SMC

Operation Manual

Air gripper for collaborative robots

MODEL / Series / Product Number

RMH* Series

－Soft ware(TMcomponent)－

SMC Corporation

Contents

1. How to Download Software

Various software can be downloaded from SMC's website (http://www.smcworld.com). Search for the product part number (RMHZ, RMHS, etc.) on the TOP page and proceed to the detail page to download the software.

2. TMComponent(OMRON/TECHMAN)

TMComponent is an independent software package for the robot applications and you need to import the software package to use in TMflow (robot software) directly.
Here is the list of the SMC Air Gripper TMComponents.
-Gripper Switch_SMC_MH_V***_Open (The gripper operates in the direction to open the finger)
-Gripper Switch_SMC_MH_V***_Close (The gripper operates in the direction to close the finger)
 Note) *** is the version number starting from 001.

2-1. Install
1. Download the TMComponent from the SMC website.
2. Label the USB drive with "TMROBOT".
3. Place the downloaded the zipped component files in the USB with the folder directory TMROBOT:¥TM_Export¥TMComponent¥ComponentObject¥.
4. Insert the USB storage device in the robot controller
5. In TMflow, click the **triple bar** icon and select **System**
6. Select **Import/Export** and click **Import**. Then select the TMComponent in the Robot List window and click on **OK**.
7. Click on the **Component** button of the Import navigation panel. Then select the relevant SMC components to be added and click **Import**.
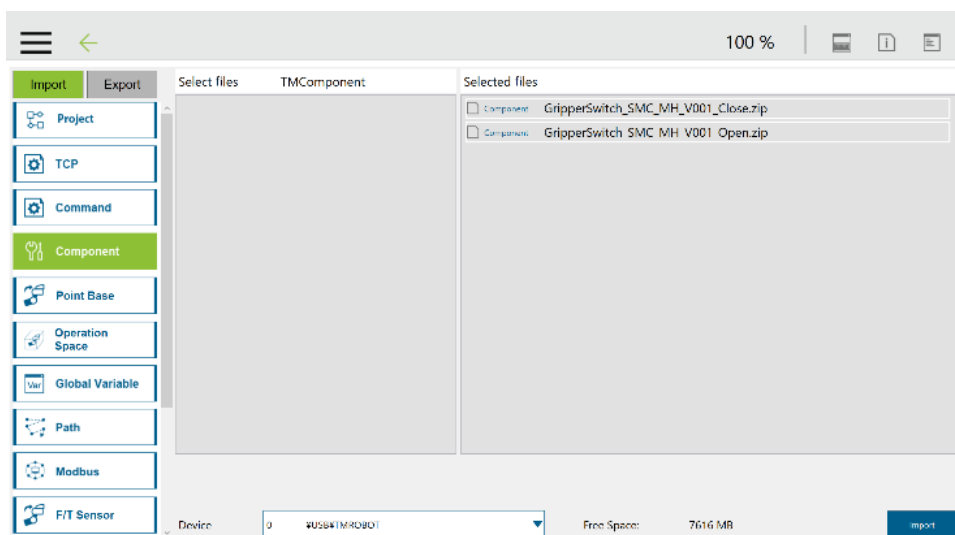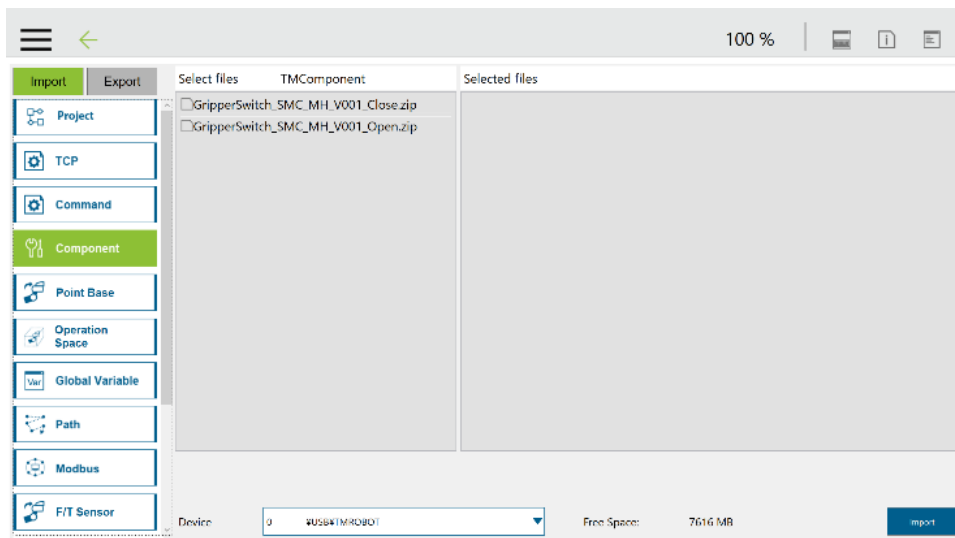
2-2. Enable TMComponent

