



Setting Up a Robotiq Gripper in Forge/OS



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# OVERVIEW

Welcome! This guide explains how to set up a Robotiq 2-Finger Adaptive Gripper in Forge/OS.

Forge/OS unlocks the full potential of Robotiq 2-Finger Adaptive Grippers, giving you granular control over the speed, position, and force needed to grip your parts.



**Tip:** This guide assumes the following:

- You have assembled the fingers and other gripper components.
- You have mounted the gripper on the robot.
- You are using one Robotiq gripper on the robot.

For assembly, mounting, and multi-gripper instructions, refer to [Robotiq](#) documentation.

You will need the items in the table below.

Image	Item	Description	Supplier	Part Number
	<p>Industrial PC (IPC)</p>	<p>Hosts Forge/OS.</p> <p><b>Note:</b> READY offers two IPCs: <i>Forge/Hub</i> and <i>Forge/Ctrl (legacy)</i></p> <p><b>Note:</b> If you are using your own IPC, refer to the <i>Forge/OS 5 User Manual</i> for IPC requirements.</p>	<p>READY Robotics (or other)</p>	
	<p>READY pendant</p>	<p>The touch screen interface for Forge/OS.</p>	<p>READY Robotics</p>	<p>112563</p>
	<p>Robotiq Coupling and Pigtail Cable</p>	<p>Connects the gripper to the Robotiq Device Cable.</p>	<p>Robotiq</p>	<p>AGC-CPL-XXX-002</p>
	<p>Robotiq Device Cable</p>	<p>Connects the pigtail cable to the USB to RS-485 Converter.</p>	<p>Robotiq</p>	<p>CBL-COM-2065-XX</p>

Image	Item	Description	Supplier	Part Number
	USB to RS-485 Converter	Adapts the RS-485 interface to a USB plug.	Comm Front	USB-485-1 (or similar)
	Terminals to 24V Power Supply Kit  (or other 24V, 1A power supply)	Provides power to the USB to RS-485 Converter.	PI Manufacturing	VB870-DC-ADA-S2 (or similar)

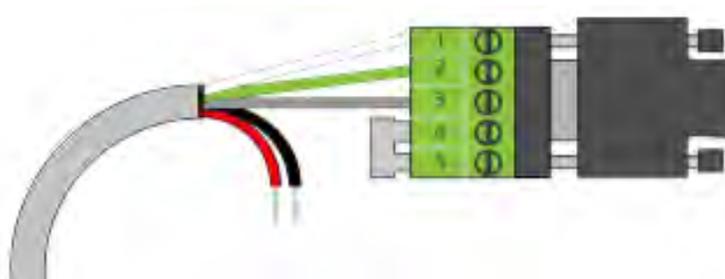
# WIRING THE GRIPPER

- 1 Screw the M12 connector of the pigtail cable onto the Device Cable.



- 2 Wire the Device Cable to the USB to RS-485 Converter. Follow the table and diagram below.

Pin	Wire	Signal
1	White	485+
2	Green	485-
3	Bare	485 GND
4	Jumper	120 Ohms
5	Jumper	120 Ohms



**Note:** The image above is from Robotiq's manual. The jumpers on pins 4 and 5 prevent signal reflection.

3 Wire the Device Cable to power. Follow the table below, then plug the 24V power supply into a power source.

Wire	Signal
Red	+24V
Black	0V

4 Plug the USB connector on the USB to RS-485 Converter into a **USB** port on your IPC.



5 Check if there is a red light on the Robotiq gripper. A red light means that the gripper has power but no communication. In the next section, you will set up communication between the gripper and Forge/OS.

