MURA IP

MURA IP DOOR STATION

Configuration guide

Firmware version: 3.5.56

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1 INTRODUCTION

MURA IP is a family of advanced door stations based on IP technology. Door stations based on IP technology communicate through standard IP networks without the need for any dedicated wiring. This allows for important savings in installation costs, and enables advanced features such as reception of calls in smartphones and tablets, or the integration of door stations in IP telephony systems.

This document is intended for installers and system integrators and provides basic information related to the installation and configuration of MURA IP door stations.

2 INSTALLATION

2.1 Opening and closing the unit

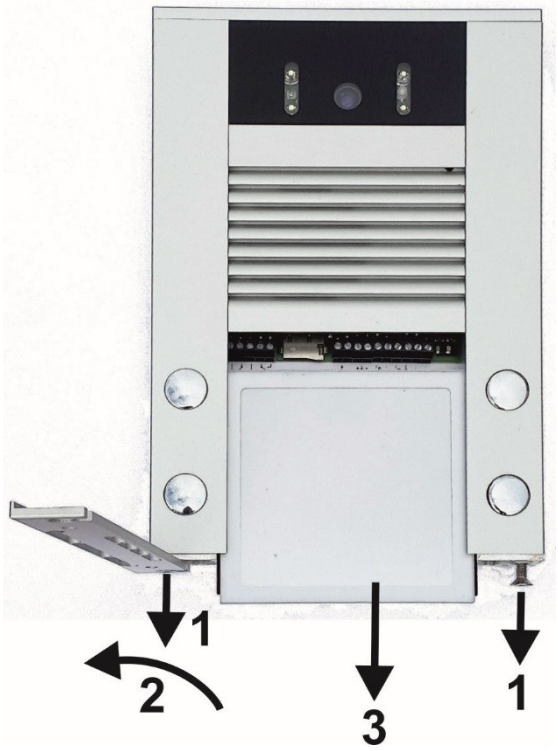
Opening the unit:

1. Use the supplied hex key to partially unscrew the two hexagonal screws in the bottom plate of the unit
2. Turn the bottom plate to one side
3. Slide out the methacrylate name plate

Closing the unit:

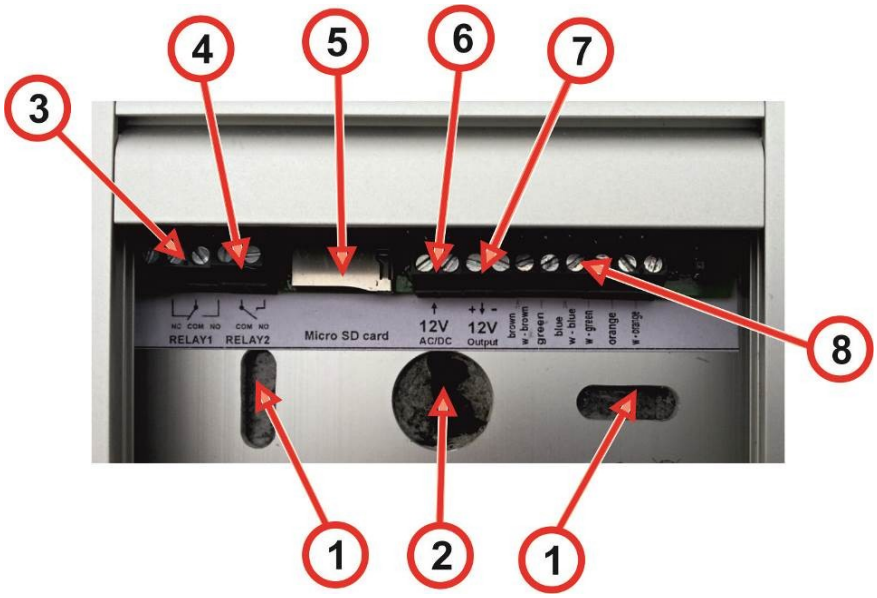
1. Slide the name plate back into its original position. Be careful to avoid damaging the seal rubber in the sides of the name plate.
2. Put the bottom plate back in its original position
3. Use the supplied hex key to screw the two hexagonal screws that fix the position of the bottom plate

When closing the unit, be careful not to put cables directly under the name plate as they could interfere with the backlighting of the name card.



2.2 Connection

The following figure shows the main elements in the connector area behind the methacrylate name plate.

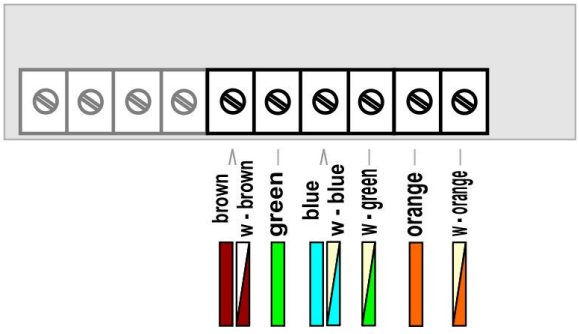


1. Mounting holes
2. Cabling holes (Ethernet cable, power supply, relay cabling)
3. Relay 1 connector (NO = Normally open, NC = Normally closed, COM = Common)
4. Relay 2 connector (NO = Normally open, COM = Common)
5. Micro SD card slot (future use)
6. Input for external power supply
7. Output 12 VDC, 300 mA max (when PoE is used)
8. Ethernet connector

Ethernet connection

Standard CAT5 (UTP) Ethernet cable or better is recommended.

Connect the Ethernet wires as shown in the following diagram:



Power supply

Two power supply options are available: External power supply or PoE (Power over Ethernet)

External power supply: Connect an external power supply (12 VDC / VAC) to connector (6). Maximum consumption of the door station is approx. 300 mA, excluding any additional consumption of devices connected to connector (7). We recommend using the external power supply ref. E-PSU3012.

Power over Ethernet: Alternatively, the door station can also be powered using PoE (Power over Ethernet). For this, a PoE enabled network switch or a PoE injector compliant IEEE 802.3af must be used.

Output relays

The MURA IP door station has two built-in relays that can be used to drive external electrical door locks. Relay 1 (connector (3)) provides normally open (NO) and normally closed (NC) contacts, whereas relay 2 (connector (4)) only provides a normally open (NO) contact.

