

SOFTWARE INSTALLATION MANUAL

ROBATECH VISION GLUE EQUIPMENT



The following chapters describe the steps that need to be taken to install the Robatech Vision FlexPendant app on the ABB OmniCore controller.

1. RobotStudio

To be able to install, make sure the PC used to install the Robatech Vision app has RobotStudio already installed . If this is not the case download RobotStudio from the ABB website with following link: <https://new.abb.com/products/robotics/software-and-digital/downloads>

To be able to download RobotStudio you will need to register.

RobotStudio can be installed free of charge on any PC. When RobotStudio is installed for the first time on a PC a 30 day premium license is available. During this period the full functionality of RobotStudio can be used. However for the installation of the Robatech Vision FlexPendant app the basic functionality of RobotStudio (without license) is sufficient.

Once RobotStudio is downloaded it can be installed on the PC. Follow the guidelines of the RobotStudio installer during installation.

2. Install the Robatech add-in in RobotStudio

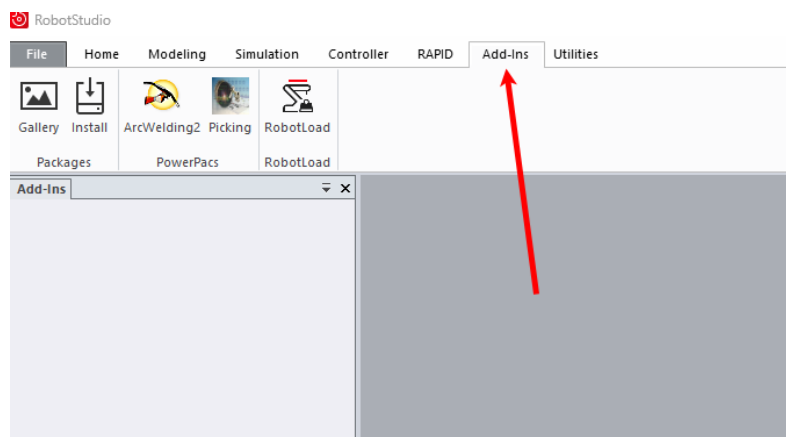
The Robatech Vision FlexPendant app is supplied as a RobotStudio add-in. This add-in must be installed in Robot-Studio first before the FlexPendant app can be installed on the real or virtual controller.

The Robatech Vision add-in is supplied as a file with following name:

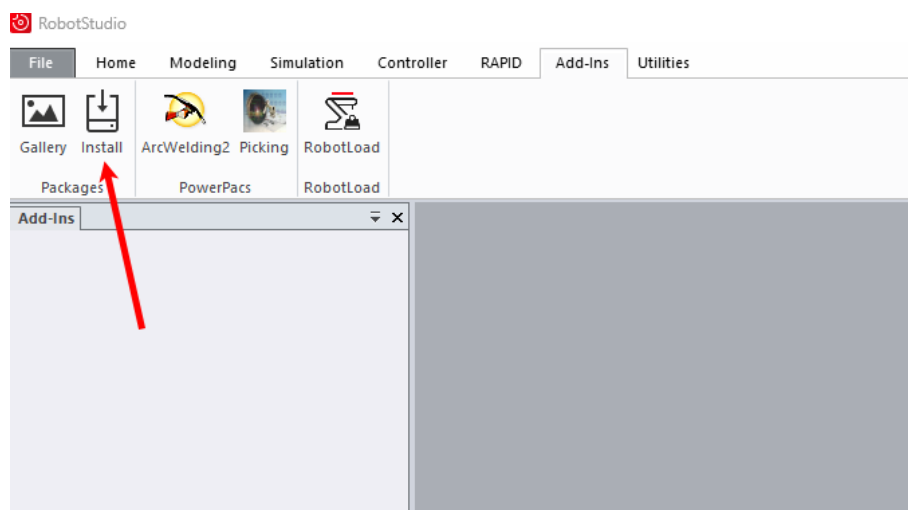
ABB.Robatech-1.0.026.rspak

The 1.0.026 refers to the version of the add-in. This may vary when new versions are released. Always install the add-in with the highest version.

