



Phoenix® Software Version 10.18.1

Release Notes

809720 | Revision 24 | July 2021

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One of Hypertherm's long-standing core values is a focus on minimizing our impact on the environment. Doing so is critical to our, and our customers', success. We are always striving to become better environmental stewards; it is a process we care deeply about.

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Install updates

Before you begin

CAUTION



Create a backup of your CNC before **AND** after any updates are performed.

Run the **EDGE Connect Suite Installer** first, before updating Phoenix using the **PhoenixSuiteInstaller.exe**.

Do the following:

- **Make sure the CNC has image 27 or later and Phoenix version 10.00.0 or later.** Do not install this update if the CNC does not have these software versions.
 - To check which versions the CNC has, choose **Main > Setups > Diagnostics > Control Information**. Under **Software Versions**, see the **Phoenix** and **System Image** boxes. If you need to update the system to image 27 or later and Phoenix version 10.00.0 or later, contact your regional Product Application Engineer (PAE) or Technical Support Team.
- Create a back up of your CNC before and after any updates are performed. See *Backup and Restore the System* in the *EDGE Connect Installation and Setup manual* (809340) for details.
- Back up the CNC's system files to a USB memory stick: choose **Main > Files > Save to Disk > Save System Files to Disk**.


- If the CNC has a custom software operator console (Soft Op Con), back up the custom Soft Op Con application and associated **steps.json** file by copying the files to a USB memory stick. The steps.json file is located in the C:\Phoenix folder. The custom Soft Op Con files are located wherever they were saved originally. They are often located in a folder in the Phoenix folder.



If a unique name was not used for the custom Soft Op Con when it was created, the custom Soft Op Con will be replaced and any existing files will be overwritten with the standard Hypertherm Soft Op Con when this update is installed.

Software update overview

Based on your system configuration you may need to complete all of the updates shown below.

- CNC software (CNC system software **only**)
 - EDGE® Connect Suite Installer (updates Hypertherm studio, ProNest® CNC, EtherCAT® Master Stack, Backup and Restore utility, and INtime®)
 - Phoenix software
 - Cut charts
 - Online help file
- XPR firmware
 - For instructions on updating the firmware and where to find the update, see the *Update XPR Firmware through Phoenix over EtherCAT (810720)* application note. Technical documentation is available at www.hypertherm.com/docs.
 - Go to *Software versions* on page 28 to see the XPR firmware version that is compatible with this Phoenix release.
- ProNest 2019
 -  ProNest 2019 is the desktop version. **This is not the update for ProNest CNC.**
- Manuals

Download the updates

1. On the www.hypertherm.com website, choose **Support > Phoenix CNC updates**.
2. Click **GET FILES** for the software updates
3. Right-click on the software file for the applicable language and save it to the root directory of a USB memory stick.



We recommend updating Phoenix in two parts if you are installing a language. First update the CNC with the English version, then switch to the language of choice and update the language.

ATTENTION

If you are skipping more than one version (Example: updating from version 10.9 to 10.11) you **MUST** use the manual process described below for updating your EDGE Connect CNC.

Manual update process

1. Install the EDGE Connect Suite Installer. See *Update the EDGE Connect Suite Installer* on page 17.
2. Install Phoenix using the manual method below:
 - a. Close Phoenix, both operator consoles, and ProNest CNC.
 - b. Copy the PhoenixSuiteInstaller.exe to the C:\Phoenix folder.
 - c. Double click the file to install the update.
 - d. Click on the Windows start menu and select the EDGE Connect Launcher to restart Phoenix.
3. Update the cut charts. See *Update the cut charts* on page 20.
4. Update the online CNC help. See *Update the online CNC help* on page 20.
5. Update ProNest CNC. See *Install ProNest 2019 version x.x.x* on page 21.
6. Update manuals. See *Update manuals* on page 20.

Automatic update process

- Install the software in the following order. See figure below.
 - EDGE Connect Suite Installer. See *Update the EDGE Connect Suite Installer* on page 17.
 - Phoenix software. See *Update Phoenix* on page 19.
 - Cut charts. See *Update the cut charts* on page 20.
 - Online help. See *Update the online CNC help* on page 20.

Phoenix version 10 is only to be used with EDGE® Connect CNCs.

To install update:

1. Check the **release notes** for important product and software installation information.

- [English \(900KB\)](#)

2. Download the **cut chart file** (includes all languages).



3. Click on the language below and download the files you need.


Language	Release notes	Phoenix update	Online CNC Help file	EDGE Connect Suite installer
English	900KB	15MB	700KB	480MB
Chinese - simplified	900KB	26MB	700KB	

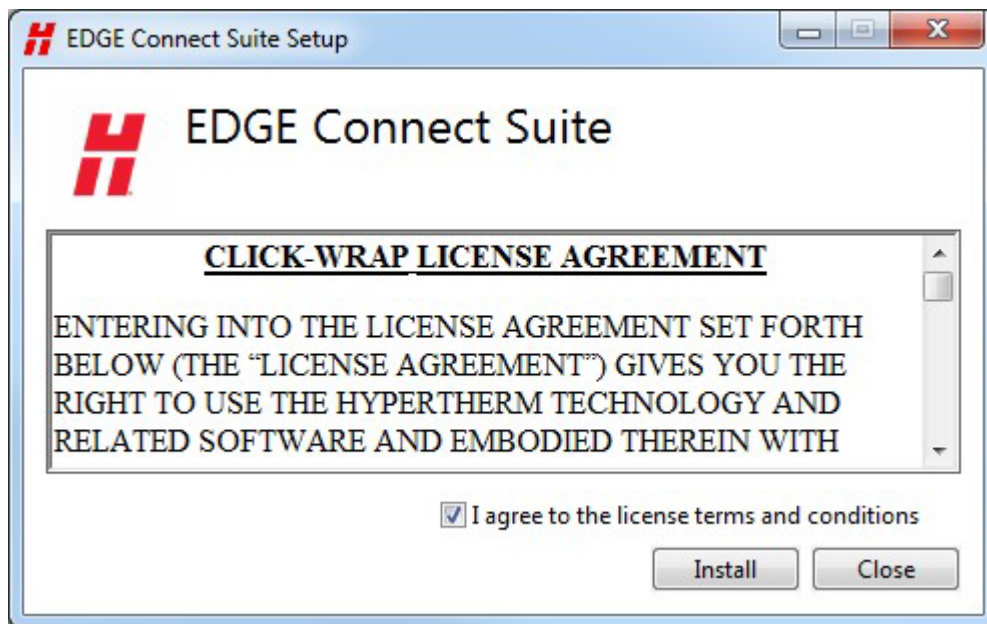
The EDGE Connect Suite Installer now updates: ProNest CNC, EtherCAT Master Stack, Backup and Restore utility, and INtime


- ProNest 2019. See *Install ProNest 2019 version x.x.x.* on page 21.
- Manuals. See *Update manuals* on page 20.

Install the updates

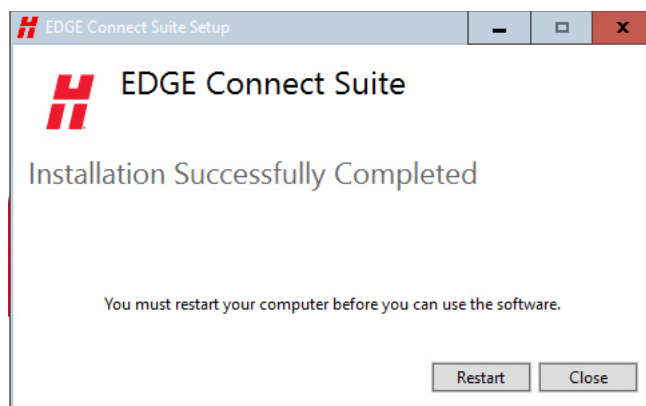
Update the EDGE Connect Suite Installer

1. At the CNC, put the USB memory stick in a USB connector on the CNC.
2. Click anywhere in the **Main** screen of Phoenix, and then press **Alt+F4** to exit Phoenix.
3. Close any other software running on the CNC.
4. Click the Windows® Start button and go to File Explorer to view the USB contents.
5. Copy the `EDGE_Connect_Suite_x.x.x.x_x86_en.exe` file to the `C:\Phoenix` directory.
 -  Delete the file after the update is complete.
6. Double-click the `EDGE_Connect_Suite_x.x.x.x_x86_en.exe` file. An installer window opens.
7. Check the box to agree to the terms and conditions, and then click **Install** to begin the process.



-  The CNC may restart multiple times during the update.

8. When you see the Installation Successfully Completed message shown below, click Restart.



9. After the CNC restarts two errors **ntx.dll and nttext.dll missing** may appear. Click OK to clear the errors. When the installation is complete, two messages are displayed - **Installation Successfully Completed** and **The Archive Was Restored Successfully** (disregard this message). Click Restart again.





If your cutting system has Phoenix version 10.3.1 or earlier and you are using Yaskawa EtherCAT drives, you need to re-configure the EtherCAT network after installing this update. That is, re-scan the EtherCAT network and create a new Phoenix.xml file. See the *Configure the EtherCAT Network* section in the *EDGE Connect Installation and Setup Manual* (809340) for instructions.

Update Phoenix

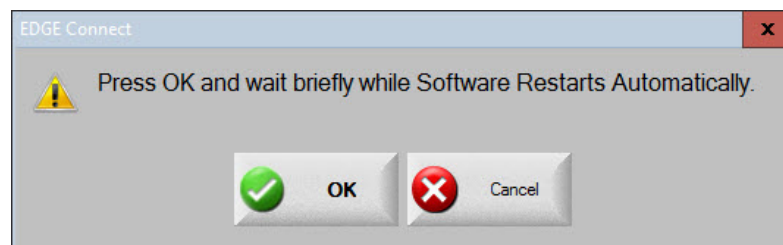
1. To update Phoenix choose **Setups > Password** on the **Main** screen.

2. Type **UPDATESOFTWARE** (one word) and then choose **OK**.


 The update software password will cause Phoenix to look for the PhoenixSuiteInstaller.exe file on your thumb drive.

 We recommend updating Phoenix in two parts if you are installing a language. First update the CNC with the English version and then update Phoenix using the language of choice.

3. When prompted, choose **OK**.



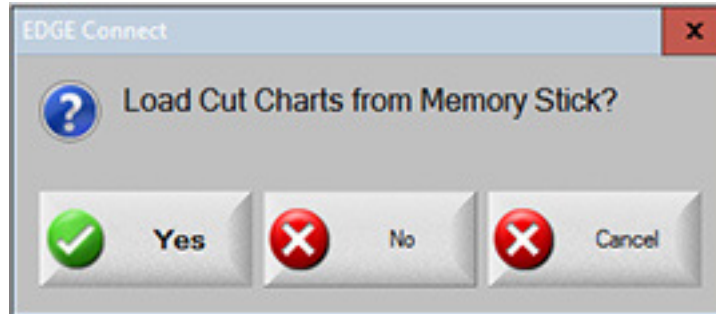
4. Wait while the update is installed.

 Multiple windows will open and close automatically. This is normal.

5. Once the update is installed, the CNC restarts and Phoenix opens and begins to start the EtherCAT network.

Update the cut charts

1. Download the cut charts to a USB memory stick. See *Download the updates* on page 15.
2. At the CNC, put the USB memory stick in a USB connector on the CNC.
3. Go to the **Cut Chart** screen (**Main > Setups > Process > Cut Chart**) and select the **Load Cut Charts** soft key.
4. Select Yes when the following message appears.



5. A status message appears. The update is complete when the status message disappears.



Phoenix must be restarted to make the new cut charts available

Update the online CNC help

1. Download the **Online CNC Help** file to a USB memory stick. See *Download the updates* on page 15.
2. At the CNC, put the USB memory stick in a USB connector on the CNC.
3. Go to the **Special Setups** screen (**Main > Setups > Password > Special Setups**) and select the **Update Help** soft key.
4. A status message appears. The update is complete when the status message disappears.

Update manuals

1. Go to the Hypertherm Document Library at www.hypertherm.com/docs and download the manuals you want to update onto the USB memory stick.
2. At the CNC, put the USB memory stick in a USB connector on the CNC.
3. Go to the **Special Setups** screen (**Main > Setups > Password > Special Setups**) and select the **Update Manuals** soft key.
4. Click **OK** when the status message appears that says the update is complete.

Install ProNest 2019 version x.x.x.

1. Log in (or create a new account as needed) to the [Hypertherm CAD/CAM Software Knowledge Base](#).
2. Choose **ProNest > Downloads > ProNest 2019 > Get the latest version of ProNest 2019**.
3. Follow the instructions provided in the knowledge base.



The knowledge base contains more information about the ProNest update as well as a variety of relevant CAM-specific training and educational content for channel partners.

4. Contact your regional Product Application Engineer (PAE) or [Technical Support Team](#) to get the latest XPR Machine Setup for this version of ProNest.

Update the XPR firmware

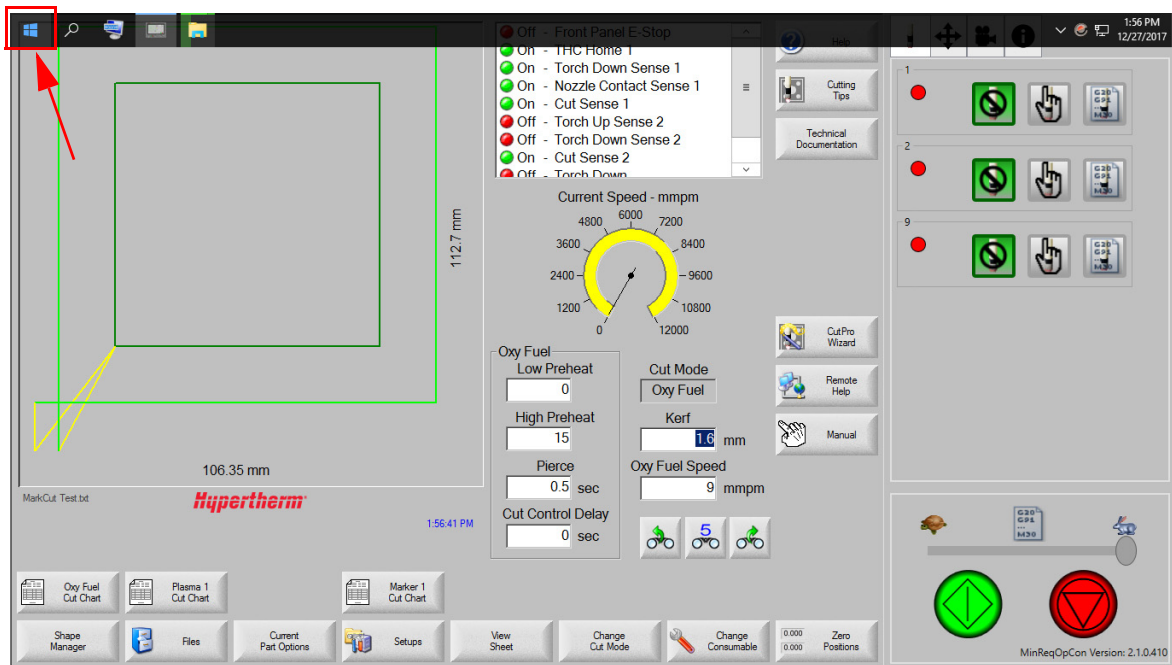
For instructions on how to update the XPR firmware, see the *Update XPR Firmware through Phoenix over EtherCAT (810720)* application note. Technical documentation is available at www.hypertherm.com/docs.

Replacing the launcher shortcut

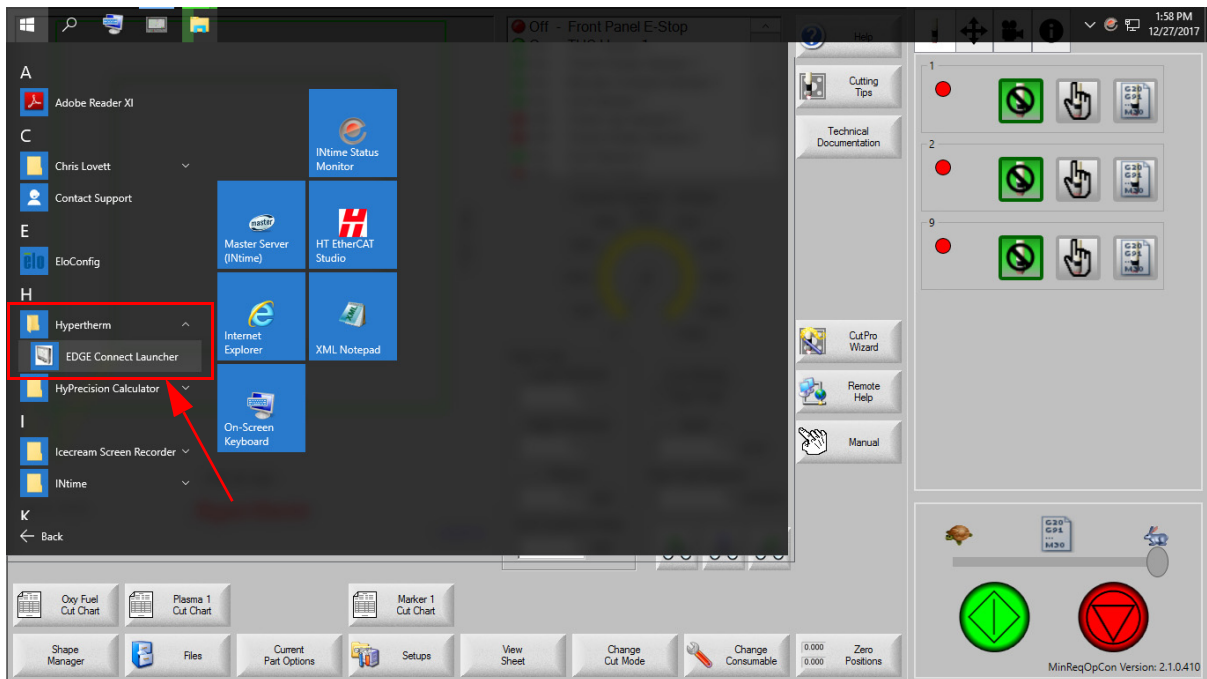
In the 10.6 release the name of the launcher changed from Phoenix Launcher to EDGE Connect Launcher to highlight that more than just Phoenix software is launched when the EDGE Connect launcher is used.

The Edge Connect software automatically starts when the EDGE Connect is powered on. The software can be launched manually by opening the Windows Start menu and selecting the Phoenix Launcher shortcut. In the 10.6 release the short cut was removed from the Start Menu. To add a short cut back to the Start menu follow the steps below.

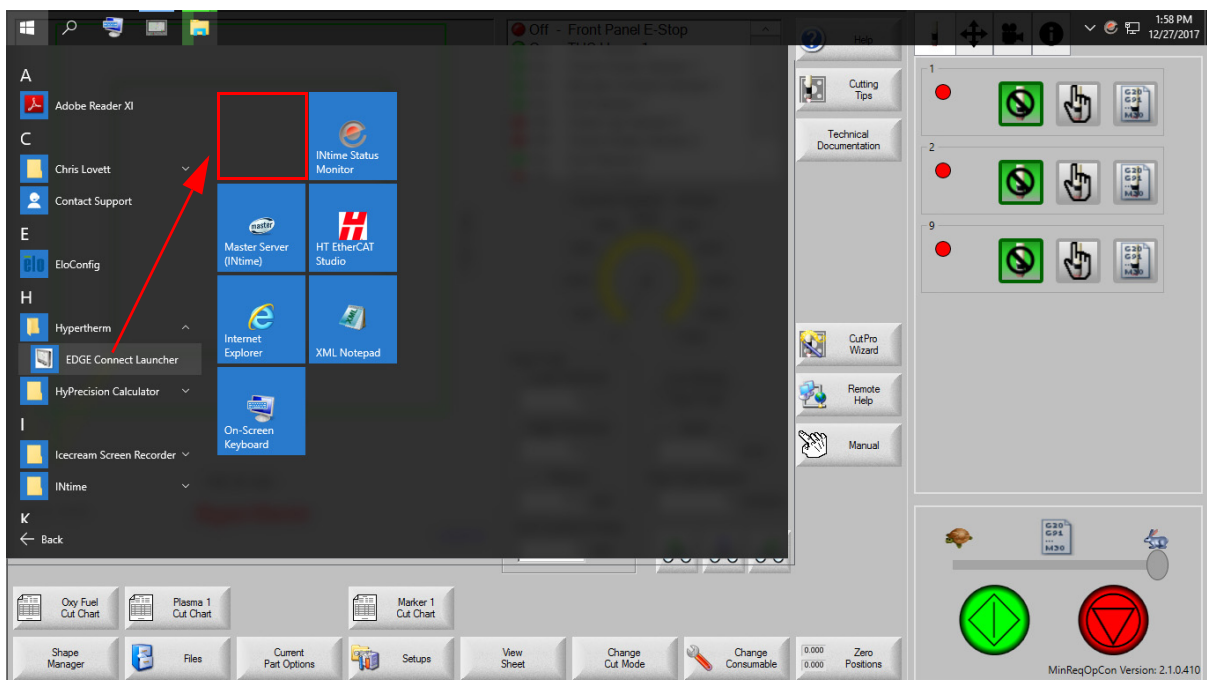
1. To make the task bar visible, position the mouse at the top of the screen or drag a finger from the top of the screen down.
2. Select the Start menu icon in the upper left corner of the screen and select All apps at the bottom of the menu.



