optimus solutions

Multi Sensor

OPT-MSx-21y

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Flat Design

GRMS Presence/ Absence

Multi Sensor

Wide Detection Range

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General Specifications

- **Dimensions:** 78mm diameter circle
- **Depth: Visible:** 16mm + Under Wall: 29mm = 45mm
- **Mounting:** 55–68mm circular hole or with an adapter to a standard enclosure
- The programming button is located on the back of the device.
- KNX Programming LED is on the front (inside the dome).
- Flush mounting box can be supplied separately.

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Technical Specifications

- Device is connected to KNX Bus via WAGO KNX Connector.
- Halogen Free material is used while producing.
- IP20 Protection Class
- Mounting height between 2m and 12m.
- Device Capabilities;
- Motion Sensing
  - Brightness Sensing
  - Temperature Sensing
  - Humidity Sensing
  - Air Quality Sensing

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- Common ETS application for all models
- In the ETS application:
  - 2 independent motion applications
  - 2 independent constant light level controls
  - Motion-based HVAC control application
  - Input-output module control application
  - 5 independent logic applications
- Addressing with flasher
- Ability to attach an accessory card or box
- In the advanced version:
  - RTC application
  - Temperature, humidity and air quality sensors

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OPT-MSS-21y Standard

OPT-MSW-212 Wide Range

OPT-MSC-21y Corridor

OPT-MSH-212 High-Bay

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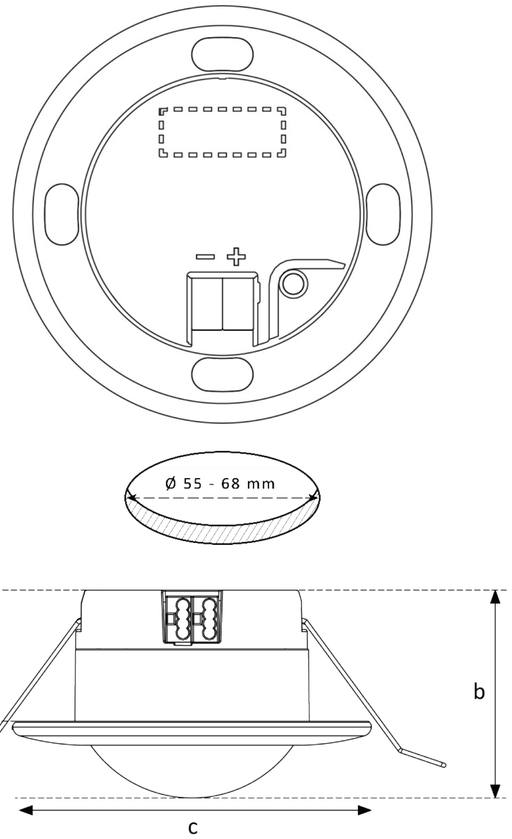
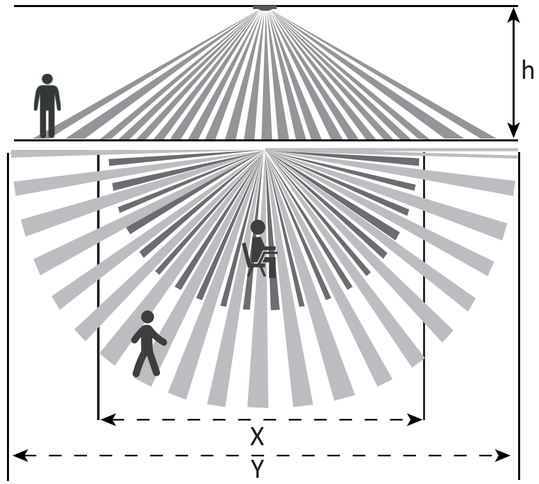
Coverage Area Diagram





Model	Standard	Wide Range	High Bay	High Bay	Corridor
Height (H)	2.5-4 m	2.5-4 m	9-12 m	9-12 m	2.5-4 m
Seated Person (X)	4-6 m Ø	8-10 m Ø	14-20 m Ø	14-20 m Ø	
Walking Person (Y)	10-12 m Ø	12-16 m Ø	23-30 m Ø	23-30 m Ø	22-35 m (4-6 m Short Edge)

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Product Code

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- MSS: *Standard*
- MSC: *Corridor*
- MSH: *High Bay*
- MSW: *Wide*

- 212: *with environmental sensors and thermostat*
- 211: *without environmental sensors and thermostat*

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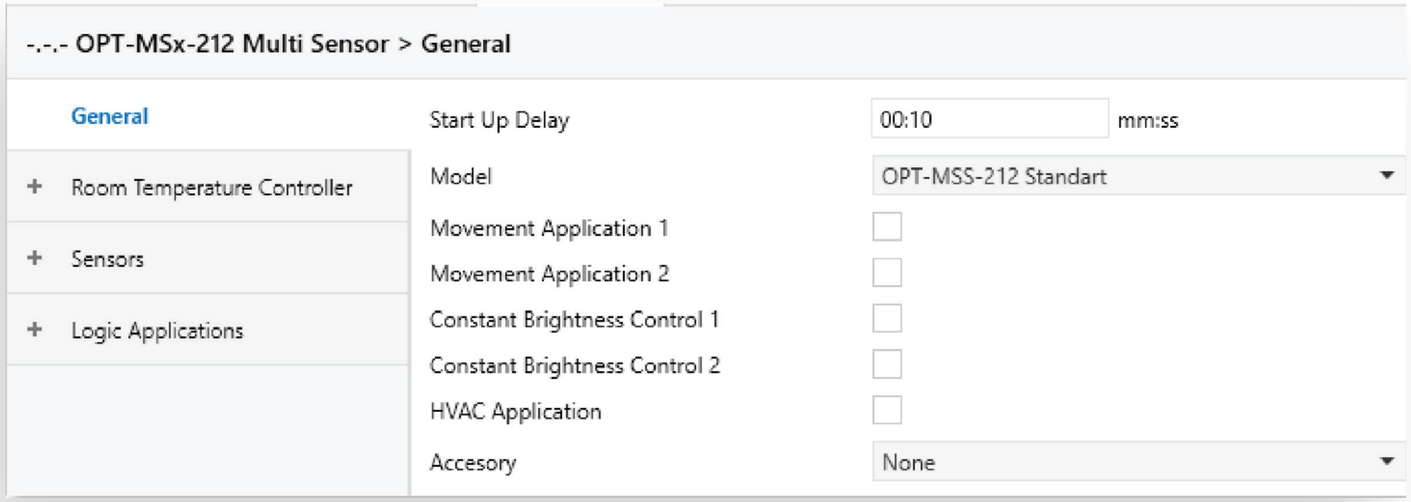
General Parameters



Product Accessory

- **OPT-MSA-211:** Surface mount box
- **OPT-MSA-212:** Input accessory module
- **OPT-MSA-213:** Input-Output accessory module

Product accessories are ordered separately.

