

# Presence Sensor virtual object

This document describes the configuration of the PresenceSensor virtual object.

The presented configuration was prepared with:

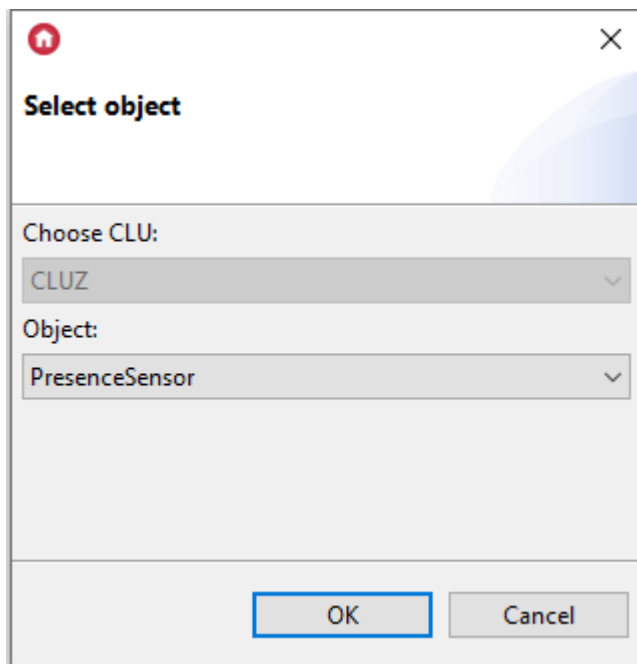
- Object Manager v.1.6.1 (build 221101),
- CLU Z-Wave v5.09.02 (build 2208)

In order to create the `PresenceSensor` virtual object:

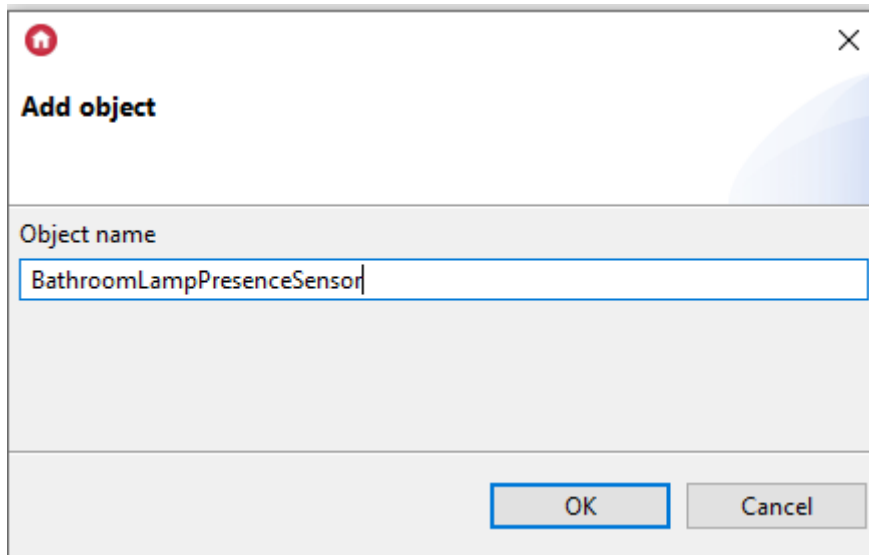
## Object creation and configuration

### Preparation

- Create a virtual object `PresenceSensor`



- Enter the name of the object, e.g. `BathroomLightPresenceSensor` and confirm the creation of the object by clicking OK.



