dormakaba⁊

About this quick guide

Validity

This quick guide describes the product:

Product designation	**dormakaba registration unit 90 01**
Product ID	9001-K6
Item number	04079003
Date of manufacture	From February 2020

Target group

This quick guide should only be used by skilled persons trained by the manufacturer.

Supplementary documentation

The registration unit operates as a peripheral component to a parent control unit. The essential system functions can therefore be found in the technical manual for the parent unit.

Additional documentation is available on the Internet at the dormakaba website. The technical manuals are located in a protected area. They can be accessed via the user account of trained professionals. However, you can also create a temporary account.

https://www.dormakaba.com/extranet-emea-en

Safety instructions

Designated use

This product is intended for use as specified and explained in the Product description section only. Any other use is considered non-designated use. The manufacturer is not liable for any damage or injury due to non-designated use. The user/facility operator is the sole person to bear risks for non-designated use.

Staff qualification

The actions described in this quick start guide must only be carried out by skilled persons in accordance with EN 62368-1.

Skilled person is the designation for people who have the appropriate technical training and experience in setting up the equipment. Skilled persons are expected to use their training and experience to identify any risks to themselves and others that may arise while carrying out these activities, and to minimise these risks as far as possible. It is the skilled person's responsibility to ensure that the conditions stated by the manufacturer and the applicable regulations and standards are complied with when carrying out these actions.

Assembly and installation

The product should only be installed in locations which fulfil the environmental and technical conditions specified by the manufacturer.

The manufacturer is not liable for damage arising due to improper handling or incorrect installation.

Environmental protection

Do not dispose of the product in your domestic waste, but have it recycled.

ESD protective measures

NOTICE

Danger for electronic components due to electrostatic discharge.

Improper handling of printed circuit boards and components may cause damage leading to complete failure or malfunction of the device.

- Applicable ESD protective measures must be observed and applied when using electronic components.

Product description

The registration unit is a remote reader for authorization checking within an access control system.

The registration unit enables the contactless reading and writing of RFID media as well as access via a smartphone (Mobile Access).

The registration unit supports the following technologies:

- RFID MIFARE DESFire/Classic
- RFID LEGIC advant/prime
- NFC (Android Smartphone)
- Bluetooth Low Energy (Android Smartphone + iPhone)

The actually usable technologies depend on the system solution in which the registration unit is integrated.

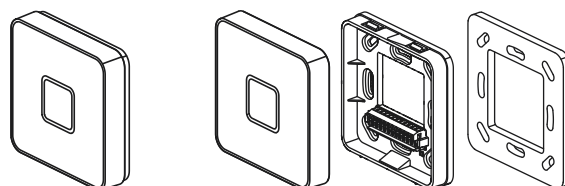The registration unit is connected to a superior control device using a coaxial cable.

The registration unit is installed directly on the wall in the door area.

The registration unit is equipped with a light icon (red/green) and a buzzer for optical and acoustic signalling.
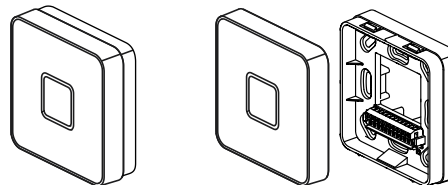
Product versions

The product is available for the following installation variants:

- back housing (19,4 mm) for flush cable mounting

- back housing with spacer frame (26,4 mm) for surface cable mounting

The product is available in the following color variants:

- Black/white aluminum (RAL9005/9006)
- White/white aluminum (RAL9016/9006)

Technical data

Power supply

The registration unit is supplied with power by the superior control device via the coaxial cable.

The power supply source of the superior device must meet the following requirements: LPS (Limited Power Source) and SELV (Safety Extra Low Voltage) in accordance with IEC/EN/UL/CSA 60950-1 or ES1 and PS1 in accordance with IEC/EN/UL/CSA 62368-1.
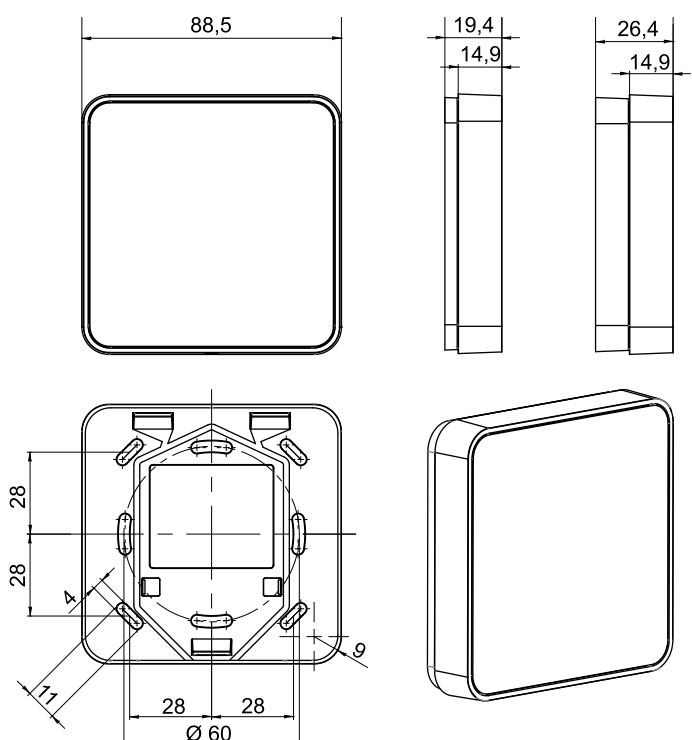
Interface