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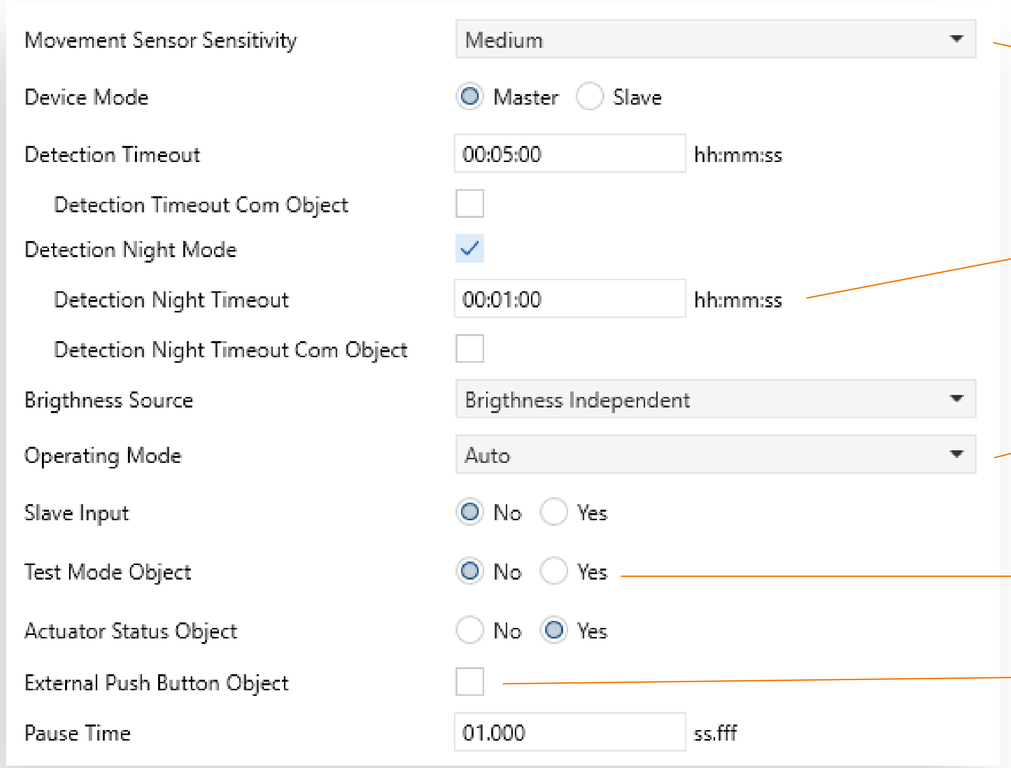
Movement Application



Sensitivity Low/Med/High

Night mode: A different timeout can be set upon switching to night mode from the bus line.

Auto, Auto ON, Auto OFF

When the test is activated, the sensor lights up its indicator when it detects motion.

Ability to operate with an external key

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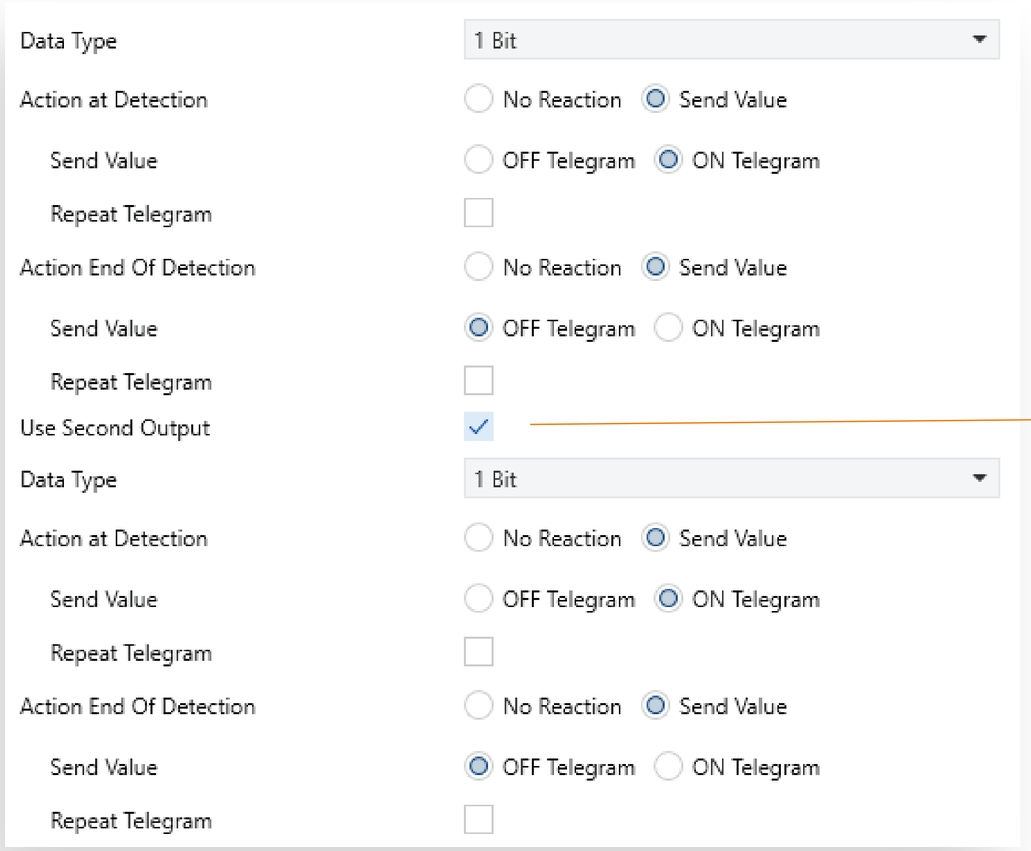
Movement Application



