



XS series PLC system update operation instructions

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Catalog

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1. When Is PLC System/Firmware Update Required?

To meet the requirements of software architecture optimization and functional expansion, PLC software undergoes continuous iterative upgrades. Mismatched software and firmware versions will render legacy PLC units incompatible with certain newly added post-upgrade functions. To resolve this issue, the built-in PLC system update utility can be utilized to upgrade the firmware of legacy PLC hardware to the latest revision, enabling access to all newly released functionalities.

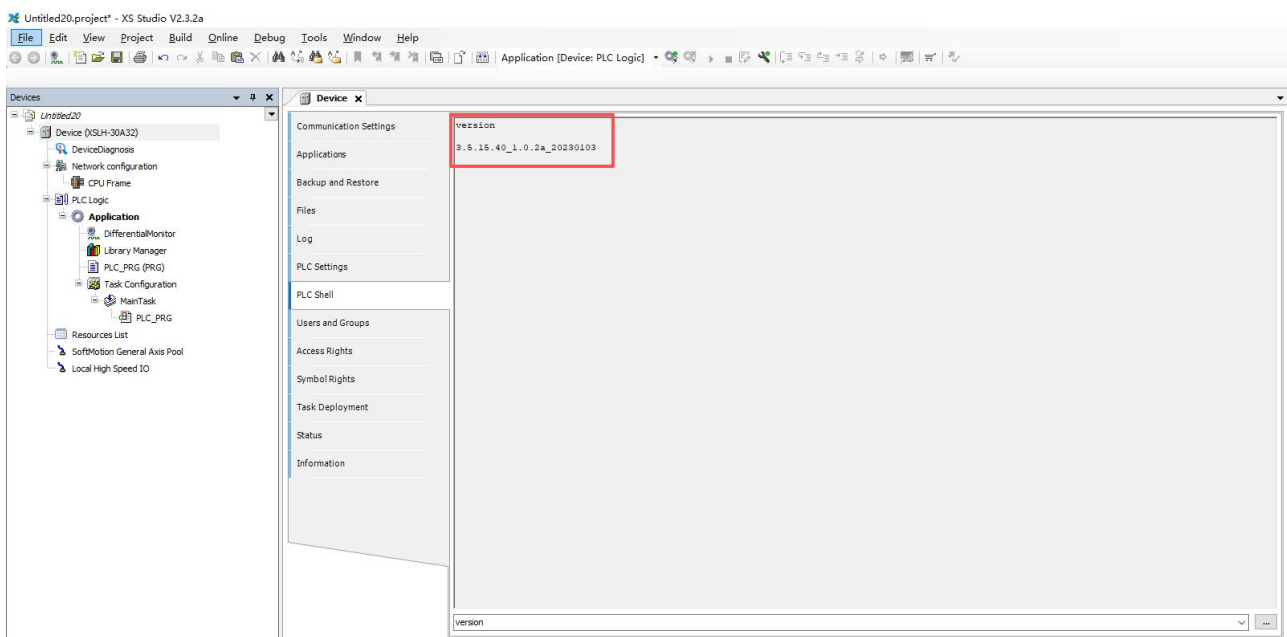


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- For PLCs with original firmware versions earlier than V2.4.1: If the system is updated to any version lower than V2.4.2c, all user programs and data will be erased. Back up programs and data in advance if retention is required.
 - For PLCs with original firmware versions earlier than V2.4.1: If the system is updated to V2.4.2c or higher, user programs and data will be preserved. Observe the following notes:
 - ① For XSF5 series models: All programs and power-off retention data (whether stored in Area P or Area M) will remain intact after the upgrade.
 - ② **For other XS series models excluding XSF5:** If power-off retention is configured to Area P: Programs and Area P retention data are retained. If power-off retention is configured to Area M: User programs remain intact, while **all Area M power-off retention data will be cleared.**
 - For PLCs running original firmware V2.4.1 or above: All programs and data will be retained after updating to any firmware version V2.4.1 or higher.
 - When flashing XS series firmware, comply with the supported version range. Refer to Section [3 Firmware Version Range for full details](#)!
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2. How to Check the PLC Firmware Version?

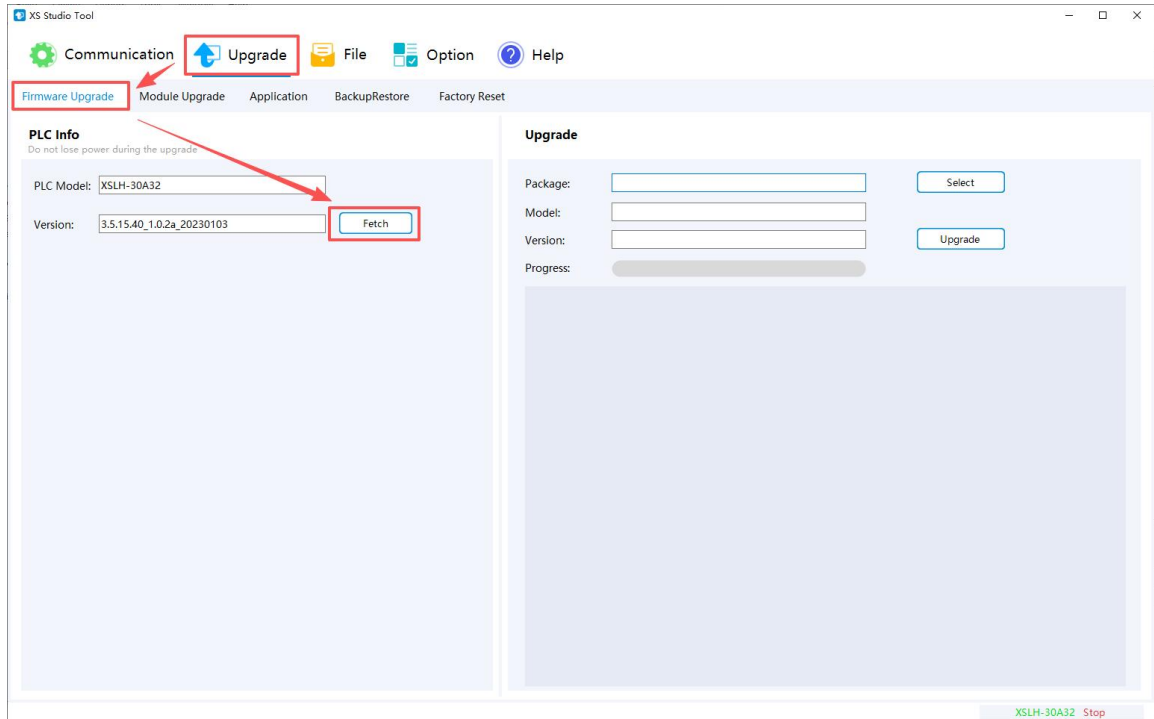
2.1 Method 1: Device - PLC Command Interface

All XS series models (except the XSA330-W equipped with firmware V1.1.0) support querying the PLC firmware version by entering the command version and pressing Enter within the Device > PLC Command interface.



2.2 Method 2: XS Upgrade Tool – Upgrade Tab

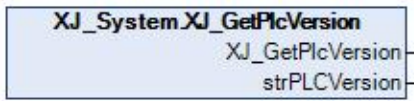
On the premise that XS Studio V2.3.0 or later is installed, for all XS series models (except XSA330-W with firmware V1.1.0), open the upgrade tool by clicking “Tools” > “XS Upgrade Tool”. Then click “Upgrade” >” PLC Firmware Upgrade” > “Get PLC Information”, and the firmware version of the connected PLC will be displayed in the left pane.



2.3 Method 3: XJ_GetPLCVersion Instruction

All XS series models with firmware version V1.1.0 or later can use the XJ_GetPLCVersion instruction to obtain the firmware version.

