Nice

BiDi Multi sensor

Motion, light, temperature and humidity sensor

EN - Instructions and warnings for installation and use

v0.12

1 WARNINGS AND GENERAL PRECAUTIONS

- **CAUTION! – This manual contains important instructions and warnings for personal safety.**
  Carefully read all parts of this manual. If in doubt, suspend installation immediately and contact the Nice Technical Assistance.
- **CAUTION! – Important instructions: keep this manual in a safe place to enable future product maintenance and disposal procedures.**
- **CAUTION! – Any use other than that specified herein or in environmental conditions other than those stated in this manual is to be considered improper and is strictly forbidden!**
- This product is designed for indoor use only. Don't use outside!
- The product packaging materials must be disposed of in full compliance with local regulations.
- Never apply modifications to any part of the device. Operations other than those specified can only cause malfunctions. The manufacturer declines all liability for damage caused by makeshift modifications to the product.
- Never place the device near to sources of heat and never expose to naked flames. These actions can damage the product and cause malfunctions.
- This product isn't intended for use by people (including children) with reduced physical, sensory or mental capabilities or who lack experience and knowledge, unless they have been given supervision or instruction concerning the use of the product by a person responsible for their safety.
- Make sure that children don't play with the product.
- Handle the product with care, being sure not to crush, knock or drop it in order to avoid damage.

2 PRODUCT DESCRIPTION

The **BiDi Multi sensor** is a universal multi-sensor. In addition to motion detection, the device measures temperature, humidity and light intensity. The sensor has a built-in accelerometer that detects any tampering with the device. It's a battery powered device designed for quick and easy installation on any surface. The sensor is equipped with a radio transmitter operating at 433.92 MHz with rolling code technology, which guarantees an optimal level of security. A built-in LED indicator indicates movement. The sensor can be used in lighting scenarios and presence monitoring systems.

Main features:

- Detects movement using a passive infrared sensor
- Measures humidity
- Measures the ambient temperature
- Measures light intensity
- Detects vibrations
- Can be installed easily on a wall, on any surface at a height of up to 2 m
- Is battery-powered
- Has anti-theft and tamper protection - when vibration is detected, an alert is sent to the hub
- Indicates detected movement with a built-in LED indicator

IMPORTANT: The **Yubii Home** or **Home Center 3** hub is **required** to use **BiDi Multi sensor.**

3 SENSOR - HUB PAIRING

For detailed instructions on the procedure, please refer to the manual of the hub which the sensor is to be used with.

3.1 - Pairing with the Yubii Home or Home Center 3 hub during start-up - an unpaired device

Table A1 - BiDi Multi sensor - Pairing with Yubii Home or Home Center 3 hub - unpaired device	
No.	**Steps**
01.	Open the device housing.
02.	Open the hub configuration interface and log in (for more information, see hub manual).
03.	Go to **Settings** (⚙).
04.	Go to **Devices**.
05.	Press the **+ Add device** button.
06.	Select **Nice device**.
07.	Select **Pairing with BiDi Multi sensor device** or with **MyNice alarm sensors** and press **Next**.
08.	Within 10 seconds, take off the battery protective sleeve and place the battery in the device. Another method is to Press the **Bind Mode** button when device is powered.
09.	**Bind Mode** activates. Wait until the devices finish the binding process.
10.	Correct binding is confirmed with the device three rapid LED indicator flashes.
11.	Close the device housing.
12.	Follow the instructions shown on the hub display, to finalise the configuration.

3.2 - Pairing with the Yubii Home or Home Center 3 hub with the push of a button - an unpaired device

Table A2 - BiDi Multi sensor - Pairing with Yubii Home or Home Center 3 hub - paired device	
No.	**Steps**
01.	Open the device housing.
02.	Open the hub configuration interface and log in (for more information, see hub manual).
03.	Go to **Settings** (⚙).
04.	Go to **Devices**.
05.	Press the **+ Add device** button.
06.	Select **Nice device**.
07.	Select **Pairing with BiDi Multi sensor device** or with **MyNice alarm sensors** and press **Next**.
08.	Press and hold for about 10 seconds, the button inside the sensor device resets and enters **Bind Mode**.
09.	Five red LED indicator flashes confirm a correct reset. Afterwards, press the **Bind Mode** button within 10 seconds.
10.	**Bind Mode** activates. Wait until the devices finish the binding process.
11.	Correct binding is confirmed with the device three rapid LED indicator flashes.
12.	Close the device housing.
13.	Follow the instructions shown on the gateway display, to finalise the configuration.
14.	If problems occur, during the binding process, repeat the procedure starting from point 3.1. of the manual.

