
Mech-Mind User's Manual

Mech-Mind

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This section introduces the process of setting up master control of an AUBO robot.

The process consists of the following steps:

- *Check Controller Compatibility*
- *Setup the Network Connection*
- *Test Robot Connection*
- *Troubleshooting*

CHECK CONTROLLER COMPATIBILITY

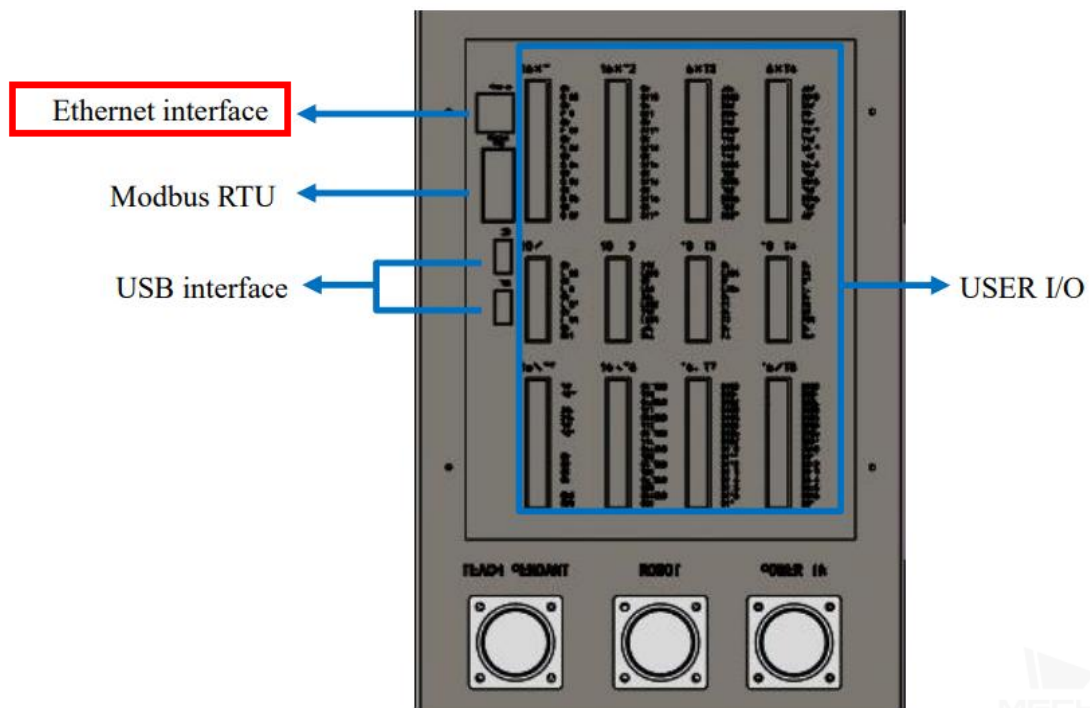
The version of the controller should be above 4.5.44.

Go to *About* → *Version* → *Server Version* to check the version of the controller.

SETUP THE NETWORK CONNECTION

2.1 Hardware Connection

Plug the Ethernet cable into the Ethernet interface of the controller to connect the IPC and the robot controller.



2.2 IP Configuration

Press on *Settings* → *System* → *Network* to configure the **Interfaces**, **Netmask**, **IP Address**, and **Gateway**, and then select **Save**. Please note that the robot IP should be in the same subnet as the IPC.

The screenshot displays the AUBO Admin interface for network configuration. The top navigation bar includes 'Robot Teaching', 'Programming', 'Settings', 'Extensions', 'System Info', and 'About'. The 'Settings' tab is selected. The left sidebar contains 'IO State', 'Robot', 'System', 'Language', 'DateTime', 'Network', 'Password', 'System', and 'Update'. The 'System' and 'Network' items are highlighted. The main content area is titled 'Network' and features a 'Network Config' section with the following fields: 'Interfaces' (a dropdown menu), 'Netmask', 'IP Address', and 'Gateway'. A 'Save' button is highlighted. Below the configuration fields is a 'Network debugging' section with a text input field containing '192.168.100.1' and buttons for 'ping', 'ifconfig', 'Server Status', and 'Clear'. The bottom status bar shows 'Zero Pose', 'Init Pose', '0.00', '2022-05-07 10:22:59', 'Speed: 50%'.

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!

TROUBLESHOOTING

If the robot cannot be connected successfully, and the error is **DLL load failed: %1 is not a valid Win32 application**, please check whether the C++ runtime library on your computer is complete. The complete C++ runtime library is shown below.

-  Microsoft Visual C++ 2005 Redistributable
-  Microsoft Visual C++ 2005 Redistributable (x64)
-  Microsoft Visual C++ 2008 Redistributable - x64 9.0.30729.6161
-  Microsoft Visual C++ 2008 Redistributable - x86 9.0.30729.6161
-  Microsoft Visual C++ 2010 x64 Redistributable - 10.0.40219
-  Microsoft Visual C++ 2010 x86 Redistributable - 10.0.40219
-  Microsoft Visual C++ 2012 Redistributable (x64) - 11.0.61030
-  Microsoft Visual C++ 2012 Redistributable (x86) - 11.0.61030
-  Microsoft Visual C++ 2013 Redistributable (x64) - 12.0.30501
-  Microsoft Visual C++ 2013 Redistributable (x86) - 12.0.30501
-  Microsoft Visual C++ 2015-2019 Redistributable (x64) - 14.22.27821
-  Microsoft Visual C++ 2015-2019 Redistributable (x86) - 14.22.27821

If the library is not complete, please download the vc runtime library repair [DirectX Repair V3.9](#) to fix the error.