



2N IP Solo

Installation Manual

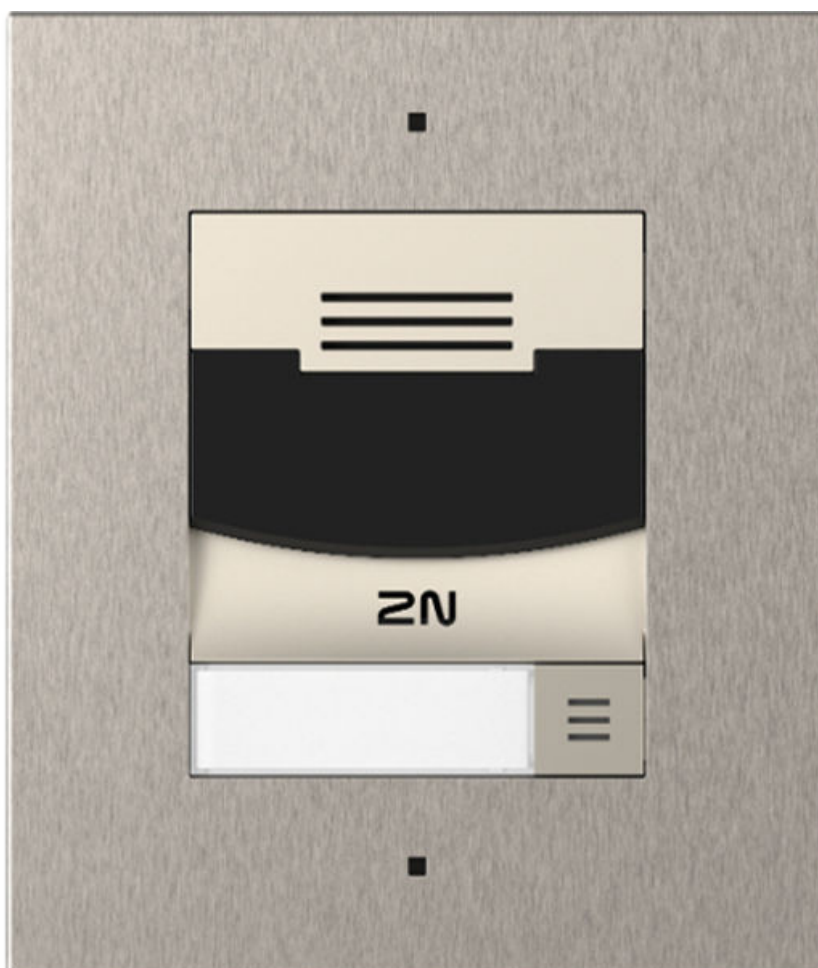


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Symbols and Terms Used

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 Solo** product, outline its application options and highlight the advantages following from its use.

Basic Features

2N IP Solo is an elegant and reliable IP intercom equipped with HD camera. Thanks to SIP support and compatibility with major IP PBX and phone manufacturers, it can benefit from using VoIP networks.

The device can be used as a door or special purpose intercom for office buildings, residential areas and/or other applications.

The main advantages of this device are:

Wide Angle Camera with HD Resolution – the calling persons can be displayed to the called user on the 2N answering units, the user phone or PC. The camera is elegantly hidden behind darkened glass, so it is not visible. The device is also equipped with a night vision system, which automatically selects the night/day mode according to the ambient light.

Quick Dial Button – set up to three phone numbers and call time profiles for the button, ensuring that the called party is always reached. The button is backlit and has a mechanical lift and a metal illuminated touchpoint. The name tag surface is resistant to mechanical damage.

Electric Lock Switch – this switch can be controlled via a PC application or any phone during a call. A wide range of switch settings allows for a variety of applications.

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 Configuration – use a PC equipped with any Internet browser for configuration. Extensive installations can be easily managed in bulk using 2N Access Commander.

Other advantages of the device

- elegant design,
- weather resistance,
- variable mounting options (brick/plasterboard flush mounting, surface mounting),
- sensitive microphone and speakerphone,
- bidirectional communication – acoustic echo cancellation,
- integrated color HD camera with a wide-angle lens and night vision,
- integrated electronic lock switches with wide setting options,
- LAN (PoE) or external 12 V power supply
- configuration via **2N Access Commander** web interface,
- SIP 2.0 support
- up to 1 999 phone book positions,
- up to 20 user time profiles,
- video codecs (H.263, H.263+, H.264, MPEG-4, MJPEG),
- audio codecs (G.711, G.722, G.729, L16/16 kHz),
- HTTPS server for configuration,
- SNTP client for server time synchronization,

Product Description

- SMTP client for e-mail sending,
- RTSP server for video streaming,
- TFTP/HTTP client for automated configuration update.

Product Versions



Part No. 9155301CF

Axis Part No. 01300-001

2N IP Solo with Camera – Flush Mounted



Part No. 9155301CBF

Axis Part No. 01303-001

2N IP Solo with Camera – Flush Mounted, Black



Part No. 9155301CS

Axis Part No. 01301-001

2N IP Solo with Camera – Surface Mounted



Part No. 9155301CBS

Axis Part No. 01302-001

2N IP Solo with Camera – Surface Mounted, Black



Part No. 9155301F

Axis Part No. 02205-001

2N IP Solo without Camera — Flush Mounted

Product Description



Part No. 9155301BF

Axis Part No. 02204-001

2N IP Solo without Camera – Flush Mounted, Black



Part No. – 9155301S

Axis Part No. 02203-001

2N IP Solo without Camera — Surface Mounted



Part No. 9155301BS

Axis Part No. 02202-001

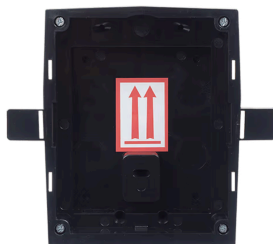
2N IP Solo without Camera — Surface Mounted, Black

Accessories

Accessories for Installation

2N IP Solo is designed for both outdoor and indoor applications and requires no additional roof.

Choose the proper accessories for your particular installation needs.



Part No. 9155017

Axis Part No. 01304-001

Module – Flush mounting box

Product Description



Part No. 9155068

Axis Part No. 01305-001

Module – Mounting backplate for uneven surfaces



Part No. 9155071

Axis Part No. 02077-001

Module - Wedge backplate with a 25° incline



Part No. 9155074

Axis Part No. 02078-001

Module – Glass mount backplate

For installations on glass, it is necessary to use a backplate for uneven surfaces (9155068/01305-001).

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.

Power Supply



Part No. 91378100E (with EU cable)

Part No. 91378100US (with US cable)

Axis Part No. 01403-001

One-port PoE injector

For intercom supply via Ethernet cable where the PoE switch is absent.



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.

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

Product Description



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.



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. 9134173

Axis Part No. 01384-001

MIFARE RFID chip card, 13.56 Hz

RFID chip card, MIFARE Classic 1k, 13.56 MHz.

Product Description



Part No. 9134174

Axis Part No. 01385-001

MIFARE RFID chip fob, 13.56 MHz

RFID chip fob, MIFARE Classic 1k, 13.56 MHz.



Part No. 9134165E

Axis Part No. 01395-001

EM RFID chip card, 125 Hz

RFID chip card, type EM4100, 125 kHz.



Part No. 9134166E

Axis Part No. 01396-001

EM RFID chip fob, 125 kHz

RFID chip fob, type EM4100, 125 kHz.



Part No. 11202601

Axis Part No. 02787-001

MIFARE DESFire RFID chip card, 13.56 MHz

RFID chip fob, type MIFARE DESFire EV3 4 K, 13.56 MHz (ISO/IEC14443A).

Suitable for data encryption in PICard Commander.

The package includes 10 pieces.



Part No. 11202602

Axis Part No. 02788-001

MIFARE DESFire RFID fob, 13.56 MHz

RFID fob, type MIFARE DESFire EV3 4 K, 13.56 MHz (ISO/IEC14443A).

Suitable for data encryption in PICard Commander.

The package includes 10 pieces.

Part No. 9137420E



Axis Part No. 01399-001

External RFID reader, 125 kHz

External RFID card reader connectable to a PC via a USB interface.

Suitable for system administration and adding of EM41xx cards (125 kHz) using the device web configuration or PICard Commander.

Part No. 9137421E



Axis Part No. 01399-001

External RFID reader, 13.56 MHz + 125 kHz, NFC/HCE

External RFID card reader connectable to a PC via a USB interface.

Suitable for system administration and adding of 13.56 MHz/125 kHz cards and Android devices with NFC/HCE support using the device web configuration or theAccess Commander.

Suitable for uploading of MIFARE DESFire cards into the PICard Commander encryption application.

The following RFID cards can be read:

Supported RFID cards 125 kHz:

- EM4x02
- NXP HiTag2

Supported RFID cards 13.56 MHz:

- **ISO14443A** (MIFARE Classic, MIFARE Plus, MIFARE Mini, MIFARE Ultralight, MIFARE DESFire CSN only)
- **PicoPass** (HID iClass CSN, Picopass)
- **FeliCa** (Standard, Lite)
- **ST SR** (SR, SRI, SRIX)
- **My2N**
- **2N PICard**

The device can also read the 13.56 MHz 2N PICard RFID cards.

