

# AIOT CLOUD CORP. USB UltraLock User Manual

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# PREFACE

## Disclaimer

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## Acknowledgements

The USB UltraLock is a trademark of AIOT CLOUD CORP. All other product names mentioned herein are registered trademarks of their respective owners.

# **Revision History**

Version	Date	Description
v1.0	Oct 2022	<ol> <li>New Release</li> <li>Support Configuration Import/Export Function</li> <li>Support Whitelist for USB Storage/Key Board/ Mouse</li> </ol>



# CHAPTER 1: USING THE USB ULTRALOCK

### **1.1 Introduction**

The AIC USB UltraLock is a tool for configuring a white list for USB Storages & USB Keyboard/Mouse.

USB is a convenient interface, but it also exposes a security risk when used in industrial environments. "USB UltraLock Utility" can set specific USB Storages & USB Keyboard/Mouse as a white list to ensure the protection of Industrial PC(IPC).

#### Why an Industrial PC (IPC) need to protect his USB interfaces?

Industrial PC (IPC) is widely used in a specific environment, such as an airport, factory, railway station, hospital, department store, etc. They serve us in a variety of ways, but they are not always housed in a secure enclosure. For example, if you go to the back side of a signage player in an airport (which displays the flight schedules of the planes), an IPC box is attached to the panel. You can easily control it by plugging in any USB keyboard/mouse and a private USB storage. The signage system will become your personal computer without any security.

In the past, the only solution was to disable the USB ports by configuring the BIOS. However, this means that all the USB ports are disabled at the same time. If the customer wants to reboot, the BIOS has to be updated, which is a complicated process.

Another solution is to change the PCB layout circuit by adding a GPIO to the USB port power line, and then controlling the GPIO to turn on/ off the USB port using a special utility. However, this method requires a layout change and higher cost.



The USB UltraLock Utility allows the customer to enable the connected USB peripherals by adding them to the white list. If they want to block them again, simply remove them from the white list and the USB peripherals will be disabled. As for restricting the use of USB drives, customers simply add the selected USB storages to the white list and other USB drives that are not on the white list will not work.

Check the operating system requirement before installing the USB UltraLock Utility. Operating systems supported are:

• Microsoft Windows 11 and Windows 10. Do not install any operating system that is not on this list.



**Warning:** We are not responsible for any incorrect configuration or if you have lost your white list USB storage peripheral or KB/Mouse.



### **1.2 Installing USB UltraLock**

1. Double click on the filename of the USB UltraLock setup file, the installation wizard will prepare the setup process and click **Next**.



2. Check the I accept the terms in the license agreement option, and click Next.





3. Enter the user information and click **Next**.

🔀 AIC Usb UltraLock - InstallShield Wiz	zard		×
Customer Information Please enter your information.			と
<u>U</u> ser Name: <mark>mistest</mark>			
<u>O</u> rganization:			
InstallShield			
	< <u>B</u> ack	<u>N</u> ext >	Cancel

4. Select **Complete**, click **Next** to continue.

😽 AIC Usb UltraL	ock - InstallShield Wiz	tard		×
Setup Type Choose the setu	p type that best suits your	needs.		と
Please select a s	etup type.			
• Complete	All program features wil	l be installed. (Req	uires the most disk sp	vace.)
Custom	Choose which program f be installed. Recomment	eatures you want i ded for advanced u	nstalled and where th sers.	ey will
InstallShield		< <u>B</u> ack	<u>N</u> ext >	Cancel



#### 5. Click **Install** to begin the installation.

🙀 AIC Usb UltraLock - InstallShield Wiz	zard		×
Ready to Install the Program The wizard is ready to begin installation.			と
Click Install to begin the installation.			
If you want to review or change any of yo the wizard.	our installation settings, clic	k Back. Click Ca	ancel to exit
InstallShield			
	< <u>B</u> ack	Install	Cancel

6. The installation will begin and may take a while.







**Note:** Click **Yes** and then **OK** to reboot the system when the reminder dialog window appears on the screen.

System Reboot
Do you want to reboot this machine to apply new environment variables?
• Yes, I want to restart my computer now.
$\bigcirc$ No, I will restart my computer later.
ОК

7. Once the installation is completed, click **Finish** to exit.





### 1.3 Launching USB UltraLock

 Once installed, you should be able to find the program named AIC USB UltraLock in the All Programs list. Click on it ( ) to launch the utility.



