



2N IP One

Installation Manual



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Symbols and Terms Used

The following symbols and pictograms are used in the manual:



DANGER

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.

Product Description

In this section, we introduce the **2N IP One** product, outline its application options and highlight the advantages following from its use.

Basic Features

2N IP One is an elegant yet robust and mechanically resistant IP video intercom designed for residential buildings. It is easily interconnectable with other systems. Thanks to SIP support and compatibility with major IP PBX and phone manufacturers, it can benefit from all VoIP network services. It is available in three color versions.

The main advantages of this device are:

Speed Dial Button – for this button, up to three phone numbers and call time profiles can be defined to make the called user accessible any time. The button is backlit and has a clear mechanical response.

Robustness – the device is designed as a robust, mechanically resistant intercom, which withstands weather conditions without needing extra accessories.

Audio Quality– thanks to the integrated acoustic echo cancellation (AEC) system, full duplex communication provides bilateral audibility even when the calling users are speaking at the same time.

Device Installation – is very easy, all you have to do is connect the system into your LAN via a network cable. The device can be supplied either from a 12 V DC power source or using PoE if supported by your LAN.

Configuration 2N IP One – use a PC equipped with any Internet browser for configuration.

Other advantages of the device

Product Versions



Part No. 9158104

Axis Part No. 02933-001

2N IP One Main Unit – Gray



Part No. 9158106

Axis Part No. 02935-001

2N IP One Main Unit – Black

We do not recommend installation in places exposed to direct sunlight.

Product Description



Part No. 9158105

Axis Part No. 02934-001

2N IP One Main Unit – Bronze

Accessories

Accessories for Installation

2N IP One is designed for both outdoor and indoor applications.

Choose the proper accessories for your particular installation needs.



Part No. 9158001

Axis Part No. 02941-001

Flush mounting box

The flush mounting box is used for connection and storage of cables below the device.



Part No. 9158002

Axis Part No. 03327-001

Wall mounting box

The surface mounting backplate is used for connection and storage of cables below the device.

Extenders



Part No. 9159010

Axis Part No. 01386-001

Security Relay

A handy add-on that significantly enhances security. It prevents lock tampering.

To be installed between the protected device from which it is also powered and the lock controlled by it.

Product Description



Part No. 9155198SET

Axis Part No. 01975-001

Security Package for 2N Devices

The security package provides increased door security.

The safety package includes a safety relay, a protection switch and an I/O module.

Power Supply



Part No. 91341481E (with EU cable)

Part No. 91341481US (with US cable)

Axis Part No. 02520-001

Stabilized 12 V / 2 A power supply

The supply must be used where PoE is not used.



Part No. 932928

Axis Part No. 02529-001

12 V transformer

For 230 V mains voltage.

Designed for external supply of electric locks.



Part No. 9159052

Axis Part No. 01393-001

12 V / 1 A power supply for 2N Induction Loop

The external induction loop power supply has 230 V AC input voltage and 12 V DC output voltage.

Licenses



Part No. 9137909

Axis Part No. 01380-001

Gold License

Includes the Enhanced Video, Enhanced Integration and Lift Control licenses.



Part No. 9137910

Axis Part No. 01381-001

InformaCast License



Part No. 9137921

Axis Part No. 03160-001

MS Teams license



TIP

- Refer to the Configuration Manual for 2N IP Intercoms, Subs. [Function Licensing](#) for details.
- Please refer to the local 2N distributor for more accessories and recommendations.

Other accessories



Part No. 9159013

Axis Part No. 02523-001

Departure button

The departure button is connected to the device logic input for opening the door from inside the building.

Product Description

Part No. 9159012



Axis Part No. 01388-001

Magnetic door contact

Set for installation on a door, enabling the status of door opening to be ascertained. Used where the device is used for door protection, open door detection or forced opening.

Part No. 9137410E



Axis Part No. 01397-001

External IP relay, 1 output

Stand-alone IP relay, which can be controlled from an intercom via HTTP commands and helps control devices from an unlimited distance.

Part No. 9159014EU/US/UK



Axis Part No. 01404-001

2N 2Wire (set of 2 adaptors and power source for EU/US/UK)

The 2N 2Wire converter allows you to use the existing 2-wire cabling from your original doorbell or door intercom for connecting any IP device. You do not have to configure anything, all you need is one 2N 2Wire unit at each end of the cable and a power supply connected to at least one of these units. The 2N 2Wire unit then provides PoE power not only to the second converter, but to all of the connected IP end devices.

Part No. 1120103/1120103EU



Axis Part No. 02318-001

NVT PoLRE LPC Switch

The switch provides an IP solution with analog cabling.

The package includes 2 SIP adapters. Additional adapters can be ordered (1120104, 02319-001).

Part No. 1120104

Axis Part No. 02319-001

NVT PhyLink Adapter



SIP adapter for switch use (1120103, 02318-001).

The package includes 6 pieces.

Product Description



Part No. 9154004

Axis Part No. 01479-001

Water-proof metal button

Suitable for internal RFID card reader.

Package Completeness Check

Please check the product delivery before installation. Contents:

1x **2N IP One**

1x Certificate of ownership

1x Brief Manual

1x connector plate

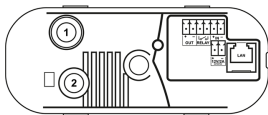
3x Torx head screw

1x Torx wrench

2x Frame fitting

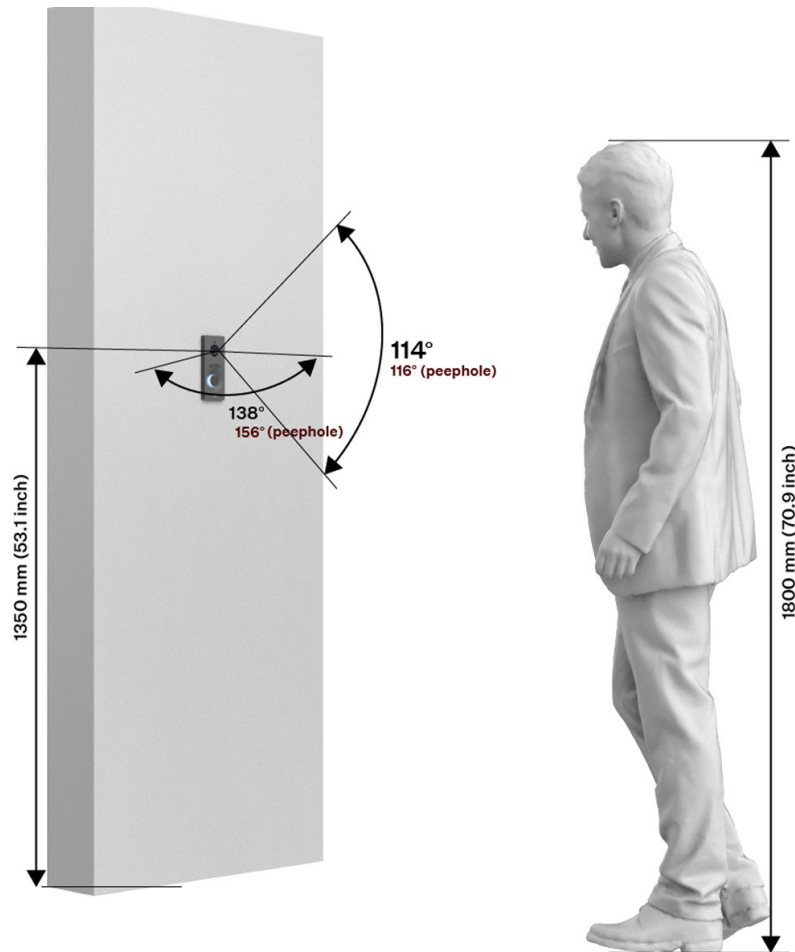
Component Layout

2N IP One is equipped with the following buttons on its backside:



1. Tamper Switch
The purpose of the tamper switch is to signal any unauthorized opening of the intercom (to prevent a theft, e.g.).
2. CONTROL button
Used for resetting the default factory values.

Installation



Mechanical Installation

Installation Conditions

Make sure that the following 2N IP One installation conditions are met.

