LINCOLN ELECTRIC
ΛUTOMATION

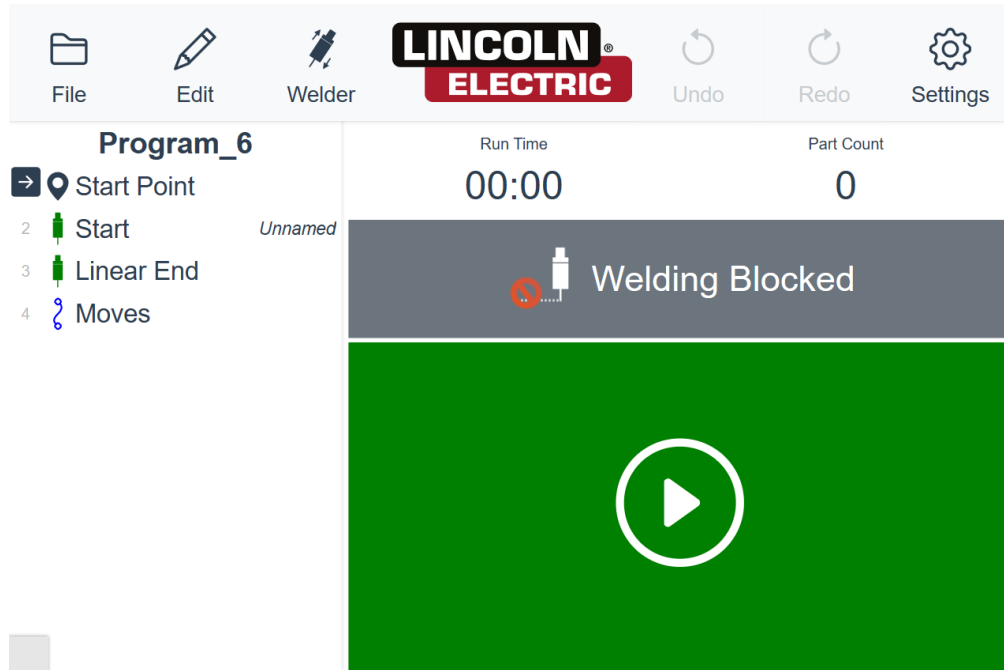# *Cooper™ App GoFa Software Install Guide*

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TABLE OF CONTENTS

Section 1: System Backup & Preparation

1.1: Download ABB Software

Note: If system has Cooper App v1.6 or newer, follow download and follow the steps in the "*Cooper App GoFa Software Update Guide"*
Navigate to Lincoln Electric's Cobot Resource Center: Cooper Welding Cobot Resources | Lincoln Electric. Scroll down to the section titled *Cooper Welding Cobot Software* and select the download for the Cooper App Software Update for GoFa Cobots. Insert a USB into your computer and copy the downloaded zip file to the USB. Once copied, if not already, navigate to This PC / USB drive and right click on the copied zip file. Extract all files to the USB. This will produce three new zip files. Select the zip file with the corresponding payload for your GoFa i.e. GoFa5 is for the 5kg payload arm, GoFa10 is for the 10kg payload arm and right click to extract all. There should now be a folder present on the USB.

1.2: System Backup

Before performing a system backup save and close all programs. Close the Cooper App. From the Home tab, navigate to Settings / Backup & Recovery / Backup.
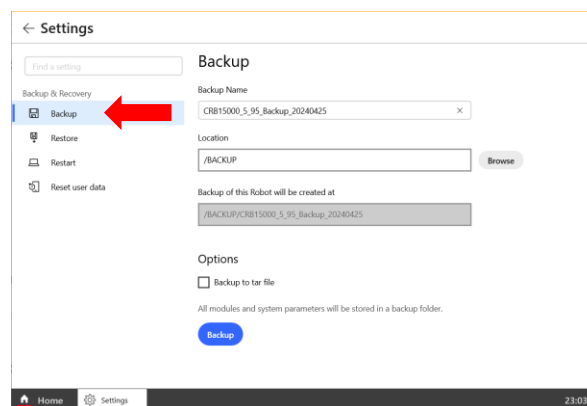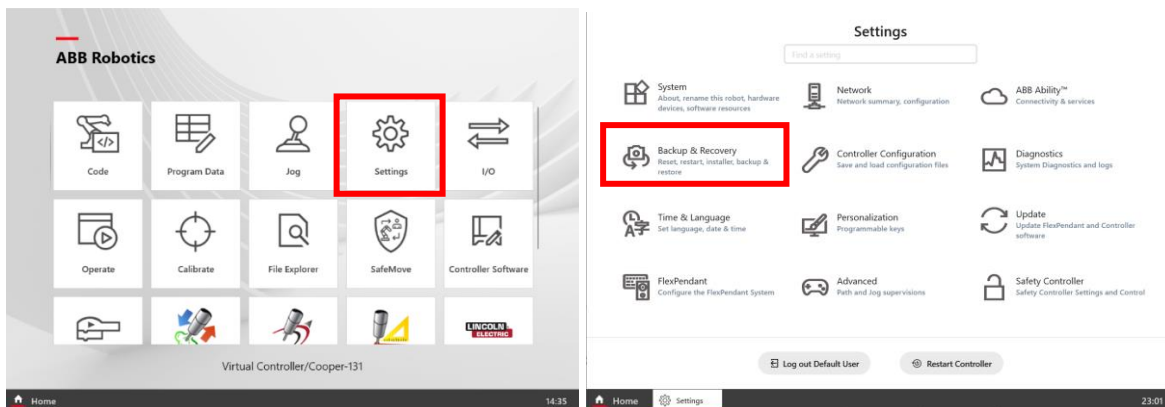
Click Browse to select the location to store the backup. Ensure a fresh USB is inserted to the FlexPendant and specify USB (D:) and confirm by clicking Select. Click Backup. This will store a backup to the inserted USB.
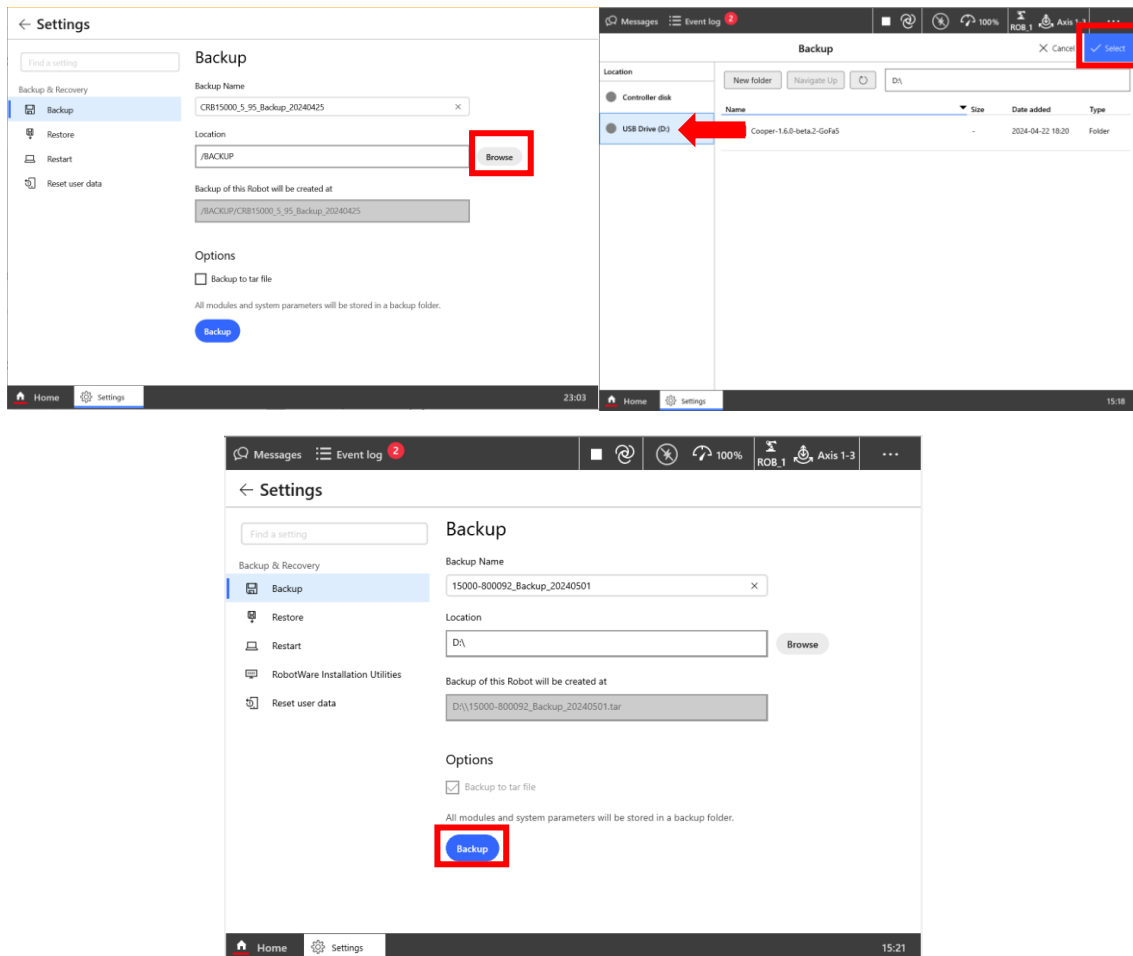
A popup will be displayed that the backup has been successfully stored to the USB. Click OK to close.
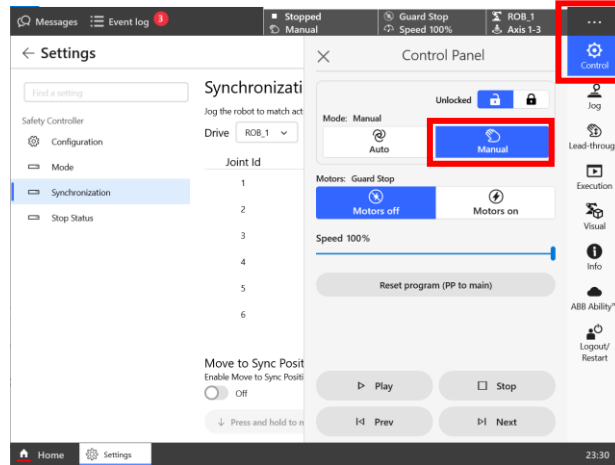
1.3: Synchronize Cobot

