



Update XPR Firmware through Phoenix over EtherCAT

Application Note

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Update XPR Firmware through Phoenix over EtherCAT

Introduction

You can update XPR firmware automatically through Phoenix 10.13 and later if your XPR's main control board already has firmware version M or later installed. XPR firmware version N or later is required.



To update firmware from version L to M or to install XPR web interface firmware, refer to Hypertherm Field Service Bulletin 809820.

In Phoenix 10.13 and later, you can:

- Automatically check for and install XPR firmware updates. Automatic firmware updates are enabled by default on Image 50 in production, new CNCs or CNCs updated with Image 50.
- Disable/enable automatic firmware updates with a password.
- Check for XPR firmware updates with a password.
- Manually install XPR firmware during troubleshooting (Not recommended).

For general and troubleshooting information, refer to *Frequently asked questions (FAQs)* on page 8.

Before you begin

The procedures in this document will not work unless **all of the following conditions** are met:

- **Phoenix 10.13 or later** must be installed on your CNC with the EDGE Connect Suite Installer.
- Automatic firmware updates are turned on with the password.
- **At least one XPR is selected** on the Station Configuration screen in Phoenix.
- **The XPR's remote on-off** switch is in the ON position.
- **Firmware revision M or later** is already installed on the XPR main control board. To check the current firmware version, refer to page 8.

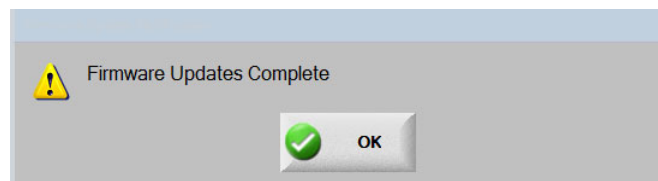
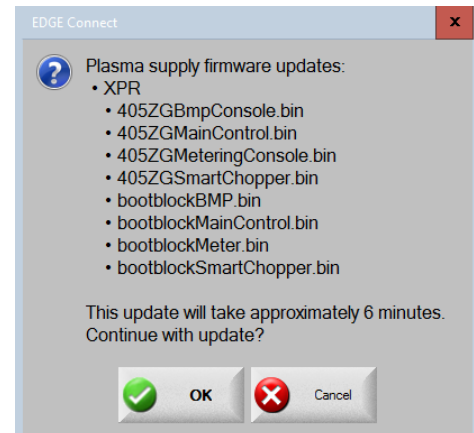


If you need to avoid updating the firmware on a specific XPR while updating the firmware on other XPRs, take that XPR out for service.

Automatically update firmware

After you complete the “Before you begin” steps on page 3, Phoenix checks for XPR firmware updates upon launching by default.

1. Start Phoenix 10.13 or later.
2. A “Checking for firmware updates. Please wait...” dialog displays.
 - If no further dialogs display, then firmware updates are not available. Continue with your standard cutting operations. If you would like to see a confirmation that no firmware updates are available, refer to *Check for firmware updates* on page 5.
 - If an XPR is out for service, you are prompted to put the XPR back in service before continuing. If you do not want to update that XPR’s firmware, keep the XPR out for service.
3. If firmware updates are available, a dialog shows the firmware to update and the **approximate time** needed to complete the updates.
 - To apply the updates now, click **OK**.
 - To apply the updates later, click **Cancel** and repeat this procedure when you are ready.
 - The time estimate varies based on the number of XPRs, files, and types of files with updates available.
 - The XPR Web Interface firmware cannot be updated without a wireless connection or USB. Refer to Hypertherm Field Service Bulletin 809820.
4. To view progress toward completion during the firmware update process, review the status messages that appear in blue font in the lower-left corner of the Phoenix Main screen.
5. On the “**Firmware Updates Complete**” dialog, choose **OK** to restart the network and continue with standard cutting operations.



6. To review installed firmware versions, refer to the XPR Diagnostics view. See page 8.

Disable/enable automatic firmware updates

Automatic firmware updates are enabled by default on Image 50 in production, new CNCs or CNCs updated with Image 50. Phoenix automatically checks for available XPR firmware updates each time that Phoenix launches. You can disable and enable this feature, as needed.

