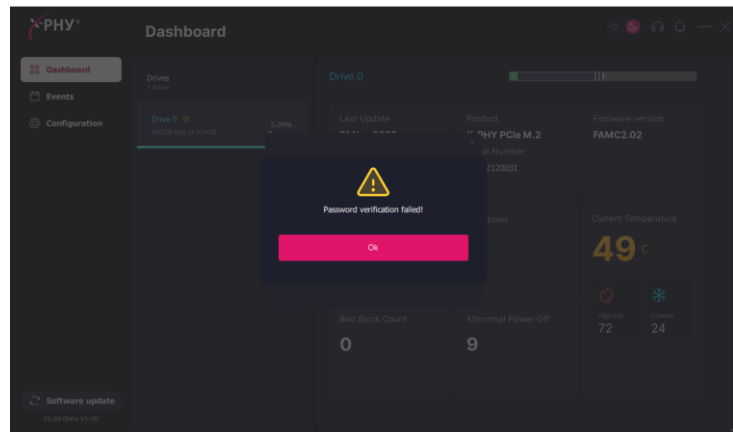
An initial password verification is required to access the Dashboard, Events or Configuration page.

*\*Note: Once the application is idle for more than 5 minutes, password authentication is required.*

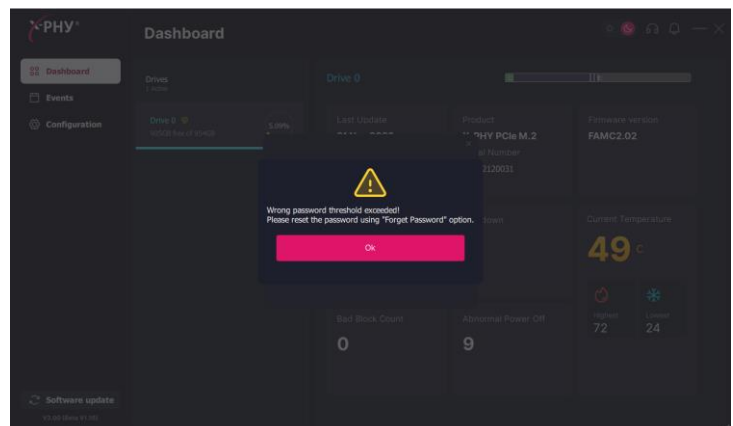


## Possible Error Scenarios

The “**Password Verification Failed**” pop-up message will appear if the wrong password is entered.

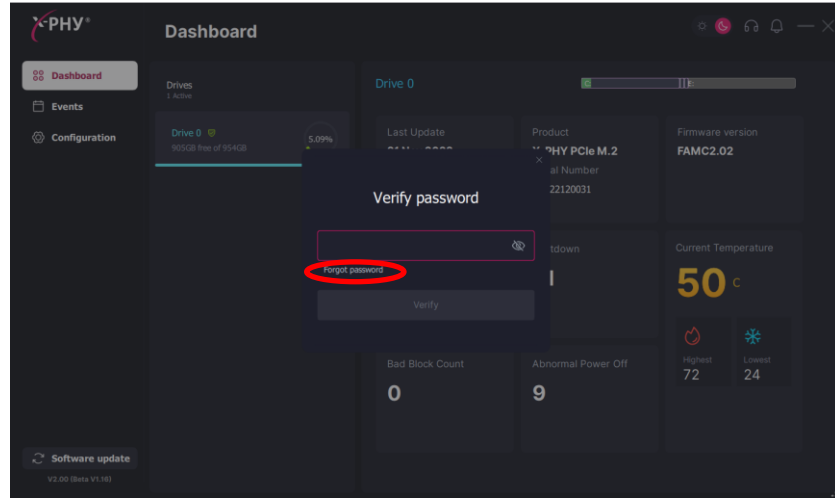


The “**Wrong password threshold exceed! Please reset the password using ‘Forget Password’ option.**” pop-up message will appear if the wrong password is entered 5 times.

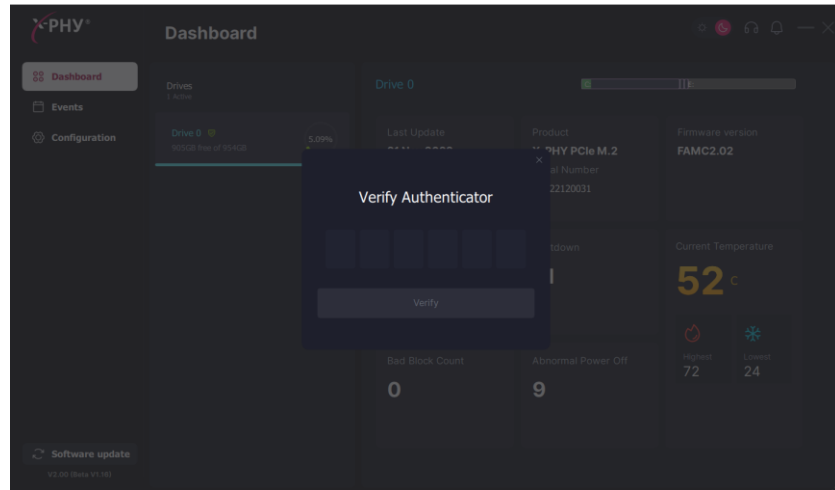


## Forget Password

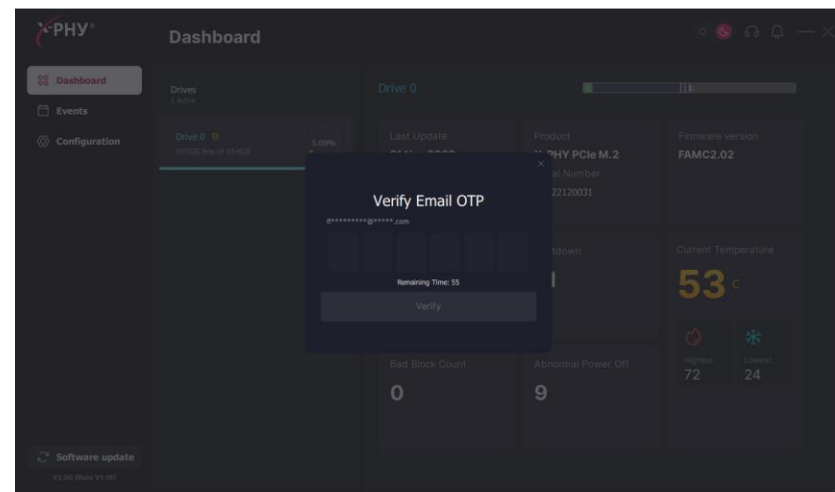
In the event where the password is forgotten, the “Forget Password” button can be used to reset password.



Upon clicking the button, enter the 6 digits OTP with the Google/Microsoft authenticator and click the “Verify” button.

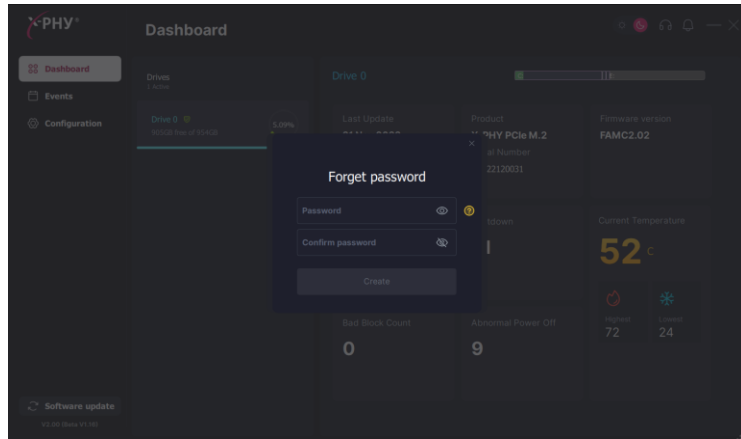


The OTP code will be sent to the registered email address. The “Verify Email OTP” pop-up message will appear. Key in the six digit Email OTP and click on the “Verify” button.