Move robot to synchronization position. Select Home / Settings / Safety Controller / Synchronization.
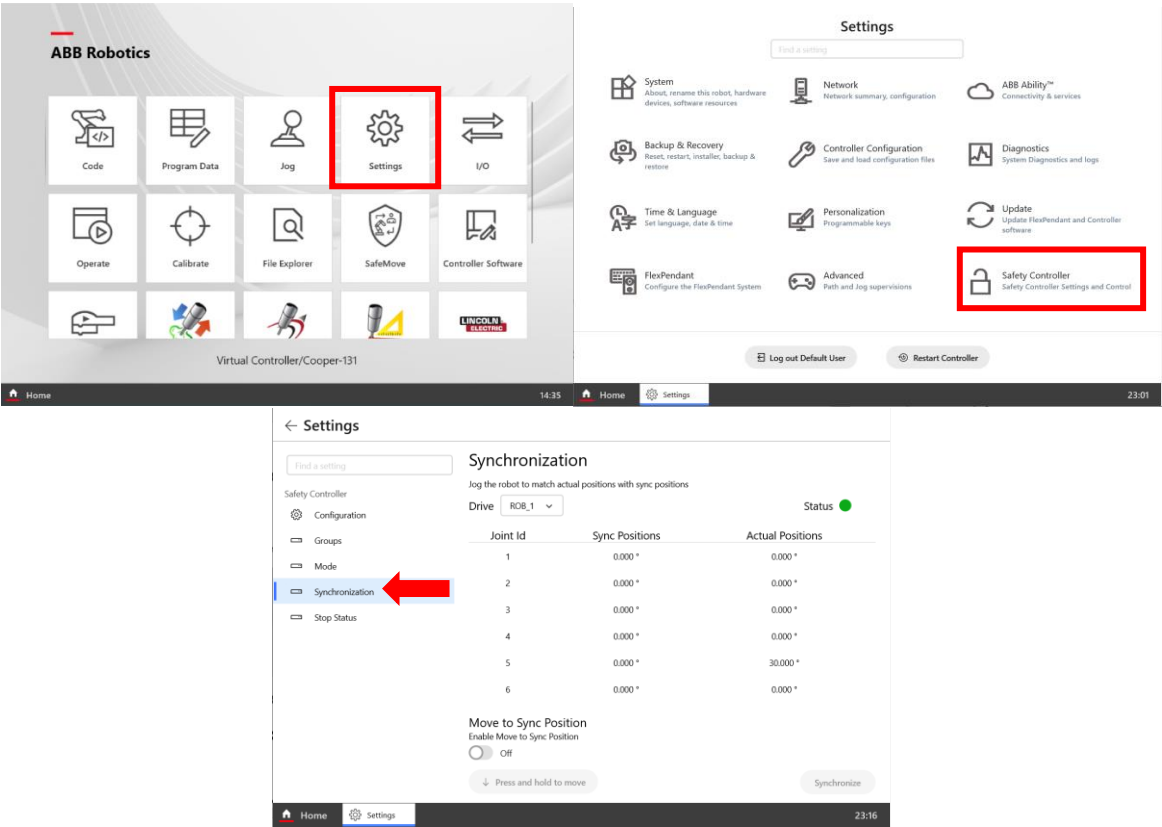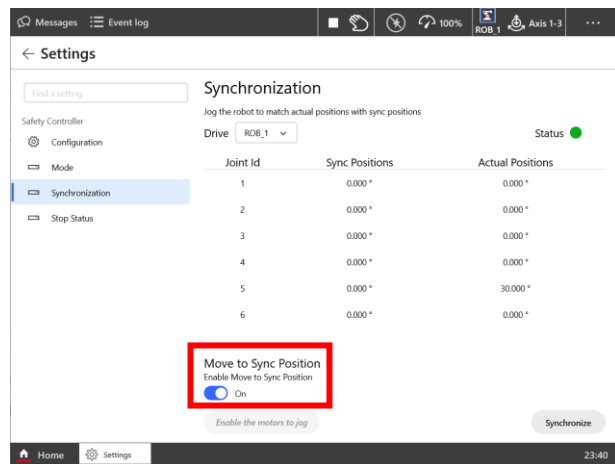
Press the three dots in the upper right hand corner of the Flex Pendant and select Control. Set the Mode to Manual.


Toggle Enable Move to Sync Position to On.

On the Flex Pendant, physically depress the dead man switch located on the handle of the pendant. It will need to be partially depressed to enable the motors. While partially depressed, with the motors on, press and hold the 'Press and hold to move' button. Hold until all axis are at or as close as possible to 0.000 then press Synchronize.
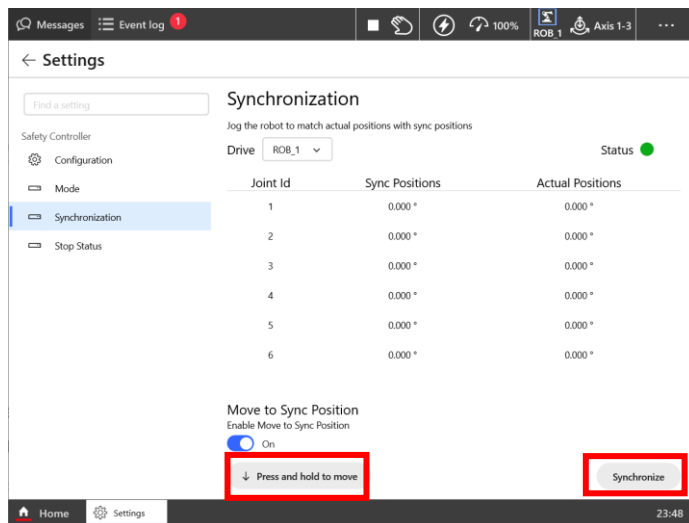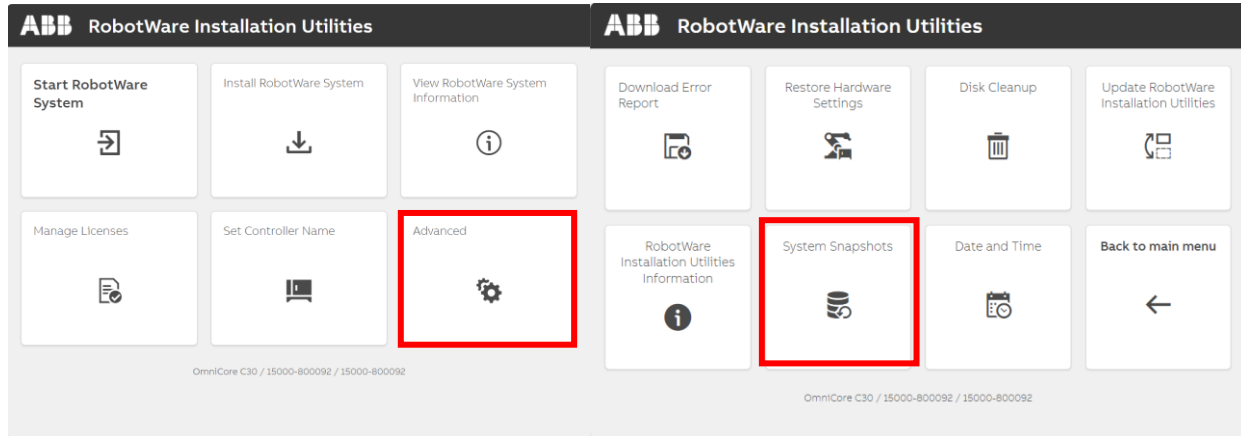
1.4: Take System Snapshot