*Tip: If you do not see a red light, check your wiring.*

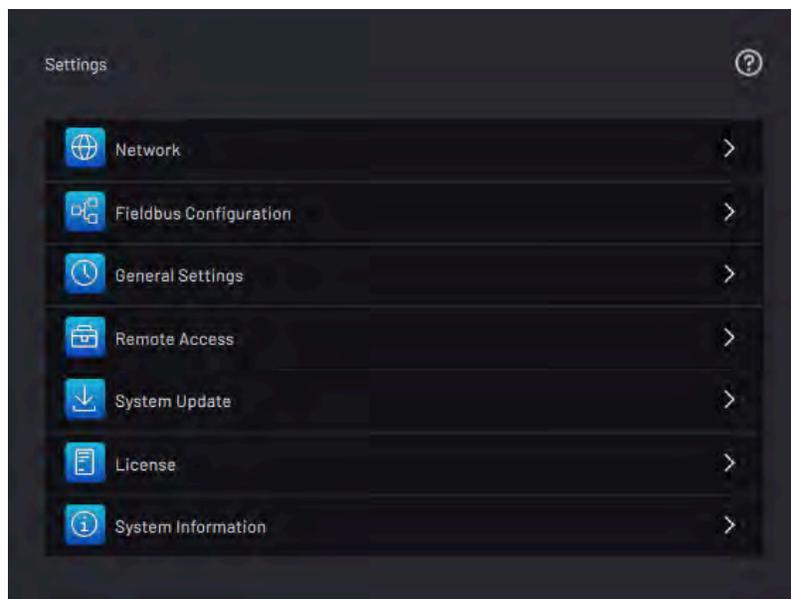


# ADDING THE GRIPPER IN FORGE/OS

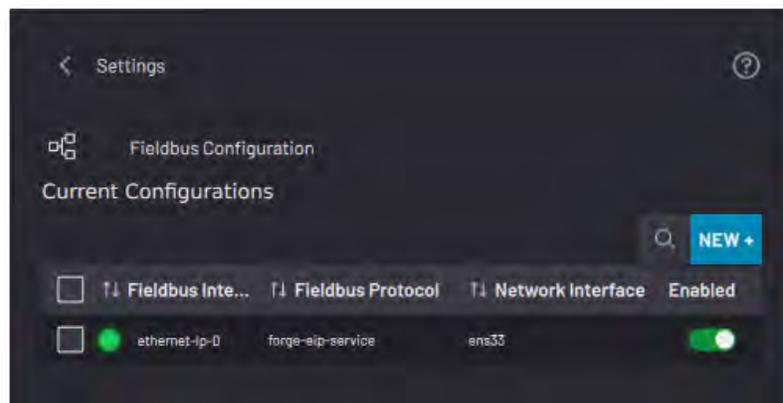
1 Open the **Settings** app.



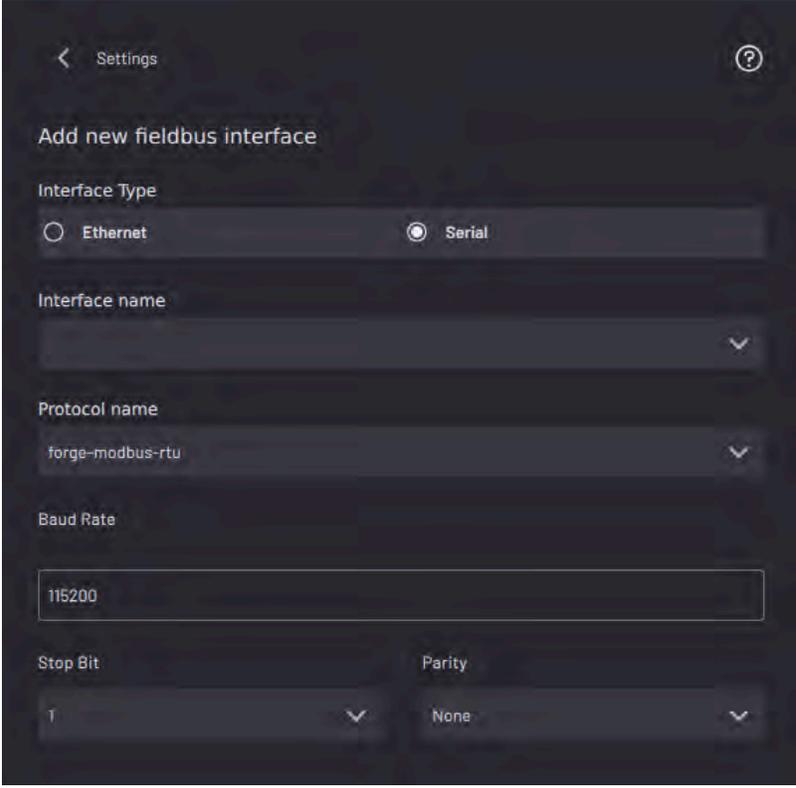
2 Tap **Fieldbus Configuration**.



3 Tap **NEW+** to create a new fieldbus configuration.



- 4 Select **Serial**. Then follow these substeps to enter the configuration information:



The screenshot shows a 'Settings' screen with a back arrow and a help icon. The title is 'Add new fieldbus interface'. Under 'Interface Type', 'Serial' is selected. The 'Interface name' dropdown is empty. The 'Protocol name' dropdown is set to 'forge-modbus-rtu'. The 'Baud Rate' field contains '115200'. The 'Stop Bit' dropdown is set to '1' and the 'Parity' dropdown is set to 'None'.

- a** In the **Interface name** dropdown, select the name of your USB interface.

**Tip:** Here is a good way to tell which "USB-X" interface you are using:

1. Unplug the USB to RS-485 Converter from your IPC.
2. Note which interfaces are listed in the dropdown.
3. Plug the USB connector back in.
4. Note which new interface appeared.

- b** In the **Protocol name** dropdown, select **forge-modbus-rtu**.

- c** In the **Baud Rate** field, leave the value at the default **115200**.

- d** In the **Stop Bit** dropdown, select **1**.

