

TEACHRING

by Obermeier Systems



User manual

Teachring TR3, TR5, TR10, TR16

1 Introduction

The Teachring by Obermeier Systems helps you to program your Universal Robot easily, quickly and precisely. It has two buttons, one to enable Freedrive and a second one to save waypoints in your robot program via a UR Cap.

This operating manual describes the installation, initial setup and operation of the Teachring.

2 Technical data

Serial number:	TR3	TR5	TR10, TR16
Suitable for UR model:	UR3e	UR5e	UR10e, UR16e
Size (h x l x w):	25mm x 88mm x 85mm	25mm x 110mm 95mm	25mm x 120mm x110mm
Weight:	45 g	50 g	60 g
Material:	Acrylnitril-Styrol-Acrylat (ASA) mechanically and thermally highly resilient		
Color:	black		

3 Safety instructions

Intended use

The Teachring is intended to be mounted on a robot arm. It is a tool which enables the user to move a robot precisely in Freedrive and save waypoints quickly and easily in a robot program via a UR Cap. Any other use is considered to be improper, e.g. if the Teachring is used for pushing work pieces. The manufacturer is not liable for any damages resulting from this improper use. Do not open, manipulate or disassemble the Teachring! Please be aware that in this case the Teachring will be out of warranty.

Environmental and operating conditions

The Teachring may only be used in an environment that is clean, at ambient temperature, free from splash water and vapors, as well as from abrasion or processing dust.

Personnel qualification

The assembly and use of the Teachring may be performed by trained specialists. Every person to work on the Teachring must have read and understood the complete operating manual.

4 Warranty

The warranty is valid for 24 month from the ex-works delivery date in accordance with the intended use and in the described environment. The Teachring is considered to be defective, if its basic functions – activating Freedrive and saving waypoints – are no longer given.

5 Scope of delivery

The following components are included in the Teachring package:

- Teachring according to the chosen model variant
- USB flash drive with URCap Plugin and additional documentation
- This user manual

System requirements

The Teachring is compatible with the robot models of Universal Robots. The following minimum hardware and software requirements apply to the operation:

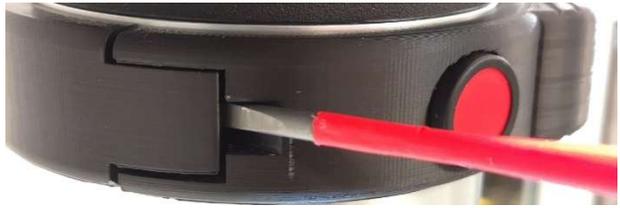
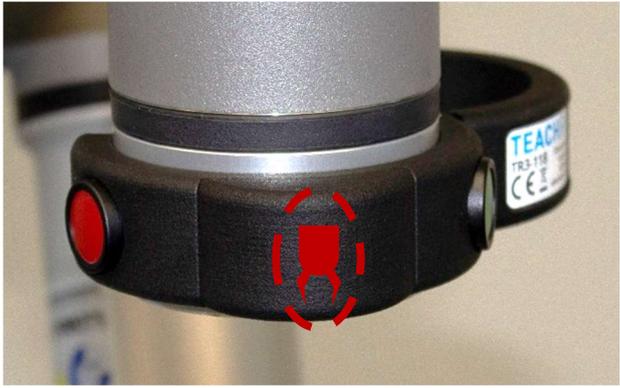
Universal Robots e-Series: Software: 5.5.0 or newer

In case the Teachring is considered to be used with an older Software version, please contact: contact@obermeier-systems.de

