

# Installation manual 2N<sup>®</sup> IP Verso

**2N**

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# 1. Product Overview

Here is what you can find in this section:

- [1.1 Components and Associated Products](#)
- [1.2 Terms and Symbols](#)

## Basic Features

**2N® IP Verso** is an elegant and reliable intercom equipped with lots of useful functions. Thanks to SIP support and compatibility with major brands of PBX manufacturers, it can benefit from using VoIP networks. **2N® IP Verso** can be used as a door or special purpose intercom for office buildings, residential areas and other applications.

**2N® IP Verso** is a modular system: the user determines its configuration according to the needs of the particular installation. Unlike other intercoms,

**2N® IP Verso** is not delivered as a compact unit. After choosing the installation mode and particular modules, the user gets separate parts to be assembled using the plug&play connections. This approach allows for unique individual combinations and also leaves space for adding of additional modules later on.

**Wide angle HD camera** – allows the tenant to see the calling person on his or her videophone or PC screen in high resolution. The camera itself is hidden behind a darkened glass, so it is not visible. The intercom is equipped with night vision, which automatically selects the night/day mode according to light.

**Quick dial buttons** – there are 146 quick dial buttons in total in multiple button modules. For each button, up to three separate phone numbers plus substitute users can be defined, which ensures that the called user is reached whenever needed. The buttons are backlit with a clear mechanical response. The nametag surface is scratch resistant.

**Keypad** – is a keypad module that allows the user to use the intercom as a code lock and dial a phone number or phonebook position of the called user.

**RFID card reader** – the card reader module brings the access control functionality according to the RFID card or keyfob. With the advanced features, other functions can be RFID card controlled too.

**Electric lock control** – as part of the access system, the electrical lock can be controlled by a code entered on the keypad or the called phone, with the RFID card, via a PC application, etc. When necessary, more electrical outputs can be added. Numerous parameters allow for a wide spectrum of applications.

**Robustness** – **2N® IP Verso** is designed as a vandal resistant intercom, which withstands mechanical or weather conditions with no need to purchase extra accessories.

**Audio quality** – using the automatic echo cancelling system, full duplex communication is available at any time.

**The installation of 2N® IP Verso** is very easy, all you have to do is assemble the required parts and modules and attach the network cable. The modules are plug&play, so there is no need to configure them manually. The intercom can be supplied from a 12 V DC power source, or using a PoE switch.

Use your PC with any internet browser to configure **2N® IP Verso** or apply the **2N® Access Commander** to configure extensive installations of multiple intercoms.

### Advantages of Use

- Elegant design
- Weather resistant
- Various modes of installation (flush, surface, plasterboard)
- Sensitive microphone and loud speaker
- Both-way audio communication – acoustic echo cancellation
- Integrated colour HD camera with wide-angle lense and hidden night vision
- Selectable number of quick dial buttons with nametags and backlight
- Optional numeric keypad with backlight
- Option to have multiple modules of the same kind – for example, card reader for both entering and leaving the building
- Integrated switches of electric locks with wide setting options
- Optional integrated RFID card reader module
- PoE or 12 V DC power supply
- Configuration using web interface or dedicated PC application
- VoIP standard SIP 2.0 support
- 10 000 Phone Book positions
- 20 user time profiles
- Video codecs (H.263, H.263+, H.264, MPEG-4, MJPEG)
- Audio codecs (G.711, G.729, G.722, L16/16kHz)
- HTTP server for configuration
- SNTP client for time synchronisation
- RTSP server for audio and video streaming, ONVIF compatible
- SMTP client for email sending, Picture to Email feature
- TFTP/HTTP client for automated firmware and configuration upgrade and update

## 1.1 Components and Associated Products

### Main Units

<p><b>2N Part No. 9155101</b></p> <p><b>Axis Part No. 01271-001</b></p> 	<ul style="list-style-type: none"> <li>• Main unit</li> <li>• There must be just one (with/without a camera) main unit in every installation. The main unit installation requires two frame/box positions; the other position, however, is left for additional module installation.</li> </ul>
<p><b>2N Part No. 9155101B</b></p> <p><b>Axis Part No. 01272-001</b></p> 	<ul style="list-style-type: none"> <li>• Main unit</li> <li>• There must be just one (with/without a camera) main unit in every installation. The main unit installation requires two frame/box positions; the other position, however, is left for additional module installation.</li> <li>• We do not recommend that the device should be installed where exposed to direct sunlight.</li> </ul>

**2N Part  
No. 9155101C**

**Axis Part No.  
01273-001**



- Main unit with camera
- HD camera
- There must be just one (with/without a camera) main unit in every installation. The main unit installation requires two frame/box positions; the other position, however, is left for additional module installation.

**2N Part  
No. 9155101CB**

**Axis Part No.  
01274-001**

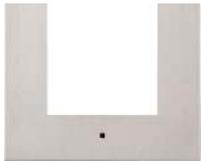


- Main unit
- HD camera
- There must be just one (with/without a camera) main unit in every installation. The main unit installation requires two frame/box positions; the other position, however, is left for additional module installation.
- We do not recommend that the device should be installed where exposed to direct sunlight.

**⚠ Caution**

- There must be just one (with/without a camera) main unit in every installation. The main unit installation requires two frame/box positions; the other position, however, is left for additional module installation.
- One blind module is supplied with the main unit.

Frames

<p><b>2N Part No. 9155011</b></p> <p><b>Axis Part No. 01278-001</b></p> 	<ul style="list-style-type: none"> <li>• Flush mounting frame</li> <li>• 1 module</li> <li>• Covering frame for the 1-module brick/plasterboard flush mounting box. The 1-module frame is used when another module is added to the existing installation or when the module is mounted to an extended interconnecting cable for an outgoing reader, for example. Remember to order the frame when you order a 1-module flush mounting box, Part No. 9155014.</li> </ul>
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<p><b>2N Part No. 9155011B</b></p> <p><b>Axis Part No. 01279-001</b></p> 	<ul style="list-style-type: none"> <li>• Flush mounting frame</li> <li>• 1 module</li> <li>• Covering frame for the 1-module brick/plasterboard flush mounting box. The 1-module frame is used when another module is added to the existing installation or when the module is mounted to an extended interconnecting cable for an outgoing reader, for example. Remember to order the frame when you order a 1-module flush mounting box, Part No. 9155014.</li> </ul>
<p><b>2N Part No. 9155012</b></p> <p><b>Axis Part No. 01281-001</b></p> 	<ul style="list-style-type: none"> <li>• Flush mounting frame</li> <li>• 2 modules</li> <li>• Covering frame for the 2-module brick/plasterboard flush mounting box. Remember to order the frame when you order a 2-module flush mounting box, Part No. 9155015.</li> </ul>

**2N Part  
No. 9155012B**  
**Axis Part No.  
01282-001**



- Flush mounting frame
- 2 modules
- Covering frame for the 2-module brick/plasterboard flush mounting box. Remember to order the frame when you order a 2-module flush mounting box, Part No. 9155015.

**2N Part  
No. 9155013**  
**Axis Part No.  
01282-001**



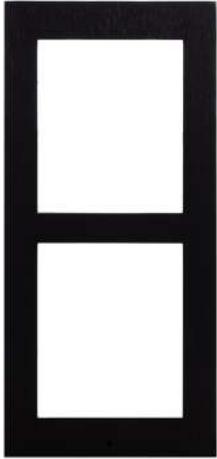
- Flush mounting frame
- 3 modules
- Covering frame for the 3-module brick/plasterboard flush mounting box. Remember to order the frame when you order a 3-module flush mounting box, Part No. 9155016.

<p><b>2N Part No. 9155013B</b></p> <p><b>Axis Part No. 01283-001</b></p> 	<ul style="list-style-type: none"> <li>• Flush mounting frame</li> <li>• 3 modules</li> <li>• Covering frame for the 3-module brick/plasterboard flush mounting box. Remember to order the frame when you order a 3-module flush mounting box, Part No. 9155016.</li> </ul>
<p><b>2N Part No. 9155021</b></p> <p><b>Axis Part No. 01287-001</b></p> 	<ul style="list-style-type: none"> <li>• Surface mounting frame</li> <li>• 1 module</li> <li>• The 1-module frame is used when another module is added to the existing installation or when the module is mounted to an extended interconnecting cable for an outgoing reader, for example.</li> </ul>

<p><b>2N Part No. 9155021B</b></p> <p><b>Axis Part No. 01288-001</b></p> 	<ul style="list-style-type: none"><li>• Surface mounting frame</li><li>• 1 module</li><li>• The 1-module frame is used when another module is added to the existing installation or when the module is mounted to an extended interconnecting cable for an outgoing reader, for example.</li></ul>
<p><b>2N Part No. 9155022</b></p> <p><b>Axis Part No. 01289-001</b></p> 	<ul style="list-style-type: none"><li>• Surface mounting box</li><li>• 2 modules</li></ul>

**2N Part  
No. 9155022B**

**Axis Part No.  
01290-001**



- Surface mounting box
- 2 modules

**2N Part  
No. 9155023**

**Axis Part No.  
01291-001**



- Surface mounting box
- 3 modules

<p><b>2N Part No. 9155023B</b></p> <p><b>Axis Part No. 01292-001</b></p> 	<ul style="list-style-type: none"> <li>• Surface mounting box</li> <li>• 3 modules</li> </ul>
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✓ **Tip**

- The 1-module frame is used when another module is added to the existing installation or when the module is mounted to an extended interconnecting cable for an outgoing reader, for example.

✓ **Tip**

- Be sure to order the covering frame for the flush or plasterboard mounting box together with the flush mounting box.
  - 1-module frame (Part No. **9155011**) – 1-module flush mounting box (Part No. **9155014**)
  - 2-module frame (Part No. **9155012**) – 2-module flush mounting box (Part No. **9155015**)
  - 3-module frame (Part No. **9155013**) – 3-module flush mounting box (Part No. **9155016**)

Extending Modules

<p><b>2N Part No. 9155030</b> <b>Axis Part No. 01252-001</b></p> 	<ul style="list-style-type: none"> <li>• <b>2N® IP Verso</b> – Info panel</li> <li>• The Infopanel module helps you place such information into the intercom installation as house number, opening hours and similar data. The Infopanel backlight is software controlled.</li> </ul>
<p><b>2N Part No. 9155031</b> <b>Axis Part No. 01253-001</b></p> 	<ul style="list-style-type: none"> <li>• <b>2N® IP Verso</b> – Keypad</li> <li>• The numeric keypad module helps you dial users via their phonebook positions or phone numbers, control the lock and use other code-accessible functions. The keypad digits and symbols are backlit.</li> </ul>
<p><b>2N Part No. 9155031B</b> <b>Axis Part No. 01254-001</b></p> 	<ul style="list-style-type: none"> <li>• <b>2N® IP Verso</b> – Keypad</li> <li>• The numeric keypad module helps you dial users via their phonebook positions or phone numbers, control the lock and use other code-accessible functions. The keypad digits and symbols are backlit.</li> </ul>

**2N Part No. 9155047**  
**Axis Part No. 01277-001**



- **2N® IP Verso** – Touch keypad
- The numeric touch keypad module helps you dial users via their phonebook positions or phone numbers, control the lock and use other code-accessible functions. The keypad digits and symbols are backlit.

**2N Part No. 9155081**  
**Axis Part No. 01636-001**



- **2N® IP Verso** – Touch keypad & RFID reader 125kHz, 13.56MHz, NFC/HCE
- The touch keypad and card reader module provides you with access control via contactless cards or keyfobs. The module supports the following 125 kHz and 13.56 MHz cards or other carriers (only the card serial number is read):
  - **125 kHz**
    - EM4xxx
  - **13.56 MHz**
    - ISO14443A (MIFARE DESFire)
    - PicoPass (HID iClass)
    - FeliCa
    - ST SR(IX)
    - 2N® Mobile Key

**2N Part No. 91550946**



- **2N® IP Verso** – Touch keypad & RFID reader 125kHz, 13.56MHz, NFC/HCE
- The touch keypad and card reader module provides you with access control via contactless cards or keyfobs. The module supports the following 125 kHz and 13.56 MHz cards or other carriers (only the card serial number is read):
  - **125 kHz**
    - EM4xxx
  - **13.56 MHz**
    - ISO14443A (MIFARE DESFire)
    - PicoPass (HID iClass)
    - FeliCa
    - ST SR(IX)
    - 2N® Mobile Key

**2N Part No. 9155082**  
**Axis Part No. 01637-001**



- **2N® IP Verso** – Bluetooth & RFID reader 125kHz, 13.56MHz, NFC/HCE
- The Bluetooth and card reader module provides you with access control via contactless cards or keyfobs. The module supports the following 125 kHz and 13.56 MHz cards or other carriers (only the card serial number is read):
  - **125 kHz**
    - EM4xxx
  - **13.56 MHz**
    - ISO14443A (MIFARE DESFire)
    - PicoPass (HID iClass)
    - FeliCa
    - ST SR(IX)
    - 2N® Mobile Key

**2N Part No. 91550945**



- **2N® IP Verso** – Bluetooth & RFID reader 125kHz, 13.56MHz, NFC/HCE
- The Bluetooth and card reader module provides you with access control via contactless cards or keyfobs. The module supports the following 125 kHz and 13.56 MHz cards or other carriers (only the card serial number is read):
  - **125 kHz**
    - EM4xxx
  - **13.56 MHz**
    - ISO14443A (MIFARE DESFire)
    - PicoPass (HID iClass)
    - FeliCa
    - ST SR(IX)
    - 2N® Mobile Key

**2N Part No. 9155083**  
**Axis Part No. 01638-001**



- **2N® IP Verso** – Touch keypad & RFID reader 125kHz, secured 13.56MHz, NFC/HCE
- The touch keypad and card reader module provides you with access control via contactless cards or keyfobs. The module supports the following 125 kHz and 13.56 MHz cards or other carriers (only the card serial number is read):
  - **125 kHz**
    - EM4xxx
  - **13.56 MHz**
    - ISO14443A (MIFARE DESFire)
    - PicoPass (HID iClass)
    - FeliCa
    - ST SR(IX)
    - 2N® Mobile Key
    - HID SE (Seos, iClass SE, MIFARE SE)

**2N Part No. 91550946-S**



- **2N® IP Verso** – Touch keypad & RFID reader 125kHz, secured 13.56MHz, NFC/HCE
- The touch keypad and card reader module provides you with access control via contactless cards or keyfobs. The module supports the following 125 kHz and 13.56 MHz cards or other carriers (only the card serial number is read):
  - **125 kHz**
    - EM4xxx
  - **13.56 MHz**
    - ISO14443A (MIFARE DESFire)
    - PicoPass (HID iClass)
    - FeliCa
    - ST SR(IX)
    - 2N® Mobile Key
    - HID SE (Seos, iClass SE, MIFARE SE)

**2N Part No. 9155084**  
**Axis Part No. 01639-001**



- **2N® IP Verso** – Bluetooth & RFID reader 125kHz, secured 13.56MHz, NFC/HCE
- The Bluetooth card reader module provides you with access control via contactless cards or keyfobs. The module supports the following 125 kHz and 13.56 MHz cards or other carriers (only card serial number is read):
  - **125 kHz**
    - EM4xxx
  - **13.56 MHz**
    - ISO14443A (MIFARE DESFire)
    - PicoPass (HID iClass)
    - FeliCa
    - ST SR(IX)
    - 2N® Mobile Key
    - HID SE (Seos, iClass SE, MIFARE SE)

**2N Part No. 91550945-S**



- **2N® IP Verso** – Bluetooth & RFID reader 125kHz, secured 13.56MHz, NFC/HCE
- The Bluetooth card reader module provides you with access control via contactless cards or keyfobs. The module supports the following 125 kHz and 13.56 MHz cards or other carriers (only card serial number is read):
  - **125 kHz**
    - EM4xxx
  - **13.56 MHz**
    - ISO14443A (MIFARE DESFire)
    - PicoPass (HID iClass)
    - FeliCa
    - ST SR(IX)
    - 2N® Mobile Key
    - HID SE (Seos, iClass SE, MIFARE SE)

**2N Part No. 9137422E**  
**Axis Part No. 01402-001**



**2N® IP external Bluetooth reader (USB interface)**

An external Bluetooth reader connecting to your computer via USB.

It can be used to pair new users who want to use their smartphones and **2N® Mobile Key** application for access to controlled areas.

A USB driver is required for the external reader to work properly.

**2N Part No. 9155034**  
**Axis Part No. 01257-001**



- **2N® IP Verso – I/O**
- The module provides logical inputs and outputs for sensor integration. The module is installed under another module, i.e. needs no separate position.
- Inputs and outputs
  - RELAY1 – RELAY1 terminals with accessible 30 V / 1 A AC/DC NO/NC contact
  - RELAY2 – RELAY2 terminals with accessible 30 V / 1 A AC/DC NO/NC contact
  - IN1 – IN1 terminals for input in passive/ active mode (–30 V to +30 V DC)
    - OFF = open OR  $U_{IN} > 1.5\text{ V}$
    - ON = closed contact OR  $U_{IN} < 1.5\text{ V}$
  - IN2 – IN2 terminals for input in passive/active mode (–30 V to +30 V DC)
    - OFF = open OR  $U_{IN} > 1.5\text{ V}$
    - ON = closed contact OR  $U_{IN} < 1.5\text{ V}$
  - TAMPER – Tamper switch (9155038) input

**2N Part No. 9155035**  
**Axis Part No. 01258-001**



- **2N® IP Verso – 5 buttons**
- A module with 5 mechanical quick dial buttons. The buttons are backlit and can include nametags.

**2N Part No. 9155036**  
**Axis Part No. 01275-001**



- **2N® IP Verso** – Touch Display
- Touchscreen module allowing visitors to dial users in a smartphone-like way. In addition to a structured phonebook it also features a keypad.

**2N Part No. 9155037**  
**Axis Part No. 01259-001**



- **2N® IP Verso** – Wiegand
- The module helps you interconnect your system with other systems via the Wiegand interface. The module is installed under another module, i.e. needs no separate position.

**2N Part No. 91550371**  
**Axis Part No. 02577-001**



- **2N® IP Verso** – OSDP module
- The OSDP module provides communication between a connected device (control panel, door controller) and **2N® IP Verso** via the OSDP. The module is installed under another module, i.e. needs no separate position.

<p><b>2N Part No. 9155038</b> <b>Axis Part No. 01260-001</b></p> 	<ul style="list-style-type: none"> <li>• <b>2N® IP Verso</b> – Tamper switch</li> <li>• The module secures your system against tampering by detecting intercom opening or top frame removing. The module is installed on a special place and needs no separate position.</li> <li>• Remember to purchase an I/O module, Part No. 9155034, together with the tamper switch.</li> </ul>
<p><b>2N Part No. 9155039</b> <b>Axis Part No. 01261-001</b></p> 	<ul style="list-style-type: none"> <li>• <b>2N® IP Verso</b> – Blind Panel</li> <li>• One blind panel module is supplied with the main unit.</li> </ul>
<p><b>2N Part No. 91550941</b></p> 	<ul style="list-style-type: none"> <li>• <b>2N® IP Verso</b> – RFID Reader, 125 kHz</li> <li>• The card reader module provides you with access control via contactless cards or keyfobs. The module supports the 125 kHz EM4xxx cards.</li> </ul>

**2N Part No. 91550941US**  
**Axis Part No. 02140-001**



- **2N® IP Verso** – RFID Reader, 125 kHz
- The card reader module provides you with access control via contactless cards or keyfobs. The module supports the 125 kHz EM4xxx cards.

**2N Part No. 91550942**  
**Axis Part No. 02139-001**



- **2N® IP Verso** – RFID Reader NFC/HCE support, 13.56 MHz
- The card reader module provides you with access control via contactless cards or keyfobs. The module supports the following 13.56 MHz cards or other carriers (only card serial number is read):
  - ISO14443A (MIFARE DESFire)
  - PicoPass (HID iClass)
  - FeliCa
  - ST SR(IX)
  - **2N® Mobile Key**

<p><b>2N Part No. 91550942-S</b> <b>Axis Part No. 02141-001</b></p> 	<ul style="list-style-type: none"> <li>• <b>2N® IP Verso</b> – Secured RFID Card Reader NFC/HCE support, 13.56 MHz</li> <li>• The card reader module provides you with access control via contactless cards or keyfobs. The module supports the following 13.56 MHz cards or other carriers (only card serial number is read):             <ul style="list-style-type: none"> <li>• ISO14443A (MIFARE DESFire)</li> <li>• PicoPass (HID iClass)</li> <li>• FeliCa</li> <li>• ST SR(IX)</li> <li>• <b>2N® Mobile Key</b></li> <li>• HID SE (Seos, iClass SE, MIFARE SE)</li> </ul> </li> </ul>
<p><b>2N Part No. 9155041</b> <b>Axis Part No. 01263-001</b></p> 	<ul style="list-style-type: none"> <li>• <b>2N® IP Verso</b> – Induction loop</li> <li>• The induction loop module is used to transmit an audio signal directly into a hearing aid via a magnetic field.</li> </ul>
<p><b>2N Part No. 9155086</b> <b>Axis Part No. 01264-001</b></p> 	<ul style="list-style-type: none"> <li>• <b>2N® IP Verso</b> – Secured RFID Card Reader NFC/HCE support, 13.56 MHz</li> <li>• Compatible with firmware 2.13 and higher.</li> <li>• The card reader module provides you with access control via contactless cards or keyfobs. The module supports the following 13.56 MHz cards or other carriers (optionally, the card serial number or PAC ID is read):             <ul style="list-style-type: none"> <li>• ISO14443A (MIFARE DESFire)</li> <li>• PicoPass (HID iClass)</li> <li>• FeliCa</li> <li>• ST SR(IX)</li> <li>• 2N® Mobile Key</li> <li>• HID SE (Seos, iClass SE, MIFARE SE)</li> </ul> </li> </ul>

**2N Part No. 9155046**  
**Axis Part No. 01266-001**



- **2N® IP Verso** – Bluetooth reader
- The Bluetooth reader is used for reading users' secure ID numbers from Android and iOS smartphone applications.

**2N Part No. 9155045**  
**Axis Part No. 01276-001**



- **2N® IP Verso** – Fingerprint reader
- The Fingerprint reader is used for verification of human fingers for access control and intercom control.

**2N Part No. 9155050**  
**Axis Part No. 01267-001**



- 1 m extension cable
- Only one extension cable allowed.
- Maximum bus length is 7 m.

<p><b>2N Part. No. 9155051</b> <b>Axis Part No. 01270-001</b></p> 	<ul style="list-style-type: none"><li>• Blind button</li></ul>
<p><b>2N Part No. 9155054</b> <b>Axis Part No. 01268-001</b></p> 	<ul style="list-style-type: none"><li>• 3 m extension cable</li><li>• Only one extension cable allowed.</li><li>• Maximum bus length is 7 m.</li></ul>
<p><b>2N Part No. 9155055</b> <b>Axis Part No. 01269-001</b></p> 	<ul style="list-style-type: none"><li>• 5 m extension cable</li><li>• Only one extension cable allowed.</li><li>• Maximum bus length is 7 m.</li></ul>

Mounting Accessories

<p><b>2N Part No. 9155014</b> <b>Axis Part No. 01284-001</b></p> 	<ul style="list-style-type: none"> <li>• Flush mounting box</li> <li>• 1 module</li> <li>• Designed for flush or plasterboard mounting of 1-module sets and delivered including accessories for multiple box assemblies.</li> </ul>
<p><b>2N Part No. 9155015</b> <b>Axis Part No. 01285-001</b></p> 	<ul style="list-style-type: none"> <li>• Flush mounting box</li> <li>• 2 modules</li> <li>• Designed for flush or plasterboard mounting of 2-module sets and delivered including accessories for multiple box assemblies.</li> </ul>

<p><b>2N Part No. 9155016</b> <b>Axis Part No. 01286-001</b></p> 	<ul style="list-style-type: none"> <li>• Flush mounting box</li> <li>• 3 modules</li> <li>• Designed for flush or plasterboard mounting of 3-module sets and delivered including accessories for multiple box assemblies</li> </ul>
<p><b>2N Part No. 9155061</b> <b>Axis Part No. 01293-001</b></p> 	<ul style="list-style-type: none"> <li>• Backplate, 1 module</li> <li>• For glass or uneven surface installation</li> </ul>
<p><b>2N Part No. 9155062</b> <b>Axis Part No. 01294-001</b></p> 	<ul style="list-style-type: none"> <li>• Backplate, 2 modules</li> <li>• For glass or uneven surface installation</li> </ul>

**2N Part No. 9155063**  
**Axis Part No. 01295-001**



- Backplate, 3 modules
- For glass or uneven surface installation

**2N Part No. 9155064**  
**Axis Part No. 01296-001**



- Backplate, 2 (w) x 2 (h) modules
- For glass or uneven surface installation

**2N Part No. 9155065**  
**Axis Part No. 01297-001**



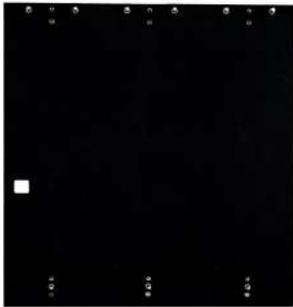
- Backplate, 3 (w) x 2 (h) modules
- For glass or uneven surface installation

**2N Part No. 9155066**  
**Axis Part No. 01298-001**



- Backplate, 2 (w) x 3 (h) modules
- For glass or uneven surface installation

**2N Part No. 9155067**  
**Axis Part No. 01299-001**



- Backplate, 3 (w) x 3 (h) modules
- For glass or uneven surface installation

**Part No. 9155072**  
**Axis Part No. 01940-001**



- Wedge backplate
- 25° gradient mounting backplate

Choose the proper frame and, if necessary, mounting box type depending on your particular **2N® IP Verso** installation needs. **2N® IP Verso** is designed for outdoor applications and requires no additional roof.

### 2N Indoor Units and Accessories

**Part No. 91378601**



- **2N® Indoor View** – black
- Indoor answering audio/video unit with a touchscreen designed for all **2N IP intercoms**

**Part No. 91378601WH**



- **2N® Indoor View** – white
- Indoor answering audio/video unit with a touchscreen designed for all **2N IP intercoms**

**Part No. 91378501**



- **2N® Indoor Compact** – black
- Indoor answering audio/video unit with a touchscreen designed for all **2N IP intercoms**

**Part No. 91378501WH**



- **2N® Indoor Compact** – white
- Indoor answering audio/video unit with a touchscreen designed for all **2N IP intercoms**

**Part No. 91378401**



- **2N® Indoor Talk** – black
- Indoor answering audio unit with a touchscreen designed for all **2N IP intercoms**

**Part No. 91378401WH**



- **2N® Indoor Talk** – white
- Indoor answering audio unit with a touchscreen designed for all **2N IP intercoms**

**Part No. 91378800**



- Wall/plasterboard flush mounting box for 2N indoor answering units.

**Part No. 91378803**



- Wall surface mounting box for 2N answering units.

**Part No. 91378802**



- Stand for 2N indoor answering units.

**Part Numbers:**

**91378375**

**91378376**



- **2N® Indoor Touch 2.0** – black
- WiFi version (second Part No.)
- **2N® Indoor Touch 2.0**, an elegant indoor touch panel, is designed for all **2N IP intercoms**. The display panel shows you the person standing at your door and helps you make conversation with the visitor, open the door lock or switch on the entrance hall lights.

<p><b>Part Number:</b> <b>91378382</b></p> 	<ul style="list-style-type: none"><li>• <b>2N® Indoor Touch</b> – desk stand black</li></ul>
<p><b>Part Numbers:</b> <b>91378375WH</b> <b>91378376WH</b></p> 	<ul style="list-style-type: none"><li>• <b>2N® Indoor Touch 2.0</b> – white</li><li>• WiFi version (second Part No.)</li><li>• <b>2N® Indoor Touch 2.0</b>, an elegant indoor touch panel, is designed for all of the <b>2N IP intercoms</b>. The display panel shows you the person standing at your door and helps you make conversation with the visitor, open the door lock or switch on the entrance hall lights.</li></ul>
<p><b>Part Number:</b> <b>91378382W</b></p> 	<ul style="list-style-type: none"><li>• <b>2N® Indoor Touch</b> – Desk stand white</li></ul>

<p><b>Part Nos.:</b>  <b>91341481E</b>  <b>91341481GB</b>  <b>91341481US</b></p> 	<ul style="list-style-type: none"> <li>• The exclusive type of power adapter <b>SYS1561-0912</b> to be used with all <b>2N® Indoor Touch 2.0</b> devices.</li> <li>• Stabilised 12 V / 0,75 A source to be used where PoE supply is unavailable.</li> <li>• The part numbers differ in their electric socket markings (E/GB/US).</li> </ul>
<p><b>2N Part No. 1120101W</b>  <b>Axis Part No. 02518-001</b></p> 	<ul style="list-style-type: none"> <li>• <b>2N® IP Handset</b></li> <li>• answering unit</li> <li>• white color</li> </ul>
<p><b>2N Part No. 1120101B</b>  <b>Axis Part No. 02519-001</b></p> 	<ul style="list-style-type: none"> <li>• <b>2N® IP Handset</b></li> <li>• answering unit</li> <li>• black color</li> </ul>

## IP Phones

**2N Part No. 91378360**  
**Axis Part No. 01586-001**



- **Yealink SIP T58A IP video phone**
- simple operation
- HD quality video calls
- A display-equipped extender EXP50 (Part No. **91378363**) can be added to the phone delivery to make up to 60 speed dialings.

**2N Part No. 1120111EU**  
**Axis Part No. 02544-001**



- **Grandstream GXV3350 IP video phone**
- Android 7.0 OS
- 5" touch display control
- HD quality video calls
- WiFi and Bluetooth support
- HDMI output and pan tilt zoom camera
- Easy integration with intercoms or PBXs via SIP

**2N Part No. 91378362EU**



- **Grandstream GXV3370 IP video phone**
- Android 7.0 OS
- 7" touch display control
- HD quality video calls
- WiFi and Bluetooth support
- Easy integration with IP intercoms, PBXs and security cameras.

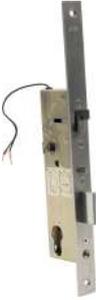
Electric Locks

<p><b>Part No. 11202101</b></p> 	<ul style="list-style-type: none"> <li>• <b>Mini electronic doorstrike series 5</b></li> <li>• electric opener designed for door frame installation</li> <li>• intended for such narrow profiles as aluminum, wood or PVC in particular</li> <li>• short sheet metal front cover version (130 mm)</li> <li>• 16 mm width</li> </ul>
<p><b>Part No. 11202101-L</b></p> 	<ul style="list-style-type: none"> <li>• <b>Mini electronic doorstrike series 5 – long</b></li> <li>• electric opener designed for door frame installation</li> <li>• intended for such narrow profiles as aluminum, wood or PVC in particular</li> <li>• long sheet metal front cover version (250 mm)</li> <li>• 16 mm width</li> </ul>
<p><b>Part No. 11202102</b></p> 	<ul style="list-style-type: none"> <li>• <b>Mini electronic doorstrike series 5 – with momentum pin</b></li> <li>• electric opener designed for door frame installation</li> <li>• intended for such narrow profiles as aluminum, wood or PVC in particular</li> <li>• short sheet metal front cover version (130 mm)</li> <li>• 16 mm width</li> </ul>

<p><b>Part No. 11202102-L</b></p> 	<ul style="list-style-type: none"> <li>• <b>Mini electronic doorstrike series 5 – with momentum pin, long</b></li> <li>• electric opener designed for door frame installation</li> <li>• intended for such narrow profiles as aluminum, wood or PVC in particular</li> <li>• long sheet metal front cover version (250 mm)</li> <li>• 16 mm width</li> </ul>
<p><b>Part No. 11202103</b></p> 	<ul style="list-style-type: none"> <li>• <b>Mini electronic doorstrike series 5 – with mechanical blocking</b></li> <li>• electric opener designed for door frame installation</li> <li>• intended for such narrow profiles as aluminum, wood or PVC in particular</li> <li>• short sheet metal front cover version (130 mm)</li> <li>• 16 mm width</li> </ul>
<p><b>Part No. 11202103-L</b></p> 	<ul style="list-style-type: none"> <li>• <b>Mini electronic doorstrike series 5 – with mechanical blocking, long</b></li> <li>• electric opener designed for door frame installation</li> <li>• intended for such narrow profiles as aluminum, wood or PVC in particular</li> <li>• long sheet metal front cover version (250 mm)</li> <li>• 16 mm width</li> </ul>

<p><b>Part No. 11202104</b></p> 	<ul style="list-style-type: none"> <li>• <b>Mini electronic doorstrike series 5 – door signaling</b></li> <li>• electric opener designed for door frame installation</li> <li>• intended for such narrow profiles as aluminum, wood or PVC in particular</li> <li>• including a door state monitoring micro switch: open/closed</li> <li>• short sheet metal front cover version (130 mm)</li> <li>• 16 mm width</li> </ul>
<p><b>Part No. 11202104-L</b></p> 	<ul style="list-style-type: none"> <li>• <b>Mini electronic doorstrike series 5 – door signaling, long</b></li> <li>• electric opener designed for door frame installation</li> <li>• intended for such narrow profiles as aluminum, wood or PVC in particular</li> <li>• including a door state monitoring micro switch: open/closed</li> <li>• long sheet metal front cover version (250 mm)</li> <li>• 16 mm width</li> </ul>
<p><b>Part No. 11202105</b></p> 	<ul style="list-style-type: none"> <li>• <b>Mini electronic doorstrike series 5 – fail-safe</b></li> <li>• electric opener designed for door frame installation</li> <li>• intended for such narrow profiles as aluminum, wood or PVC in particular</li> <li>• under voltage: opener secured, blocked</li> <li>• at voltage interruption: opener unblocked, door can be opened</li> <li>• short sheet metal front cover version (130 mm)</li> <li>• 16 mm width</li> </ul>

<p><b>Part No. 11202105-L</b></p> 	<ul style="list-style-type: none"> <li>• <b>Mini electronic doorstrike series 5 – fail-safe, long</b></li> <li>• electric opener designed for door frame installation</li> <li>• intended for such narrow profiles as aluminum, wood or PVC in particular</li> <li>• under voltage: opener secured, blocked</li> <li>• at voltage interruption: opener unblocked, door can be opened</li> <li>• long sheet metal front cover version (250 mm)</li> <li>• 16 mm width</li> </ul>
<p><b>Part No. 11202106</b></p> 	<ul style="list-style-type: none"> <li>• <b>Mini electronic doorstrike series 5 – fail-safe and door signaling</b></li> <li>• electric opener designed for door frame installation</li> <li>• intended for such narrow profiles as aluminum, wood or PVC in particular</li> <li>• under voltage: opener secured, blocked</li> <li>• at voltage interruption: opener unblocked, door can be opened</li> <li>• short sheet metal front cover version (130 mm)</li> <li>• 16 mm width</li> </ul>
<p><b>Part No. 11202106-L</b></p> 	<ul style="list-style-type: none"> <li>• <b>Mini electronic doorstrike series 5 – fail-safe and door signaling, long</b></li> <li>• electric opener designed for door frame installation</li> <li>• intended for such narrow profiles as aluminum, wood or PVC in particular</li> <li>• under voltage: opener secured, blocked</li> <li>• at voltage interruption: opener unblocked, door can be opened</li> <li>• long sheet metal front cover version (250 mm)</li> <li>• 16 mm width</li> </ul>

<p><b>Part No. 11202201</b></p> 	<ul style="list-style-type: none"> <li>• <b>Electromechanical lock SAM 7255</b></li> <li>• 72/55 self-locking lock with panic function</li> <li>• A key is necessary for door opening from the outside (or an electric pulse from a connected 2N IP intercom / reader).</li> <li>• convenient solution for emergency exits</li> </ul>
<p><b>Part No. 11202201-M</b></p> 	<ul style="list-style-type: none"> <li>• <b>Electromechanical lock SAM 7255 with monitoring</b></li> <li>• 72/55 self-locking lock with panic function</li> <li>• A key is necessary for door opening from the outside (or an electric pulse from a connected 2N IP intercom / reader).</li> <li>• convenient solution for emergency exits</li> </ul>
<p><b>Part No. 11202202</b></p> 	<ul style="list-style-type: none"> <li>• <b>Electromechanical lock SAM 9235</b></li> <li>• 92/35 self-locking lock with panic function</li> <li>• A key is necessary for door opening from the outside (or an electric pulse from a connected 2N IP intercom / reader).</li> <li>• convenient solution for emergency exits</li> </ul>

<p><b>Part No. 11202202-M</b></p> 	<ul style="list-style-type: none"> <li>• <b>Electromechanical lock SAM 9235 with monitoring</b></li> <li>• 92/35 self-locking lock with panic function</li> <li>• A key is necessary for door opening from the outside (or an electric pulse from a connected 2N IP intercom / reader).</li> <li>• convenient solution for emergency exits</li> </ul>
<p><b>Part No. 11202301</b></p> 	<ul style="list-style-type: none"> <li>• <b>Cable protector FX290</b></li> <li>• Provides secure passage and protection of the supply cable between the door frame and the door leaf.</li> <li>• 290 mm length</li> </ul>
<p><b>Part No. 11202302</b></p> 	<ul style="list-style-type: none"> <li>• <b>Cable protector FX510</b></li> <li>• Provides secure passage and protection of the supply cable between the door frame and the door leaf.</li> <li>• 510 mm length</li> </ul>

**Part No. 11202303**



- **Cable protector FX300G**
- Provides secure passage and protection of the supply cable between the door frame and the door leaf.
- 440 mm length

**Part No. 11202304**



- **Cable protector FX500G**
- Provides secure passage and protection of the supply cable between the door frame and the door leaf.
- 640 mm length

**Part No. 11202107**



- **Maglock MEX100**
- used as a door holding supplement, not replacing the lock
- consists of two parts: supplied part and counterpart
- under voltage: door cannot be opened
- at voltage interruption: magnets get disconnected, door opens

<p><b>Part No. 11202501</b></p>  The image shows two views of the magnetic handle P300RP. On the left is a front view of a tall, rectangular, silver-colored handle with a black base. On the right is a side view of the same handle, showing its profile and a small label on the side.	<ul style="list-style-type: none"><li>• <b>Magnetic handle P300RP</b></li><li>• fully replaces a mortise lock and handle</li><li>• under voltage: door cannot be opened</li><li>• at voltage interruption: magnets get disconnected, door opens</li><li>• suitable for wooden, metal and glass doors</li></ul>
<p><b>Part No. 11202401</b></p>  The image shows the ED100 door operator. It consists of a long, white, rectangular metal housing with a black handle protruding from the top. The handle is slightly curved and has a small black button or sensor on its top surface.	<ul style="list-style-type: none"><li>• <b>ED100</b></li><li>• low energy simple door operator</li><li>• contactless operation</li><li>• can be interconnected with a motion sensor and electronic access control system</li><li>• applicable for right / left doors</li><li>• in / out opening versions</li></ul>

✓ **Tip**

- FAQ: [Electric locks – Difference between locks in 2N IP intercom accessories](#)

Power Supply

<p><b>2N Part No. 91378100E</b></p> <p><b>2N Part No. 91378100US</b></p> <p><b>Axis Part No. 01403-001</b></p> 	<ul style="list-style-type: none"> <li>• PoE injector – with EU cable (91378100E)</li> <li>• PoE injector – with US cable (91378100US)</li> <li>• For intercom power supply via an Ethernet cable where PoE switch is unavailable.</li> </ul>
<p><b>2N Part No. 91341481E</b></p> 	<ul style="list-style-type: none"> <li>• <b>Stabilized 12 V / 2 A power supply</b> needs to be used where no PoE is available.</li> </ul>
<p><b>2N Part No. 932928</b></p> 	<ul style="list-style-type: none"> <li>• <b>12 V transformer</b></li> <li>• For 230 V mains voltage.</li> <li>• For external power supply of the lock with 12 V AC voltage.</li> </ul>

Two-Wire Connection

<p><b>2N Part No. 9159014EU/UK</b>  <b>2N Part No. 9159014US</b>  <b>Axis Part No. 01404-001</b></p> 	<ul style="list-style-type: none"> <li>• <b>2N® 2Wire</b></li> <li>• (set of 2 adaptors and power source for EU/US/UK)</li> <li>• The <b>2N® 2Wire</b> converter allows you to use the existing wiring (2 wires) from your original doorbell or door intercom to connect any IP device. You don't have to configure anything, all you need is one <b>2N® 2Wire</b> unit at each cable end and a power supply connected to at least one of these units.</li> </ul> <p>The <b>2N® 2Wire</b> unit then provides PoE power not only to the second converter, but also to all the other connected IP end devices.</p>
<p><b>2N Part No. 1120103</b>  <b>Axis Part No. 02318-001</b></p> 	<ul style="list-style-type: none"> <li>• <b>NVT PoLRE LPC Switch</b></li> <li>• with 2 adaptors</li> <li>• IP solutions with analogue cabling</li> </ul>

**2N Part No. 1120104**

**Axis Part No. 02319-001**



- **NVT PhyLink Adapter**
- pack of 6 adapters

### RFID 13 MHz

**2N Part No. 9159031**

**Axis Part No. 01390-001**



- **External 13.56 MHz MIFARE RFID card reader, Wiegand**
- Secondary reader for connection to an internal reader. Allows for card entry control from both sides of the door. IP68 cover, also suitable for exteriors. Reads the following cards:
  - ISO14443A (MIFARE DESFire)
  - PicoPass (HID iClass)
  - FeliCa
  - ST SR(IX)
  - 2N® Mobile Key

**2N Part No. 9137421E**  
**Axis Part No. 01400-001**



- **External RFID Reader 13.56 MHz, 125 kHz + NFC/HCE (USB interface)**
- External RFID card reader for connection to a PC via a USB interface. Suitable for system administration and adding 13.56 MHz/125 kHz cards and NFC/HCE supporting Android platform devices using the **2N IP intercom** web interface or **2N® Access Commander** application. It reads the same types of cards and devices as card readers in **2N IP intercoms**:
  - **125 kHz**
    - EM4xxx
  - **13.56 MHz**
    - ISO14443A (MIFARE DESFire)
    - PicoPass (HID iClass)
    - FeliCa
    - ST SR(IX)
    - 2N® Mobile Key

**2N Part No. 9137424E**  
**Axis Part No. 01527-001**



- **External secured RFID Reader 13.56 MHz, 125 kHz + NFC/HCE (USB interface)**
- External secured RFID card reader for connection to PC using a USB interface. Suitable for system administration and adding 13.56 MHz, 125 kHz cards and NFC/HCE supporting Android platform devices using the **2N IP intercom** web interface or **2N® Access Commander** application. It reads the same types of cards and devices as card readers in **2N IP intercoms**:
  - **125 kHz**
    - EM4xxx
  - **13.56 MHz**
    - ISO14443A (MIFARE DESFire)
    - PicoPass (HID iClass)
    - FeliCa
    - ST SR(IX)
    - 2N® Mobile Key
    - HID SE (Seos, iClass SE, MIFARE SE)

<p><b>2N Part No. 9134173</b> <b>Axis Part No. 01384-001</b></p> 	<ul style="list-style-type: none"><li>• MIFARE Classic 1k RFID card, 13.56 MHz</li></ul>
<p><b>2N Part No. 9134174</b> <b>Axis Part No. 01385-001</b></p> 	<ul style="list-style-type: none"><li>• MIFARE Classic 1k RFID fob, 13.56 MHz</li></ul>

## RFID 125 kHz

<p><b>2N Part No. 9159030</b> <b>Axis Part No. 01389-001</b></p> 	<ul style="list-style-type: none"><li>• External 125 kHz RFID card reader</li><li>• Secondary reader for connection to an internal reader. Allows for card entry control from both sides of the door. IP67 cover, also suitable for exteriors. Reads EM4xxx cards.</li></ul>
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<p><b>2N Part No. 9137420E</b> <b>Axis Part No. 01399-001</b></p> 	<ul style="list-style-type: none"><li>• USB RFID card reader, 125 kHz</li><li>• External RFID card reader for connection to a PC using a USB interface. Suitable for system management and addition of EM4xxx cards via the PC application, <b>2N® Access Commander</b>.</li></ul>
<p><b>2N Part No. 9134165E</b> <b>Axis Part No. 01395-001</b></p> 	<ul style="list-style-type: none"><li>• <b>RFID card</b>, type EM4100, 125 kHz</li></ul>
<p><b>2N Part No. 9134166E</b> <b>Axis Part No. 01396-001</b></p> 	<ul style="list-style-type: none"><li>• <b>RFID fob</b>, type EM4100, 125 kHz</li></ul>

## Biometry

<p><b>2N Part No. 9137423E</b></p> <p><b>Axis Part No. 01401-001</b></p> 	<ul style="list-style-type: none"> <li>• <b>2N® IP intercom</b> – external fingerprint reader (USB interface)</li> </ul>
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## External Switches

<p><b>2N Part No. 9159010</b></p> <p><b>Axis Part No. 01386-001</b></p> 	<ul style="list-style-type: none"> <li>• <b>2N® Security Relay</b></li> <li>• A handy add-on that significantly enhances door entry security as it prevents tampering with the intercom and forced opening of the lock. To be installed between the intercom and lock, powered by the intercom.</li> </ul>
<p><b>2N Part No. 9137410E</b></p> <p><b>Axis Part No. 01397-001</b></p> 	<ul style="list-style-type: none"> <li>• <b>External IP Relay</b> – 1 output</li> <li>• Standalone IP device controlled by HTTP commands sent by the <b>2N IP</b> intercom, which can thus control devices via unlimited distances.</li> </ul>

**2N Part No. 9137411E**  
**Axis Part No. 01398-001**



- **External IP Relay** – 4 outputs, PoE
- Standalone IP device controlled by HTTP commands sent by the **2N IP** intercom, which can thus control devices via unlimited distances.

