

User manual



inputsensorQ

INPUTSENSORQ: 4-CHANNEL WIRELESS INPUT INTERFACE, STATE SENSOR 5-24V DC

SAFETY RULES



Connect only in accordance with the diagram presented in the manual. Improper connections may be dangerous, it can damage the controller, and loss of the warranty.



DANGER! Risk of electric shock! Even with the device turned off, the outputs may be live. All assembly work should be **ALWAYS** performed with the disconnected power circuit.



The installation of the device to a power mains that does not meet the quality requirements defined by EN 50081-1, EN 50082-1, UL508, EN 60950, will result in the loss of the warranty.

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WIFI CONNECTION AND SERVICE CONNECTION (AP) SETTINGS

QUICK INSTALLATION GUIDE First configuration of the BleBox controller

Scan the QR code or click the link below to access the quick installation guide.



<https://blebox.eu/start>

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INSTALLATION - BASICS

The connection diagrams can be found at the end of the manual

- Disconnect the installation supply voltage before installing the controller. Remember that any mounting works should be carried out when the mains voltage is disconnected (switch off the mains fuse or disconnect the power cord from the mains socket).
- The controller should be installed in a place protected against adverse environmental conditions, protected from third party access - in the flush box or inside the enclosure of the controlled device. Remember that metallic elements (wires, housing parts) have a negative influence on the range of the device, and consequently the comfort of use. It is recommended that the device be mounted in a stable and fixed position. It is necessary that the connectors of the controller be protected against accidental contacts or short circuits, which could cause fire or damage to the device.
- Review the wiring diagram and then proceed with installing the controller. Pay special attention to the connector markings. Start by connecting the power supply wires +5 V/+12 V/+24 V (red or black with a white dashed line) and ground (black). To power the controller, you can use the dedicated +12/24 V DC accessory connectors or a power supply compliant with the device specification.
- Next, connect the IN1 - IN4 inputs according to the provided diagrams. These inputs are used for reading signals from various devices, such as motion or presence sensors, alarm detectors (smoke, gas, or carbon monoxide), alarm control panel outputs, tamper outputs, alarm outputs from cameras or video doorphones, screen control outputs from projectors, as well as reed switches or inductive sensors installed in windows or doors. A signal is detected when a given IN1 - IN4 input is shorted to the common pin C.
- After making sure that the device is connected in accordance with the diagram and that there are no metal components near the controller which may accidentally cause short-circuit, start the device by turning on the power (turning on the mains fuse or connecting the power cord to the power outlet).

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FIRST START

- Download the **free wBox application**. If you have an Android mobile device, you will find the application in the Play Store. For iOS devices the application is in the App Store.
- By using your mobile phone or tablet, connect it to the device wireless network. To do this, go to your smartphone or tablet settings, then go to setting of the WiFi network and find the network name „inputSensorQ-xxxxxxx“ where xxxxxxxx is the serial number of the device. Connect to this network.
- Turn on the wBox application. You will see your device on the main screen. In order to add it to your application account, select "Add device to account". If you are the installer and do not want to assign the device to your account, select "Use only once".

- Go to the WiFi network settings ("Settings" icon in the top right corner of the screen, "Connection" section), where you can connect the device to the home WiFi network to be able to control the device via it or from anywhere in the world. To do this, select the network name from the list of available networks and press "Connect". If required, enter your WiFi password. When connecting the device to the home network, the phone / tablet may disconnect from the device's network.
- You can also configure the network settings using a web browser. After connecting to the controller's wireless network, turn on the browser and go to www.blebox.eu
- After reconnecting the phone to the controller's WiFi network, check the "WiFi Client status" and "Remote access status" fields. The controller is equipped with a network connection supervision system which in case of problems with connection to the WiFi or the Internet will report the problem and its possible causes. If the network is working properly both fields will be set to "Connected".
- In order to communicate with the device from outside the local WiFi network, from anywhere in the world, via the wBox application, the device automatically connects to the BleBox cloud system service by default. The remote access system is fully encrypted and secure, the data are transmitted by European servers from reputable companies. It is possible to disable the remote access service - after clicking the "Configure" button, toggle the switch next to the "Remote access" option. Disabling the "Remote access" option will disable the controller from being used outside the local network. It will also disable access to historical data (including charts), push notifications on smartphones and integrations with external systems (e.g. Google Home, Amazon Alexa). We recommend keeping this function enabled (this is the default setting).
- Enabling the "Event log" option will cause the device to record events (e.g. about sent notifications set in the "Actions" section) in the BleBox cloud system. This allows the history of the events to be viewed later also when the controller is offline.
- After completing the WiFi network configuration, you can disconnect from the device network and connect the phone / tablet directly to your home WiFi network. Control from the wBox application will work in the same way as when the phone / tablet is connected to the device's network. If as a user you leave the local network, eg leaving your home or enclosing mobile data, the wBox application will signal this status as "Remote mode". In this case, you will have access to the device data, but for security reasons settings options will not be available.
- In the "Service connection (AP)" section, you can change the name and give the password of the WiFi network emitted by the device. Remember that changing the network name or password can cause disconnection with the device immediately after clicking the "Save" button, so you should reconnect to the WiFi network.
- It is also possible to completely disable the access point emitted by the device. To do this move the "Access point" slider to the off position and confirm the selection with the "Save" button.