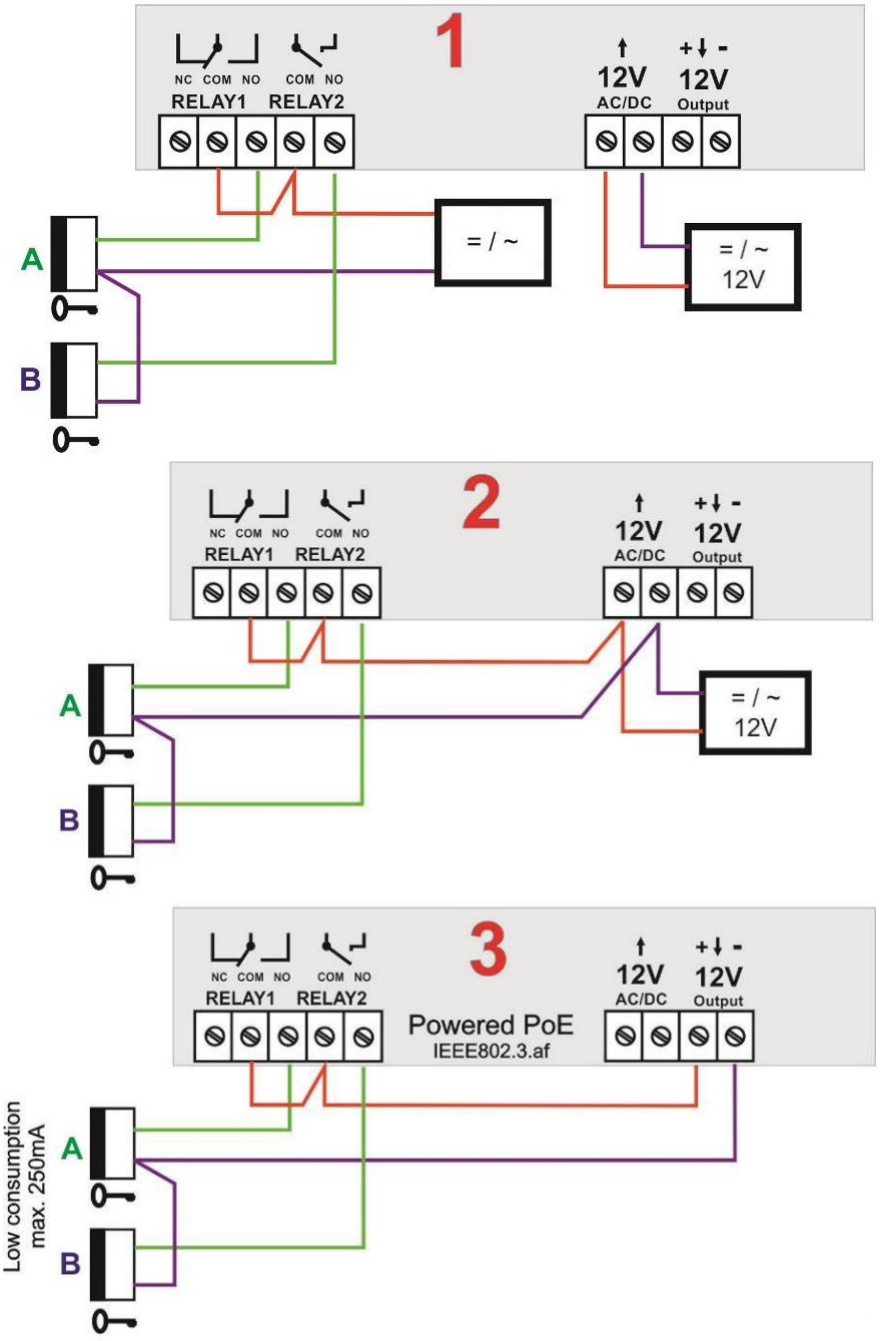
The following figures show some possible connection diagrams.

1. **Recommended configuration.** Separate power supplies are used for the MURA IP door station and for the electrical door locks. Keeping the power supplies separate helps isolate the door locks from the door station and increases protection in case of electrical failure. NOTE: This diagram also applies if PoE is used for the door station.

2. In this configuration, one shared external power supply feeds both the MURA IP door station and the electrical door locks. In order to calculate the maximum load that the power supply must be able to handle, consider not only the power consumption of the door station (approx. 300 mA), but also the maximum power consumption of the door locks, and the possibility of both locks activating simultaneously.

3. In this configuration, both the MURA IP door station and the electrical door locks are powered using PoE; no external power supply is required. This approach should only be used with **very low power** electrical locks (< 250 mA). Also, if more than one door lock is used, the door station must be configured in such a way that they are **never activated simultaneously**.

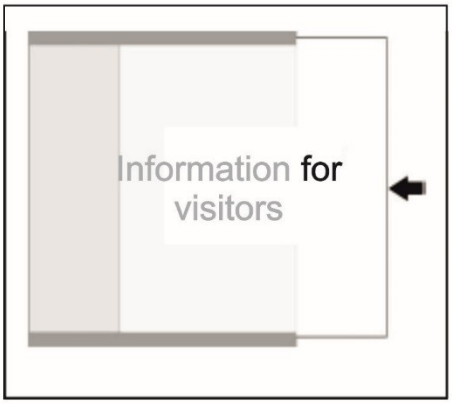
Except under exceptional circumstances, **we recommend configuration 1** if possible.



2.3 Name plate customization

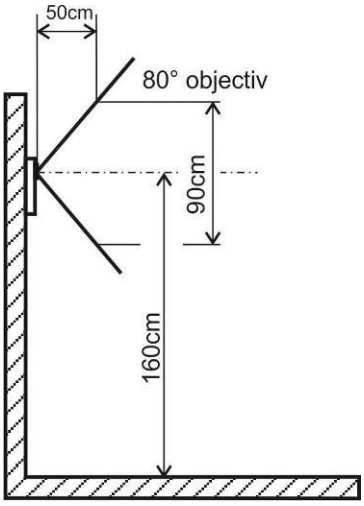
The methacrylate name plate allows inserting name labels with custom text. We recommend printing out the name labels to special resistant foil (polyester foil):

1. Print the custom text to the polyester foil and, if required, cut the labels to the desired size
2. Slide the labels from the side into the methacrylate plate, as shown in the following figure (note that insertion is only possible from one of the two sides)



2.4 Mounting

When selecting an installation location, please observe the following recommendations:



- The camera should not be exposed to direct sunlight or to strong light sources
- Mounting height should be selected so that the camera is positioned approximately at the average visitor's eye level. When in doubt, a height of 160 cm is recommended

Mounting procedure:

1. Open the unit as described in section 2.1
2. Lead in the cables through the cabling hole (2)
3. Fix the unit firmly to the wall through the fixing holes (1). Using the supplied screws and wall plugs is recommended.
4. Make the required connections as described in section 2.2
5. Optionally, customize the name labels as described in section 2.3
6. Close the unit again

When a rain hood is used (references MIP-RH, MIP-RH-K), bear in mind that the rain hood must be installed between the unit and the wall.

