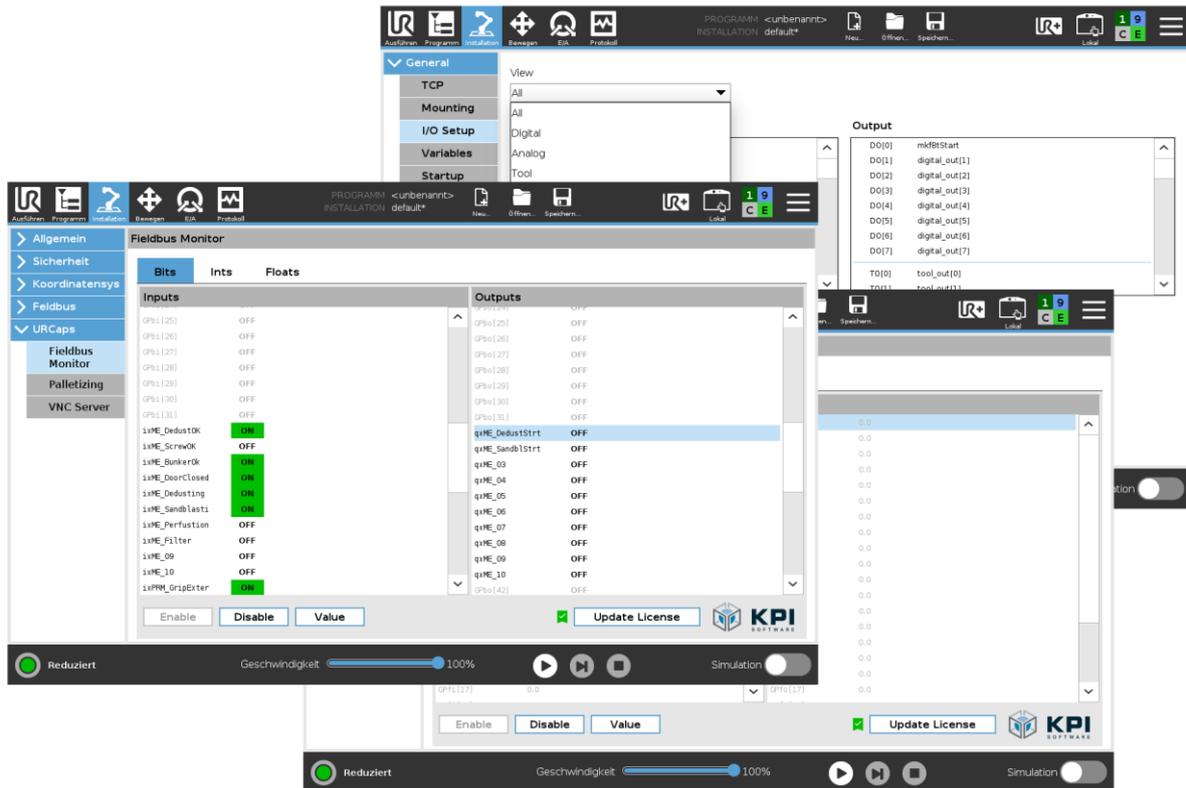


Reference Manual

URCap Fieldbus Monitor – Version 1.1.3



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Reference Manual

Version 1.1.3

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1 Introduction

The URCap Fieldbus Monitor is a software extension for the UR robot (Universal Robots). It was developed as a diagnostic tool for commissioning the UR fieldbus interface (Profinet, EtherNet/IP) and is therefore the ideal tool for testing communication with an external controller and for detecting configuration problems at an early stage.

With the Fieldbus Monitor the entire fieldbus interface is displayed directly on the UR panel and the fieldbus outputs can be flexibly assigned test values.

1.1 About this document

The reference manual contains an overview of all functions of the URCap. It was created for robot programmers, software developers and maintenance technicians.

1.2 Requirements and supported versions

E-Series robots (UR3, UR5, UR10 or UR16) from PolyScope 5.8.

1.3 Update URCap

Attention: Robot programs that were created with a previous version may no longer be used. The robot programs and the robot installation may have to be recreated or adapted. To install the URCap version 1.1.3 on a system where an earlier version is already installed.

- Uninstall the previous version
- Check the PolyScope version, if necessary update to a newer version (version 5.8)
- To avoid configuration conflicts, create a new robot installation
- Install URCap

