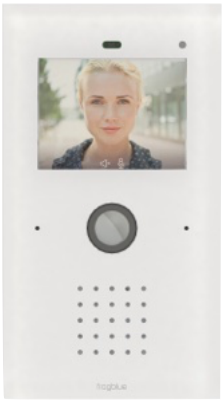
frogTerminal Installation Manual

Functional Overview and Technical Description

The frogTerminal is a SIP video intercom with multi-factor authentication, decentralised RFID access control, and Bluetooth/IP automation. It supports direct SIP calls, multi-server registration, real-time security alerts, and third-party VMS/SIP integration.



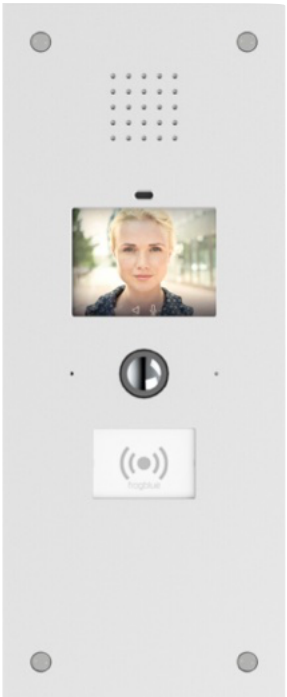
Glas - Line

K - Line

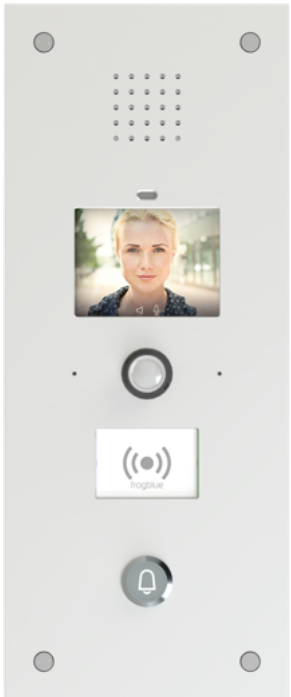
ALU - Line

S2 ALU

S3 X



S3 Plus



S3 Plus B1

S3 Plus B2

S3 Vario

frogTerminal Installation Manual

Functional Overview and Technical Description

A. Introduction, System Overview, and Key Features

1. Overview

The **frogTerminal** offers functionality that goes far beyond a traditional video intercom system. Its key feature is its network connection and direct utilisation of the global IP telephony standard SIP, without requiring an additional box. This enables all SIP-compliant devices to be called directly without a server or cloud.

In commercial **multi-tenant scenarios**, tenants often have their own IP telephony systems with integrated SIP servers. In such cases, intercom systems typically connect to these systems via external calls. The **frogTerminal**, however, can register simultaneously as an **extension** with multiple SIP servers, optimising the use of telephony system features.

The integrated **8-megapixel camera** with hemispheric optics provide for a 180° panoramic view, all actions at the terminal can trigger a recording. It also integrates with video management software like MxMC® and supports real-time, full HD video streaming via RTSP/H.264.

Connection options for the frogTerminal include:

- 1-Gbit Ethernet with **Power over Ethernet** (PoE) via the network cable.
- 12-24VDC (12W) (reverse-polarity protected)
- 24VAC (12W)

For simple applications, the integrated relay can directly handle door unlocking, 2 input ports enable direct connection to external doorbell buttons or magnetic door contacts.

The **integrated touch display** allows for the virtual design of doorbell labels. Alternatively, a party can be discreetly dialled using an apartment number. General PIN codes can also be entered for door unlocking or special functions.

A **smartphone** call is initiated as a standard phone call when the doorbell rings. This requires registration in frogblue's cloud (with SIP server) and the installation of the frogSIP app on the smartphone.

The **integrated RFID reader** facilitates access control and time tracking. By combining RFID with a PIN entered via the display, the system enables two-factor authentication. Access control can be further restricted using customised weekly schedules. For enhanced security, three-factor authentication can also be enabled, incorporating an automatic phone call as an additional layer of verification. This three-factor authentication can be configured to activate based on a timetable, such as after hours, ensuring stricter access control during high-risk periods.

The frogTerminal supports multi-party and multi-tenant capabilities, as each party can individually configure its access parameters. **Third-party hardware**, such as barrier systems or KNX-based lighting controls, can be integrated via IP commands. Frogblue building control components are directly connected via Bluetooth, allowing simple deployment of frogblue modules for functions like gate control or door unlocking. DALI lights are supported directly with our DALI frog. For a detailed overview of integration options, refer to the ***frogblue API documentation*** and our ***competitor analysis***.

The commissioning process is guided by a user-friendly wizard, which walks the administrator through the necessary steps to configure the terminal.

2. Key Advantages of the frogTerminal

- **Integrated 8 MP Camera** – Provides visual verification and 180° panoramic recordings
- **Built-in Video-SIP Telephony** – Enables remote operation by reception or security staff
- **Advanced Multi-Factor Authentication** – Supports multi-factor authentication, including RFID, PIN, video verification call, and advanced integrations
- **Global Video Calls** – Directly connects to smartphones or SIP phones worldwide
- **Real-Time Security Alerts** – Sends call notifications for unauthorised access attempts or restricted user access
- **Flexible Multi-Terminal Access Management** – Supports up to 20 access zones, even without an IP connection
- **Optional User Group Management** – Centralised storage in the frogCloud (in development)
- **Seamless Hardware Integration** – Supports IP or Bluetooth-based devices for light control, gate opening, and more
- **Standalone Operation** – No additional hardware or external computer systems required
- **High-Speed Connectivity** – 1-Gbit network connection with PoE Class 3 or Wi-Fi support (also compatible with 24V AC/12V DC power)
- **Energy-Efficient Design** – Power consumption ranges from 5 to 8 watts

3. Telephony Overview

3.1. Worldwide Telephony Standard

The frogTerminal utilises the international **telephony standard SIP** for video and audio communication. This makes all SIP-compliant endpoints accessible directly, without additional hardware. Nearly all modern telephone systems are based on this standard, facilitating the easy integration of third-party devices.

Typically, all devices register with a **SIP server** that handles call routing. This SIP server can be installed locally or made available over the internet for worldwide telephony.

The frogTerminal is designed to support local telephony without relying on an internet connection, enabling on-site communication with **no cloud** required. For connecting multiple company locations, a virtual private network (VPN) offers a secure private solution. Only when integrating independent locations or smartphones without VPN into the system, an internet- based cloud-service with SIP server becomes essential. To make this easy, frogblue provides our own SIP cloud with automated configuration options, hosted in a secure German data centre.

3.2. Direct Integration of End-point Devices

IP telephones, such as those from Grandstream®, can be called directly by the frogTerminal without additional components. A SIP server is not required as the **Direct SIP Call functionality** is used, provided the device is reachable via an IP address.

For small setups, the simplest configuration consists of a frogTerminal and a SIP desktop phone. This eliminates the need for SIP server hardware and management.

3.3. The frogDisplay

With a simple software update, the existing **frogDisplay** can be upgraded to function as an indoor station. It connects via **Wi-Fi** and operates on **100-240V power**. The updated software enables **automatic configuration** with the **frogTerminal**, and a simple toggle switch allows it to function as a **doorbell**.

Currently, devices are added manually to the **bell buttons** via their **IP address**. An upcoming software update will introduce automatic configuration.

The **frogTerminal** offers 4 modes for auto-configuring Displays (currently in development):

1. **Bell Mode:** All discovered Displays are automatically grouped under a standard doorbell label in a cyclical process.
2. **Room Mode:** The Display's assigned room name (e.g. "Foyer") is used as the doorbell label. If multiple Displays share the same room name, they are grouped under a single bell button.
3. **Name Mode:** Displays can be registered with a custom name (e.g. "Tom Smith" or "Reception"), which is automatically assigned as the doorbell label. Displays with the same name are grouped together under one label.
4. **Terminal Mode:** The name entered in the **Terminal** is used as the doorbell label. If no name is configured, the system defaults to the **Display's name**, and if that is unavailable, it falls back to the **room name**.

3.4. The frogStation

The **frogStation** is a frogblue device that serves as the primary remote station for the **frogTerminal**. Installed, for example, in an apartment, it provides a user interface for interacting with the **frogTerminal** at the entrance. It is similar in design to the frogTerminal, but without a camera module. Unlike the frogDisplay it features enhanced audio capabilities for superior sound quality and supports both Wi-Fi and wired network connectivity with PoE for increased reliability.

It features **2 switching inputs** and a **24V/1A** relay for external controls, enabling seamless integration with additional systems.

Thanks to its **enhanced mechanical** and **acoustic design**, the **frogStation** delivers superior and **louder sound quality** compared to the frogDisplay.

3.5. Integration with Telephony Systems

IP telephony systems typically feature a PBX with integrated SIP server for registering devices and routing calls. The frogTerminal can register with such SIP servers, functioning as an extension of existing telephone systems.

In multi-tenant environments, tenants often rely on separate telephone systems. The solution: the frogTerminal supports simultaneous registration and operates with multiple SIP servers at the same time, seamlessly integrating across multiple telephony systems.

3.6. frogSIP App and Calling a Smartphone

Smartphone calls require push notifications from the device manufacturer to wake the phone and launch the telephony app. To facilitate this, frogblue operates a dedicated telephony cloud including SIP server, ensuring reliable delivery of the required push notifications.

The smartphone must have the **frogSIP App** installed, which receives calls in the same familiar way as regular phone calls. This setup is free to use and, apart from email verification, remains anonymous.

frogSIP is engineered for **seamless integration** with **frogTerminal** and offers a host of advanced features:

- **Seamless Device Pairing:** Easily connect and pair devices for a smooth setup experience.
- **Integrated Automation:** Fully integrated into the frogblue automation system, frogSIP streamlines centralised management.
- **Direct Access & Log Control:** Gain immediate control over access permissions, call logs, recordings, and playback.
- **Multi-Door Support:** Manage multiple doors effortlessly, enhancing both security and convenience.

To connect personal devices via the internet, frogCloud is essential. The frogTerminal automatically registers with the cloud when configured by the Installer or System Administrator.

3.7. Mixed Operation

The frogTerminal supports simultaneous operation of all modes:

- Direct SIP calls to local devices
- Registration with multiple telephony systems (using various SIP servers)
- Smartphone calls via the frogCloud

3.8. Video Intercom

With an integrated camera, audio, and display, the **frogTerminal** offers comprehensive video intercom capabilities. In contrast, the frogStation and frogDisplay support video reception but are optimised for audio-only transmission. New features such as announcements and baby monitor functions are currently under development.

4. Access Control Overview

4.1. Introduction

The frogTerminal offers convenient, time-controlled and multi-factor access control using PIN Codes, RFID cards, and Phone Calls. A **cloud** or network **connection** is **not required** for these functions.

The terminal supports the **Mifare DESFire EV2** international card standard. RFID cards or key tags only need to be configured on one frogTerminal, and they can be used across **all terminals** in the same **project** with **no additional setup**. A network connection is not required, though it simplifies administration for remote management.

4.2. Decentralised Access Control

With frogblue, user data is stored directly on RFID cards or key tags. Terminals read the data during card scans, eliminating the need for network or cloud connections.

For all terminals in a project to read the encrypted data, they must share the same encryption settings, which include:

- A 10-digit RFID code
- Project Timestamp

Changes to user data—such as updated PINs or access permissions—only need to be made on one terminal (for example, at the main entrance). The system then automatically updates the card with the new data the next time it is used, ensuring a seamless update process. Blocking a card follows the same process.

Note: Synchronisation via IP network and locally via Bluetooth and a cloud-based access management system with time tracking is currently in development.

4.3. NFC/RFID Card Information

The RFID card stores all essential user access data, including:

- Name, first name, and personnel number
- Issue date
- Validity period (start date/time to end date/time)
- Personal PIN code for access
- Weekly access schedules
- Up to 20 access zones

Each **frogTerminal** reads and interprets the card's contents whenever it is scanned. For example, changes to PINs or access schedules are **automatically updated** upon reading the card.

The terminal logs the card content, including timestamps for each operation. User information and access times can be viewed directly on the terminal display or via the frogSIP App. If a network connection is available, these logs can be reviewed remotely via a web browser.

4.4. Access Functions

RFID cards or key tags define user-specific access rules. These include PINs, weekly schedules, and access zones. Additional terminal-specific settings can override or adjust these rules (***Access Control→Terminal Settings***):

- PIN Requirements
  - Certain doors can be configured to allow access without requiring the user's personal PIN code, e.g. for internal doors. (PIN code Source: "NONE")
  - Alternatively, a door can be secured with a terminal-specific code. This PIN applies to all users equally, overriding personal PINs. (PIN code Source: "TERMINAL")
- Time Restrictions
  - Access times can be based on the individual card schedule or configured globally for all users at the terminal (Time Table Source: "Card" or "TERMINAL").
  - Time restrictions can also be disabled entirely for specific terminals (Time Table Source: "NONE").

4.5. Special Access Functions

RFID cards can store additional features:

- Automatic SIP Phone Call (SIP URI)
- A phone number which can be dialled automatically when the card is presented.
- IP Link - automatically trigger or integrate external systems (e.g. time tracking or special functions).

These features allow RFID cards to act as function triggers rather than just user-specific access tools. For instance, an RFID card labeled "Storage Access" could be shared as needed.

Special Function Settings at Terminals have 3 general options:

1. **NONE**: Special functionality is disabled.
2. **CARD**: The function stored on the RFID card is activated.
3. **Terminal**: The function stored on the Terminal is activated in place of that on the Card.

4.6. frogTerminal Access Control Settings Overview

The settings of the terminal can be configured via the on-screen display and remotely through the web interface. The following key access parameters must be set during initialisation:

- RFID Code: 10-digit encryption code for cards (hashed for security)
- Project Date: Shared date for card encryption across all devices in the project
- Project Number: Shared ID for project identification across all devices in the project (1-32,767)
- Zone: Assign the terminal to one of 20 access zones
- PIN Code Source: None, Card, Terminal
- Terminal PIN Code: 6-digit Access Code
- Time Table Source: None, Card, Terminal

- Terminal Table: Time Table for Access at this Terminal only
- Time Table Exception: None, PIN, or Request, e.g. for access outside regular schedules
- Authentication Call: Never, Card, On Exception, Always
- URL Source: None, Card, Terminal - The source for the Web-hook URL
- Terminal URL: Web-hook URL to for real-time integration of access events
- Date of Issue: Minimum Issue Date - Cards issued before this date are invalid

For different levels of security at various terminals, the following settings can be applied:

- NONE: Function is not required, e.g. access without PIN verification at specific Terminal.
- CARD: The function parameter is read from the RFID card.
- STATION: The parameter is retrieved from the terminal itself - e.g. a global PIN for all users at a specific location or direct integration at this specific access point, e.g. time and attendance, worksite management, nurse call, or logistics systems.
- PIN Authentication: Access can occur without an RFID card, using only a PIN stored in the terminal.

4.7. Adding and Blocking RFID Cards

Adding Cards:

A user can self-register an RFID card if an authorised station confirms the action via a SIP phone call. The user enters their personal details (e.g. name, personnel number), while an administrator approves the data and sets additional parameters.

Blocking Cards:

Blocking a card must be performed locally on all terminals, as each maintains its own negative list of blocked cards. Remote blocking via the web interface is possible.

Note: In a cloud-based solution, blocking is centralised and does not require action at each terminal.

4.8. User Display at the Terminal

The terminal displays the following for users:

- Large bell icon: For unauthenticated users
- Keypad menu: For PIN entry
- Settings menu: For admin access
- Date and time display: Helps identify incorrect terminal settings
- Time tracking options: "Check-in," "Break," and "Check-out" menus for time tracking

Note: As an example the ODOO ERP system includes a time tracking module, an integrated solution with frogblue and ODOO is currently in development.

5. Hardware Integrations

5.1. Relays and Inputs

The frogSIP terminal includes a potential-free relay output (24V/1A), which can directly control a door lock when connected to an external power supply (12V or 24V). It also features 2 input ports that can be directly connected to buttons or magnetic contacts without requiring additional power supply. These inputs can be configured for:

- Triggering a doorbell via an external button to call a SIP endpoint
- Automatic calls triggered by sensors (e.g. motion detectors or light barriers)
- Sending signals via Bluetooth Mesh (e.g. for lighting control) or IP
- Monitoring door status with magnetic contacts (open/closed); with the second input, it can register whether the door is locked

5.2. IP Link Integration

The terminal supports activating external systems via IP links. For example, scanning an RFID card or pressing a button can trigger functions such as:

- Opening a parking barrier
- Raising a roller door
- Triggering video recordings on an external camera

5.3. PIN-Control

Preconfigured Function PIN codes linked to specific IP commands or Mesh messages can be used to control external systems or hardware. Function PINs can be shared among all users and used to control for example: lighting or gates, security cameras, or third-party software.

5.4. USB-C Expansion (USB 2.0 compatible)

The terminal's USB-C port enables connections for frogblue hardware expansions, including:

- Internal hardware (e.g. sensors, mechanical keypads)
- External USB devices (e.g. local data storage or additional control modules)

5.5. Bluetooth Mesh Integration

The terminal includes a frogblue Bluetooth Mesh interface for integration into frogblue projects. It fully integrates into frogblue projects via the frogProject App.

5.6. Vario Module Slot

The frogSIP Terminal Vario includes a dedicated slot for a Vario module, enabling the integration of third-party modules such as:

- Time tracking systems
- Fingerprint readers

At this stage, integration is supported only for the Siedle 1 and 2 range via direct switching inputs/outputs. These modules can function independently or be linked to the terminal's hardware to trigger predefined actions.

6. Core Features

6.1. Access Control Features

The frogTerminal supports multi-party doorbell functionality, enabling calls to SIP endpoints or smartphones for access control. Two-way video and audio communication is possible with hands-free operation. Access functions include:

- Doorbell and manual door unlocking: Calls to smartphones or SIP phones with rerouting outside access times.
- PIN-controlled access: Shared or user-specific PINs with individual schedules.
- RFID cards or tags (DESFire EV2 standard): Weekly schedules supported.
- Two-factor authentication: RFID card + personal PIN with schedules.
- Three-factor authentication: RFID card + PIN + visual verification via phone call.
- Visual verification via phone call: Outside regular access times.
- frogKey (Bluetooth Transponder): For vehicle-based access with time restrictions.

6.2. SIP Telephony Features

The frogSIP terminal features a globally standardised SIP telephony module with two-way video support over the network. Key benefits include:

- Direct compatibility with SIP endpoints (e.g. Grandstream IP video phones)
- High video and audio quality without external conversion modules, avoiding quality loss
- Direct IP calling without a SIP server for simpler setups
- Multi-SIP server support for complex installations
- Smartphone integration via the frogSIP app and frogblue SIP server, hosted in a secure German data centre
- The frogSIP app offers direct integration of frogblue functions such as:
    - Door unlocking
    - Light control
    - Camera adjustments
    - Recording access and playback

Third-party SIP apps like LinPhone, 3CX, Bria, etc. can also be used but may require DTMF key-based operation for additional functions.

6.3. Recording and Event Management Features

The terminal can trigger recordings for every action. Features include:

- Full-resolution raw image storage (4 MB) for post-processing and zooming
- Configurable pre- and post-alarm snapshots
- Detailed metadata for every recording, including:
    - RFID card information
    - Video feed parameters (e.g. exposure settings)

6.4. SIP Telephony Registration and Costs

Registration of smartphones is quick and easy using a QR code generated by the terminal. This automatically configures the doorbell to route calls to the smartphone.

A single smartphone registration per terminal is free and anonymous, requiring only email confirmation within 12 hours. Advanced features like external cloud storage or additional frogblue SIP users are billed monthly.

7. Access Management

7.1. Cloud-Based Access Management (frogAccessControl)

For large networks with multiple terminals at different locations, centralised administration via the cloud-based frogAccessControl is the optimal solution. This system enables:

- Instant updates to all terminals with a single action
- Immediate blocking of RFID cards across all terminals

This cloud solution is currently in development and builds upon the functionality of frogControl and the frogSIP server, integrating a database for centralised management.

7.2. Local User Management (frogEasyAccess)

For smaller setups without intensive administration, the frogEasyAccess solution offers simple and efficient user management without requiring cloud integration. This approach:

- Allows RFID cards configured at one terminal to work seamlessly on others within the same project, without additional setup.
- Stores user data directly on RFID cards, including:
  - PIN code
  - Weekly schedules
  - Zone authorisations
  - All terminals within a project must share the same RFID encryption settings (RFID code and project date) for compatibility.

Key Benefits:

- Cards initialised at one terminal are automatically functional on others within the same project.
- Terminals can be grouped into up to 20 access zones, with cards able to be assigned to multiple zones.
- Security settings can be adjusted for each terminal (e.g. disabling PIN requirements at some terminals).
- Multi-factor authentication can be enabled for additional security, e.g. requiring video verification via SIP phone call.

Note: An IP network or Bluetooth Mesh is recommended to ensure time and date synchronisation across terminals.

7.3. RFID Card Encryption

RFID cards are encrypted for security. Terminals in a project must use the same encryption settings, which are derived from:

- A 10-digit **Master Key**
- The project's issue date
- The project's identifier (1-32,767)

This combination generates a unique key through a hash algorithm. Multiple projects can coexist without conflicts, as the project date & identifier ensures uniqueness even if the Master Key is accidentally reused.

7.4. RFID Card Initialisation and Authentication

When initialised at a terminal, RFID cards store:

- User details (name, personnel number)
- Access information (PIN, zones, weekly schedules)

Terminals read the card data for local, decentralised access decisions, even without a network connection. This eliminates the need for manual registration at every terminal.

Remote management of user data is also possible through:

- The terminal's web interface
- The frogSIP app on a smartphone

This provides the foundation for enhanced cloud functionality.

7.5. Information Stored on the Card

RFID cards contain the following information:

- User details: Name, first name, personnel number
- Validity period: Start and end dates
- Zone assignments (up to 20 zones)
- A 6-digit personal PIN
- Weekly access schedules
- IP link for triggering functions over the network
- SIP phone number for automatic calls upon card scanning
- Terminal ID and issue date of the initialising terminal
- An AllStation flag allowing the card to work on all terminals within the project
- Customisation per terminal: Specific parameters (e.g. PIN requirements or access schedules) can be adjusted at individual terminals without modifying the card.

7.6. Terminal Settings

Configuration data for Terminals includes:

- RFID Code: Encryption code shared across the project.
- Project Date: Used with the RFID code to generate encryption keys.
- Authentication Modes: PIN, CARD, TERMINAL, PIN request, CARD request.
- Zone Assignment: One of 20 zones for the terminal.
- PIN Source: NONE, CARD, or TERMINAL.
- Access Time Source: NONE, CARD, or TERMINAL.
- Exception Handling: NONE, PIN, CLOUD, or REQUEST (e.g. for emergency access).
- Issue Date: Only cards issued after this date are valid.

7.7. Adding and Blocking Cards

Users can add RFID cards themselves with approval via a SIP phone call from an authorised station.

Adding RFID Cards:

- Admin add locally.
- Admin over third party RFID reader (future / typical hotel solution / Web/Cloud).
- In development - frogCast Mesh (IP distribution of access rules).

Blocking RFID cards:

- Can be done locally at all terminals.
- Can be performed remotely via the terminal's web interface.
- Block all with validity time.

In a cloud-based system, blocking occurs centrally and does not require individual terminal updates.

7.8. User Interface for Access Control

The terminal displays user-friendly options for:

- Doorbell icons for unauthenticated users.
- Keypad menu for PIN entry.
- Settings menu for admin access.
- Date and time display to identify incorrect settings quickly.
- Time tracking options (e.g. "Check-in," "Break," "Check-out") for attendance management.

8. Commissioning

8.1. Setup Process

The frogTerminal features an intuitive setup wizard to guide administrators through the configuration process step-by-step. The wizard simplifies the initialisation of key settings such as:

- Network and power connections.
- SIP registrations.
- RFID encryption parameters.
- Access zones and schedules.

Once the initial configuration is complete, administrators can further refine settings via the terminal's web interface or touch display.

8.2. Initial Setup Requirements

During commissioning, the following parameters must be configured:

- Network Configuration: IP address, PoE or Wi-Fi settings
- SIP Registration: Integration with SIP servers or enabling direct SIP calls
- RFID Encryption Settings:
    - 10-digit RFID encryption code.
    - Project date (shared across all terminals in the project).
    - Zones and Time Schedules.
    - Assignment of the terminal to one of the 20 zones.
    - Configuration of weekly access schedules.
- PIN and Access Settings:
    - Default PIN modes: NONE, CARD, TERMINAL, or CLOUD.
    - Time schedule source: NONE, CARD, TERMINAL, or CLOUD.
    - Exceptions handling (e.g. emergency access): NONE, PIN, or REQUEST.
- Physical Setup:
    - Connect power (PoE or external supply).
    - Verify input/output connections for relays, buttons, or sensors.

9. Advantages & Differentiation

The frogTerminal offers several advantages over competing access terminals:

- Integrated 8 MP Camera: Provides visual verification and 180° hemispheric recordings.
- Integrated Video-SIP Telephony: Enables remote operation by receptionists or security staff.
- Three-Factor Authentication: Combines RFID card, PIN, and phone call (with video).
- Direct Worldwide Video Calls: To smartphones or SIP phones (Mac and PC support in progress).
- Call Notifications for Unauthorised Access: Alerts for incorrect PINs or restricted users.
- Simple Multi-Terminal Management: Access management across up to 20 zones, even without an IP network.
- Group Management with Centralised Storage: Available through the frogCloud in Phase 2.
- Integration with External Hardware: IP or Bluetooth-based control for lighting, gates, or barriers.
- No Additional Hardware Required: Eliminates the need for external computers or servers.
- High-Speed Network Connectivity: 1-Gbit Ethernet with PoE or Wi-Fi support (24V AC/ 12V DC power).
- Low Power Consumption: Only 5-8 watts.

10. Additional Features

10.1. Multi-Party Doorbell Functionality

The frogSIP terminal supports multi-party configurations, allowing different tenants or users to utilise:

- Personalised doorbell labels on the touch display
- Apartment dialling with custom or predefined numbers
- Integration of external buttons for specific calls or triggers

10.2. Enhanced SIP Telephony Features

The frogSIP terminal leverages the SIP telephony standard for robust communication:

- Direct IP Calling: Eliminates the need for a SIP server in small setups, reducing hardware costs and administrative overhead.
- Multi-SIP Server Registration: Supports registration with multiple SIP servers simultaneously for complex systems or multi-tenant scenarios.
- Smartphone Integration via frogSIP App: Available for both iOS and Android. Facilitates calls to smartphones with integrated door control options.
- Desktop Compatibility: The frogSIP app is available for Mac. PC support is under development.
- Browser-based SIP functionality (similar to WhatsApp) is in progress, requiring no browser plugins.

- Recording and Event Management: Full-resolution recordings triggered by actions at the terminal.
- Configurable pre- and post-event snapshots for detailed analysis.
- Metadata stored with each recording, including RFID card usage and current video settings.

10.3. Access Control Innovations

The frogTerminal enables time-controlled access using RFID cards, PINs, or phone calls. Advanced features include:

- 2-Factor Authentication: RFID card + PIN for enhanced security.
- 3-Factor Authentication: RFID card + PIN + video call verification for critical access points.
- Event-Based Notifications: Alerts for failed access attempts, misuse, or specific user access events.

10.4. Integration with Third-Party Systems

The frogSIP terminal supports integration with external hardware and systems via:

- IP Links: For controlling external devices like parking barriers or lighting systems.
- Bluetooth Mesh: For seamless integration with frogblue building control modules, such as:
  - frogRelay: For gate control.
  - frogDim: For lighting management.
- Hardware Expansion via USB-C: Supports internal and external hardware extensions (e.g. motion sensors, additional cameras, or keypads).
- MQTT and JSON REST API for advanced software integrations and future proofing.

10.5. Cloud-Based Management

The frogTerminal is designed for seamless integration with the frogCloud for advanced features like:

- Centralised user and group management.
- Synchronised updates across all terminals in a system.
- Remote management and blocking of RFID cards in real-time.

10.6. Local Management Features

For smaller systems, the frogEasyAccess solution offers:

- Decentralised user management with encrypted data stored on RFID cards.
- No reliance on the cloud for functionality.
- Compatibility across terminals within the same project without re-registration.

Why No Reliance on the Server or Cloud for Functionality?

One of the key advantages of a **decentralised access control system** that stores access data, time rules, and permissions directly on the card is that it eliminates the need for **server-based authentication** or continuous server connectivity. Here's why this is beneficial:

1. Works Independently of Network Connectivity
   Traditional cloud-based access control systems require a stable **connection** for user authentication, permission verification, and logging access events.
   In contrast, a **decentralised system functions entirely offline**, meaning users can still access secure areas even if there is an **internet outage** or **network disruption**.
2. Eliminates Single Points of Failure
   Cloud-dependent systems introduce risk: if the cloud server is down or experiencing latency, access can be **delayed or denied**.
   By storing data **locally on the card**, users are not affected by **server downtime**, network failures, or cybersecurity incidents targeting the cloud infrastructure.
3. Enhanced Privacy & Data Security
   Cloud-based access systems require centralised data storage, making them a target for cyberattacks, data breaches, or unauthorised access.
4. Faster Authentication Times
   With **on-card authentication**, the terminal reads the card **instantly**, removing **network latency** and significantly improving access speed.
5. Seamless Multi-Terminal Access Without Re-Registration
   With centralised or cloud-based authentication, every terminal must **sync** with the server to validate user credentials.
   A decentralised system allows terminals within the same project to recognise a card automatically, without requiring user re-registration or database synchronisation.