Firmware Version[XJ_GetPLCVersion]			
Execution Conditions	-	Applicable Models	XS series
Firmware Requirement	V1.1.0 and above	Software Requirement	XS StudioV2.2.0 and above
Library Used	XJ_System		

Instruction	Name	Graphic Representation	ST Representation
XJ_GetPLCVersion	PLC Firmware Version		<code>XJ_GetPlcVersion(strPLCVersion=>);</code>

Output Variable

Output Variable	Name	Data Type	Valid Range	Initial Value	Description
GetPLCVersion	Error Code	SYS_XJ_ERR	-	0	Error Code
PLCVersion	PLC Firmware Version	STRING	-	0	PLC Firmware Version

3. Firmware Version Range

Refer to the table below for the supported firmware flashing ranges of each PLC series:

Series	Model	Pre-upgrade Firmware Version	Upgradable Firmware Version
XSDH	XSDH-60A32	Versions V2.2.1 and earlier	2.2.1、2.3.0a、2.3.0b
		2.3.0a	2.3.0a、2.3.0b
		2.3.0b	2.3.0b
		2.4.0a	2.4.0a、2.4.1、2.4.2c
		2.4.1	2.4.1、2.4.2c
		2.4.2c	2.4.2c
XSLH	XSLH-30A32	Versions V2.2.1 and earlier	2.2.1、2.3.0a、2.3.0b
		2.3.0a	2.3.0a、2.3.0b
		2.3.0b	2.3.0b
		2.4.0a	2.4.0a、2.4.1、2.4.2c
		2.4.1	2.4.1、2.4.2c
		2.4.2c	2.4.2c
	XSLH-24A8/A16	Versions V2.2.1 and earlier	2.2.1、2.3.0b、2.4.1、2.4.2c
		2.3.0b	2.3.0b、2.4.1、2.4.2c
		2.4.1	2.4.1、2.4.2c
		2.4.2c	2.4.2c
XSF5	XSF5-A8/A16/A32/A64	Versions V2.3.0g and earlier	2.3.0g、2.4.1c、2.4.2、2.4.2c
		2.4.1c	2.4.1c、2.4.2、2.4.2c
		2.4.2	2.4.2、2.4.2c
		2.4.2c	2.4.2c
XSA	XSA-L	2.2.0	2.2.0、2.3.0、2.4.2、2.4.2c
		2.3.0	2.3.0、2.4.2、2.4.2c
		2.4.2	2.4.2、2.4.2c
		2.4.2c	2.4.2c
	XSA330-W	1.1.0	1.1.0
	XSA500-W series	1.1.1	1.1.1



Currently, same-version re-flashing and firmware upgrade are supported; firmware downgrade is not allowed.

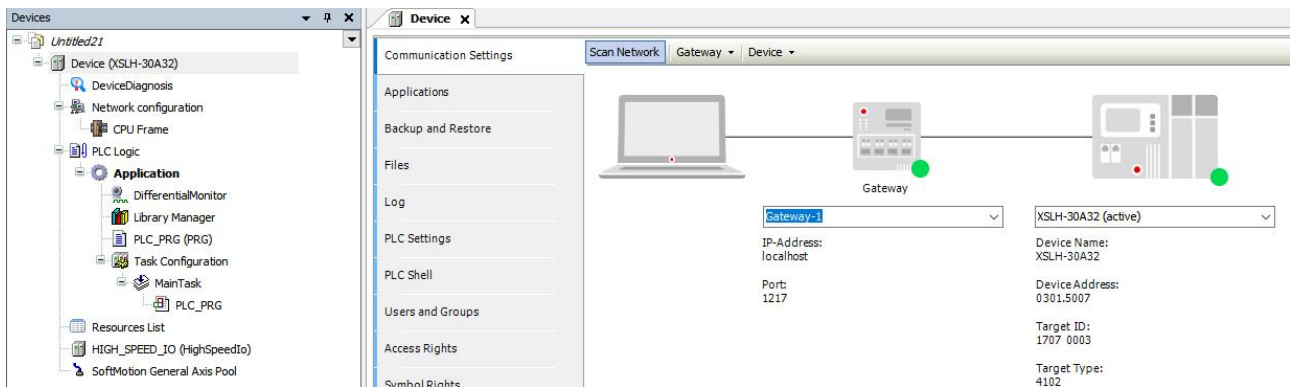
4. Introduction to Firmware Update Methods

4.1 XSDH / XSLH / XSF5 Firmware Update Methods

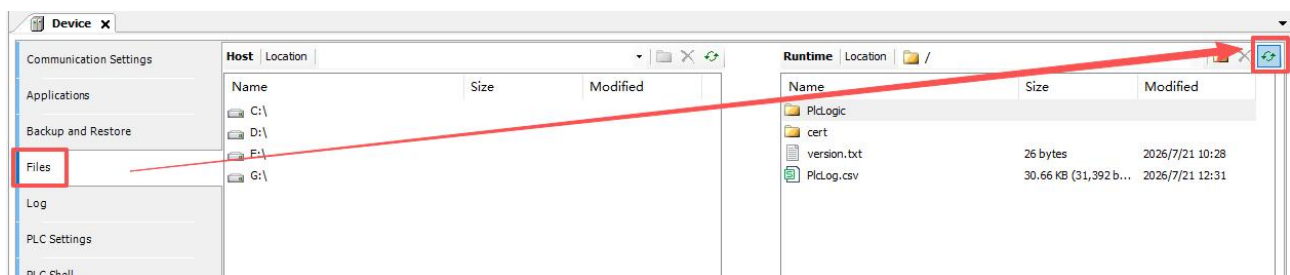
4.1.1 Method 1: Programming Software - File

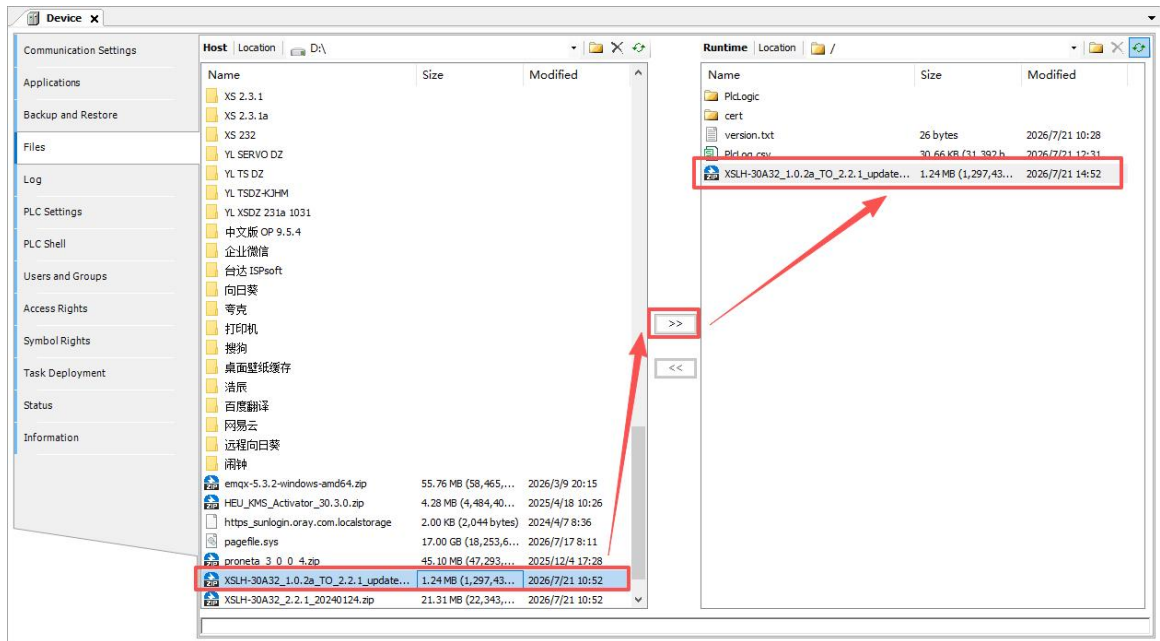
Take upgrading XSLH firmware from V1.0.2a to V2.2.1 as an example:

1、Connect XSLH to the CODESYS software first.

