Vision Controller

Upgrades Guide

You have received your Photoneo upgrade package. Based on what you have ordered, follow the instructions in this guide to upgrade your Vision Controller. **See the Upgrade Scenarios Overview to follow the relevant steps.**

Important note: Before upgrading any part of your Vision Controller, remember to back up your data, shut down the Vision Controller, and disconnect it from the power.

Contents:

Supported products

The upgrades described in this manual apply to Vision Controllers 5x, 7x, and 9x series provided by Photoneo.

Upgrade Scenarios Overview

This section directs you to relevant instructions based on your specific upgrade type. Select your upgrade scenario below to quickly access the appropriate steps and ensure a smooth installation process.

Scenario A: I received a new Vision Controller

If you are upgrading from an older VC (5x or 7x) to the latest 9x, follow these sections:

- Backup Your Data from Older VC: Refer to section 1.1
- Restore Your Data to your newer VC: Refer to section 1.2

Scenario B: I received an NVMe or SATA SSD

For replacing the SSD (250GB or 1TB) provided by Photoneo (containing the BPS/LS image), refer to these sections:

1. Backup Your Data from Older VC: Section 1.1
2. Install the SSD: Refer to section 2.1.1
   A) SATA Installation (VC 5x, 7x): Section 2.2.1
   B) NVMe Installation (VC 9x): Section 2.2.2 - before reassembling the VC after installing the NVMe SSD, make sure no other following steps require disassembly
3. Install the License Dongle: Section 2.3 (if applicable)
   a. Perform this step only if you received a new license dongle with the SSD. If no dongle was received, skip this step and proceed to step 5.
4. Reassemble the Vision Controller: Section 2.1.2 (if not done in one of the previous steps)
5. If you upgraded from a lower version to BPS 1.9 / LS 1.2 or higher, follow the Hardware changes required after updating to BPS 1.9 / LS 1.2 or higher: Section 3
6. Update the License: Section 1.3 (if applicable)
   a. Perform this step only if you did not receive a new license dongle (and skipped step 4).
7. Restore Data Backup: Section 1.2

Scenario C: Upgrading RAM

Follow the instructions in 2.4 Installing new RAM modules.

Scenario D: Adding a Module

Follow the instructions in Update the License: Section 1.3 (Option B)

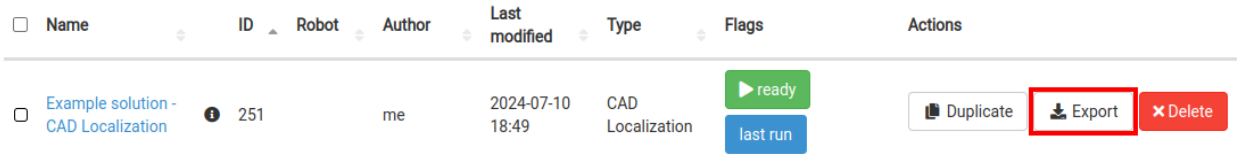
Data handling

This section covers data handling - backup and restore. It is recommended that you back up your data before executing any hardware change in case of hardware failure.

1.1 Data Backup

To safely migrate your application when, for example, switching SSDs, consider backing up these data to a removable storage media:

- **Solutions**
  Log in to your Studio account, open the Solutions page, and use the Export button to save all relevant solutions to the Downloads folder from which you can move them to the connected removable storage media.