6 Installation

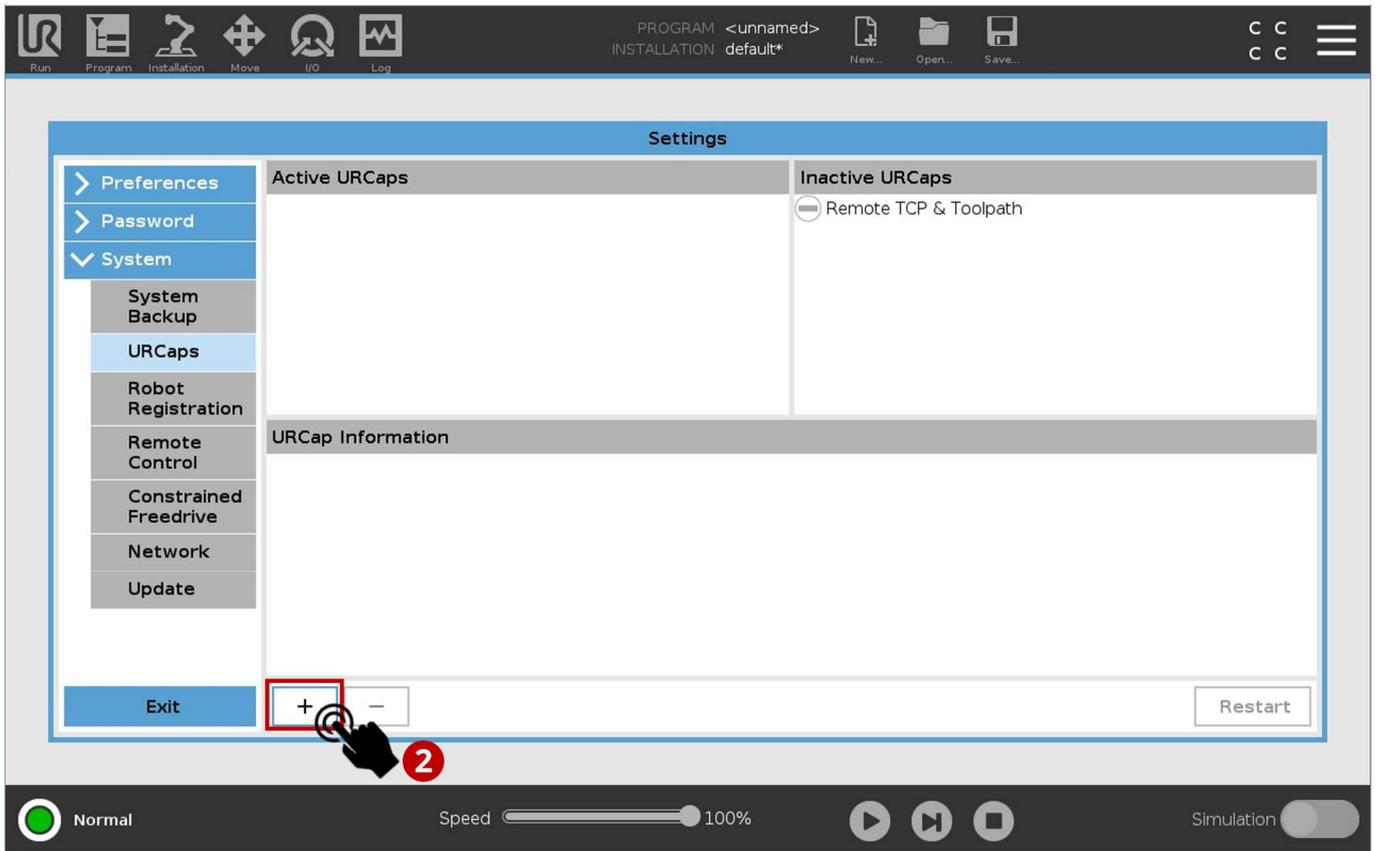