Ensure all programs have been closed and Mode is still set to Manual. Navigate to Home / Settings / Backup & Recovery / Robot Ware Installation Utilities and click Start Installer.
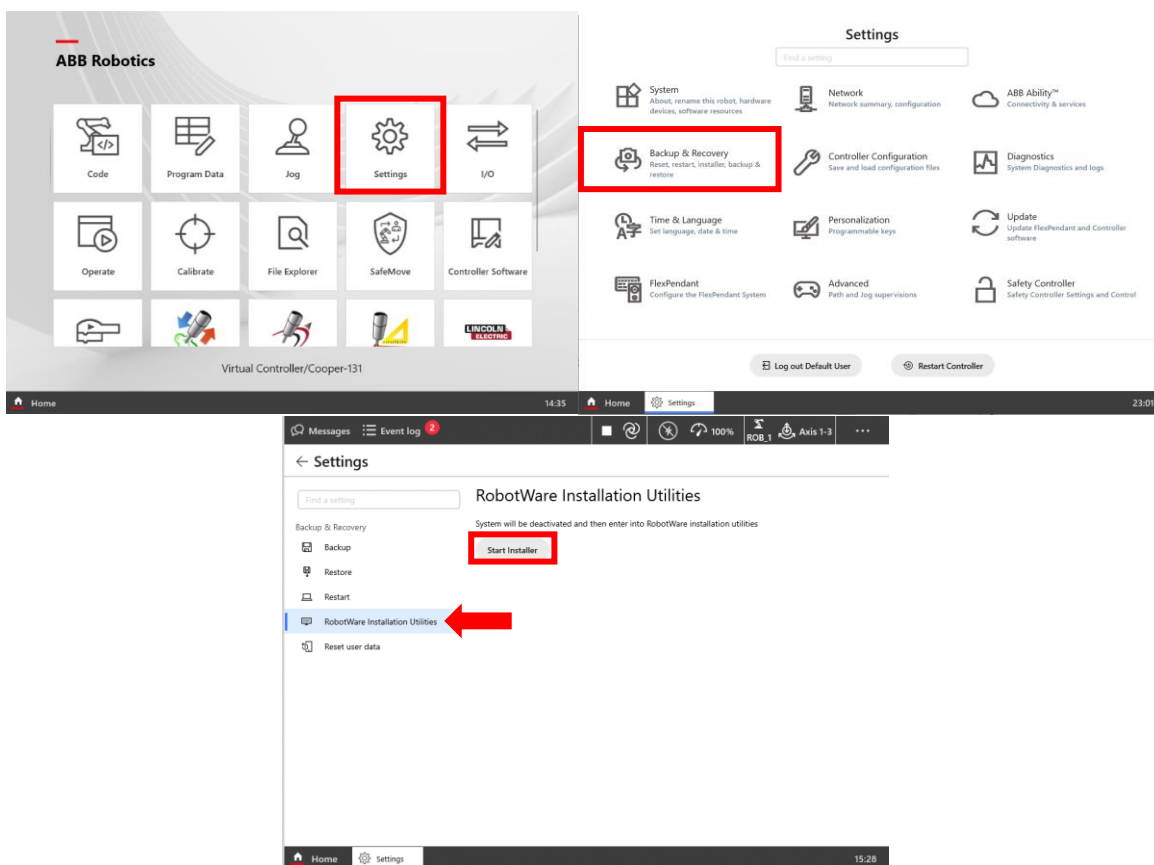
A popup will be presented notifying that the controller will be restarted and the current system deactivated. Click OK. The controller will restart and the RobotWare Installation Utilities menu will be displayed. Navigate to Advanced / System Snapshots.

To create a snapshot, click Create. Enter a name and description for the snapshot then click Create once again to save it.
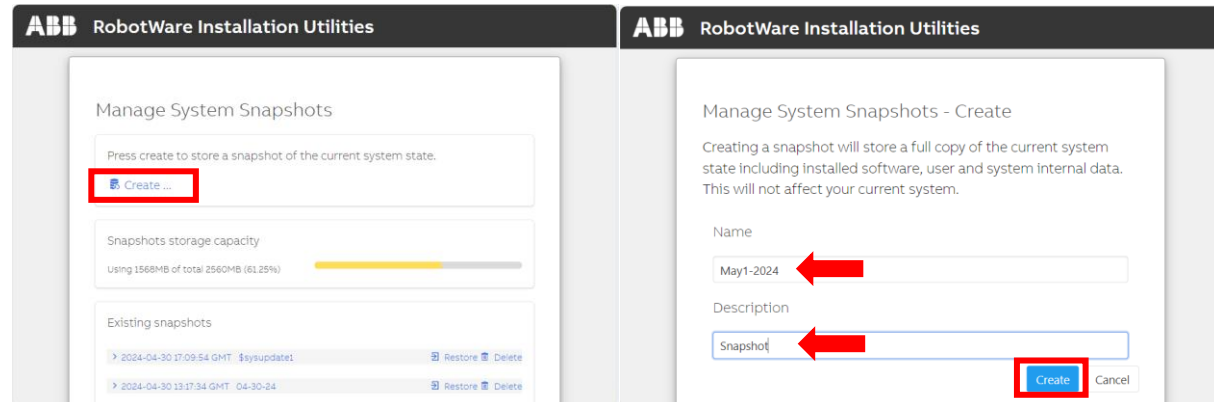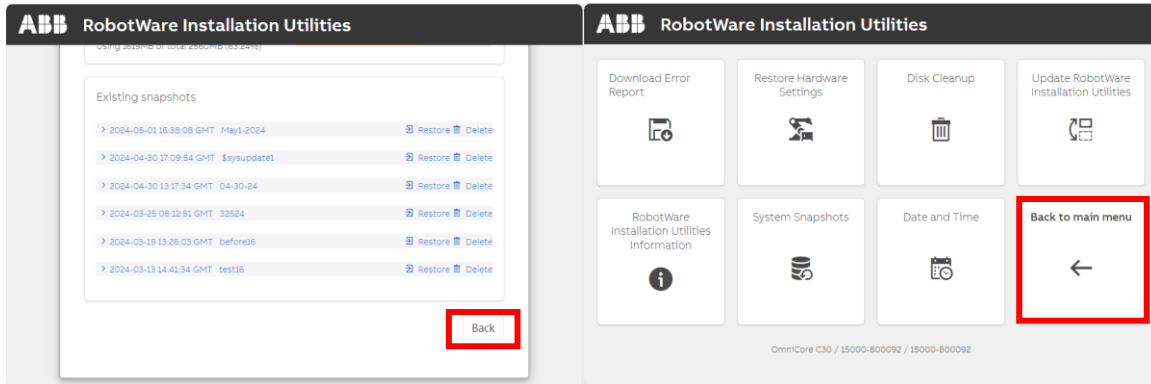