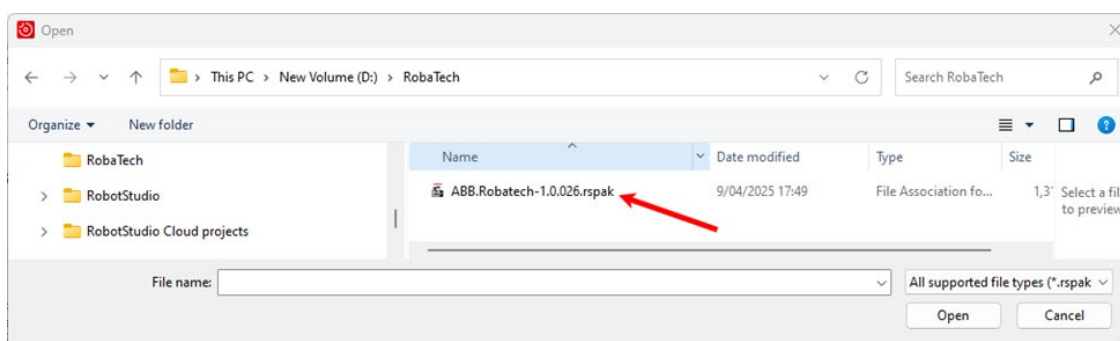
To install the add-in, start RobotStudio and select the Add-ins tab.



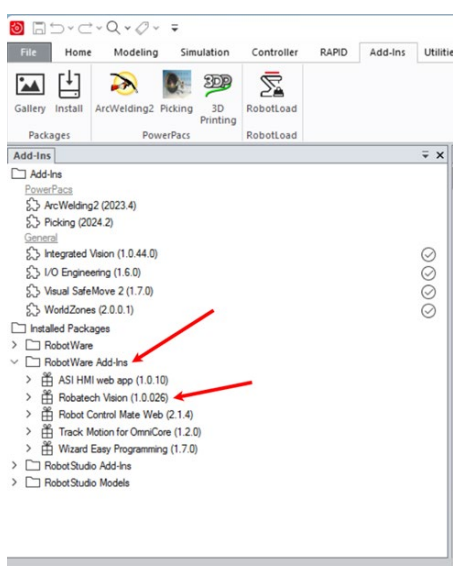
From the Add-ins tab select Install



Browse to the location where the RobotStudio add-in is located and press “Open”



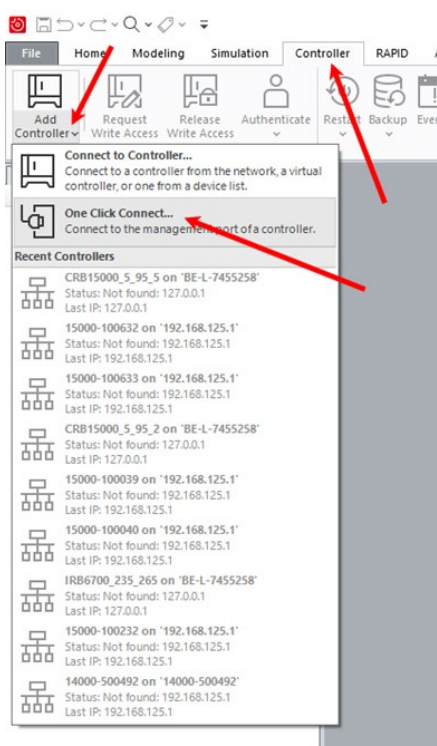
The Add-in will now be installed in RobotStudio. You check if the add-in is properly installed in the browser under “RobotWare Add-ins”. The Robatech Vision add-in should be listed.



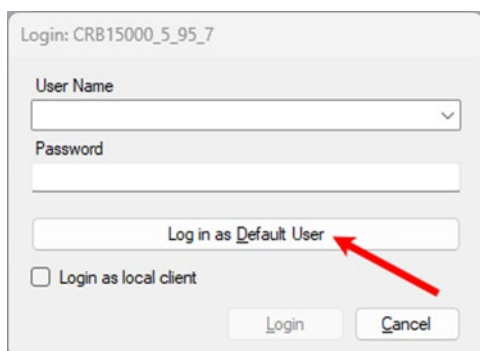
3. Install the FlexPendant app on the robot controller

Installing the Robatech Vision FlexPendant app will result in a loss of all RAPID code and system parameters. So make sure a back-up of the system is made before installing the FlexPendant app.