Product Description

Part No. 9137424E



Axis Part No. 01527-001

External secured RFID reader, 13.56 MHz + 125 kHz, NFC/HCE

External secured RFID card reader connectable to a PC via a USB interface.

Suitable for system administration and adding of 13.56 MHz/125 kHz cards and Android devices with NFC/HCE support using the device web configuration or the Access Commander.

Suitable for uploading of MIFARE DESFire cards into the PICard Commander encryption application.

The following RFID cards can be read:

Supported RFID cards 125 kHz:

- EM4x02
- HID Prox

Supported RFID cards 13.56 MHz:

- **ISO14443A** (MIFARE Classic, MIFARE Plus, MIFARE Mini, MIFARE Ultralight, MIFARE DESFire CSN only)
- **PicoPass** (HID iClass CSN, Picopass)
- **FeliCa** (Standard, Lite)
- **ST SR** (SR, SRI, SRIX)
- **HID PAC** (HID SEOS, HID iClass SE, iClass SR, HID MIFARE DESFire with SIO, HID MIFARE Classic with SIO)
- **My2N**
- **2N PICard**

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. 9137411E



Axis Part No. 01398-001

External IP relay, 4 outputs, PoE

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

Product Description

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.

Package Completeness Check

Please check the product delivery before installation. Contents:

1x **2N IP Solo**

1x Certificate of ownership

1x Brief Manual

1x Installation Manual

1x Hex key

1x Frame (in matching color)

1x Transparent name plate foil

2x Frame fitting

2x tactile sticker

Additional package contents for surface mounting:

3x 4 x 50 mm screw

Product Description

3x 8 x 40 mm dowel

Additional package contents for flush mounting:

4x 4 x 20 mm screw

Installation

Mechanical Installation

Installation Conditions

Make sure that the following 2N IP Solo 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 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).
- Having removed the front panel, make sure that no dirt gets inside the product, especially onto the sealing surface.
- 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 \(p. 50\)](#).
- 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.

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.

Flush Mounting

While flush mounting, make sure that the box is installed properly, i.e. with the box edge on the wall surface. There are stops on the box sides to secure a proper position. Remember to break them off after walling in. Make sure that the frame is placed precisely on the box without touching the wall to make the sealing fully functional. It is recommended that some universal/sanitary silicone, which is inert to the surface and UV and water resistant, is used to prevent water from penetrating into the device. Refer to the detailed pictorial instructions inside the package.



WARNING



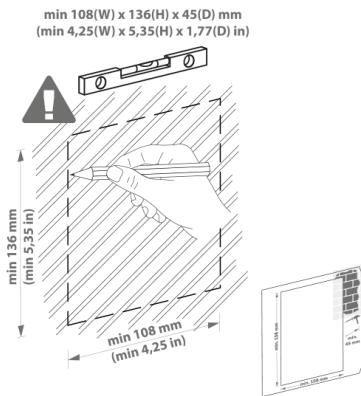
Make sure that the main unit is not removed from its base, that is why never remove the marked screw covered in resin in the right-hand upper corner. Any screw tampering results in the warranty becoming null and void.

The grounding element in the left-hand upper corner of the unit must remain undamaged and stuck all the time.

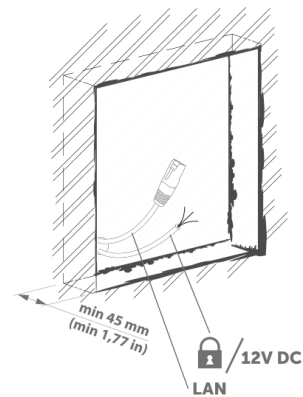


It is forbidden to use silicone or any other sealing material on the marked and hatched places.

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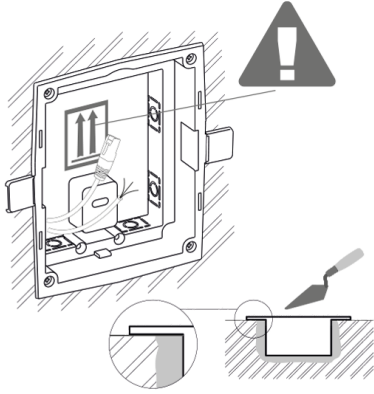


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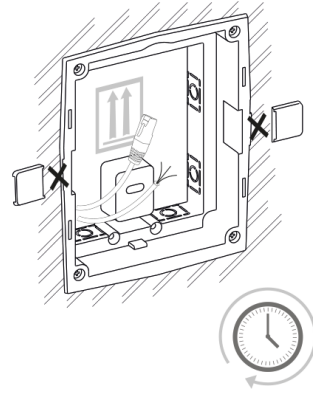


Installation

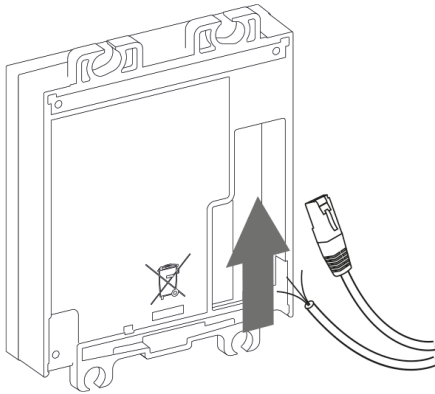
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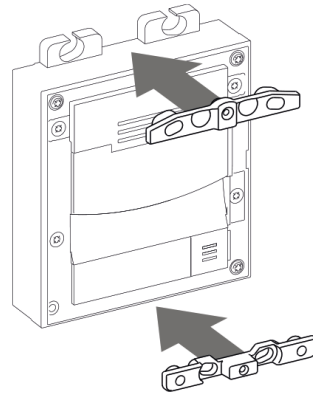
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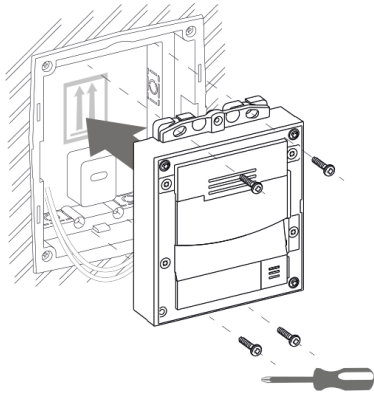
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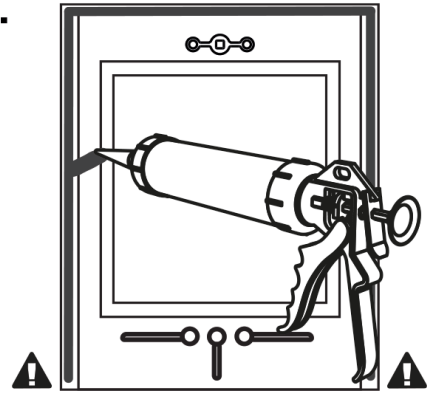
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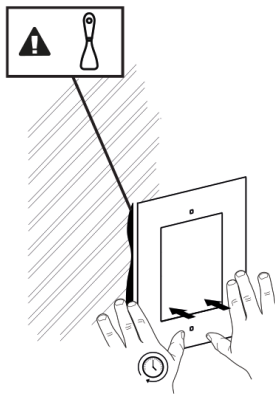
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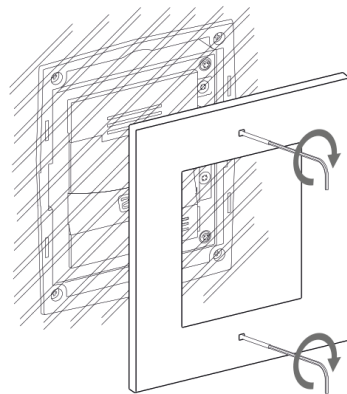
8a.



8b.



9.



Surface Installation

Make sure that the installation surface is flat with a maximum inequality of 0.5 mm. (e.g. prefabricated boards, glass, cut stone, etc.). If the installation surface is not even, use the flush mounting type or equalize the wall surface with a backplate (9155061/9155062/9155068, 01293-001/01294-001/01305-001) or make the wall surface perfectly flat.



DANGER

Eliminate the risk of personal injury! Surface installation 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!

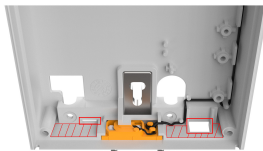


WARNING



Make sure that the main unit is not removed from its base, that is why never remove the marked screw covered in resin in the right-hand upper corner. Any screw tampering results in the warranty becoming null and void.

The grounding element in the left-hand upper corner of the unit must remain undamaged and stuck all the time.



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



CAUTION

Be sure to insert plugs into unused bushing holes to avoid water leakage during facade cleaning, for example. Never leave the holes open for even a short time (one day delay between mounting and cable connection, e.g.).