Key Takeaway: By **storing access data on the card**, we achieve a system that is:

- **Resilient**: Works even when the cloud is down
- **Secure**: No centralised database to hack
- **Fast**: No network delays
- **Private**: No personal data transmitted over the internet
- **Independent**: No vendor lock-in or reliance on cloud services

This approach ensures **maximum uptime, reliability, and seamless access across multiple terminals**, making it a superior alternative to cloud-dependent access control systems.

10.7. Power and Connectivity Options

The frogTerminal supports multiple power and connectivity options for flexible installations:

- Power over Ethernet (PoE): Simplifies wiring and reduces the need for separate power supplies.
- Wi-Fi Support: For installations without network cabling.
- 12V DC or 24V AC Power: Alternative power options for diverse environments.

10.8. Time Tracking and Attendance Management

The terminal can be configured for time tracking, enabling users to:

- Check-in and check-out for attendance purposes.
- Record break times.
- Export attendance data to compatible systems like the ODOO database.

B. Installation Scenarios

1. frogTerminal: Getting Started

The on-device wizard simplifies the initial configuration of the frogTerminal, walking you step by step through the essential settings. It ensures a smooth installation experience, even for users with minimal technical expertise.

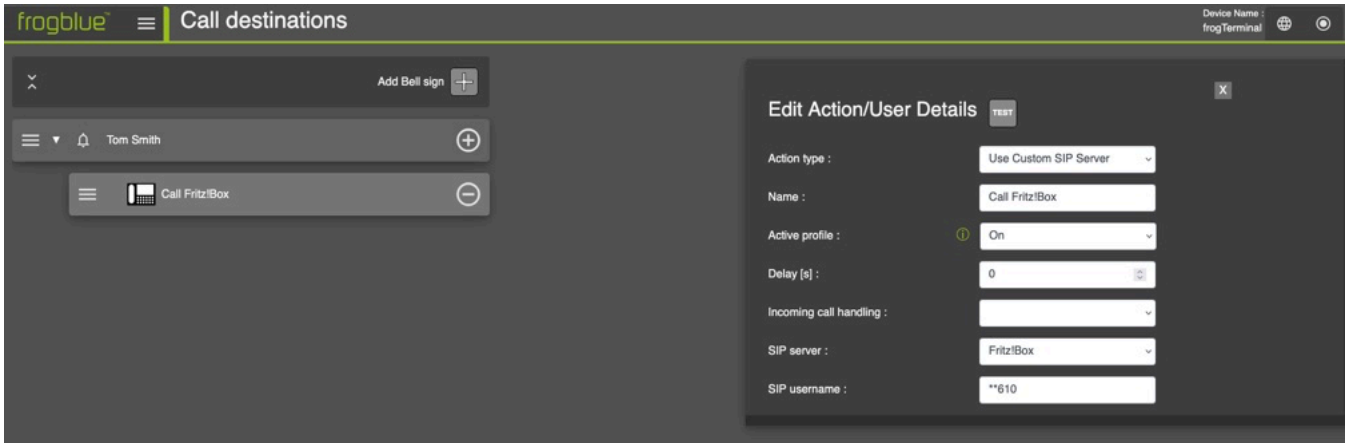
Refer to **Section 4 in *C. Technical Installation Manual*** for a step-by-step guide.

2. frogTerminal with FRITZ!Phone & FRITZ!Box

In this example, the frogTerminal is connected to a FRITZ!Box. When the bell sign on the frogTerminal is pressed a FRITZ!Phone connected to the FRITZ!Box rings.

Configuration Steps:

- frogTerminal: Add SIP server (***C. Technical Installation Manual, Section 18.2)***
- frogTerminal: Add bell sign (***C. Technical Installation Manual, Section 8.1)***
- frogTerminal: Add bell action to call phone (***C. Technical Installation Manual, Section 8.1.1)***
  - ***Action type***: Use Custom SIP Server
  - ***SIP Server***: Select your FRITZ!Box
  - ***SIP Username***: e.g. "**610" (FRITZ!Box internal extension)



3. From frogTerminal to frogDisplay & frogStation

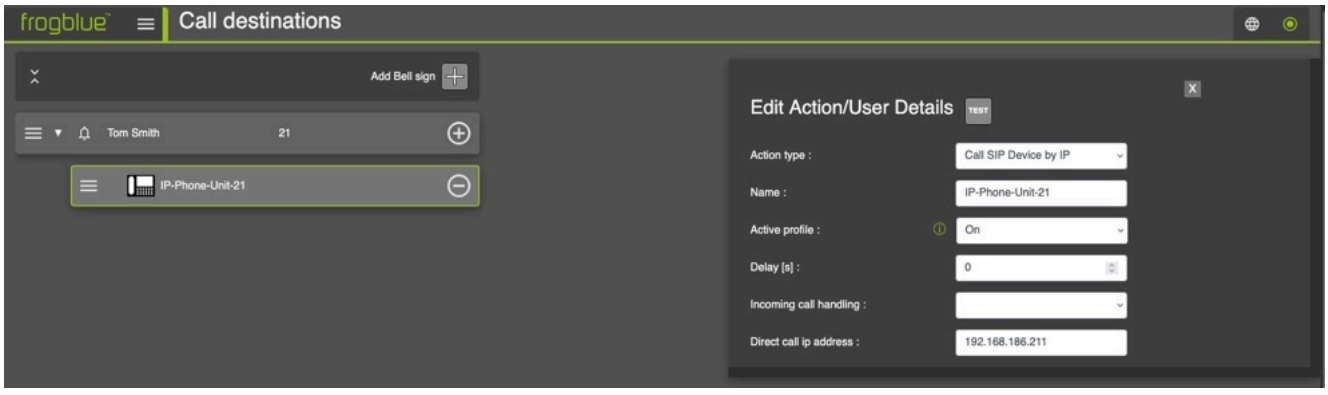
In this scenario, when the bell sign on the frogTerminal is pressed, the frogStation or frogDisplay rings. If the call is not answered, it is forwarded to the smartphone.

Configuration Steps Overview:

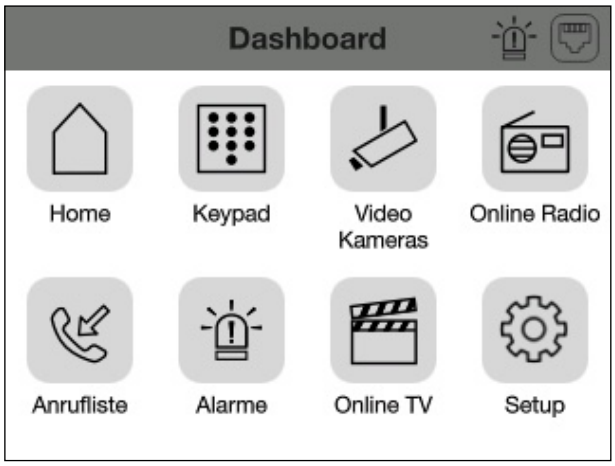
1. frogTerminal: Add a bell sign (***C. Technical Installation Manual, Section 8.1)***
2. frogTerminal: Add bell action to call frogDisplay (***C. Technical Installation Manual, Section 8.1.3)***
3. frogDisplay/frogStation: See frogDisplay / frogStation Settings (steps below)
4. frogTerminal: Add bell action for redirection (***C. Technical Installation Manual, Section 8.1.11)***
5. Pair your smartphone with frogTerminal (***C. Technical Installation Manual, Section 5.6)***

Configuration Steps:

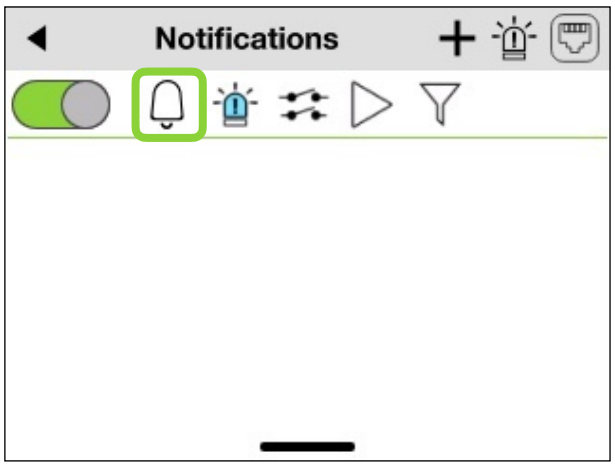
Steps 1 & 2: Open your web browser and enter the Terminal's IP address to access the configuration interface. Then add a Bell Sign and configure an Action. Enter the IP address of your frogDisplay/ frogStation in the field ***Direct call IP address***. See ***C. Technical Installation Manual, Sections 8.1*** and ***8.1.3.***



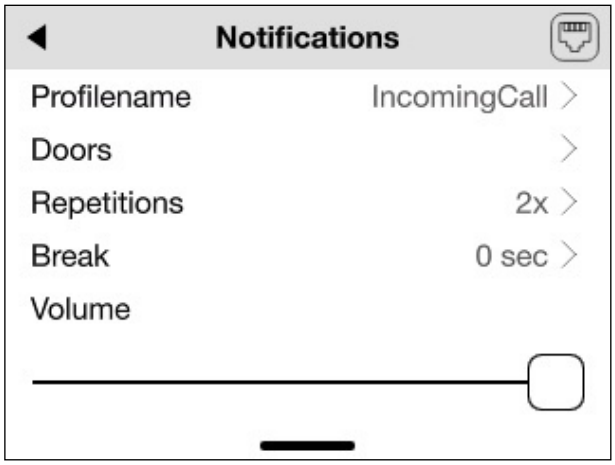
Step 3: frogDisplay / frogStation Settings: The frogDisplay/frogStation uses the following default settings. Please check that the settings still match your intended configuration:



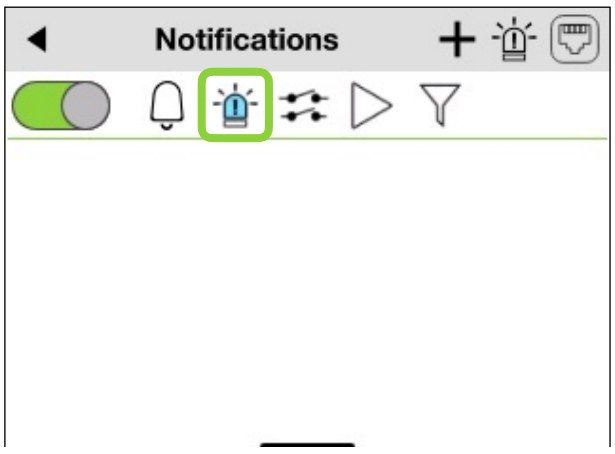
- On your Dashboard, tap ***Alarms***.



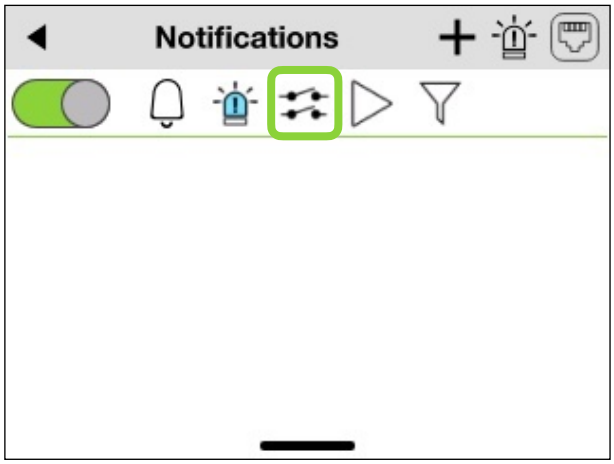
- Tap on the bell icon.



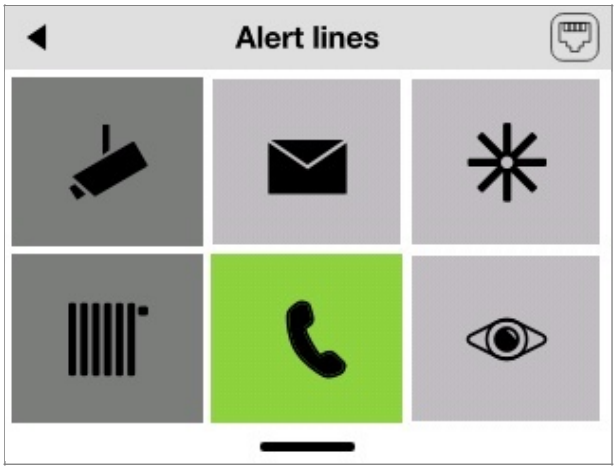
- Edit the profile name.
- Set the number of repetitions of the sound signal.
- Set the break time between the repeated sound signals.
- Adjust the volume of the sound signal.



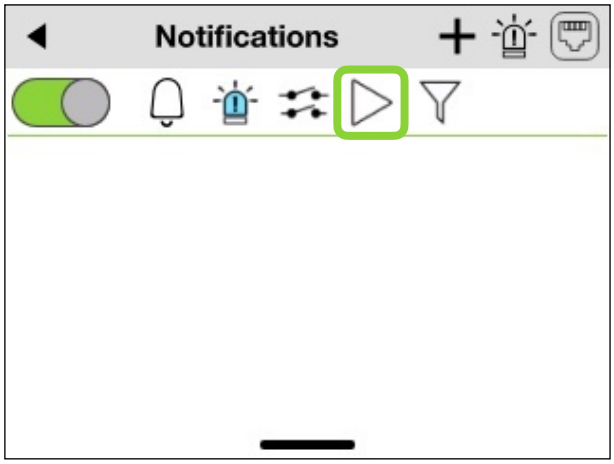
- Ensure that the alarm icon is active (i.e. blue).



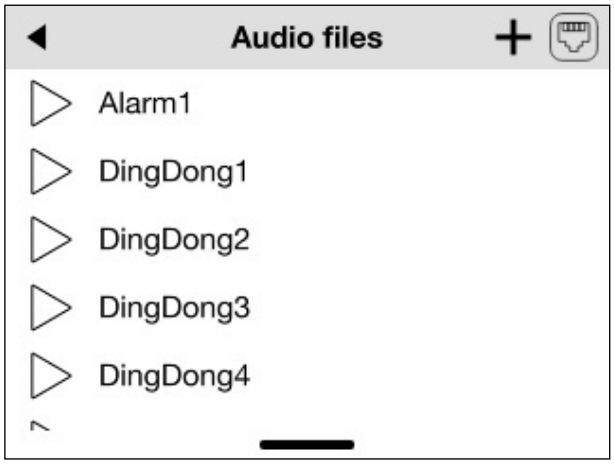
- Tap on the alert lines.



- Swipe to the left and select the phone icon.



- Tap and hold the play icon to select your preferred alarm sound.



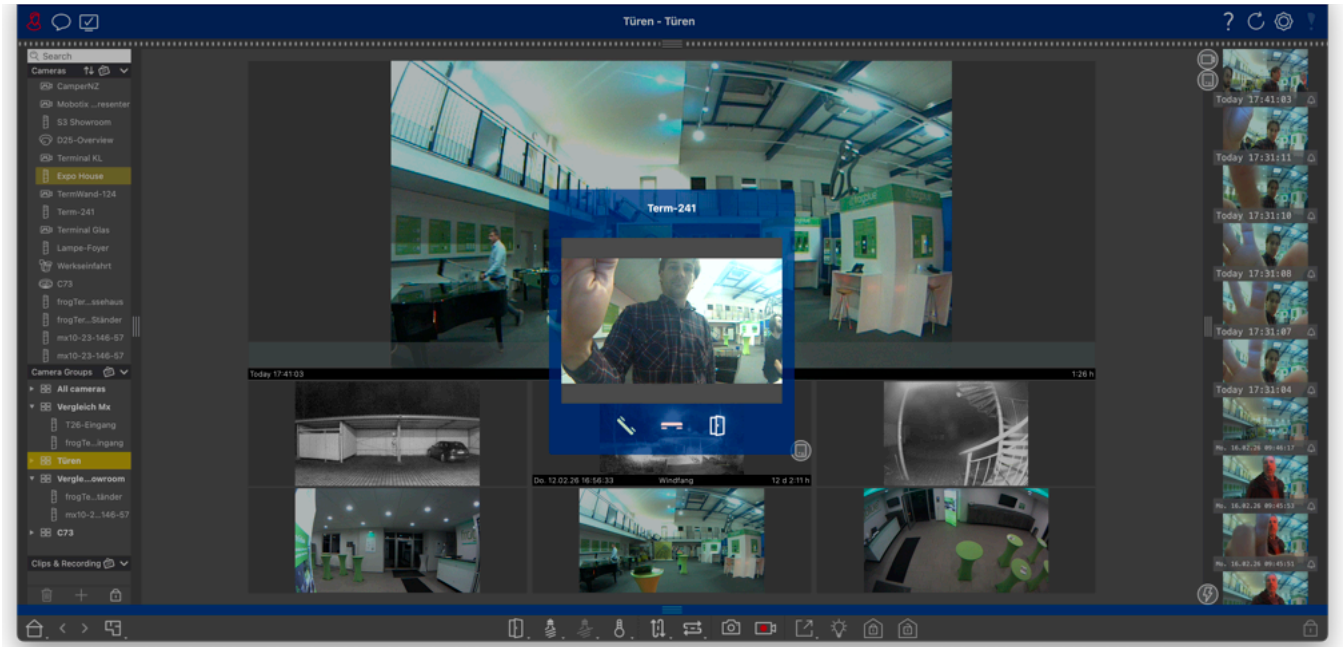
- Click on the name to select the sound. The selected sound appears green.

Step 4: From the Terminal's Webinterface follow the steps in ***C. Technical Installation Manual, Section 8.1.11*** to add a bell action for redirection.

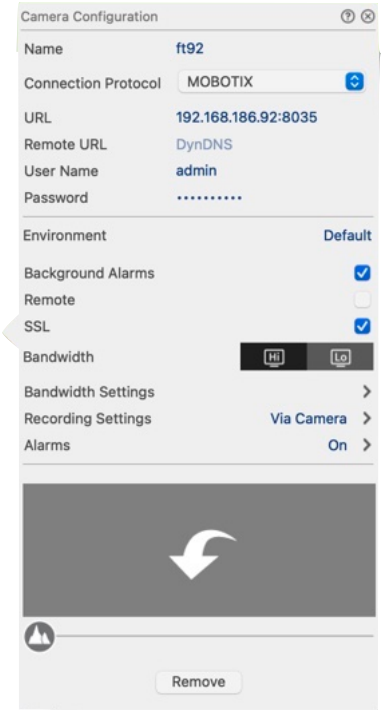
Step 5: To forward the call to a smartphone, add an additional bell action by clicking ➕ next to the contact (e.g. "Tom Smith"). Then select the desired **Action type**: *Invite frogSIP Contact* or *Call frogCloud SIP Account*. To pair your smartphone with the frogTerminal, please refer to ***C. Technical Installation Manual, Section 5.6***.

4. frogTerminal Integration to MOBOTIX Management Center (MxMC)

The frogTerminal integrates with MxMC via the EventStream on *Port 8035*.



To set up your frogTerminal with MxMC the following steps and settings apply:



- Open MxMC and add a new device
- Enter a ***Name*** for your frogTerminal
- Enter your ***Username*** and ***Password***
- Check to enable ***Background Alarms*** *(events)*
- Check ***SSL*** to use a secure connection
- Save, Refresh, and trust the SSL certificate when prompted

For detailed information on integrating your frogTerminal into MxMC see ***C. Technical Installation Manual, Section 20.4***.

5. Link frogTerminal and KNX

To connect your frogTerminal to a KNX system, first install the latest version of the frogOS firmware on your frogTerminal. Also ensure that a KNX IP gateway is integrated into your KNX project. All devices must be on the same network, and the frogTerminal must be integrated into a frogProject.

From KNX to frogTerminal

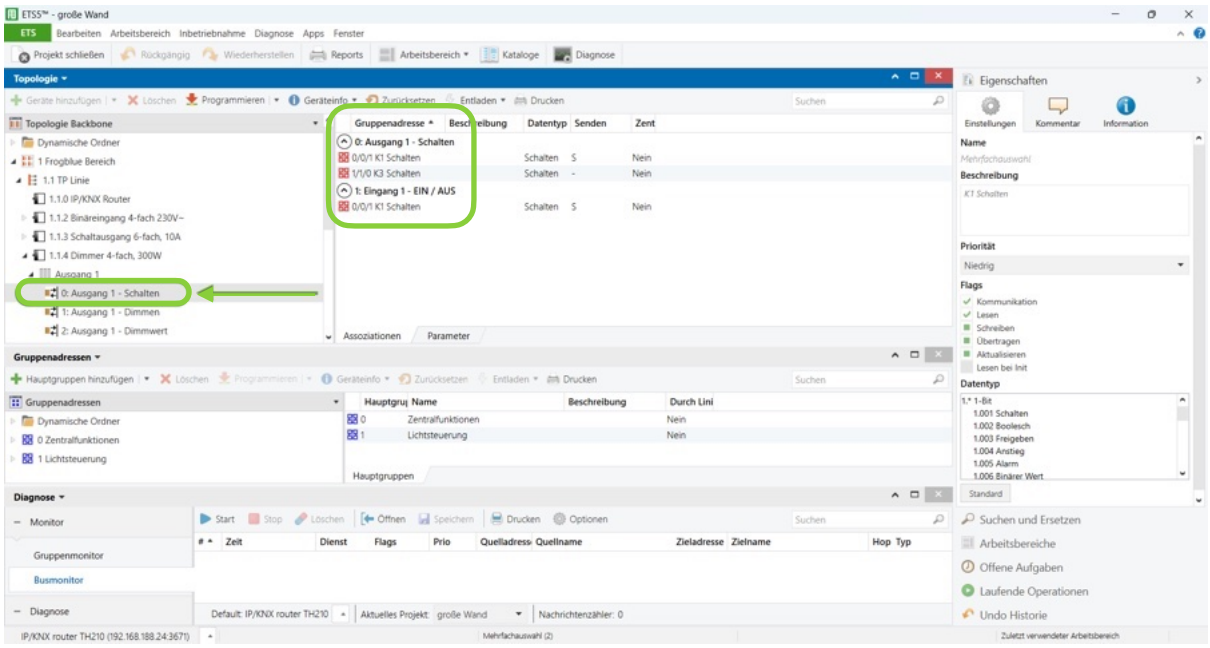
For example, if the front door light is controlled via KNX, a frogMessage can be triggered as soon as that light is switched on. This frogMessage can then be used to switch on the stairwell light as well.

Configuration overview:

- Read out the KNX group addresses
- Insert the KNX group addresses into the frogblue Event Management system

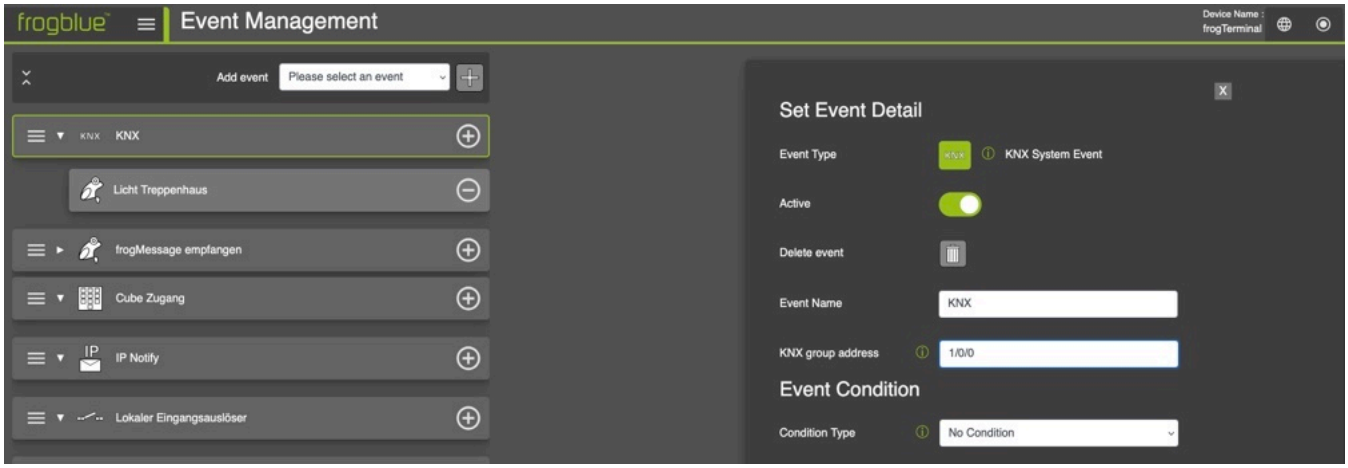
To read out the KNX group addresses, use ETS, the standard KNX engineering software for configuring KNX systems.

- Start *ETS* und navigate to *Topology*.
- In the left-hand panel, select the output to be switched, e.g. "Output 1".
  The associated KNX group addresses are then shown in the (***ETS5 → Middle window, ETS6 → Right-hand list view***). In this example, we use the group address "1/0/0".

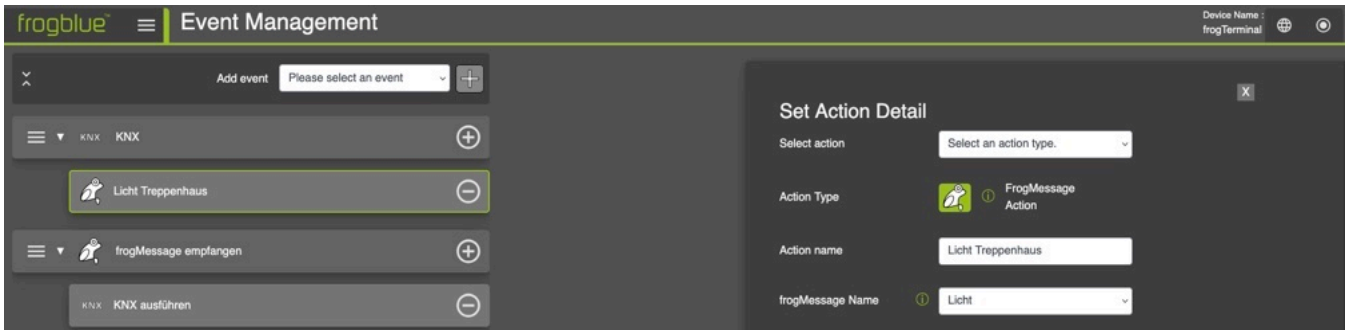


Open your web browser and enter the IP address of the Terminal to access the configuration interface.

- Navigate to ***Settings → Event Management***
- Add a ***KNX System Event***: Select the Event Type ***KNX System Event*** from the drop-down menu and click the ➕ button.
- Enter e.g. "1/0/0" as the ***KNX group address***.



- To the right of the KNX event entry, click + to add an Action to the event.
  Then select the required frogMessage from the frogMessage Name drop-down menu.
- Select the corresponding frogMessage from the drop-down menu under ***frogMessage Name***.