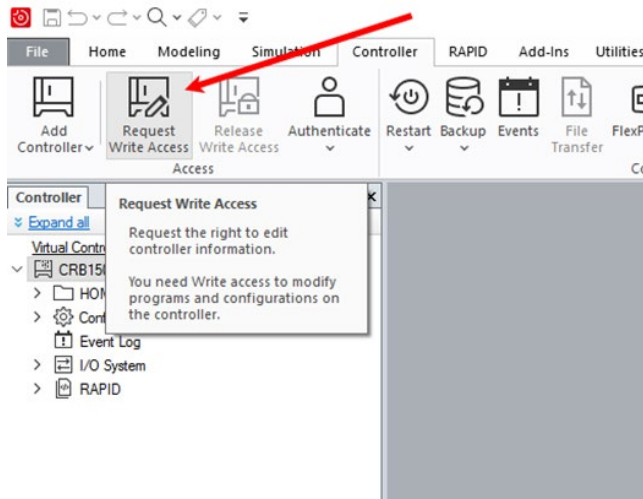
Connect the robot controller with the PC using an Ethernet connection. Make sure the robot is connected on the MGMT port of the robot controller. Add the robot controller to RobotStudio by clicking “Add controller” from the “Controller” tab. On the lower half of this button you can select “One click connect”.



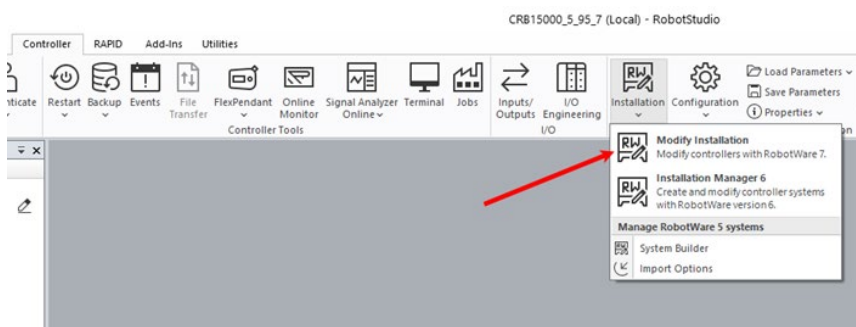
You will be prompted to enter a username and a password, but you can also logon as a default user. Use the username and password with the correct grants, if these are created. On a standard system the “Log-in as Default user” is sufficient, which is one click on the button.



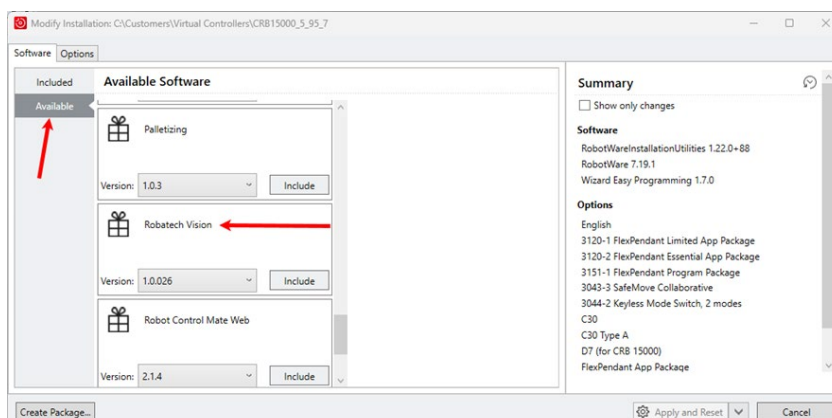
The robot controller will appear in the browser and is now connected. To be able to install the Robatech Vision Flex-Pendant app RobotStudio must have mastership over the robot controller. Click the “Request Write Access” button. If the robot controller is in manual mode Write access must be granted from the FlexPendant.



