Quick Start Guide
Robot-Set ECBPi, ECBPM, FXCB
Components, assembly and installation of the set

SCHMALZ

General information:

TCP: z-axis: Needs to be measured (cf. figure on the right)

              x-axis: 0.00 mm

              y-axis: 0.00 mm

Payload: please see in the table below
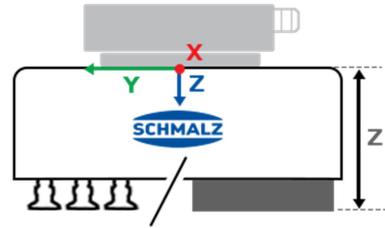
Gripper	Weight
ECBPi	0,83 kg (ECBPi + flange) + end effector *
ECBPM	0,22 kg (ECBPM + flange) + end effector *
FXCB	1,85 kg

*please add your end-effectors weight (refer to belonging datasheet/manual)

Installation of the set

Plug the USB-key with the Schmalz Plugin into the robot controller's port.

⚠️ Note: After starting the iRProgrammer, make sure the Deadman key is enabled otherwise the program do not show you the USB-key's data! (cf. figure 1)

Open the dropdown menu on the left side of the screen, navigate to the tab "Plugins" and open "Install". Then select "Schmalz_Gripper" by clicking selecting it in the upper window and press the button "Install" on the right bottom. (cf. figure 2)

figure 1

figure 2

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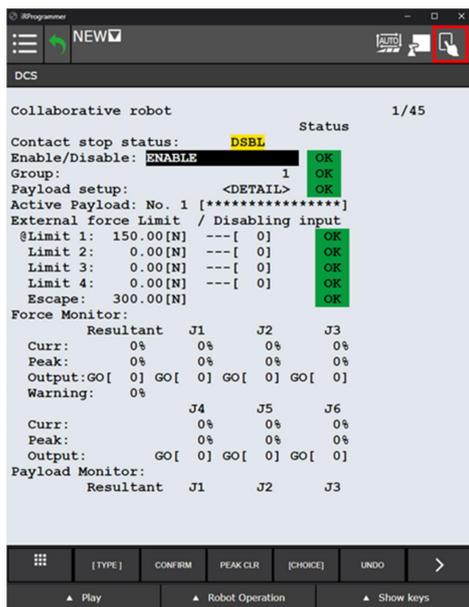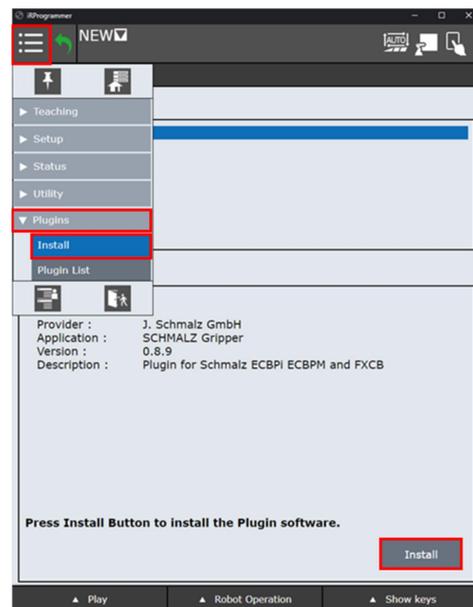
After the installation you can find "Schmalz Gripper" inside the tab "Plugins" in the dropdown menu. Open "Schmalz Gripper" by clicking on it. (cf. figure 3)

You can now select the gripper you are using.

By clicking on the info-button you get information on how to set the vacuum value (SP2). For more information about this setting, please refer to your grippers "Operating Instructions" manual.

