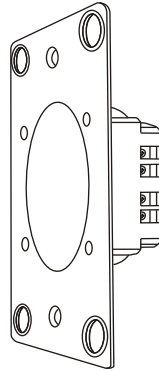


## TOUCHLESS BUTTON AUR-24-Rx



### Description

Touchless button AUR-24-Rx is designed to detect objects through most materials. They operate from low voltage power source and provide a simple digital or analog output when an object is detected in front of the button.

The sensor works through most materials and can be used as an input device for a wide variety of electronic devices. They use proprietary sensor technology for reliable detection of objects while maintaining a large sensing range.

While touchless buttons can be completely hidden from view, behind paneling or inside walls, it is primarily meant to be mounted into a standard US single-gang wall box and covered by a variety of decorative switchplates. Switchplates are attached to the touchless button via four strong rare-earth magnets.

If a completely invisible installation is needed, please check our SEZ/SEM series of touchless sensors. They use the same sensor technology and have similar output options as touchless buttons, but are meant to be mounted inside walls, behind paneling or drywall, inside furniture or the equipment.

### Features

- An innovative alternative to pressure, thermal, infrared, microwave, ultrasonic and motion sensors.
- A reliable way to detect any object (user's hand, foot, etc.) through most materials.
- It can be mounted into a standard single-gang wall box.
- Countless decorative switchplates available, to match any look or design.
- Switchplates attach via magnets and are easily exchanged or removed for cleaning or sterilization.
- It comes with a variety of output options for use as an input device with any device needing pushbutton control.
- Momentary or latching output
- Range adjusted with a potentiometer.
- Low power consumption.
- Excellent noise immunity.

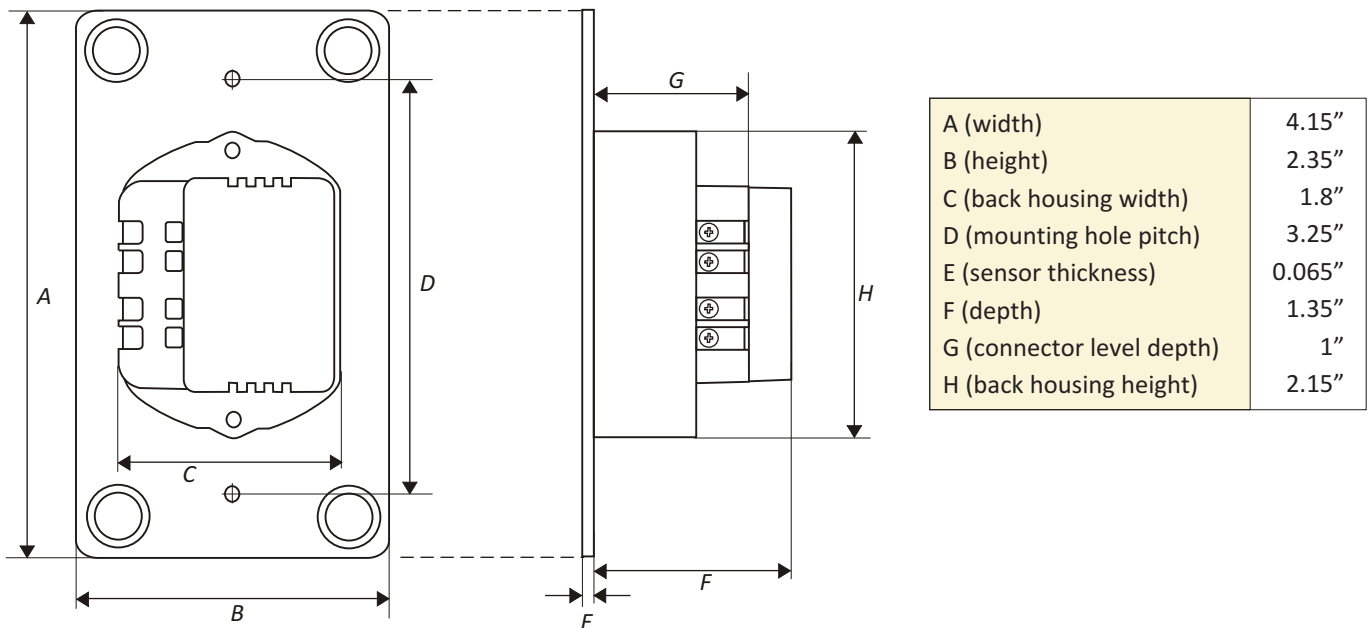
### Applications

- Controlling devices requiring pushbutton (digital) control (push-button dimmers, opening doors, etc.).
- Home automation systems (using digital input).
- Matching a specific look or design
- Controlling DMS or DDM series of low voltage dimmers.