3. Look for the Hypertherm folder and select it to expand the list and show the EDGE Connect Launcher short cut.



4. Pin the EDGE Connect Launcher short cut to the Start menu by dragging and dropping the EDGE Connect Launcher to the Start Menu.




Install updates

Version 10.18.1

Release notes

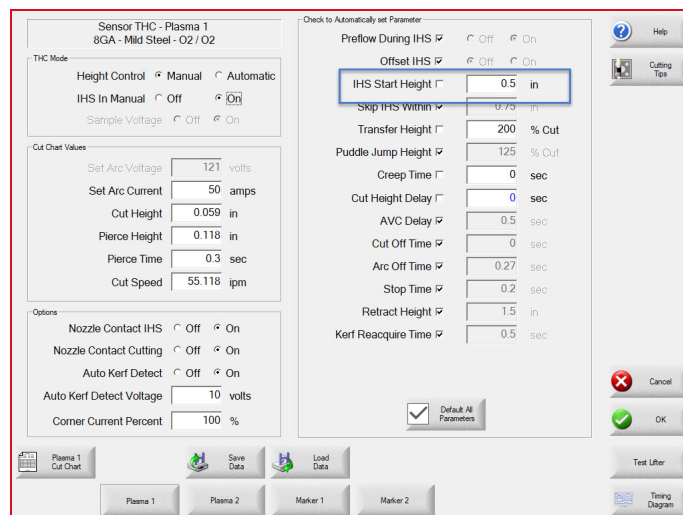
Phoenix improvements

- Added two new inputs, Lock Transverse 1 and Lock Transverse 2, to use with Dual Transverse and Pipe/Tube cutting applications. These inputs lock an axis in place to allow the operator to perform manual operations on the opposite transverse axis.
 -  Unlike the Park Dual Head 1 and 2 inputs, the Lock Transverse inputs do not allow axis motion until the operator unlocks the active station. If a Lock Transverse input is active when the gantry is homing, the operator receives a descriptive error.

- Updated XPR firmware files to Revision T in the EDGE Connect suite installer.

- Added a new XPR override to control the Puddle Jump Height value through an XPR part program.
 - When a value for Puddle Jump Height is added to the M07 line of a part program, Phoenix uses the part override instead of the default value in the Process Screen.
 - Although the Phoenix Process Screen uses percentage values for Puddle Jump Height, the override uses a fixed height value based on the units you have selected.

Example: M07 PJH0.3 results in a 0.3 mm Puddle Jump Height value (in metric) and a 0.3 inch Puddle Jump Height value (in imperial).
- Sensor THC improvements
 - Reduced the IHS Start Height lower limit from 12.7mm (0.5 inch) to 2.5mm (0.1 inch) to increase the travel range.
 - Added a parameter named **Auto IHS Start Height** in the Message list box in the Special Setup screen with enable/disable options. This option is enabled by default and, in most cases, the estimated IHS Start Height provides the best value for fast setup with optimal cycle to cycle times.
 - When enabled, Phoenix sets the minimum IHS Start Height value a user can enter.
 - When disabled, a user can now enter a value as low as 2.5mm or 0.1 inches. Phoenix changes the color of the text to red when the Auto IHS Start Height option is disabled and your value is below the estimated value.



Phoenix resolutions

- Resolved an issue with unintended motion when using the Cut Pro Wizard. If you make a Tool Offset and press the Previous soft key while motion is occurring, the motion continues until a software overtravel, hardware overtravel, or an e-stop is activated. The operator cannot stop the offset motion with any hardware or software stop buttons.
- Resolved an issue where the joystick became unresponsive after a fault occurred that disabled the drives or caused a network fault. You no longer need to perform a manual jog using the on-screen jog keys or the keyboard arrow keys to regain control of the joystick input.

Software versions



You must be at image 27 or higher to perform this update.

The versions for the software and firmware in the current update are shown in different locations on the EDGE Connect CNC. The table below is grouped by the location where the version information is shown.

- To see version information for Windows, Phoenix, Real-Time OS, Fieldbus Master, Real-Time Module, PLC engine, System Image, and operator console APIs:

Choose **Main > Setups > Diagnostics > Control Information**.

- To see version information for cut charts choose **Main > Setups > Process > Cut Chart**. The version information is displayed in the top left corner of the screen.
- To see version information for other items click the Windows Start button and go to **All apps > Windows System > Control Panel > Programs and Features**.

If you need to update the CNC or have any other questions about software versions, contact your regional [Technical Support Team](#).

Shown on the Phoenix Diagnostics screen

Item	Versions / Revisions	Installer*
Windows	10.00.10240	CNC image
Phoenix	10.18.1	Phoenix suite installer
Real-Time OS	6.3.19040.2	EDGE Connect suite installer
Field Bus Master	1.5.61209.0	Phoenix suite installer
Real-Time Module	10.18.1.1530	Phoenix suite installer
PLC engine	1.1.0.0	Phoenix suite installer
Phoenix OpCon API	2.0.0.0	N/A
Active OpCon APIs	2.0.0.0	N/A

Shown on the Cut Chart screen

Item	Versions / Revisions	Installer*
XPR	P	Cutchart.exe
HPRXD	AA	Cutchart.exe
HPR	80003Ea and 80003Eb	Cutchart.exe
Oxyfuel	F - Extended format A	Cutchart.exe

Shown in the XPR web application

Item	Versions / Revisions	Installer*
XPR main control	T - 867	EDGE Connect suite installer**
XPR torch connect	T - 298	EDGE Connect suite installer**
XPR gas connect	T - 259	EDGE Connect suite installer**
XPR choppers	T - 281	EDGE Connect suite installer**
XPR wireless	29658	EDGE Connect suite installer**

Shown on the Windows Programs and Features screen

Item	Versions / Revisions	Installer*
ProNest CNC Client	1.1.11.0	EDGE Connect suite installer
ProNest CNC Archives	1.7.0.0	EDGE Connect suite installer
ProNest CNC Nesting software	13.1.4.7599	EDGE Connect suite installer
Hypertherm EtherCAT Studio	1.1.7375.26007	EDGE Connect suite installer
KPA EtherCAT Studio	1.12.349.0	EDGE Connect suite installer
KPA Licensing utilities	2.3.1410.0	EDGE Connect suite installer
KPA MRT	1.5.61209.0	EDGE Connect suite installer
Microsoft XML Notepad	2.7.1.15	CNC image
EDGE Connect Suite	1.9.7844.31057	EDGE Connect suite installer
EDGE Connect Launcher	1.5.7843.34310	EDGE Connect suite installer
Backup and Restore Utility	1.1.6592.40703	EDGE Connect suite installer
EtherCAT ESI Library	1.1.47.0	EDGE Connect suite installer
INtime for Windows Runtime	6.3.19040.2	EDGE Connect suite installer
Hypertherm Connect Client	1.1.6912.22365	EDGE Connect suite installer

Other

Item	Versions / Revisions	Installer*
MULTIPROG	1.2	Multiprog installer
SoftOpCon	2.3.1.435	Phoenix suite installer
MinReqOpCon	2.3.1.435	Phoenix suite installer
Hardware operator console	1.0	N/A



*Any items, programs, or features not assigned to the suite installers are unaffected by software updates.



**Firmware over EtherCAT (FoE) is available in 10.13 and newer Phoenix downloads. XPR Control PCB requires Rev M firmware or newer to support FOE. For more information, refer to Application Note (810720) in the Documents Library.

Version 10.18.0

Release notes

Phoenix improvements

- The Gas System screen in the XPR Diagnostics View at the CNC now includes a diagram view to complement the text view. The diagram view shows:
 - Gas pressures (in bar or psi) and currently-active valve states.
 - Pressurized volumes and energized valves with color-coded highlights that illuminate when active.
 - Pressure measurements and setpoints near the proportional valves and duty cycle (PWM) sensors represented by the diagram.
- Pronest CNC now includes support for Powermax45 XP and MAXPRO200 bevel.

Phoenix resolutions

- Resolved an issue where an operator who tried to manually move (jog) the machine during a manual offset resulted in motion that could only be stopped with an E-stop (Drive Disabled input).

In Phoenix 10.18, any attempt for manual motion during a manual offset pauses motion and displays a dialog that states “Manual Jog During Manual Offset.” The operator can resume normal cutting operations after choosing OK to clear the message.

- Formatting inconsistencies have been corrected on both the Update Manuals dialog and the Copyright dialog in all languages.
- Resolved an issue where the XPR Change Consumable screen failed to display the consumable images for a Stainless Steel, 23mm, 170 N2/N2 process.
- Resolved an issue with Homing when a 2-axis pipe machine was set up and configured in Phoenix. In Phoenix 10.18:
 - Only the Rail and THC axes are homed when a user chooses **Home All**.
 - The Machine Homing Needed message no longer appears on the main screen after homing the two configured axes.

Software versions



You must be at image 27 or higher to perform this update.

The versions for the software and firmware in the current update are shown in different locations on the EDGE Connect CNC. The table below is grouped by the location where the version information is shown.

- To see version information for Windows, Phoenix, Real-Time OS, Fieldbus Master, Real-Time Module, PLC engine, System Image, and operator console APIs:

Choose **Main > Setups > Diagnostics > Control Information**.

- To see version information for cut charts choose **Main > Setups > Process > Cut Chart**. The version information is displayed in the top left corner of the screen.
- To see version information for other items click the Windows Start button and go to **All apps > Windows System > Control Panel > Programs and Features**.

If you need to update the CNC or have any other questions about software versions, contact your regional [Technical Support Team](#).

Shown on the Phoenix Diagnostics screen

Item	Versions / Revisions	Installer*
Windows	10.00.10240	CNC image
Phoenix	10.18.0	Phoenix suite installer
Real-Time OS	6.3.19040.2	EDGE Connect suite installer
Field Bus Master	1.5.61209.0	Phoenix suite installer
Real-Time Module	10.18.0.1528	Phoenix suite installer
PLC engine	1.1.0.0	Phoenix suite installer
Phoenix OpCon API	2.0.0.0	N/A
Active OpCon APIs	2.0.0.0	N/A

Shown on the Cut Chart screen

Item	Versions / Revisions	Installer*
XPR	P	Cutchart.exe
HPRXD	AA	Cutchart.exe
HPR	80003Ea and 80003Eb	Cutchart.exe
Oxyfuel	F - Extended format A	Cutchart.exe

Shown in the XPR web application

Item	Versions / Revisions	Installer*
XPR main control	R - 836	EDGE Connect suite installer**
XPR torch connect	M - 270	EDGE Connect suite installer**
XPR gas connect	P - 253	EDGE Connect suite installer**
XPR choppers	S - 13	EDGE Connect suite installer**
XPR wireless	29131	EDGE Connect suite installer**

Shown on the Windows Programs and Features screen

Item	Versions / Revisions	Installer*
ProNest CNC Client	1.1.11.0	EDGE Connect suite installer
ProNest CNC Archives	1.6.0.0	EDGE Connect suite installer
ProNest CNC Nesting software	13.1.4.7599	EDGE Connect suite installer
Hypertherm EtherCAT Studio	1.1.7375.26007	EDGE Connect suite installer
KPA EtherCAT Studio	1.12.349.0	EDGE Connect suite installer
KPA Licensing utilities	2.3.1410.0	EDGE Connect suite installer
KPA MRT	1.5.61209.0	EDGE Connect suite installer
Microsoft XML Notepad	2.7.1.5	CNC image
EDGE Connect Suite	1.9.7780.28339 initial 10.18 release, 1.9.7807.41276 updated10.18 release	EDGE Connect suite installer
EDGE Connect Launcher	1.4.6761.21114	EDGE Connect suite installer
Backup and Restore Utility	1.1.6592.40703	EDGE Connect suite installer
EtherCAT ESI Library	1.1.44.0	EDGE Connect suite installer
INtime for Windows Runtime	6.3.19040.2	EDGE Connect suite installer
Hypertherm Connect Client	1.1.6912.22365	EDGE Connect suite installer

Other

Item	Versions / Revisions	Installer*
MULTIPROG	1.2	Multiprog installer
SoftOpCon	2.3.1.435	Phoenix suite installer
MinReqOpCon	2.3.1.435	Phoenix suite installer
Hardware operator console	1.0	N/A



*Any items, programs, or features not assigned to the suite installers are unaffected by software updates.



**Firmware over EtherCAT (FoE) is available in 10.13 and newer Phoenix downloads. XPR Control PCB requires Rev M firmware or newer to support FOE. For more information, refer to Application Note (810720) in the Documents Library.

Version 10.17.0

Release notes

New and updated documentation

- The EDGE Connect Installation and Setup manual 809340 was updated to revision 4. The updates include:
 - Added recommendations for how to set up a mapped network drive.
 - Added a description of the network diagnostic screen.
 - Added the 62-15 field bus: timing alert.

Phoenix improvements

- Added the XPR 220 A processes to Phoenix and ProNest CNC.
- Added images for the new XPR 220 A consumables to the XPR Change Consumables screen.
- Updated XPR firmware files to revision R in the EDGE Connect suite installer.
- Added a new XPR torque tool graphic and part number (429013) on the XPR Change Consumables screen and the CutPro Wizard Consumables screen.
- Added MAXPRO200 Bevel processes to Phoenix. You can now select the MAXPRO Bevel Torch Type from the Cut Chart screen in Phoenix or use the G59 V502 F70 EIA code from a part program. ProNest CNC will be updated at a later date.
- Phoenix now includes a network diagnostic tool. This tool provides information about the CNC and the devices on the EtherCAT network. The diagnostic values can be used for troubleshooting errors on the network or communication problems with one of the devices. The diagnostic values can be reset to 0.
 - To get to the Network Diagnostic screen from the Main screen, select the following soft keys: **Setups > Diagnostics > Network Diagnostics**.
 - The Network Diagnostics tool includes color bars on each tab that tell you the status of the device.
 - Green indicates that the device is fully operational.
 - Yellow indicates a possible issue on the network or with hardware.
 - Red indicates that the device is off-line.
 - There is also a **Reset** soft key on each tab that allows you to clear the diagnostic values and return the color bar to its normal operational state (green). The **Reset** soft key only clears the counters. No faults are cleared.
- Sensor THC improvements
 - Stall force is now consistently applied during IHS to prevent torch collisions with the work-piece.
 - Increased the accuracy of the Start IHS estimated value in the Plasma and Marker process screens. Phoenix calculates the estimated Start IHS Height based on the amount of distance required for the THC to travel from maximum speed to the Fast IHS speed during a typical IHS. The IHS Start Height is calculated using the THC Acceleration, Max Speed, and Fast IHS Speed settings in the Speeds screen. The estimated Start IHS Height is used as the minimum value a user can enter for the Start IHS Distance value.

Phoenix resolutions

- Fixed an issue where 2 Manual soft keys were shown in the Technical Documentation screen when both Plasma 1 and Plasma 2 power supplies were the same model. Now only 1 Manual soft key is shown when the Plasma 1 and Plasma 2 power supplies are the same model.
- Resolved an issue where Phoenix would close unexpectedly or freeze when a user tried to mark with the cut mode set to Oxyfuel. Phoenix now supports all marker tools with all cut processes.
- Resolved an issue where the **PS Link Fail** message was shown when an HPR was in a state less than state 3 (the CNC sending a process to an HPR). This issue caused a **PS Link Fail** status message to show when the HPR was in state 2 (purging gas). Now the **PS Link Fail** message is only shown when an HPR is in a state is less than state 2.
- Resolved an issue where incorrect consumables were shown in the CutPro wizard when more than one power supply was assigned in the Station Configuration screen.
- Resolved an issue where the incorrect nozzle for the 300 A processes was shown on the XPR300 Change Consumables screen.
- Resolved an issue where the Portuguese translation for the **Fieldbus Drives Not Ready** error message contained the translation for the **Not Able to Read HASP** error message.

Software versions



You must be at image 27 or higher to perform this update.

The versions for the software and firmware in the current update are shown in different locations on the EDGE Connect CNC. The table below is grouped by the location where the version information is shown.

- To see version information for Windows, Phoenix, Real-Time OS, Fieldbus Master, Real-Time Module, PLC engine, System Image, and operator console APIs:

Choose **Main > Setups > Diagnostics > Control Information**.

- To see version information for cut charts choose **Main > Setups > Process > Cut Chart**. The version information is displayed in the top left corner of the screen.
- To see version information for other items click the Windows Start button and go to **All apps > Windows System > Control Panel > Programs and Features**.

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Shown on the Phoenix Diagnostics screen

Item	Versions / Revisions	Installer*
Windows	10.00.10240	CNC image
Phoenix	10.17.0	Phoenix suite installer
Real-Time OS	6.3.19040.2	EDGE Connect suite installer
Field Bus Master	1.5.61209.0	Phoenix suite installer
Real-Time Module	10.17.0.216	Phoenix suite installer
PLC engine	1.1.0.0	Phoenix suite installer
Phoenix OpCon API	2.0.0.0	N/A
Active OpCon APIs	2.0.0.0	N/A

Shown on the Cut Chart screen

Item	Versions / Revisions	Installer*
XPR	P	Cutchart.exe
HPRXD	AA	Cutchart.exe
HPR	80003Ea and 80003Eb	Cutchart.exe
Oxyfuel	F - Extended format A	Cutchart.exe

Shown in the XPR web application

Item	Versions / Revisions	Installer*
XPR main control	R - 836	EDGE Connect suite installer**
XPR torch connect	M - 270	EDGE Connect suite installer**
XPR gas connect	P - 253	EDGE Connect suite installer**
XPR choppers	P - 254	EDGE Connect suite installer**
XPR wireless	29131	EDGE Connect suite installer**

Shown on the Windows Programs and Features screen

Item	Versions / Revisions	Installer*
ProNest CNC Client	1.1.6.214	EDGE Connect suite installer
ProNest CNC Archives	1.5.0.0	EDGE Connect suite installer
ProNest CNC Nesting software	13.1.4.7599	EDGE Connect suite installer
Hypertherm EtherCAT Studio	1.1.7375.26007	EDGE Connect suite installer
KPA EtherCAT Studio	1.12.349.0	EDGE Connect suite installer
KPA Licensing utilities	2.3.1410.0	EDGE Connect suite installer
KPA MRT	1.5.61209.0	EDGE Connect suite installer
Microsoft XML Notepad	2.7.1.5	CNC image
EDGE Connect Suite	1.9.7600.43490	EDGE Connect suite installer
EDGE Connect Launcher	1.4.6761.21114	EDGE Connect suite installer
Backup and Restore Utility	1.1.6592.40703	EDGE Connect suite installer
EtherCAT ESI Library	1.1.39.0	EDGE Connect suite installer
INtime for Windows Runtime	6.3.19040.2	EDGE Connect suite installer
Hypertherm Connect Client	1.1.6912.22365	EDGE Connect suite installer

Other

Item	Versions / Revisions	Installer*
MULTIPROG	1.2	Multiprog installer
SoftOpCon	2.3.1.435	Phoenix suite installer
MinReqOpCon	2.3.1.435	Phoenix suite installer
Hardware operator console	1.0	N/A



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**Firmware over EtherCAT (FoE) is available in 10.13 and newer Phoenix downloads. XPR Control PCB requires Rev M firmware or newer to support FOE. For more information, refer to Application Note (810720) in the Documents Library.