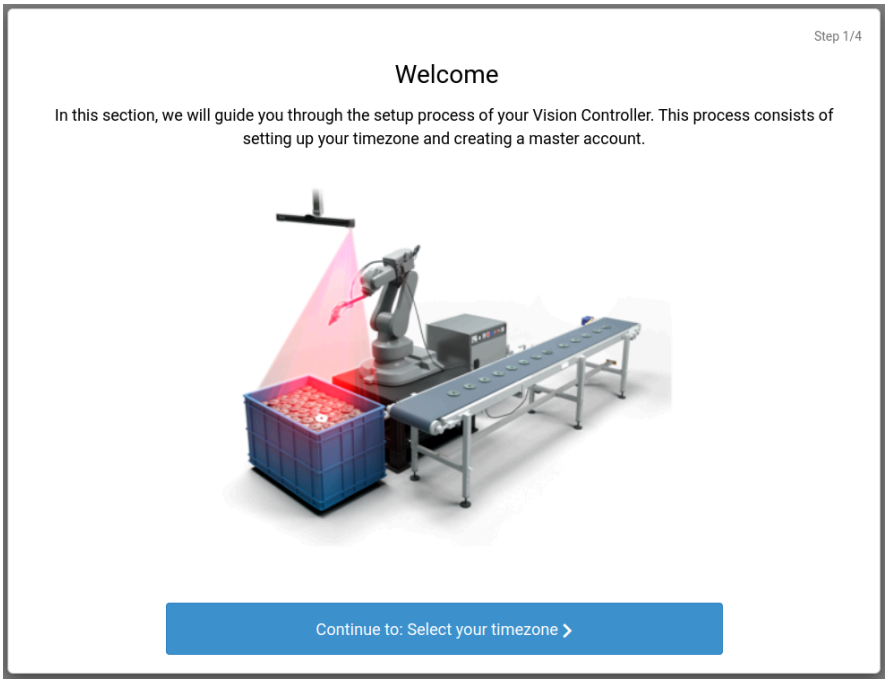


- **Network configuration**
  Network configuration cannot be exported at the moment. It is recommended to save the current network configuration so it can be easily recreated in the new Studio.
  Log in to your Studio account, open the Network page, and back up your Network configuration either by taking a photo of it, writing it down, or taking a screenshot (in which case do not forget to move it from the Pictures folder to the connected removable storage media).
- **Other user data**
  Back up any data in your Ubuntu Home folder that is still relevant for your application.

Note: User accounts cannot be migrated and need to be recreated.

1.2 Data Backup Restoration

Once you boot up a new SSD you are greeted with the Welcome page of the Studio.

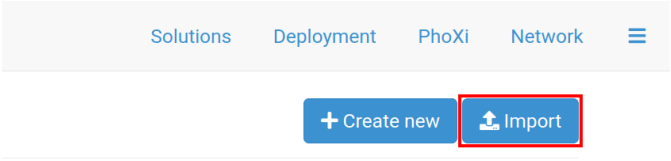


Follow the guide to create your new Master account and optionally accounts for your employees (this can also be done later).

Once configured, you can log in to the Studio with your new account and restore your backup:

- **Solutions**

  Open the Solutions page and use the Import button to load all relevant solutions from the connected removable storage media.



- **Network configuration**

  Open the Network page and restore your Network configuration to match your original settings.
- **Other user data**

  Optionally, move the data backed up from the Ubuntu Home folder to the storage space of the new SSD.

License Handling

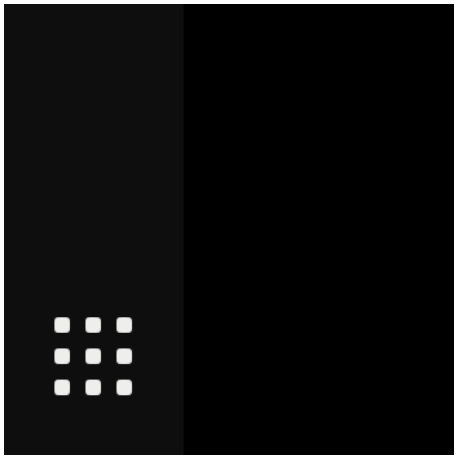
1.3 License Update

Note:: This is an optional step relevant only when a new license dongle (your system already has the correct license dongle but requires a software license change) is not present in your upgrade package and you are:

- **Option A**: Upgrading from BPS 1.7 or lower, or LS 1.0 - V2C license file is located in the Documents folder (*.v2c suffix)
- **Option B**: Buying additional SW product - V2C license file received from the Photoneo Support (*.v2c suffix)

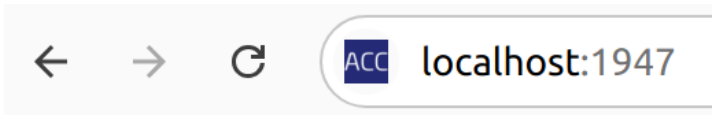
To update your license follow these steps:

1. Click on the Show Applications button in the bottom left corner

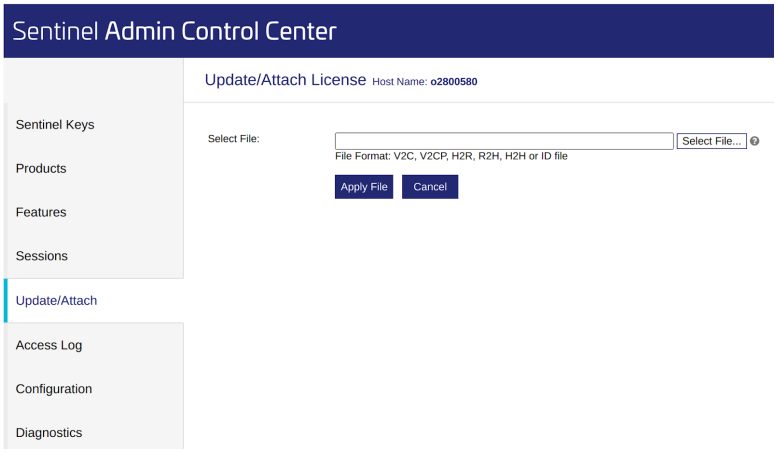


2. Type in “sentinel” to search for *Start Sentinel Runtime* and click on it to run it

3. In the Google Chrome, go to the following URL: localhost:1947



Sentinel Admin Control Center will open:



a. Go to the Update/Attach section
b. Click on the button Select File and browse for the V2C file
c. When the file is selected click the Apply File button to start the Update/Attach procedure which will result in:
    i. **Success**

    You will see the message *Your update was applied successfully*.
    ii. **Failure**

    Contact the Help Center and provide the Error Description and the Error code from the Sentinel Admin Control Center
d. Close the page in the browser
e. Search for *Stop Sentinel Runtime* among all applications and run it

Hardware Changes

Note: Before upgrading any part of your Vision Controller, do not forget to back up your data, shut down the Vision Controller, and disconnect it from the power.

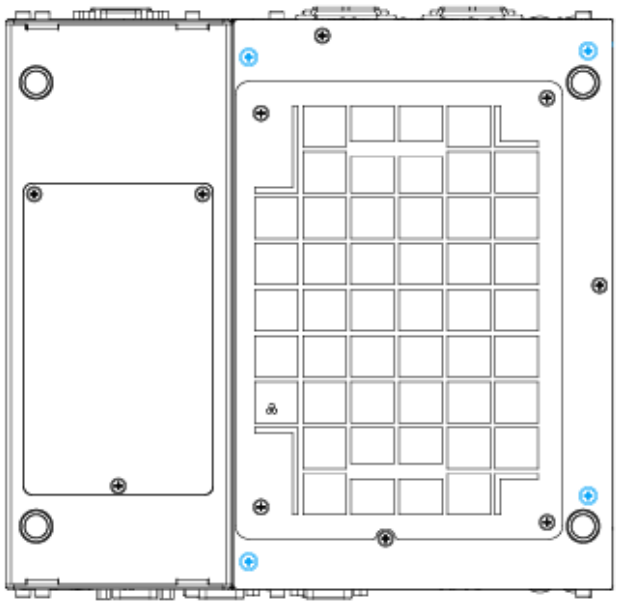
DISCLAIMER: Note that while upgrading the SSD, RAM, or license dongle in your Vision Controller, any physical damage that occurs during the self-service process may void the warranty. We encourage you to proceed with care and only continue if you are comfortable with the risks involved.

2.1 Vision Controller Disassembly and Reassembly

2.1.1 Vision Controller Disassembly

To disassemble the system enclosure, you need to remove the Cassette module and screws on both I/O panels.