- There must be enough space for the device installation.
- Make sure that the dowel holes have the required diameter. If the diameters are too large, the dowels may get loose! Use the mounting glue to secure the dowels if necessary.
- Do not use low-quality dowels to avoid their falling out of the wall!
- Make sure that the depths of the dowel holes are accurate!
- Before starting the mechanical installation on a selected place, make sure carefully that the preparations associated with it (drilling, wall cutting) cannot damage the electrical, gas, water and other existing wires and pipes.
- The device is designed for vertical wall mounting (perpendicular to the floor) in the height of up to 1350 mm above the floor. If necessary, operate the device in a position other than as aforementioned for a short time only, for quick testing purposes in a servicing center, for example.
- Make sure that the plasterboard interior does not show a pressure value significantly different from that of the room, e.g. that it is not connected with overpressure ventilation. If the difference is too great, separate the device in terms of pressure (using, e.g., a mounting box) and seal the cable passage.

Installation

- The device is not designed for environments with increased vibrations such as means of transport, machine rooms and so on.
- The device may not be exposed to aggressive gas, acid vapors, solvents, etc.
- The device is not intended for direct connection into the Internet/WAN. The device must be connected to the Internet/WAN via a separating active network element (switch/router).
- Avoid strong electromagnetic radiation on the installation site.
- Make sure that the VoIP connection is configured properly according to the SIP and other VoIP recommendations.



CAUTION

- When the proper installation instructions are not met, water might get in and destroy the electronics. As the device circuits are constantly under voltage water leakage causes electrochemical reaction. The manufacturer's warranty shall be void for products damaged in this way!
- Exceeding the allowed operating temperature may not affect the device immediately but leads to premature ageing and lower reliability. For the acceptable range of operating temperatures and relative humidity values refer to [S. Technical Parameters \(p. 39\)](#).
- Any intentional mechanical damage to the device (drilling, main unit tampering, etc.) results in a loss of warranty.
- The device installation and setting should only be performed by professionally qualified persons.
- The installation and adjustment of this device, including any handling thereof, should only be carried out by persons qualified to do so.

Installation Tips

- The recommended height is 135 cm for standard installations (100–120 cm for disabled persons) from the floor to the device camera level. The installation heights may vary depending on the device use.

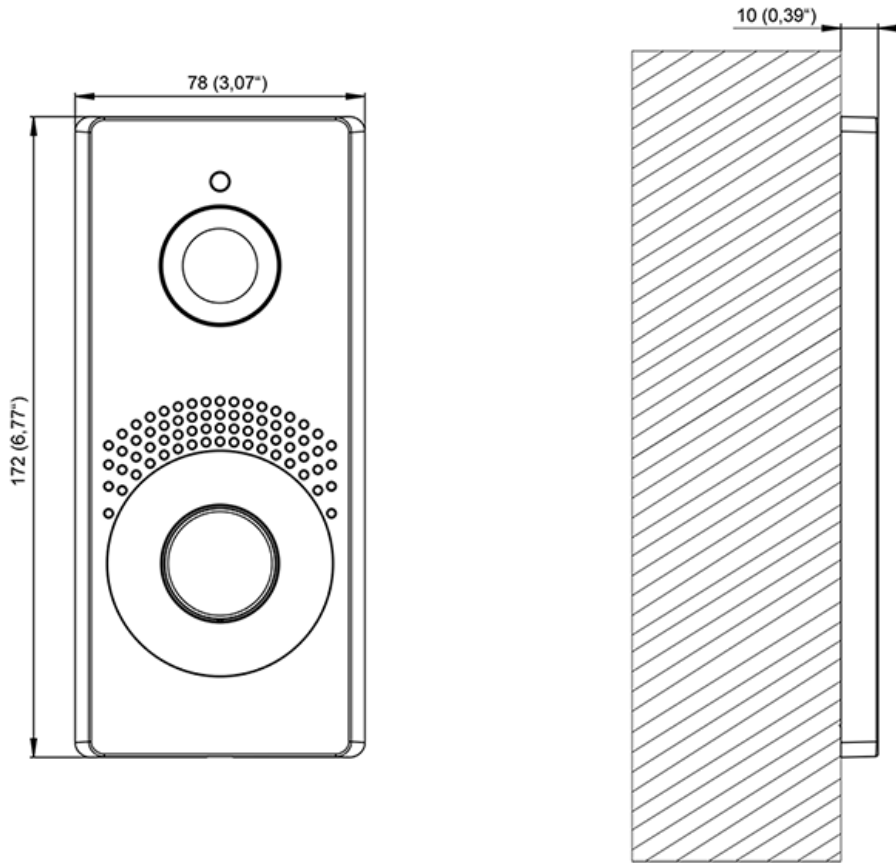
Viewing angle

138° (H), 114° (V)

Flush mounting

The flush mounting box allows you to place cables in the wall below **2N IP One** and mount the device.

Installation



What you need for mounting:

- **2N IP One**
- Flush mounting box (9158001, 02941-001)



TIP

Download the [drilling template](#) from 2N.com.

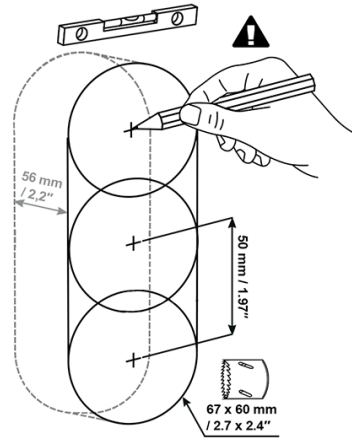


WARNING

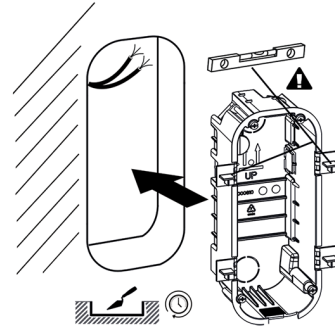
Before starting the mechanical installation on a selected place, make sure carefully that the preparations associated with it (drilling, wall cutting) cannot damage the electrical, gas, water and other existing wires and pipes.

Installation

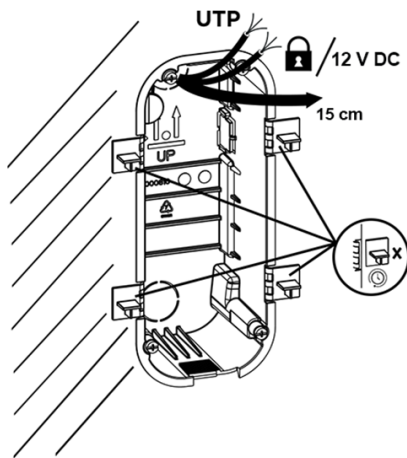
1.



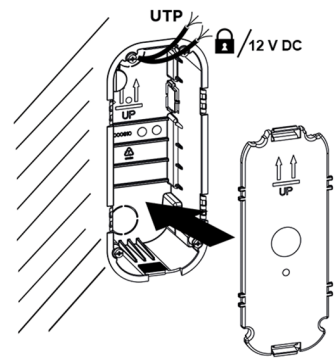
2.



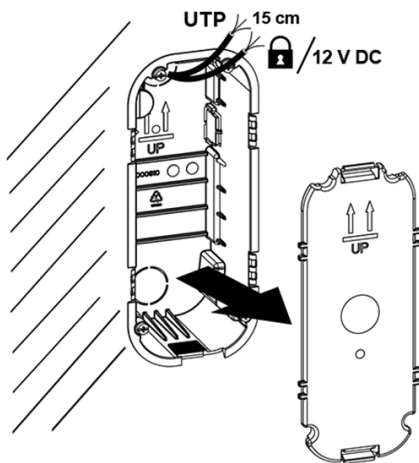
3.



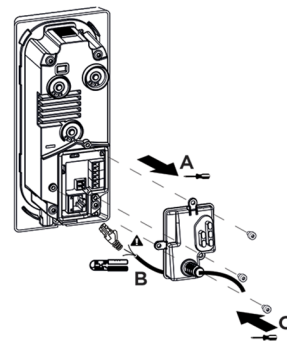
4.



