Quick Start Guide

Mini-CobotPump ECBPM

1 Quick Start Instructions

The quick start guide was originally written in German. It describes important information for your first contact with the product.

The **complete description** of the device can be found in the detailed operating instructions at www.schmalz.com or by using the QR code.

This information makes no claim to be exhaustive.

Subject to technical changes without notice. No responsibility is taken for printing or other types of errors. Important information about the product, such as the part number, is included on the type plate.
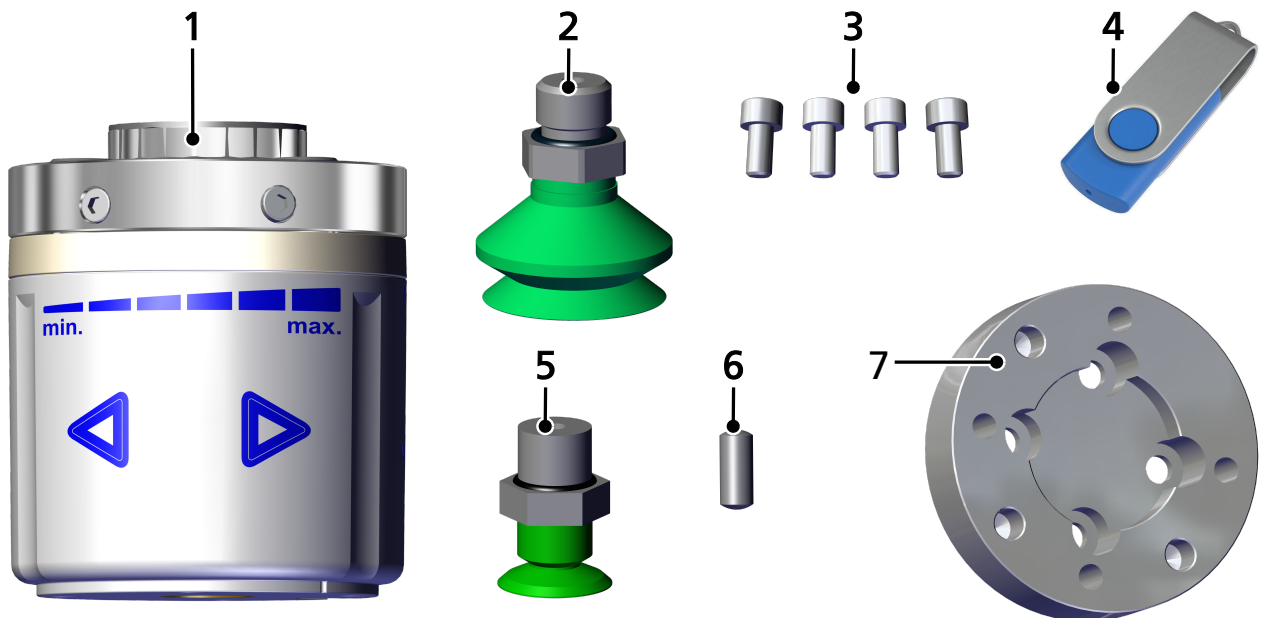
⚠ CAUTION

Failure to follow the user instructions

There is a risk of injury.

‣ Before using/connecting the product, read and follow the operating instructions.

2 Included in delivery

1	Mini CobotPump ECBPM	2	Vacuum suction cup SPB1-30
3	M6x10 screws, 4x	4	USB stick
5	Vacuum suction cup SFF-20	6	Positioning pin
7	Optional: Flange	—	—

3 Checking the Delivery

Add an image of the scope of delivery here.

1. Compare the entire delivery with the supplied delivery notes to make sure nothing is missing.

2. Damage caused by defective packaging or occurring in transit must be reported immediately to the carrier and J. Schmalz GmbH.