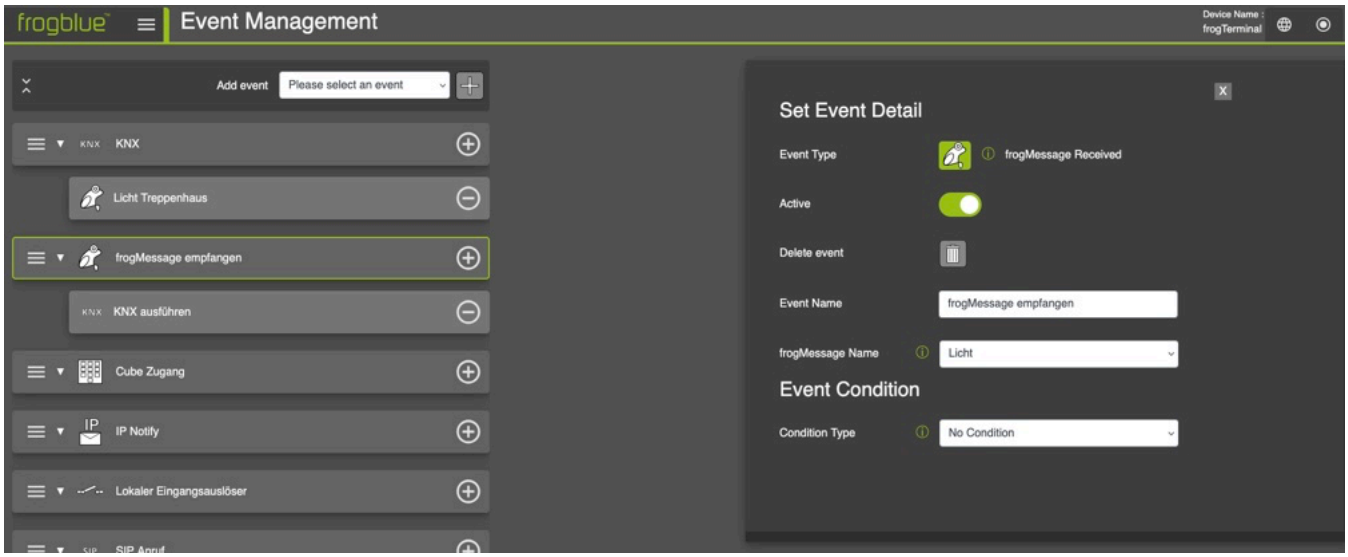


From frogTerminal to KNX

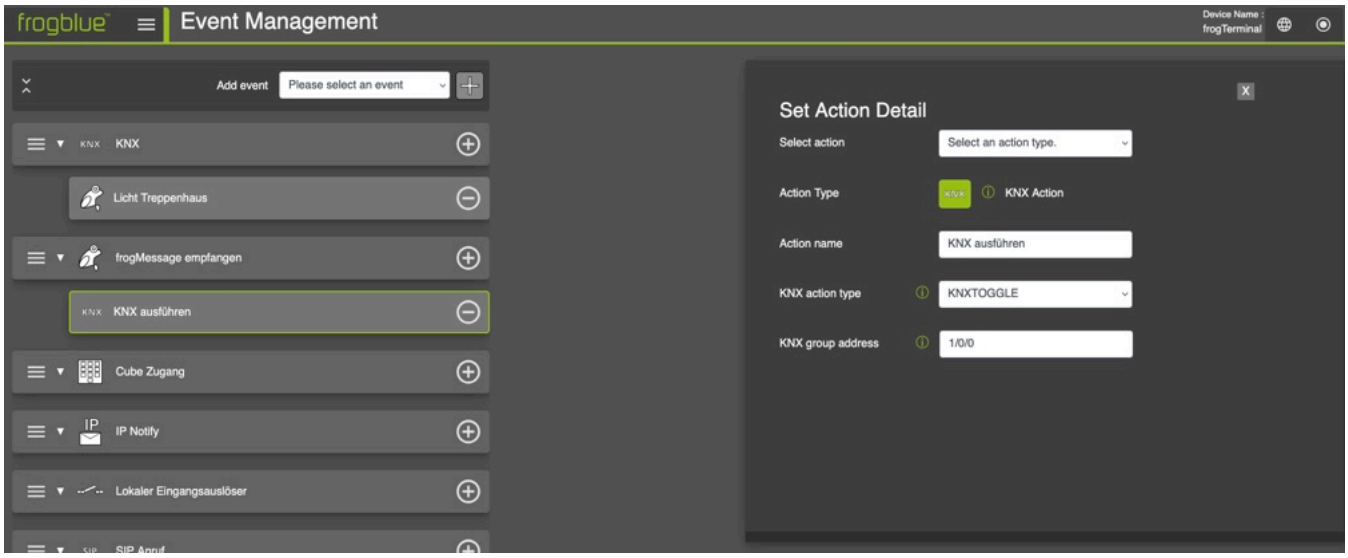
For example, you can use our multifunctional transponder *frogKey* to remotely switch the KNX-controlled light at the front door.

Configuration steps:

- Set up the event ***Receive frogMessage*** in the Event Management of the frogTerminal.



- Add a **KNX Action** to the *Event*.



C. Technical Installation Manual

1. Introduction

1.1. Purpose of the Manual

This manual provides step-by-step instructions for the installation, commissioning, and configuration of the frogTerminal. It is intended for professional installers, system integrators, and technical personnel responsible for deploying and maintaining the system.

The manual covers mounting, wiring, network setup, access control, SIP telephony, video and recording management, as well as advanced functions and integrations.

1.2. Safety & Compliance

Before installing and configuring the frogTerminal, read the following safety guidelines:

- **Electrical Safety:** Disconnect power before performing any wiring or maintenance.
- **Secure Installation**: Use strong passwords or keys for administrators. Ensure both side locking screws are secured. Consider flush-mount models to prevent unauthorised removal.
- **Compliance**: Ensure that the installation site meets all local electrical and safety regulations.

1.3. Tools & Equipment Required

To complete the installation, ensure the following tools and materials are available:

- Drill and appropriate drill bits for mounting.
- Security bit or screwdriver (can be ordered separately - frogTerminal TM-Sec).
- Level and measuring stick / tape.
- Network cable (Cat 5e or higher, if using Ethernet).
- 8-Pin Phoenix Connector for network cable connection (included in box).
- PoE Switch/Injector or 12V-24V DC (or 24V AC) power supply.
- RFID keys, cards, or tags for testing access control functions.
- Laptop or tablet device for web-based configuration.
- Tablet (or Laptop + frogLINK) with frogProject App installed for configuring automation via Bluetooth (Recommended: iPad running iOS 12.1 or later).
- Smartphone or device with frogSIP App installed for testing call functions.
- Smartphone or device with frogControl App installed for remote control and cloud automation functions.

Note: A frogDisplay is currently required for remote control via the cloud when paired with the frogControl App for automation. Local control works directly as always.
Terminal support is in development and will be included in a future software update.

1.4. System Overview

The frogTerminal is a networked access control and communication device that integrates SIP telephony, video intercom functionality, credential based access control, and third-party system integrations.

Key features include:

- **SIP Telephony**: Direct IP calling and multi-SIP server registration for advanced multi-tenant setups.
- **Access Control**: Decentralised credential management with encryption via PINs, Phone/NFC, RFID.
- **Multi-Factor Authentication**: RFID, PIN, Phone, video verification, and more via integrations.
- **Mesh Integration**: Provides infrastructure-free communication using frogCast®, frogblue's unified BLE + IP Mesh technology.
- **Cloud & Local Management**: Supports remote administration via frogCloud and standalone operation for instant failover redundancy or completely private setups with VPN support.

1.5. Installation Workflow Overview

Installation and commissioning of the frogTerminal follow these key steps:

- **Pre-Installation Planning**: Assess the mounting location, power, and network requirements.
- **Physical Installation**: Securely mount the device, connect power, and network cables.
- **Initial Setup**: Use the touchscreen wizard to configure initial admin credentials and network settings.
- **System Configuration**: Set up access control, SIP telephony, and integrations via the touchscreen or web interface.
- **Testing & Verification**: Ensure all functions, including door control and intercom, operate correctly.
- **Final Deployment**: Secure and backup configuration settings and inform end-users of operating procedures.

1.6. Support & Documentation

For further assistance, refer to:

- The latest firmware updates and documentation at **frogblue.com**
- Technical support via **authorised partners** or your nearest **frogblue CompetenceCenter**.
- Online troubleshooting and FAQs.

2. Pre-Installation Requirements

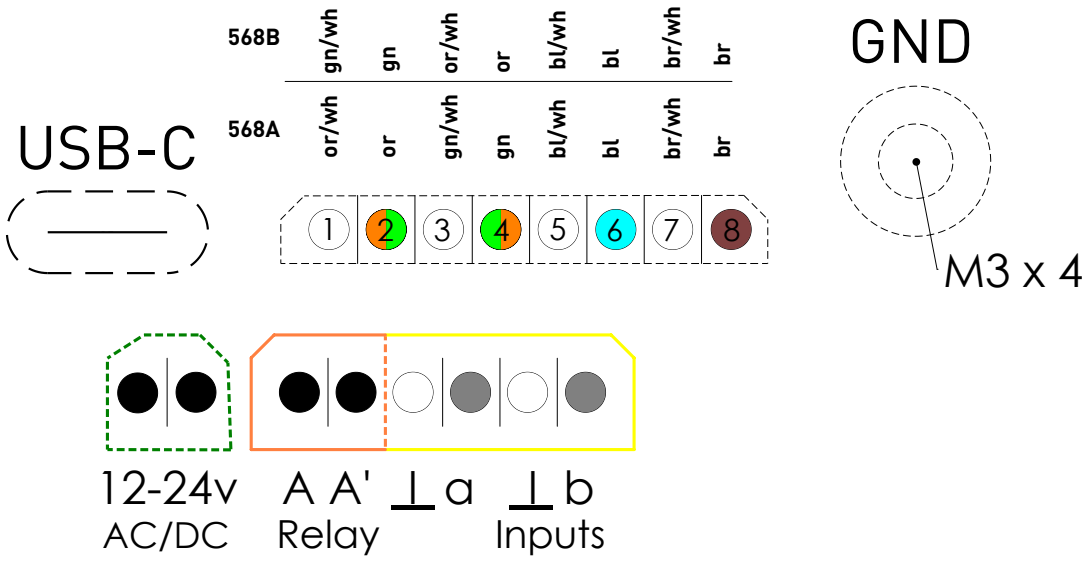
2.1. Site Requirements

Before proceeding with the installation, ensure the following conditions are met:

- **Mounting Surface**: Ensure the surface is stable and suitable for securely mounting the frogTerminal.
- **Power Availability**: Confirm the availability of PoE (Power over Ethernet) or a 12V-24V DC power source.
- **Network Connectivity**: A stable network connection must be available via Ethernet or Wi-Fi for full functionality. Standalone Automation & Access Control however, is supported even without network connectivity.

2.2. Power & Connectivity

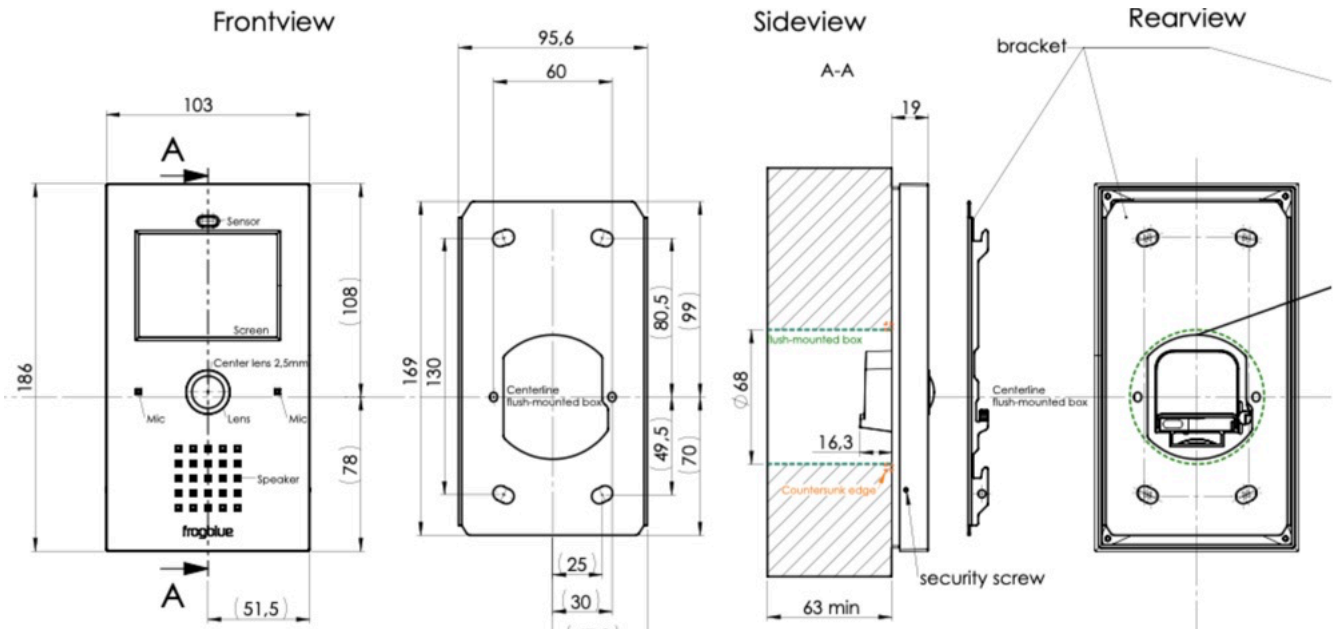
The frogTerminal supports multiple power, I/O, and network configurations with connectors for power, inputs, output, network, and additional expansion options:



- Power Options:
  - Power over Ethernet (PoE 802.3af, Class 3) via 8-Pin Connector (PTSM 0.5/8-P-2.5)
  - 12V-24V DC external power supply via 2-Pin Connector (PTSM 0.5/2-P-2.5)
  - 24V AC power source via 2-Pin Connector (PTSM 0.5/2-P-2.5)
  - Standby consumption is approximately 5W.
- Network Options:
  - Gigabit Ethernet for wired connectivity
  - Dual-band Wi-Fi (2.4 GHz and 5 GHz, 802.11 b/g/n)
  - Bluetooth Mesh for local frogblue device communication, automation & access

- Onboard Inputs & Output:
  - Inputs: 2 x Potential-free low voltage contacts (self-supply 2 V / max. 1mA, max. 30W / 50VDC)
  - Relay Output: 1 x potential-free relay output (max load: 30 W / 50 VDC.)
- Additional Connections:
  - M3 x 5 Grounding Screw Connector: Ensures proper earth connection and shielding for the PoE cable.
  - USB-C Port: Reserved for future expansions or accessories.
- Connection Tips:
  - Tighten screws securely on input/output connectors to ensure a stable connection.
  - Ensure the ground screw is connected for safety and shielding.
  - A small dab of non-permanent silicone adhesive can be applied to the sides of the phoenix connectors to keep them in place. Use a type that is easily removable for maintenance, such as neutral cure silicone, which won't damage the housing or connectors.
  - For PoE setups, use a compatible network switch or injector that meets the 802.3af / class 3 standard.

2.3. Dimensions & Weight



- Dimensions: (L x W x H): 186 x 103 x 35.3 mm
- Weight: 360g
- Back Box Dimensions: Standard Ø 68 mm diameter for socket and switch installations (DIN 49073-1 / EN 60670-1). Minimum depth: 53 mm for installation in the back-box module. Recommended depth: 63 mm for optimal installation of the back-box module.

2.4. Installation Site Assessment

Prior to installation, perform a site assessment to confirm:

- The optimal mounting height for ease of operation.
- The best network connection method (wired vs wireless).
- Sufficient clearance for device access and maintenance.
- Compliance with safety regulations and building codes.
- Telephony Assessment:
    - Multi-tenant setup: Verify communication options (SIP, DECT, or PSTN phone systems).
    - Smartphone compatibility: Confirm availability of smartphones running frogSIP App.
    - Cloud/Internet connectivity: Ensure remote telephony capabilities if required.

2.5. Required Components for Installation

Ensure all required components are available before installation:

- frogTerminal with up-to-date firmware or frogOS file ready before deployment: see ***frogblue.com → Support → Software.***
- Mounting bracket and screws (included in the box).
- Power source (PoE injector, DC power adapter, or AC power connection).
- Network cable (Cat 5e or higher for Ethernet setups).
- RFID cards or key fobs (if access control functionality is required).

2.6. What's in the Box

For the models frogStation KL, frogTerminal KL, frogTerminal Glas, and frogTerminal ALU, the following items are included in the box:

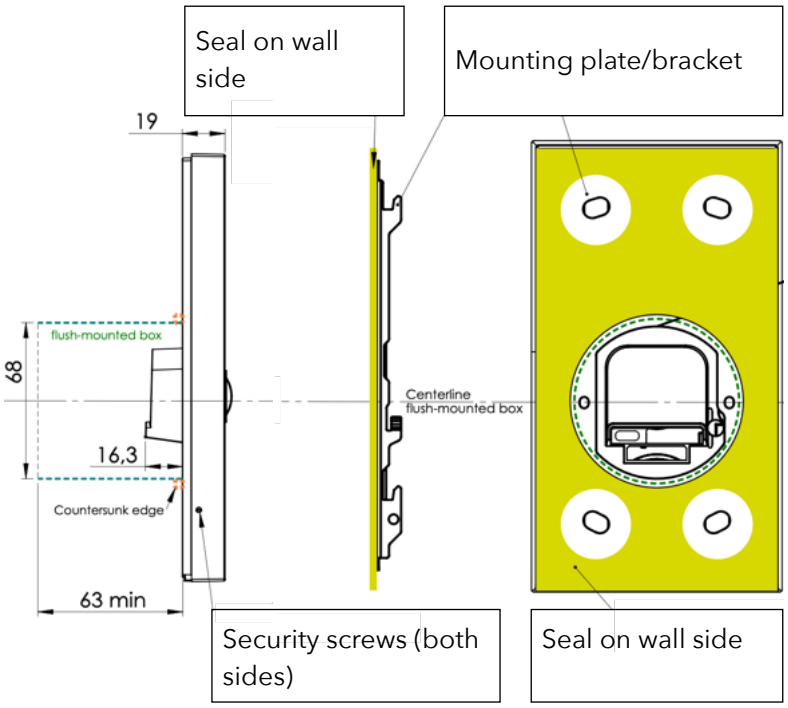
- Package insert sticker with serial, barcode and version information.
- frogTerminal, Aluminium mounting plate with attached gasket seal.
- 4 × screws (Ø4.5 × 40 mm).
- 4 x Insulation fixings - plastic spiral dowels or "anchor plugs".
- 4 × dowels or "anchor plugs" (UX6).
- 1.5 mm hex key (for locking side screws).
- 2-pin, 6-pin, and 8-pin Phoenix plug connectors (for power, I/Os, and Ethernet).
- 1 x RFID frogblue Card.
- Package leaflet with operating instructions.

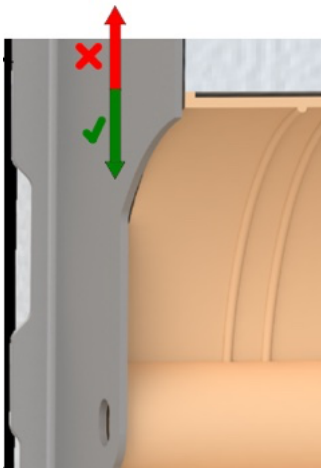
3. Physical Installation Process

3.1. Mounting the Device

Steps:

- Mount the terminal.
- Connect power (PoE or external).
- Wire inputs/outputs for relays or buttons.





Important: Edge of bracket must not be higher than socket!
Edge of the flush-mount box should be countersunk flush with the wall.

3.1.1. Standard Surface-Mounted Installation

Standard steps for an on wall surface-mounted installation with the following frogTerminal models: frogStation KL, frogTerminal KL, frogTerminal Glas, and frogTerminal ALU.

- Prepare a recess with a minimum depth of 53 mm (recommended 63 mm) and a flush-mounted junction box.
- Screw the mounting plate/bracket onto the flush-mounted box using the 2 screws.
- Align the plate and mark the 4 screw holes (use the holes as a template).
- Remove the mounting plate/bracket and drill the 4 holes.
- Insert the dowels or "anchor plugs" (UX6). If fixing to insulation, e.g. Styrofoam, use the included insulation Anchors (larger spiral type dowels).
- Fix and align the mounting plate/bracket using the 2 device screws (included in the box).
- Secure the mounting plate/bracket by screwing in the 4 included screws (Ø4.5x40) into the previously installed plugs (UX6).
- Connect the cables to the frogTerminal KL (PoE cable, Ground screw, Power, Inputs & Output).
- Ensure proper grounding (use the extra screw in the back panel).

- Place the frogTerminal KL onto the mounting plate/bracket and slide it down until it clicks into place.
- On the left and right sides of the door station, use the hex screwdriver to tighten the set screws, securing the door station against theft. Turn the screws anti-clockwise to activate the theft protection and clockwise to release it.

3.1.2. Flush-Mounted Installation

- Prepare the recess in the wall following the specified dimensions.
- Insert the flush-mount box and secure it with screws.
- Mount the frogTerminal into the box and align it properly.

3.2. Connecting Power & Network

- If using power over Ethernet (PoE), connect the Ethernet cable to a PoE switch or injector that complies with 802.3af / Class 3, and to the Terminal with the 8-Pin Phoenix connector.
- If using a 12-24V DC or 24V AC power adapter, connect the leads with the 2-pin Phoenix connector to the Terminal.
- Verify the Terminal boots up into the Start Wizard screen or a preconfigured user interface indicating proper operation.
- Connection Tips:
  - Tighten screws securely on the Phoenix connectors.
  - A small dab of non-permanent silicone adhesive (neutral cure silicone) may be applied to stabilise the connectors.

4. Initial Setup & Configuration On-Device Touch Screen Installation Wizard

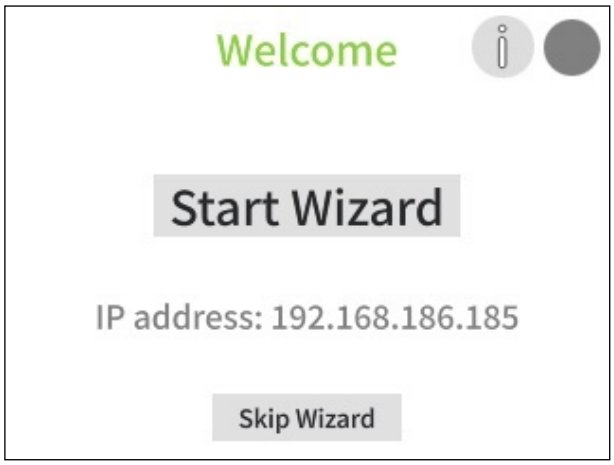
The on-device wizard simplifies the initial configuration of the frogTerminal, walking you through the essential settings step by step. This section ensures a smooth installation experience, even for users with minimal technical expertise.

The wizard can be accessed again at any time with a factory reset. Currently in development, sections of the wizard will be directly accessible—allowing you to repeat specific steps, such as cloud registration, smartphone pairing, or other key configurations.

Steps Overview:

- Configure localisation settings: language, date, and time.
- Secure the interface by setting an Admin PIN for configuration via the touch-screen interface and a Web Password for remote administration via a browser.
- Set up network settings & frogblue Mesh.
- Register the terminal with SIP/cloud services.
- Configure call bell settings.
- Complete the setup and test the device.

To start the Installation Wizard: Power on the device & tap *Start Wizard*.

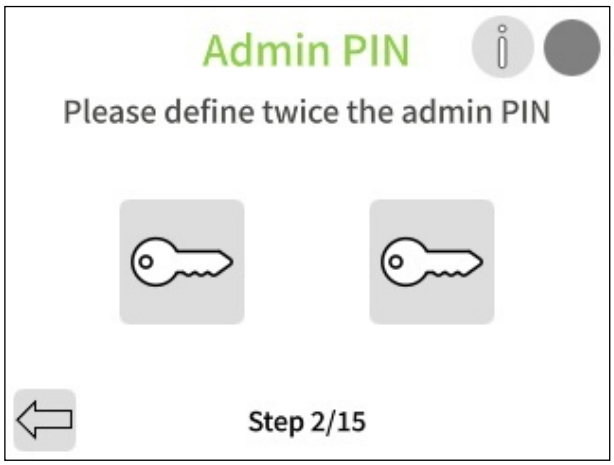


- Tap *Start Wizard*.

4.1. Installation Wizard Step 1: Set Language and Timezone

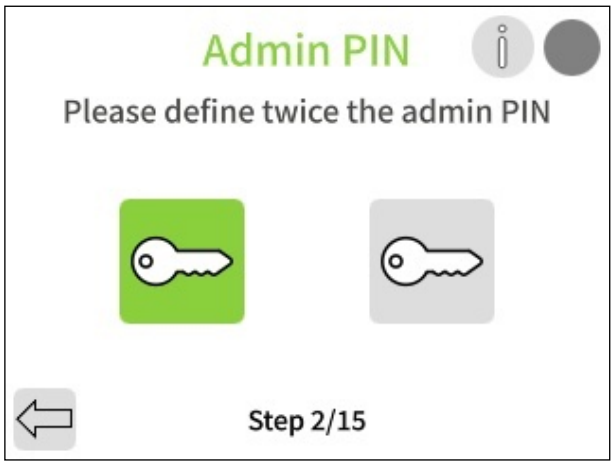
- Tap on the drop-down menus to choose your preferred language and timezone.
- Tap ⇨.

4.2. Installation Wizard Step 2: Define the Admin PIN



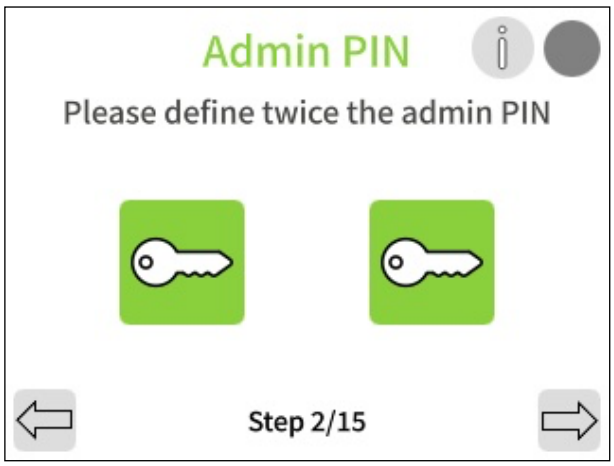
- Tap the first key icon.

- Enter your chosen 6-digit Admin PIN number using the on-screen keypad and tap **OK**.



- Tap the second key icon.

- Enter your 6-digit Admin PIN number once more and tap **OK**.



- Tap ⇨ to continue.

4.3. Installation Wizard Step 3: Set the Web Password / HTTPS Admin Password

- Tap on the light-grey Password text input field (right side).

- Using the on-screen keyboard enter your chosen password for the admin user.

Note: Passwords must be at least 8 characters long and include at least one uppercase letter, one lowercase letter, and one number.

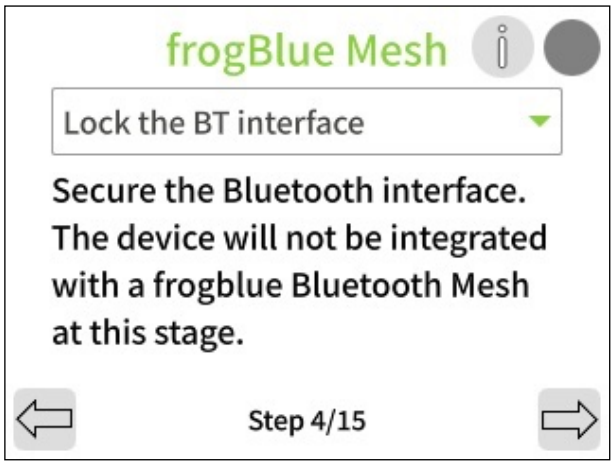
- Tap ⇨ to continue.

Note: Make a note of or record your specified web password, as it will be required later to administer the Terminal through a web browser.

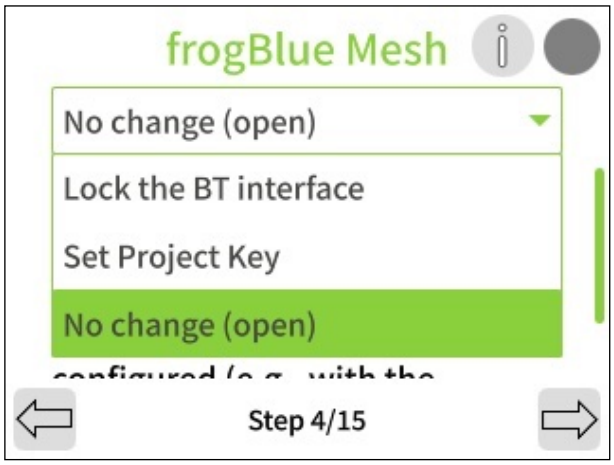
The factory default login credentials for accessing the camera via web browser are:

- Username: admin
- Password: frogblue

4.4. Installation Wizard Step 4: frogblue Mesh Setup



- Tap the drop-down arrow (▾ top right).



- Tap your desired option.
- Either tap ⇨,
  or enter the Project Key and tap ⇨.

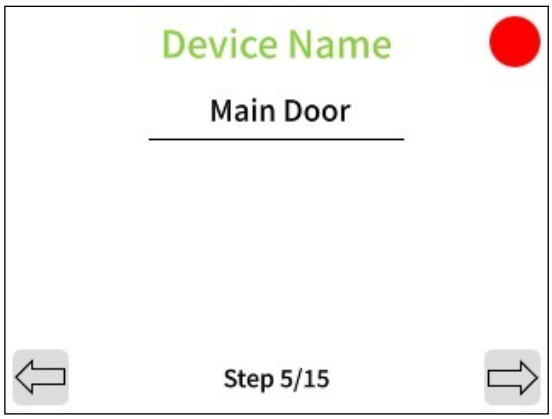
Lock the BT Interface: The frogblue Mesh is locked and needs to be unlocked by performing a factory reset (see *Section 22.2 "System Control - Manage configuration files, Reboot, and Factory Reset"*).

Set Project Key: The frogblue Mesh is encrypted and you set the Project Key in the next step - frogblue Mesh functionality is ready to use and the frogTerminal can be integrated into a project with this specified Project Key.

No change (open): The frogblue Bluetooth Mesh remains open and unencrypted. Anyone with the frogProject App or configuration tools can commission the system via Bluetooth.