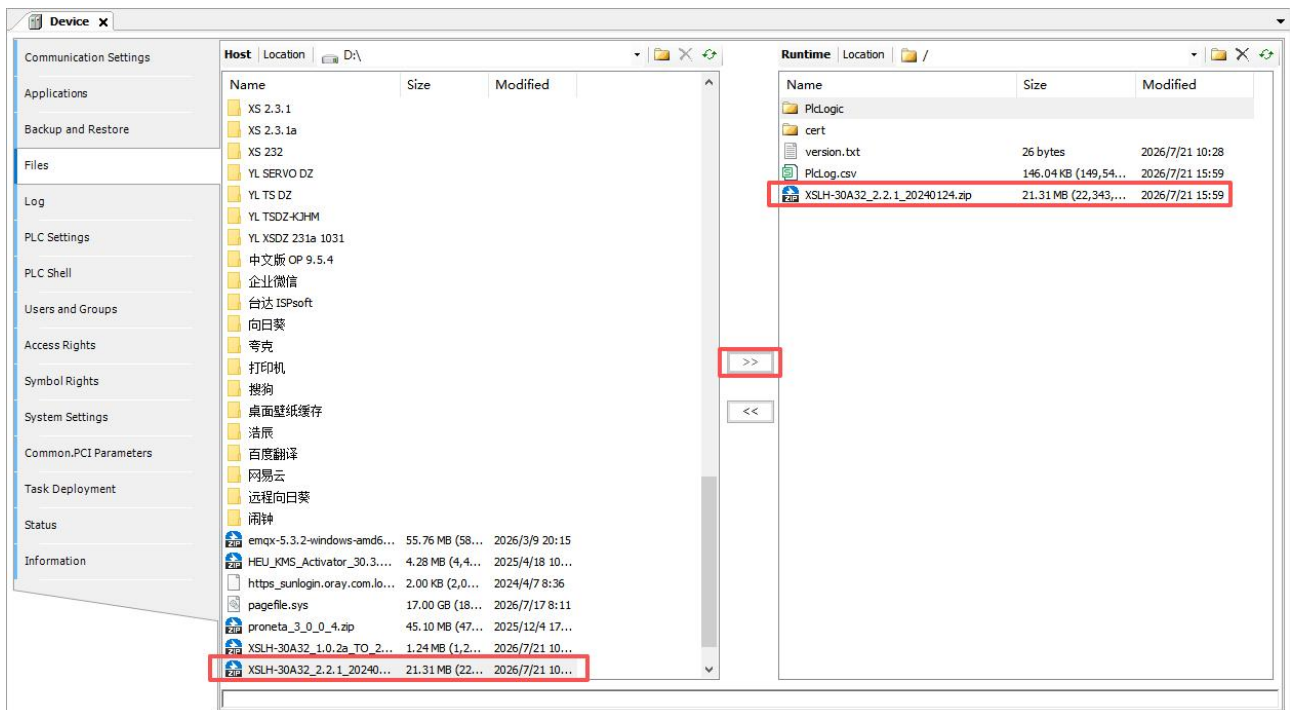


2、Click "Device > Files", then click the green refresh button labeled "🔄" at the top right of the interface, then the internal files of the PLC will be displayed. Select the file "XSLH-30A32_1.0.2a_TO_2.2.1_update1_20240124.zip" on the left side of the interface, then click button ">>" to transfer this ZIP update file to the PLC. After the transfer is finished, power off and restart the XSLH. Reconnect to the programming software after the ERP LED stops flashing.





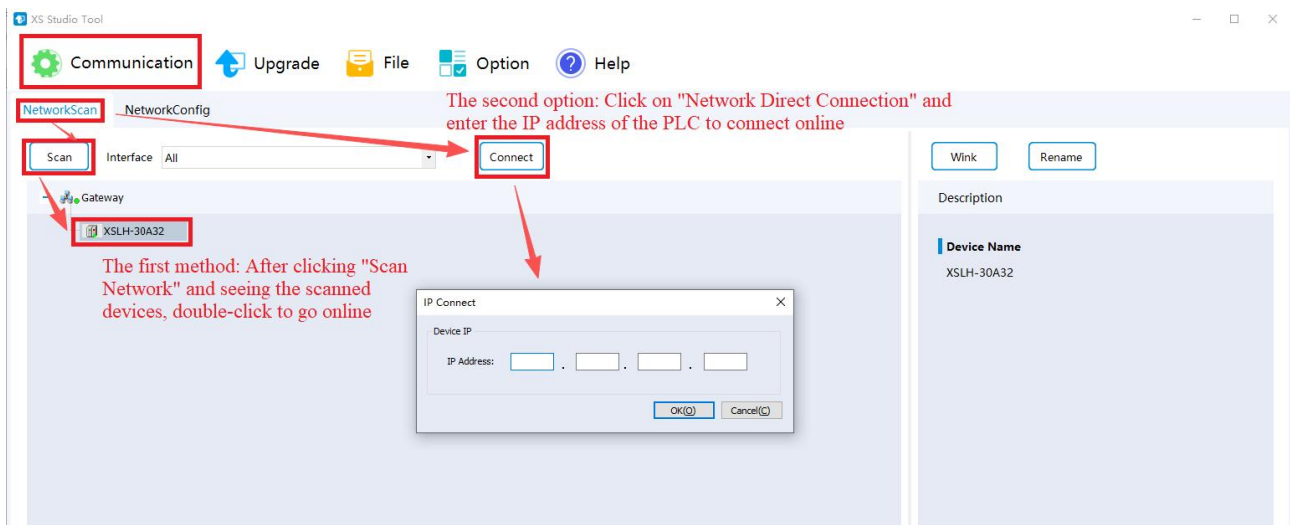
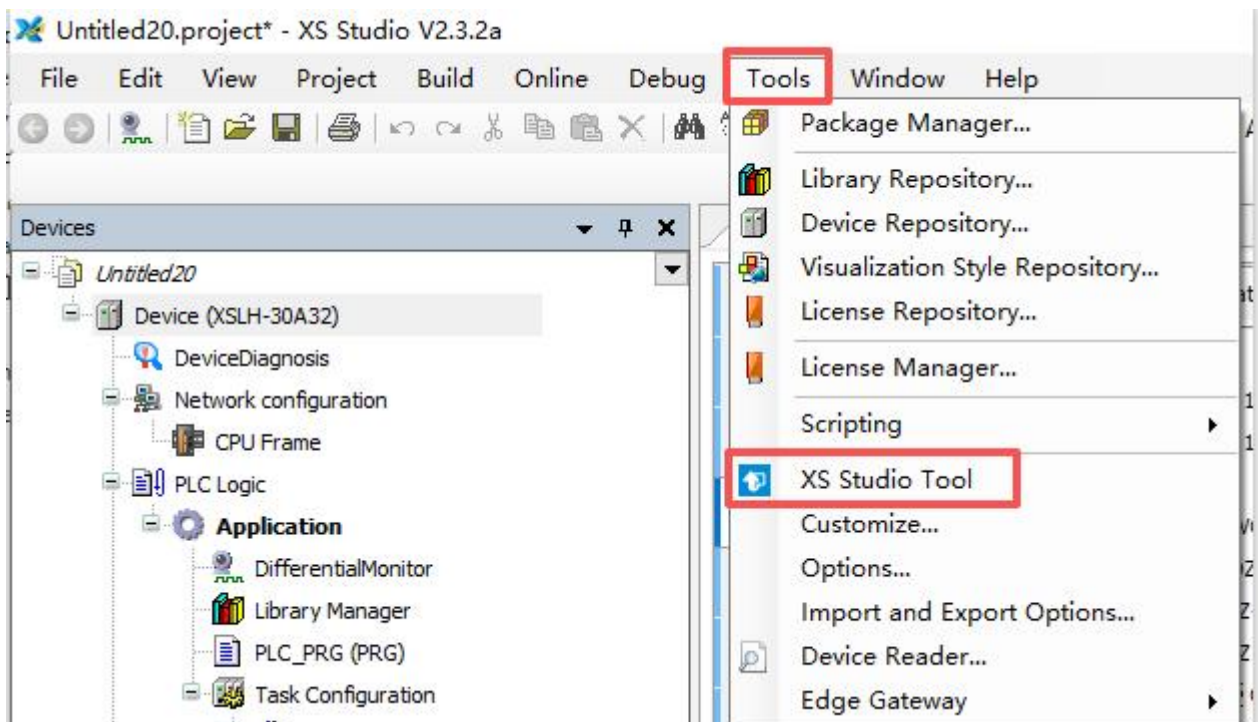
- 3、Click "Device > Files" again, then tap the green refresh button "🔄" on the right side of the interface. Select the file "XSLH-30A32_2.2.1_20240124.zip" from the local disk on the left pane, and click button ">>" to send this ZIP update file to the PLC. After transmission completes, power off and restart the XSLH. Reconnect with the programming software once the ERR LED stops blinking; the firmware will have been successfully updated to V2.2.1.