4 Mounting
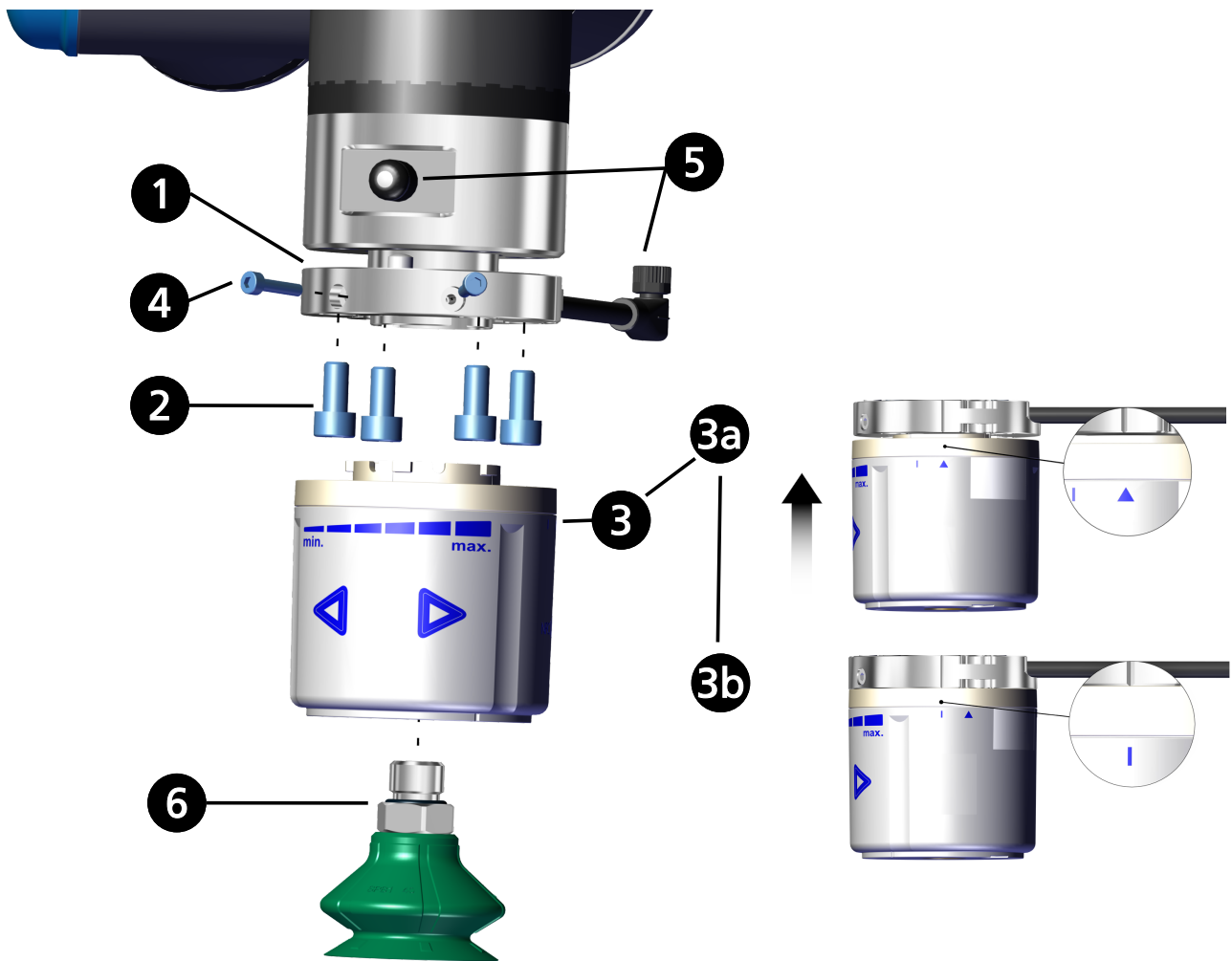
1. Mount the flange adapter plate and connection cable in the correct position using the positioning pin.

2. Fasten with four M6x10 screws.

3. Position the ECBPM so that the small triangle points towards the groove on the flange adapter plate. Turn the ECBPM 15° clockwise (up to the stop).
   ⇨ If the robot is active, the ECBPM performs an internal test run and then lights up green.

4. Secure using the two M3x14 screws.

5. Connect the connection cable to the robot arm.

6. Mount the vacuum suction cup.

5 Installing the Software

1.) Press "Systems > URCaps"

2.) With the system powered on, insert the USB stick into the teach pendant

3.) Select the URCap "Schmalz Gripper" to install
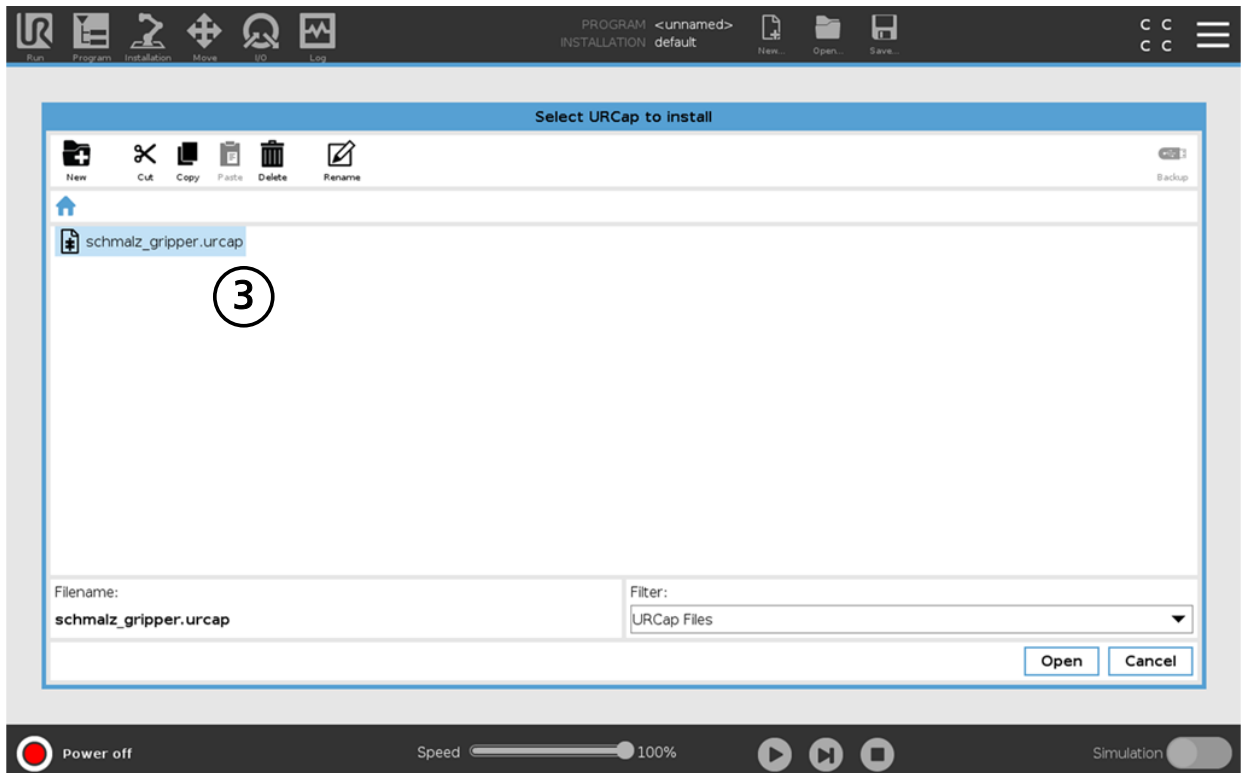
4.) Select "System > URCaps"