Additional recommendations:

- Do not install other devices directly below the door station. Otherwise you will not be able to remove the bottom cover in case you need to open the door station later.
- Do not seal the bottom side of the unit in any case. Any condensed water must be able to flow away from the unit.

3 CONFIGURATION WALKTHROUGH

3.1 Web interface access

The MURA IP door station provides a web-based configuration interface. Configuration of the unit can be done from any PC running a modern web browser[1].

In the default factory settings, the MURA IP door station is configured with IP address **192.168.1.250**, and subnet mask 255.255.0.0. You must ensure that the PC you are using for configuration has an IP address in the **same TCP/IP subnet** (i.e. in the 192.168.x.x address range). If you need help on configuring the network settings for your PC, please refer to your operating system's documentation.

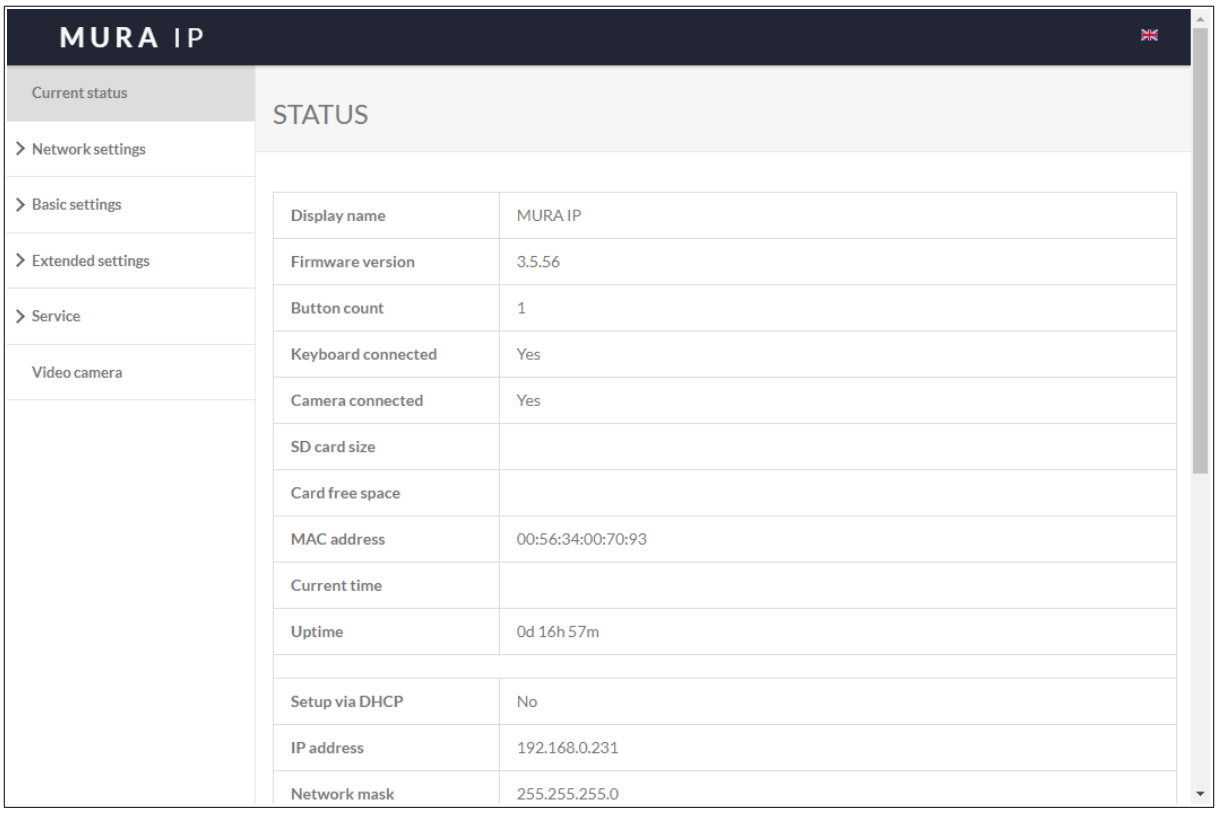
To enter the MURA IP configuration interface, just open a web browser and enter the IP address of the door station (192.168.1.250 by default) in the address bar.

The MURA IP's home page will be shown. Here you can see the video captured by the camera (for MURA IP models equipped with a camera). Click on "Setup". You will be prompted for a username and password. The default values are `admin` and 1234.

[1] Internet Explorer version 9 or earlier is not supported. We recommend using an up-to-date web browser.

3.2 Configuration Interface Overview

After successful login, the status page (“Current status”) is displayed. This page shows basic information about the device, including firmware version, network settings, SIP registration status, etc.



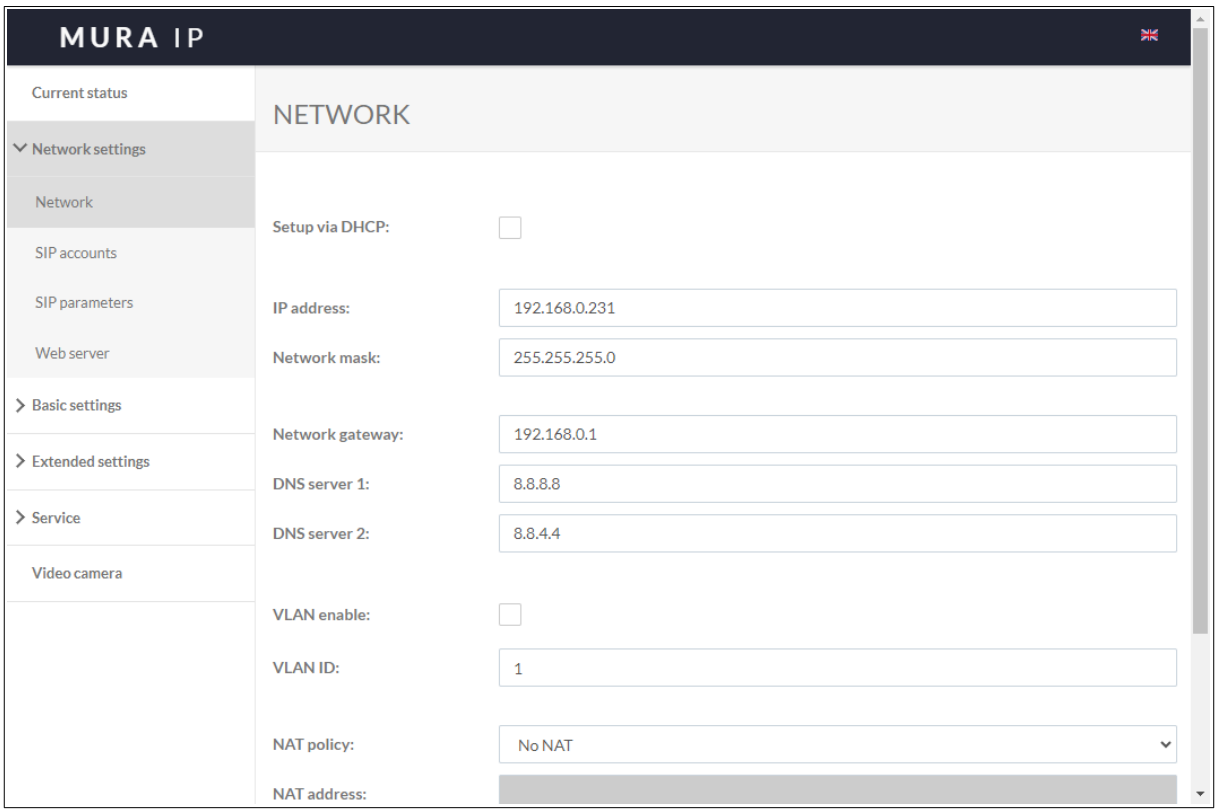
Click on the flag on the upper right corner of the page in order to switch the language. English and Spanish are supported.

