NUKI

SMART MODULE

Installation and Commissioning Manual



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Professional Installation

Mechanical and electrical installation may only be carried out by qualified specialists in accordance with this manual as well as the national standards, directives, and safety regulations applicable at the respective installation site.

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Subject to changes and errors. Prior to starting the installation, it must be ensured that the most recent version of this manual is being used. The currently valid version is available for download on the official website.

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1. Introduction.

The Nuki Smart Module extends the functionality of integrated electromechanical door locks. It can be flexibly installed directly in or next to the door. The Smart Module controls electrically operated locking systems and enables keyless door opening via the Nuki App or Nuki accessories (e.g. Keypad). Control is possible either via Bluetooth (BLE) at close range or remotely via Wi-Fi. In addition, it can be controlled via Matter and thus through various smart home integrations.

This manual guides you step by step through the professional installation and commissioning of the Smart Module:

- **Mounting & mechanical installation:** Detailed descriptions of milled-in, surface-mounted and concealed installation as well as installation in flush-mounted boxes.
- **Wiring:** Pinouts and cable assignments as well as circuit variants for different use cases and additional functions.
- **Activation & setup:** Pairing the Smart Module with the Nuki App and setting up advanced system functions.
- **Function test:** Check of the system (both manually without the app and app-guided).

> **Note:**
> The standard configuration of the Smart Module via the Nuki App is not part of this manual; it is described in the app.

2. Important Information.

2.1 General

Illustrations are intended for general understanding and may differ from the actual design or colour.

The following symbols are used in this installation manual:

General warning sign: Indicates hazards that may lead to property damage or personal injury.

Important note: Contains application tips and particularly relevant information.

2.2 Intended Use

In combination with the recommended components, the Smart Module is designed for the following operating conditions:

Relative humidity:

max. 90%

Ambient temperature:

–25 °C to +70 °C

Requirements for intended use:

- **Passing on information:** This manual and all relevant safety instructions must be passed on to the persons concerned.
- **Professional installation:** Mechanical and electrical installation must be carried out by qualified personnel in accordance with the respective installation instructions.
- **Radio reception:** The Smart Module communicates wirelessly via Bluetooth (BLE), Wi-Fi and Thread. When choosing the installation position, make sure that complete shielding by metallic components is avoided.
- **Electrical limits:** The voltage and current specifications of the two switching outputs (OUT1 and OUT2) of the Smart Module must be observed and must not be exceeded.

2.3 Important Safety Instructions

The following safety instructions are essential for the installation and use of the Smart Module and must be strictly observed and followed.

- Read the installation manual and keep it accessible.
- The manufacturer is not liable for damage caused by improper use.

- Installing or repairing electrical equipment requires expertise; this work should therefore only be carried out by qualified electricians.
- Unauthorised conversions, modifications or makeshift repairs are prohibited for safety reasons. Only original parts may be used when replacing parts.
- The wiring must be installed in a secure area (e.g. concealed in the rebate) and protected against tampering.
- Sharp-edged millings and burrs can damage connectors, cables and terminal connections and must be avoided.
- For hinge-side milled-in installation, the integration frame must be used. The connection cable must be secured in it using the strain relief provided.

3. Product Description & Scope of Delivery.

The Nuki Smart Module is supplied with the components listed below. Depending on the individual installation situation and use case (e.g. milled-in installation or need for different cable lengths), additional components and cables can be ordered optionally.

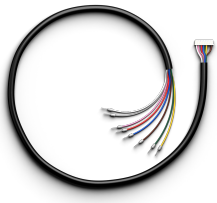
3.1 Package Contents Nuki Smart Module

Name	Illustration	Description
Nuki Smart Module		• Control electronics with plug connection • Dimensions (L x W x H): 56 mm x 35 mm x 9 mm
Slotted adapter		• Plug-in mounting set (two-piece) **Note:** Only required for surface-mounted installation. The required installation space, such as a rebate clearance of 12 mm, must be observed.
Installation Manual card • Matter sticker with secondary code (black) • Nuki sticker (white)		The Installation Manual card contains two stickers for setup: • **Matter sticker with secondary code:** For installation situations in which the code on the Smart Module is concealed. • **Nuki sticker:** Informs the end customer that a Nuki product is installed, incl. a reference to the Nuki App for setup. The Matter sticker with primary code is included with the Quick Start Guide in the insert for handover to the end customer.
Booklet		• Quick guide for fast orientation

3.2 Package Contents Integration Frame

Name	Illustration	Description
Integration frame with cover plate (faceplate width 24 mm)		• Mounting frame for the Smart Module for the integrated / milled-in installation variant
Cable tie		• Provides standard-compliant strain relief for the connection cable

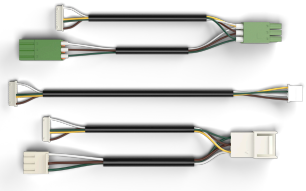
3.3 Package Contents Nuki Cable (50 cm)

Name	Illustration	Description
Nuki cable		• 8-pin connection cable with connector and open cable ends • Total length: 50 cm

3.4 Package Contents Nuki Cable (8 cm)

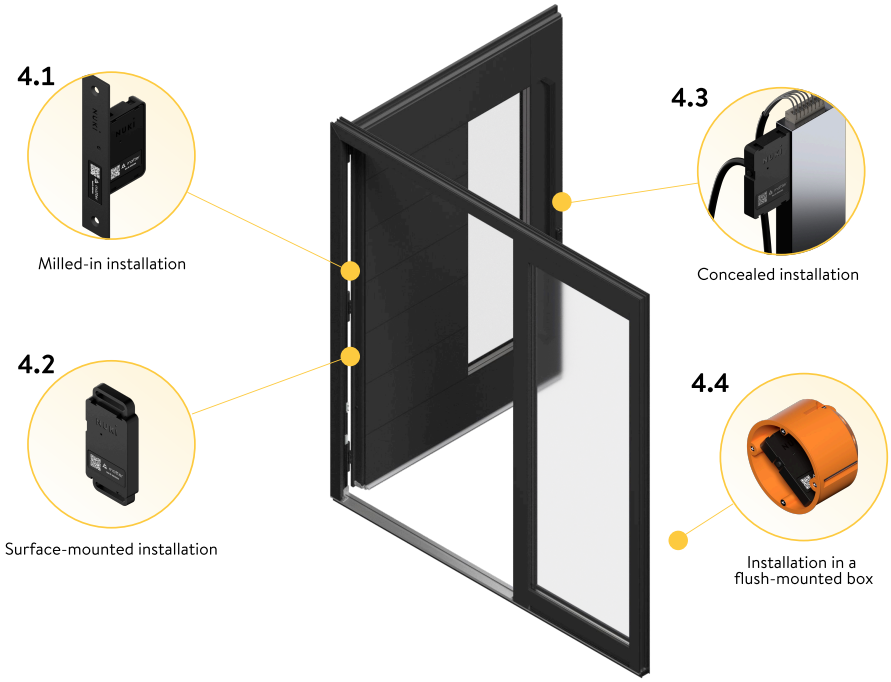
Name	Illustration	Description
Nuki cable		• 8-pin connection cable with connector and open cable ends • Total length: 8 cm

3.5 Accessories: Adapter cable for locking systems

Name	Illustration	Description
Y-adapter cable		In addition to the Nuki cables with open cable ends, various adapter cables are also available for selected locking systems (e.g. for KFV Siegenia, Maco, and GU). The range of Y-adapter cables for plug-and-play systems is continuously being expanded. Updates regarding this can be found in the Nuki Pro Shop or via the respective Nuki B2B contact.

4. Mounting & Mechanical Installation.

Various installation variants are available for the Smart Module. It can be installed either directly in the door (milled-in, surface-mounted or concealed) or near the door in a flush-mounted box. The installation variant is chosen by the respective fabricator or installation partner.