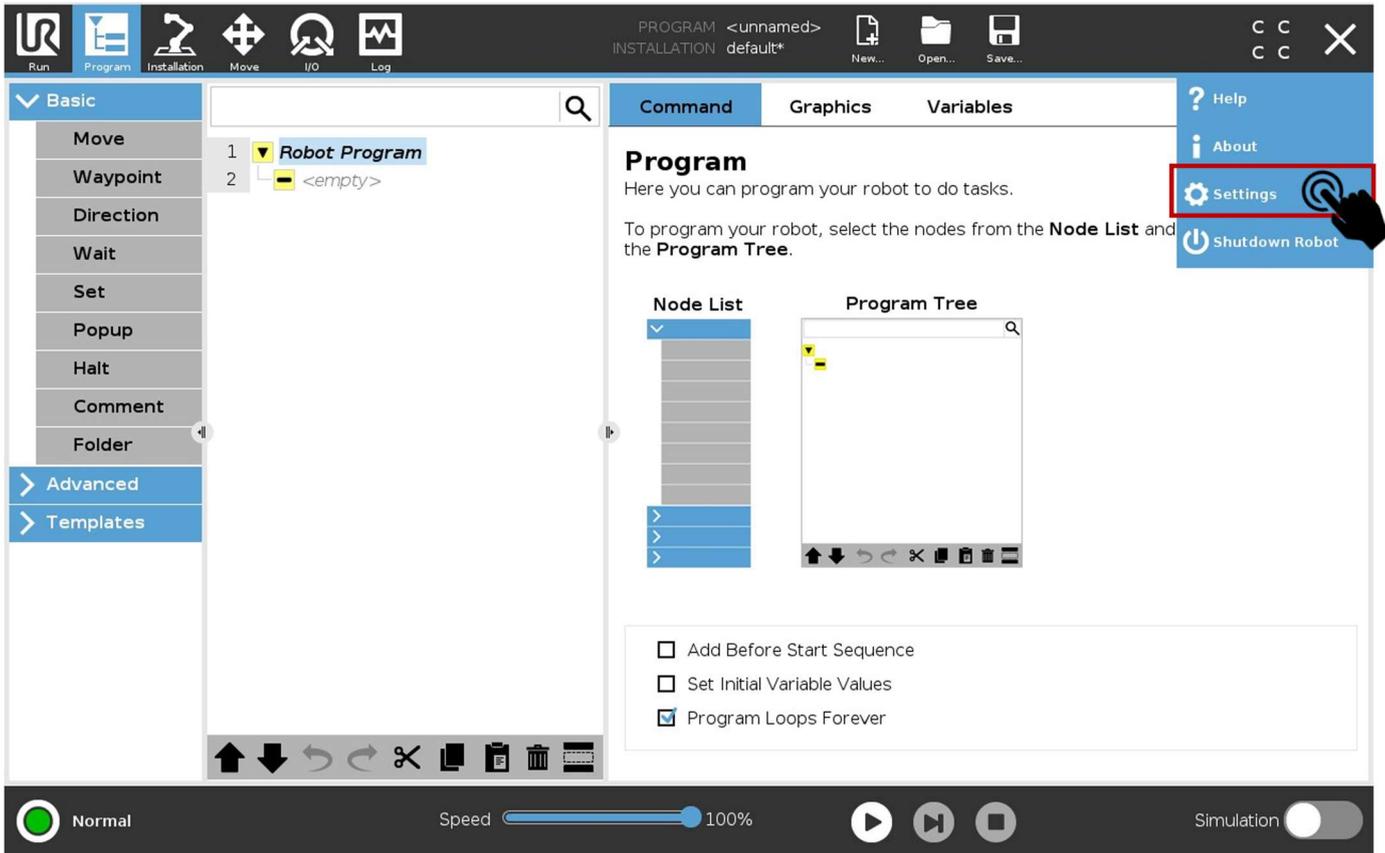
Mechanical & Electrical installation