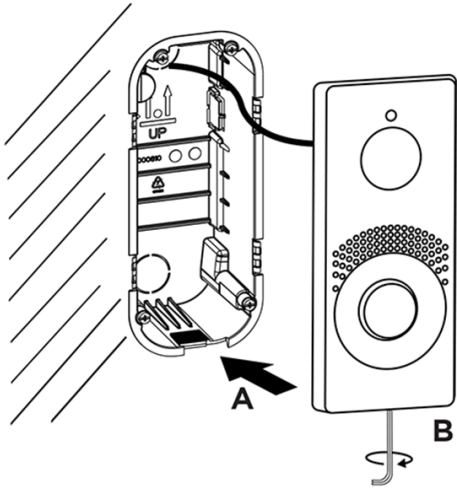
5.



6.



7.



1. Cut a hole in the wall. The recommended hole depth is 56 mm.
2. Remove one of the blinds on the plastic box and pull the cables through. The recommended length of the accessible cables is 15 cm. Mind the two arrows engraved on the box bottom and the included blind to keep the proper installation orientation. Place the box into the wall hole. Use the four side bosses to determine the proper depth of the flush mounting. Use a walling material of your choice.
3. Use the four side bosses to determine the proper depth of the flush mounting. Make sure that the box edges are aligned with the wall after finishing the masonry. Break off the bosses after the walling material hardens.
4. Close the box with a blank. This prevents the walling and surfacing dirt from getting into the box surroundings.
5. Let the walling material harden after finishing the masonry and wall surfacing and remove the blank.
6. The package includes an L-shaped plastic plate and 3 Torx head screws. Cut 1–2 mm off the upper part of the cylinder-shaped rubber on the plate. Pull the cable through the remaining part. Use a crimping tool to crimp the cable connector and insert it in the terminal. Cover the terminal space with a plate and screw it.



WARNING

Keep the maximum tightening torque of 0.5 Nm.

7. Insert the metal device body in the walled-in box and fit it on the bottom using a Torx head screw.



CAUTION

Loosen the screw if too tight to make the device fit in the box. Then tighten the screw again.

Surface Installation

The device **2N IP One** can be installed on a wall using the 2N IP One – Surface mount box (9158002/03327-001). The box is not included in the device main unit package.

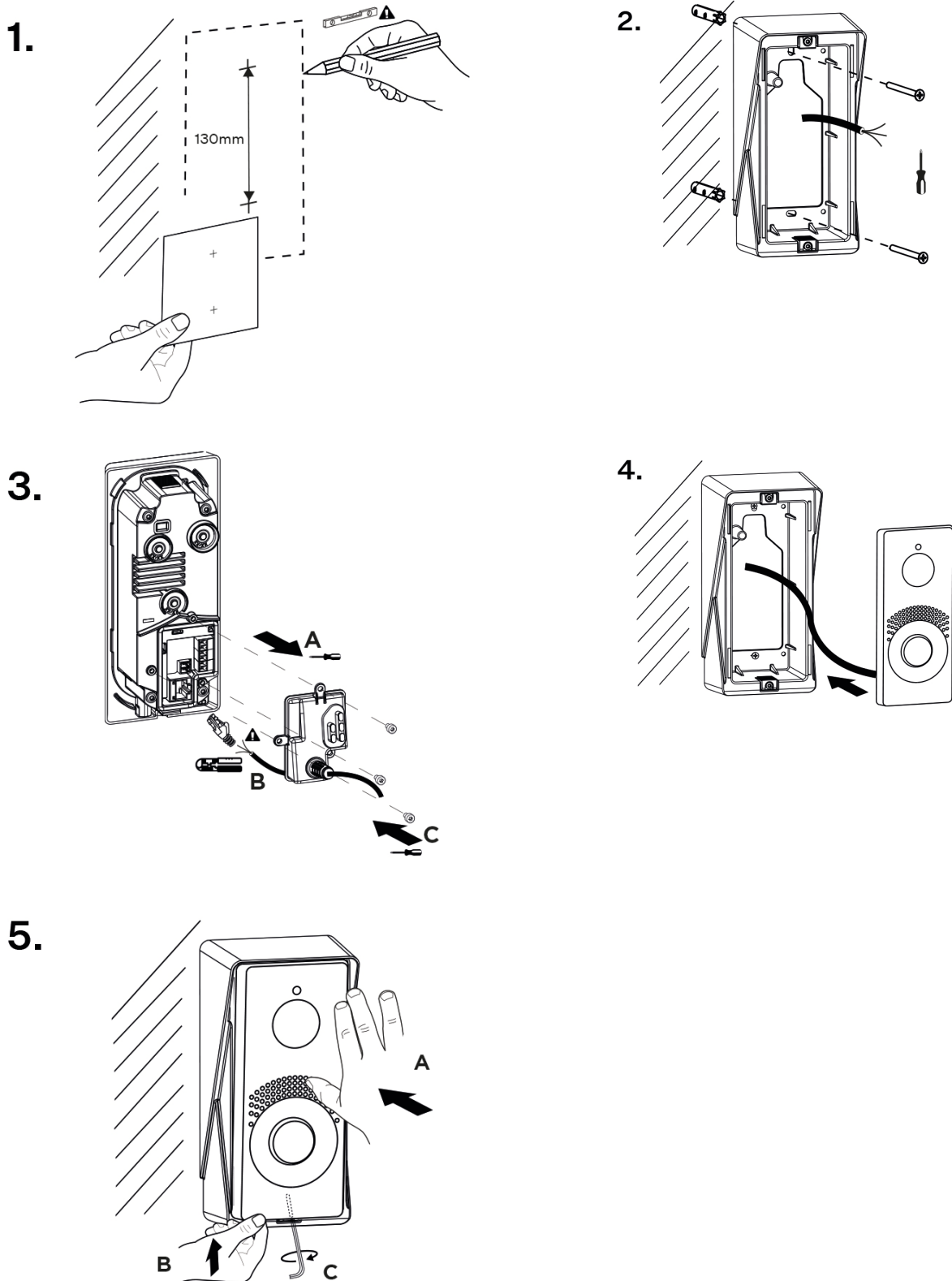
2N IP One - Surface mount box will be available in February 2025.



TIP

Download the [drilling template](#) from 2N.com.

Installation



1. Drill holes of the diameter of 8 mm and depth of 55 mm using the drilling template. Insert the dowels included in the surface mount box package in the pre-drilled holes.
2. Put the surface mount box on the wall. Pull the available cables through the box opening. Fit the surface mount box using the included countersunk head screws.

3. The main unit package includes an L-shaped plastic plate and 3 Torx head screws. Cut 1–2 mm off the upper part of the cylinder-shaped rubber on the plate. Pull the cable through the remaining part. Use a crimping tool to crimp the cable connector and insert it in the terminal. Cover the terminal space with a plate and screw it.



WARNING

Keep the maximum tightening torque of 0.5 Nm.

4. Put the main unit metal body in the surface mount box attached to the wall.
5. Press the main unit to the box and push it upwards.
Screw a Torx head screw from the device bottom.

Electric Installation

Power Supply

2N IP One can be fed either directly from the LAN if equipped with PoE 802.3af (Class 0, max. 12,95 W) supporting network elements or from an external 12 V $\pm 15\%$ / 2 A DC power supply.



CAUTION

- The device must be part of the electrical system of the building.
- The external power supply should comply with PS2/LPS.

PoE Supply

2N IP One is compatible with the PoE 802.3af (Class 0, max. 12,95 W) technology (Class 0, max. 12,95 W) and can be supplied directly from the LAN via compatible network elements. If your LAN does not support this technology, insert a PoE+ injector, between **2N IP One** and the nearest network element. This power supply provides **2N IP One** with 12 W for its own feeding and for connected modules.

External Power Supply

Use a SELV supply 12 V $\pm 15\%$ dimensioned to the current consumption according to the required power output for the to make your device work reliably.



CAUTION

Make sure that the wires are firmly attached to the terminal to avoid any free contact.

Current consumption [A]	Available power output [W]
-------------------------	----------------------------

2

24

The **2N IP One** main unit package includes a removable terminal, which provides connection to the main unit backside connectors.

Adapter Connection (1341481, 02520-001)

The white wire at the end of the adapter carries the positive charge (+), the black wire carries the negative charge (-).