## Specifications

TECHNICAL DATA	AUR-24-R x y
Supply input voltage range nom:	12 - 24 V DC
Supply input voltage (min - max):	6 - 30 V DC (12-30 V DC for Output version D )
Supply current:	6 mA (20mA when signal relay is activated in Output version B)
Output:	Output version (x = A) - NPN Optically isolated Open collector (x = B) - Dry (isolated) relay contact (x = D) - 0 - 10V output (0V - off; 1-10V - output level) (y = <empty>) - momentary output (y = S) - latching output
Detection frequency:	5 Hz
Range (single sensor):	Adjustable 1-3"
Mounting:	standard single-gang wall box
Operating temperature range:	32 °F to +120 °F
Input and output connections:	Screw terminal for AWG 14 max.
Housing dimensions (W x H x D):	2.35" x 4.15" x 1.35"

## Dimensions



## Installation

Connect the unit according to the output signal used. Take the connection diagram of the controlled unit (touch dimmer, home automation system, Anigmo DMS series dimmer, etc.) into account.

The unit can be mounted into a standard single-gang wall box using two screws. Please use recessed head type screws. Check the screw before installation. The screw head should not rise above the sensor surface, otherwise, the decorative switch plate could not be fixed to the button properly. The ambient temperature must not exceed 120°F.

*It is recommended that chassis ground is connected to the sensor negative wire. Ground loops should be avoided. Make sure that wire connections are secure, any loose contact in any connection could lead to unstable operation.*

*A touchless button can work through a variety of different materials. Any of the standard Anigmo switchplates can be mounted on top of the button. However, if other materials will be used it is recommended to test the type and thickness of the intended covering material before final installation. The material should be fixed in front of the touchless button to observe any change in range.*

**IMPORTANT:** *The touchless button and the switchplate in front of it should be securely fixed. Any slight movement of either the button or the switchplate could force the button into a calibration mode, blocking it for about 30s.*

**IMPORTANT:** *Touchless buttons with relay output (B suffix) have signal relay output. The output relay should NOT be used to switch loads. Suitable power relay or Anigmo DMS type dimmer should be connected to control the load. Please observe application note at the end of this datasheet.*

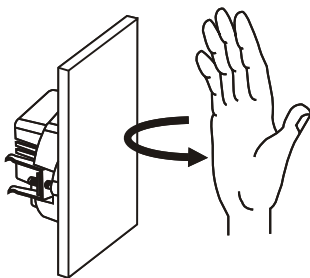
## Output options

### OPTION 1 - momentary output

Models AUR-24-RA, AUR-24-RB

*The touchless button has a digital output, output version 'A' has an optically isolated NPN OC output and version 'B' has an isolated (dry) relay contact output*

*When the touchless button detects the object in front of the switch plate, the output signal is activated. Output remains active until the object is moved out of the sensing range.*



*Whenever the objects enters the sensing range in front of the switchplate output is activated. It stays active as long as the object stays in the range.*

**Note 1:** *The touchless button with the attached switchplate is depicted in the above example. The button mechanism is visible in the image for clarity, but with typical installation, it would be hidden inside the wall box and only the switchplate would be visible on the wall surface.*

**Note 2:** *The trimmer on the side of the button labeled "Range" can be used to adjust the sensing range.*

*This output option is useful for controllers needing pushbutton control, for example, pushbutton dimmers, door activation controllers, etc. It can be connected to the home automation systems or any controller requiring push-button control.*

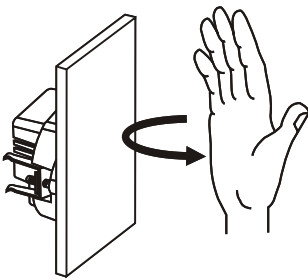
*This output option is also suited for connection to single switch input of ANIGMO DMS or DDM series universal low voltage dimmers. Please check DMS and DDM series universal low voltage dimmers for details.*

## OPTION 2 - latching output

Models AUR-24-RAS, AUR-24-RBS

The touchless button has a digital output, output version 'A' has an optically isolated NPN OC output and version 'B' has an isolated (dry) relay contact output.