Warning!: When selecting "No change (open)", the system **remains insecure until** the configuration has been completed and the Terminal has been **commissioned** (e.g. with the **frogProject App**).

4.5. Installation Wizard Step 5: Set Device Name



- Tap the text area "Main Door" and use the on-screen keyboard to enter a name for your Terminal.
- Tap ⇨ to continue.

4.6. Installation Wizard Step 6: Set the Home Screen Layout

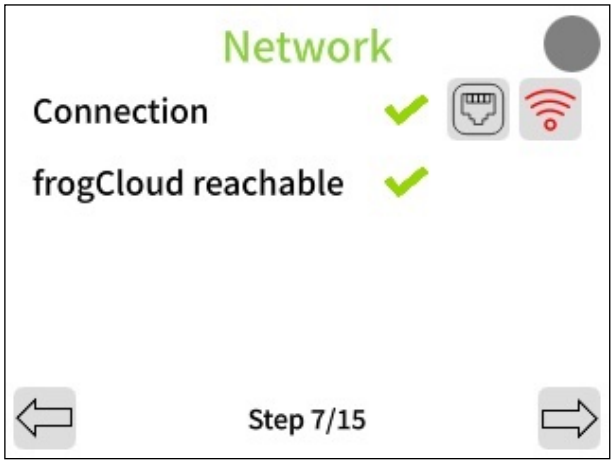
Define the Home Screen Layout, the default view displayed when the Terminal is on standby and ready to be activated by touch, proximity, motion, input, etc.

Note: With a software update currently under development, the Home Screen will feature customisation options for images, logos, styles, search functionality, and scrollable call lists.

- The Home Screen defines the standby view.
- Tap to set your text for each of the lines.
- Tap ***Preview*** to view your setup.
- Tap ⇨ to continue.

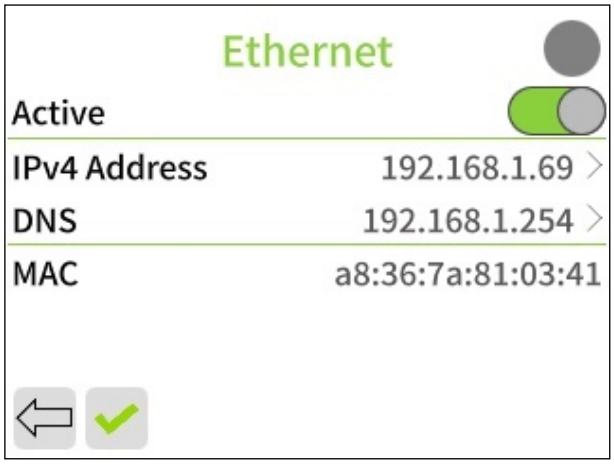
Preview:

4.7. Installation Wizard Step 7: Connect frogTerminal to your physical or Wi-Fi Network



- Tap on the icons & to configure the Ethernet and Wireless Interface Settings.

Ethernet Configuration:



- Leave active or deactivate Ethernet via the toggle switch if using Wi-Fi.
- Tap the lines to modify IPv4 address or DNS Settings.
- Tap ⇦ to return, or ✔ to save changes and return to the Network Setup Page.

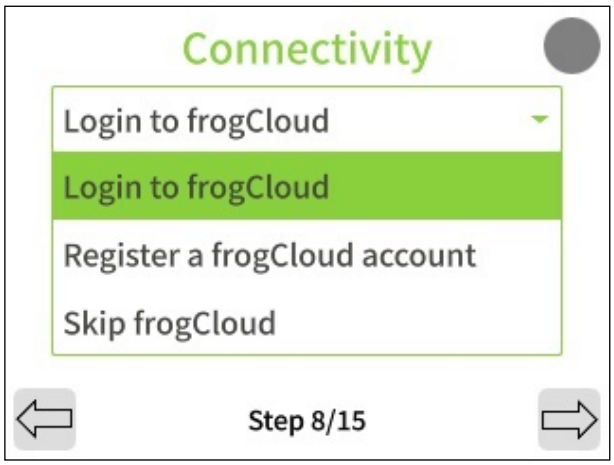
Wi-Fi Configuration:

- Ensure 2 green ticks ✔ for Connection and frogCloud.
- Tap ⇨ to continue.

Note: If you experience connectivity problems see ***Section 18.1.5 "Troubleshooting Network Connectivity Problems".***

4.8. Installation Wizard Step 8: Connect to frogCloud

For quick and easy connectivity with a smart device, a frogCloud account is recommended.

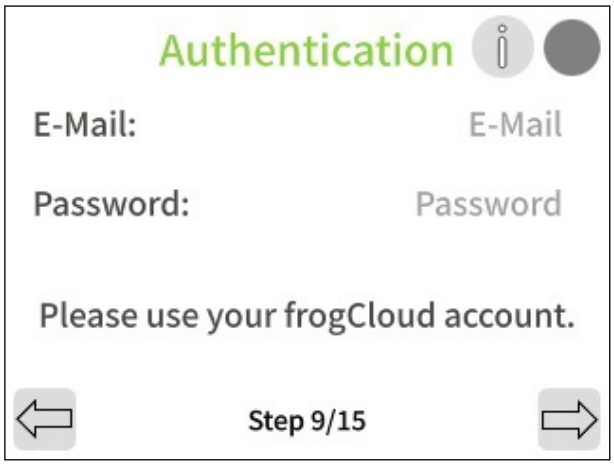


- To add to an existing or to create a frogCloud project for this installation, tap ***Login to frogCloud***.
- To register a new frogCloud account and create a new frogCloud project for this installation, tap ***Register a frogCloud account***.
- To proceed with a custom or advanced setup without the free frogCloud service, tap ***Skip frogCloud*** and proceed to ***Section 4.16.***

Note: A confirmed email is required for frogCloud. Create and manage accounts via the frogSIP App (iOS/Android) or at frogblue.cloud/login.

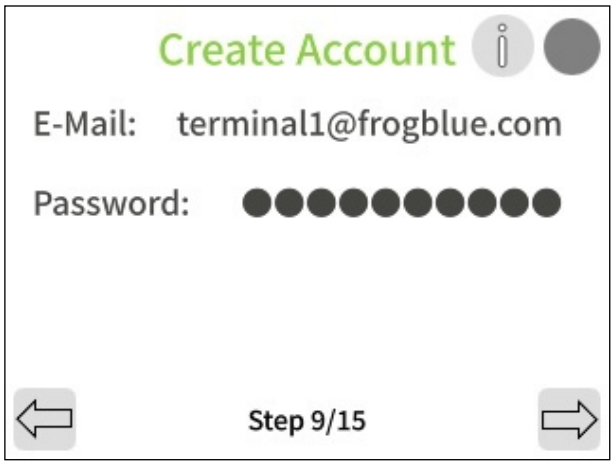
4.9. Installation Wizard Step 9: Login to or register for a frogCloud Account

Login to an existing frogCloud Account:



- Tap on the text areas ***E-Mail*** and ***Password***.
- Use the on-screen keyboard to enter your existing frogCloud account credentials.
- Tap ⇨ to continue.

Register for a new frogCloud Account:



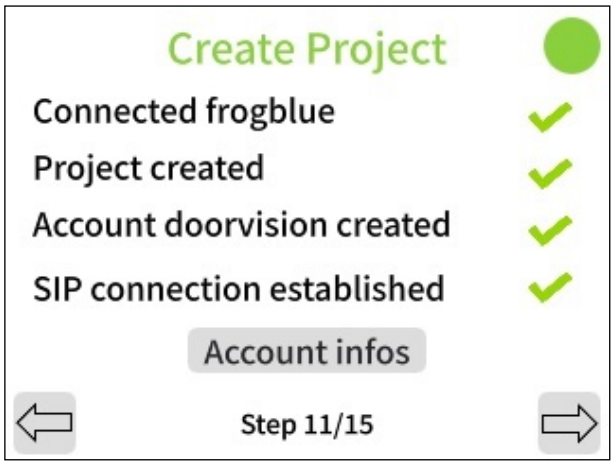
- Tap on the text areas ***E-Mail*** and ***Password***.
- Use the on-screen keyboard to enter your email address and a password of your choice for your frogCloud account.
- Tap ⇨ to continue.

4.10. Installation Wizard Step 10: Confirm account activation email

Open your email inbox, click the provided confirmation link, and log in with your email and password to activate your frogCloud account with SIP call functionality.

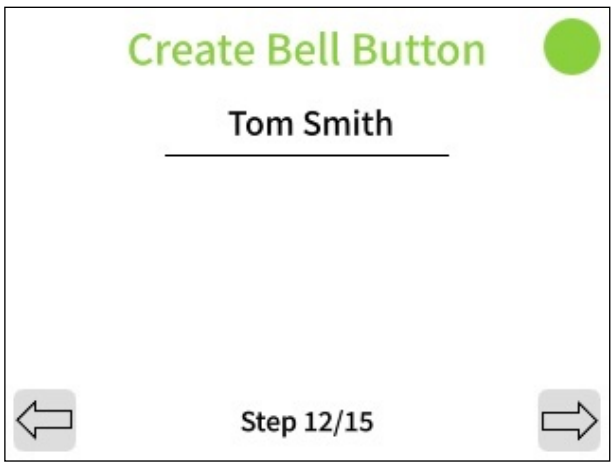
- Wait for the following message confirming that an email has been sent to your address.
- Check your email, click the link, then login with your username and password to activate your new frogCloud account.
- Tap ⇨ to continue.

4.11. Installation Wizard Step 11: Create Cloud Project



- Wait for and ensure green ticks for each item indicating a successful connection to frogCloud, project creation, Terminal SIP account creation, and successful SIP telephony connection.
- Tap ***Account infos*** to see advanced SIP account details.
- Tap ⇨ to continue.

4.12. Installation Wizard Step 12: Create Bell Buttons



- Tap ***Tom Smith*** and use the on-screen keyboard to enter a name label for your first Bell Button.
- Tap ⇨ to continue.

4.13. Installation Wizard Step 13: Pair with smart device

- Use your smart device with the frogSIP App to enter the Invitation Code or scan the QR Code to pair with your Terminal.
- Once paired you can initiate a test call by tapping the ***Test Call*** button
- When finished, tap ⇨ to proceed.

4.14. Start View and View Modes Explained

The Start View appears when the Terminal is activated via proximity detection or touch. Views are made up by a main area and a toolbar. The system supports 4 view modes with further customisation of the toolbar possible via the Web Browser.

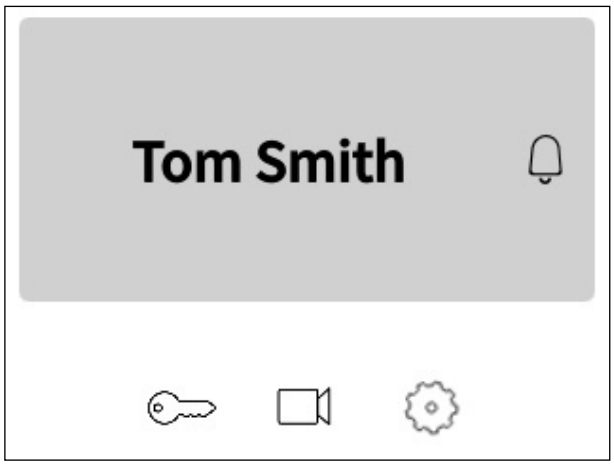
Toolbar buttons:

- Enables the entry of Function PINs.
- Opens the Camera dialog. Refer to ***Section 10 "Camera Settings and Recording Management"*** for details on configuring in-stream settings.
- Opens the on-device touch screen configuration and administration pages.
- Enables calling by Apartments or Unit numbers.

  Note: Works only when numbers have been defined for each call entry in the Apartment field in ***Settings → Call destinations***.

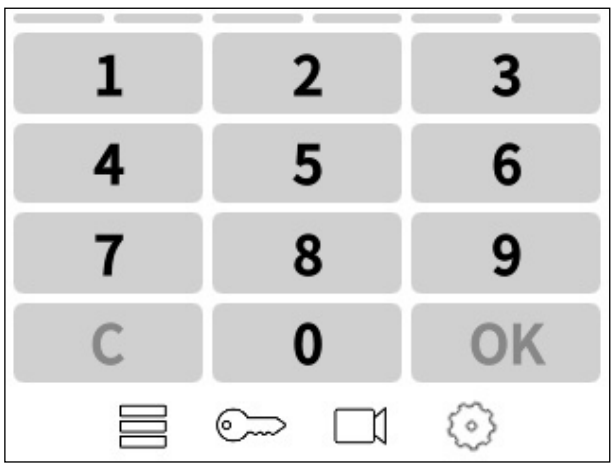
View Mode 1. Bell Buttons:

This view provides Bell Buttons in the main area and 3 Toolbar Buttons.



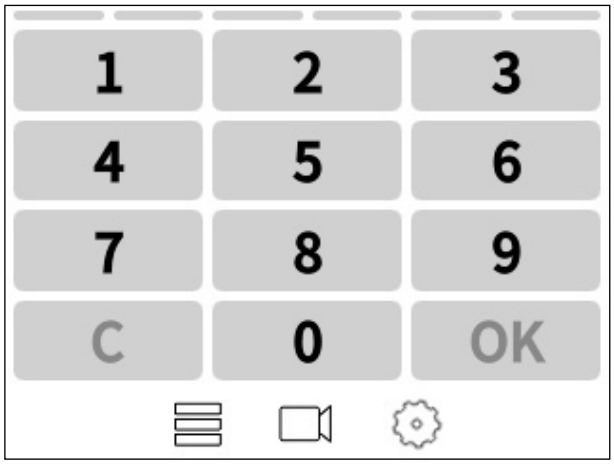
View Mode 2. App + PINs:

This view provides PIN code and apartment / unit number entry in the main area and 4 Toolbar Buttons.



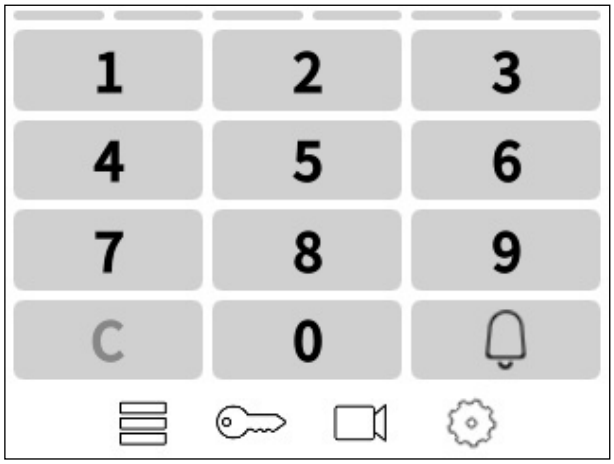
View Mode 3. PINs:

This view provides PIN code entry in the main area and 3 Toolbar Buttons.

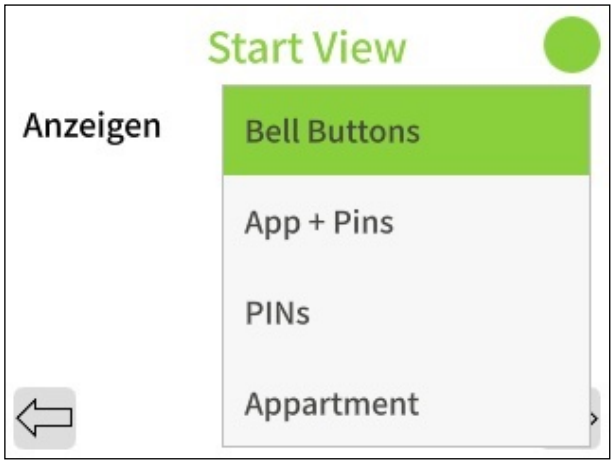


View Mode 4. Apartment:

This view provides apartment / unit number entry in the main area and 4 Toolbar Buttons.



4.15. Installation Wizard Step 14: Start View

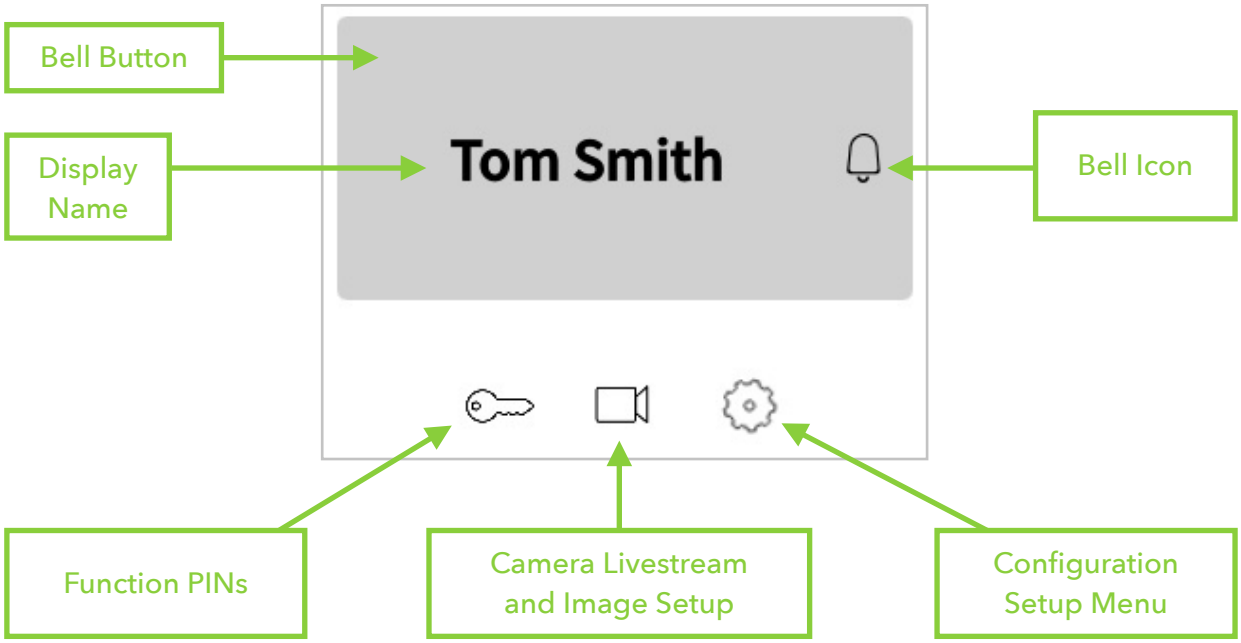


- Select your desired Start View.
- Tap ⇨ to continue.

4.16. Installation Wizard Step 15: Finalise Wizard

- You're all set! The welcome screen appears, confirming the Wizard's completion.
- Tap ⇨ to proceed.

Wizard Complete!



Congratulations on completing the frogTerminal Installation Wizard! You can now make calls using the Bell Button (e.g. "Tom Smith"), trigger Function PINs and access the on-screen camera and system setup pages using your Admin PIN.

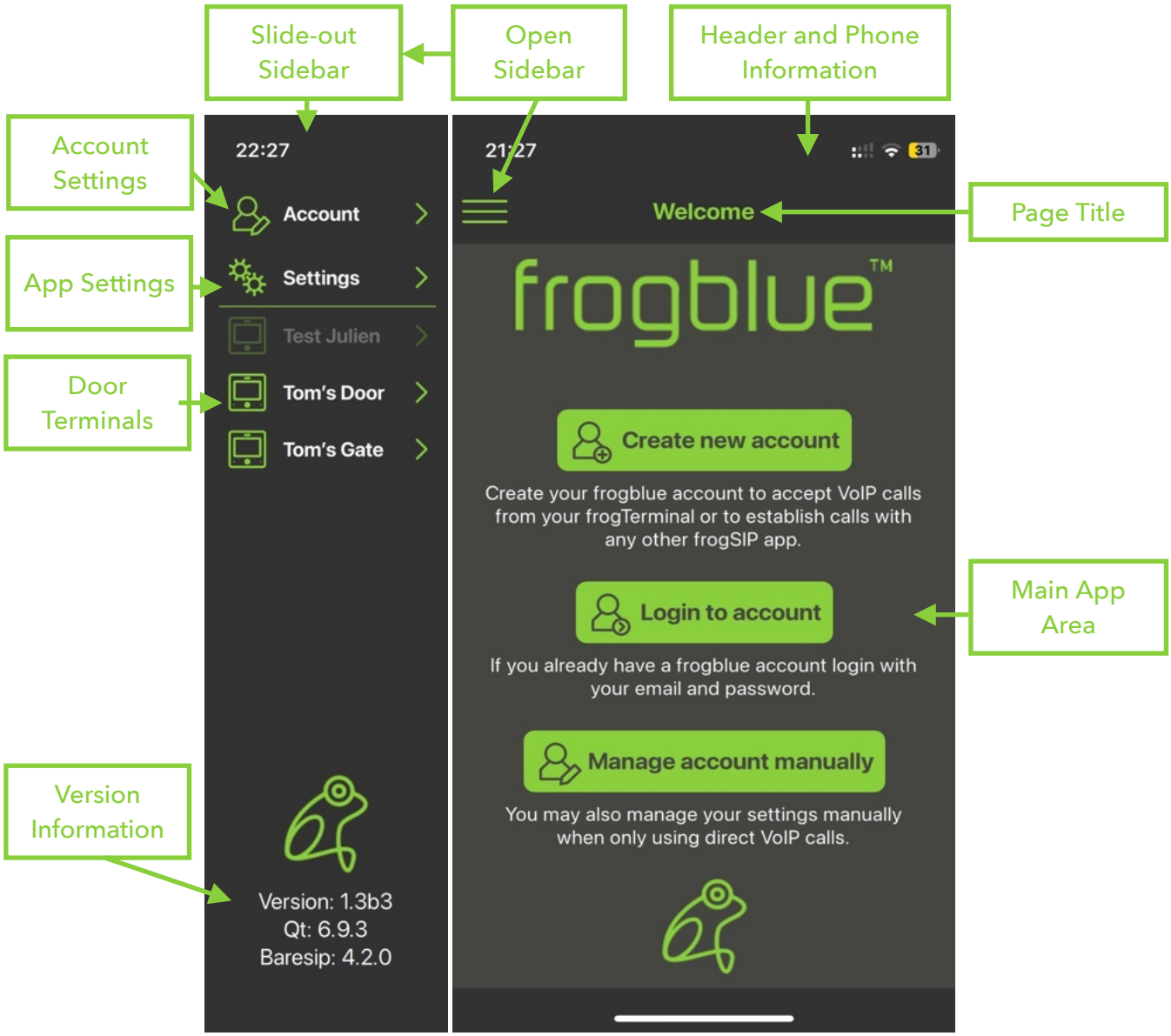
5. frogSIP App User Interface

5.1. Introduction to frogSIP

The frogSIP app serves as the primary interface for managing and interacting with frogTerminal devices. This section provides a step-by-step guide on pairing the app with frogTerminal, configuring user settings, managing security logs, and reviewing call history.

5.2. Welcome Screen Overview

Upon launching the frogSIP app, users are presented with the Welcome Screen. The interface will automatically match the language of the smartphone device. To change the language tap the ***Burger Menu*** → ***Settings*** → ***General*** → ***Language*** and select your desired language.

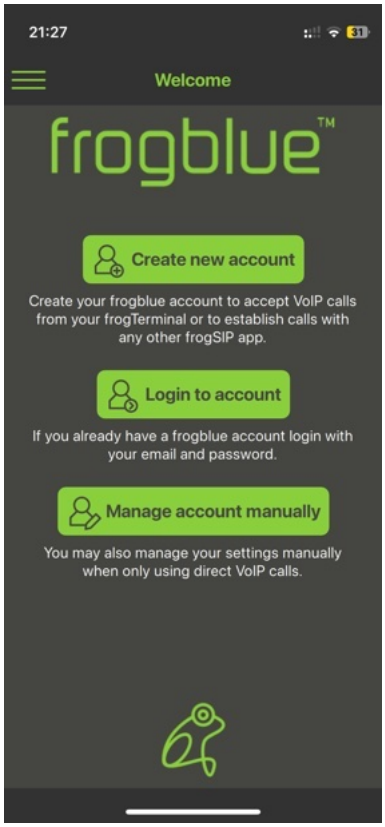


Note: To begin we will cover **creating and logging into frogCloud** accounts.
Manage account manually is used for custom SIP integrations and covered in a later section.

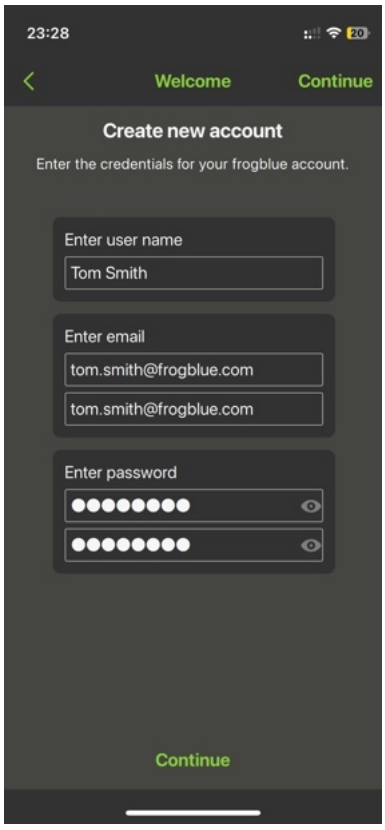
5.3. Create a new frogCloud user account from the frogSIP App

This section guides you in creating a frogCloud account from the frogSIP App's Welcome Screen.

If you skipped the welcome screen and wish to return simply tap the ***Burger Menu*** → ***Account*** → ***Logout***, then tap ***Logout*** again to confirm.

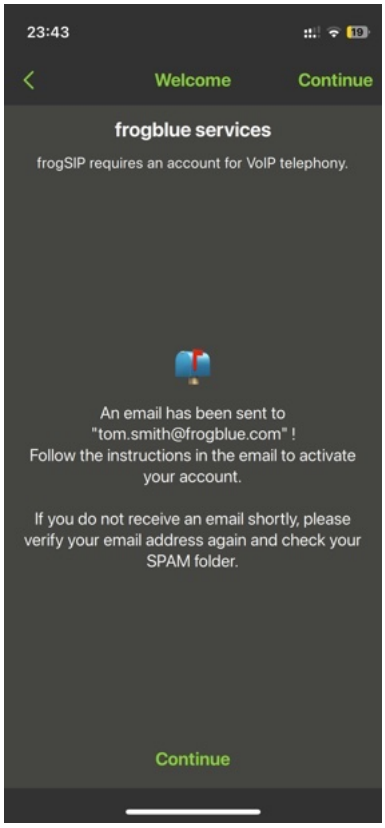


- Tap ***Create new account***.

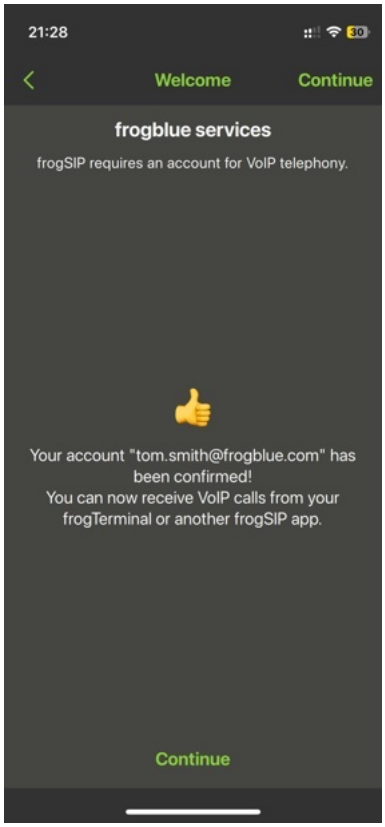


Enter your information:

- ***Username***: The user and display name for this frogCloud user account.
- ***Email***: Enter and repeat the email address associated with this frogCloud user account.
- ***Password***: Enter and repeat the password for this frogCloud user account.
- Tap ***Continue***.



- Wait for the following message confirming that an email has been sent to your address.
- **Check your email** and click the link to open the frogCloud login screen in your web browser.
- Login with your username and password to **activate** your new **frogCloud account**.
- Tap ***Continue***.



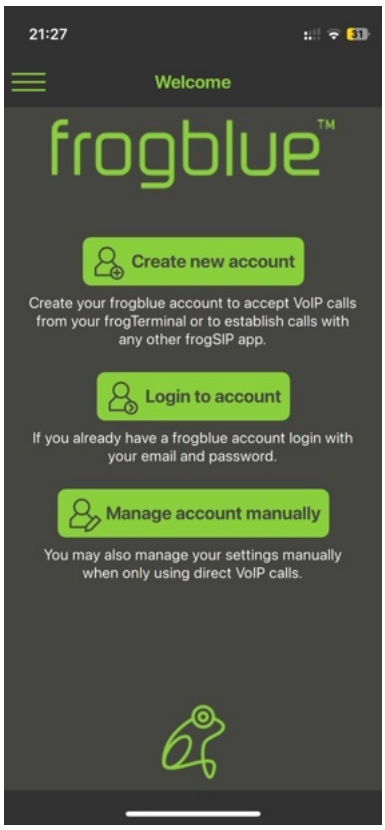
- Wait for the following message confirming that your new account is **activated**.
- Tap ***Continue***.