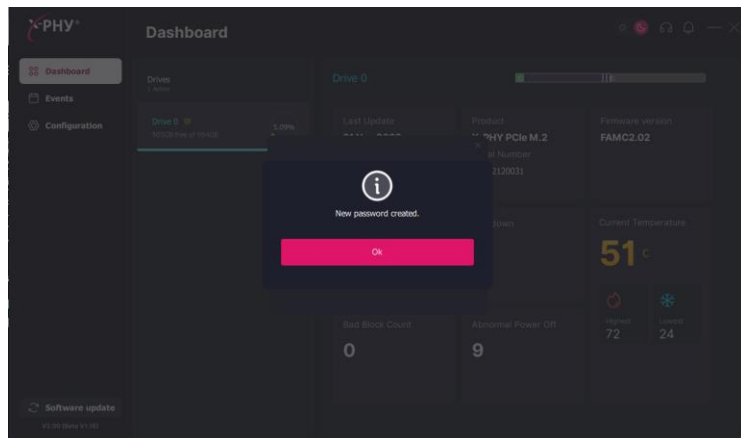
## Forget Password (Continued)

Key in the new desired password into the “Password” and “Confirm password” field. Ensure that the new password adheres to the the password criteria.



If the password criteria is met, then the “New password created.” pop-up message will be observed.

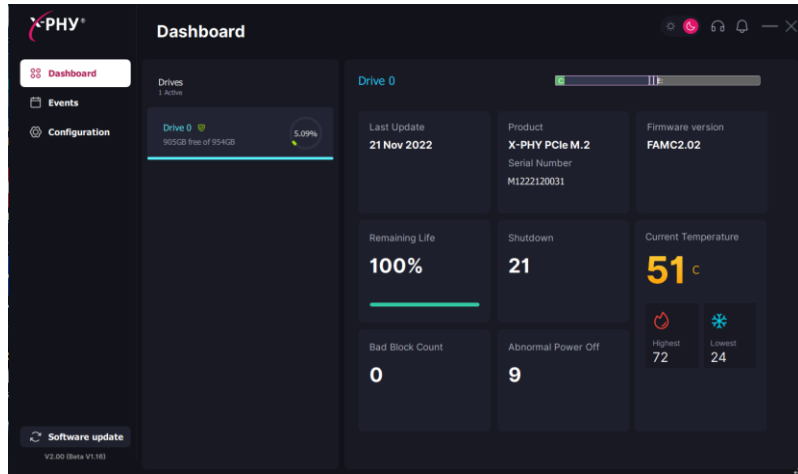
Password has been successfully reset at this stage.



# Introduction of X-PHY® PC Application

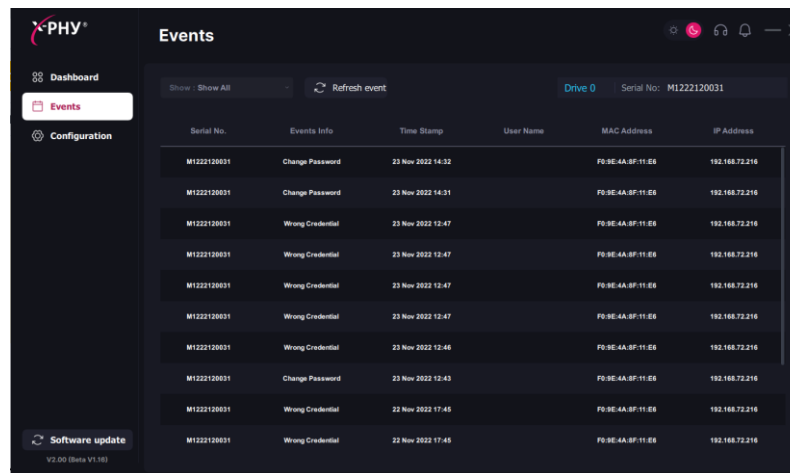
## Dashboard

Dashboard displays general disk information, including number of partitions, free space, used space, product name, serial number, firmware version, and etc.



## Event

The event page contains the history of events stored in the firmware of the X-PHY® SSD to serve as an audit trail. The event log table contains information, such as the Serial Number, Event Info, Time Stamp, Username, MAC address and IP Address.



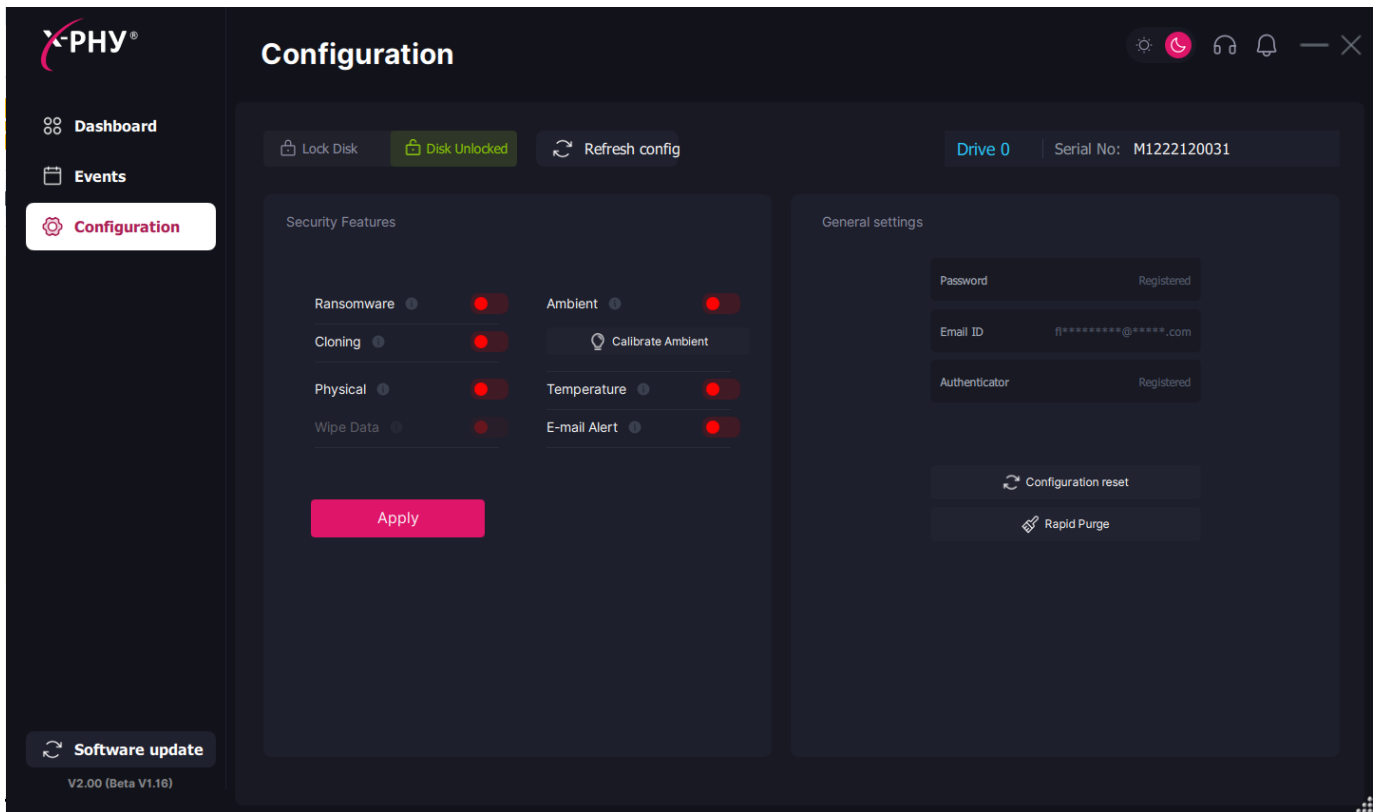
# Configuration

The configuration page has two sections: **Security features** and **General settings**.

## Security Features

It is recommended to turn on the main security features in this section to ensure that the device is totally protected.