When the touchless button detects the object in front of the switch plate, output signal state changes. When the output is active, it deactivates and when it is inactive, it activates. Output remains unchanged until the next object is detected. The output state change occurs at the moment when an object enters the sensing range. After the output state is changed, no further change occurs, regardless of how long an object remains in the sensing range. For the next change to occur, the object must first leave the sensing range.



Whenever the object enters the sensing range in front of the switchplate the output is activated. It stays active as long as the object stays in the range.

**Note 1:** The touchless button with the attached switchplate is depicted in the above example. The button mechanism is visible in the image for clarity, but with typical installation, it would be hidden inside the wall box and only the switchplate would be visible on the wall surface.

**Note 2:** The trimmer on the side of the button labeled "RANGE" can be used to adjust the sensing range.

This output option is useful for controlling power relays or power packs, that can switch loads on and off.

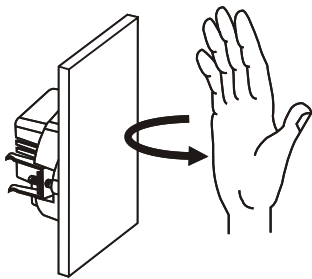
## OPTION 3 - 0-10V output

Model AUR-24-RD

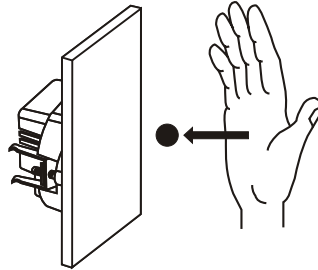
The sensor has an analog output and a PNP OC digital output. Analog voltage <1V corresponds with off state and output voltages 1-10V corresponds to the set dimming level. Digital OC output is active when the analog voltage is above 1V and inactive otherwise. This output can be used to switch off the power to the load via a power relay or a power pack whenever the load is turned off by the analog control voltage, reducing any load standby current and improving the efficiency of the system.

When the touchless button detects the object in front of the switch plate for a time period shorter than 1s, the output state changes between on/off state. If the light is on, the output turns\* the light off. If the light is off, the output turns the light on, setting the light brightness sets to the last set dimming level. Please note that the stated change occurs when the object LEAVES the range and not when it enters the range. If an object remains in sensing range for longer than 1s, the light intensity slowly decreases, until it reaches minimum brightness or until the object leaves the sensing range. If the opposite direction of dimming is needed, the object should leave the range for a short period of time and enter it again, staying in the range for longer than 1s. Now the light intensity will slowly increase, until it reaches maximum brightness or until the object leaves the sensing range.

\*For better understanding the description is formed as if the touchless button output is controlling classical 0-10V light dimmer. The actual output is analog 0-10V voltage. "Light off" corresponds to 0V, "maximum brightness" corresponds to 10V and minimum brightness corresponds to 1V on the output.



Whenever the object enters the sensing range in front of the switchplate the output is activated. It stays active as long as the object stays in the range.



Moving the hand in front of the sensor and holding it for more than 1s, light output slowly decreases until it reaches the minimum brightness. If the light is off, it first jumps to its minimum brightness and increases from there.

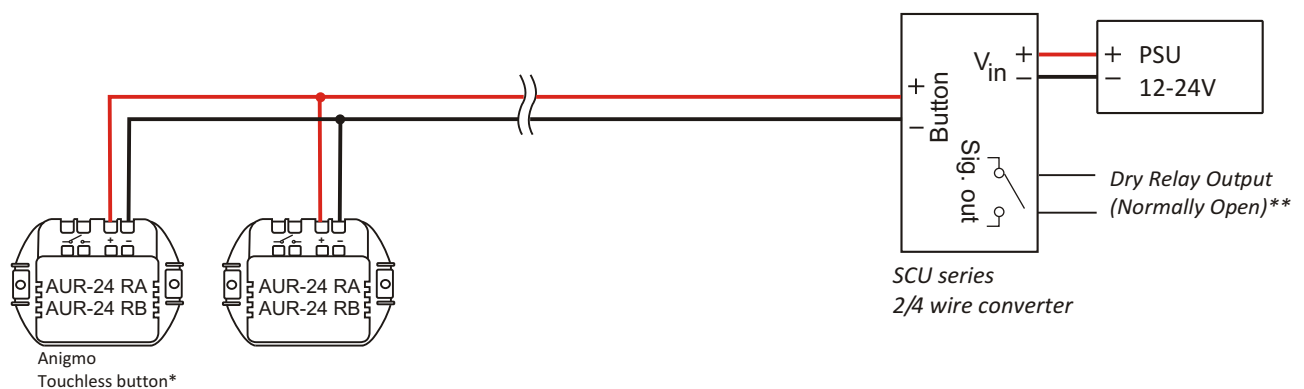
**Note 1:** The touchless button with the attached switchplate is depicted in the above example. The button mechanism is visible in the image for clarity, but with typical installation, it would be hidden inside the wall box and only the switchplate would be visible on the wall surface.