• Encrypted data transfer

Connecting cable

• Coaxial type RG 174/U
• Impedance 50 Ohm
• Cable length: min. 1 m; max. 30 m

Dimensions

Dimensions in millimetres

Ambient conditions

• Ingress protection according to IEC 60529:
    – IP40 for surface cable mounting with spacer frame
    – IP54 for flush cable mounting with back housing and sealing mat
• Relative humidity: 5% - 85%, non-condensing
• Ambient temperature:
    – -30 °C – +70 °C (operation)
    – -40 °C – +85 °C (storage)

Conformity

The product complies with the provisions of the EU directives

2014/53/EU - Radio Equipment Directive (RED)

2011/65/EU - Restriction of Hazardous Substances (RoHS)

ℹ️ You can download the original declaration of conformity in PDF format at www.dormakaba.com/conformity.

Installation

Installation conditions

Installation site

The registration unit is installed in an ergonomically suitable position, for example in the access area (door). The registration unit is mounted to a socket for flush mounting or cavity wall mounting with a screw distance of 60 mm. The cable entry takes place from the back. The optional back housing with spacer frame allows surface cable mounting with cable entry from below or from the side. When installed on a metallic surface, the higher back housing with spacer frame must be used.

The product is designed for the stationary use in buildings. The product is not suitable for the use in vehicles.

Distances

RFID fields which are close together can influence one another, thereby reducing the reading and writing distances. A distance of 20 cm must be maintained on all sides between two registration units which are not in operation on the same control unit.

In Mobile Access systems, minimum distances between registration units and other Mobile Access components must be observed in order to avoid overlapping the Bluetooth coverage. Details can be found in the Mobile Access Planning Guideline (04046728).

Installation height

The recommended installation height is 110 cm from the top edge of the registration unit.

The mounted height for the terminal should not be higher than 2 meters.

Electromagnetic fields

Do not install the registration unit in the vicinity of strong electromagnetic fields caused, for example, by switched-mode power supplies, electric power lines, phase control etc. Electromagnetic fields can adversely affect read performance or cause malfunctions, especially in the case of contactless RFID readers.

Connecting cable

Permissible length of the coaxial cable to the parent control unit:

• minimum 1 m
• maximum 30 m

The installation cables must be flush-mounted or mounted in the tamper-proof area.

To avoid external interferences, the coaxial cable must not be laid parallel to power lines or other sources which are prone to disturbance.
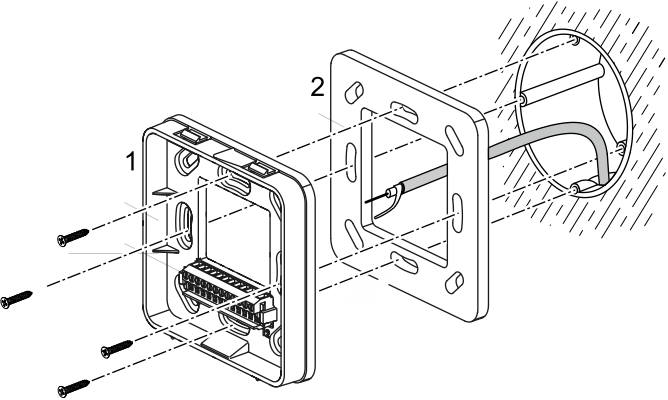
Fastening the registration unit

Principle

The registration unit consists of a back housing and an operating unit with electronics. The back housing is mounted on surface. The plug-in terminal is located on the back housing. Thanks to the quickwire technology, the complete wiring is separated from the electronics on the back housing. The electronics is placed on the back housing prior to start-up.
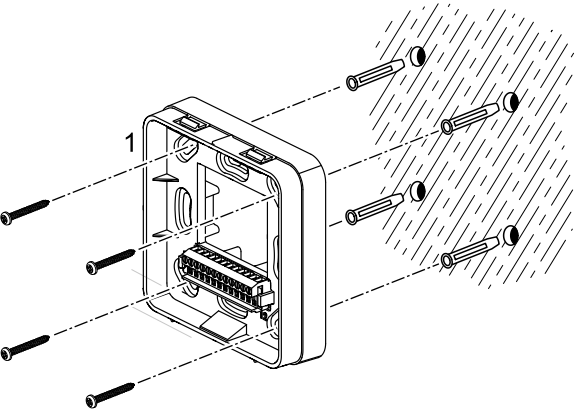
Flush cable mounting

ℹ️ To achieve the ingress protection to IEC 60529 specified in the technical data, the back housing must be mounted to the delivered black sealing mat (2). It is used to balance out any unevenness and to improve water resistance.