Version 10.16.0

Release notes

Phoenix improvements

- EtherCAT network error handling was improved to reduce Error 62-2 errors. A Fieldbus: timing alert message (62-15) was added with algorithms in Phoenix to monitor network performance. When there are communication errors between the network controller and connected devices on the network Phoenix monitors the communication and post alerts up to a threshold. If the system continues to experience communication errors beyond the threshold, Error 62-2 is displayed, and the cutting system shuts down the network to protect the integrity of the system.
- XPR firmware files have been updated in the EDGE Connect Suite Installer. The file names and versions are as follows:
 - Main Control board - 405ZGMainControl.bin - Rev P Build 825
 - Torch Connect - 405ZGMetering.bin - Rev M Build 270
 - Smart Chopper - 405ZGSmartChopper.bin - Rev P Build 254
 - Gas Connect - 405ZGBmpConsole.bin - Rev P Build 253
- Added images for SilverPlus® electrodes for HPR 260 A, 200 A, and 80 A processes.
- Added images for shield, nozzle, swirl ring, and electrode for the XPR - Mild Steel - 50 A - O2/Air process.
- Re-assigning a power supply in the **Station Configuration** screen after the network is operational no longer requires a customer to restart the CNC or the power supply after saving changes.

- The **System Errors** message box displays system errors immediately when the **System Errors** message box is displayed but the same errors are displayed differently after leaving that message box and then returning to it. **System Error** messages are now displayed correctly in both cases.
- Tool Messaging sends tool parameters such as system state, gas pressures, chopper current, and more from the power supply to Phoenix over the EtherCAT network. To avoid restarting Phoenix or the CNC after a sudden loss of power to the cutting system, tool messaging now restarts after reconnecting the network to the power supply.
- Added a THC Limit Torque status to the I/O Watch window. This allows an user to know when the Sensor THCs drives are using limited torque. Limited torque is used during homing and IHS operations.
- Updated the XPR 420365 nozzle retaining cap image in Phoenix to represent the latest material color change.
- We now support both the XPR170 and the XPR300 manuals within Technical Documentation. The XPR model name is displayed on the Plasma 1 and Plasma 2 manual soft keys (soft key 6 for plasma 1 or soft key 7 for plasma 2) along with the XPRs icon. For example, for an XPR170, the button text will be **XPR170 Manual**.
 - When the network is not operational, we will only display **XPR Manual**, because the CNC does not know the model until the network is operational. In this case, when the user selects the soft key a dialog is displayed allowing the user to select either the XPR170 or the XPR300 manual.
 - When the network is operational and the power supply link is active the HPRs model name (i.e. HPR400XD) is displayed on the manual selection soft key (soft key 6 for plasma 1 or soft key 7 for plasma 2). Previously **HPR Manual** was displayed along with the HPRs icon and a dialog similar to the XPR's dialog that allowed the user to select the manual for their HPR model.

Phoenix resolutions

- Resolved an issue during a standard waterjet cut where the **Abrasive and Cut Control** outputs would cycle on and off while piercing.
- Added an image that was missing to the Spirit400 cut chart database. A cut chart formatting error in the MAX100D cut chart files was also fixed to prevent Phoenix from suddenly closing.
- Resolved an issue where gas pressures and gas types were not updating after entering the HPR Diagnostic screen.
- Resolved an issue where the EDGE Connect Suite installer did not correctly install the Hypertherm Studio license file on a system with the same software already installed. This caused the Hypertherm Studio to start with KPAs default version (blue background) instead of applying Hypertherm's licensing and starting with the Hypertherm Studio (white background).
- Resolved an issue where the waterjet cut speed value was not correctly set when there was a waterjet system and other cutting system (such as Plasma) on the same cutting system.
- Resolved an issue where the Manual Update button failed to update certain manuals due to the format of the manual file name.

Software versions



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- To see version information for cut charts choose **Main > Setups > Process > Cut Chart**. The version information is displayed in the top left corner of the screen.
- To see version information for other items click the Windows Start button and go to **All apps > Windows System > Control Panel > Programs and Features**.

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Shown on the Phoenix Diagnostics screen

Item	Versions / Revisions
Windows	10.00.10240
Phoenix	10.16.0
Real-Time OS	6.3.19040.2
Field Bus Master	1.5.61209.0
Real-Time Module	10.16.0.1522
PLC engine	1.1.0.0
Phoenix OpCon API	2.0.0.0
Active OpCon APIs	2.0.0.0

Shown on the Cut Chart screen

Item	Versions / Revisions
XPR	N
HPRXD	AA
HPR	80003Ea and 80003Eb
Oxyfuel	F - Extended format A

Shown in the XPR web application

Item	Versions / Revisions
XPR main control	P - 825
XPR torch connect	M - 270
XPR gas connect	P - 253
XPR choppers	P - 254
XPR wireless	27537

Shown on the Windows Programs and Features screen

Item	Versions / Revisions
ProNest CNC Client	1.1.6.214
ProNest CNC Package	1.4.0.0
ProNest CNC Nesting software	13.1.2.7243
Hypertherm EtherCAT Studio	1.1.7375.26007
KPA EtherCAT Studio	1.12.349.0
KPA Licensing utilities	2.3.1410.0
KPA MRT	1.5.61209.0
Microsoft XML Notepad	2.7.1.5
EDGE Connect Suite	1.9.7516.23125
EDGE Connect Launcher	1.4.6761.21114
Backup and Restore Utility	1.1.6592.40703
EtherCAT ESI Library	1.1.37.0
INtime for Windows Runtime	6.3.19040.2
Hypertherm Connect Client	1.1.6912.22365

Other

Item	Versions / Revisions
MULTIPROG	1.2
SoftOpCon	2.3.1.435
MinReqOpCon	2.3.1.435
Hardware operator console	1.0

Version 10.15.0

Release notes

New and updated documentation

- Released the *Update XPR Firmware through Phoenix over EtherCAT* Application Note 810720r0.

Phoenix improvements

- Added support for a new XPR error (784 - Main 24V high) in the XPR firmware (revision N) to the Systems Error watch window on the CNC.
- Added Hypertherm EtherCAT Studio version 1.12.349 and Licensing Utilities version 2.3.1410 to the Edge Connect Suite Installer version 1.9.
- Added the ability to Disable the Return to Start message and corresponding motion at the end of a part program. The Return to Start message is now available on the Special Setups screen in the message or wizard list. The Return to Start message is enabled by default to provide the same Return to Start behavior that existed before this change. If Return to Start is disabled the gantry will automatically return to start at the end of the part program.
- Added a measurement type parameter to the flange slice in simple shapes so you can select radius or diameter for the outer and inner dimensions. The Radius measurement type is selected by default so you get the same outcome you got before the change.

- The EDGE Connect Suite Installer now includes XPR Rev N firmware. A complete list of versions in this release are listed below. For details of what is included in XPR Rev N firmware please see the XPR product announcement.
 - Main application: N 803
 - Main bootloader: M 777
 - TCC application: M 270
 - TCC bootloader: M 270
 - GCC application: J 193
 - GCC bootloader: M 244
 - Chopper application: J 216
 - Chopper bootloader: M 234
 - WiFi®: 27537
- As of Phoenix 10.12 the capability to update the XPR Firmware over EtherCAT (FoE) on XPRs with firmware Rev M or higher is possible. XPR firmware must be manually updated to Rev M or higher using USB or WiFi and all bootloaders must be done by WiFi before the XPR can accept firmware from the File over EtherCAT (FoE) protocol. For more details see application note 810720.
- Phoenix now uses a cut chart database to display consumable images and part numbers on the Change Consumables page and CutPro Wizard. This change makes it easier to maintain part numbers and images.

Phoenix resolutions

- Resolved a Phoenix exception that occurred in the Setups Watch Window when the user selected the HPR in the upper location list and then selected a different Setups soft key. For example, the user selects HPR Power Supply Number 1 in the upper location of the Setups Watch window and then selects the Diagnostic soft key without first canceling or saving changes while in the Watch window.
- Resolved a Phoenix Exception error while using the number pad to navigate to a different watch window. The middle watch window navigation key launches the keypad. The user can enter a number in the range of 1 through 10. If a user selects a number higher than 10, then a Phoenix Exception would occur. Now if a user was to enter a number less than 1 or greater than 10, the number pad will just close, allowing the user to make another selection.
- Resolved a Phoenix exception that occurred after saving changes in the Station Configuration screen. The exception occurred when a second plasma tool was added to station 2 while an HPR or an XPR was assigned to the Plasma 1 process on station 1.
- Resolved an issue that happened when a torch collision or other machine fault occurred when the Align Wizard was active and the THC was being raised or lowered.

Software versions



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Choose **Main > Setups > Diagnostics > Control Information**.

- To see version information for cut charts choose **Main > Setups > Process > Cut Chart**. The version information is displayed in the top left corner of the screen.
- To see version information for other items click the Windows Start button and go to **All apps > Windows System > Control Panel > Programs and Features**.



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Shown on the Phoenix Diagnostics screen

Item	Versions / Revisions
Windows	10.00.10240
Phoenix	10.15.0
Real-Time OS	6.3.19040.2
Field Bus Master	1.5.61209.0
Real-Time Module	10.15.0.1521
PLC engine	1.1.0.0
Phoenix OpCon API	2.0.0.0
Active OpCon APIs	2.0.0.0

Shown on the Cut Chart screen

Item	Versions / Revisions
XPR	N
HPRXD	AA
HPR	80003Ea and 80003Eb
Oxyfuel	F - Extended format A

Shown in the XPR web application

Item	Versions / Revisions
XPR main control	N - 803
XPR torch connect	M - 270
XPR gas connect	J - 193
XPR choppers	J - 216
XPR wireless	27537

Shown on the Windows Programs and Features screen

Item	Versions / Revisions
ProNest CNC Client	1.1.6.214
ProNest CNC Package	1.4.0.0
ProNest CNC Nesting software	13.1.2.7243
Hypertherm EtherCAT Studio	1.1.6738.35948
KPA EtherCAT Studio	1.12.349.0
KPA Licensing utilities	2.3.1410.0
KPA MRT	1.5.61209.0
Microsoft XML Notepad	2.7.1.5
EDGE Connect Suite	1.9.7383.32113
EDGE Connect Launcher	1.4.6761.21114
Backup and Restore Utility	1.1.6592.40703
EtherCAT ESI Library	1.1.37.0
INtime for Windows Runtime	6.3.19040.2
Hypertherm Connect Client	1.1.6912.22365

Other

Item	Versions / Revisions
MULTIPROG	1.2
SoftOpCon	2.3.1.435
MinReqOpCon	2.3.1.435
Hardware operator console	1.0

Version 10.14.0

Release notes

New and updated documentation

- Updated the firmware prefixes to match Bosch's recommendations in application note 809600 *Bosch Rexroth EtherCAT® Drives Supported by EDGE® Connect CNCs*.

Phoenix improvements

- The THC axis is now blocked from exceeding the THC lower limit. This keeps ABXYZ bevel heads from becoming stuck when large bevel angles are activated near the bottom of the THC slide. EDGE Connect CNCs now pause and warn the operator if the Z Axis lower limit has been reached. The message displayed is: THC At Lower Limit.
- Added support for an EtherCAT cutting system with only a Rail and THC axes setup. The password used to allow this configuration is **NTH**.
- Updated Hypertherm's software Terms of Use. A link to view the Terms of Use (https://kb.hyperthermcam.com/hypertherm_terms/Terms_EN.htm) displays every time that Phoenix launches. Choose OK on this screen to agree to the Terms of Use and continue using Phoenix.
- Backlash Compensation is now functional with EtherCAT for the following axes: Transverse, Rail, Dual Gantry and Transverse 2.
- A Conflicting Process status message is now displayed when the plasma cut mode does not match the tool on the active station. For example, if the cut mode is plasma 1 and the active station is 2 and it has the plasma 2 process assigned in the 4170 screen you will see a conflicting process message.

- We now support a discrete plasma cutting tool on Station 2 using the Plasma 2 process, while an XPR, HPR, or Powermax EtherCAT cutting tool is assigned on Station 1, Plasma 1. This change also supports a discrete marker tool on its own station and using the Marker 2 process while station 1 is configured with an EtherCAT tool.
- Added support for a mark and cut program that includes the XPR as the cutting tool and another tool as the marker tool (Zinc Marker, ArcWriter, and other marking tools). In this configuration, the marker tool is installed on its own station and a post is required to enable the marker station and its process.
- Status messages are now displayed when attempting to jog only THCs or only the **Transverse Axes**, when both THCs and the Transverse axes are parked. The 2 new status messages are:
 - All THCs Parked
 - Both Transverse Axes Parked
- Enabled smooth multi-speed THC Jogging capability when the THC is transitioning between Slow IHS, Fast IHS and the Full Jog Speed.

Phoenix resolutions

- Made the following improvements to the XPR Diagnostics View at the CNC:
 - Error details are now available for active errors.
 - Fixed misaligned table columns and headings.
- Resolved an issue where a **Pilot Arc Timeout** error for a cutting system with 2 XPRs was not properly reset by the CNC. This prevented either XPR from producing an Arc On signal when you tried to restart the cut. This issue occurred when the XPR on station 1 produced an arc while the XPR on station 2 misfired (no pilot arc error occurred). The operator needed to toggle the XPR's remote input to fix the issue. The error is now reset on the next plasma start.
- Resolved an issue where motion could randomly shift off path in the middle of the nest when using a stationary pierce.
- Eliminated unintended skew motion when using the **Manual Options Skew Adjust** function after the table was homed without the final homing skew adjustment.
- Power supplies other than XPRs can now be assigned to the Plasma 2 process when an XPR is assigned to the Plasma 1 process.
- Resolved an issue where cutting with a discrete power supply (not an EtherCAT power supply or use of an EtherCAT interface board) resulted in the **THC Tracking Voltage** bit turning on while cutting. A status message is now displayed that indicates the THC is not tracking arc voltage.
- Jog keys are now functional in the **Teach Trace** screen in **Remnant Mode**.
- Set the precision for XPR cut chart values to 2 decimal places to match Phoenix's default value for metric parts. This prevents off path motion when changing the XPR cut process in the middle of the part.
- Resolved an issue where **Backup on Path** was not on path when using certain waterjet parts with E Codes. Also eliminated a Phoenix exception that occurred after the Backup on Path issue occurred.

- Resolved an issue where the kerf and speed values in the Cutting screen and main screen were not updated so the next cut used the wrong program speed and the wrong kerf Value. This occurred after entering the XPR's Cut Chart screen from the Process screen (Setups/Process/Plasma 1/Plasma 1 Cut Chart) and selecting a different process.
- Large simple shapes with an EIA length greater than 65,535 characters are no longer passed to ProNest CNC. These shapes are now executed directly as the original simple shape without causing a Phoenix error.
- Eliminated Phoenix exceptions that occurred when using the **CutPro Wizard** in trial mode or oxyfuel mode with an oxyfuel only setup file.
- The correct pressure units are now displayed on the oxyfuel **Cut Chart** screen when in metric mode.
- Resolved an issue where the **Move Speed** potentiometer did not update after using the **Forward** or **Backup on Path** buttons.
- Eliminated Phoenix exceptions that occurred when re-assigning an XPR to a different Cutting Tool in the Station Configuration screen.
- Resolved an issue that prevented access to the HD3070 Plasma Process screen in Phoenix.

Software versions



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- To see version information for other items click the Windows Start button and go to **All apps > Windows System > Control Panel > Programs and Features**.



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Shown on the Phoenix Diagnostics screen

Item	Versions / Revisions
Windows	10.00.10240
Phoenix	10.14.0
Real-Time OS	6.3.19040.2
Field Bus Master	1.5.61209.0
Real-Time Module	10.14.0141520
PLC engine	1.1.0.0
Phoenix OpCon API	2.0.0.0
Active OpCon APIs	2.0.0.0

Shown on the Cut Chart screen

Item	Versions / Revisions
XPR	N
HPRXD	AA
HPR	80003Ea and 80003Eb
Oxyfuel	F - Extended format A

Shown in the XPR web application

Item	Versions / Revisions
XPR main control	M - 777
XPR torch connect	M - 270
XPR gas connect	J - 193
XPR choppers	J - 216
XPR wireless	27537

Shown on the Windows Programs and Features screen

Item	Versions / Revisions
ProNest CNC Client	1.1.6.214
ProNest CNC Package	1.4.0.0
ProNest CNC Nesting software	13.1.2.7243
Hypertherm EtherCAT Studio	1.1.6738.35948
KPA EtherCAT Studio	1.12.349.0
KPA Licensing utilities	2.3.1410.0
KPA MRT	1.5.61209.0
Microsoft XML Notepad	2.7.1.5
EDGE Connect Suite	1.8.7277.52478
EDGE Connect Launcher	1.4.6761.21114
Backup and Restore Utility	1.1.6592.40703
EtherCAT ESI Library	1.0.36.0
INtime for Windows Runtime	6.3.19040.2
Hypertherm Connect Client	1.1.6912.22365

Other

Item	Versions / Revisions
MULTIPROG	1.2
SoftOpCon	2.3.1.435
MinReqOpCon	2.3.1.435
Hardware operator console	1.0

Version 10.13.2

Release notes

Phoenix resolutions

- Resolved an issue where clicking or pushing on the very bottom edge of the **Forward** and **Backup on Path** soft keys could cause continued motion on path.
- Resolved an issue where motion continued if the operator dragged the cursor off of the Phoenix window before releasing a **Jog** or **Forward/Backup on Path** soft key.



Clicking anywhere on the Phoenix screen, pushing any of the stop buttons, or pushing an E-stop button stops motion in both of the cases mentioned above.

Software versions



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Shown on the Phoenix Diagnostics screen

Item	Versions / Revisions
Windows	10.00.10240
Phoenix	10.13.2
Real-Time OS	6.3.19040.2
Field Bus Master	1.5.61209.0
Real-Time Module	10.13.2.1519
PLC engine	1.1.0.0
Phoenix OpCon API	2.0.0.0
Active OpCon APIs	2.0.0.0

Shown on the Cut Chart screen

Item	Versions / Revisions
XPR	N
HPRXD	AA
HPR	80003Ea and 80003Eb
Oxyfuel	F - Extended format A

Shown in the XPR web application

Item	Versions / Revisions
XPR main control	M - 777
XPR torch connect	M - 270
XPR gas connect	J - 193
XPR choppers	J - 216
XPR wireless	27537

Shown on the Windows Programs and Features screen

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ProNest CNC Client	1.1.6.214
ProNest CNC Package	1.4.0.0
ProNest CNC Nesting software	13.0.3.6859
Hypertherm EtherCAT Studio	1.1.6738.35948
KPA EtherCAT Studio	1.12.349.0
KPA Licensing utilities	2.3.1410.0
KPA MRT	1.5.61209.0
Microsoft XML Notepad	2.7.1.15
EDGE Connect Suite	1.77187.38313
EDGE Connect Launcher	1.4.6761.21114
Backup and Restore Utility	1.1.6592.40703
EtherCAT ESI Library	1.0.36.0
INtime for Windows Runtime	6.3.19040.2
Hypertherm Connect Client	1.1.6912.22365

Other

Item	Versions / Revisions
MULTIPROG	1.2
SoftOpCon	2.3.0.434
MinReqOpCon	2.3.0.434
Hardware operator console	1.0

Version 10.13.0

Release notes

New and updated documentation

- Added new and updated content to instruction manual 809550 *EDGE Connect Programmer Reference* (Revision 3):
 - Arc Voltage Delay override for XPR
 - Marker font generator command's default offset value in Phoenix
 - Capitalization requirement for Checksum=RESET in the ESSI support chapter
- Added new and updated content to instruction manual 809900 *Cut and Mark with an XPR300 on EDGE Connect CNCs* (Revision 5)
 - On Time and Error Details in XPR Diagnostics View at the CNC
 - Arc Voltage Delay (AVD) override that is appended to the M07 line in XPR part programs to set the arc voltage delay up to 10 seconds
- Updated content in field service bulletins 808770 and 808780 *Phoenix Passwords (End User) and Phoenix Passwords (OEM)*.

Phoenix improvements

- Added Soft key 8 (**Reset I/O**) to the **Setup** watch window. Pressing the soft key clears the I/O Watch Window if the I/O Watch is selected in either the upper or middle locations of any of the 10 Watch Windows. This soft key provides a quick and simple way to reconfigure the I/O Watch without having to remove each I/O point individually.
- Trial Speed is now retained when Phoenix restarts instead of reverting Trial Speed to Max Machine Speed.
- We now home all THCs when a user presses one of the 12 **Go To Home Positions** while in the **Home Axes** screen.
Example: Choosing Go To Home Position 4 on the **Home Axes** screen causes the following to occur:

- All installed THCs move to their home position as if the operator pressed All
- When THC homing is complete, the gantry moves to Home Position 4

This change does not affect how the gantry moves to a home position using a **Go To Home** M-code in a part program.

Example: The M-code, M79 T4 (**Go To Home Position 4**), sends the gantry to the position saved to **Go To Home 4** in the **Home Axes** screen and does not home the THC before moving the gantry.