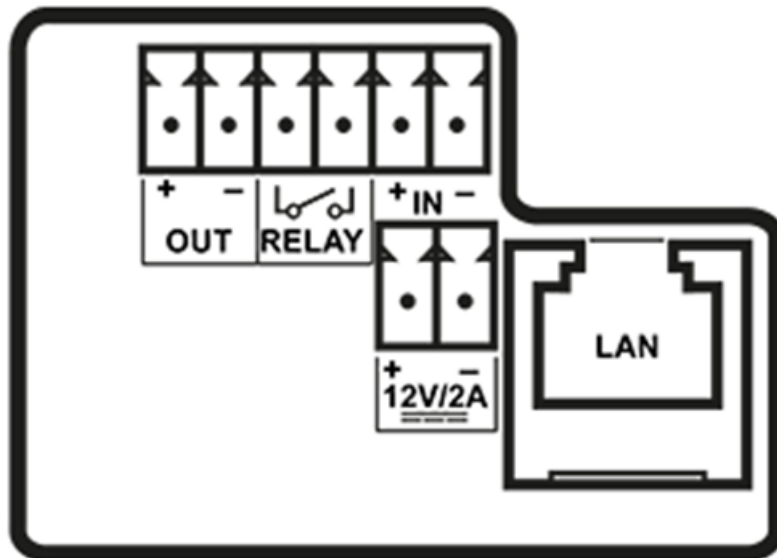
Combined Power Supply

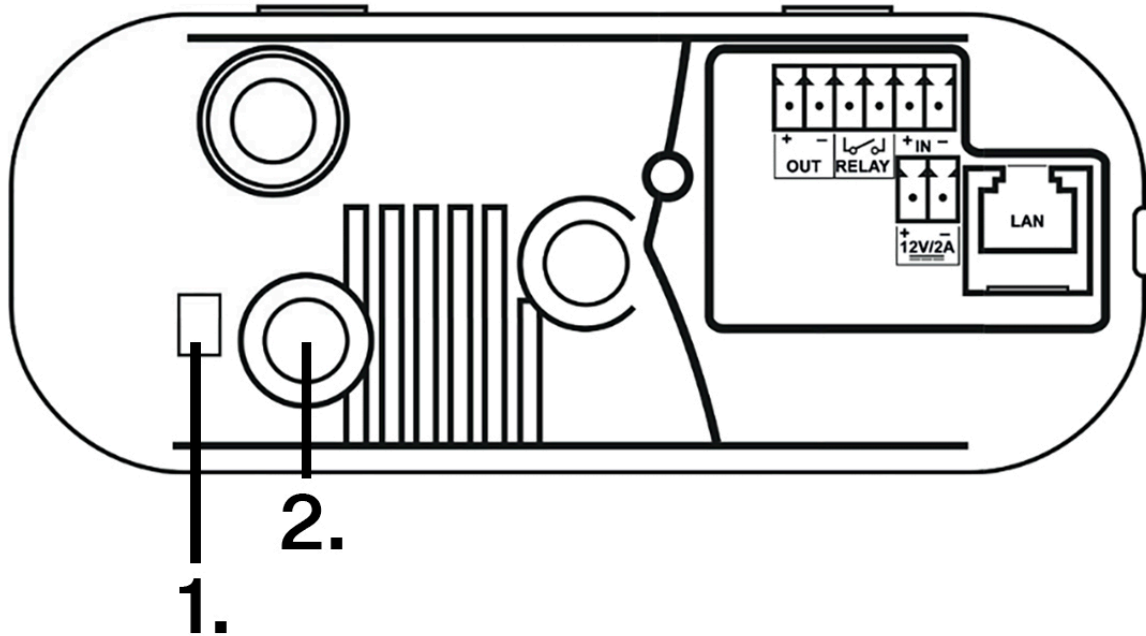
2N IP One can be fed from an external power supply and PoE at the same time. In this configuration, the maximum power for the is available.

Combined Power Supply

Device Connectors

Main unit connector wiring





IP One back - connectors and controls

1. LED Indicators

2. CONTROL button

OUT Active switch output: 12 V DC, max. 600 mA

RELAY RELAY terminals with accessible 30 V / 1 A AC/DC NO contact

IN IN1 terminals for input in passive / active mode (-30 V to +30 V DC)

- OFF = open contact or $U_{IN} > 1.5 \text{ V}$
- ON = closed contact or $U_{IN} < 1.5 \text{ V}$

12 V / 2 A External power supply terminals 12 V \pm 15 % / 2 A DC

LAN LAN connector (PoE 802.3af)

There are three main LED indicators on the IP One device:

- **Top LED (Status)** – indicates power and system status.
- **Middle LED (Power)** – indicates the operating system (OS) and application statuses.
- **Bottom LED (LAN)** – indicates the network connection status. It flashes green at 100 Mbps and yellow at 10 Mbps.

Status Table

Power LED	Status LED	Device Status
RED	GREEN	Device ready (normal operation)
DISABLED	YELLOW	Operating system starting up
RED	DISABLED	Device switching on
DISABLED	RED	Transient state on OS startup (if persistent, it means an error)
DISABLED	GREEN	Transient state on OS startup (if persistent, it means an error)
GREEN	DISABLED	Device error



NOTE

The **CONTROL** button is located on the back at the top of the device next to the LED indicators and is used for resetting the factory settings. Refer to Subs. [Factory Default Reset](#) for details.

LAN Connection

2N IP One is connected to the LAN by inserting a SSTP cable (Cat-5e or higher) terminated with an RJ-45 plug into the marked LAN connector on the device. As the device is equipped with the Auto-MDIX function, you can use either the straight or crossed cable version.

This device must be deployed within a network infrastructure that provides adequate protection against Denial-of-Service (DoS) attacks and similar network-based threats. The device does not include built-in protection against high-volume or malicious traffic and relies on the surrounding network environment—such as firewalls, intrusion prevention systems, or rate limiting—for defense. Failure to implement appropriate network security measures may lead to service degradation or unavailability. The equipment's user documentation shall contain a [description of all exposed network interfaces and all services exposed via network interfaces](#), which are delivered as part of the factory default state.



WARNING

On the first launch, the device must only be connected to a secure and trusted network that is fully under control of the user or administrator.

If the device is first configured on an insecure or public network, there is a risk of an unauthorized person taking control of the device.

This device cannot be connected directly to telecom lines (or public wireless networks) of any telecom service providers (i.e. mobile providers, landline providers or Internet providers). A router has to be used for the device Internet connection.

Recommendation: Use a secure network or private Wi-Fi protected with a strong password.



CAUTION

- We recommend the use of a LAN [surge protection](#) (p. 21).
- We recommend the use of a shielded SFTP Ethernet cable.