4.1
Milled-in installation

4.2
Surface-mounted installation

4.3
Concealed installation

4.4
Installation in a flush-mounted box

4.1 Milled-in Installation

With this installation variant, a cutout is milled into the door leaf or door frame profile on the hinge side. The Smart Module is fastened using the specially designed integration frame, which serves as a holder and at the same time completely covers the required pocket milling.

Note:
The integration frame is not included in the scope of delivery of the Smart Module and must be ordered separately. The integration frame has a faceplate width of 24 mm and a square-edged shape.

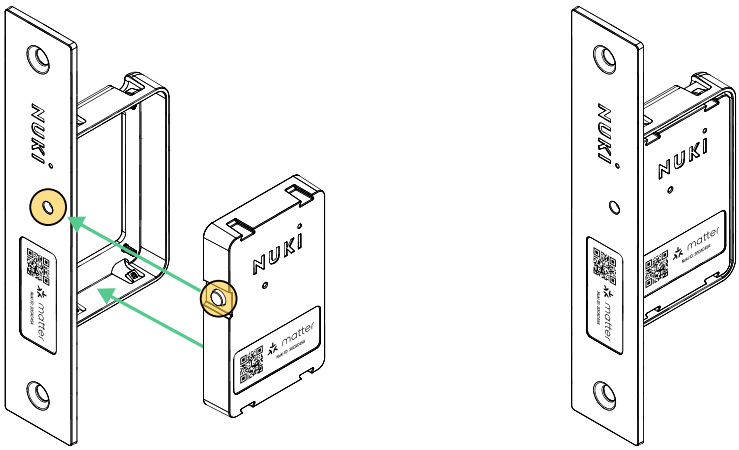
Step 1 Attach identification & insert the Smart Module into the frame

- **Attach Matter code:** To enable the end customer to set up the Smart Module later, the Smart Module package contains the Matter sticker with the Nuki device ID. Attach it to the integration frame in the designated area.



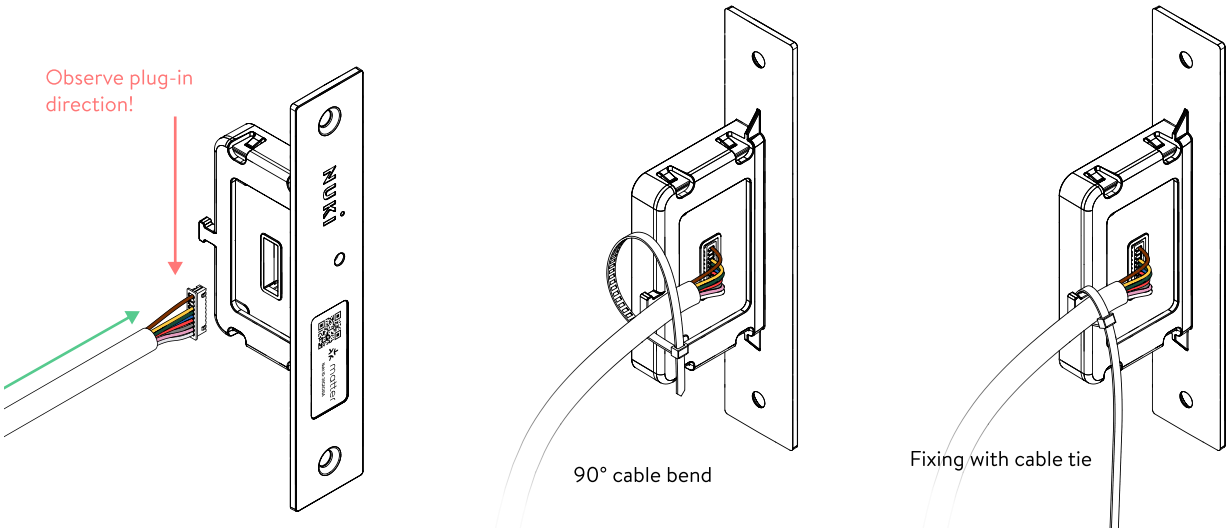
⚠ When producing several systems in series, the stickers must not be mixed up. Make sure that the stickers on the Smart Module and on the integration frame match.

- Make sure that the Smart Module is correctly aligned in the integration frame. The button of the Smart Module must sit under the hole in the cover plate so that it remains accessible, as shown in the markings in the following figure.
- Press the Smart Module into the integration frame with moderate force until the retaining hooks noticeably click into place.



Step 2 Cable connection with strain relief

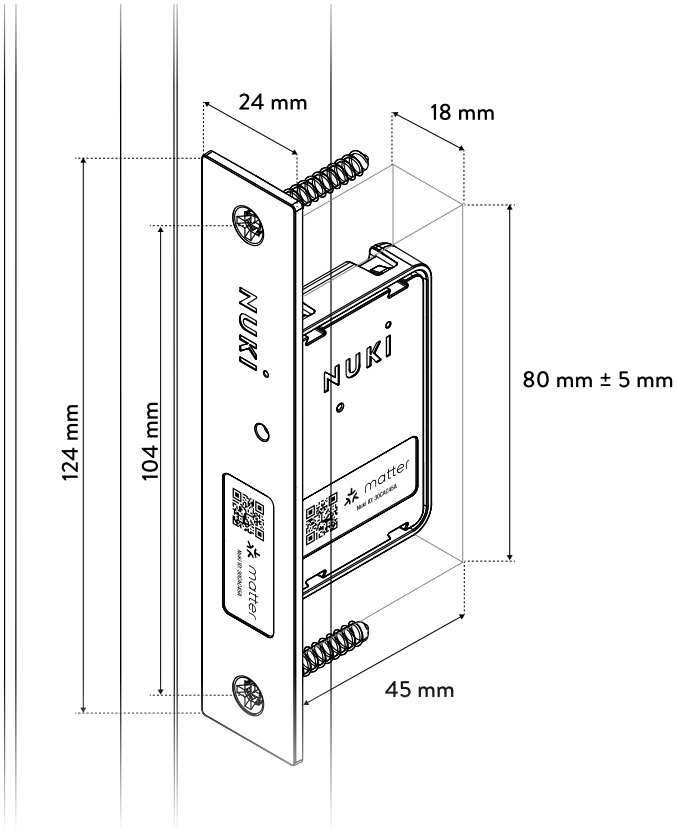
- Plug the connector of the Nuki cable into the Smart Module in the correct orientation and with moderate force.
- Check that the connector is firmly seated by pulling on it lightly.
- To ensure the required strain relief, secure the cable to the integration frame with the supplied cable tie.



Step 3 Milling & screw fastening

- Mill the recess into the door leaf or door frame according to the milling drawing shown.
- Thoroughly remove sharp milled edges and burrs to avoid damage to cables, connectors and terminals.

> Detailed dimensions can be found in the STEP file, which is available for download at the following link:
> **LINK ↗**



- Insert the integration frame with the Smart Module into the Milled recess (hinge-side / pocket-side) and screw it to the door frame or door leaf.