2 Installation

2.1 Installing the URcap

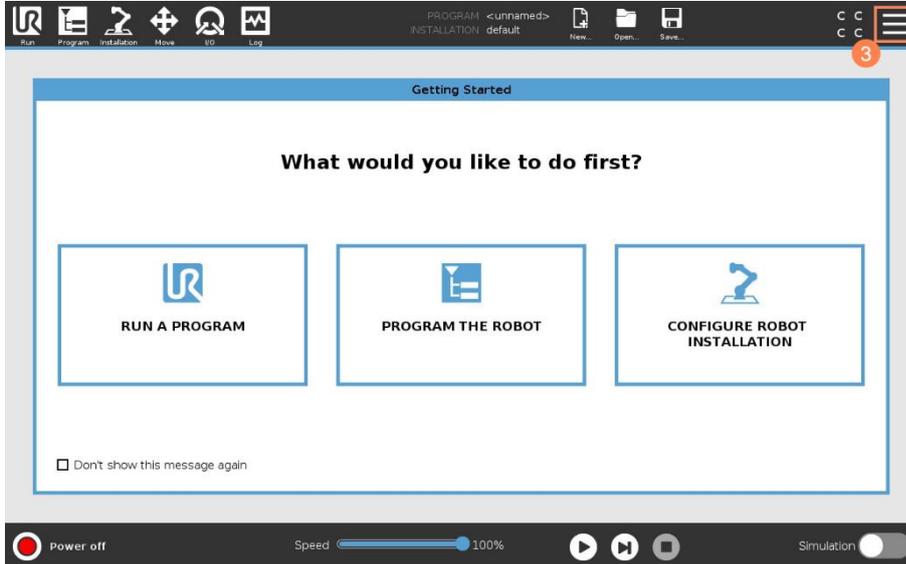


Figure 1: Home screen

1. Start the robot
2. Insert the USB stick with the URcap
3. Click the hamburger menu in the top right corner

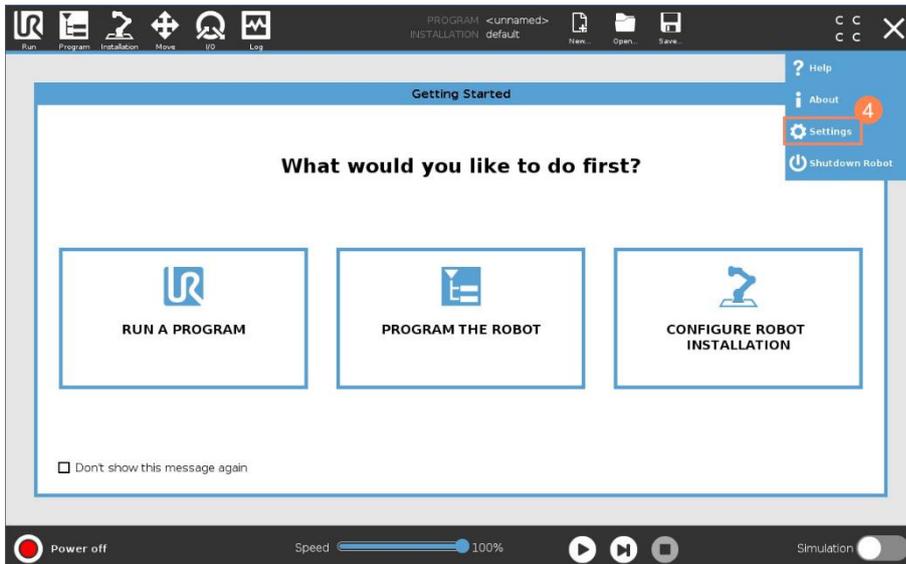


Figure 2: Select Settings

4. Click Settings

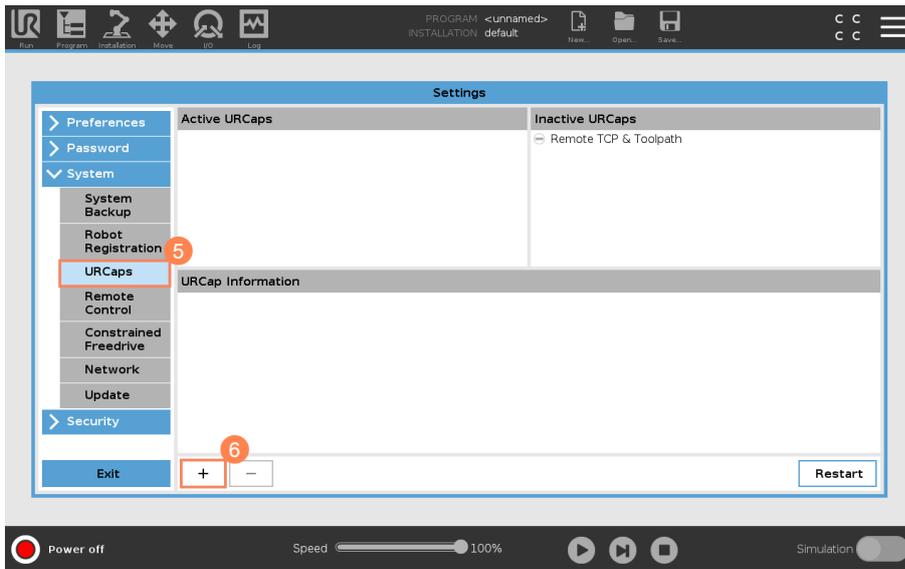


Figure 3: Add URCap

5. Click on URCaps
6. Click +

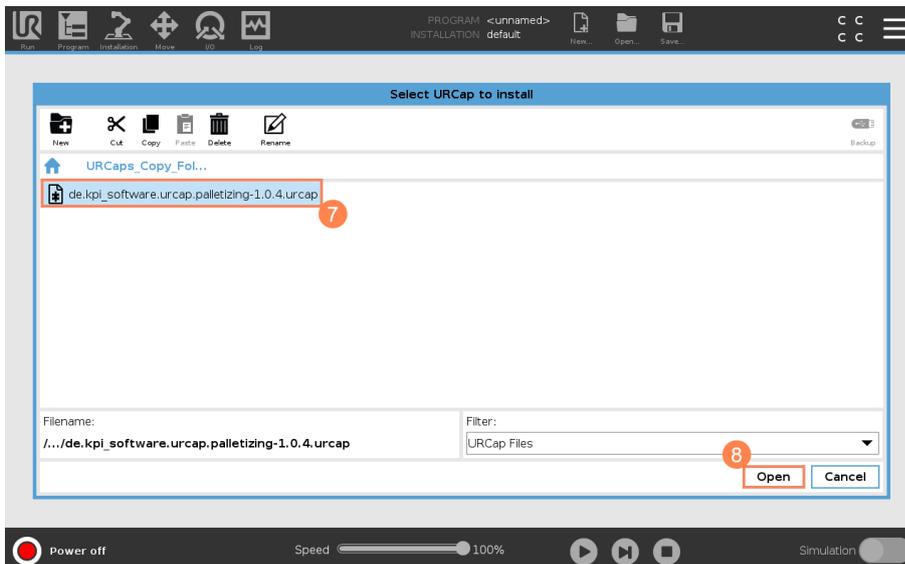


Figure 4: Select URCap on USB stick

7. Select the URCap on the USB stick
8. Click Open to install the URCap

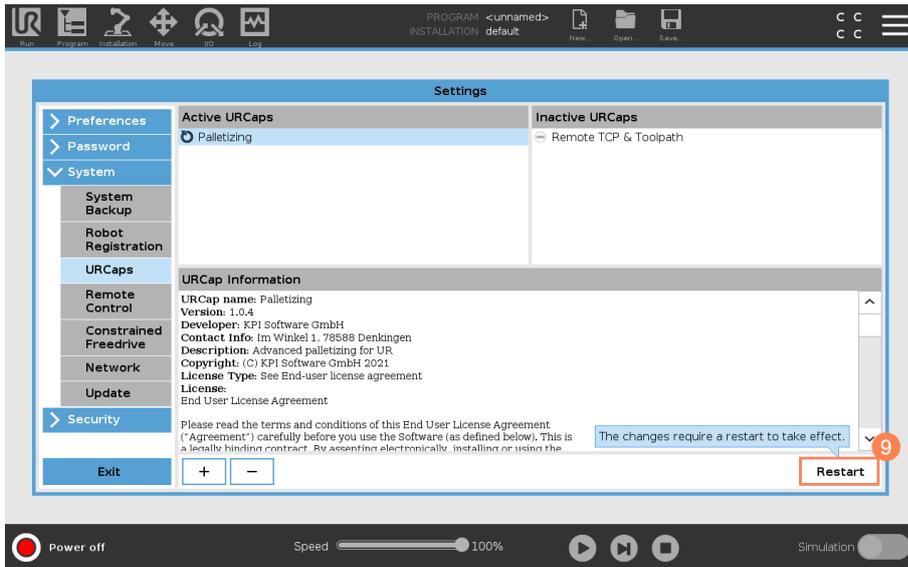