Second output: It may be in a different data type

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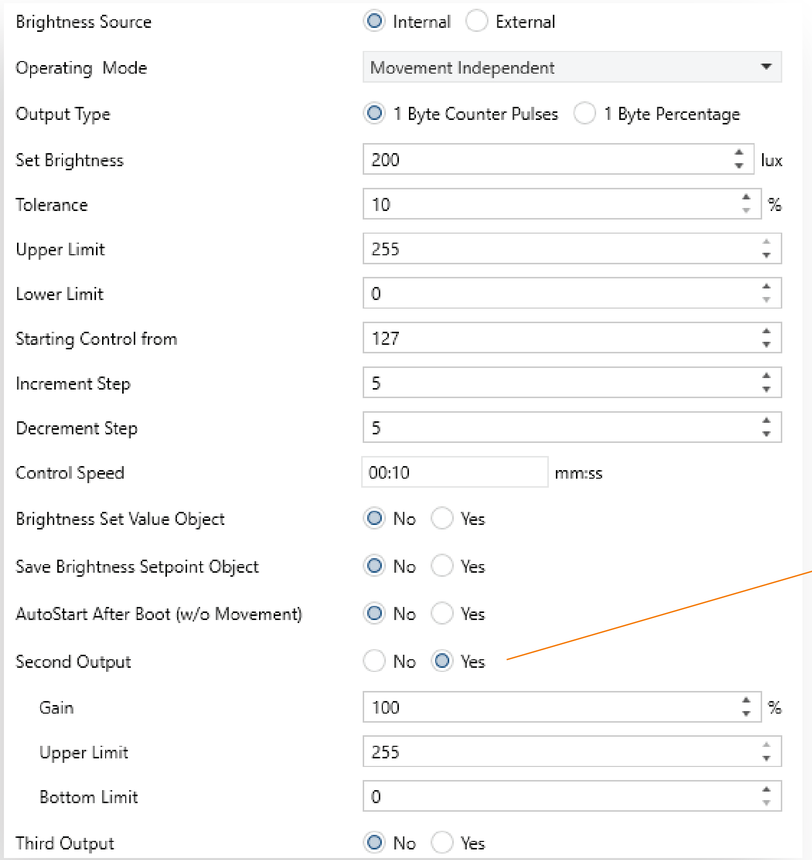
Constant Brightness Application



Second and third outputs:

Can generate different values with a multiplier

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HVAC Application

Movement Sensor Sensitivity	Medium
Slave Input	☐
Validation Delay	30 sec
Minimum number of motion detections during delay for Switch On	◉ First ○ 2
Detection Timeout	00:05:00 hh:mm:ss
Detection Time Object	☐
Output Data Type	HVAC
Action at Detection	○ No Reaction ◉ Send Value
Send Value	Comfort
Action End Of Detection	○ No Reaction ◉ Send Value
Send Value	Standby

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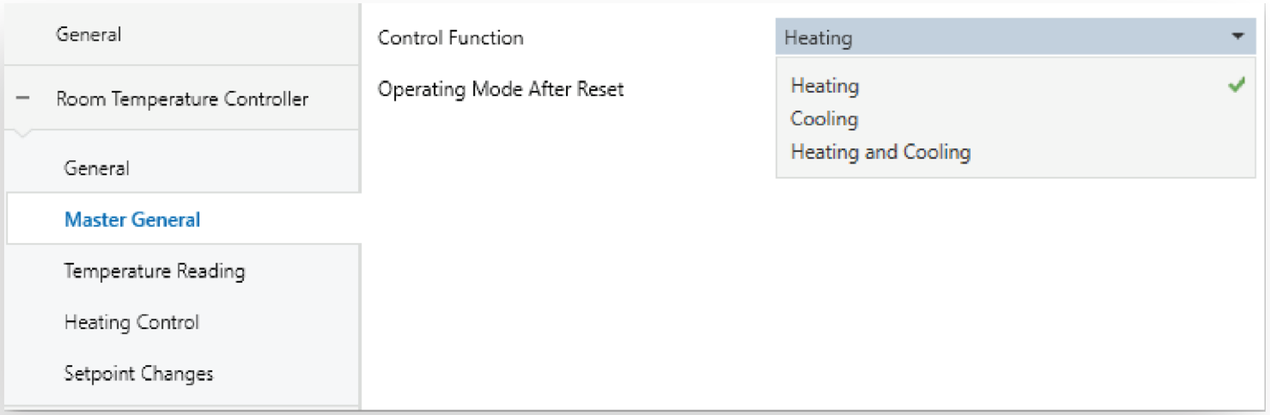
Room Temperature Control Master General



This is the section where the regions in which the RTC function can operate are selected.

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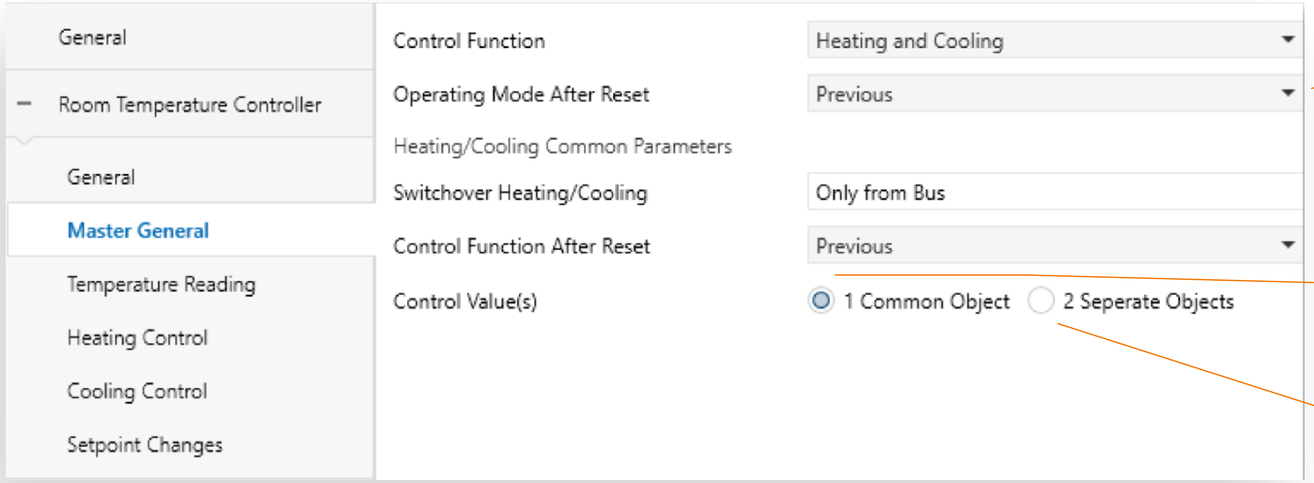
Room Temperature Control Master General



The RTC remembers the control function it was in before the restart and starts in that mode.