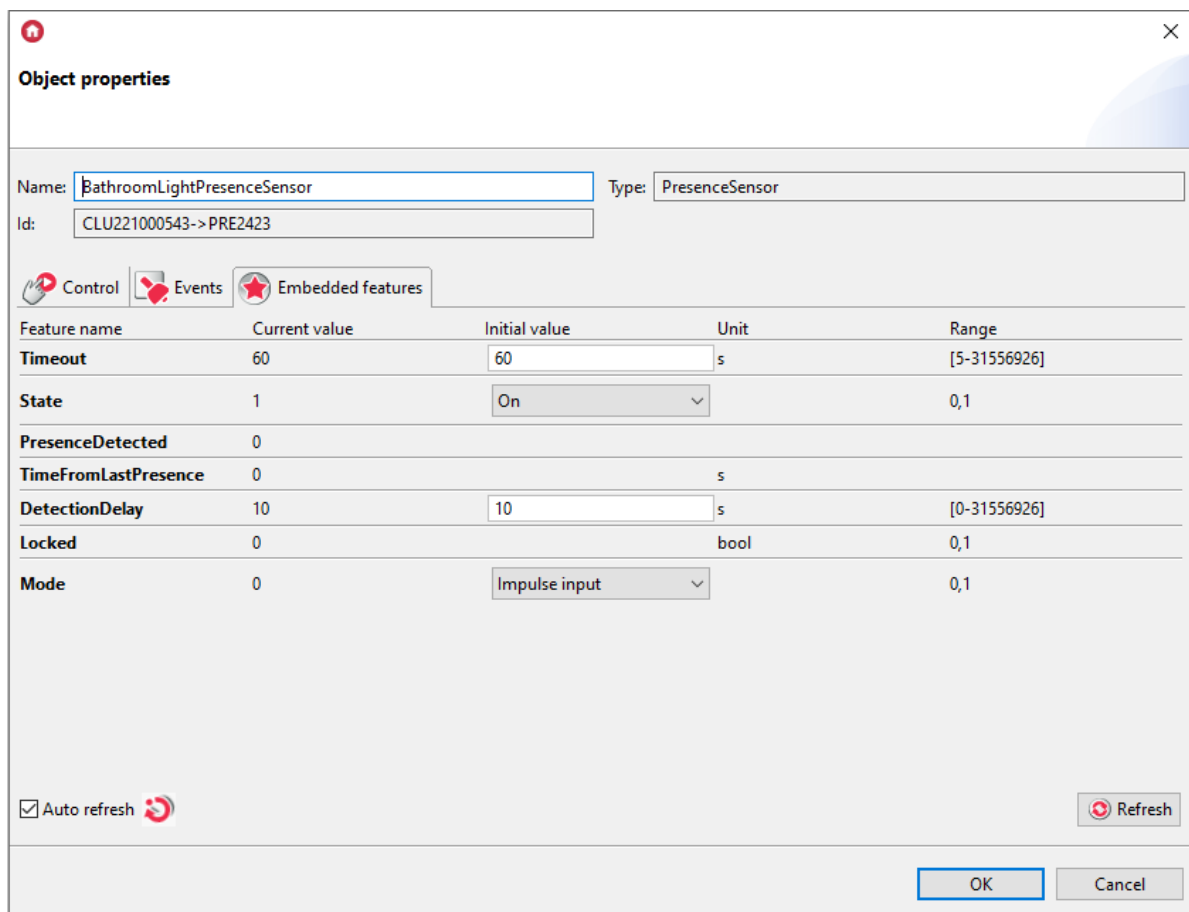
**Add object**

Object name

`BathroomLampPresenceSensor`

OK Cancel

- For the virtual object to work, set the initial value of the `State` embedded to *On*



**Object properties**

Name: `BathroomLightPresenceSensor` Type: `PresenceSensor`

Id: `CLU221000543->PRE2423`

Control Events **Embedded features**

Feature name	Current value	Initial value	Unit	Range
<b>Timeout</b>	60	60	s	[5-31556926]
<b>State</b>	1	On		0,1
<b>PresenceDetected</b>	0			
<b>TimeFromLastPresence</b>	0		s	
<b>DetectionDelay</b>	10	10	s	[0-31556926]
<b>Locked</b>	0		bool	0,1
<b>Mode</b>	0	Impulse input		0,1

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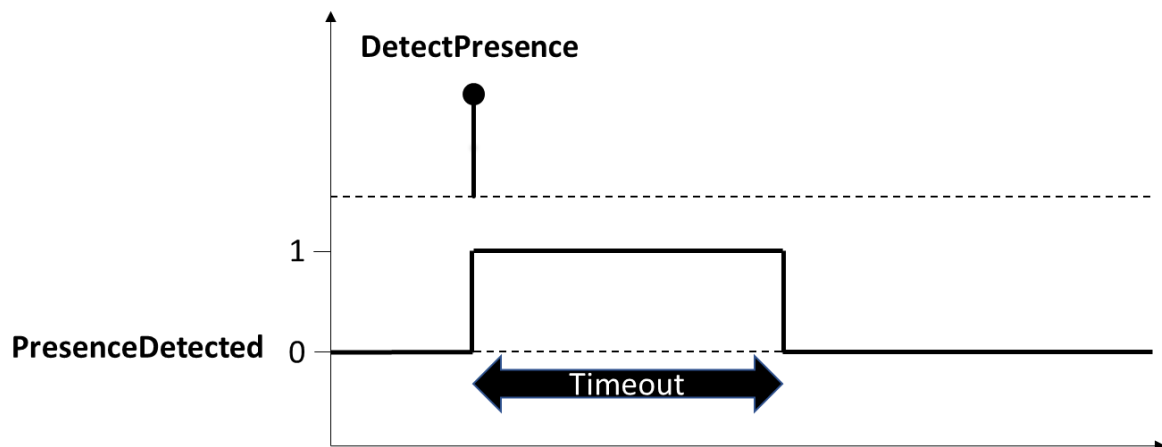
OK Cancel