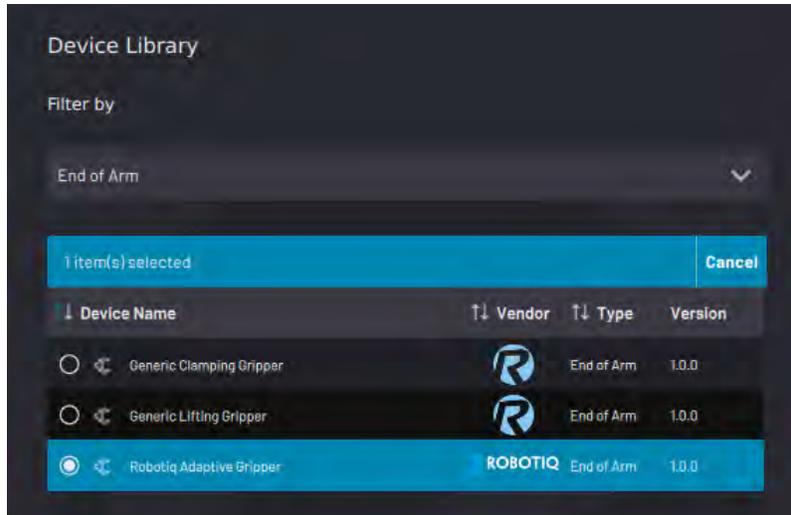
- e** In the **Parity** dropdown, select **None**.

- 5 Tap **ACCEPT** to save your fieldbus configuration.

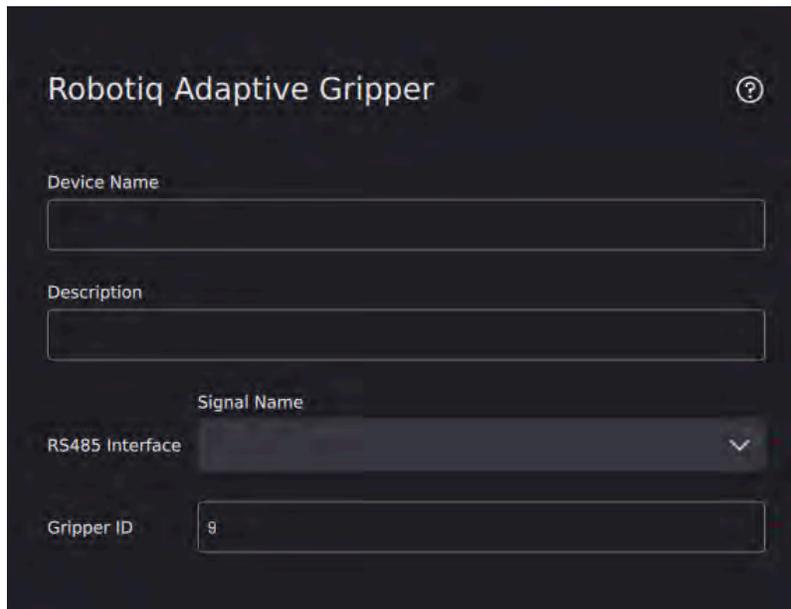
6 Open the **Device Configuration** app.



7 Select **Robotiq Adaptive Gripper**, then tap **NEXT**.



8 Type in a **Device Name**. Then select the serial **RS485 Interface** (the Modbus RTU interface you added in **Fieldbus Configuration**). A **Description** is optional.



9 Choose a **Gripper ID**. Enter a unique **Gripper ID** if you are using multiple devices over the same serial interface. Leave the default ID value if you are using one serial device.

- 10 Tap **SAVE** to return to the **Device Configuration** main screen. Make sure the Robotiq Adaptive Gripper appears on the Configured Devices list and make sure it's **enabled**.

**Note:** A device is **enabled** when its switch is green and toggled to the right.

- 11 Check if there is a blue light on the Robotiq gripper. A blue light means that there is communication between the gripper and Forge/OS.



**Tip:** If the light is red, try these troubleshooting tips:

- Check the gripper RS-485 wiring.
- In **Device Configuration**, disable and re-enable the Robotiq gripper.
- In **Settings**, delete the **Fieldbus Configuration** and create a new one. In **Device Configuration**, edit the Robotiq gripper so that it uses the new **Fieldbus Configuration**.
- When creating a new **Fieldbus Configuration**, try different entries for the Interface name.
- Refer to [Robotiq](#) documentation to verify the Stop Bit and Parity of your gripper.

# RESOURCES

Want to learn more about how Forge/OS can empower you?

Visit **READY.academy** ([ready.academy](https://ready.academy)) for *FREE* hands-on courses to help you deploy a robotic system.

Visit **READY.market** ([market.ready-robotics.com](https://market.ready-robotics.com)) for products and services offered by READY and our partners.

Visit our **Support** site ([support.ready-robotics.com](https://support.ready-robotics.com)) for robot startup guides, FAQs, and more.

Visit our **Resources** page ([ready-robotics.com/resources](https://ready-robotics.com/resources)) for articles, whitepapers, and other resources.

If you encounter a problem and need to talk to someone, reach out to us.

- Email READY Robotics: [support@ready-robotics.com](mailto:support@ready-robotics.com)
- Call READY Robotics: +1-833-732-3977