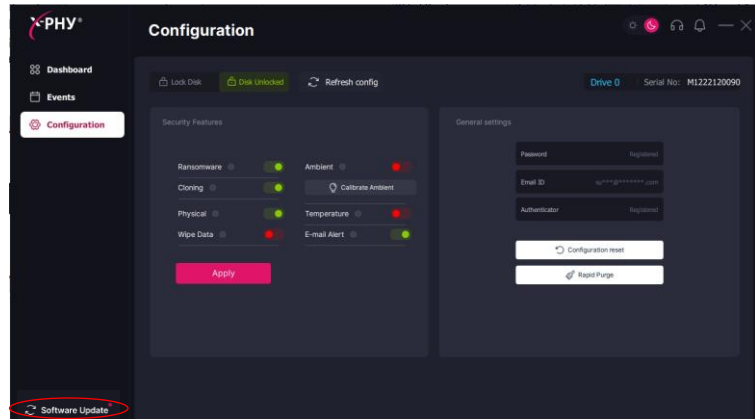
- The main security features include ransomware, cloning, temperature, physical, ambient, email alert. (\*for more information about all the security features, please refer to [Appendix 5](#)).



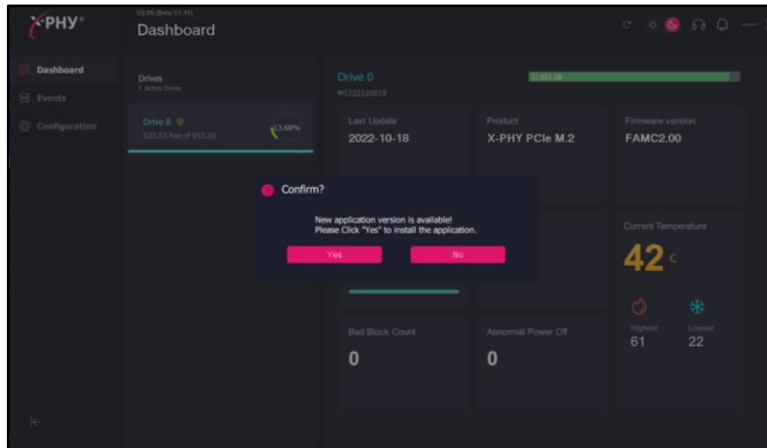
If Wipe data function is enabled, the data on the drive will be purged in the event that the X-PHY® SSD detects a physical disconnect.

# Software Updates

In the event where there is a software update for the X-PHY® PC application. A notification will appear next to the “Software update” button as shown.

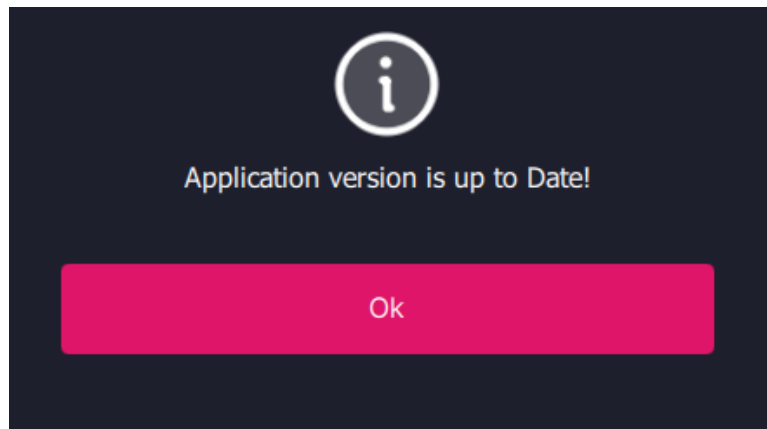


Click on the “Software Update” button. A pop up message “New Application version is available! Please Click “Yes” to install the application.” will be prompted.

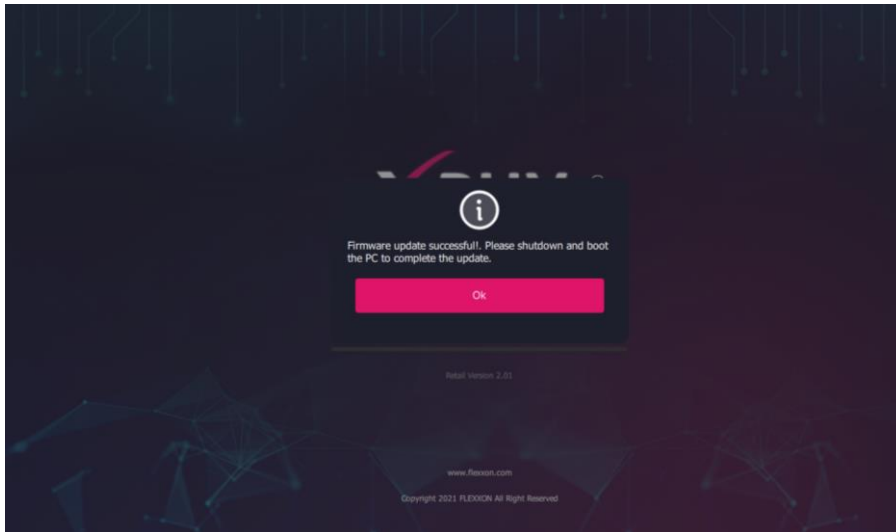


Click on Yes to install the new application.

In the scenario where there is no software update, a pop up message “Application version is up to Date!” will be prompted upon clicking the “Software Update” button.



## Firmware Updates

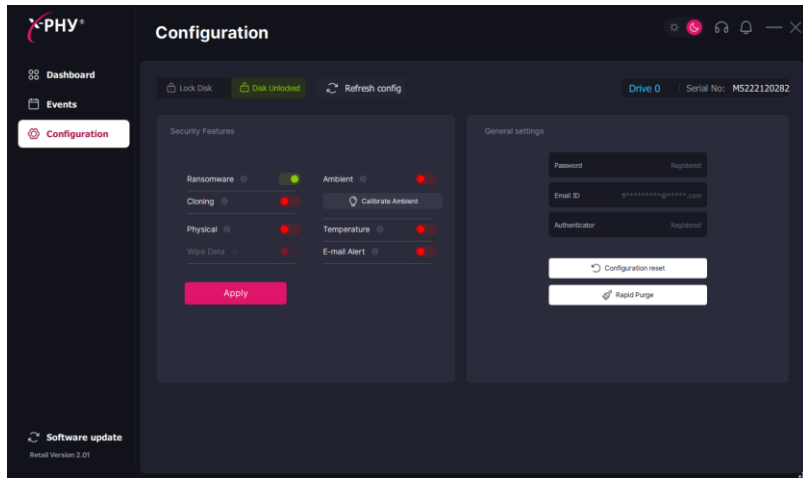


- In the scenario where there is a firmware update, the X-PHY® PC application will automatically install the firmware update.
- After successful installation, upon opening the X-PHY® PC application, a message “Firmware update successful. Please shutdown and boot the PC to complete the update.” will be displayed.
- Please proceed to shutdown and power on your PC to complete the firmware update.

## Enabling Security Feature(s)

### Step 1: Enable a security feature.

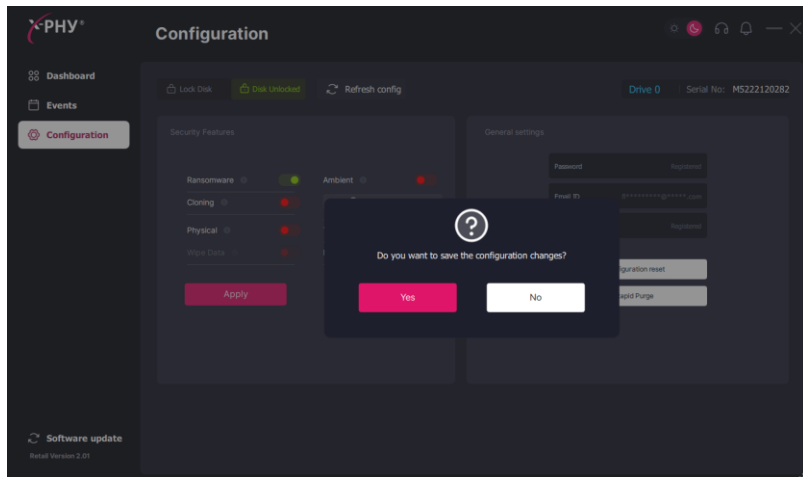
Ensure that at least one security feature is turned on (denoted by the red to green status).