## Modes of operation

The `PresenceSensor` object can operate in two modes - pulse or state. The 'PresenceDetected' embedded feature changes the state from "0" to "1" when the 'DetectPresence' method is called. When the state changes from "1" to "0", it depends on the selected operation mode of the object.

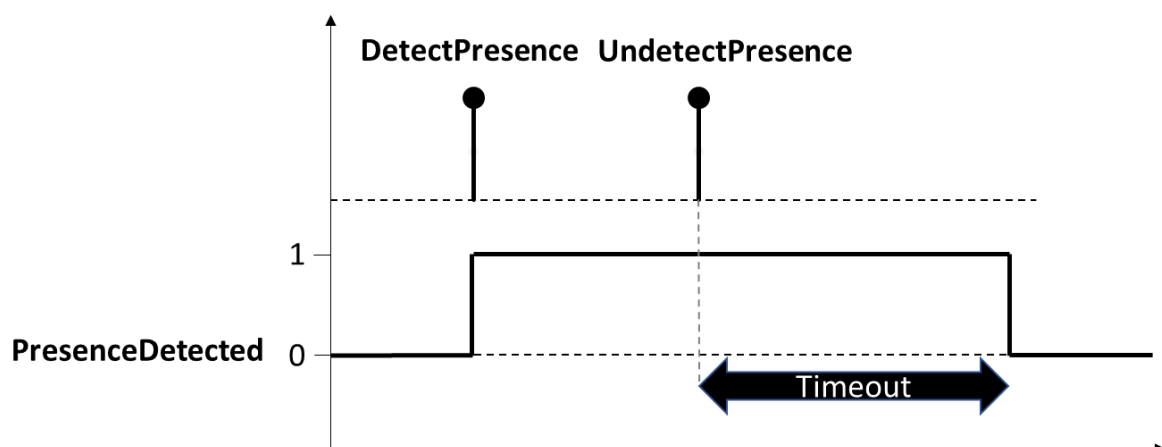
- In pulse mode, the embedded feature `PresenceDetected` changes state from "1" to "0" after the timeout equal to the value of the Timeout feature has elapsed since calling the `DetectPresence` method.

### Impulse mode




- In stateful mode, the embedded feature `PresenceDetected` changes state from "1" to "0" after the timeout equal to the value of the Timeout feature has elapsed since calling the `UndetectPresence` method.

### State mode



## 1. Pulse mode




- Set the value of the **Mode** feature to *Impulse input*




### Object properties


Name:  Type:

Id:


 Control  Events  Embedded features



Feature name	Current value	Initial value	Unit	Range
<b>Timeout</b>	60	<input type="text" value="60"/>	s	[5-31556926]
<b>State</b>	1	<input type="text" value="On"/>		0,1
<b>PresenceDetected</b>	0			
<b>TimeFromLastPresence</b>	0		s	
<b>DetectionDelay</b>	10	<input type="text" value="10"/>	s	[0-31556926]
<b>Locked</b>	0		bool	0,1
<b>Mode</b>	0	<input type="text" value="Impulse input"/>		0,1

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- Assign the `Detect Presence` method of the `BathroomLightPresenceSensor` object to the `SwitchOn` event of the `BathroomLightSensor` object.

 **Object properties**




Name:


Device type:


Id:


Serial number:


Type:










 Control

 User schemes


 Events

 Embedded features

 Statistics

Event name	Assigned commands	Add command
OnValueChanged		
OnSwitchOn	<input type="text" value="CLUZ-&gt;BathroomLampPresenceSensor-&gt;DetectPresence()"/> <input type="button" value="Assign command"/> 	
OnSwitchOff	<input type="text" value="CLUZ-&gt;BathroomLampPresenceSensor-&gt;UndetectPresence()"/> <input type="button" value="Assign command"/> 	
OnShortPress		
OnLongPress		
OnHold		
OnClick		


- Assign `SwitchOn` method to the `OnSwitchOn` event of the `BathroomLightPresenceSensor` object, and assign the `OnSwitchOff` method to the `OnSwitchOff` event of the `BathroomLightPresenceSensor` object