Caution: Only work on the robot when it is switched off!

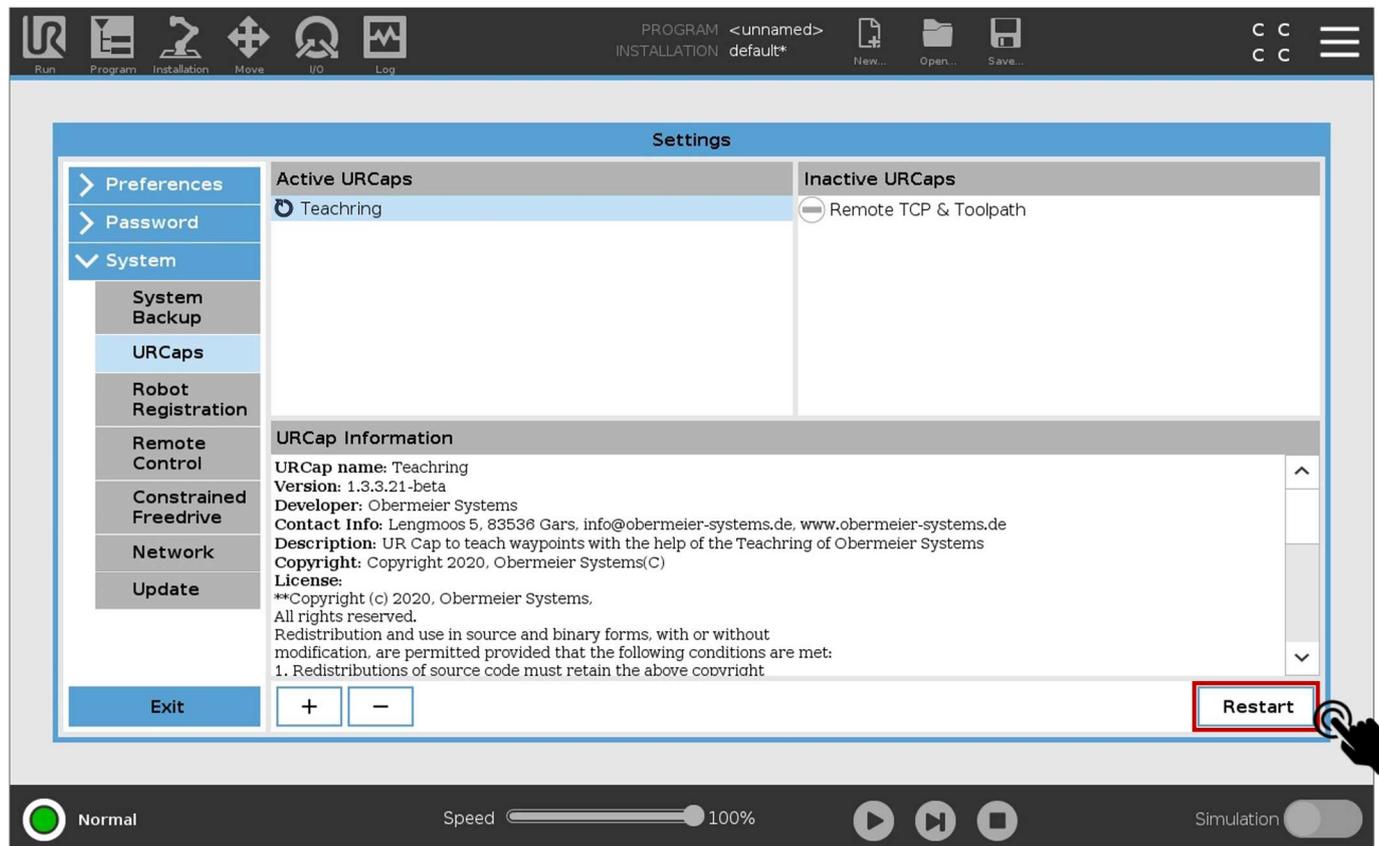
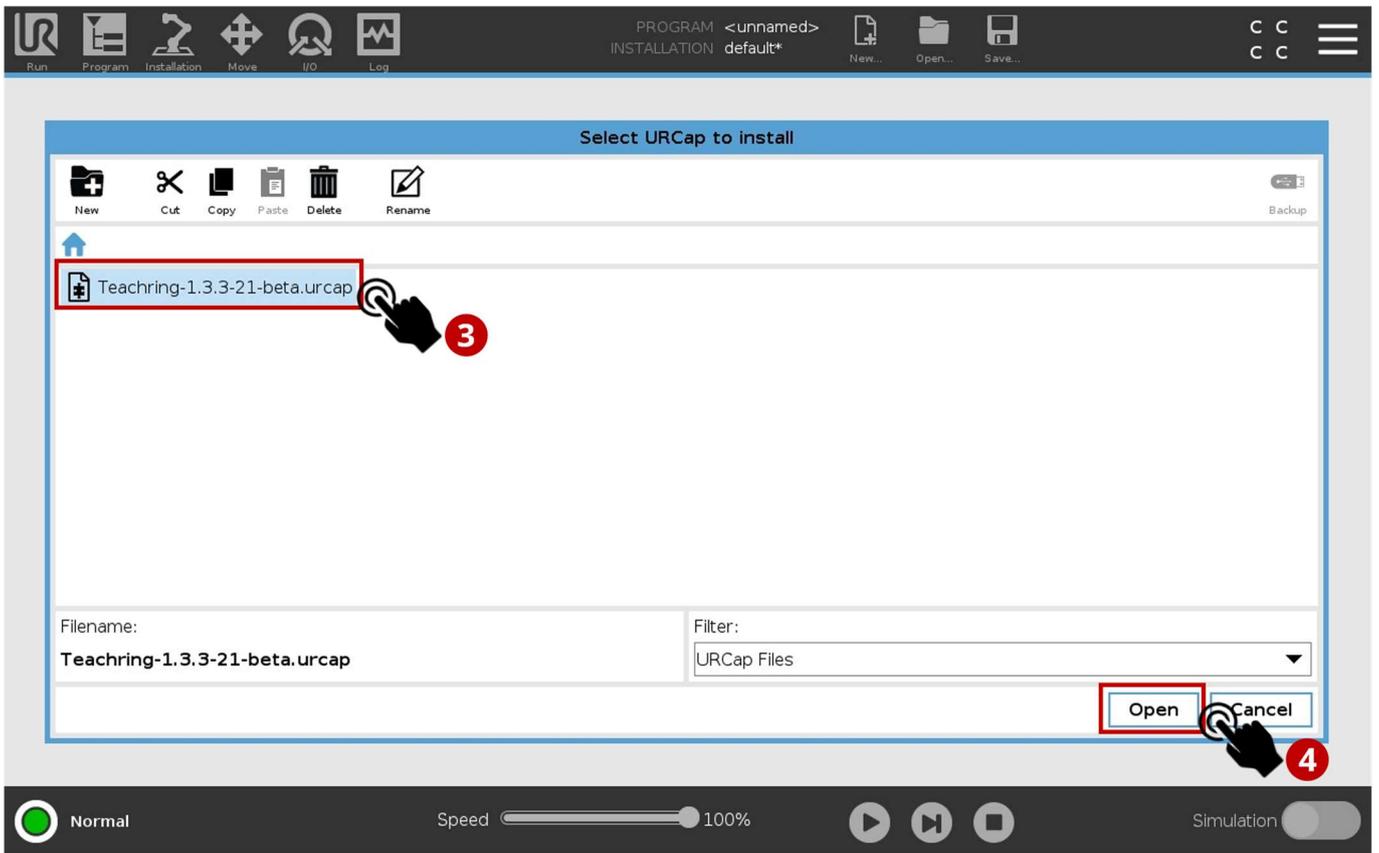
Step	Description	Illustration
1	Remove the cover cap of the Lumberg connector at the tool flange.	
2	Use a screwdriver to open the hinge of the Teachring.	
3	Mount the Teachring on the robot. Make sure the Teachring is oriented correctly. Attention: Check the gripper symbol for the correct orientation!	
4	Close the hinge of the Teachring. Check for the "click"-sound of the locking.	