The buttons "Suction" and "Release" at the bottom of the page allow you to simply test the gripper's function manually (cf. figure 4).
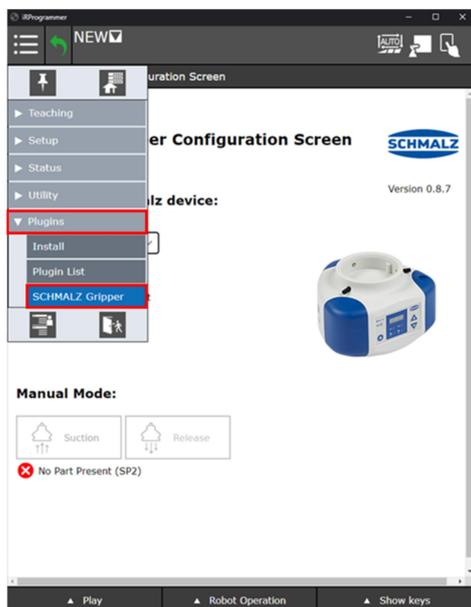
figure 3
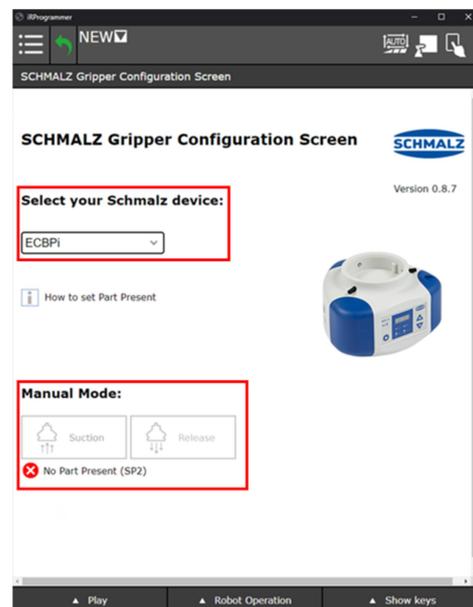
figure 4

To set payloads, open "UTool Payload Setup" in the tab "Setup", then follow the instructions to create a new payload. (cf. figure 5)

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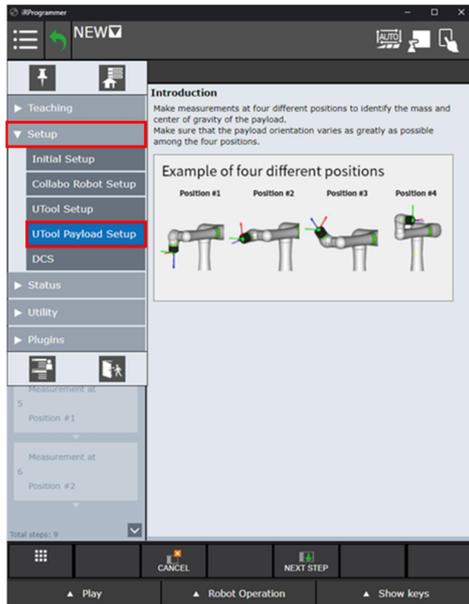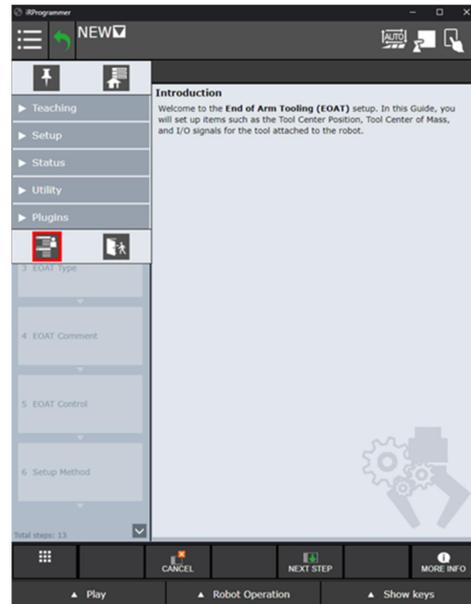
figure 5