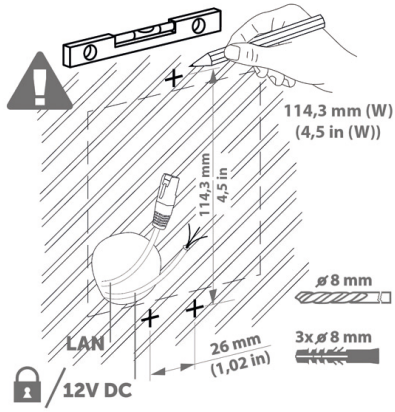


TIP

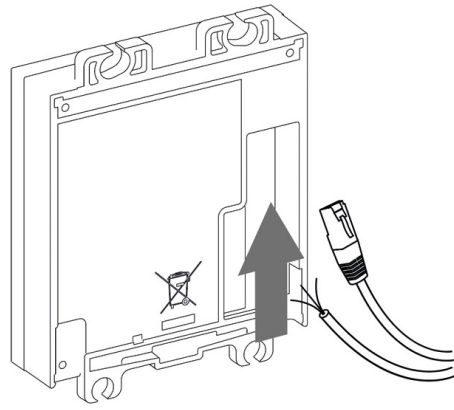
If the device is installed in locations with an increased risk of damage (e.g., in public garages or in areas prone to vandalism), replace the supplied dowels and screws with steel anchoring elements.

Installation

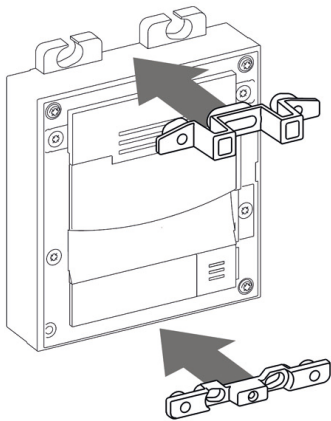
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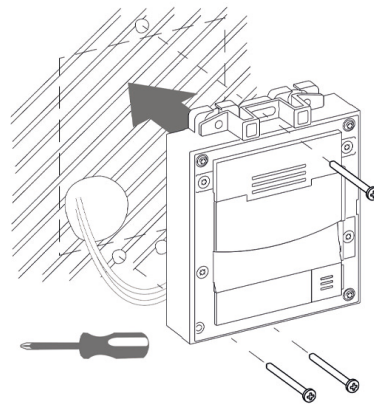
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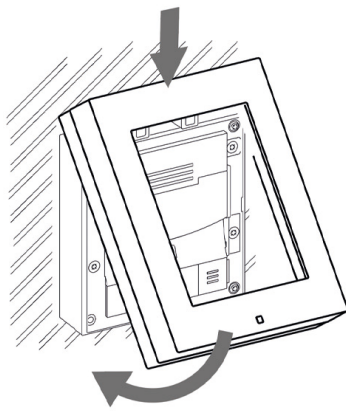
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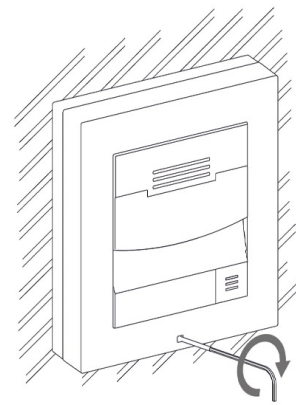
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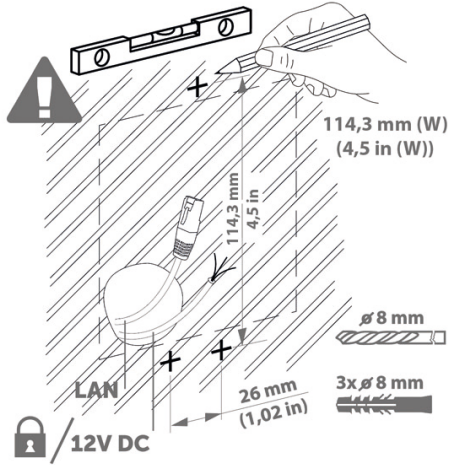


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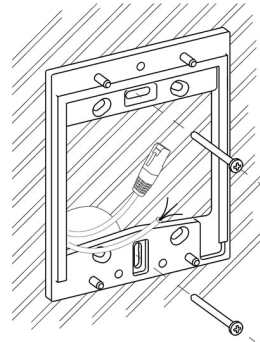


Installation on Mounting Backplate

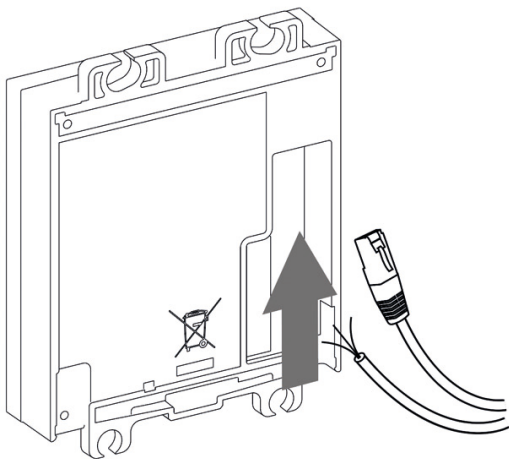
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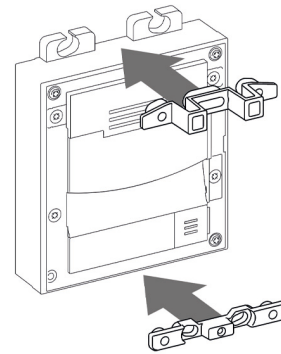
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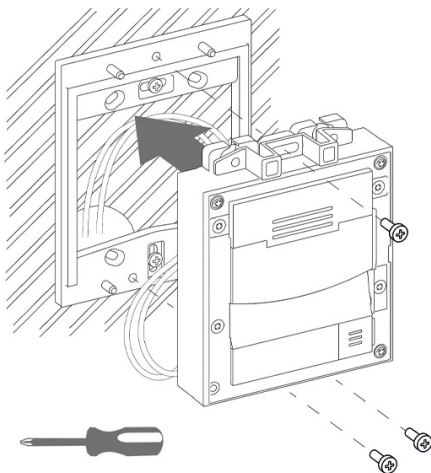
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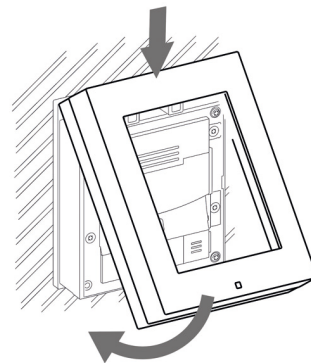
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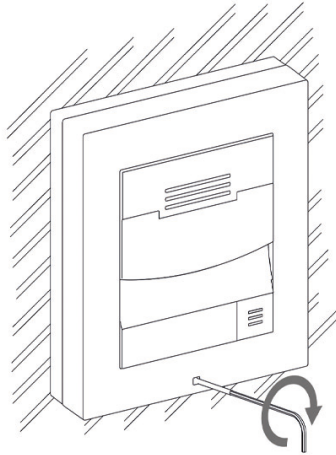
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7.



Installation on Glass

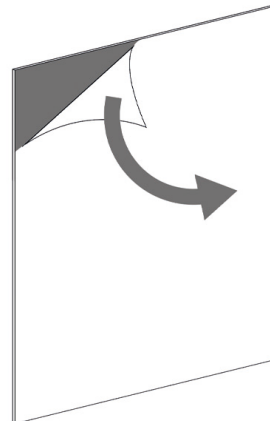
For installation you need:

- glass mount backplate (9155074, 02078-001)
- installation backplate for uneven surfaces (9155068, 01305-001)

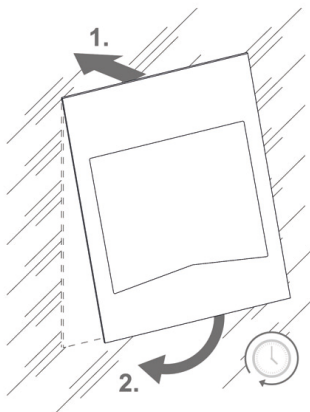
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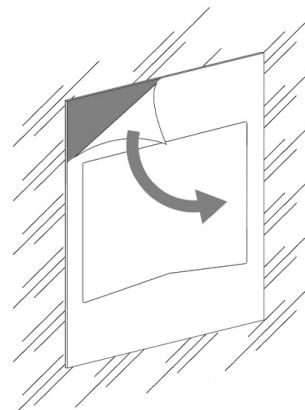
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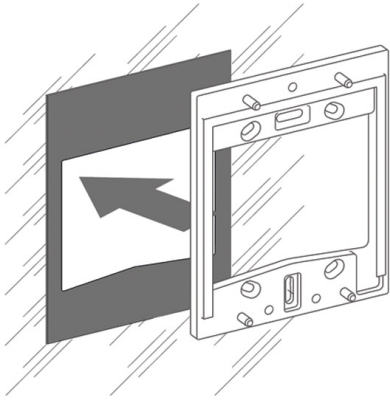
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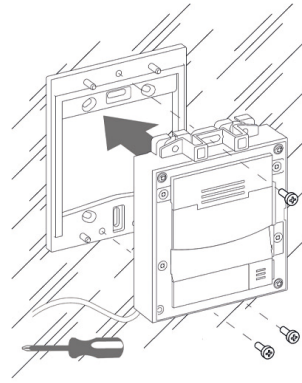
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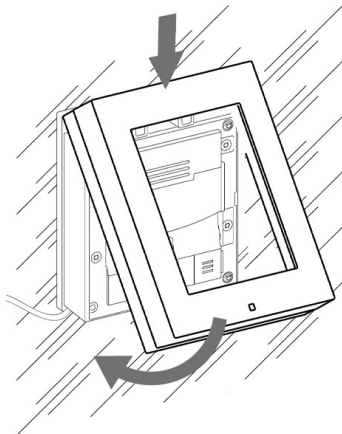
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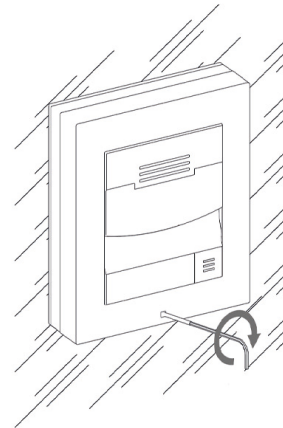
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7.