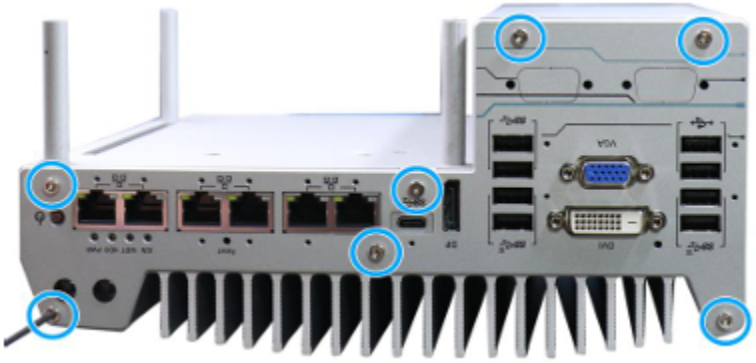
1. Turn the system upside-down and remove the four screws (indicated in **blue**) at the bottom of the Cassette module.



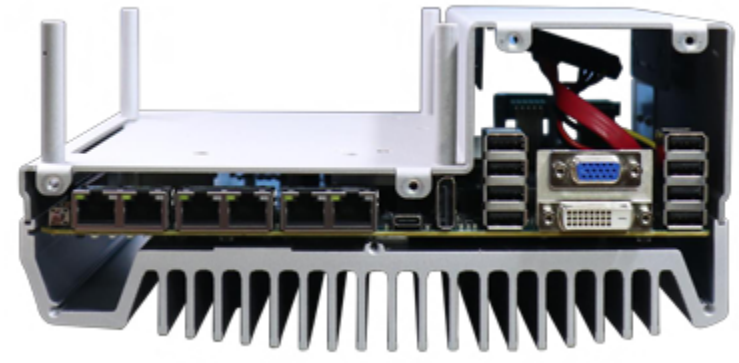
2. Gently wiggle and separate the Cassette module from the system.

Note: This step requires the break of the two security seals placed at the front and the back of the Vision Controller, connecting the main body to the Cassette module. **This step will NOT void your warranty.**

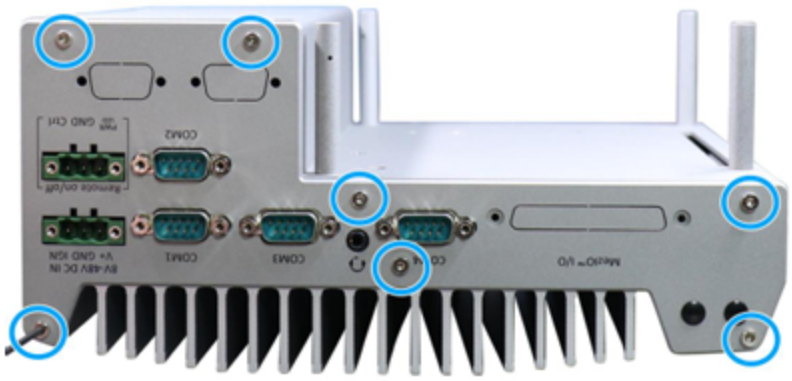
3. On the front I/O panel, remove the hex screws indicated below.



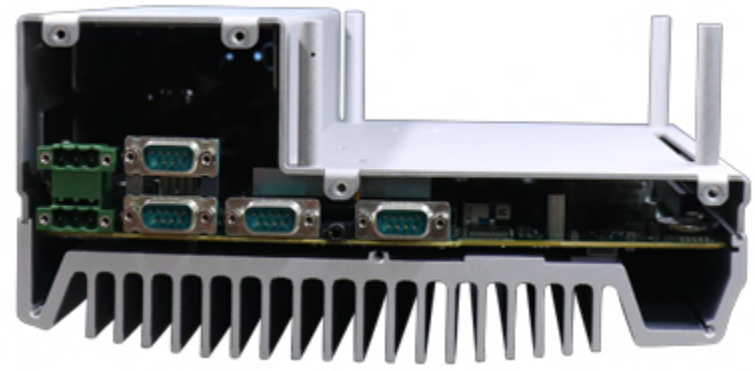
4. Remove the front I/O panel.