**Note 2:** The trimmer on the side of the button labeled "Range" can be used to adjust the sensing range.

This output option is useful for controlling light drivers, ballasts, and dimmers that are controlled by 0-10V voltage. Additional OC output can be used to externally disconnect (using a power relay or a power pack) the load when it is turned off by control voltage.

## Using Anigmo SCU series 2/4 wire converter unit

Anigmo touchless buttons use four wires to connect. Two wires are used for low voltage power supply and two wires for transmitting the contact closure signal from the button. In most applications, the touchless button will replace regular mechanical pushbuttons or switches. Instead of four, mechanical buttons use only two wires to connect. In some applications, it is undesirable or impossible to replace existing two-wire installation with additional wires, needed for the touchless button. In such applications, the Anigmo SCU series 2 to 4 wire converter can be used. It can be installed on the side of the power supply and can translate contact closure signal from a series of touchless buttons using only a two-wire connection between the SCU unit and touchless buttons. The output of the SCU unit will mirror combined (logical OR) output of all buttons, connected to its input.

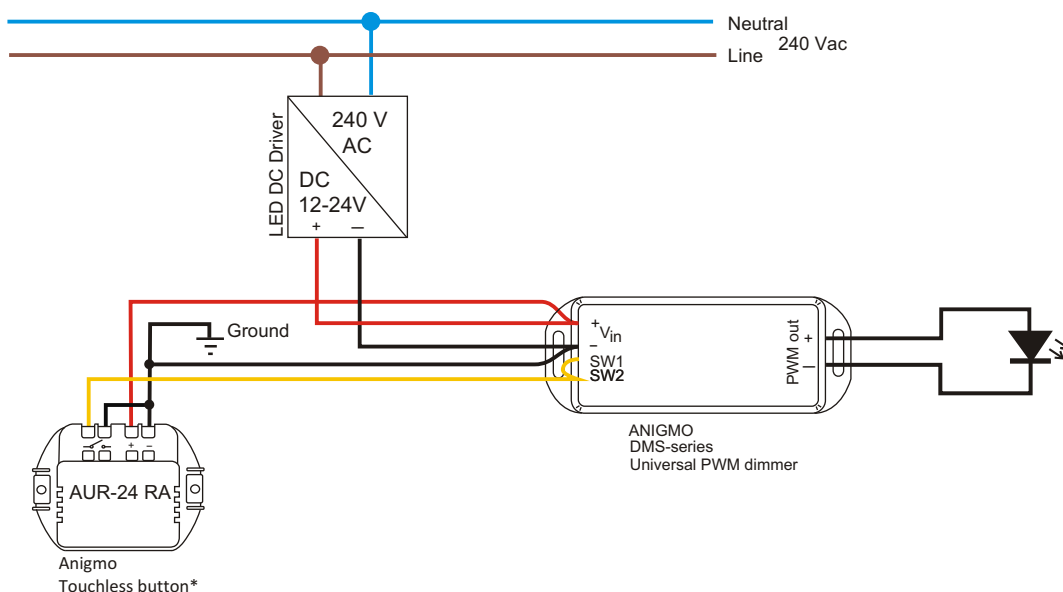


\* Multiple Touchless buttons can be connected in parallel.

\*\* Output mirrors OR-ed output of all connected touchless buttons. Only touchless buttons with momentary output option should be connected to a SCU unit.

## Connection diagrams

*Connecting Anigmo Touchless button with dry contact output to control Anigmo PWM LED dimmer*



*\*Multiple Touchless buttons can be used to control single dimmer by connecting several buttons in parallel.*