Phoenix resolutions

- Fixed an issue where the units of measurement for seconds were missing from several process data items in the Watch Window for plasma and oxyfuel processes.
- With Manual Centerline Spacing enabled, entering a manual spacing distance of 0 spaces the torches at the **Minimum Torch Spacing Distance** as defined in the **Machine Setups** screen, instead of displaying an error.
- Added FineCut specific materials for T100M and Duramax torch types to make it easier for operators to differentiate processes that are used with a PMX1000, 1250, 1650 using a T100M torch versus a Duramax retrofit torch.
- Eliminated a Phoenix exception when recovering from an E-Stop with a Dual Gantry-enabled machine.
- Fixed an issue with loading older setup files that caused Phoenix to crash.
- Fixed an issue where Phoenix application errors occurred when re-enabling the drives after an E-Stop event. An E-Stop event occurs when you activate the front panel E-Stop or **Drive Disabled** inputs. This problem occurred after either input was turned off and Phoenix attempted to re-enable the drives.
- Fixed an issue with the formatting of the setups listed on the **Unable to Load the Following Setups** dialog. This dialog can appear when loading a setup file that contains setups that can not be loaded.
- Improved Arc to Circle segment checks to block extremely large radius arc segments from turning into circles during path generation, even if arc start and end points almost match. This eliminates an extremely large circle execution appearing to be an off-path linear cut.
- Part Options (Scale Factor, Rotate Angle and X,Y Mirroring) are now properly retained when going to the **Align** screen directly after setting **Repeat** options.

Software versions



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Shown on the Phoenix Diagnostics screen

Item	Versions / Revisions
Windows	10.00.10240
Phoenix	10.13.0
Real-Time OS	6.3.19040.2
Field Bus Master	1.5.61209.0
Real-Time Module	10.13.0.1517
PLC engine	1.1.0.0
Phoenix OpCon API	2.0.0.0
Active OpCon APIs	2.0.0.0

Shown on the Cut Chart screen

Item	Versions / Revisions
XPR	M
HPRXD	AA
HPR	80003Ea and 80003Eb
Oxyfuel	F - Extended format A

Shown in the XPR web application

Item	Versions / Revisions
XPR main control	M - 777
XPR torch connect	M - 270
XPR gas connect	J - 193
XPR choppers	J - 216
XPR wireless	27537

Shown on the Windows Programs and Features screen

Item	Versions / Revisions
ProNest CNC Client	1.1.6.214
ProNest CNC Package	1.4.0.0
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KPA MRT	1.5.61209.0
Microsoft XML Notepad	2.7.1.15
EDGE Connect Suite	1.77187.38313
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EtherCAT ESI Library	1.0.36.0
INtime for Windows Runtime	6.3.19040.2
Hypertherm Connect Client	1.1.6912.22365

Other

Item	Versions / Revisions
MULTIPROG	1.2
SoftOpCon	2.3.0.434
MinReqOpCon	2.3.0.434
Hardware operator console	1.0

Version 10.12.0

Release notes

New and updated documentation

- Released Revision 3 of the *EDGE Connect Installation and Setup Manual* (809340) in English to publish updated documentation for the following topics:
 - Error messages for Field Bus Network Faults and HASPs
 - Screen capture and live video features in the Soft Operator Console (Soft Op Con)
 - Other miscellaneous updates
- Updated the Field Service Bulletin 809760, *Panasonic EtherCAT Drives Supported by EDGE Connect CNCs*. Added A5B to the heading for the table of supported drives listed alphabetically for clarity.
- Updated application note 809600, *Bosch Rexroth EtherCAT Drives Supported by EDGE Connect CNCs*, to clarify which firmware to use with Bosch Economy drives.
- Update application note 810300, *Noise Suppression Strategies for Machines with EtherCAT Networks*, to include information on using the RX errors on each slave for troubleshooting error 62 faults.

Phoenix improvements

- Added numeric fault codes and text for CNC Error 62 messages to help identify errors by sub type. Messages shown are:
 - Missed Update
 - Network Down
 - Configuration
 - Watchdog Timeout
 - Parse
 - Send Receive
 - Slave To Slave Timeout
 - Unknown Field Bus Network Fault
 - Default Input Data
 - Outputs Not Delivered
 - Internal Sync Lost
 - Propagation Delay Lost
- Added support for XPR revision N cut charts, including a new 1/8 inch process for stainless steel and updated arc voltage values in the 130A N2/H2O process for aluminum.
- Added the XPR electrode tightening tool (part number 104119) to the XPR **Change Consumables** and **Cut Pro Wizard** screens in Phoenix to remind people to use the proper tools when installing the electrode.
- Updated the translated versions of Phoenix HTML help in 16 languages.
- Made the following improvements to the Live video tab in the standard Soft Operator Console (Soft Op Con):
 - See your video or screenshot more easily when you open it in a larger window.
 - Keep your video feed in view at all times when you click-to-drag your video feed onto a second monitor (if installed).
 - Choose from a wider assortment of supported video capture devices.
 - When more than one video camera is installed, select which camera you want to view. Click Refresh to update the list of available cameras.
 - The Play/Pause video icon updates to reflect the option that is currently available.
- CPU priority adjusted to improve overall system performance and resource allocation when USB cameras are being displayed in the Soft Op Con, web browsers are being used or XPR diagnostics are displayed.
- Phoenix now has the capability to update the XPR Firmware over EtherCAT (FoE) on XPR's with firmware Rev M or higher. XPR firmware must be manually updated to Rev M or higher using USB or Wi-Fi and all bootloaders must be done by Wi-Fi before the XPR can accept firmware from the File over EtherCAT (FoE) protocol. This capability is in Phoenix 10.12 for future XPR firmware updates.

Phoenix resolutions

- The CNC will now pause and display a message when the XPR prevents arc ignition due to an XPR alert. Certain XPR alerts, such as low gas pressure or pilot arc time-out, can result in a failure to generate an arc or prevent the XPR from attempting to generate an arc. When these alerts occur, the XPR notifies the CNC by switching its operating state to **End of Cycle**. The CNC now checks for this XPR state when an alert occurs while the CNC is in the **Waiting for Arc On** state. If the CNC receives the **End Of Cycle** signal at this time, the CNC pauses and displays the message. Once the user acknowledges the message, the CNC sends the XPR its current process to clear the Alert.
- Fixed an issue that caused Phoenix to display an **Unknown Error** message from the XPR.
- Fixed an issue that occurred when the CNC did not send an XPR a cutting process when a nest was restarted after an Invalid Process error occurred. The error occurred when an XPR had an error while rip cutting or plasma cutting that caused the rip cut or plasma cut to pause and display a message. Once the XPR is in this error condition, the only way to reset the error is to resend the cutting process to the XPR or toggle the XPR remote switch. This change will not resend the XPR cutting process when the user acknowledges the error message. Once the error condition is reset, rip cutting or plasma cutting can continue.
- Corrected the cut speed for the 3/8 inch mild steel, 65 amp process for Powermax 65, 85, 105, and 125. The correct cut speed is 45 ipm.
- Fixed an issue where **Ignore Torch Collision During IHS** did not work with a Powermax.
 - Torch collision is ignored when the torch is above the **Plate Sensing Distance** if **Ignore Torch Collision During IHS** is set to **Yes**
 - Torch collision behaves the same as it does when using **Nozzle Contact Sense** if **Ignore Torch Collision During IHS** is set to **Yes**.
 - A Torch Collision fault occurs if **Ignore Torch Collision During IHS** is set to **No**.
- Based on the Light Industrial team's recommendation, swirl ring part numbers 220857 and 220994 have been replaced by 220947 for improved performance. Updated the swirl ring image and part number for FineCut and Low Speed (LS) FineCut specific material selection. The images are displayed on both the regular and CutPro wizard **Change Consumable** screens for all Powermax power supplies.
- Fixed an issue (working in partnership with Bosch) with EDGE Connect CNCs paired with Bosch IndraDrive Cs Economy drives that resulted in a Field Bus communication error.
 - The fault can occur when the machine is sitting idle with the drives enabled or during a cut. The error appears in a fault message on the CNC as Error 62 - Field Bus Network Fault.
 - This problem only occurred with Bosch IndraDrive Cs Economy drives. No other drives are affected. Bosch has released a firmware solution that is now available.
 - We recommend that all partners discuss this change with their Bosch representative and decide if the latest firmware (MPE20v24) should be installed on their Bosch IndraDrive Cs Economy drives. There are no EDGE Connect CNC or Phoenix software updates required.
 - The Bosch Application Note (809600) was updated to reflect the new firmware version.

- Fixed an issue where the bevel angle was lost when a certain series of events occurred. A bevel cut was paused, IHS was interrupted, a Forward or Backup on Path command (with the bevel head vertical) was given, and then the cut was resumed.
- Eliminated an unnecessary part program end command after a skew adjustment was completed. This change prevents the stations from getting canceled when an input, such as **Fast Stop**, occurs and a skew adjustment is required after enabling feedback.
- Resolved path errors that occurred when the **Parallel Kerf Enable** function was used with G40 **Disable Kerf** codes in the middle of the cut path.
- Eliminated a Phoenix Exception Error that occurred while shutting down Phoenix. The error occurred because the HASP key was removed.
- Resolved an issue that occurred when the lifter was raised or lowered when cutting or trialing. If the **Return To Start** or another message was displayed while raising or lowering the lifter, the lifter continued to move toward the workpiece or hard stop until the message was cleared.
- Resolved an issue where ABXYZ Bevel Heads could end up touching or pressing on the plate when the bevel angles return to 0 degrees.
- Adjusted the CPU priority to improve overall system performance and resource allocation when USB cameras are being displayed in the Soft Op Con, web browsers are being used or XPR diagnostics are displayed.
- Fixed an issue where the CNC was unable to recognize any digital or analog inputs/outputs, when using a Wago Fieldbus Coupler with firmware version 1.03.07(5). Wago changed their naming convention in their last firmware update and Phoenix now supports both the old and the new naming conventions.

Software versions



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Phoenix	10.12.0
Real-Time OS	6.3.17348.3
Field Bus Master	1.5.61204.0
Real-Time Module	10.12.0.1514
PLC engine	1.1.0.0
Phoenix OpCon API	2.0.0.0
Active OpCon APIs	2.0.0.0

Shown on the Cut Chart screen

Item	Versions / Revisions
XPR	N
HPRXD	AA
HPR	80003Ea and 80003Eb
Oxyfuel	F - Extended format A

Shown in the XPR web application

Item	Versions / Revisions
XPR main control	M - 777
XPR torch connect	M - 270
XPR gas connect	J - 193
XPR choppers	J - 216
XPR wireless	27537

Shown on the Windows Programs and Features screen

Item	Versions / Revisions
ProNest CNC Client	1.1.6.214
ProNest CNC Package	1.3.0.0
ProNest CNC Nesting software	13.0.3.6859
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KPA EtherCAT Studio	1.12.300.0
KPA Licensing utilities	2.3.1300.0
KPA MRT	1.5.61204.0
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EDGE Connect Suite	1.7.7104.27093
EDGE Connect Launcher	1.4.6761.21114
Backup and Restore Utility	1.1.6592.40703
EtherCAT ESI Library	1.0.36.0
INtime for Windows Runtime	6.3.17348.3
Hypertherm Connect Client	1.1.6912.22365

Other

Item	Versions / Revisions
MULTIPROG	1.2
SoftOpCon	2.3.0.434
MinReqOpCon	2.3.0.434
Hardware operator console	1.0

Version 10.11.0

Release notes

Phoenix improvements

- The current limit for Delta drives has been rescaled to 3x the original value to cover the full range set within the drive. If you have a **Home Current Limit** and/or **IHS Current Limit** defined on the **Axes Setup** screens, decrease the limit by one third of the previous value to get the equivalent stall force setting.
- The **Current Limit** setting for the THC can be defined on the **THC Axis** screen. The **Current Limit** setting determines the maximum current or torque that can be delivered to the THC axis. The value can be set between 0 and 100% of the THC axis motor drive rating.
- Added support for Yaskawa sigma7 series 400 V drives.
 - SGD7S-xxxA0xxxF64 models with product Code 0x02200401.

XPR improvements

- M07 AVD overrides are now available for use in XPR part programs to set the arc voltage delay up to 10 seconds. Phoenix now defaults to ohmic contact **Initial Height Sense** (IHS) for all XPR170 and XPR300 **Vented Water Injection** (VWI) processes. This is a coordinated change with the Heavy Industrial system release of control board firmware revision L.
- The XPR water injection process now performs **Nozzle Contact Sense** the same way as all other XPR processes.

- Now when an XPR is turned on a process is sent from the cut chart so the XPR is ready to cut when cycle start is pressed. Previously Phoenix displayed the status message **No Process Loaded** and displayed **PS Not Ready To Receive Process** when the operator pressed start.

ProNest CNC improvements

- ProNest CNC now uses the plate size specified in Phoenix Setup as the initial nesting size. This could help with customers cutting large parts. The nesting area can always be changed before nesting. This update requires both Phoenix and ProNest CNC (via the Edge Connect Suite Installer) to be updated.

Phoenix resolutions

- Resolved an issue where 400 V Yaskawa sigma 7 drives were not included in Phoenix versions 10.7 through 10.10.
- Resolved an issue where the temperature units (F° and C°) were not displayed for chopper, coolant, and transformer temperatures on the **HPR Diagnostic** screen.
- Resolved part positioning errors due to kerf values that are too large for extremely small arc radial segments. For example, the positioning errors for small holes increased over the duration of cutting the nest and eventually the part dimensions would be out of tolerance.
- If an XPR Underwater cutting process is loaded the CNC will use stall force during IHS, even if the THC is set to use NCS during the IHS.
- Resolved issue where manual motion arrow keys and Lifter raise/lower buttons in the **Alignment Wizard** were not functioning.
- Fixed the S Curve calculations to prevent the cut process from freezing in a **Plasma Rampdown** state at the end of a plasma cut sequence.
- Resolved a problem that occurred when you tried to resume a rip cut or rip mark while using the latched jog keys in the watch window. Previously when a fault occurred, the cut/mark paused, the jog key remained depressed, and the rip could not be resumed. Now the depressed jog key is released when a fault occurs.
- Resolved an issue that prevented AC transformed bevel heads from being set up and run with the **Bevel, Pipe, and Tube Hasp Feature** on EDGE Connect.
- Resolved an issue where an error message (**Invalid Process** or **Set Process Denied**) displayed during a latched rip mark or a latched rip cut on an XPR. If an XPR is not ready to receive a process, the part program now pauses at an M07 (cut on command).
- Resolved an issue that caused a bevel cut to resume at the wrong cut speed from an **Off-Path Resume** during a bevel pass/cut. XPR bevel cutting is now resumed at the last executed F-Code speed.
- The XPR **Diagnostic** view in Phoenix now opens in a separate application to improve the user interface experience. The functionality of the XPR **Diagnostic** view has not changed. However, the XPR **Diagnostic** view stays open now even if Phoenix is closed. Data does not update when Phoenix is not running.

Software versions



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Item	Versions / Revisions
Windows	10.00.10240
Phoenix	10.11.0
Real-Time OS	6.3.17348.3
Field Bus Master	1.5.61204.0
Real-Time Module	10.11.0.1513
PLC engine	1.1.0.0
Phoenix OpCon API	2.0.0.0
Active OpCon APIs	2.0.0.0

Shown on the Cut Chart screen

Item	Versions / Revisions
XPR	M
HPRXD	AA
HPR	80003Ea and 80003Eb
Oxyfuel	F - Extended format A

Shown in the XPR web application

Item	Versions / Revisions
XPR main control	L - 736
XPR torch connect	J - 246
XPR gas connect	J - 193
XPR choppers	J - 216
XPR wireless	26308

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Item	Versions / Revisions
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ProNest CNC Package	1.3.0.0
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KPA MRT	1.5.61204.0
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EDGE Connect Suite	1.7.7009.34257
EDGE Connect Launcher	1.4.6761.21114
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EtherCAT ESI Library	1.0.36.0
INtime for Windows Runtime	6.3.17348.3
Hypertherm Connect Client	1.1.6912.22365

Other

Item	Versions / Revisions
MULTIPROG	1.2
SoftOpCon	2.1.0.415
MinReqOpCon	2.1.0.415
Hardware operator console	1.0

Version 10.10.1

Release notes

Phoenix resolution

- Resolved an issue with some of the Phoenix 10.10.0 language installers. When the version 10.10.0 PhoenixSuiteInstaller.exe was used to update the Edge Connect CNC, Phoenix was updated to version 10.10.0 properly but the installation was corrupt. You can identify the issue by looking at the Phoenix version number in the Phoenix Diagnostic screen. If the version number is displayed in green text then you should stop using that language and change Phoenix to one of the languages that is not affected until the system can be updated to version 10.10.1.



Only the Phoenix Suite Installer needs to be used to complete this update.



All of the language files have been updated to 10.10.1

Affected languages (Do not use these files)	Language files that are not affected
Polish	Chinese - simplified
Czech	Chinese - Traditional
Finnish	Danish
French	Dutch
German	English
Hungarian	Japanese
Italian	Korean
Portuguese	Lithuanian
Russian	

Affected languages (Do not use these files)	Language files that are not affected
Slovenian	
Spanish	
Turkish	

Software versions



You must be at image 27 or higher to perform this update.

The versions for the software and firmware in the current update are shown in different locations on the EDGE Connect CNC. The table below is grouped by the location where the version information is shown.

- To see version information for Windows, Phoenix, Real-Time OS, Field Bus Master, Real-Time Module, PLC engine, System Image, and operator console APIs:

Choose **Main > Setups > Diagnostics > Control Information**.

- To see version information for cut charts choose **Main > Setups > Process > Cut Chart**. The version information is displayed in the top left corner of the screen.
- To see version information for other items click the Windows Start button and go to **All apps > Windows System > Control Panel > Programs and Features**.



If you need to update the CNC or have any other questions about software versions, contact your regional [Technical Support Team](#).

Shown on the Phoenix Diagnostics screen

Item	Versions / Revisions
Windows	10.00.10240
Phoenix	10.10.1
Real-Time OS	6.3.17348
Field Bus Master	1.5.61204.0
Real-Time Module	10.10.1.1512
PLC engine	1.1.0.0
Phoenix OpCon API	2.0.0.0
Active OpCon APIs	2.0.0.0

Shown on the Cut Chart screen

Item	Versions / Revisions
XPR	M
HPRXD	AA
HPR	80003Ea and 80003Eb
Oxyfuel	F - Extended format A

Shown in the XPR web application

Item	Versions / Revisions
XPR main control	J - 692
XPR torch connect	J - 246
XPR gas connect	J - 193
XPR choppers	J - 216
XPR wireless	25975

Shown on the Windows Programs and Features screen

Item	Versions / Revisions
ProNest CNC Client	1.1.6.213
ProNest CNC Package	1.3.0.0
ProNest CNC Nesting software	13.0.3.6859
Hypertherm EtherCAT Studio	1.1.6738.35948
KPA EtherCAT Studio	1.12.300
KPA Licensing utilities	2.3.1300.0
KPA MRT	1.5.61204.0
Microsoft XML Notepad	2.7.1.15
EDGE Connect Suite	1.7.6912.44481
EDGE Connect Launcher	1.4.6761.21114
Backup and Restore Utility	1.1.6592.40703
EtherCAT ESI Library	1.0.36.0
INtime for Windows Runtime	6.3.17348.3
Hypertherm Connect Client	1.1.6912.22365

Other

Item	Versions / Revisions
MULTIPROG	1.2
SoftOpCon	2.1.0.415
MinReqOpCon	2.1.0.415
Hardware operator console	1.0

Version 10.10.0

Release notes

New and updated documentation

- Customers installing non-English versions of the Phoenix Suite Installer no longer need to unzip the executable files before installing them. The files are delivered as a PhoenixSuiteInstaller.exe that can be directly applied to update the CNC.
- Updated Field Service Bulletin 809260 (*HPR130XD, HPR260XD, and HPR400XD EtherCAT and VDC3 Board Installation*) to reflect a new VDC3 board (141511).

Phoenix Improvements

- Disabled the Windows Action Center notifications that appeared in the lower right corner of the screen.
- The Change Consumable screen now displays XPR consumable tracking information.

XPR Improvements

- On Time and Error Details are now available on the Log screen in the XPR Diagnostics View at the CNC. The data is only available with XPR firmware revision J or later.