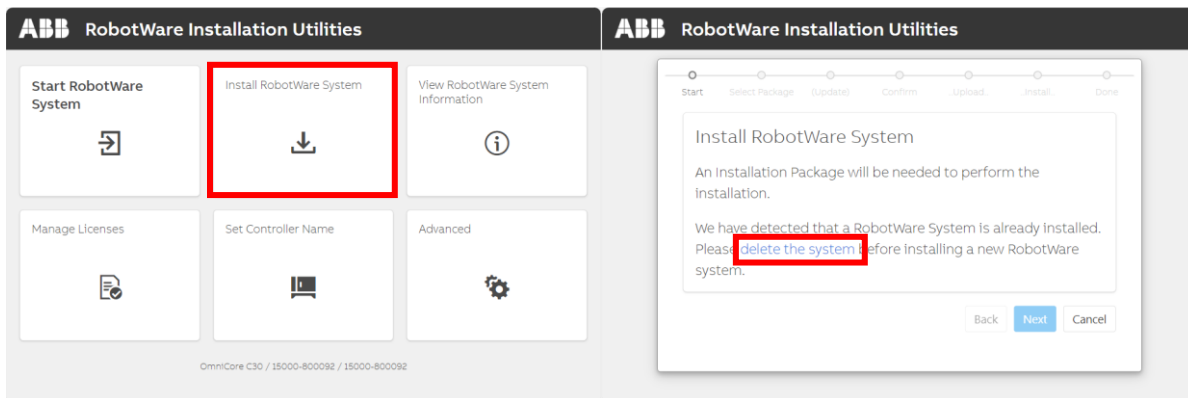Once the snapshot has been saved successfully, click Done.
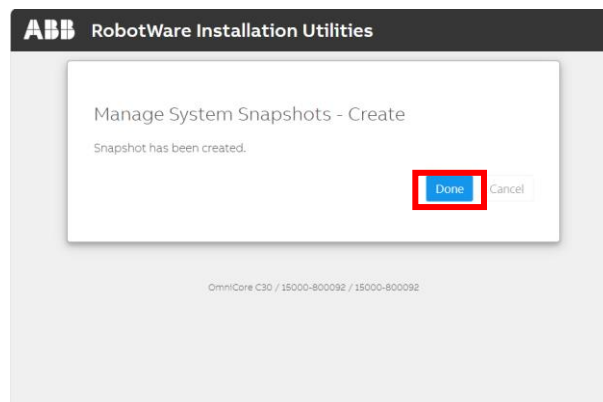
From the Manage System Snapshots menu, scroll down to select Back / Back to main menu to return to RobotWare Installation Utilities menu.

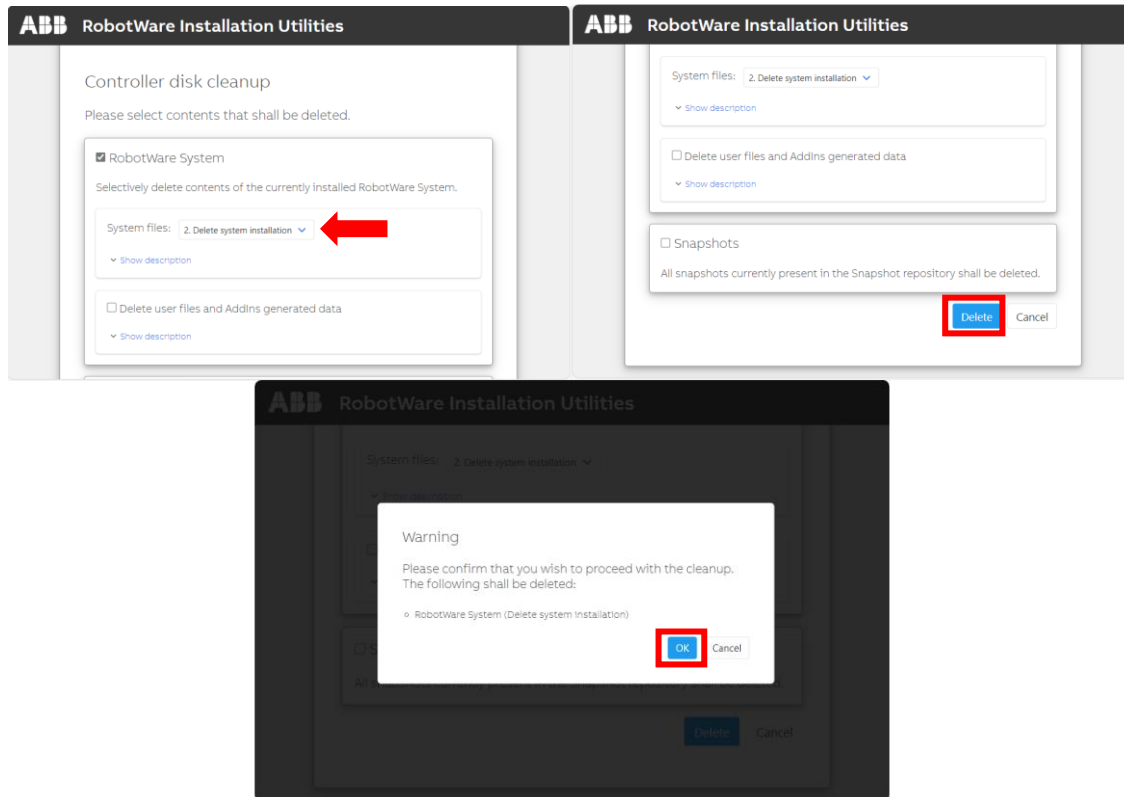# Section 2: Delete RobotWare System

2.1: Delete Previous RobotWare System

From the main menu, select Install RobotWare System and select the linked text "delete the system".

To delete the existing RobotWare System, under System Files specify option 2: Delete system installation. Leave all other options as default. Scroll down to press Delete and click OK to confirm.
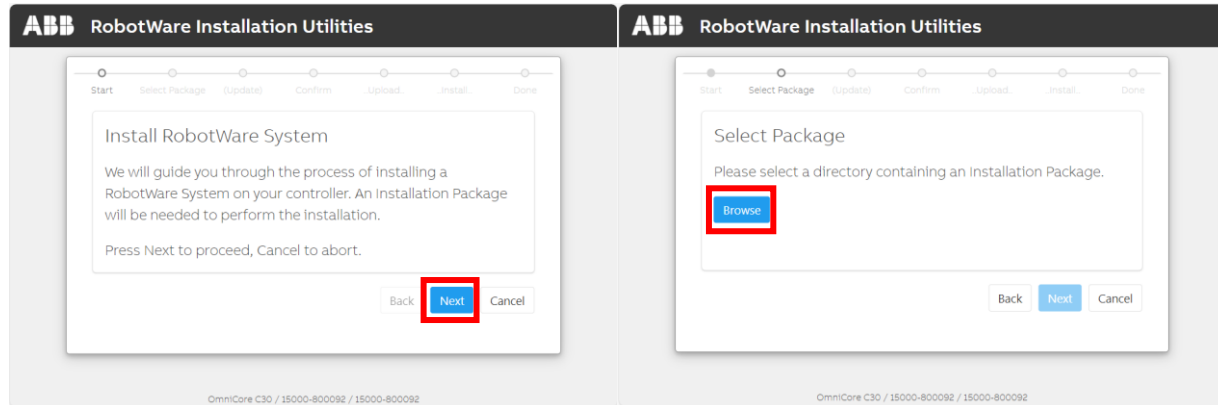

Once the system has been cleaned up, click OK to continue.

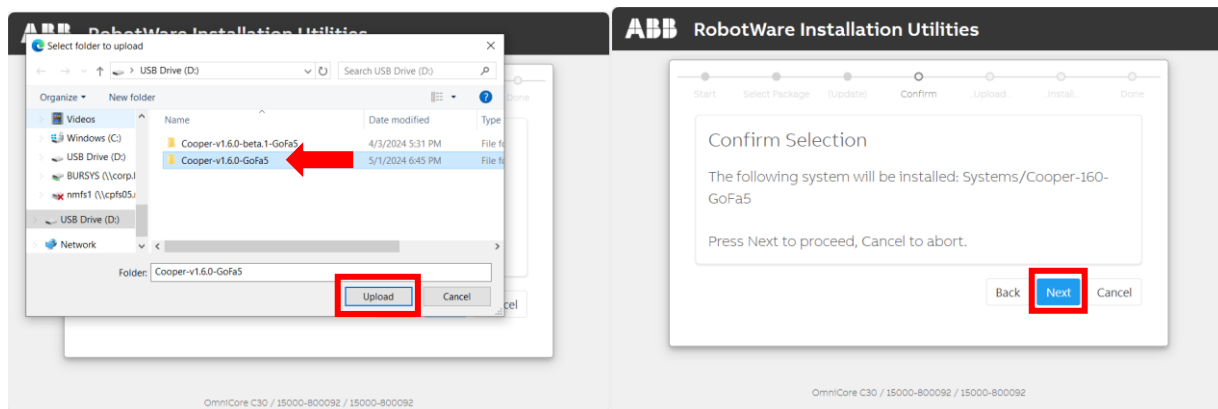# Section 3: Install RobotWare System

3.1: Install RobotWare

Insert the USB with the downloaded software to the FlexPendant and press Next to install RobotWare System. Select Browse.

On the USB, select the folder that was extracted. Note: do not click into the folder, you are selecting the whole folder. Click Upload. You will be prompted to confirm the selection by clicking Next to begin the install.


Note: If RobotWare Installation Utilities presents the message, "The controller contains no RobotWare System or current system is corrupted. Please install a new system before processing." Reattempt Section 3.1. If unsuccessful more than five times, contact support.