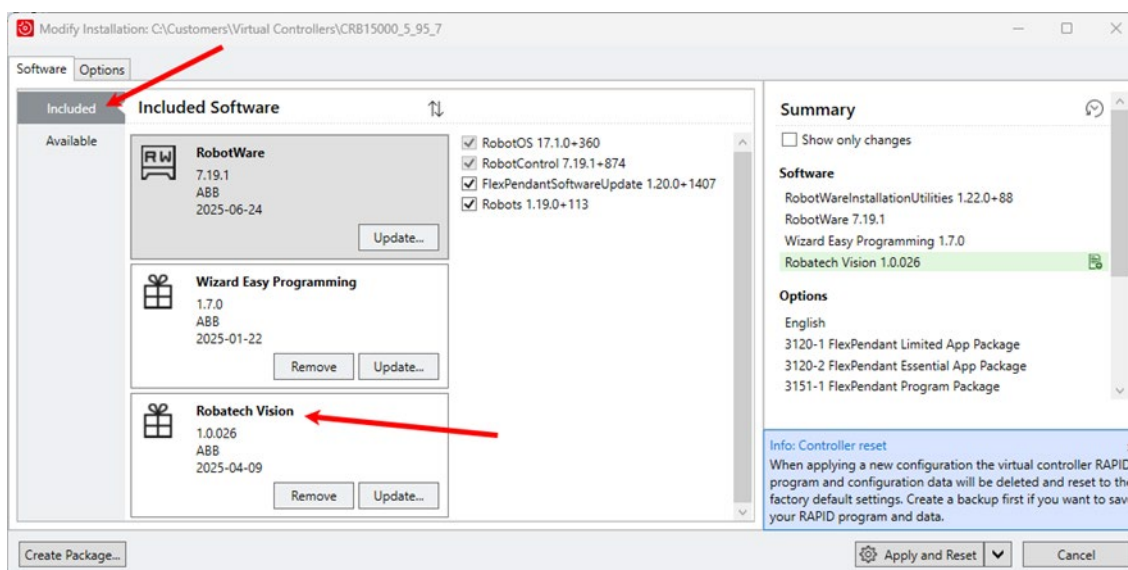
From the “Controller” tab click “Installation” and select “Modify Installation”.



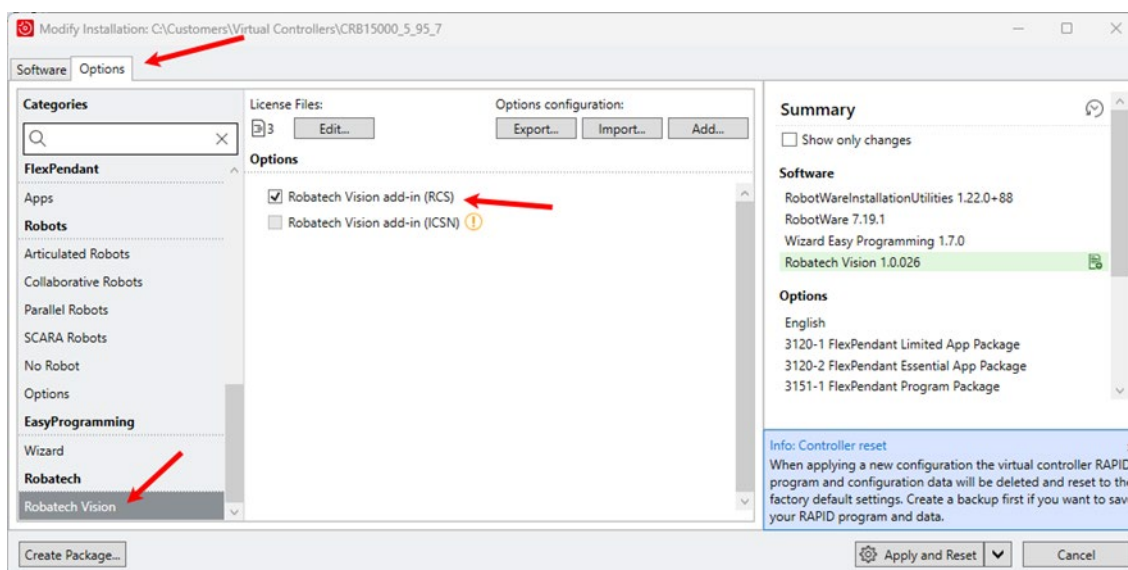
The installation manager will open. The Robatech Vision add-in needs to be included in the RobotWare. The Robatech Vision add-in can be selected from the “Available” tab and “Include” it.