Hypertherm
SHAPING POSSIBILITY™

Station: 1

Client ID: EDGE Connect
Operator ID: No user
System ID: XPR
State: Standby
Connection: Good

PLASMA POWER SUPPLY

GAS SYSTEM

LOG

OTHER

Log English

Active

Class	ID	Description		
History				
Class	ID	On Time	Description	Details
Info	574	0d 13h 53min 20s	Start removed preflow	time:1234ms
Alert	620	0d 0h 1min 52s	Arc stretch detected	duty:53% lim:10%
Error	523	0d 6h 14min 5s	Preflow purge t/o	dur:34 lim:30
Failure	510	0d 6h 6min 40s	Main->GCC CAN t/o	
Alert	775	0d 4h 10min 3s	The firmware on a node has been updated.	gcc success B 6
Error	752	0d 0h 3min 43s	Phase Fault-Ch1	minVdc:25.4V freq:126Hz
Failure	542	0d 0h 5min 44s	Low flow-Coolant	flow:23.31gpm lim:12.76gpm
Error	691	0d 0h 0min 55s	Node reset	id:63 rec:0xA8 hf:345ms

Powermax Improvements

- Powermax45 XP can now be configured as a Marker tool in the Station Configuration screen. When configured as a Marker tool, a Marking cut chart is available and Phoenix will honor M09 and M10 codes in a part program

ProNest resolutions

- Resolved an issue in ProNest CNC that allowed a part quantity of 0 when using the keypad entry. The minimum quantity is now 1. Parts can be removed using the red X button next to the part name.
- Resolved an issue with ProNest CNC that prevented CAD files (*.dxf) from being loaded after loading a Simple Shape (*.cnc) file.

Phoenix resolutions

- Resolved an issue where the Frame Simple Shape had a duplicate set of G41 and M07 EIA Codes.
- Resolved an issue where the Cut Control signal turned off during the middle of a cut when Arc Off Time is set to 0. It is recommended that the Arc Off time be set to a value other than zero to prevent inadvertent stoppages due to fast transitions of the Arc Sensing signal (Cut Sense input).
- Resolved an issue that caused an HPR part program to pause 90 seconds after the IHS completed, if there was a PS Link Failure to the HPR. The message shown is Process Update Took Too Long. Press Start to Resume or Lowering Torch.
- Resolved an issue that allowed a user to move the table through the manual jog keys when another dialog box was directly over the arrow keys and that area of the screen was pressed. A dialog box could be a message box, keyboard or number pad. Customers not using the Ready to Move option in the Special Setups screen should turn this option on or update to the latest release to avoid unintended motion.

Software versions



You must be at image 27 or higher to perform this update.

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- To see version information for Windows, Phoenix, Real-Time OS, Field Bus Master, Real-Time Module, PLC engine, System Image, and operator console APIs:
Choose **Main > Setups > Diagnostics > Control Information**.
- To see version information for cut charts choose **Main > Setups > Process > Cut Chart**. The version information is displayed in the top left corner of the screen.
- To see version information for other items click the Windows Start button and go to **All apps > Windows System > Control Panel > Programs and Features**.



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Shown on the Phoenix Diagnostics screen

Item	Versions / Revisions
Windows	10.00.10240
Phoenix	10.10.0
Real-Time OS	6.3.17348.3
Field Bus Master	1.5.61204.0
Real-Time Module	10.10.0.1511
PLC engine	1.1.0.0
Phoenix OpCon API	2.0.0.0
Active OpCon APIs	2.0.0.0

Shown on the Cut Chart screen

Item	Versions / Revisions
XPR	M
HPRXD	AA
HPR	80003Ea and 80003Eb
Oxyfuel	F - Extended format A

Shown in the XPR web application

Item	Versions / Revisions
XPR main control	J - 692
XPR torch connect	J - 246
XPR gas connect	J - 193
XPR choppers	J - 216
XPR wireless	25975

Shown on the Windows Programs and Features screen

Item	Versions / Revisions
ProNest CNC Client	1.1.6.213
ProNest CNC Package	1.3.0.0
ProNest CNC Nesting software	13.0.3.6859
Hypertherm EtherCAT Studio	1.1.6738.35948
KPA EtherCAT Studio	1.12.300
KPA Licensing utilities	2.3.1300.0
KPA MRT	1.5.61204.0
Microsoft XML Notepad	2.7.1.15
EDGE Connect Suite	1.7.6912.44481
EDGE Connect Launcher	1.4.6761.21114
Backup and Restore Utility	1.1.6592.40703
EtherCAT ESI Library	1.0.36.0
INtime for Windows Runtime	6.3.17348.3
Hypertherm Connect Client	1.1.6912.22365

Other

Item	Versions / Revisions
MULTIPROG	1.2
SoftOpCon	2.1.0.415
MinReqOpCon	2.1.0.415
Hardware operator console	1.0

Version 10.9.0

Release notes

New and updated documentation

- Updated Phoenix HTML Help to add support for the XPR170 and to update translations (excluding XPR170).



The documents listed below are available in the Hypertherm Documents Library at www.hypertherm.com/docs.

- Updated the *Cut and Mark with an XPR on an Edge Connect CNC* (809900) to revision 4.
- Updated the *EDGE Connect Programmers Reference* (809550) to support the XPR170 and Duramax Lock torch.
- The *XPR170 Instruction Manual* (810060) is now available through the Technical Documentation soft key on the Phoenix Main screen.

Phoenix Improvements

- Added support for Duramax and T45M torch types for Powermax45. To clarify which processes are available for each torch type, FineCut and LS FineCut processes have moved from the Torch Type list to the Specific Material list. The operator can now choose the Duramax Torch Type and select either LS FineCut, FineCut or Production from the Specific Material list and use that process with their Powermax45.
- Powermax45 XP cut charts have been added for cutting and marking (as a cut only.) This is the first of several phases needed to fully support the Powermax45 XP as a cutting and marking tool in Phoenix. Powermax communication is currently only supported by discrete I/O connections to the EDGE Connect and EDGE Connect TC.

XPR Improvements

- Added support to use a XPR170 and an XPR300 on the same table, allowing EDGE Connect operators to cut with either or both together.
- Added support for XPR revision M cut charts, including a 50A True Hole process and a 3/4" True Hole process for mild steel.
- Added support for Edge Start processes for the XPR from the manual Cut Chart screen. Edge Start processes are labeled with an (ES) at the end of the process name. Argon Assist Pierce processes are labeled with an (Ar) at the end of the process name. To use the Ar Assist Pierce process, users must have a VWI or Optimix gas console and have Argon gas available.
- The ENABLEXPRWITHOTHER password is now XPRWITHOTHER and is enabled by default. Entering XPRWITHOTHER turns the feature on and off. This password enables and disables the use of oxyfuel mode alongside XPR Plasma mode. Example, oxyfuel powder marker codes can be used in the same part program that contains XPR plasma cutting codes.

ProNest Improvements

- Updated ProNest CNC data for XPR to include revision M cut charts, including a 50A True Hole process and a 3/4" True Hole process for mild steel.
- EDGE Connect Suite Installer now includes ProNest CNC version 13.0.3.6859.

Phoenix resolutions

- Resolved an issue where the Spanish translation of gas pressure (psig) was not fully visible in the Oxy Fuel Cut Chart screen.
- Running the PhoenixSuiteInstaller.exe fills in the C:\Phoenix folder with the correct files if the folder is empty or missing.
- Updating cut chart data using the Load Cut Charts soft key and a USB drive is now loaded into Phoenix without restarting Phoenix.
- Fixed a situation in which certain EtherCAT master error conditions failed to be reported by the system.

- Fixed an issue with Auto Cut and Ultra Cut cut charts that contained unsupported material thicknesses that caused Phoenix to crash. The Ultra Cut 200, 300, and 400 plasma supplies using 30A, 50A, or 70A stainless steel processes contained unsupported 0.019", 0.025", 0.031", 0.038", 0.050", 0.078", 0.109", and 0.141" material thicknesses caused the issue above.
 - The Auto Cut 100, 200, and 300 plasma supplies using 55A or 100A stainless steel processes contained unsupported 0.034" and 0.141" material thicknesses also caused the issue above.
 - The cut charts containing the unsupported material thicknesses have been changed to use only supported thicknesses. Below is a list of the unsupported material thicknesses and the supported material thickness they were changed to:
 - 0.019" to 0.018"
 - 0.025" to 0.024"
 - 0.031" to 0.030"
 - 0.034" to 0.036"
 - 0.038" to 0.040"
 - 0.050" to 0.048"
 - 0.078" to 0.075"
 - 0.109" to 0.105"
 - 0.141" to 0.135"
 - The new cut charts are available in Cut Chart build 383 and are available to download from Hypertherm.com with the 10.9 Release.
- Improved stability of the EtherCAT network with respect to network disturbances, which sometimes resulted in an error message that displayed a SIGFREE error.
- Corrected a problem with the NCS (Nozzle Contact Sense) input. When an XPR water mist process is selected, Phoenix resorts to stall force to find the workpiece. If the NCS input is wired discretely, Phoenix will use the input if it is activated before the torch contacts the workpiece. Stall force is used if the NCS input is not activated before the torch contacts the workpiece.
- The Cut Pro Wizard, set up with HPR, will no longer crash when transitioning from the Cut Chart section to the Consumables section.
- Phoenix now restarts and functions properly after updating software.
- Resolved an issue where HPR inputs and outputs that were added to a Watch Window disappeared when an operator attempted to make a plasma cut or a plasma mark with the HPR. This occurred if the HPR was not remotely powered On and an active PS Link Fail message appeared in the status area or as a dialog on the main screen of the CNC. This update prevents the IO from disappearing based on a serial link connection to the HPR.
- Resolved an issue where the CNC did not give the user an indication that the plasma power supply was not turned on. While attempting to perform a rip cut or rip mark, the THC performed an IHS and remained in the Lowering Torch state, appearing as if the process never completed. Now Phoenix will pause and display a PS Link Fail or XPR is Off message shortly after attempting to start the rip cut or rip mark.

- The XPR cut chart screen is now reflecting process selection changes correctly when returning from the Change Consumables screen.
- The Cut Pro Wizard for XPR now uses the correct process data with the plasma 2 cut mode.
- Improved Phoenix performance when loading or drawing parts, changing screens, exiting setups, or starting manual or automatic motion.
- Resolved an issue where the I/O for non-EtherCAT direct devices such as the HPR and Powermax did not appear in user created Watch Windows or oscilloscopes. This issue occurred when a user powered up their cutting system when the power supplies were turned off. Now the I/O for power supplies is always displayed as long as the I/O is configured within Phoenix and the power supply is assigned to a station within the Station Configuration screen.
- Resolved an issue that occurred when jogging with the joystick where the joystick lost focus and caused motion to stop. The user was unable to regain motion control with the joystick and the CNC appeared to be frozen. The issue occurred when a user touched the screen anywhere within the Soft Op Con while jogging with the joystick. Now if the gantry is being jogged and a user selects something inside the Soft Op Con, the focus remains with the CNC (the joystick in this case). For example, an operator can not enable a station while jogging the gantry. You have to stop jogging first and then enable the station.
- Plasma 1 and Plasma 2 cut chart selections for XPR now save to the corresponding Cut Modes.
- Resolved an issue where the THC Raise/Lower switch or buttons stopped working after an E-stop occurred during a THC Raise/Lower operation.

Software versions



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- To see version information for cut charts choose **Main > Setups > Process > Cut Chart**. The version information is displayed in the top left corner of the screen.
- To see version information for other items click the Windows Start button and go to **All apps > Windows System > Control Panel > Programs and Features**.



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Shown on the Phoenix Diagnostics screen

Item	Versions / Revisions
Windows	10.00.10240
Phoenix	10.9.0
Real-Time OS	6.3.17348.3
Field Bus Master	1.5.61204.0
Real-Time Module	10.9.0.1509
PLC engine	1.1.0.0
Phoenix OpCon API	2.0.0.0
Active OpCon APIs	2.0.0.0

Shown on the Cut Chart screen

Item	Versions / Revisions
XPR	M
HPRXD	AA
HPR	80003Ea and 80003Eb
Oxyfuel	F - Extended format A

Shown in the XPR web application

Item	Versions / Revisions
XPR main control	J - 692
XPR torch connect	J - 246
XPR gas connect	J - 193
XPR choppers	J - 216
XPR wireless	25975

Shown on the Windows Programs and Features screen

Item	Versions / Revisions
ProNest CNC Client	1.1.5.210
ProNest CNC Package	1.3.0.0
ProNest CNC Nesting software	13.0.3.6895
KPA EtherCAT Studio	1.12.300
KPA Licensing utilities	2.3.1300.0
Microsoft XML Notepad	2.7.1.15
EDGE Connect Suite	1.5.6761.27997
EDGE Connect Launcher	1.4.6761.21114
Backup and Restore Utility	1.1.6592.40703
EtherCAT ESI Library	1.0.28.0

Other

Item	Versions / Revisions
MULTIPROG	1.2
SoftOpCon	2.1.0.412
MinReqOpCon	2.1.0.412
Hardware operator console	1.0

Version 10.8.0

Release notes

New and updated documentation

- Released a new application note *Noise Suppression Strategies for Machines with EtherCAT® Networks (810300)*. The application note is available in the Hypertherm Documents Library at www.hypertherm.com/docs.
- Updated the application note *Panasonic EtherCAT Drives Supported by EDGE Connect CNCs (809760)* to add model numbers for A5 drives that were not listed previously. The application note is available in the Hypertherm Documents Library at www.hypertherm.com/docs.
- Updated the application note *Kollmorgen EtherCAT Drives Supported by EDGE Connect CNCs (809590)* to revise the notes in the table of supported Kollmorgen drives. The application note is available in the Hypertherm Documents Library at www.hypertherm.com/docs.
- Updated the application note *Delta EtherCAT Drives Supported by EDGE Connect CNCs (809770)* to update the notes in the table of supported Delta drives and add the firmware version and parameters needed to change motor direction. The application note is available in the Hypertherm Documents Library at www.hypertherm.com/docs.
- Updated the application note *EtherCAT Devices Supported by EDGE Connect CNCs (809660)* to include the changes in the application notes for individual drives listed above. The update also includes the addition of support for Beckhoff EL3001, EL3002, and EL3004 I/O modules. The application note is available in the Hypertherm Documents Library at www.hypertherm.com/docs.

XPR Improvements

- Updated the XPR Diagnostics view on the CNC to display the process database revision number.
- Updated the cut chart data for XPR plasma supplies to Rev L.

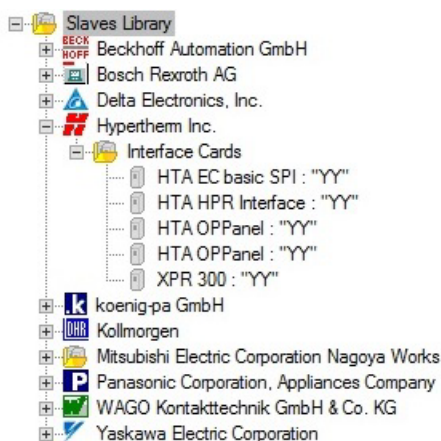
ProNest Improvements

- Updated ProNest CNC data for XPR to include revision L cut chart support which includes 50A cut processes.

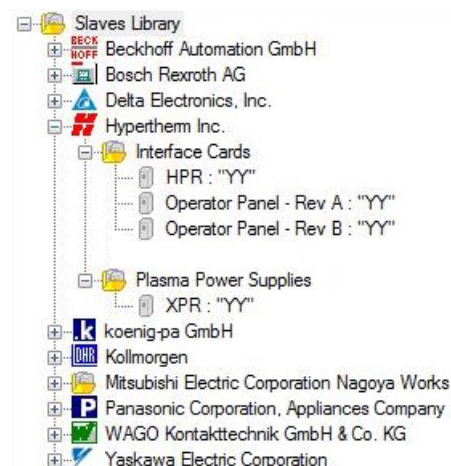
Phoenix Improvements

- Added support for Beckhoff EL3001, EL3002, and EL3004 analog input modules.
- Phoenix now allows up to 10 seconds for Arc Off Time for Sensor THC-based plasma cutting and marking (previously it was up to 2 seconds). The change was made to allow cutting to the edge of an irregular plate.
- Added support for 3 axes pipe and 4 axes pipe/tube configurations with EDGE Connect. Support was also added for other axes configurations that were only previously supported with EDGE Pro analog systems. This change was made to allow 3 and 4 axes configurations supported on EtherCAT to run pipe-only (4 axes with Transverse but without Dual Gantry) and pipe/tube (3 axes without Transverse and Dual Gantry) machine configurations.
- Updated the device names for all Hypertherm EtherCAT slaves and added a new plasma power supplies group for Hypertherm power supplies. These changes affect how Hypertherm EtherCAT slaves are seen in the Hypertherm EtherCAT Studio. If you create a network configuration file with the new device names you must use the file with Phoenix 10.8 and higher. If you have an existing network configuration file, you can use it with Phoenix 10.8 without issue. The changes only affect creating new files.

Old Device Names and Groups



New Device Names and Groups



- Updated INtime to version 6.3.17348.3 as part of routine maintenance. This update is included when you run the EDGE Connect Suite Installer.

Phoenix resolutions

- Resolved an issue where simulation builds of Phoenix version 9 and version 10 did not launch on later builds of Windows 10. Simulation builds will be added to the Xnet and communicated separately.
- Improved the joystick stop motion response when transferring from the main screen to the manual screen. Jogging with the joystick is not allowed to begin during a SaveSetups operation on the main screen. You can only enter the manual screen after SaveSetups is complete.
- Resolved an issue where the Joystick intermittently did not start motion until a touchscreen jog motion is requested.
- Resolved an issue where the Marker/Tool Z Offset setup value did not change properly from English to Metric units and back.
- We will now display a conflicting process message in response to the following events:
 - A marking part program is started, but a marking tool was not configured in the Special Setup screen
 - A marking tool was not configured to the enabled station on the Station Configuration screen

Waterjet: Prior to this change, a conflicting process was not displayed if the user was cutting with the waterjet process. We will now display a conflicting process when starting a waterjet program if multiple processes are configured on the enabled station.

Example: Station 1 has the Plasma 1 process configured to HPR and the Waterjet process configured to HyPrecision. When you try to cut using the waterjet cut mode the program will pause and display a conflicting process. Phoenix does not support a plasma torch and a waterjet head installed on the same station.

- Resolved an issue with Bottom Y Bevel and improper bevel motion in between Y-bottom and Y-top bevels.
- Resolved an issue where the laser pointer output was not deactivated during homing. This issue occurred when the laser pointer was set with a manual offset.
- Resolved an issue that occurred when a CNC with a custom software operator console was updated using the EDGE Connect Suite Installer. The EDGE Connect Launcher did not start the custom operator console and the default Hypertherm operator console was launched (the default behavior).
- The Edge Connect Launcher will attempt to close all instances of the applications listed in the steps.json file before attempting to launch them.
- Resolved a motion issue (bumping) with XPR. The issue occurred after a True Hole was cut and regular cutting resumed at a different speed than True Hole cutting.
- Resolved an issue where adding new material thicknesses for HPR cutting resulted in a Phoenix exception.
- Resolved an issue where the HPR cut current setpoint (over EtherCAT) was not displayed correctly in the HPR diagnostic watch window.

- Resolved an issue where the soft operator console, the hardware operator console, and THC/WHC Raise/Lower were not working. The hardware operator console and Raise/Lower now works properly while cutting with the lifter in manual mode, and the soft operator console will jog the head up or down while cutting if the lifter is in manual mode.
- Resolved an issue where Phoenix closed unexpectedly when entering the XPR Cut Chart screen with either no network or no valid XPRs.
- Resolved an issue where using the soft operator console THC Raise/Lower buttons caused the torch to rise to the top of the slide. The THC Raise/Lower buttons now work consistently with the Phoenix Jog Key Watch Raise/Lower buttons.
- Resolved an issue where the part program drawing was off the part path, but the part program motion was in the correct machine location.
- A status message, Machine Homing Needed, is now displayed whenever machine settings have been modified or conditions indicate that homing should be performed again.

Software versions



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The versions for the software and firmware in the current update are shown in different locations on the EDGE Connect CNC. The table below is grouped by the location where the version information is shown.

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- To see version information for cut charts choose **Main > Setups > Process > Cut Chart**. The version information is displayed in the top left corner of the screen.
- To see version information for other items click the Windows Start button and go to **All apps > Windows System > Control Panel > Programs and Features**.