Once the installation has successfully completed, click Done.
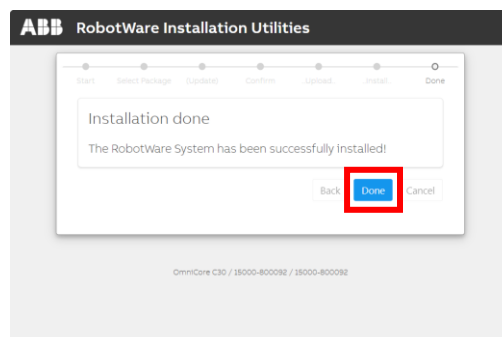
3.2: Launch RobotWare System

From the main menu, select Start RobotWare System / Start. This will launch RobotWare and will restart the controller. This process will take several minutes.
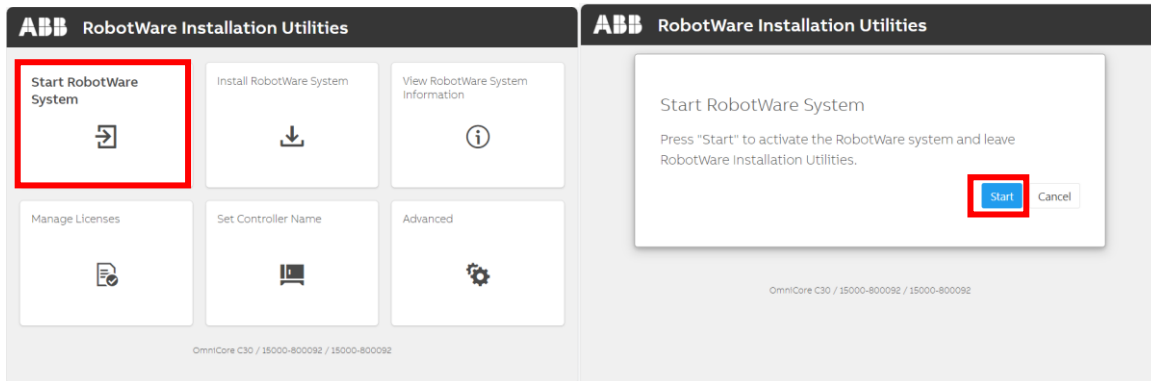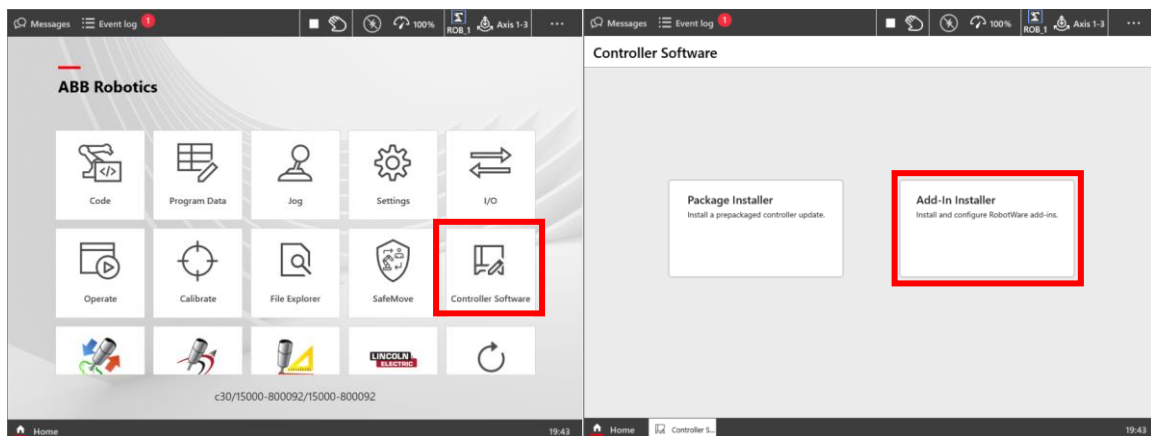

Note: If popup occurs for new FlexPendant version available, select Install.

# Section 4: Cooper Option Configuration

4.1: Select Cooper Options

Once the controller has restarted, specific Cooper App features will need to be selected. Navigate to Home / Controller Software / Add-in Installer.
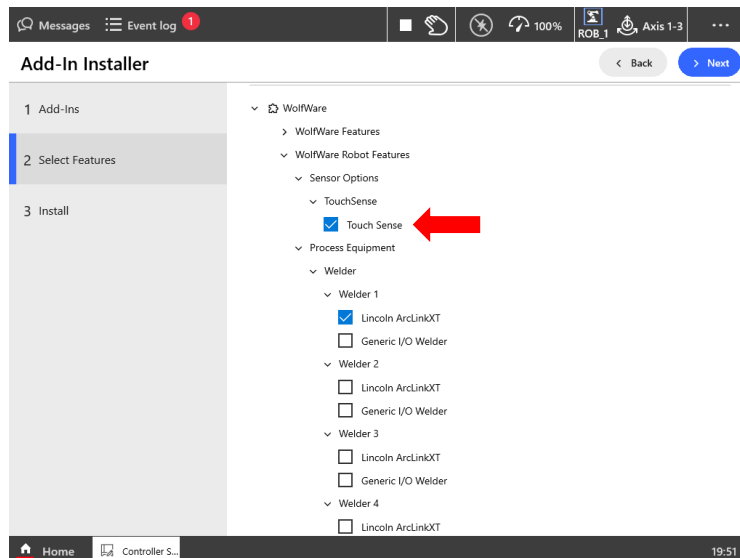
From the Select Features menu, ensure the following additional options are selected (**do not uncheck any options that are already selected**):

CooperCobot / CooperCobotFeatures / System Options /
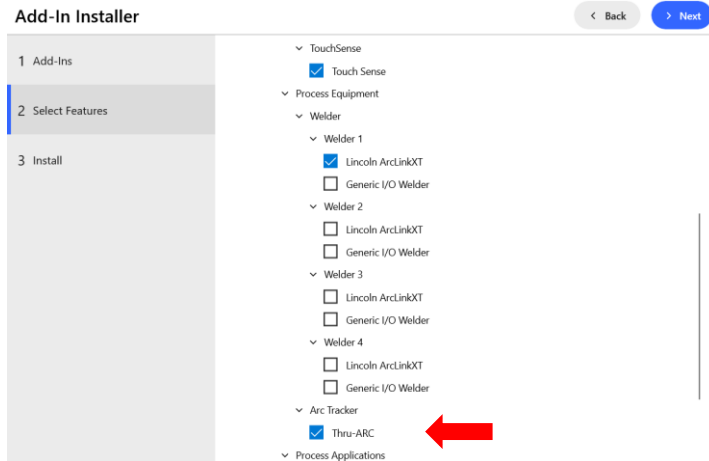   Cooper Cobot App
    Patterning
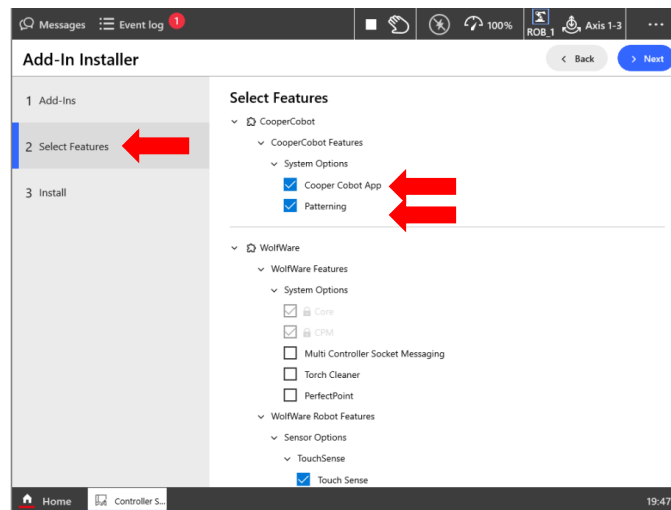
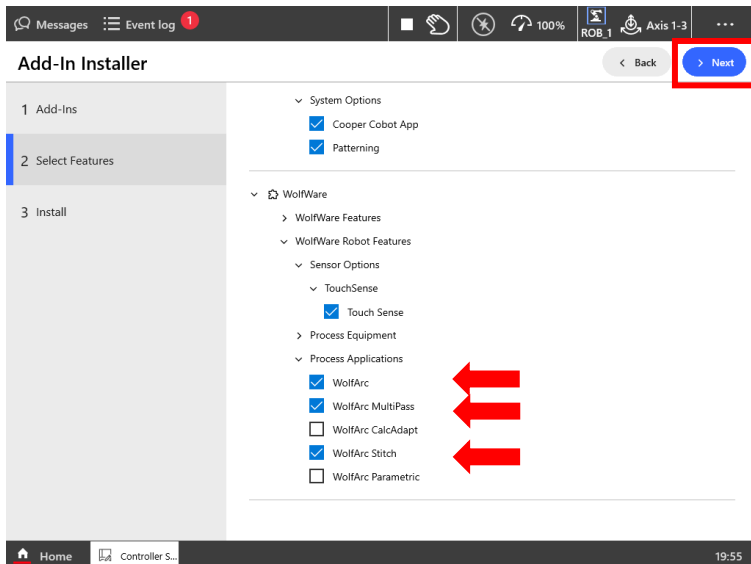WolfWare / WolfWare Robot Features / Sensor Options / Touch Sense /
    Touch Sense

Process Equipment / Arc Tracker /
    ThruARC


WolfWare / WolfWare Robot Features / Process Applications /
    WolfArc
    WolfArc Multipass
   WolfArc Stitch

Then click Next.