If this option is selected, the control value is sent via a common object.

If this option is selected, the control value is sent via two different objects.

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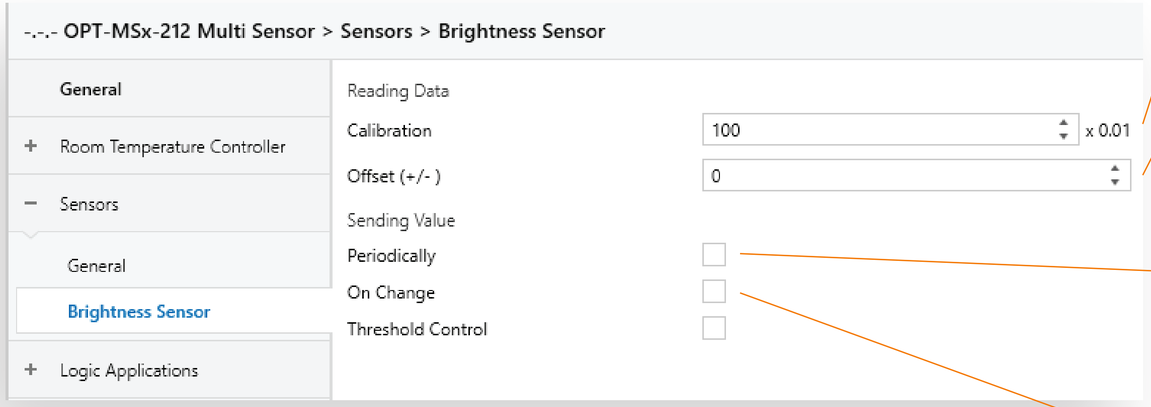
Brightness Sensor



It ensures that the value read by the sensor is equal to the actual ambient brightness level.

After the calibration value, if necessary, it shifts the lux value by the entered value between -128 and +127. Thus, the lux value detected by the sensor approaches the lux value in the environment. The default value is 0.

There are two methods that can be used to send the brightness level to the KNX line. These are "Periodic" and "Change Amount".

The measured brightness level is transmitted to the data bus by repeating it for a period of time parametrically determined by the user (between 2 and 255 seconds). The default value is G0 seconds.

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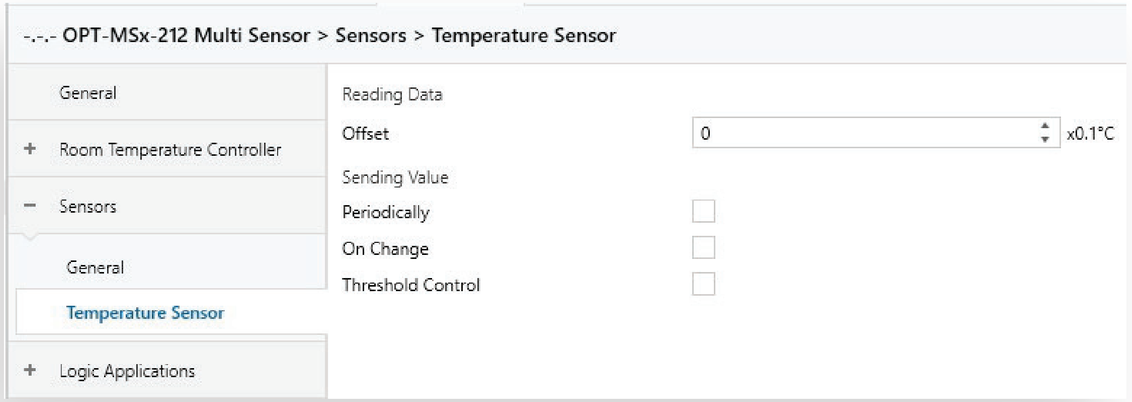
Temperature Reading



The adjustment range is between -12.8 °C and +12.7 °C, with steps from -128 to +128 (x0.1). The default value is 0 °C.

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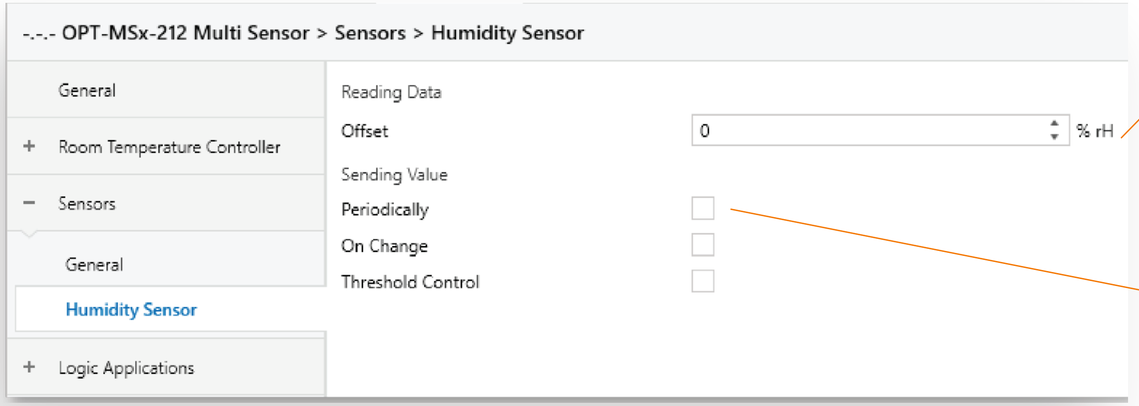
Humidity Detection



The value measured by the internal humidity sensor may differ from the perceived humidity due to its location.

