
Mech-Mind User's Manual

Mech-Mind

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This section introduces the process of setting up master control of a JAKA robot.

The process consists of the following steps:

- *Check Controller and Software Compatibility*
- *Setup the Network Connection*
- *Test Robot Connection*

JAKA robots are controlled through the mobile or PC application JAKA Zu APP, instead of a teach pendant.

Before proceeding, please make sure you have downloaded and installed JAKA Zu APP on the device you wish to use for controlling the robot.

Please download the application [here](#), under *Technical Information* → *APP Software*.

CHECK CONTROLLER AND SOFTWARE COMPATIBILITY

- Controller version: 1.5.12_28_x86

Note: The controller version must be 1.5.12_28_x86. If your controller is of a lower version, please upgrade it; if higher, please downgrade.

- JAKA Zu APP version: V 1.5 (for both Android and Windows)
- Mech-Mind Software Suite: latest version recommended

SETUP THE NETWORK CONNECTION

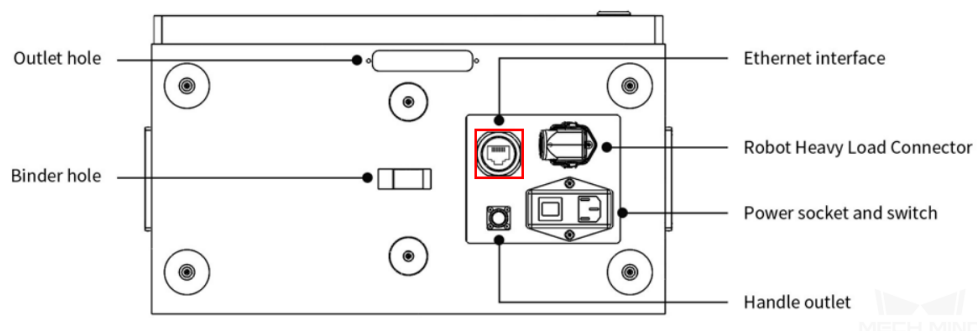
2.1 Hardware Connection

The hardware setup differs depending on what device you have installed JAKA Zu APP on.

- If you installed JAKA Zu APP on the IPC:

Plug the Ethernet cable into:

- An Ethernet port on the IPC
- The Ethernet port inside the accessory panel on the front of the controller



- If you installed JAKA Zu APP on a mobile device:

1. Prepare a router with wireless function.
2. Connect both the IPC and the controller to the router with Ethernet cables.
3. Connect the mobile device to the router's wireless network.

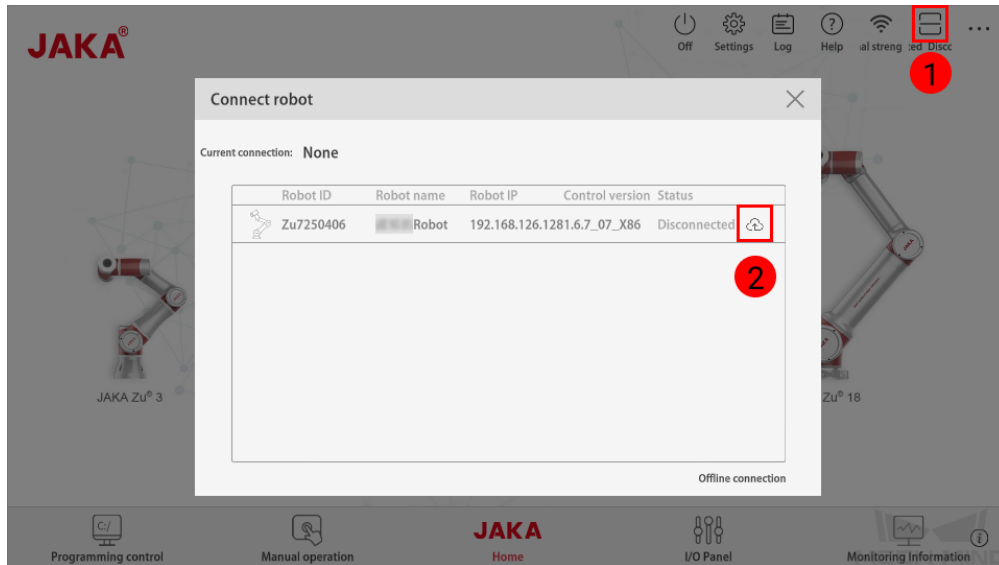
Note: If you are using multiple cameras, make sure the router has enough LAN ports for the IPC and cameras.