Step 4 End customer labelling

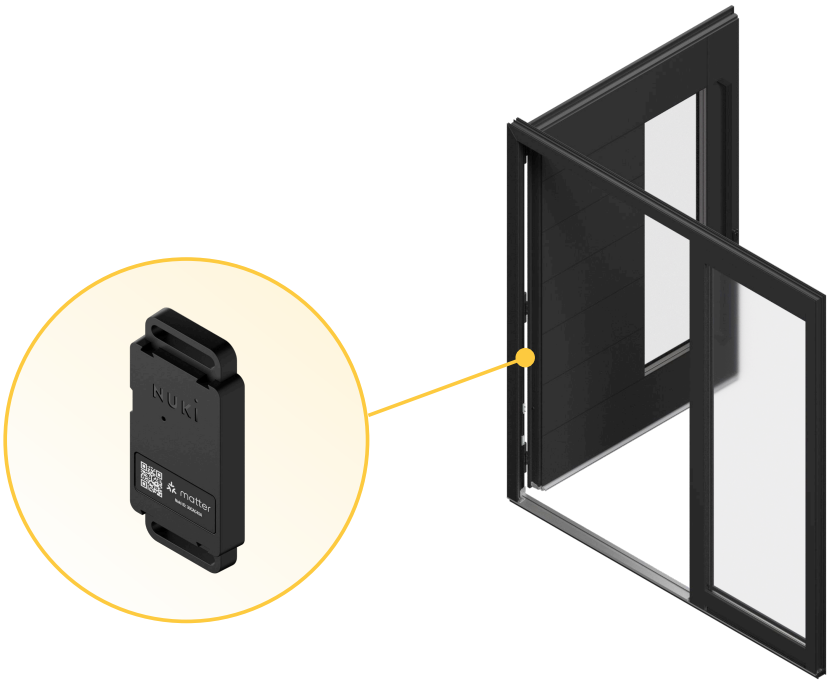
- Attach the Nuki sticker visibly near the installed Smart Module.
- It informs the end customer that a Nuki product is installed and refers to the Nuki website, where information on initial setup can be found.



4.2 Surface-mounted Installation

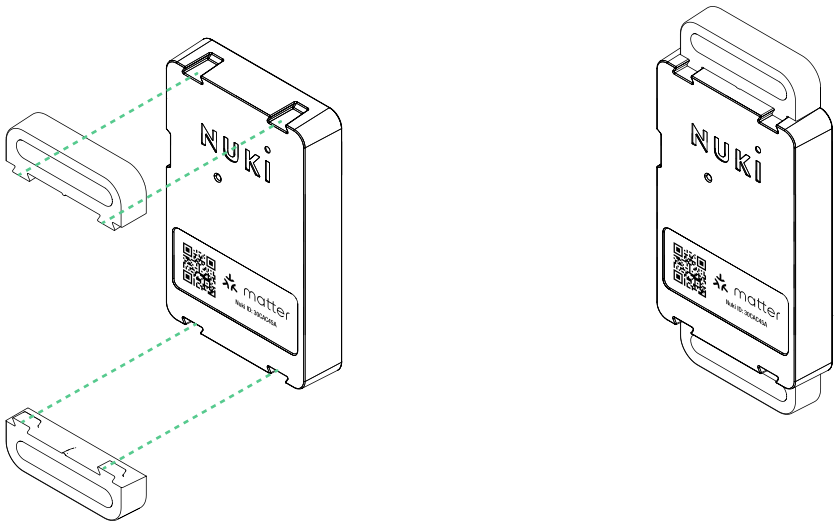
The Smart Module can be surface-mounted on the door leaf or door frame. With a mounting height of only 9 mm, this variant is particularly suitable for quick installation, provided there is sufficient rebate clearance. It is fastened using the supplied slotted adapters. If necessary, the Smart Module can also be mounted slightly off-centre.

Note:
The slotted adapters are included in the scope of delivery of the Smart Module.



Step 1 Preparing for surface mounting

- Slide the slotted adapters into the guide grooves of the Smart Module.
- Make sure that the slotted adapters form a flat contact surface with the back of the Smart Module.

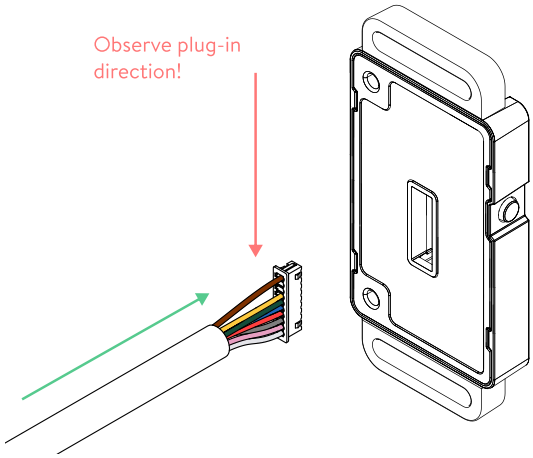


Step 2 Drill the cable hole and feed the cable through

- For surface-mounted installation, the cable is routed through the door leaf or frame. To do this, drill a cable hole at the intended mounting position of the Smart Module and route the Nuki cable so that the connector protrudes from the hole. After installation, the hole is completely covered by the Smart Module.

> ⚠ Avoid sharp edges and burrs on the drill hole to prevent damage to the cable

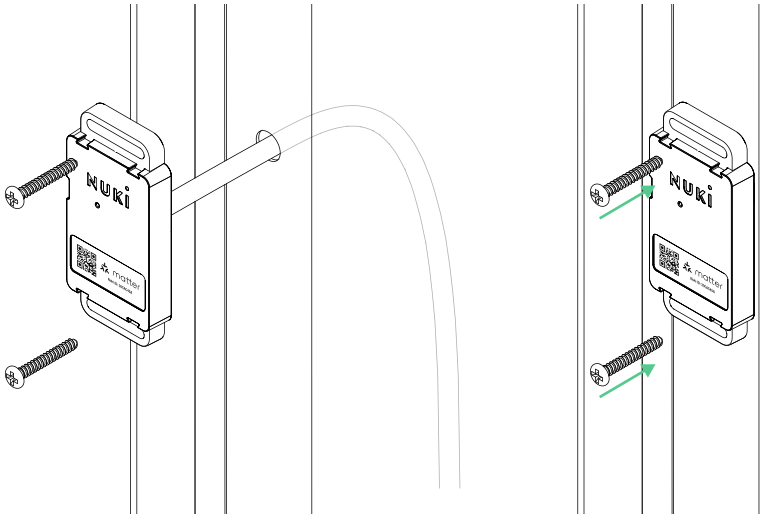
- Plug the connector of the Nuki cable into the back of the Smart Module in the correct orientation and with moderate force, then check that it is firmly seated by pulling on it lightly.



Step 3 Screw fastening & fixing

- Place the Smart Module over the hole and tighten it to the door frame or door leaf via the mounting tabs using suitable screws.

> ⚠ **Important note on cable routing:**
> The cable must not be routed in the area of the screw holes. Under no circumstances may the cable be damaged by the fastening screws.



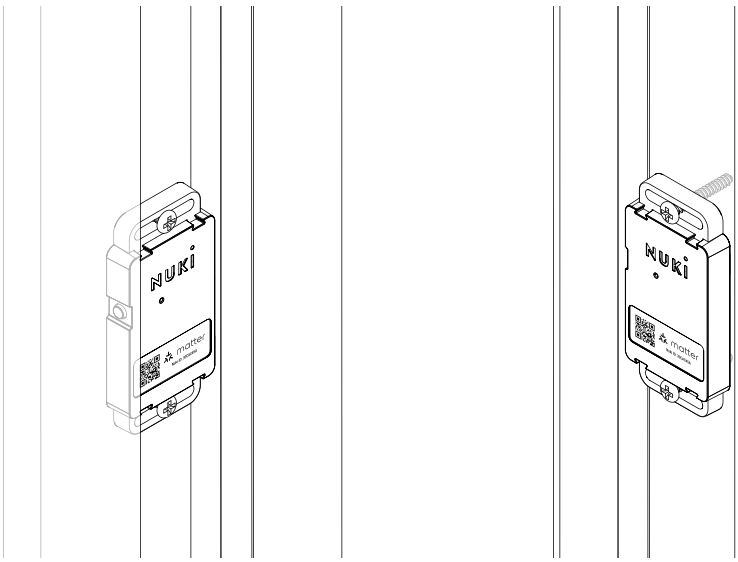


Illustration: Installation variants in the door frame or door leaf

Step 4 **End customer labelling**

- Attach the Nuki sticker visibly near the installed Smart Module.
- It informs the end customer that a Nuki product is installed and refers to the Nuki website, where information on initial setup can be found.