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Shown on the Phoenix Diagnostics screen

Item	Versions / Revisions
Windows	10.00.10240
Phoenix	10.8.0
Real-Time OS	6.3.17348.3
Field Bus Master	1.5.61204.0
Real-Time Module	10.8.0.1580
PLC engine	1.1.0.0
Phoenix OpCon API	2.0.0.0
Active OpCon APIs	2.0.0.0

Shown on the Cut Chart screen

Item	Versions / Revisions
XPR	L
HPRXD	AA
HPR	80003Ea and 80003Eb
Oxyfuel	F - Extended format A

Shown in the XPR web application

Item	Versions / Revisions
XPR main control	H - 472
XPR torch connect	H - 180
XPR gas connect	H - 122
XPR choppers	H - 169
XPR wireless	24095

Shown on the Windows Programs and Features screen

Item	Versions / Revisions
ProNest CNC Client	1.1.5.210
ProNest CNC Package	1.1.9
ProNest CNC Nesting software	12.1.3.6507
KPA EtherCAT Studio	1.12.1300.0
KPA Licensing utilities	2.3.1300.0
Microsoft XML Notepad	2.7.1.15
EDGE Connect Suite	1.5.6761.27997
EDGE Connect Launcher	1.4.6761.21114
Backup and Restore Utility	1.1.6592.40703
EtherCAT ESI Library	1.0.28.0

Other

Item	Versions / Revisions
MULTIPROG	1.2
SoftOpCon	2.1.0.412
MinReqOpCon	2.1.0.412
Hardware operator console	1.0

Version 10.7.0

Release notes

New features

- Added the ability to monitor diagnostics for up to two XPR300 plasma power supplies at the CNC over EtherCAT. From within Phoenix, you can now see most of the same plasma power supply, gas system, and diagnostic code information as you can find in the XPR Web Interface on your wireless device.
 - To go to the XPR Diagnostics View in Phoenix, choose Setups > Diagnostics > XPR System.
 - For more information, refer to *Cut and Mark with an XPR300™ on an EDGE® Connect CNC* (809900 Revision 3).
- Phoenix now checks the monitor resolution to determine if it matches the settings Hypertherm recommends. A message is displayed at startup if the monitor resolution does not match the settings Hypertherm recommends.
 - Choose No to maintain the current settings. The message will not be displayed again.
 - Choose Yes to launch the display control panel and modify the display settings. After the display settings are modified the message will not be displayed again.

A Display Settings button has also been added to the System Tools screen that will launch the system display control panel to make it easier to adjust display settings at anytime.
- When Phoenix launches, the Hypertherm 50 YEARS OF SHAPING POSSIBILITY logo will display for 3 seconds. The logo will only appear during the 2018 calendar year.

New and updated documentation

- Created the field service bulletin *RMA Process for Software Features* (810150), which contains instructions for removing software features from EDGE Connect CNCs. The field service bulletin is available in the Hypertherm Document Library at www.hypertherm.com/docs.
- Updated the manual addendum *Cut and Mark with an XPR300 on an EDGE Connect CNC* (809900). The manual addendum is available in the Hypertherm Document Library at www.hypertherm.com/docs.
- Updated Phoenix HTML Help with instructions to view XPR Diagnostics at the CNC over EtherCAT.

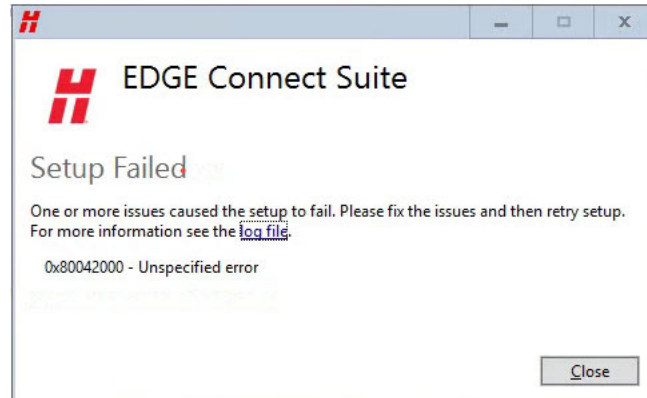
Improvements

- Added support for the Beckhoff EL2004 4 channel digital output module.

Phoenix resolutions

- Fixed an issue where Mapped Network Folders were not retained properly after Phoenix and EDGE Connect restarts.
- Resolved a scenario where Joystick Jogging can stop, start and go in the wrong direction if the following conditions are met. It is also possible to get stuck on a Soft Limit if the conditions below are met:
 - Dual Transverse axis is enabled, and it has been Mirrored.
 - The Machine has been homed and Soft Limits are enabled in the Transverse and Rail axis setup screens.
- Resolved an issue with a single plasma station and the Stop On Single Arc Lost setting disabled while cutting with a single XPR plasma torch on station 1. If the arc was lost while cutting (cut sense lost occurred), the torch would retract to the top of the lifters slide but cut motion continued until the user pressed stop.
 - Now, With a single plasma station and the Stop On Single Arc Lost disabled the program will pause after the arc off time expires and the CNC will display Cut Sense Lost as a status message.
 - With multiple plasma stations and the Stop On Single Arc lost disabled if a torch loses cut sense that torch will retract and cutting will continue on the remaining operating stations.
- Fixed an issue where Phoenix did not generate a FieldbusDeviceFault for Kollmorgen AKD drives when a drive level error occurred while the Field Bus was in the Operational state.
- Resolved an issue with the CutPro Wizard that resulted in a Phoenix application error when selecting Previous (navigating to the previous screen) or selecting a cut chart. Also resolved an issue where navigating forward (skip) and backward (previous) in the CutPro wizard caused the wrong cut chart fields to display in the pick process window of the CutPro Wizard.

- Resolved an issue that occurred when a part was manually modified using the Mirrored X or Y settings in the Current Part Options screen. If a part was mirrored using these settings the Rapid Traverse segments in the part can cause a hardware or software overtravel.
- Fixed an issue where installation of the EDGE Connect Suite failed during the ProNest CNC segment of the installation. The error message Setup Failed displayed with the error code 0x80042000 - Unspecified Error.



- Resolved an issue where Phoenix would stop responding if the user loaded a part that contained a process for a tool that was not configured for their cutting machine (Loaded an HPR program on a CNC configured for XPR). Now, Phoenix pauses and displays Invalid Process Requested in Part Program as the Reason Paused. The user is required to resolve this problem before being allowed to restart this program.
 - Potential Root Cause:
 - Load a valid part program for this cutting system
 - Part program contains G59 V5xx Fxx codes that select a cut chart for a dissimilar tool.
 - Part program contains a cutting process (Marking, Waterjet, Laser, Plasma 2) that is not configured. Example, M09/M10 marking codes in part program but marking process is set to None in cut chart or cut process does not have a marking process (Underwater selected as cutting surface).
 - Potential resolutions:
 - Temporarily disable the **EIA G59 Code Override** in the Program Code table of the Cutting screen.
 - Select a cut process from within the Cut Chart that matches the part program. If marking, a marking gas must be selected (N2 or Ar).
 - Disable **Process Select Override** if program is calling for a process that is not configured on CNC.
- Resolved an issue that caused the speed setpoint parameter in the watch window to display an incorrect value while using the speed pot during trialing. The machine moved at the correct speed, but that speed was not displayed correctly in the watch window.
- The restore last version operation is now correctly reverting to the previous version of software in both the C:\Phoenix directory as well as the language of interest.

- Removed the ability for an operator to move a part into a soft limit and continue cutting after being presented with the soft limits dialog. The option to Cancel the dialog was removed, this scenario is now consistent with existing soft limit checks.
- Resolved an issue where the translations for Fieldbus Drives Not Ready and Failed to get System Information - Error were incorrectly translated in Spanish.

Software versions



You must be at image 27 or higher to perform this update.

The versions for the software and firmware in the current update are shown in different locations on the EDGE Connect CNC. The table below is grouped by the location where the version information is shown.

- To see version information for Windows, Phoenix, Real-Time OS, Field Bus Master, Real-Time Module, PLC engine, System Image, and Op Con APIs:
Choose **Main > Setups > Diagnostics > Control Information**.
- To see version information for cut charts choose **Main > Setups > Process > Cut Chart**. The version information is displayed in the top left corner of the screen.
- To see version information for other items click the Windows Start button and go to **All apps > Windows System > Control Panel > Programs and Features**.



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Shown on the Phoenix Diagnostics screen

Item	Versions / Revisions
Windows	10.00.10240
Phoenix	10.7.0
Real-Time OS	6.3.17188.1
Field Bus Master	1.5.61015.0
Real-Time Module	10.7.0.1507
PLC engine	1.1.0.0
Phoenix OpCon API	2.0.0.0
Active OpCon APIs	2.0.0.0

Shown on the Cut Chart screen

Item	Versions / Revisions
XPR	K
HPRXD	AA
HPR	80003Ea and 80003Eb
Oxyfuel	F - Extended format A

Shown in the XPR web application

Item	Versions / Revisions
XPR main control	G - 472
XPR torch connect	G - 180
XPR gas connect	G - 122
XPR choppers	G - 169
XPR wireless	24095

Shown on the Windows Programs and Features screen

Item	Versions / Revisions
ProNest CNC Client	1.1.5.210
ProNest CNC Package	1.1.9
ProNest CNC Nesting software	12.1.3.6507
KPA EtherCAT Studio	1.12.259.0
KPA Licensing utilities	2.3.106.0
Microsoft XML Notepad	2.7.1.15
EDGE Connect Suite	1.4.6673.34133
EDGE Connect Launcher	1.4.6673.33634
Backup and Restore Utility	1.1.6592.40703
EtherCAT ESI Library	1.0.23.0

Other

Item	Versions / Revisions
MULTIPROG	1.2
SoftOpCon	2.1.0.410
MinReqOpCon	2.1.0.410
Hardware operator console	1.0

Version 10.6.1

Release notes

NOTICE

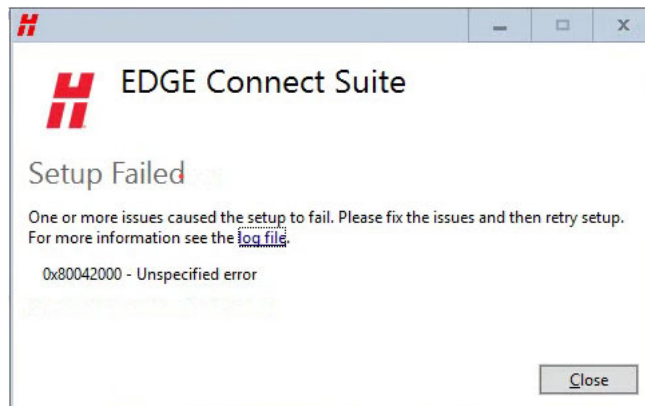


This is an unplanned release for EDGE Connect CNCs to address a reported field issue discovered in Phoenix version 10.6.0 software that was released earlier in January. For improved safety, all customers, especially any customers currently using version 10.6.0, are urged to update their software to Version 10.6.1.

Phoenix resolutions

- Resolved an issue for incorrect motion on mirrored part programs in Phoenix that resulted in the rapid traverse segment moving in the opposite direction, and significantly farther, than expected.
- Removed the ability for an operator to move a part into a soft limit and continue cutting after canceling the soft limits dialog. The option to Cancel the dialog was removed to be consistent with existing soft limit checks.

- Resolved an issue where the EDGE Connect Suite installer failed during the ProNest CNC segment of the installation and the message shown below was displayed.



Software versions



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The versions for the software and firmware in the current update are shown in different locations on the EDGE Connect CNC. The table below is grouped by the location where the version information is shown.

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Shown on the Phoenix Diagnostics screen

Item	Versions / Revisions
Windows	10.00.10240
Phoenix	10.6.1
Real-Time OS	6.3.17188.1
Field Bus Master	1.5.61015.0
Real-Time Module	10.6.1.1504
PLC engine	1.1.0.0
Phoenix OpCon API	2.0.0.0
Active OpCon APIs	2.0.0.0

Shown on the Cut Chart screen

Item	Versions / Revisions
XPR	K
HPRXD	AA
HPR	80003Ea and 80003Eb
Oxyfuel	F - Extended format A

Shown in the XPR web application

Item	Versions / Revisions
XPR main control	F - 472
XPR torch connect	F - 180
XPR gas connect	E - 122
XPR choppers	E - 169
XPR wireless	22311

Shown on the Windows Programs and Features screen

Item	Versions / Revisions
ProNest CNC Client	1.1.5.210
ProNest CNC Package	1.1.9
ProNest CNC Nesting software	12.1.3.6507
KPA EtherCAT Studio	1.12.259.0
KPA Licensing utilities	2.3.106.0

Other

Item	Versions / Revisions
MULTIPROG	1.2
SoftOpCon	2.1.0.410
MinReqOpCon	2.1.0.410
Hardware operator console	1.0

Version 10.6.0


Release notes

New and updated documentation

- Updated the application note, *Panasonic EtherCAT Drives Supported by EDGE Connect CNCs* (809760) to add support for Panasonic A6 drives. The application note is available in the Hypertherm Document Library at www.hypertherm.com/docs.
- Updated the application note *Bosch Rexroth EtherCAT Drives Supported by EDGE Connect CNCs* (809600) to add support for Bosch economy drives. The application note is available in the Hypertherm Document Library at www.hypertherm.com/docs.
- Updated the application note *Mitsubishi EtherCAT Drives Supported by EDGE Connect CNCs* (809750) to add support for J4 drives. The application note is available in the Hypertherm Document Library at www.hypertherm.com/docs.

Improvements

- Added support for Bosch economy drives.
- Added support for Panasonic A6 drives.
- Updated the Phoenix simulation software so the EtherCAT screens look like a real EtherCAT network is present. This allows a demonstration of Phoenix that shows how the setup screens would look on a real CNC.
- The operator is no longer able to choose to run a part or nest when the Soft Limits will be exceeded. The operator has to fix the overshoot. If this is not acceptable, the Nest/Soft Limit Checks can be disabled in the Special Setups (Not Recommended).

- Updated the Transfer Height and Pierce Height fields for XPR in Phoenix to support only absolute values in inches or millimeters. This change creates consistency with the XPR cut charts which list Transfer Height and Pierce Height as absolute values instead of percentages of Cut Height.
 - Updated the timeout in the Hypertherm EtherCAT Studio launcher for version 1.12.259.0 to allow acquiring a license with a larger number of slave ESI files in the slave library directory. This corrects an issue where the Hypertherm EtherCAT Studio name on the title bar has “- Trial” at the end of it. In the About dialog box the Product name: also says, “Hypertherm EtherCAT Studio - Trial” and the Licensed to: and Expire date: both say “No license”.
 - Updated the Marker Font Generator to support Retract to Transfer for all segments of a text string except the last segment where a normal Retract is used. This update provides faster marking and prevents torch crashes on warped or uneven surfaces when marking multiple locations on a plate.
 - Added the ability to resume a part after a fault that requires homing on a table with a dual transverse axis, to allow a part or nest to finish cutting. When the cut is resumed with both the Transverse and the Dual Transverse unparked, the Dual Transverse now re-spaces to the previous spacing before moving to the Resume Part location.
 - Updated the Phoenix Simulation software to include the features listed below when no HASP is found. This change allows the use of the Phoenix simulation software without a HASP.
 - Oxyfuel: Advanced and Bevel
 - Plasma: Advanced, 2 Bevel, 4 Advanced Sensor THCs, Pipe and Tube Bevel, and Dual Transverse
 - Waterjet: Advanced, 2 Sensor WHCs, and 2 Bevel
-  An announcement will be distributed in early 2018 when the simulation is available.
- Added the ability to move the THC up and down the full length of the slide when cutting in manual mode and using a waterjet process. Added a manual increment parameter to the machine setups for the THC. This parameter has a range of 0.001 – 0.100 inches. This parameter is the distance the THC travels when the raise or lower THC button is pressed while cutting in manual mode. In previous versions the THC could only raise up 1 inch above cut height and could only lower back down to the cut height.
 - Improved the installation experience by keeping Phoenix and Software Operator Console (Soft Op Con) applications from being launched when the CNC restarts as part of the EDGE Connect Suite installation process.

ProNest CNC resolutions

- Fixed the following part program issues in ProNest CNC
 - HPRXD Stainless Steel HDi process information
 - MAXPRO200 transfer height process information
 - Updated cutting techniques and part lead-ins for HPR

Phoenix resolutions

- Resolved issue where an HPR plasma supply could get stuck without motion after an arc has been established. The state of each HPR plasma supply is now updated every time the operator begins or resumes a part program or activates a Rip Cut or Rip Mark operation.
- This corrects an issue where ArcWriter could not be selected in the Station Configuration screen. Re-enabled the capability for Marking Only power supplies in the Station Configuration screen.
- Resolved an issue where AC style bevel heads would not return to the proper bevel angle when pausing, going off path and resuming a part program.
- When pausing an XPR marking segment, the operator only has marking process options in the Cut Chart screen. Previously, both plasma and marking process options were displayed but only changes to marking options are valid.
- Fixed an issue that could cause an analog input mapped to a speed pot to momentarily display a different speed or zero in the process speed watch window. This would also cause the speed of the motion to change during that period.
- When an XPR operator uses the Cut Pro Wizard to load a part, they will now see the consumables needed to cut that part, unless G59 codes are disabled. If G59 codes are disabled, then the operator will see the process selection screen (Cut Chart screen), followed by the consumables that match the process that is selected.
- Resolved an issue where an unexpected command window was displayed when the network was being phased up while using Mitsubishi drives.
- Fixed an issue where changing the cut height in an XPR part program would also incorrectly change the transfer height and the pierce height. Changing the cut height with M07 overrides now only changes the cut height.
- Resolved the following issues with Soft Limits:
 - Repeated parts are now checked against the soft limits.
 - Non-repeated and repeated parts are now checked against the soft limits when the part programs are resumed after a pause in cutting, Power Down or Power Loss.
 - Transposed parts will now be properly checked against the Soft Limits.
- Improved a stability issue that occurred when restarting the EtherCAT network after turning off the power to a plasma supply. When power is restored, the network can be restarted without displaying an error. The improvement was made by updating the Field Bus Master to 1.5.61015.0.
- Resolved an issue where the metric units were not displayed in the oxyfuel cut chart screen, when the system was set to metric mode.
- When an operator changes language, the following will now happen as expected:
 - The manuals folder holds a copy of all the PDF files for the system. If there are language files for the selected language, those will be displayed. If there are not files for the selected language, the English copy of the file will be displayed.
 - When the Help button is selected, a help screen will be displayed with information. If the selected language has translated help, it is displayed. If the selected language does not have translated help it will be displayed in English.

- Resolved an issue with the XPR plasma supply that caused cutting instead of marking. If the operator pauses an XPR during marking and manually changes to a cutting process on the Cut Chart screen, the marking process is maintained when cutting resumes.
- Resolved an issue where pressing the E-Stop button during a rip cut prevented cutting or motion after the E-Stop has been cleared.
- Resolved an issue where the Ready to Start message was displayed incorrectly. If the Ready to Start message is disabled and an operator pressed the green Cycle Start button on the Soft Op Con while a cycle start operation (cutting, trialing, rip cutting, etc.) was already in progress, the Ready to Start message was displayed the next time the F9 keyboard key or green hard OpCon Cycle Start button was pressed to initiate a cycle start operation.
- Resolved an issue with the XPR where the part program did not pause if the XPR failed to produce an arc at the pierce point. If an XPR fails to transfer an arc to the work piece or fails to produce a pilot arc, the cut is now paused and a dialogue box is displayed to inform the user of the issue. The cut is also now paused instead of remaining locked on the cut screen when a Cut Sense Lost error occurs while using an XPR.
- Resolved an issue where XPR Not Ready dialog was taking precedence over an XPR Error or Fault. The XPR Not Ready message was displayed when an XPR had an active error and Cycle Start was pressed. The correct message is now displayed when the program is paused due to an XPR error. The operator may still receive the dialog message XPR Not Ready, but the message will only show when cycle start is pressed and the XPR is not in the Wait for Start or Initial Checks state.
- Fixed an issue that allowed the cutting table to move through a soft limit during table alignment. Support was added for a warning message to indicate that soft limits will be exceeded prior to final alignment. If the machine has been homed, this message will prevent final alignment until the alignment settings and final alignment are within the soft limits. The message is shown below:
 - Final Alignment will exceed Machine Software Travel Limits. Please check corner to align with, and repeat alignment.
- Made the following improvements to the XPR Not Ready dialog message:
 - Removed the “error” label. This message does not indicate an error condition.
 - Rewrote the message description for clarity. The description now states: “XPR must be in the Wait For Start or the Initial Checks state to start.”
 - Fixed an issue where the dialog incorrectly displayed because of an alarm, warning, or error condition. Dialogs for these conditions now include a more specific message.
- Resolved an issue where the CNC appeared to freeze (no response when the stop button was pressed) after trying to perform a plasma cut with the plasma station and the oxyfuel station enabled.
 - A part program is now paused and the Conflicting Process on Active Station status message is displayed if the cutting tool on an enabled station (such as an oxyfuel torch) does not match the cutting process. For example, the cut type is set to plasma 1 and the operator has the Oxyfuel cutting station enabled.
- Resolved an issue where the oxyfuel cut mode was not maintained when using ProNest CNC for nesting parts. Now the cut mode does not need to be changed after nesting when the CNC is in oxyfuel mode.