8.



Electric Installation

Power Supply

2N IP Solo can be fed either directly from the LAN if equipped with PoE 802.3af 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.



WARNING

2N IP Solo cannot be fed from an external power supply and PoE at the same time. A combined supply might result in a device damage.

PoE Supply

2N IP Solo is compatible with the PoE 802.3af 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 Solo** and the nearest network element.

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.

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

Main unit	Max consumption mA (from 12V supply)	Max consumption W (from 12V supply)
At relax	200	2,4
Infrared illumination ^a .	158	1,9
LED – call	7	0,08
LED – ringing	5	0,06
LED – lock	4	0,048
LED – enabled entry	5	0,06
Button backlight	4	0,048
Name tag backlight	4	0,048
Unit backlight	14	0,168
Relay 1	16	0,2
OUTPUT 1	800	7,2

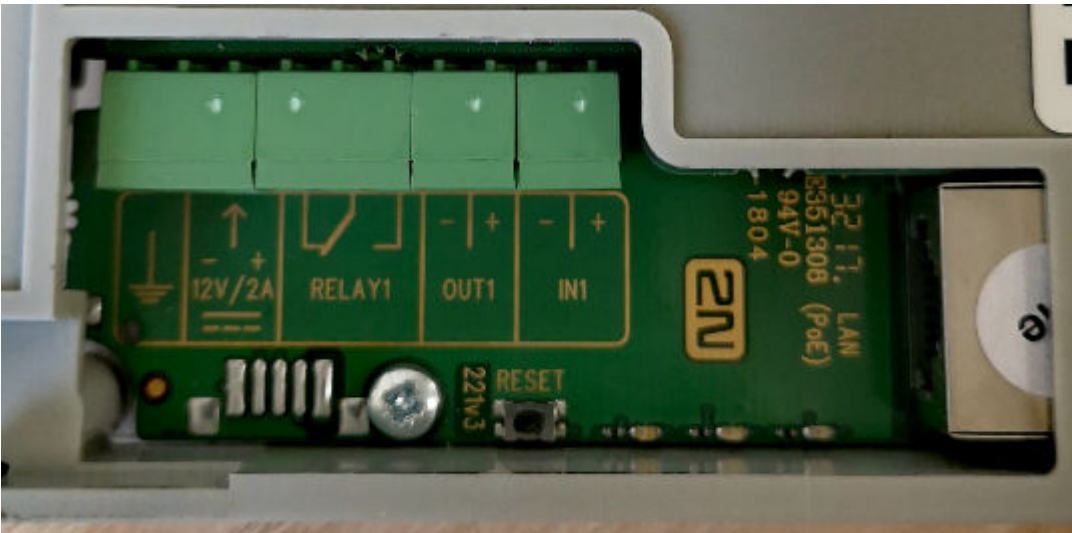
Main unit	Max consumption mA (from 12V supply)	Max consumption W (from 12V supply)
Audio ^b .	213	2.556
Total (with / without camera)	1 230 / 1072 [A]	14.768 / 12.864 [W]

^a Only available in the camera version

^b output power: 2 W / 4 Ω

Device Connectors

Main unit connector wiring



GROUND symbol

Grounding terminal



CAUTION

We recommend that a grounding cable of the cross-section of 1.5 mm² is used.

LAN (PoE)

LAN connector (PoE 802.3af)

IN1

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

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

OUT1 OUT1 terminals of active input for [Security Relay \(p. 30\)](#) or electric lock connection: 8 up to 12 V DC depending on power supply (PoE: 10 V; adapter: source voltage minus 2 V), up to 600 mA

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

RELAY1 RELAY1 terminals with accessible 30 V / 1 A AC/DC NO contact.

RESET Factory Reset button

Available switches

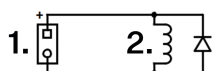
Location	Name	Description
Main unit	RELAY1	<p>Passive switch:</p> <ul style="list-style-type: none"> • switching and expandable contact • max. 30 V / 1 A AC/DC • only used to connect non-critical devices (e.g. lights)
	OUT1	<p>Active switch output:</p> <ul style="list-style-type: none"> • 8 – 12 V DC depending on the power supply, max. 600 mA • PoE: 10V DC • adapter: source voltage -2 V • 10 to 12 V DC, max. 600 mA

Multiple modules marked with an asterisk (*) can be used.



DANGER

If a coil containing device is connected, e.g. relays/electromagnetic locks, it is necessary to protect the device output against voltage peak while switching off the induction load. For this way of protection we recommend a 1 A / 1000 V diode (e.g., 1N4007, 1N5407, 1N5408) connected antiparallel to the device.



1. Terminals
2. Coil. e.g. relay or electromagnetic lock



WARNING

The 12V output is used for lock connection. If the device is installed in a location where there is a danger of unauthorized access (building front, e.g.), we strongly recommend the use of the 2N Security Relay (9159010, 01386-001) to ensure the maximum installation security.

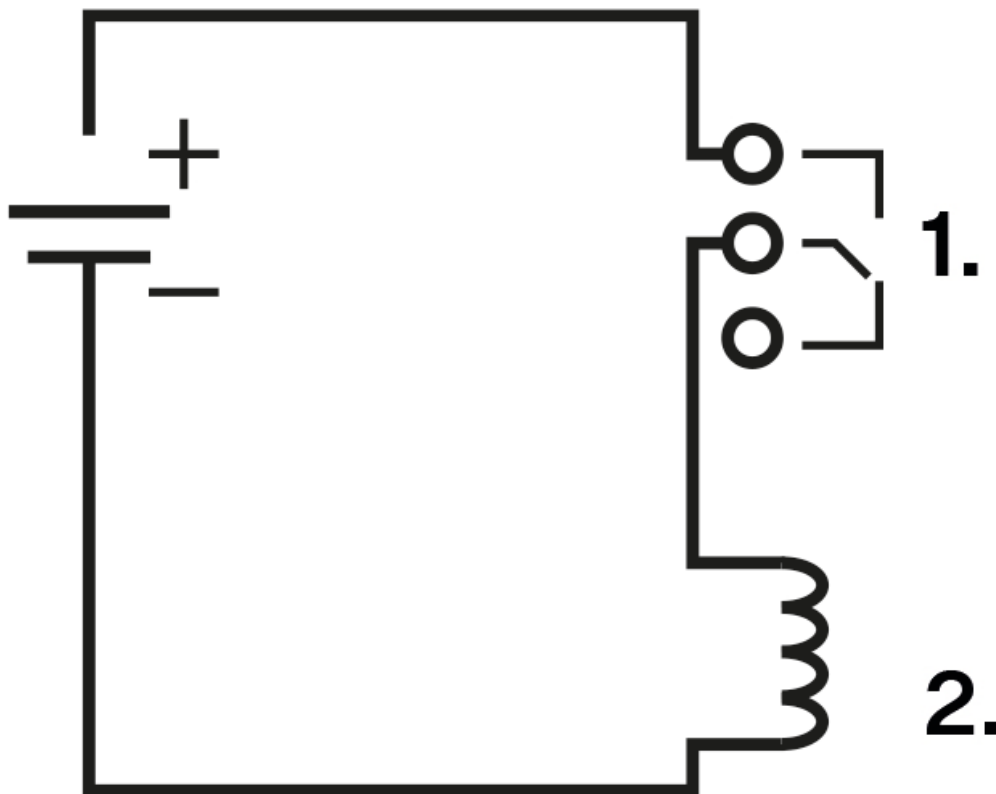
Relay Terminal Wiring Diagrams

It is possible to connect a device to the **2N IP Solo** relay terminals to be controlled by this relay, e.g. an electric/electromechanical door lock.