If you receive any error ensure the following:

1. Your **frogTerminal** is **updated** to the **latest frogOS** version, available from frogblue.com.
2. Your **frogSIP App** is also updated to the **latest version**.

5.4. Login to the frogSIP App with an existing frogCloud user account

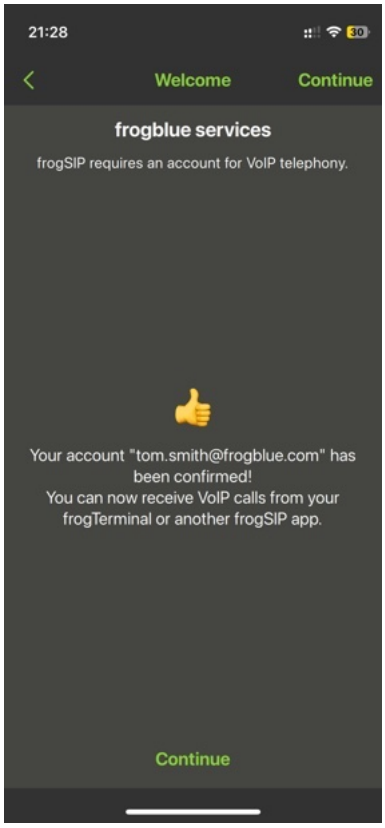
If you're logged in and want to log out, tap the ***Burger Menu*** → ***Account*** → ***Logout***, then tap ***Logout*** again to confirm.



- Tap ***Login to account***.

Enter your information:

- ***Email***: Enter the email address associated with your frogCloud user account.
- ***Password***: Enter the password for your frogCloud user account.
- Tap ***Login***.



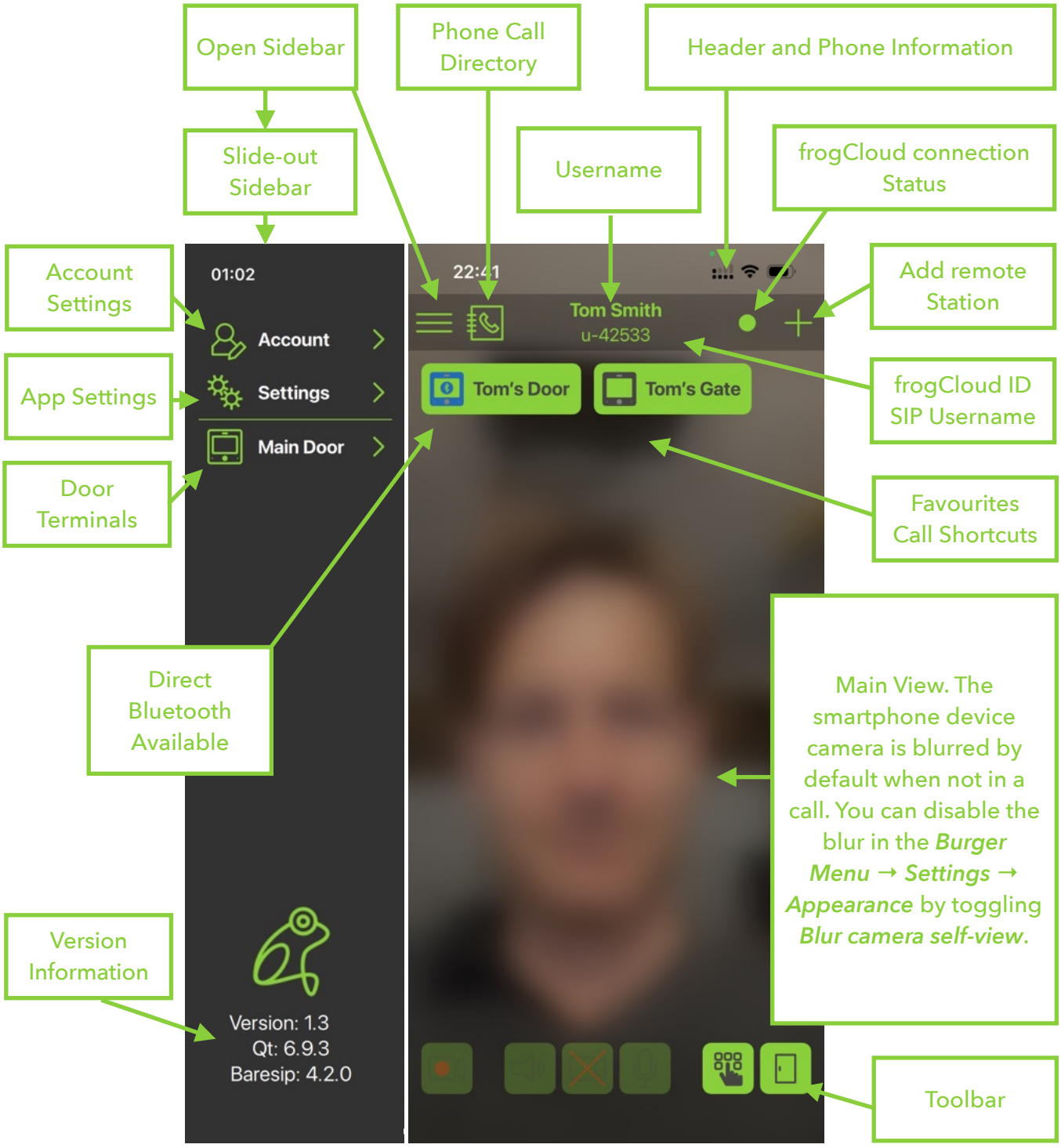
- Wait for the following message confirming that your account is **activated**.
- Tap ***Continue***.

5.5. Main App Interface Overview

The frogSIP App provides a streamlined interface for managing SIP-based video intercom and access control systems. The user interface is designed for efficiency, with a slide-out sidebar for quick access to key functions.

- Touch-Friendly Design for mobile and tablet usage.
- Dark & Light Mode Support for better visibility in different environments.
- Multi-Language Support for international deployments.
- Real-Time Notifications for call alerts, access logs, and system events.

The main view consists of the following sections:



Details:

- **Open Sidebar** (Burger Menu): Toggles the slide-out sidebar, to provide quick access to account, app, and door terminal settings.
- **Slide-out Sidebar**:
  - **Account Settings**: Manage your frogCloud account.
  - **App Settings**: Manage user & password settings, logout, or delete your account.
  - **Door Terminals**: View a list of Terminals paired with the App.
  - **Version Information**: Access details about the versions of the App and its bundles.
- **Phone Call Directory**: Quickly call any paired users or devices from a call directory.
- **Header and Phone Information**: Displays standard iOS/Android device details.
- **Username**: The username associated with your frogCloud or SIP account.
- **frogCloud connection Status**:

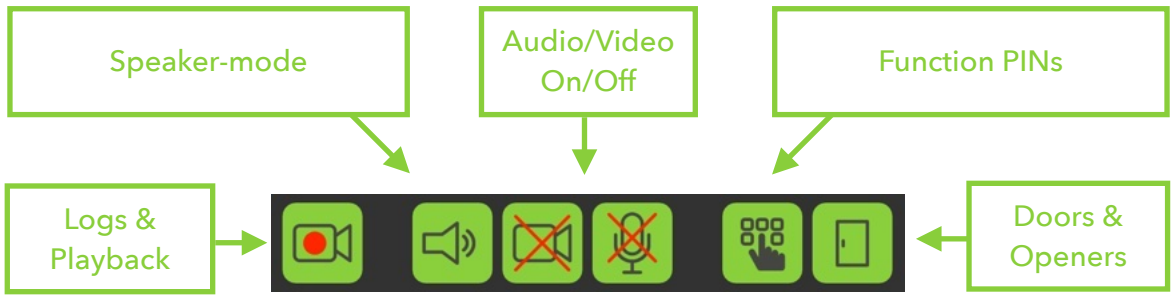
  ⚫ Undefined

  🔴 No connection

  🟢 Connected

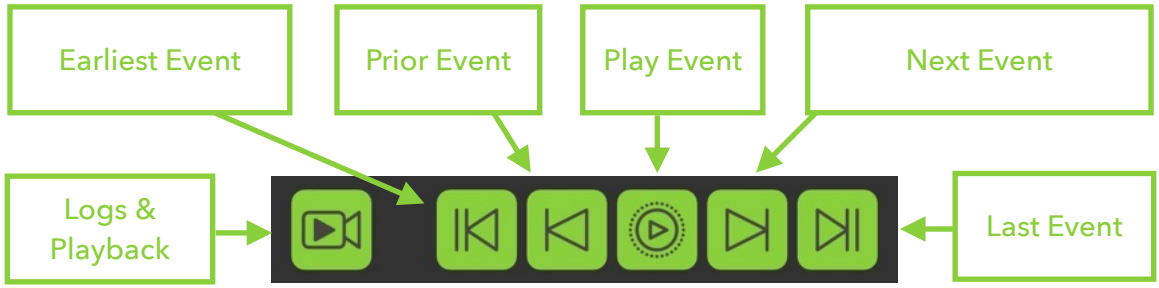
  The connection status indicator displays the link between the App and frogCloud. A green light means the connection is active, red indicates that there is no connection, and grey signifies that the App is not properly configured.
- **Add remote Station or User**: Quickly add or pair with a new remote station or user.
- **frogCloud ID / SIP username**: Your frogCloud ID or SIP authorisation username.
- **Favourites / Call shortcuts**: Quick-access buttons for calling your favourite call destinations.
- **Main View**: The smartphone camera is blurred by default when not in a call. To disable the blur, go to the ***Burger Menu → Settings → Appearance*** and toggle ***Blur camera self-view***.
- **Toolbar**: Active During Calls with a frogTerminal. Access controls for enabling/disabling video and microphone, and quickly view recordings, logs, lights, and door controls.

5.5.1. In-Call Toolbar



- **Logs & Playback**: Review access & bell logs, and video playback of recordings.
- **Speaker-mode**: Toggle speaker-mode for hands-free communication during calls.
- **Audio/Video**: Enable or disable the sending of audio and video from your device to the Terminal.
- **Function PINs**: Activate your predefined function PINs.
- **Doors & Openers**: Control the Terminal's door openers.

5.5.2. Logs & Playback Toolbar

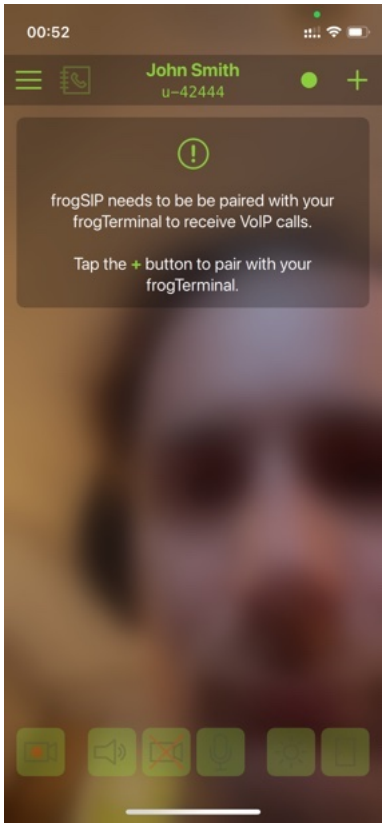


- **Logs & Playback**: Toggles between the research player view—used for video recording playback and reviewing access or event logs—and the live call view.
- **Earliest Event**: Jump to the earliest recorded event in the system.
- **Play Event**: Plays back the recording sequence if more than one frame has been recorded for this event.
- **Last Event**: Jump to the last recorded event in the system.
- **Next Event**: Jump to the next recorded event in the system.
- **Prior Event**: Jump to the previous recorded event in the system.

5.6. Pairing the Terminal with frogSIP App

In this section, you'll learn how to pair your terminal with the frogSIP App on your smartphone. You can complete the pairing process either by entering a pairing PIN code or by scanning a QR code via frogCloud. This secure connection ensures seamless integration, enabling you to efficiently manage calls and configure settings from your mobile device.

frogCloud makes pairing and connecting multiple sites and door Terminals a breeze.



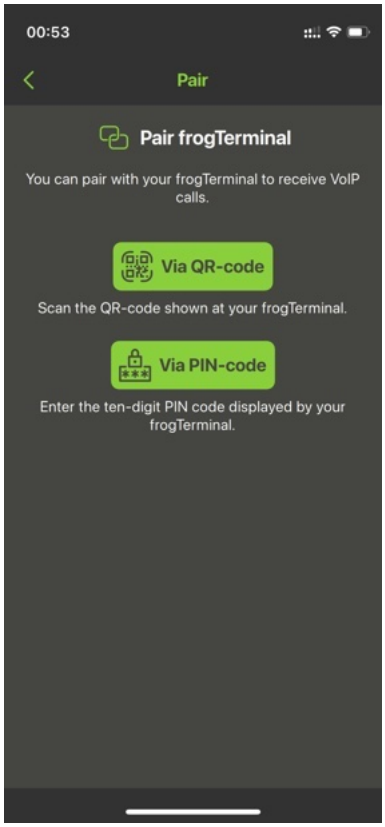
- Tap ➕ and ***Add remote Station*** on the top right.

frogSIP can be linked with frogTerminals as well as with other frogSIP users for calling functionality.

Use ***Invite frogSIP user*** to connect with another App user and ***Accept frogSIP invitation*** to accept an invitation.

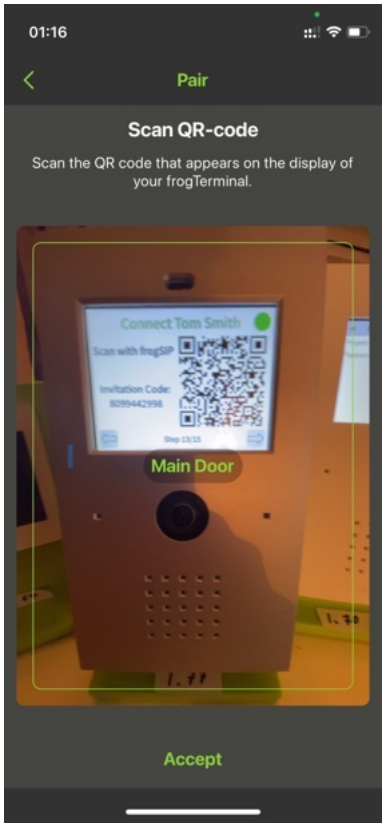
Users can connect either with a simple QR code or via an invitation PIN number.

- Tap ***Pair with frogTerminal*** to proceed with connecting to your frogTerminal.



The Terminal can be paired in 2 convenient ways:

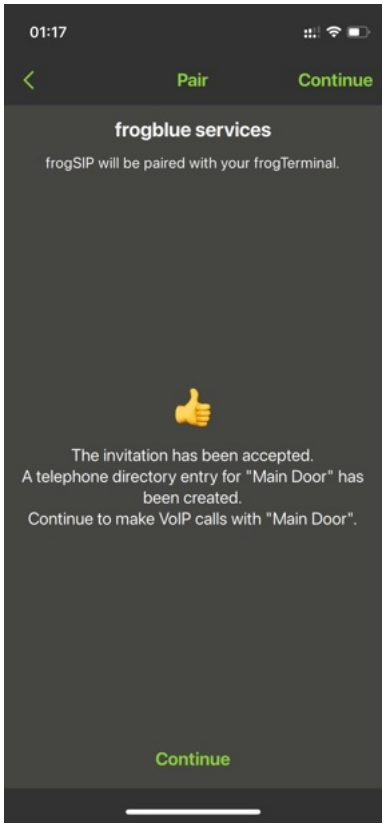
- ***Via QR-code***: Ideal for quick and easy pairing when the smartphone running frogSIP is in the same location as the Terminal during the Wizard setup.
- ***Via PIN-code***: Perfect when the smartphone is at a different location. Simply send the Invitation Code to the person with the smartphone to complete the pairing process remotely.



Use your smartphone camera to scan the QR code displayed on the frogTerminal device screen.

Tips:

- Once the device name appears on the screen and the **Accept** button turns solid green, the QR code has been successfully recognised. You can stop keeping the QR code in the camera frame and simply press the **Accept** button.
- If you're having trouble scanning the QR code, you might be holding your phone too close or too far away. Adjust the distance by moving your phone closer or farther away. The ideal distance is typically when the entire frogTerminal screen fits within your camera frame.
- If you are pairing with an invitation PIN code, simply enter the code and tap ***Continue***.
- **Please note**: The QR codes contain single use access tokens which are only valid for 72 hours.



When you see the message "The invitation has been accepted ...", your Terminal and frogSIP App have been successfully paired. You can now tap ***Continue***.

If you receive an error, such as "The invitation code is not valid for this version! ...", ensure the following:

1. Your **frogTerminal** is **updated** to the latest frogOS version, available from frogblue.com.
2. Your **frogSIP App** is also **updated** to the latest version.

Once pairing is complete, the frogTerminal is added to the frogSIP app and can be used for calls, playback, and access functions.

Device-specific settings, such as the device name, SIP address, Admin Password, Tenant Password, favourite status, or removing the device, can be managed under: ***Burger Menu → Settings → Devices → frogTerminals → <Your frogTerminal>*** See ***section 5.8 "frogTerminal Device Settings"***.

User-facing terminal functions, such as bell button names, access PINs, schedules, and door opener functions, are described separately in ***section 5.9 "Terminal User Settings"***.

5.7. Calling and Playback with frogTerminal

This section explains how to use frogSIP with your frogTerminal for calls, playback, and event review. It covers receiving calls, initiating calls, accessing recordings, and reviewing access or event logs.

5.7.1. Receiving calls

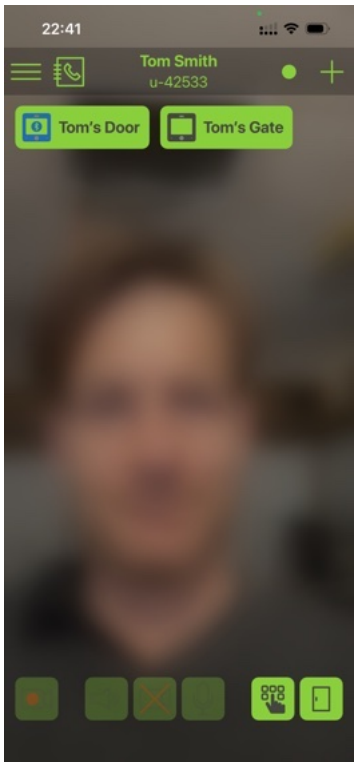
Receiving calls is as simple as answering a phone call. After pairing with the Wizard, calls to your smartphone work automatically. For further configuration, see ***Section 8 "Telephony Call Destinations Setup"***. Calls can be received with frogSIP or from a frogStation, frogDisplay, SIP Phone, or of course another frogTerminal.

Once a call is connected, the interface is identical to that of initiated calls. The following sections detail the interface for both initiated and received calls.

5.7.2. Auto Answer Configuration

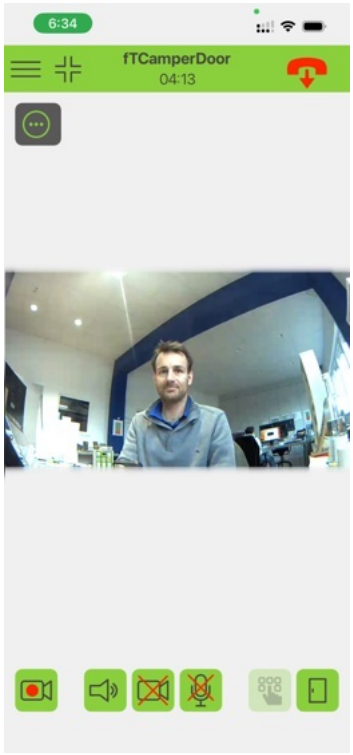
For the frogTerminal to automatically answer calls from authorised users, ensure **Max auto answer level** for users is set to **Automatic answering** from ***Web → Settings → General***. Additionally, users can be restricted to audio-only or full audio/video access via ***Web → Call Destinations → Bell signs***.

5.7.3. Initiate calls



- Tap the ***Call Directory*** or select from your ***Favourites*** to initiate a call with your frogTerminal.

Once a call is connected, the toolbar appears. To enable the video toggle before the call connects, go to ***Burger Menu → Settings → Video*** and turn on ***Allow early video***. This setting lets you activate your video feed before making a call.



Hide the toolbar to provide more space for the video call.

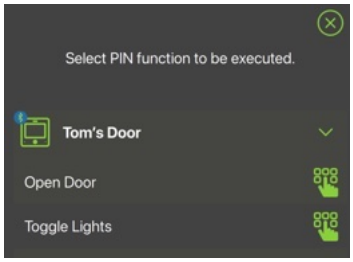
Trigger a manual recording from within the call.

End the call.

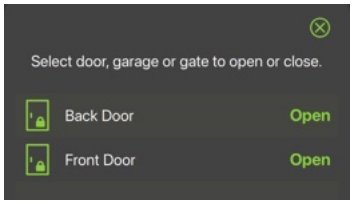
Open the quick menu to take a picture or trigger recording from a call.

Open Function PIN quick menu.

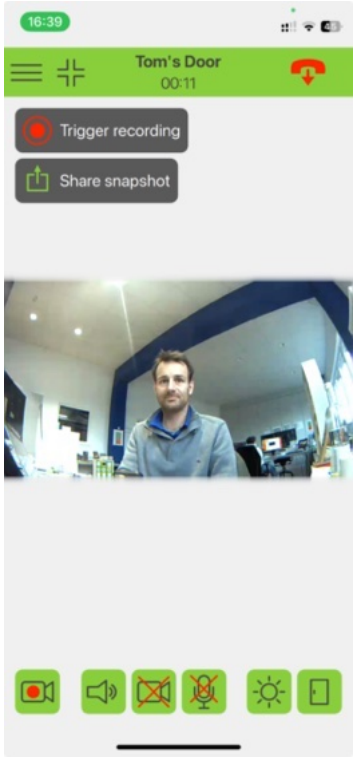
Open the door - if multiple doors, gates, or garages are configured, a selection dialog appears.



Available Function PINs are listed for execution. If the user has the required permissions and the administrator password has been set, these functions can be triggered immediately without entering the corresponding PIN.



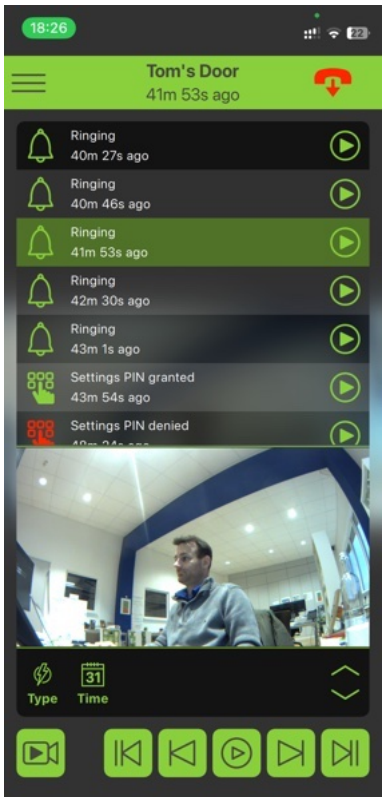
When multiple doors, gates, or garages are configured, this selection dialog appears showing the available entries and their current states. Select the required entry to open or close it.



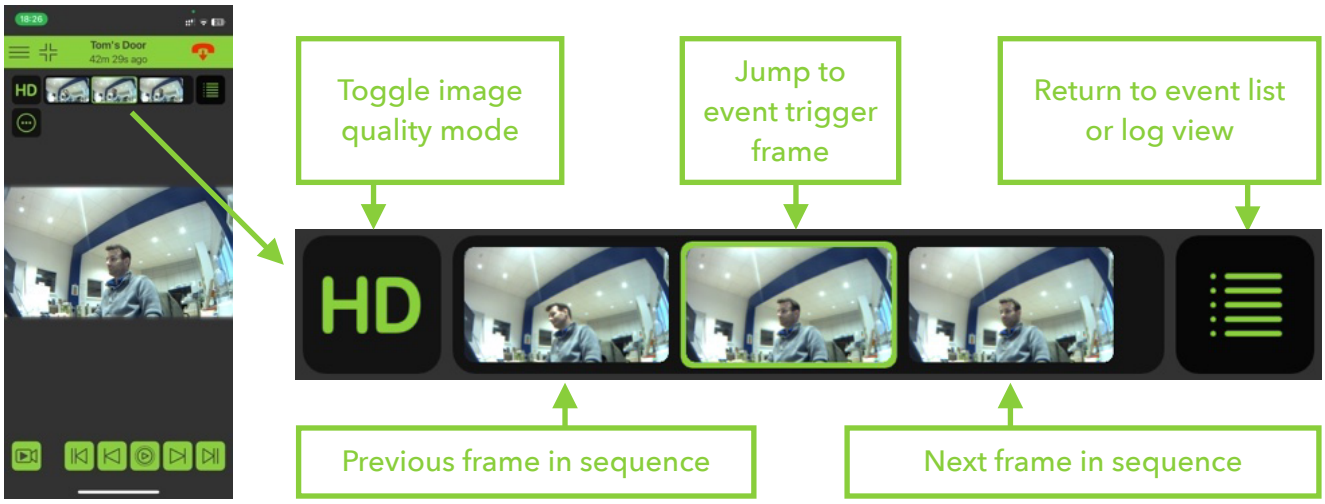
To take a picture or trigger recording from a call tap to see the following options.

- ***Trigger recording***: Triggers a recording via the user click event in the frogTerminal. Manually starts the recording of one event. Go to ***Settings → Recording*** to check and modify recording settings.
- ***Share snapshot***: Take a current still image from the Terminal and share it via your smartphone s sharing options.

5.7.4. Access & Event Logs and Playback from a frogSIP call



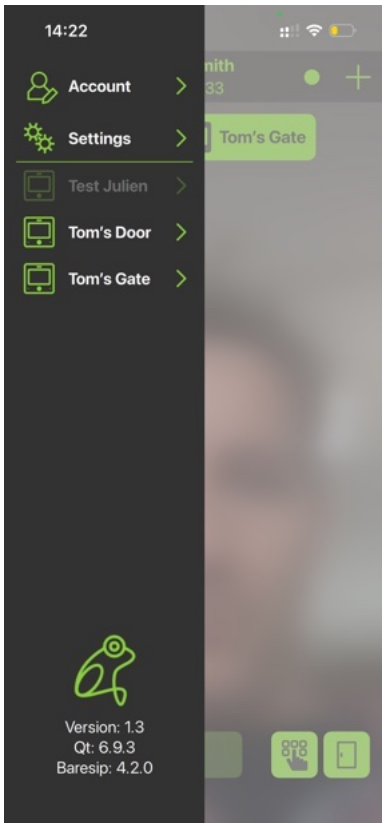
- Tap the Logs and Playback button (Bottom left).
- Filter events by type or date range using the lower toolbar.
- Tap an event to play back its associated video recording in the same view, and use the player toolbar controls to manage playback.
- Tap the player icon to open the full-screen player, which features a larger video display and additional options in its top toolbar.



5.8. Terminal Device Settings

The Device Settings page in frogSIP is used to manage how the app connects to a frogTerminal. These settings include the terminal name, SIP address, Admin Password, Tenant Password, favourite status, and the option to remove the device from the app.

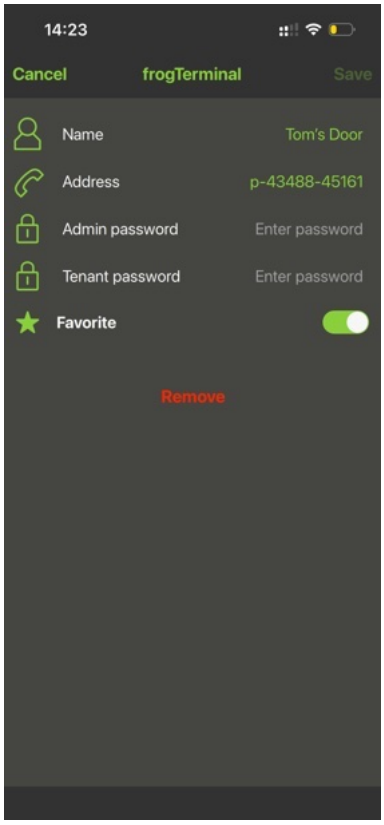
These settings are different from the terminal user functions described in ***Section 5.9 "Terminal User Settings"***. Device Settings control the connection and access credentials used by the frogSIP app, while Terminal User Settings provide access to everyday functions such as bell button settings, access PINs, schedules, and door opener functions.