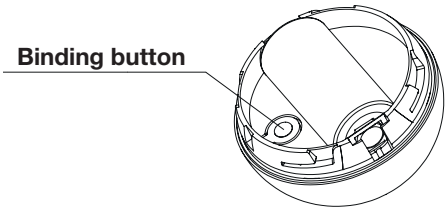

Figure 1: Location of binding button

4 INSTALLATION AND OPERATION

4.1 - Motion detection

The sensor detects movement using a passive infra red (PIR) sensor and reports it to the hub. The detection of movement is signalled with flashing red. Motion is detected within approx. 90° radius, within a range of up to 6 m. The detection range of the sensor is shown below. Actual sensor range canbe affected by environmental conditions.

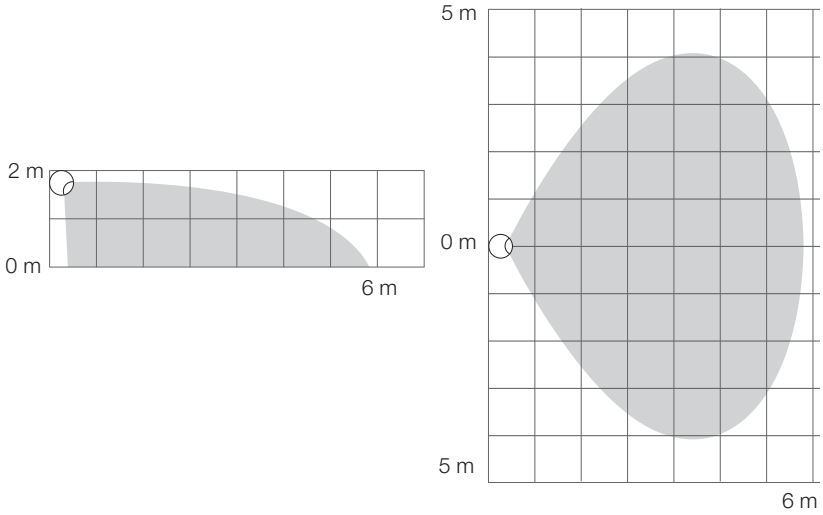

Figure 2: Detection range of the sensor

4.2 - Place of installation and operating conditions of the device

The sensor should be installed in the corner of the room or perpendicular to the door.
Moving objects such as trees blowing in the wind, passing cars, windmills and moving air and heat masses within the sensor's detection area can cause false motion detection.
The hanging height of the product should be less than 2 m.

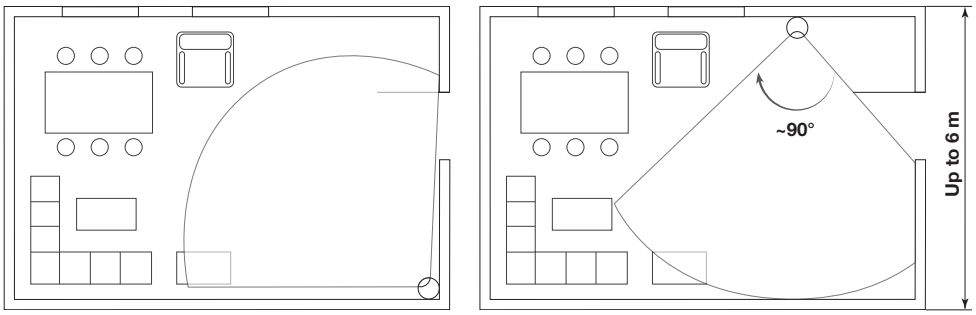

Figure 3: Place of installation

4.3 - Waking up the device

The sensor must be awakened to receive information from the hub about new configurations, such as parameters.
To wake up the sensor, shake the device or wave your hand in front of it.