Disable automatic firmware updates

To prevent Phoenix from automatically checking for firmware updates:

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

After disabling automatic firmware updates, Phoenix does not check for or apply firmware updates again unless you take either of the following actions:

- Check for firmware updates manually with a password.
- Enable automatic firmware updates with a password.

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

Enable automatic firmware updates

If automatic firmware updates have been disabled, use the **ENABLEAUTOFOE** password to re-enable automatic firmware updates. See below.

1. On the **Main screen** in Phoenix, select **Setups > Password**.
2. Type **ENABLEAUTOFOE**.
3. Restart Phoenix and follow the steps to *Automatically update firmware* on page 4.

Check for firmware updates

At any time, you can use the following password to find out if the XPRs on your EtherCAT network have the latest firmware that is compatible with your current version of Phoenix.

1. On the **Main screen** in Phoenix, select **Setups > Password**.
2. Type **CHECKFOEUPDATES**. If needed, the fieldbus network starts automatically.

If firmware updates are NOT available, then a **“No updates found”** dialog displays. If firmware updates are available, go to step 3 on page 4.

Manually update firmware (advanced)

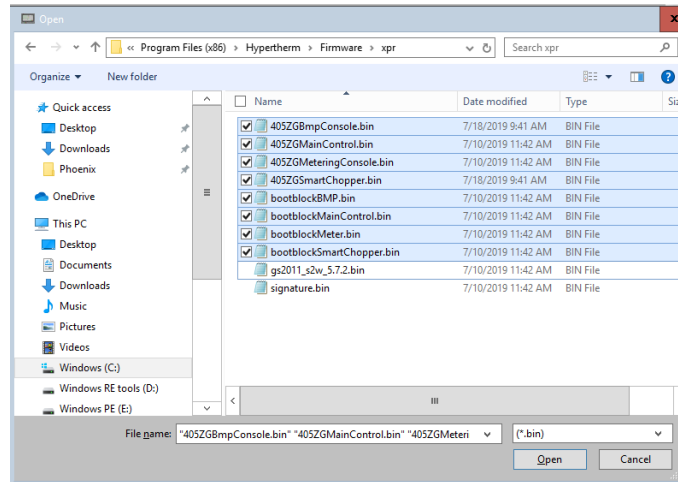
CAUTION

The manual update method allows you to 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 latest compatible firmware is installed.

The following manual method of updating firmware over EtherCAT is **only intended for use by advanced users** who need to do either of the following troubleshooting tasks:

- Install an older version of firmware
- Update firmware on a single XPR component

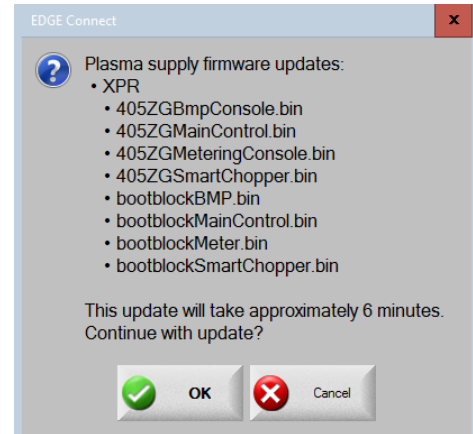
1. On the Main screen in Phoenix, choose **Setups > Passwords**.
2. Type **FOEUPDATE** and then choose **OK**.
3. In the file selection dialog, select all firmware (*.bin) files that you want to update on all available XPRs. Hypertherm recommends that you update all firmware files at once.



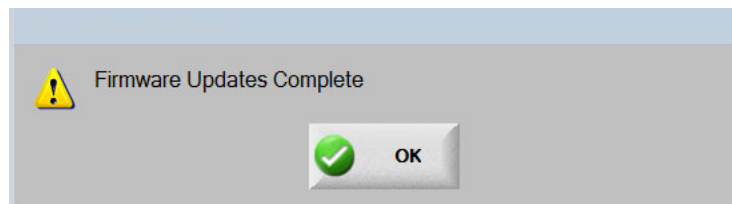
- The XPR Web Interface firmware files are not selected in the example above because these files cannot be updated over EtherCAT. If you select to update the XPR Web Interface firmware, those files are not sent to the XPR and errors do not display.
- The EDGE Connect Suite Installer saves the latest compatible XPR firmware files at the following location on your CNC: C:\Program Files (x86)\Hypertherm\Firmware\XPR. To roll back to an older version of XPR firmware manually, replace the files in this location. Hypertherm recommends that you do not rename the files. Use the default file names as a best practice.
- If an XPR is out for service, you are prompted to put the XPR back in service before continuing. If you do not want to update that XPR's firmware, keep the XPR out for service.