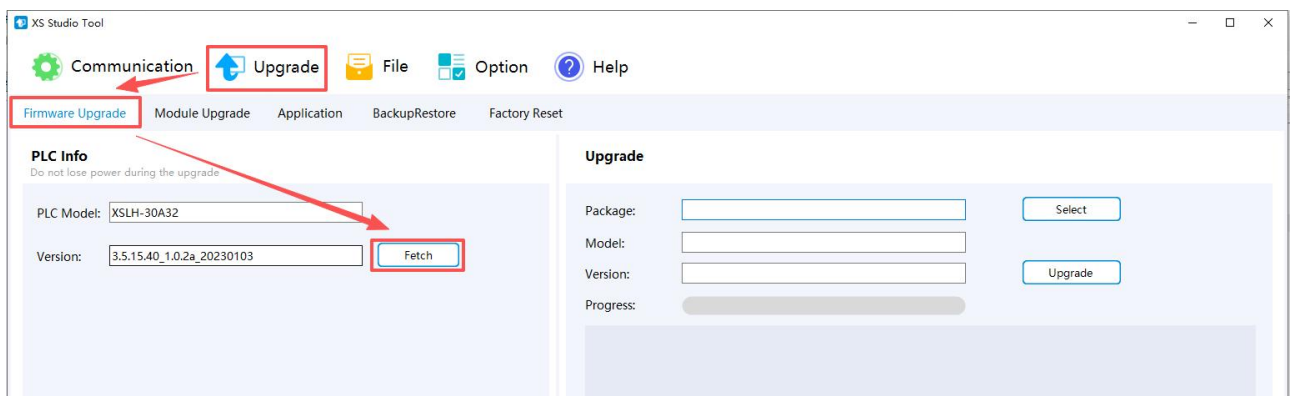
4.1.2 Method 2: XS Upgrade Tool - Upgrade

Take upgrading XSLH firmware from V1.0.2a to V2.2.1 as an example:

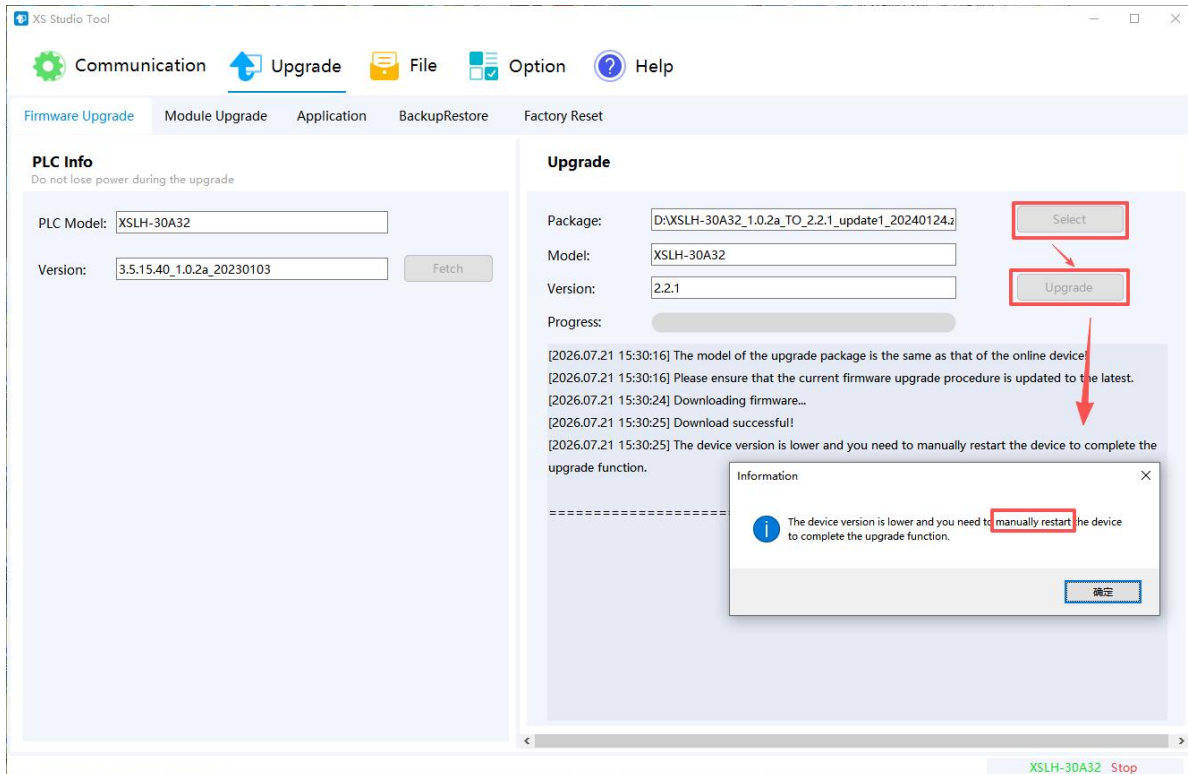
- 1、 With XS Studio V2.3.0 or later installed, open the upgrade tool by clicking "Tools > XS Upgrade Tool", then connect the XSLH to the tool.



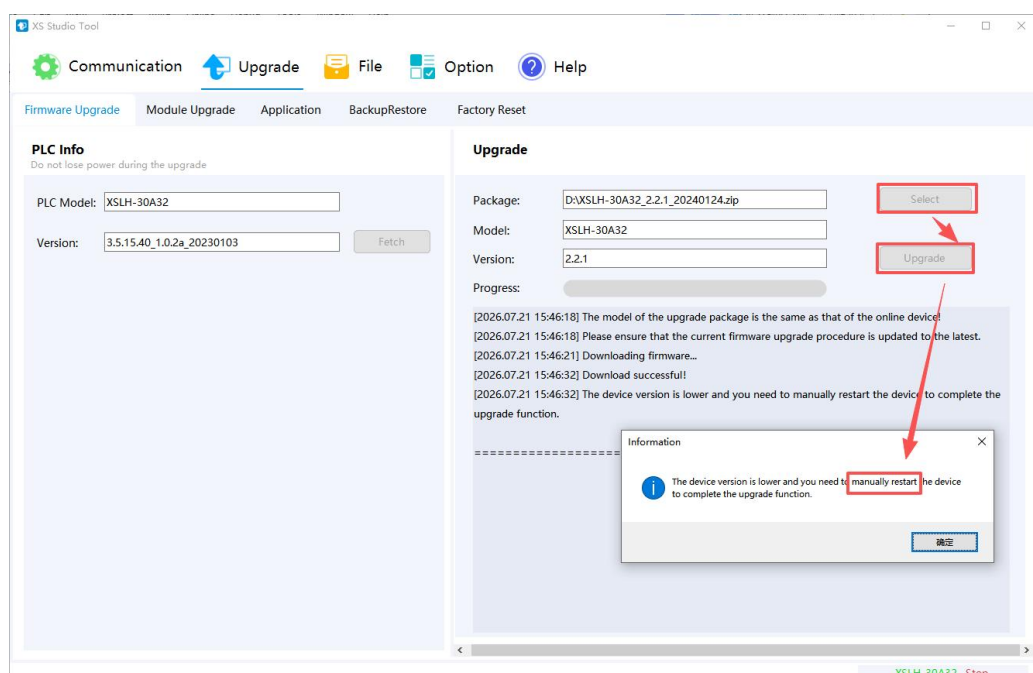
- 2、 Click "Upgrade > PLC Firmware Upgrade > Get PLC Information", and the firmware version of the connected XSLH will be displayed in the left window.

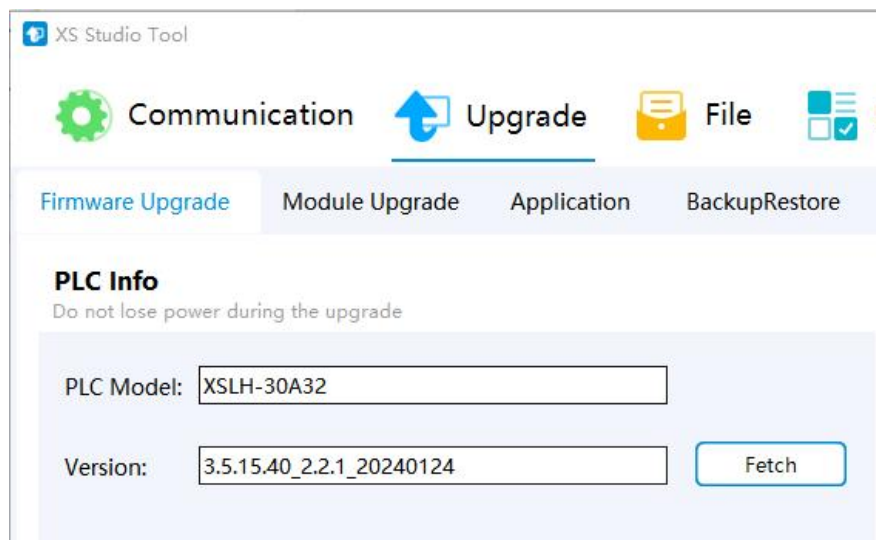


- 3、 Select the firmware upgrade package "XSLH-30A32_1.0.2a_TO_2.2.1_update1_20240124.zip" on the right side of the interface. Matching information of the selected firmware package and model will be shown in the description area. Then click "Upgrade". First verify whether the connected PLC is in Stop mode. If it is running, a prompt will pop up asking whether to stop the application program. Click Cancel to abort the upgrade, or click Confirm to proceed. Follow the pop-up prompt to manually power off and restart the XSLH. After power-on, wait for a period of time until the ERR indicator stops blinking, then reconnect the PLC to the XS Upgrade Tool.