5.) Go to "Active URCaps > Schmalz Gripper" and press "Schmalz Gripper"
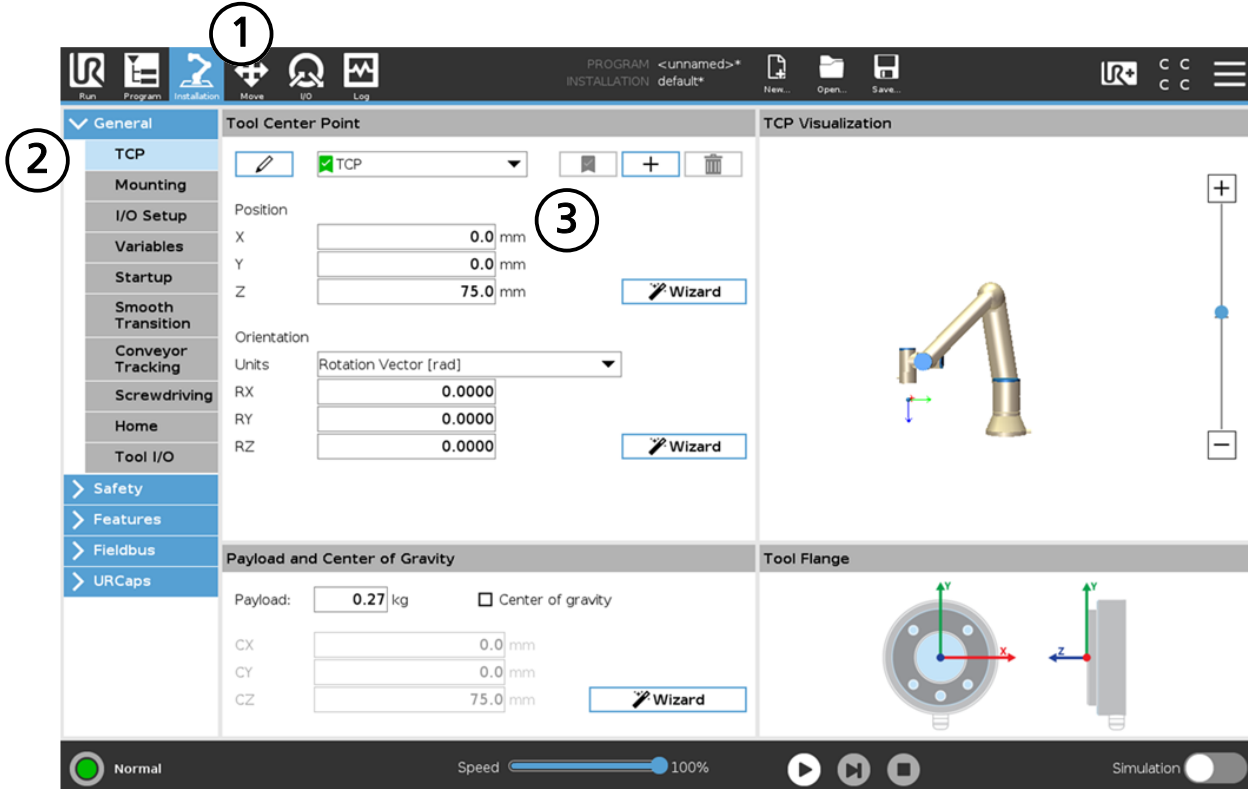
6.) Press "Restart" and wait for the system to reboot