**2N Part No. 9160501**  
**Axis Part No. 0820-001**



- AXIS A9188 Network I/O relay module
- Lift control relay module for up to 8 floors

## Induction Loop

**2N Part No. 9155043**  
**Axis Part No. 01265-001**



- **Induction loop module – antenna**
- The external antenna boosts the range of usability of the induction loop so that a hearing impaired user wearing a hearing aid with telecoil can receive the audio signal over a wider area. It has to be used with **Part No. 9155041**. A 40 cm long interconnecting cable is included.
- Dimensions: 233 (W) x 233 (H) mm

✓ **Tip**

- FAQ: [Induction loop – How to connect it with 2N IP intercom](#)

## Sensors and Switches

**2N Part No. 9159013**



- Exit button
- A button for logic input connection for opening a door inside a building.

<p><b>2N Part No. 9154004</b> <b>Axis Part No. 01479-001</b></p> 	<ul style="list-style-type: none"> <li>• Water-proof metal button</li> </ul>
<p><b>2N Part No. 9159012</b> <b>Axis Part No. 01388-001</b></p> 	<ul style="list-style-type: none"> <li>• Magnetic door contact</li> <li>• Door installation set that enables the status of door opening to be ascertained. Used when the intercom is used for door protection to detect whether the door is open or opened by violence.</li> </ul>

### Additional Modules

<p><b>2N Part No. 9159011</b> <b>Axis Part No. 01387-001</b></p> 	<ul style="list-style-type: none"> <li>• The <b>2N® Wiegand Isolator</b> is designed for galvanic isolation of two devices separately powered and interconnected via the Wiegand bus. The <b>2N® Wiegand Isolator</b> protects the interconnected devices against communication errors and/or damage.</li> </ul>
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License

<p><b>2N Part No. 9137909</b></p>	<ul style="list-style-type: none"> <li>• <b>Gold</b></li> <li>• Includes Enhanced Video, Enhanced Integration and Lift Control licenses</li> </ul>
<p><b>2N Part No. 9137910</b> <b>Axis Part No. 01381-001</b></p>	<ul style="list-style-type: none"> <li>• <b>InformaCast</b></li> </ul>

 **Tip**

- Refer to the Configuration Manual for 2N IP Intercoms, Subs. [3.2 Function Licensing](#) for license details.

 **Tip**

- For more accessories and specific advice please contact your local distributor of 2N products.

## 1.2 Terms and Symbols

The following symbols and pictograms are used in the manual:

### **Safety**

- **Always abide** by this information to prevent persons from injury.

### **Warning**

- **Always abide** by this information to prevent damage to the device.

### **Caution**

- **Important information** for system functionality.

### **Tip**

- **Useful information** for quick and efficient functionality.

### **Note**

- Routines or advice for efficient use of the device.

## 2. Description and Installation

Here is what you can find in this section:

- [2.1 Before You Start](#)
- [2.2 Mechanical Installation](#)
- [2.3 Electric Installation](#)
- [2.4 Extending Module Connection](#)
- [2.5 Completion](#)

### 2.1 Before You Start

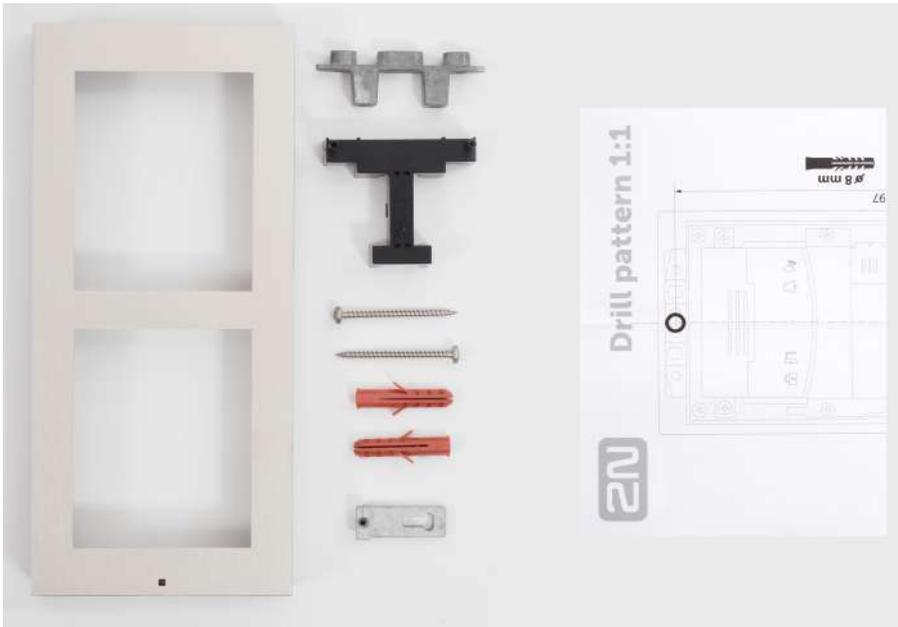
#### Product Completeness Check

Before installation, check whether the purchased product package complies with the contents below.

The **2N® IP Verso** (Part No. **9155101/9155101B/9155101C/9155101CB**) package should comply with the following content:



The 2-module surface mounting frame (Part No. **9155022/9155022B**) package should comply with the following content:



The 2-module flush mounting frame (Part No. **9155012/9155012B**) package should comply with the following content:



The 2-module flush mounting box (Part No. **9155015**) package should comply with the following content:



## 2.2 Mechanical Installation

### Mounting Types Overview

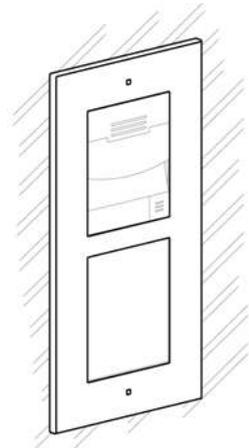
Refer to the table below for a list of mounting types and necessary components. You can assemble multiple units in all mounting types.

#### Flush mounting – classic bricks

- incl. hollow bricks, thermally insulated walls, etc.

What you need for mounting:

- a properly cut hole as instructed in the box package
- Plaster, mounting glue, mounting foam or mortar as necessary
- **2N® IP Verso**, flush mounting boxes and frames
  - 1 module: box Part No. **9155014**, frame Part No. **9155011**
  - 2 modules: box Part No. **9155015**, frame Part No. **9155012**
  - 3 modules: box Part No. **9155016**, frame Part No. **9155013**



#### Flush mounting – plasterboard

What you need for mounting:

- a properly cut hole as instructed in the box package
- **2N® IP Verso**, flush mounting boxes and frames
  - 1 module: box Part No. **9155014**, frame Part No. **9155011**
  - 2 modules: box Part No. **9155015**, frame Part No. **9155012**
  - 3 modules: box Part No. **9155016**, frame Part No. **9155013**

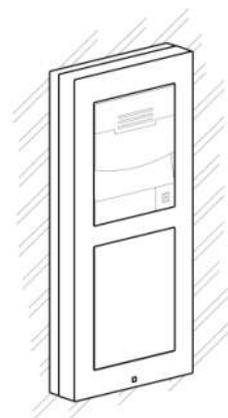
#### Surface mounting

- concrete and steel structures, entry barrier columns, interior, etc.

What you need for mounting:

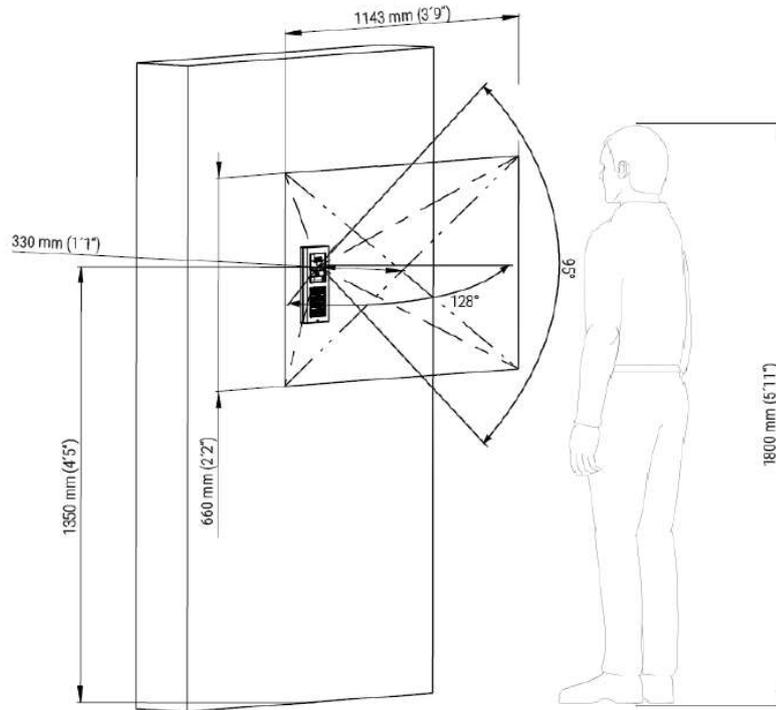
- **2N® IP Verso** plus the respective frames
  - 1 module: frame Part No. **9155021**
  - 2 modules: frame Part No. **9155022**
  - 3 modules: frame Part No. **9155023**

Backplates (Part Nos. 9155061–9155067) are required for metal, glass and plasterboard surfaces as well as other uneven surfaces depending on the count of modules.





- The recommended standard installation height is 1350 mm from the ground to the device camera level. The installation height may vary depending on the device use.



**⚠ Caution**

- Before starting the mechanical installation on a selected place, make sure carefully that the preparations connected with it (drilling, wall cutting) cannot damage the electrical, gas, water and other existing wires and pipes.
- The warranty does not apply to the product defects and failures arisen as a result of improper mounting (in contradiction herewith). The manufacturer is neither liable for damage caused by theft within an area that is accessible after the attached electric lock is switched. The product is not designed as a burglar protection device except when used in combination with a standard lock, which has the security function.
- When the proper mounting instructions are not met, water might get in and destroy the electronics. It is because the communicator circuits are under continuous voltage and water infiltration causes an electro-chemical reaction. The manufacturer's warranty shall be void for products damaged in this way!
- Do not remove the plastic film on the seal inside the frame, otherwise water may leak and damage the electronic components.

## General Mounting Principles

**✓ Tip**

- Select flush mounting where possible to make your product elegant looking, more vandal resistant and more secure.
- You are advised to buy the flush mounting boxes in advance and commission your building company to do the masonry for you. This approach helps you put your intercom exactly in the vertical position.

**⚠ Caution**

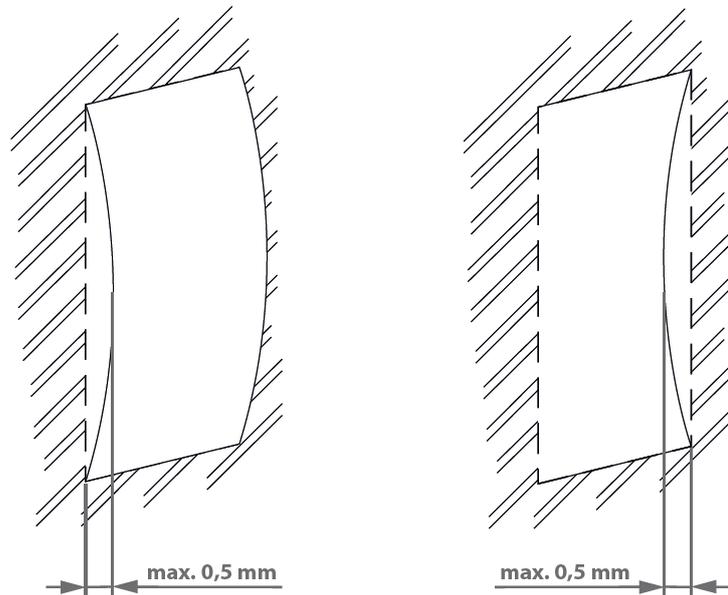
- Make sure that the diameter of the dowel holes is accurate to avoid falling out of the dowels! Use the mounting glue to secure the dowels if necessary.
- Make sure that the depth of the dowel holes is accurate!
- Do not use low-quality dowels to avoid their pulling out of the wall!
- Having removed the front panel, make sure that no dirt gets inside the product (especially onto the sealing surface).
- Never turn **2N® IP Verso** to align the box assembly after mounting. Make sure that the flush mounting boxes have been installed accurately.
- Check the plasterboard wall and room interior pressure values. If the difference between the values is too great (as a result, e.g., of overpressure ventilation), separate the intercom using, for example, the mounting box enclosed and seal the cable passage to avoid speaker damage.
- Surface mounting may cause problems on places exposed to potential vandalism (such as public garages, etc.). In this case, use steel anchoring elements instead of the dowels and screws included in the delivery.
- Make sure that the installation surface is perfectly flat with the maximum inequality of 0.5 mm. (e.g. boards, glass, cut stone, etc). If this is not the case, use a mounting backplate **Part No 9155061–9155067**, or level the wall surface.
- Always use an installation backplate for uneven installation surfaces.
- While flush mounting, make sure that the box is installed properly, i.e. with the box frame on the wall surface. There are snap-off protrusions on both sides of the flush mounting box to facilitate positioning. Make sure that the frame is placed precisely onto the flush mounting box off the wall to provide effective sealing and avoid water penetration into the intercom. Refer to the pictorial instructions inside the flush mounting box package.
- Any intentional mechanical damage (drilling, main unit tampering, etc.) results in a loss of warranty.

**Warning!**



- It is forbidden to use silicone or any other sealing material on the marked and hatched places.

 **Safety**



- Eliminate the risk of personal injury! Surface mounting is not recommended for narrow passages or places where people's attention is distracted by something else. The manufacturer shall not be liable for injuries in such cases!

**Warning**



- The main unit may not be removed from its base, so do not remove the marked resin-cast screw in the right-hand upper corner. Any screw tampering results in a loss of warranty.

## Module Installation

- [2.2.1 One Module Box](#)
- [2.2.2 Two Modules Box](#)
- [2.2.3 More Two Module Boxes](#)
- [2.2.4 Three Modules Boxes](#)
- [2.2.5 More Three Modules Boxes](#)
- [2.2.6 Tamper and I/O Modules](#)
- [2.2.7 Module Dimensions](#)

## Mounting Backplate Installation

- [2.2.8 Example of Mounting Plate Installation](#)

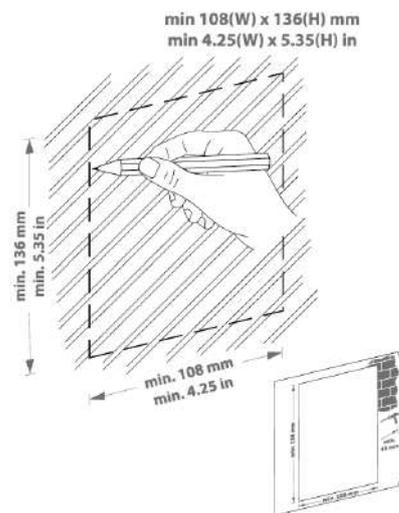
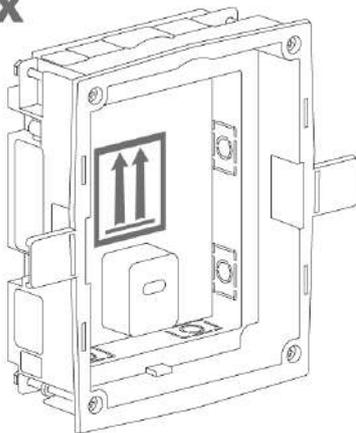
## 2.2.1 One Module Box

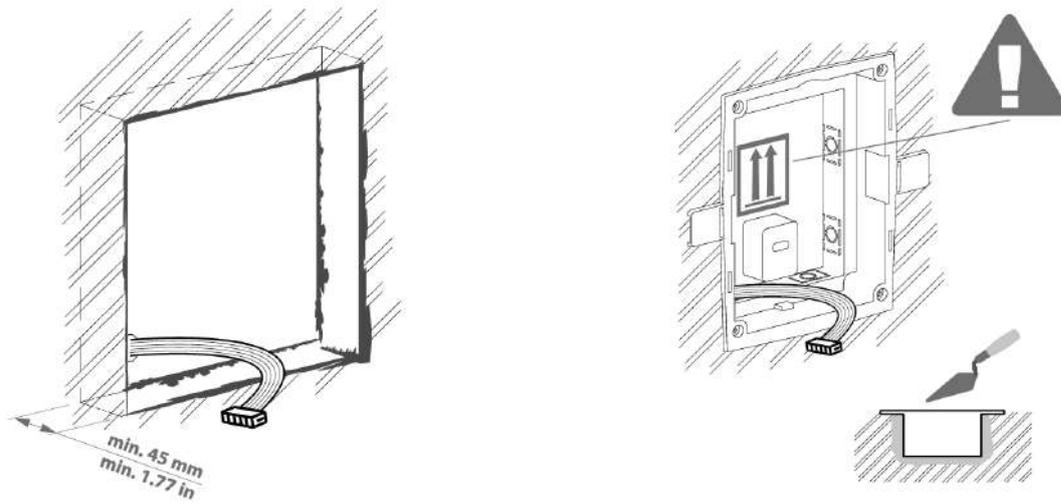
### **⚠ Caution**

- The one-module box is designed for stand-alone installations of extending modules such as departure readers. A two-module box is required for the main unit installation.

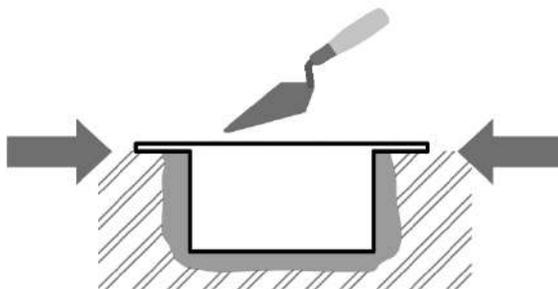
## Flush mounting box mounting – classic bricks

1x

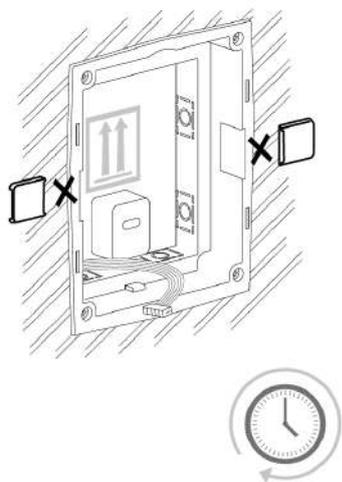




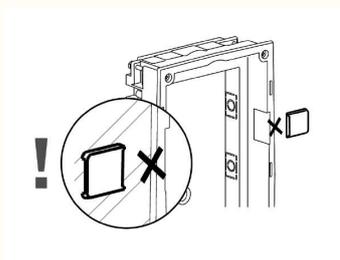
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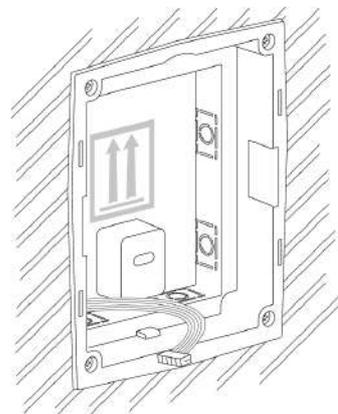
- Make sure that the flush mounting box is slightly above the wall surface not aligning with the wall. A wrong installation may lead to water penetration and subsequent damage of the device. Use the side protrusions to achieve the proper flush mounting.



**⚠ Caution**

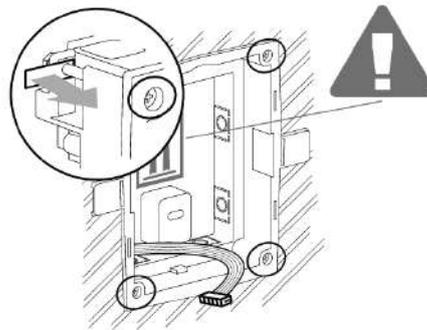
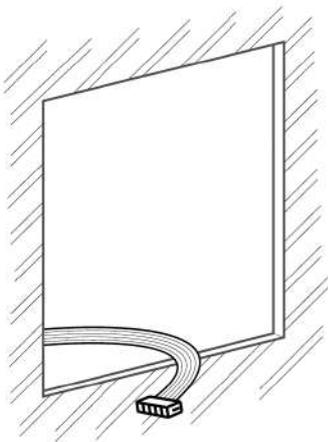
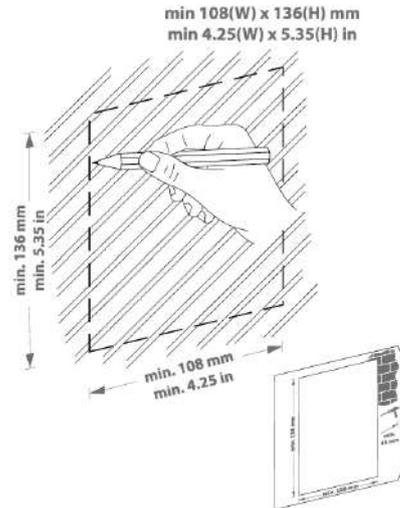
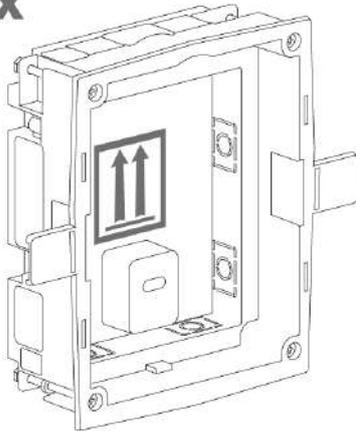


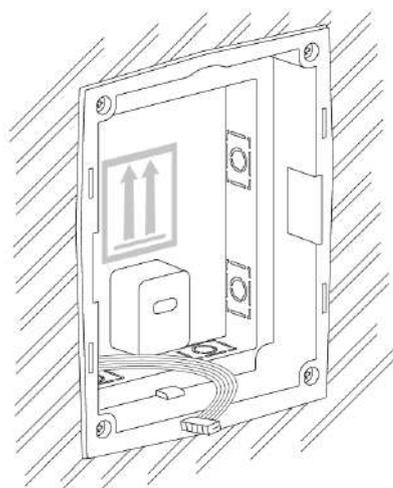
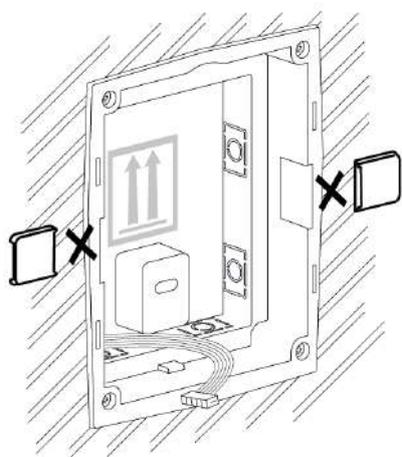
- Break off the side protrusions when the walling material has hardened.



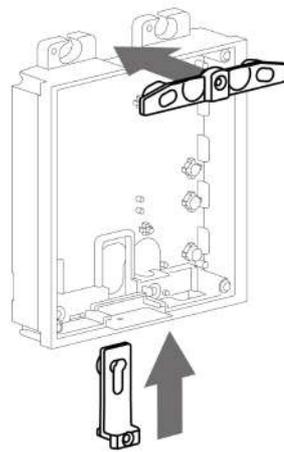
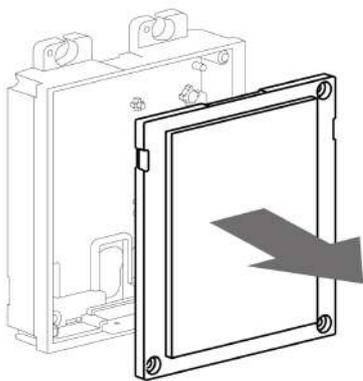
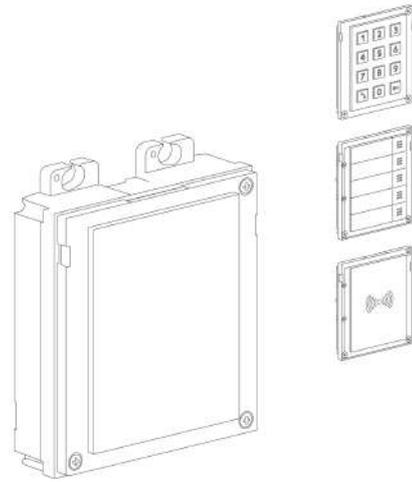
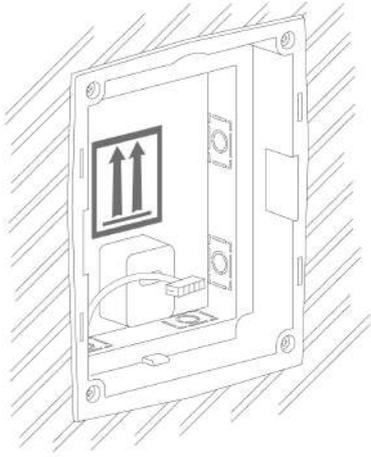
Flush mounting box mounting – plasterboard

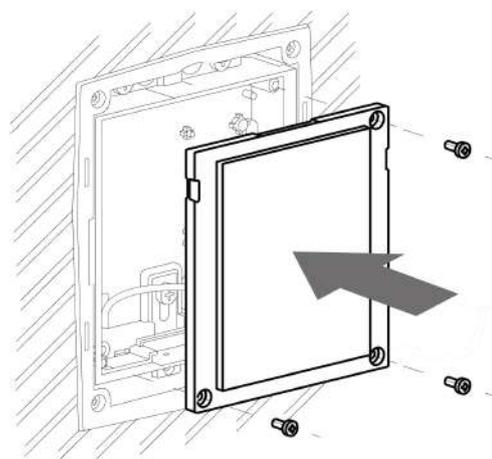
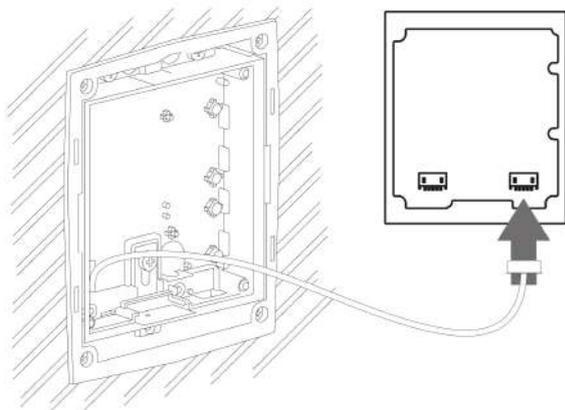
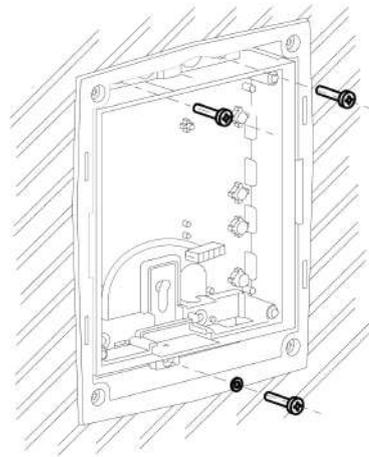
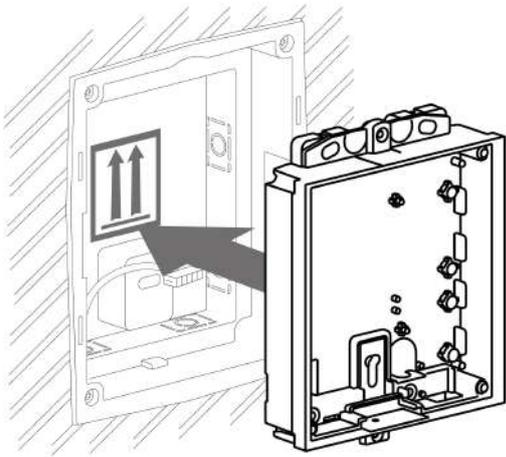
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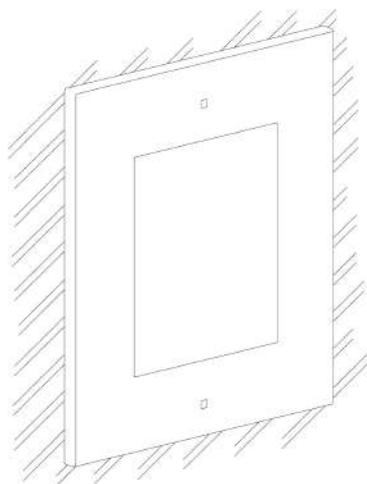
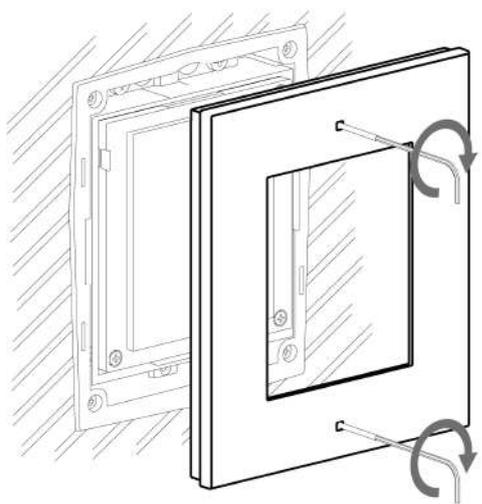




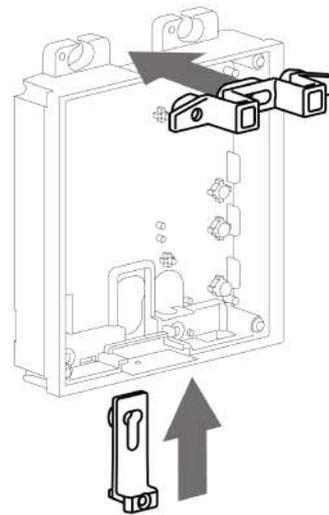
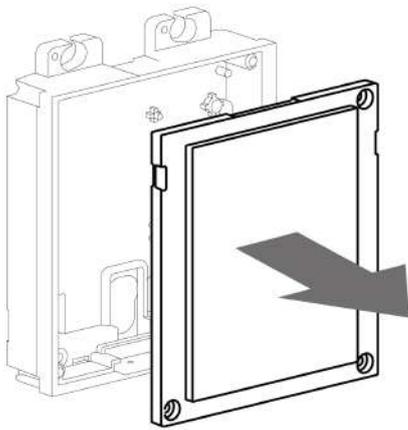
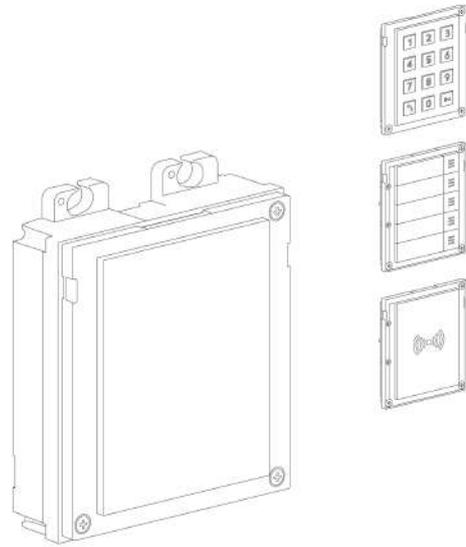
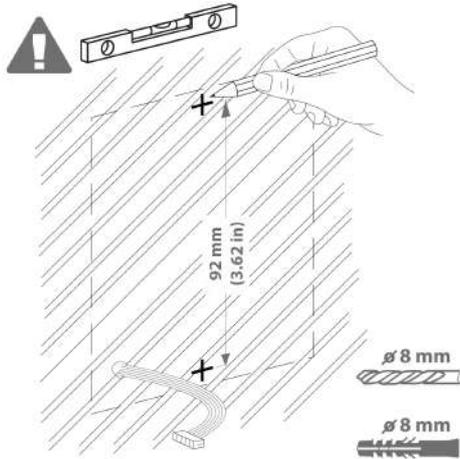
## Flush module mounting

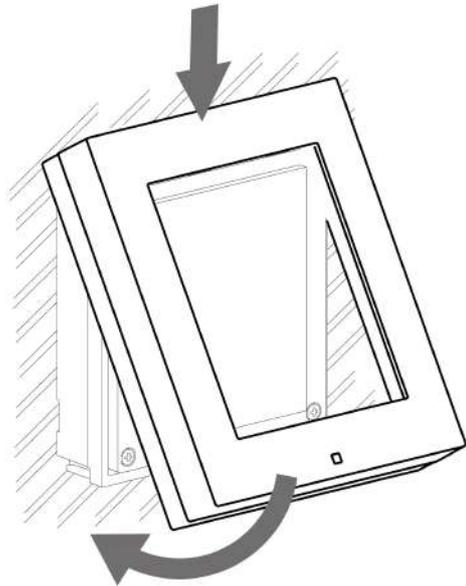
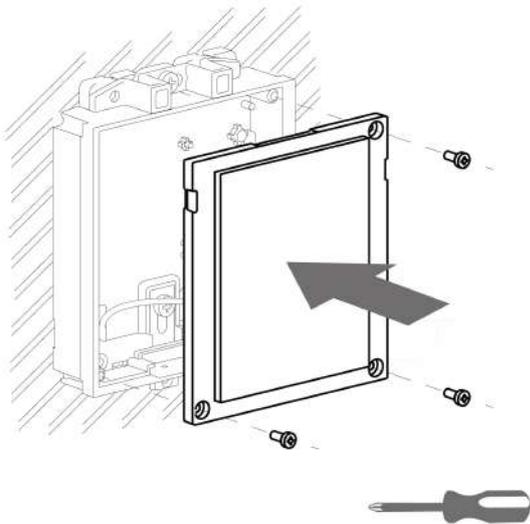
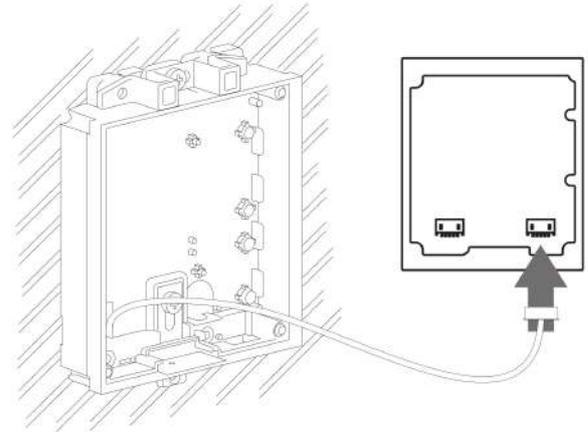
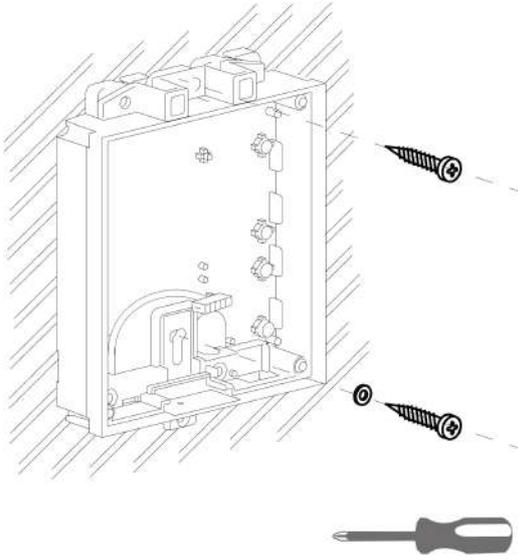


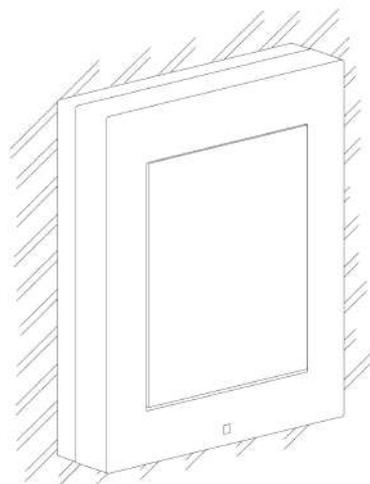
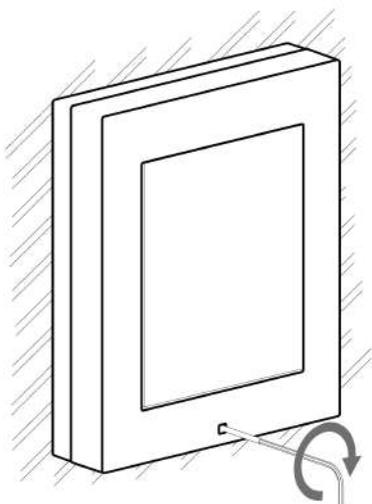




### Surface module mounting

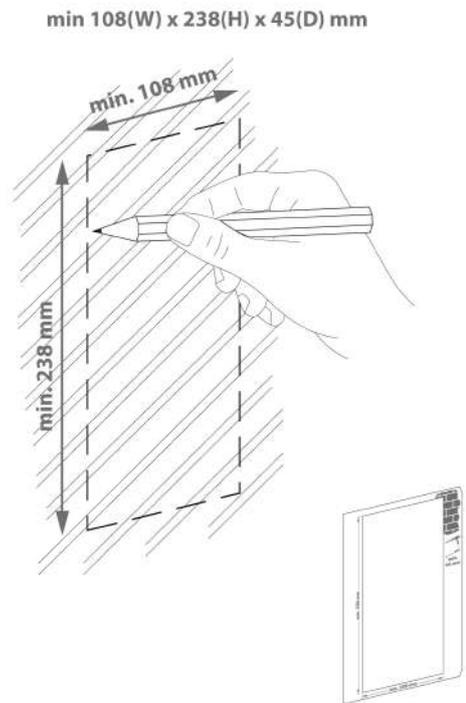
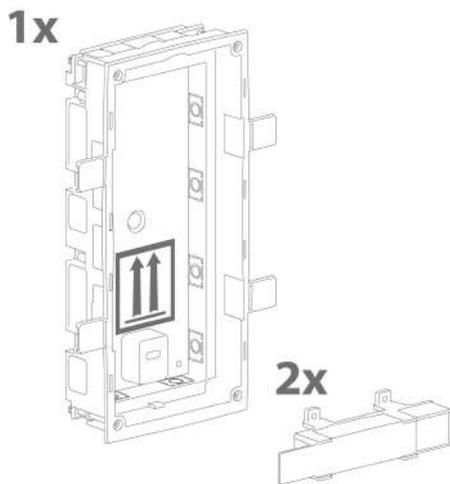


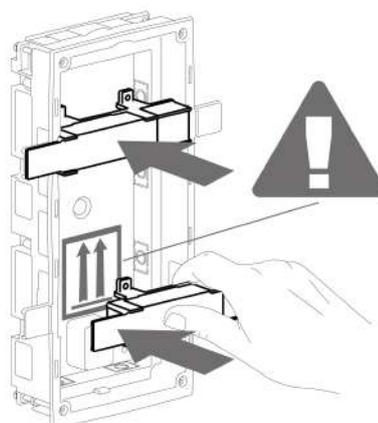
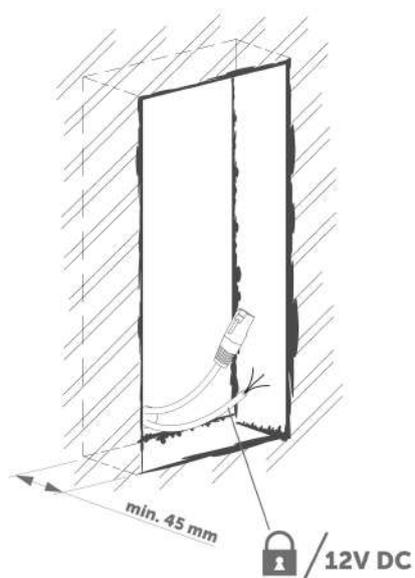


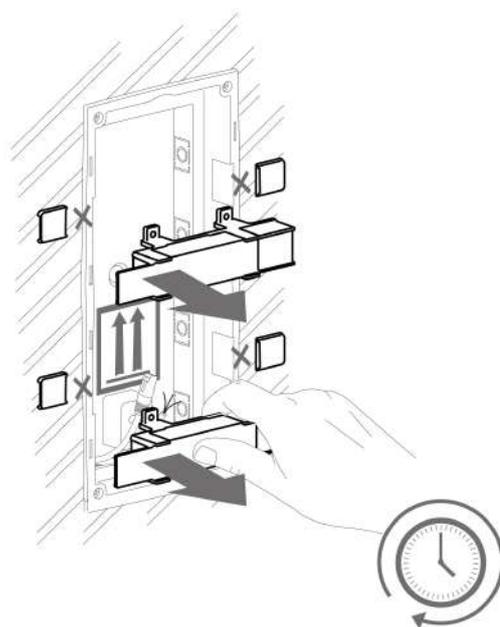
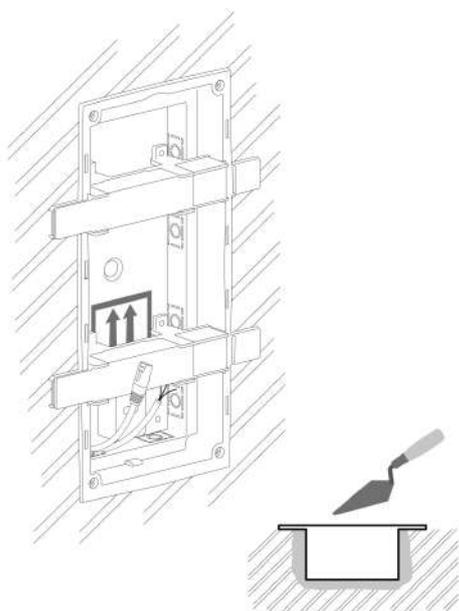


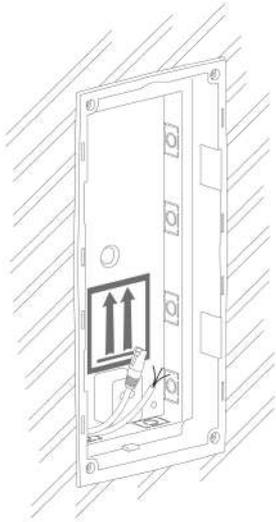
## 2.2.2 Two Module Box

### Flush mounting box mounting – classic bricks

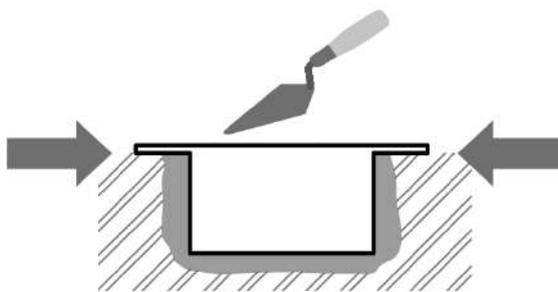






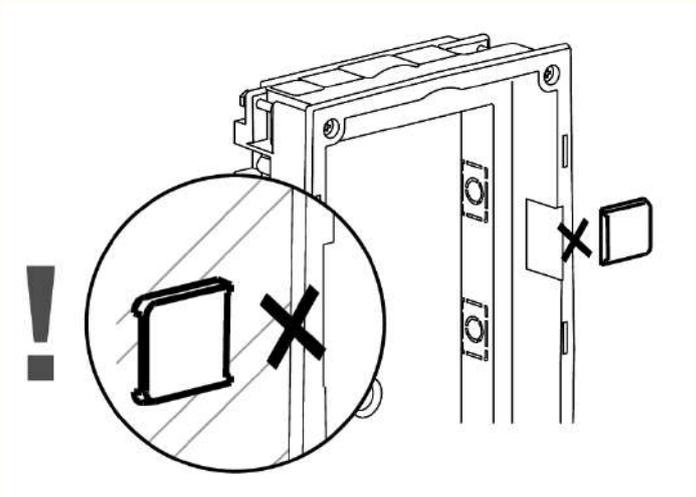


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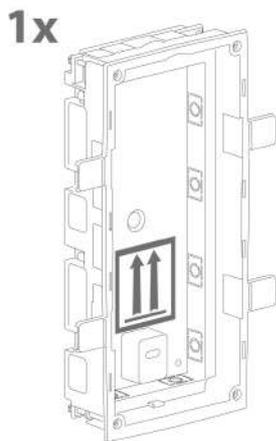
- Make sure that the flush mounting box is slightly above the wall surface not aligning with the wall. A wrong installation may lead to water penetration and subsequent damage of the device. Use the side protrusions to achieve the proper flush mounting.