It determines the sending frequency of the measured humidity value to the data line via the "Humidity Value" object.

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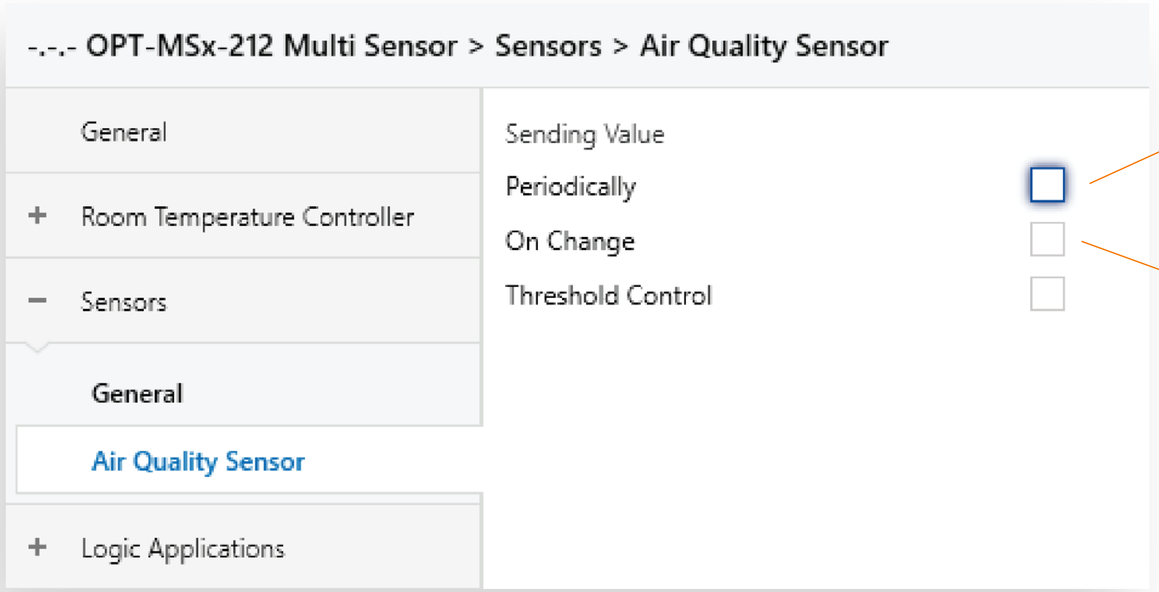
Air Quality Detection



There are two methods that can be used to send air quality information to the KNX line.

It determines the sending frequency of the measured air quality value to the data line via the “Air Quality” object.

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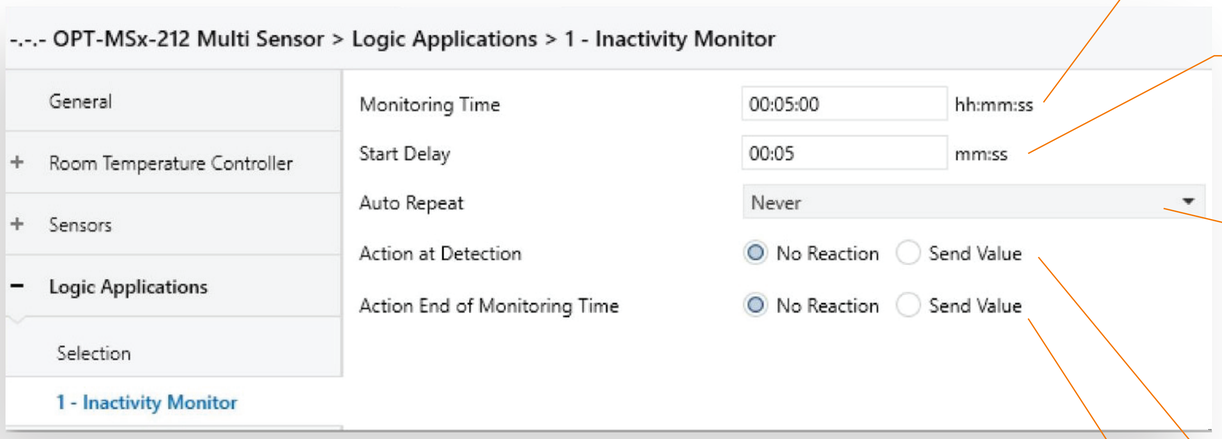
Logic Application: Inactivity Monitor



- Defines the duration for monitoring movement. If no movement information is received from the movement information object during this period, the system will consider it as inactivity.
- Used to set an initial delay before the device begins detection. It can be set between 0 and 255 seconds, with a default value of 5 seconds.
- The observation function operates as a single observation in the normal scenario; it waits for movement information during the delay period and sends a "Stop" telegram at the end of the observation period.
- Determines whether any action will be taken upon movement detection.
- Determines what action will be taken if no movement is detected at the end of the monitoring period.

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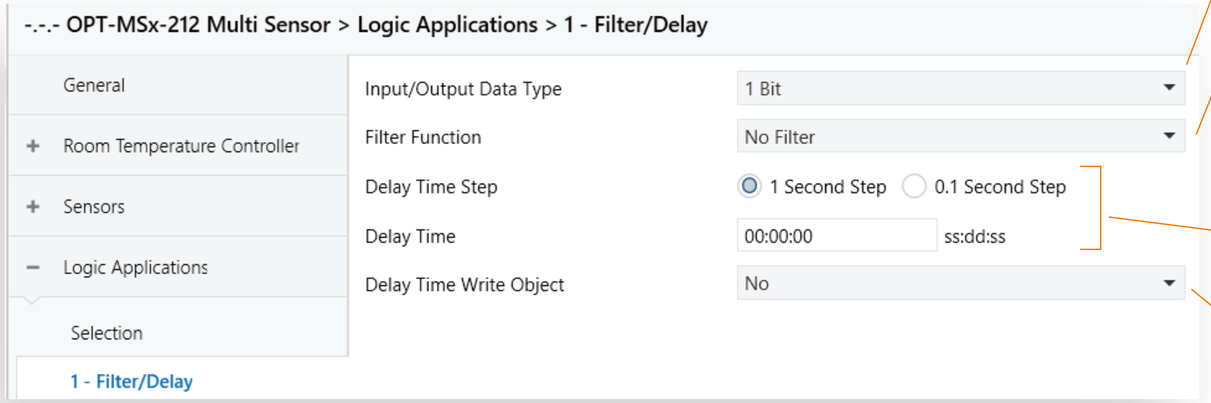
Logic Applications: Filter/Delay



Data type to be filtered.