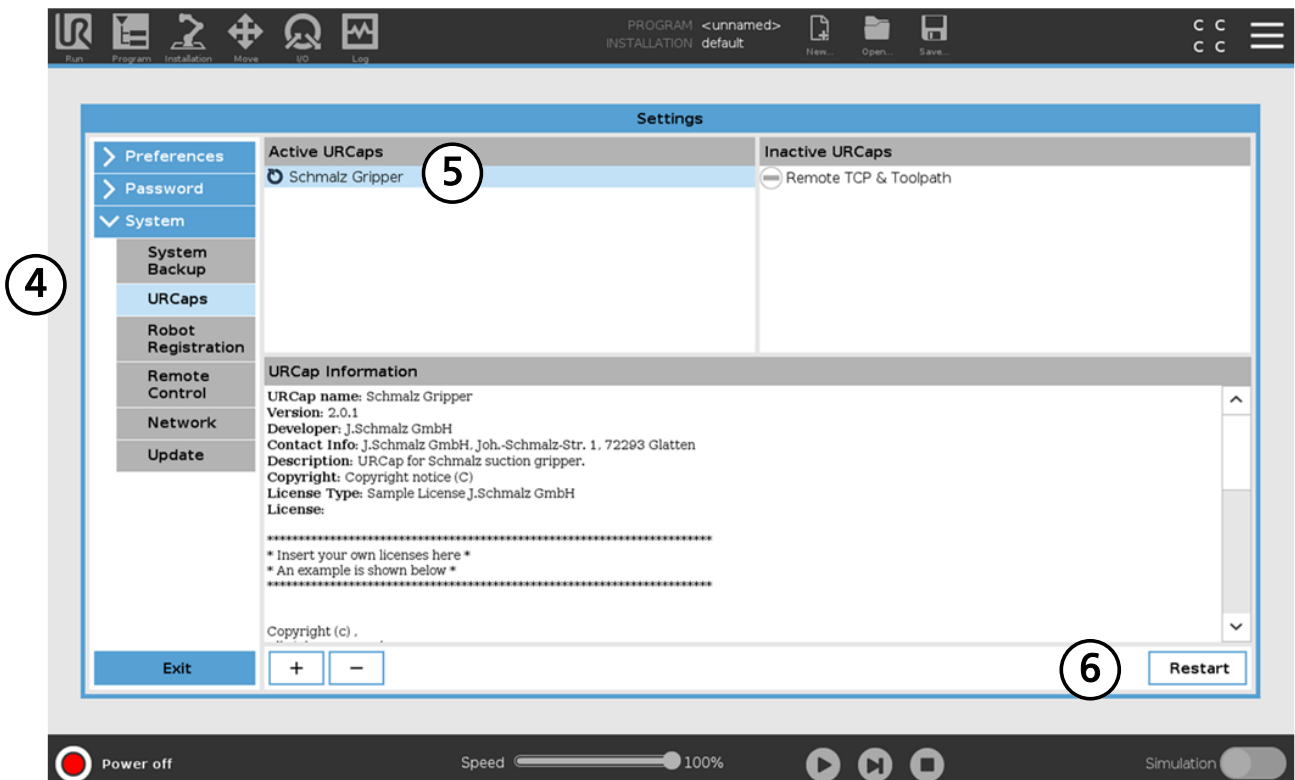
7.) URCap "Schmalz Gripper" is activated
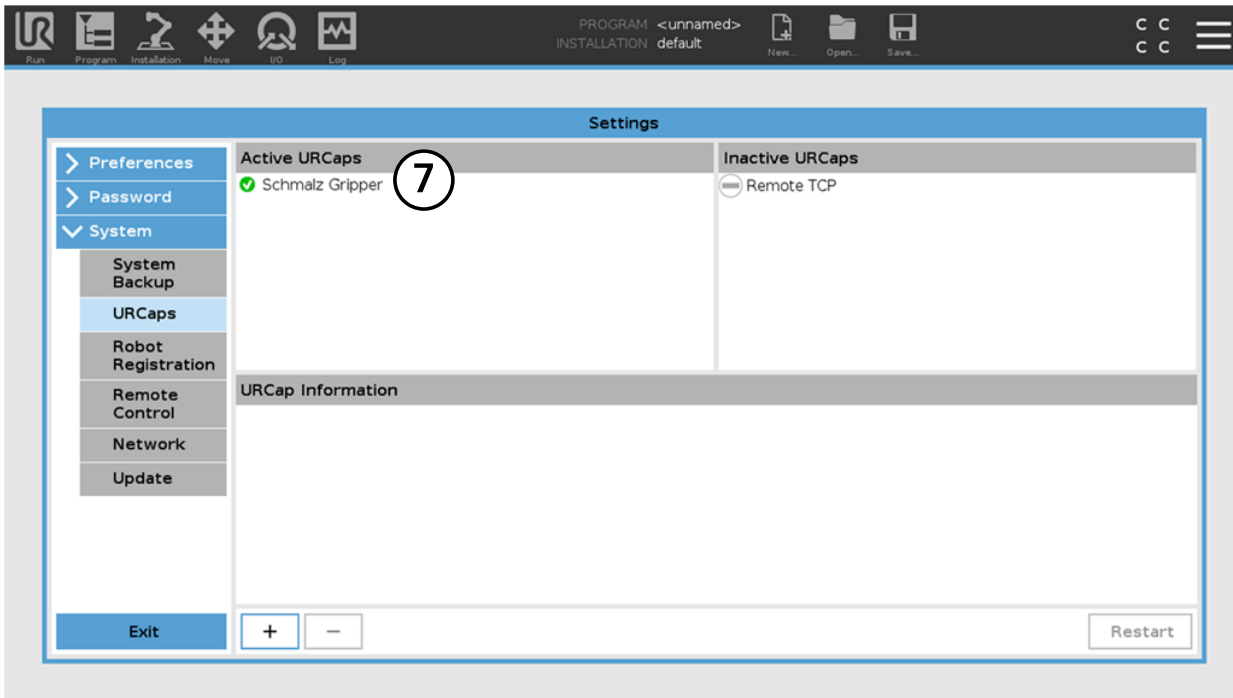
6 Configuration