Figure 5: Restart the robot

9. Click Restart to restart the robot

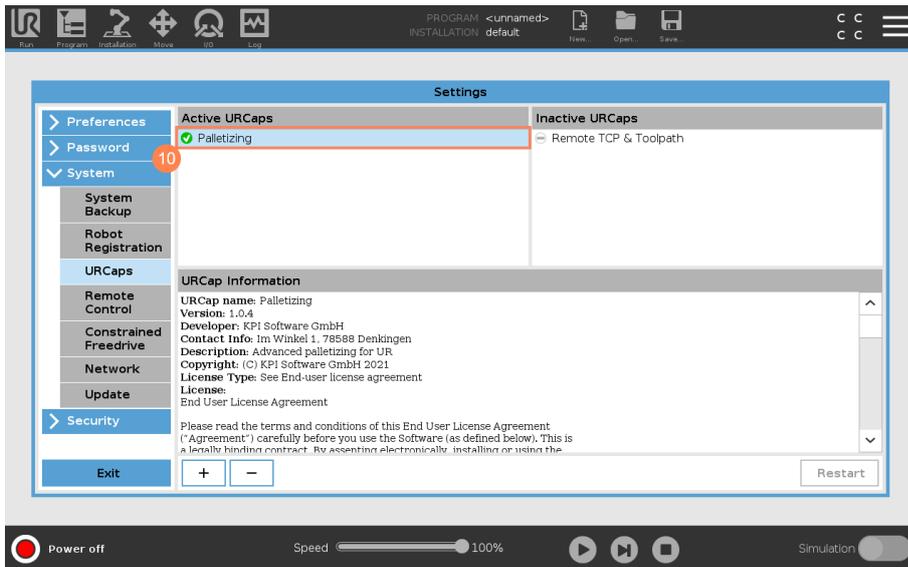


Figure 6: URCap is installed

10. A green tick will appear next to the URCap if it has been installed correctly

2.2 Uninstall the URCap

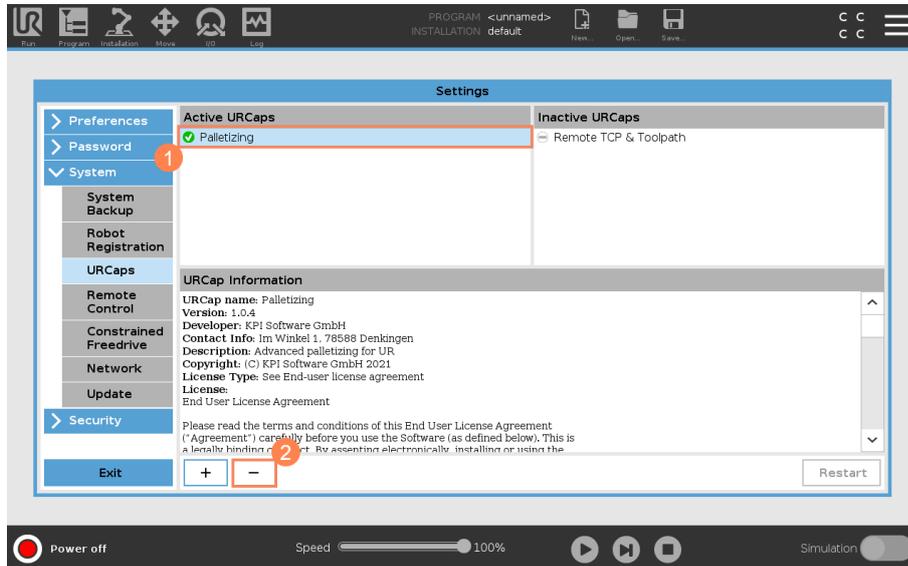


Figure 7: Select URCap

1. Select the URCap to be uninstalled
2. Click on -
3. Restart the robot

3 Installation Node

3.1 Licensing

In order for Advanced Palletizing to be used, a valid license key must be entered in advance. This is generated by the manufacturer with the help of the generator string.

