

Update XPR Firmware through Phoenix over EtherCAT[®]

Application Note

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Introduction

You can check for and apply XPR firmware updates over EtherCAT in Phoenix.

Before you begin

Before you update XPR firmware over EtherCAT with Phoenix, do these steps:

1. Make sure that your EDGE Connect CNC has the necessary Phoenix software.

Manufacture date of XPR control board	Minimum Phoenix version	Maximum number of XPRs you can update at the same time
AFTER November 15, 2025	Phoenix 10.27 or later	Up to two XPRs (To update firmware on three or more XPRs, use the XPR Web Interface or a USB memory stick. Refer to Hypertherm Field Service Bulletin 10084813 at hypertherm.com/docs .)
BEFORE November 15, 2025	Phoenix 10.13 or later*	Up to four XPRs
* XPR control boards manufactured BEFORE November 15, 2025 must also have XPR firmware version M or later. To update XPR firmware from version L to M, refer to Hypertherm Field Service Bulletin 809820.		

2. Disconnect electric power to the XPR and then connect the power again. (This is only necessary for XPRs manufactured after November 15, 2025.)
3. Set the XPR Remote On-Off switch to the ON position.
4. In Phoenix, make sure that:
 - The EtherCAT fieldbus has started.
 - The XPR you want to update is selected on the **Setups > Password > Station Configuration** screen.
 - The XPR is not “out for service.”
To prevent firmware updates on a specific XPR, take that XPR out for service before updating firmware on other XPRs. For instructions, refer to *Cut and Mark with an XPR® on an EDGE® Connect CNC* (809900) available at hypertherm.com/docs.

Check for XPR firmware updates

By default, Phoenix does an automatic check for XPR firmware updates when it launches. You can also do a manual check for XPR firmware updates.

If firmware updates are available, you must apply **all** available updates **or none** of them. Only advanced users doing troubleshooting can select which firmware files to update. Refer to [page 9](#).

To disable Phoenix from doing automatic checks for XPR firmware updates, refer to [page 6](#).

About automatic checks for firmware updates

If the conditions in [Before you begin](#) on page 3 have been met, then Phoenix does an automatic check for XPR firmware updates when it launches.



If automatic checks for firmware updates were manually disabled with a password, use the ENABLEAUTOFOE password to enable the feature again.

1. Start Phoenix.
2. A “Checking for firmware updates. Please wait...” dialog is shown (usually for a very short time).
 - If firmware updates are available, a dialog shows a list of “Plasma supply firmware updates.” Refer to [Apply or cancel XPR firmware updates](#) on page 5.
 - If you do NOT see a dialog with a list of “Plasma supply firmware updates”, then your firmware is up to date with the installed Phoenix version. Continue with your standard cutting operations.



The “No updates found” dialog is not shown during automatic checks for firmware updates. That message only shows if you do a manual check for firmware updates **and** no updates are found. Refer to the next section.

Do a manual check for firmware updates

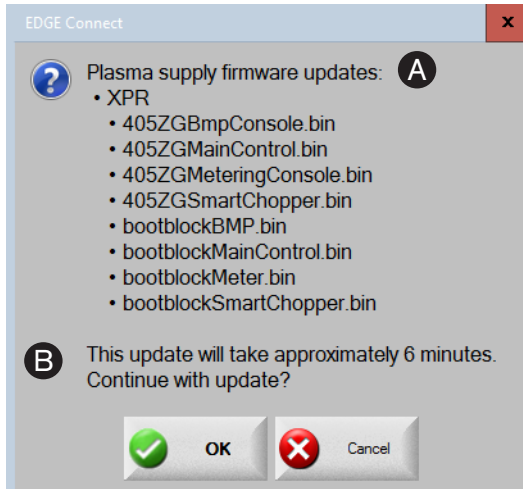
To find out if the XPRs on your EtherCAT network have the newest firmware that is compatible with your Phoenix version:

1. On the **Main screen** in Phoenix, select **Setups > Password**.
2. Type **CHECKFOEUPDATES**. If necessary, the EtherCAT network starts automatically.
3. If a dialog shows:
 - “No updates found”, then your firmware is up to date with the installed Phoenix version. Continue with your standard cutting operations.
 - “Plasma supply firmware updates”, refer to [Apply or cancel XPR firmware updates](#) on page 5.