Before getting started, the URCap must be configured.

1.) Press the "Installation" tab

2.) General > TCP (Tool Center Point)

3.) Configuration of the TCP

4.) General > Tool I/O

5.) Digital Output Mode

	NOTE
⚠	**Setting the tool voltage to 24 V damages connected devices if they are designed for 12 V.**
	Damage to electrical devices due to overvoltage!
	▸ Do not operate devices that are designed for 12 V with 24 V.

5.1.) Set the digital output voltage

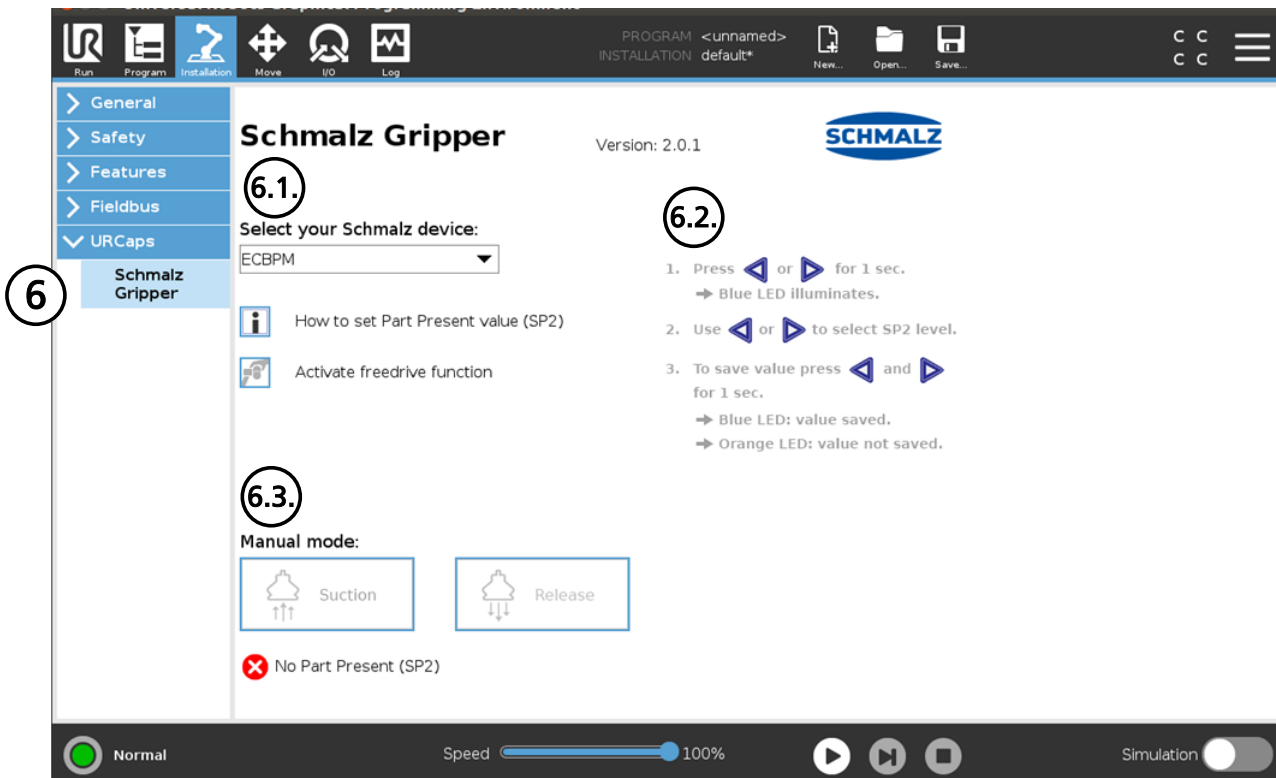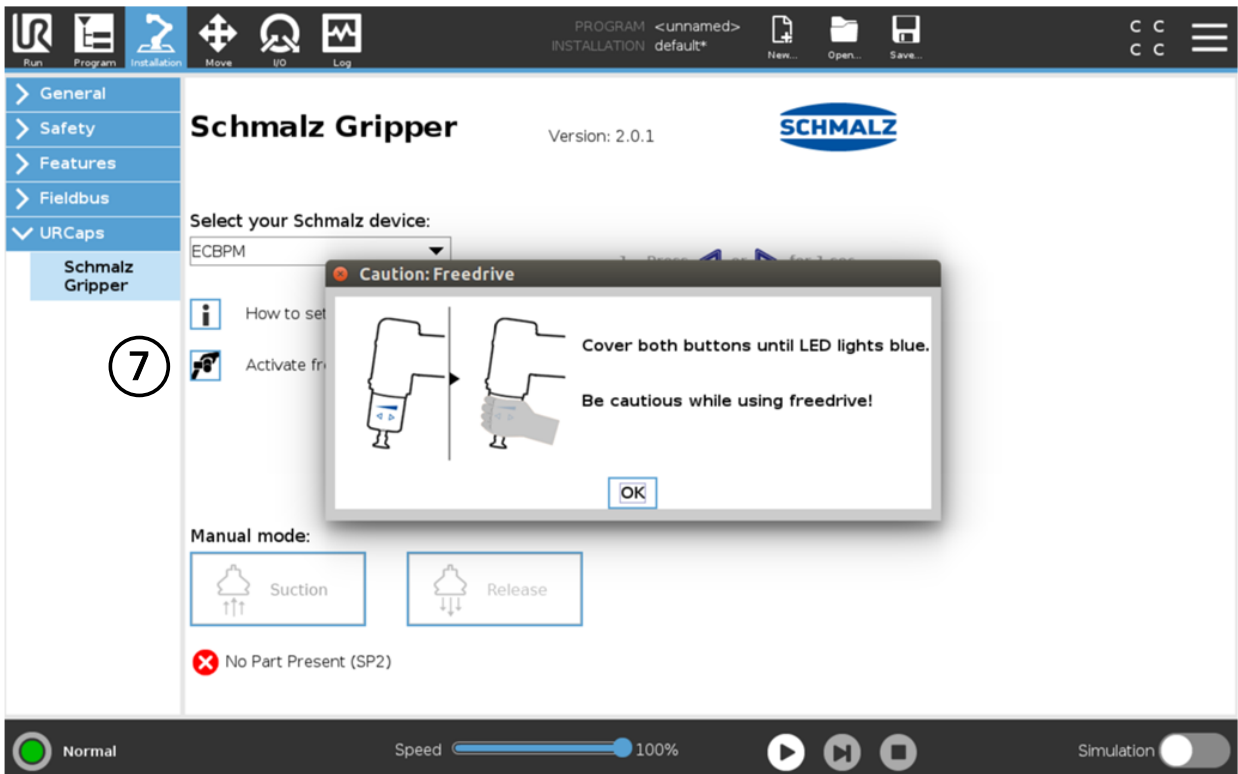5.2.) Ensure that the signal type is the same at the ECBPM and the robot