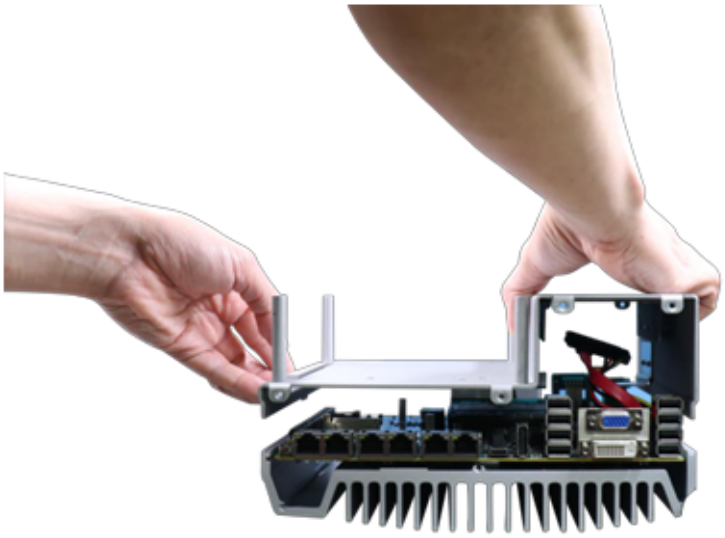
5. On the rear I/O panel, remove the hex screws indicated below.



6. Remove the rear I/O panel.



7. Gently lift the system's bottom panel.



8. Once the bottom panel has been removed, you should have access to the system's internal I/O interfaces.

2.1.2 Vision Controller Reassembly

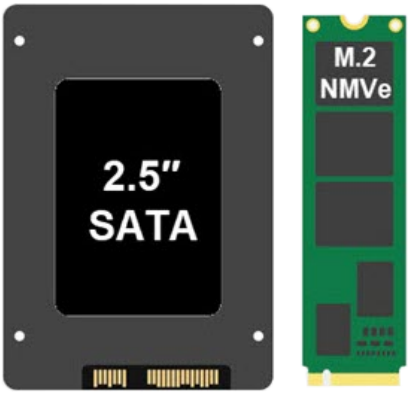
To close the Vision Controller, follow the 2.1.1 Vision Controller Disassembly steps in reverse order:

1. Gently put the bottom panel back on the Vision Controller.
2. Add the rear I/O panel and secure it with the hexa-screws.
3. Add the front I/O panel and secure it with the hexa-screws.
4. Gently put the Cassette module back in place and secure it with the last four screws.

2.2 Installing SSD

Note: Before upgrading any part of your Vision Controller, make sure you back up your data (1.1 Data Backup), shut down the Vision Controller, and disconnect it from the power.

Based on the Vision Controller type and type of the received SSD, follow the instructions in 2.2.1 SATA to install/replace the SATA disk, and 2.2.2 NVMe to install/replace an NVME disk. The image below illustrates the difference between SATA (left) and NVMe (right) SSD types.



2.2.1 SATA replacement

To install the SATA SSD refer to the following instructions:

1. Turn the system upside-down and remove the three screws indicated in blue in the illustration below and lift the tray out of the system.

2. Disconnect the 22-pin SATA cable to the installed HDD/ SSD.

3. Place the SSD (with labels facing up) and unscrew the four screws on the side of the tray. Take out the old SSD and safely discard it.

   Note: After taking out the SSD, carefully examine it, as a heat-conducting pad may be stuck to the old SSD. Gently peel it off and stick it to the new SSD.

4. Place the new SSD on the tray, matching the SATA connector end to the side with two screw holes (indicated in blue), and secure it with the 4 flathead screws.

5. Connect the previously disconnected cable to the installed SSD and gently put the tray back into the system with the connector side being inserted into the system first and secure the tray with three screws.

2.2.2 NVMe replacement

To install the NVMe SSD refer to the following instructions:

1. Disassemble the Vision Controller
2. Remove the M2.5 P-head screw.

3. The module will rise to about a 45-degree angle.

You can gently remove the module now.

To insert the new module, repeat the steps in reverse order:

a. Insert the module at a 45-degree angle.
b. **Gently** press down and secure the module with the M2.5 P-head screw.

4. Now you can Reassemble the Vision Controller (before reassembling the VC after installing the NVMe SSD, make sure no other following actions require disassembly - for example, installing a license dongle).

2.3 Installing New License Dongle

Note: This is an optional step that is relevant only when a new license dongle is present in your upgrade package.