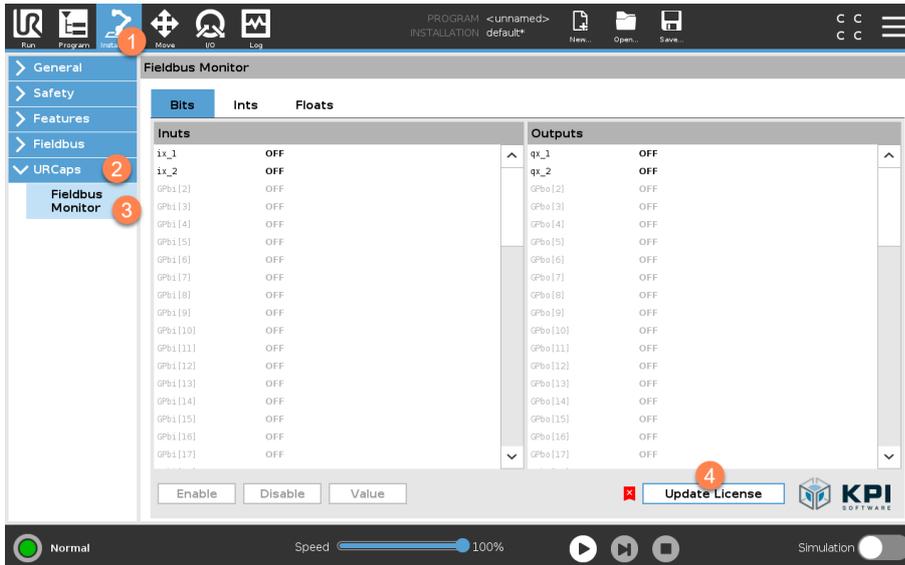


Figure 8: Installation Node

1. Open the installation page
2. Go to URCaps
3. Click on Advanced Palletizing
4. Click Update License



Figure 9: Generator-String

5. Make a note of the 8-digit generator string and send it together with your contact details to redemlicense@kpi-software.de



Figure 10: Enter license key

6. You will then receive your 8-digit license key, which must be entered instead of the generator string



Figure 11: Successful licensing

7. You can recognize successful activation by the green tick

3.2 Overview

The URcap is divided into 4 sections. The individual sections are explained in more detail below.

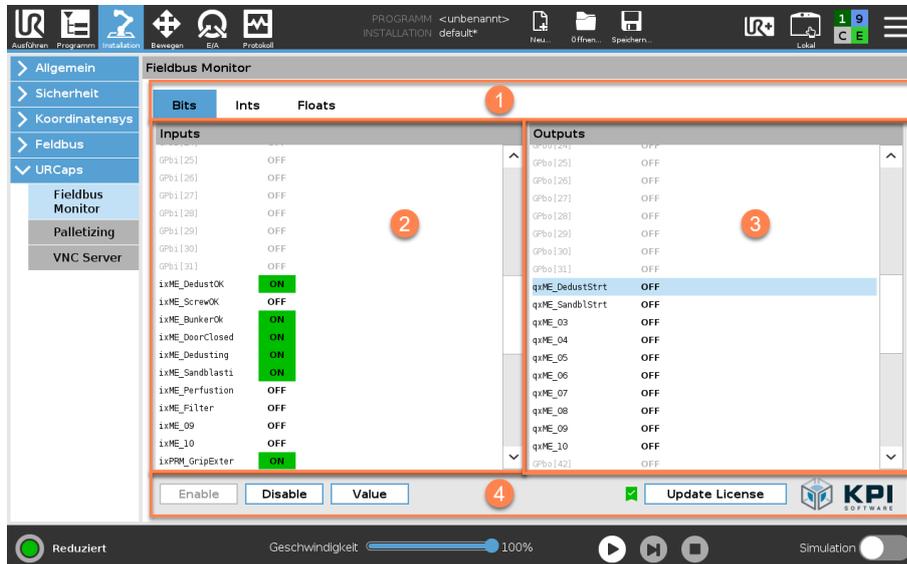


Figure 12: Overview

1. Tab to switch between the different data types of the fieldbus register
 - Bits: Bit signals
 - Ints: Integers
 - Floats: Floating point numbers
2. The inputs are displayed in this area
3. The outputs are displayed in this area
4. Action buttons to activate/deactivate the URcap, control fieldbus outputs and licensing

3.3 Bits, Bit signals

Here you will find an overview of the current status of the bit signals on the fieldbus interface. A high signal (1) is displayed with the text ON and a green background, a low signal has the text OFF without a background color (2). If a variable name has not yet been assigned for this signal, the signal is grayed out (3).