To open the Device Settings page:

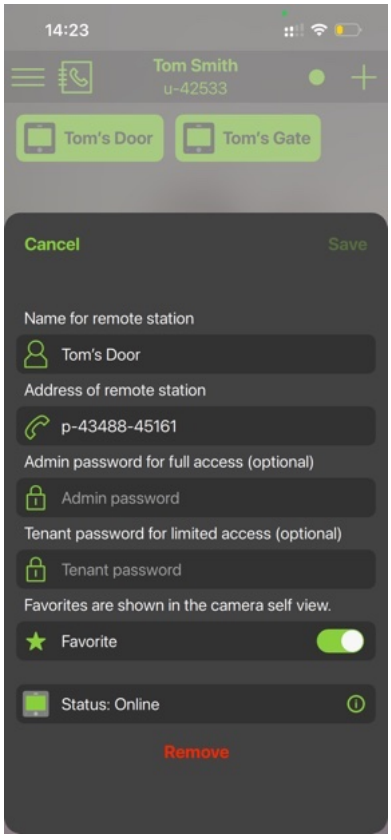
- Open the Sidebar / Tap the ***Burger Menu***.
- Open ***Settings***.
- Select ***Devices***.
- Select ***frogTerminals***.
- Select your ***frogTerminal***.

The Device Settings page for the selected frogTerminal opens.



Device Settings

- ***Name***: The Name field defines how the frogTerminal is displayed inside the frogSIP app.
  This name is only used locally with changes remaining local in the app and helps users identify the correct terminal, for example when multiple frogTerminals are paired or available.
- ***Address***: The SIP address defines the SIP destination used by the frogSIP app to call or communicate with the frogTerminal. This setting is usually configured automatically during pairing. Only change it if instructed by your administrator, installer, or support contact.
- ***Admin Password***: The Admin Password can be used by the frogSIP app to unlock the SIP message channel and access the required Bluetooth information for the terminal.
  The Admin Password provides administrator-level access and should only be given to authorised users.
- ***Tenant Password***: The Tenant Password is used to give the assigned app user access to the Bluetooth-related functions of this frogTerminal without providing the Admin Password. This password is configured in the frogTerminal web interface for the relevant Bell Sign see ***Section 8.1 "Bell Signs"***.
- ***Favorite***: Toggle whether the frogTerminal is shown as a favourite terminal in the main call list. Use this option to make frequently used terminals easier to access.
- ***Remove***: The Remove option removes the selected frogTerminal from the frogSIP app. Removing the device from the app does not delete the configuration of the frogTerminal itself.



The Quick Settings Drawer provides fast access to the most important settings for a frogTerminal.

To open the Quick Settings Drawer press and hold the favourite button or the terminal name in the call list of the relevant frogTerminal.

A bottom drawer opens with quick access to the terminal's settings and status information.

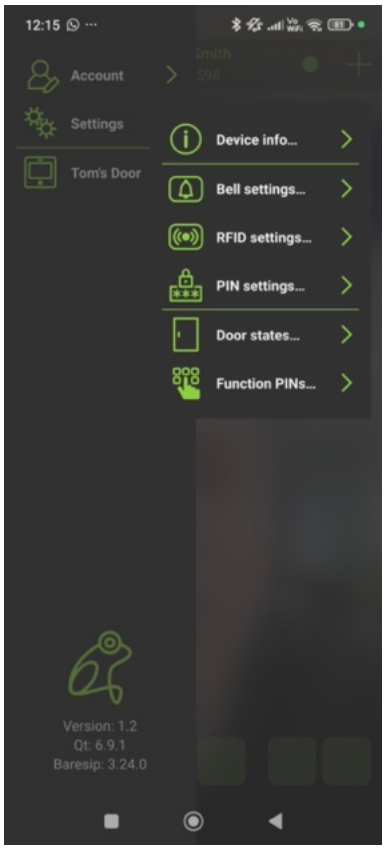
The Quick Settings Drawer provides quick access to the same device settings, including the name, SIP address, Admin Password, Tenant Password, favourite setting, and remove device option.

It also shows the current online status of the frogTerminal.

5.9. Terminal User Settings

The Terminal User Settings provide access to everyday user functions of the selected frogTerminal. These include changing the bell button name, managing access PINs, configuring schedules, and operating the door opener and function PINs.

These functions are different from the Device Settings described in ***Section 5.8. „Terminal Device Settings"*** that control how the frogSIP app connects to the frogTerminal and which passwords are used for access. Terminal User Settings are intended for tenant or user-level operation of the terminal.

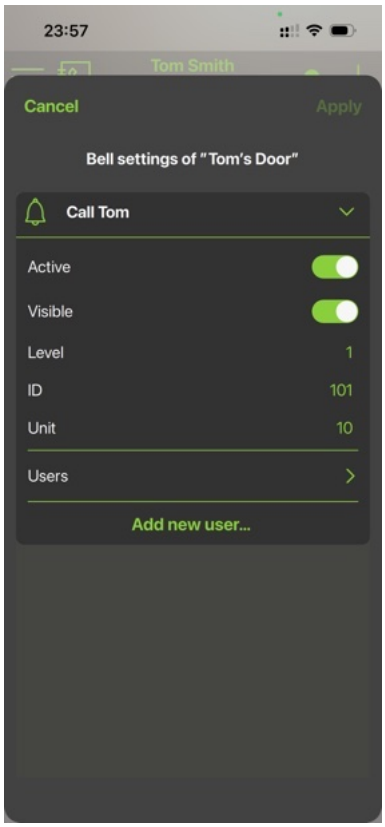


From the left sidebar, select your frogTerminal (in this example: Tom's Door). This opens a slide-out menu with the available options for the selected device.

The menu is divided into three ***section***s:

- ***Device Info***: Displays general information about the frogTerminal.
- ***Settings***: Configure bell settings as well as access via RFID and PINs. These settings correspond to those defined in the Terminal's web interface.
- ***Quick Controls***: Provides direct access to door control (***Door states*** dialog) and executing function PINs.

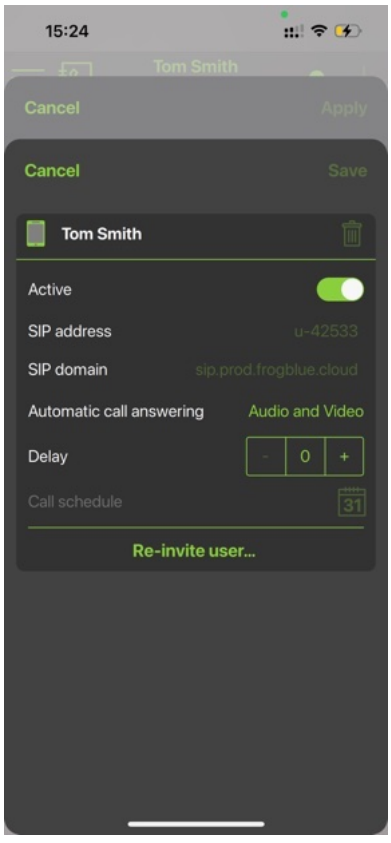
5.9.1. Bell Button Settings



After tapping on ***Bell settings***, a dialog opens where you can:

- Tap the bell sign name to rename it (e.g. "Tom Smith")
- ***Active***: activate or deactivate bell sign
- ***Visible***: Set the bell sign to visible or hidden. Hidden bells can still be triggered by events (e.g. auto-call security).
- ***Level, ID***, and ***Unit*** are optional. Further information can be found in ***Section 8.1. "Bell Signs"***.
- Clicking on **Users** opens the view shown in the next image.

Finish the settings by clicking ***Apply*** to save the changes, **Cancel** to discard them, or ***Add new user…*** to create another user.

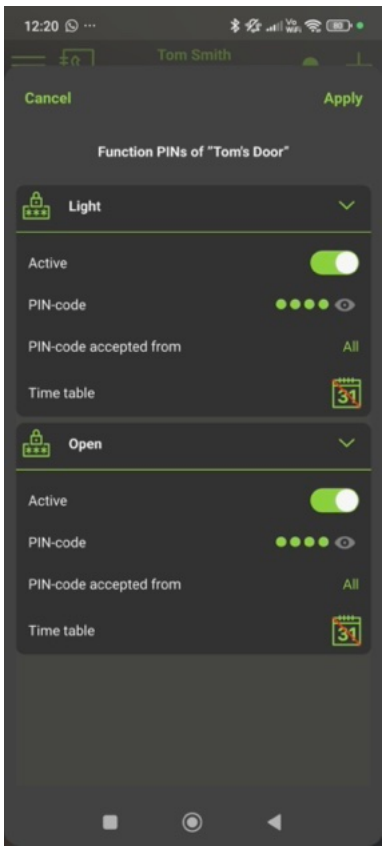


Tapping ***Users*** opens the dialog for editing the selected user:

- ***Name***: Displays the user's name, for example "Tom Smith". The trash icon deletes the user.
- ***Active***: Activates or deactivates the user for calls.
- ***SIP address***: Displays the user's SIP address.
- ***SIP domain***: Displays the SIP domain used to reach the user.
- ***Automatic call answering***: Defines whether and how calls from this user may be answered automatically, for example with Audio and Video.
- ***Delay***: Defines a delay for the call. The value can be adjusted using + and −.
- ***Call schedule***: A schedule for this user can be defined using the calendar icon. This allows you to define when the user may be called.
- ***Re-invite user***: Allows the user to be invited again, for example if the original invitation is no longer available or needs to be resent.

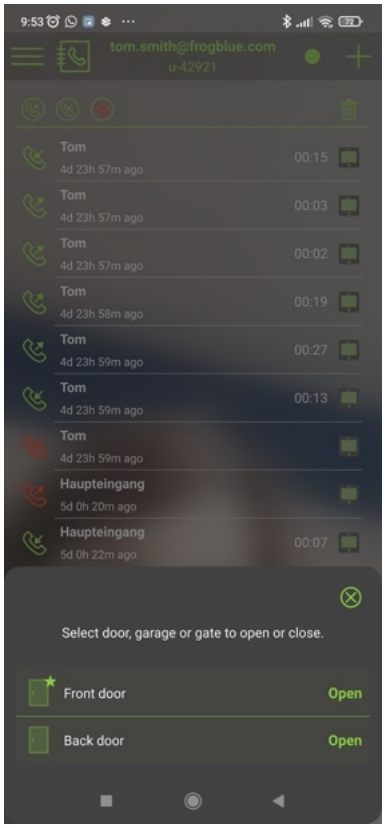
Finish editing by tapping ***Save*** to apply the changes, or ***Cancel*** to discard them.

5.9.2. Access Control Settings with PIN



- Select ***PIN settings*** in the main menu to manage your previously created function PINs.
- In the example on the left, one PIN was created to switch the light (***Light***) and another to open the door (***Open***).
- Use the slider to deactivate or activate the PINs.
- Under ***PIN code***, you can change the PIN.
- By clicking on the calendar icon, you can create a schedule to define when the PIN is valid.
- Finish the settings by clicking **Apply** to save the changes or ***Cancel*** to abort the process.

5.9.3. Door opener



- After clicking on the ***Door states*** icon in the bottom right corner, a list opens where all doors and homeobjects included in your project named are displayed. The icon indicates the current door state: open, closed, locked, or error.
- Press ***Open*** to open the respective door.

6. Time Profiles (Time Tables)

Via Web Browser Menu: ***Settings → Time Profiles***

The Time Profiles page is where you define time-based behaviour used across Calls, Events, Access rules, etc. This page supports both:

- Legacy Time Tables (simple on/off schedules, compatible with existing setups)
- Fine-tuneable On/Off rule-based schedules using weekly or day-based Programs, with optional Special Programs for specific date(s) or date range(s) (e.g. holidays, special events, shutdown periods)

On the page you will see three blocks: Timetables, Special programs, and Time Profiles.

Steps Overview:

- If you still use legacy schedules, add them under **Time Tables**.
- Create Special Programs (optional): e.g. Holidays, CompanyShutdown, etc.
- Create a Time Profile: Add a profile name, then add one or more rule rows.
- Use the Time Profile in Calls / Events: Select the profile wherever a time condition is available (e.g. call destinations, event conditions).

6.1. Time Tables

Use this section to create the classic "weekly schedule" entries (legacy Time Tables).
What you can do here (per entry):

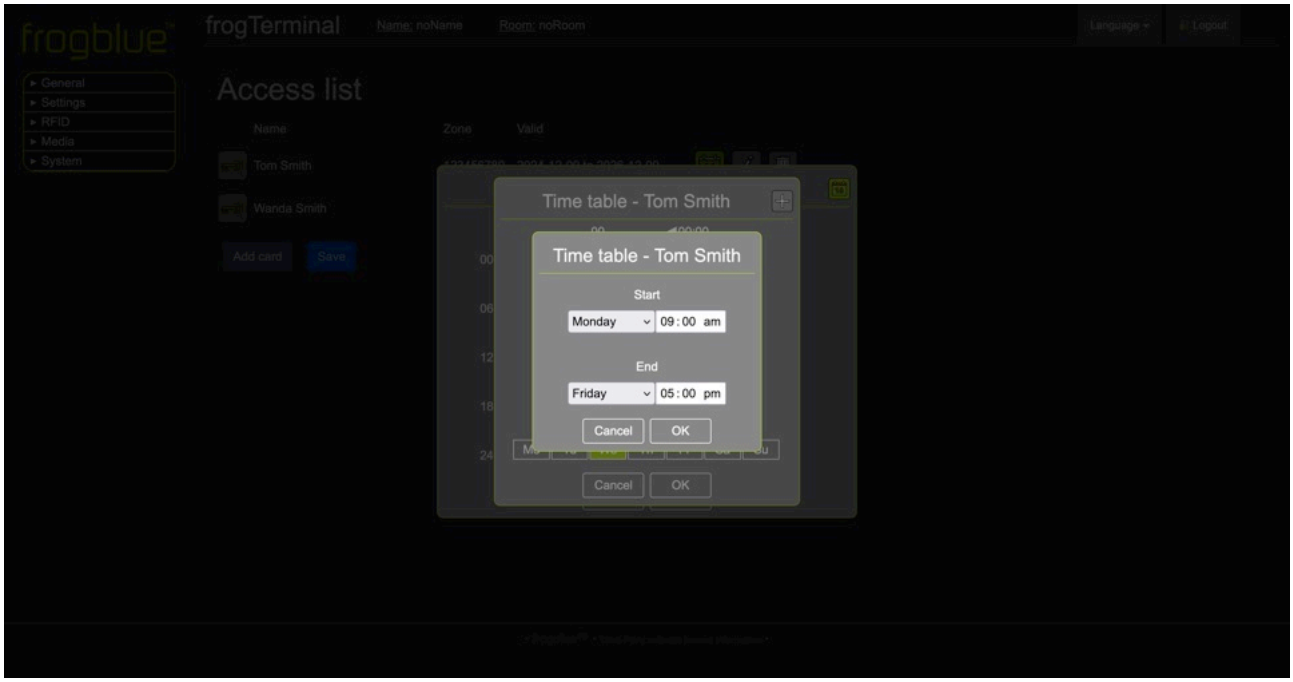
- Name: e.g. "TT_Weekdays"
- Weekly Program: click the calendar icon to edit/select the weekly schedule
- Delete: bin icon removes the timetable
- Add new Time Table: ➕ button (top right of the Time Tables block)

Time Table Setup

- The  button allows you to enable or disable access for specific sections of the time table. For example, clicking the key buttons for Sa and Su will turn the sections for Saturday and Sunday red, indicating that access is now denied on weekends.
- Clicking on a green or red day section of the timetable opens the ***Time Table Day Setup Dialog*** for the selected day.
- Day sections can also be dragged and dropped to copy time settings from one day to others.

Time Table Day Setup Dialog

- The  button toggles access for the relevant time frame. A green icon indicates access is allowed, red indicates access is denied.
- The  button opens the Time Table Day Drop-down Dialog, enabling you to add additional time frames for more granular control. For example, you can configure access to be denied after hours but allowed from 9 a.m. to 5 p.m. during working hours.



Time Table Day Drop-down Dialog

- In this dialog, you can configure custom time frames for your timetable, such as 9 a.m. to 5 p.m.
- Time frames can also span multiple days, such as Monday to Friday, 9 a.m. to 5 p.m., providing flexibility for recurring schedules.

6.2. Special programs

Special programs define specific dates (e.g. public holidays) or date ranges (e.g. holidays) that can be referenced inside ***Time Profiles***.

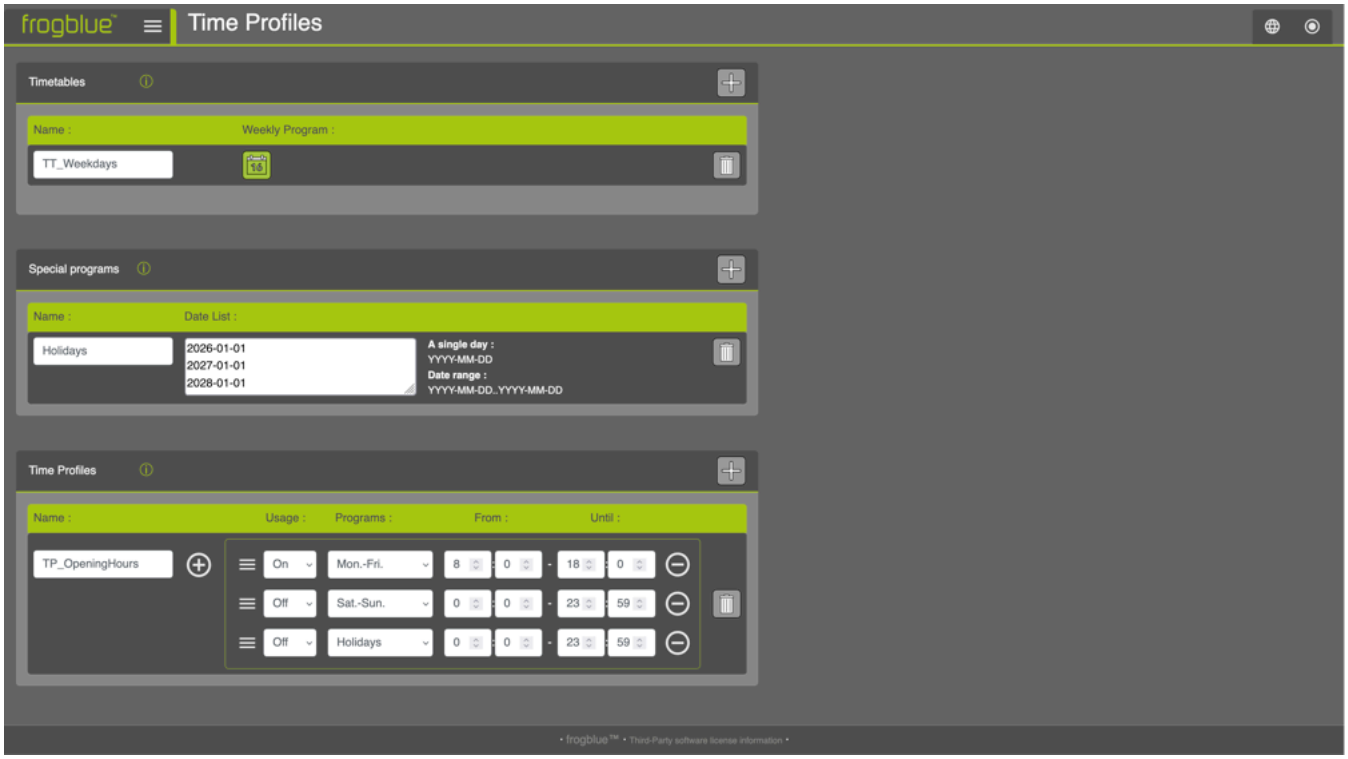
- Name: e.g. "Holidays"
- Date List: enter one item per line:
  - Single day format: YYYY-MM-DD
  - Date range format: YYYY-MM-DD..YYYY-MM-DD
- Delete: bin icon removes the special program
- Add new Special Program: ➕ button (top right of the Special programs block)

Tip: Use Special programs for public holidays, shutdown periods, special events, etc.

6.3. Time Profiles

Time Profiles are the new mechanism (from frogOS 1.7 onwards) for defining time-based logic with multiple rules that can switch behaviour On or Off depending on the selected program and time window. The profiles are extremely flexible and fine-tuneable.

- ***Name***: e.g. "TP_OpeningHours"
- Rules list (multiple rows), each row includes:
  - ***Usage***: On or Off
  - ***Programs***: e.g. Mon.-Fri., Sat.-Sun., or a special program like Holidays
  - ***From / Until***: time window (hours + minutes)
  - Remove rule: minus button on the right of the row
  - Reorder: drag handle ☰ to change rule order. Rules are resolved top to bottom.
- Delete profile: bin icon on the far right
- Add rule/profile:
  - ➕ next to the profile name adds an additional rule row (as shown)
  - ➕ (top right of the Time Profiles block) creates a new Time Profile



The example shown in the screenshot above creates a clear "opening hours" logic where weekdays are active during business hours, and weekends/holidays are explicitly inactive.

7. Access Control Configuration

7.1. Introduction to frogTerminal Access Control

The frogTerminal offers efficient and flexible time-based access control using PINs, RFID cards, and even phone calls, without requiring a constant cloud or network connection. The system is designed to simplify access management while maintaining robust security.

For RFID cards, the frogTerminal employs the international standard DESFire EV2, ensuring reliability and security. Cards or key fobs can be written at any frogTerminal and then used across all terminals within the same project—no additional configuration is needed. While a network connection is optional, it enhances convenience by enabling remote administration via the network or internet.

7.2. PINs, Access Codes

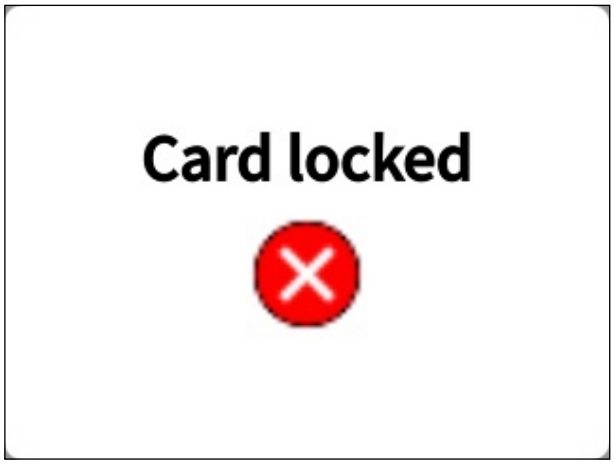
There are a number of Numerical Codes for Operating the frogTerminal.

- Admin PIN: A 6-digit numerical PIN used for administering the terminal configuration via the on-device touchscreen.
- Function PIN: A numerical PIN ranging from 1 to 6 digits that can be mapped to any function on the frogTerminal. For example, "111" could be designated to call security.
- Access PIN: A 6-digit numerical PIN associated with User Access Rules, granting access to doors or entry points as part of a two-factor authentication system that complements RFID cards or tags.

Note: Incorrect PIN entries will trigger a delay before the next PIN can be input. These delays increase incrementally (e.g. 5s, 10s, 20s, 30s, up to 60 seconds).

7.3. Graphical feedback for access events

- A successful access event.



- A denied access event.

- A denied access event.
- Reason: Card is not allowed access in this zone.

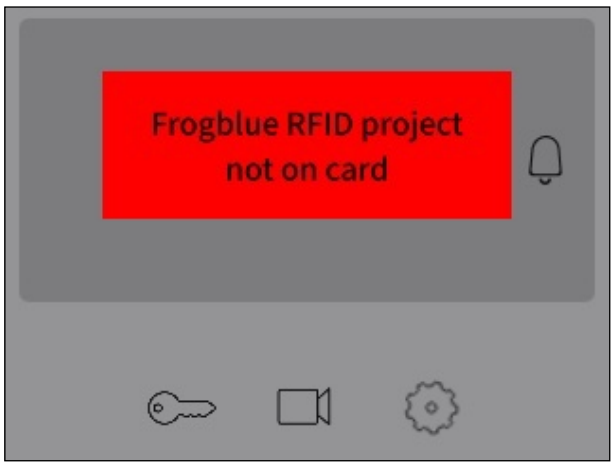
- A denied access event.
- Reason: Time Table exception. Card is not allowed at this time.

- A denied access event.
- Reason: PIN entered is invalid.

- A denied access event.
- Reason: Card Issue date is invalid - card needs to be re-written/updated.

- Multi factor PIN required for access.
- Reason: Card or Zone requires additional access PIN. Depending on source setting enter user PIN or Terminal Zone PIN codes.

- The card is formatted incorrectly.



- Project not written to card or wrong Project Number

7.4. Decentralised Access Control

With frogblue, user data is stored directly on the cards or key fobs, making the system highly independent of networks or clouds. Each frogTerminal reads the complete user data from the card when presented, ensuring seamless operation without external dependencies.

To enable secure access across all terminals in a project, encryption settings must be consistent. This requires entering the same 10-digit PIN and project date on each terminal. Updates to user data, such as PIN changes or modified access permissions, can be made at a single terminal (e.g. at the main entrance). The updated data is then automatically written to the user's card during its next use. Card blocking is handled in the same way.

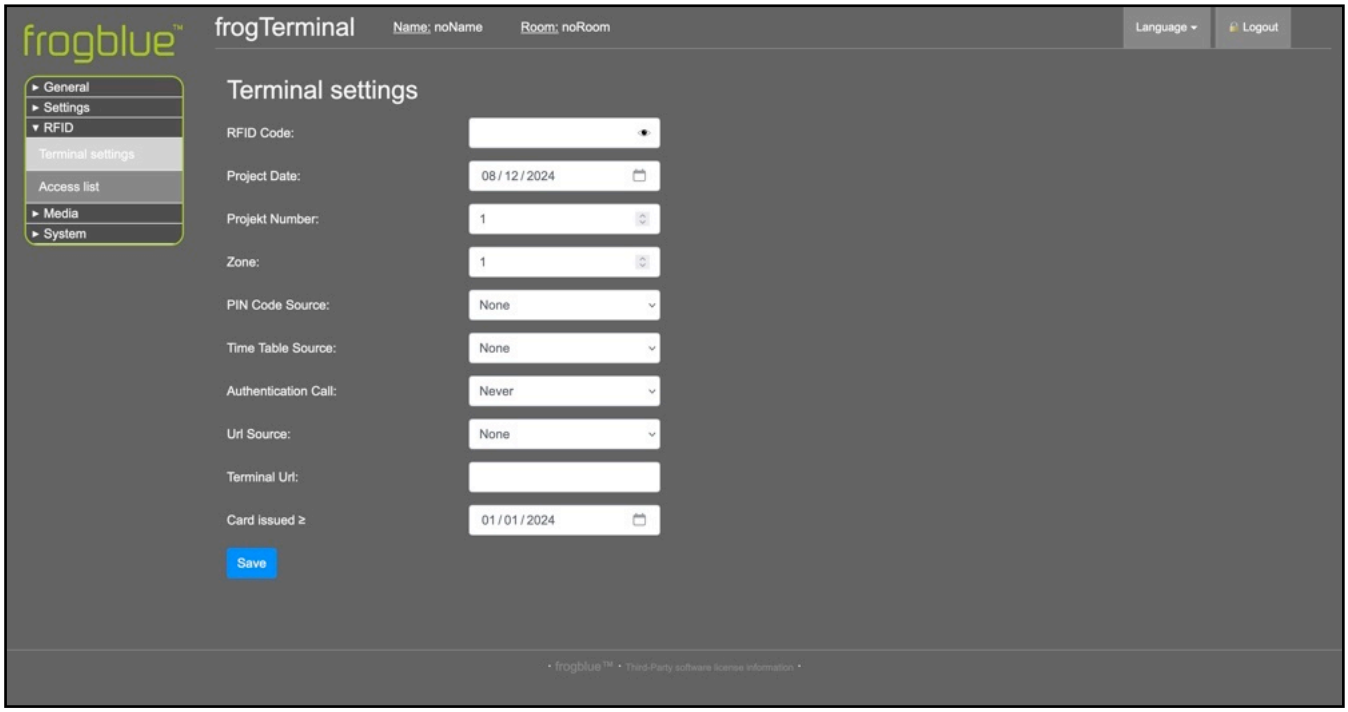
Future Enhancements: Upcoming updates will introduce the ability to manage user data remotely over the network or locally via Bluetooth. Additionally, a cloud-based access management system with time-tracking capabilities is planned.

7.5. Card Information

Each card securely stores essential user access details, including:

- User's name, first name, and personnel number
- Card creation date
- Validity period (start and end date/time)
- Personal PIN
- Weekly access schedules
- Access permissions for up to 20 zones

frogTerminals read and interpret the card's data directly. Any changes, such as new PINs or access schedules, are detected and seamlessly integrated during card usage. The terminal archives the card's content and usage timestamp, enabling administrators to view user details and access logs on the terminal display. If a network connection is available, this data can also be accessed remotely via a web browser.



7.6. Access Functions

The card or key fob defines the user's access rules, such as PINs, schedules, and authorised zones. The system also allows flexibility for special situations:

- **No PIN Requirement**: For interior doors, the terminal can be set to bypass personal PIN validation (***none***).
- **Shared PIN**: For temporary security needs, a terminal-specific PIN (***terminal***) can be set, overriding the personal PINs for all users.
- **Access Times**: Terminals can use access times stored on the card (***card***), set local schedules for all users (***terminal***), or disable time restrictions entirely (***none***).