2. Enter the password in the respective field and click **OK**.

loT Studio U	Jtility Login			×
Password:				
		OK	Cancel	



#### Note:

- 1. Use the default Password: *0000* to log in if you are logging in for the first time.
- 2. Remember to change the password frequently and keep it in a safe place to avoid hacking. Refer to License for setting the password.



\*A warning message will be prompted if an incorrect password is entered.



3. The GUI of USB UltraLock will be displayed on the screen.

Usb UltraLock Utility: Sta	andard Edition		×
License Descript th	e version infor	mation and its fea	itures.
Keyboard/Mouse Stora	ge Option Imp	ort/Export License	
Usb UltraLock Version	Information		
Edition: Standard	d	Email: Email user@a	aiotcloud.dev
Version: 1.00.30	71	S/N: 1234-5678-AB	CDEFGH
Whitelist			
Port:	Not support.	Web Service:	Support.
Keyboard/Mouse:	Support.	Import/Export:	Support.
Storage:	Support.		
Expiration:	Unlimited.		
License	Rel	ease License	Login Password



# CHAPTER 2: AIC USB ULTRALOCK BASICS

AIC USB UltraLock consists 5 pages of information and menus for status and configurable parameters. Simply click on the respective tab for further configuration purposes with AIC USB UltraLock.

Usb UltraLock Utility: Standard Edition $4  imes$
USB Keyboard/Mouse Setting USB Keyboard/Mouse Permission
Keyboard/Mouse Storage Option Import/Export License
Keyboard/Mouse Whitelist
Enable the USB Keyboard/Mouse whitelist.
Please modify your whitelist by clicking mouse right button.
# Name Description
<b>— 2 — 3</b>
OK Cancel Apply

Item	Description
1	Menu Bar: Use the cursor to select the desired function menu
I	for configuration.
2	Click <b>OK</b> or <b>Cancel</b> to hide the interface in the background.
2	Click <b>Apply</b> to make the configured parameters take effect. A
2	message will prompt you with the option to restart the server.
4	Click on the <b>X</b> button to exit AIC USB UltraLock.



### 2.1 White list for "USB Keyboard/Mouse"

Click the check box to enable the USB Keyboard/Mouse White List function. Right-click to add the available USB keyboard/mouse.



**Note:** For ACPI, standard PS/2 devices are in the white list by default. If your PC has them, you don't need to select them. They will not be blocked.

	ouse Storage Op	otion Import/Export License	
evhoar	1/Mouse Whitelist		
	able the LISB Keyboa	ard/Mouse whitelist	
Please	modify your whitelis	st by clicking mouse right button.	
#	Name	Description	
		P C C C C C C C C C C C C C C C C C C C	
		Whitelist	
-		Add Items	1.12
		Del Items	



Keyboai	rd/Mouse Selector		>
Please s	elect which devices you v	vant to add into whilelist.	
# 00	Name HID Keyboard Device HID-compliant mouse	Hardware ID HID\VID_046D&PID_C534&REV_2900&MI_00 HID\VID_046D&PID_C534&REV_2900&MI_01&C	
		Add Cancel	

Usb UltraLock	Utility: Standard E	dition		×
s s	SB Keyboard/ etting USB Keybo	Mouse ard/Mouse Perm	nission	
Keyboard/Mou	use Storage Opt	on Import/Export	License	
Keyboard/	Mouse Whitelist			
🗹 Enab	le the USB Keyboar	d/Mouse whitelist.		
Please m	nodify your whitelist	by clicking mouse ri	ght button.	
#	Name	Description		
00	HID Keyboard Dev	ce HID\VID_04	5D&PID_C534&REV_2900&.	
01	HID-compliant mou	se HID\VID_04	5D&PID_C534&REV_2900&.	
			OK Cancel	Apply



# 2.2 White list for "USB Storage"

Click the check box to enable the USB Storage White List function. Right-click to add the available USB Storages. The function will allow the same model USB Storages for accessing.