**⚠ Caution**

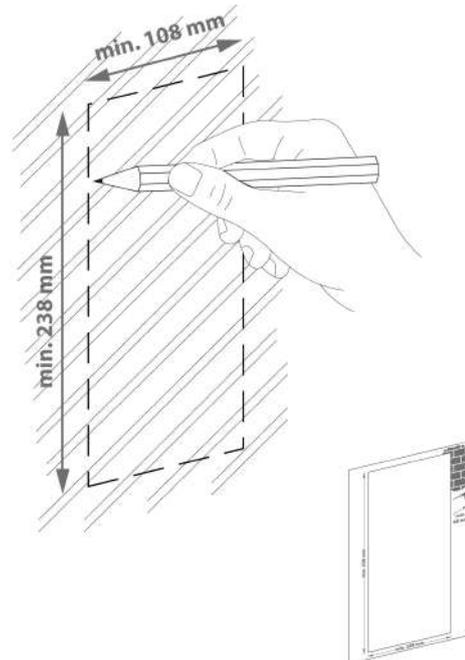


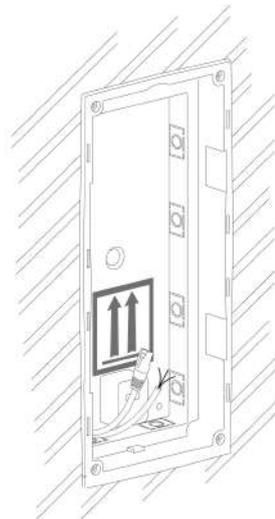
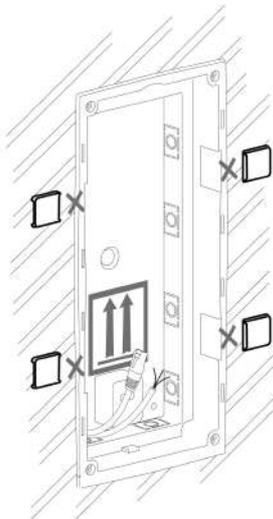
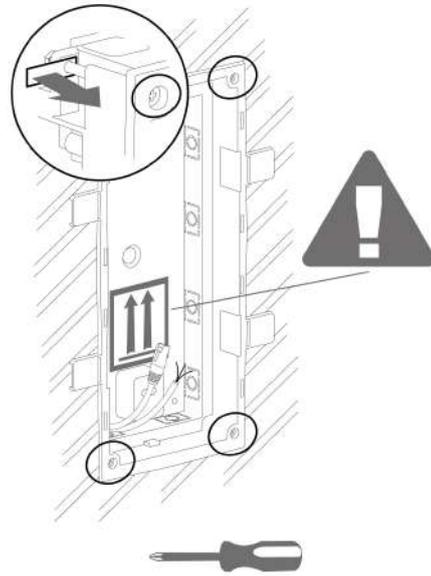
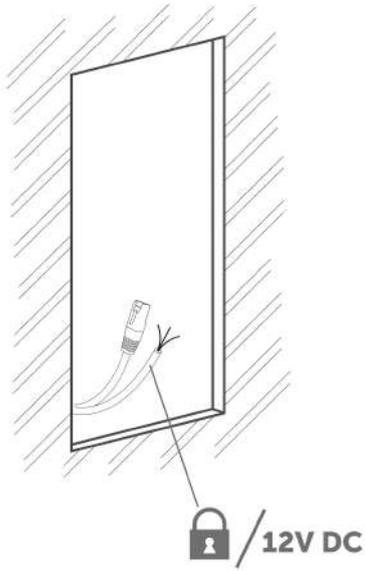
- Break off the side protrusions when the walling material has hardened.

Flush mounting box mounting – plasterboard



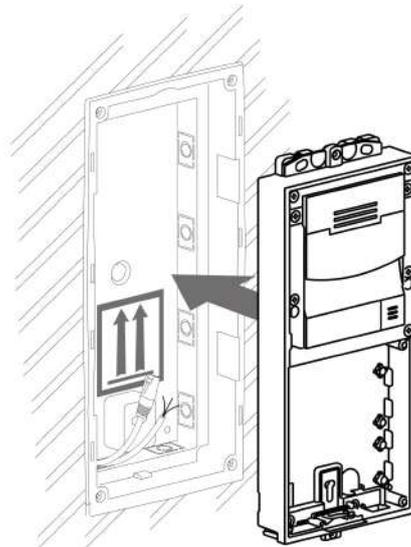
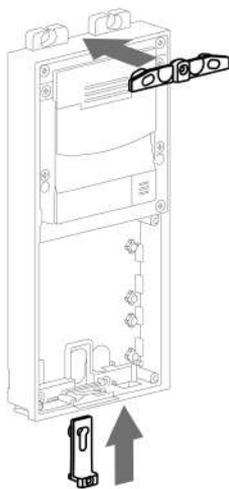
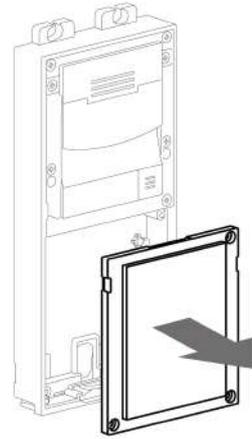
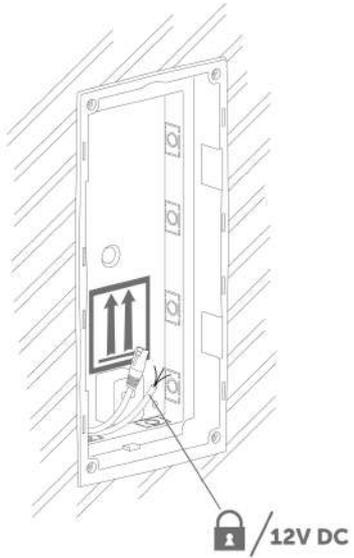
min 108(W) x 238(H) mm

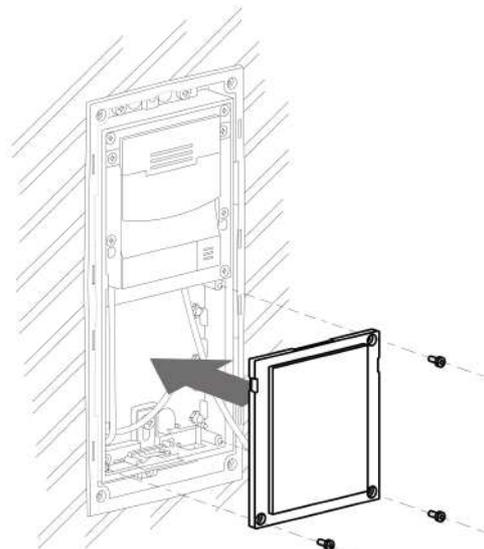
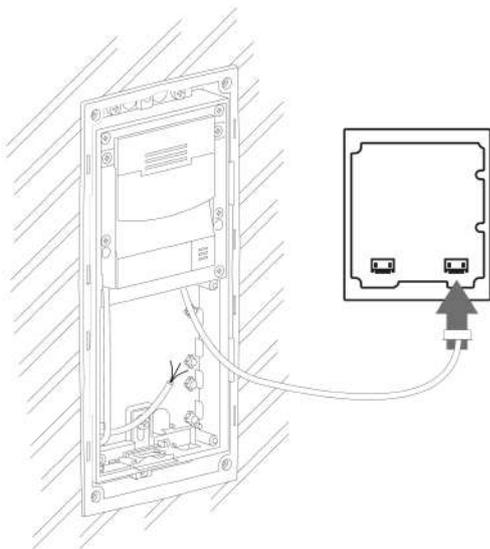
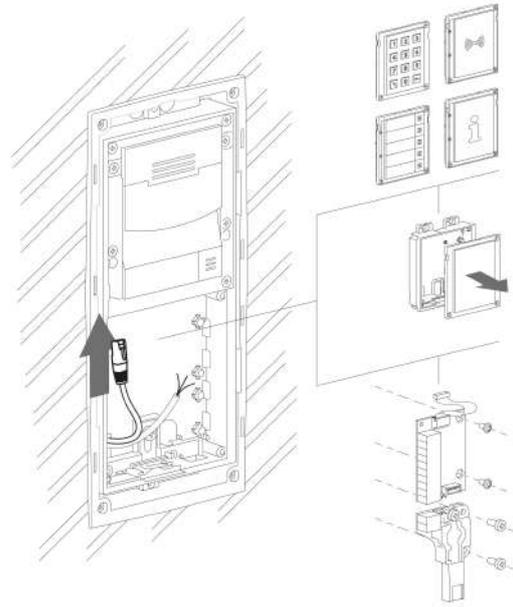
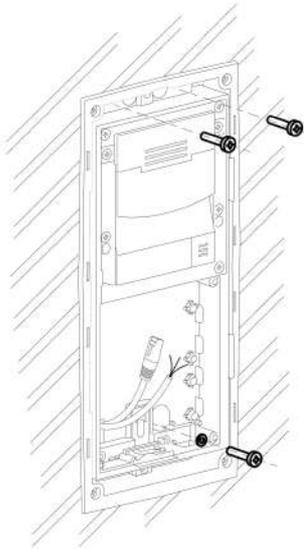


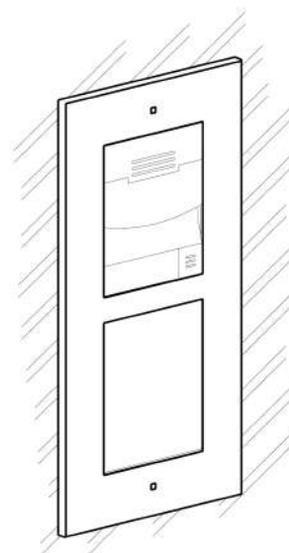
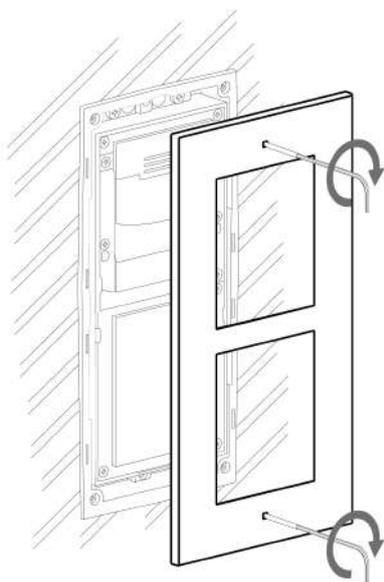


## Flush module mounting

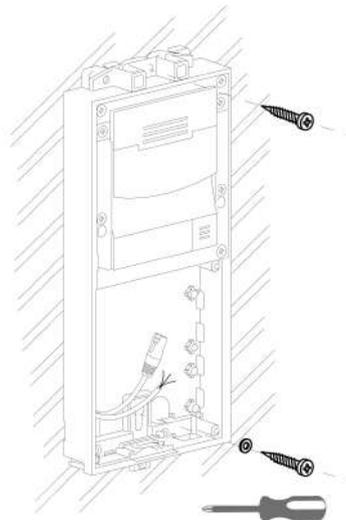
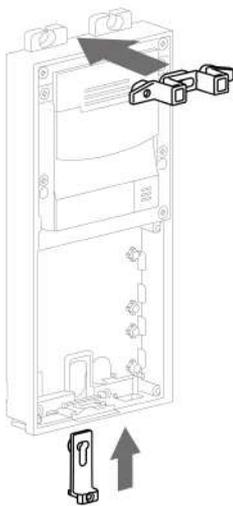
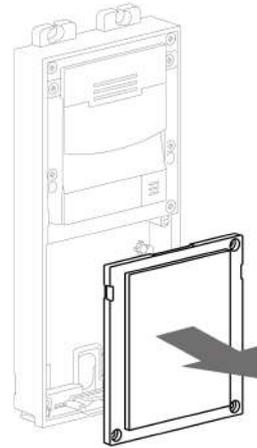
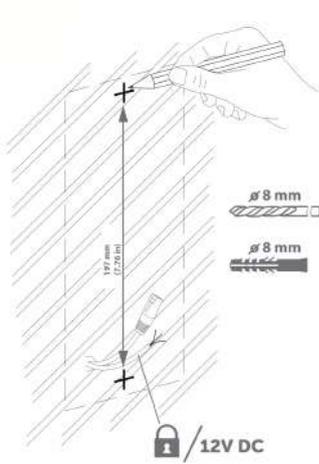
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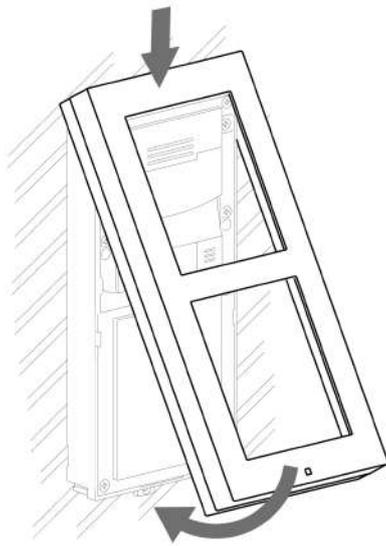
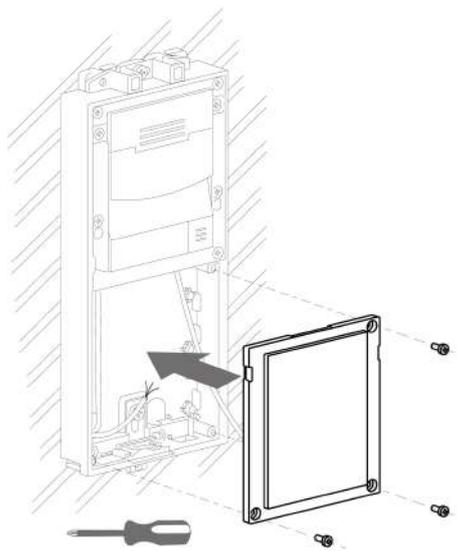
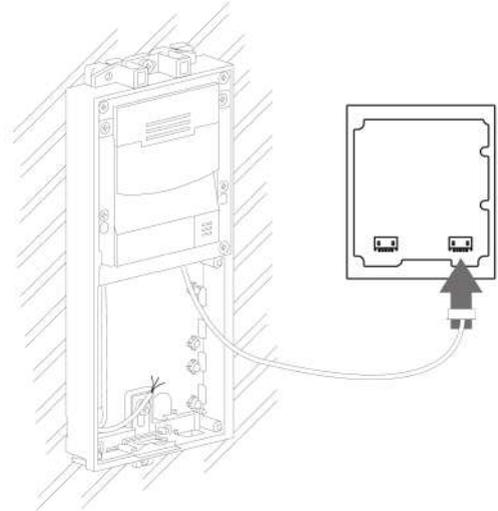
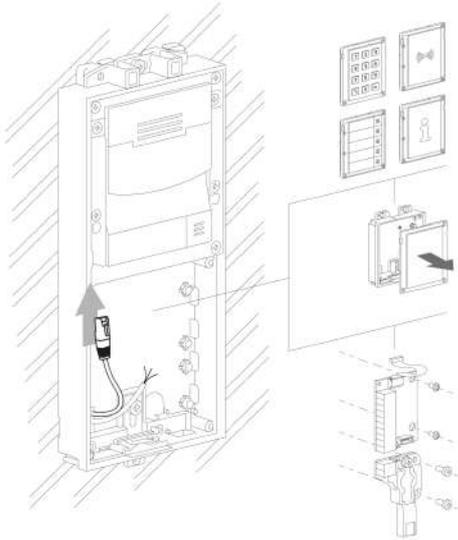


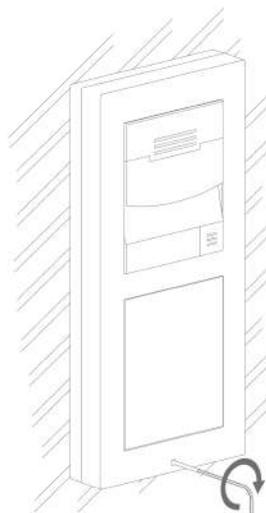
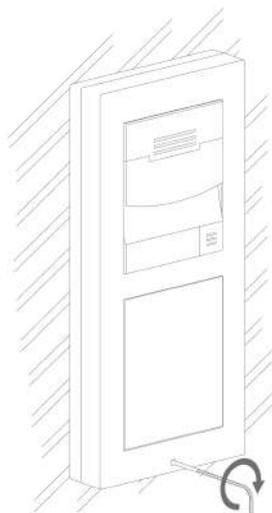




### Surface module mounting

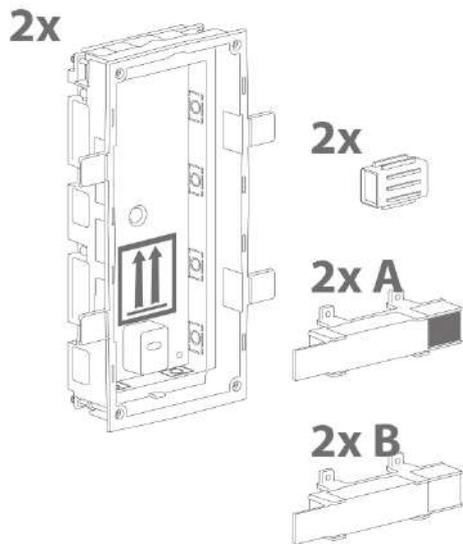




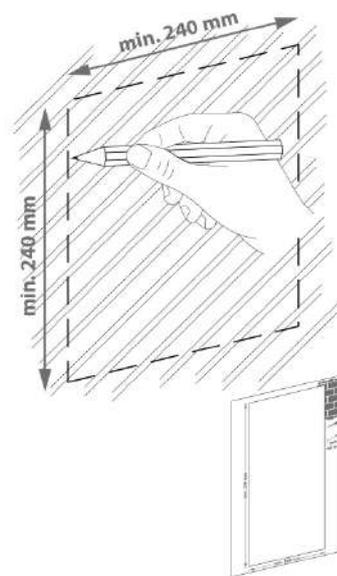


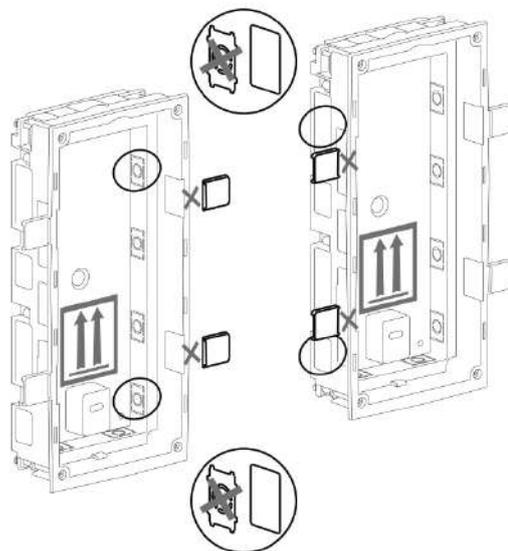
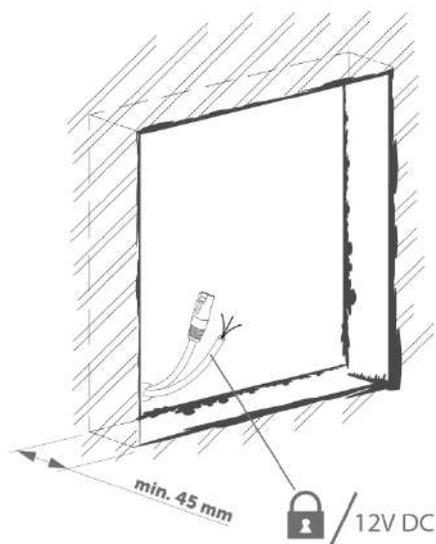
### 2.2.3 More Two Module Boxes

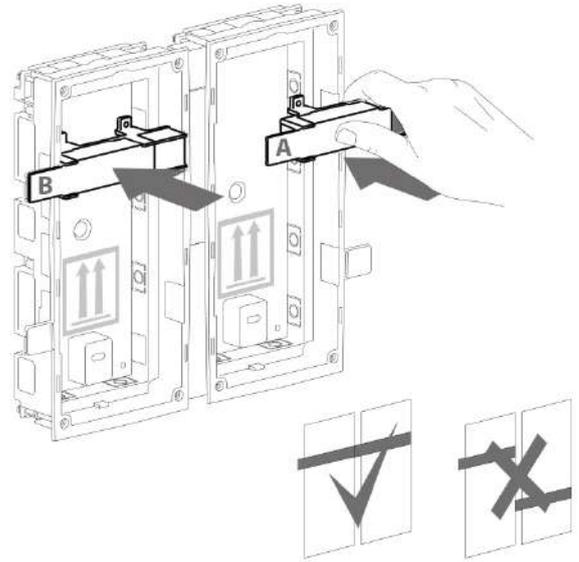
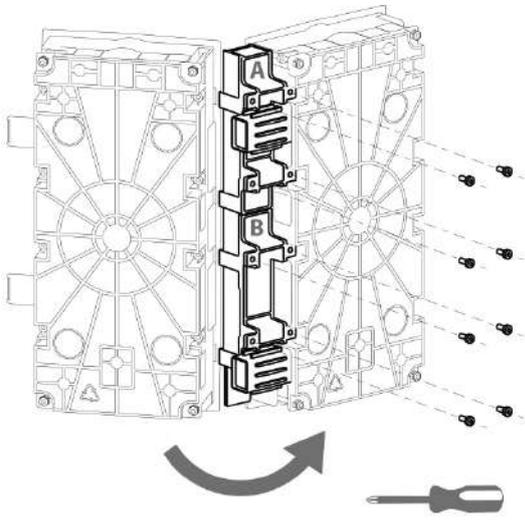
#### Flush mounting box mounting – classic bricks

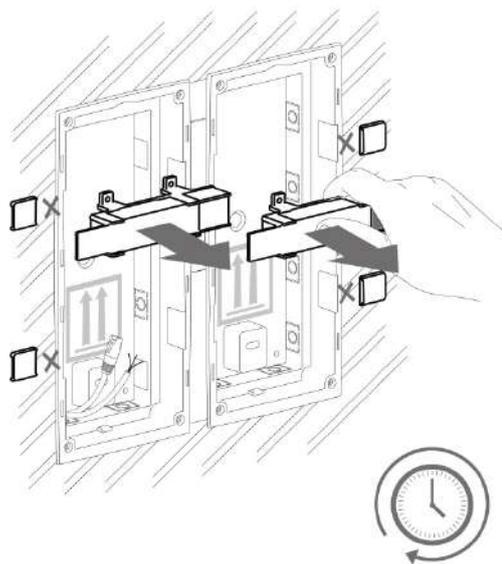
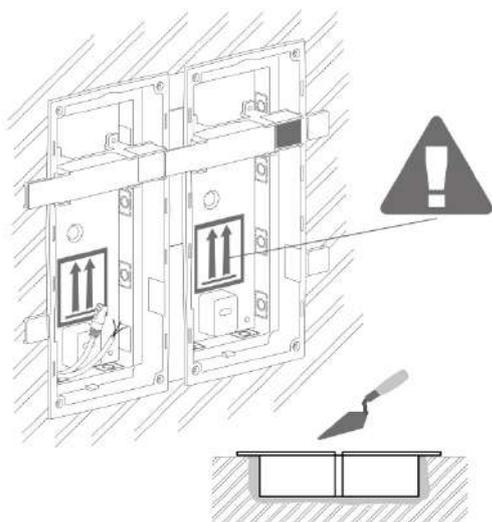


min 240(W) x 240(H) x 45(D) mm

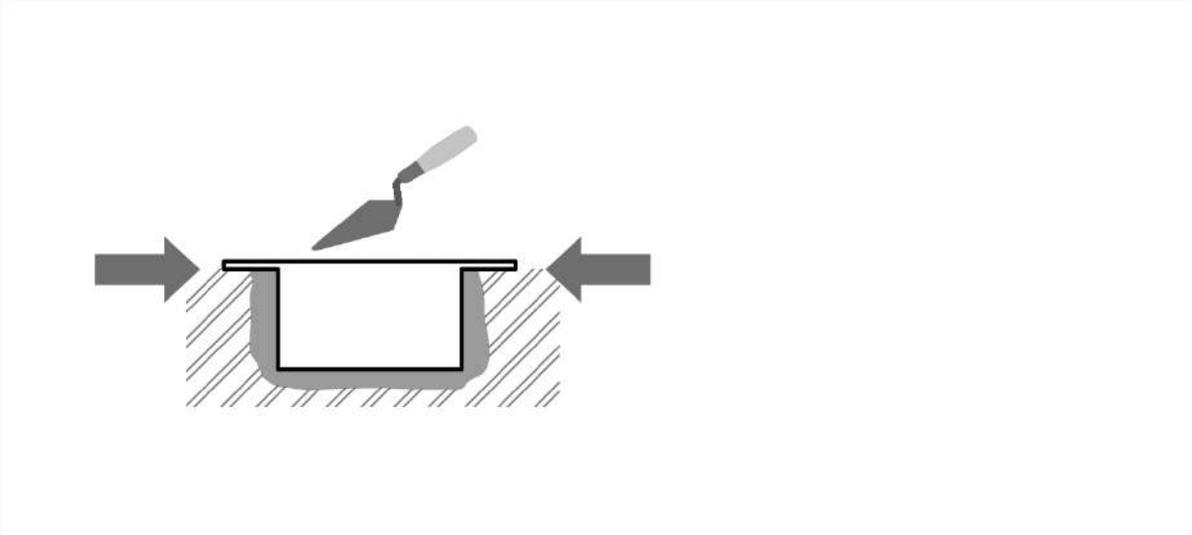






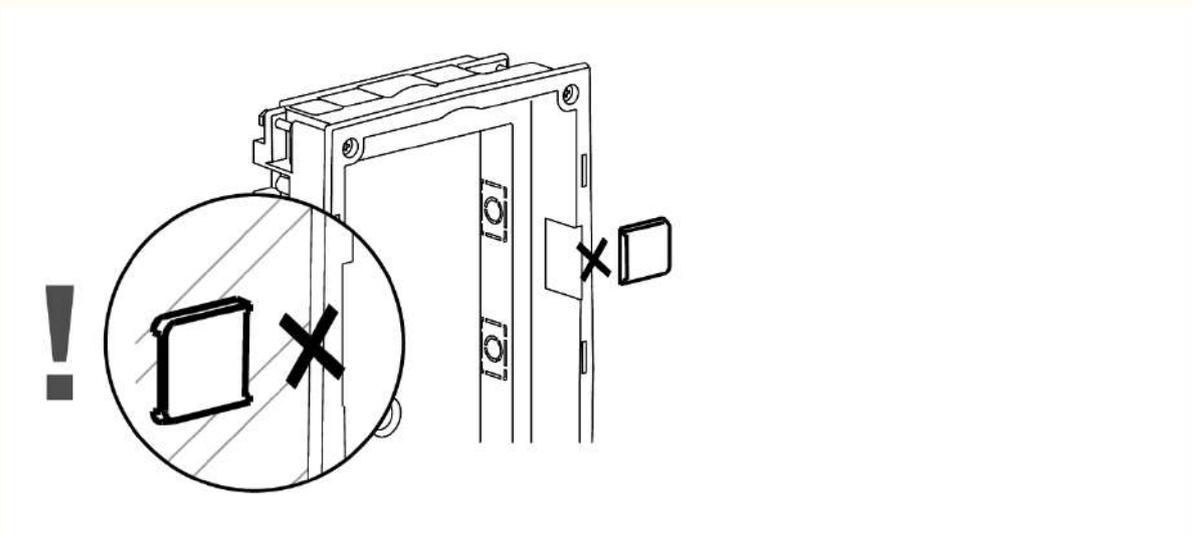


**Warning**

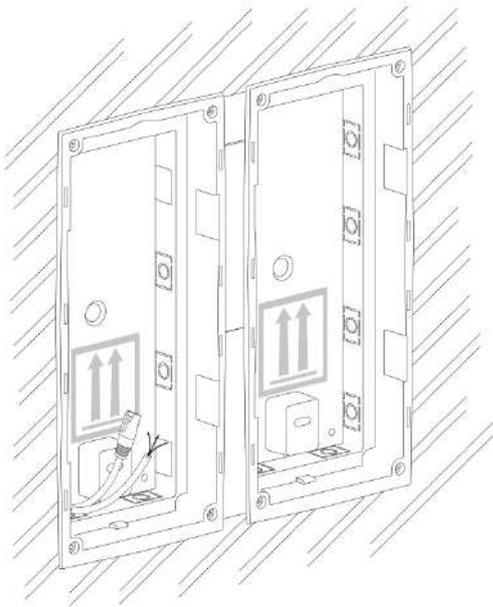


- Make sure that the flush mounting box is slightly above the wall surface not aligning with the wall. A wrong installation may lead to water penetration and subsequent damage of the device. Use the side protrusions to achieve the proper flush mounting.

**Caution**

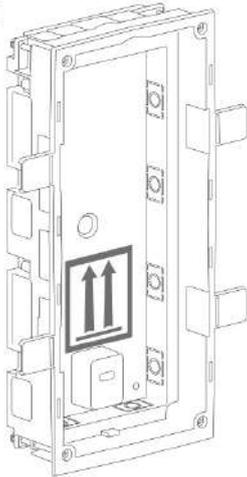


- Break off the side protrusions when the walling material has hardened.



Flush mounting box mounting – plasterboard

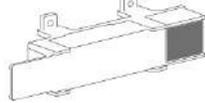
**2x**



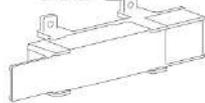
**2x**



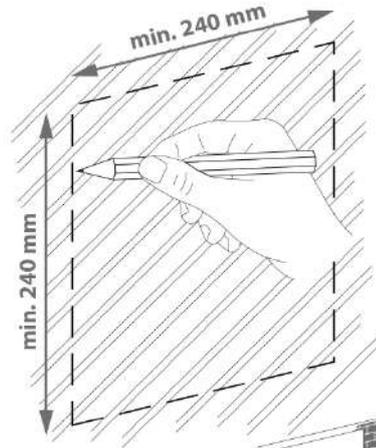
**1x A**

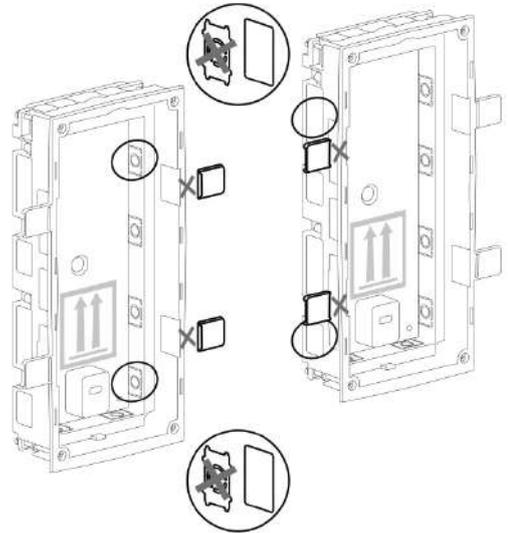
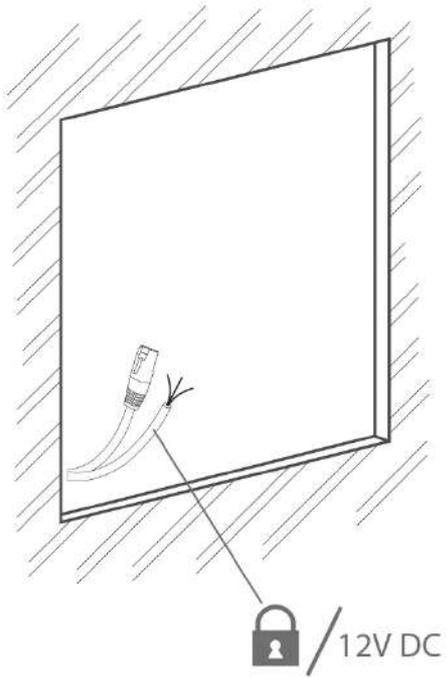


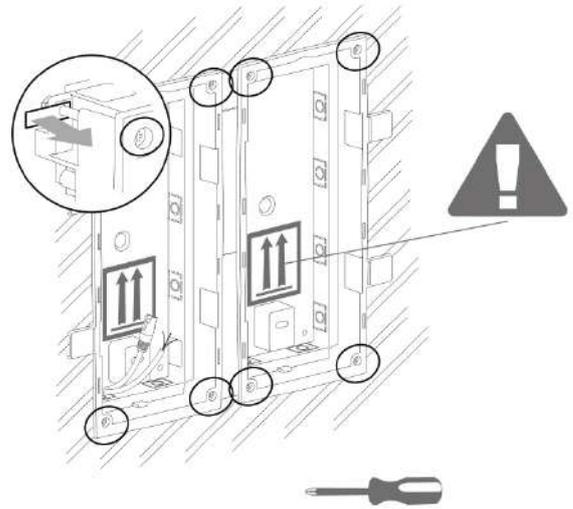
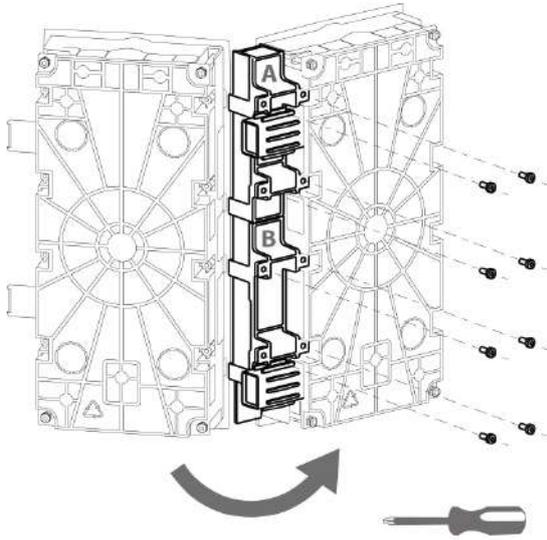
**1x B**

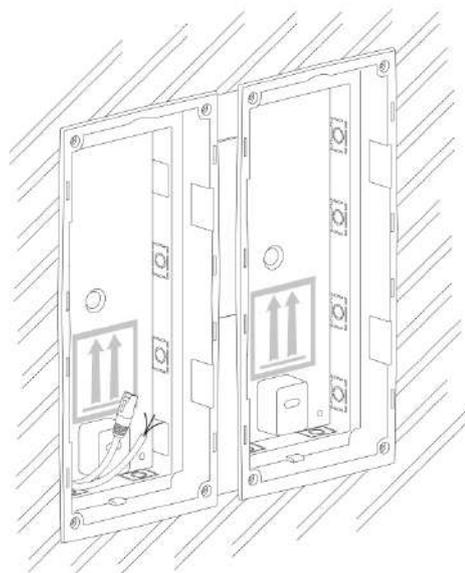
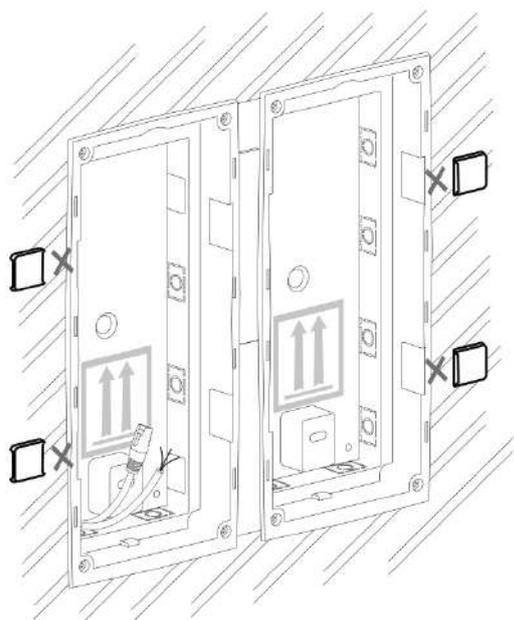


min 240(W) x 240(H)



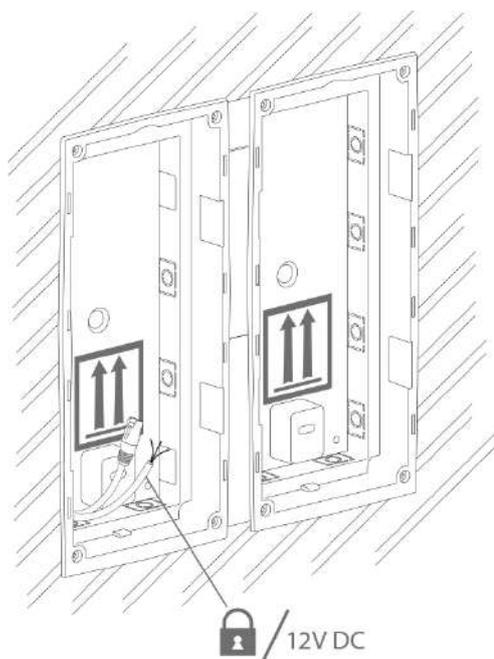
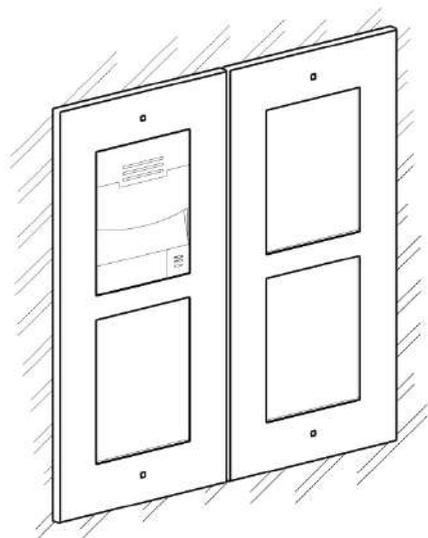