**i** For illustration purposes, the Ransomware protection feature is turned on.

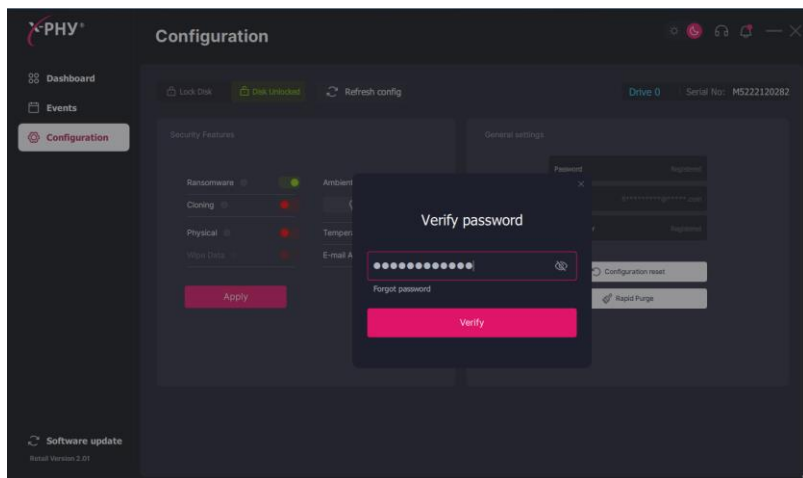
### Step 2: Confirm the configuration change

A pop-up window will appear to save the new configuration changes. Click on “Yes” to proceed.



### Step 3: Enter the Password

Enter the correct password that has been registered with the X-PHY® .

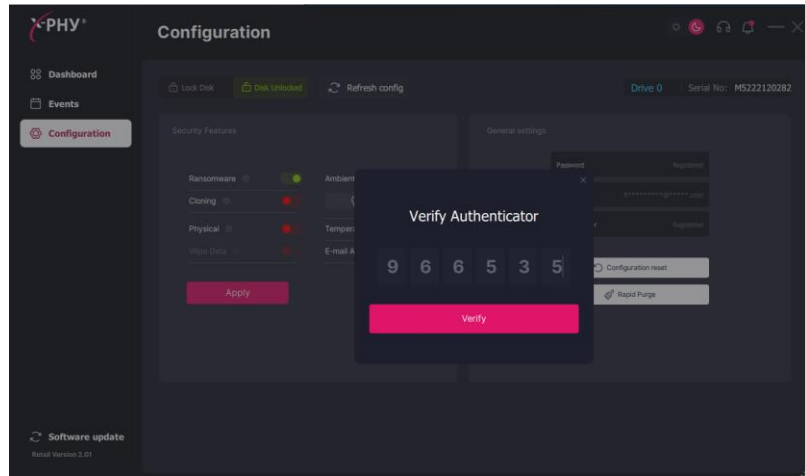




Google/Microsoft Authenticator is required for this section

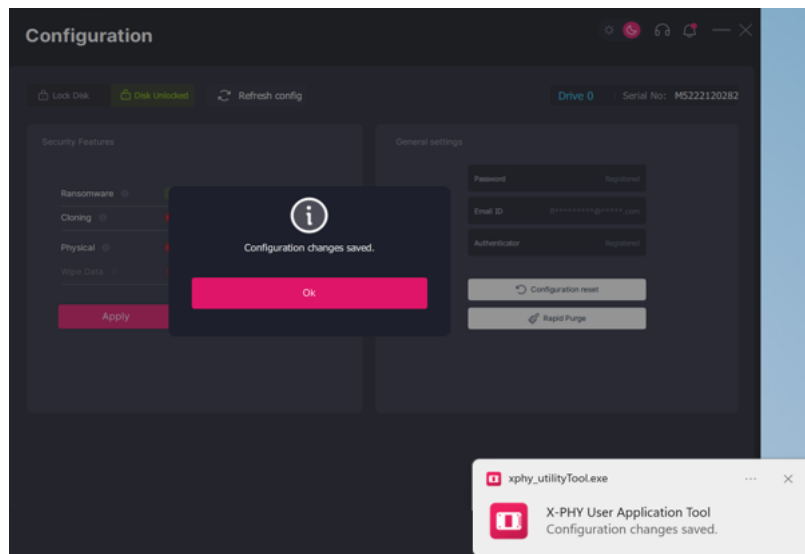
## Step 4: Enter the six digit OTP from Google/Microsoft Authenticator.

Ensure that the correct OTP has been entered and click on the “Verify” button.



## Step 5: Successfully turned on the security feature.

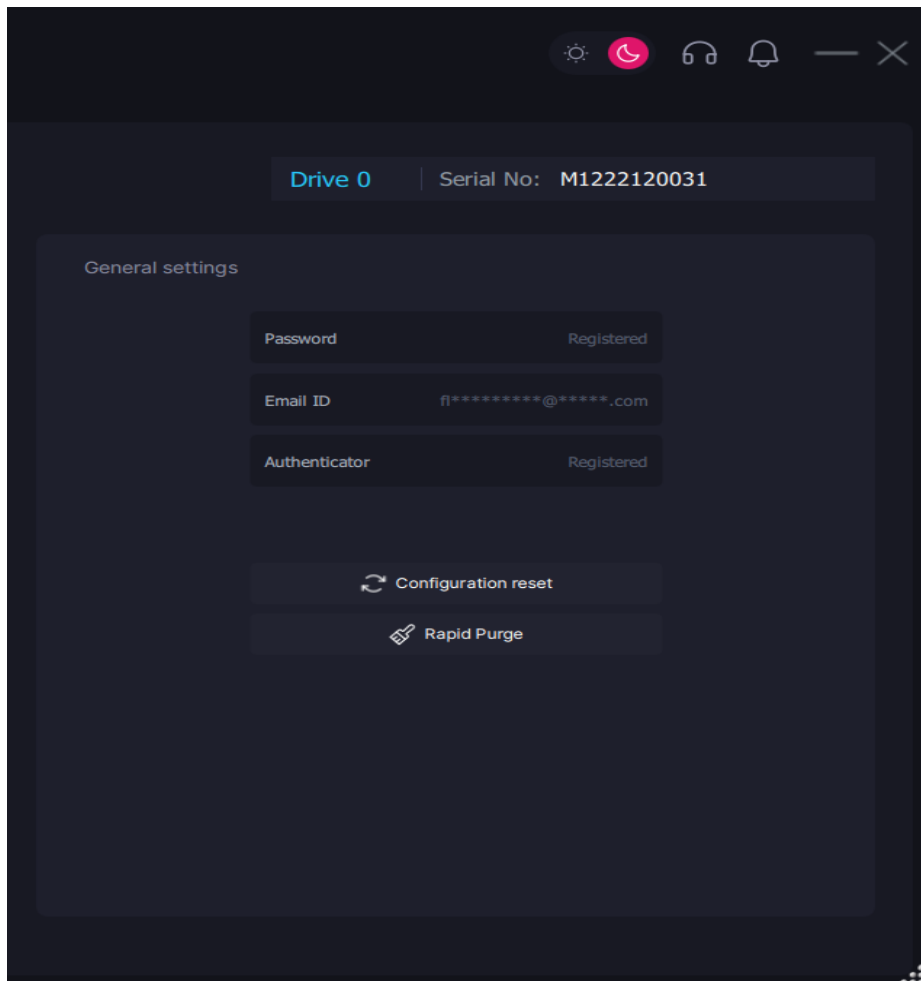
When the correct OTP has been verified, a pop up message “Configuration changes saved.” will be prompted along with the desktop notification. Click on the “Ok” button to proceed.