U	SB Storage Setting USB St	e orage Permission	
	Storage	Online Transferret Linear	
	Whitelist	Option Import/Export License	
	whitelist	ane whitelist	
Please	modify your white	elist by clicking mouse right button.	
# Ni	Name	Description	
		Whitelist	
		Whitelist	
		Whitelist Add Items Del Items	
		Whitelist Add Items Del Items Rename	





**Note:** The "Only support specific USB storage" check box is a special function that allows only the specific USB storage to be accessed. Other USB storage devices of the same model will not work.

USB Sto	rage Selector		×
Please s	elect which devices you	u want to add into whilelist.	
# 00 01	Name DataTraveler 3.0 iConnect mini	Instance ID USB\VID_0951&PID_1666\AC220B280C78B171D USB\VID_3538&PID_0901\A298881601130200F2	
✓ Only	support specified USB	storage. Add Cancel	

sb UltraLock	Utility: Stand	lard Editi	on			
S S	Setting USB S	torage	Permission			
Keyboard/Mo	use Storage	Option	Import/Export	License		
Storage W	/hitelist					
Enab	le the USB Sto	rage whit	telist.			
Please n	nodify your wh	itelist by	clicking mouse rig	ht button.		
#	Name		Description			
<b>81</b> 00	DataTraveler	3.0	USB\VID_095	18PID_16	66\AC220B28	30C
01	iConnect mini		USB\VID_353	888PID_09	01\A2988816	5011
				ОК	Cancel	Apply



## 2.3 Option

The Option page is designed for configuring the USB UltraLock Utility.

Keyboard/Mou	use Storage	Option	Import/Exp	oort Licer	ise		
1 Web Servio	ce (for remote	control co	ommand)				
🗸 Enab	le Web Servic	e					
Serv	ice Port:	10500					
Secu	rity Token:	1234567	8				
Auto	matically start	: when use USB plugi	er logins n				
						0	

Item	Description
	Web Service (for remote command)
1	It is for remote control restful service command. You can enable
	the Web Service to assign the service port and security token.
	General Setting
2	Automatically start when user Logins
	Notify event when USB plugin
n	Set as Default
3	Restore to the default options.



### 2.4 Import/Export Function

#### **2.4.1 Export Configurations**

Export the USB UltraLock configurations, user can select Keyboard/ Mouse, Storages, and settings.

#### **Export Log File**

Export the history log file of all USB activities, including plug, unplug, blocking, and unblocking. Examples: 2022/12/05 08:11:32:0965 Plug-in Device: USB\ VID\_054C&PID\_09C2&REV\_0110 2022/12/05 08:11:32:0965 Plug-in Device: USB\ VID\_05E3&PID\_0743&REV\_0819 2022/12/05 08:11:32:0980 Blocking Device: USB\ VID\_05E3&PID\_0743&REV\_0819 2022/12/05 08:11:32:0980 Unplug Device: USB\ VID\_05E3&PID\_0743&REV\_0819

Usb UltraLock Utility: Standard Edition						
Impo Impo	rt/Exp ort/Export	ort t USB UI	traLock Config	gurations		
Keyboard/Mouse	Storage	Option	Import/Export	License		
Export Configu	rations					
Export US	Export USB UltraLock configurations					
USB p	USB port whitelist.					
USB k	☑ USB keyboard/mouse whitelist.					
USB S	USB Storage whitelist.					
Option	n setting o	onfigurati	ions.			
Export Lo	g File				Export	



#### 2.4.2 Import Configurations.

This feature allows user to import the USB UltraLock configurations from another PC. When the import process is complete, make sure you click on the "Apply" button to reboot the computer and make it take effect.