Filter selections:
-Delay accepted, send others
-Delay accepted, don't send others
-Send accepted, delay others
-Don't send accepted, delay others

Delay time step interval and delay time.
HH:MM:SS or x100 ms

Dynamic object to change the delay time.
HH:MM:SS or x100 ms

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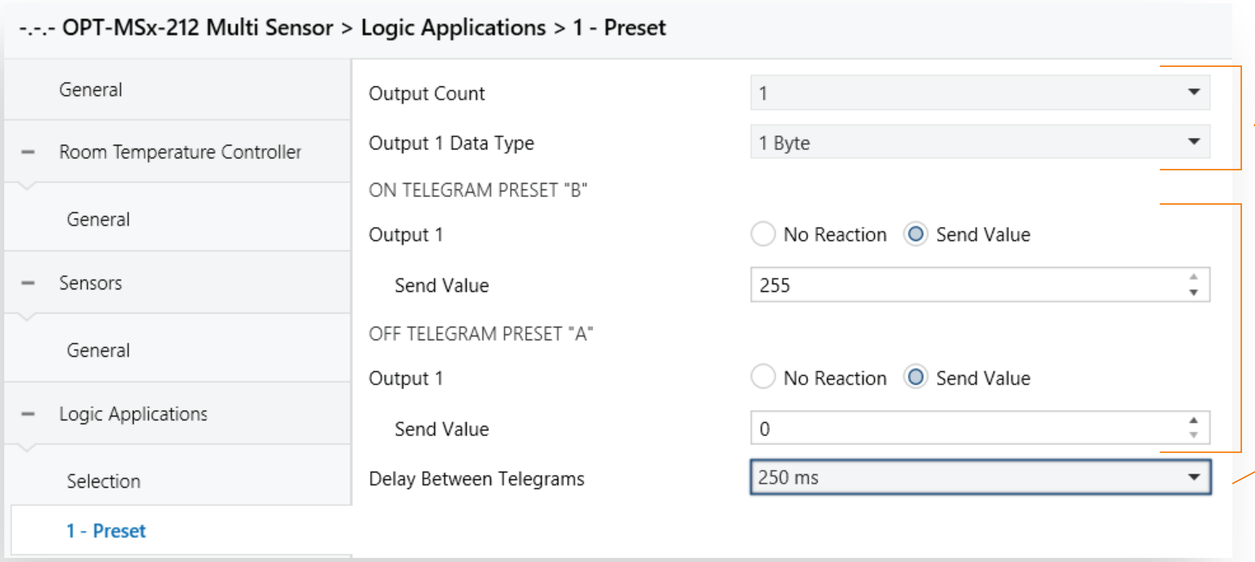
Logic Applications: Preset



Output count up to 4 and types:
- 1-bit
- 1-byte
- 2-byte unsigned
- 2-byte signed
- 2-byte float

Reaction on input telegram.

Delay between telegrams:
- None
- 250 milliseconds
- 500 milliseconds
- 1000 milliseconds

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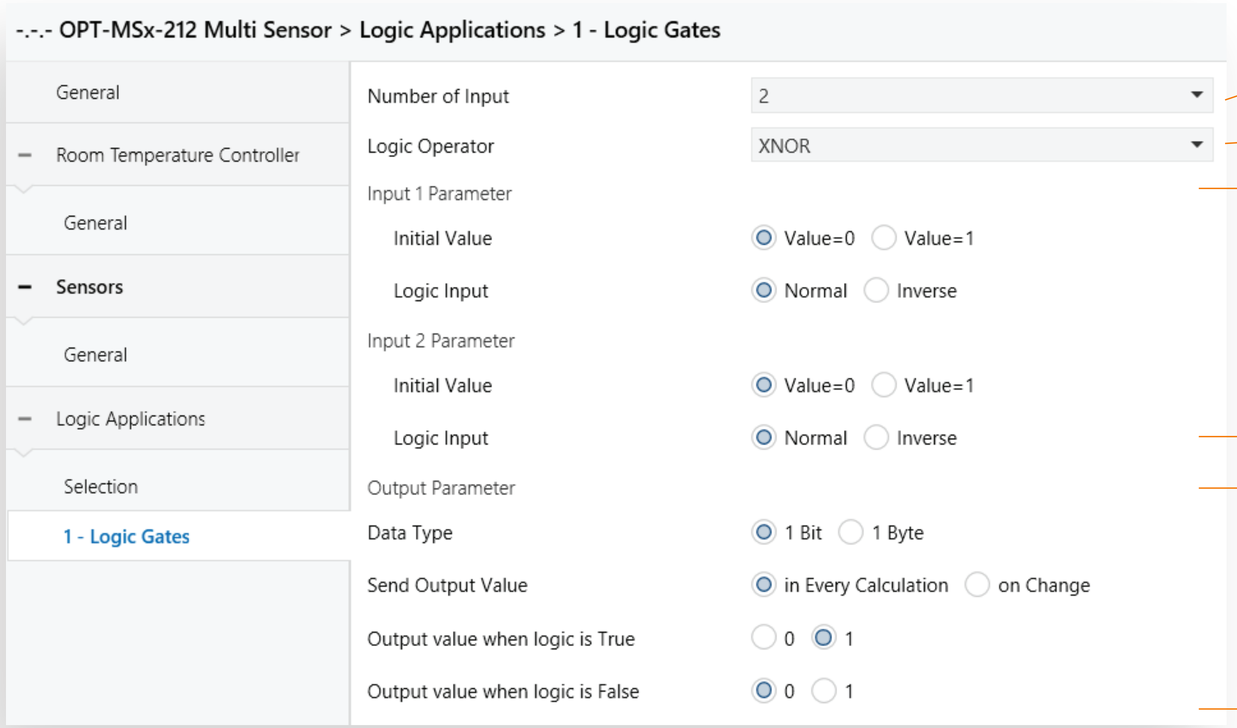
Logic Applications: Logic Gates



Number of inputs up to 8.