## General Settings

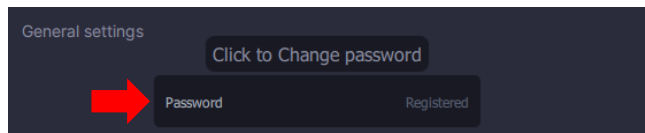
On the general settings tab on the application it displays relevant information like the email ID that has been configured, the password status and the authenticator status.

- This page displays the account's information such as Password status, email ID and Authenticator status.
- Configuration Reset allows the user to reset all configurations and information. It is similar to a factory reset. After activating this feature, the user will be required to go through the entire registration process once again.
- The Rapid Purge function wipes all of the data on the drive at a binary level. This means that the user will need to re-install the OS again to continue using the X-PHY® .

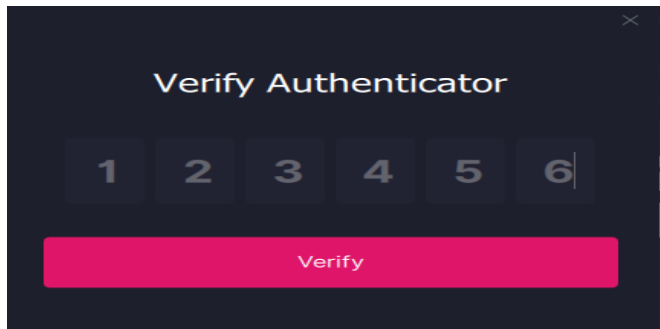


## Change Password Option

To change password, firstly click on the **Password** tab.

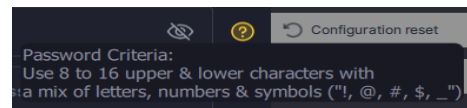


Key in the registered 6 digit OTP from Google/MS Authenticator.

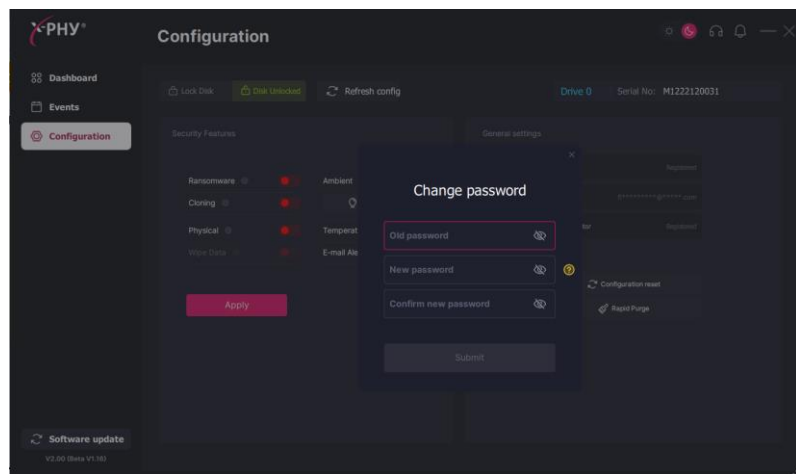


Enter your current password, new password and new password confirmation.

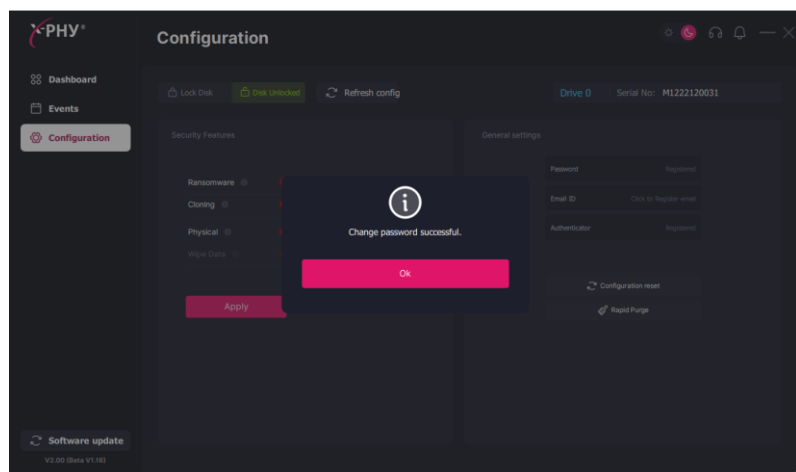
(Note: Hover over the question mark icon to check the Password Criteria as shown).



Proceed to click the “Submit” button.



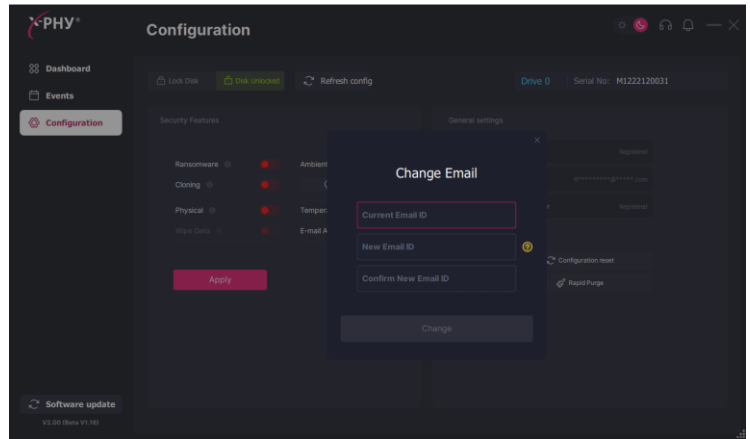
The “**Change Password successful.**” pop-up message will be prompted once the new password entered has been verified by the application.



*\*Should there be any error encountered, please refer to the [Troubleshooting Menu](#)*

## Change Email Settings

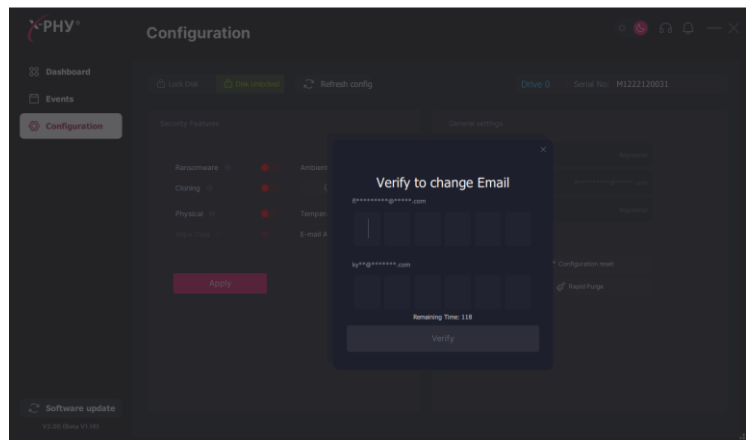
Click on the **Email** tab under General settings. Proceed to enter the Password and Authenticator OTP. Once the correct password and OTP has been verified the “Change Email” Interface will be displayed.



Check the inbox of both the current and new email account for the respective email OTP.

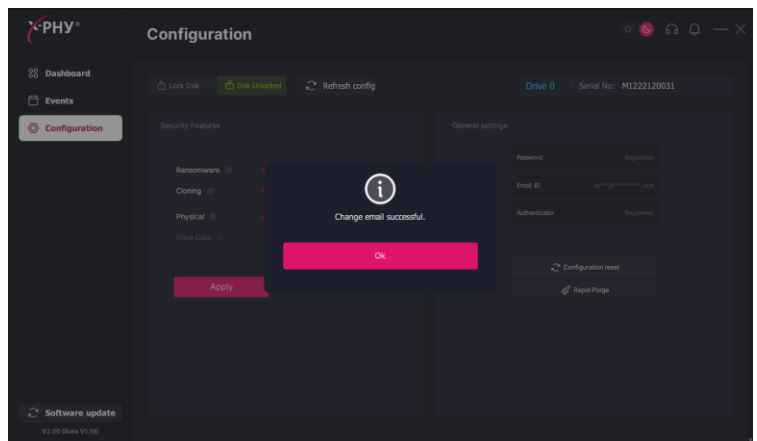
Enter the respective email OTP.

Click on the “Verify” button.



