

Mehr zu Makro und Accessory

In diesem Kapitel werden tiefergehende Erläuterungen zu Makro und Accessory beschrieben.

Accessory notify

The port type 'Accessory notify' must only be used if the accessory should send the result before the accessory has finished (really finished). The accessory is normally finished when the assigned macro has finished. But think of the case where the macro closes the gates of a railway crossing. The signal lights start blinking, the bars are moved down with the servo, they reach their end position and the signal lights should blink for some time. The following image shows the required macros.

The screenshots show the 'Node Details' window for a VOD P 750069EA - OneControl node. The window has tabs for Actions, Info, Macros, Accessories, Input ports, Switch ports, Servo ports, and CV Definitions. The 'Accessories' tab is selected, and the left sidebar lists various accessories. The main area shows the configuration for a selected accessory.

Turnout 0 left:

- Start condition: Time: 09:38
- Repetition: No repetition
- Slowdown factor: 1
- Cycles: 1
- Steps:

Step	Delay	Port Type	Action	Port	Extra
1. Step		Macro	Stop	01 : Turnout 0 right	
2. Step	Delay: 0 Ticks	Servo port	Start	00 : Servo 0	Dest. value: 80 %
3. Step		Await servo move		00 : Servo 0	
4. Step		Input port	Value = 1	24 : Servo end left reached	
5. Step		Macro	Start	02 : Signal blink on	

Turnout 0 right:

- Start condition: Time: 09:38
- Repetition: No repetition
- Slowdown factor: 1
- Cycles: 1
- Steps:

Step	Delay	Port Type	Action	Port	Extra
1. Step		Macro	Stop	00 : Turnout 0 left	
2. Step	Delay: 0 Ticks	Servo port	Start	00 : Servo 0	Dest. value: 12 %
3. Step		Await servo move		00 : Servo 0	
4. Step		Input port	Value = 1	25 : Servo end right reached	
5. Step		Macro	Start	02 : Signal blink on	

Signal blink on:

- Start condition: Time: 09:38
- Repetition: No repetition
- Slowdown factor: 1
- Cycles: 1
- Steps:

Step	Delay	Port Type	Action	Port	Extra
1. Step	Delay: 20 Ticks	Switch port	Turn on	39 :	
2. Step	Delay: 20 Ticks	Switch port	Turn off	39 :	

Signal blink off:

- Start condition: Time: 09:38
- Repetition: No repetition
- Slowdown factor: 1
- Cycles: 1
- Steps:

Step	Delay	Port Type	Action	Port	Extra
1. Step		Macro	Stop	02 : Signal blink on	

If you assign the aspect of the accessory and press the test button, the accessory is in state 'pending' (the clock icon in the Wizard) until the input with name 'Servo end right reached' (or left reached) gets the value '1' (I tested with a shortcut on GPIO 0 which is port 25), and then reaches the state 'finished' (the green mark icon in the Wizard). If this input port does not get the value '1' then the accessory will not be signalled as finished and stays in 'pending' state.

This description was the „normal execution“ of an accessory.

If you want to signal that the accessory has finished earlier, for example because you added a sound that is played from start and during the bars going down, and 20s after the bars (the servo) reached the end position the sound should be turned off, then you could use the 'accessory notify'-actions.

Node Details
V 0D P 750069EA - OneControl

Actions Info Macros Accessories Input ports Switch ports Servo ports CV Definitions

Turnout 0 left:

Start condition: Time: 09:38 Repetition: No repetition Every day

Slowdown factor: 255 1

Cycles: 1 1

Step	Delay	Port Type	Action	Port	Extra
1. Step		Macro	Stop	01 : Turnout 0 right	
2. Step	Delay: 0 Ticks	Servo port	Start	00 : Servo 0	Dest. value: 80 %
3. Step		Await servo move		00 : Servo 0	
4. Step		Input port	Value = 1	24 : Servo end left reached	
5. Step		Macro	Start	02 : Signal blink on	
6. Step	Delay: 20 Ticks	Switch port	Turn on	08 : Start Play Sound	
7. Step	Delay: 200 Ticks	Switch port	Turn off	08 : Start Play Sound	
8. Step	Delay: 0 Ticks	Switch port	Turn on	39 :	
9. Step		Input port	Value = 0	24 : Servo end left reached	

Read Write Test Stop

Macro waits at this step for input to get '0'.

Accessory stays 'pending' until input gets '0'

You can use 'Accessory Notify' here because the train does not care if the sound has stopped playing, they only care about the fact, that the bars are down and the 'Switch servo right/left reached' input is 'happy'. In this case you can use an 'accessory notify' step after the end position was reached (confirmed by the input), before the sound has finished (and therefore the macro has finished).

Node Details
V 0D P 750069EA - OneControl

Actions Info Macros Accessories Input ports Switch ports Servo ports CV Definitions

Turnout 0 left:

Start condition: Time: 09:38 Repetition: No repetition Every day

Slowdown factor: 255 1

Cycles: 1 1

Step	Delay	Port Type	Action	Port	Extra
1. Step		Macro	Stop	01 : Turnout 0 right	
2. Step	Delay: 0 Ticks	Servo port	Start	00 : Servo 0	Dest. value: 80 %
3. Step		Await servo move		00 : Servo 0	
4. Step		Input port	Value = 1	24 : Servo end left reached	
5. Step		Macro	Start	02 : Signal blink on	
6. Step	Delay: 20 Ticks	Switch port	Turn on	08 : Start Play Sound	
7. Step	Delay: 200 Ticks	Switch port	Turn off	08 : Start Play Sound	
8. Step	Delay: 0 Ticks	Switch port	Turn on	39 :	
9. Step		Input port	Value = 0	24 : Servo end left reached	

Read Write Test Stop

The macro waits until the input port gets '1' before continue.