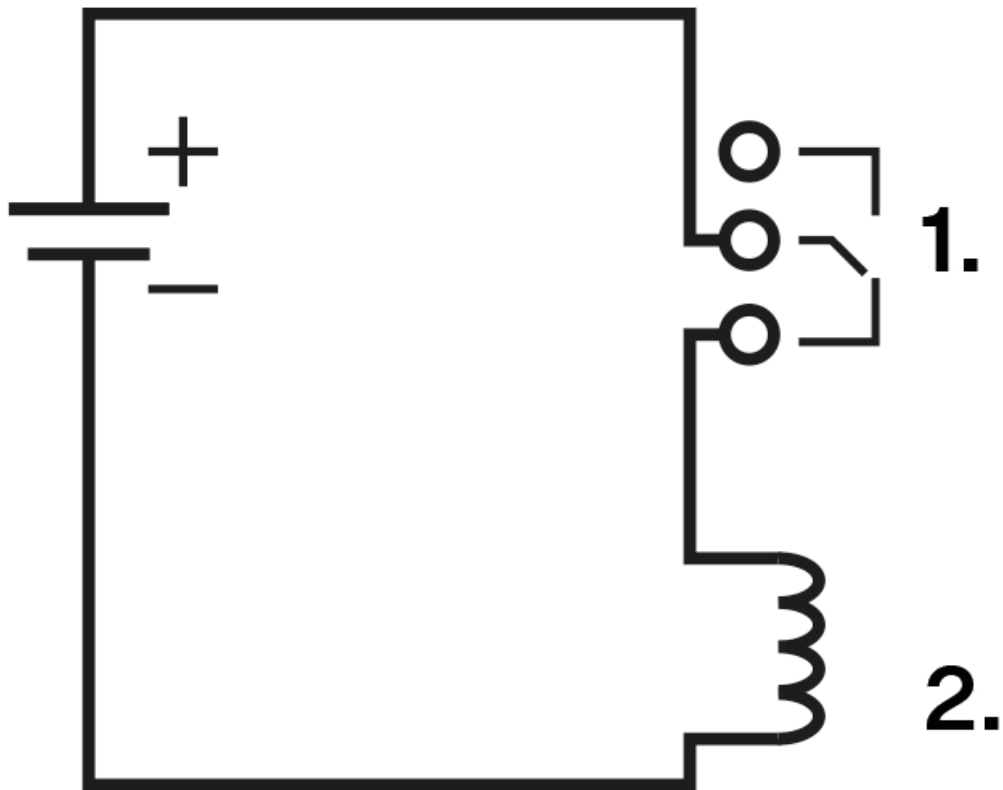
The elements are designated as follows in the diagrams below:

- 1. Device relay
- 2. Controlled device

Wiring diagram for closing the electric circuit of the controlled device



Wiring diagram for opening the electric circuit of the controlled device

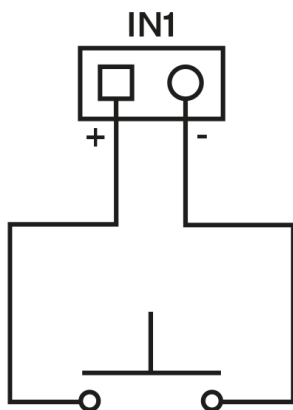


Connection of IN1 inputs (or IN2)

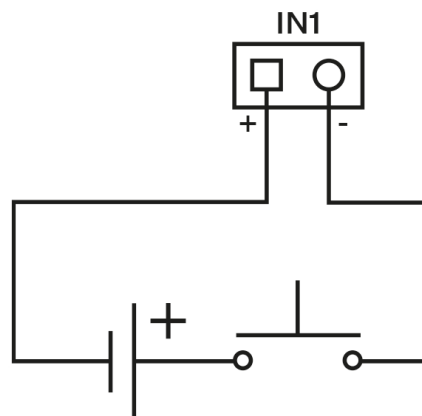
It is possible to connect an external button, e.g. a departure button or door open sensor, to the IN1 or IN2 terminals of device **2N IP Solo**.

The following wiring diagrams apply both to IN1 and IN2.

Wiring diagram of IN1 terminals in active mode



Wiring diagram of IN1 terminals in passive mode



LAN Connection

2N IP Solo 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. 32).
- We recommend the use of a shielded SSTP Ethernet cable.



TIP

Remove the protective connector cover to facilitate the threading of the SSTP cable RJ terminal into the device box.

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 Solo can be interconnected with the following modules:

- [Security Relay \(p. 30\)](#)

Module Specifications

Security Relay

The Security Relay (9159010, 01386-001) is used for enhancing security between **2N IP Solo** 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 output	<ul style="list-style-type: none"> • 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. <ul style="list-style-type: none"> • 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
------------	-----------------------

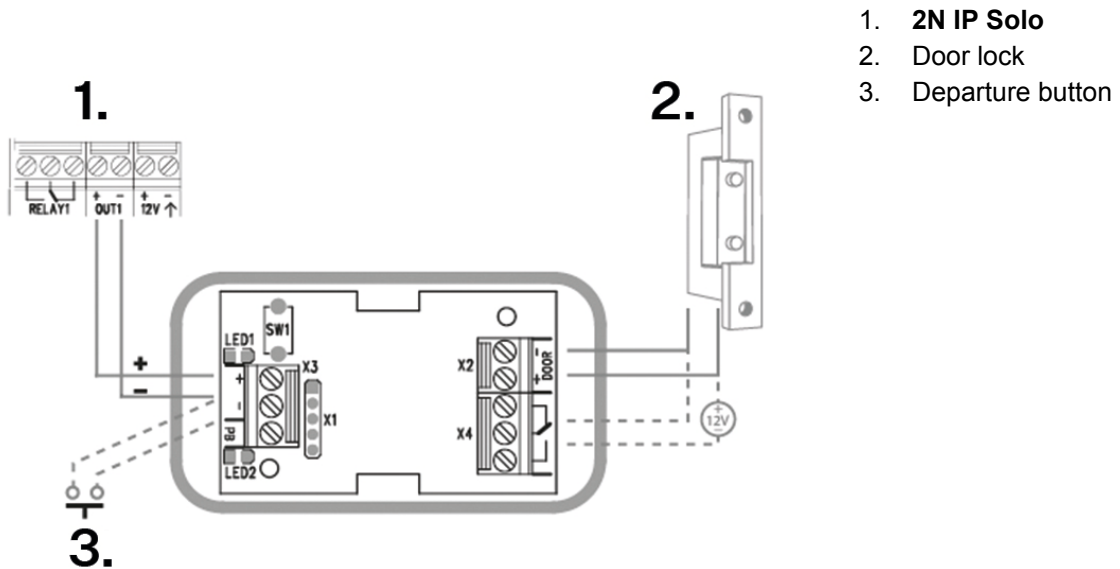
Weight	24 g
--------	------

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!



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.

Overvoltage Protection

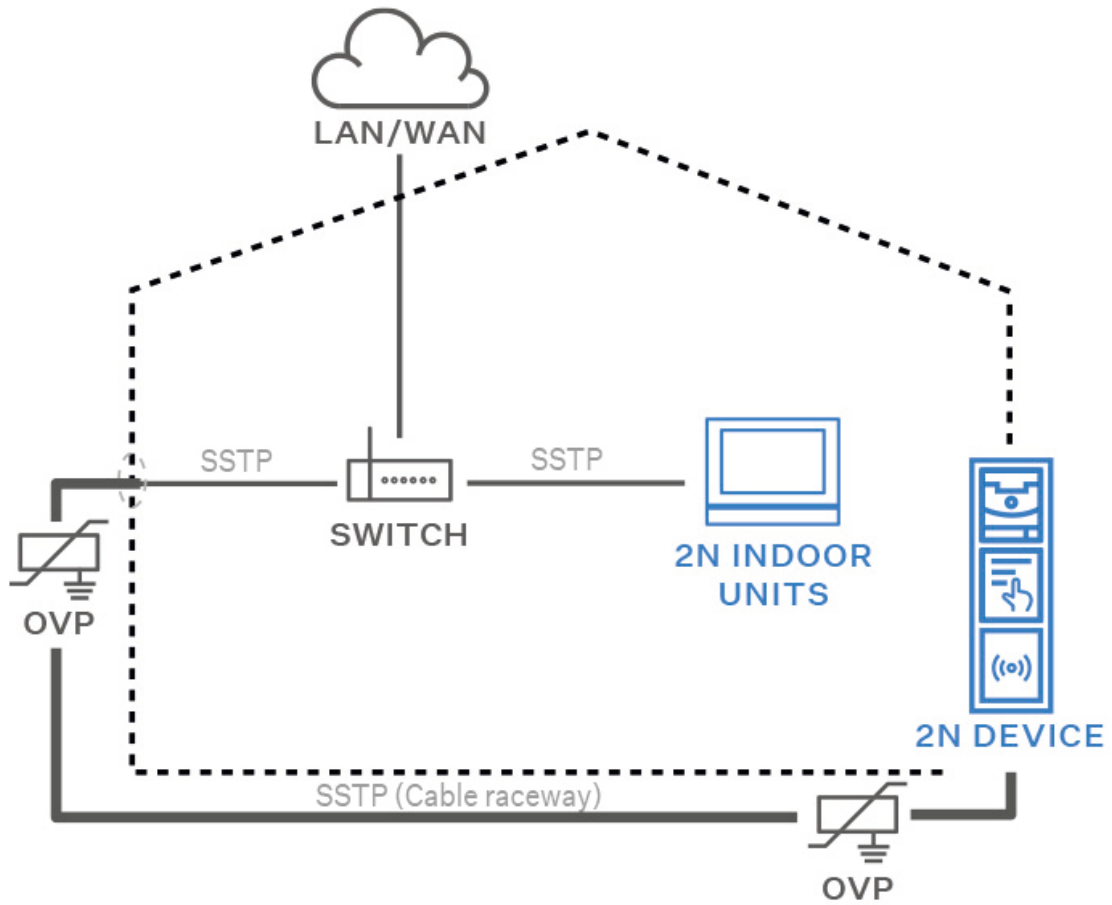
The 2N device cables have to be protected against atmospheric overvoltage caused by external causes (lightning, e.g.). A surge can damage a device installed outside/inside the building if the wires are unprotected.