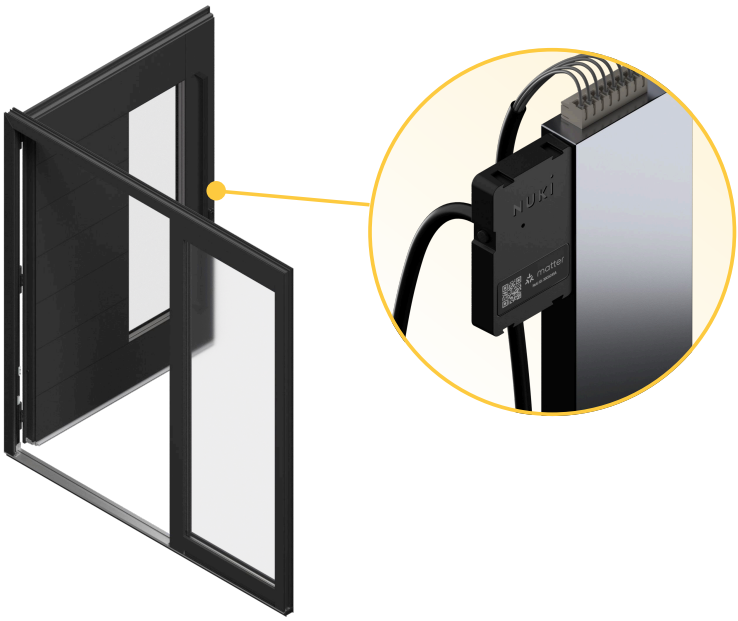


4.3 Concealed Installation

With this installation variant, the Smart Module is not visible once installed and the button is not accessible. The Smart Module is placed, for example, in an extended milled recess in the area of the lock case and connected directly to the locking system.

Beware of radio shielding:
With this installation variant, pay attention to possible shielding of the radio signal by metallic components. These include in particular motor housings, faceplates, connecting rods and other fitting components.

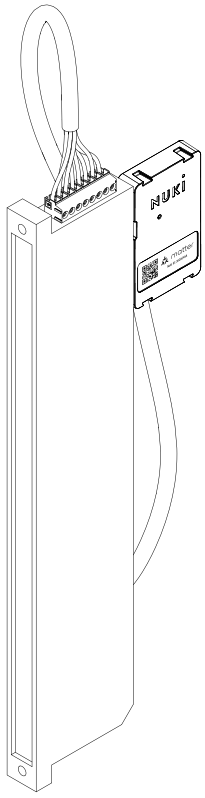
Service note:
Due to the concealed position, servicing or maintenance will take more time.



Step 1 Mounting

- The specific installation situation depends on the respective locking system and the space available in this area.
- The Smart Module is connected locally to the locking system and placed in the designated cavity (e.g. lock case recess).

Support:
Nuki Support is available for special use cases or questions about compatibility.



Step 2 **Labelling & identification**

Attach Matter sticker

- To enable the end customer to set up the Smart Module later, the Smart Module package contains the Matter sticker with the Nuki device ID. Attach this sticker to the faceplate of the door leaf.

> ⚠ When producing several systems in series, the stickers must not be mixed up. Make sure that the sticker on the Smart Module matches the faceplate sticker.



End customer labelling

- Attach the Nuki sticker visibly near the installed Smart Module.
- It informs the end customer that a Nuki product is installed and refers to the Nuki website, where information on initial setup can be found.

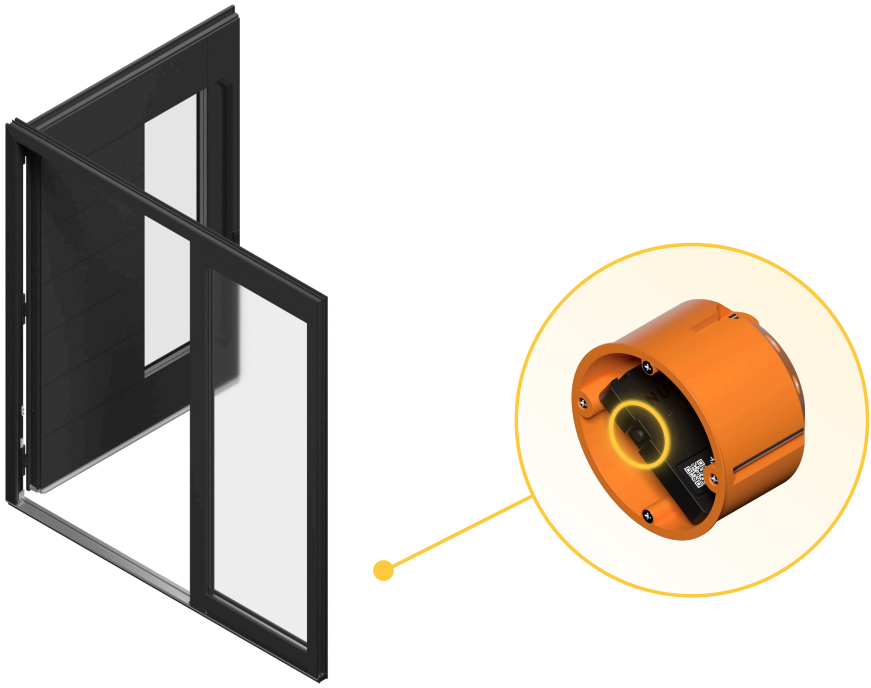


4.4 Installation in a Flush-mounted Box

The Smart Module can be installed in a standard flush-mounted box. The wiring is done directly in the box.

> ⚠ **Important safety note:**
> No mains voltage lines (230 V AC) may be routed in the flush-mounted box in which the Smart Module is installed. Only extra-low voltage lines of the locking system (supply, signal, external push buttons if applicable) are permitted. Power supply units must be installed in separate areas.

The Smart Module should be inserted so that the button is accessible when the flush-mounted box is open.