This step causes the accessory change to 'finished' before the macro has finished.

'Open' input to let the macro finish because it's blocked here.

Accessory notify - 'Okay, if value = 0 / 1'

In the macro below the accessory will always be finished with an error because in step 4 the input 'Servo end left reached' waits until it becomes '1' and some ms later the check in step 6 for the same

input with a value = '0' is performed. So the Action should be interpreted as 'Return result Okay, if value = '0' and error otherwise'.

Node Details
V QD P 750069EA - OneControl

Actions Info Macros Accessories Input ports Switch ports Servo ports CV Definitions

Turnout 0 left:
Start condition:
Time: 10:57
Repetition: No repetition
Every day
Slowdown factor: 255
Cycles: 1

Wait until input becomes '1' ...

Step	Delay	Port Type	Action	Port	Extra
1. Step		Macro	Stop	01 : Turnout 0 right	
2. Step	Delay: 0 Ticks	Servo port	Start	00 : Servo 0	Dest. value: 80 %
3. Step		Await servo move		00 : Servo 0	
4. Step		Input port	Value = 1	24 : Servo end left reac...	
5. Step		Macro	Start	02 : Signal blink on	
6. Step		Accessory notify	Okay, if value = 0	24 : Servo end left reac...	
7. Step	Delay: 20 Ticks	Switch port	Turn on	08 : Start Play Sound	
8. Step	Delay: 200 Ticks	Switch port	Turn off	08 : Start Play Sound	
9. Step	Delay: 0 Ticks	Switch port	Turn on	39 :	
10. Step		Input port	Value = 0	24 : Servo end left reac...	
11. Step	Delay: 0 Ticks	Switch port	Turn off	39 :	

Read Write Test Stop

Okay, if value=0' will send an accessory result error if the value is '1' at this point.

Change I/O behaviour of input port

You can switch between INPUT_PULLUP and INPUT_PULLDOWN only in the CV Definitions-Tab.

1. Load the CV values from the node (see the steps here)
2. Change the Bit 1 of GPIO port you want to change (press Memorize before store the changes back on the node)
3. Restart of the node is required (use context menü of the node)
4. After restart the I/O Behaviour of the port has changed.

Node Details
V QD P 750069EA - OneControl

Actions Info Macros Accessories Input ports Switch ports Servo ports CV Definitions

Description	CV	Value	New value	Mode
DCC accessory address base	34	8	-	RW
DCC accessory address range	35	4	-	RW
Common settings				
Recover accessory aspect on power up	71	1	-	RW
Servos				
Accessories				
Power outputs				
GPIO				
GPIO 0				
Configuration	437	3	-	RW
pulse ticks: 0, 1...255 [20 ms]	438	0	-	RW
GPIO 1				
Configuration	440	1	-	RW
pulse ticks: 0, 1...255 [20 ms]	441	0	-	RW
GPIO 2				
Configuration	443	1	-	RW
pulse ticks: 0, 1...255 [20 ms]	444	0	-	RW
GPIO 3				
Configuration	446	3	-	RW
pulse ticks: 0, 1...255 [20 ms]	447	0	-	RW
GPIO 4				
Configuration	449	3	-	RW
pulse ticks: 0, 1...255 [20 ms]	450	0	-	RW
GPIO 5				
Configuration	452	3	-	RW
pulse ticks: 0, 1...255 [20 ms]	453	0	-	RW
GPIO 6				
Configuration	455	3	-	RW
pulse ticks: 0, 1...255 [20 ms]	456	0	-	RW

Info from XML-File
XML file: BiDiBCV-13-117.xml
Version: 0.24 Last change: 24.03.2017
Author: mos
Description: BiDiBOne-OneControl

Memorize Reset

Configuration (CV440)
1 ⚠ A reboot of the node is required if the value is d
Bit 0 ☒ Direction: 0=output, 1=input
Bit 1 ☐ Polarity (input): 0=active-high, 1=active-low
Bit 2 ☐ One-shot pulse (output): 0=false, 1=true
Bit 3 ☐
Bit 4 ☐
Bit 5 ☐
Bit 6 ☐
Bit 7 ☐

Change this flag to switch between INPUT_PULLUP/ PULLDOWN

After Restart:

Node Details				
V 0D P 750069EA - OneControl				
Actions	Info	Macros	Accessories	Input ports
Switch ports				
Servo ports				
CV Definitions				
Input	I/O Behaviour	SwitchOff Time	Port	Status
24 : Servo end left reached	INPUT_PULLUP	0	GPIO 0	
25 : Servo end right reached	INPUT_PULLDOWN	0	GPIO 1	
26 :	INPUT_PULLDOWN	0	GPIO 2	
27 :	INPUT_PULLUP	0	GPIO 3	
28 :	INPUT_PULLUP	0	GPIO 4	

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