Software Installation

The product Teachring consists of Hard- and Software. The Software – named UR Cap – is located on the enclosed USB flash drive and must be installed manually. Therefore, insert the USB stick into the teach pendant and carry out the following steps:



⇒ Navigate to USB flash drive and open the file "teaching-X.X.X-XX.urcap".

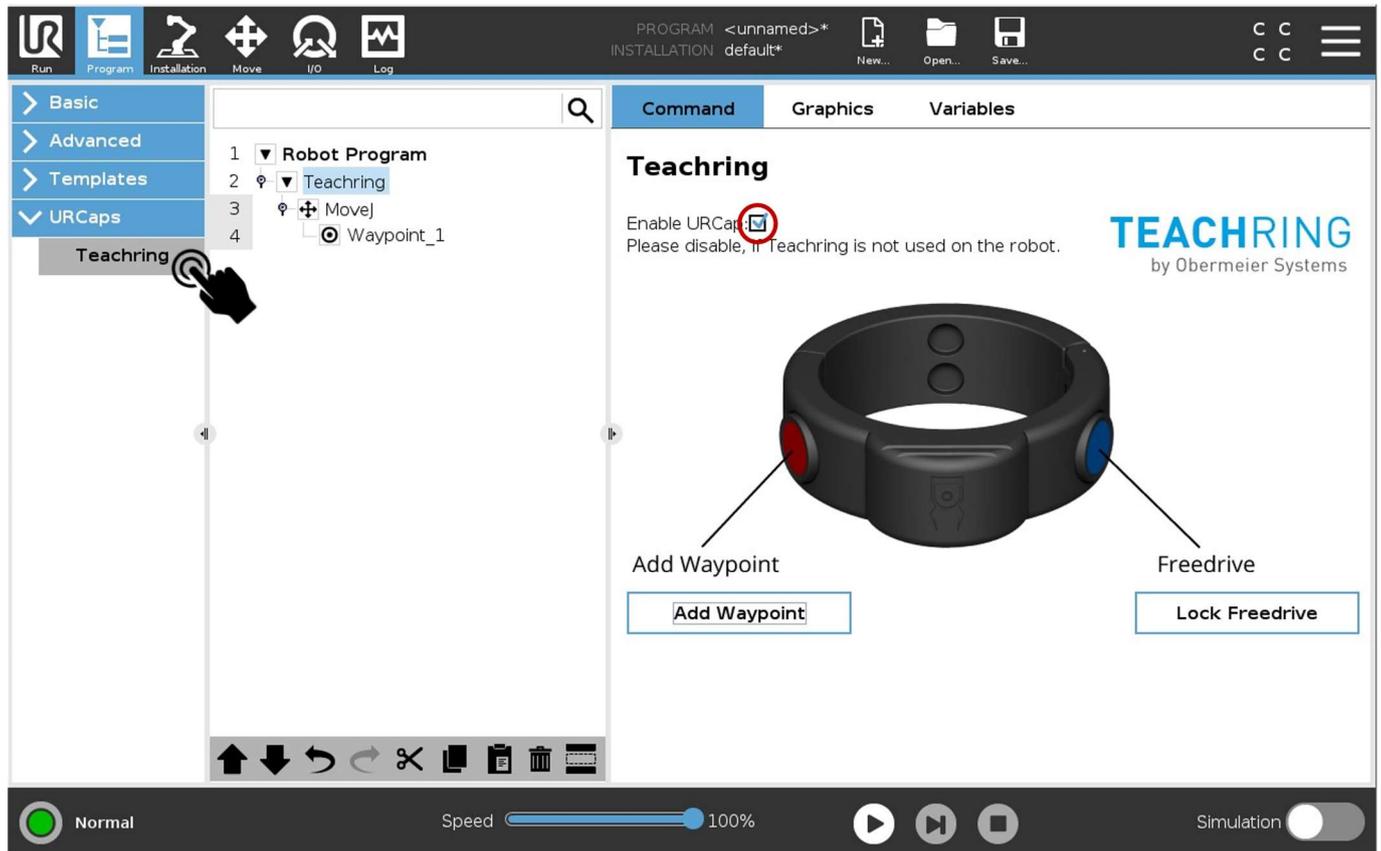


7 Use of the Teachring

Attention: Before using the Teachring, the tool-output must be set to 24V.

Therefore, navigate to "Installation"/"Tool I/O" and set the tool output voltage to 24V.

Open a new program and navigate to "Program"/"URCaps"/"Teachring"