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:

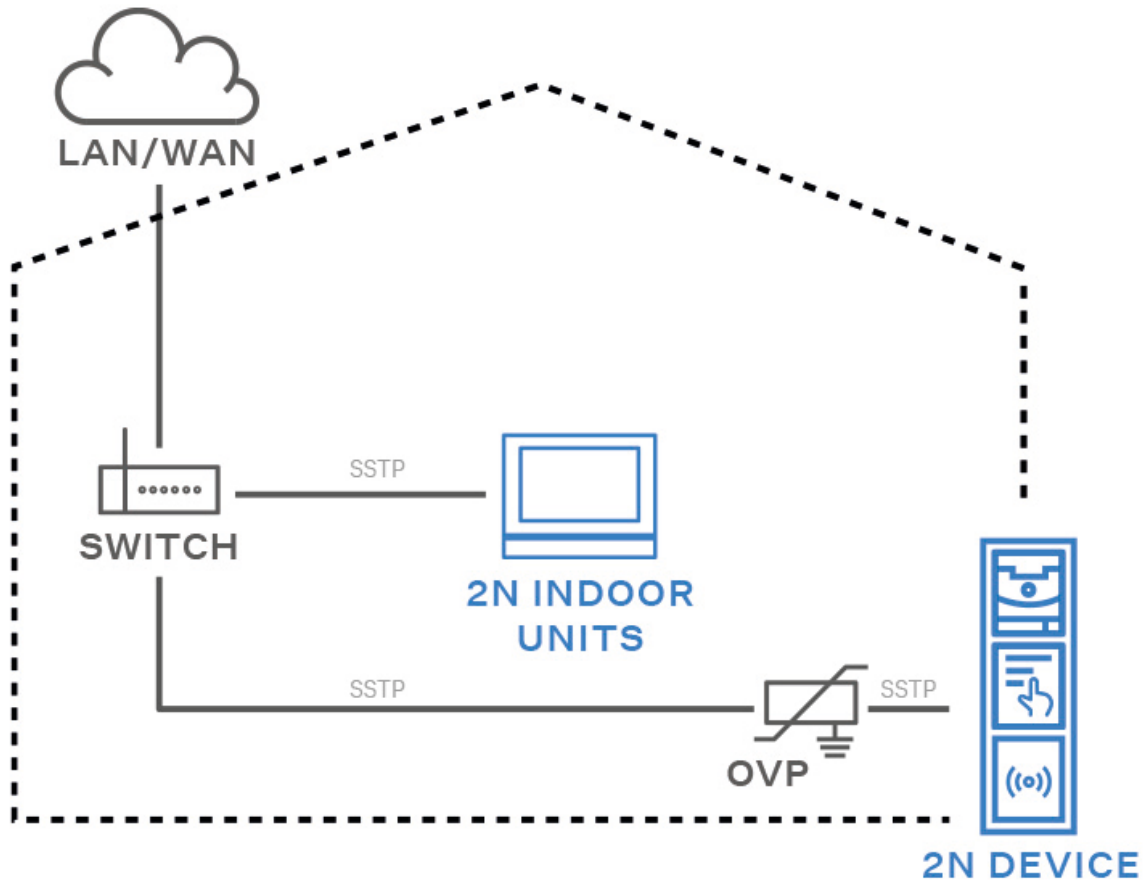
- Make sure that the overvoltage protector is installed as close as possible to the device installed outside the building.
- Make sure that the overvoltage protector is installed as close as possible to the device installed on an external part of the building.
- Make sure that the overvoltage protector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

Examples of Overvoltage Protection Installation

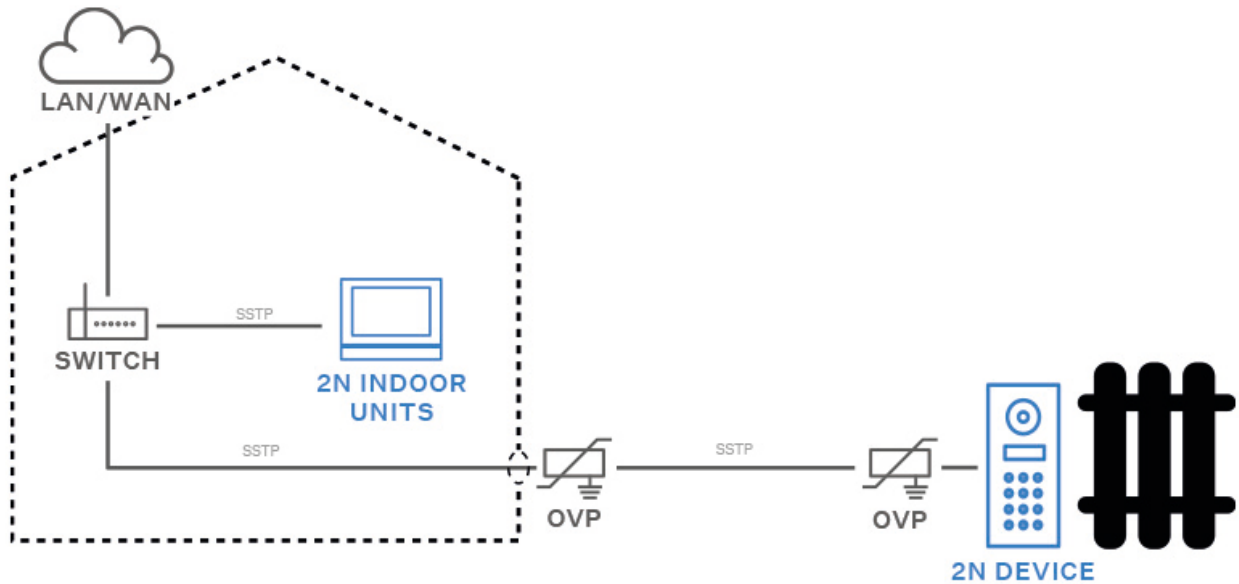
Overvoltage protection installation diagram for a device installed on the building facade and cables outside the building



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



Installation Completion

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



WARNING

- Make sure that all the terminals of the unused connectors are properly tightened to avoid vibrations caused by sound.
- Use silicone or some other sealant to seal the box against an uneven wall. Thus, you prevent water leakage and wall damping.

Name Tags

Name Tag Printing

1. A sheet of translucent foil is enclosed to every device. Print it using a laser printer.

2.



TIP

Refer to the [Support & Download Center](#) section at 2N.com for the name tag printing template.

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



CAUTION

- The area where the name tags are located is a so-called wet zone. It is because water may get onto the film during heavy rainfalls. Water in this area does not affect the function of the device and evaporates spontaneously.
- Always use waterproof foil (enclosed or other) for the nametags. Never use paper to avoid damage due to water leakage! Never use ink jet printing for the same reason!

Name Tag Insertion/Replacement

1. Remove the module frame.
2. Lift up the button door. Lift up the button door for all the buttons on the 5-button module.
3. Remove the used nametag and insert a new one.
4. Close the button door.
5. Replace the module frame.
 - a. Fit the flush mounting frame top and bottom with screws.
 - b. Hitch the surface mounting frame on the hook on top and screw it in the bottom.

Name Tag Insertion/Replacement

The advantage of **2N IP Solo** is its intuitive, simple access to name tags. There is no need to remove the front panel for replacement and so there is no risk of losing parts.

1. Loosen the name plate screw using the wrench enclosed, for example. You can open the name plate window like a door without losing the tightened screw.
2. Remove the used or blank name tag and insert a new tag.
3. Close the name plate window and tighten the screw appropriately.
4. Check the click effect of the button: if the button fails to click properly when pressed (when moved by approx. 0.5 mm), the tag is too thick or thin. Make sure that the button clicks when you press it on both ends.

Tactile stickers

Special tactile stickers with raised surfaces are included in the package. These stickers help people with visual impairments to recognize the basic controls of the device.

We recommend placing the sticker on the primary quick dial button. Place the sticker on the button edge and adjust the text on the label as needed to make it legible and not obscured by the sticker.



NOTE

Clean the device surface from dust and dirt before applying the sticker.

Brief Guidelines

Device Configuration Interface Access

2N IP Solo is configured via a web configuration interface. You have to know the device IP address or the device domain name. Make sure that the device is connected to the local IP network and powered.

Refer to the Configuration [Manual for 2N IP Intercoms](#) for the device configuration details.

Domain Name

Enter the device domain name as “hostname.local” to connect to the device. The hostname of a new device consists of the device name and serial number. Enter the serial number into the domain name without dashes. Change the hostname anytime in **System > Network**.

Default domain name 2N IP Solo: 2NIPSolo-{serial number without dashes}.local (e.g.: “2NIPSolo-0000000001.local”)

Login based on a domain name is advantageous if the dynamic IP address is used. While the dynamic IP address changes, the domain name remains the same. It is possible to generate certificates signed by a trusted certification authority for the domain name.

IP address

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

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

Web Configuration Interface Login

1. Fill in the **2N IP Solo** address or domain name into the internet browser.

The login screen is now displayed.