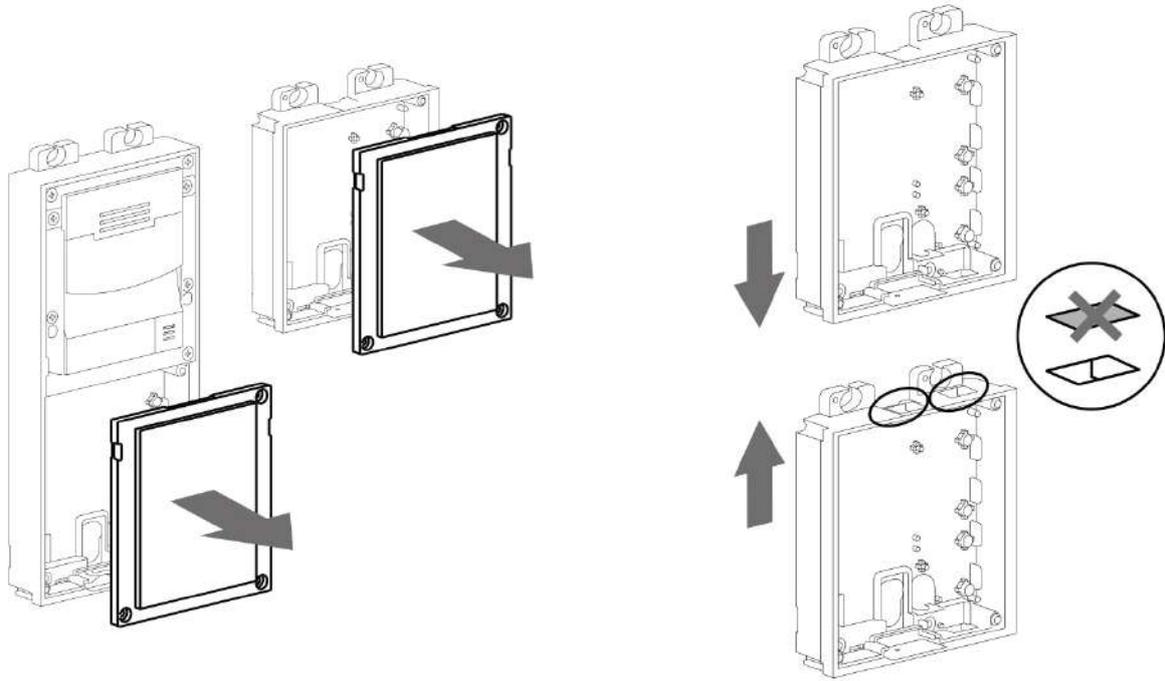


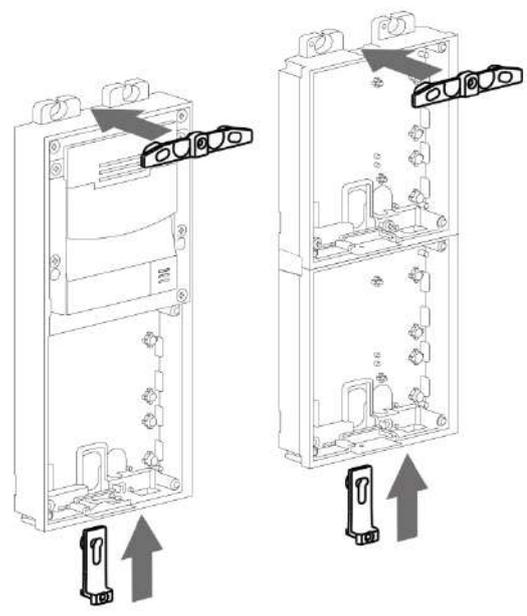
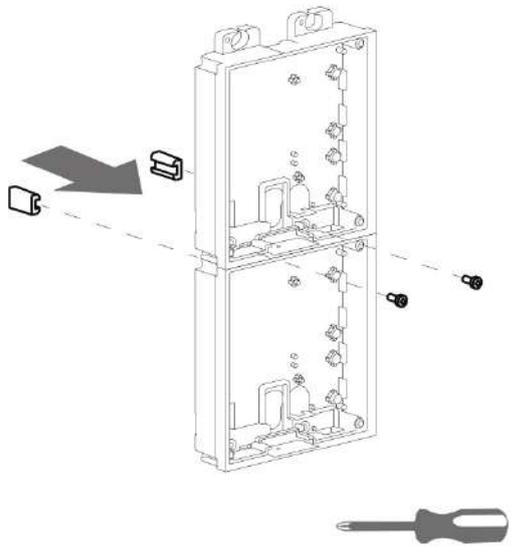


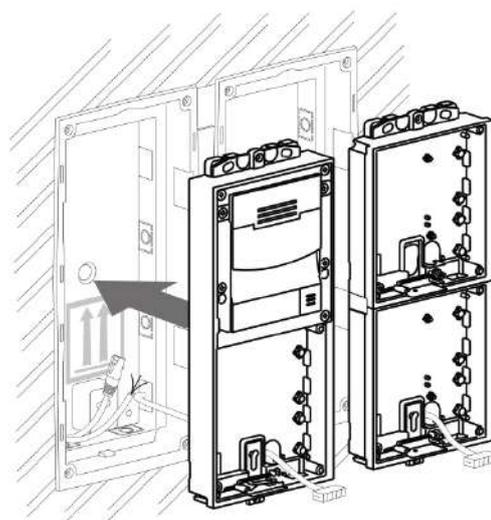
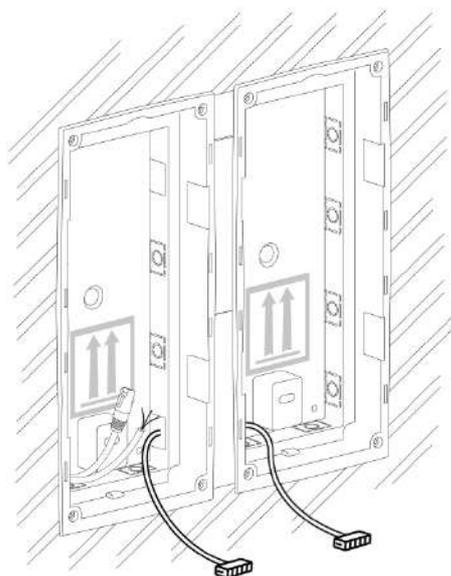
## Flush module mounting

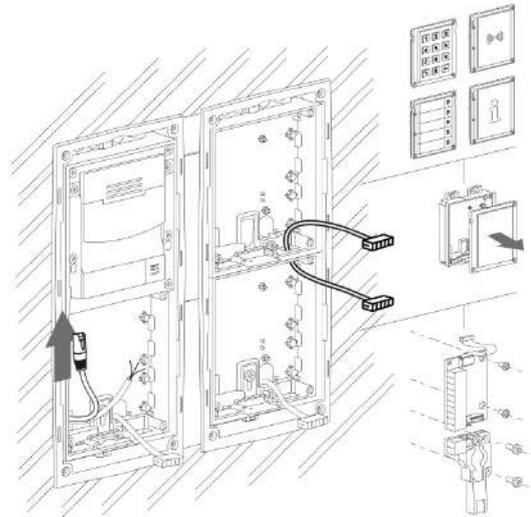
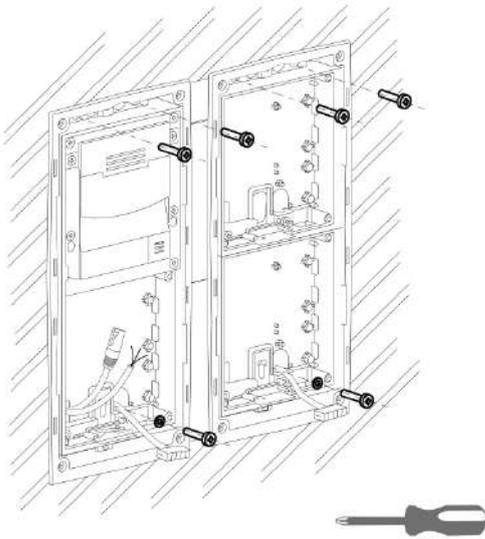
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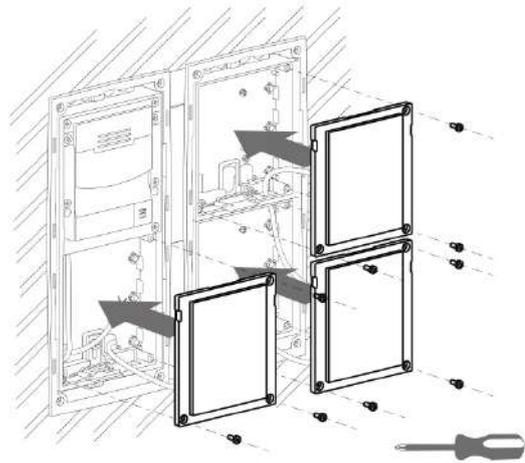
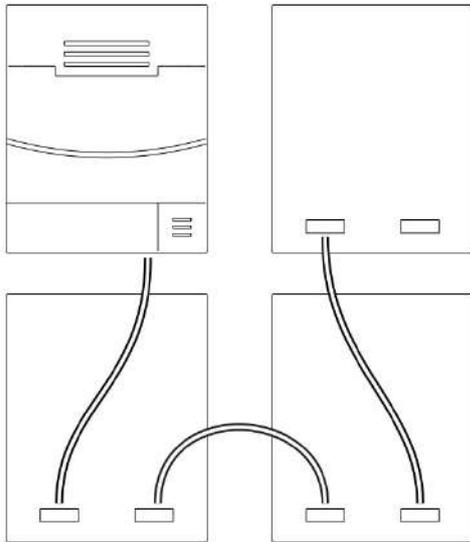


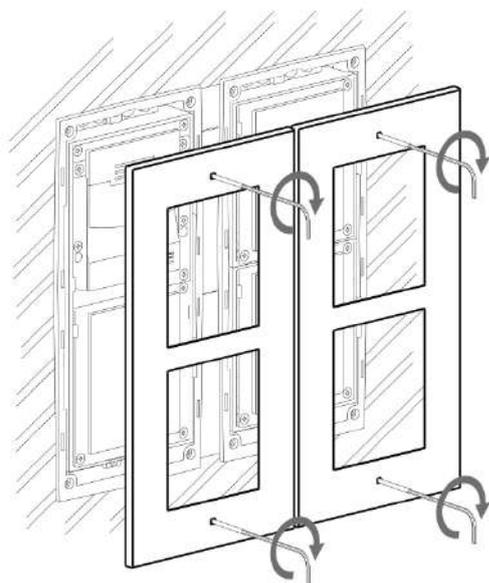




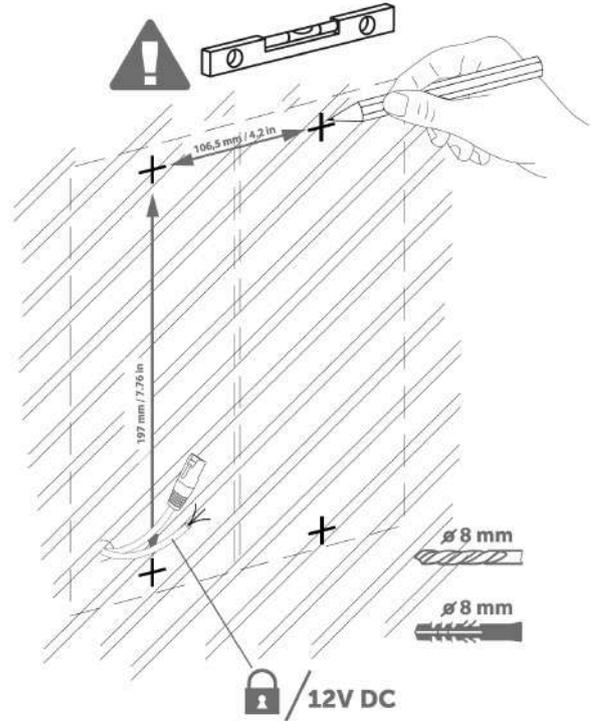
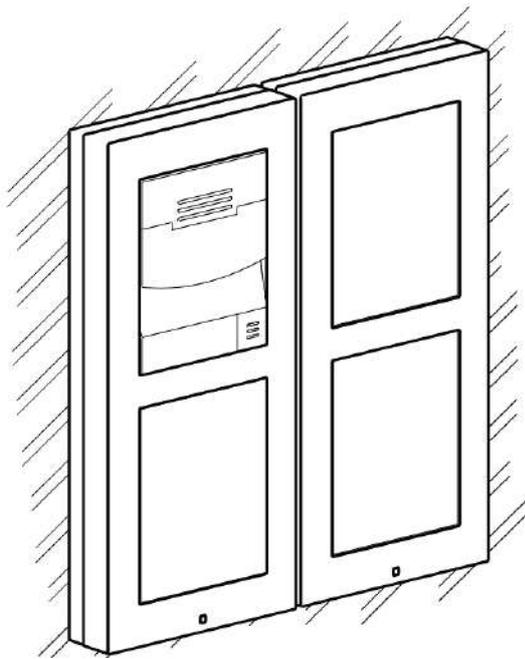


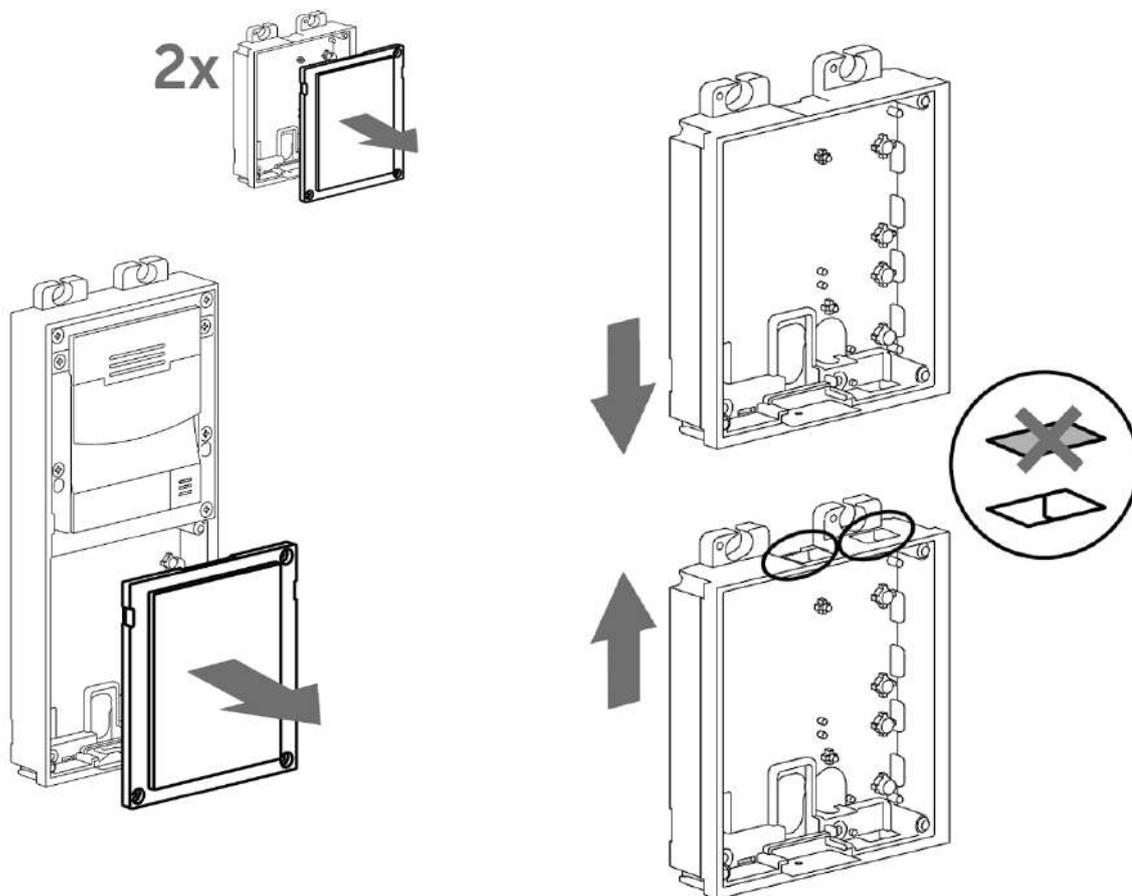


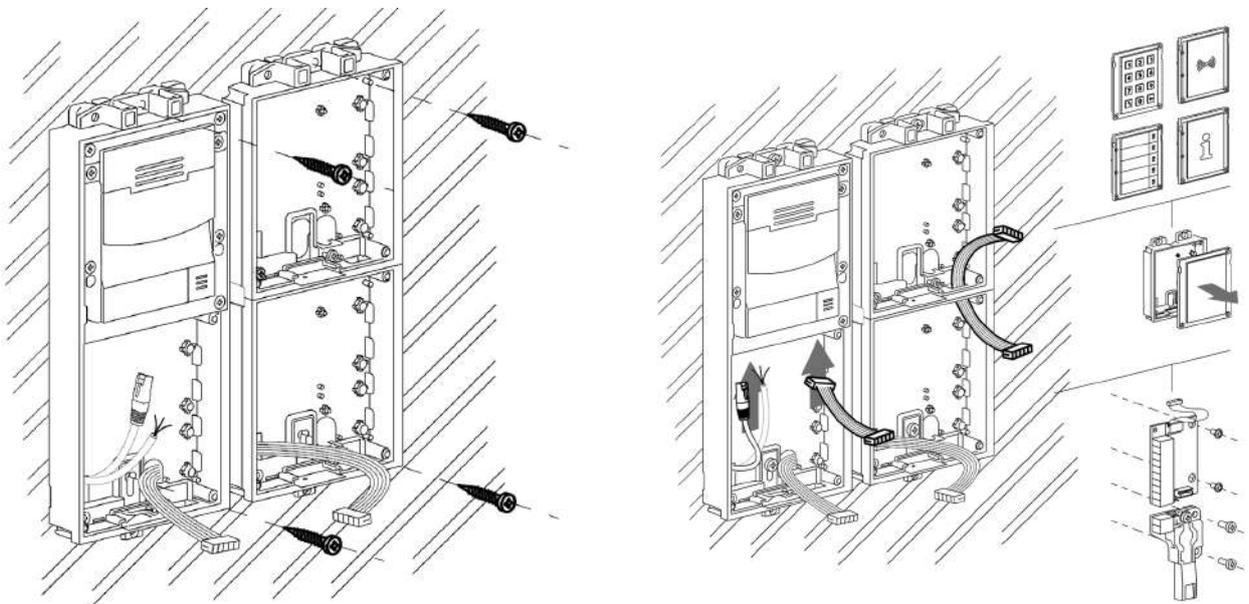
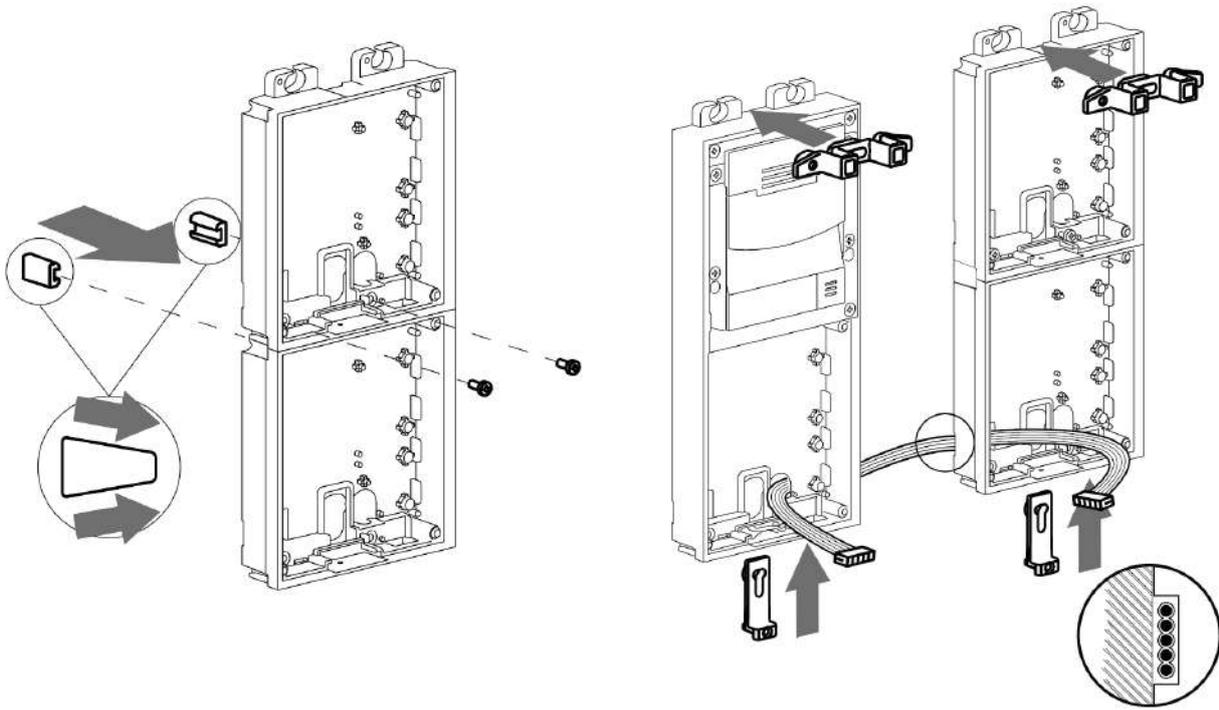


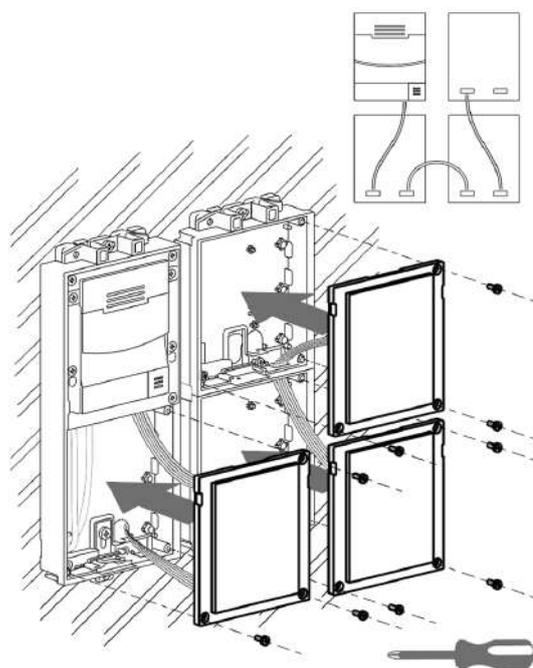
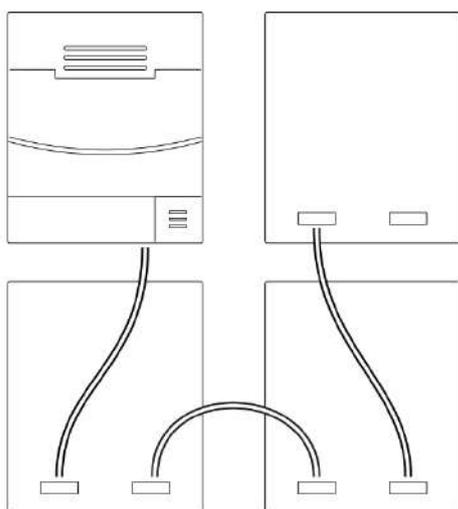


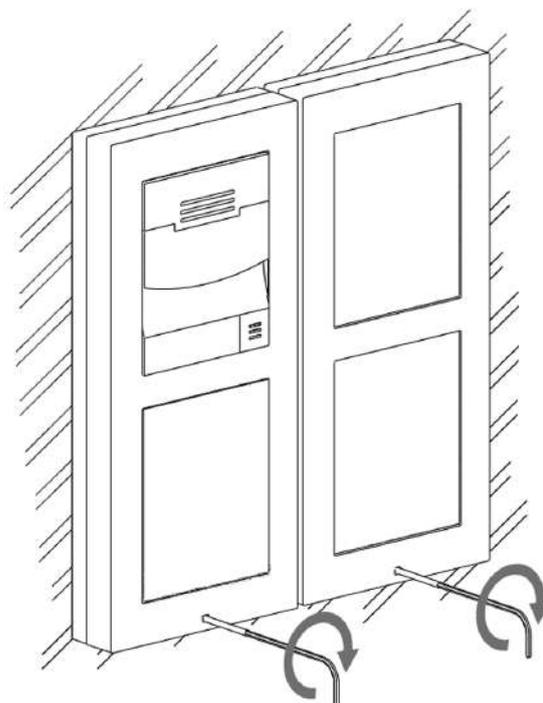
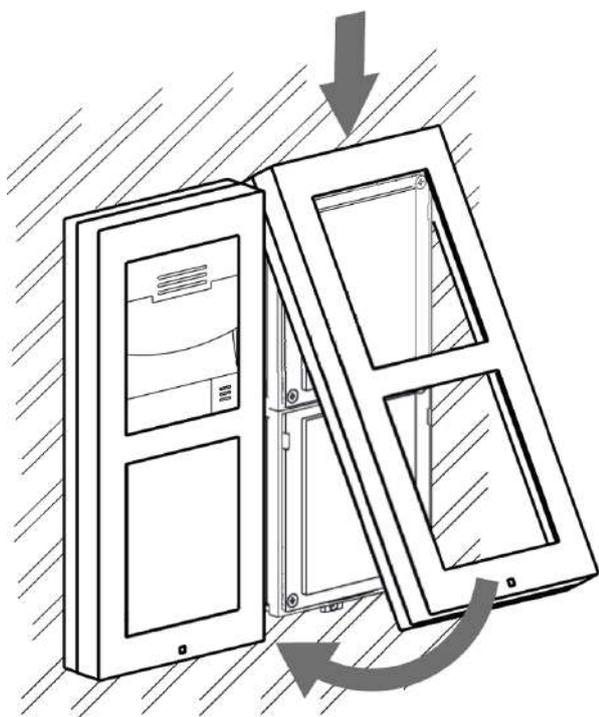
Surface module mounting







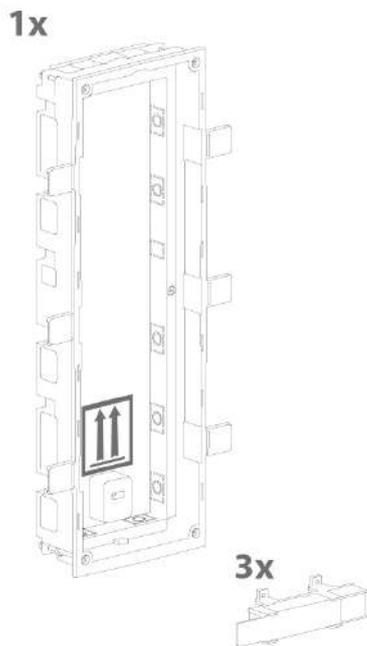




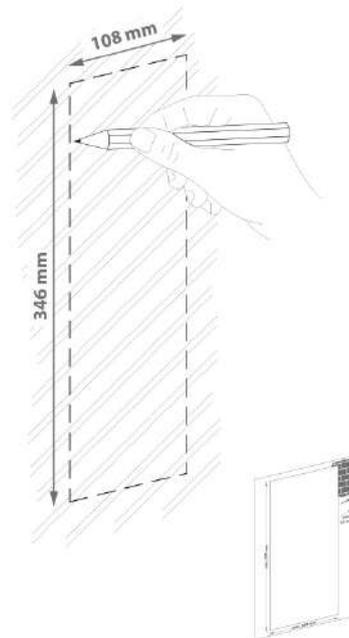
## 2.2.4 Three Module Box

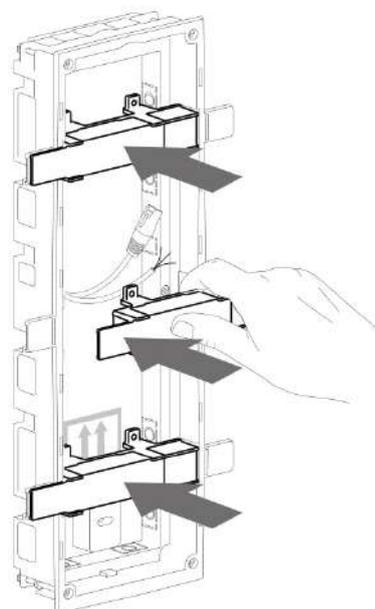
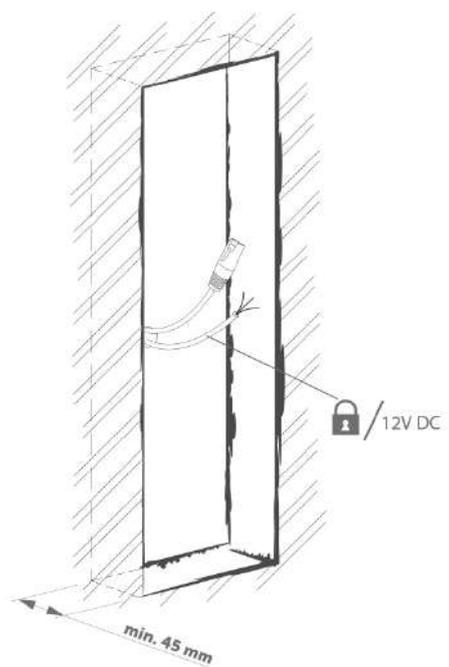
### Flush mounting box mounting – classic bricks

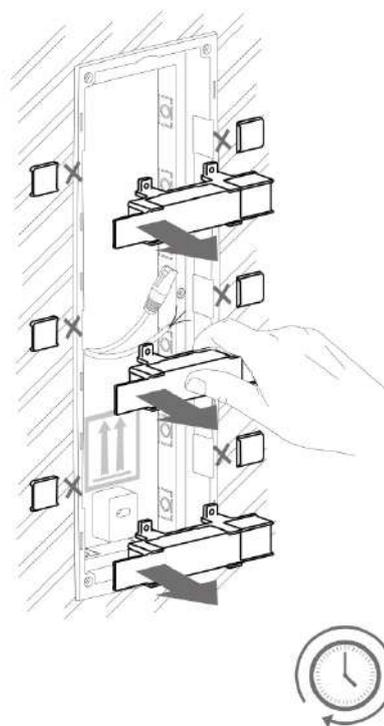
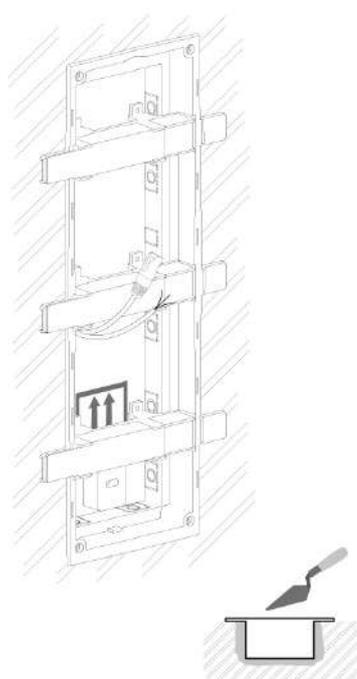
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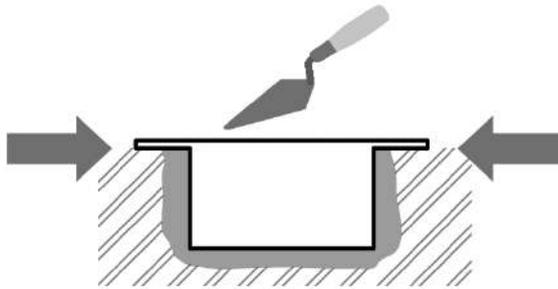
min 108(W) x 346(H) x 45(D) mm





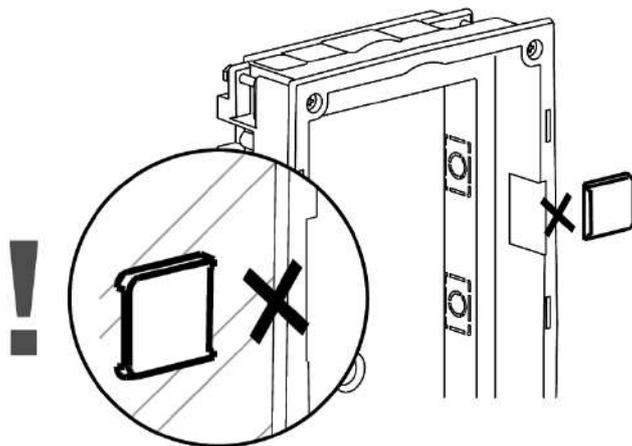


**Warning**

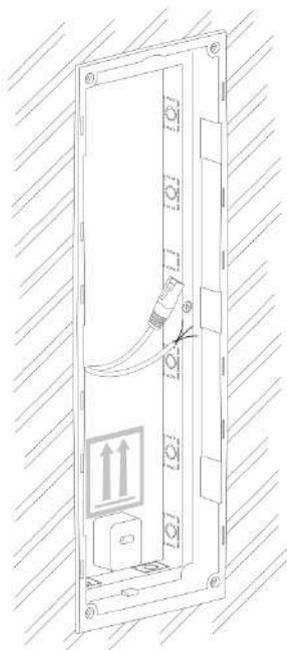


- Make sure that the flush mounting box is slightly above the wall surface not aligning with the wall. A wrong installation may lead to water penetration and subsequent damage of the device. Use the side protrusions to achieve the proper flush mounting.

**Caution**



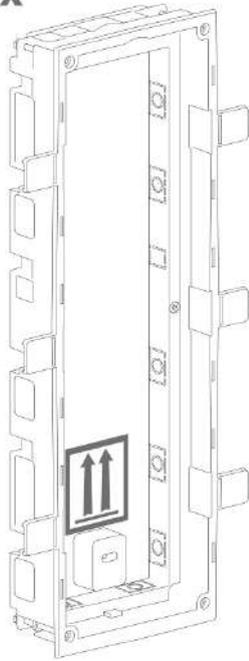
- Break off the side protrusions when the walling material has hardened.



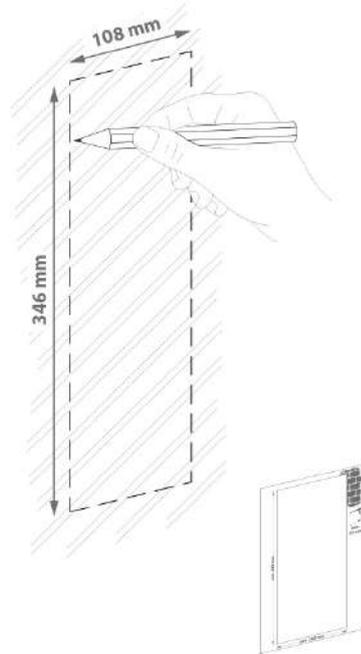
Flush mounting box mounting – plasterboard

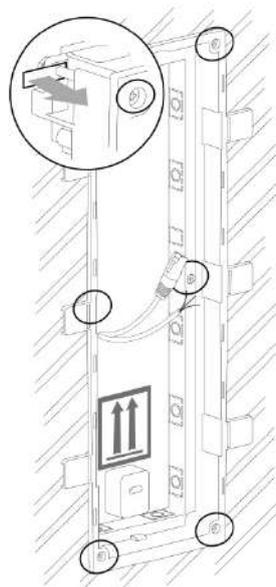
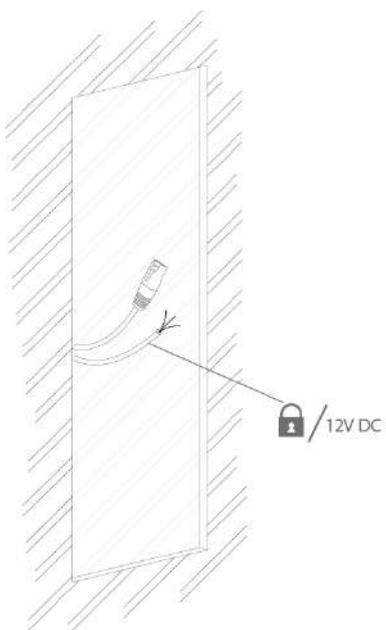
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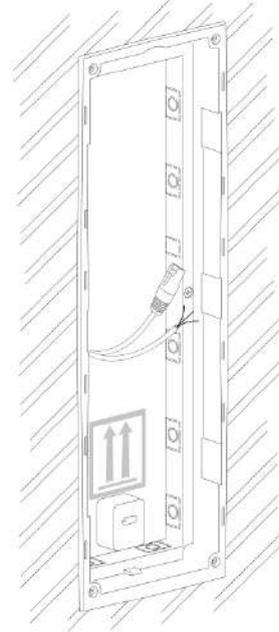
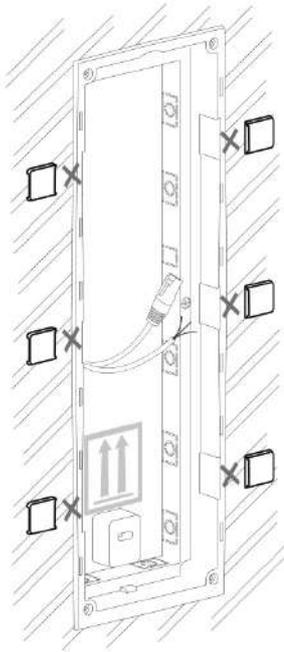
1x



min 108(W) x 346(H) mm

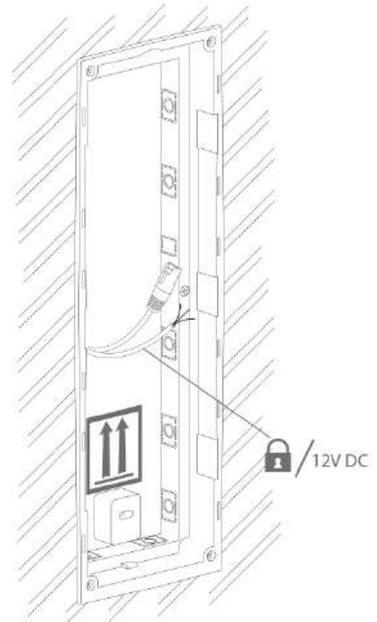
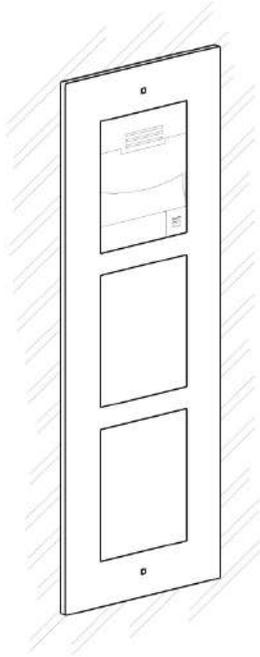


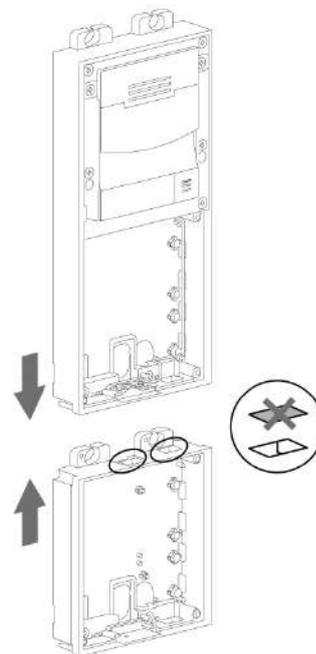
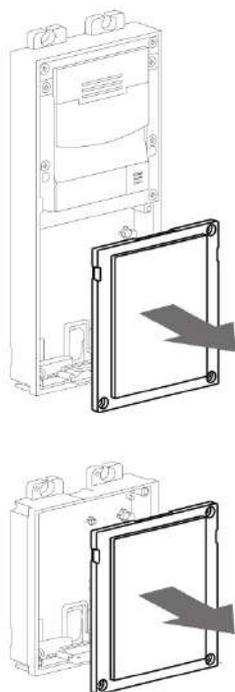


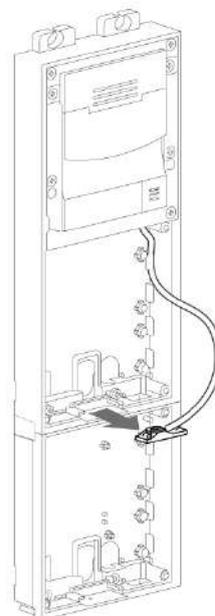
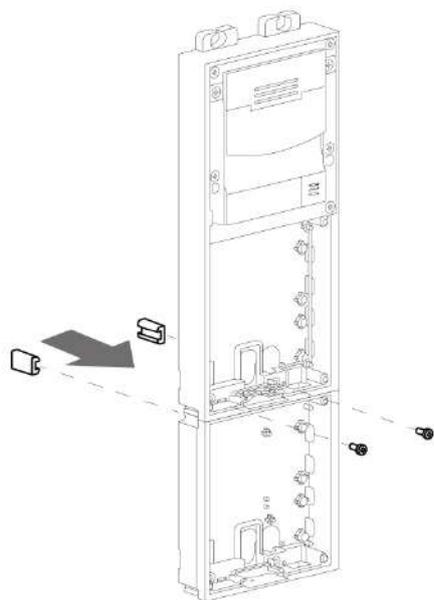


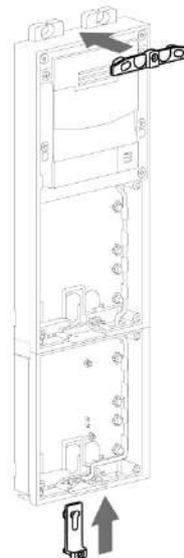
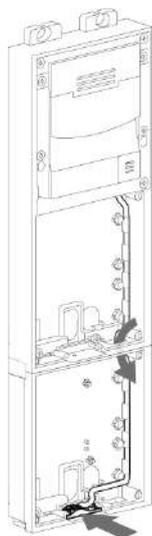
## Flush module mounting

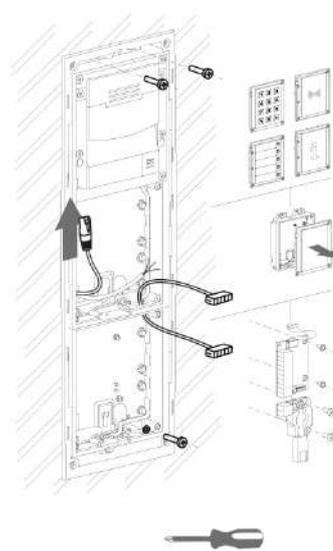
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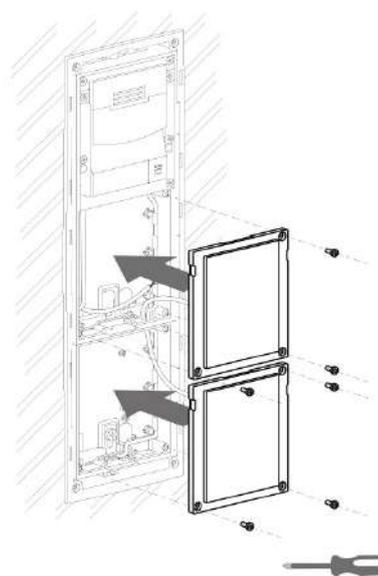
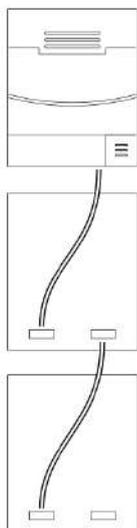