- Attention! If the controller does not have a stable connection to the WiFi network ("WiFi client status": "Connected", without any error warnings), restarting the access point will not be possible - in this situation, the only solution is to reset the controller to the factory settings. Disabling the access point is recommended only after the complete driver configuration and making sure that the entire system is working properly.

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DEVICE SETTINGS

- On the main control screen, where the icons showing the input status are displayed, go to the device settings (the "gear" icon in the upper right corner).
- In the "Name and Icon" section, you can change the device name under which it is displayed in the wBox application. Here you can also assign custom, user-friendly names to individual sensors, e.g. "Bedroom window", "Smoke detector" or "Alarm state"
- In this section, you can also set a different icon for each sensor (e.g. alarm, motion detector, smoke, gas, camera, projector, window, gate, etc.). This allows the user interface to be better adapted to the specific application. Changing the icon also affects the naming of states in the application. For example, for the window icon the states "Open"/"Closed" will appear, while for the device icon the states "ON"/"OFF" will be shown.
- "In the "Device Settings" section, in addition to the option to disable the LED indicator, you can configure the device inputs. Tabs labeled "Sensor 1" through "Sensor 4" (corresponding to IN 1-IN 4) are available. If one of the inputs is not used, you can disable the display of that sensor by turning off the "Sensor enabled" option."
- The "Input Mode" option is set to NO by default, with the possibility to change it to NC depending on the logic or type of the connected sensor. In other words, this option allows you to invert the logic of the displayed icon's operation. It is useful when the displayed icon state is opposite to the expected one.
- The last available setting is "Priority," which determines the value or state displayed with priority on the chart. The available options are "Minimum value" (inactive, off, open) and "Maximum value" (active, on, closed). This function is particularly useful when multiple different values or states are recorded during the sending interval. Default setting: "Maximum value."

can be found in the settings of the given device. Caution! All controllers must be in the same local network, and the "wireless client isolation" option in the AP/router must be disabled.

- The most popular API commands for switchBox and shutterBox are presented below. It was assumed that the IP address of the device which will be controlled is: 192.168.1.123

Turn on the alarm via switchBox: <http://192.168.1.123/s/1>

Turn off the alarm via switchBox: <http://192.168.1.123/s/0>

Retracting the projector screen via shutterBox: <http://192.168.1.123/s/u>

Extending the projector screen via shutterBox: <http://192.168.1.123/s/d>

- The "Send URL" action can also be used to transmit measurements to an external server. While creating the action, the "Action Symbols" button is available. It displays a list of available placeholders along with short descriptions. To add a action placeholder, click the "plus button".
- The best trigger type for this kind of use is "Cyclic" trigger. It allows sending information at various time intervals (at least every 15 seconds). Below are examples that use placeholders, also known as action symbols:
- Sending the input 2 state to an external server:
http://177.120.11.5/state/{i_state.1}
- Transmitting the status and state of sensor number 2 to an external server using a query string:
http://177.120.11.5/input2?sensor_state={s_state.1}&input_state={i_state.1}
- In the "Summary" tab name the action, check its correctness and confirm the entry with the "Save" button.
- A detailed description of control options and integrations examples for other controllers using the local open API can be found on our website, <https://blebox.eu>, in the FAQ section. The full technical API documentation for BleBox Devices is available at: <https://technical.blebox.eu>
- The added action will be displayed on the list. By expanding its details it is possible to preview the status of its last execution.