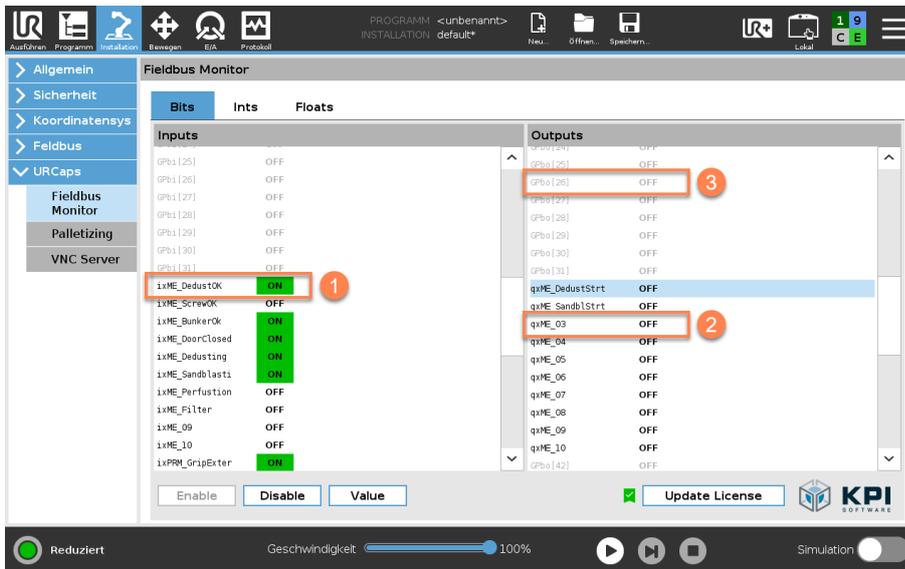


Figure 13: Overview Bits

3.3.1 Set bit outputs

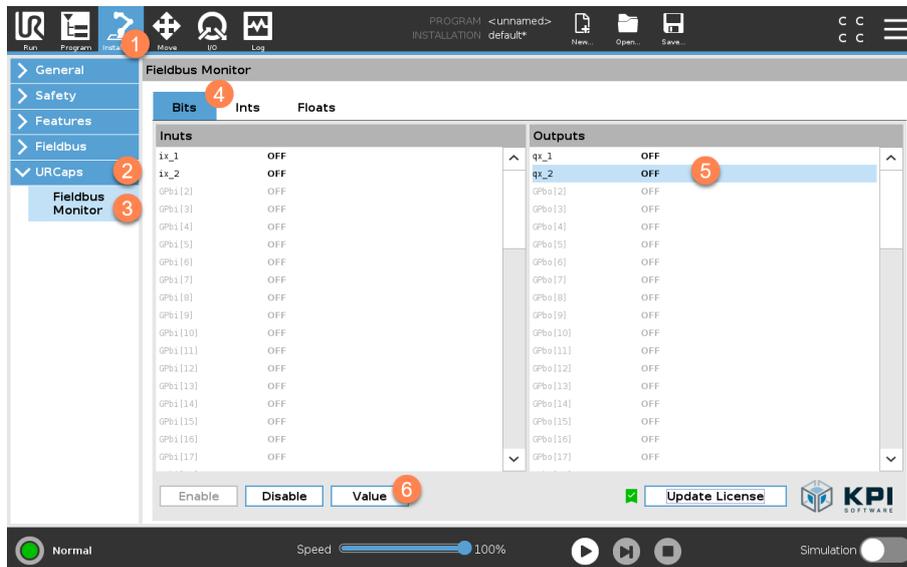


Figure 14: Set bit outputs

1. Open the installation page under Installation
2. -> URCaps
3. -> Fieldbus Monitor
4. Switch to the Bits tab
5. Mark the desired output in the output area
6. Press the "Value" button, the output then changes its state

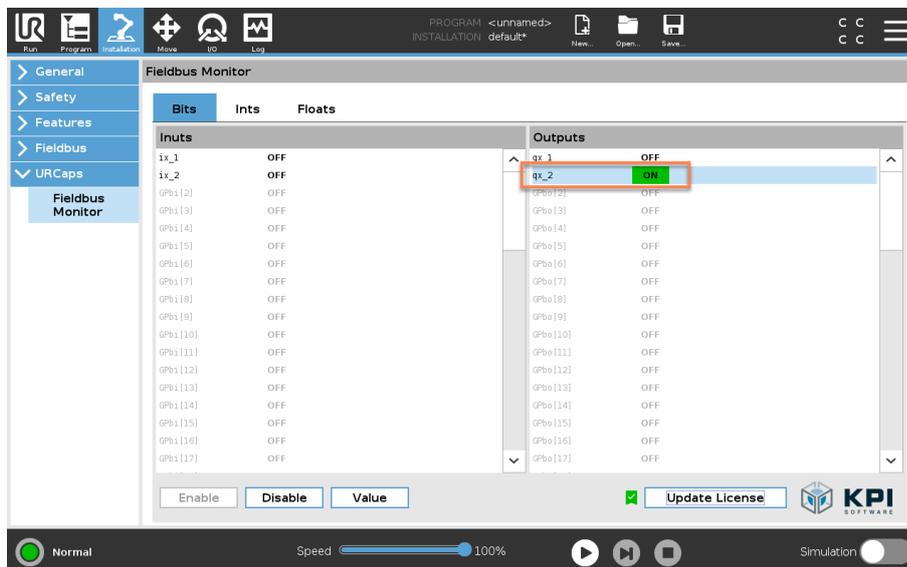


Figure 15: Bit output set

3.4 Ints, Integers

Here you will find an overview of the current status of the integer signals on the fieldbus interface. The current numerical value for the inputs/outputs is displayed accordingly (1/2). If no variable name has yet been assigned for this signal, the signal is grayed out (3).