Apply or cancel XPR firmware updates

1. If firmware updates are available, a dialog shows the firmware to update and the approximate time that is necessary to complete the updates.

Example




A Firmware files with updates available

- This list includes all of the newest XPR firmware that is compatible with the installed Phoenix version.*
- To see which XPR firmware versions are included in a Phoenix version, refer to the Phoenix Release Notes (809720).

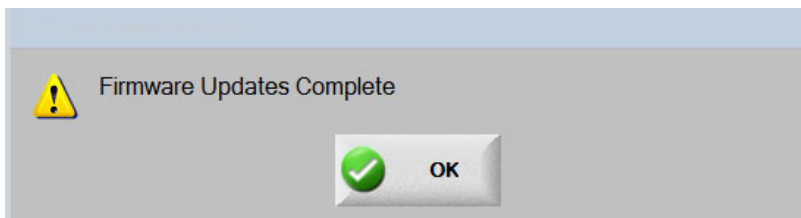
B Estimated time to complete the updates**

- * To get the latest XPR firmware, make sure that you have the latest version of Phoenix installed.
- ** The time estimate changes in relation to the file sizes and number of XPRs with updates available.

- If you do not want to apply firmware updates now, select **Cancel**.
- To apply the updates now, select **OK**.

 If an XPR is out for service, you are prompted to continue or cancel the firmware update operation. If you do not want to update a specific XPR's firmware, select **OK** to continue the updates with that XPR out for service.

2. To monitor the firmware updates, refer to the status messages in blue font below the part preview area on the Phoenix Main screen.
3. A dialog shows when the update is complete. Select **OK** to restart the network and continue with standard cutting operations.



You can see what firmware versions have been installed if you go to the **Other** tab in the XPR Diagnostics View at the CNC. If you have a problem, refer to [Troubleshooting](#) on page 7.

Disable/enable automatic checking for XPR firmware updates

By default, Phoenix checks for available XPR firmware updates when it launches.

Disable automatic checks for firmware updates

To prevent Phoenix from doing automatic checks for firmware updates:

1. On the **Main screen** in Phoenix, select **Setups > Password**.
2. Type **DISABLEAUTOFOE**.

When automatic firmware updates are disabled, Phoenix does not check for or apply firmware updates again unless you take either of these actions:

- Do a manual check for firmware updates with a password.
- Enable automatic checks for firmware updates with a password.

Updating an EDGE Connect with the EDGE Connect Suite Installer does NOT re-enable automatic checks for XPR firmware updates.

Enable automatic checks for firmware updates

If automatic checks for firmware updates are disabled, use the **ENABLEAUTOFOE** password to re-enable them.

1. On the **Main screen** in Phoenix, select **Setups > Password**.
2. Type **ENABLEAUTOFOE**.
3. Restart Phoenix and refer to [Check for XPR firmware updates](#) on page 4.

Troubleshooting

The table below gives common problems and solutions to help with basic troubleshooting tasks.

Problem	Causes	Solution
Phoenix stops the firmware update and shows a fieldbus fault.	<ul style="list-style-type: none"> ▪ The XPR that you wanted to update was disconnected. ▪ A device on the fieldbus has a fault. 	<ul style="list-style-type: none"> ▪ Select the Manual soft key in Phoenix to restart the fieldbus and try to update the firmware again. ▪ Restart the CNC and try to update the firmware again. ▪ Troubleshoot the device fault if the error continues.
The prompt to install firmware updates is not shown.	<ul style="list-style-type: none"> ▪ XPR firmware is already up-to-date. ▪ Automatic firmware updates are disabled. ▪ The criteria in Before you begin on page 3 has not been met. 	<ul style="list-style-type: none"> ▪ To make sure that your firmware is up to date, refer to Do a manual check for firmware updates on page 4. ▪ To enable automatic firmware updates, refer to page 6. ▪ Review Before you begin on page 3.
The firmware update completed, but now the XPR has node reset or other errors or faults.	After the firmware updates completed and the EtherCAT network restarted, the XPR Main Control PCB did not fully refresh its data.	<ul style="list-style-type: none"> ▪ Remove the power from the XPR plasma power supply. Supply the power to the XPR cutting system again. Refer to the operator manual supplied with your XPR plasma power system for details. ▪ Restart the CNC.
A Phoenix dialog shows: Firmware installation failure – Component versions do not match.	Phoenix did not find a match when checking the firmware version to be installed or when checking the firmware version that was installed on an XPR.	<ul style="list-style-type: none"> ▪ This message can possibly show after firmware was updated successfully. Restart the XPR plasma power supplies and check to see if the firmware was updated. Go to the XPR Diagnostics View, or enter the CHECKFORUPDATES password. ▪ Try to update the firmware again. For best results, if an XPR already has the latest firmware, take that XPR out for service before starting another firmware update.
A Phoenix dialog shows: Firmware installation failure – Timed out.	An XPR is caught in an invalid state.	<ul style="list-style-type: none"> ▪ Review Before you begin on page 3. ▪ Start the firmware update again.