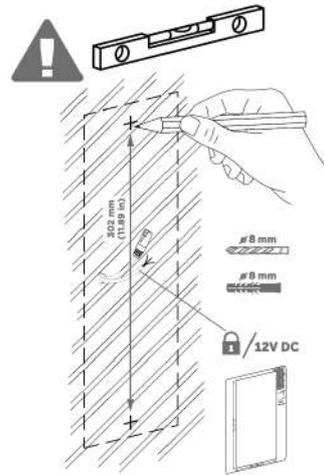
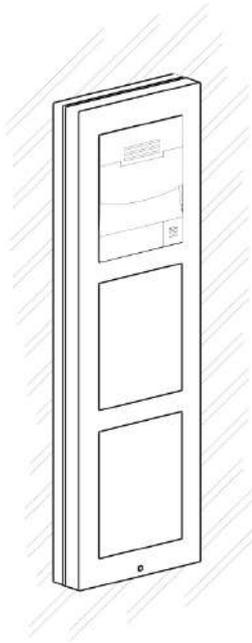


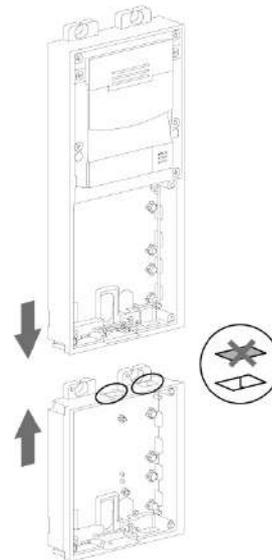


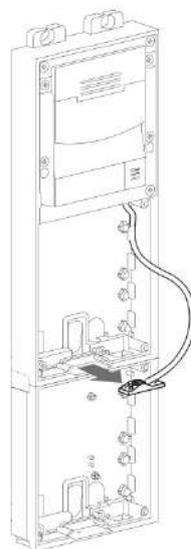
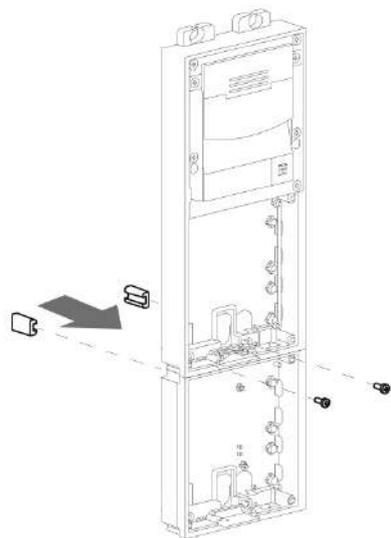


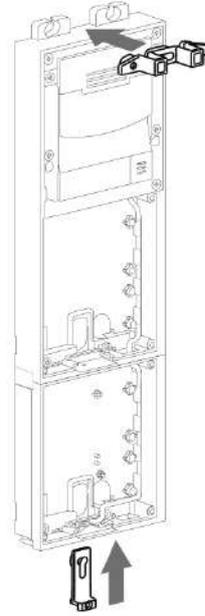
## Surface module mounting

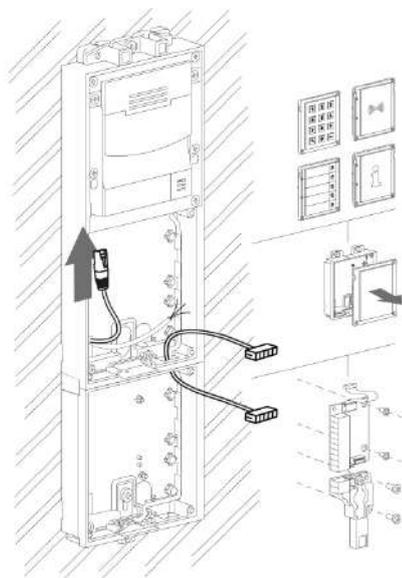
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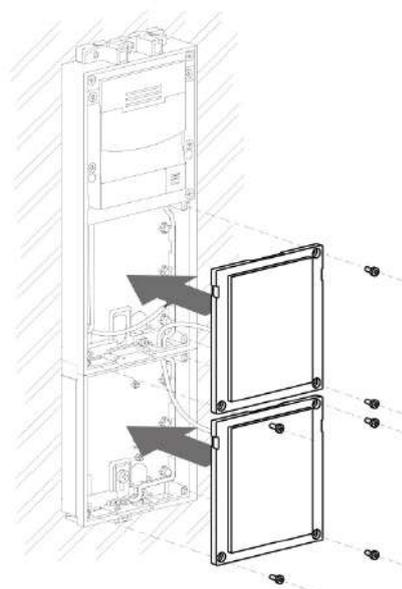
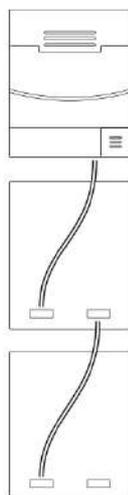


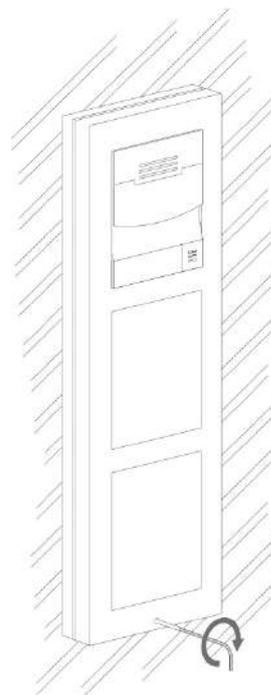
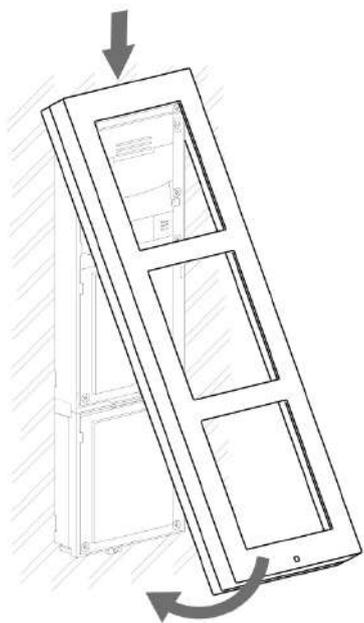






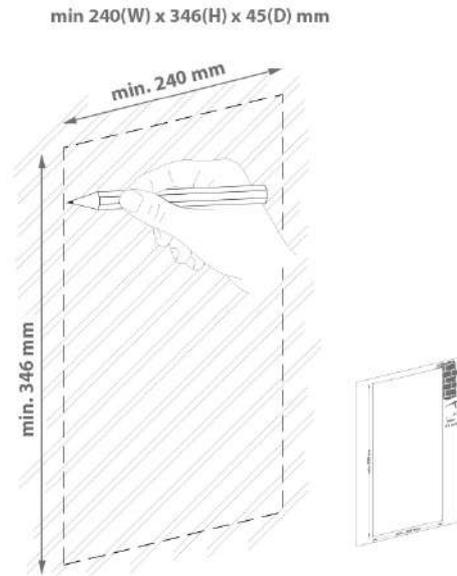
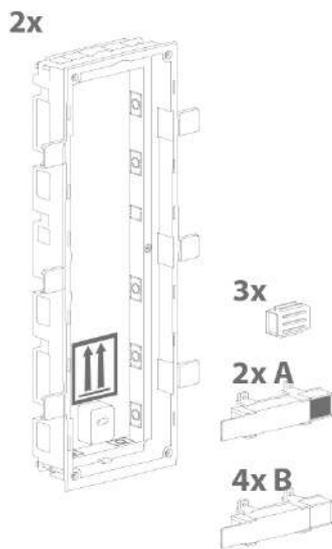


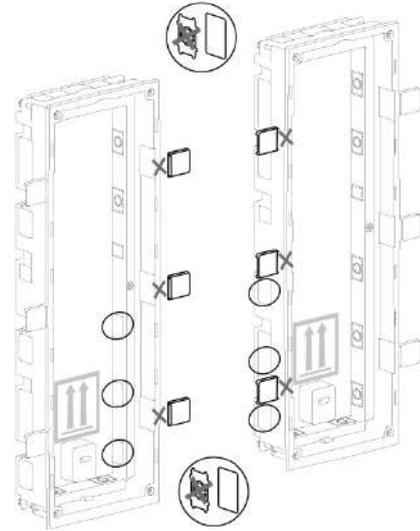
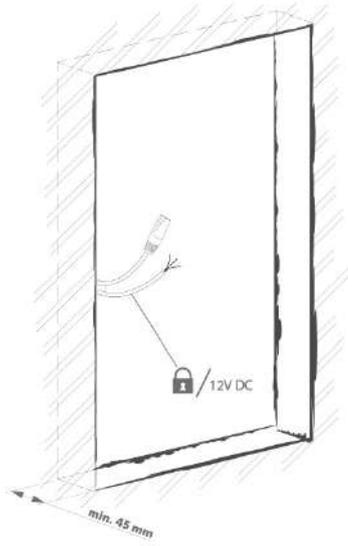


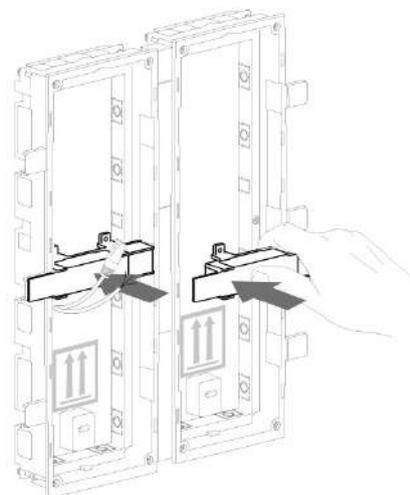
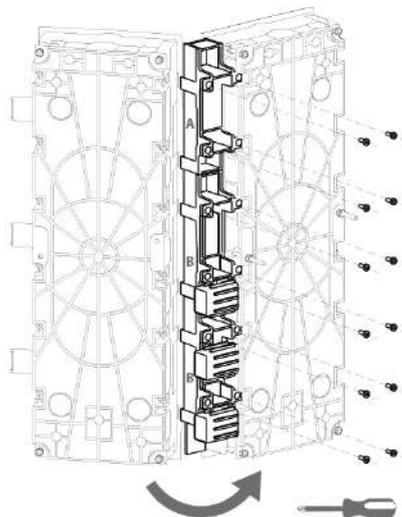


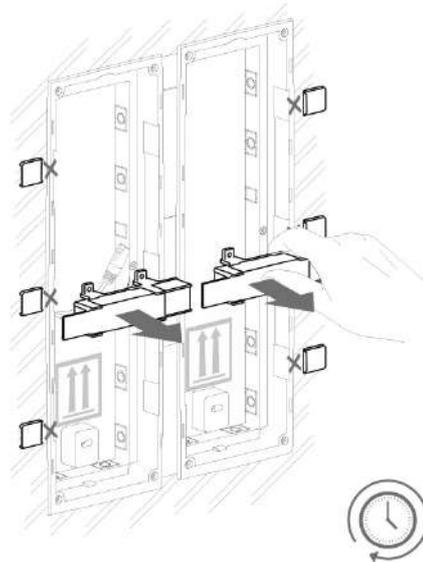
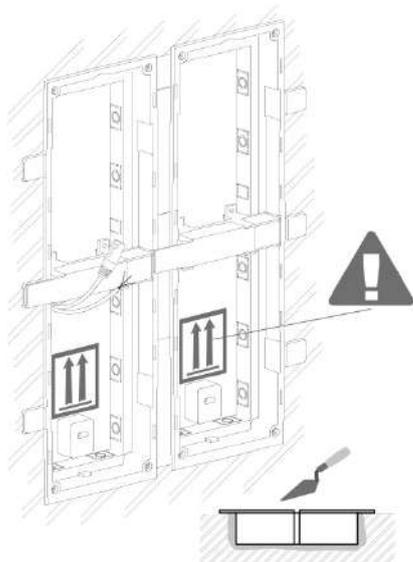
## 2.2.5 More Three Module Boxes

### Flush mounting box mounting – classic bricks

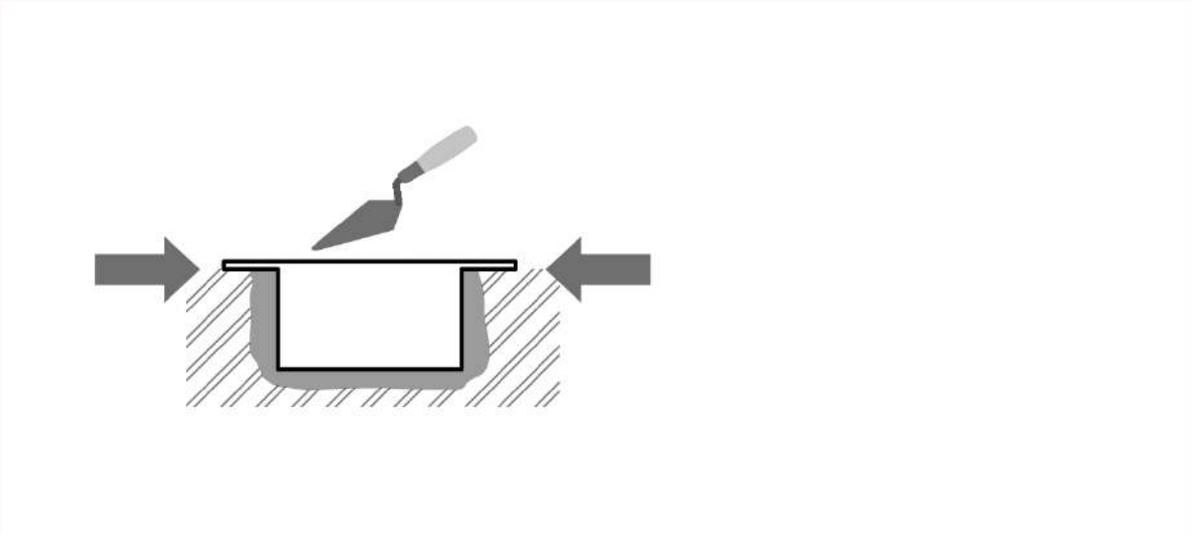






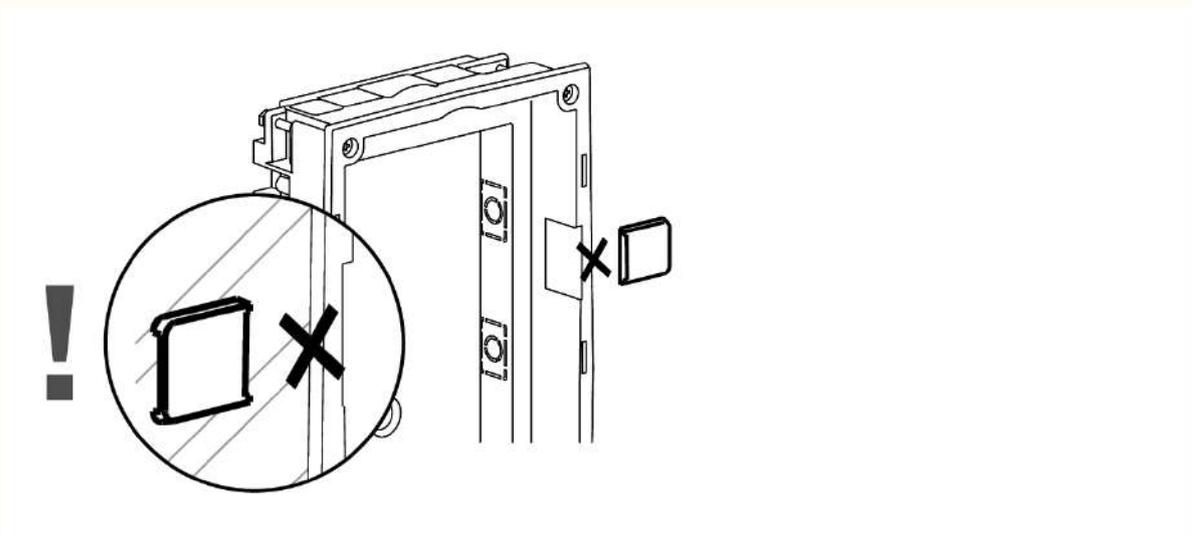


**Warning**

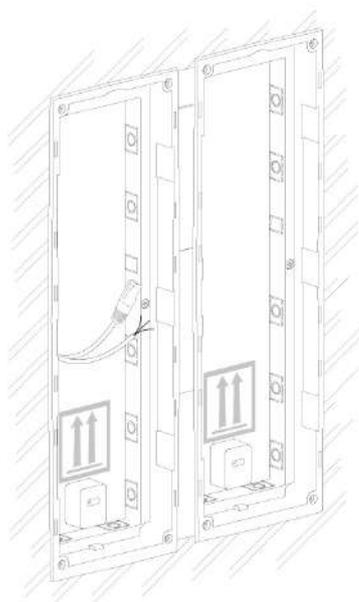


- Make sure that the flush mounting box is slightly above the wall surface not aligning with the wall. A wrong installation may lead to water penetration and subsequent damage of the device. Use the side protrusions to achieve the proper flush mounting.

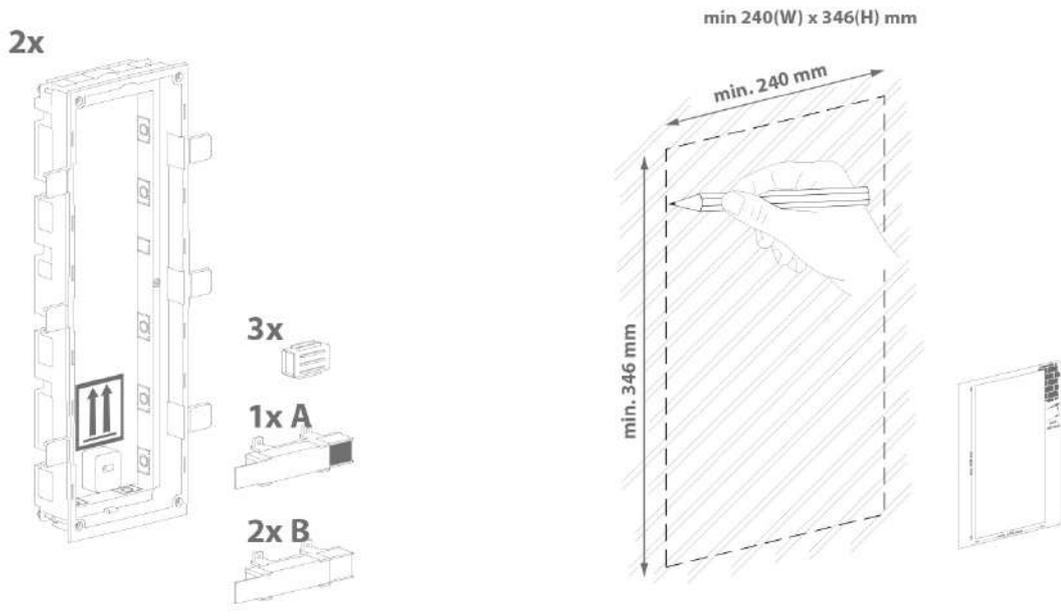
**Caution**

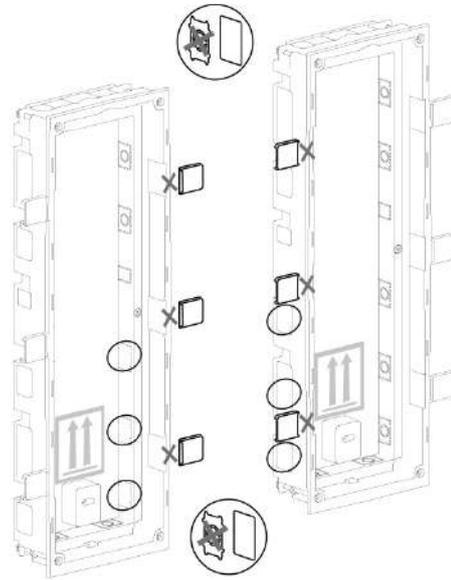
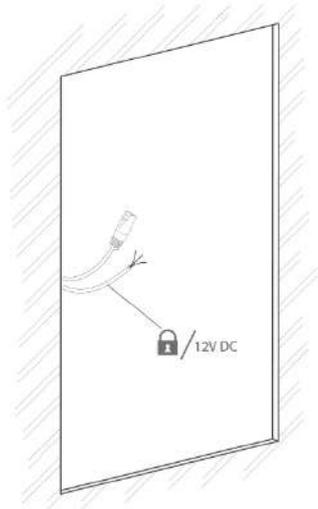


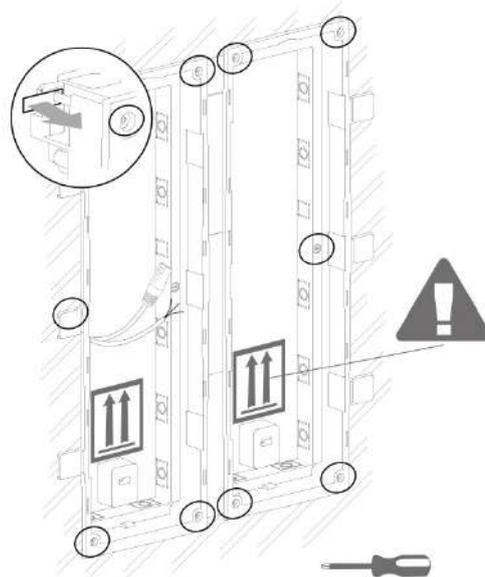
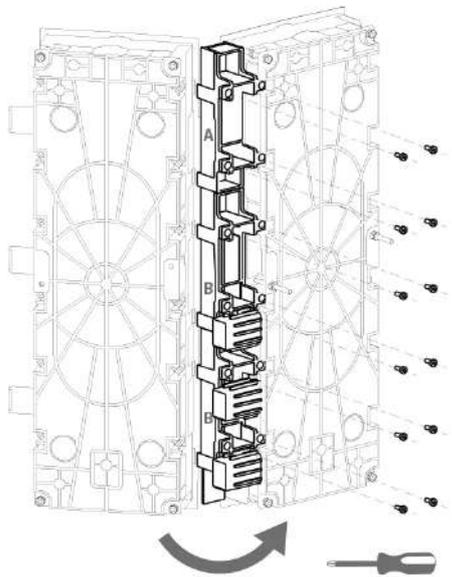
- Break off the side protrusions when the walling material has hardened.

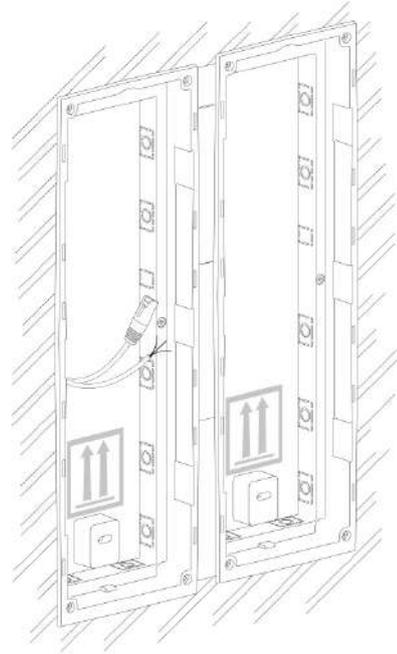
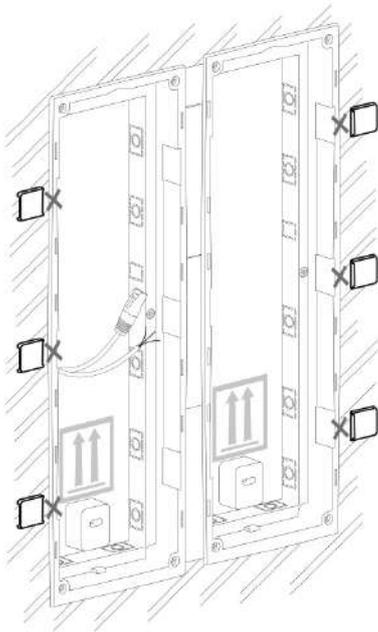


Flush mounting box mounting – plasterboard



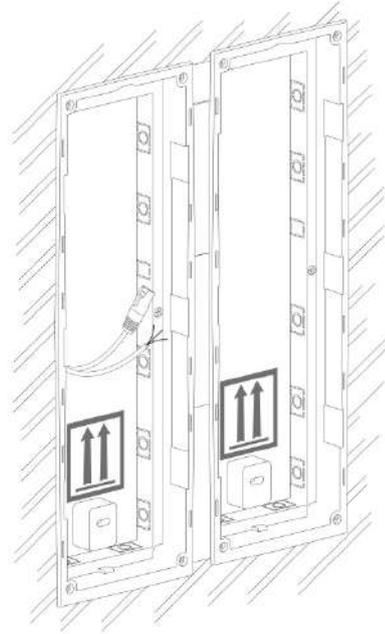
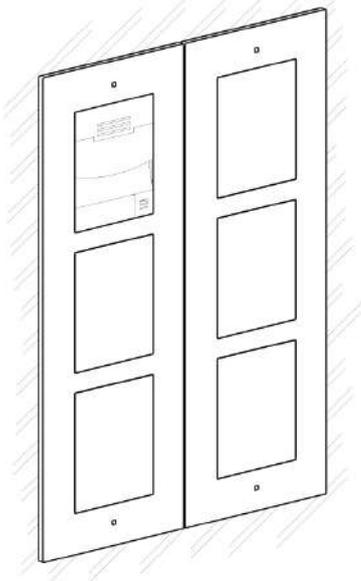


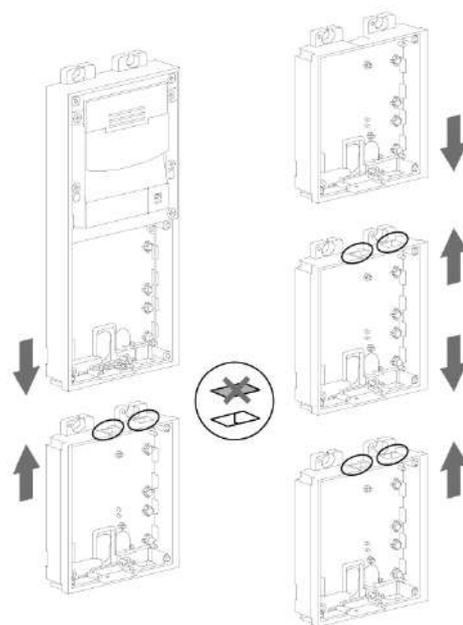
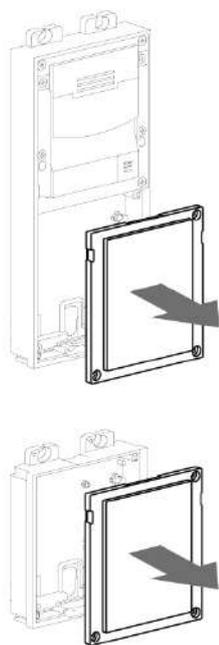


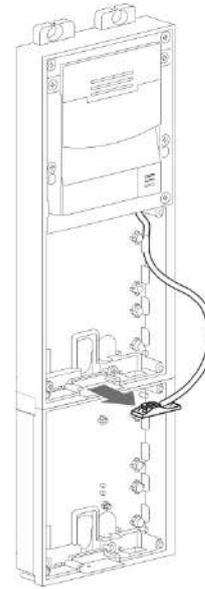
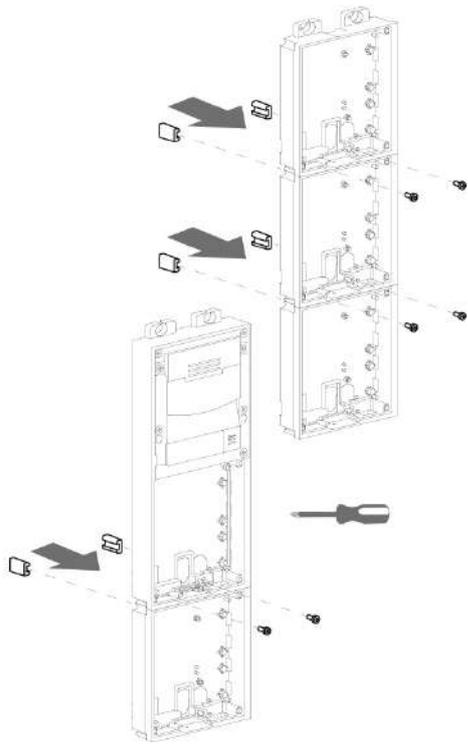


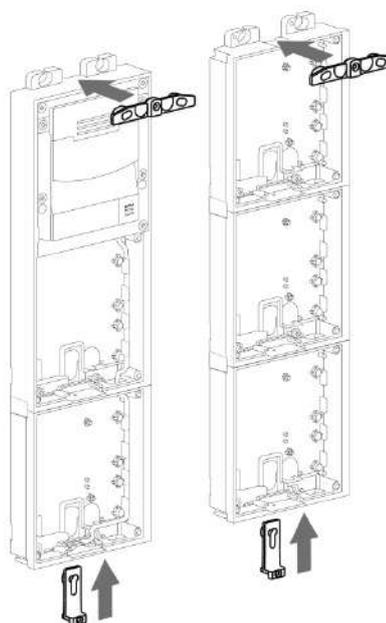
## Flush module mounting

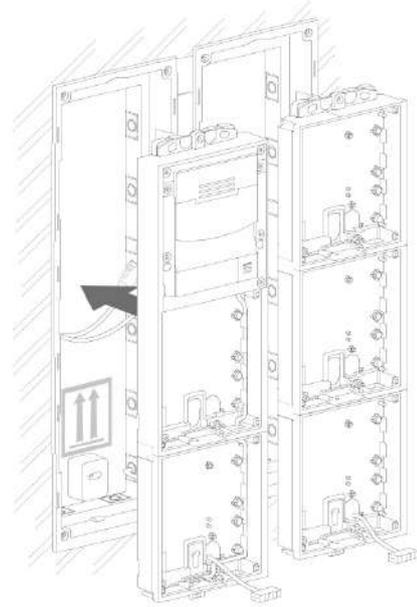
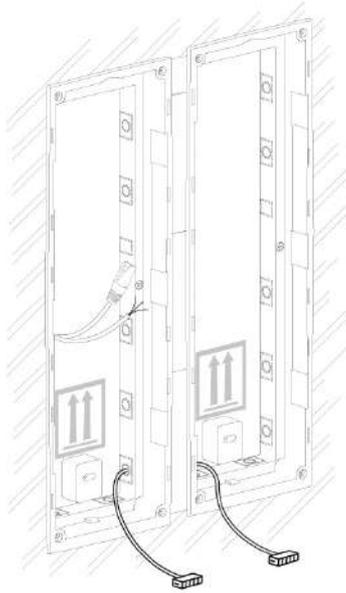
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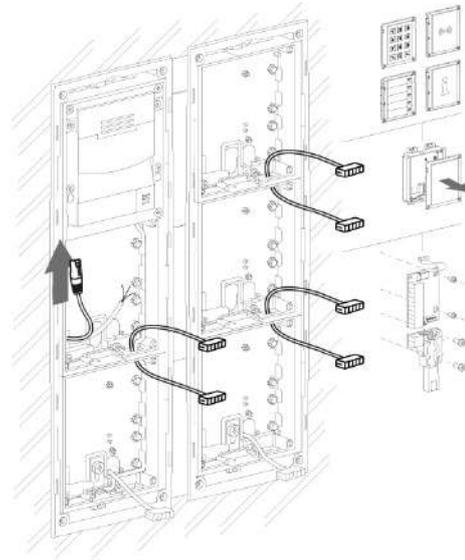
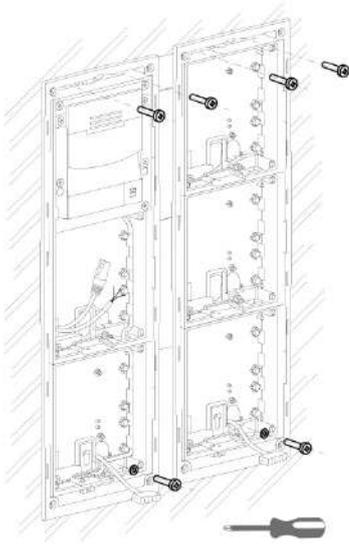


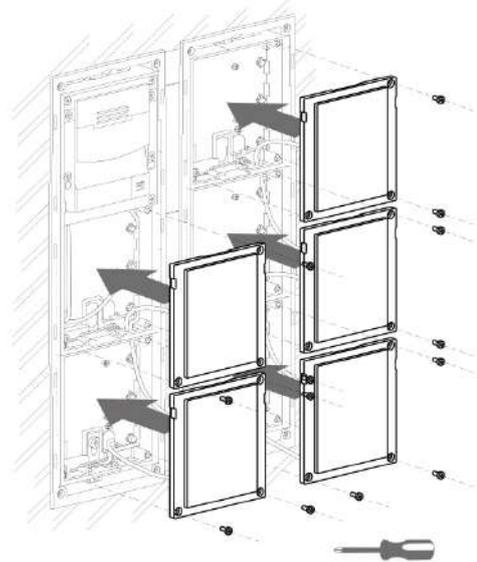
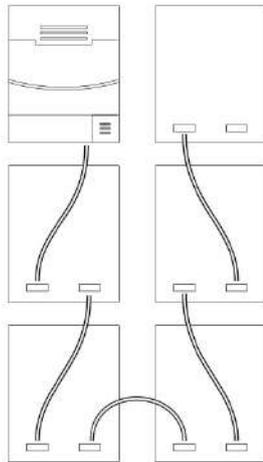