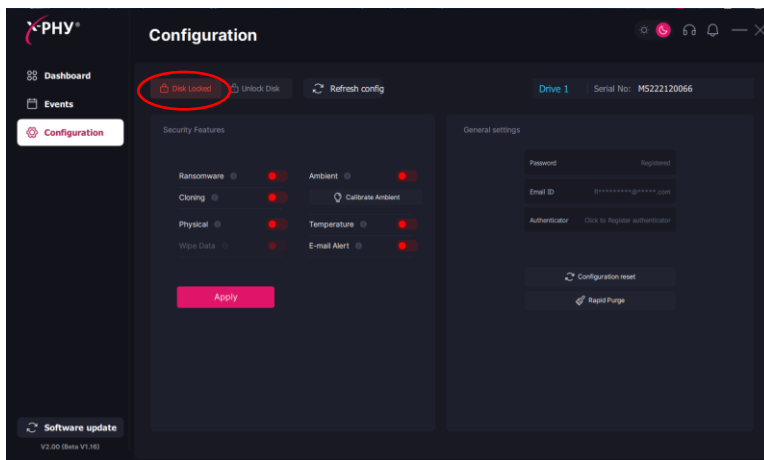
Once both the current and new email OTP has been verified, the “Change email successful.” pop up message will be prompted.

Click the “Ok” button.

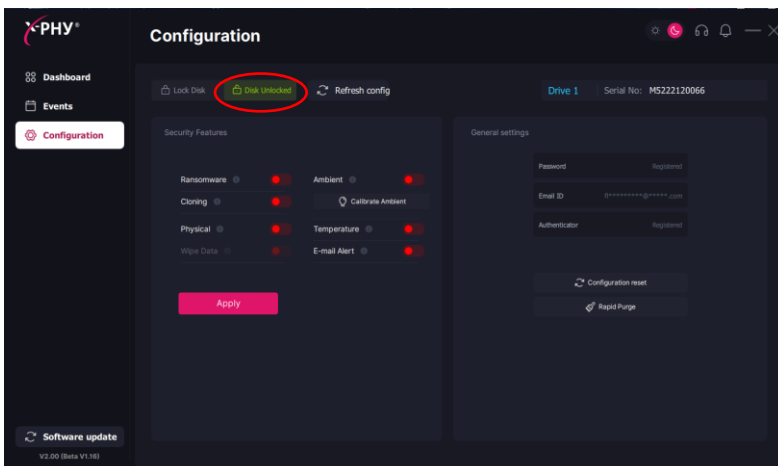


## Unlocking the X-PHY® SSD as a secondary drive

- 1 If the SSD is locked due to the attacks by ransomware, data cloning theft, temperature or physical disconnections, the SSD can be unlocked by connecting it as a secondary drive and running the XPHY PC Application.
- 2 The lock state can be observed as “Disk Locked” in the configuration page of the application. Click on the “Unlock Disk” button to unlock the SSD.



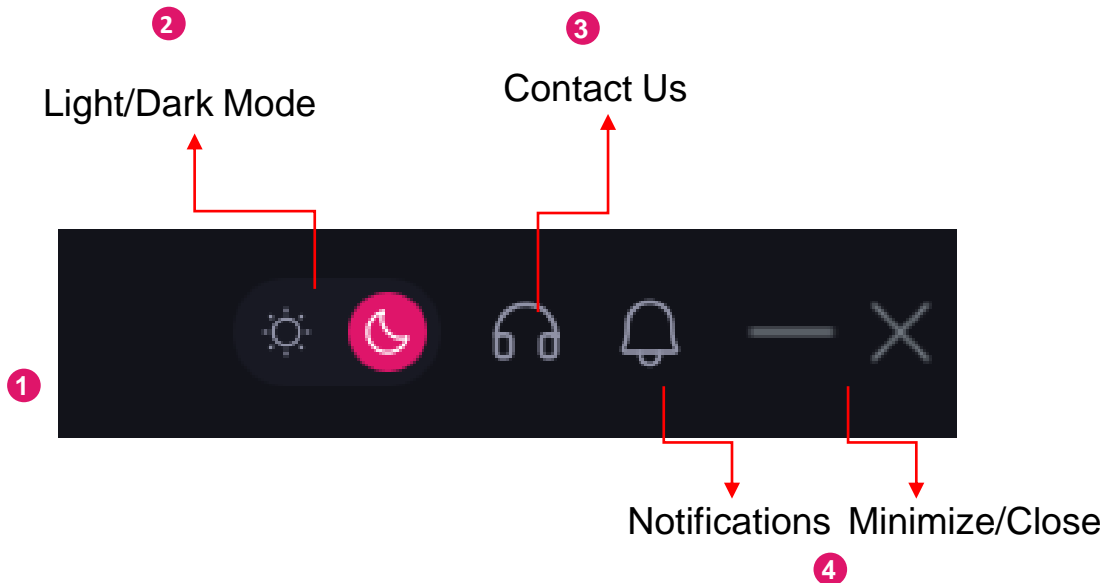
- 3 Once the unlock disk button has been clicked, the application will prompt for the password and the Authenticator OTP in order to unlock the disk.
- 4 Once the Dynamic Authentication process is completed, the lock state can now be observed as “Disk Unlocked”.



Ensure the unlocking process is performed in a secure environment. (example: Non-Public Places)

## General controls

- 1 The application has a top panel along with some general controls, such as the Theme Mode (dark & light), Contact Us, Notifications, Minimize and Close buttons.
- 2 The X-PHY® PC Application's theme can be changed between light and dark mode by clicking the sun and moon icons in the top panel.
- 3 The Contact Us icon in the top panel can be used to get to Flexxon's support website.
- 4 Notification button will showcase the application's notifications. The minimize button will hide the application into the system tray. The close button will close the application's interface.  
(\*Note: To close the application completely, simply go to the system tray -> right click on the XPHY application icon -> click "Exit" option).




## Troubleshooting Menu

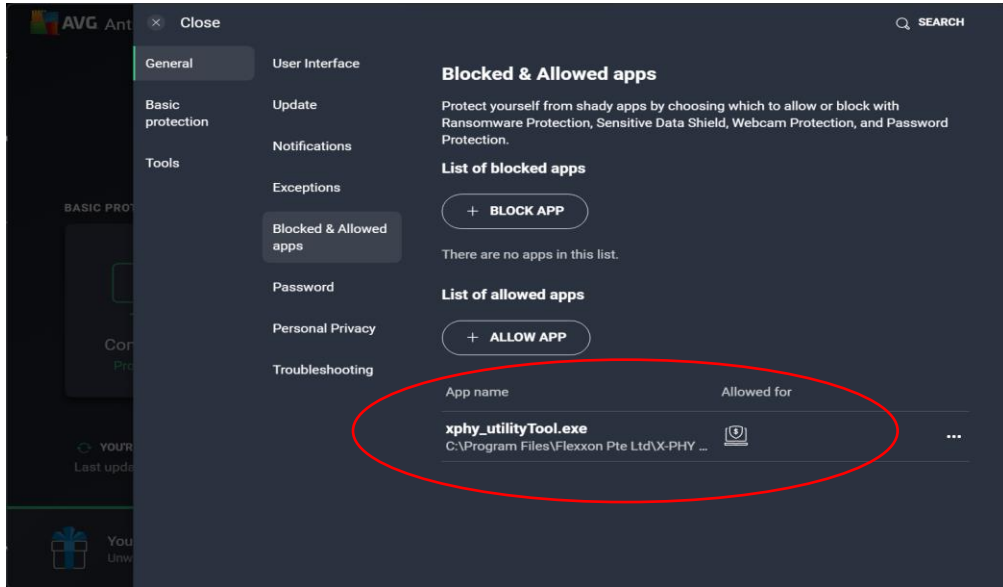
Error Scenario	Solution
Antivirus software blocks X-PHY® PC Application	<a href="#">Appendix 1</a>
Initial Email Registration Error	<a href="#">Appendix 2</a>
Change Password Error	<a href="#">Appendix 6</a>
Change Email Error	<a href="#">Appendix 7</a>

# -APPENDIX-



# Appendix 1- How to whitelist the X-PHY® PC Application in an Antivirus software

 To prevent the antivirus software from interfering with the operations of X-PHY®, proceed to whitelist the **X-PHY® PC Application** to allow software and firmware updates when available.