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**Object properties**







Name:  Type:

Id:

 Control


 Events

 Embedded features

Event name	Assigned commands	Add command
<b>OnStart</b>		
<b>OnStop</b>		
<b>OnSwitchOn</b>	<input type="text" value="CLUZ-&gt;BathroomLight-&gt;SwitchOn(0,500)"/> <input type="button" value="Assign command"/> 	
<b>OnSwitchOff</b>	<input type="text" value="CLUZ-&gt;BathroomLight-&gt;SwitchOff(0,500)"/> <input type="button" value="Assign command"/> 	

## 2. State Mode

- Set the value of the `Mode` feature to *State input*





**Object properties**


Name: BathroomLightPresenceSensor

Type: PresenceSensor


Id: CLU221000543->PRE2423


 Control

 Events

 Embedded features

Feature name	Current value	Initial value	Unit	Range
Timeout	60	60	s	[5-31556926]
State	1	On		0,1
PresenceDetected	0			
TimeFromLastPresence	0		s	
DetectionDelay	10	10	s	[0-31556926]
Locked	0		bool	0,1
Mode	1	State input		0,1

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OK

Cancel

- Assign the `DetectPresence` method of the `BathroomLightPresenceSensor` object to the `SwitchOn` event of the `BathroomLightSensor` object, and assign the `UndetectPresence` method to the `OnSwitchOff` event

**Object properties**

Name: 
Device type:

Id: 
Serial number:


Type:

Control
User schemes
Events
Embedded features
Statistics

Event name	Assigned commands	Add command
OnValueChanged		
OnSwitchOn	<input type="text" value="CLUZ-&gt;BathroomLightPresenceSensor-&gt;DetectPresence()"/> <input type="button" value="Assign command"/>	
OnSwitchOff	<input type="text" value="CLUZ-&gt;BathroomLightPresenceSensor-&gt;UndetectPresence()"/> <input type="button" value="Assign command"/>	
OnShortPress		
OnLongPress		
OnHold		
OnClick		



- Assign the `SwitchOn` method to the `OnSwitchOn` event of the `BathroomLightPresenceSensor` object, and assign the `SwitchOff` method to the `OnSwitchOff` event of the `BathroomLightPresenceSensor` object


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**Object properties**


Name:







Type:

Id:

 Control

 Events

 Embedded features

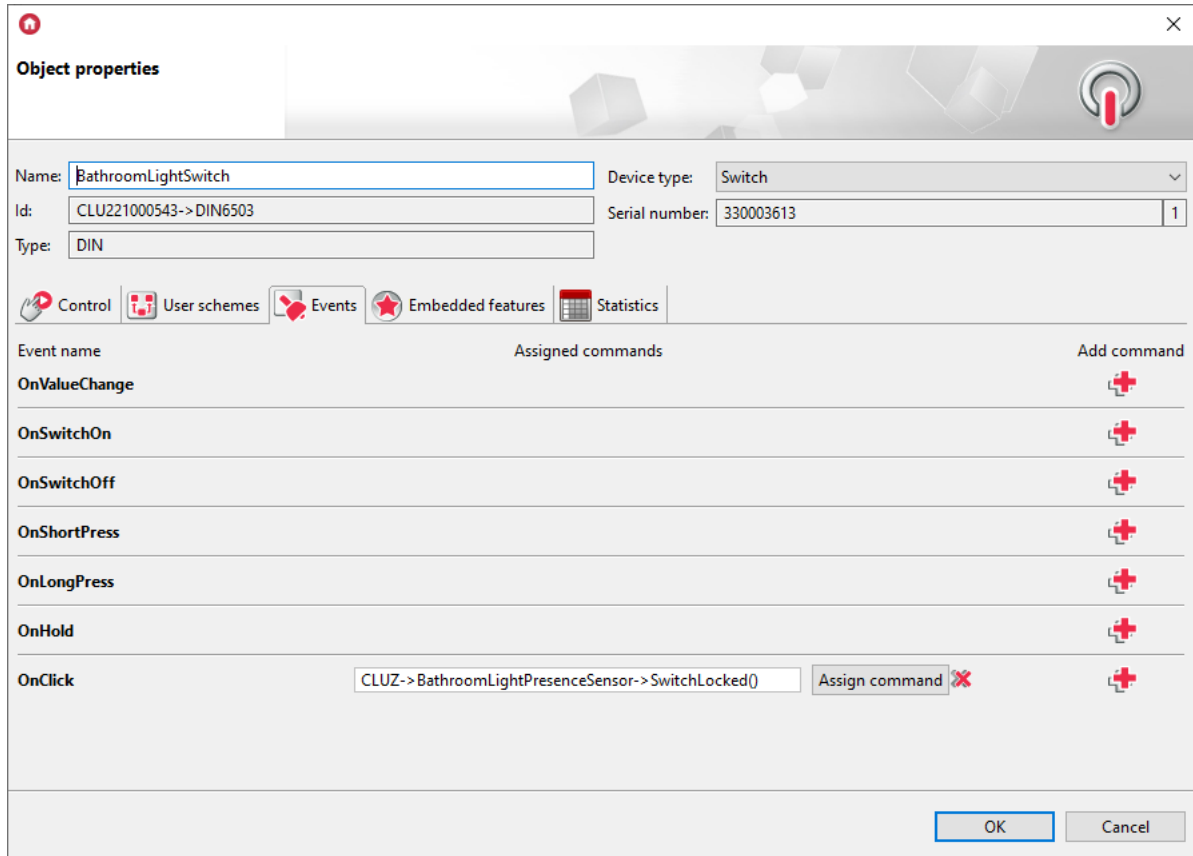
Event name	Assigned commands	Add command
OnStart		
OnStop		
OnSwitchOn	<input type="text" value="CLUZ-&gt;BathroomLight-&gt;SwitchOn(0,500)"/> <input type="button" value="Assign command"/> 	
OnSwitchOff	<input type="text" value="CLUZ-&gt;BathroomLight-&gt;SwitchOff(0,500)"/> <input type="button" value="Assign command"/> 	