If you continue to have problems updating firmware over EtherCAT, you can:

- Apply firmware updates with the XPR web interface or a USB memory stick instead. Refer to Hypertherm Field Service Bulletin 10084813 available at hypertherm.com/docs.
- Contact your OEM or Hypertherm Technical Services for advanced help. If necessary, they can manually update XPR firmware as described on [page 9](#).

Manually update XPR firmware (advanced)

CAUTION

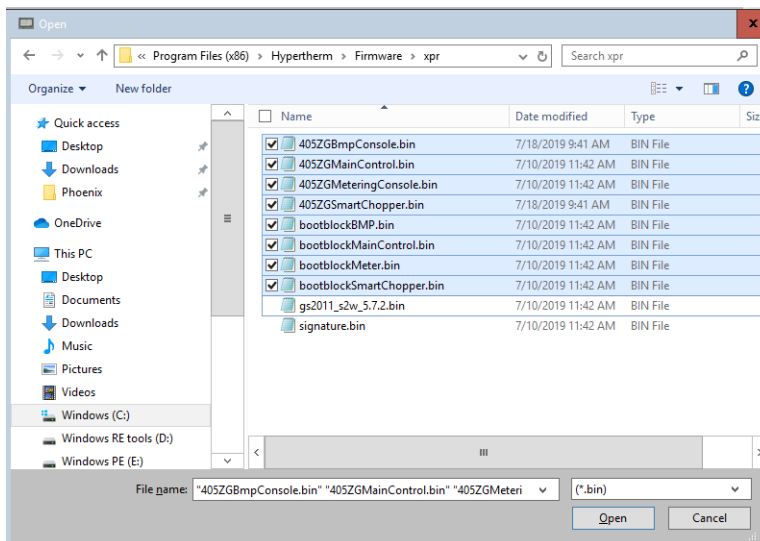
The manual update method lets you install incompatible firmware files which may prevent the XPR from operating. Hypertherm recommends using the automatic method of updating firmware (on [page 4](#)) to make sure that all of the newest compatible firmware is installed.

The manual method of updating firmware over EtherCAT is **only intended to help advanced users** to do either of these troubleshooting tasks:

- Install an older version of firmware
- Update firmware on an individual XPR component

1. On the Main screen in Phoenix, select **Setups > Passwords**.
2. Type **FOEUPDATE** and then select **OK**.
3. In the file selection dialog, select all firmware (*.bin) files that you want to update on all available XPRs. Hypertherm recommends that you update all firmware files at the same time.

Example



- The XPR Web Interface firmware files cannot be updated over EtherCAT. To update XPR web interface firmware, refer to Hypertherm Field Service Bulletin 809820.
- The EDGE Connect Suite Installer saves the newest compatible XPR firmware files on your CNC at: **C:\Program Files (x86)\Hypertherm\Firmware\XPR**. To install an older version of XPR firmware, replace the files in this location. **Do not rename the firmware files.**

4. Click **Open** and then wait while the EtherCAT Network resets.
5. A dialog shows the firmware to update and the **approximate time** that is necessary to complete the updates. Refer to [Apply or cancel XPR firmware updates](#) on page 5.