The menu in the left hand side of the page shows the available configuration sections:

- Current status (this page)
- Network setting
- Basic settings
- Extended settings
- Service (service / maintenance functions)
- Video camera (returns to the home page)

3.3 Network settings

To modify the network settings, go to Network setting → Network.



Here you can select between using automatic network configuration via DHCP ("Setup via DHCP" checkbox), or manually entering static network settings.

In order to use DHCP, a device acting as a DHCP server must be available in the local network (for example, an Internet router). Also, if using DHCP, bear in mind that the IP address assigned to the door station may change dynamically (for example when the door station reboots). If you need to use client applications or client devices that rely on knowing the IP address of the door station, we recommend to use static network settings.

If DHCP is not used, the following parameters must be configured:

- IP address
- Network mask
- Network gateway (typically the IP address of the Internet router)
- DNS servers

After performing the required changes, click on "Save and restart" to reboot the unit. Changes will be applied when the unit reboots.

> ***NOTE:*** *If you modify the IP address of the door station, remember to update the IP address in the browser's address bar.*

3.4 SIP settings

The MURA IP door station uses the standard SIP protocol to call fixed or mobile destinations. Two different scenarios are supported:

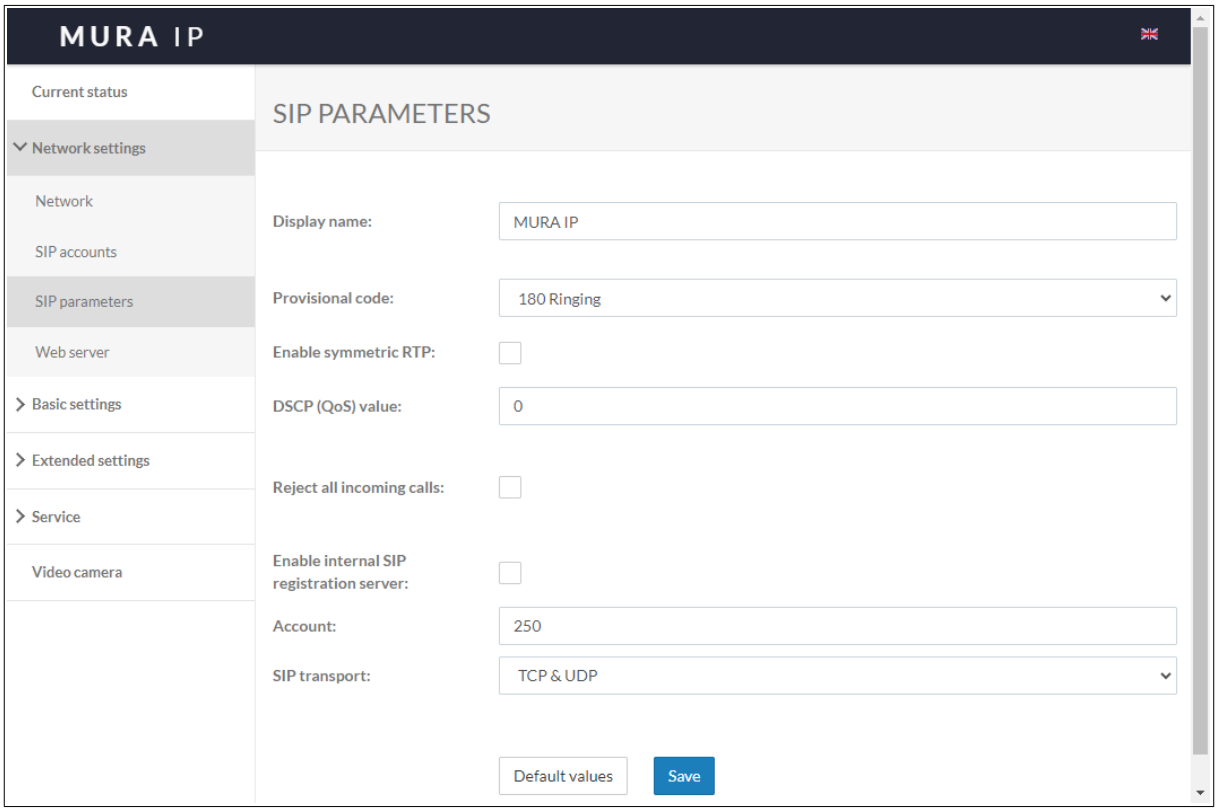
1. Using direct ("peer-to-peer") calls, without relying on an external SIP server
2. Call destinations through an external SIP server

Note that these scenarios are not mutually exclusive: the door station can be configured to call some destinations using direct calls, and router other calls through an external SIP server.

Direct ("peer-to-peer") calls

In this scenario, the door station uses direct SIP calls to reach the destination, without requiring an external SIP server. This is typically the easiest option in order to call fixed SIP terminals connected to the same network as the door station.

Configuration is done through the Network settings → SIP parameters menu.



Fill in the following parameters:

- Display name: Enter a human-readable name for the unit, for example "MURA door station". This name is normally displayed to the user in the terminal receiving the calls.