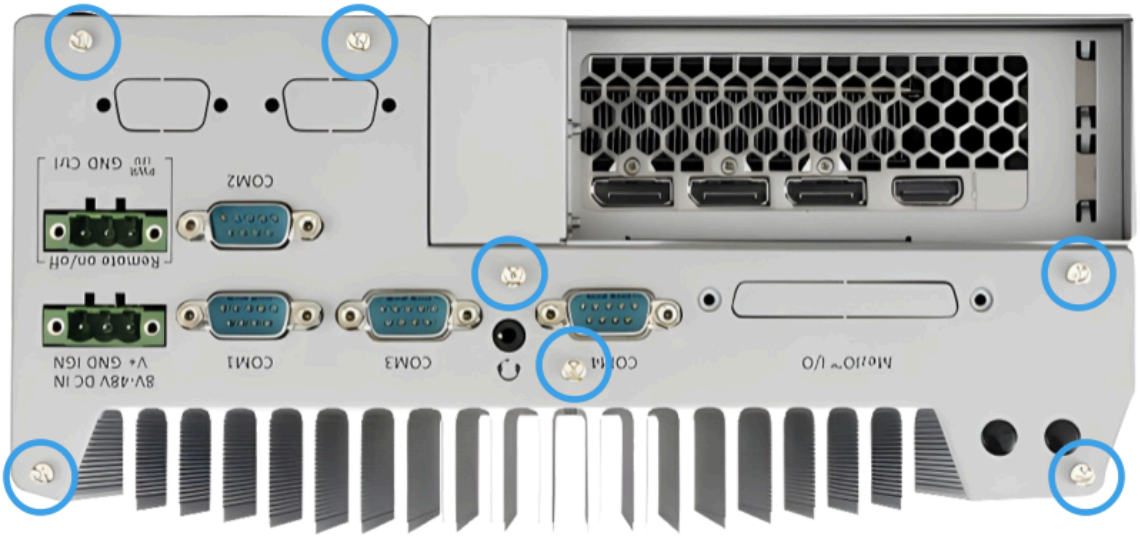
Note: Before upgrading any part of your Vision Controller, make sure you back up your data (1.1 Data Backup), shut down the Vision Controller, and disconnect it from the power.

License dongle

To install the License dongle refer to the following instructions:

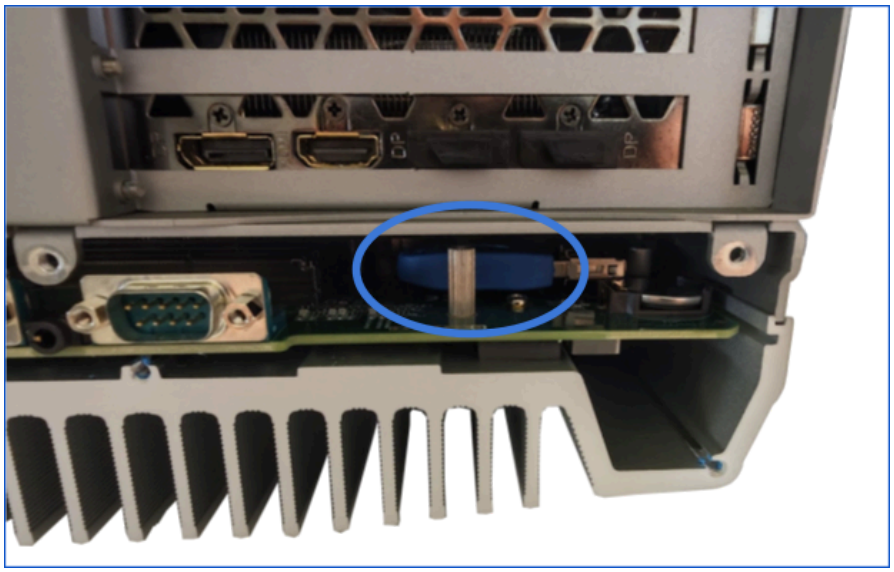
Note: To change the dongle, you do not have to remove the Cassette module (top right part on image below)

1. On the rear I/O panel, remove the hexa-screws indicated below.



2. Remove the rear I/O panel.

3. The old license dongle (blue color) is located as shown in the picture. Remove and connect the new one (purple color), then reassemble the VC.