Overvoltage Protection

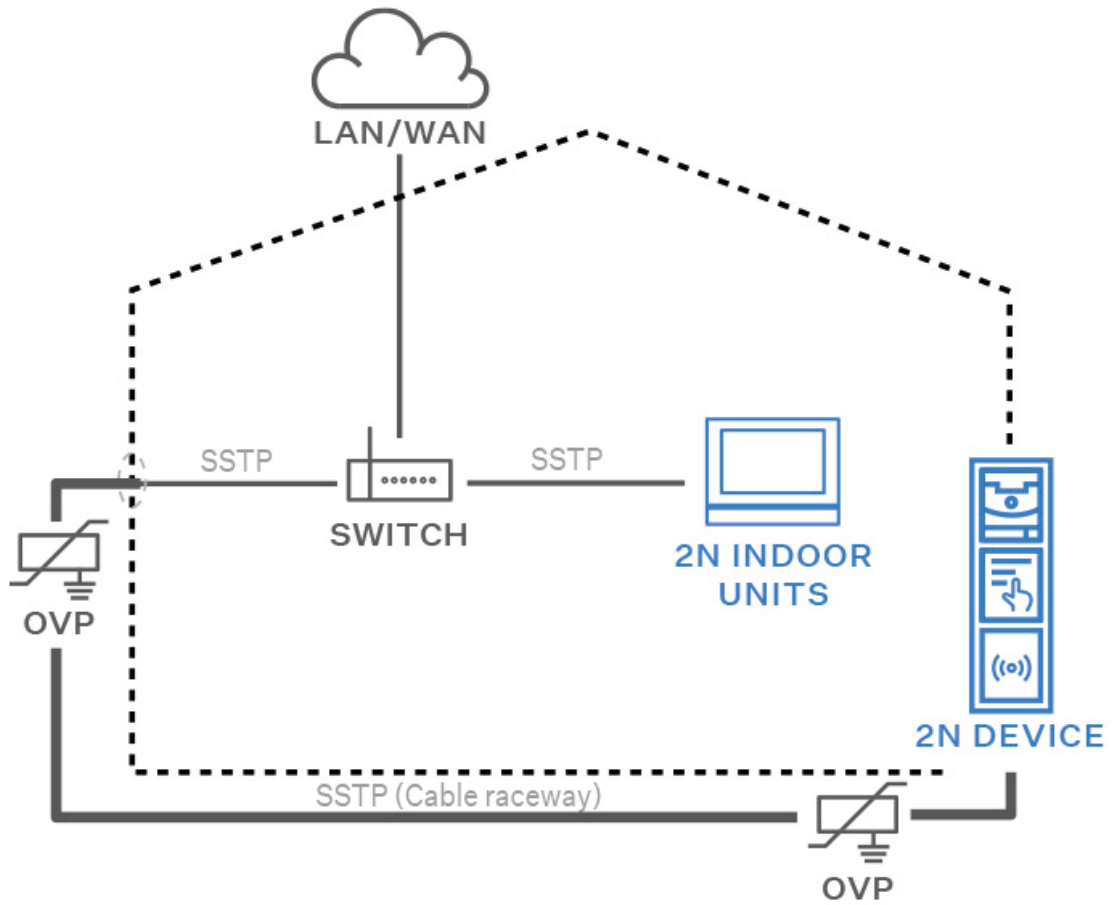
The 2N device cables have to be protected against atmospheric overvoltage caused by external causes (lightning, e.g.). A surge can damage a device installed outside/inside the building if the wires are unprotected.

Therefore, we recommend that additional overvoltage protectors (OVP) be installed on the outer walls or roof for all the wires leading outside the building. Keep the following instructions while installing overvoltage protectors:

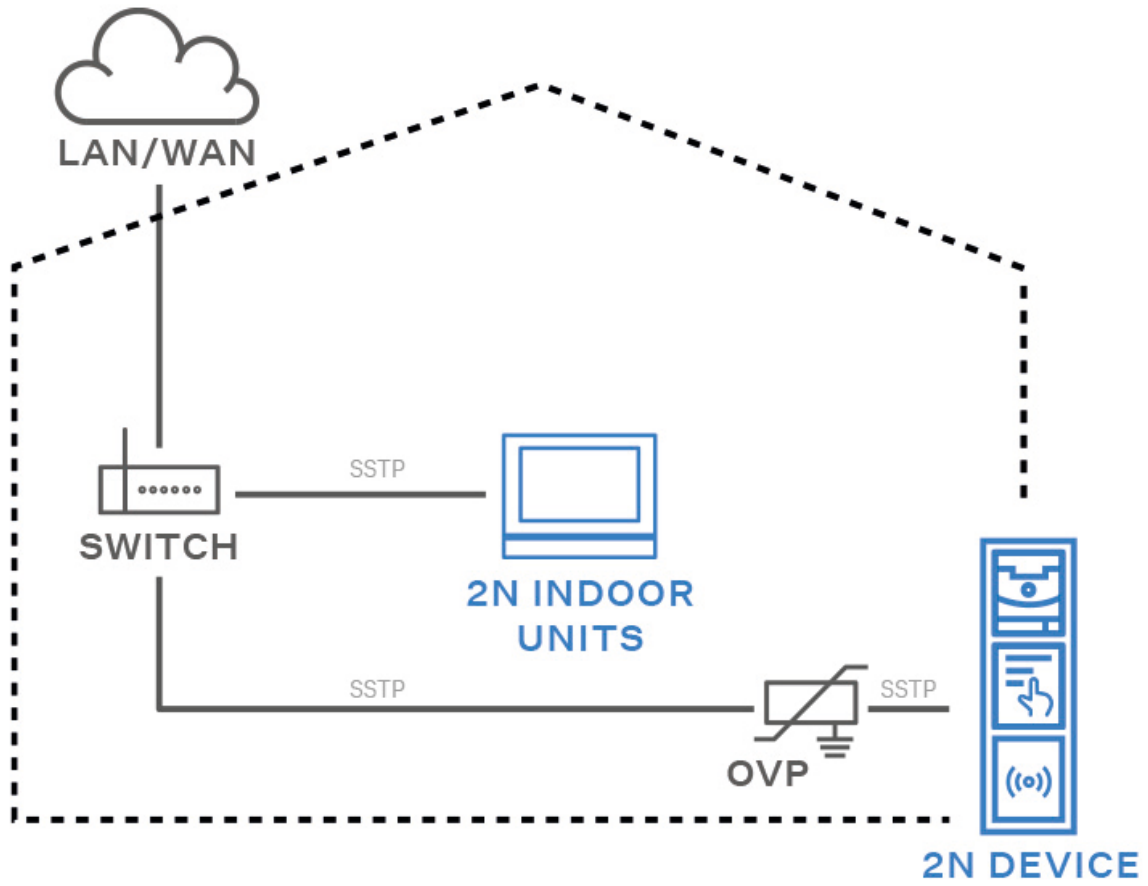
- Make sure that the overvoltage protector is installed as close as possible to the device installed outside the building.
- Make sure that the overvoltage protector is installed as close as possible to the device installed on an external part of the building.
- Make sure that the overvoltage protector is installed as close as possible to the point where the cabling leaves the building.

Examples of Overvoltage Protection Installation

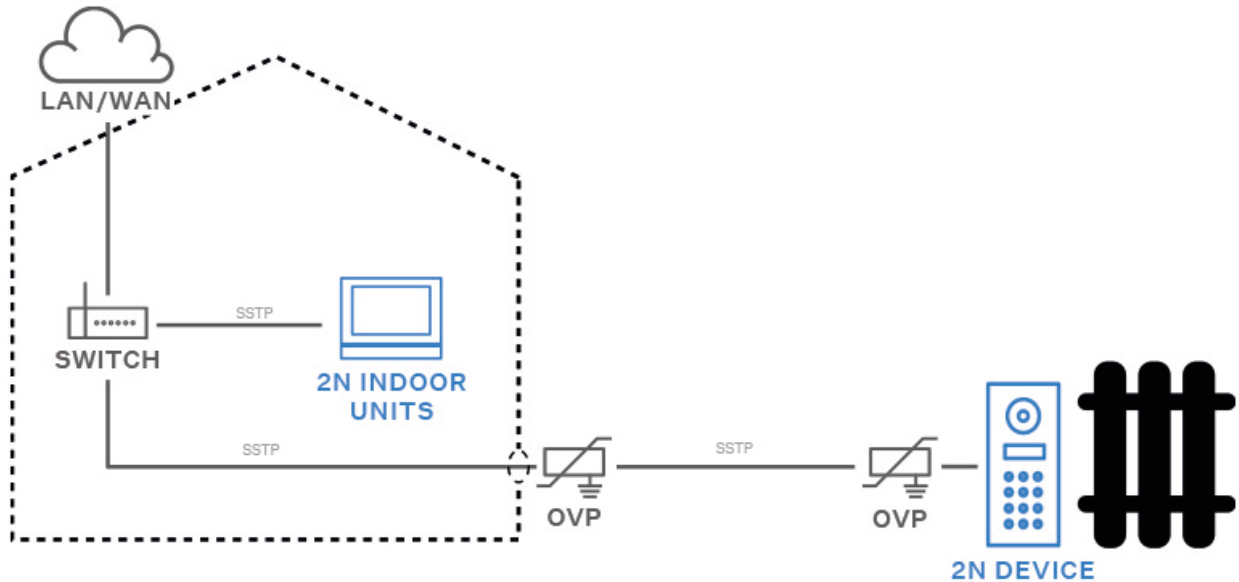
Overvoltage protection installation diagram for a device installed on the building facade and cables outside the building



Overvoltage protection installation diagram for a device installed on the building facade and cables inside the building



Overvoltage protection installation diagram for a device and cables installed outside the building



Main and Extending Modules



CAUTION

In case the firmware versions of the module to be connected and the main unit are incompatible, the module will not be detected. Therefore, update the device firmware after connecting the modules. Update firmware via the web configuration interface in System > Maintenance.