4.4 - Installing the device

1. Find a suitable location for the sensor, preferably in the corner of the room or perpendicular to the door.
2. Mount the bracket (using a wall plug or sticker). Faulty installation can cause false motion detection.

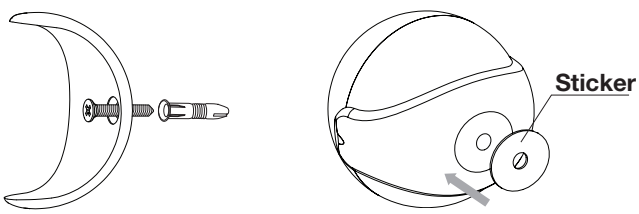

Figure 4: Instalation

3. Insert the device into the holder.
4. Test operation - check if the device signals motion detection.

Figure 5: Location of sensors

Note
Battery replacement:
1. Remove the battery.
2. Wait at least 30 seconds to activate sensor calibration.
3. Install a new battery.

4.5 - Temperature measurement

The device measures the temperature every 1 s and sends its value according to the time parameter set by the hub (1 h by default) or depending on the advanced parameter settings.

Note
The device measures the temperature at the mounting location. Please note that the temperature near the ceiling can differ from the temperature at eye or floor level.

4.6 - Humidity measurement

The device measures the humidity every 1 s and sends its value according to the time parameter set by the hub (1 h by default) or depending on the advanced parameter settings.

4.7 - Tamper detection

A tamper alarm is always reported to the hub.

5 RESTORING FACTORY SETTINGS

If it’s necessary to restore the factory settings of the sensor, follow the steps from the table below:

Note
When restoring the factory setting, all settings and paired hubs are deleted.

Table A3 - BiDi Multi sensor - Restoring factory settings

No.	Steps
01.	Open the device housing.
02.	Press and hold the button for at least 10 seconds.
03.	Five red flashes on the motion sensor confirm a correct reset.
04.	The procedure ends automatically.

Attention!
Additionally, to remove the device correctly, you need to force manually the removal of the sensor from the control panel system (interface) by clicking on the bin icon next to it.

6 ADVANCED PARAMETERS

You can adapt the operation of **BiDi Multi sensor** to your needs. These settings are available in the NICE interface in the form of simple options that can be selected by ticking the appropriate box.

Table A4 - BiDi Multi sensor - Advanced parameters

Parameter	Description	Available setting	Default setting	Parameter size
1. Motion detection - range	Select the value	• Up to 2 meters • Up to 4 meters • Up to 6 meters	**Up to 6 meters**	1 [byte]
2. Motion detection - blind time	The PIR sensor is “blind” (insensitive) to motion after the last detection for the amount of time specified with this parameter. Shorter time periods enables detecting motion more frequently, but the battery drains faster.	0-15 (0.5 - 8 seconds, time [s] = 0.5 x (value + 1)	**15 (8 s)**	1 [byte]
3. Motion detection - pulse counter	Determines the number of moves required for the PIR sensor to report motion. The higher the value, the less sensitive the PIR sensor is.	• 1 pulse • 2 pulses • 3 pulses • 4 pulses	**2 pulses**	1 [byte]
4. Window time	Indicates a period of time, during which a certain amount of impulses has to be detected, for the PIR sensor to raport movement. The amount of impulses is set with parameter 3. The higher the amount, the more sensitive the PIR sensor is.	• 2 seconds • 4 seconds • 6 seconds • 8 seconds	**6 seconds**	1 [byte]
5. Operating mode	Defines the lighting conditions under which the PIR sensor works.	• Active during the day only • Active during the night only • Always active	**Always active**	1 [byte]
6. Night/day	How night and day are differentiated. Lux amount during the day, varies seasonally. Set proper day/night lux value.	1 - 32767 lux	**200 lux**	2 [bytes]
7. Tamper sensitivity	Determines how much overload to which the accelerometer is subjected needs to change for the sensor to report a tampering. The unit is expressed in relation to the earth acceleration g.	0 - inactive 1-121 - (0.08-2 g; in 0.016 g steps)	**20 (0.32 g)**	1 [byte]
8. Illuminance report – threshold	Determines how much the light intensity needs to change to send a new value to the hub	0 - disabled 1-32767 (intensity in lux)	**200 (200 lux)**	2 [bytes]
9. Illuminance report – interval	Time after which the sensor sends the information about the lux to the hub	0 - disabled 1-32767 (seconds)	**3600 s**	2 [bytes]
10. Temperature report – threshold	Determines how much the temperature level needs to change to send a new value to the hub	0 - disabled 1 – 255 (1 – 255°C, 1°C step)	**1 (1°C)**	1 [byte]
11. Temperature report – interval	Time after which the sensor sends the information about the temperature to the hub	0 - disabled 1-32767 (seconds)	**3600 s**	2 [bytes]
12. Humidity report – threshold	Determines how much the environmental humidity level needs to change to send a new value to the hub	0 - disabled 1 – 100 (1 – 100%, 1 % step)	**3 (3%)**	1 [byte]
13. Humidity report – interval	Time after which the sensor sends the information about the humidity to the hub	0 - disabled 1-32767 (seconds)	**3600 s**	2 [bytes]
14. Motion detection - LED indication	Determines the operating behaviour of the LED indicator. Day or night is detected based on the light level defined with parameter 6.	0 – LED indicator disabled 1 – LED indicator enabled only during the night 2 - LED indicator enabled only during the day 3 - LED indicator enabled	**LED indicator enabled**	1 [byte]