The back housing (1) is mounted on a flush-mounted or cavity wall switch box using suitable fastening screws (not included in the scope of delivery). The cable entry takes place from the back.
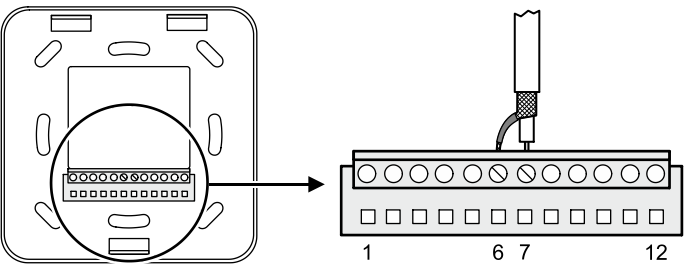

Surface cable mounting

For surface cable mounting, the cable entry can take place from below or from the side. First the respective cut-outs in the back housing with spacer frame (1) must be produced. A loop (siphon) should be provided, so that no water can enter. The back housing with spacer frame (1) can be screwed or glued to the surface.

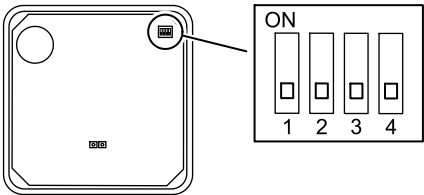

Connecting the coaxial cable

Terminal	Connection
6	Shield of coaxial cable (S)
7	Central conductor of coaxial cable (+)

Switch settings

On the back of the front panel there is a switch bank for setting the received signal strength (RSSI value).

This switch bank can be used to set or limit the range of Mobile Access via Bluetooth Low Energy (BLE).

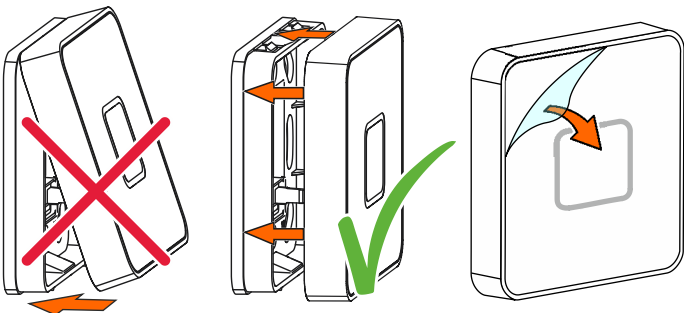| 1	2	3	4	RSSI [dBm]
OFF	OFF	OFF	OFF	BLE OFF
ON	OFF	OFF	OFF	-30
OFF	ON	OFF	OFF	-32
ON	ON	OFF	OFF	-34
OFF	OFF	ON	OFF	-35
ON	OFF	ON	OFF	-36
OFF	ON	ON	OFF	-37
ON	ON	ON	OFF	-39
OFF	OFF	OFF	ON	-42
ON	OFF	OFF	ON	-47
OFF	ON	OFF	ON	-53
ON	ON	OFF	ON	-60
OFF	OFF	ON	ON	-74
ON	OFF	ON	ON	-94
OFF	ON	ON	ON	-111
ON	ON	ON	ON	-128

The RSSI value can be changed if necessary. Higher values allow the recognition of smartphones over longer distances. Smaller values reduce the range and increase safety. A compromise between security requirements and operability is recommended.

Final mounting

Place the front panel with electronics on the back housing as follows:

NOTICE! If proceeding incorrectly, the pin header may become damaged!