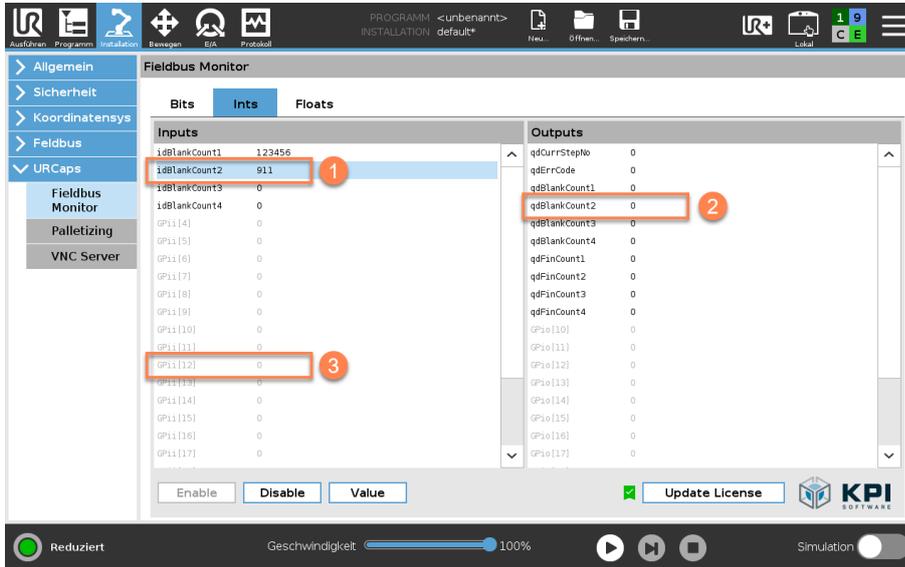


Figure 16: Overview Ints

3.4.1 Set integer outputs

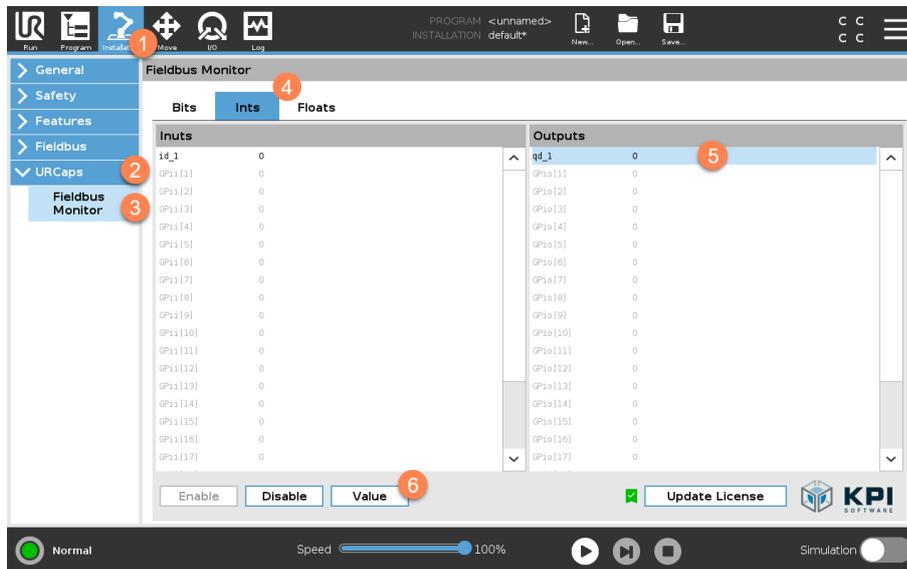


Figure 17: Set integer outputs

1. Open the installation page under Installation
2. -> URCaps
3. -> Fieldbus Monitor
4. Switch to the Ints tab
5. Mark the desired output in the output area
6. Press the "Value" button

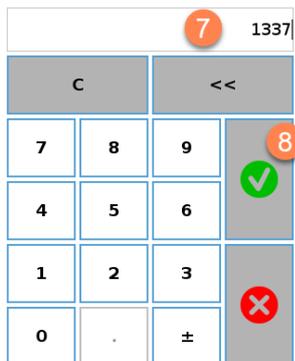


Figure 18: Enter the integer value

7. Enter the desired value
8. Confirm your entry

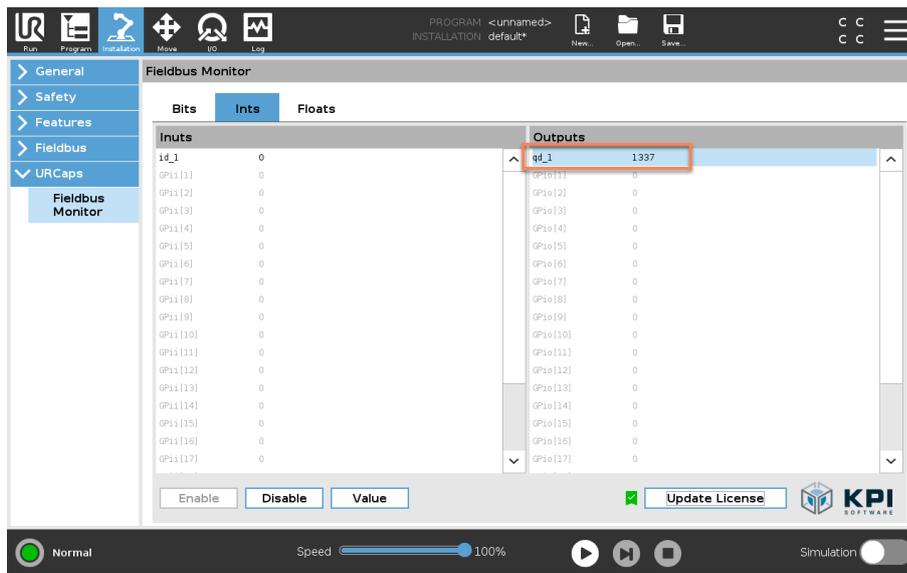


Figure 19: Integer output set

3.5 Floats, Floating point numbers

Here you will find an overview of the current status of the float signals on the fieldbus interface. The current numerical value for the input /outputs is displayed accordingly (1). If a variable name has not yet been assigned for this signal, the signal is grayed out (2).