2N IP One can be interconnected with the following modules:

- [Security Relay \(p. 24\)](#)

Module Specifications

Security Relay

The Security Relay (9159010, 01386-001) is used for enhancing security between **2N IP One** and the connected electric lock. The Security Relay significantly enhances security of the connected electric lock by preventing unlocking due to device tampering.

**TIP**

FAQ: [2N Security Relay – description of the device and use with the 2N intercoms](#)

Specification

Passive switch NO/NC contact, up to 30 V / 1 A AC/DC

Switched out-put

- Where the Security Relay is fed from the device, 8 to 12 V DC is available on the output depending on the power supply, 400 mA DC.
- PoE: 10 V
- adapter: source voltage of minus 2 V
- Where the Security Relay is fed from an external power supply, 12 V / 700 mA DC is available on the output.

Dimensions 66.5 × 32.5 × 20.5 mm

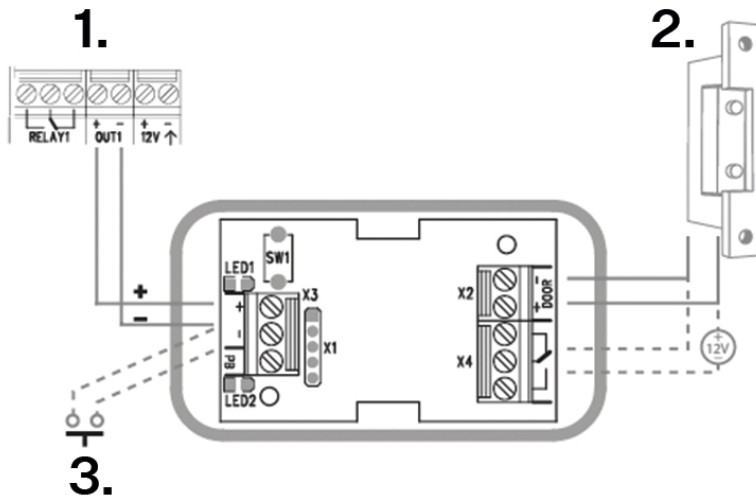
Weight 24 g

Connectors and Installation

The Security Relay is installed between the device (outside the secured area) and the electric lock (inside the secured area). The Security Relay includes a relay that can only be activated if a valid access card/code is detected on the unit.

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

The Security Relay is designed with holes for surface anchoring. It is recommended that a screw of the diameter of 3 mm with a lens head of the diameter of 6 mm is used. Using a countersunk head may cause irreversible damage to the plastic cover!



1. **2N IP One**
2. Door lock
3. Departure button

Connect the Security Relay to the access unit as follows:

- To the Active output

Connect the electric lock to the Security Relay as follows:

- to the switched output
- to the passive output in series with the external power supply

The Security Relay also supports the Departure button connected to the 'PB' and '- 2N IP intercom' terminals. Once the Departure button is pressed, the output is activated for 5 seconds.

<https://www.youtube.com/embed/ardukvQzw5A>

Status Signaling

Green LED	Red LED	State
flashing	off	Operational mode
on	off	Activated output
flashing	flashing	Programming mode – waiting for initialization
on	flashing	Error – wrong code

Configuration

1. Connect the Security Relay to the properly set Security output of the device. Refer to the Configuration Manual for details. Make sure that one LED at least is on or flashing.
2. Press and hold the Relay RESET button for 5 seconds to switch the device in the programming mode (red and green LEDs flashing).

3. Activate the output switch using the keypad, telephone, etc. The first code sent from the device will be stored in the memory and considered valid. After code initialization, the Security Relay will pass into the operational mode (green LED flashing).



CAUTION

Having reset the factory defaults on a device with firmware 2.18 or higher, remember to reprogram Security Relay using the instructions above.

Installation Completion

Check the connection of all the wires in the board connector.



WARNING

- Make sure that all the terminals of the unused connectors are properly tightened to avoid vibrations caused by sound.
- An incorrectly made installation may compromise the device waterproofness. Water infiltration may damage the electronic part.
- Make sure that all the 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 an uneven wall. Thus, you prevent water leakage and wall damping.

Brief Guidelines

IP Address Retrieval

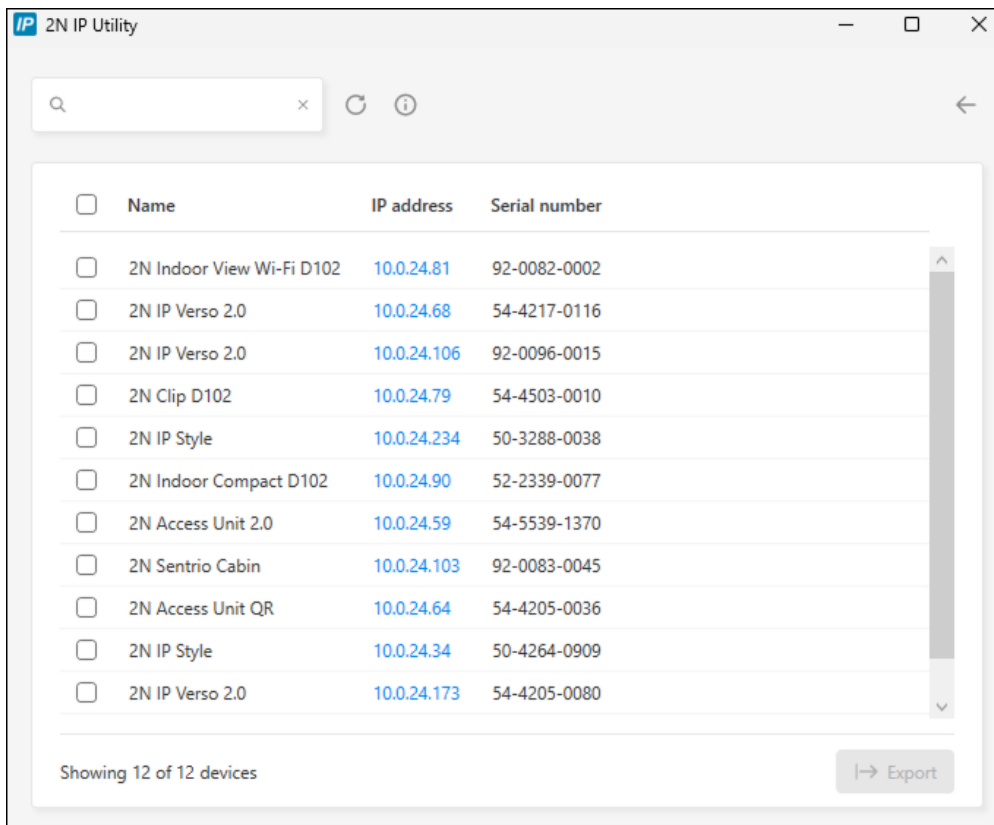
To retrieve the device IP address, take the following steps:

- Use the freely accessible 2N IP Utility.
- Use hardware (CONTROL button).
- Use the Speed Dial button.

IP Address Retrieval Using 2N IP Utility

The 2N IP Utility application helps find the 2N device IP address in the LAN. Download 2N IP Utility from the [2N.com](https://www.2n.com) website. Make sure that Microsoft .NET Framework 4.7.2 is installed for successful app installation.

1. Run the 2N IP Utility installer.
2. The Installation Wizard will help you with the installation.
3. Having installed 2N IP Utility, start the application using the Microsoft Windows Start menu. Once started, the application begins to automatically search the LAN for all the 2N and AXIS devices which have been DHCP/statically assigned IP addresses. These devices are then shown in a table.



4. Select the device to be configured and left-click it. This opens the right-hand part of the web configuration interface window.



TIP

- Access to the web configuration interface is also possible via the **Open in external browser** button, which opens the interface in a separate browser window.
- Click a device in the list to display detailed information. Click the **IP settings** button to change the IP address by entering the required static IP address or activating DHCP.
- The application also allows you to export selected devices into a CSV file. First select a device by ticking the boxes in the list, then use the **Export** button that appears at the bottom of the window. The exported file shall include the names, IP addresses and serial numbers of the selected devices.

The default login data are:

Username: **Admin**

Password: **2n**

It is necessary to change the password immediately upon the first login.