figure 6

To set the TCP open the advanced dropdown menu (cf. figure 6), then open the tab "Setup" and the page "Frames". Here you can enter your tool's specific data (cf. figure 7). You can get the z-axis value by measuring the length from the CRX's arm end to the Schmalz end-effector's bottom (cf. 8). Make sure that you measure it when the foam or suction cups are compromised, like when the workpiece already got gripped.
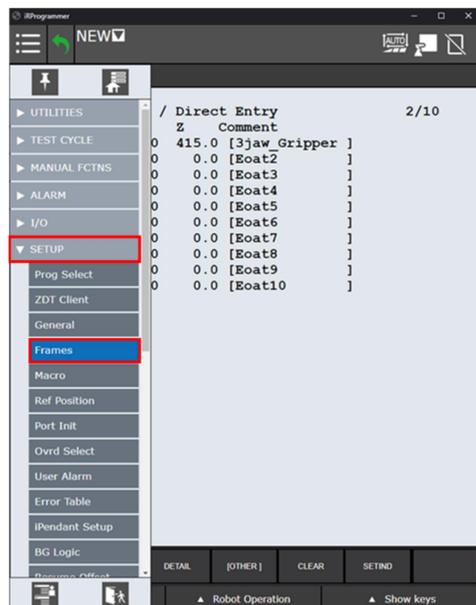
figure 7
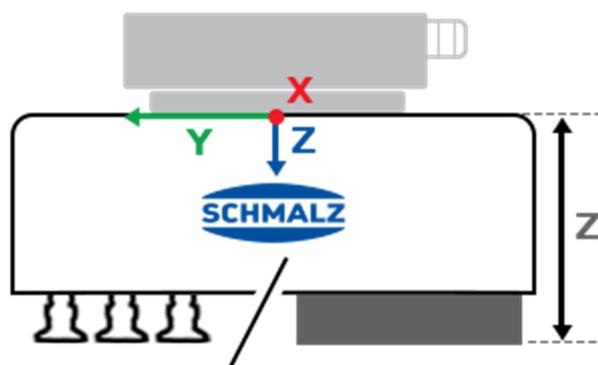
figure 8

⚠️ Note: After editing Payload and Frame you need to apply the new settings in the DCS screen and restart the robot controller afterwards!

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To apply the new DCS parameters open "DCS" in the tab "Setup" (cf. figure 9). Then click the button "confirm", type in "1111" as the code number (master) and click "Yes" two times (cf. figure 10).

Afterwards you can see the confirmation "Payload confirmation success" at the bottom of the screen.
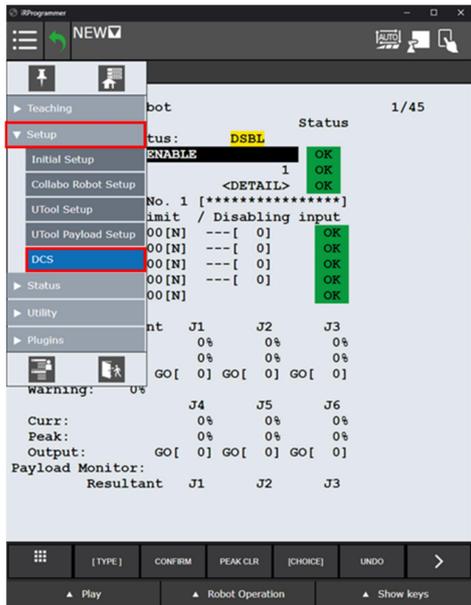
figure 9
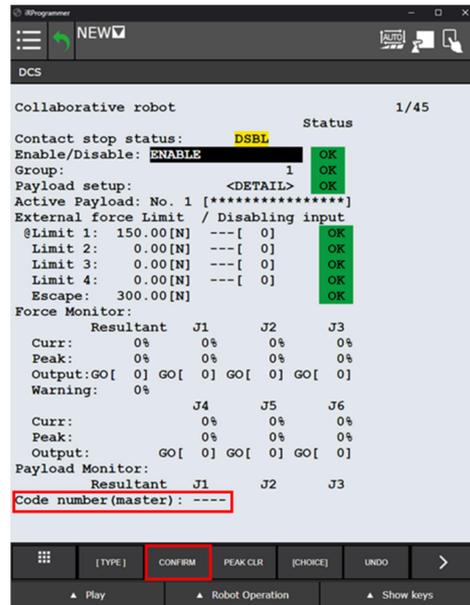
figure 10