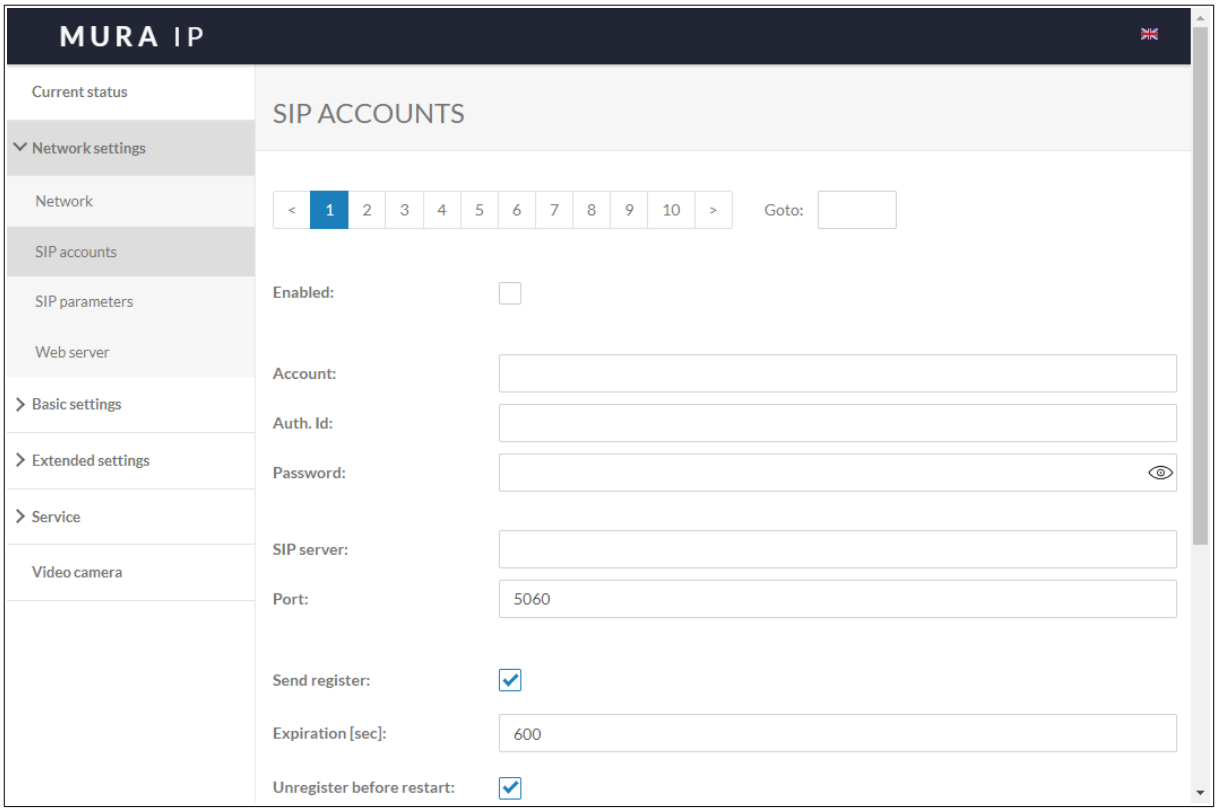
- Account: Name of SIP account to use for outgoing calls. The receiving terminal may use this as a “Caller ID”, to identify the call source.

Calls through external SIP server

In this scenario, both the door station and the clients are registered with an external SIP server (this may be a hardware device such as an IP-PBX, or a cloud-based SIP service), and outgoing calls are routed through the SIP server.

For this you need to configure a “SIP account” that the door station will use to register with the SIP server.

Configuration is done through the Network settings → SIP accounts menu.



Select a SIP account by clicking on the account number at the top of the page.

Then tick the “Enabled” checkbox, and fill in the following parameters:

- Account: Name of SIP account (or “SIP user name”) in the external SIP server. The receiving terminal may use this as a “Caller ID”, to identify the call source.
- Auth. Id and Password: Credentials for the SIP server account. The auth. Id is not normally needed (normally this will be the same as the SIP account / user name). In this case you can just leave the field blank.
- SIP server: IP address of hostname of the SIP server

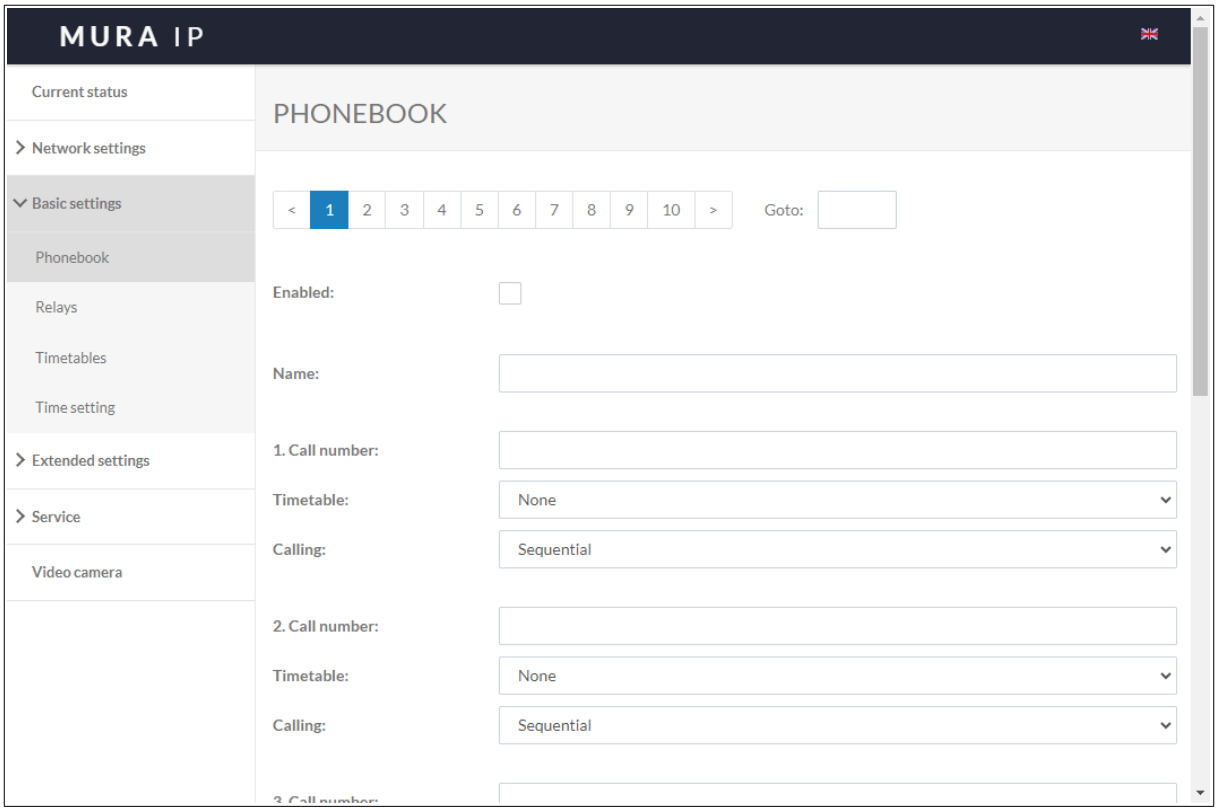
- Port: The SIP server port (defaults to 5060).
- Send register: Tick this checkbox to enable registration to the SIP server
- Expiration [sec]: Register expiration time, in seconds. The door station will automatically refresh the registration before the configured expiration time.
- Unregister before restart: Tick this checkbox if you want the door station to automatically cancel existing registrations before rebooting.