6.) URCaps > Schmalz Gripper

6.1.) Select your Schmalz device

6.2.) Set Part Present value according to the note

6.3.) Use "Manual mode" for a gripping test of the workpiece

Schmalz Gripper   Version: 2.0.1   SCHMALZ

6.1.
Select your Schmalz device:
ECBPM

ⓘ How to set Part Present value (SP2)

🔒 Activate freedrive function

6.2.
1. Press ◄ or ► for 1 sec.
   → Blue LED illuminates.

2. Use ◄ or ► to select SP2 level.

3. To save value press ◄ and ► for 1 sec.
   → Blue LED: value saved.
   → Orange LED: value not saved.

6.3.
Manual mode:

[Suction]   [Release]

❌ No Part Present (SP2)

7.) Activate freedrive mode by pressing "Activate freedrive function"

Schmalz Gripper   Version: 2.0.1   SCHMALZ

Select your Schmalz device:
ECBPM

Caution: Freedrive

Cover both buttons until LED lights blue.

Be cautious while using freedrive!

[OK]

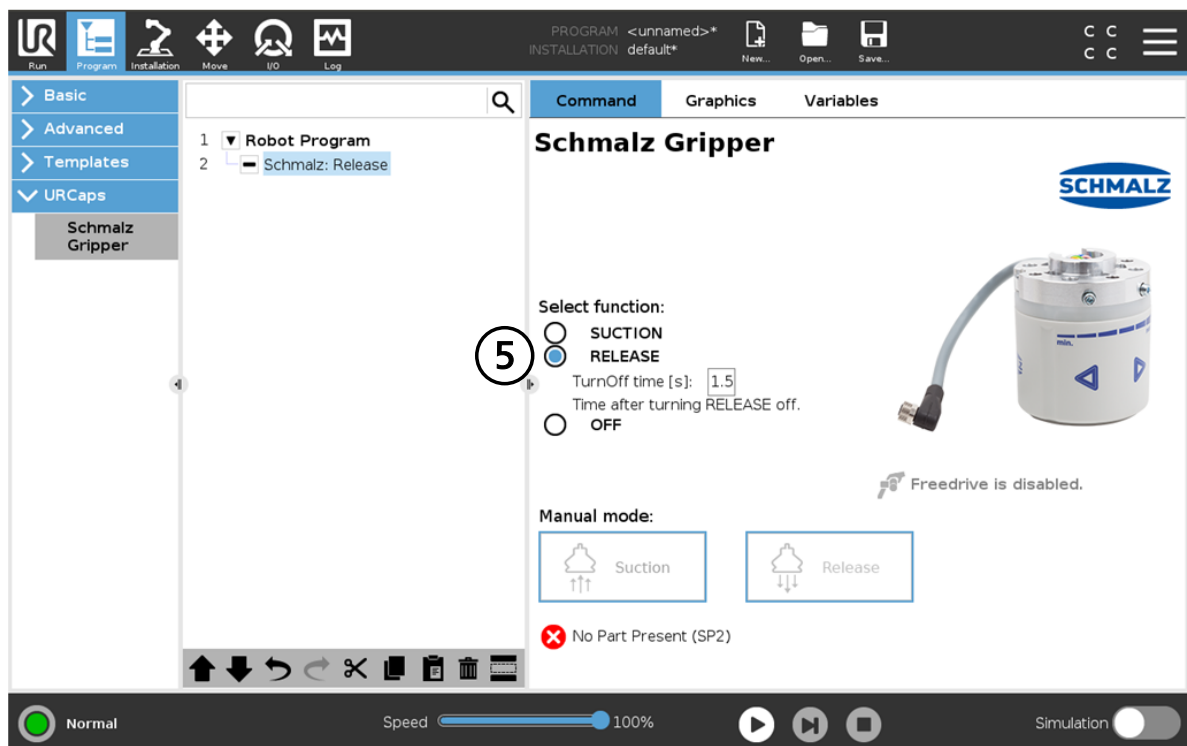Manual mode:

[Suction]   [Release]

❌ No Part Present (SP2)

7 Operation

7.1 Programming

1.) Select the "Program" tab

2.) Select "URCaps"

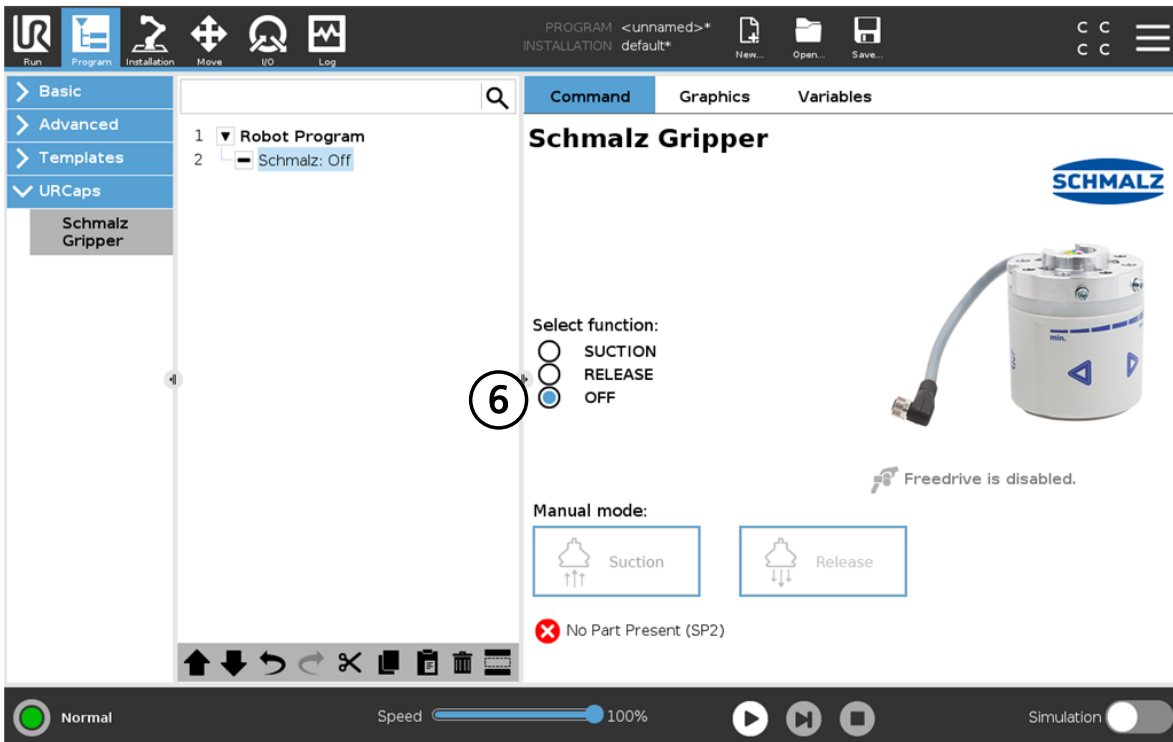3.) Select the "Command" tab

4.) Set the "Suction" function
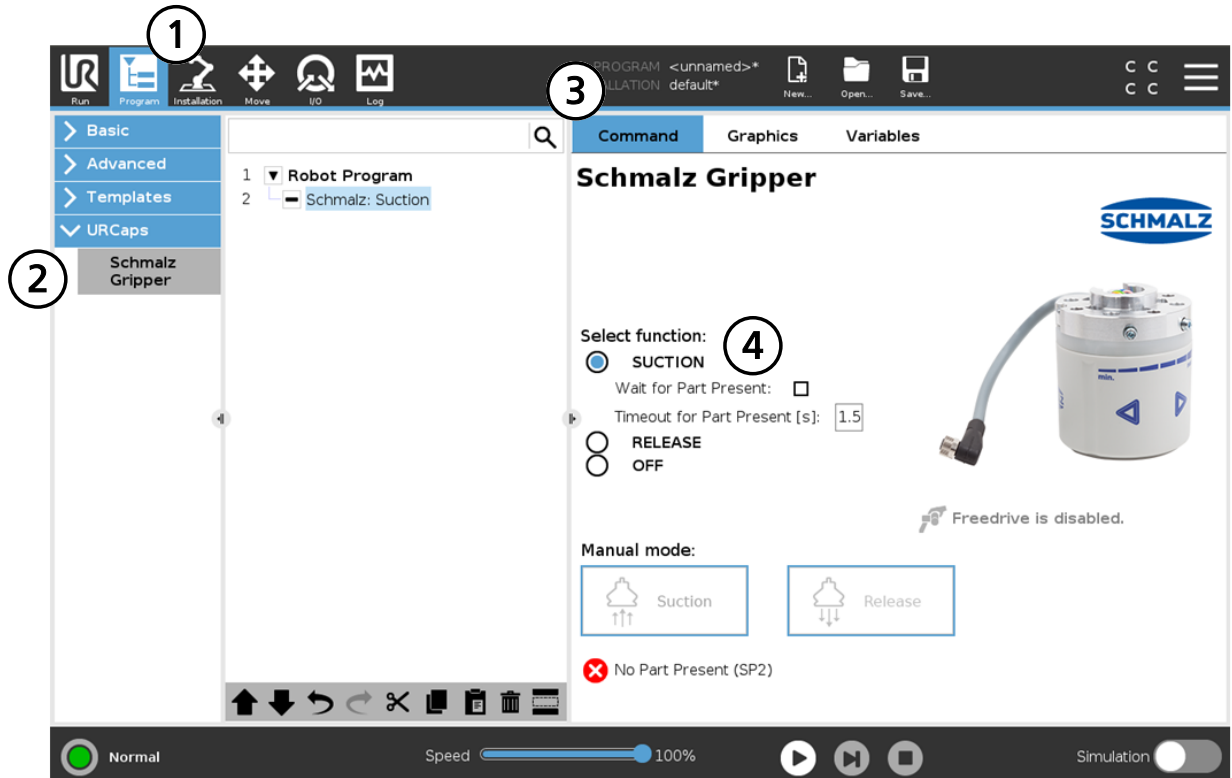
5.) Set the "Release" function

6.) Set the "Off" function (neutral position)

7.2 Adjusting Switching Point SP2

Display the current set vacuum limit value SP2:

  ✓ The status of the ECBPM is "Part Present" and the LED ring lights up in green.

  ▶ Press one of the two buttons for at least one second.

  ⇨ The vacuum limit value is displayed.

The switching point is used for the "Part Present" check. It can be used to check whether a sufficient vacuum has been generated. If the switching point is exceeded, the green state indicator switches from reduced to bright and the output OUT1 is activated. While the switching point is being set or displayed, the device can continue to be operated.

Adapt the switching point SP2 for monitoring the control function to the given process conditions:

  ✓ The ECBPM is ready for operation. There must not be any errors (red lights)

Illuminated display with 6 LEDs

1. Press one of the buttons ◁ or ▷ for at least one second.

  ⇨ The indicator LEDs (at the front = blue) are activated and roughly indicate the current switching point SP2.

  ⇨ The LED ring in the rear section lights up in green.

2. Continue to press or tap the button. The switching point is lowered (◁) or increased (▷) immediately. When you tap a button, the value is changed by ± 10 mbar per tap.

  ⇨ The vacuum display is changed accordingly.