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ACTIONS

- The controller allows sending control commands to other BleBox devices via Wi-Fi using the local API. An action is triggered by a specified type of event, e.g. "state is high (active)" or "state is low (inactive) longer than." This makes it possible to create practical automation scenarios, such as automatically lowering the screen when the projector is turned on or switching off the air conditioner when a window is opened.
- When adding an action, in the "When" tab, select as the "Trigger type", for example: "State changed," "State is high/low," or "State is high/low longer than." In the "Sensor" field, indicate the appropriate input (IN1 - IN4) that should trigger the action.
- In the "Execute" tab select "Control other device" as "Result", confirm. Click on the "Select device" icon. The device will search the network for compatible devices and display them in a list. Choose the device you want to control. If the device is not listed you must use the general API control method described below or update the firmware in target device. Caution! All controllers must be in the same local network, and the "wireless client isolation" option in the AP/router must be disabled.
- Then in the "Call API" field enter the API command that the driver will call.

The most popular API control commands /s/ for switchBox and shutterBox are presented below:

Turn on the alarm via switchBox: 1

Turn off the alarm via switchBox: 0

Retracting the projector screen via shutterBox: u

Extending the projector screen via shutterBox: d

- By default, the action will be triggered once, when the trigger condition is met. It is also possible to repeatedly call a given action by selecting one of the repeat options and setting the interval.
- If the device was not on the found list or you want to control another device in the network, select "Call URL" as "Action type".
- In the "URL" field, enter the API command preceded by the http protocol prefix and the IP address of the controller you want to operate. The IP address

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NOTIFICATIONS

- The controller allows you to display a system notification on a phone with the wBox application installed on the particular trigger, e.g. "The state is high (active) for longer than".
- Notifications only work when the controller has a stable Internet access and the "Remote access" option is enabled (default setting).
- Notifications are added similarly to "Actions" - fill in the form fields and in the "Execute" tab select "Notification" as "Result". Confirm with the "Save" button.
- Additionally, it is possible to create "Custom Notifications" that allow you to define your own notification text. In custom notifications, you can use so-called placeholders (action symbols), which allow the current state to be displayed as 0 or 1.
- While creating a "Custom Notification" action, the "Action Symbols" button is available. It displays a list of available placeholders along with short descriptions. To add a placeholder, click the "plus" button.
- Examples of custom notification text
 - The window has been open for more than 1 hour
 - The gate has been opened
 - The alarm has been armed
 - The projector has been turned on
 - Motion detected!
 - Smoke detected!
- Custom notification text with current state on input no. 2:
Input 2 state: {i_state.1}
- For a notification to appear on your phone, you need to allow notifications from the selected BleBox device. This can be done in two ways:
 1. Go to the controller settings, select the "Notifications" tab, and enable the "Action notifications" option.



2. On the wBox app home screen (open the menu by tapping the “three lines” icon in the upper left corner), then select “Notifications.” Go to the notification settings, find the controller in the device list, and from the drop-down menu next to it, select “Action notifications.”

- In both cases, you can also enable other types of notifications. Confirm the changes by pressing the “Save” button in the upper right corner of the screen.”
- If notifications are not displayed despite their configuration check in the phone system settings (Android / iOS) whether the wBox application is authorized to display system notifications.

8 TIME AND LOCATION OF THE DEVICE

- Go to settings, to the “Time and location” section. In the “Device time” tab, select your region and location from the list, confirming the changes with the “Save” button. The device will synchronize its time with the NTP time server (if the controller is in a WiFi network with Internet access) or will download the time from the phone / tablet. Since the controller does not have a clock backup battery, the clock resets itself when the power is disconnected. Hence, it is recommended that the controller is always connected to a WiFi network with internet access so that it can automatically synchronize its clock. This is especially important in controllers that have the function of working with the schedule.
- You can specify the location of the controller using your smartphone or tablet. In the “Device location” tab click the “Set location” button. The application will ask whether to share the location - allow. The approximate coordinates of your location should appear in the “Coordinates” box. If the “Set location” button flashes red with “Error” or the “Coordinates” field has not changed the value from “Not set” to numerical data there has been a failure in retrieving the location. You should then make sure that the phone / tablet has a GPS module and that the wBox application has access rights to download the location in the phone settings. Setting the location is especially important in controllers that have the function of working with the schedule, in which the schedule is based on sunrise and sunset.