NOTE: *If you are configuring multiple accounts, bear in mind that changes are not automatically saved when you switch between accounts; please remember to explicitly click "Save" after configuring each account.*

3.5 Call settings

Phonebook

Call destinations for each subscriber (user) are configured in the Basic settings → Phonebook menu.



This section lets you configure which calls will be made for each subscriber (user), i.e. when a visitor press the buttons on the door station, or (in models with a keypad) when the keypad is used to select a phonebook entry.

- **Calls through buttons:** Use phonebook entries 1...4 to configure calls to be made when a visitor presses buttons 1...4 respectively (the actual number of available buttons depends on the specific door station model).

- **Calls through keypad:** Visitors can dial a number using the door station's keypad in order to select a specific phonebook entry (1-999). For example, if number 20 was assigned to an apartment, then when a visitor dials 20 on the keypad, the door station will call the destinations configured in position no. 20 of the phonebook.

For each subscriber, up to 5 call numbers can be configured. These call numbers can be called sequentially (try first number, then if destination is busy or does not answer try next one, etc.), or they can be combined in call groups, with all numbers in a group being called simultaneously.

To configure call destinations for a given subscriber:

1. Select a phonebook entry by clicking on the corresponding number at the top of the page.

2. Tick the “Enabled” checkbox.

3. Enter a descriptive name in the “Title” field. This is for your internal reference only.

4. Fill in up to 5 call destinations in the fields named “[1-5]. Call number”. For each one:
   - For a direct (peer-to-peer) call, enter the IP address to call
   - For calls to be routed through a SIP server, enter the SIP username to call as `<sip_username>/<account>`, where *<account>* is the SIP account to use for this call.

   Examples:
   - `192.168.0.231` *direct (peer-to-peer) call to the specified IP address*
   - `sipuser/1` *calls user “sipuser” using SIP account 1*
   - `201/2` *calls user “201” using SIP account 2*

5. For each call destination, select one of the following options in the “Calling” field:
   - Sequential: This destination will be called individually
   - Group start: First destination in a call group
   - With previous: Add this destination to the current call group
   - Group end: Add this destination to the current call group, and close call group

   Example:
   - *Call number 1 is set to “Sequential”*
   - *Call number 2 is set to “Group start”*
   - *Call numbers 3 and 4 are set to “With previous”*
   - *Call number 5 is set to “Group end”*

   In this case:
   - *Call number 1 will be tried first*
   - *If call number 1 is busy or does not answer after a certain timeout, a group call is started to destinations 2, 3, 4, and 5. Any of these four destinations can pick up the call.*

NOTE: *If you are configuring multiple phonebook entries, bear in mind that changes are not automatically saved when you switch between entries; please remember to explicitly click “Save” after configuring each entry.*

Additional call settings

Additional call settings can be configured in the Extended settings → Door phone menu.

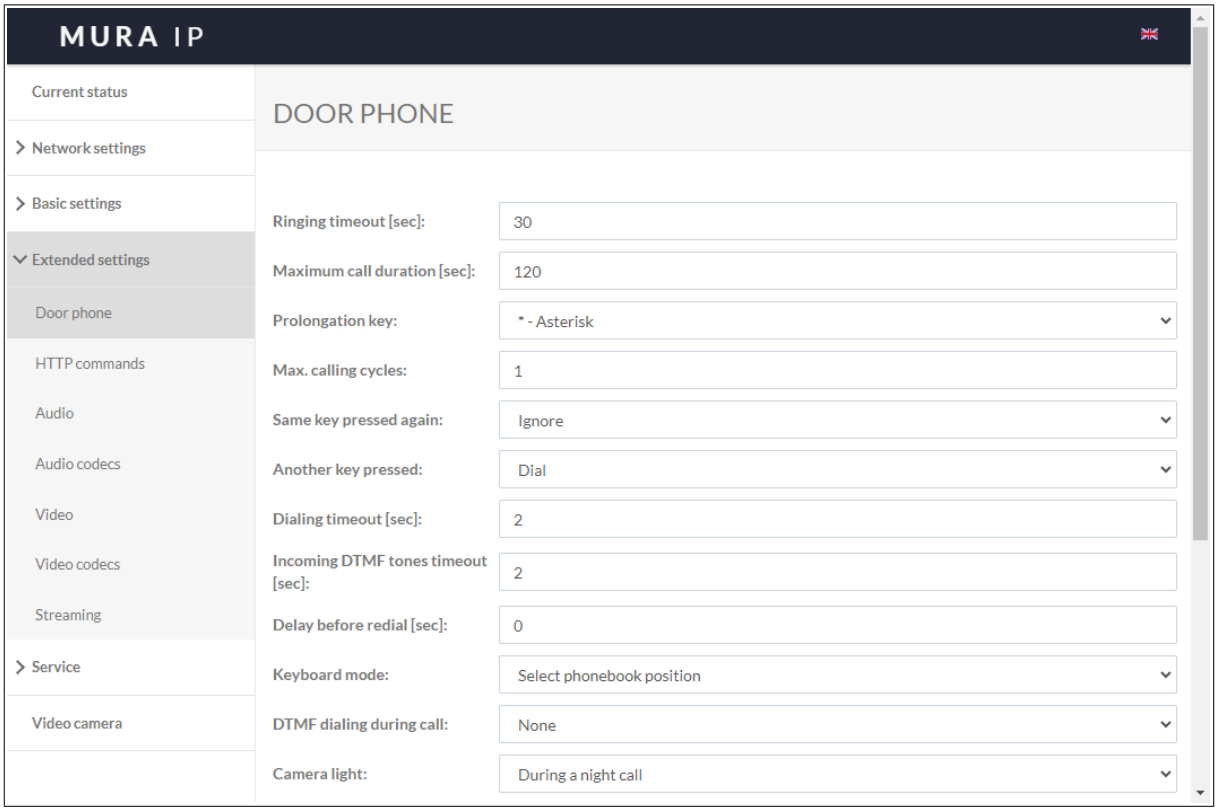
- Ringing timeout [sec]: Timeout for call pickup before the door station will move on to the next call number or call group. Values between 5 and 300 seconds (5 minutes) are allowed. Note that the actual ringing timeout may be further limited by additional parameters such as the max. ringing time in the receiving device or application.