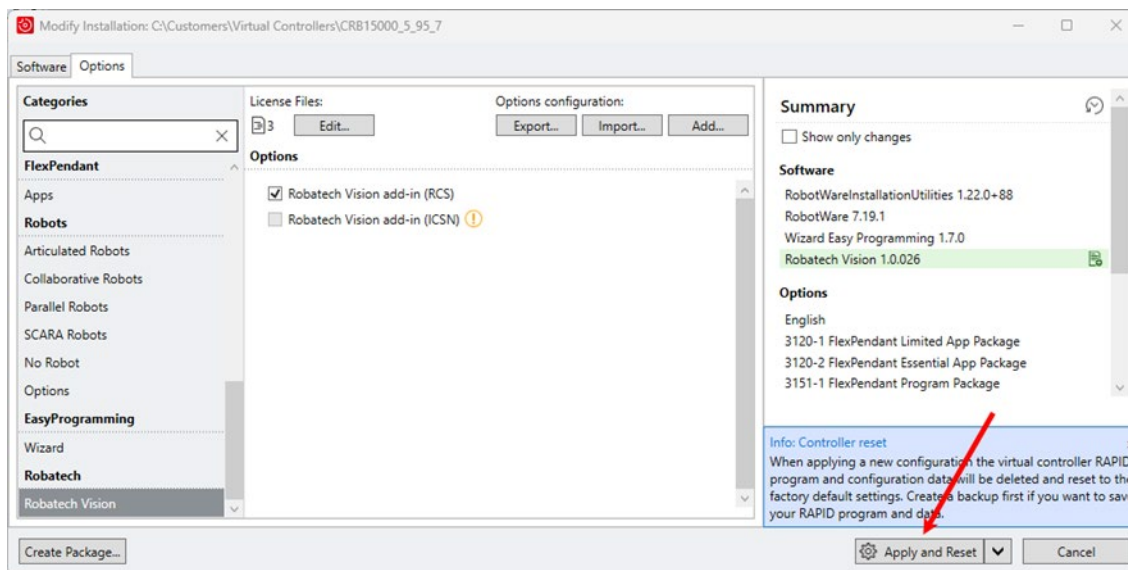
The highest installed version is automatically selected. In the “included” tab the Robatech Vision add-in should now be present.



In the “Options” tab Robatech Vision is now added and the Robatech Vision add-in (RCS) is selected by default. If the ICSN version is required first uncheck the RCS version and then check the ICSN version.



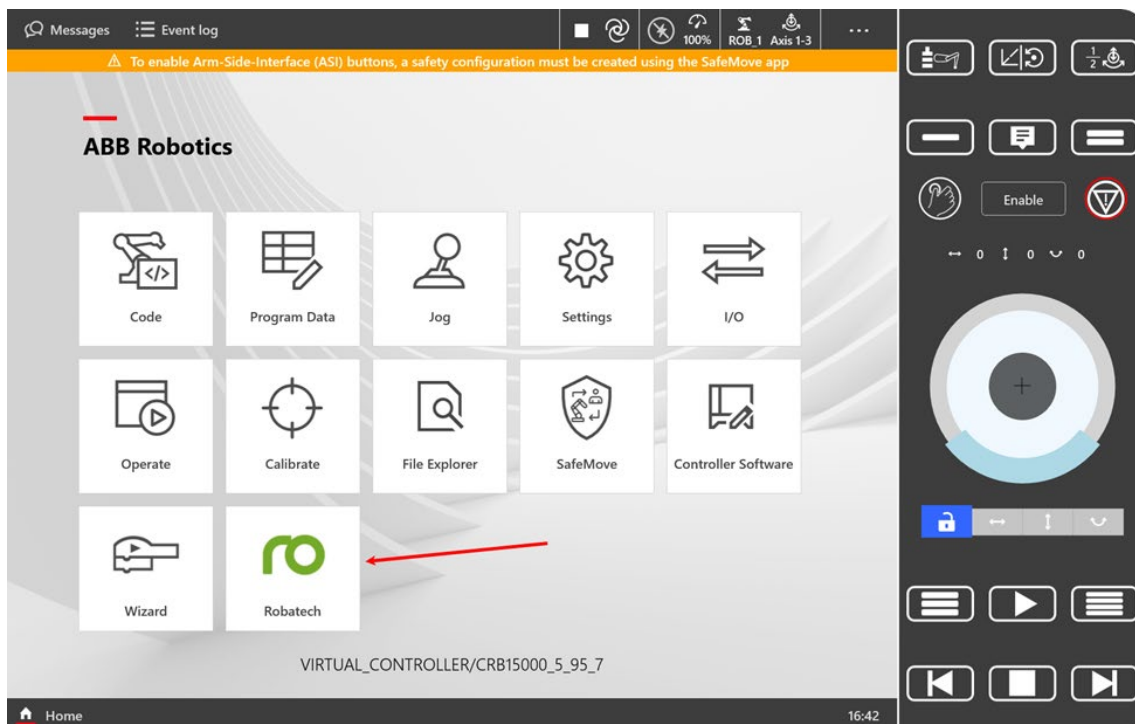
Finally, “Apply and Reset” the robot controller. You will need to confirm this.