Note: The dongle can be removed manually using your fingers. However, take care not to push it too far inside. If it becomes lodged, disassembling the entire Vision Controller will be necessary, as described in 2.1.1 Vision Controller Disassembly.

2.4 Installing new RAM modules

DISCLAIMER: The RAM type is selected based on your Vision Controller model. If you suspect an incorrect module is provided, do not install it, as doing so may cause damage to both the Vision Controller and the RAM. Double-check the module before installation, and contact our Help Center if you have any concerns. We are not responsible for damages resulting from the installation of incorrect or incompatible RAM. Proceed with caution.

Note: Before upgrading any part of your Vision Controller, make sure you back up your data (1.1 Data Backup), shut down the Vision Controller, and disconnect it from the power.

To upgrade the DDR4 SODIMM or DDR5 SODIMM refer to the following instructions:

1. Disassemble the Vision Controller
2. The image below shows the clamps holding the RAM module in place. To remove the module, gently pull the clamps away and the module will pop right off, at a 45-degree angle.

3. Gently pull on the memory module to remove it from the board.

   To install the new module, simply repeat similar steps in reverse:

   a. Insert gold fingers into the slot at a 45-degree angle, push down on the memory module, and clip the module into position
   b. **Gently** push the memory module down until it is clipped in.

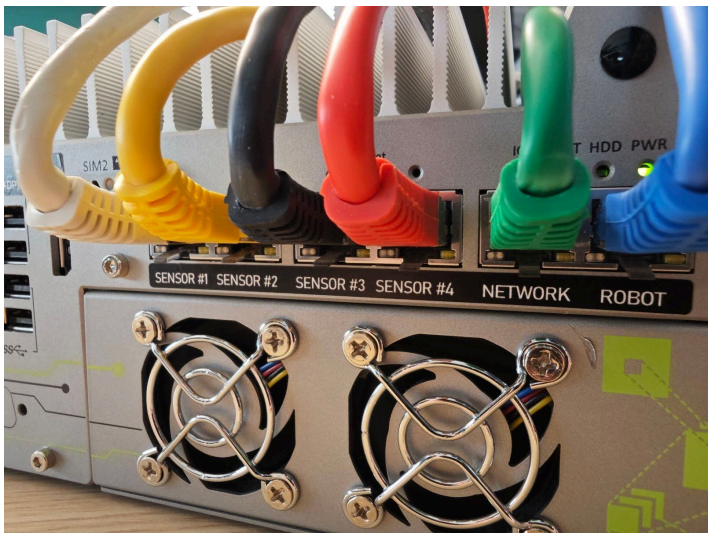
4. Repeat steps 2 and 3 to upgrade the other module.
5. Now you can Reassemble the Vision Controller.

3. Hardware changes required after updating to BPS 1.9 / LS 1.2 or higher

Updating the SSD on 5x or 7x Vision Controller requires additional hardware changes described below.

3.1.1 New Ethernet Ports Labels & Rewiring the Network Cables

In BPS 1.9 / LS 1.2 the order of the network interfaces has changed. Remove the old label under the Ethernet ports and place the new one in its place, since in this Studio version all of the network interfaces can be used (the Service interface has been removed and three new sensor interfaces added).



After placing the label, rewire your network cables according to the new layout. If you had:

1. A single sensor plugged to the sensor interface - connect it to one of the 4 sensor interfaces
2. Multiple sensors connected to a switch which then connected to the sensor interface, either:
    a. Connect the switch to one of the sensor interfaces
    Note: To the first one if your sensors are running DHCP clients
    b. Connect the sensors directly to the sensor interfaces without using the switch

Now you can connect the power cable and accessories (mouse, keyboard, and monitor) and turn on the Vision Controller.

3.1.2 HDMI Plug

An HDMI dummy plug is included in the package.
It is not required to have the Vision Controller accessories connected all the time. It can be operated remotely in this “headless mode”, however, in case no monitor is connected to the Vision Controller a HDMI dummy plug needs to be inserted into the HDMI port of the Vision Controller.

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