- Maximum call duration [sec]: Call duration limit after a call is picked up, in seconds. Leave this field empty to disable this limit.

- Ringing cycles count: How many times should the door station go through all the configured call destinations for a given subscriber, if after trying all destinations the call has not been picked up yet.

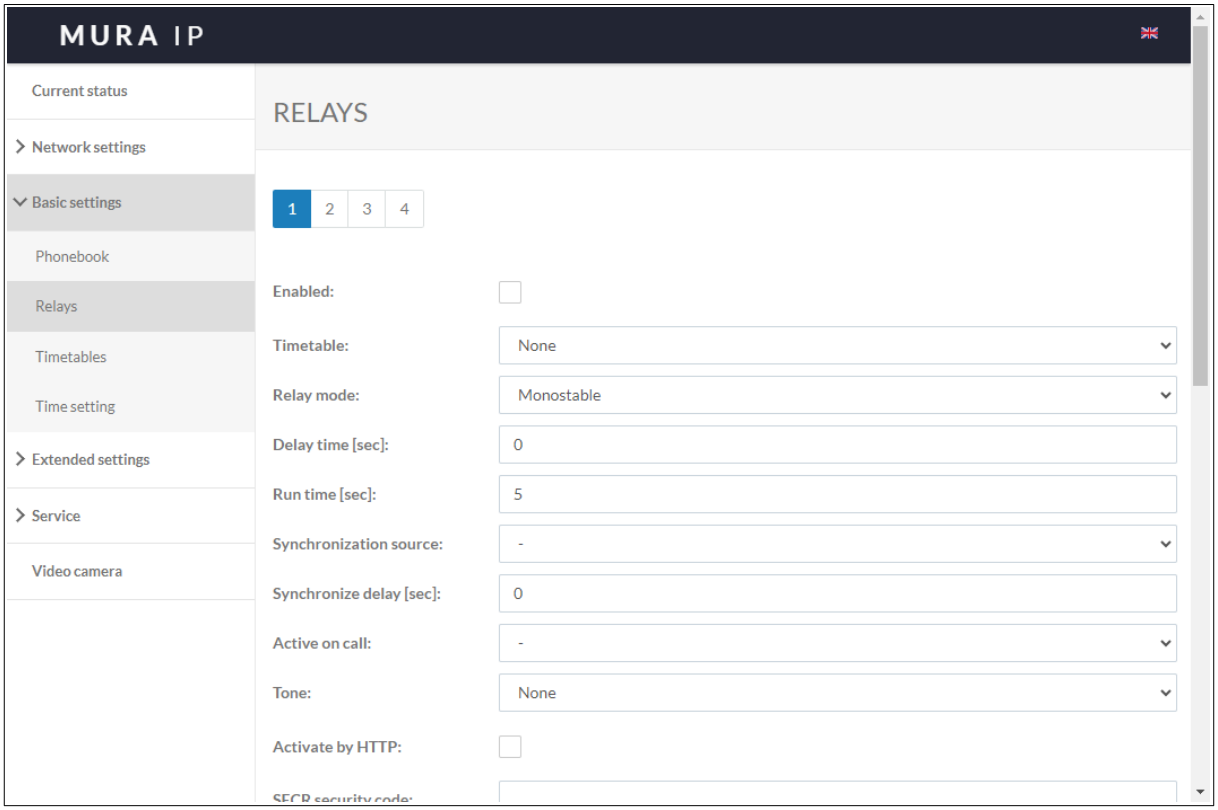
- Same key pressed again: Determines what happens when the visitor presses the same button of the door station for a second time. Three options are available:
  - Cancel call: Cancels the current call
  - Redial: Repeats / retries call
  - Ignore: Nothing happens

- Dialing timeout [sec]: For models with a keypad, maximum time allowed between key presses. If this time is exceeded, the door station considers that the dialing is complete and does not wait for further keypresses. NOTE: This parameter also controls the maximum time allowed between key presses when entering a relay activation code (see next section).



3.6 Relay configuration

Relays are configured through the Basic settings → Relay menu.



Four relays are supported. Relays 1 and 2 correspond to the two built-in relays in the MURA IP door station. Relays 3 and 4 can be used to control external IP-based relays.

Relays can be activated in three ways:

1. Using DTMF tones, only if there is a call in progress.
2. (Only for models with a keypad) From the door station's keypad, by pressing asterisk (*) and then entering the corresponding code. A call in progress is not required.
3. From an external device, using HTTP commands. A call in progress is not required. The "Activate by HTTP" parameter must be enabled.

For basic configuration of the relay please check the following parameters:

- Enable: This must be checked to allow activation of the relay.
- Relay mode: Select "monostable" so that the relay automatically returns to idle state after the programmed activation time ("run time").
- Run time: Defines the activation time of the relay, in seconds. This should match the required activation time of the connected door lock.

- Activate by HTTP: Enable this checkbox if the relay should allow activation through HTTP commands. The specific HTTP command (GET request) for relay activation is as follows: `http://<door_station_ip_address>/relay_control?<num_relay>=on` , where *<num_relay>* should be replaced with the actual relay number (1-4)

- Codes for relay control: Up to 10 numeric codes can be defined per relay for activation through DTMF tones. Enter the numeric code in the “Code” field, select “DTMF” or “Buttons” as “Source”, and “On” in the On / Off combo box.