Import Configurations		
Please import your USB UltraLock Configurations by left		Import
ОК	Cancel	Apply



### 2.5 License

The License page displays the **AIC USB UltraLock Version Information** and the **Whitelist**. Also, this page allows you to register the product key.

Usb UltraLock Utility: Sta	indard Edition			×
License Descript the	e version infor	mation and its fea	tures.	
Keyboard/Mouse Storag	ge Option Imp	oort/Export License		
Usb UltraLock Version	Information			
Edition: Standard	ł	Email: Email user@a	iotcloud.dev	
Version: 1.00.30	71	S/N: 1234-5678-ABC	DEFGH	
Whitelist				
Port:	Not support.	Web Service:	Support.	
Keyboard/Mouse:	Support.	Import/Export:	Support.	
Storage:	Support.			
Expiration:	Unlimited.			
1		2		
License	Rel	ease License	Login Password	ł
		ОК	Cancel	Apply



Item	Description							
	License							
	Click <b>License</b> button to enter a valid license email and serial number. Click <b>OK</b> when done.							
	Please input serial number: $ imes$							
	Email: Serial Number:							
1	A pop-up window appears to remind you to restart the application.							
	Information ×							
	The Serial Number has been applied! Please restart this application!							
	ОК							
2	<b>Release License</b> Click it to release the license key on the current device, then you can use the license key in the other device.							



# CHAPTER 3: USB ULTRALOCK REMOTE CONTROLLER

The USB UltraLock offers remote control functions such as KBM On/Off or Storage On/Off. You can find the program named AIC USB UltraLock / USB UltraLock Remote (



Access the IPC equipment you wish to remote by entering its IP address, service port, and service token in the UltraLock Remote Controller. Select the desired command you wish to operate, and then click the "Send" button. Refer to the next page for more detais.

b UltraLock Settin	igs	
Remote IP:	127.0.0.1	
Service Port:	10500	
Service Token:	12345678	
mata Cantrallar		
mote Controller		
mote Controller Command:	STORAGE_OFF ~	
mote Controller Command:	STORAGE_OFF ~ KBM_ON	Cond
mote Controller Command: Parameter:	STORAGE_OFF ~ KBM_ON KBM_OFF	Send
mote Controller – Command: Parameter: Status:	STORAGE_OFF KBM_ON KBM_OFF STORAGE_ON STORAGE_OFF	Send
mote Controller Command: Parameter: Status:	STORAGE_OFF KBM_ON KBM_OFF STORAGE_ON STORAGE_OFF ALLCFG_ON	Send



🖹 Usb UltraLock Re	mote Controller	×
Usb UltraLock Settin	js	
Remote IP:	127.0.0.1	
2 Service Port:	10500	
3 Service Token:	12345678	

Item	Description	
1	Remote IP	
	The IP of the computer you want to remote.	
2	Service Port	
	The numeric value must match the remote computer.	
3	Service Token	
	The numeric value must match the remote computer.	

\* The description above states that the user controls one remote computer at a time.

Remote Controller		
4 Command:	STORAGE_OFF ~	
Parameter:	KBM_ON KBM_OFF	Send
Status:	STORAGE_ON STORAGE_OFF	
	ALLCFG_ON ALLCFG_OFF SYS_REBOOT	

Item	Description		
	KBM_ON/KBM_OFF		
	Remotely turn on or off the white list for selected keyboards and		
	mice.		
	STORAGE_ON/Storage_OFF		
4	Remotely turn on or off the white list for selected storages.		
	ALLCFG_ON/ALLCFG_OFF		
	Remotely turn on or off the white list configurations.		
	SYS_REBOOT		
	Remotely boot up your PC.		