Suitable flush-mounted boxes

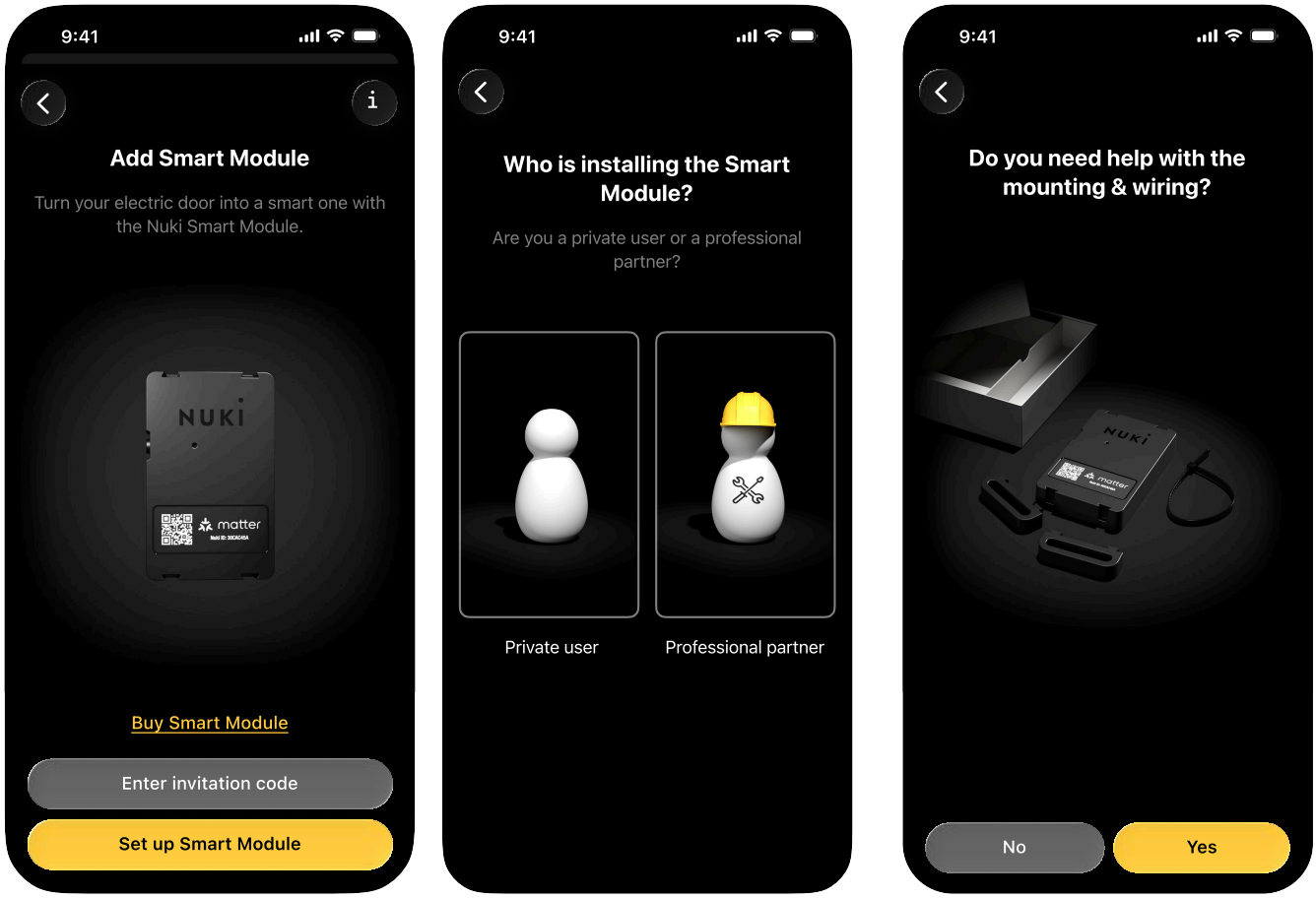
The following overview lists the compatible box types. The versions marked with an asterisk (*) are particularly recommended due to the larger installation space:

Shape	**Name**	**Dimensions** in mm	**Depth** in mm
Round	Device box (standard)	∅ 60	46
Round	Device box (standard)	∅ 68	47
Round	**Deep junction box***	∅ 60	66
Round	**Deep junction box***	∅ 68	61
Square	Junction box (large)	100 x 100	50
Square	Junction box (large)	165 x 165	72
Square	**Junction box (small)***	80 x 80	45
Square	**Junction box (small)***	107 x 107	53

= recommended

Step-by-step instructions in the app

Detailed step-by-step instructions for installation and electrical connection in the flush-mounted box are provided directly in the setup process of the Nuki App.



5. Wiring.

This chapter describes the pinout of the Smart Module, the colour coding of the Nuki cables and various electrical use cases.

5.1 Pinout and Cable Assignment

A description of the pinout can be found on the back of the Smart Module. The connector is mechanically protected against reverse polarity. The marking and colour coding of the 8-pin Nuki cable are described in the following table.



PIN	Cable marking	Cable colour	Name	Function
10	–	brown	GND	**Ground** (supply)
9	not used			
8	not used			
7	7	yellow	OUT1	1st Output: switching output of the solid-state relay (SSR) • Dry-contact and wet-contact switching signal possible **Main function:** Opening the main door Optionally also for using Passage Mode
6	6	green		
5	5	blue	OUT2	2nd Output: switching output of the solid-state relay (SSR) • Dry-contact and wet-contact switching signal possible **Examples of use:** • Opening an additional door • Switching an external contact (e.g. light control) • Passage Mode (day/night switching) for the main door
4	4	red		
3	3	grey	IN1 GND	Input: galvanically isolated binary input (3–50 V DC) • Signal level HIGH (ON): 3 … 50 V DC • Signal level LOW (OFF): 0 … <3 V DC **Examples of use:** • external door sensor (e.g. connected directly to the locking system) • external push button
2	2	pink	IN1	
1	+	white	VDC	**Supply voltage (5–24 V DC)**



5.2 Use Cases & Functions

The Smart Module can be combined with various electrically operated locking systems. Depending on the manufacturer and model version, basic and additional functions are available:

	Basic function	Additional function
Door opening	The door is opened by the switching pulse at the 1st Output (OUT1) of the Smart Module. Depending on the locking system, a dry-contact or wet-contact opening signal is required. The correct wiring diagram (dry contact or wet contact) must therefore be selected for the Smart Module.	–
Passage Mode	–	Passage Mode is not supported by all locking systems. If it is available, it is implemented differently depending on the system: • **Via the 1st Output (OUT1):** A continuous signal is output at the output already wired for door opening. No additional wiring is required. • **Via the 2nd Output (OUT2):** This output must be wired additionally.
Door status feedback (open/closed)	–	Status feedback is possible if the locking system has the required connections. Additional wiring is required for transmission to the Smart Module. The Input (IN1) of the Smart Module must be used for this.

5.3 Wiring by Use Case

5.3.1 Wiring with Y-adapter cable

In addition to the Nuki cables with open cable ends, various adapter cables are also available for selected locking systems. These enable a plug-and-play installation so that no manual wiring is required. The Y-adapter cable is connected between the lock and the original cable, allowing the existing lock cable to continue to be used. All relevant inputs and outputs of the lock are already connected to the Smart Module.

All Y-adapter cables are available in two lengths:

- **Short version:** For the installation of the Smart Module near the lock.
- **Long version:** For the installation of the Smart Module on the hinge side in the door frame (the cable is routed through the door leaf).



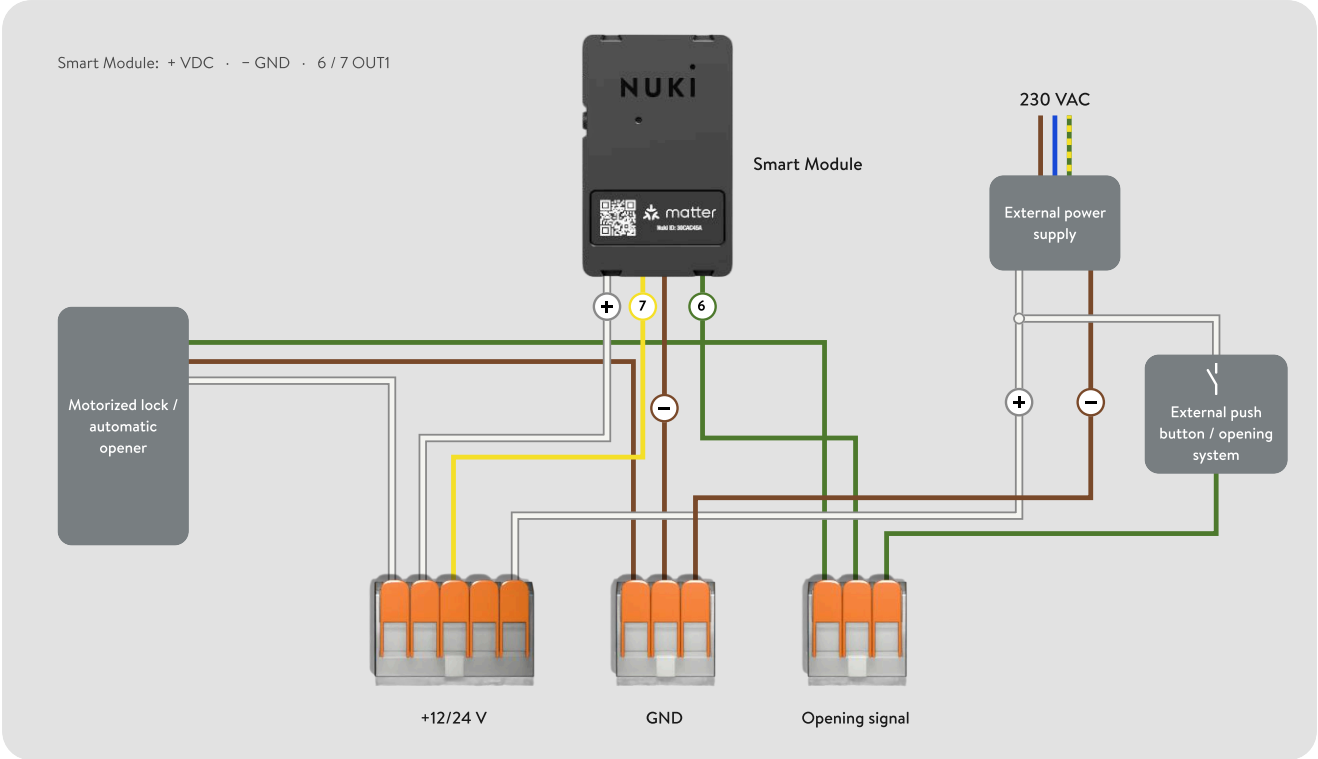
Connection of the Y-adapter cables:

1. The appropriate end of the Y-adapter cable is connected to the terminal on the lock.
2. The original lock cable is connected to the designated terminal on the Y-adapter cable.
3. The Smart Module is connected to the free strand of the Y-adapter cable.

5.3.2 Simple Wiring (Basic Function – Wet Contact)

In many use cases, a wet-contact switching signal is required (pulse to positive (+) VDC). For this, one terminal of the 1st Output (OUT1) is connected to the positive terminal (+) of the supply voltage and the other is routed to the signal input of the locking system.

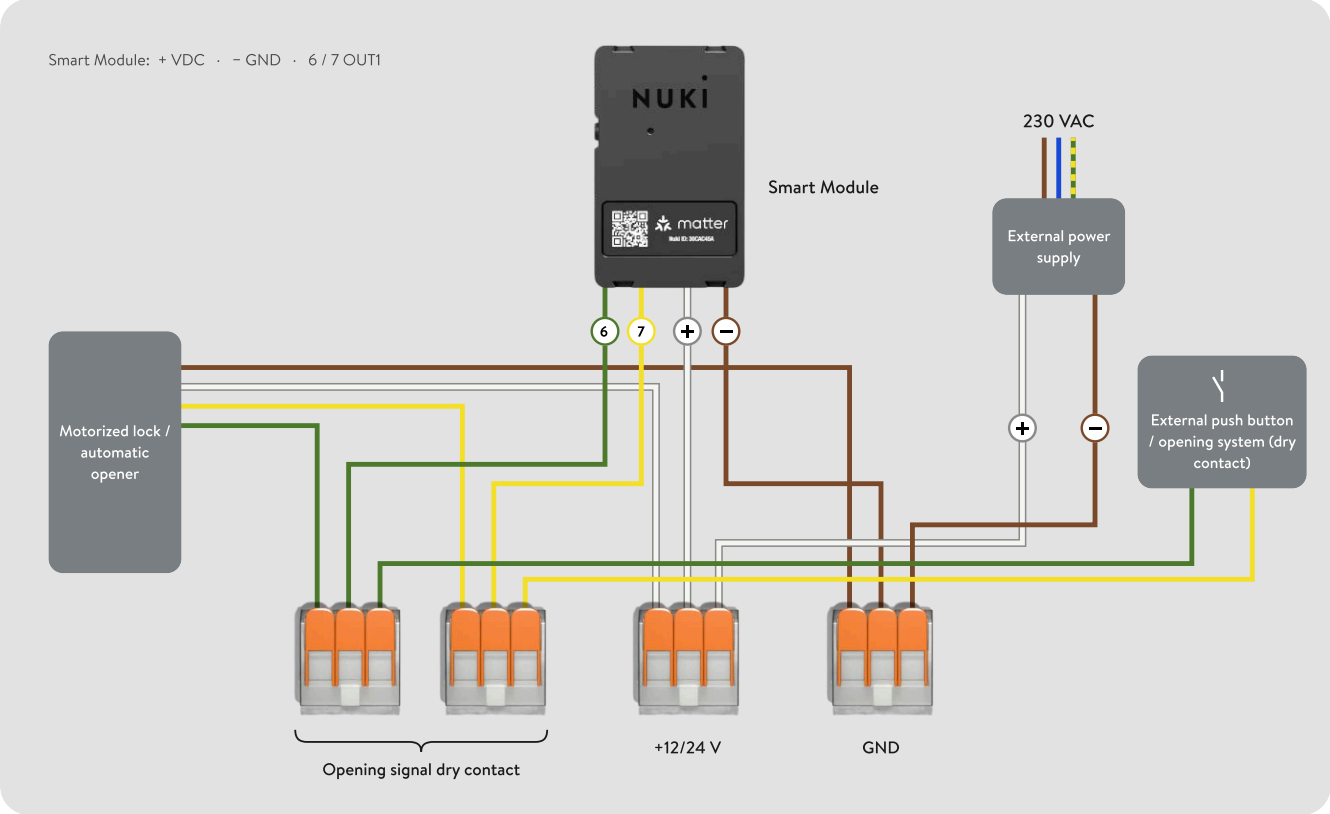
The basic function (door opening) is implemented via the 1st Output (OUT1), which is connected in parallel to any external opening options. The Smart Module is powered by the existing power supply unit of the locking system.



5.3.3 Simple Wiring (Basic Function – Dry Contact)

If the locking system requires a dry-contact opening signal, both terminals of the 1st Output (OUT1) are routed separately to the two signal inputs of the locking system.

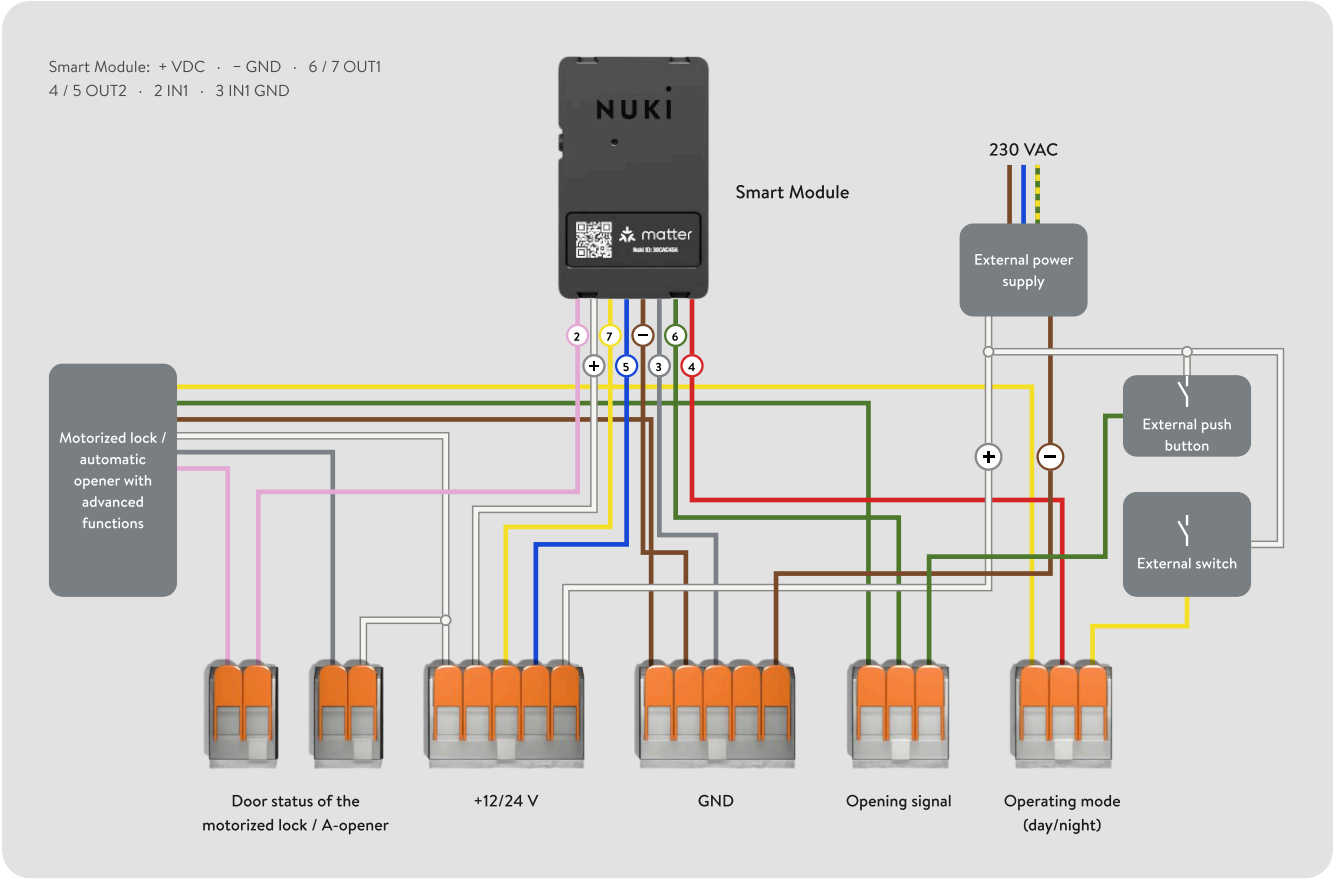
The basic function (door opening) is implemented via the 1st Output (OUT1), which is connected in parallel to any external opening options. The Smart Module is powered by the existing power supply unit of the locking system.