# Blocking

If we want the presence sensor not to turn off the light, we can use the `Locked` feature. This feature can be changed in two ways - from the monostable or bistable button.

## Monostable button








- Under the `OnClick` event of the object `BathroomLightSwitch`, attach the `SwitchLocked` method of the object `BathroomLightPresenceSensor`



**Object properties**

Name: `BathroomLightSwitch` Device type: `Switch`  
Id: `CLU221000543->DIN6503` Serial number: `330003613`  
Type: `DIN`

Control User schemes Events Embedded features Statistics

Event name	Assigned commands	Add command
<code>OnValueChanged</code>		
<code>OnSwitchOn</code>		
<code>OnSwitchOff</code>		
<code>OnShortPress</code>		
<code>OnLongPress</code>		
<code>OnHold</code>		
<code>OnClick</code>	<code>CLUZ-&gt;BathroomLightPresenceSensor-&gt;SwitchLocked()</code>	

OK Cancel

Triggering a click with the switch when the light is off, it will turn the light on permanently - until the next triggering a click.

By triggering a click with the switch when the light is on, the light will turn off.

## 2. Bistable button

- Under the `OnSwitchOn` event of the `BathroomLightSwitch` object, attach the `SetLocked(1)` method of the `BathroomLightPresenceSensor` object.
- Attach the `SetLocked(0)` method of the `BathroomLightPresenceSensor` object to the `OnSwitchOff` event of the `BathroomLightSwitch` object.

The screenshot shows the 'Object properties' dialog box for a device named 'BathroomLightSwitch'. The device type is 'Switch', the ID is 'CLUZ21000543->DIN6503', and the serial number is '330003613'. The 'Events' tab is selected, showing a table of events and their assigned commands.

Event name	Assigned commands	Add command
OnChange		
OnSwitchOn	CLUZ->BathroomLightPresenceSensor->SetLocked(1)	
OnSwitchOff	CLUZ->BathroomLightPresenceSensor->SetLocked(0)	
OnShortPress		
OnLongPress		
OnHold		
OnClick		



At the bottom of the dialog are 'OK' and 'Cancel' buttons.

Turning on the switch will turn the light on when it is off, and when it is on, it will block switching off the light. When the switch is turned off, the light goes out.

## Sensor activation delay

After the light is forced to turn off using the button, you can set a delay for the next turning on of the light.

- Enter the value of the delay in seconds to the initial value of the `DetectionDelay` embedded feature.


 


**Object properties**


Name:

Type:


Id:


 Control

 Events

 Embedded features

Feature name	Current value	Initial value	Unit	Range
Timeout	60	<input type="text" value="60"/>	s	[5-31556926]
State	1	<input type="text" value="On"/>		0,1
PresenceDetected	0			
TimeFromLastPresence	0		s	
DetectionDelay	10	<input type="text" value="10"/>	s	[0-31556926]
Locked	0		bool	0,1
Mode	1	<input type="text" value="State input"/>		0,1

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OK

Cancel