7 TECHNICAL SPECIFICATIONS

BiDi Multi sensor is produced by Nice S.p.A. (TV).

Warnings

All technical specifications stated in this section refer to an ambient temperature of 20 °C (± 5 °C).

Nice S.p.A. reserves the right to apply modifications to the product at any time when deemed necessary, while maintaining the same functionalities and intended use.

Table A5 - BiDi Multi sensor - Technical specification

Feature	Value
Power supply	Battery CR123A 3V DC
Battery lifetime	Approx. 2 years
PIR sensor range	Up to 6 m, corner 90°
Temperature measuring accuracy	0.5 °C (in the range 0 - 40°C)
Light intensity measuring range	0 – 32767 lux
Operational humidity	0% - 95% RH without condensation
Humidity sensor accuracy	±4% RH in range from 20% to 80% RH
Recommended installation height	2.0 meters
Operational temperature	0 – 40°C
Dimensions	46 mm (diameter)

Using batteries other than specified can result in explosion. Dispose of batteries observing environmental protection rules.

Table A6 - BiDi Multi sensor - Radio transceiver

Feature	Value
Radio frequency	433.05 – 434.04 MHz
Communication protocol	PLN2+
Device range	Estimated 150 m outdoors and 20 m indoors (*)
Maximum transmission power	-7 dBm

(*) The transceiver range is strongly influenced by other devices operating at the same frequency with continuous transmission, such as alarms and radio headphones which interfere with the control unit transceiver.

8 PRODUCT DISPOSAL

This product is an integral part of the automation and therefore must be disposed together with the latter.

At the end of product lifetime, the disassembly and scrapping operations must be performed by qualified personnel. This product is made of various types of material, some of which can be recycled while others must be scrapped. Seek information on the recycling and disposal systems envisaged by the local regulations in your area for this product category.

Caution! – Some parts of the product can contain pollutant or hazardous substances which, if disposed of into the environment, can cause serious damage to the environment or physical health.

As indicated by the symbol alongside, disposal of this product in domestic waste is strictly prohibited. Separate the waste into categories for disposal, according to the methods envisaged by current legislation in your area, or return the product to the retailer when purchasing a new version.

Caution! – Local legislation can envisage serious fines in the event of abusive disposal of this product.

9 DECLARATION OF CONFORMITY

Hereby, NICE S.p.A., declares that the radio equipment BiDi-Multi sensor is in compliance with Directive 2014/53/EU.

The full text of the EU declaration of conformity is available at the following internet address: https://www.niceforyou.com/en/professional-area/download?v=18 under the **download** section.

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