2.2 IP Configuration

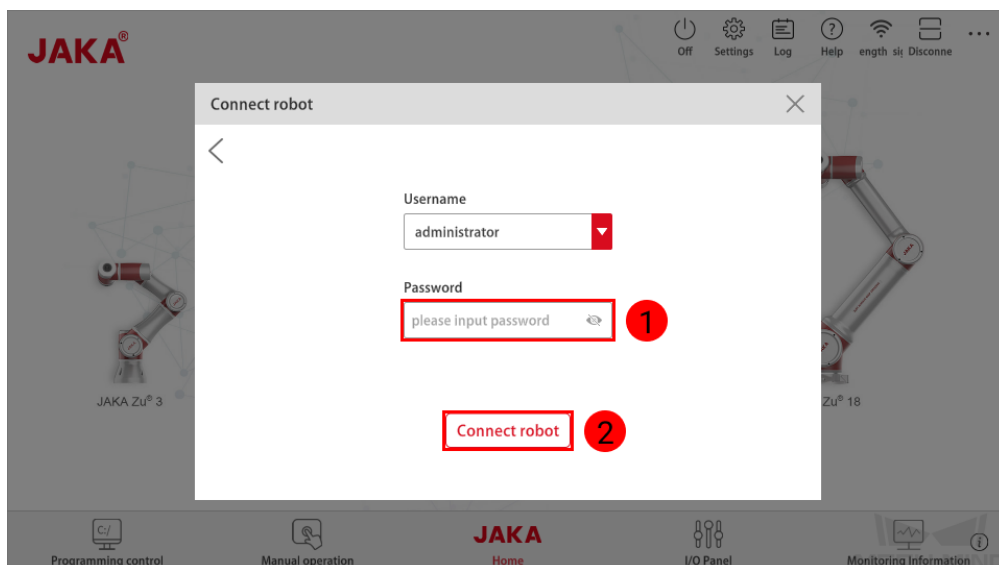
To allow communication between the IPC and the robot controller, both must have an IP address in the same subnet. This means that the first three numbers of the IP addresses should be the same. For example, 192.168.100.1 and 192.168.100.2 are in the same subnet.

1. Check the IP address of the IPC: please use the `ipconfig` command in Command Prompt or PowerShell to check the IP address.

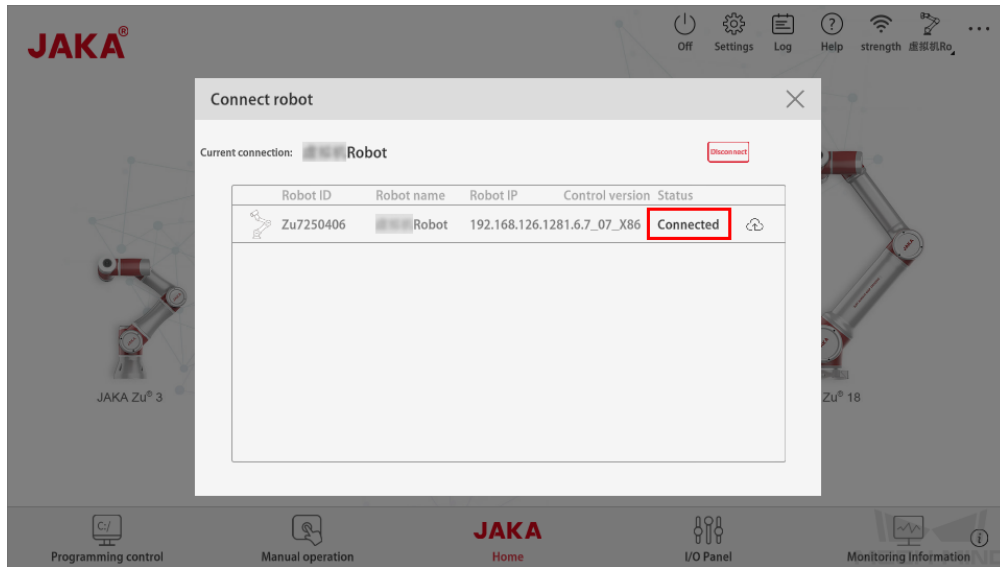
2. Open JAKA Zu APP, click on  in the upper right, and then click on .