Should the login screen fail to appear, make sure that you have typed the correct IP address, port or domain name. The login screen also does not appear when the administration web server is off. If you do not have a certificate generated for the IP address / domain name, an invalid security certificate warning may be displayed. In this case, you have to confirm that you want to go to the web configuration interface.

2. Enter the login data.

The default login data are:

Username: **Admin**

Password: **2n**

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

After login using the default password, the access to the web configuration interface functions is limited.

**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.

Configuration via Hardware

Where software configuration is unavailable, make basic settings using the RESET button (refer to [Device Connectors \(p. 25\)](#)).


The RESET button helps you reset the factory default values, restart the device, retrieve the device IP address and switch the IP address static/dynamic mode.

Device Restart

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

IP Address Retrieval Using Hardware

Follow the instructions below to retrieve the current IP address:

1. Press the button RESET and keep it pressed.
 - a. Wait until the red and green LEDs go on simultaneously on the device and the acoustic signal can be heard  (approx. 15–35 s).
2. Release the RESET button.
3. The device announces the current IP address via the speaker automatically.

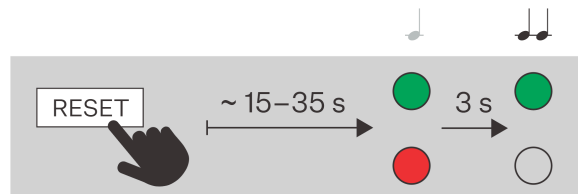
**NOTE**

The delay after pressing RESET till the first light and sound signaling is set to 15–35 s depending on the device model used.

Static IP Address Setting with RESET Button

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

1. Press the button RESET and keep it pressed.
 - a. Wait until the red and green LEDs go on simultaneously on the device and the acoustic signal can be heard 🗣️ (approx. 15–35 s).
 - b. Wait until the red LED goes off and an acoustic signal can be heard 🗣️ (approx. for another 3 s).
2. Release the RESET button.



NOTE

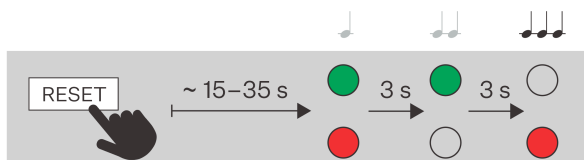
The following network parameters will be set after restart:

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

Dynamic IP Address Setting via RESET

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





1. Press the button RESET and keep it pressed.
 - a. Wait until the red and green LEDs go on simultaneously on the device and the acoustic signal can be heard 🗣️ (approx. 15–35 s).
 - b. Wait until the red LED goes off and an acoustic signal can be heard 🗣️ (approx. for another 3 s).
 - c. Wait until the green LED goes off and the red LED goes on again and an acoustic signal can be heard 🗣️ (approx. for another 3 s).
2. Release the RESET button.

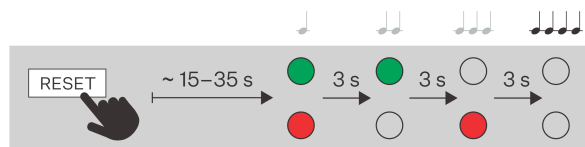


**NOTE**

The default network parameters will be set after restart.

Factory Default Reset with RESET Button

1. Press the button RESET and keep it pressed.
 - a. Wait until the red and green LEDs go on simultaneously on the device and the acoustic signal can be heard  (approx. 15–35 s).
 - b. Wait until the red LED goes off and an acoustic signal can be heard  (approx. for another 3 s).
 - c. Wait until the green LED goes off and the red LED goes on again and an acoustic signal can be heard  (approx. for another 3 s).
 - d. Wait until the red LED goes off and the acoustic signal can be heard  (approx. for another 3 s).
2. Release the RESET button.



IP Address Retrieval

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

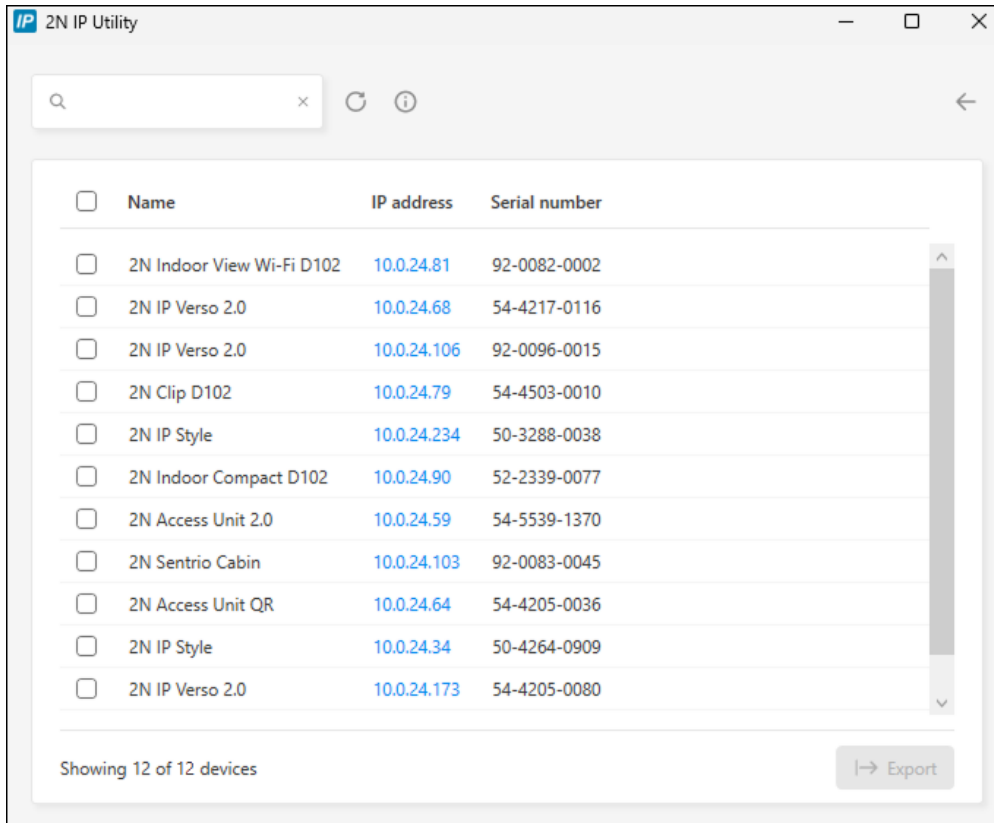
- Use the freely accessible 2N IP Utility.
- Use hardware (RESET button).
- Use the Speed Dial button.

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.

- 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.



- 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.

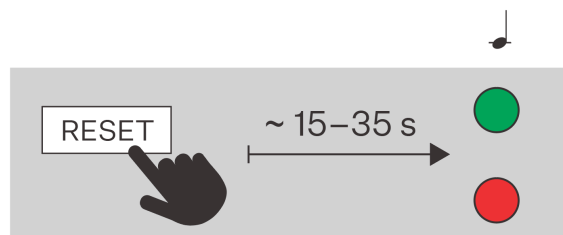
For increased password security, it is recommended that:

- 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 Using Hardware

Follow the instructions below to retrieve the current IP address:

1. Press the button RESET and keep it pressed.
 - a. Wait until the red and green LEDs go on simultaneously on the device and the acoustic signal can be heard (approx. 15–35 s).
2. Release the RESET button.
3. The device announces the current IP address via the speaker automatically.

**NOTE**

The delay after pressing RESET till the first light and sound signaling is set to 15–35 s depending on the device model used.

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. Wait for the first sound signal.
3. 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

Firmware Update

We recommend that the firmware is also updated during the **2N IP Solo** installation. Refer to [2N.com](https://2n.com) for the latest FW version.

Update firmware via the web configuration interface in System > Maintenance, refer to the device Configuration Manual.

Once the firmware is uploaded successfully, the device is restarted automatically.

**TIP**

You can make bulk updates for multiple devices via 2N Access Commander.

Device Restart

To restart the device choose one of the following options:

- using the RESET button,
- using disconnection from the power supply,
- via the web configuration interface.

**NOTE**

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

Restart Using RESET Button

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

Restart Using Web Configuration Interface

You can restart the device via the web configuration interface. Refer to [Web Configuration Interface Login \(p. 38\)](#) for login details. Restart the device in System > Maintenance > System using **Restart device**.

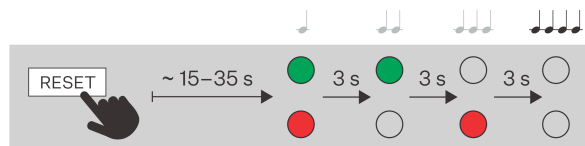
Factory Default Reset with RESET Button

Reset the device factory default values via software in System > Maintenance > Default reset.

Follow the instructions below **2N IP Solo** to reset the factory default values via hardware:

Factory Default Reset with RESET Button

1. Press the button RESET and keep it pressed.
 - a. Wait until the red and green LEDs go on simultaneously on the device and the acoustic signal can be heard 🎵 (approx. 15–35 s).
 - b. Wait until the red LED goes off and an acoustic signal can be heard 🎵 (approx. for another 3 s).
 - c. Wait until the green LED goes off and the red LED goes on again and an acoustic signal can be heard 🎵🎵 (approx. for another 3 s).
 - d. Wait until the red LED goes off and the acoustic signal can be heard 🎵🎵🎵 (approx. for another 3 s).
2. Release the RESET 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 \(p. 30\)](#).