TECHNICAL SPECIFICATIONS

supply voltage	5-24V DC
energy consumption	< 1W
number of inputs	4
inputs type	low-voltage 5–24 V DC, potential-free, shorted to the negative or positive power supply pole depending on the polarity connected to the C terminal
mounting method	in the flush-mounted box, on the housing of othe device

housing	made of polyurethane composition not containing halogens, self-extinguishing for thermal class B (130 °C)
dimensions	41x39x17 mm
protection level	IP20
controller operating temperature	from -20 to +50°C
API	open https://technical.blebox.eu/
communication standard	µWiFi, compatible with WiFi, 802.11g
transmission type	bidirectional, encrypted
radio frequency	2.4 GHz
mode	direct connection (as Access Point), Wi-Fi connection via a standard router, connection with access from any location in the world (re- quires only access to the Internet)
encryption	WPA2-PSK and authenticated encryption with associated data (AEAD)
compatible devices and systems	iOS (e.g. iPhone, iPad), Android, macOS (ARM processors labeled M1 or newer)



INFORMATION ADDITIONAL

SOFTWARE UPDATE

In order to update the software in the controller it must be connected to the home WiFi network (see "WiFi connection settings" section) which is connected to the Internet. Go to settings, to the "Details, update and help" section and click the "Check for update" button. If an update is available the button changes to "Download new software". After clicking it, wait about 1 minute without closing the interface or taking any other actions. The device will download the latest software and then reboot. You can read the device ID, hardware and software versions in the device details.

HELP

The latest versions of the manual, additional informations and materials about products are available on our website: blebox.eu

General questions: info@blebox.eu

Service and technical support: support@blebox.eu

Before contacting our service, if it is possible, prepare the "Service key" of the given controller available in its settings, in the "Details, update and help" tab. By clicking the icon, the key will be copied to the phone's clipboard. Prepare also the "Installation key" of the wBox application, available in the main application menu, in the "Settings" tab.

Factory reset manual is available at:

<http://blebox.eu/start/reset>

The controller reconfiguration manual is available at:

<http://blebox.eu/start>

Warning! Restoring factory settings resets the controller configuration but does not unlink it from the user accounts it is assigned to. If the owner (the first user who added the device to their account) removes the controller, it is removed from all other users as well.

To remove the controller from your account in the wBox app: open the main menu, go to "Manage devices", select the controller, and click "Remove device." Alternatively, sign in to portal.blebox.eu, go to "Devices," select the controller, open "Actions" (top right), and click "Remove device." If you are not the owner, this removes the controller only from your account."