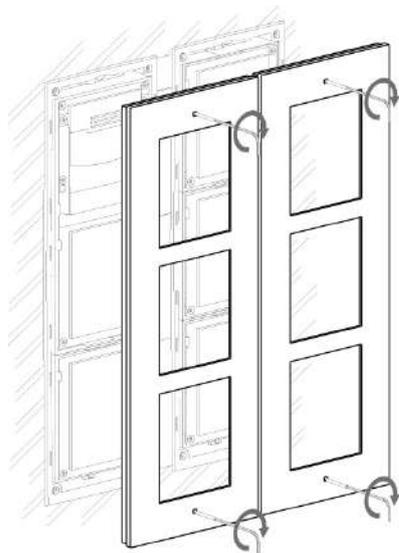




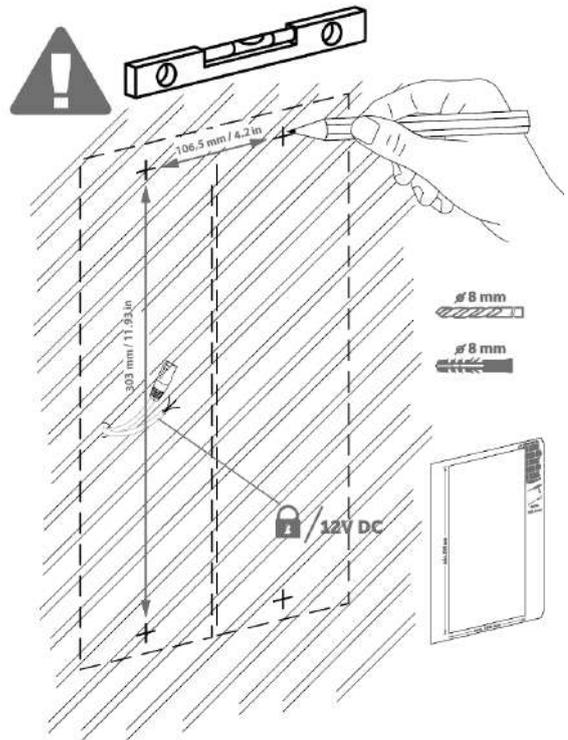


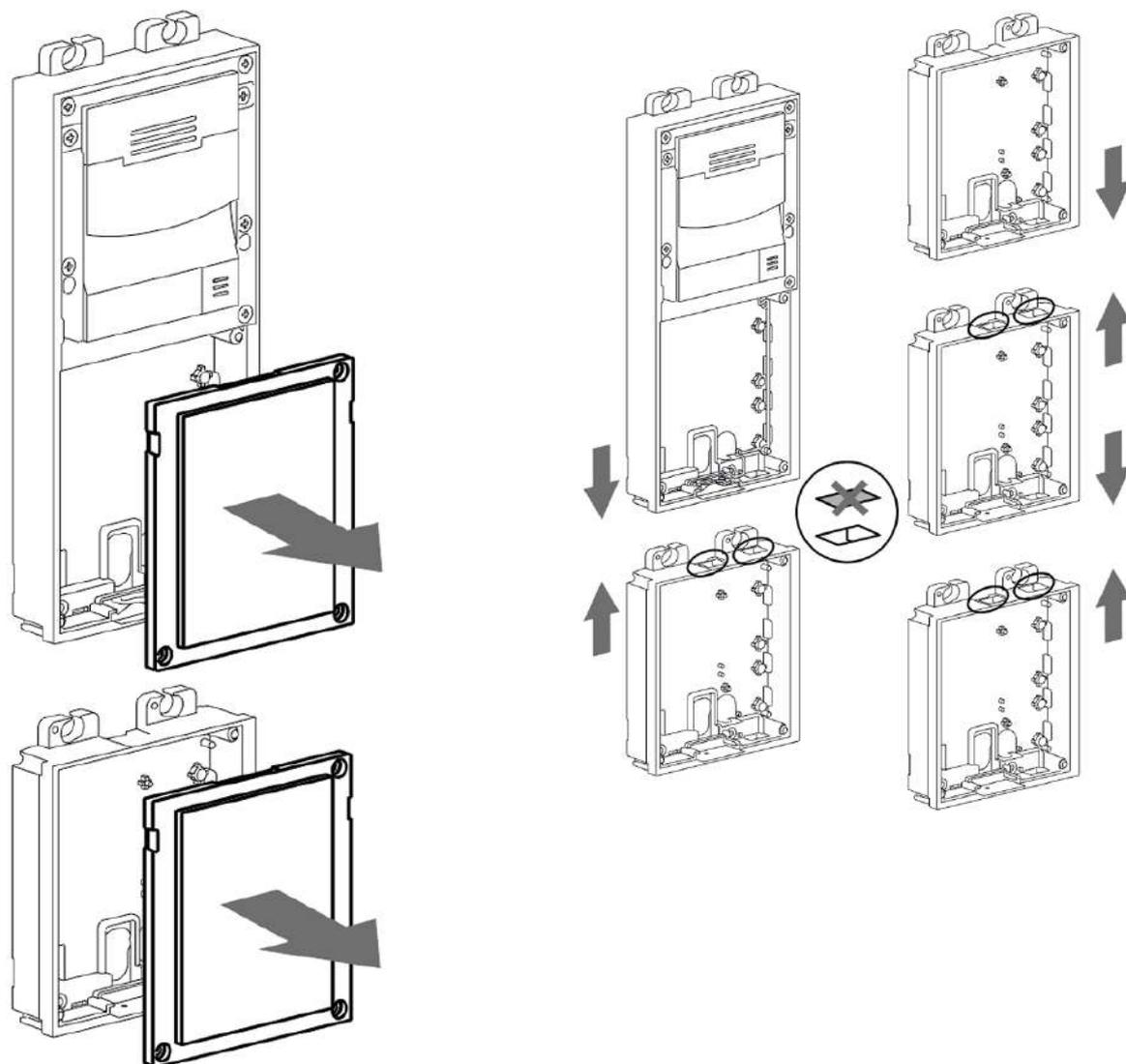


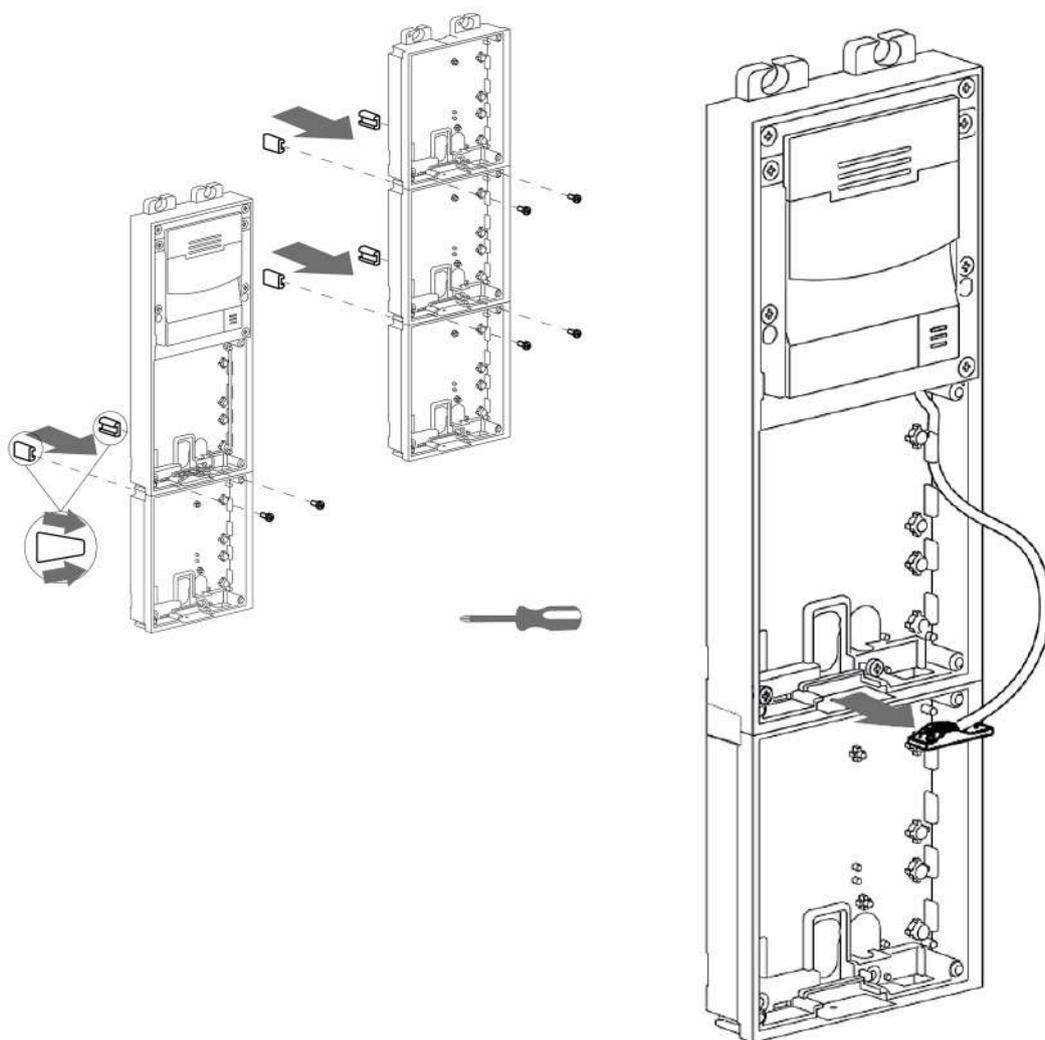


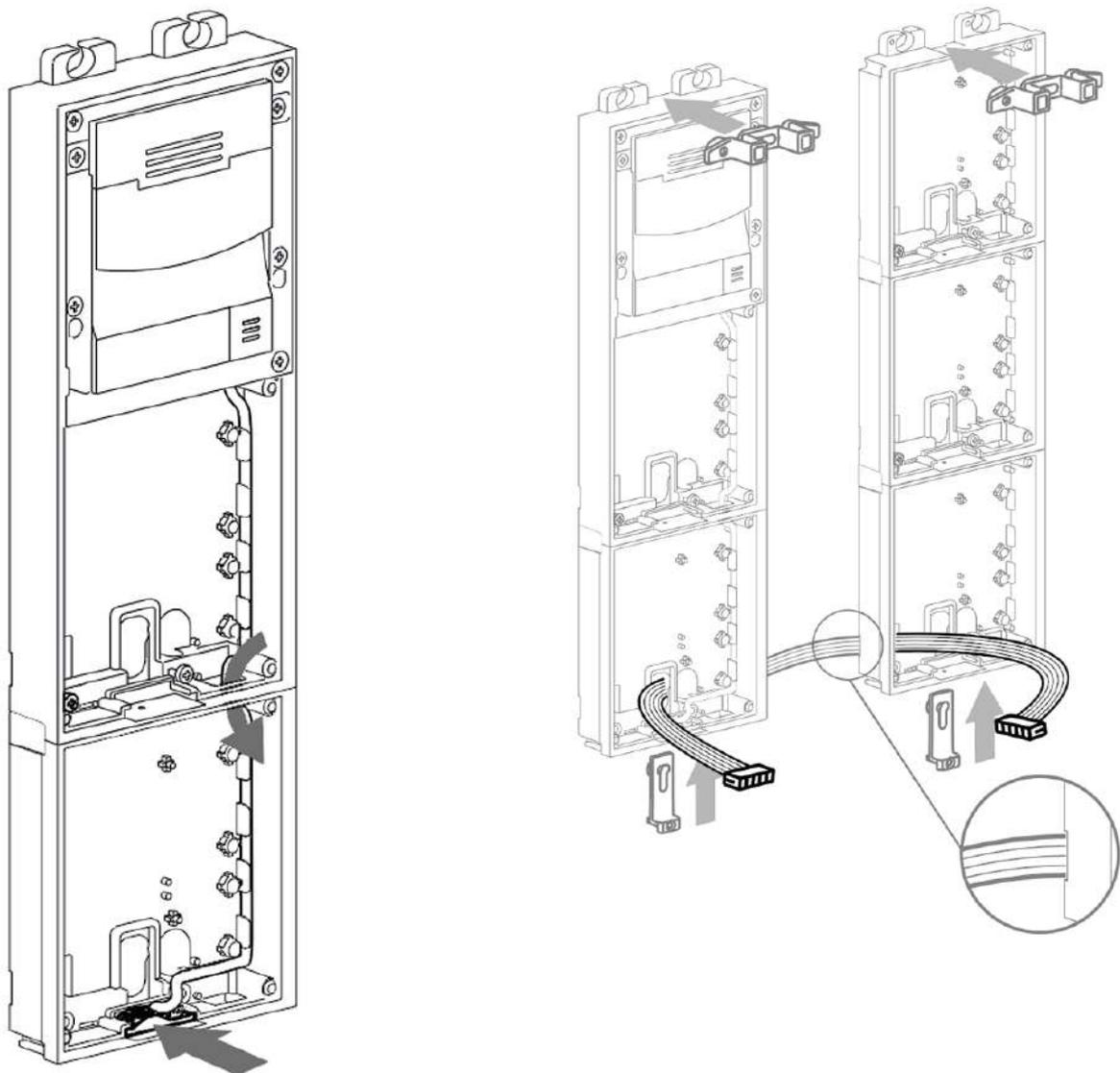


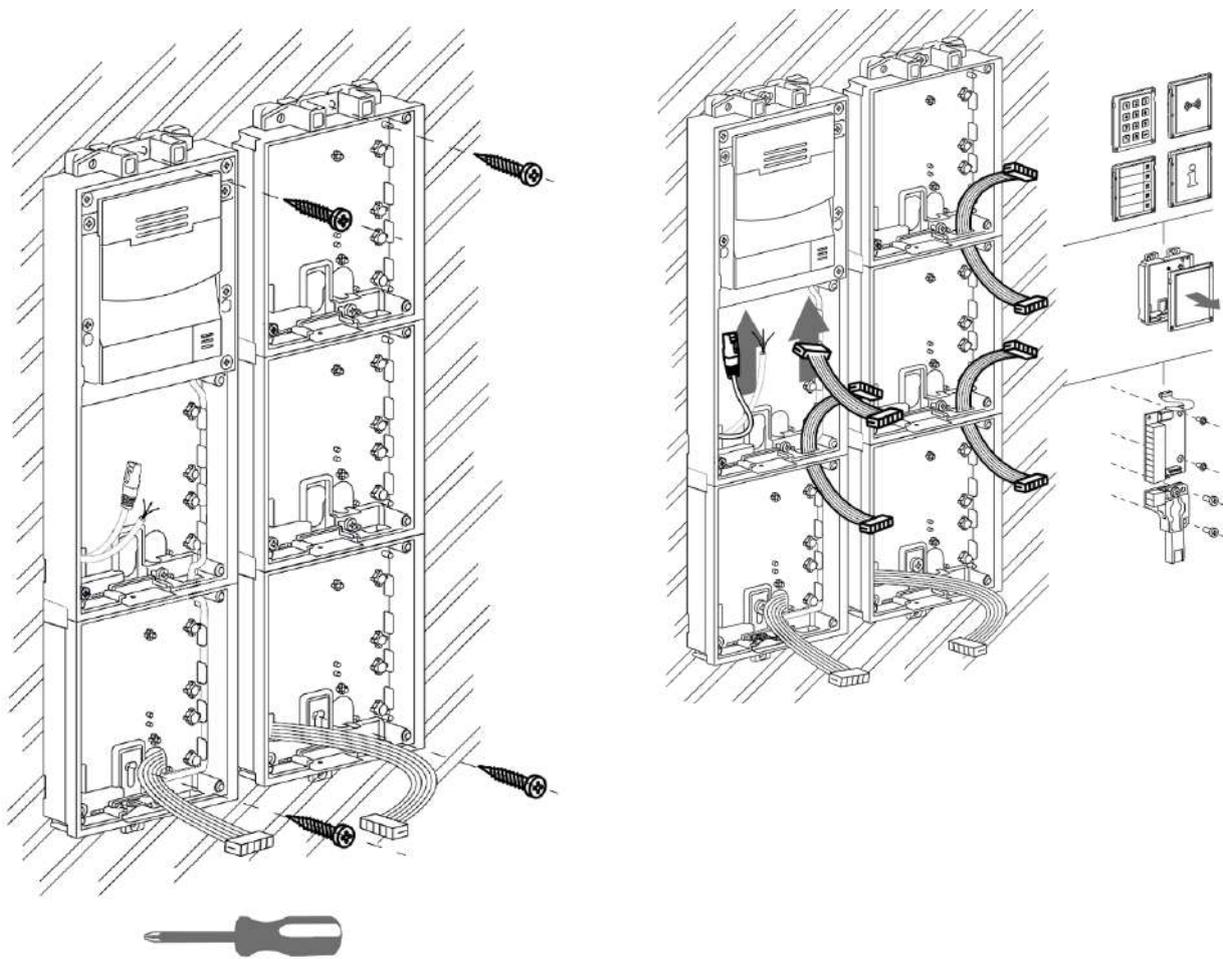
Surface module mounting

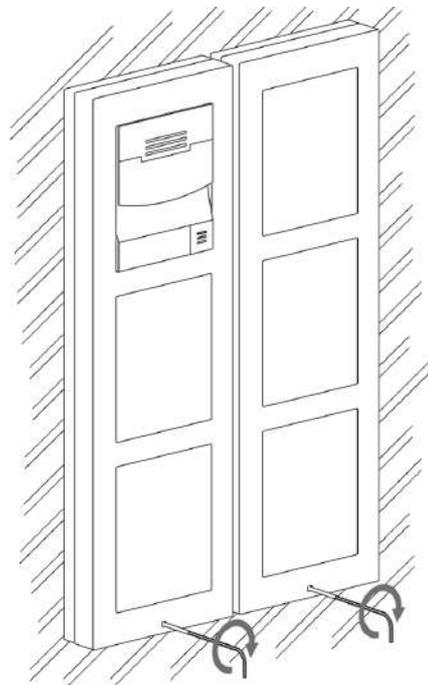
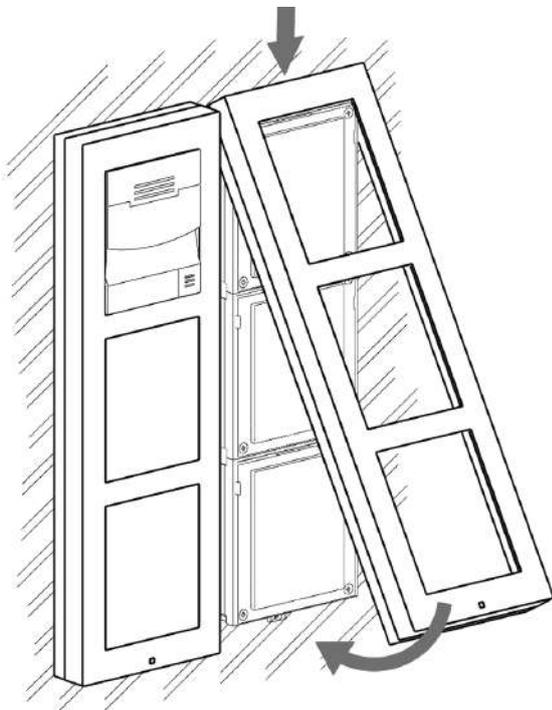
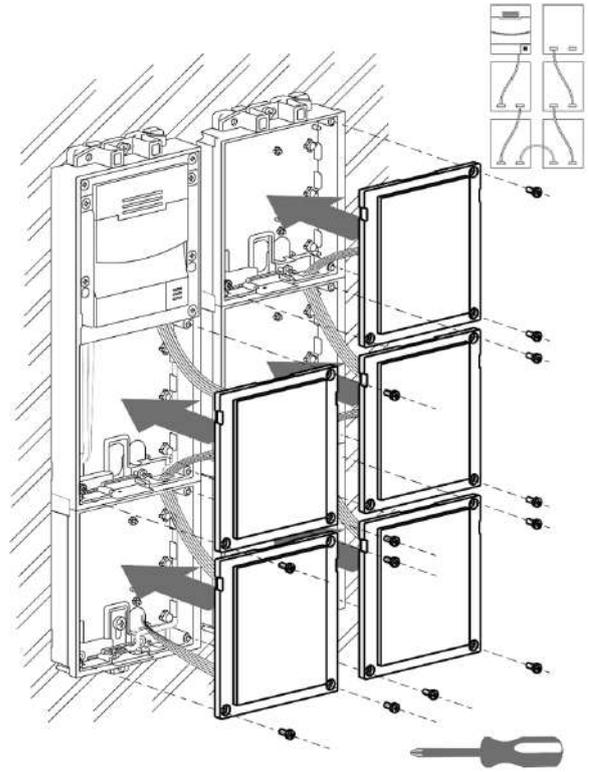
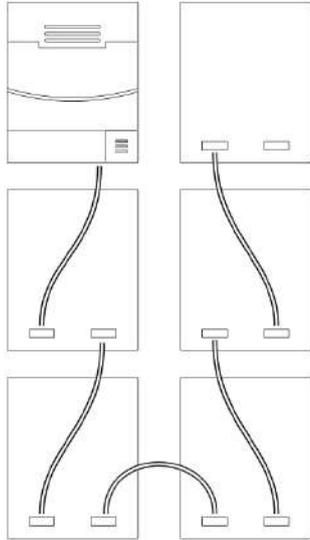






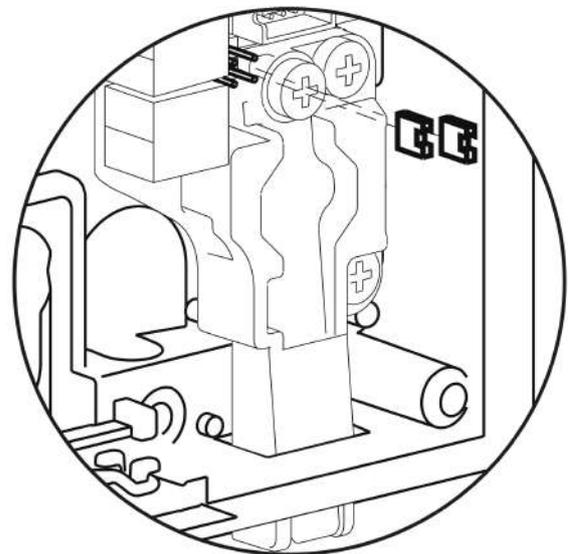
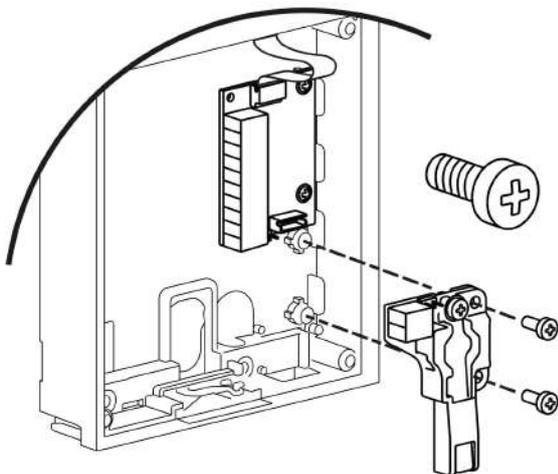
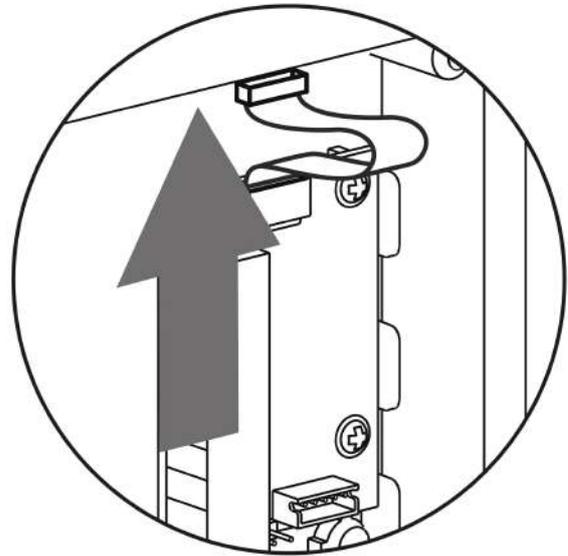
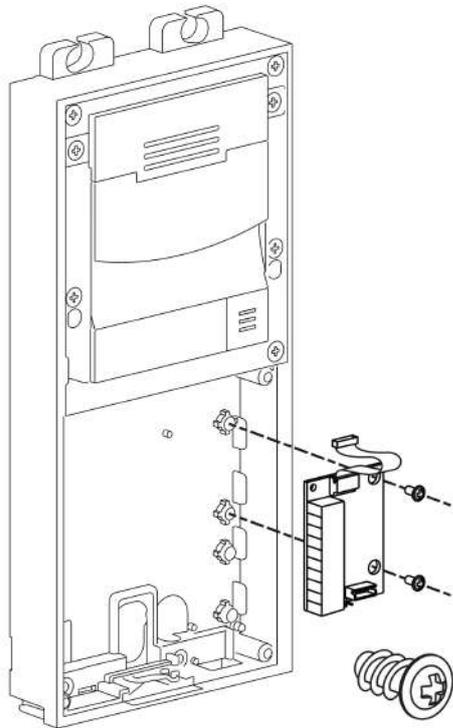








### 2.2.6 Tamper and I/O Modules



## 2.2.7 Module Dimensions

### Frames

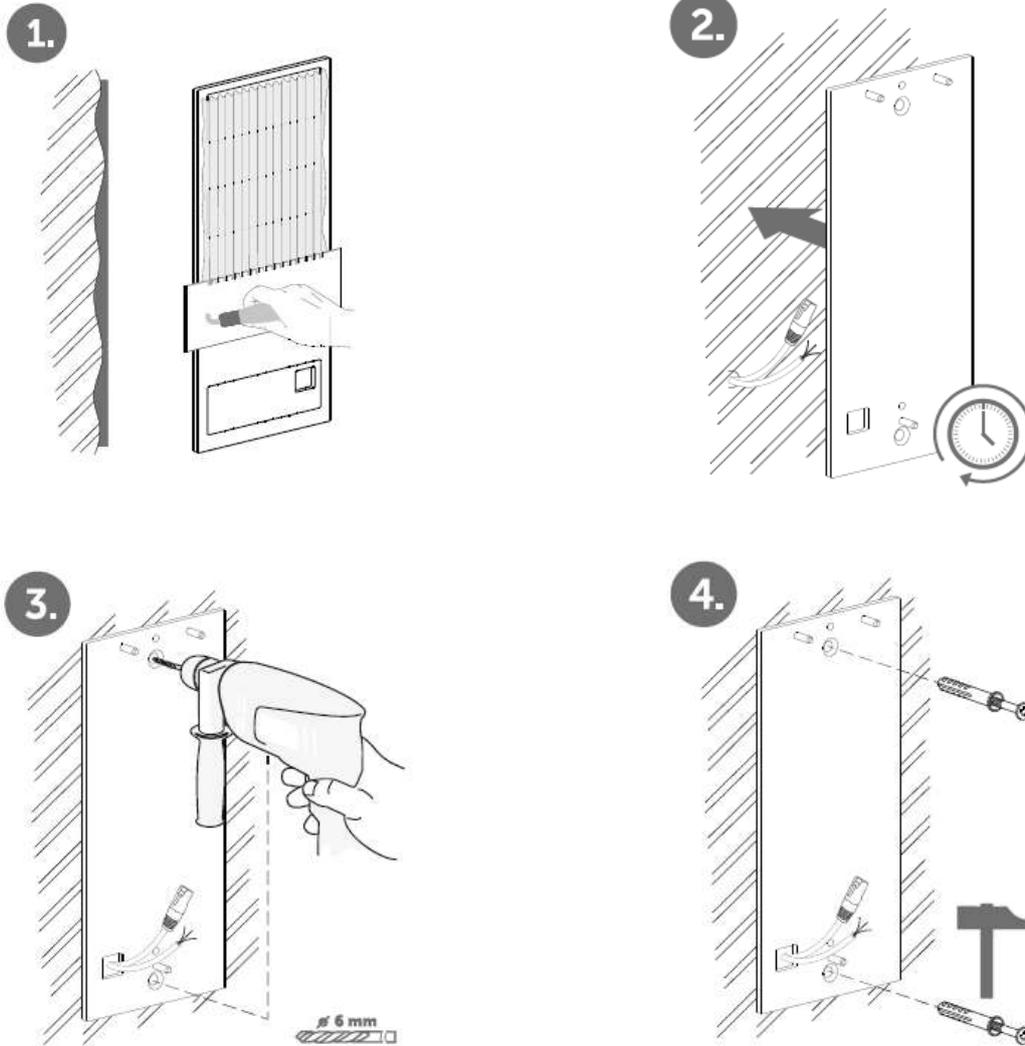
- [9155011](#) – Flush mounting frame, 1 module
- [9155012](#) – Flush mounting frame, 2 modules
- [9155013](#) – Flush mounting frame, 3 modules
- [9155021](#) – Surface mounting frame, 1 module
- [9155022](#) – Surface mounting frame, 2 modules
- [9155023](#) – Surface mounting frame, 3 modules

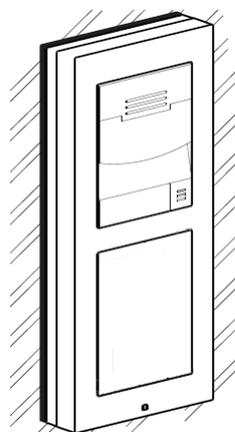
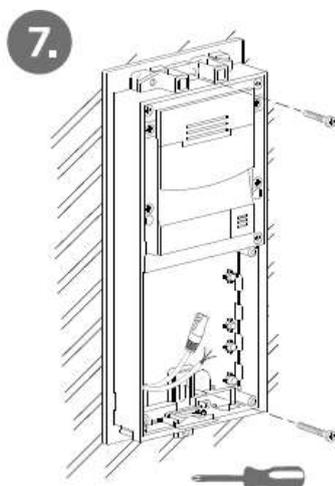
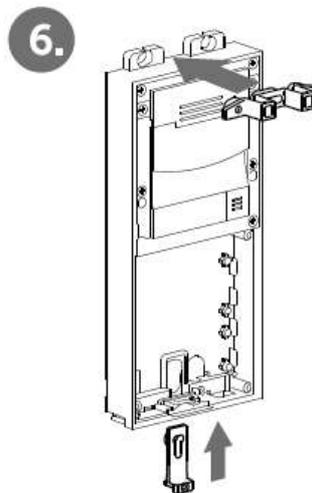
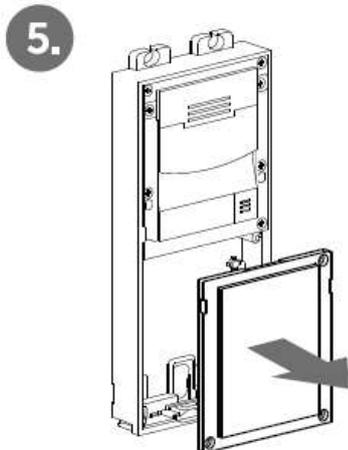
### Backplates

- [9155061](#) – 1 module
- [9155062](#) – 2 modules
- [9155063](#) – 3 modules
- [9155064](#) – 2x2 modules
- [9155065](#) – 3x2 modules
- [9155066](#) – 2x3 modules
- [9155067](#) – 3x3 modules

## 2.2.8 Example of Mounting Plate Installation

### Wall installation

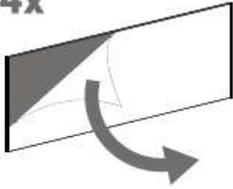




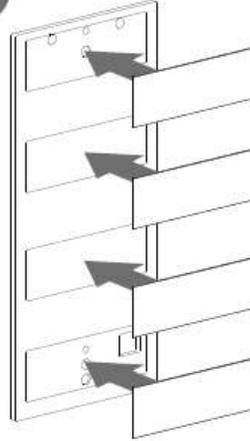
Glass surface installation

1.

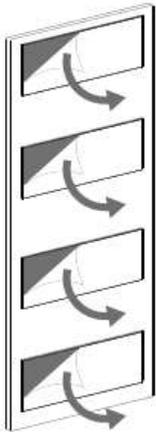
4x



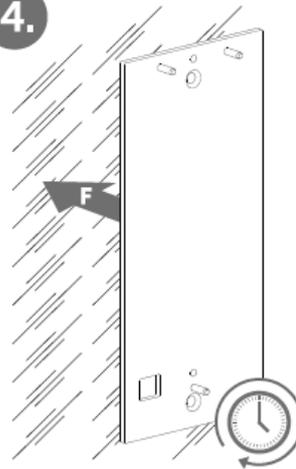
2.

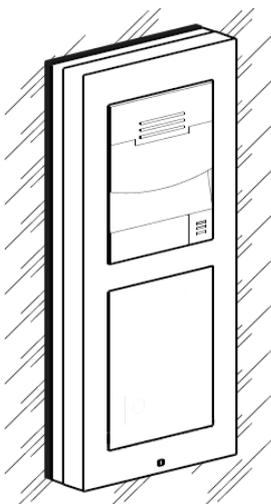
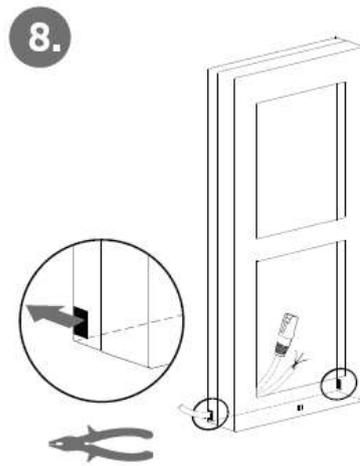
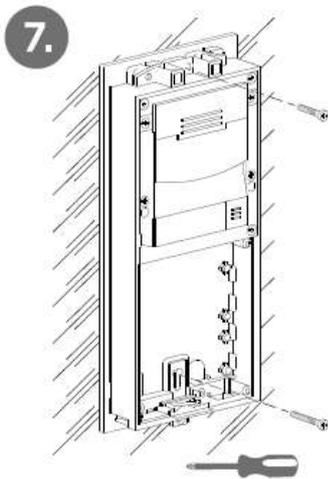
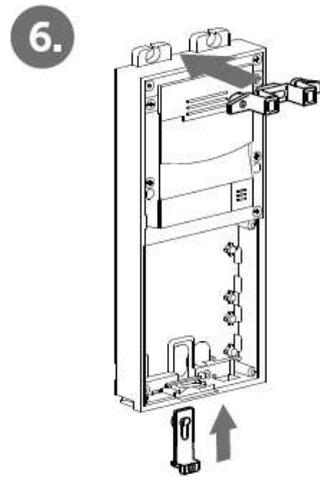
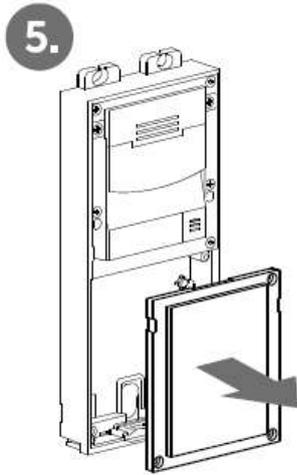


3.



4.





## 2.3 Electric Installation

This subsection describes how to install the modules, how to connect the **2N® IP Verso** main unit to the power supply and LAN and how to connect other elements.

### **Caution**

- The device must be part of the electrical system of the building.

### Mounting Preparation

1. Unscrew the second module cover on the main unit base.
2. Use a flat screwdriver to take out the module cover.

### Version A – 2-Module Base

1. Place the base on the flush mounting box / predrilled holes with dowels and pull the cables through the bottom holes. Pull the Ethernet cable including the connector through the bottom hole to the left if necessary.
2. Insert the metal fitting elements up and down and screw the base plate tight. You can level the base slightly if you are mounting just one base.

### Version B – 3-Module Base

1. Unscrew the cover of the additional base.
2. Use a flat screwdriver to take out the cover.
3. Slide the additional base to the main unit base and secure its position with the small side wedges and screws.
4. Remove the microphone from the main unit base and loosen the microphone cable.
5. Lead the microphone to the third module base as shown in the figure.
6. Place the joined bases on the flush mounting box / predrilled holes with dowels and pull the cables through the bottom holes. Feed the Ethernet cable without the connector from the additional base to the main unit base if necessary.

### Version C – Additional Columns

1. Unscrew the cover of the additional bases and take it out with a flat screwdriver.
2. Insert the bases into each other as projected and secure their position with the small side wedges and screws.
3. Place the cover on the flush mounting box / predrilled holes with dowels and pull the cables if any through the bottom holes.
4. Pull the bus using the cable bushing available in the flush mounting box.

## Main Unit

### Power Supply Connection

**2N® IP Verso** can be powered either from an external 12 V / 2 A DC source or directly from the LAN equipped with PoE 802.3af supporting network elements. Owing to different power outputs, the power supply selection affects the maximum count and applicability of the modules connected of the main unit.

#### External power supply

Use a 12 V  $\pm$ 15 % SELV supply dimensioned to the minimum current consumption of 2 A (Part No. 91341481E) to make your system work reliably. This power supply provides **2N® IP Verso** with 24 W for feeding of the main unit and connected modules.

#### PoE Power Supply

**2N® IP Verso** is compatible with the PoE 802.3af (Class 0–12,95 W) technology and can be fed directly from the LAN via the compatible network elements. If your LAN does not support this technology, insert a PoE injector, Part No. 91378100, between **2N® IP Verso** and the nearest network element. This power supply provides **2N® IP Verso** with 12 W for feeding of the main unit and connected modules.

#### Combined Power Supply

**2N® IP Verso** can be fed from an external power supply and PoE at the same time. In this configuration, the maximum power for the connected modules is available.

## LAN Connection

**2N® IP Verso** is connected to the Local Area Network (LAN) via the UTP/STP cable (Cat 5e or higher) terminated with an RJ-45 (LAN) connector. As the device is equipped with the Auto-MDIX function, both the straight and crossed cable can be used.

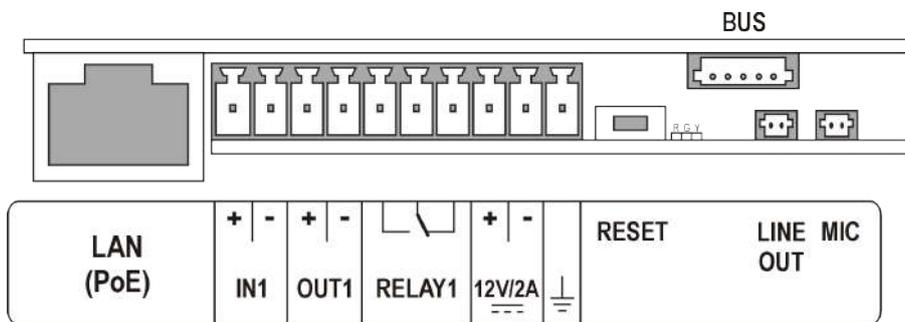
#### Caution

- We recommend the use of a LAN surge protection.
- We recommend the use of a shielded SSTP Ethernet cable with a shielded RJ-45 connector connected to the switch (with the grounding option) via the same shielded connector. This makes the device perfectly grounded.

**Tip**

- Remove the connector protecting cover to pass through the UTP/STP cable RJ terminal to the device box more easily.

Main Unit Connector Configuration



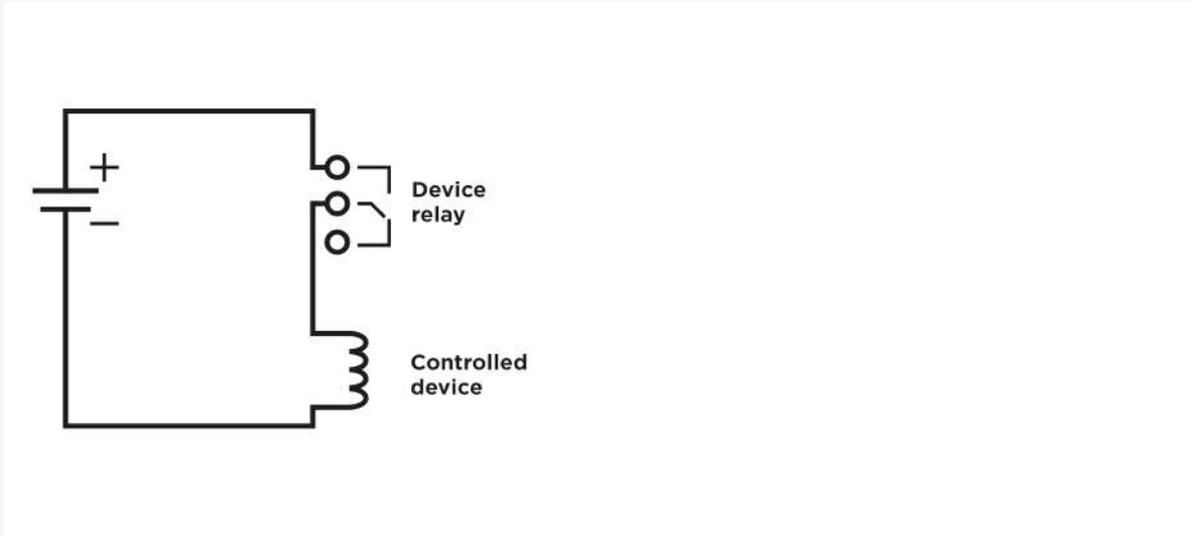
**Caution**

- We recommend you to use a grounding cable of the cross-section of 1.5 mm<sup>2</sup>.

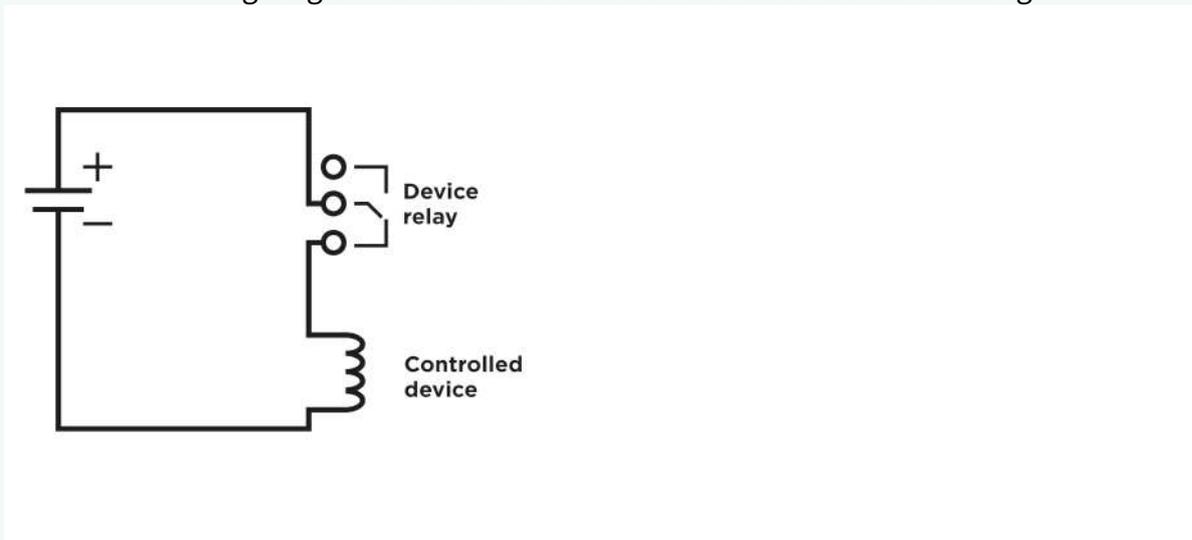
<b>Legend</b>	
LAN (PoE)	LAN (PoE according to 802.3af) connector
IN1	IN1 terminals for input in passive/ active mode (–30 V to +30 V DC) OFF = open OR $U_{IN} > 1.5 \text{ V}$ ON = closed contact OR $U_{IN} < 1.5 \text{ V}$
OUT1	OUT1 terminals of active input for <b>2N® Security Relay</b> or electric lock connection 8 up to 12 V DC depending on power supply (PoE: 10 V; adaptor: power supply voltage minus 2 V), max 400 mA
RELAY 1	RELAY1 terminals with accessible 30 V / 1 A AC/DC NO/NC contact. Used for connection of non-critical devices only (lights, e.g.).
12V/ 2A	External 12 V / 2 A DC supply terminals
GND	Grounding terminal
RESET	RESET / FACTORY RESET button
RGY	LED indicators (red/green/yellow)
LINE OUT	LINE OUT connector (1 V <sub>RMS</sub> ). Connector type JST SHR-02V-S.
MIC	MIC connector for microphone connection
BUS	<b>2N® IP Verso</b> bus connector

✓ **Tip**

- Output wiring diagram for Relay terminals



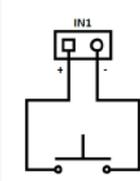
Wiring diagram for the controlled device's electric circuit closing



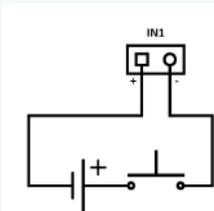
Wiring diagram for the controlled device's electric circuit opening

✓ **Tip**

- Wiring Diagram of IN1 connector in active mode



- Wiring Diagram of IN1 connector in passive mode



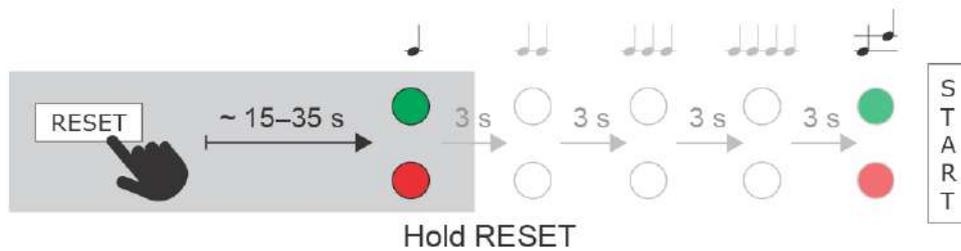
## Reset Button

Located among the main unit connectors, the Reset button helps you reset the factory default values, restart the device, find the device IP address and switch the static/dynamic mode.

## IP Address Finding

Follow the instructions below to **identify the current IP address**:

- Press and hold the RESET button.
- Wait until the red and green LEDs go on simultaneously on the device and the acoustic signal  can be heard (approx. 15–35 s).
- Release the RESET button.
- The device automatically announces the current IP address.



**Note**

- The delay after pressing RESET till the first light and sound signalling is set to 15–35 s depending on the 2N IP intercom/answering unit model used.
  - 18 s is the valid value for **2N® IP Verso**.

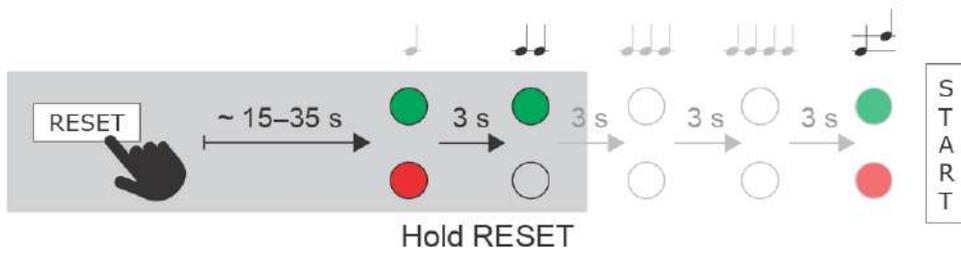
### Static IP Address Setting

Follow the instructions below to switch on the **Static IP address** mode (DHCP OFF):

- Press and hold the RESET button.
- Wait until the red and green LEDs go on simultaneously on the device and the acoustic signal  can be heard (approx. 15–35 s).
- Wait until the red LED goes off and the acoustic signal  can be heard (approx. for another 3 s).
- Release the RESET button.

The following network parameters will be set after restart:

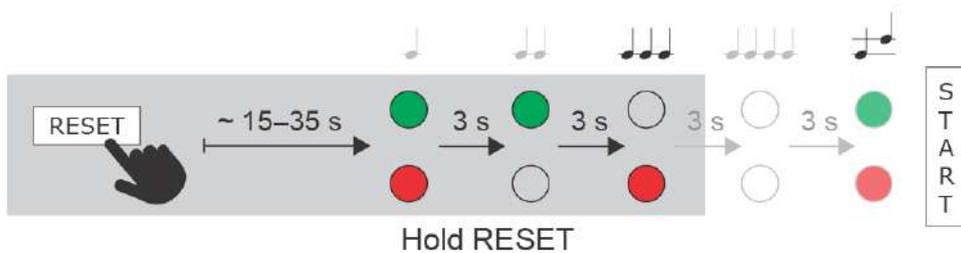
- IP address: 192.168.1.100
- Network mask: 255.255.255.0
- Default gateway: 192.168.1.1



### Dynamic IP Address Setting

Follow the instructions below to switch on the **Dynamic IP address** mode (DCHP ON):

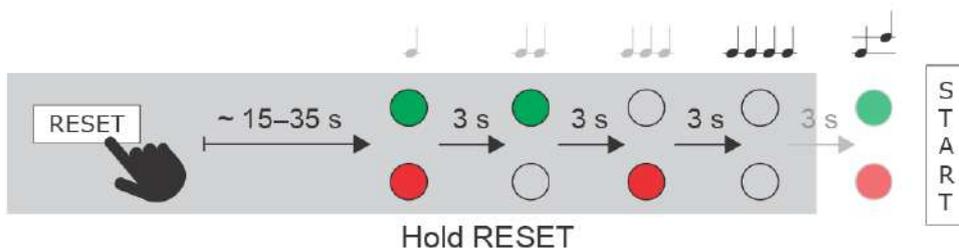
- Press and hold the RESET button.
- Wait until the red and green LEDs go on simultaneously on the device and the acoustic signal can be heard (approx. 15–35 s).
- Wait until the red LED goes off and the acoustic signal can be heard (approx. for another 3 s).
- Wait until the green LED goes off and the red LED goes on again and the acoustic signal can be heard (approx. for another 3 s).
- Release the RESET button.



## Factory Reset

Follow the instructions below to **reset the factory default values**:

- Press and hold the RESET button.
- Wait until the red and green LEDs go on simultaneously and the acoustic signal  can be heard (approx. 15–35 s).
- Wait until the red LED goes off and the acoustic signal  can be heard (approx. for another 3 s).
- Wait until the green LED goes off and the red LED goes on again and the acoustic signal  can be heard (approx. for another 3 s).
- Wait until the red LED goes off and the acoustic signal  can be heard (approx. for another 3 s).
- Release the RESET button.



### Caution

- In case of resetting the factory default settings on a device with a version of firmware 2.18 or higher it is necessary to reprogram the **2N® Security Relay** using the instructions from section 2.4.

## Device Restart

Press the RESET button shortly (< 1 s) to restart the system without changing configuration.

**Note**

- The time interval between the short press of RESET and reconnection after restart is 26 s for **2N® IP Verso**.

Available Switches

Location	Name	Description
<b>Main Unit</b>	Relay 1	<b>Passive switch:</b> NO/NC contact, up to 30 V / 1 A AC/DC. Used for connection of non-critical devices only (lights, e.g.).
	Output 1	<b>Active switch output:</b> 8 up to 12 V DC depending on power supply (PoE: 10 V; adaptor: power supply voltage minus 2 V), max 400 mA
<b>I/O Module*</b> (Part No. 9155034)	ext.relay1	<b>Passive relay switch:</b> NO and NC contacts, up to 30 V / 1 A AC/DC. Used for connection of non-critical devices only (lights, e.g.).
	ext.relay2	<b>Passive relay switch:</b> NO and NC contacts, up to 30 V / 1 A AC/DC. Used for connection of non-critical devices only (lights, e.g.).