(images are for illustration purposes only.)

Below are links to tutorials of how to whitelist an application in common Antivirus software.

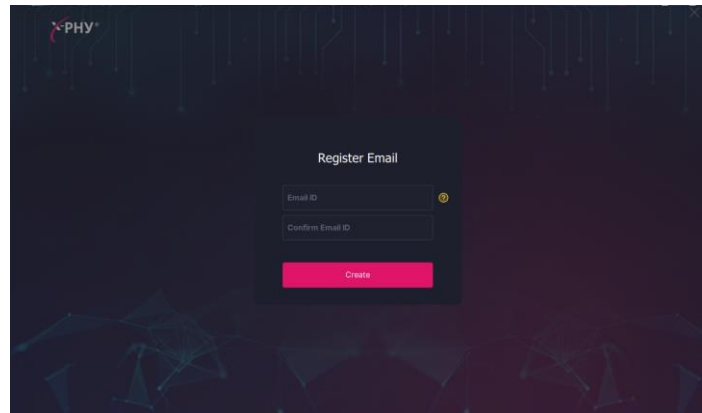
Antivirus Software	Link
Symantec	<a href="https://knowledge.broadcom.com/external/article/160078/how-to-whitelist-or-exclude-an-applicati.html">https://knowledge.broadcom.com/external/article/160078/how-to-whitelist-or-exclude-an-applicati.html</a>
McAfee	<a href="https://www.mcafee.com/support/?articleId=TS100813&amp;page=shell&amp;shell=article-view">https://www.mcafee.com/support/?articleId=TS100813&amp;page=shell&amp;shell=article-view</a>
Kaspersky	<a href="https://www.kaspersky.co.in/blog/how-to-add-apps-to-exclusions/23331/">https://www.kaspersky.co.in/blog/how-to-add-apps-to-exclusions/23331/</a>
Norton	<a href="https://www.solveyourtech.com/how-to-stop-norton-360-from-blocking-a-program/">https://www.solveyourtech.com/how-to-stop-norton-360-from-blocking-a-program/</a>
Avast	<a href="https://support.avast.com/en-sg/article/antivirus-scan-exclusions/#pc">https://support.avast.com/en-sg/article/antivirus-scan-exclusions/#pc</a>

## Appendix 2- Possible Scenario (Initial Email Registration Error)

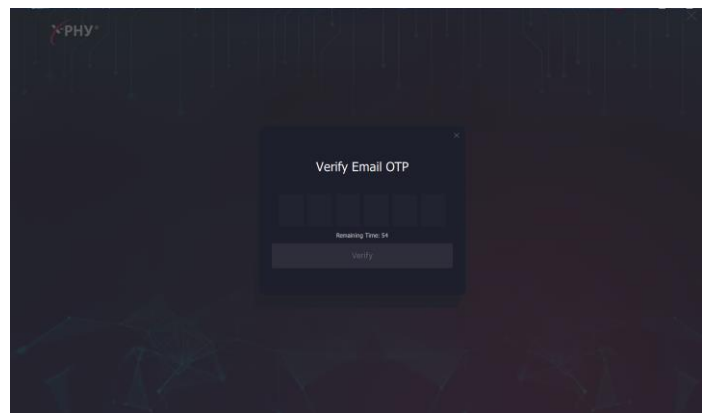


In the event where there is an error during the initial e-mail registration such as due to a lost internet connection, the X-PHY® PC Application will prompt a second email registration.

Input your email address into the “Email ID” and “Confirm Email ID” fields respectively. Click on the “**Create**” button.



Enter the six digit OTP sent to the registered email and click on the “Verify” button.



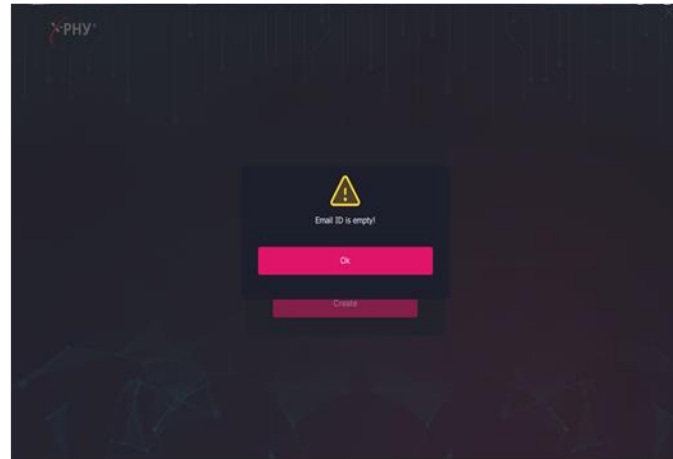
*\*Should there be any errors encountered, please refer to [Appendix 3A](#) and [Appendix 3B](#)*

## Appendix 3A- Possible Error Scenarios (Register Email)

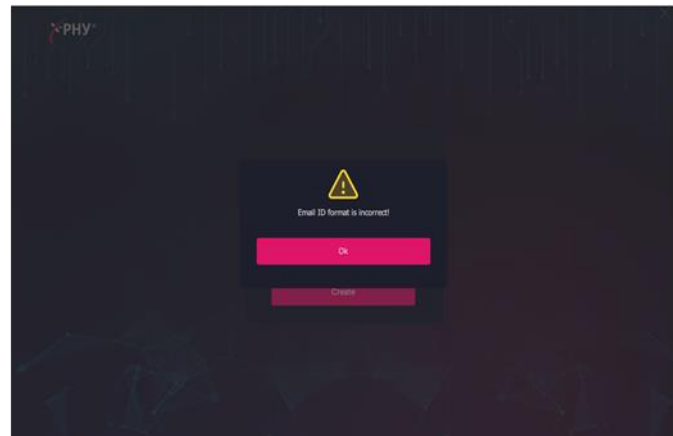
The **“Confirm email ID is empty!”** pop-up message will appear when the second field, **“Confirm Email ID”** is empty.



The **“Email ID is empty!”** pop-up message will appear if the **“Current Email ID”** field is empty.

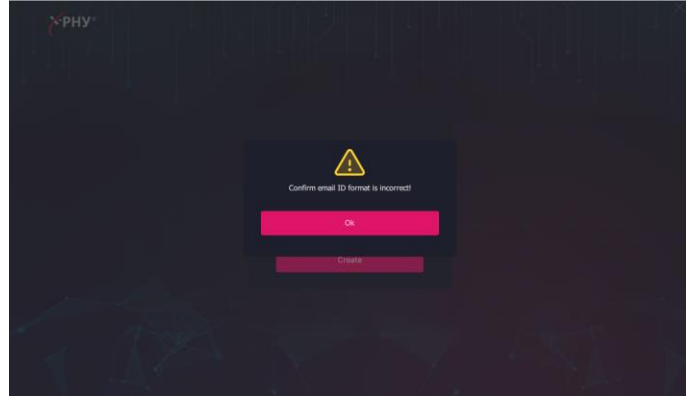


The **“Email ID format is incorrect”** pop-up message will appear if the user key the wrong email format in the **“Email ID”** field.

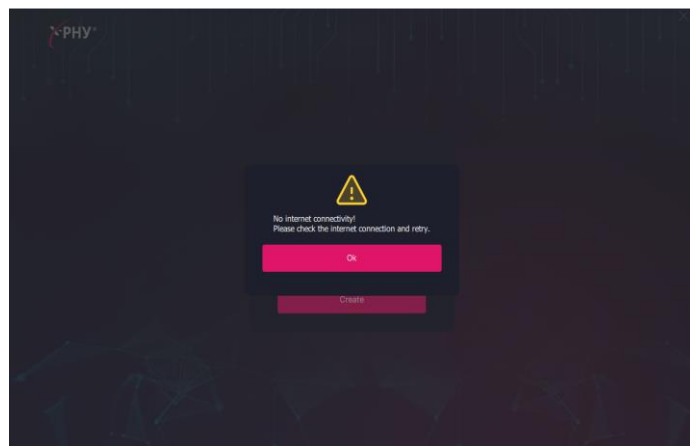


## Appendix 3B- Possible Error Scenarios (Register Email) Continued

The **“Confirm Email ID format is incorrect!”** pop-up message will appear if the user keys the wrong email format in the “Confirm Email ID” field.