for more information visit our website

www.blebox.eu

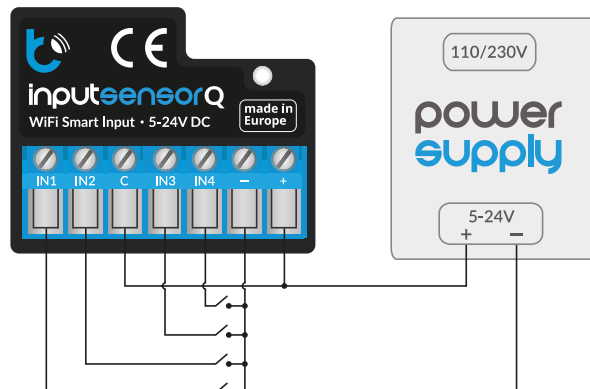
or send us an email to: info@blebox.eu

support is available at support@blebox.eu

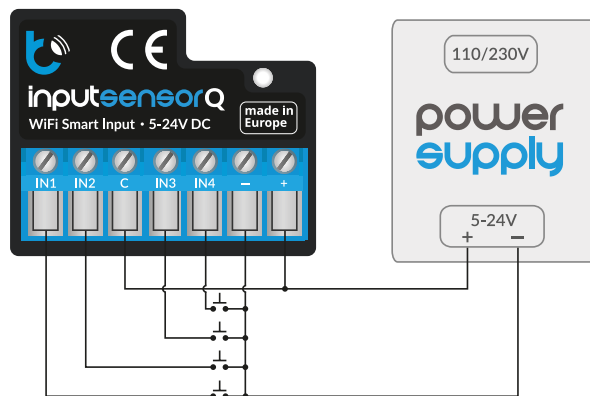
made in Europe

Connection diagrams

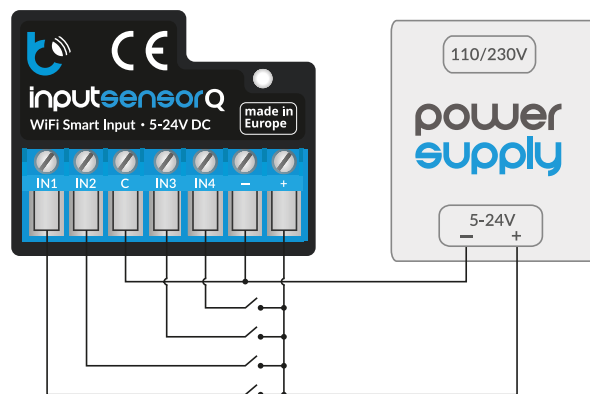
1. General wiring diagram – bistable switches (common positive)



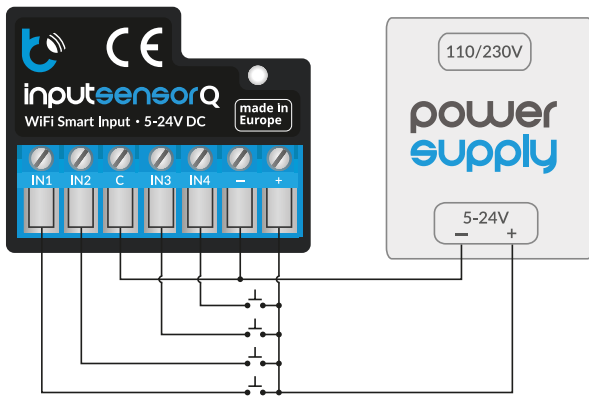
2. General wiring diagram – monostable switches (common positive)



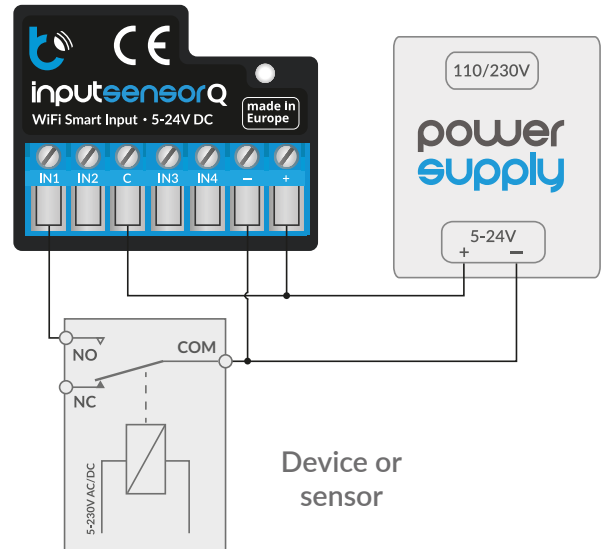
3. General wiring diagram – bistable switches (common negative)



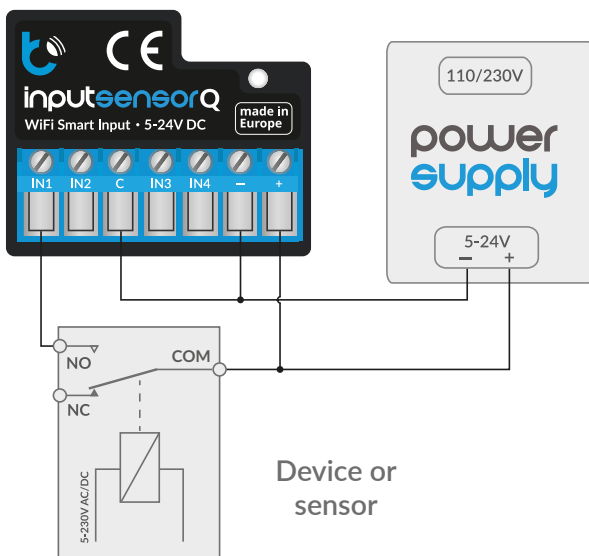
4. General wiring diagram – bistable switches (common negative)