For controlling external IP-based relays, the following parameters are also required:

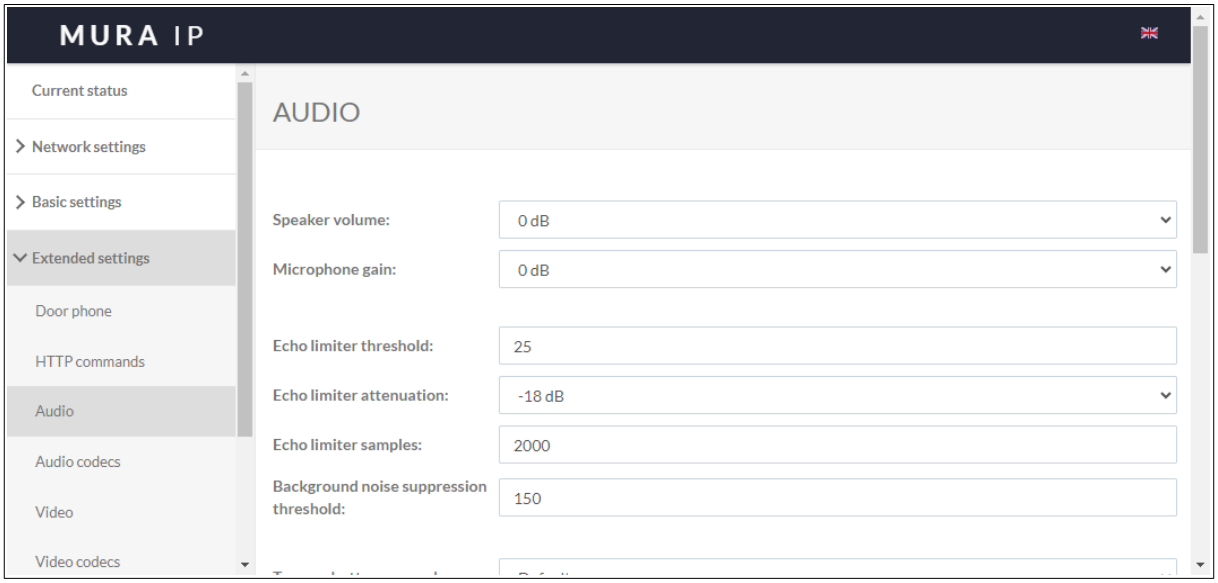
- RC command at relay ON: HTTP command (GET request) that should be sent to activate the relay. The command must be in the format: `http://<ip_address>/<command>`

- RC command at relay OFF: HTTP command (GET request) that should be sent to deactivate the relay. The command must be in the format: `http://<ip_address>/<command>`

NOTE: *If you are configuring multiple relays, bear in mind that changes are not automatically saved when you switch between relays; please remember to explicitly click “Save” after configuring each relay.*

3.7 Audio settings

Audio settings are configured through the Extended settings → Audio menu.

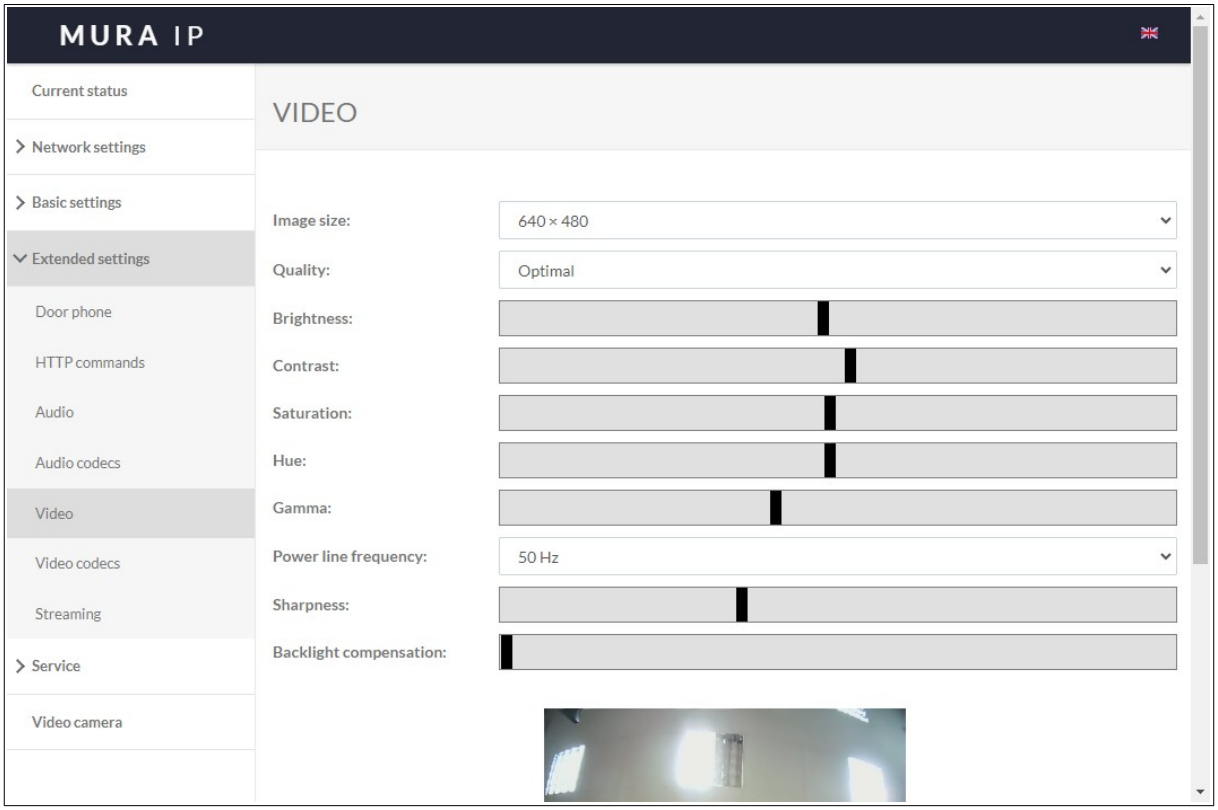


In most installations, only the speaker and microphone levels need to be adjusted. These values can be modified through the “Speaker volume” and “Microphone gain” parameters.

The Audio settings menu also allows tweaking advanced parameters related to the echo limiter configuration. In general, it is recommended to **avoid modifying these settings**. The default values should be appropriate for most cases, and changing them may lead to poor audio performance.

3.8 Video settings

Video settings are configured through the Extended settings → Video menu.



For a basic configuration:

- Image size: Select the desired image size for the video stream. The best setting will depend on the actual capabilities of the receiving terminals or applications. If supported by the receiving terminals or applications, 640 x 480 will yield the best results.

- Quality: Select between “Low” (lowest quality), “Optimal”, and “Full” (highest quality). This parameter controls the frame rate (number of frames per second). Higher frame rates require more network bandwidth and more processing power in the receiving terminal or application. The recommended setting is “Optimal”.