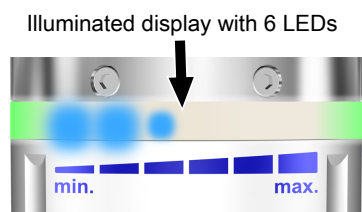
3. The new set value is saved by pressing the buttons
   ◀ and ▶ simultaneously for more than one second.

   ➪ This is indicated by a blue flashing light in the LED state indicator.

If you wait for more than five seconds to press the buttons simultaneously after making the adjustment, the set value is not saved. This is indicated by an orange flashing light in the LED state indicator.

7.3 Activating the Signal from Output OUT2

The output OUT2 is used, for example, to issue a signal to set the robot to "manual control" mode (e.g. freedrive mode when using UR robots) via the higher-level control unit. This mode must be supported by the applicable robot system and configured accordingly.

In freedrive mode, the robot arm or handling system is released and can be moved to a new position manually.

How is the output OUT2 activated?

✓ The ECBPM is ready for operation and lights up in green. There must not be any errors (red lights). In addition, the device must not be in the adjustment mode for the switching point (see 8.2).

▸ Press the two buttons ◀ and ▶ simultaneously for one second (e.g. by grasping the ECBPM with the hand for guiding the robot arm).

   ➪ The ECBPM switches to freedrive mode. The output OUT2 is then set and the color of the LED state indicator switches to a blue circumferential light.

   ➪ You can continue to operate the device during freedrive mode. The output OUT1 is also activated and deactivated based on the switching point SP2.

If neither buttons are pressed for 0.5 seconds, the ECBPM switches back to the state from which freedrive mode was called. The output OUT2 is deactivated.