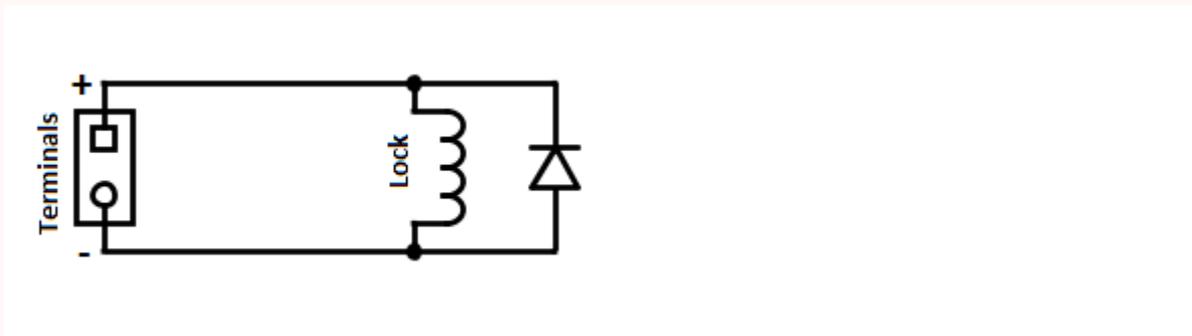
More modules marked by \* can be used.

**Security**

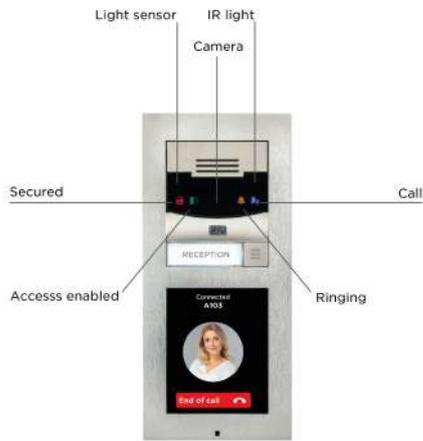
- The 12V output is used for lock connection. If, however, the unit (2N IP Intercom, 2N Access Unit) is installed where unauthorized tampering may happen, we strongly recommend that the 2N® Security Relay (Part No. 9159010) be used for enhanced installation security.

**Warning**

When you connect a device containing a coil, such as a relay or an electromagnetic lock, it is necessary to protect the intercom against voltage peak while switching off the induction load. For this way of protection we recommend a diode 1 A / 1000 V (e.g., 1N4007, 1N5407, 1N5408) connected antiparallel to the device.



## Main Unit LED Pictograms



**HW version 4 and higher**



**HW version 3 and lower**

### 2.3.1 Overvoltage Protection

#### Recommendations for Additional Overvoltage Protector Installation

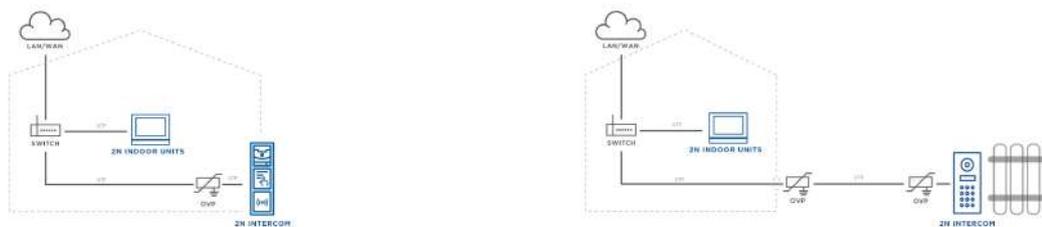
If running:

- a) outside a building,
- b) on/in an outer wall or roof,

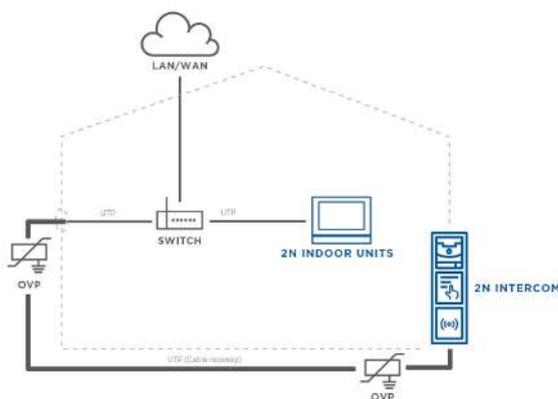
the 2N device wiring may be exposed to atmospheric effects resulting in overvoltage that may subsequently damage any devices installed outside the building, on its outer wall or roof. Overvoltage may damage devices connected to these wires and installed inside the building as well. Therefore, we recommend that additional surge protectors be installed on all the wires leading outside buildings, on outer walls or roofs, namely:

- a) as close as possible to the device installed outside the building or on its outer wall/roof,
- b) as close as possible to the point where the wires leave the building.

#### Examples of overvoltage protection:



OVP = overvoltage protection



## 2.4 Extending Module Connection

**2N® IP Verso** allows you to connect the following extending modules:

- Infopanel
- Keypad
- Touch Keypad
- RFID Card Reader 125 kHz
- RFID Card Reader 13.56 MHz, NFC Support
- Secured RFID Card Reader 13.56 MHz, NFC Support
- Bluetooth & RFID Reader 125kHz, 13.56 MHz, NFC
- Bluetooth & RFID Reader 125kHz, secured 13.56 MHz, NFC
- Touch Keypad & RFID Reader 125 kHz, 13.56MHz, NFC
- Touch Keypad & RFID Reader 125 kHz, secured 13.56 MHz, NFC
- Bluetooth Reader
- Touch Display
- Induction Loop
- Fingerprint Reader
- I/O Module
- 5-Button
- OSDP Module
- Wiegand Module
- Tamper Switch
- Blind Panel
- Security Relay

### Module Bus Interconnection

All the **2N® IP Verso** modules, except for the Tamper switch, are interconnected via a bus. The bus starts on the main unit and goes over all the modules. The order of modules on the bus is irrelevant. And it also irrelevant which bus connector on the module is used as the input and which is used as the output.

The modules include a 220 mm long interconnecting cable; the Wiegand (9155037), I/O modules (9155034) and OSDP modules (91550371) include an 80 mm long interconnecting cable.

It is possible to order separate bus cables of the lengths of 1 m, 3 m, or 5 m (**Part Nos. 9155050/9155054/9155055**), which are designed for remote **2N® IP Verso** module installations. Typically, they are used for an RFID card reader mounted on a wall opposite to the **2N® IP Verso** installation. The cable may be used only once on the bus. In extensive installations, the total bus cable length may not exceed 7 m.

The modules can be combined in each base as follows:

<b>Module</b>	<b>Externally mounted (visible module)</b>	<b>Internally mounted (invisible module)</b>	<b>Internally mounted on bottom base edge</b>
Infopanel	X		
Keypad	X		
Touch keypad	X		
RFID card reader 125 kHz	X		
RFID card reader 13.56 MHz	X		
RFID card reader 13.56 MHz NFC support	X		
Secured RFID card reader 13.56 MHz NFC	X		
Bluetooth & RFID reader 125 kHz, 13.56 MHz, NFC	X		
Bluetooth & RFID reader 125 kHz, secured 13.56 MHz, NFC	X		
Touch keypad & RFID reader 125 kHz, 13.56 MHz, NFC	X		
Touch keypad & RFID reader 125 kHz, secured 13.56 MHz, NFC	X		
Bluetooth reader	X		

Module	Externally mounted (visible module)	Internally mounted (invisible module)	Internally mounted on bottom base edge
Touch display	X		
Induction loop	X		
Fingerprint reader	X		
I/O module		X	
5-button	X		
OSDP		X	
Wiegand		X	
Tamper switch			X
Blind	X		
Security Relay		X	

### Module Power Supply

With the exception of the Tamper switch module, all the **2N® IP Verso** modules are powered from the bus. The available bus power output depends on the power supply type. Main units 571v3 and higher can use a 3A power supply to increase the bus power available for the modules connected.

Power supply	Specification	Available power
External supply	12 V ±15% / 2 A (3 A)	24 W (36 W)
PoE	802.3af (Class 0–12.95 W)	12 W
Combined	External supply + PoE	30 W (42 W)

The count of modules on the bus is limited by the available power supply output. The maximum count of the modules on the bus is 30.

Main unit (571v3)		Consumption [W] (Maximum value)	
At relax		2.376	
Infrared illumination		3.06	
LED – call		0.072	
LED – ringing		0.072	
LED – lock		0.072	
LED – secured		0.096	
Button backlight		0.072	
Name tag backlight		0.072	
Unit backlight		0.072	
Relay 1		0.132	
OUT 1		4.8	
Audio		2.94	
<b>Total</b>		<b>13.84</b>	
Module	Idle consumption [W] (Minimum value)	Full load [W] (Maximum value)	Special elements [W]
Main unit with camera	2.36	11.57	
Main unit without camera	2.12	11.57	
Infopanel	0.17	0.35	
Keypad	0.19	1.16	
RFID card reader 125 kHz	0.52	1.31	
RFID card reader 13.56 MHz	0.44	0.82	

Module	Idle consumption [W] (Minimum value)	Full load [W] (Maximum value)	Special elements [W]
RFID card reader 13.56 MHz NFC	0.44	0.82	
Secured RFID card reader 13.56 MHz NFC	0.44	0.82	
Bluetooth & RFID reader 125 kHz, 13.56 MHz, NFC	1.34	2.74	
Bluetooth & RFID reader 125 kHz, secured 13.56 MHz, NFC	1.34	2.74	
Touch keypad & RFID reader 125 kHz, 13.56 MHz, NFC	1.38	2.52	
Touch keypad & RFID reader 125 kHz, secured 13.56 MHz, NFC	1.38	2.52	
Bluetooth reader	0.20	0.67	
Touch display	0.19	1.70	
Induction loop	0.18	0.84	
Fingerprint reader	0.73	1.54	
I/O	0.31	0.65	Closed relay 0.13
5-button	0.19	1.16	
OSDP	0.52	0.52	
Wiegand	0.46	0.46	
Tamper switch	0.31	0.65	
Blind panel	x	x	

## Specimen configuration consumption computation

Module	Minimum consumption [W]	Maximum consumption [W]
Main unit with camera	2.36	11.57
RFID card reader 13.56 MHz	0.44	0.82
I/O	0.31	0.65
5-button	0.19	1.16
Touch display	1.16	2.02
I/O	0.31	0.65
Tamper switch	0.31	0.65
Wiegand	0.46	0.46
Bluetooth reader	0.20	0.67
<b>Total</b>	<b>5.74</b>	<b>18.65</b>

It is obvious from the specimen configuration that all the modules have sufficient outputs when an external power supply is used. When a PoE supply is used, the power output is insufficient for all the modules, which results in automatic decrease in backlight level, active output current supply, volume and LED intensity. Some modules need a specific power output for their specific activities: the I/O module, e.g., requires 0.13 W for relay closing (not calculated for minimum consumption).

## Infopanel

The Infopanel (**Part No. 9155030**) is one of the **2N® IP Verso** intercom elements and is used for inserting and backlighting printed information.

- The module contains two **2N® IP Verso** bus connectors.
- These two connectors are fully interchangeable and can be used both as inputs from the main unit and outputs to other modules.
- If this module is the last one on the bus, one of the connectors remains unconnected.
- The module package includes a 220 mm long interconnecting cable.
- Nametag dimensions: 69.2 (W) x 86.7 (H) mm (dimensional tolerance: +0; -0.5 mm).
- Refer to [www.2n.com](http://www.2n.com) for the printing template.

## Keypad

The Keypad (**Part No. 9155031**) is one of the **2N® IP Verso** intercom elements and provides a numerical input in the system.

- The module contains two **2N® IP Verso** bus connectors.
- These two connectors are fully interchangeable and can be used both as inputs from the main unit and outputs to other modules.
- If this module is the last one on the bus, one of the connectors remains unconnected.
- The module package includes a 220 mm long interconnecting cable.

## Touch Keypad

The Touch keypad (**Part No. 9155047**) is one of the **2N® IP Verso** intercom elements and provides a numerical input in the system.

- The module contains two **2N® IP Verso** bus connectors.
- These two connectors are fully interchangeable and can be used both as inputs from the main unit and outputs to other modules.
- If this module is the last one on the bus, one of the connectors remains unconnected.
- The module package includes a 220 mm long interconnecting cable.

## RFID Card Reader Module 125 kHz

The 125 kHz RFID card reader (**Part No. 9155032**) is one of the **2N® IP Verso** intercom elements and is used for reading RFID card Ids in the 125 kHz band.

- The module contains two **2N® IP Verso** bus connectors.
- These two connectors are fully interchangeable and can be used both as inputs from the main unit and outputs to other modules.
- If this module is the last one on the bus, one of the connectors remains unconnected.
- The module package includes a 220 mm long interconnecting cable.

The following RFID cards can be read:

- EM4xxx

### **Caution**

- To increase the reader's reading distance in combination with a touch display in a single installation, we recommend you to pull the M-Bus and LAN cables through separate bushings to avoid their crossing.

## RFID Card Reader 13.56 MHz, NFC Support

The 13.56 MHz RFID card reader (**Part No. 9155040**) is one of the **2N® IP Verso** intercom elements and is used for reading RFID card IDs in the 13.56 MHz band.

- The module contains two **2N® IP Verso** bus connectors.
- These two connectors are fully interchangeable and can be used both as inputs from the main unit and outputs to other modules.
- If this module is the last one on the bus, one of the connectors remains unconnected.
- The module package includes a 220 mm long interconnecting cable.

The following RFID cards can be read (only the card serial number is read):

- ISO14443A (MIFARE DESFire)
- PicoPass (HID iClass)
- FeliCa
- ST SR(IX)
- 2N® Mobile Key

## Secured RFID Card Reader 13.56 MHz, NFC Support

The secured 13.56 MHz RFID card reader with NFC support (**Part No. 9155086**) is one of the **2N® IP Verso** intercom elements and is used for reading RFID card IDs in the 13.56 MHz band.

- The module contains two **2N® IP Verso** bus connectors.
- These two connectors are fully interchangeable and can be used both as inputs from the main unit and outputs to other modules.
- If this module is the last one on the bus, one of the connectors remains unconnected.
- The module package includes a 220 mm long interconnecting cable.

The following RFID cards can be read (optionally the card serial number or PAC ID is read):

- ISO14443A (MIFARE DESFire)
- PicoPass (HID iClass)
- FeliCa
- ST SR(IX)
- 2N® Mobile Key
- HID SE (Seos, iClass SE, MIFARE SE)

## Bluetooth & RFID Reader 125kHz, 13.56MHz, NFC

Bluetooth with a combined 125 kHz and 13.56 MHz card reader module (**Part No. 9155082**) is one of the **2N® IP Verso** intercom elements and is used for Smartphone/2N® Mobile Key tablet/ card access control, making user calls and/or other functions.

- NFC – a licensed function, for 2N® Mobile Key for Android only.
- The module contains two **2N® IP Verso** bus connectors.
- These two connectors are fully interchangeable and can be used either as inputs from the basic unit or outputs to other modules.
- If this module is the last one on the bus, one of the connectors remains unconnected.
- The module package includes a 220 mm long interconnecting cable.

The following RFID cards can be read:

- **125 kHz**
  - EM4xxx
- **13.56 MHz**
  - ISO14443A (MIFARE DESFire)
  - PicoPass (HID iClass)
  - FeliCa
  - ST SR(IX)
  - 2N® Mobile Key

### ✓ Tip

- To accelerate card reading, you are recommended to select the card types used by the user in the module settings.

### ⚠ Caution

- **2N® IP Verso** supports one Bluetooth module connection only. If connected at the same time, multiple Bluetooth modules may result in an undesired behaviour.

### Bluetooth & RFID Reader 125kHz, Secured 13.56MHz, NFC

Bluetooth with a combined 125 kHz and secured 13.56 MHz card reader (**Part No. 9155084**) is one of the **2N® IP Verso** intercom elements and is used for Smartphone/2N® Mobile Key tablet/ card access control, making user calls and/or other functions.

- NFC – a licensed function, for 2N® Mobile Key for Android only.
- The module contains two **2N® IP Verso** bus connectors.
- These two connectors are fully interchangeable and can be used either as inputs from the basic unit or outputs to other modules.
- If this module is the last one on the bus, one of the connectors remains unconnected.
- The module package includes a 220 mm long interconnecting cable.

The following RFID cards can be read:

- **125 kHz**
  - EM4xxx
- **13.56 MHz**
  - ISO14443A (MIFARE DESFire)
  - PicoPass (HID iClass)
  - FeliCa
  - ST SR(IX)
  - 2N® Mobile Key
  - HID SE (Seos, iClass SE, MIFARE SE)

#### **Tip**

- To accelerate card reading, you are recommended to select the card types used by the user in the module settings.

#### **Caution**

- **2N® IP Verso** supports one Bluetooth module connection only. If connected at the same time, multiple Bluetooth modules may result in an undesired behaviour.

## Touch Keypad & RFID Reader 125kHz, 13.56MHz, NFC

The Touch keypad with a combined 125 kHz and 13.56 MHz card reader (**Part No. 9155081**) is one of the **2N® IP Verso** intercom elements and is used for code/card access control, making user calls and/or other functions. The keypad surface is very sensitive yet weatherproof at the same time.

- NFC – a licensed function, for 2N® Mobile Key for Android only.
- The module contains two **2N® IP Verso** bus connectors.
- These two connectors are fully interchangeable and can be used either as inputs from the basic unit or outputs to other modules.
- If this module is the last one on the bus, one of the connectors remains unconnected.
- The module package includes a 220 mm long interconnecting cable.

The following RFID cards can be read:

- **125 kHz**
  - EM4xxx
- **13.56 MHz**
  - ISO14443A (MIFARE DESFire)
  - PicoPass (HID iClass)
  - FeliCa
  - ST SR(IX)
  - 2N® Mobile Key

 **Tip**

- To accelerate card reading, you are recommended to select the card types used by the user in the module settings.

## Touch Keypad & RFID Reader 125kHz, Secured 13.56MHz, NFC

The Touch keypad with a combined 125 kHz and secured 13.56 MHz card (**Part No. 9155083**) reader is one of the **2N® IP Verso** intercom elements and is used for code/card access control, making user calls and/or other functions. The keypad surface is very sensitive yet weatherproof at the same time.

- NFC – a licensed function, for 2N® Mobile Key for Android only.
- The module contains two **2N® IP Verso** bus connectors.
- These two connectors are fully interchangeable and can be used either as inputs from the basic unit or outputs to other modules.
- If this module is the last one on the bus, one of the connectors remains unconnected.
- The module package includes a 220 mm long interconnecting cable.

The following RFID cards can be read:

- **125 kHz**
  - EM4xxx
- **13.56 MHz**
  - ISO14443A (MIFARE DESFire)
  - PicoPass (HID iClass)
  - FeliCa
  - ST SR(IX)
  - 2N® Mobile Key
  - HID SE (Seos, iClass SE, MIFARE SE)

### ✓ Tip

- To accelerate card reading, you are recommended to select the card types used by the user in the module settings.

## Bluetooth Reader

- The Bluetooth reader (**Part No. 9155046**) is one of the **2N® IP Verso** intercom elements and helps authenticate and subsequently open doors using Android and iOS based smartphones via the Bluetooth protocol 4.0 as RFID card replacement. Install the **2N® Mobile Key** application from [Google Play](#) and [Appstore](#) to make authentication work properly. The application requires phones with Android OS 6 and higher and iOS 12 and higher.
- The module contains two **2N® IP Verso** bus connectors.
- The two connectors are fully interchangeable and can be used both as inputs from the main unit or outputs to other modules.
- If this module is the last one on the bus, one of the connectors remains unconnected.
- The package includes a 220 mm long interconnecting cable.
- The module uses the 2.4 GHz frequency.

IDs from the following smart phones can be read:

- **Android 6 and higher**
- **iOS 12 and higher**

### **Caution**

- **2N® IP Verso** supports one Bluetooth module connection only. If connected at the same time, multiple Bluetooth modules may result in an undesired behaviour.

## Touch Display

The **Touch display (Part No. 9155036)** is designed for the **2N® IP Verso** communicator. This module can be used as:

- Infopanel module – displays user defined image sequences
- Keypad module – virtual touch keypad
- Button module – virtual phone directory

Module connection options:

- The module contains two **2N® IP Verso** bus connectors.
- These two connectors are fully interchangeable and can be used both as inputs from the basic unit and outputs to other modules.
- If this module is the last one on the bus, one of the connectors remains unconnected.
- The module package includes a 220 mm long interconnecting cable.

Technical specification:

- Resolution: 320 px x 214 px H x V
- Resolution slideshow: 214 px x 214 px
- Contrast ratio: 400
- Brightness: 350 cd/m<sup>2</sup>
- Weight: 280 g
- Working temperature: –20 °C – 60 °C
- Resistance level: IK07

## Induction Loop

The **Induction loop (Part No. 9155041)** is one of the **2N® IP Verso** intercom elements and is used to transmit an audio signal directly into a hearing aid via a magnetic field.

- The module contains two **2N® IP Verso** bus connectors.
- These two connectors are fully interchangeable and can be used both as inputs from the main unit and outputs to other modules.
- If this module is the last one on the bus, one of the connectors remains unconnected.
- The module package includes a 220 mm long interconnecting cable.
- Used mode: Telecoil (also referred to as t-switch or t-coil)
- Maximum power: 2W
- Frequency range: 100 Hz – 5 kHz / ± 3 dB
- External antenna can be connected – Part No. **9155043**
- Short circuit resistance: without limitation

## Fingerprint Reader

The **Fingerprint reader (Part No. 9155045)** is one of the **2N® IP Verso** intercom modules and is used for automated verification of human fingers for access control and intercom control.

- The module contains two **2N® IP Verso** bus connectors.
- These two connectors are fully interchangeable and can be used both as inputs from the main unit and outputs to other modules.
- If this module is the last one on the bus, one of the connectors remains unconnected.
- The module package includes a 220 mm long interconnecting cable.

Important module properties:

- FBI PIV and Mobile ID certification – FAP20
- Durable glass touch surface
- Rejects spoof fingerprints
- –20 to 55 °C operating temperature range
- 0–90% relative humidity, noncondensing

### **Warning**

- The fingerprint reader is not intended for direct sunlight installation sites. Installation at such places may result in erroneous behavior.

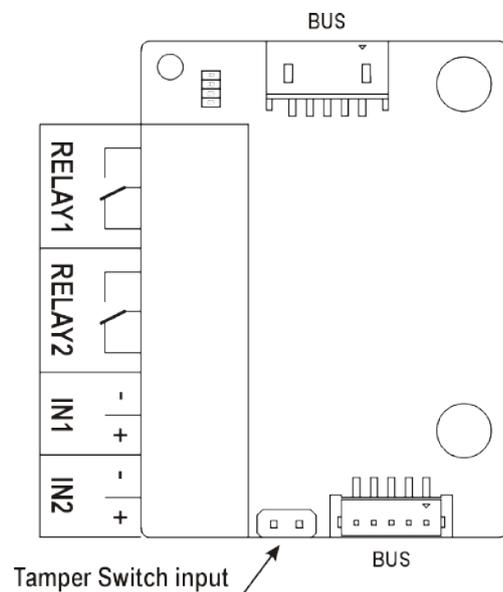
### **Note**

- A higher moisture may deteriorate finger papillary line scanning. You are advised to dry your finger and the reader scanning surface for successful authentication.
- Fingerprint scanning can be rather difficult with older persons whose papillary lines are not so distinct (lower finger elasticity due to age requires a higher pressure for scanning and the fingerprint might be blurred).

## I/O

The I/O module (**Part No. 9155034**) is one of the **2N® IP Verso** intercom elements and is used for extending the number of inputs and outputs.

- The module contains two **2N® IP Verso** bus connectors.
- These two connectors are fully interchangeable and can be used both as inputs from the main unit and outputs to other modules.
- If this module is the last one on the bus, one of the connectors remains unconnected.
- The module package includes an 80 mm long interconnecting cable.
- The inputs / outputs are addressed as follows: **<module\_name>.<input/output\_name>**, e.g. module5.relay1. The module name is configured in the Module name parameter in the Hardware / Extenders menu.



RELAY1	RELAY1 terminals with accessible 30 V / 1 A AC/DC NO/NC contact
RELAY2	RELAY2 terminals with accessible 30 V / 1 A AC/DC NO/NC contact
IN1	<p>IN1 terminals for input in passive/ active mode (-30 V to +30 V DC)</p> <p>OFF = open OR <math>U_{IN} &gt; 1.5 \text{ V}</math></p> <p>ON = closed contact OR <math>U_{IN} &lt; 1.5 \text{ V}</math></p>
IN2	<p>IN2 terminals for input in passive/active mode (-30 V to +30 V DC)</p> <p>OFF = open OR <math>U_{IN} &gt; 1.5 \text{ V}</math></p> <p>ON = closed contact OR <math>U_{IN} &lt; 1.5 \text{ V}</math></p>
TAMPER	Tamper switch (9155038) input

## 5-Button

The 5-button module (Part No. **9155035**) is one of the **2N® IP Verso** intercom elements and is used for extending the number of buttons.

- The module contains two **2N® IP Verso** bus connectors.
- These two connectors are fully interchangeable and can be used both as inputs from the main unit and outputs to other modules.
- If this module is the last one on the bus, one of the connectors remains unconnected.
- The module package includes a 220 mm long interconnecting cable.
- Nametag dimensions:
  - 1 button: 52,0 (W) x 15.2 (H) mm (dimensional tolerance: +0; -0.5 mm).
  - 5 buttons: 57.5 (W) x 89.0 (H) mm (dimensional tolerance: +0; -0.5 mm).
- Refer to [www.2n.com](http://www.2n.com) for the nametag printing template.

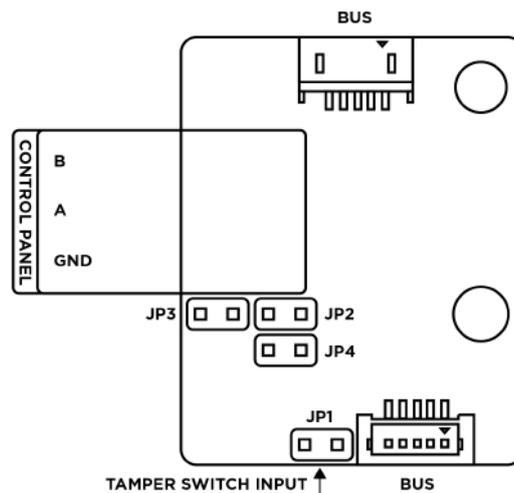
## OSDP

The OSDP module (Part No. **91550371**) is one of the **2N® IP Verso** modules and provides communication between a connected device (control panel, door controller) and **2N® IP Verso** via the OSDP. The OSDP module provides secure sending of such access data as the access card ID or PIN code. All the inputs and outputs are galvanically isolated from the **2N® IP Verso** system with insulation strength of 500 V DC.

- The module contains two VBUS connectors for device bus connection.
- These two connectors are interchangeable and can be used either as inputs from the basic unit or outputs to other modules.
- If this module is the last one on the bus, one of the connectors remains unconnected.
- The module package includes a 80 mm long interconnecting cable.

The module also includes:

- Isolated OSDP bus
- Power and pairing mode signaling LED
- Tamper switch (9155038) input



### Installation Procedure

Having connected the **OSDP module** to **2N® IP Verso** via the VBUS, connect the OSDP device to the module. The **OSDP module** uses the RS-485 bus for the interface.

Connect the OSDP device as instructed (A to B or B to A) keeping the correct order to avoid malfunction.

**⚠ Caution**

- When the JP2 and JP3 jumpers are mounted, strong pull-up / pull-down resistors (560 ohm) are connected to the RS-485 bus. These jumpers must be mounted / unmounted together, i.e. you cannot mount just one of them. The strong pull-up / pull-down resistors can be connected only and exclusively to one arbitrary device on the OSDP bus.
- When the JP4 jumper is mounted, a 120 ohm termination resistor is placed between the A and B wires of the OSDP bus. The termination resistors can be connected exclusively to the first and last OSDP bus modules. We recommend that these resistors are connected to the first and last modules.

Having logged in to the **2N® IP Verso** web interface, use the *HW / Extending Modules* menu to set the following:

- Give the module a user identification (optional).
- Choose a group for access data resending, making sure that the settings are identical with those of the access readers from which the data are to be resent (card ID < PIN).
- The settings of the codes to be transmitted are optional.
- Enter the OSDP address between 0 and 126 to set the OSDP module address on the OSDP line.
- Set the communication rate in accordance with the requirements of the device to be connected.
- Enter your own encryption key into **2N® IP Verso** and the opponent's device to ensure encrypted communication.
- Enable forced encryption just for encrypted communication.

Any unencrypted communication from the OSDP device will be rejected if forced encryption is enabled.

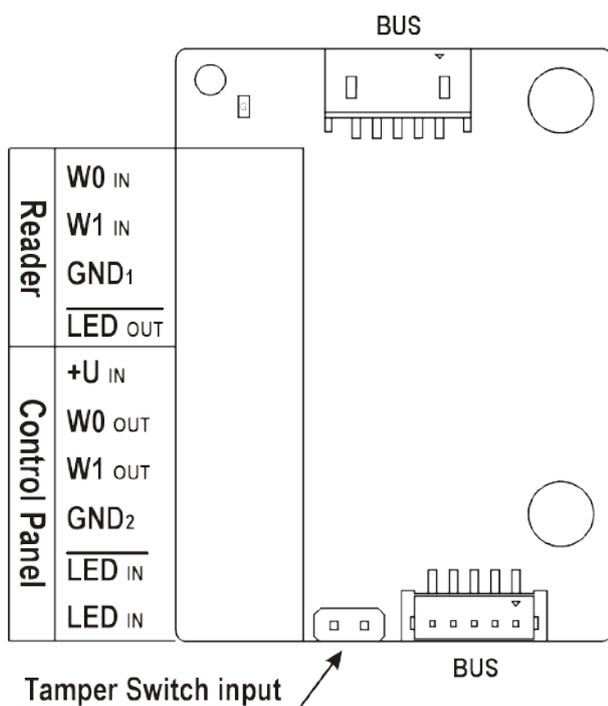
If the OSDP device enables remote encryption key setting on a peripheral, you can use the installation mode. Once the encryption key is received, the common mode is automatically switched on. The installation mode is signaled by a LED fast blinking on the **OSDP module**.

## Wiegand

The Wiegand module (**Part No. 9155037**) is one of the **2N® IP Verso** intercom elements and is used for connecting an external Wiegand device (RFID card reader, fingerprint or other biometric data reader) and/or connecting the **2N® IP Verso** system to an external security exchange. All the inputs and outputs are galvanically isolated from the **2N® IP Verso** system with insulation strength of 500 V DC. It is necessary to feed +U IN on Wiegand OUT from the Control Panel.

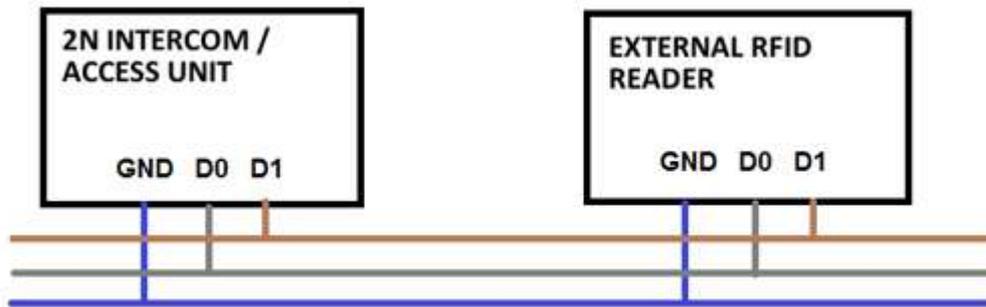
- **Reader** – connects an external Wiegand-supporting reader. The reader sends information on the intercom card number.

- **Control Panel** – used for connection to the security PBX or access system to which the intercom sends information on the intercom card number.
- The module contains two **2N® IP Verso** bus connectors.
- These two connectors are fully interchangeable and can be used both as inputs from the main unit and outputs to other modules.
- If this module is the last one on the bus, one of the connectors remains unconnected.
- The module package includes an 80 mm long interconnecting cable.
- The module name is configured in the Module name parameter in the Hardware / Extenders menu.
  - The input LED IN is addressed as follows: **<module\_name>.<input1>**, e.g. module2.input1.
  - The input Tamper is addressed as follows: **<module\_name>.<tamper>**, e.g. module2.tamper.
  - The output LED OUT (negated) is addressed as follows: **<module\_name>.<output1>**, e.g. module2.output1.

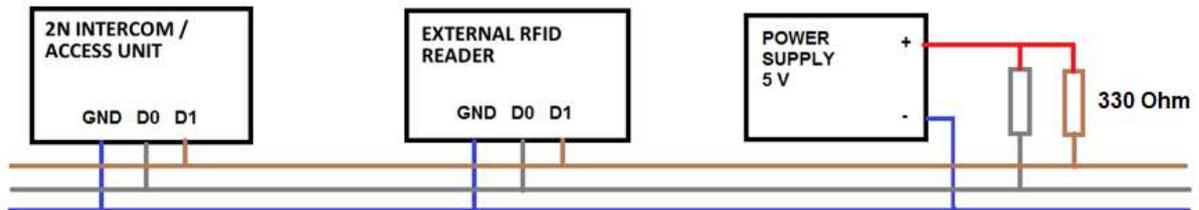


Reader	W0 IN, W1 IN, GND  1	Isolated 2-wire WIEGAND IN
	LED OUT	Isolated open LED OUT switched against GND1 on WIEGAND IN side (up to 24 V / 50 mA)
Control Panel	+U IN	+U <sub>IN</sub> (5 to 15 V DC) WIEGAND OUT power supply input
	W0 OUT, W1 OUT, GND  2	Isolated 2-wire WIEGAND OUT
	LED IN (negated)	Isolated input for open LED IN, input activated by GND2
	LED IN	Isolated input for open LED IN, input activated by +U
	G	+U <sub>IN</sub> WIEGAND OUT active supply LED indicator
	TAMPER	Tamper switch (Part No. <b>9155038</b> ) input

Wiegand Input Technical Parameters	
<b>Current</b>	5 mA
<b>Input resistance</b>	680 Ohm
<b>Pulse length</b>	50 µs
<b>Delay between pulses</b>	approx. 2 ms



**Recommended Wiring Diagram for Reader with Bus Driver**



**Recommended Wiring Diagram for Reader with Open Collector (OC) Output**

## Tamper Switch

The **Tamper switch (Part No. 9155038)** is one of the **2N® IP Verso** intercom elements and helps secure the system against tampering.

- The module contains two switches that open whenever the front frame is removed:
  - One switch leads directly to the terminal board and is designed for connection to an external security exchange (32 V DC / 50 mA max).
  - The other switch, together with the **I/O module (9155034)** or **Wiegand module (9155037)**, can be used for alarm signalling via the Automation interface in the **2N® IP Verso** configuration.
  - This module is not connected to the bus.

**⚠ Caution**

- Remember to purchase an I/O module, Part No. 9155034, together with the tamper switch.



**Tamper Switch Mounting**

### Blind Panel

The **Blind panel (Part No. 9155039)** is used to cover an empty position.

## Security Relay

The **2N® Security Relay** (Part No. 9159010) is used for enhancing security between the intercom and the connected electric lock. The **2N® Security Relay** is designed for any **2N IP intercom** model with firmware versions 1.15 and higher. It significantly enhances security of the connected electric lock as it prevents lock opening by forced intercom tampering.



### Function:

The **2N® Security Relay** is a device installed between an intercom (outside the secured area) and the electric lock (inside the secured area). The **2N® Security Relay** includes a relay that can only be activated if the valid opening code is received from the intercom.

### Specifications:

Passive switch: NO and NC contacts, up to 30 V / 1 A AC/DC

Switched output:

- Where the security relay is fed from the intercom, 9 to 13 V DC is available on the output depending on the power supply (PoE: 9 V; adapter: source voltage of minus 1 V) / 400 mA DC.
- Where the security relay is fed from an external power supply, 12 V / 700 mA DC is available on the output.

Dimensions: (56 x 31 x 24) mm

Weight: 20 g

### Installation:

Install the **2N® Security Relay** onto a two-wire cable between the intercom and the electric lock inside the area to be secured (typically behind the door). The device is powered and controlled via this two-wire cable and so can be added to an existing installation. Thanks to its compact dimensions, the device can be installed into a standard mounting box.

**Connection:**

Connect the **2N® Security Relay** to the intercom as follows:

- To the intercom active output (OUT1)

Connect the electric lock to the **2N® Security Relay** output as follows:

- To the switched output.
- To the passive output in series with the external power supply.

The device also supports a Departure button connected between the ‘PB’ and ‘- Helios IP / intercom’ terminals. Press the Departure button to activate the output for 5 seconds.

**Status signalling:**

Green LED	Red LED	Status
flashing	off	Operational mode
on	off	Activated output
flashing	flashing	Programming mode – waiting for initialisation
on	flashing	Error – wrong code received

## Configuration:

- Connect the **2N® Security Relay** to the properly set intercom switch output; refer to the **Configuration Manual for 2N IP intercoms**. Make sure that one LED at least on the **2N® Security Relay** is on or blinking.
- Press and hold the **2N® Security Relay** Reset button for 5 seconds to put the device in the programming mode (both the red and green LEDs are blinking).
- Activate the intercom switch using the keypad, telephone, etc. The first code sent from the intercom will be stored in the memory and considered valid. After code initialisation, the **2N® Security Relay** will pass into the operational mode (the green LED is blinking).

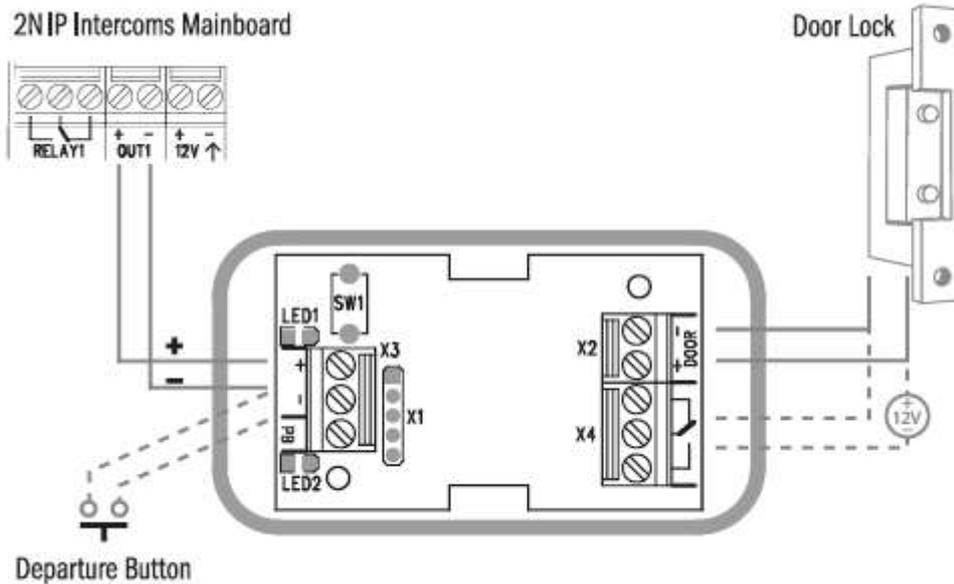
### **Caution**

- In case of resetting the factory default settings on a device with a version of firmware 2.18 or higher it is necessary to reprogram the **2N® Security Relay** using the instructions above.

### **Tip**

- [FAQ: 2N® Security Relay – what is it and how to use it with 2N IP intercom?](#)

Connection:



**Tip**

Video Tutorial: Security Relay Installation and Configuration



Sorry, the widget is not supported in this export.  
But you can reach it using the following URL:  
<https://www.youtube.com/watch?v=ardukvQzw5A>

## 2.5 Completion

### Installation Completion

Check the connection of all wires and the RJ-45 plug to the board connector.

**Caution**

- All unused connectors have to have tightened screws in order to avoid vibration caused by sound.

Make sure before mounting that the black sealing ring is placed properly. We recommend you to fit the microphone with the screw included in the delivery.



## Nametag Placing

Every intercom package includes a piece of transparent foil, which can be laser printed. Cut the printed foil and insert the nametags in the buttons.

We recommend you to use separate foil for every button in the 5-button module. Refer to section download for the nametag printing template.

Nametag dimensions for 5-button module:

- 1 button: 52.0 (W) x 15.2 (H) mm (dimensional tolerance: +0; -0.5 mm)
- 5 buttons: 57.5 (W) x 89.0 (H) mm (dimensional tolerance: +0; -0.5 mm)

Infopanel nametag dimensions: 69.2 (W) x 86.7 (H) mm (dimensional tolerance: +0; -0.5 mm).

### **⚠ Caution**

- The area where nametags are placed is called a wet zone. After heavy rain, water can penetrate to the nametag. Water in this area does not affect the intercom functionality in any way and evaporates soon.
- Always use waterproof foil (enclosed or other) for the nametags. Never use paper or ink jet printing to avoid damage due to water leakage!

Nametag inserting/replacing:

1. Remove the frame.
2. Lift up the button door. The 5-button module buttons have just one door.
3. Remove the used nametag and insert a new one.
4. Close the button door.
5. Replace the frame.

## Frame Replacement

Check the frame sealing before replacing the frame.

### Version A

- Screw the flush mounting frame in the upper and bottom parts.

### Version B

- Hang the surface mounting frame on the hook in the upper part and then screw it tight in the bottom part.

#### **Caution**

- Improper mounting may deteriorate the intercom waterproofness and water may damage the electronic part.
- Make sure that all holes are filled with some waterproof material – the top part, around the cables and the screws.
- Use silicone or some other sealant to seal the box against the wall if uneven to avoid water leakage and wall damping..