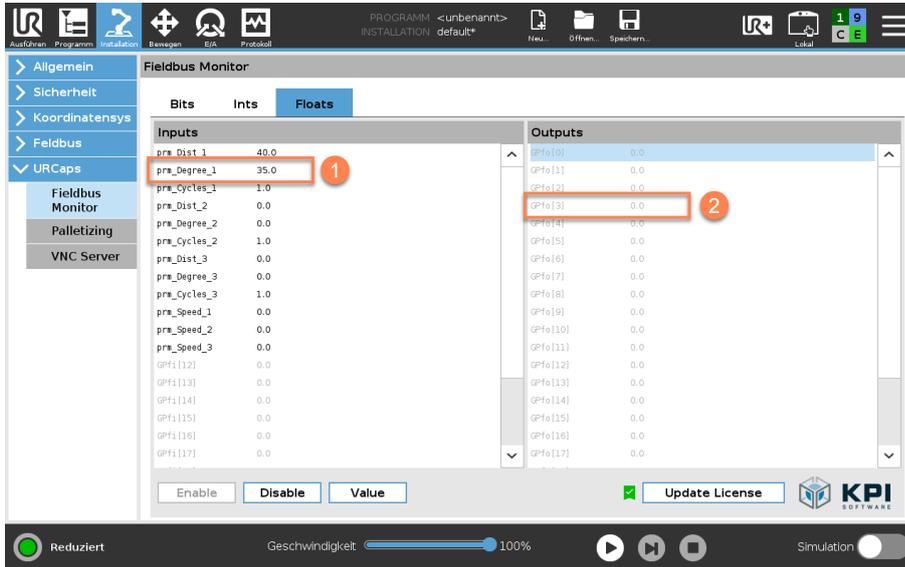


Figure 20: Overview Floats

3.5.1 Set float outputs

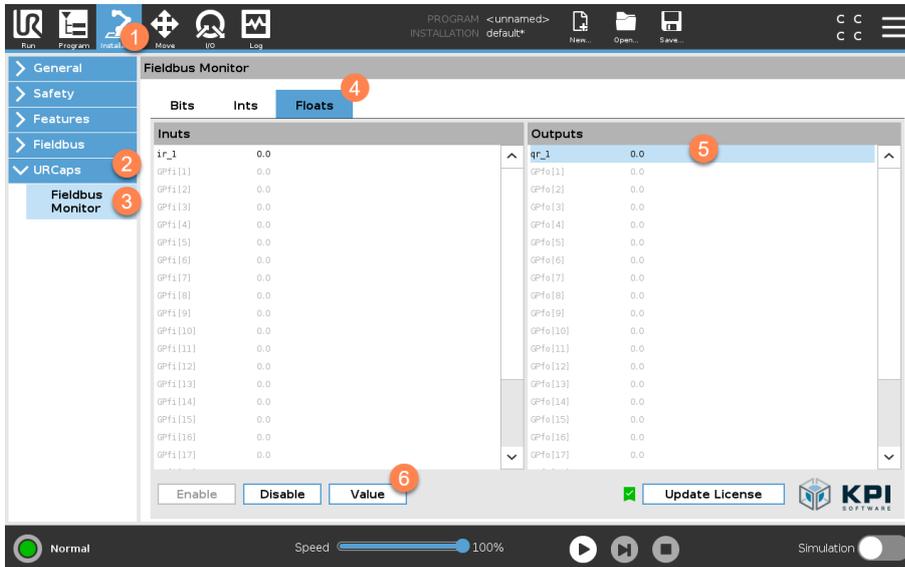


Figure 21: Set float outputs

1. Open the installation page under Installation
2. -> URCaps
3. -> Fieldbus Monitor
4. Switch to the Floats tab
5. Mark the desired output in the output area
6. Press the "Value" button

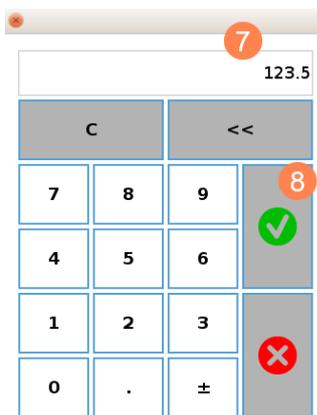


Figure 22: Enter the integer value

7. Enter the desired value
8. Confirm your entry

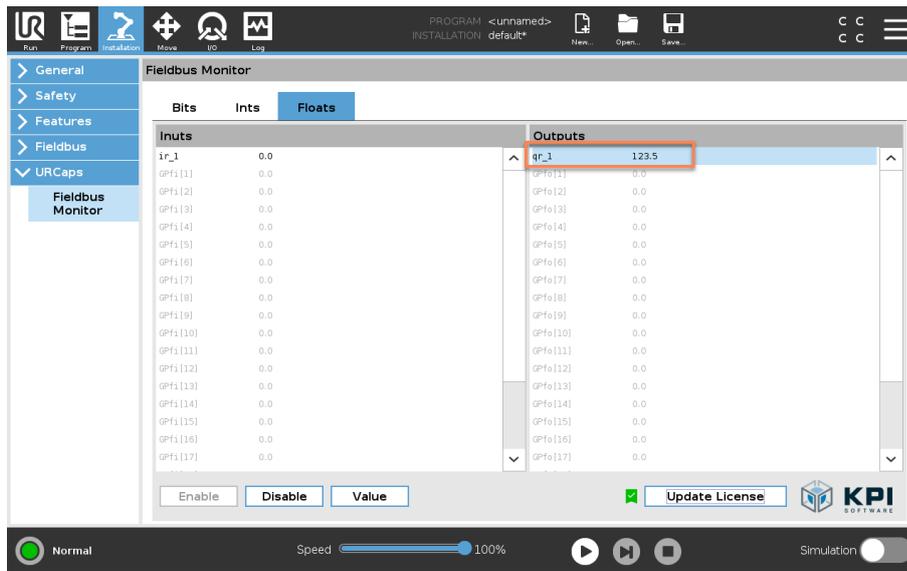


Figure 23: Float output set

3.6 Activate / deactivate URCap

The field bus signals are determined with the RTDE interface of the UR robot. In order to rule out complications with other URCaps, the URCap can be completely deactivated.

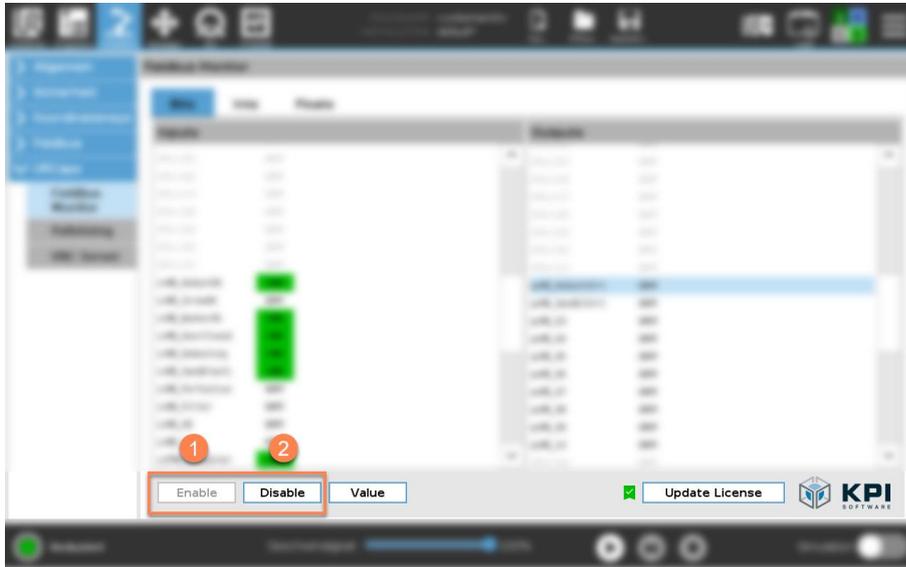


Figure 24: URCap is activated

3.6.1 Activate

1. Open the installation page under Installation-> URCaps-> Fieldbus Monitor
2. Check whether the URCap is already activated (Enable button = deactivated, Disable button = activated)
3. Press the Enable button (1)

3.6.2 Deactivate

4. Open the installation page under Installation-> URCaps-> Fieldbus Monitor
1. Check whether the URCap is already activated (Enable button = deactivated, Disable button = activated)
2. Press the Disable button (2)

4 Rename fieldbus signals

The following describes how the fieldbus signals can be renamed. The Boolean registers (bits) are used below as an example. The procedure described can, however, be used analogously for the integer registers (Ints) and float registers (Floats).