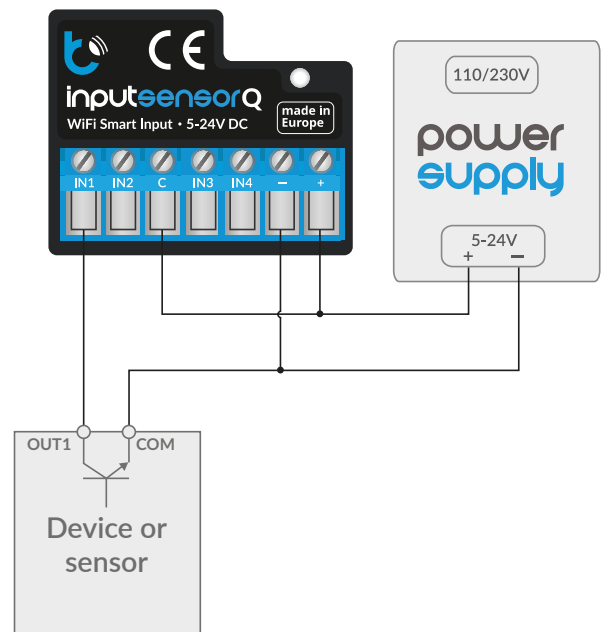
5. General wiring diagram – relay output / "dry contact" or isolation relay (common positive)



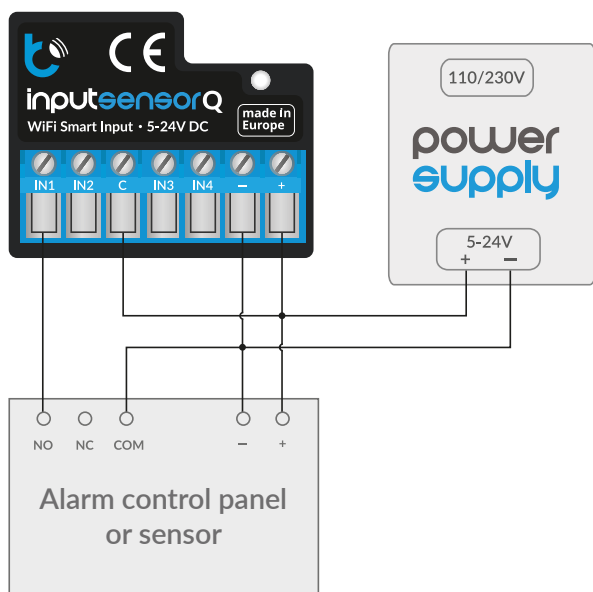
6. General wiring diagram – relay output / "dry contact" or isolation relay (common negative)



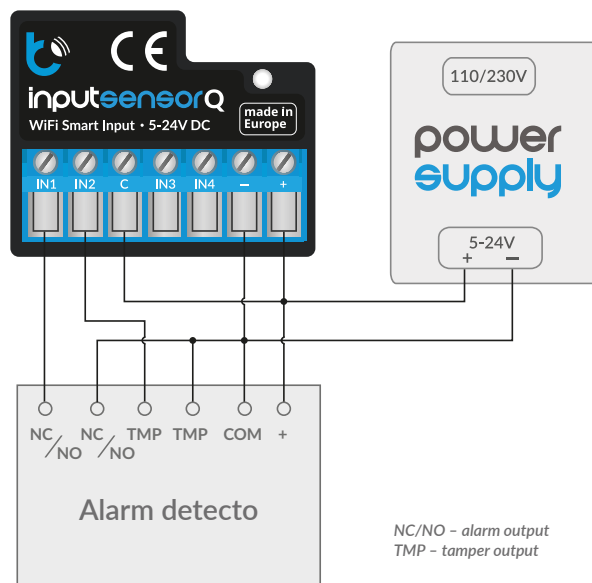
7. General wiring diagram – semiconductor "open-collector" output



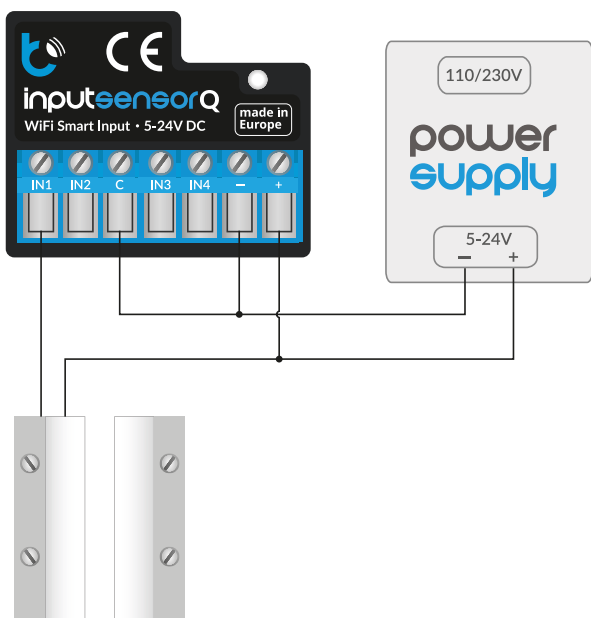
8. Connection to the alarm control panel or motion/presence sensor