1. Click the **triple bar** icon and go back to the main menu. Then select **Setting** to display the System Setting window.
2. Click on the **Component** icon
3. Enable required Components in the Component List by ticking the radio button beside each of them. Then click on the Save button.
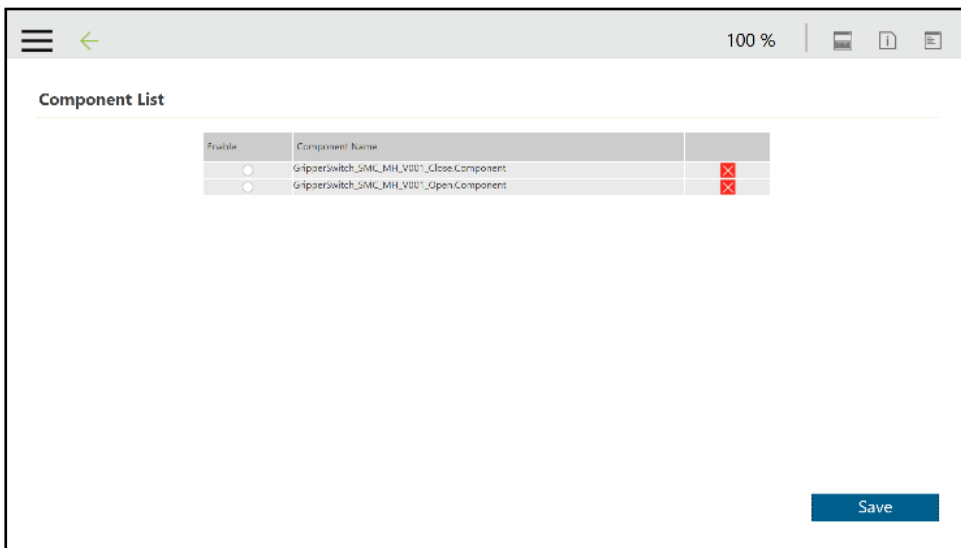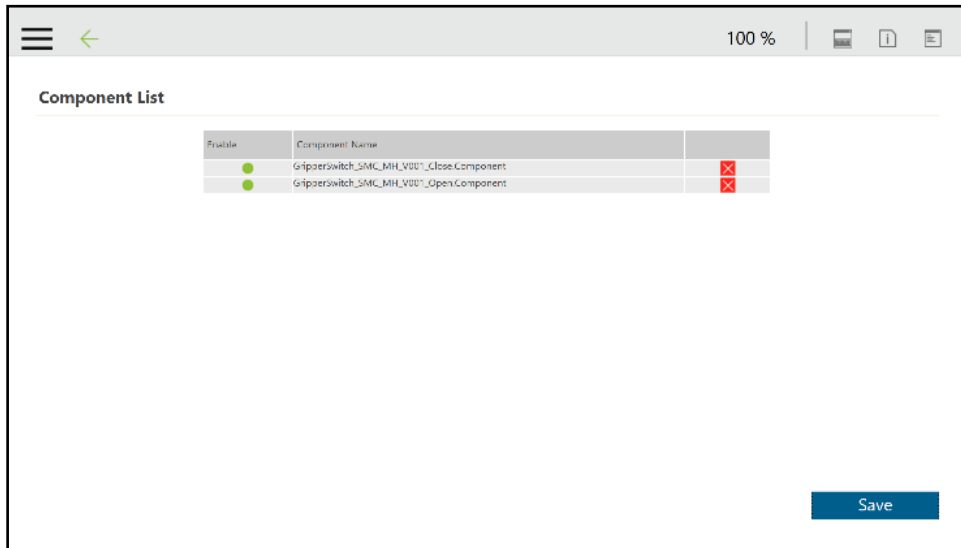
2-3. Configure gripper button

The user can assign SMC Gripper Components to the Gripper button and use to open and close the gripper.

1. Click the **triple bar** icon and go back to the main menu. Then select **Setting** icon.
2. Click on **Gripper Button** icon.
3. In the Gripper Button window, tick the **Using Customized Component** radio button and select the Component you want to assign to either one of the Gripper actions.
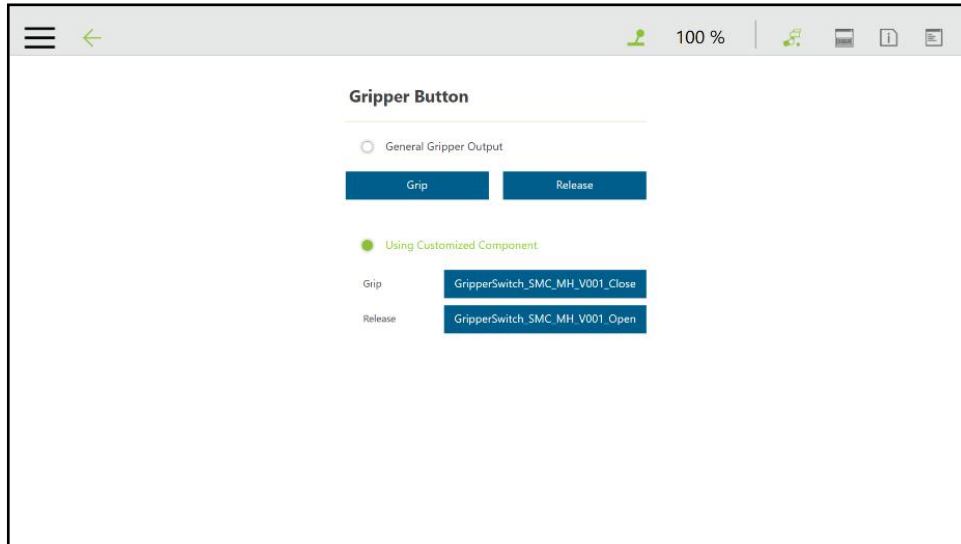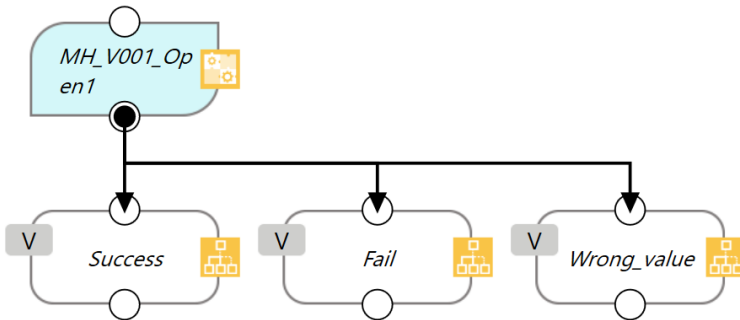
2-4. Use TMComponent