Logic Operations:
- Not (For single input only)
- AND
- OR
- XOR
- XNOR
- NAND
- NOR

Initial value and selection of inverted inputs.

Output data type, when to send and value depending on logic output.

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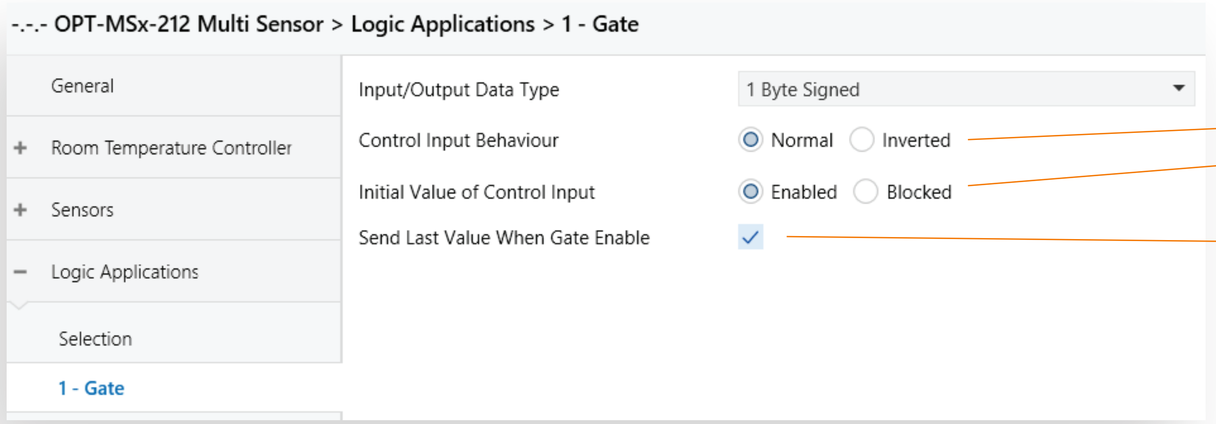
Logic Applications: Gate



Input and output data type.

Pass on 1 or 0.

Initial value of gate.

Action on enable.

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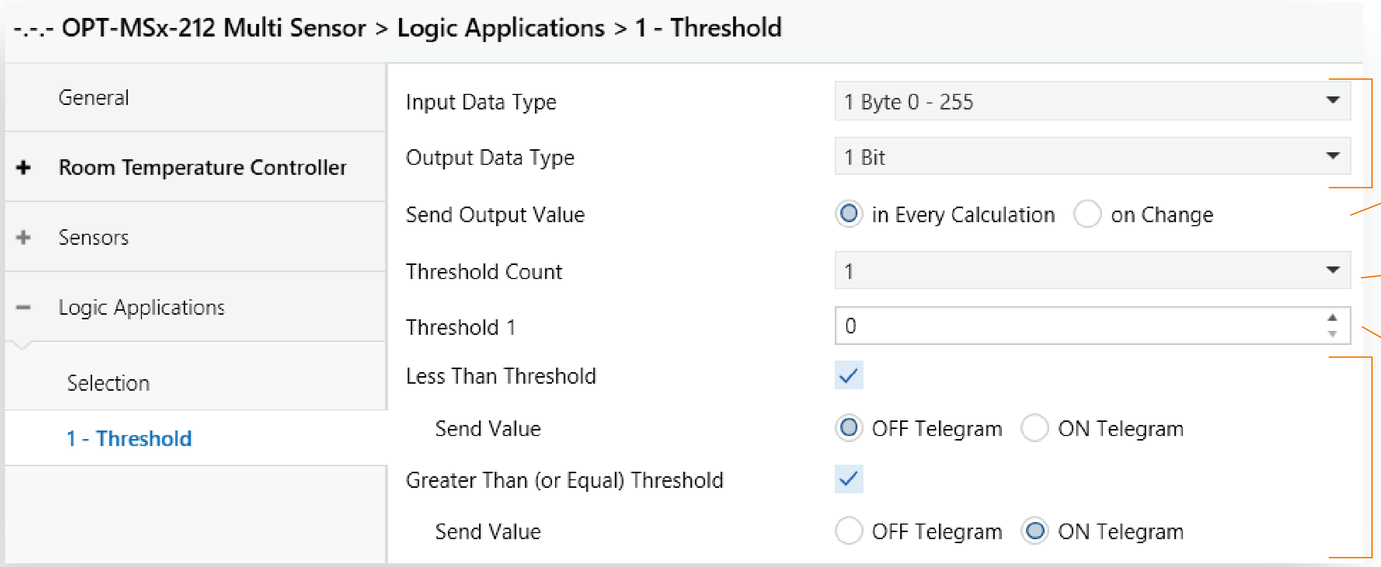
Logic Applications: Threshold



- Input and output data types.
- When to send output.
- Thresholds up to 3.
- Threshold value.
- Action when less then threshold. If there are more then 1 thresholds, send values can be set for input values between thresholds.