To now create a robot program using the newly added functions for your Schmalz Gripper, open the tab "Select Program" in the dropdown menu and create a new program (cf. figure 11).
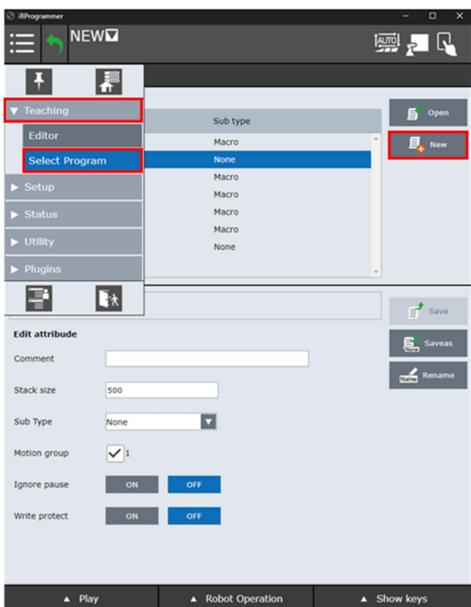
figure 11
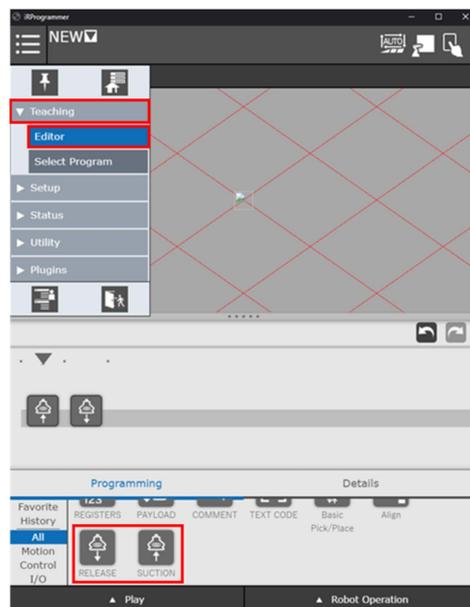
figure 12

Then open the "Editor" again through the dropdown menu.

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Here you can add the Schmalz Gripper function "Suction" and "Release" by dragging the icons to the grey timeline in the middle of the screen. (cf. figure 12)

By clicking on an icon being located in the timeline, you can open the "Details", where you can adjust the function's settings.

Regarding the "Suction Settings", you can choose if the gripper waits for the Part (Wait for Part Present) or not. If belonging checkbox is unchecked the gripper simply activates "Suction" function and finishes the instruction, so the program continues with the next instruction in the timeline. If the checkbox is checked, the instruction waits until a Part is detected on the gripper. If the gripper cannot detect a part within the time you can set in the "Timeout for Part Present" box, the program also just continues with the next icon's instructions (cf. figure 13).