- 4、 Select the firmware upgrade package "XSLH-30A32_2.2.1_20240124.zip" on the right side of the interface and click "Upgrade". Follow the pop-up prompt to manually power off and restart the XSLH, then wait until the ERR indicator stops blinking after power-on.

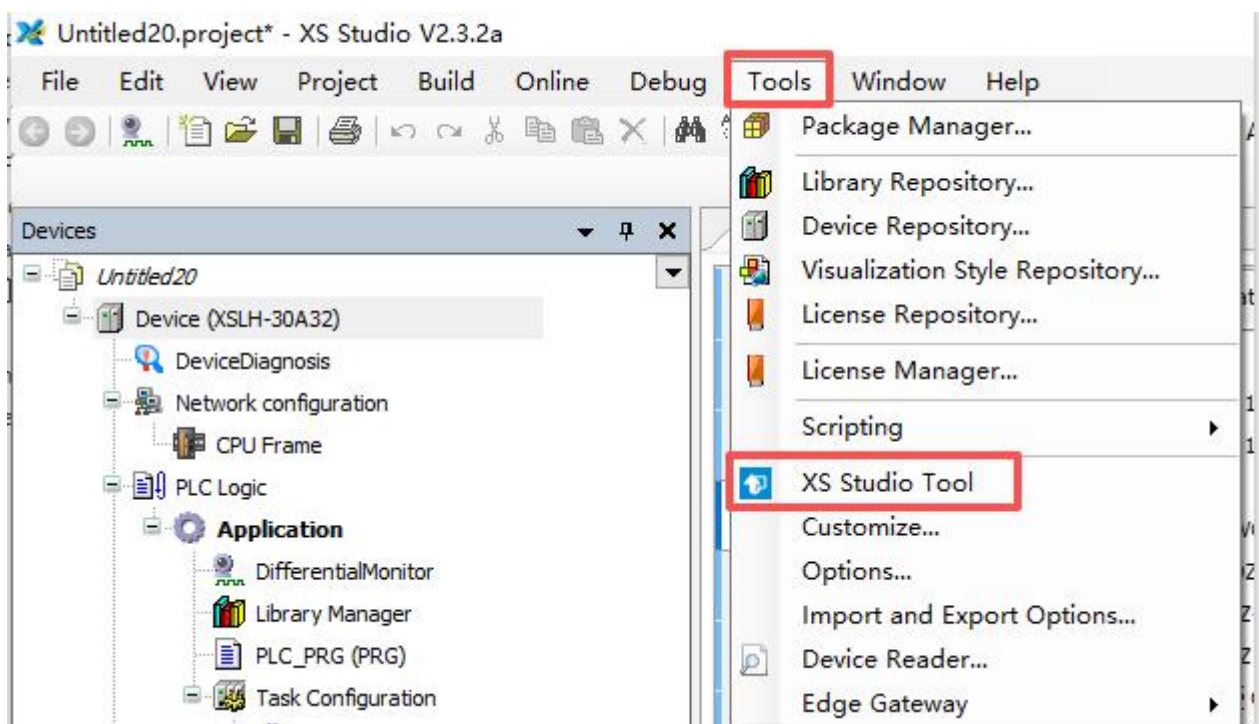


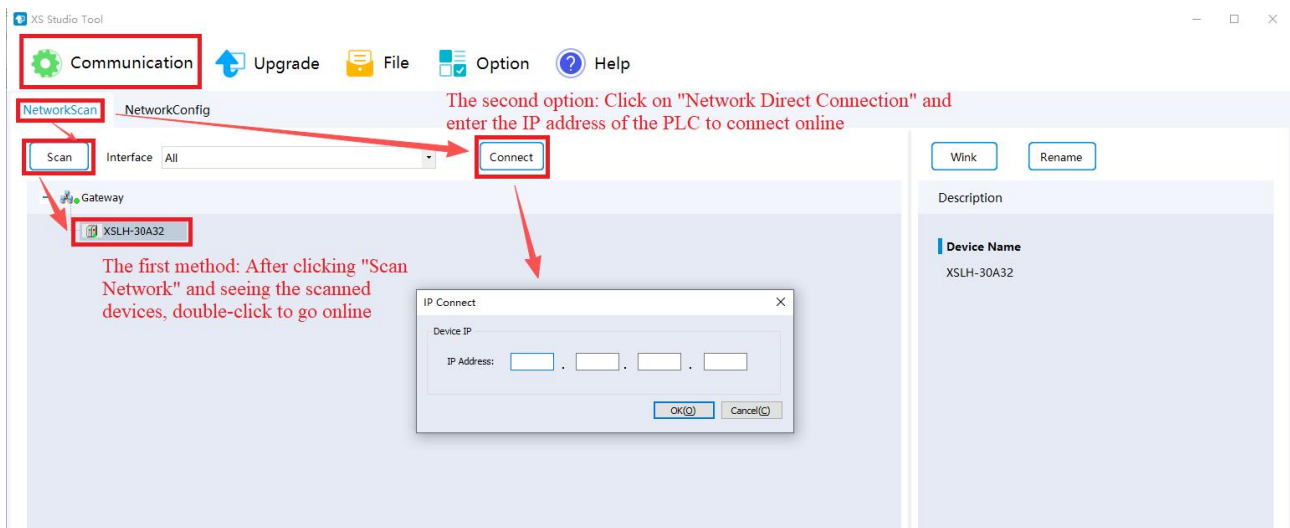


4.1.3 Method 3: XS Upgrade Tool - File

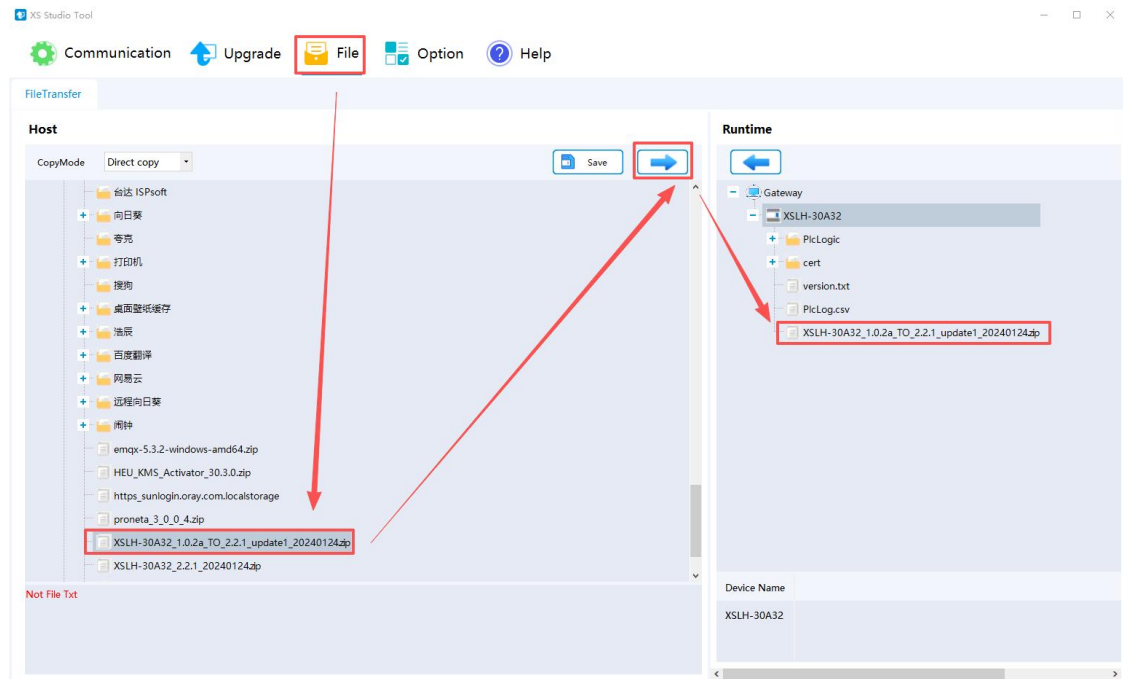
Take upgrading XSLH firmware from V1.0.2a to V2.2.1 as an example:

- 1、 With XS Studio V2.3.0 or higher installed, open the upgrade tool by clicking "Tools > XS Upgrade Tool", then connect the XSLH to the tool.