The robot controller will install the Robatech Vision app and will restart.

Note! The restart of the robot controller after changing options may take several minutes.

Once the controller has restarted the Robatech Vision app can be started from the “Home” screen of the FlexPendant.



The Robatech FlexPendant app will mirror the screen from the Glue equipment. Please refer to the documentation of the Glue equipment for more details on the functionality of the equipment.

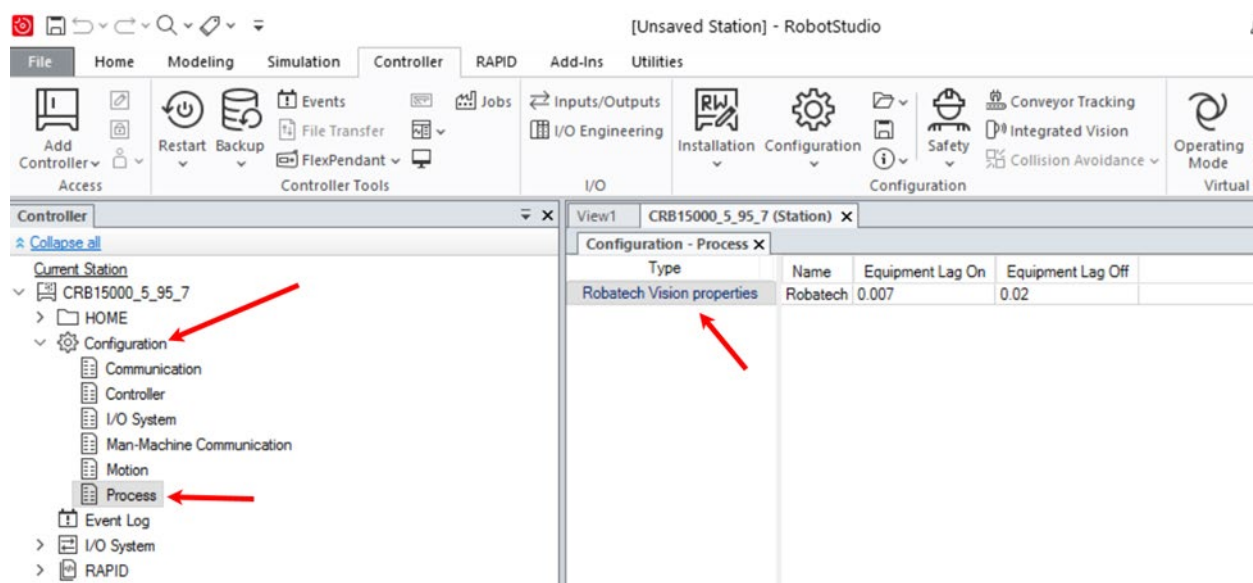
4. Robot system parameters

Two system parameters are available to optimize the behavior of Glue equipment. These two parameters are:

- Equipment lag on. This parameter can be used to optimize the start behavior of the glue equipment, relative to the programmed robot position. Using the Wizard blocks it's possible to start dispensing on the fly. This means that dispensing started when the robot is moving. In this case a "Start glueing" Wizard block can be added to the program. This block should be programmed as a zone point. As there are some time delays in the system the dispensing isn't always started exactly in the programmed point, but a bit sooner or later depending on the equipment. By optimizing the Equipment lag on parameter the dispense start can be optimized so it starts exactly in the programmed target.
- Equipment lag off. Equal to the Equipment lag on but in this case for switching the glue dispensing off.

To access these system parameters the robot needs to be connected to RobotStudio and write access must be granted to RobotStudio.