- Improved the ability of the Soft Op con to detect HID devices which prevents the Soft Op con from exiting when a 3rd party touchscreen is connected.

Software versions



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Shown on the Phoenix Diagnostics screen

Item	Versions / Revisions
Windows	10.00.10240
Phoenix	10.6.0
Real-Time OS	6.3.17188.1
Field Bus Master	1.5.61015.0
Real-Time Module	10.6.0.1501
PLC engine	1.1.0.0
Phoenix OpCon API	2.0.0.0
Active OpCon APIs	2.0.0.0

Shown on the Cut Chart screen

Item	Versions / Revisions
XPR	K
HPRXD	AA
HPR	80003Ea and 80003Eb
Oxyfuel	F - Extended format A

Shown in the XPR web application

Item	Versions / Revisions
XPR main control	F - 472
XPR torch connect	F - 180
XPR gas connect	E - 122
XPR choppers	E - 169
XPR wireless	22311

Shown on the Windows Programs and Features screen

Item	Versions / Revisions
ProNest CNC Client	1.1.5.210
ProNest CNC Package	1.1.9
ProNest CNC Nesting software	12.1.3.6507
KPA EtherCAT Studio	1.12.259.0
KPA Licensing utilities	2.3.106.0

Other

Item	Versions / Revisions
MULTIPROG	1.2
SoftOpCon	2.1.0.410
MinReqOpCon	2.1.0.410
Hardware operator console	1.0

Version 10.5.0

Release notes

New and updated documentation

- Created an application note, *Absolute Positioning for Homing* (809870). It is available in the Hypertherm Document Library at www.hypertherm.com/docs.
- Updated the application note *Panasonic EtherCAT Drives Supported by EDGE Connect CNCs* (809760) with all the drives that are now supported. It is available in the Hypertherm Document Library at www.hypertherm.com/docs.

Improvements

- Updated the Phoenix cut charts and ProNest CNC to support corrections and additions for Revision K of the XPR cut charts. The updates include:
 - 60A F5/N₂ stainless steel cut speed fixes.
 - Thick non-ferrous pierce setting fixes (170 A and 300 A non-ferrous).
 - 130A O₂/Air pierce setting updates.
 - Added the 12 mm Al, 80A, N₂/H₂O process.
 - Added the 1.25 inch Al, 300 A, N₂/H₂O process.
- The EDGE Connect suite installer now updates INtime.
- Updated INtime to version 6.3 as part of routine maintenance.
- Support was added for absolute positioning for homing. For details see the application note *Absolute Positioning for Homing* (809870) in the Hypertherm Document Library at www.hypertherm.com/docs.
- Added support for Panasonic A5 drives. To see a list of all the drives that are now supported see the application note *Panasonic EtherCAT Drives Supported by EDGE Connect CNCs* (809760) in the Hypertherm Document Library at www.hypertherm.com/docs.
- A Conflicting Process on Active Station message is now displayed when a plasma process is used and an oxyfuel station (Station 9 and above) is enabled.
- M50H and M50N codes can now be used without the Click-Wrap license for the MAXPRO200®.
- Duplicate parameters are no longer listed in the Unable to Load the Following Setups dialog box.

Phoenix resolutions

- Updated the EDGE Connect suite installer to resolve an issue where performing a system restore from a User Backup did not correct a corrupted INtime configuration.
- Resolved an issue with cut height override in a bevel part program that caused the pierce height to decrease by 2.5 times per pierce. The G59 V603 Fx code should be used for cut height override in bevel part programs.
- The Bevel Homing Prompt is no longer displayed if the Auto Home on Power Up setting is on.
- Resolved an issue where an unexpected transverse position error or dual gantry command-output error prevented a part program from being completed.
- Resolved an issue that caused Phoenix to stop working unexpectedly when a part program was started in Plasma mode when only an oxyfuel station was enabled.
- Resolved an issue where part programs with station select and process select codes corrupted oxyfuel cut charts when Phoenix translated the codes.
- Resolved an issue where Phoenix displayed the Invalid Process error from an XPR and would not allow a new part to be started.

- Resolved an issue that occurred when saving data in the Cut Chart screen. If values were modified and then saved to the cut chart data file, it was possible that the data could be corrupted. This corrupt data could cause Phoenix to stop working unexpectedly. This fix requires the latest cut charts files provided in this release.
- Resolved an issue with cut chart file formatting that resulted in corrupted oxyfuel and plasma cut charts.
- To safely stop cutting, waterjet pumps are turned off when Stop is pressed during a pierce.
- Resolved a Phoenix exception error that occurred with part programs that used the M65 auto reload code with filenames that contain all numbers (no letters in the filename prefix).
- Removed a soft key labeled F7 that was displayed in error on the laser mapping screen.
- Resolved an issue where a conflicting process error was displayed when a zinc marker was assigned to station 2 with an XPR assigned to station 1.

XPR

- Updated firmware to support revision K of the cut charts. See *Improvements* on page 118 for details.

ProNest

- Added support for revision K of the XPR cut charts. See *Improvements* on page 118 for details.

Software versions



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Shown on the Phoenix Diagnostics screen

Item	Versions / Revisions
Windows	10.00.10240
Phoenix	10.5.0
Real-Time OS	6.3.17188.1
Field Bus Master	1.5.61009.0
Real-Time Module	10.5.0.1495
PLC engine	1.1.0.0
Phoenix OpCon API	2.0.0.0
Active OpCon APIs	2.0.0.0

Shown on the Cut Chart screen

Item	Versions / Revisions
XPR	K
HPRXD	AA
HPR	80003Ea and 80003Eb
Oxyfuel	F - Extended format A

Shown in the XPR web application

Item	Versions / Revisions
XPR main control	F - 472
XPR torch connect	F - 180
XPR gas connect	E - 122
XPR choppers	E - 169
XPR wireless	22311

Shown on the Windows Programs and Features screen

Item	Versions / Revisions
ProNest CNC Client	1.1.4.209
ProNest CNC Package	1.1.9
ProNest CNC Nesting software	12.0.4.6250
KPA EtherCAT Studio	1.12.210.0
KPA Licensing utilities	2.1.104.0

Other

Item	Versions / Revisions
MULTIPROG	1.2
SoftOpCon	2.0.0.406
MinReqOpCon	2.0.0.406
Hardware operator console	1.0

Version 10.4.0

Release notes

Announcements

- Windows 10 is not affected by the latest ransomware malware attacks. All Windows 10 Security Updates are included in this update.
- There is a change in Delta EtherCAT drive support:
Until a solution is found and proven by Delta, Hypertherm strongly advises against the use of Delta EtherCAT drives in combination with HPR, XPR, and MAXPRO200 cutting systems and in environments with the potential for high frequency electrical noise. This is due to the drive's susceptibility to high-frequency electrical noise, which causes EtherCAT field bus faults.

New features

- A feature named Nest Limit Checks has been added to let you know if a part's nest will exceed the soft limits set for the cutting system. If a nest exceeds the soft limits, a warning message is displayed when start is pressed. The operator can stop and re-position the nest to fit on the table or proceed to run the part (not recommended).

The message is displayed if:

- The machine was homed
- Soft limits are enabled and programmed in the axis setup screens

The message is NOT displayed if you are using the following part programs:

- ABXYZ dual tilting bevel part programs. This feature may be supported in a future release.

- Pipe and tube part programs. This feature may be supported in a future release.
- Go to home commands that are programmed to exceed the soft limits set for the cutting system will now display a message to update the programmed go to home location.
- The HPR or XPR Cut Sense input is now used when the ResetPositionLog or RPL password is used to record position data. This feature requires either the Cut/Mark Sense or Cut Sense # input to be assigned to an input.
- Argon marking is now supported by using M07 AR in part programs. Argon or nitrogen can be selected as the marking gas from the manual cut chart selection screen.
- 3 new commands (R, G, and V) have been added to the Phoenix Marker Font Generator for XPR nitrogen and argon marking. They are intended to be used within ProNest software. The commands are not supported for use with the Shape Wizard.



See the ProNest software documentation for more details about marking with Argon.

The 3 new commands are:

- R: The sixth information block determines if a Retract to Transfer is used at the end of each segment of the marked text. The R is followed by a number to indicate the type of retract:
 - 0 = a full or partial retract depending on CNC setting
 - 1 = a retract to transfer height
- G: The seventh information block determines the type of marking gas used for XPR marking. The G is followed by a number to indicate the type of gas:
 - 0 = none
 - 1 = argon
 - 2 = nitrogen
- V: The eighth information block determines if the default marking speed is overridden with another speed. The V is followed by a number to indicate the new marking speed. Zero indicates that the default marking speed will be used. This number can be a decimal value.
- Gas flow tests can be started from the CNC, if the CNC is in control of the XPR. The test results are still viewed on the XPR web interface, but now the XPR web interface does not have to control the XPR for gas flow tests to be performed. Gas flow tests are started on the CNC via a new XPR System soft key on the Setups > Diagnostics screen.
- The Remote Status fixed function input can now be viewed in the Watch window and recorded in the Oscilloscope.

Improvements

- A new cut type called Interior Features has been added. An alias, O2S, for the O₂/O₂ cutting process is supported in the part program. M07 TH and M07 O2S have the same effect in the part program. ProNest determines when to output these codes. O2S has been added to avoid confusion if you read the part program when an O₂/O₂ process is being used on something that is not a hole.

- Estimated creep time for XPR systems is now set to 0 as the default. Creep time is generally not needed with the XPR.
- Resolved an issue where the Pulley simple shape caused an invalid process with XPR systems. The EIA Pulley simple shape caused redundant G41, M07 codes.
- Phoenix now supports bidirectional torque limits for supported Panasonic drives.
- Support has been added for higher resolution encoder devices. To take advantage of these settings, reference the Application Note for the model of drive that you have. Use of higher resolutions is dependent on your particular application.
- A maintenance release from our software supplier has been applied to our existing PLC engine. With version 1.1.0, MULTIPROG now supports new versions of both PLC Connect and PLC Connect LT.
- Oxyfuel cut chart changes (see the tables below for details)

Oxyfuel cut charts have a new format and there are new tip types and EIA codes, and a new V code. The older cut charts still work, but the drop-down list of Tip Types is not shown.

Torch types

Torch type	EIA code
Airco	62
Generic	47
Harris model 80	48
Harris model 98	49
IHT	63
Koike 100L	59
Koike 200L	60
Koike 500L	61
Meco	64
Messer	65
Oxyweld	66
Smith	67
Victor MT 200	50
Victor MT 300	51

V code

V code	Description
V566	Tip type for oxyfuel cut charts

New tip types

Tip type	EIA code
Standard	1
Divergent	2
Heavy preheat	3
Divergent Hvy PH	4

- The Phoenix help is now available in the following languages: Chinese (Simplified), Chinese (Traditional), French (Canadian), German, Italian, Korean, Polish, Portuguese, Russian, Slovenian, Spanish, and Turkish.

When Phoenix is running in a supported language, German for example, and the Help button is chosen, the help page is presented in German. If the Phoenix help is not available for a language, the English version is displayed. A new self-extracting Help.exe file is now available for updating a CNC with this language support.

- XPR or HPR plasma power supply ready status is now shown on the main screen. PS - Ready is shown for a single-torch table or PS# - Ready for a multi-torch table.
 - The ready message will be shown if:
 - The tool's station is in the Manual or Program position
 - The cut mode is Plasma
 - The tool (XPR or HPR EtherCAT) is in the Wait for Start or Initial Checks state
 - The part program is paused or has not started and there are no errors

The message only shows before cutting starts. When a cut starts the individual cutting states and error messages are shown.

Phoenix resolutions

- An issue was resolved where Phoenix was getting an incorrect F-code for the G59 V564 entry. The decimal value 0.040 inches (19 GA, 1 mm) was mistakenly taking the value for 0.024 inch, which caused an F8 value, instead of the correct F12 value.
- Resolved an issue where the Nozzle Contact Sense 1 input was not working when doing an IHS with water injection or underwater processes. A change was made in Phoenix 10.3.0 to ignore all Nozzle Contact Sense inputs, both fixed function and general purpose, when using an XPR water injection or underwater process. The code has been changed to now only ignore the XPR fixed function input and XPR Nozzle Contact Sense when XPR water injection or underwater processes are used.
- Resolved an issue that caused the XPR torch to momentarily fire in the air. The issue occurred when Preflow During IHS was on and the Stop button was pressed when an Offset IHS offset was being removed. The torch will no longer fire if the machine is paused during the Offset IHS canceling traverse motion.
- Resolved invalid process dialog or status messages for the XPR that occurred in the following cases:

- ❑ During the second cut in a part when Offset IHS was used. To resolve the issue XPR process updates are now sent at the beginning of the IHS, which is part of the Offset IHS sequence.
- ❑ When a user sent a process from the Cut Chart when the XPR was not ready (for example, when the XPR was purging).
- ❑ When a user paused a program and made a change on the Process screen when Offset IHS is on.
- ❑ After a process was sent when the XPR was not ready, the error dialog would continue to show after subsequent program starts because the error did not clear in Phoenix and Phoenix did not send another process update.
- ❑ When a marking gas of None was selected in the cut chart and the user tried to run a marking program.
- Resolved an issue where the Station Configuration screen closed unexpectedly when using non-English languages.
- Resolved an issue that caused Phoenix to close unexpectedly when the Help window was minimized. The Help window can no longer be Minimized.
- Resolved an issue where analog input values for the Beckhoff EL3008, 8-channel analog input were not properly read by Phoenix. The value shown on the diagnostic screen or in the watch window was at the + or - 10v limit.
- Resolved an issue where nozzle contact during IHS was disabled when switching from marking to cutting while cutting with an HPR.
- M65 Auto Reload of sequentially numbered parts now works with EDGE Connect. There are no setup parameters associated with this because it has been permanently enabled. Hypertherm recommends that you use M79Tx Go to Home Commands to re-position the table between each M65 Sheet/Nest that is being auto loaded.
- Resolved an issue where the user could not exit the Manual Options screen. The Manual Options screen is now exited properly under all conditions and regardless of which dialog was active previous to entering the Manual Options screen. Torch spacing on the Manual Options screen is no longer allowed when a part program is active or paused.
- Resolved an issue that caused the Test Lifter button to stay depressed after motion was interrupted on the main screen with the Stop button on the hardware operator panel or the Soft Op Con. The Test Lifter button works correctly on the process screen.
- Resolved an issue with the Cross w/ Circular Hole and Concave Inside Corners simple shapes that caused duplicate G41 and M07 EIA commands prior to cutting the hole. The duplicate EIA commands have been removed. This issue exists in all prior versions of Phoenix.
- Resolved an issue that caused the torch to lower into the plate after a torch collision occurred while cutting. When the user acknowledged the torch collision dialog the torch lowered toward the plate. The issue also occurred when an emergency stop or drive disabled command occurred while cutting.
- All HPR Auto Gas fields are now always displayed in the HPR Diagnostics screen. The user will see the pressure value fields for Cut Gas 1, Cut Gas 2, Mixed Gas 1, and Mixed Gas 2, even if there is no pressure on these channels or the gas channels do not exist (manual gas console).

- Resolved an issue where the speed pot did not work properly after the slide control on the Soft Op Con was used. The issue was only seen when an analog signal was used for the speed pot.

XPR

- Resolved an issue where the torch fired in the air under the following condition: With XPR fixed function I/O, if water remains in the torch after a water injection process, the THC's IHS will be immediately satisfied at the next cut or mark. The XPR firmware was updated to correct the issue. The XPR now pulses gas on and off 7 times (for 14 seconds) when switching from a wet to dry process to make sure the ohmic contact is not shorted out by the water remaining in the torch.

ProNest

- The ProNest CNC Package was updated from 1.1.4 to 1.1.9 and includes the latest XPR cut charts (Revision J).

Summary of the Revision J cut chart changes:

- Fixes:
 - Corrections to arc voltage data for thick, non-ferrous processes
 - Corrections to pierce height and transfer height data
 - Correction to a process name and a shield gas name that did not match
 - Pierce times corrected for edge start on 300A MS processes
 - Corrections to kerf compensation data
 - Metric value corrected for 170A Air/Air process
- New capabilities:
 - True Hole processes added – More thicknesses covered within the existing ranges
 - 3-1/8 inch mild steel added to the 300A process
 - 12 mm stainless steel added to 80A N₂/H₂O process
 - Version 1.1.8 of ProNest CNC Installer created

Software versions



You must be at image 27 or higher to perform this update

The versions for the software and firmware in the current update are found in different locations on the EDGE Connect CNC. The table below is grouped by the location where the version information is shown.

- To see version information for Windows, Phoenix, Real-Time OS, Field Bus Master, Real-Time Module, PLC engine, System Image, and OpCon APIs:
choose **Main > Setups > Diagnostics > Control Information**.
- Version information for cut charts is displayed on the cut chart screen in Phoenix
- To see version information for other items Go to **Control Panel > Programs and Features**



If you need to update the CNC or have any other questions about software versions, contact your regional Product Application Engineer (PAE).

Shown on the Diagnostics screen

Item	Versions / Revisions
Windows	10.00.10240
Phoenix	10.4.0
Real-Time OS	6.1.16110.1
Field Bus Master	1.5.59902.0
Real-Time Module	10.4.0.1469
PLC engine	1.1.0.0
Phoenix Op Con API	2.0.0.0
SoftOpCon	2.0.0.406
MinReqOpCon	2.0.0.406
Hardware operator console	1.0

Shown on the cut chart screen

Item	Versions / Revisions
XPR	J
HPRXD	AA
HPR	80003Ea and 80003Eb
Oxyfuel	F - Extended format A

Shown on the Windows Programs and Features screen

ProNest CNC	Versions / Revisions
Client	1.1.4.209
ProNest CNC package	1.1.9
Nesting software	12.0.4.6250
KPA	Versions / Revisions
EtherCAT Studio	1.12.210.0
License utilities	2.1.104.0
PLC Connect	Versions / Revisions
MULTIPROG	1.2
Plasma power supplies	Versions / Revisions
XPR main control	E - 458
XPR torch connect	E - 175
XPR gas connect	E - 122
XPR choppers	E - 169
XPR WiFi tool	21493
Drives	Versions / Revisions
Bosch IndraDrive C and Cs	19V08, 18V10, 18V20
Delta ASD A2	1.643 or higher
Kollmorgen AKD	1.15
Mitsubishi MR-J4	Drive: BCD-B46W500 B1 Communication module: 1.10.01
Panasonic MINAS-A5B	1.01
Yaskawa Sigma-5	5.0, 5.04, 6.00
Yaskawa Sigma-7	0023 2016.10

Version 10.3.1

Release notes



Version 10.3.1 is an unplanned interim release to address reported field issues and to provide additional safety improvements. It is recommended that all customers update to 10.3.1 or higher software.

ProNest CNC

Version information for this release of ProNest CNC software

- ProNest CNC Nesting Software 12.0.4.6250
- ProNest CNC Client 1.1.4.209
- ProNest CNC Package 1.1.4.0



To view the version information for ProNest CNC software, right-click the Windows Start button, and then click Programs and Features. Click Publisher to sort the items. The Hypertherm items for ProNest CNC are grouped near the top of the list.

- Resolved an issue with an incorrect feed rate being applied to True Hole parts from ProNest CNC that was affecting XPR™ True Hole quality.
- Enabling and disabling height control using M50/M51 part programs codes was not being applied on XPR non-True Hole interior features, affecting cut quality. This has been corrected.
- Incorrect speeds used for lead-out techniques with XPR thick stainless and aluminum processes has been resolved.

Phoenix resolutions

- Resolved an issue where the fault ramp time was not recognized for the Independent Drive Enable and Series Drive Enable wiring settings. The front panel E-stop input now recognizes fault ramp-down times. The drive enable is now maintained for the programmed Fault Ramp Time instead of turning off immediately.



If your drive supports Safe Torque Off and you are using it for Emergency Stop, Hardware Overtravels, or other Machine Fault Conditions, the Safe Torque Off will then override motor deceleration instead of any programmed Fault Ramp times.