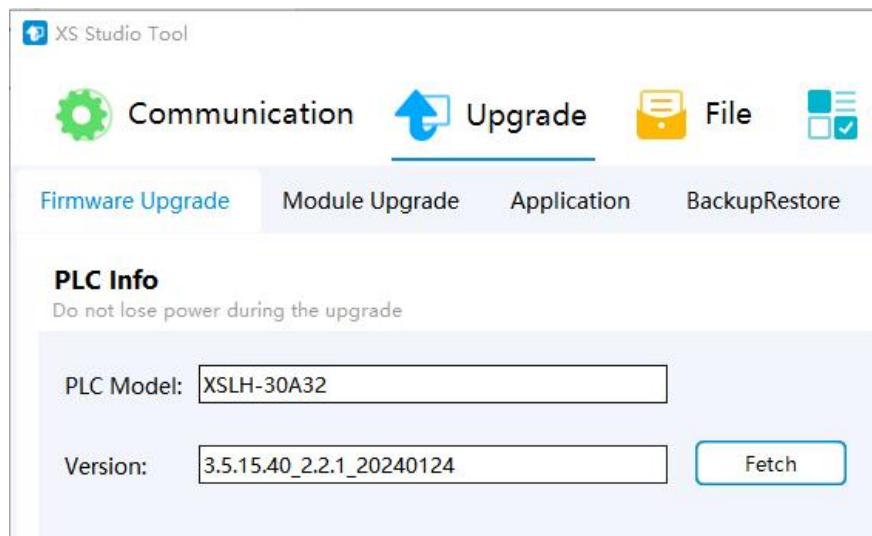
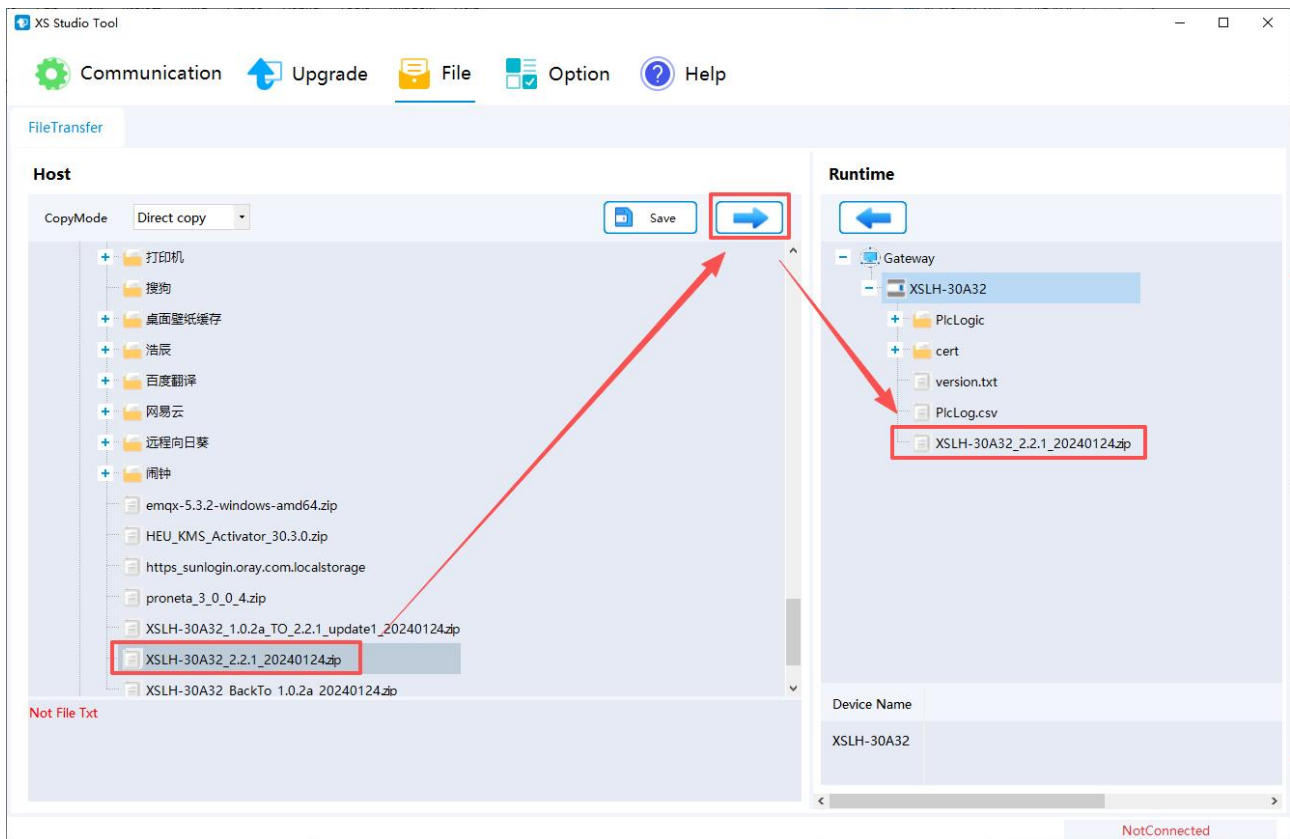




- 2、Click "File > File Transfer". Select the file "XSLH-30A32_1.0.2a_TO_2.2.1_update1_20240124.zip" from the local disk on the left pane, then click button "➡" to transmit this ZIP update file to the PLC. After transmission completes, power off and restart the XSLH. Reconnect to the XS Upgrade Tool after the ERR indicator stops blinking.



- 3、Click "File > File Transfer" again. Select the file "XSLH-30A32_2.2.1_20240124.zip" from the local disk on the left pane, then click button "➡" to transfer the ZIP update file to the PLC. After the transfer is completed, power off and restart the XSLH. Reconnect it to the XS Upgrade Tool after the ERR indicator stops blinking, and the firmware will be successfully updated to V2.2.1.



4.1.4 Method 4: SD Card



1. The SD card must be formatted to FAT32.
2. If the flashing process requires a pre-upgrade ZIP file (multiple ZIP files are needed for the upgrade), it is recommended to use the first three upgrade methods.

Take upgrading XSF5 firmware from V2.4.1c to V2.4.2 as an example:

- 1、Insert the SD card into a computer. It is recommended to keep the SD card empty without any other files. Place the file "XSF5_2.4.2_20250925_77606a7_fe163ae.zip" in the root directory of the SD

card.



- 2、Eject the SD card from the computer and insert it into the card slot of the power-off XSF5, then power on the XSF5. The ERR LED of the XSF5 will flash after power-up. Do not cut off power during this whole process. Wait until the ERR LED stops flashing. After the ERR indicator stops blinking, the Ethernet port lights will turn off for several seconds and then light up again. At this time, you can connect with the software and check that the firmware has been successfully updated to V2.4.2. Finally, power off the XSF5 and remove the SD card.

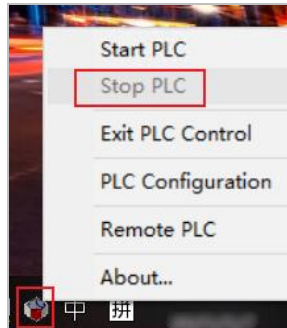
4.2 XSA-W firmware update method

4.2.1 Method: Run. bat upgrade

Take XSA330-W as an example (the operation steps for XSA500 V1.1.1 are identical).

XSA330-W: V1.1.0 to V1.1.0

- 1、 Connect the DP port of XSA330-W to a display via a DP video cable, then plug a mouse into the USB port of XSA330-W.
- 2、 Place the compressed package XSA330-W-3.5.15.40_1.1.0-20221108.zip on the desktop of XSA330-W (files can be transmitted via a USB flash drive or wired Ethernet through the Ethernet port of XSA330-W).
- 3、 Stop the RTE located at the bottom right corner of the XSA-W desktop and ensure it is not running.