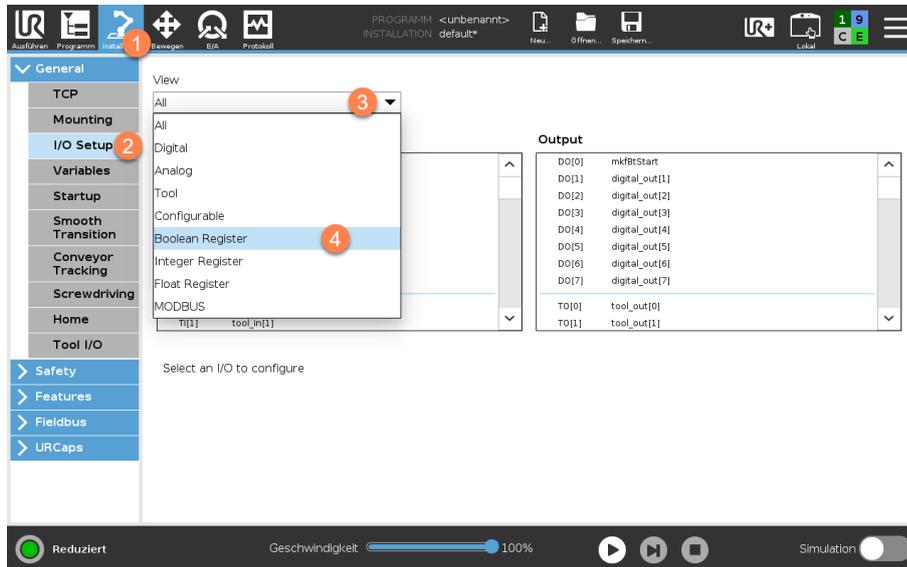


Figure 25: Rename fieldbus signals

1. Open the installation page for the I/O Setup under Installation-> General
2. -> I/O Setup
3. Click the drop-down menu
4. Select the required input / output source from the list (Boolean register = bits on the fieldbus interface)

Rename fieldbus signals

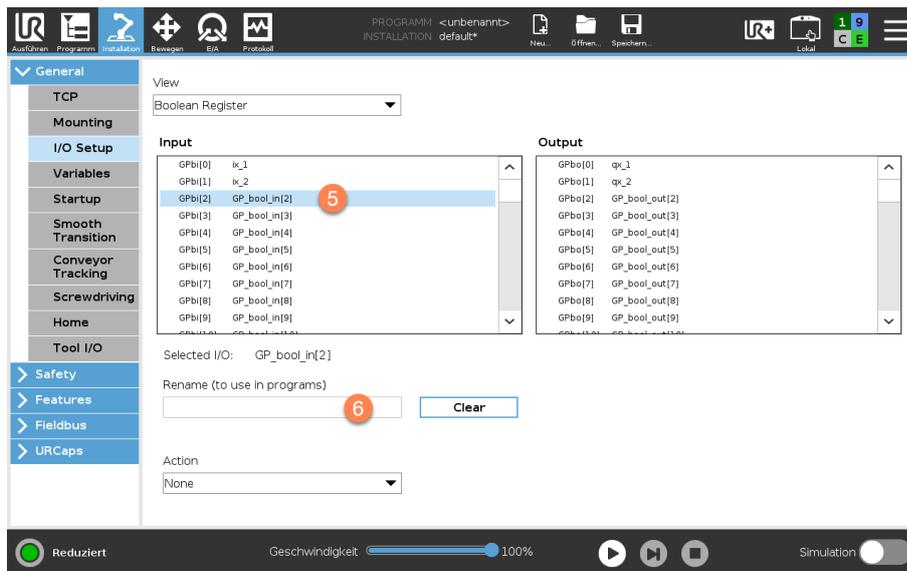


Figure 26: Activate the Rename field

5. Select the input/output to be named from the list
6. Click in the Rename field



Figure 27: Enter name

7. Assign a unique name
8. Confirm your entry

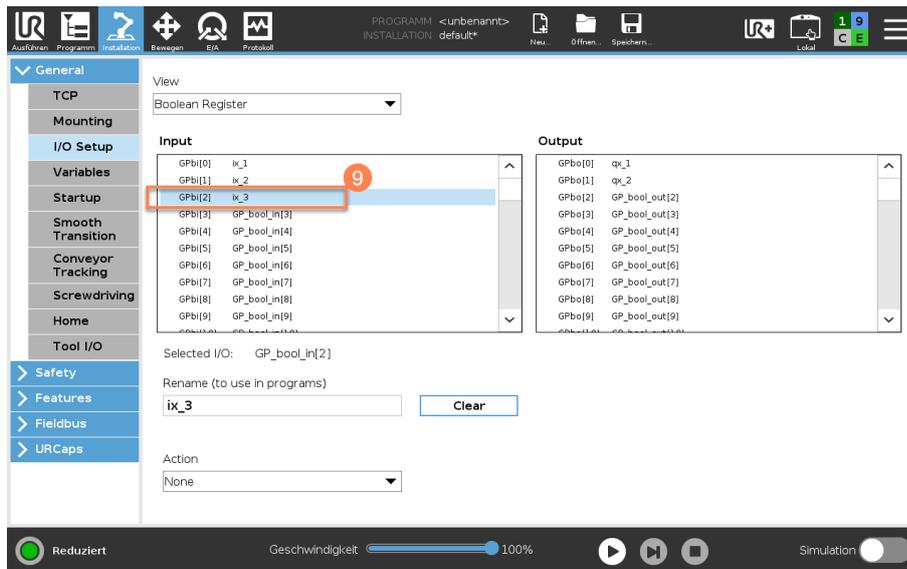


Figure 28: Renamed fieldbus signal

9. Check that the input/output has been correctly named.

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