If licenses are missing for any options that were selected, send the backup taken in Section 1.2 to service and ask for assistance updating the licenses. If there are no issues, click Apply to continue. Select Yes on the following popup to restart the controller and apply the changes.
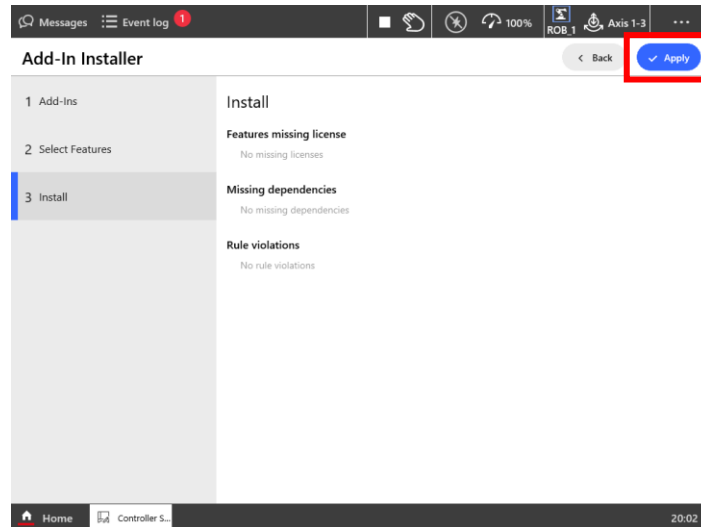
4.2: Update Cooper App

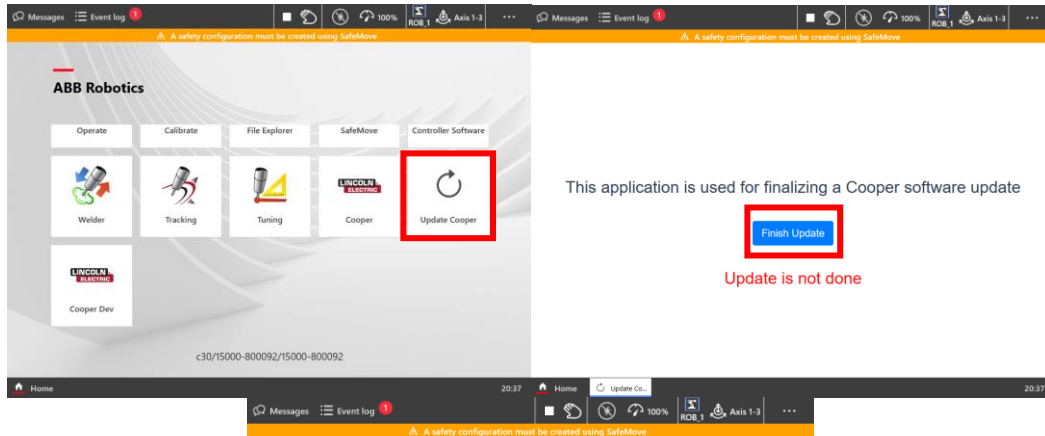Once controller has restarted, navigate to Settings / Logout as Default User.
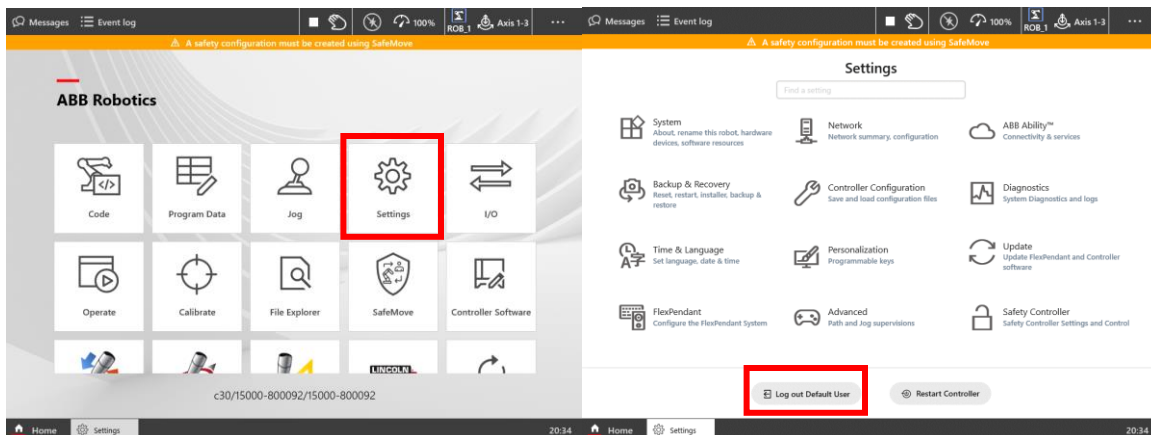
Log in with the credentials:
Username: Admin
Password: robotics

Select the Home tab and select Update Cooper. Click Finish Update to apply the options selected in Section 4.1 to the app. Once complete, the screen will display the message 'Update is done!'


Section 5: Safety & FlexPendant Configuration
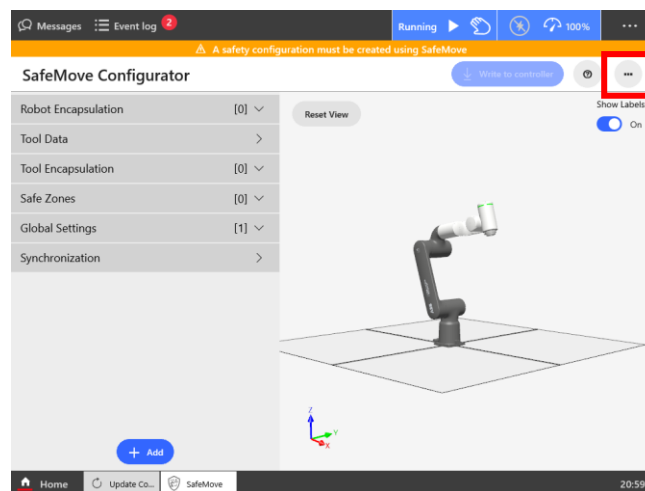
5.1: SafeMove Configuration

WARNING: Follow this update procedure exactly. Following the procedure eliminates the possibility of changing critical robot safety configurations. Knowingly changing any robot safety configuration places responsibility on the user for any detrimental or dangerous effects caused by the change.