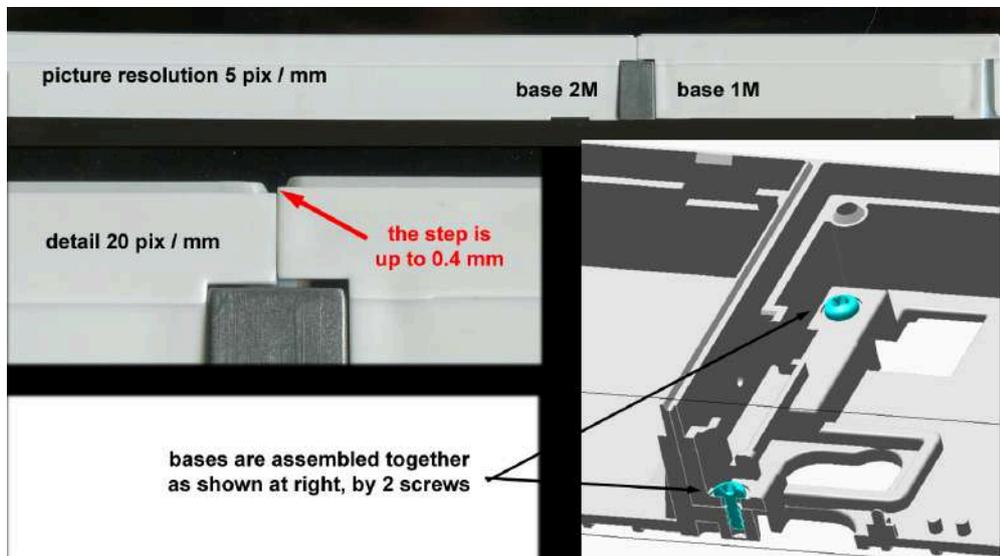
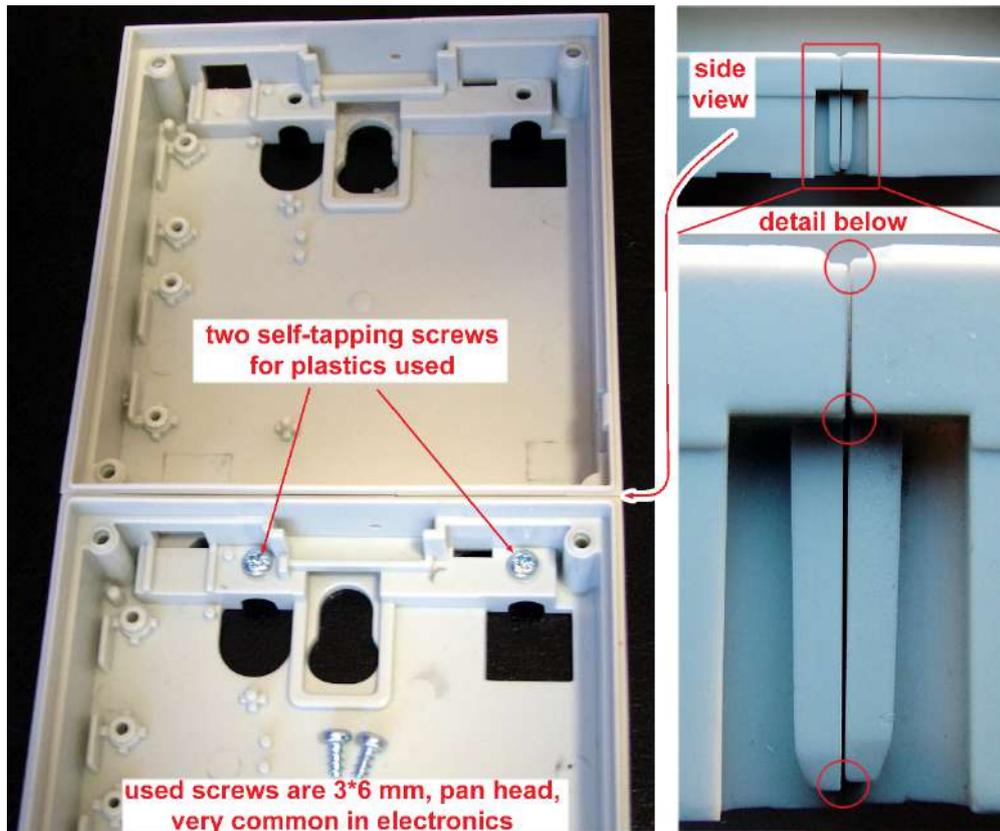
## Most Frequent Mounting Errors

At first, mount the metal bolts, level the bases on an even surface and tighten the screws.

#### **Caution**

- Make sure that the bases are levelled properly to avoid water leakage and electronic damage.

The examples in the figures below show incorrectly assembled bases. This happens, in particular, where the screws are tightened first.



## 3. Function and Use

This section describes the basic and extending functions of the the **2N® IP Verso** product.

Here is what you can find in this section:

- [3.1 Configuration](#)
- [3.2 Intercom Control as Viewed by External User](#)
- [3.3 Touch Display Intercom Control As Viewed by External User](#)
- [3.4 Intercom Control as Viewed by Internal User](#)
- [3.5 Maintenance](#)
- [3.6 Downloads](#)

### 3.1 Configuration

Configure **2N® IP Verso** using your PC with any internet browser:

- Launch your internet browser (Internet Explorer, Firefox, etc.).
- Enter the IP address of your intercom (<http://192.168.1.100/>, e.g.).
- Log in using the username **Admin** and password **2n**.

You have to know your intercom IP address to log in to the integrated web server. Upon purchase, **2N® IP Verso** is set to the dynamic IP address mode – it retrieves the IP address automatically if there is a properly configured DHCP server in the LAN. If no DHCP is available, operate **2N® IP Verso** in the static IP address mode. Refer to the **Configuration Manual** for the **2N® IP Verso** configuration details.

If your device remains inaccessible (you have forgotten the IP address, the network configuration has changed, etc.), you can change the network configuration using the device buttons.

#### IP Address Retrieval

Take the following steps to retrieve the **2N® IP Verso** IP address:

- Connect (or, if connected, disconnect and reconnect) **2N® IP Verso** to the power supply.
- Wait for the second sound signal  .
- Press the quick dial button on the main unit 5 times.
- **2N® IP Verso** will read its IP address.
- If the address is 0.0.0.0, it means that the intercom has not obtained the IP address from the DHCP server.



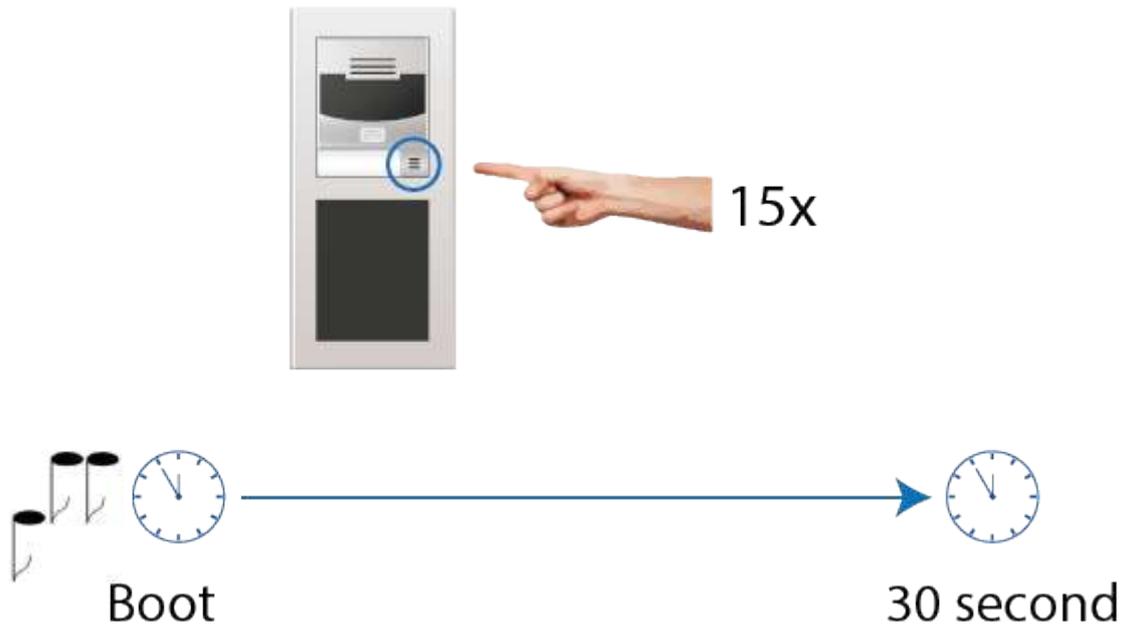
**Note**

- Be sure to press the button sequence within thirty seconds after the sound signal for security reasons. Up to 2 s intervals are allowed between the presses.

### Network Setting Reset and Dynamic / Static IP Address Switch

To reset the network parameters and switch the dynamic / static IP address of **2N® IP Verso** follow the instructions below:

- Connect (or, if connected, disconnect and reconnect) **2N® IP Verso** to the power supply.
- Wait for the first sound signal .
- Press the quick dial button on the main unit 15 times.
- Network parameter reset and DHCP switch are signaled by the  sound.
- For devices with FW versions 2.33 and lower, wait until the device is automatically restarted.
  - After restart, the static IP address mode is switched into the dynamic IP address and vice versa.
- Simultaneously, all the **System / Network** parameters are reset to default values. This is useful where it is impossible to connect to the device due to wrong VPN configuration, for example.



When the static IP address is set, the following default values of the basic network parameters are reset:

- IP address: 192.168.1.100
- Network mask: 255.255.255.0
- Default gateway: 192.168.1.1

**Note**

- Be sure to press the button sequence within thirty seconds after the sound signal for security reasons. Up to 2 s intervals are allowed between the presses.

### 3.2 Intercom Control as Viewed by External User

#### Quick Dial Buttons

Press the quick dial button on the main unit to dial the first position in the phone directory (Phone Book) depending on the model type. Use extending modules to extend the number of quick dial buttons to up to 146.

By pressing the quick dial buttons you dial the phone numbers assigned to the particular Phone Book position. Call setup is signalled by a long intermittent or any other tone depending on the configuration of the PBX connected.

Repeated pressing of one and the same quick dial button during call setup may initiate call hangup or call termination plus dialling the next phone number of the called subscriber, or may be assigned no function; refer to the Intercom Configuration / Hardware / Keypad subsection of Configuration Manual.

You can also press the  button anytime to hang up if enabled so in the **Button Function During Call** parameter; refer to the Intercom Configuration / Hardware / Keypad subsection of Configuration Manual.

### Calling to Phone Book Position

The **2N® IP Verso** Phone Book can contain up to 10 000 programmable positions. The quick dial buttons can only be used for positions 1 through 146, depending on the number of actually installed buttons. You can dial the other positions using the numeric keypad if the **Dial by Numeric Keypad** function is enabled; refer to the Intercom Configuration / Hardware / Keypad subsection of Configuration Manual.

#### **Procedure:**

- Enter the position number using the numeric keypad (05, 15, 200, e.g. – two digits at least and four digits at most) and press the  button for confirmation.
- You can also press the  button anytime to hang up if enabled so in the **Button Function During Call** parameter; refer to the Intercom Configuration / Hardware / Keypad subsection of Configuration Manual.

## Calling to User-Defined Phone Number

If the **Telephone function enabled** (refer to the Intercom Configuration / Hardware / Keypad subsection of Configuration Manual) parameter is selected, you can dial a user-defined phone number using the **2N® IP Verso** numeric keypad.

### Procedure:

1. Press .
2. You will hear a continuous tone from the speaker.
3. Enter the phone number via the numeric keypad and press  again to confirm your dialling.
4. You can also press the  button anytime to hang up if enabled so in the **Button Function During Call** parameter; refer to the Intercom Configuration / Hardware / Keypad subsection of Configuration Manual.

## Incoming Call Answering/Rejecting

If the automatic incoming call answering function is disabled (refer to the Intercom Configuration / Services / Phone / Calls subsection of Configuration Manual), the incoming call to **2N® IP Verso** is signalled with loud ringing. Press  to answer the call and  to reject the call.

## Door Opening (Switch Activation) by Code

**2N® IP Verso** is equipped with a door unlocking switch. Enter the valid code (refer to the Intercom Configuration / Hardware / Switches subsection of Configuration Manual) using the numeric keypad to activate this switch.

### Procedure:

- Enter the switch activating numerical code using the numeric keypad and press  for confirmation.
- A valid code is notified visually and by a continuous switch activation tone or a predefined unlocking user sound. An invalid code or interruption longer than as defined in Timeout for Entering Numbers is signalled by the  sound or a user sound.

## Door Opening (Switch Activation) by Biometric Reader

A biometric reader helps authenticate human fingerprints for control and management of access and third party devices. Refer to Directory / Users for how to load a fingerprint into a user profile.

### Procedure:

- Apply your finger to the reader scanning area.
- Reader authentication light signalling:
  - Green – the fingerprint has been recognised successfully.
  - Green flashes to red – the fingerprint has been recognised but access is denied. Check the user time profile setting state and multiple authentication setting. Access can also be blocked by a previous tamper switch blocking.
  - Red – the fingerprint has not been recognised .

### Note

- A higher moisture may deteriorate finger papillary line scanning. You are advised to dry your finger and the reader scanning surface for successful authentication.

## 3.3 Touch Display Intercom Control As Viewed by External User

The **2N® IP Verso** model can be equipped with a colour LCD display, which displays the device states (call progress, door opening, etc.) and can work in several modes. Until the display configuration is loaded, **2N® IP Verso** displays no users to be called in the Directory menu. If configured properly, the **2N® IP Verso** starts displaying an Ad menu or the Directory/Keypad introductory menu or separate Directory or Keypad menus. Control a display-equipped **2N® IP Verso** intercom by touching the display and browsing.

### Presentation

In the Presentation mode, one or more images defined by the available display configuration are displayed. The Presentation mode is started automatically when the presentation delay timeout set in the 2N® IP Verso web interface expires. The mode can be terminated by a touch of the  icon, which moves **2N® IP Verso** into the display introductory menu, or by an incoming call to **2N® IP Verso**.

## Contacts



In the Contacts mode, a structured list of users defined by the available display configuration is displayed. The user list can be divided into a practically arbitrary count of groups. Browse through the Directory by touching the display. Click  to return to the superior group or the display introductory menu. Touch the user name to make a call in the Contacts mode.

This mode helps you quick search contacts too. Touch the  display icon to switch the Contacts into the search mode and enter the string to be searched via the touchpad. See the string in the status line in the upper part of the display. Touch the  display icon to delete the currently last character of the text to be searched. The string is searched for in the current group and subgroup levels.

See the count of found users in the right-hand upper corner of the display. Touch the found contacts and browse through the data.

The Contacts menu also includes a Help submenu in the right-hand bottom corner of the display, which provides tips and basic display controls for the Contacts mode.

## Call



Use the Call mode to make calls to the intercom Directory users.

To call a user, set Dialling via keypad in the intercom web interface and select one of the following options: Disabled, User position number or User virtual number.

If you set User position number or User virtual number, just enter the number and click



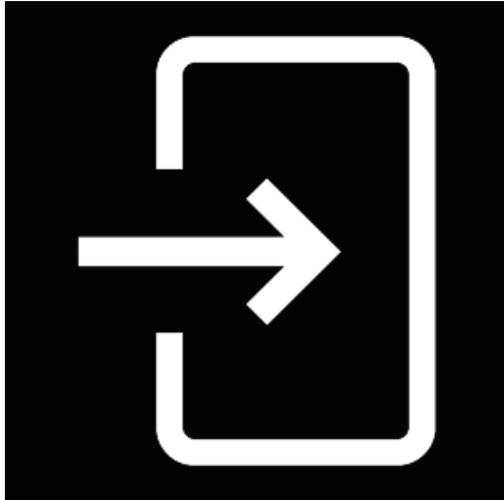
for confirmation. Click

**End call**



to get back to the display introductory menu.

## Entry



The Entry mode helps you enter the switch codes. Enter the switch digital code and click

**Open door** 

for confirmation. You can also enable Scramble keypad in the Keypad mode via the web interface to scramble the numerical keypad buttons before every new display in order to prevent third persons from seeing the code to be entered.

### 3.4 Intercom Control as Viewed by Internal User

#### Call Answering

You can answer the incoming calls to the **2N® IP Verso** intercom using your phone like any other calls. You can unlock the door, activate/deactivate a user/profile via your phone keypad during the call. The calls, however, are time-limited to avoid unintentional blocking of the **2N® IP Verso** line. Set the maximum call duration in the **Call time limit** (refer to the Intercom Configuration / Services / Phone / Calls subsection of Configuration Manual). Press # on your phone anytime to extend the call time. The automatic call termination is signalled with a short beep 10 s before the call end.

#### Calling to 2N® IP Verso

**2N® IP Verso** allows you to answer incoming calls. Set the required parameters in the Incoming calls group; refer to the Intercom Configuration / Services / Phone / Calls subsection of Configuration Manual.

## Door Opening (Switch Activation) by Code

**2N® IP Verso** is equipped with a door unlocking switch. Enter the valid code (refer to the Intercom Configuration / Hardware / Switches subsection of Configuration Manual) using your phone keypad to activate this switch.

### Procedure:

- Enter the switch 1 or 2 activating code using your phone keypad and press  for confirmation. Confirmation is unnecessary if the **Lock code without confirmation** is enabled, refer to the Intercom Configuration / Hardware / Switches / Advanced subsection of Configuration Manual.
- A valid code is signalled by the  sound. An invalid code or interruption longer than as defined in **Timeout for Entering Numbers** is signalled by the  sound.

## Profile Activation/Deactivation

Activate/deactivate a profile using your phone in order to route calls directly to the phone numbers tied with the profile, refer to the Intercom Configuration / Directory / Time Profiles subsection of Configuration Manual for details.

### Procedure:

- Enter the profile activating/deactivating code using your phone keypad and press  for confirmation.
- A valid code is signalled by the  or  sound according to the code type. An invalid code or interruption longer than as defined in **Timeout for Entering Numbers** is signalled by the  sound.

## 3.5 Maintenance

### Cleaning

If used frequently, the device surface, the keypad in particular, gets dirty. To clean it, use a piece of soft cloth moistened with clean water. We recommend you to follow these principles while cleaning:

- Never use aggressive detergents (such as abrasives or strong disinfectants).
- Use suitable cleaning agents for glass lens cleaning (cleaners for glasses, optic devices screens, etc.)
- Clean the device in dry weather in order to make waste water evaporate quickly.
- The electronics cleaning wipes are suitable.

#### **Anticovid**

- To keep your equipment surfaces clear of bacteria and viruses (Anti-Covid disinfection) and maintain the hygienic conditions of critical surfaces and touch points we recommend that you use the Zoono – Microbe Shield Surface Sanitiser Spray.

#### **Warning**

- Prevent water from getting inside the intercom.
- Do not use alcohol-based cleaners.
- Avoid peroxide-based cleaners.

#### **Caution**

- Always use the product for the purpose it was designed and manufactured for, in compliance herewith.
- The manufacturer reserves the right to modify the product in order to improve its qualities.
- **2N® IP Verso** contains no environmentally harmful components. When the product's service life is exhausted and you would like to dispose of it please do so in accordance with applicable legal regulations.

## 3.6 Downloads

### Templates

[Nameplates](#)

[Infopanel label](#)

### Software

[2N® USB Driver](#)

[2N® IP Eye](#)

[2N® Network Scanner](#)

## 4. Technical Parameters

### Signalling protocol

- **SIP (UDP, TCP, TLS)**

### Buttons

- **Button design:** white-backlit transparent buttons with replaceable nametags
- **Button count:** 1 and increments of 5
- **Button extenders:** up to 29 modules, limited by power supply
- **Numeric keypad:** optional

### Audio

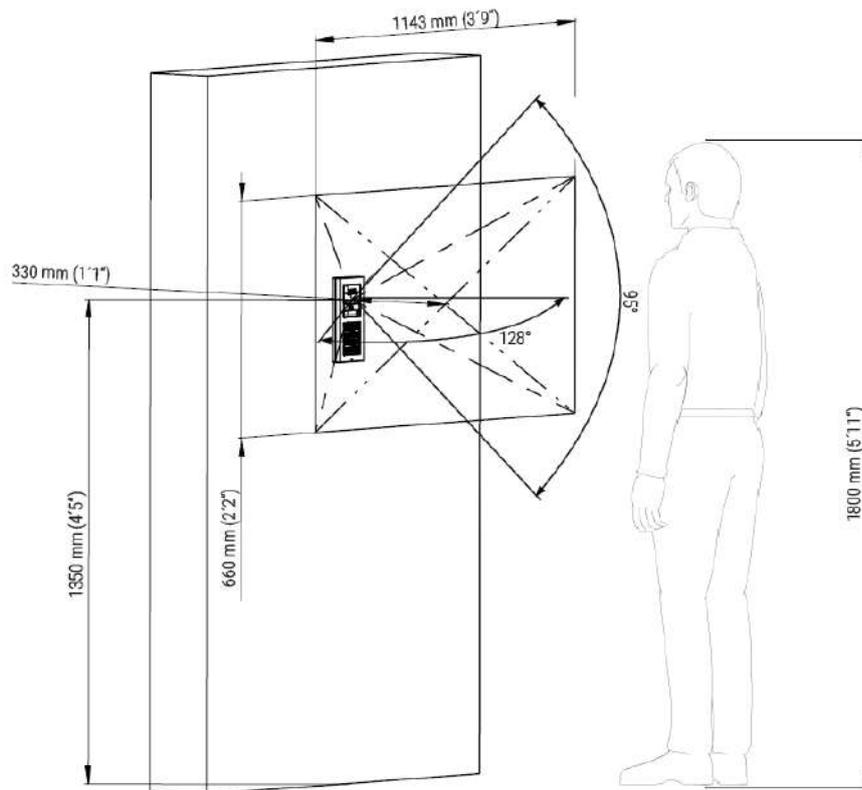
- **Microphone:** 1 integrated microphone
- **Amplifier:** 2 W (class D) amplifier
- **Speaker:** 2 W / 8  $\Omega$
- **Sound pressure level (SPL max):** 78 dB (for 1 kHz, distance 1 m)
- **Output LINE OUT:** 1 VRMS / 600  $\Omega$
- **Volume control:** adjustable with automatic adaptive mode
- **Full duplex:** yes (AEC)
- **Speech transmission index (STI):** 0.89

### Audio stream

- **Protocols:** RTP / RTSP
- **Codecs:** G.711, G.729, G.722, L16/16 kHz

### Camera

- **Sensor:** 1/3" colour CMOS
- **JPEG resolution:** up to 1280 (H) x 960 (V)
- **Video resolution:** 640 (H) x 480 (V)
- **Frame rate:** up to 30 snapshots/s
- **Sensor sensitivity:** 5.6 V/lux-sec (550 nm)
- **View angle:** 128° (H), 95° (V), 134° (D)
- **Infrared light:** yes
- **Sensor sensitivity without IR light:** 0,1 Lux  $\pm$  20 %
- **Focal length:** 2.25 mm



### Video stream

- **Protocols:** RTP / RTSP / HTTP
- **Codecs:** H.263, H.263+, H.264, MPEG-4, M-JPEG
- **IP camera function:** yes, ONVIF v2.4 profile S compatible

## Bandwidth

- **Audio codecs**

- PCMA, PCMU – 64 kbps (with 85.6 kbps headers)
- G.729 – 16 kbps (with 29.6 kbps headers)
- G.722 – 64 kbps (with 85.6 kbps headers)
- L16 / 16 kHz – 256 kbps (with 277.6 kbps headers)

- **Video codecs**

Set the video codec data flows in the Services / Phone / Video menu for calls and in the Services / Streaming / RTSP menu for streaming. The set bandwidth represents the value that the codec has to approach on a long-time average. The data flows can vary depending on the scene to be scanned.

The measured data flow values correspond to the test view of a person standing in front of the intercom.

- **H.264**

- Low quality: QVGA (320 x 240), 10 fps, 256 kbps: 181 kbps (with 190 kbps headers)
- Medium quality: VGA (640 x 480), 15 fps, 768 kbps: 600 kbps (with 661 kbps headers)
- High quality: VGA (640 x 480), 30 fps, 2048 kbps: 1319 kbps (with 1372 kbps headers)

- **MJPEG**

- Low quality: QVGA (320 x 240), 10 fps, quality 70: 435 kbps with headers
- Medium quality: VGA (640 x 480), 15 fps, quality 85: 506 kbps
- High quality: SXGA (1280 x 960), 15 fps, quality 95: 8 Mbps

## Interface

- **Power supply:** 12 V  $\pm$ 15 % / 2 A DC or PoE
- **PoE:** PoE 802.3af (Class 0–12.95 W)
- **LAN:** 10/100BASE-TX with Auto-MDIX, RJ-45
- **Recommended cabling:** Cat-5e or higher
- **Supported protocols:** SIP2.0, DHCP opt. 66, SMTP, 802.1x, RTSP, RTP, TFTP, HTTP, HTTPS, Syslog, ONVIF
- **Passive switch:** NO/NC contact, up to 30 V / 1 A AC/DC
- **Active switch output:** 8 up to 12 V DC depending on power supply (PoE: 10 V; adapter: power supply voltage minus 2 V), up to 400 mA

### RFID card reader

- **Optionally 125 kHz or 13.56 MHz**
- **Supported cards, 125 kHz, Part No. 9155032:**
  - EM4xxx
- **Supported cards on 13.56 MHz NFC version, Part No. 9155040** (only card serial number is read)
  - ISO14443A (MIFARE DESFire)
  - PicoPass (HID iClass)
  - FeliCa
  - ST SR(IX)
  - **2N® Mobile Key**
- **Supported cards on secured 13.56 MHz NFC version, Part No. 9155086** (optionally, card serial number or PAC ID is read)
  - ISO14443A (MIFARE DESFire)
  - PicoPass (HID iClass)
  - FeliCa
  - ST SR(IX)
  - **2N® Mobile Key**
  - HID SE (Seos, iClass SE, MIFARE SE)
- **Maximum H – field strength at 10 m for 125 kHz version: 66 dBµA/m**
- **Maximum H – field strength at 10 m for 13.56 MHz version: 60 dBµA/m**

### 2N® IP Verso – Bluetooth module

- Bluetooth 4.0 Compliant (Bluetooth Low Energy, BLE)
- **Security:** asymmetric RSA-1024 and symmetric AES-128 encryption
- **RX sensitivity:** up to -93 dBm
- **Range:** adjustable (short ~ 0.5m, medium ~ 2m, long ~ up to 10m)
- **Power consumption:** 20mA at 12V DC
- **Operational temperature range:** -40°C ~ +60°C
- **Storage temperature range:** -40°C ~ +70°C
- **Dimensions:** 97x105x30mm
- Compatible with 2N® IP Verso, 2N® LTE Verso and 2N® Access Unit
- **Mobile app. support:** Android 6 and higher, iOS 12 and higher

### Touch display

- **Resolution:** 320 px x 214 px H x V
- **Resolution slideshow:** 214 px x 214 px
- **Contrast ratio:** 400
- **Brightness:** 350 cd/m<sup>2</sup>
- **Viewing angle:** 80 ° from any direction
- **Weight:** 280 g

- **Consumption min:** 1.36 W
- **Consumption max:** 2.40 W
- **Working temperature:** -20 °C – 60 °C
- **Resistance level:** IK07

#### **I/O module**

- **Dimensions:** 43 (W) x 31.5 (H) x 1.5 (D) mm

#### **Wiegand module**

- **Dimensions:** 43 (W) x 31.5 (H) x 1.5 (D) mm

#### **Mechanical properties**

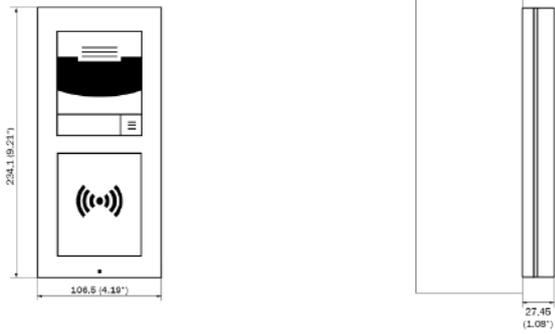
- **Cover:** robust zinc casting with surface finish (minor surface shade nuances are acceptable)
- **91550XX – NICKEL**
  - Material – Zamak 410 – Zn95Al4Cu1
  - Surface treatment – Zn/Cu20/Ni25b max. 80 µm
- **91550XXB – BLACK**
  - Material – Zamak 410 – Zn95Al4Cu1
  - Surface treatment – PUR Wet coating 15-25 µm, RAL 9005 Jet black
    - interior side - passivated zinc
- **Working temperature:** -40 °C – 60 °C
- **Working relative humidity:** 10 % – 95 % (non-condensing)
- **Storing temperature:** -40 °C – 70 °C

- **Dimensions**
  - **Surface mounting frame:**
    - 1 module: 107 (W) x 130 (H) x 28 (D) mm
    - 2 modules: 107 (W) x 234 (H) x 28 (D) mm
    - 3 modules: 107 (W) x 339 (H) x 28 (D) mm
  - **Flush mounting frame:**
    - 1 module: 130 (W) x 153 (H) x 5 (D) mm
    - 2 modules: 130 (W) x 257 (H) x 5 (D) mm
    - 3 modules: 130 (W) x 361 (H) x 5 (D) mm
  - **Flush mounting box (minimum hole dimensions):**
    - 1 module: 108 (W) x 131 (H) x 45 (D) mm
    - 2 modules: 108 (W) x 238 (H) x 45 (D) mm
    - 3 modules: 108 (W) x 343 (H) x 45 (D) mm
  - **Module internal cutout:** 72 (W) x 89.3 (H) mm / 2.83 (W) x 3.51 (H) inches
- **Weight:** max net weight: 2 kg / max gross weight: 2.5 kg – based on configuration
- **Covering level:** IP54
- **Resistance level:** IK08

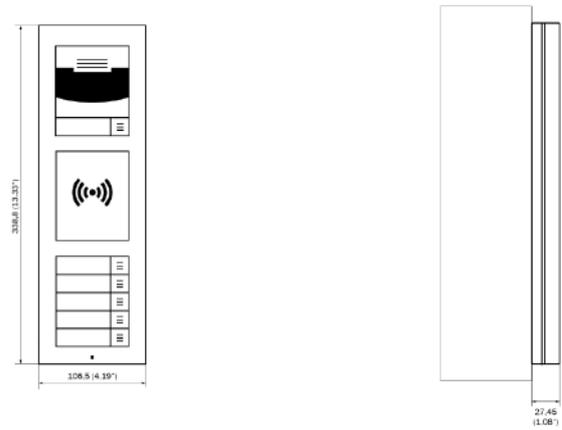
## 4.1 General drawings

### Surface mounting

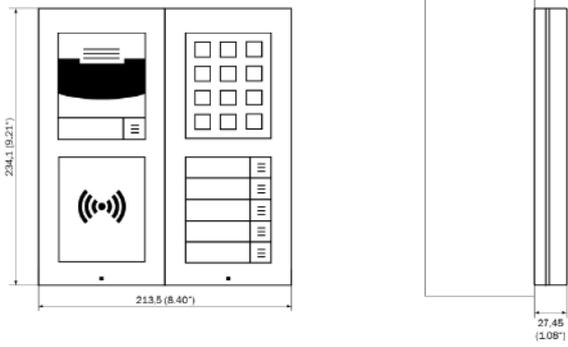
2 modules



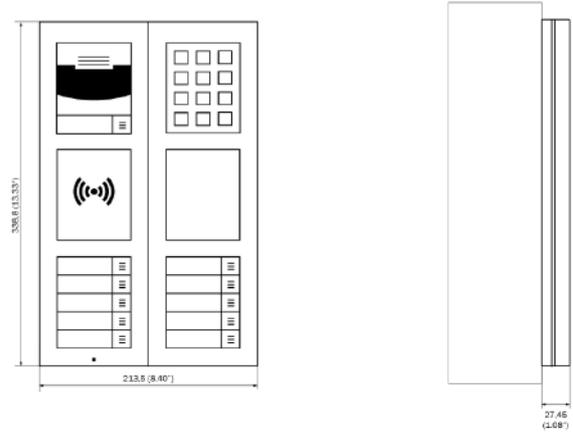
3 modules



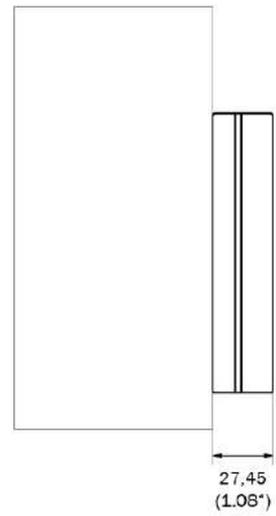
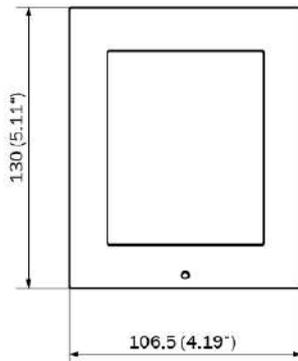
2 x 2 modules



3 x 2 modules

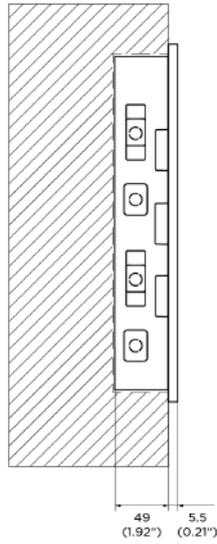
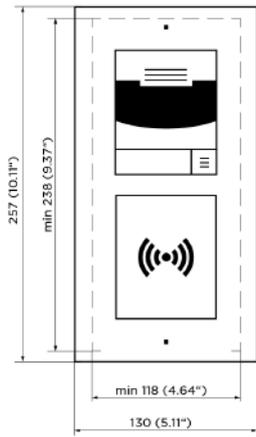


1 modul

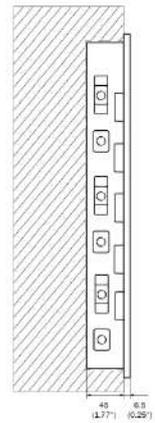
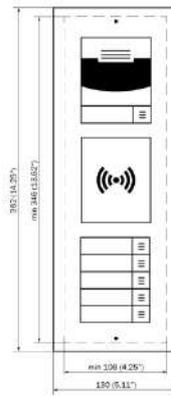


### Flush mounting

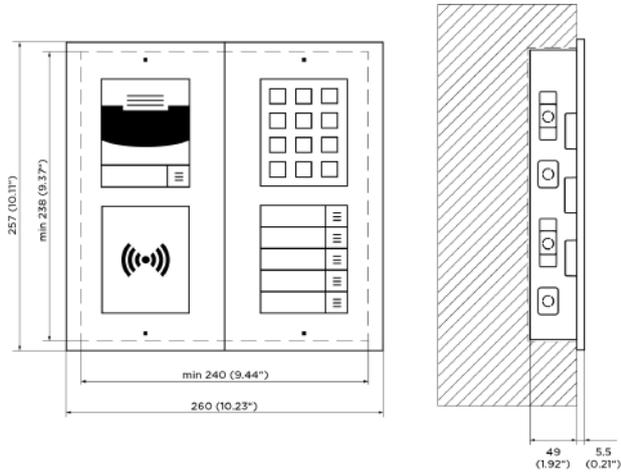
2 modules



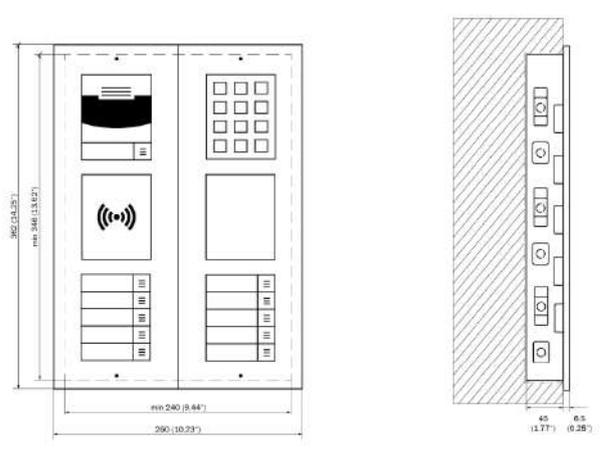
3 modules



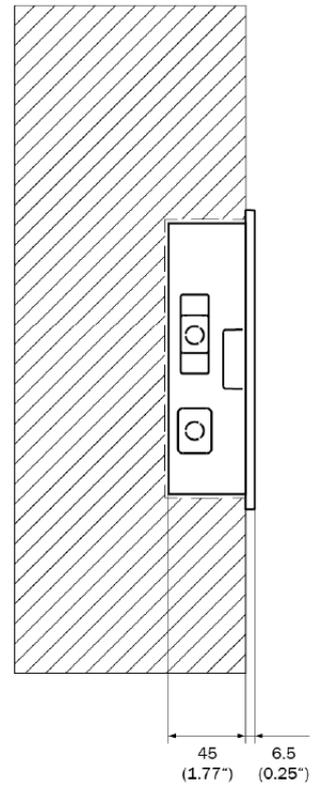
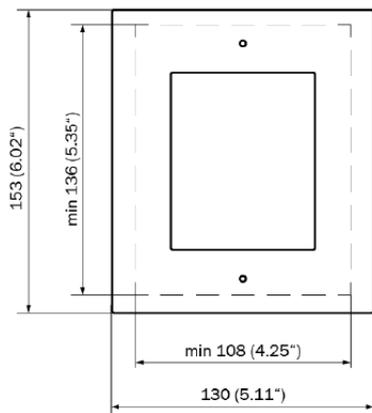
2 x 2 modules



3 x 2 modules



1 modul



## 5. Supplementary Information

Here is what you can find in this section:

- [5.1 Troubleshooting](#)
- [5.2 Directives, Laws and Regulations](#)
- [5.3 Other Countries' Legislation](#)
- [5.4 General Instructions and Cautions](#)

### 5.1 Troubleshooting



For the most frequently asked questions refer to [faq.2n.cz](http://faq.2n.cz).

### 5.2 Directives, Laws and Regulations

**2N® IP Verso** conforms to the following directives and regulations:

- 2014/53/EU for radio equipment
- 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment
- 2012/19/EU on waste electrical and electronic equipment

#### Industry Canada

This Class B digital apparatus complies with Canadian ICES-003/NMB-003.

#### FCC

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules.

NOTE: These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna
- Increase the separation between the equipment and receiver
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected
- Consult the dealer or an experienced radio/TV technician for help

Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

### **DDA compliance:**

2N TELEKOMUNIKACE intercoms comply with the Disability Discrimination Act 2005 (DDA) under the following conditions:

1. The intercoms are mounted so that their lower edge is between 100 and 120 centimeters above the floor.
2. The intercoms use a keyboard that has a mechanical protrusion on number 5.
3. The intercoms use electromagnetic loop as a hearing aid.

### **⚠ Caution**

#### **Warning**

In order to ensure the full functionality and guaranteed performance, we strongly recommend that the topicality of the product / device version in use be verified as early as in the installation process. The customer hereby acknowledges that the product / device can achieve the guaranteed performance and full functionality pursuant to the manufacturer's instructions only if the latest product / device version is used after having been tested for full interoperability and not having been determined by the manufacturer as incompatible with certain versions of other products, and only in conformity with the manufacturer's instructions, guidelines or recommendations and in conjunction with suitable products and devices of other suppliers. The latest versions are available at [https://www.2n.com/cs\\_CZ/](https://www.2n.com/cs_CZ/) or can be updated via the configuration interface if the devices are adequately technically equipped. Should the customer use a product / device version other than the latest one or a version determined by the manufacturer as incompatible with certain versions of other products, or should the customer use the product / device in contradiction to the manufacturer's instructions, guidelines or recommendations or in conjunction with unsuitable products / devices of other suppliers, the customer is aware of and agrees with all functionality limitations of such a product / device if any as well as with all consequences incurred as a result thereof. Using a product / device version other than the latest one or a version determined by the manufacturer as incompatible with certain versions of other products, or using the product / device in contradiction to the manufacturer's instructions, guidelines or recommendations or in conjunction with unsuitable products / devices of other suppliers, the customer agrees that the 2N TELEKOMUNIKACE a.s. company shall not be held liable for any functionality limitation of such a product or any damage, loss or injury related to this potential functionality limitation.

### 5.3 Other Countries' Legislation

<p><b>Thailand</b></p>	<div style="border: 1px solid black; padding: 10px;"> <p style="text-align: center;">เครื่องโทรคมนาคมและอุปกรณ์นี้ มีความสอดคล้องตามมาตรฐานหรือขอ กำหนดทางเทคนิคของ กสทช.</p> <hr/> <div style="text-align: center;">  <p><b>nans.</b></p> </div> <p>เครื่องวิทยุคมนาคมนี้ ได้รับยกเว้น ไม่ต้องได้ รับใบอนุญาตให้มี ใช้ซึ่งเครื่องวิทยุคมนาคม หรือตั้งสถานีวิทยุคมนาคมตามประกาศ กสทช. เรื่อง เครื่องวิทยุคมนาคม และสถานีวิทยุ คมนาคมที่ได้รับยกเว้นไม่ต้องได้รับใบอนุญาต วิทยุคมนาคมตามพระราชบัญญัติวิทยุคมนาคม พ.ศ. 2498</p> <div style="display: flex; justify-content: space-between; align-items: center;">  <div style="text-align: right;"> <p><b>nans.</b>   โทรคมนาคม กำกับดูแลเพื่อประชาชน Call Center 1200 (InSWi)</p> </div> </div> </div>
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### 5.4 General Instructions and Cautions

Please read this User Manual carefully before using the product. Follow all instructions and recommendations included herein.

Any use of the product that is in contradiction with the instructions provided herein may result in malfunction, damage or destruction of the product.

The manufacturer shall not be liable and responsible for any damage incurred as a result of a use of the product other than that included herein, namely undue application and disobedience of the recommendations and warnings in contradiction herewith.

Any use or connection of the product other than those included herein shall be considered undue and the manufacturer shall not be liable for any consequences arisen as a result of such misconduct.

Moreover, the manufacturer shall not be liable for any damage or destruction of the product incurred as a result of misplacement, incompetent installation and/or undue operation and use of the product in contradiction herewith.

The manufacturer assumes no responsibility for any malfunction, damage or destruction of the product caused by incompetent replacement of parts or due to the use of reproduction parts or components.

The manufacturer shall not be liable and responsible for any loss or damage incurred as a result of a natural disaster or any other unfavourable natural condition.

The manufacturer shall not be held liable for any damage of the product arising during the shipping thereof.

The manufacturer shall not make any warrant with regard to data loss or damage.

The manufacturer shall not be liable and responsible for any direct or indirect damage incurred as a result of a use of the product in contradiction herewith or a failure of the product due to a use in contradiction herewith.

All applicable legal regulations concerning the product installation and use as well as provisions of technical standards on electric installations have to be obeyed. The manufacturer shall not be liable and responsible for damage or destruction of the product or damage incurred by the consumer in case the product is used and handled contrary to the said regulations and provisions.

The consumer shall, at its own expense, obtain software protection of the product. The manufacturer shall not be held liable and responsible for any damage incurred as a result of the use of deficient or substandard security software.

The consumer shall, without delay, change the access password for the product after installation. The manufacturer shall not be held liable or responsible for any damage incurred by the consumer in connection with the use of the original password.

The manufacturer also assumes no responsibility for additional costs incurred by the consumer as a result of making calls using a line with an increased tariff.

### Electric Waste and Used Battery Pack Handling



Do not place used electric devices and battery packs into municipal waste containers. An undue disposal thereof might impair the environment!

Deliver your expired electric appliances and battery packs removed from them to dedicated dumpsites or containers or give them back to the dealer or manufacturer for environmental-friendly disposal. The dealer or manufacturer shall take the product back free of charge and without requiring another purchase. Make sure that the devices to be disposed of are complete.

Do not throw battery packs into fire. Battery packs may not be taken into parts or short-circuited either.