1. Slide front panel in parallel onto the back housing.
2. Press the front panel against the back housing, until it audibly locks into place at the top and bottom.
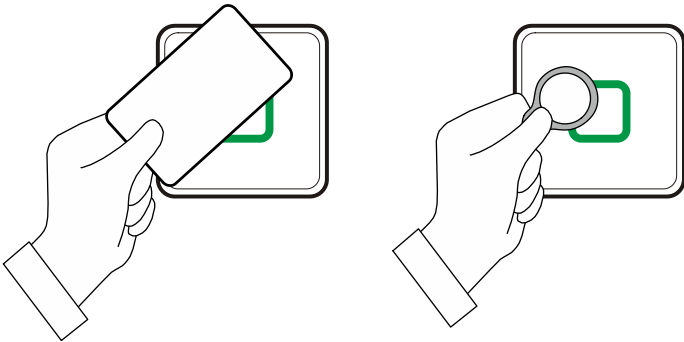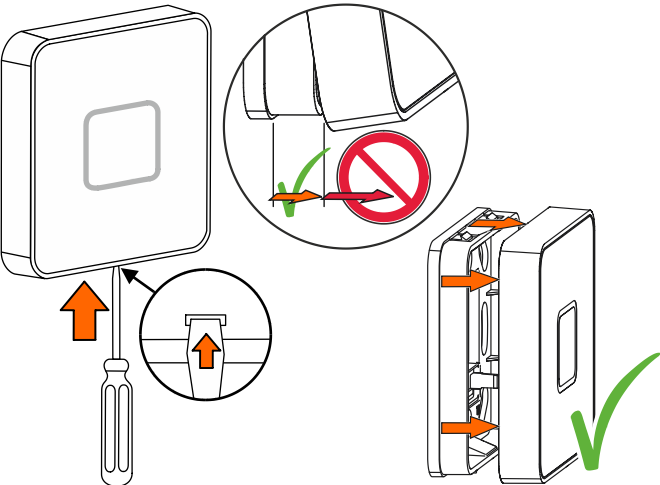3. Remove the protective film.

Removing the registration unit

The snap-lock connection allows you to quickly remove the front panel from the back housing.

NOTICE! If proceeding incorrectly, the pin header may become damaged!

1. Insert a screwdriver with a narrow blade (no. 1) into the opening below the frame and press it upwards.
    ⇨   The snap lock disconnects.
2. Swing the front panel slightly open at the bottom (max. 10°).
3. Pull the front panel in parallel away from the back housing.

Putting into operation

Put into operation and carry out the functional test in accordance with the control unit instructions.

Operating elements

1   Acoustic signal transmitter
2   Optical signal transmitter (illuminated ring)
3   Input area RFID / NFC

Operating sequences

The exact operating sequences are determined by the higher-level control system. The following descriptions refer to default settings.

Signaling

The operator is guided by optical and acoustic signals.

Signaling	Meaning
green permanent	in attendance
red permanent	access blocked
green short acoustic signal	access authorised
red flashing short acoustic signals	access not authorised

Booking with RFID media

The contactless media are held in front of the input field as follows.

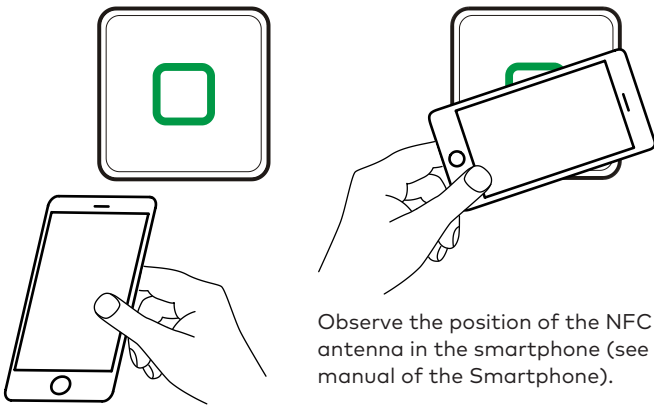### Access with Smartphone (Mobile Access)

Start 'dormakaba mobile access' app on the smartphone and touch the key.

Bluetooth applications

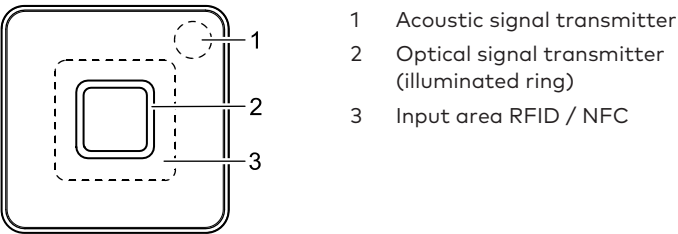Bring smartphone into the Bluetooth range.

NFC applications

Hold the smartphone in front of the input field.

Observe the position of the NFC antenna in the smartphone (see manual of the Smartphone).

Cleaning the housing

To clean the housing, use a soft, lint-free cloth and a mild window cleaning agent!

> **NOTICE**
>
> **Damage to the housing because of inappropriate cleaning agents**
>
> Observe the following instructions in order to avoid damaging the housing during the cleaning process:
>
> *   Do not use alcohol, such as ethanol or isopropanol
> *   Do not use aggressive solvents
> *   Do not use cleaning agents with added powder
> *   Avoid scratching and abrasive movements