- 4、 Extract the compressed package XSA330-W-3.5.15.40_1.1.0-20221108.zip and place the extracted files on the desktop. Open the extracted folder, right-click the XSA330-W.bat file and run it as administrator. Click "Yes" for all pop-up dialog boxes that appear subsequently.
- 5、 After the prompt "Press any key to continue" appears, power off and restart the XSA330-W (or click Restart in the Start menu at the bottom left of its desktop). The firmware upgrade is completed after reboot.

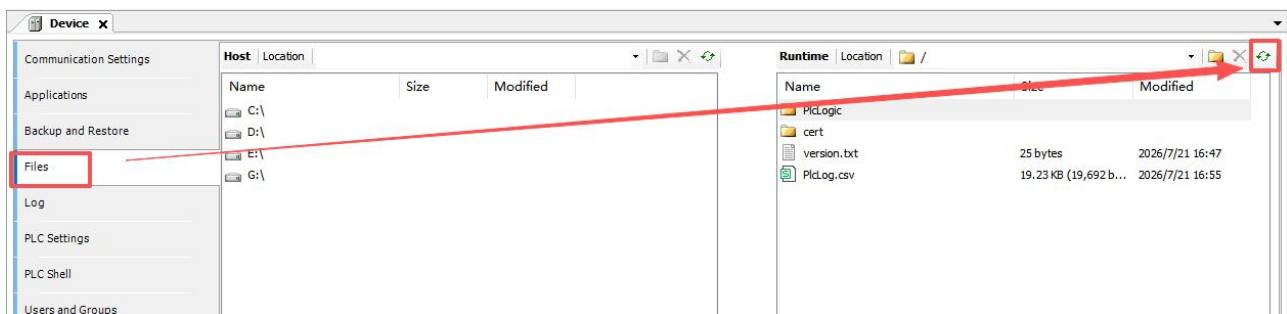
请按任意键继续. . .

4.3 Firmware Update Methods for XSA-L

4.3.1 Method 1: Programming Software - File Transfer

Take upgrading the firmware of XSA330-L to V2.3.0 as an example:

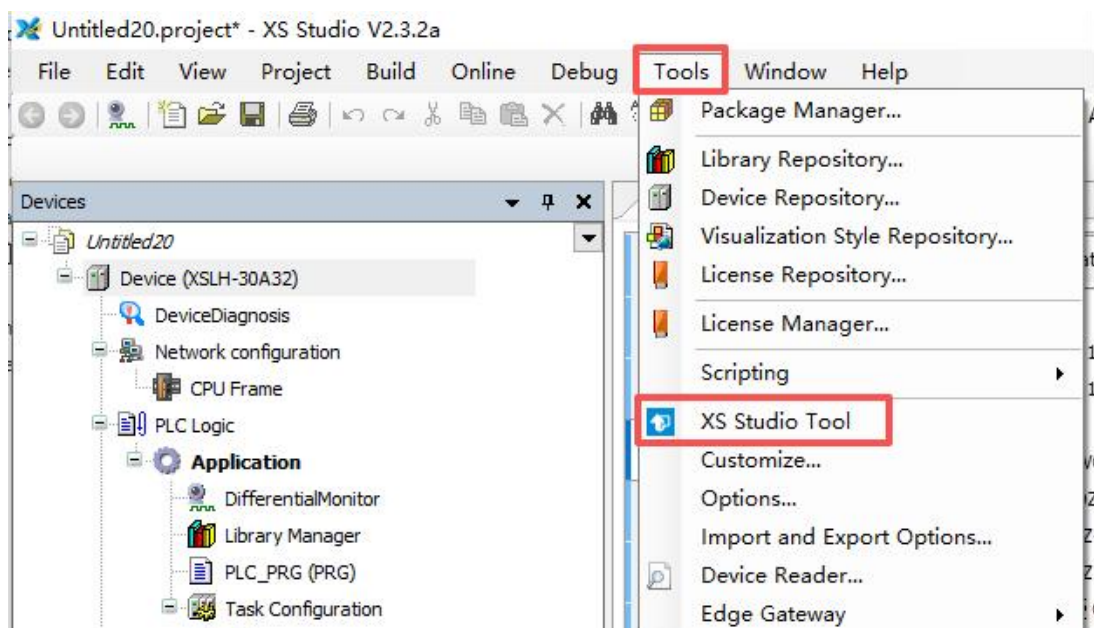
- 1、Connect XSA330-L to CODESYS software first.
- 2、Click "Device" - "File", tap the green refresh button "↻" at the upper right of the interface; then some internal files of the PLC will be displayed. Select the file XSA330-L_2.3.0_20240428.zip from the local disk on the left side of the interface, and click button ">>" to transmit the ZIP upgrade file to the PLC. After transmission, power off and restart XSA330-L. Power off and restart it again after the ERR indicator stops flashing.



4.3.2 Method 2: XS Upgrade Tool - Upgrade

Take upgrading the firmware of XSA330-L to V2.3.0 as an example:

- 1、On the premise that XS Studio V2.3.0 or higher has been installed, click "Tools" - "XS Upgrade Tool" to launch the upgrade tool, then establish communication with XSA330-L. The procedures for establishing connection and starting firmware upgrade are consistent with "XS Upgrade Tool - Upgrade" described in Section 4-1, which will not be repeated here.

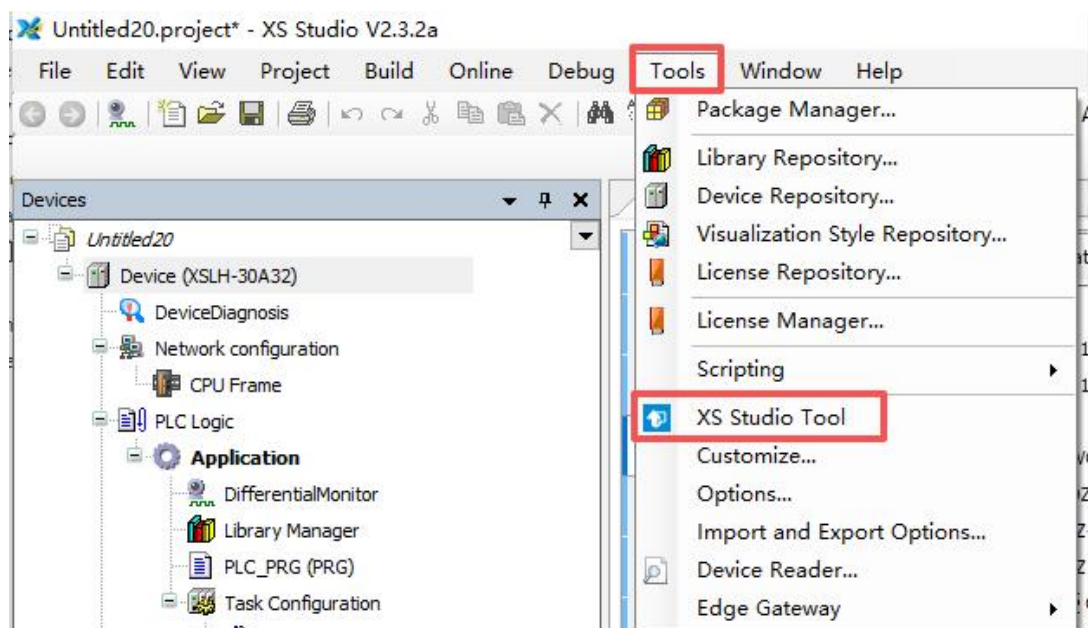


- 2、 On the "PLC Firmware Upgrade" interface, select the firmware upgrade package file XSA330-L_2.3.0_20240428.zip on the right. The matching information of the selected firmware package and device model will be displayed in the description area. Then select "Upgrade". After clicking Upgrade, wait for prompts and operate accordingly. After confirming, the slave device will power off and restart, and the ERR indicator will flash.
- 3、 After the ERR indicator turns off, power off and restart XSA330-L. The upgrade is completed.

4.3.3 Method 3: XS Upgrade Tool - File

Take upgrading the firmware of XSA330-L to V2.3.0 as an example:

- 1、 Provided that XS Studio V2.3.0 or later is installed, click "Tools" - "XS Upgrade Tool" to launch the upgrade tool, and then establish communication with XSA330-L.