- Resolved an issue where the Hardware Op Con and Soft Op Con Stop keys only stopped motion momentarily with a stuck joystick input if Stop was pressed and released. The Hardware Op Con button will completely stop motion if pressed and held for at least 1 second. This issue exists in all previous versions of Phoenix software. Software was changed so both the Hardware Op Con and Soft Op Con Stop keys completely stop motion generated by a stuck joystick input when pressed and released or pressed and held. Motion cannot be restarted until the input that generated the motion turns off.
- Resolved an issue where the Stop button and Safety Mat input did not stop motion during the Test Lifter function from the Process screen. The Stop button and Safety Mat input can now be used to stop the Test Lifter function from the Process screen.
- Resolved an issue that prevented the selection of an analog input for the Sensor THC on the Machine setup screen when a MAXPRO200 was configured on Plasma 1 on the Station Configuration screen.
- The ResetTHCLog password now supports logging both THC Command position and Actual Position. Previously the THC log file only contained Command Position. The addition of Actual Position to the THC log file adds additional diagnostic capabilities when troubleshooting Sensor THC issues.
- Resolved an issue where coolant would flow during bevel calibration with an XPR plasma power supply. Bevel calibration with XPR requires that you turn off the main power switch (at the wall), turn the main power switch on again, and no process has been sent to the XPR. Bevel calibration is typically performed during machine setup only.
- Resolved an issue where the Hardware Op Con speed pots did not work until the Soft Op Con speed controls were used first.
- A Ready to Move message is now displayed when you attempt manual motion using the jog keys in the Soft Op Con.
- Eliminated an issue where speed pots were briefly jumping from 0 speed to maximum speed when the speed pot was set close to the 0 speed set point.
- Resolved an issue where the Invalid Process message was shown when you tried to start a Cut, Rip Cut, or Rip Mark when an XPR was not in the Wait for Start state or the Initial Checks state. The message has been updated to XPR Not Ready.

- Resolved an issue where quickly switching from Rip Cut to Rip Mark caused an XPR to cut the plate instead of marking the plate.
- Resolved an issue where an HPR plasma supply fired an arc in the air under certain specific conditions when switching from Rip Cut IHS to Rip Mark IHS before the IHS was completed.

Software versions

The following table shows the software versions before and after this update, for reference purposes.



This table also includes the software versions for new EDGE Connect CNCs shipped with Phoenix version 10.3.1.

To check which software versions the CNC has, choose **Main > Setups > Diagnostics > Control Information**.



If you need to update the CNC or have any other questions about software versions, contact your regional Product Application Engineer (PAE).

Software	Before update	After update	New CNCs
Windows	10.00.10240	10.00.10240	10.00.10240
Phoenix	10.3.0	10.3.1	10.3.1
Real-Time OS	6.1.16110.1	6.1.16110.1	6.1.16110.1
Field Bus Master	1.5.59902.0	1.5.59902.0	1.5.59902.0
Real-Time Module	10.3.0	10.3.1	10.3.1
PLC Engine	1.0.0.0	1.0.0.0	1.0.0.0
System Image	30	32	32
Phoenix OpCon API	2.0.0.0	2.0.0.0	2.0.0.0
Active OpCon APIs	2.0.0.0	2.0.0.0	2.0.0.0

Version 10.3.0

Release notes

New features

- Support was added for the new XPR300 plasma cutting system. For detailed information see the addendum to the EDGE Connect manual 809900 (EDGE Connect manual 809340). Some of the things that are different from an HPR are:
 - Marking no longer requires a separate tool or process; each record includes cutting, marking, and True Hole (if applicable)

Accordingly:

- **M36 T3** (Select Marker 1 Process) and **M36 T4** (Select Marker 2 Process) are no longer used; **M36 T1** (Select Plasma 1 Process) and **M36 T2** (Select Plasma 2 Process) are used for both cutting and marking
- **M09** (Marker 1 On), **M10** (Marker 1 Off), **M13** (Marker 2 On), and **M14** (Marker 2 Off) are no longer used; **M07** (Cut On) and **M08** (Cut Off) are used for both cutting and marking
- You can now override marking speed in the cut chart in ProNest using an Fvalue
- Overrides, True Hole, and marking are indicated with codes on the M07 line in the part program
- All process and cut chart parameters are indicated by the one G59 V509/V519 line in the part program. For example: G59 V509 F11189. This command tells the CNC which record in the process and cut chart parameters database to use for this part program. The record contains all of the parameters needed by Phoenix and the XPR300 to

execute the part program. The record includes the corresponding XPR process IDs for cutting, marking, and True Hole (when applicable), which Phoenix sends to the XPR300 when executing the part program.

Improvements

- The EDGE Connect Suite Installer now installs ProNest CNC.
- Added support for Yaskawa Sigma 7 drives. See FSB 809910 for details.

Phoenix resolutions

- An update to the HPR EtherCAT interface PCB firmware (319.0) resolved an issue where the torch did not fire when trying to mark using Ar at 25-amps to 35-amps. Ar/Air gas types were being set to Ar/Ar_Air by the HPR firmware.
- Resolved an issue with Sensor THC IHS Hard Plate Detection. The Nozzle Contact Sense input was ignored during IHS if the HPR was purging when the torch contacted the plate.
- The HT4400 was added to the list of plasma supplies where the Sensor THC uses a 0.5 second retract delay at end of every cut to prevent the torch from retracting during the ramp-down process at the end of every cut.
- The Edge Connect CNC was incorrectly displaying the error “Calculated Error Exceeded twice the Servo Error Tolerance” during axis acceleration. The Error condition was removed because it overlapped with the slave device's error/fault functionality and was not needed.
- Resolved an issue where HPR errors were only being shown in the Watch Window when the torch was being lowered.
- Resolved an issue where faults that caused a non-recoverable EtherCAT network fault did not reset the Sensor THC Homed flag if the THC had already been homed. When the network was restarted, the position of the torch appeared to Phoenix to be at the top of the slide so the torch could not be raised higher. The operator was not prevented from starting a cut so the torch could lower to the incorrect IHS Start Height which could drive the torch into the plate at high speed if the torch was close enough to the plate when the network fault occurred.

Software versions

The following table shows the software versions before and after this update, for reference purposes.



This table also includes the software versions for new EDGE Connect CNCs shipped with Phoenix version 10.3.0.

To check which software versions the CNC has, choose **Main > Setups > Diagnostics > Control Information**.



If you need to update the CNC or have any other questions about software versions, contact your regional Product Application Engineer (PAE).

Software	Before update	After update	New CNCs
Windows	10.00.10240	10.00.10240	10.00.10240
Phoenix	10.2.0	10.3.0	10.3.0
Real-Time OS	6.1.16110.1	6.1.16110.1	6.1.16110.1
Field Bus Master	1.5.59902.0	1.5.59902.0	1.5.59902.0
Real-Time Module	10.2.0	10.3.0	10.3.0
PLC Engine	1.0.0.0	1.0.0.0	1.0.0.0
System Image	30	31	31
Phoenix OpCon API	2.0.0.0	2.0.0.0	2.0.0.0
Active OpCon APIs	2.0.0.0	2.0.0.0	2.0.0.0

Version 10.2.0

Release notes

Features

- Added support for certain Mitsubishi drives, series MR-J4. For supported models see application note 809750.



Normal encoder resolution, J3 series, Mitsubishi motors are required with Phoenix 10.2 software.

- Added support for certain Panasonic drives, series Minus-A5B. Torque control is not supported at this time. For supported models see application note 809760.
- Added support for Delta drives, series ASDA-A2. For supported models see application note 809770.

Improvements

- The Phoenix software version number has been simplified to omit extra zeros as place holders. For example, the current release is shown as 10.2.0 instead of 10.02.00. The change was made to help eliminate confusion between versions.
- Added support for HPR XD 80 Amp and 400 Amp mild steel SilverPlus. The picture and part number for the electrode were added to the Change Consumables screen and process parameters were added to the cut chart database.
- Added support for Powermax45 XP to the Update Manuals function. Powermax 45 XP manuals can be imported with the “UPDATEMANUALS” or the “Update Manuals” button on the Special Setups screen.



Powermax 45 XP cutting process support is not part of release 10.2.

- The True Hole conversion tool is now updated by the Phoenix Suite Installer.
- Several improvements were made to the True Hole Conversion utility:
 - Added support for the Phoenix parameter “EIA I & J Codes Absolute” so now it is always passed from Phoenix to the True Hole Conversion utility. This keeps the 2 software packages in sync (with EIA IJ being Incremental or Absolute) when interpreting/outputting the EIA program.
 - True Hole Conversion now accepts parts with optional I or J codes. If the I or J code is 0, it is no longer required.
 - True Hole Conversion now properly generates True Hole output for holes cut later in a part program even if the diameter of the first hole or holes are too large to be converted to True Hole output.

Phoenix resolutions

- Op Cons that were NOT created using the Nuget package will not function when updating the current language you are running to Phoenix 10.2. This occurs because the update moves two dll files (InternalComms.dll and Models.dll) to a folder named ObsoletePhoenixOpConAPI in the C:\Phoenix directory. There are 2 ways to resolve this issue:
 - Move the 2 dll files from the ObsoletePhoenixOpConAPI folder to the C:\Phoenix directory. This will enable the custom Op Con but you will NOT be able to run the standard Phoenix Op Con provided in 10.2.0.
 - Update your custom Op Con to the new Nuget package. This is the best option and what Hypertherm recommends. Then the custom Op Con will work and so will the new standard Op Con.
- Fixed the cut process from incorrectly switching from marking to cutting if the program is paused multiple times prior to initial cut sense.
- The process update counter is now reset to 0 if a part program is paused before the plasma system produces an arc. This stops the program from pausing and indicating that a process update retry is needed.
- Fixed an issue with HPR systems that occurred when changing from cutting to marking with Argon when the marking current is 25-amperes to 35-amperes. The process did not update correctly and the program paused. When the program was restarted Phoenix updated the HPR with the cutting process, not the marking process.
- The Update Software operation now installs translated languages correctly.
- To prevent Phoenix from freezing when you browse quickly through part programs in the Load screen with preview turned on, Phoenix now blocks a new part program from loading while the previous part program is still drawing.
- Phoenix no longer stays on the Manual Screen, with the OK and Cancel soft keys inactive, when the E-Stop is pressed with the CutPro or Align Wizard active.
- Phoenix exception errors are now prevented when there is unintended Speed pot activity or excessive electrical noise.

ProNest CNC resolutions

- Depending on Phoenix Machine/Axis orientation, ProNest CNC may create a part with the cut path in the wrong direction when using Phoenix Simple Shapes. Some axis orientations (+Y - X when X is the Rail) would produce incorrect output from ProNest CNC when using simple shapes. DXF parts were not affected. Now all axis orientations give the same input to ProNest CNC for simple shapes so the output of a simple shape with ProNest CNC is correct for all orientations.
- An error in the ProNest CNC cutting process data was corrected so the correct feed rate to True Hole lead-ins is now applied.

Software versions

The following table shows the software versions before and after this update, for reference purposes.



This table also includes the software versions for new EDGE Connect CNCs shipped with Phoenix version 10.2.0.

To check which software versions the CNC has, choose **Main > Setups > Diagnostics > Control Information**.



If you need to update the CNC or have any other questions about software versions, contact your regional Product Application Engineer (PAE).

Software	Before update**	After update	New CNCs
Windows	10.00.10240	10.00.10240	10.00.10240
Phoenix*	10.01.0	10.2.0	10.2.0
Real-Time OS	6.1.16110.1	6.1.16110.1	6.1.16110.1
Field Bus Master	1.5.59902.0	1.5.59902.0	1.5.59902.0
Real-Time Module*	10.01.0	10.2.0	10.2.0
PLC Engine	1.0.0.0	1.0.0.0	1.0.0.0
System Image*	27 or 28	27 or 28	30
Phoenix OpCon API*	2.0.0.0	2.0.0.0	2.0.0.0
Active OpCon APIs*	2.0.0.0	2.0.0.0	2.0.0.0

* Indicates a software version that changed with this update.

Version 10.1.0

Release notes

Features

- Added support for the Beckhoff EL1809 16-channel digital input and Beckhoff EL2809 16-channel digital output EtherCAT I/O modules. For more information, see the *EtherCAT® Drives and I/O Modules Supported by EDGE® Connect/T/TC CNCs* Application Note (809660).
- Enhanced the Phoenix oscilloscope. Data playback now supports multiple fast-forward speed settings.
- When a cutting machine has been homed correctly, the X and Y software overtravel limits are now enabled prior to executing the Move Distance function on the Manual screen. The CNC operator will now be warned before motion starts.

Improvements

- The Phoenix Suite Installer can now update the EtherCAT slave library files automatically as needed.
- Eliminated occasional machine motion “jerks” caused by EtherCAT network delays in combination with RTOS thread priorities and Phoenix timing.
 - Optimized the RTOS thread priorities and PLC I/O EtherCAT network updates for consistent and on-time motion.
 - Created a fault and fault message for any missed EtherCAT cyclic packet updates.
- Added backward compatibility with previous versions of the Phoenix Op Con API.
- A confirmation message (Features Updated Successfully) now shows when newly purchased software features are enabled with the UPDATEFEATURES.
- Additional checks have been added for the Pipe/ Rotate axis. Part program rotational F-codes will now be ignored if the Rotational Speed setting on the Speeds screen is incorrectly set to zero (0). Rotational motion will now be blocked until the maximum speed value is corrected to a non-zero value.
- When you edit the cutting tip in the oxyfuel cut chart screen, the on-screen alphanumeric keyboard is now used instead of the on-screen number pad, so you can enter both letters and numbers.
- Now support negative values for analog outputs.
- Now support a ± 10 VDC range for analog input values instead of a 0 – 10 VDC range. This supports EtherCAT drives and I/O modules with that capability.
- Eliminated occasional machine motion “jerks” during EtherCAT network startup. These occasional jerks were caused by Phoenix enabling drives before the network was Operational, allowing incorrect position information to be reported by the drives.
- The HPR Process Ready and HPR Remote On signals are now available in the I/O Watch and Oscilloscope windows for improved diagnostics.
- Clarified the Phoenix Op Con API labels on the Control Information screen. The “Supported API” label is now “Phoenix OpCon API,” and the “Client(s) API” label is now “Active OpCon APIs.”

Resolutions

- Phoenix now ignores an incorrect Hardware Operator Console slave fault that could occur during EtherCAT network startup.
- A speed pot set to a speed of zero is now handled correctly when Resume Part is active during E-Stop Active, when a machine fault occurs, or when Resume Part is not activated.
- Synchronized the Soft Op Con station status indicator and the Soft Op Con station disable, manual mode, and program mode keys. (The color green indicates enabled status. The color red indicated disabled status.)
- Fixed incorrect Return to Start motion when the E-Stop is used when Part Program Resume/Power Loss is used while executing a part program.
- Improved the reliability of turning manual mode on and off from the Soft Op Con.
- Added checks for the presence of the Pause screen to eliminate possible Phoenix exception errors when Power Loss part program information is being saved.

- The pierce count no longer remains visible in the Watch Window when other items are being displayed in the same lower Watch Window location.
- Added support for position error from Yaskawa drives.



If the cutting machine has Yaskawa EtherCAT drives, re-configure the EtherCAT network after installing this update. That is, re-scan the EtherCAT network and create a new Phoenix.xml file. See the *Configure the EtherCAT Network* section in the *EDGE Connect Installation and Setup Manual* (809340) for instructions.

- THC arc voltage is now properly acquired for plasma systems using discrete analog inputs.
- Fault handling is improved overall and invalid EtherCAT field bus faults have been removed.
- The Hold Ignition 1 and 2 outputs are now updated properly in the Watch Window.
- When using latched jogging from a Watch Window (or using the arrow keys on a connected keyboard), if an arrow key in the Soft Op Con is used, latched jogging is turned off.

Software versions

The following table shows the software versions before and after this update, for reference purposes.



This table also includes the software versions for new EDGE Connect CNCs shipped with Phoenix version 10.01.0.

To check which software versions the CNC has, choose **Main > Setups > Diagnostics > Control Information**.



If you need to update the CNC or have any other questions about software versions, contact your regional Product Application Engineer (PAE).

Software	Before update	After update	New CNCs
Windows	10.00.10240	10.00.10240	10.00.10240
Phoenix*	10.00.0	10.01.0	10.01.0
Real-Time OS	6.1.16110.1	6.1.16110.1	6.1.16110.1
Field Bus Master	1.5.59902.0	1.5.59902.0	1.5.59902.0
Real-Time Module*	10.0.0	10.01.0	10.01.0
PLC Engine	1.0.0.0	1.0.0.0	1.0.0.0
System Image*	27	27	28
Phoenix OpCon API*	1.x.x.x	2.0.0.0	2.0.0.0
Active OpCon APIs*	1.1.0.11	2.0.0.0	2.0.0.0

* Indicates a software version that changed with this update. The other versions did not change.

Install version 10.01.0

Before you begin

Do the following:

- **Make sure the CNC has image 27 and Phoenix version 10.00.0 or later.** Do not install this update if the CNC does not have these software versions.
 - To check which versions the CNC has, choose **Main > Setups > Diagnostics > Control Information**. Under **Software Versions**, see the **Phoenix** and **System Image** boxes. If you need to update the system to image 27 and Phoenix version 10.00.0 or later, contact your regional Product Application Engineer (PAE).
- Back up the CNC's system files: choose **Main > Files > Save to Disk > Save System Files to Disk**.
- If the CNC has a custom software operator console (Soft Op Con), back up the custom Soft Op Con application and associated **steps.json** file. If a unique name was not used for the custom Soft Op Con when it was created, the custom Soft Op Con may be replaced by the standard Hypertherm Soft Op Con when this update is installed.

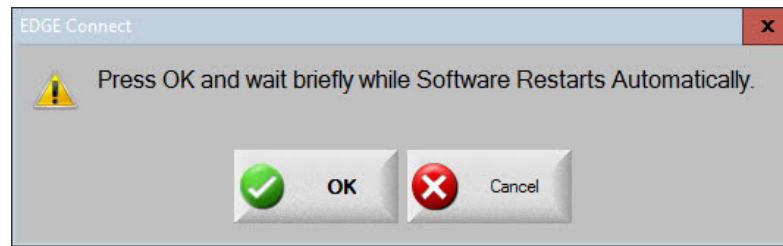
Be aware of the following:

- This is an interim update to the Phoenix software **only**. This update does not include updates to cut charts, the Phoenix help system, or technical documentation.
- When you install this update, Phoenix will automatically restart.
- If the cutting machine has Yaskawa EtherCAT drives, re-configure the EtherCAT network after installing this update. That is, re-scan the EtherCAT network and create a new Phoenix.xml file. See the *Configure the EtherCAT Network* section in the *EDGE Connect Installation and Setup Manual (809340)* for instructions.

Download and install the update

1. On the www.hypertherm.com website, choose **Customer support > Phoenix software updates**.
2. Download the **PhoenixSuiteInstaller.exe** file for the applicable language to the root directory of a USB memory stick.
3. At the CNC, put the USB memory stick in a USB connector on the CNC.
4. On the **Main** screen, choose **Setups > .**
5. Type **UPDATESOFTWARE** (one word) and then choose **OK**.

- When prompted, choose **OK**.

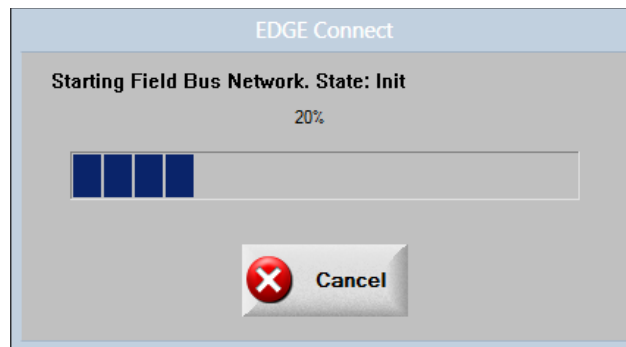


- Wait while the update is installed.



Multiple windows will open and close automatically. This is normal.

- Once the update is installed, the CNC automatically restarts and Phoenix opens and begins to start the EtherCAT network. The following message appears.

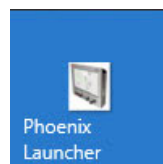


- Choose **Cancel** to stop network start-up.
- Click anywhere in the Main screen of Phoenix, and then press Alt+F4 to exit Phoenix.



If the CNC had a custom Soft Op Con: If the CNC had a custom Soft Op Con for which you backed up the custom Soft Op Con application and associated **steps.json** file, copy those files back to the **C:\Phoenix** folder on the CNC.

- Click the Windows Start button and then click **Phoenix Launcher**.



If the cutting machine has Yaskawa EtherCAT drives: You must now re-configure the EtherCAT network. That is, you must re-scan the EtherCAT network and create a new Phoenix.xml file. See the *Configure the EtherCAT Network* section in the *EDGE Connect Installation and Setup Manual* (809340) for instructions.