Navigate Home / SafeMove. Select Enable Edit Mode. From the popup, select the option "No, Start With Empty Configuration".
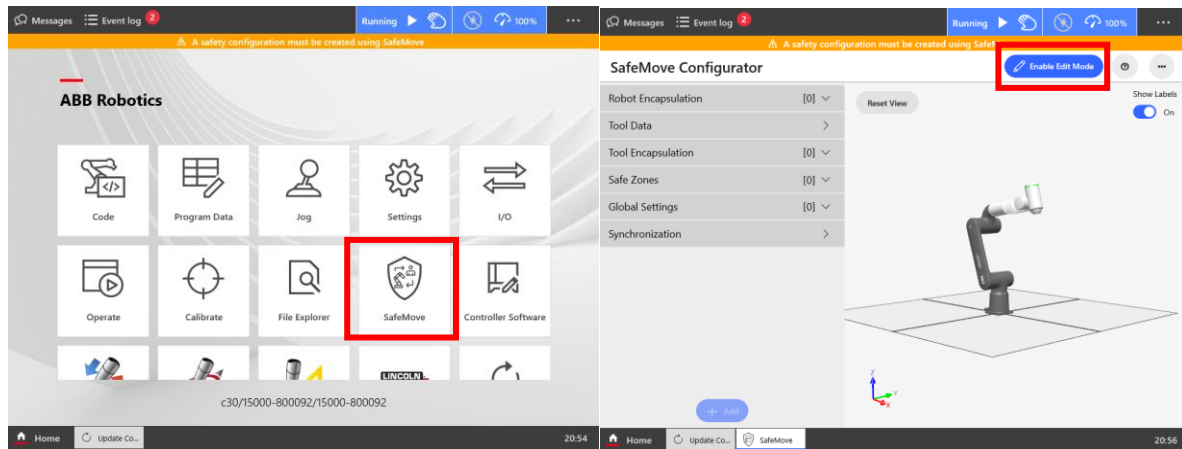
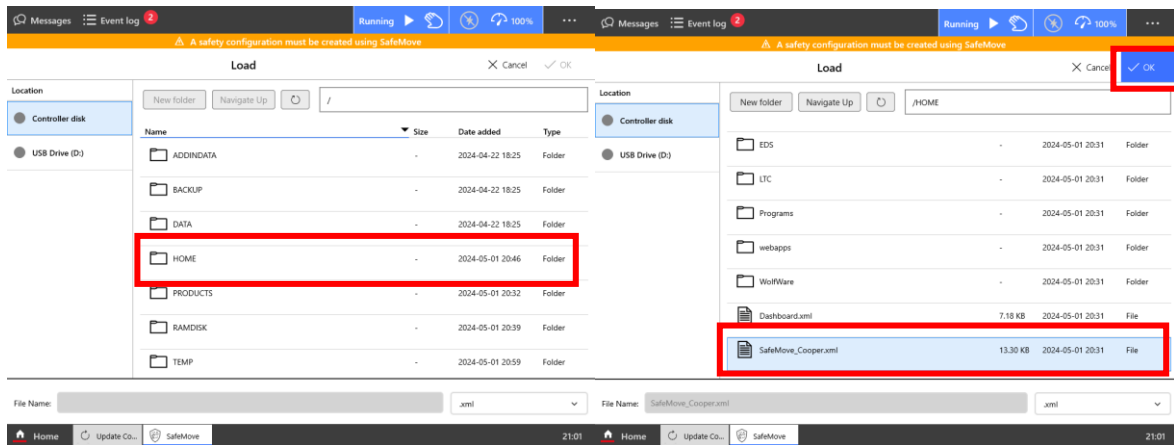Select the three dots in the top right corner and from the dropdown list choose 'Load Configuration From File'.
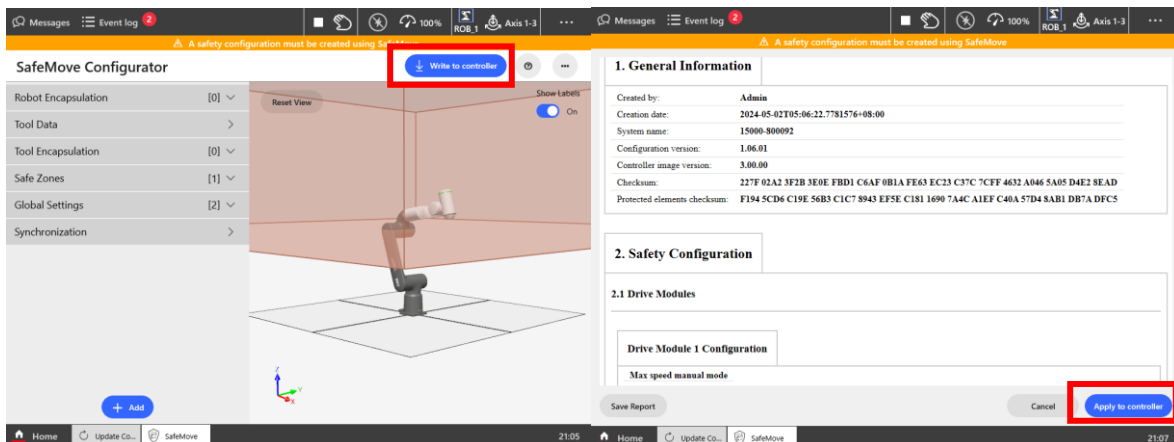
Select HOME / SafeMove_Cooper.xml and click OK. When asked to proceed, click Yes.
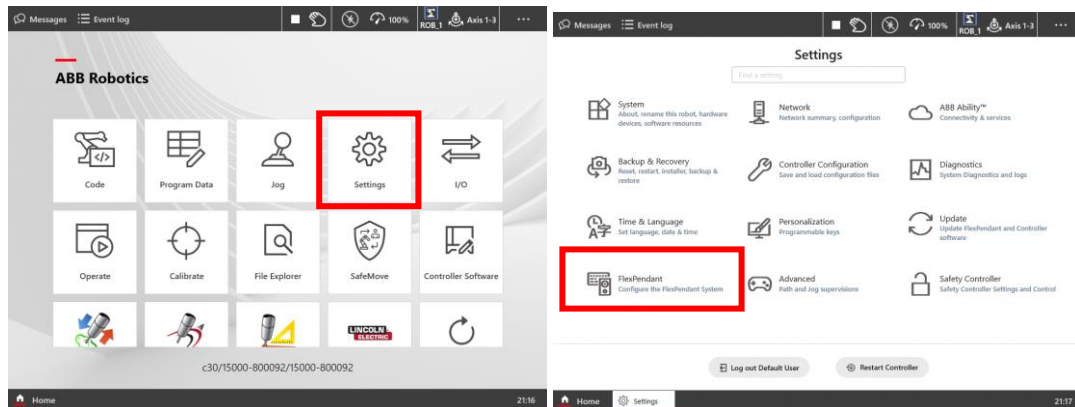

Select Write to Controller. The following screen will list all information related to the safety configuration. Select Apply to Controller. After being applied, you will be prompted to restart the controller. Select Restart Controller.
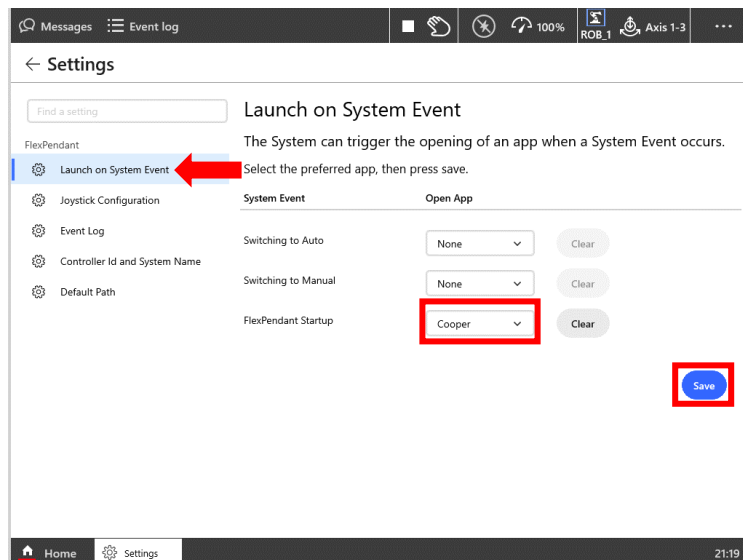
5.2: FlexPendant Configuration
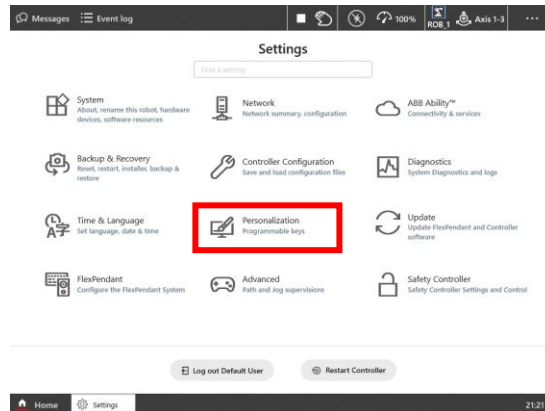
Navigate Home / Settings / FlexPendant.

In Launch on System Event, set FlexPendant Startup to Cooper and click Save.

Return to the Settings menu and select Personalization.