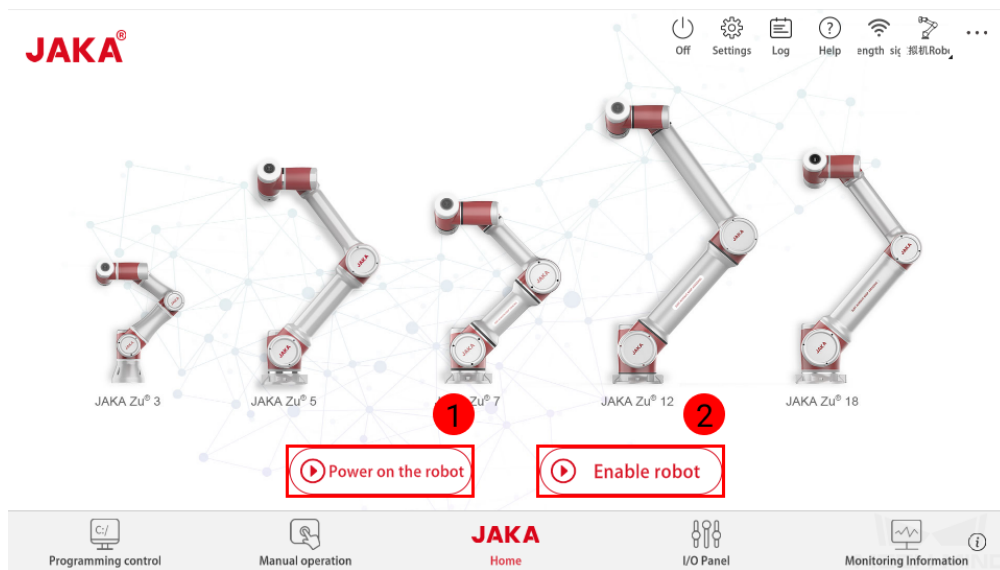
3. Enter the password for **administrator** (the default password is *jakazuadmin*), and click on *Connect robot*.




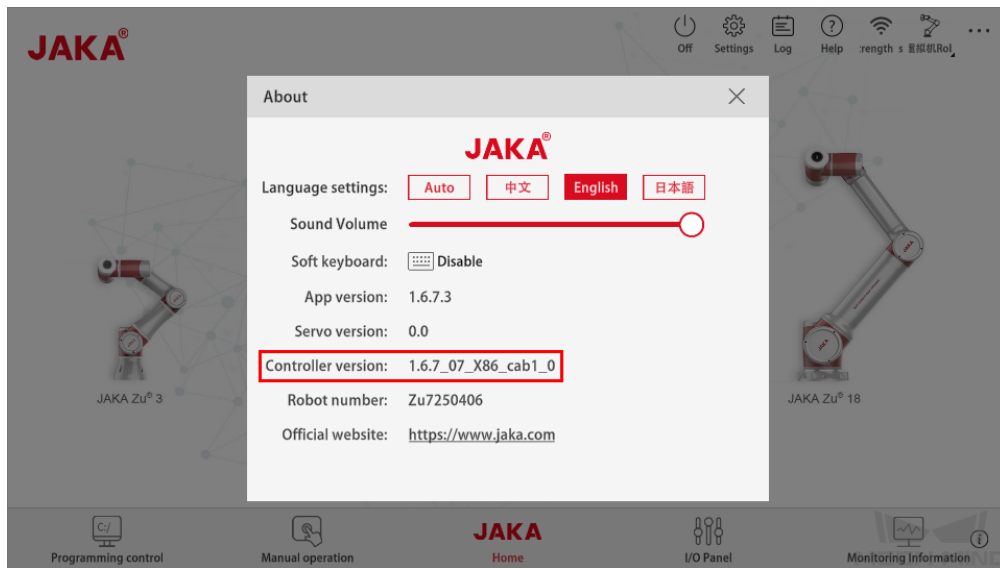
4. If successfully connected, the **Status** of the robot should change to **Connected**. Close the **Connect robot** window.