5.3.4 Extended Wiring (Basic Function with Additional Functions)

To use additional functions such as Passage Mode, the 2nd Output (OUT2) is usually used. Here, too, dry-contact or wet-contact wiring is possible. The following illustration shows the wet-contact connection of the 2nd Output (OUT2). As shown in the illustration, the Input (IN1) of the Smart Module can be used to transmit signals to the Smart Module, for example for the door status. The Smart Module is powered by the existing power supply unit of the locking system.

The Input (IN1) of the Smart Module is electrically (galvanically) isolated. Observe the polarity when connecting: the positive signal is applied to IN1, ground (reference potential) to IN1 GND.



6. Function Test (without Nuki App).

To check the correct wiring and function of the system, a manual function test can be carried out – without using the Nuki App.

Requirements:

- Make sure that both the locking system and the Smart Module are properly supplied with power.
- The function test is only possible as long as the Smart Module is not paired with the Nuki App, e.g. before the first pairing or after a factory reset.

Procedure:

1. Briefly press the button on the Smart Module.

> **Note:**
> In the case of a concealed installation, the button is not accessible. The function must be checked before the Smart Module is installed in the lock case milling.

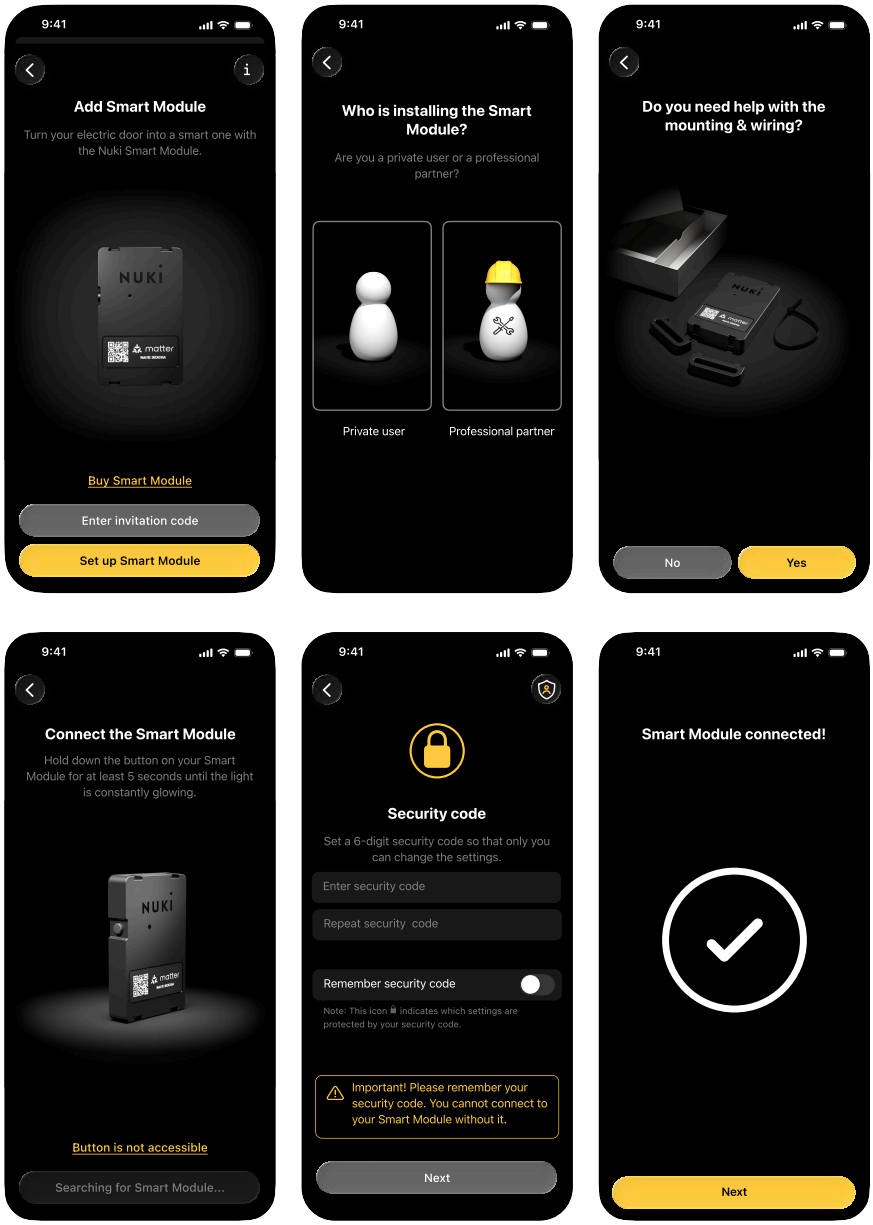
2. This pulse activates both switching outputs (OUT1 and OUT2) simultaneously and controls the connected locking system.

> **Tip for fabricators:**
> This quick test is ideal directly after installation to check the wiring before the system is handed over to the end customer.

7. Activation & Setup (Nuki App).

Like other Nuki devices, the Smart Module is paired and set up via the Nuki App. Bluetooth must be enabled on the mobile device for the setup process. Also make sure that the Smart Module is properly supplied with power.

After selecting the Smart Module in the Nuki App, the app-guided installation process starts and leads you step by step through the basic settings and the mounting (installation in a flush-mounted box). The required default settings are also made in the process.