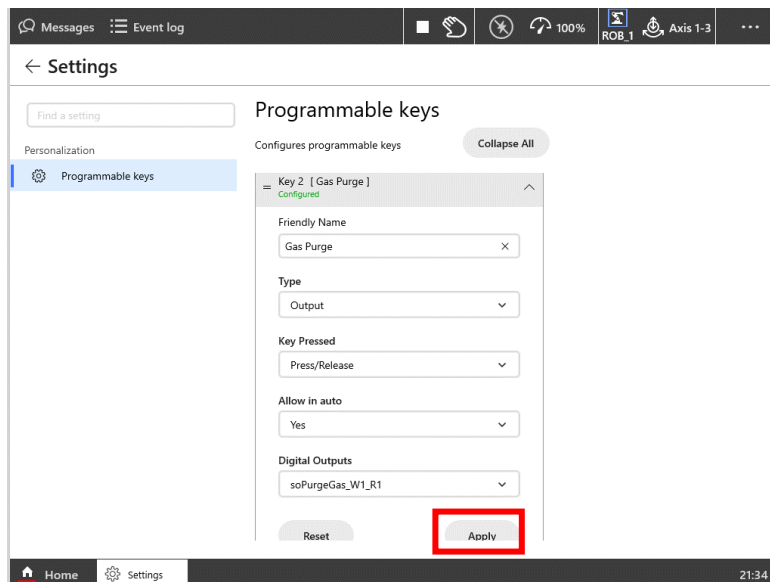Click the arrow to expand Key 2. Set the information as follows and click Apply:

Friendly Name: Gas Purge
Type: Output
Key Pressed: Press/Release
Allow in Auto: Yes
Digital Outputs: soGasOn_W1_R1

Click the arrow to expand Key 3. Set the information as follows and click Apply:

Friendly Name: Retract Wire
Type: Output
Key Pressed: Press/Release
Allow in Auto: Yes
Digital Outputs: soFeedBkwd_W1_R1

Click the arrow to expand Key 4. Set the information as follows and click Apply:
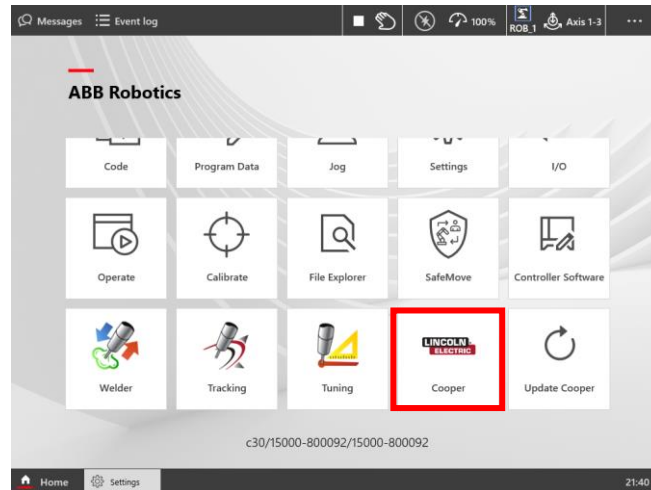
Friendly Name: Feed Wire
Type: Output
Key Pressed: Press/Release
Allow in Auto: Yes
Digital Outputs: soFeedFwd_W1_R1

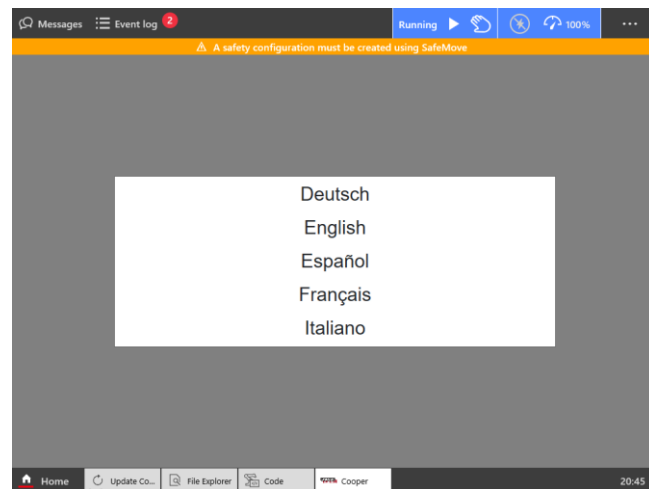# Section 6: Launch Cooper App

6.1: Setup Cooper App

Navigate Home / Cooper.
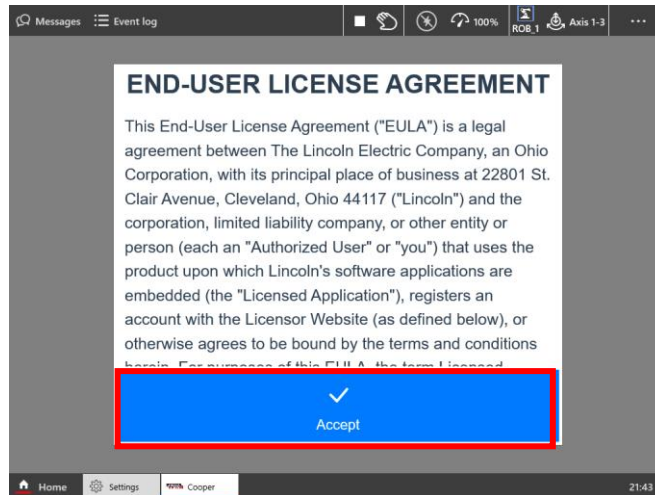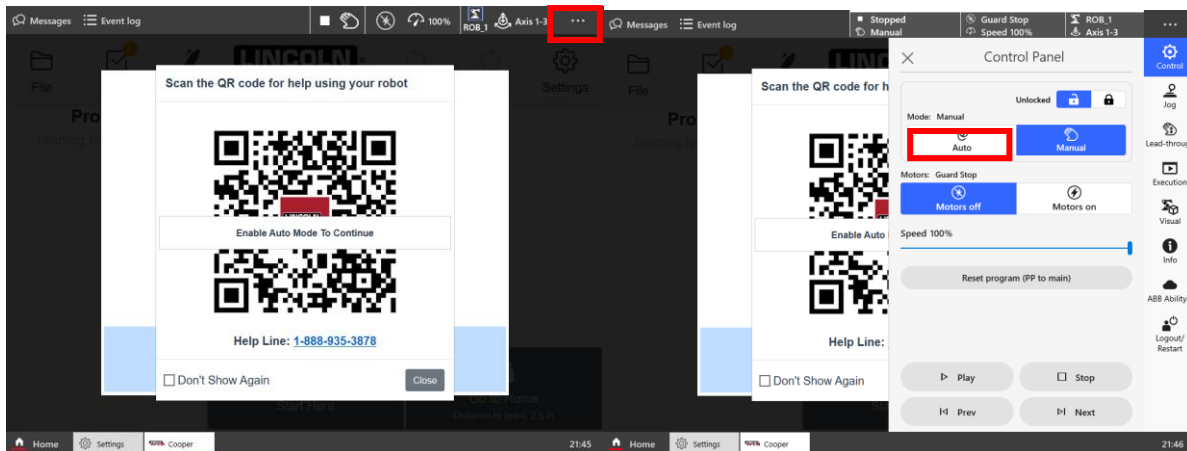

Select the language for the Cooper App.

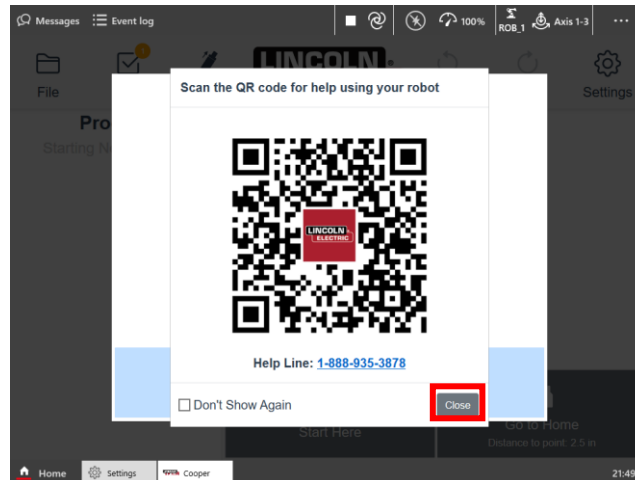Read the End User License Agreement and click Accept.

Re-enable Auto Mode by selecting the 3 dots in the top right and change Mode to Auto. Click Confirm and Acknowledge. Click the 3 dots again to close the right side menu.

Scanning the following QR code will redirect you to tutorials and resources for the Cooper App. Click Close to continue.

6.2: Initialize Weld Data

Finally, you will be prompted to reselect your consumables. Select the appropriate Wire Type, Wire Size, and Gas Type present on your system. This will load in improved Weld By Number parameters for your respective consumables. If you are not using Weld By Numbers or the consumables you are using on your system are not listed in the dropdown selections, you can instead select Skip to reimport your custom weld data. Once consumables have been selected, press OK to load in the weld-by-number weld database.

If you opted to skip loading Lincoln Electric's Weld By Number parameters or if you have additional custom Weld Data available on the cobot, you will be presented with the option to import Custom Weld Data into the Cooper App. Here you will be prompted to name the custom weld data and select the desired bead data.

If you would like to set a crater fill on your weld, drop down the arrow for Additional Data and select your crater fill parameters. Once you have made all your desired selections, click Import.

You will be brought back to the import custom weld modal. If there are additional welds you wish to import, you can repeat the above process to import. If you are finished importing custom welds, click Exit.

You have successfully updated the Cooper App!