- Click **Open** and then wait while the Fieldbus Network resets.
- A dialog shows the firmware to update and the **approximate time** needed to complete the updates.

- To apply the updates now, click **OK**.
- To apply the updates later, click **Cancel** and repeat this procedure when you are ready.
- The time estimate varies based on the number of XPRs, files, and types of files with updates available.



- During the firmware update process, look for the blue status messages in the lower-left corner of the Phoenix Main screen to view progress toward completion.
- On the "**Firmware Updates Complete**" dialog, choose **OK** to restart the network and continue with standard cutting operations.



- To review firmware versions after the update, refer to the XPR Diagnostics view. See page 8.
 - To roll back to an older version of XPR Firmware manually, copy the firmware files to C:\Program Files (x86)\Hypertherm\Firmware\XPR and repeat this procedure.

Frequently asked questions (FAQs)

This section provides answers to general and troubleshooting questions about updating plasma supply firmware with the File over EtherCAT (FOE) method.

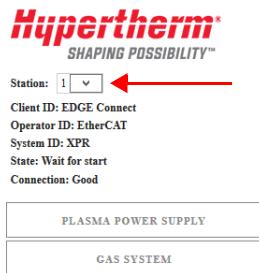
General

- **Does my cutting system support firmware updates over EtherCAT?**

Your XPR supports firmware updates over EtherCAT if the main control board on the XPR has version M firmware or later installed.

To find out which PCB firmware versions are installed on your XPR cutting system:

1. On the **Main screen** in Phoenix, select **Setups > Diagnostics > XPR System**.
2. From the XPR Diagnostics view, select a **Station** number.



3. Select the **Other** tab.



If the XPR Main Control board is currently **at revision L or earlier**, use a wireless connection or USB to update firmware to revision M or later. Refer to Hypertherm Field Service Bulletin 809820.

Once your XPR firmware is at revision M or later, you can apply most firmware updates through Phoenix with the procedure on page 4.

- **What is included in a firmware update?**

The automatic firmware update method on page 4 installs the latest XPR firmware that is compatible with your current version of Phoenix. All XPR firmware, except for the Web Interface firmware, is included.

To find out which version of XPR firmware is included with a specific version of Phoenix bundled in the EDGE Connect Suite Installer, refer to the *Phoenix Release Notes* (809720).

■ **How long does the firmware update process take?**

The duration of the update depends on the files, file sizes, and number of XPRs with updates available.

Before you apply firmware updates over EtherCAT, a dialog provides an estimate of the time needed to complete the updates.

■ **Do I have to install all available firmware updates?**

Hypertherm recommends applying all available firmware updates automatically with the procedure on page 4. When firmware automatic updates are enabled, you cannot select which firmware files to update. You must either apply all available updates or none of them.

In troubleshooting scenarios only, Hypertherm Technical Services and OEMs may install XPR firmware manually. Refer to page 6.

Troubleshooting

■ **What happens if I cancel the update process part way through?**

In the event that any single firmware file is only partially installed when the update process is canceled, the system automatically reverts back to using the file that was in use prior to attempting the update.

If you canceled the updates before completion, repeat the update process to install the remaining updates.

■ **Why don't I see a prompt to install firmware updates?**

The prompt to install firmware updates does not display when:

- XPR firmware is already up-to-date. To verify that no firmware updates are available to install, refer to page 5.
- Automatic firmware updates are enabled, but the criteria in the “Before you begin” section on page 3 are not satisfied.
- Automatic firmware updates are disabled. To enable automatic firmware updates, refer to page 5.

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

- Apply firmware updates with a wireless connection or USB instead. Refer to Hypertherm Field Service Bulletin 809820.
- Contact your OEM or Hypertherm Technical Services for advanced troubleshooting help. See *Manually update firmware (advanced)* on page 6.