TIP

It is recommended that a password is used that is difficult to break. It is not recommended that names, places or things, especially those closely related to the user, are used in the password.

For increased password security, it is recommended that:

- the random password generator is used,
- the password length is 12 characters at least,
- various characters from different character sets are combined (small/capital letters, digits, special characters, etc.).

IP Address Retrieval with CONTROL Button

1. Connect the device to the power supply (if connected, disconnect and reconnect it).
2. Wait for the device to start up completely.
Backlight turning on indicates a complete start-up.
3. Press and hold the CONTROL button.
Gradually wait for the following signals:
 - a. one beep 
4. Release the CONTROL button.
5. The device announces the current IP address via the speaker automatically.



NOTE

Remember to press the CONTROL button within 30 seconds after the device starts up.

Release the button within 3 seconds after the appropriate tones are heard. If you release the button outside this time interval, the process will be interrupted and have to be repeated from the beginning.

IP Address Retrieval Using Speed Dial Button

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

1. Connect the device to the power supply (if connected, disconnect and reconnect it).
2. Press the Speed dial button 5 times on the main unit.
3. The device reads its IP address.



NOTE

- If the address is 0.0.0.0, it means that the device has not obtained the IP address from the DHCP server.
- Press the button sequence within 30 seconds after the sound signal for security reasons. Up to 2 s intervals are allowed between the presses.

Access to web device configuration

Configure **2N IP One** via a web configuration interface, which is accessible from a web browser.



You need to know the IP address or domain name of the device for access to the interface. Make sure that the device is connected to the local IP network and powered.

The web configuration interface can also be accessed from the connected My2N portal or the 2N Access Commander configuration tool.

Web Configuration Interface Login

1. Start your Internet browser.
2. Enter the device IP address or domain name (refer to Subs.[Finding devices in the network](#)).
3. If no certificate has been generated for the IP address, a security certificate invalidity notification may appear. In that case, confirm that you want to go to the web configuration interface.
4. The login screen is now displayed.
5. Enter the login data.
The default login data are:
 - Username: **Admin**
 - Password: **2n**
6. After the first login, change the password.

Access from 2N Access Commander

1. Log in to the Access Commander interface.
2. Go to the  Devices page.
3. For the selected device, press .

Password Change

You must change the default password to get full access to the web configuration interface features. You cannot configure the device without changing the default password.



TIP

It is recommended that a password is used that is difficult to break. It is not recommended that names, places or things, especially those closely related to the user, are used in the password.

For increased password security, it is recommended that:

- the random password generator is used,
- the password length is 12 characters at least,
- various characters from different character sets are combined (small/capital letters, digits, special characters, etc.).

Recommended browsers

The web configuration interface is optimized for the Chromium-based web browsers (Google Chrome, Microsoft Edge or Opera, e.g.). With other browsers, there may be slight differences in the interface function and appearance.

Firmware Update

New firmware versions are available on the update server. If the web configuration interface does not provide access to the public Internet, it is possible to upload the firmware file manually to the device.



NOTE

Firmware updates are not automatic. To ensure system integrity and eliminate unintentional failures, all updates must be manually confirmed or initiated by the user. Please check the release notes of the new version and verify compatibility with your existing infrastructure before performing any updates.

Getting Firmware from Update Server



CAUTION

In version 3.0.0, firmware updates from the update server are only available from the older version of the web interface.

- a. Click [Go to the old interface](#) in the web configuration interface header.

1. Go to **System > Maintenance > Firmware**.
2. Click [Check for Updates](#).
3. If an update is available, its release notes are loaded. To start the upgrade, click [Upgrade](#) in the window header.
4. Once the firmware is uploaded successfully, the device is restarted automatically. After the restart, the device becomes fully operational with a new firmware version. The FW upgrade does not affect configuration.

Uploading New Firmware from Storage

1. Go to **System > Maintenance > Firmware**.
2. Click **Upload Firmware**.
3. In the open dialog box, select a file from your own storage.
4. Click **Upload** to confirm the file upload.
The device checks the firmware file and prevents you from uploading an incorrect or corrupt file.
5. Once the firmware is uploaded successfully, the device is restarted automatically. After the restart, the device becomes fully operational with a new firmware version. The FW upgrade does not affect configuration.

Device Restart

To restart the device choose one of the following options:

- using power disconnection and reconnection
- via the web configuration interface.

The device restart does not result in any change in the configuration settings.

Restart Using Web Configuration Interface

1. Open the web configuration interface.
2. Go to **System > Maintenance**.
3. Press **Restart Device** in the page header.

Factory Default Reset

The factory settings can be restored

- via the web configuration interface.
- Use hardware (CONTROL button).



CAUTION





In case the factory default values are reset on the device with a firmware version 2.18 or higher, it is necessary to reprogram the 2N Security Relay using the instructions given in [Security Relay \(p. 24\)](#).

Factory Default Reset via Web Configuration Interface

Soft reset the device factory default values in **System > Maintenance** using Default Reset.

Factory Default Reset with CONTROL Button

1. Connect the device to the power supply (if connected, disconnect and reconnect it).
2. Wait for the device to start up completely.
Backlight turning on indicates a complete start-up.

3. Press and hold the CONTROL button.
Gradually wait for the following signals:
 - a. one beep 
 - b. two beeps after 3 seconds 
 - c. three beeps after 3 seconds 
 - d. four beeps after 3 seconds 
4. Release the CONTROL button.
5. The device reboots and starts up with the factory settings.

**NOTE**

Remember to press the CONTROL button within 30 seconds after the device starts up.

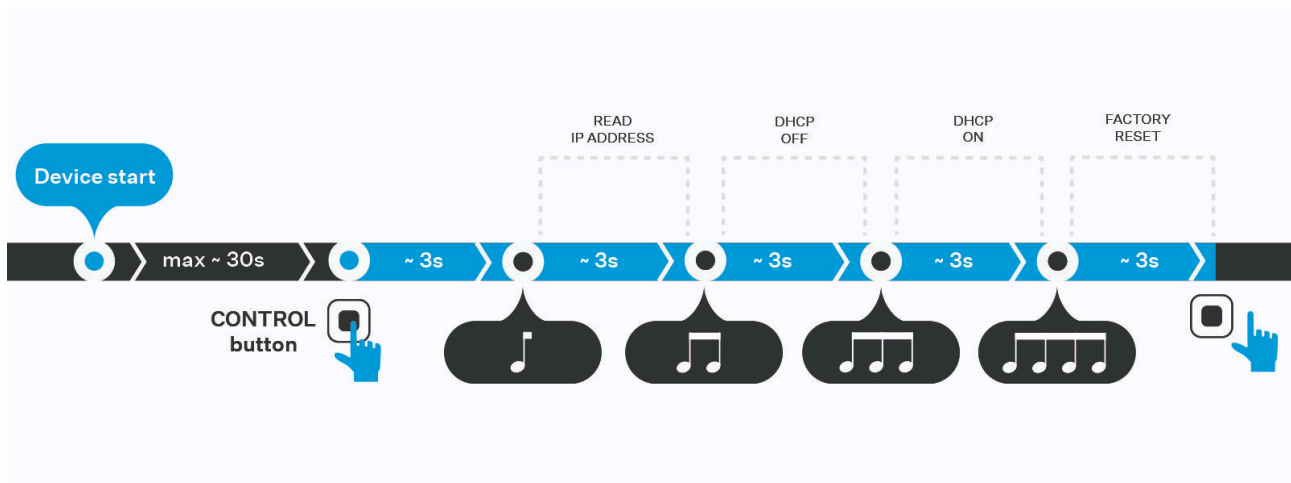
Release the button within 3 seconds after the appropriate tones are heard. If you release the button outside this time interval, the process will be interrupted and have to be repeated from the beginning.

Configuration via Hardware

Where software configuration is unavailable, make the basic settings using the hardware CONTROL button.

The CONTROL button allows you to retrieve the device IP address, switch the IP address retrieval mode or restore the factory settings.

Hardware Configuration Intervals



Once the device is started, you have 30 seconds to press and hold the button to trigger a sequence of sound signals (beeps). Each function is assigned to a certain number of beeps. Releasing the button within a given interval will perform the corresponding action. If you continue to hold the button after the fourth beep, the device will not execute any action and the process will be aborted.