7.7. Special Features

frogTerminals support additional functionality to meet unique requirements:

- **Phone Integration**: Cards can store a phone number, allowing the terminal to initiate a call after the card is read and authenticated.
- **IP Links**: An IP link can be stored on the card, enabling automated actions such as triggering special functions or integrating with third-party systems like time tracking after authentication.
- **Advanced APIs**: The frogTerminal API (application programming interface) provides for custom integrations making the terminal a powerful smart access control point and system interface for 3rd party solutions providers.
- These features make frogTerminal a versatile solution for advanced access control and system integration.

7.8. RFID Encryption and Zones

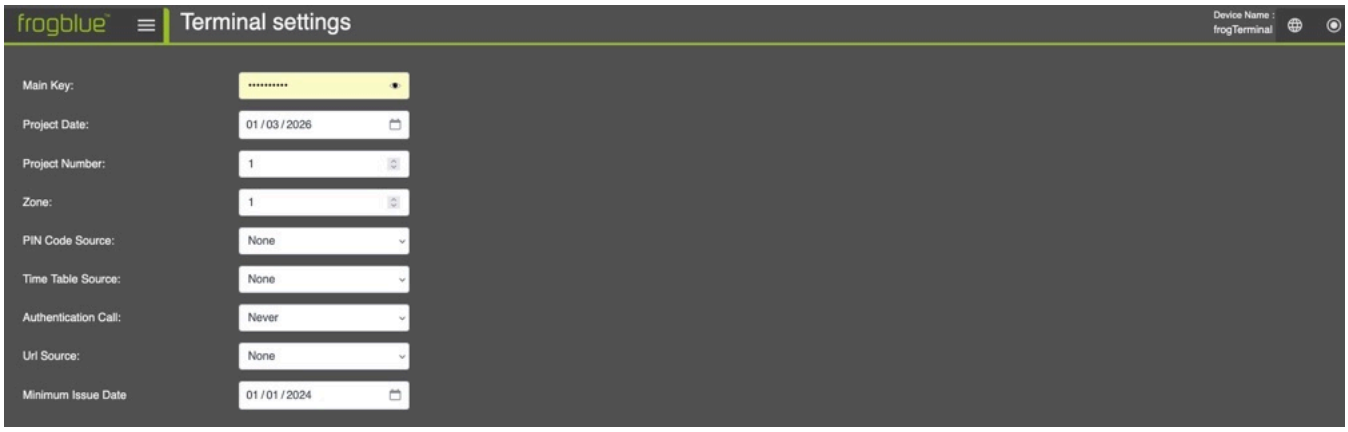
Set up access control parameters like RFID encryption, zones, and project settings.

Steps Overview:

- Configure RFID encryption (10-digit code, project date, and project number).
- Assign the terminal to zones.
- Set user-specific or terminal-wide PINs and schedules.

7.8.1. RFID Encryption and Zones Via Web Browser (Terminal Settings)

Via Web Browser Menu: ***Access Control → Terminal Settings***



- ***Main Key***: 10-digit numerical code used with the Project Date and Project Number as the foundation (or "seed") for encrypting your access control setup. Frogblue devices commissioned with the same code, date, and project number operate as a unified system.
- ***Project Date***: The timestamp used as a security seed, typically set to the last date on which this project was commissioned.
- ***Project Number***: A number between 1 and 32,767 used to identify the project, useful in managing multiple projects or complex setups.
- ***Zone***: A number from 1 to 9 that defines the access zone. The system supports up to 20 zones, each representing a specific access area (e.g. Carpark, Building A, Server Room, Security, etc.).
- ***PIN code Source***: Determines the source of stored PIN codes for two-factor authentication, with 3 options:
    - ***None***: Disables PIN entry at this terminal.
    - ***Card***: The most common setting, enabling two-factor authentication with specific PIN codes assigned to individual users and stored on the access card.
    - ***Terminal***: Secures the door or access point with a terminal- specific PIN code. This PIN applies to all users at this location, overriding personal PINs.
    - Selecting the Terminal option shows an additional input box enabling you to set a 6-digit PIN for access at this Terminal.
- ***Time Table Source***: Specifies the source for time-based access rules, with 3 options:
    - ***None***: Disables time-based access rules at this terminal.
    - ***Card***: Time rules are stored on the access card, allowing individual schedules (e.g. General Staff: 9 a.m.–5 p.m., Cleaners: Fri-Sat 3 p.m.–7 p.m., Security: 24h).
    - ***Terminal***: With this setting a door or access point may also be secured with a terminal-specific Time Table. Access times at this location are exactly as set locally in the Terminal.
    - Selecting the Terminal option shows an additional button for configuring the Terminal specific Time Tables. See **Section 7.10. "Adding and Blocking Cards"** on configuring Time Tables.
- ***Authentication Call***: This setting determines whether the terminal should initiate an authentication phone call to confirm access, such as verifying delivery access with dispatch, coordinating a contractor's entry with site management, or enforcing the four-eyes principle for security.

There are 4 configuration options:

1. ***Never***: Disables authentication calls for all access events at this terminal.
2. ***Card Value***: The call settings (whether to call and whom to call) are defined and stored on the access card, allowing individualised configurations for users.
3. ***Only Exception***: Calls are made only for exceptional cases, such as access attempts outside defined time schedules or after incorrect PIN entries.
4. ***Always***: An authentication call is initiated for every access event, regardless of time schedules or PIN correctness, ensuring maximum oversight.

- ***URL Source***: This setting determines whether the terminal should trigger an IP call or invoke a third-party API during access events. This feature enables integration with external systems, such as triggering special functions, logging access events, or interacting with third-party applications.

  Examples include:

  Logistics: Notify warehouse automation systems to prepare or dispatch an order upon access. Automatically light a path to the delivery gate for efficient navigation.

  Healthcare: Trigger nurse call or management systems to log patient visitor details or confirm the delivery of critical medication.

  Building Automation: Activate lighting and adjust HVAC settings along a defined route for the user, or automatically call an elevator to the correct floor.

  Workforce Management: Log staff check-in/check-out times for attendance tracking or initiate a workflow when a technician accesses a specific area.

  Security and Monitoring: Notify a security team or system when a restricted zone is accessed, or log entries for audit purposes.

  There are 3 configuration options:

  1. ***None***: Disables URL triggering for access events at this terminal.
  2. ***Card***: The URL to be triggered is defined and stored on the access card, allowing customised actions for individual users.
  3. ***Terminal***: A specific URL is set locally on the terminal and triggered universally for all access events at this location. This setting is ideal for standardised integrations across multiple users.

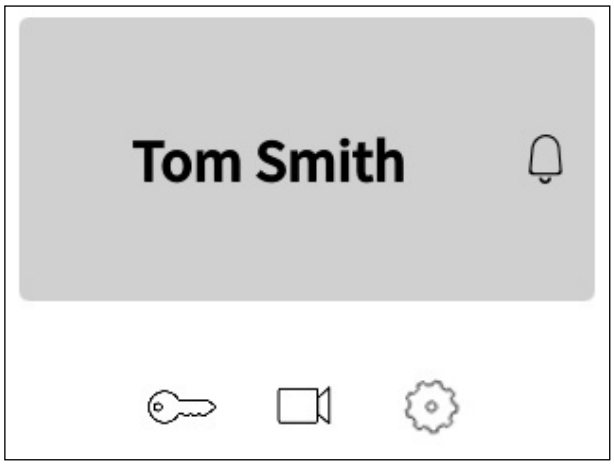
  *Selecting the Terminal option shows an additional input box **Terminal URL**. This URL triggers, when the URL Source setting is configured as **Terminal**. It allows the terminal to initiate standardised API calls or IP actions for all access events.*

- ***Minimum Issue Date***: Specifies the earliest creation date for cards allowed access at this terminal. Cards issued before this date are automatically denied.

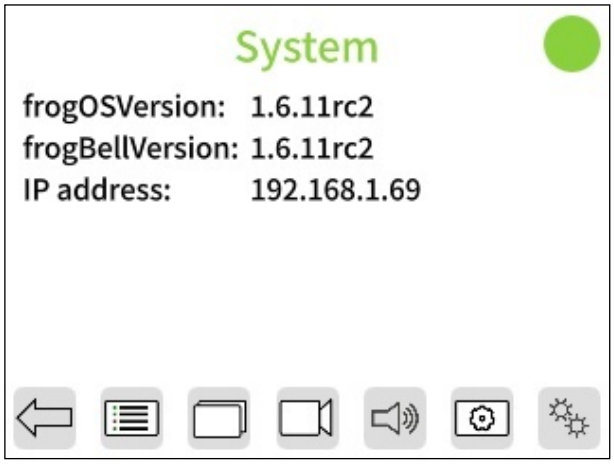
  This setting provides for a simple security measure in case of a potential breach (e.g. lost access keys). Just set this date to the current day, all older cards are immediately blocked, all personnel must now present their keys for re-writing with updated credentials.

  - The Save button saves the updated access settings to the terminal.

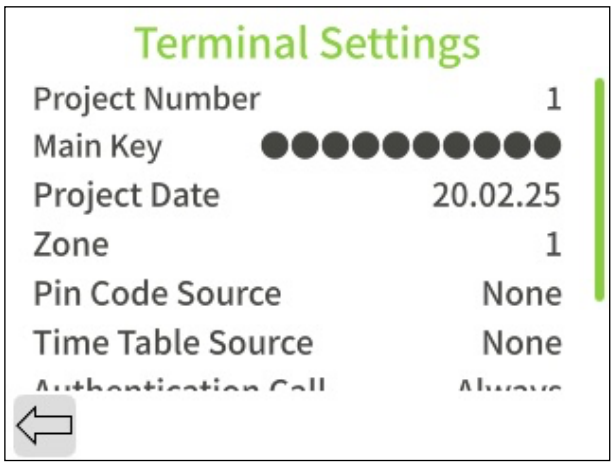
7.8.2. RFID Encryption and Zones Via On-Device Touch Screen



- Tap ⚙ and enter your 6-digit Admin PIN to access the configuration mode.



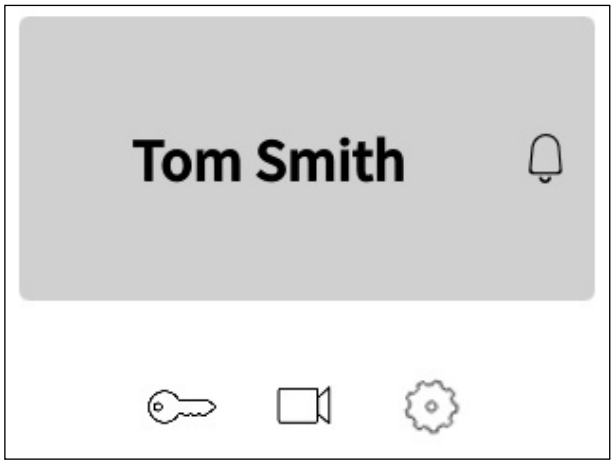
- Tap ⚙ to access the RFID Terminal settings page.



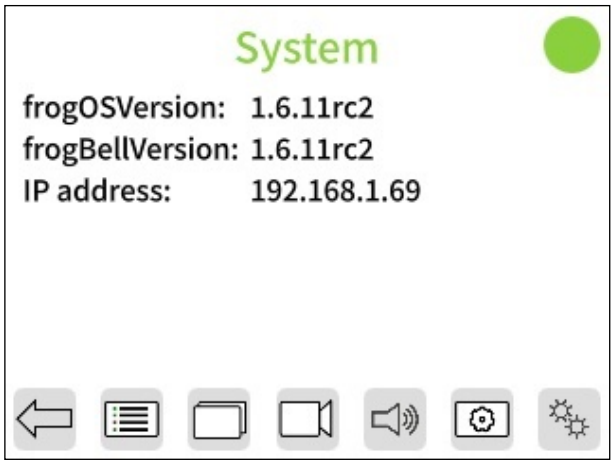
The settings on this page are identical to the settings in the Browser detailed in ***Section 7.8.1 "RFID Encryption and Zones Via Web Browser***".

7.9. Formatting Keys / Cards via On-Device Touch Screen

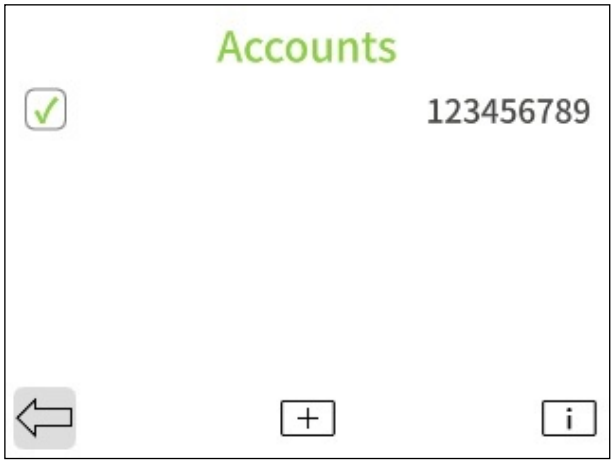
Be sure to always format your cards before re-writing.



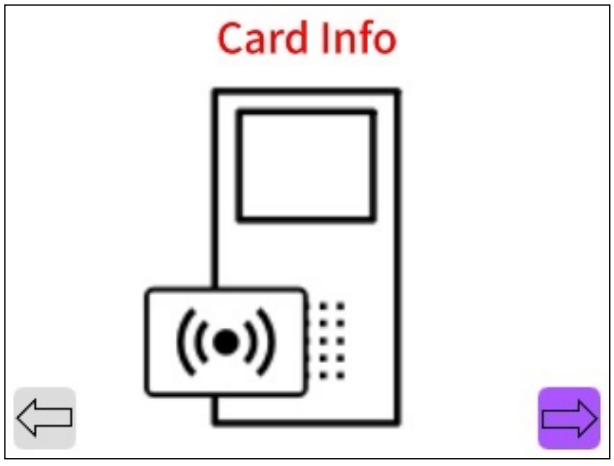
- Tap and enter your 6-digit Admin PIN to access the configuration mode.



- Tap to access the RFID key settings page.

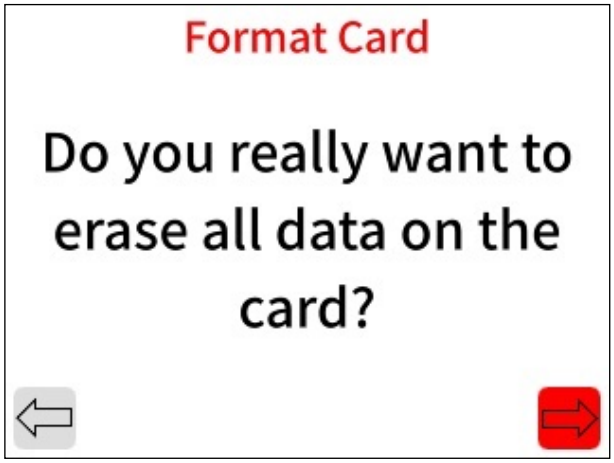


- Tap to open the RFID Card info dialog.

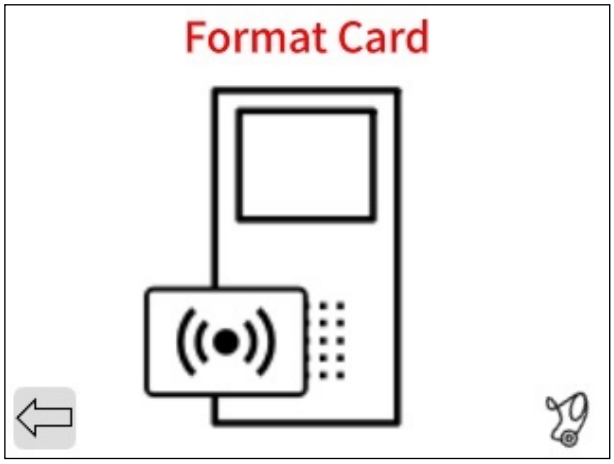


- Hold your RFID card or tag in front of the Terminal's RFID sensor.

- This screen shows the Projects or Applications stored on the card or key.
- Select a project and tap ***Delete*** then confirm and hold the key / card in front of the Terminal to erase the project.
- To format a card back to factory defaults tap ***Format***.



- Confirm you wish to completely erase all data on the card.



- Hold the key / card at the Terminal's RFID sensor, wait for the beep confirmation sound and your card has been formatted to defaults.

7.10. Adding and Blocking Cards

Add RFID cards or key tags for user access and manage blocking when necessary.

Steps Overview:

- Add a card via touch screen or web interface.
- Assign access zones and schedules.
- Block a card.

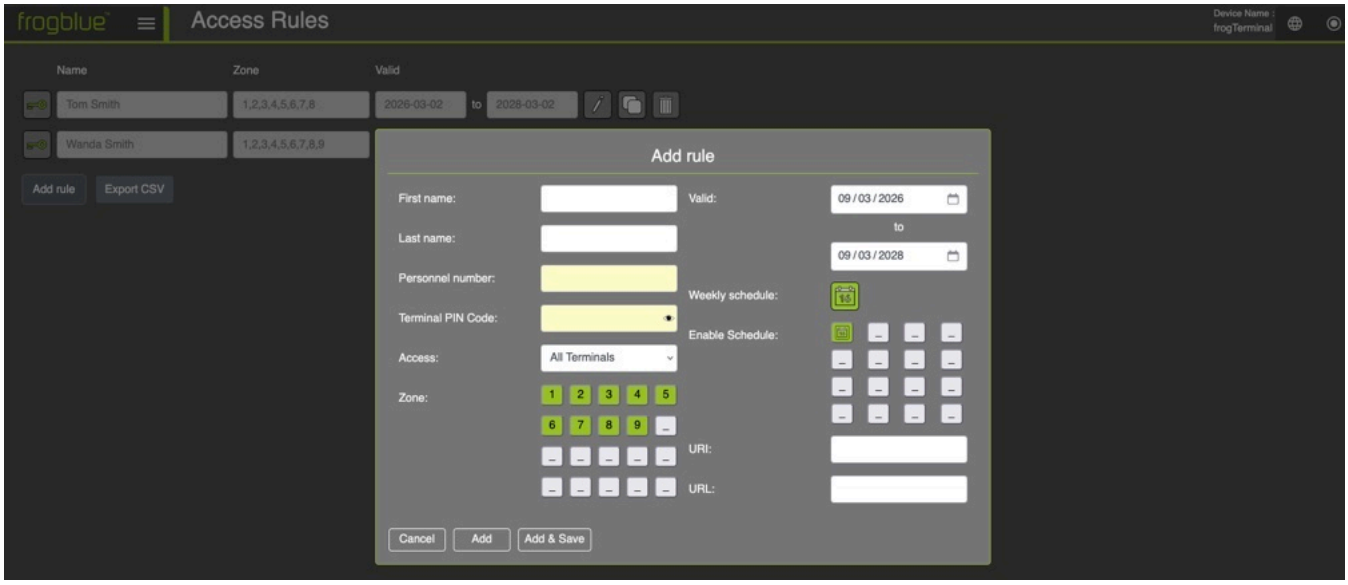
7.10.1. Adding and Blocking Cards Via Web Browser

Menu: *Access Control → Access Rules*

Access List

- This section displays the access list, detailing the personnel whose access data is stored on this terminal.
- The  button toggles master access for this user. A green icon indicates access is allowed, while a red icon indicates it is denied.
- The  button opens the timetable configuration for the user. Refer to the ***Time Profile Section***.
  Note: To be able to use Time Profiles make sure to set the **Time Table Source** at the *Terminal Settings* to either *Card* or *Terminal* (see ***Section 7.8.1: "RFID Encryption and Zones Via Web Browser (Terminal Settings)"***)
- The  button opens the ***Edit Card Dialog***. This dialog mirrors the ***Add Card Dialog*** settings, except it edits the configuration for the selected entry. Information on the Add Card Dialog can be found below.
- The  button deletes the user's access configuration entry from this terminal.
  Note: This does not block the card from accessing the system. It only clears the cached personnel card data on this terminal. A card written with the correct encryption key can still authenticate and gain access if the source settings allow. In such cases, the card will 'carry' the data to the terminal, creating or updating an entry in the access list with the card's details.
- The  button allows you to manually add a new personnel card entry to the system.
- The  button saves the updated access settings to the terminal.

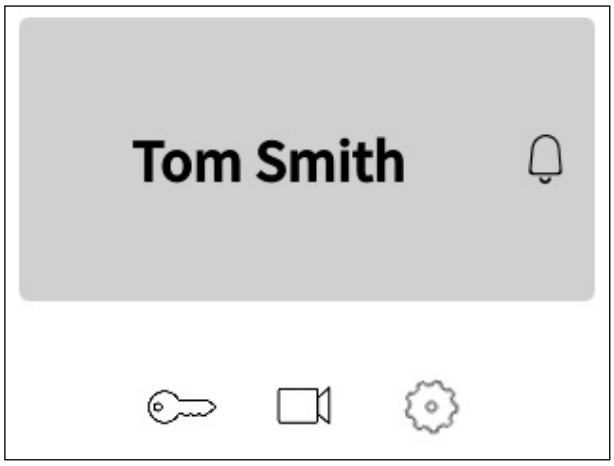
  Note: For systems with multiple terminals, new or updated access information is distributed either decentralised via the card when presented to a terminal during the next access event, or in real-time via frogCast (Unified Bluetooth/IP Mesh) across the IP network.



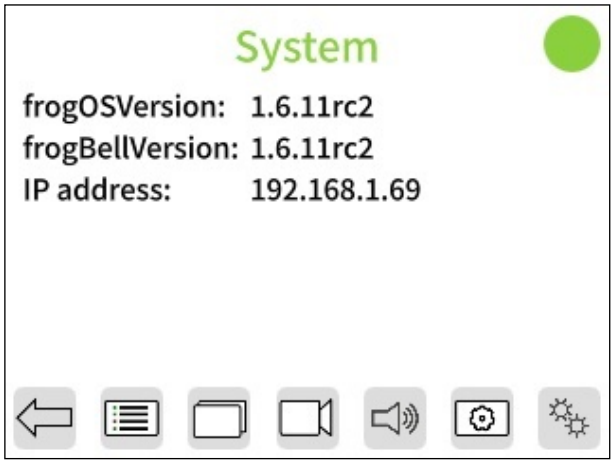
Add Card Dialog

- ***First name***: The given name of the person associated with this card.
- ***Last name***: The surname of the person associated with this card.
- ***Personnel number***: A unique number or identifier for the person associated with this card.
- ***Terminal PIN Code***: The unique access PIN code for the person associated with this card. This code is required when ***Terminal Settings - > PIN Code Source*** is set to ***Card***.
- ***Access***: Specifies whether this entry applies only to this terminal or to all terminals in the project.
- ***Zone***: Specifies the zones this card grants access to. Clicking on the numbers ***1*** through ***20*** toggles wether access is allowed or denied for each zone. For example, selecting  grants access only to zones 3, 6, and 9.
- ***Valid***: The date range during which this access entry is valid.
- ***Weekly schedule***: A time table as explained in ***Section 6.1 "Time Tables"*** opens and can be edited.
- ***Enable schedule***: Enable/disable the time table set in ***Weekly schedule*** and up to 15 time profiles. For details see ***Section 6.3 "Time Profiles"***. As for *Zone* clicking on the number toggles wether the time profile is active or not.
- ***URI***: The URL triggered in case of an exception, such as an access denied event.
- ***URL***: The URL triggered on successful access.

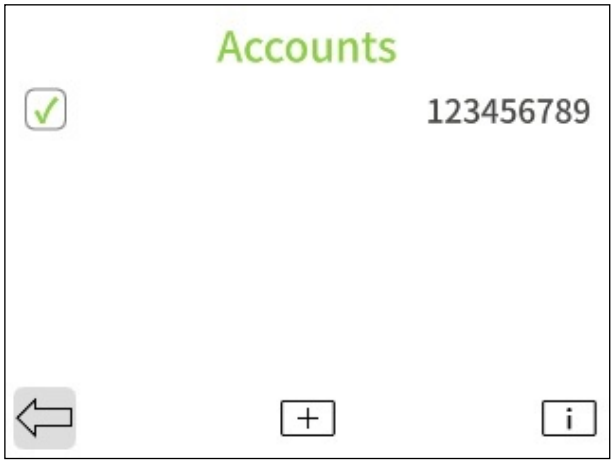
7.10.2. Adding and Blocking Keys / Cards Via On-Device Touch Screen



- Tap ⚙ and enter your 6-digit Admin PIN to access the configuration mode.

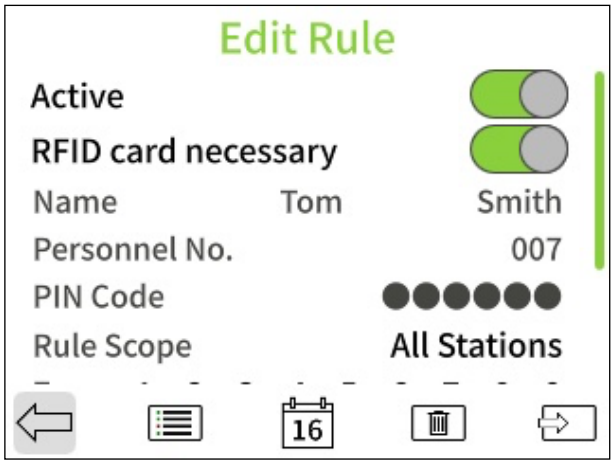


- Tap ▭ to access the access rules settings page.

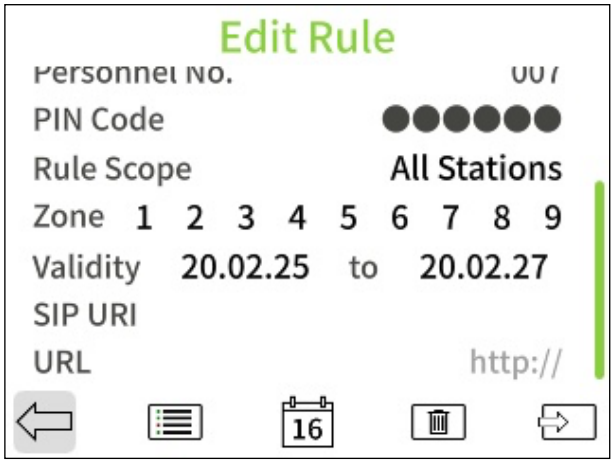


- Tap ⊞ to add an access rule entry.

  Note: The Add Card dialog is identical with the Edit Card dialog.



- ***Active***: Enable or disable this card for access across the project. When set to off this card will be automatically blocked when presented to a Terminal.
- ***RFID Card necessary***: Defines if a RFID card or key is necessary for access with this user rule.
- ***Name***: The given name (first field) and surname (second field) of the person associated with this card.
- ***Personnel number***: A unique number or identifier for the user associated with this card.
- ***PIN Code***: The unique access PIN code for the person associated with this card. This code is required when ***Terminal Settings - > PIN Code Source*** is set to ***Card***.
- ***Rule Scope***: Specifies whether this entry applies only to this terminal or to all terminals in the project.



- ***Zone***: Specifies the zones this card allows access for. Clicking on the numbers *1* through *9* toggles wether access is allowed or denied for each zone.
- ***Validity***: The date range during which this access entry is valid.
- ***SIP URI***: The SIP URI triggered in case of an exception, such as an access denied event, e.g. "sip://sipuser@sipregistrar.net".
- ***URL***: The URL triggered on an access event.
- To write a new access rule onto the card, tap the card exit symbol on the bottom right

- Hold the card at the Terminal's RFID sensor and wait for the beep confirmation sound.

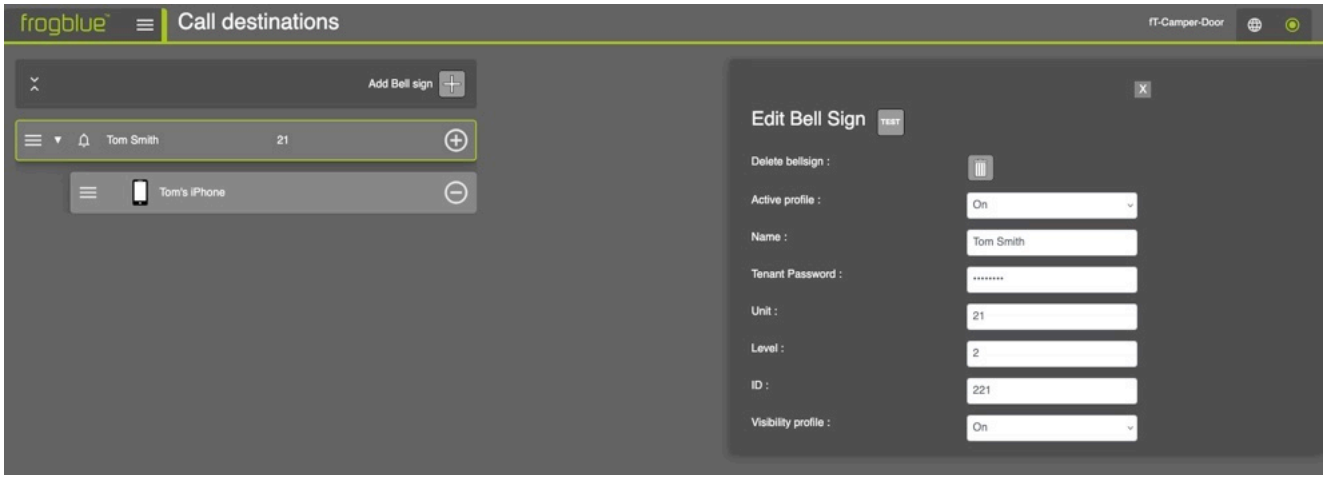
8. Telephony Call Destinations Setup

8.1. Bell Signs

Via Web Browser Menu: ***Communication → Call destinations***

Here we set up the Bell Signs, which appear on the Terminals touch screen when activated, e.g. by touch or the proximity sensor.