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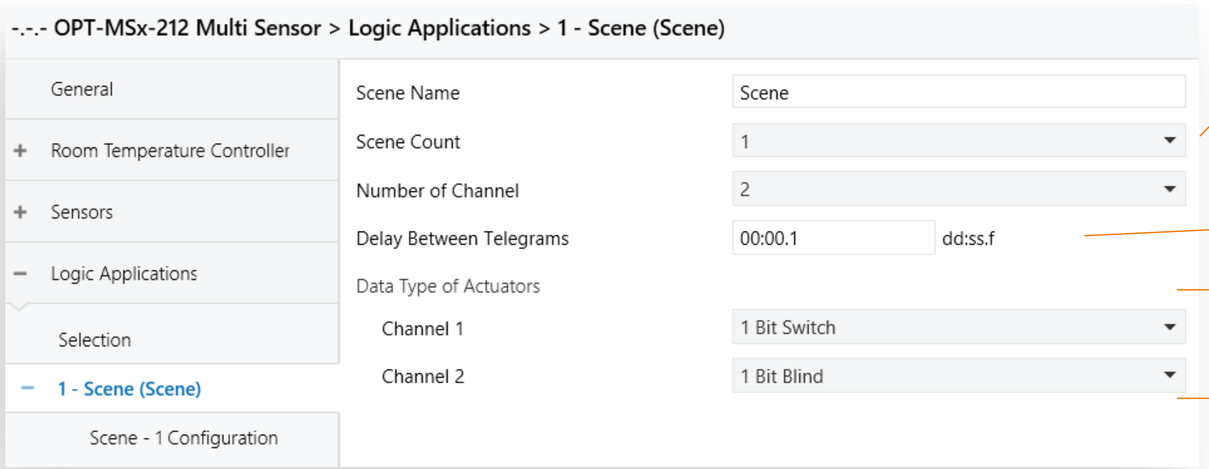
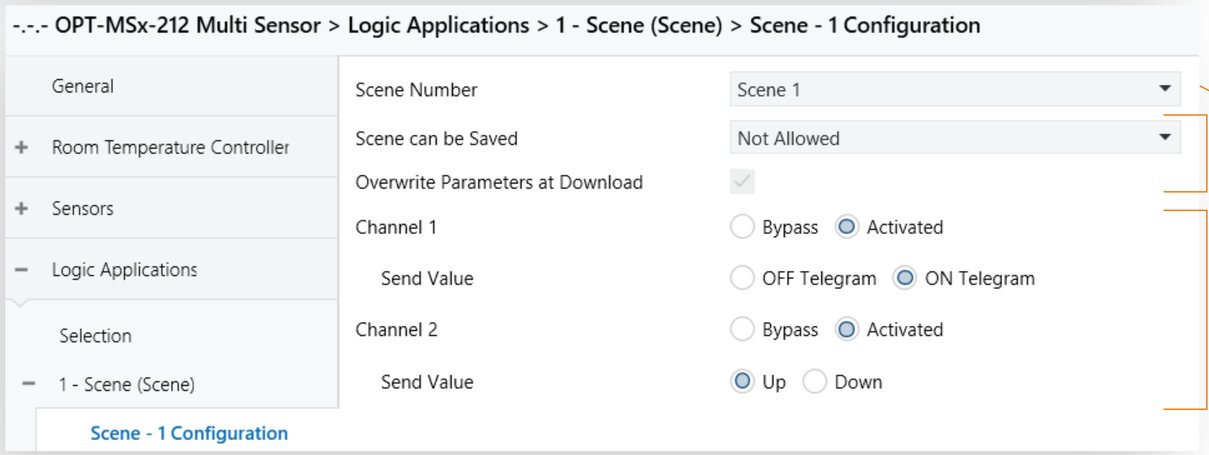
Logic Applications: Scene Controller





- Scene count up to 8.
- Output channels up to 8.
- Delay between channels.
- Output data types:
  - 1-Bit switch
  - 1-Bit blind
  - 1-Byte unsigned
  - 1-Byte percent
  - Temperature
- Scene number up to 64.
- Scene saving. Can be disabled, if enabled, saving methods are saving the last values after execution or sending a read telegram. User can keep the saved scenes by unchecking the overwrite parameter.
- Output values depending on channel type.

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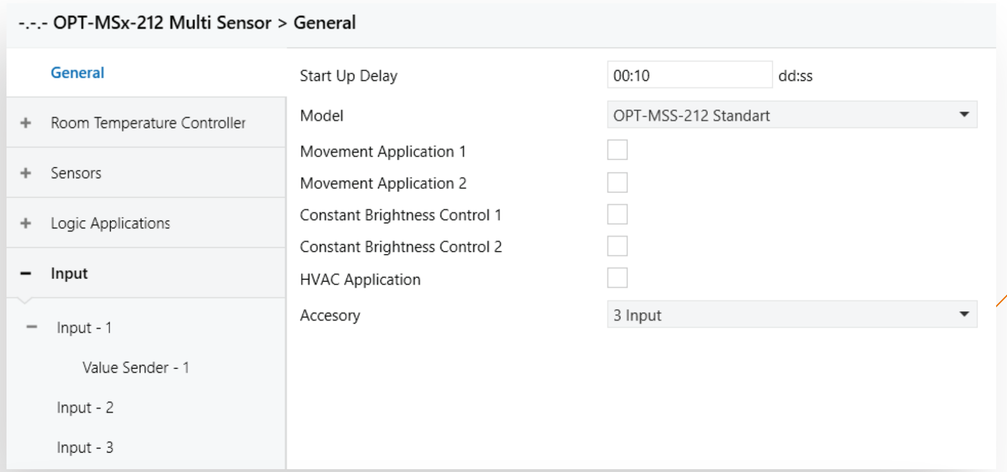
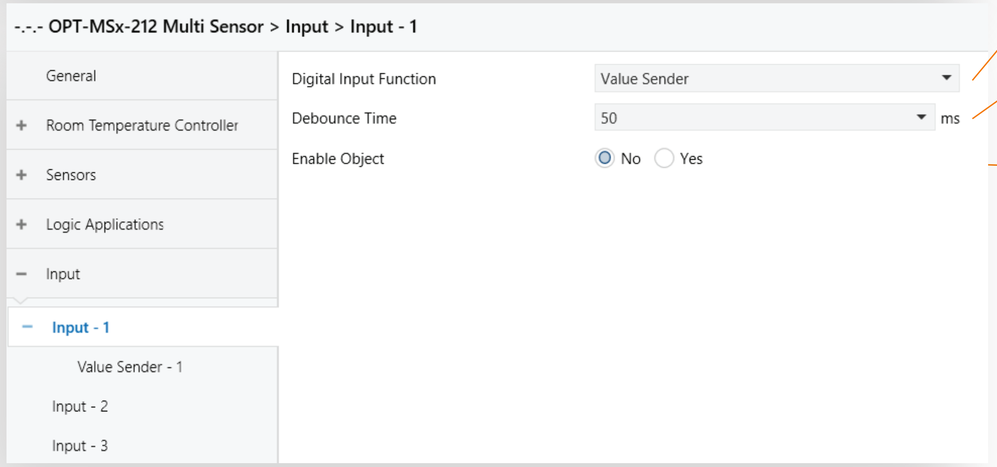
Accessory





Accessory type selection:
- 3 Input
- 3 Input and 2 Output

Input type selection:
- Value Sender
- Shutter Sensor

Debounce time:
- 20 milliseconds
- 30 milliseconds
- 50 milliseconds
- 150 milliseconds

Enable object to dynamically enable/disable the input channel.

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THANK YOU