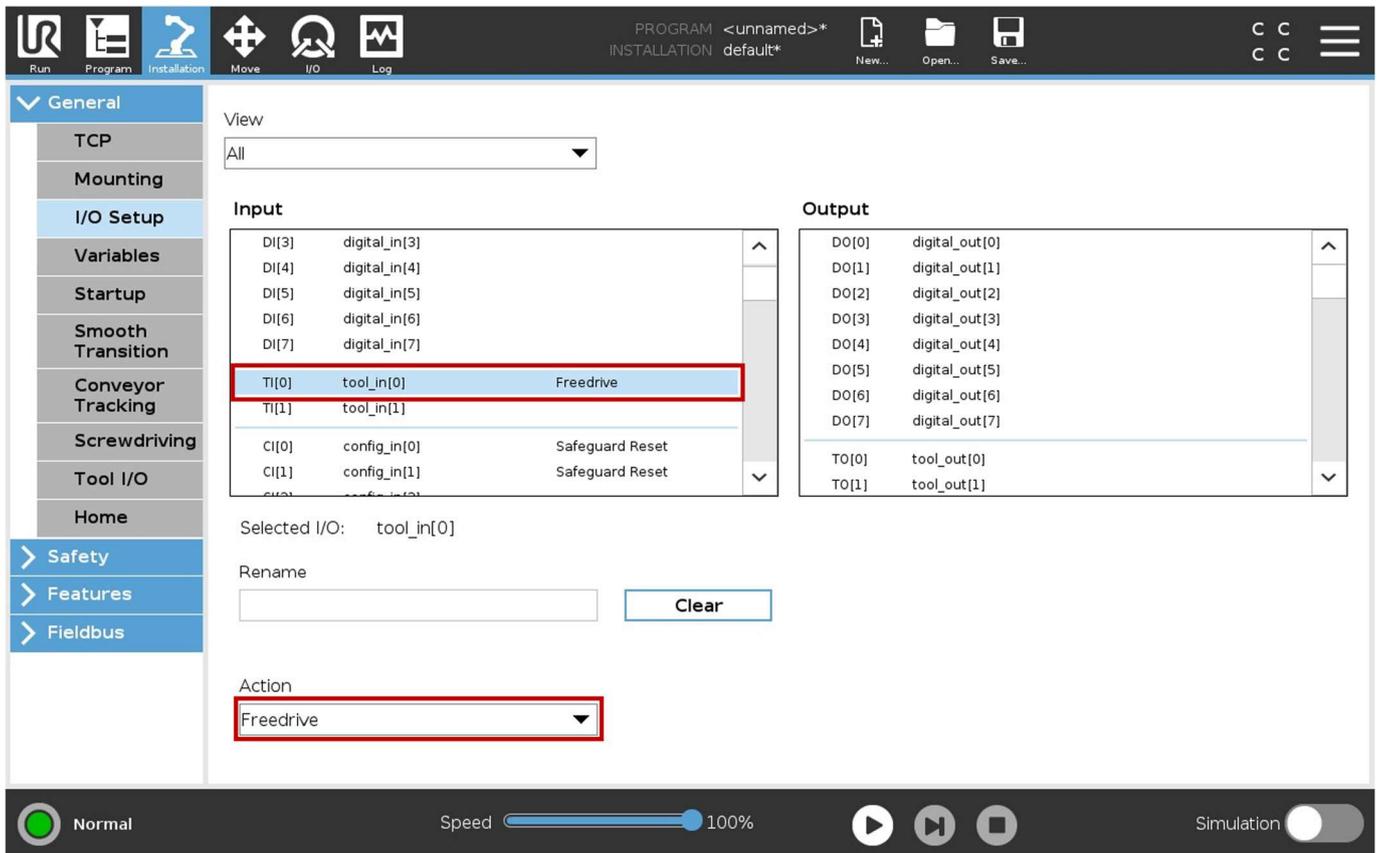
A new program node "Teachring" will be inserted in your program. Enable the UR Cap via the checkbox. To use the Teachring the UR Cap must always be enabled.

Attention: Please disable the UR Cap, if the Teachring is not used on the robot! Otherwise, tool I/O signals could lead to malfunctioning!

By pressing the blue button on the Teachring, the robot changes into "Freedrive"-mode and can be moved to a desired position by hand. By pressing the red button, the current position of the robot is automatically added as a new waypoint to the current robot program. The button "Lock Freedrive" should only be used, if the robot's payload is set correctly. If not, the robot could "fall down" or "swing up" and cause damage!

Attention: The programmer must take caution on where waypoints are taught to avoid a collision of the robot!

By default, the blue button activates Freedrive only when the UR Cap is open. To use the Freedrive button permanently (without having the UR Cap open), assign “Freedrive” to the tool_in[0] via the I/O Setup (see below).



8 Uninstalling

To uninstall the Teaching from your robot, follow chapter 6 “Installation” in reverse order. Use a screwdriver to open the hinge of the Teaching. To uninstall the UR Cap, follow the instructions in the operating manual of the robot.

9 Disorder

In case of any disorder of the Teaching, please contact: contact@obermeier-systems.de

10 Manufacturer and Distributor

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