The **“No internet connectivity! Please check the internet connection and retry”** pop-up message will appear if the internet connection is lost after clicking the “Create” button.



## Appendix 4- Quick links to X-PHY® Connect Mobile Application Guides



**Android**

**iOS**

[Android Guide](#)

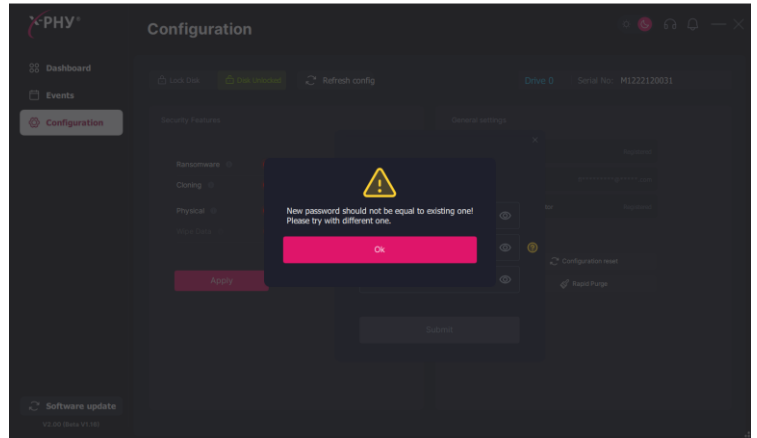
[iOS Guide](#)

## Appendix 5- Description of the Security Features provided by X-PHY®

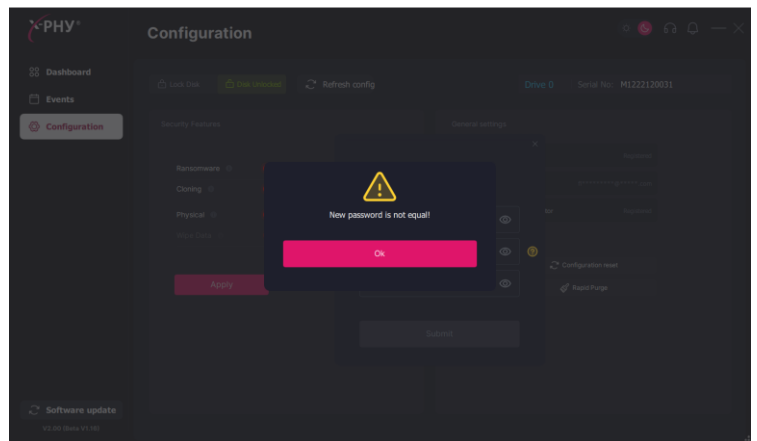
Security Feature	Description
Ransomware Protection	To protect against known and unknown ransomware.
Cloning Protection	To protect against disk cloning or data cloning.
Physical Attack Protection	To protect against physical tampering and theft by removal of drive .
Wipe Data	Wipes all data from the SSD, this feature works alongside with the Physical attack detection. It is useful for industries such as the military or government because they do not want their data to be stolen and fall into the wrong hands, so they choose to wipe out the data.
Ambient	To detect change in the lighting of the environment like for example when someone opens the panel from the workstation.
Temperature	To protect the SSD from hot and cold attacks.
E-Mail Alert	Sends email notification to registered email on events that have happened or configuration settings changed.

## Appendix 6- Possible Error Scenarios (Change Password)

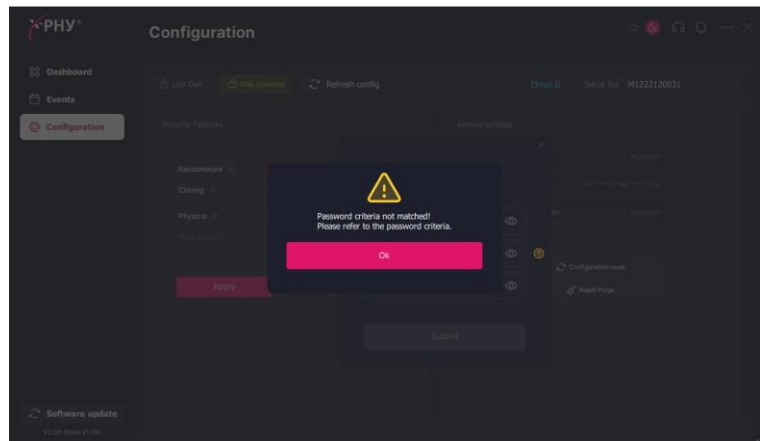
The “**New password should not be equal to existing one! Please try with a different one.**” pop-up message will be visible if current and new password are the same.



If the new password and confirm new password data entered do not match then the “**New password is not equal!**” error message will be observed.

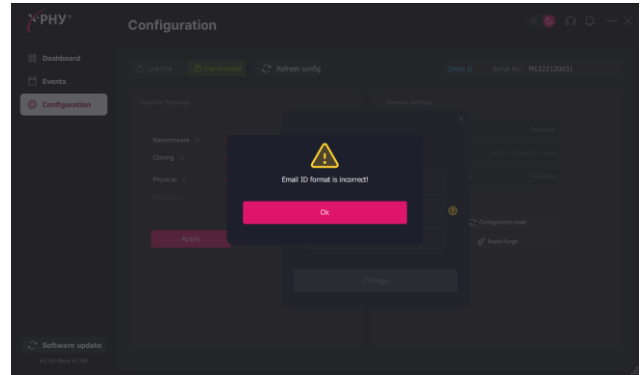


If the password criteria is not met the following error message will be observed.

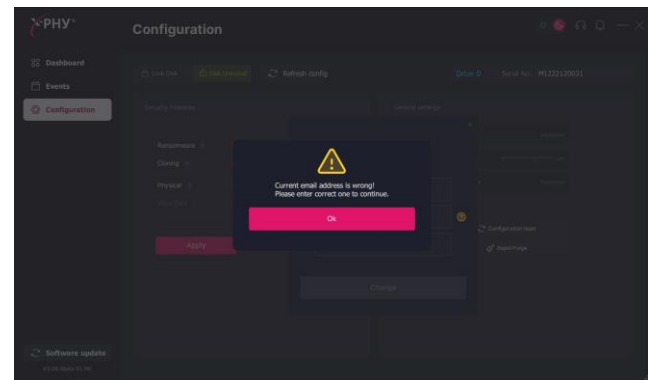


## Appendix 7- Possible Error Scenarios (Change Email)

The **“Email ID format is incorrect!”** pop-up message will be visible if the wrong Email ID format is entered.



If the wrong **“Current Email”** address is entered then the following pop up message will be observed.



## **Certification**

XPHY CYBER SECURE SSD

Model/Type: PCIe M.2 2280 512GB, PCIe M.2 2280 1TB

### ***UL RECOGNIZED COMPONENT MARKS FOR CANADA AND THE UNITED STATES***



### ***European Union***



Manufacturer Representative with the EU:

Philippe Marie

Le Pré de l'Aube, G6 RDC - Chemin du Four à Chaux - 13240 Septèmes-les-Vallons - France.

Phone number: +33 (0)6 70 00 37 22

### ***United States***



Contains FCC ID: RYYEYSHSN

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.

### ***Great Britain***



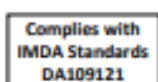
Manufacturer Representative with the UK:

Michael Barrett

3 West Barn, Old Dairy Lane, Norton, Chichester, West Sussex, PO20 3AF, UK

Phone number: +44 (0)1794 301 439

### ***Singapore***



# -End of Guide-



## Learn more about X-PHY®

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X-PHY® AI Embedded Cyber Secure SSD | The Last Line of Defense



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