Component OPEN node

This component is used to open the gripper.

It can be used to release a part after an outside grip or to grip a part with an inside grip.
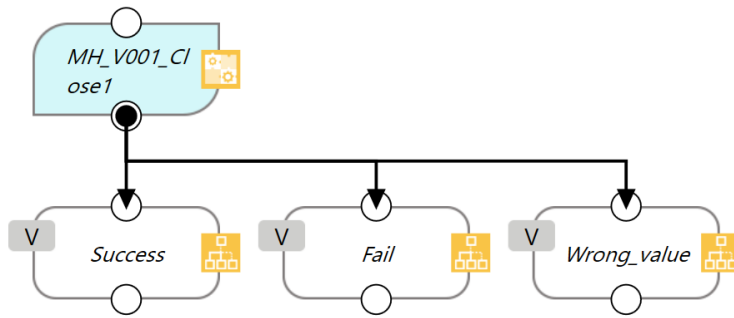

Success:	The gripper completes to open (When Open_and_CheckSignal is set to false), or auto switch signal at open side is ON meaning a part is detected with an inside grip (Open_and_CheckSignal is set to true).
Fail:	Auto switch signal at open side is not ON meaning a part is not detected with an inside grip (When Open_and_CheckSignal is set to true).
Wrong_value:	Set value of WaitTime_Setting or TimeoutVal_Setting is out of range.

Function	Type	Default	Description
Open and Check Signal	bool	false	**CheckSignal function enable/disable setting** When set to true, after opening the gripper auto switch signal is monitored and move to the next operation if the signal is ON. When set to false, after opening the gripper move to the next operation. Auto switch signal is not monitored in this case.
WaitTime Setting	int	500	**WaitTime setting after valve operation** **(Unit: ms, Range: 0..5000ms)** It is a wait time value after the valve for opening gripper is energized. Set an appropriate value according to the opening speed of the gripper by adjusting the opening of the metering valve.
TimeOutVal_Setting	int	0	**Timeout setting of checking the auto switch signal** (Unit: ms, Range: 0..1000ms) Note) It will only be appeared when the Advanced setting is checked
Valve_Option	int	0	**Valve Option Setting** 0 : NIL(Standard) 1 : N.O.(Normal open) 2 : N.C. (Normal close)

Component CLOSE node

This component is used to close the gripper.

It can be used to grip a part with an outside grip or to release a part after an inside grip.

Success:	The gripper completes to close (When Close_and_CheckSignal is set to false), or auto switch signal at close side is ON meaning a part is detected with an outside grip (Close_and_CheckSignal is set to true).
Fail :	Auto switch signal at close side is not ON meaning a part is not detected with an outside grip (When Close_and_CheckSignal is set to true).
Wrong_value:	Set value of WaitTime_Setting or TimeoutVal_Setting is out of range.

Function	Type	Default	Description
Close and Check Signal	bool	false	**CheckSignal function enable/disable setting** When set to true, after closing the gripper auto switch signal is monitored and move to the next operation if the signal is ON. When set to false, after closing the gripper move to the next operation. Auto switch signal is not monitored in this case.
WaitTime Setting	int	500	**WaitTime setting after valve operation** **(Unit: ms, Range: 0..5000ms)** It is a wait time value after the valve for closing gripper is energized. Set an appropriate value according to the closing speed of the gripper by adjusting the opening of the metering valve.
TimeOutVal_Setting	int	0	**Timeout setting of checking the auto switch signal** **(Unit: ms, Range: 0..1000ms)** Note) It will only be appeared when the Advanced setting is checked
Valve_Option	int	0	**Valve Option Setting** 0 : NIL(Standard) 1 : N.O.(Normal open) 2 : N.C. (Normal close)

Revision history

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