IP Address Retrieval with CONTROL Button

1. Connect the device to the power supply (if connected, disconnect and reconnect it).
2. Wait for the device to start up completely.
Backlight turning on indicates a complete start-up.

3. Press and hold the CONTROL button.
Gradually wait for the following signals:
 - a. one beep 🎵
4. Release the CONTROL button.
5. The device announces the current IP address via the speaker automatically.



NOTE

Remember to press the CONTROL button within 30 seconds after the device starts up.

Release the button within 3 seconds after the appropriate tones are heard. If you release the button outside this time interval, the process will be interrupted and have to be repeated from the beginning.

Static IP Address Setting with CONTROL Button

1. Connect the device to the power supply (if connected, disconnect and reconnect it).
2. Wait for the device to start up completely.
Backlight turning on indicates a complete start-up.
3. Press and hold the CONTROL button.
Gradually wait for the following signals:
 - a. one beep 🎵
 - b. two beeps after 3 seconds 🎵🎵
4. Release the CONTROL button.
5. The following static network parameters are now set for the device:
 - IP address: 192.168.1.100
 - Network mask: 255.255.255.0
 - Default gateway: 192.168.1.1






NOTE

Remember to press the CONTROL button within 30 seconds after the device starts up.

Release the button within 3 seconds after the appropriate tones are heard. If you release the button outside this time interval, the process will be interrupted and have to be repeated from the beginning.

Dynamic IP Address Setting via CONTROL Button

1. Connect the device to the power supply (if connected, disconnect and reconnect it).
2. Wait for the device to start up completely.
Backlight turning on indicates a complete start-up.

3. Press and hold the CONTROL button.
Gradually wait for the following signals:
 - a. one beep 
 - b. two beeps after 3 seconds 
 - c. three beeps after 3 seconds 
4. Release the CONTROL button.
5. The device is now set to obtain an IP address from a DHCP server.







NOTE

Remember to press the CONTROL button within 30 seconds after the device starts up.

Release the button within 3 seconds after the appropriate tones are heard. If you release the button outside this time interval, the process will be interrupted and have to be repeated from the beginning.

Factory Default Reset with CONTROL Button

1. Connect the device to the power supply (if connected, disconnect and reconnect it).
2. Wait for the device to start up completely.
Backlight turning on indicates a complete start-up.
3. Press and hold the CONTROL button.
Gradually wait for the following signals:
 - a. one beep 
 - b. two beeps after 3 seconds 
 - c. three beeps after 3 seconds 
 - d. four beeps after 3 seconds 
4. Release the CONTROL button.
5. The device reboots and starts up with the factory settings.



NOTE

Remember to press the CONTROL button within 30 seconds after the device starts up.

Release the button within 3 seconds after the appropriate tones are heard. If you release the button outside this time interval, the process will be interrupted and have to be repeated from the beginning.

Device Static/Dynamic IP Address Switching with Speed Dial Button

Take the following steps to reset the network settings and switch the static IP address (DHCP OFF) / dynamic IP address (DHCP OFF) mode in the device network configuration:

1. Connect the device to the power supply (if connected, disconnect and reconnect it).

2. Press the Speed dial button 15 times on the main unit.



NOTE

After the static address mode is switched on, the basic network parameters are reset to the following default values:

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

Device Control

2N IP One is an intercom allowing you to:

- call other devices using a speed dial button
- receive and reject incoming calls
- activate/deactivate users or profiles using the 2N My2N mobile application

Troubleshooting

Refer to <https://www.2n.com/faqs> for the most frequently solved problems.

Technical Parameters

Power supply types

PoE IEEE PoE 802.3af (Class 0, max. 12,95 W) (Class 0, max. 12.95 W, 44–57 V DC, 400 mA)

External supply 12 V \pm 15 % / 2 A DC

Signaling protocol

SIP UDP, TCP, TLS

Audio

Microphone Electret

Amplifier 3 W RMS / 6 W (class D)

Speaker 3 W / 4 Ω

Sound pressure level (SPL max) 78 dB (for 1 kHz, distance 1 m)

Volume Control Adjustable with automatic adaptive mode

Full duplex Yes (AEC)

Audio power output 1.9 W

Audio stream

Protocols

- RTP
- RTSP

Technical Parameters

Audio stream

Codecs and Used Bandwidth	<ul style="list-style-type: none">• G.711 (PCMA, PCMU) – 64 kbps (with 85.6 kbps headers)• G.729 – 16 kbps (with 29.6 kbps headers)• G.722 – 64 (with 85.6 kbps headers)• L16/16kHz – 256 kbps (with 277.6 kbps headers)
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Camera

Sensor	1/2.7" color CMOS
JPEG resolution	Up to 1920 x 1440 (4:3); FHD (16:9)
Video resolution	1920 x 1440 (4:3); FHD (16:9)
Frame rate	30 fps
Sensor sensitivity	14000e-/lux-sec
Viewing angle	138° (H), 114° (V)
Infrared illumination	Yes
Focal length	1.935 mm

Video stream

Protocols	<ul style="list-style-type: none">• RTP• RTSP• SRTP• HTTP
ONVIF/RTSP streaming codecs	<ul style="list-style-type: none">• H.264• H.265• MJPEG

Technical Parameters

Video stream

IP Camera Function	Yes – compatible profiles: <ul style="list-style-type: none">• ONVIF v2.4 profile S
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Interface

LAN	10/100BASE-TX with Auto-MDIX, RJ-45
Recommended cabling	Cat-5e or higher
Passive switch (relay)	max. 20 V AC / 30 V DC, max. 1 A NO contact
Active switch output	12 V DC, up to 600 mA

Mechanical Parameters

Cover	Hardened glass
Body material	
Body material	<ul style="list-style-type: none">• Material – EN AC-46100• Surfacing – RAL 7021 (black version) / RAL 9023 (gray version) / Steel Bronze (bronze version)
Device dimensions	78 x 172 x 77 mm
Flush installation dimensions – overlapping part of the device	78 x 172 x 10 mm
Weight	355 g
Operating temperature	-30 °C to 60 °C
Relative humidity	10 to 95 % (non-condensing)

Technical Parameters

Mechanical Parameters

Storing temperature	-30 °C to 70 °C
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Protection class	IP66
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Resistance level	IK08
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General Instructions and Cautions

Please read this User Manual carefully before using the product and follow the instructions and recommendations included therein.

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.

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 unfavorable 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, procure software protection of the product. The manufacturer shall not be held liable for any damage incurred as a result of the use of deficient 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 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 to increased tariff lines.

Directives, Laws and Regulations

2N IP One conforms to the following directives and regulations:

EU

- 2012/19/EU on waste electrical and electronic equipment


- 2014/30/EU for electromagnetic compatibility
- 2014/53/EU for radio equipment
- 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment

Industry Canada


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

Legislation of Thailand

เครื่องโทรคมนาคมและอุปกรณ์นี้
มีความสอดคล้องตามมาตรฐานหรือขอ
กำหนดทางเทคนิคของ กสทช.


nabp.

เครื่องวิทยุคมนาคมนี้ ได้รับยกเว้น ไม่ต้องได้
รับใบอนุญาตให้มี ใช้ซึ่งเครื่องวิทยุคมนาคม
หรือตั้งสถานีวิทยุคมนาคมตามประกาศ กสทช.
เรื่อง เครื่องวิทยุคมนาคม และสถานีวิทยุ
คมนาคมที่ได้รับยกเว้นไม่ต้องได้รับใบอนุญาต
วิทยุคมนาคมตามพระราชบัญญัติวิทยุคมนาคม
พ.ศ. 2498



nabp. | โทรคมนาคม
กำกับดูแลเพื่อประชาชน
Call Center 1200 (InswS)

Legislation of Japan

本製品は、特定無線設備の技術基準適合証明を受けています。

本製品は、シールドネットワークケーブル(STP)を使用して接続してください。また適切に接地してください。

本製品は電気通信事業者(移動通信会社、固定通信会社、インターネットプロバイダ等)の通信回線(公衆無線LANを含む)に直接接続することができません。本製品をインターネットに接続する場合は、必ずルータ等を経由し接続してください。

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 household 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.

General Instructions and Cautions

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



2N IP One – Installation Manual

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