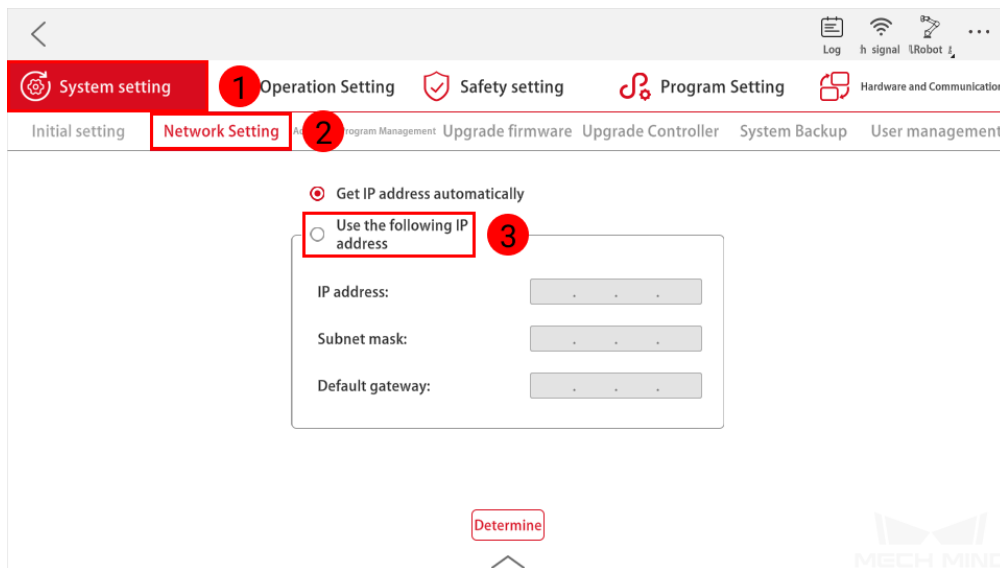
5. Click on *Power on the robot* and then *Enable robot* to power on the robot.



6. Click on  in the lower right to check the controller version. The controller version must be 1.5.12_28_x86. If not, please upgrade or downgrade the controller to this version.



7. Close the **About** window, and click on  in the upper right. In *System setting* → *Network Setting*, select **Use the following IP address**, and set the **IP address** to one in the same subnet as the IPC, and **Subnet mask** to 255.255.255.0.



TEST ROBOT CONNECTION

3.1 Configure Robot in Mech-Viz

1. Open Mech-Viz, click *New project* to create a new project.
2. Select the robot model in use in the next page.
3. Save the project by pressing **Ctrl + S**.
4. In the toolbar, change the **Vel.** (velocity) and **Acc.** (acceleration) parameters to **5%**.
5. Right-click the project name in **Resources** and select **Autoload Project**.

3.2 Configure Settings in Mech-Center

1. Open Mech-Center and click on *Deployment Settings*.
2. Go to **Robot Server**, and make sure **Use robot server** is checked.
3. Check if the robot model displayed next to **Robot type in Mech-Viz project** matches the one in use.
4. Set the Robot IP address, and click **Save**.

3.3 Connect to Robot in Mech-Center

1. Click *Connect Robot* in the Toolbar.
2. The robot is successfully connected if:
 - A message saying **Robot: server connected to the robot** shows up in the **Log** panel, and
 - A robot icon with the robot model shows up in the **Service Status** panel.

3.4 Move the Robot

1. In Mech-Viz, click *Sync Robot* in the toolbar to synchronize the pose of the real robot to the simulated robot. Then, click *Sync Robot* again to disable the synchronization.
2. Click the **Robot** tab in the lower right, and change the joint position of J1 slightly (for example, from 0° to 3°). The simulated robot will move accordingly.
3. Click *Move real robot*, the real robot should move accordingly.

Attention: When moving the robot, please pay attention to safety hazards. In the case of an emergency, press the emergency stop button on the teach pendant!