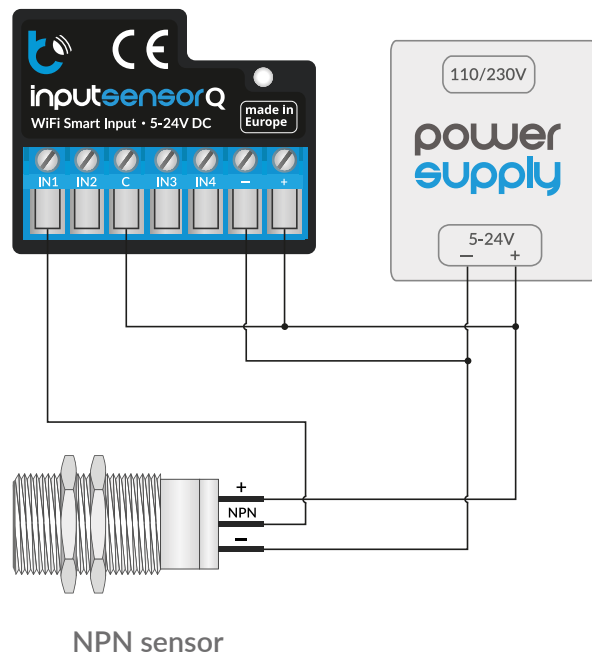
9. Connection to a smoke, carbon monoxide, or gas detector with an additional tamper output



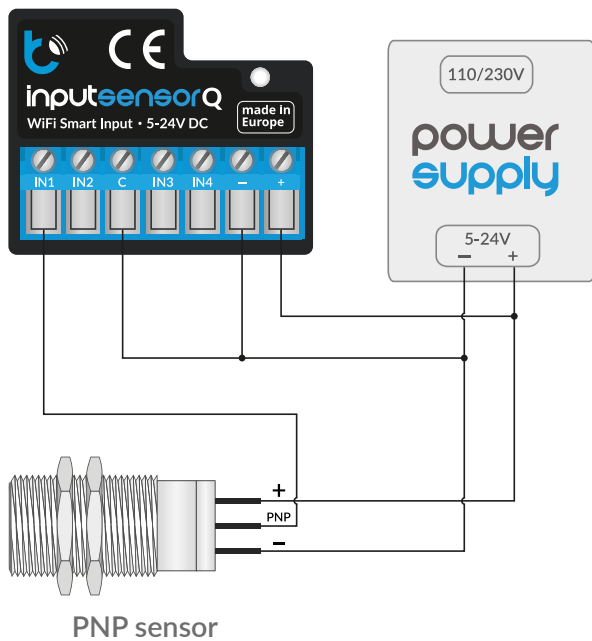
10. Connection to a reed switch in a window, gate, or door



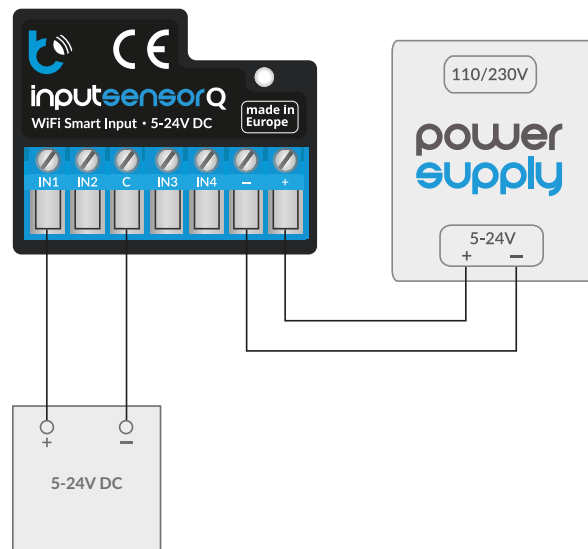
11. Connection to an NPN-type sensor with NO or NC output (e.g., inductive sensor)



12. Connection to a PNP-type sensor with NO or NC output (e.g., inductive sensor)



13. Connection to device power supply



14. Connection to the "BleBox parkingSensor" controller for reading parking space occupancy information