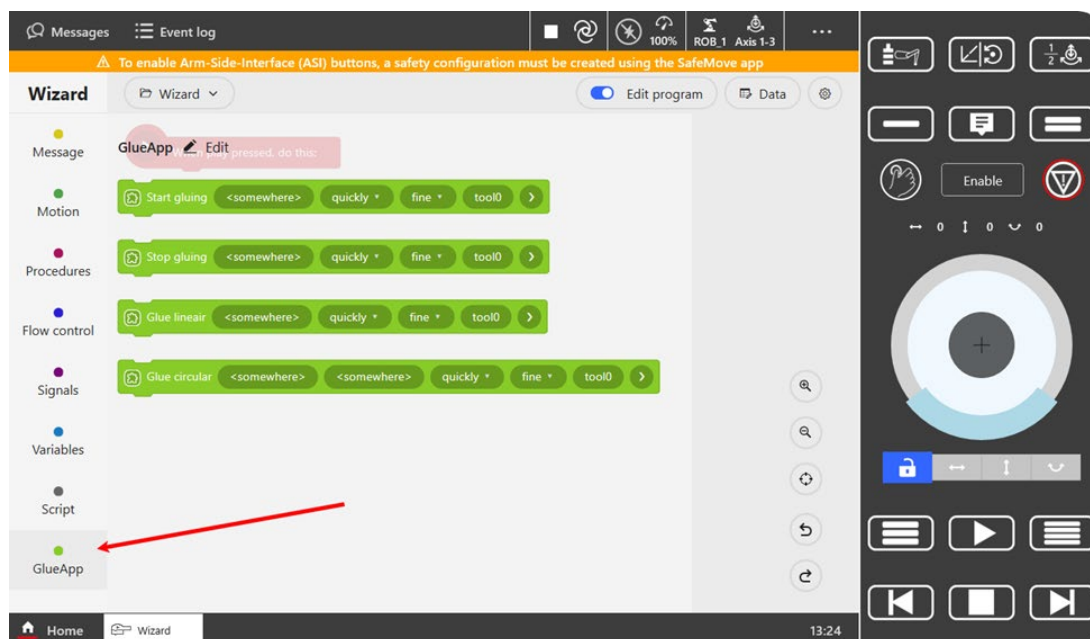
The system parameters can be accessed from the "Configuration" - "Process" field.



5. Wizard blocks

With the installation of the Robatech Vision FlexPendant app Wizard blocks will also be installed. The Wizard blocks will simplify the programming using the Robatech Vision glue equipment.

The four Wizard blocks can be found under the GlueApp category.



There are four motion blocks. Two of these motion blocks are used to start and stop dispensing. Motion blocks:

- Start glueing. When the robot reaches the programmed point dispensing will start. The instruction has fol-lowing arguments:
 - Location: The location from where the dispensing is started.
 - Speed: The speed at which the robot moves to the programmed target. During the motion to the programmed position dispensing is not yet active.
 - Zone: When a fine point is used the robot will stop in the programmed position and dispensing a activated. This may result in a blob of glue. When a zone is used dispensing starts on-the-fly, this typically results in a uniform glue trace.
 - Tool: The tooldata of the dispense gun.
 - Wobj (Optional): The workobject used for the application.
 - Dist (Optional): When the dispensing is to be started with a delay from programmed location, the distance for this delay can be specified in this parameter.
- Stop glueing. When the robot reaches the programmed point dispensing will stop. The instruction has fol-lowing arguments:
 - Location: The location where the dispensing is to be stopped.
 - Speed: The speed at which the robot moves to the programmed target. During the motion to the programmed position dispensing is still active and will be stopped when the robot reaches the pro-grammed point.
 - Zone: When a fine point is used the robot will stop in the programmed position and dispensing a deactivated. This may result in a blob of glue.



When a zone is used dispensing starts on-the-fly, this typically results in a uniform glue trace.

- Tool: The tooldata of the dispense gun.
 - Wobj (Optional): The workobject used for the application.
 - Dist (Optional): When the dispensing is to be stopped with a delay before programmed location, the distance for this delay can be specified in this parameter.
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- Glue linear. If the path is more complex several intermediate points maybe required. The system will keep dispensing active while the robot moves linear the programmed point.
 - Location: The location along the path.
 - Speed: The speed at which the robot moves to the programmed target.
 - Zone: Avoid using fine points as the robot will come to a standstill while dispensing continues. This will result in a blob of glue.
 - Tool: The tooldata of the dispense gun.
 - Wobj (Optional): The workobject used for the application.
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- Glue circular. If the path is more complex several intermediate points maybe required. The system will keep dispensing active while the robot moves circular to the next location.
 - Location: The first location on the arc.
 - Location: The end location of the arc.
 - Speed: The speed at which the robot moves to the programmed target.
 - Zone: Avoid using fine points as the robot will come to a standstill while dispensing continues. This will result in a blob of glue.
 - Tool: The tooldata of the dispense gun.
 - Wobj (Optional): The workobject used for the application.