Call Connection

To make calls with other terminal devices in IP networks, it is necessary to assign the device to a contact in the Directory.

Connection with 2N Devices in LAN

1. Make sure that Local calls is enabled on both the 2N devices.
2. Click **Find device** above the table. Check the listed device that you want to establish connection to. Once the device is added, editing becomes available.
3. Edit the following:
 - a virtual number to start a call by entering the number via your numerical keypad
 - basic information and access options for the device user
4. To dial calls using a device button, assign the selected user to the speed dial button in **Calls > Dialing**, refer to Speed dial buttons.
5. Make sure that Local calls is enabled on the called 2N device to make a successful call.

Connection with Other Devices

1. Click **Add user** or open the existing contact detail to create a new contact.
2. Click the pencil icon next to the Phone number  to open phone number editing.
3. Enter the calling destination address into the destination field to which the call is to be routed. Complete the target IP address or SIP URI in the format “ user_name@host” (e.g.: “johana@2.255.4.255” or “johana@calls.2N.com”). For local calls, fill in the called 2N device ID as specified in the Local calls tab in the called device web configuration interface.

4. Edit the following:
 - a virtual number to start a call by entering the number via your numerical keypad
 - basic information and access options for the device user
5. To dial calls using a device button, assign the selected user to the speed dial button in **Calls > Dialing**, refer to Speed dial buttons.
6. Make sure that the call transmitting service is enabled on the called 2N device to make a successful call.



TIP

- Each user can be assigned up to 3 phone numbers. In case the first user fails to answer, the call is forwarded to the next number. Alternatively, you can set calling to multiple phone numbers simultaneously. Check Call in group between the selected numbers to set such multiple phone number calling for one user.
- In case all the user phone numbers are unavailable, you can set call forwarding to **Deputy**.
- Users can be gathered in calling groups. The calling group name is shown in the phone book on the device display. You can assign a calling group to a quick dial button. To terminate an outgoing group call after the first rejection from any of the called users, set this function in Calls > General Settings.

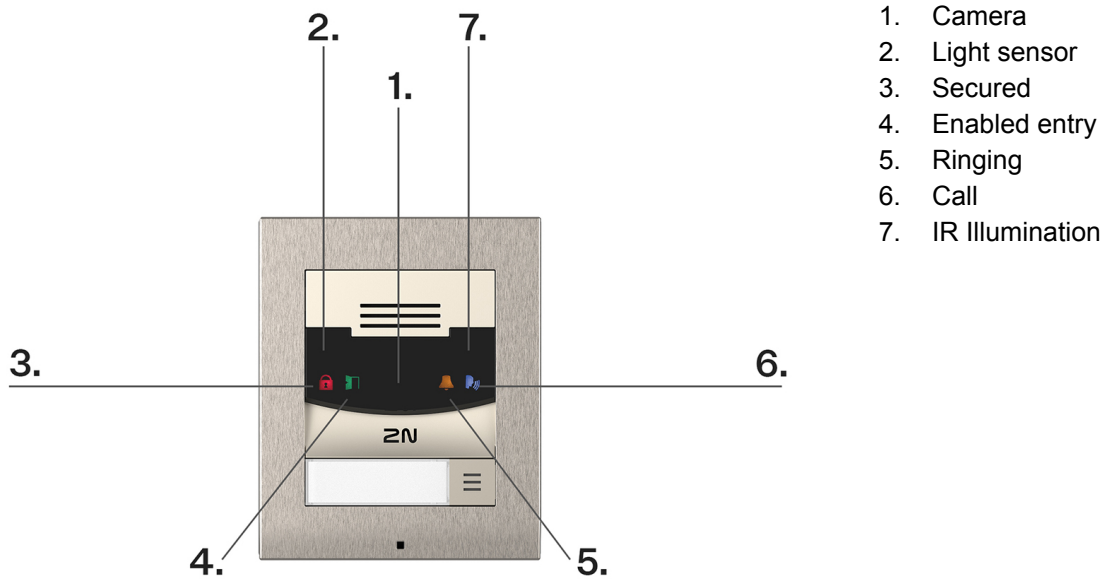
Device Control

2N IP Solo 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

LED pictograms

The following photo shows the location of the elements on the front of the device.



Maintenance - Cleaning

2N IP Solo contains no environmentally harmful components. Dispose of the device in accordance with the applicable legal regulations.

If used frequently, the device surface gets dirty. Use a piece of soft cloth moistened with clean water to clean the device. Use appropriate cleaning agents suitable for glasses, optical devices, screens, etc. We recommend that IT cleaning wipes are used.



CAUTION

Use the product for the purposes it was designed and manufactured for, in compliance herewith. The manufacturer reserves the right to modify the product in order to improve its qualities.

If used frequently, the device surface gets dirty. Use a piece of soft cloth moistened with clean water to clean the device. Use appropriate cleaning agents suitable for glasses, optical devices, screens, etc. We recommend that IT cleaning wipes are used.

- Do not use aggressive and alcohol/peroxide based detergents.
- Do not use aggressive detergents (such as abrasives or strong disinfectants).
- For cleaning the glass lens, use suitable cleaning agents designed for cleaning glasses, optics, screens, etc.
- Prevent water from getting inside the device.
- Clean the device in dry weather in order to make waste water evaporate quickly.



TIP

To disinfect the surface of the device against bacteria and viruses (Anti-Covid) and maintain the hygienic conditions of critical surfaces and touch points, we recommend that you use the Zoono – Microbe Shield Surface Sanitiser spray.

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)

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



WARNING

2N IP Solo cannot be fed from an external power supply and PoE at the same time. A combined supply might result in a device damage.

Signaling protocol

SIP UDP, TCP, TLS

Audio

Microphone Integrated

Amplifier 2 W (class D)

Speaker 2 W / 8 Ω

Sound pressure level (SPL max) 71 dB (for 1 kHz, distance 1 m)

LINE OUT 1 VRMS / 600 Ω

Volume Control Adjustable with automatic adaptive mode

Full duplex Yes (AEC)

Technical Parameters

Audio stream

Protocols	<ul style="list-style-type: none">• RTP• RTSP
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)

Camera

Sensor	1/3" color CMOS
JPEG resolution	Up to 1280 x 960
Video resolution	640 x 480
Frame rate	30 fps
Sensor sensitivity	5.6 V/lux-sec (550 nm)
Viewing angle	128 ° (H), 95 ° (V), 134 ° (D)
Infrared illumination	Yes
Sensor sensitivity without IR light	0.1 Lux ± 20 %
Focal length	2.25 mm

Video stream

Protocols	<ul style="list-style-type: none">• RTP• RTSP• HTTP
-----------	---

Video stream

Video call codecs

- H.263
- H.263+
- H.264
- MJPEG

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

ONVIF/RTSP streaming codecs

- H.264
- MPEG-4
- MJPEG

IP Camera Function

Yes – compatible profiles:

- ONVIF v2.4 profile S

Bandwidth used

Audio codecs

- PCMA, PCMU – 64 kbps (with 85.6 kbps headers)
- G.729 kbps – 16 bps (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 for calls in **Services > Calls > SIP 1/2**. Set streaming in **Services > Streaming > RTSP**. The set bit rate represents the value that the codec has to approach on a long-time average. The data flow can vary depending on the scene to be scanned.

Interface

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

Technical Parameters

Interface

Passive switch (relay)

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

Mechanical Parameters

Body material

Versions:

- Light version - Nickel:
 - Material - Zamak 410 - Zn95Al4Cu1
 - Surface treatment - Zn/Cu20/Ni25b max. 80 µm
- Black version:
 - Material - Zamak 410 - Zn95Al4Cu1
 - Surface treatment – PUR Wet coating 15–25 µm, RAL 25 Jet black, inner side - passivated zinc

Surface installation dimensions

One-module

107 x 130 x 28 mm

Flush installation dimensions

Frame – one-module

130
x
153
x 5
mm

Box (minimum wall hole) – one-module

108 x 131 x 45 mm

Weight

max. netto 1 kg

Operating temperature

–40 °C to 60 °C

Relative humidity

10 to 95 % (non-condensing)

Storing temperature

–40 °C to 70 °C

Protection class

IP54

Resistance level

IK08

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 Solo conforms to the following directives and regulations:

EU

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

General Instructions and Cautions

- 2014/30/EU for electromagnetic compatibility
- 2014/35/EU for electrical equipment designed for use within certain voltage limits
- 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.

US

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 other than 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.

Legislation of Thailand

เครื่องโทรคมนาคมและอุปกรณ์นี้
มีความสอดคล้องตามมาตรฐานหรือขอ
กำหนดทางเทคนิคของ กสทช.


nab.

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



nab. | โทรคมนาคม
กำกับดูแลเพื่อประชาชน
Call Center 1200 (InSW)

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。

この装置は、クラス A 機器です。この装置を住宅環境で使用すると電波妨害を引き起こすことがあります。この場合には使用者が適切な対策を講ずるよう要求されることがあります。VCCI-A

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.

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



2N IP Solo – Installation Manual

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