7.1 Activating Pairing Mode

Device activation and pairing of the Smart Module with the Nuki App can be done in two ways, depending on the installation variant chosen:

Surface-mounted, milled-in, in flush-mounted box:

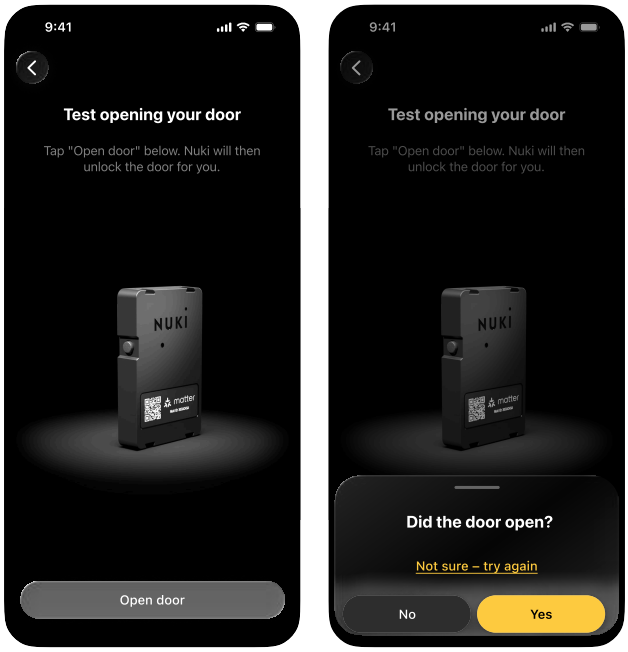
(button is accessible)

Press and hold the button on the Smart Module for more than 5 seconds until pairing mode is active. As long as the Smart Module is in pairing mode, the LED on the Smart Module lights up continuously white.

Concealed installation:

(button is not accessible)

Disconnect the power supply of the Smart Module for 30 seconds and then reconnect it to start pairing mode.



Immediately after successful pairing, the Nuki App offers an automatic quick test. It is used to directly check the correct control and function of the connected locking system.

7.2 Advanced Features and Settings

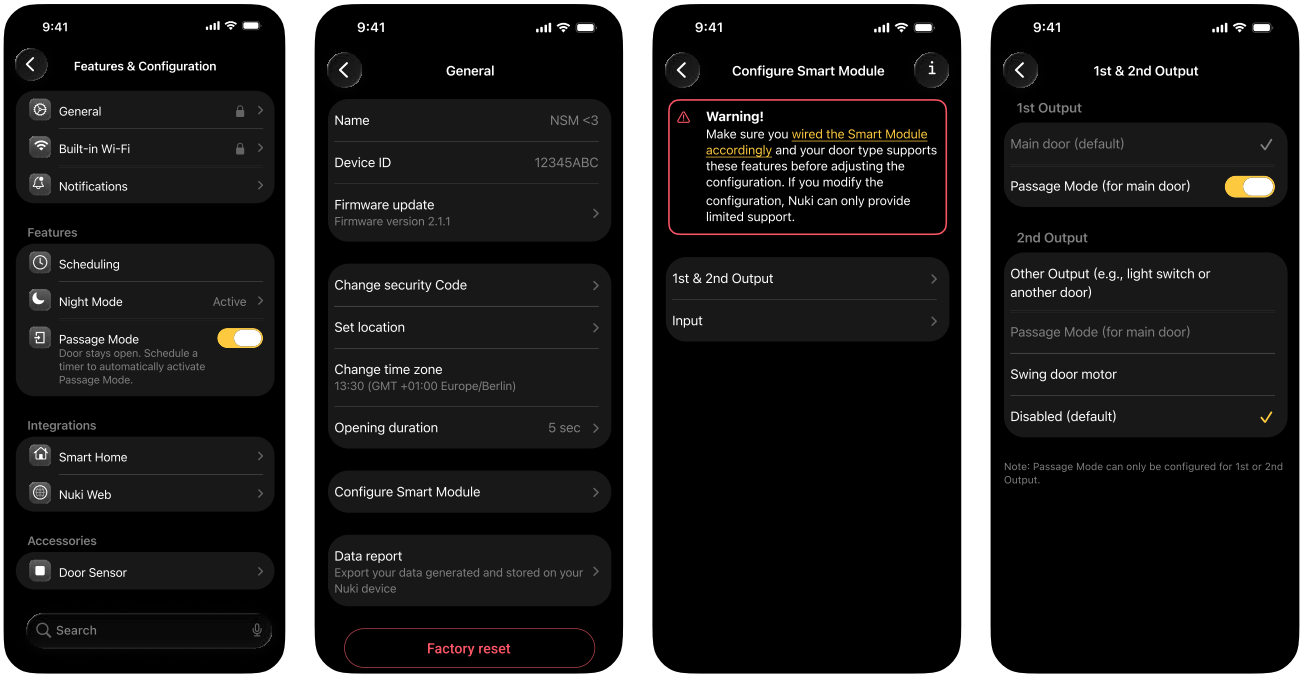
In the Nuki App, predefined functions can be selected for both outputs (OUT1 and OUT2) and the Input (IN1) of the Smart Module. The selection must match the actual wiring and the range of functions of the locking system.

The following additional functions can be selected:

Passage Mode

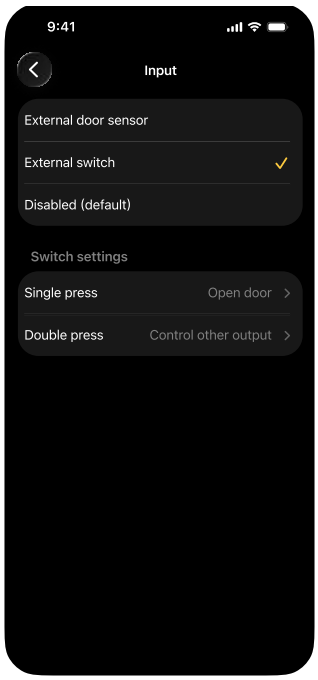
If the locking system supports Passage Mode via the regular opening signal, select the function in the additional functions of the 1st Output (OUT1). This output then provides both the normal opening signal and a continuous signal.

If the locking system uses a separate signal input for Passage Mode and the 2nd Output (OUT2) has been wired accordingly, select the function in the additional functions of the 2nd Output.



Switching input (IN1)

Depending on the wiring, the Input (IN1) can be used to connect an external door sensor or an external switch. If a switch is connected, actions can be assigned to single or double presses. By default, the Input (IN1) is disabled.



8. Technical Data.

8.1 General & Mechanical

Property	Value
Dimensions (L x W x H)	• **Module:** 56 x 35 x 9 mm • **Integration frame (optional):** 124 x 43.8 x 24 mm • **Slotted adapter:** 73.5 x 35 x 9 mm
Weight	approx. 50 g
Material	ABS plastic

8.2 Ambient Conditions

Property	Value
Operating temperature	-25 °C to +70 °C
Max. humidity	90 % RH (non-condensing)

8.3 Electrical & Interfaces

Property	Value
Supply voltage	5 – 24 VDC (±10 %)
Power consumption	5mW (min) bis 1W (max)
Connection	10-pin reverse-polarity-protected connector
Switching input	1x galvanically isolated (3 – 50 VDC)
Switching output relay 1	Solid-state relay (SSR) (NO), max. 50 VDC / max. 1.0 A
Switching output relay 2	Solid-state relay (SSR) (NO), max. 50 VDC / max. 0.4 A
Switching duration	1–30 s (default: 1 s) or permanent activation

8.4 Communication & Radio

Property	Value
Bluetooth (BLE)	IEEE 802.15.1 (2.4 GHz), max. 10 dBm (10 mW)
Thread	IEEE 802.15.4 (2.4 GHz), max. 10 dBm (10 mW)
Wi-Fi	IEEE 802.11 b/g/n (2.4 GHz), max. 17 dBm (50 mW)

8.5 Directives & Standards

Property	Value
Directives	• 2014/53/EU (RED) • 2011/65/EU (RoHS) • 2012/19/EU (WEEE) • Regulation (EC) 1907/2006 (REACH)
Standards	• IEC 62368-1 • ETSI EN 301 489-1/-17 • ETSI EN 300 328 • EN 62311 • EN 55032 • EN 55035 • EN 18031-1/-2



NUKI

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