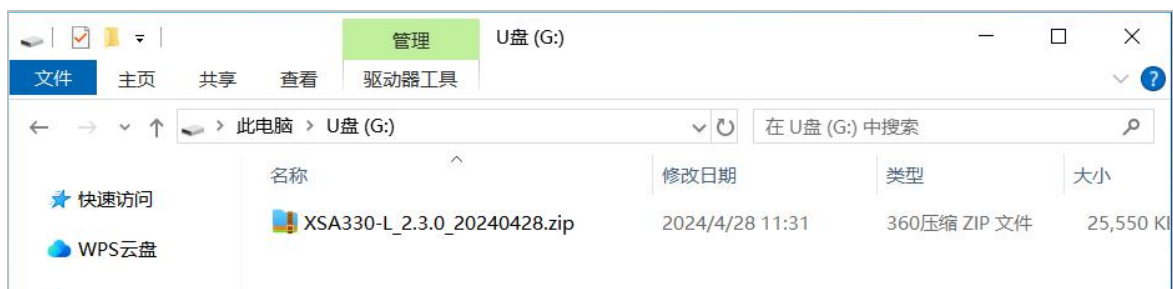


- 2、 Click "File" - "File Transfer" within the upgrade tool. Select the file XSA330-L_2.3.0_20240428.zip from the local disk on the left, then click button "→" to transmit the ZIP upgrade file to the PLC. After transmission, power off and restart XSA330-L. Perform another power cycle after the ERR indicator stops flashing.

4.3.4 Method 4: USB Flash Drive

Take upgrading the firmware of XSA330-L to V2.3.0 as an example:

- 1、 Plug the USB flash drive into a PC. It is recommended to keep the drive empty without any other files. Place the XSA330-L_2.3.0_20240428.zip file in the root directory of the USB flash drive, then safely remove the drive from the PC. Insert the USB flash drive into the USB port of power-off XSA330-L, and then power on XSA330-L. The ERR indicator of XSA330-L will flash after power-on. Wait until the ERR indicator turns off. Afterwards, power off XSA330-L and remove the USB flash drive.



The USB flash drive must be formatted as FAT32.

5. How to Update Firmware for CODESYS-based Controllers?



The update procedures are described in Chapter 3. This chapter elaborates on the required files and brief operation steps for firmware upgrades of each version based on method 4.1 "Programming Software - File Transfer".

5.1 XSDH-60A32、XSLH-30A32

5.1.1 When the current PLC firmware version is lower than V2.4.0

■ Upgrade to the identical current version

- 1、 After connecting the PLC to XS Studio, transfer the ZIP package of the same version to the PLC, then power off and restart the PLC.
- 2、 After the PLC is powered on, wait for a period of time. Reconnect to XS Studio after the ERR indicator turns off. The PLC firmware update is completed at this time.

■ Version 2.2.0 → Version 2.2.1

- 1、 After connecting the PLC to XS Studio, transfer the files runtimeinfo, sysupdate and the V2.2.1 ZIP package to the PLC, then power off and restart the PLC.
- 2、 After the PLC is powered on, wait for a while. Reconnect to XS Studio after the ERR indicator turns off. The PLC firmware will be updated to V2.2.1.



The upgrade from V2.2.0 to V2.2.1 "cannot be performed via SD card". Controllers with firmware V2.2.0 do not support firmware downgrade.

■ Versions earlier than V2.2.0 → V2.2.1 or higher versions

- 1、 ; After connecting the PLC to XS Studio, first transfer the 1.1.0_TO_2.2.1 ZIP package to the PLC, then power off and restart the PLC.
- 2、 After the PLC is powered on, wait for a period of time. Reconnect to XS Studio after the ERR indicator turns off, transfer the ZIP package of V2.2.1 or higher version to the PLC, and then power off and restart the PLC.
- 3、 After the PLC is powered on, wait for a period of time. Reconnect to XS Studio after the ERR indicator turns off. The PLC firmware has been updated to V2.2.1 or higher version.



If the factory firmware version of the PLC is lower than V2.4.0, it cannot be upgraded to V2.4.0 or higher via firmware update.

■ V2.2.1 and above → Higher versions

- 1、 After connecting the PLC to XS Studio, transfer the ZIP package of the higher version to the PLC, then power off and restart the PLC.
- 2、 After the PLC is powered on, wait for some time. Reconnect to XS Studio after the ERR indicator turns off. The PLC firmware will be updated to the higher version.



If the current PLC firmware version is lower than V2.4.0, the PLC cannot be updated to V2.4.0 or later through firmware upgrade.

5.1.2 When the current PLC firmware version is V2.4.0 or above

■ V2.4.0a → V2.4.0a and higher versions

- 1、 After connecting the PLC to XS Studio, transfer the ZIP package of the new version to the PLC, then power off and restart the PLC.
- 2、 After the PLC is powered on, wait for a period of time. Reconnect to XS Studio after the ERR indicator turns off. The PLC firmware update is completed.

■ V2.4.1 → V2.4.1 and higher versions

- 1、 After connecting the PLC to XS Studio, transfer the ZIP package of the new version to the PLC, then power off and restart the PLC.
- 2、 After the PLC is powered on, wait for a period of time. Reconnect to XS Studio after the ERR indicator turns off. The PLC firmware update is completed.

■ V2.4.2c → V2.4.2c and higher versions

- 1、 After connecting the PLC to XS Studio, transfer the ZIP package of the new version to the PLC, then power off and restart the PLC.
- 2、 After the PLC is powered on, wait for a period of time. Reconnect to XS Studio after the ERR indicator turns off. The PLC firmware update is completed.

5.2 XSLH-24A8/A16

■ Upgrade to the identical current version

- 1、 After connecting the PLC to XS Studio, transfer the ZIP package of the identical version to the PLC, then power off and restart the PLC.
- 2、 After the PLC is powered on, wait for a period of time. Reconnect to XS Studio after the ERR indicator turns off. The PLC firmware update is completed.

■ Versions earlier than V2.2.1 → V2.2.1 or higher versions

- 1、 After connecting the PLC to XS Studio, first transfer the "1.1.0_TO_2.2.1" ZIP package to the PLC, then power off and restart the PLC.
- 2、 After the PLC is powered on, wait for some time. Reconnect to XS Studio after the ERR indicator turns off, transfer the ZIP package of V2.2.1 or higher version to the PLC, then power off and restart the PLC.
- 3、 After the PLC is powered on, wait for a period of time. Reconnect to XS Studio after the ERR indicator turns off. At this time, the PLC firmware version has been updated to V2.2.1 or higher.

■ V2.2.1 and above → Higher versions

- 1、 After connecting the PLC to XS Studio, transfer the ZIP package of the higher version to the PLC, then power off and restart the PLC.
- 2、 After the PLC is powered on, wait for a period of time. Reconnect to XS Studio after the ERR indicator turns off. The PLC firmware has been updated to the higher version.

5.3 XSF5 series

Transfer the ZIP package of the required firmware version to the PLC, then power off and restart the XSF5. During the upgrade, the ERR indicator flashes at 0.5Hz (1s on, 1s off). Wait until the ERR indicator stops flashing; the Ethernet port LEDs will turn off for several seconds and then light up again, which means the firmware update is completed. Do not cut off power during the whole upgrade process. After this status appears, connect the software to check and confirm the firmware version.

5.4 XSA-L series

After connecting to XS Studio, transfer the ZIP package of the target firmware version to XSA-L, then power off and restart XSA-L. The ERR indicator will flash during upgrading. The firmware update is completed when the ERR indicator stops flashing. See Section [4.3](#) for detailed procedures.

5.5 XSA-W series

■ XSA330-W: V1.1.0 → V1.1.0

Connect the DP port of XSA330-W to the display. Place the V1.1.0 firmware ZIP package on the desktop of XSA330-W and extract it to the desktop. Open the extracted folder, run XSA330-W.bat inside as administrator, and click Yes for all pop-up dialog boxes. After that, power off and restart XSA330-W (or click Restart in the Start menu at the lower left of the desktop). See Section [4.2](#) for details.

■ XSA500-W series: V1.1.1 → V1.1.1

Connect the DP port of XSA500-W to the display. Place the V1.1.1 firmware ZIP package on the desktop of XSA500-W and extract it to the desktop. Open the extracted folder, run the bat file inside as administrator, and click Yes for all pop-up dialog boxes. After that, power off and restart XSA500-W (or click Restart in the Start menu at the lower left of the desktop). See Section [4.2](#) for details.



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