⚠️ Note: Suction stays activated in both cases, independently on whether a part is present or not! Make sure you set a correct SP2 value in the gripper settings itself. Otherwise the robot might not receive the information that a part is present.
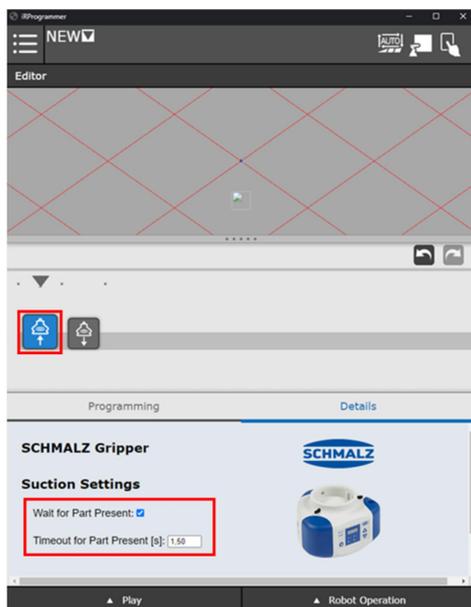
figure 13
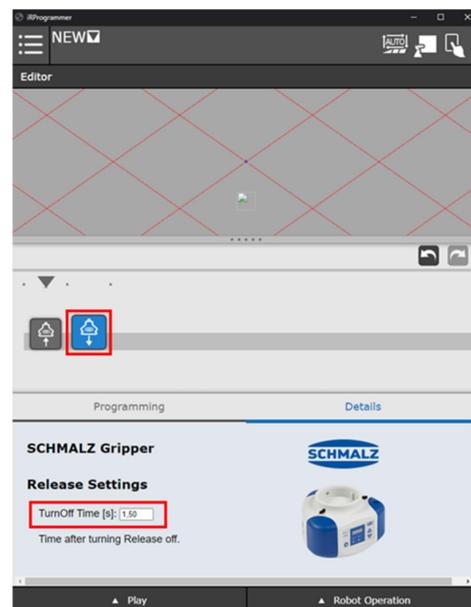
figure 14

Opening the "Release Settings" "Details" you can set the time, how long Release is activated. Suction and Release are both deactivated afterwards (cf. figure 14).

Remember to apply new payloads in your robot program when using Suction and Release instructions. You can simply use the payload instruction and select the payload register you have set before as explained above (cf. figure 15). If you use several grippers, make sure the right Frame is active. To change the current "Frame", add the "Text Code" instruction and type in "UTOOL_NUM=*Number of Tool Frame" (cf. figure 16).
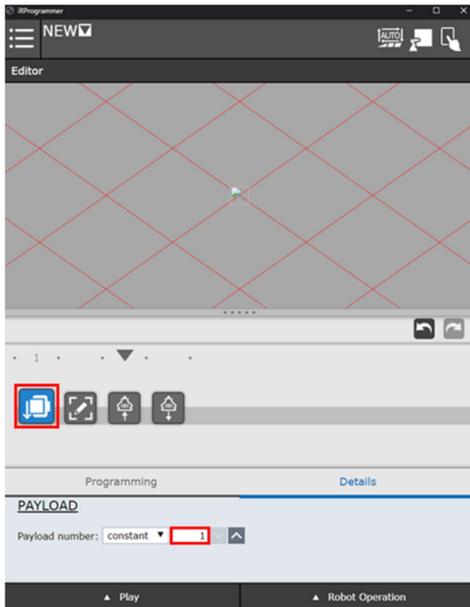
figure 15
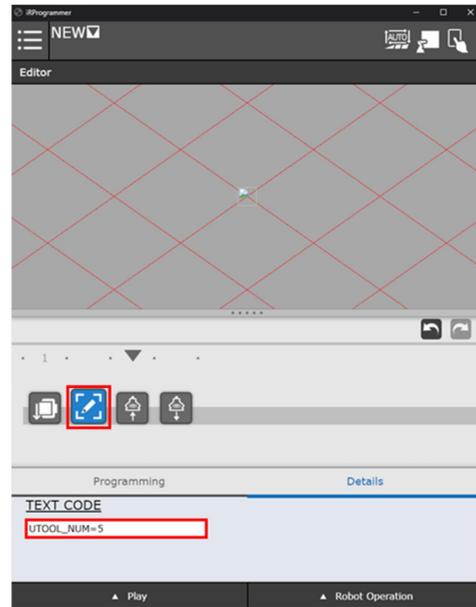
figure 16

If your CRX displays error messages because of the robot's force limitations when using "Suction" instructions refer to more information about "Payload change settings".

Schmalz Gripper compatible with:
Fanuc CRX-10iA and CRX-10iA/L

Robot software version: V9.40/P02

State: 08/2020