A Bell Sign represents a visible call button on the terminal display, such as a resident, tenant, office, department, or apartment. Each Bell Sign can have its own name, unit information, visibility settings, call actions, and Tenant Password.



- Click ***Add Bell Sign*** to create a new bell sign. A new entry will appear in the bell signs list.
- ☰ Adjust the position of the entry in the list and set the default order in which the buttons appear on the terminal's touchscreen.
- 🗑 Deletes the bell sign entry.
- ***Active profile***: Enabling the entry makes it visible on the touchscreen and available as a call target. Disabling it removes it from the touchscreen and prevents it from being used as a call target.
- ***Name***: The display name for the entry on the touchscreen call button (e.g. "Tom Smith").
- ***Tenant Password***: The Tenant Password is used to give the assigned app user access to the Bluetooth-related functions of this frogTerminal without providing the Admin password. This password can be entered by the user in the frogSIP app under: ***Settings → Devices → <Your frogTerminal> → Tenant Password***

  The frogSIP app can use either the Admin password or the Tenant Password to unlock the SIP message channel and access the required Bluetooth information for the terminal.

  Use this option when a user should be able to use the frogSIP app with Bluetooth mode for access functions, for example to open the door without an internet or Wi-Fi connection, but should not receive full administrator access to the frogTerminal.
- ***Unit*** (Optional): Specifies the Apartment or Unit number (e.g. "21").
- ***Level*** (Optional): The floor level for the entry (e.g. "2").
- ***ID*** (Optional): An identifier for this entry (e.g. "221" could represent level 2, unit 21).

- ***Visibility profile***: Choose whether this entry is shown or hidden on the terminal's touchscreen display. You can set the entry to always visible, always hidden, or select a time profile to control when the bell button is displayed. Hidden entries can still be used programmatically, for example via APIs, or for authentication calls.
- ***Actions and Users***: Defines the actions triggered when a bell button is tapped or activated. Use the + button on the right of the bell sign to add a new action entry. The numbers shown indicate the current selection and the total number of actions for this bell sign entry (current/total).

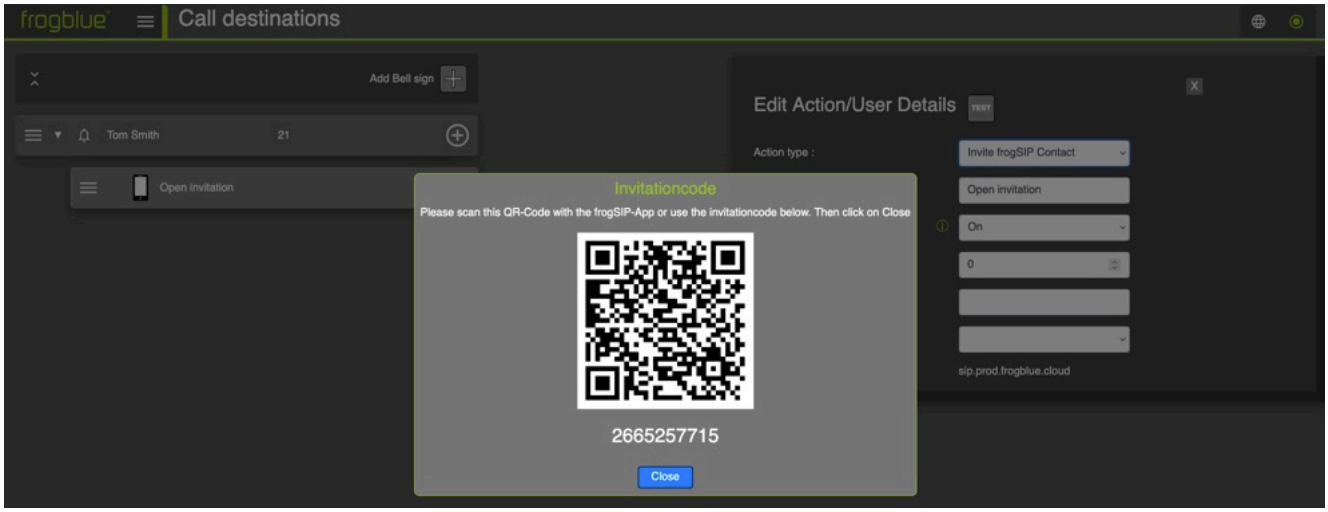
Bell actions can be stacked using various parameters—such as time tables and delays—to execute different actions at designated times or in sequence.

Click ***TEST*** to trigger the bell button from the web GUI. The configured target devices are called and the assigned actions are executed in the configured order, allowing you to check whether the bell sign destinations and actions are set up correctly.

Hitting the + button opens a dialog where we can choose from a number of Action types using the drop-down menu:

8.1.1. Bell Actions: Invite frogSIP user

Here you can pair your frogTerminal with smartphones running the frogSIP App.

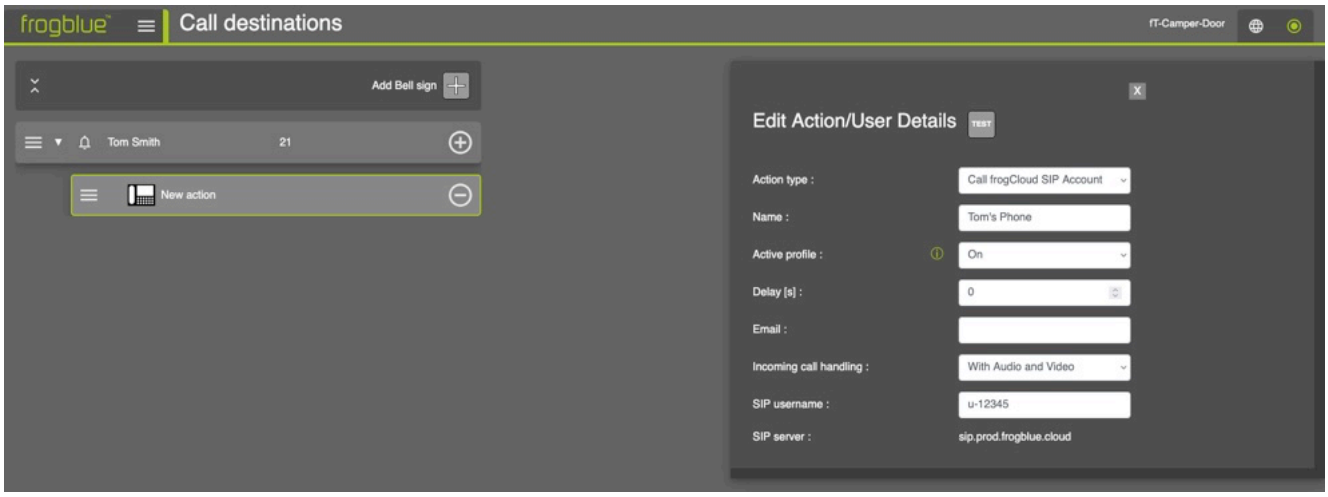


- Select ***Invite frogSIP Contact*** from the drop-down menu.
- Scan the QR code or enter the invite code in the ***frogSIP App***. See ***Section 5.6 "Pairing the Terminal with frogSIP App"***.
- Once your frogTerminal has been paired, a Call frogCloud SIP Account action is added automatically. You can then configure the call settings in the same way as described in the next ***Section, 8.1.2 Bell Actions: "Call frogCloud SIP Account"***.

8.1.2. Bell Actions: Call frogCloud SIP Account

Use this action to call an existing frogCloud contact via their SIP username.

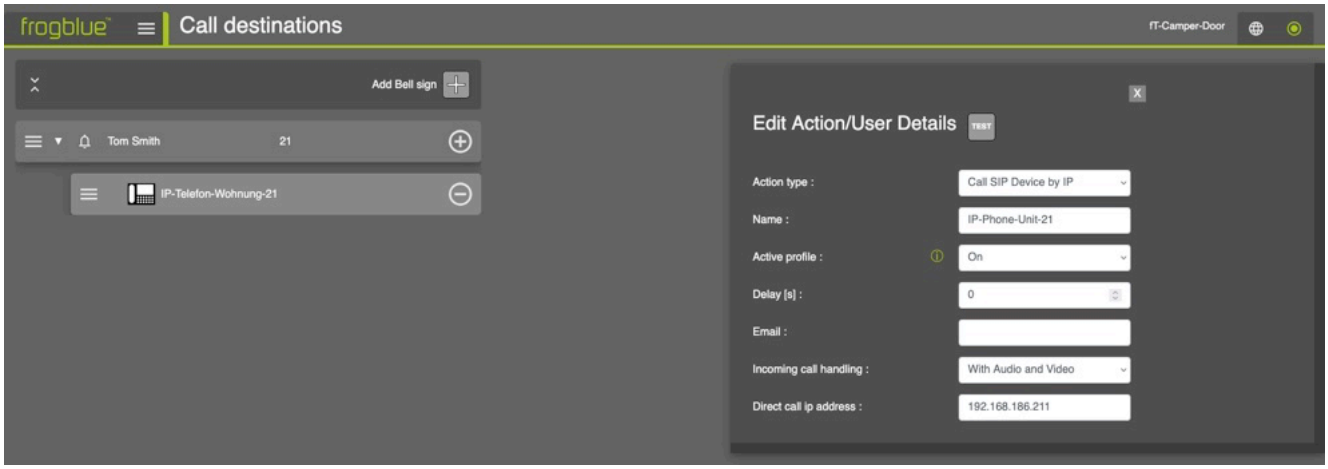
For this function to work, SIP sharing between the frogTerminal and the SIP user must be enabled in the frogCloud project under ***SIP Shares***.



- ***Action type***: Select ***Call frogCloud SIP Account*** from the drop-down menu.
- ***Name***: Enter a name for the action, e.g. "Tom's Phone".
- ***Active profile***: Select a time profile in which the bell sign is active.
- ***Delay [s]***: Time in seconds until call action is executed.
- ***Email***: Contact email address for this user (Optional).
- ***Incoming call handling***: Defines how incoming calls from this user are handled. You can decline the call directly, accept it manually, or allow automatic answering with audio and/or video.
- ***SIP username***: The SIP address of the user to call, for example "u-12345". The SIP address can be found in the user's frogSIP App under: ***Settings → Connectivity → SIP Account***
- Click ***Save*** to create a new frogCloud SIP call action.
- Click ***TEST*** to trigger a test call from the web GUI. The configured target device is called, allowing you to check whether the call destination is set up correctly.

8.1.3. Bell Actions: Call SIP device by IP

For directly calling SIP telephony devices via IP

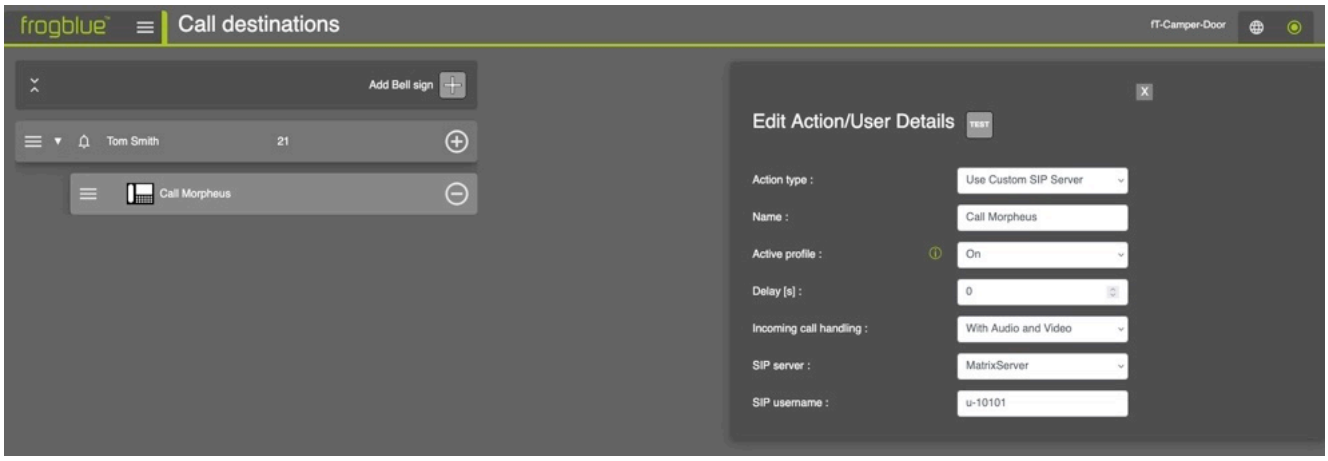


- ***Action type***: Select ***Call SIP Device by IP*** from the drop-down menu.
- ***Name***: Enter a name for the action, e.g. "IP-Phone-Unit-21".
- ***Active profile***: Select a time profile in which the bell sign is active.
- ***Delay [s]***: Time in seconds until call action is executed.
- ***Incoming call handling***: Defines how incoming calls from this user are handled. You can decline the call directly, accept it manually, or allow automatic answering with audio and/or video.
- ***Direct call IP address***: The IP Address of the SIP phone device to call.
- Click ***Save*** to create a new SIP call by IP action.

When installed with a SIP server, calls can be made to any phone on the system. The SIP server must be configured first - see ***Section 18.2. "SIP Server Registration"*** for details.

8.1.4. Bell Actions: Use Custom SIP Server

For calling SIP telephony devices via a custom SIP Server.

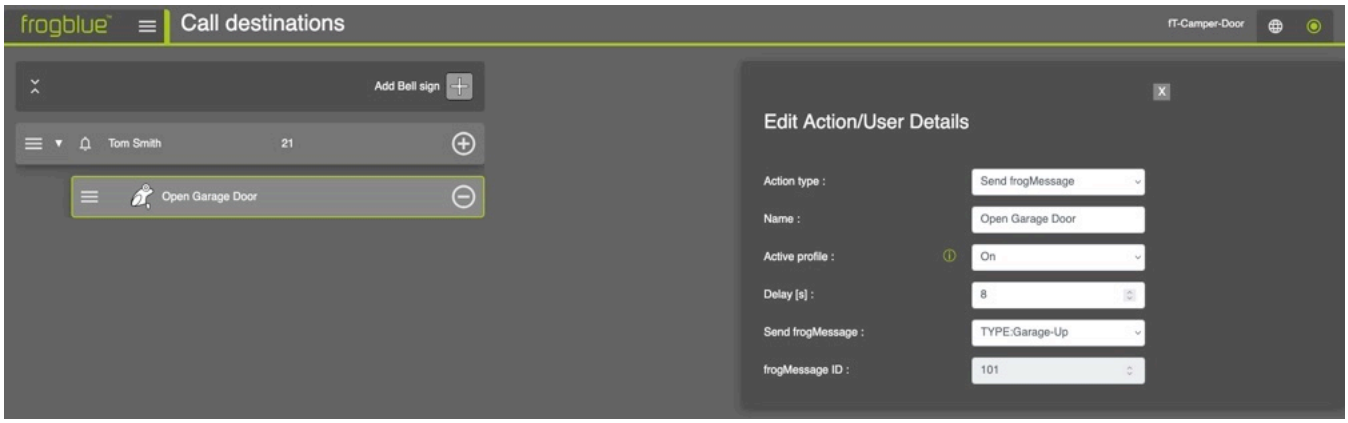


- ***Action type***: Select ***Use Custom SIP Server*** from the drop-down menu.
- ***Name***: Enter a name for the action, e.g. "Call Morpheus".
- ***Active profile***: Select a time profile in which the bell sign is active.
- ***Delay [s]***: Time in seconds until call action is executed.
- ***Incoming call handling***: You can directly decline, accept the call manually or answer by audio and/or video.
- ***SIP Server***: Select your custom SIP Server, e.g. "MatrixServer" from this drop-down menu. See ***Section 18.2.2 "SIP Setup via Web Browser"*** to configure custom SIP Servers.
- ***SIP username***: Enter the SIP username of the contact you want to call, e.g. "u-10101".
- Click ***Save*** to create a new SIP call by Custom Server action.

When installed with a SIP server, calls can be made to any phone on that system. The SIP server must be configured first - see ***Section 18.2. "SIP Server Registration"*** for details.

8.1.5. Bell Actions: Send frogMessage

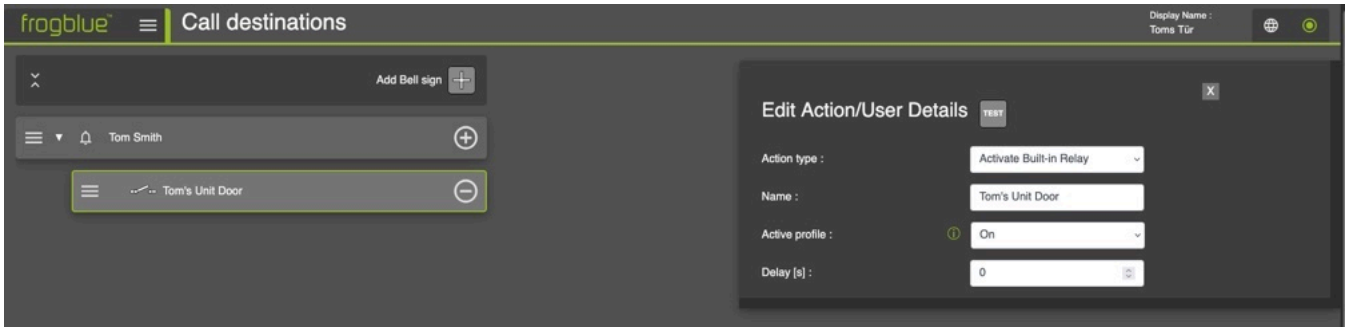
This feature enables seamless integration with frogblue's smart automation mesh, allowing for automated control of lights, doors, and shutters. It requires provisioning your frogTerminal for frogMesh integration – see ***Section 17***.



- ***Action type***: Select ***Send frogMessage*** from the drop-down menu.
- ***Name***: Enter a name for the action, e.g. "Open Garage Door".
- ***Active profile***: Select a time profile in which the bell sign is active.
- ***Delay [s]***: Time in seconds before the frogMessage is executed, e.g. to allow a vehicle to clear the driveway before opening the Garage Door.
- ***Send frogMessage***: Select the frogMessage you wish to send from the drop-down menu.
- ***frogMessage ID***: Unique number to identify the frogMessage. The ID is automatically assigned to each frogMessage once it is created.

8.1.6. Bell Actions: Activate Built-in-Relay

This feature enables you to directly trigger the frogTerminal's built-in hardware relay. For example, a bell button can be configured to activate an external light or another system via the relay.

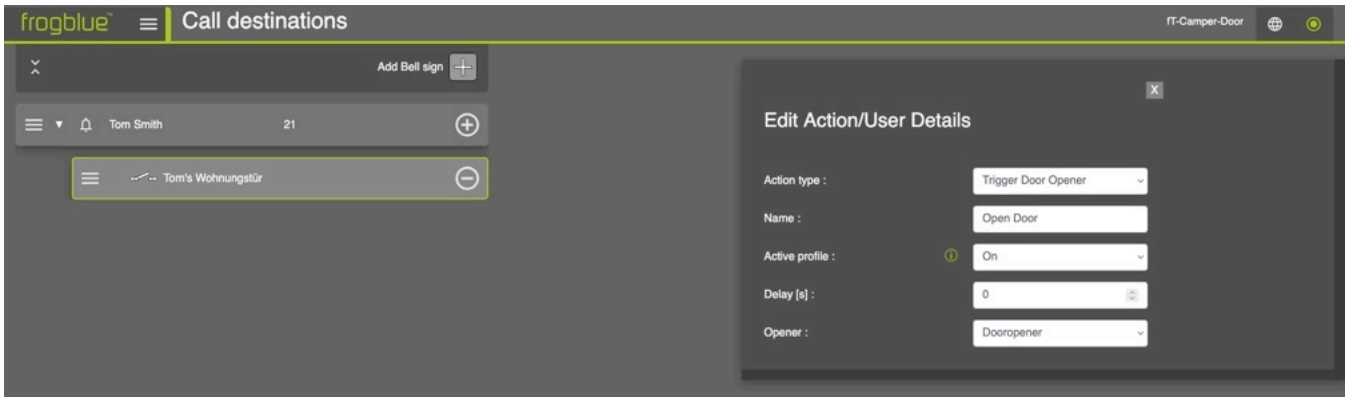


- ***Action type***: Select ***Activate Built-in Relay*** from the drop-down menu.
- ***Name***: Enter a name for the action, e.g. "Tom's Unit Door".
- ***Active profile***: Select a time profile in which the bell sign is active.
- ***Delay [s]***: Time in seconds until the relay is triggered.

8.1.7. Bell Actions: Trigger Door Opener

This feature allows you to trigger predefined opener sequences or homeobjects as defined in ***Access Control → Doors***, offering advanced control over multiple entry points.

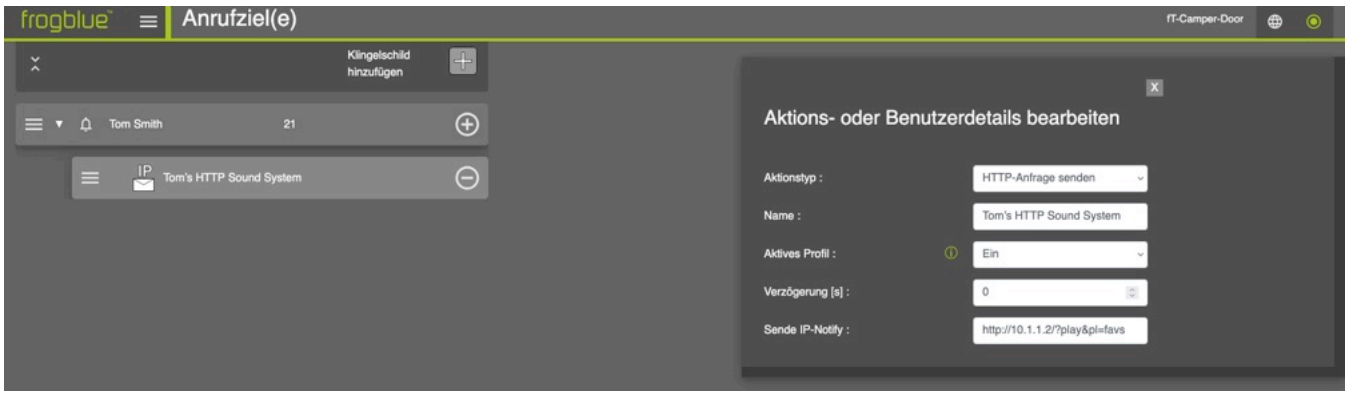
For example, you can configure the system to open a gate and then, after a set delay (e.g. 20 seconds), automatically open a garage door - see ***Section 15. "Access Control - Doors"*** for details.



- ***Action type***: Select ***Trigger Door Opener*** from the drop-down menu.
- ***Name***: Enter a name for the action, e.g. "Open Door".
- ***Active profile***: Select a time profile in which the bell sign is active.
- ***Delay [s]***: Time in seconds until the opener is triggered.
- ***Opener***: The opener or homeobject to trigger, e.g. "Dooropener".

8.1.8. Bell Actions: Send HTTP Request

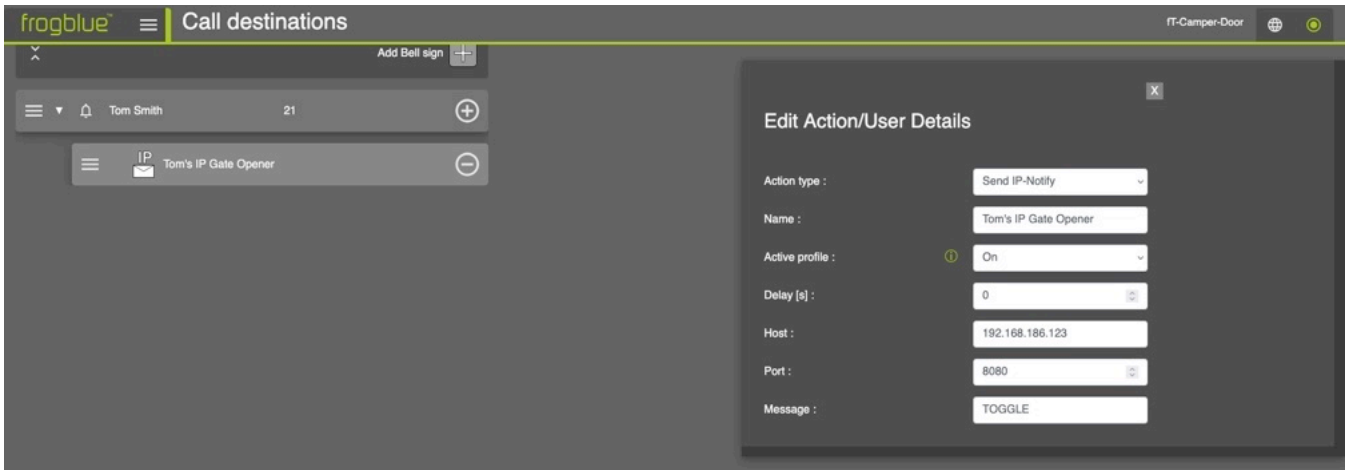
This feature enables seamless integration with third-party HTTP devices. It allows a bell button to send an HTTP request to an external system, for example to turn on an audio system.



- ***Action type***: Select ***Send HTTP Request*** from the drop-down menu.
- ***Name***: Enter a name for the action, e.g. "Tom's HTTP Sound System".
- ***Active profile***: Select a time profile in which the bell sign is active.
- ***Delay [s]***: Time in seconds until the HTTP action is triggered.
- ***URL***: Enter the URL to be triggered by this action, e.g. "http://10.1.1.2/?play&pl=favs".
- Click ***Save*** to create the new Send HTTP Request bell action.

8.1.9. Bell Actions: Send IP-Notify

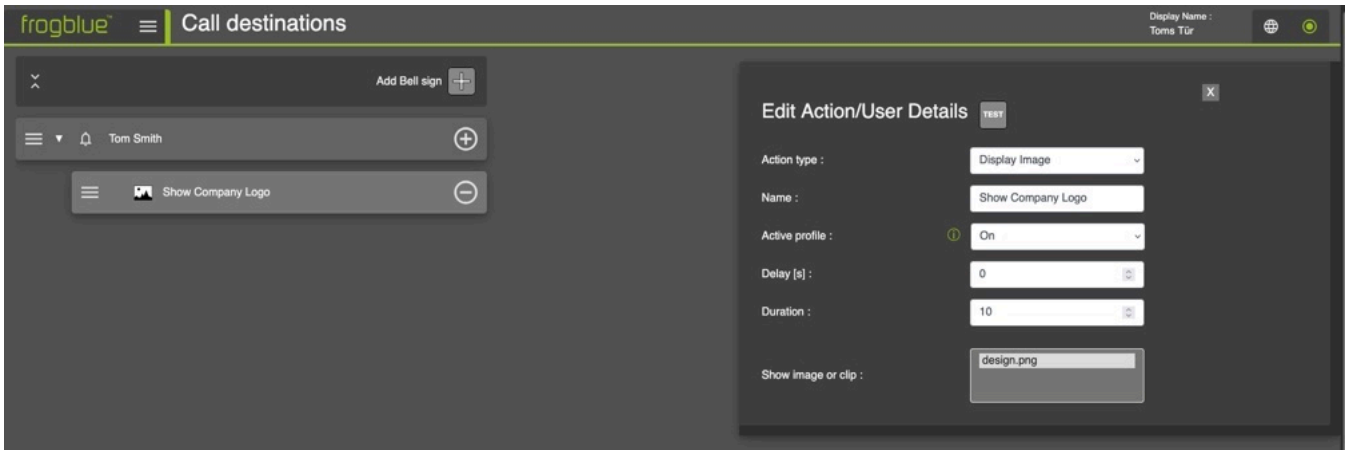
This feature enables seamless integration with third-party IP devices, allowing a bell button to send network notifications that can trigger external systems such as an IP gate opener.



- ***Action type***: Select ***Send IP-Notify*** from the drop-down menu.
- ***Name***: Enter a name for the action, e.g. "Tom's IP Gate Opener".
- ***Active profile***: Select a time profile in which the bell sign is active.
- ***Delay [s]***: Time in seconds until the opener is triggered.
- ***Host***: Enter the hostname or IP address of the third-party IP device, e.g. "192.168.186.123".
- ***Port***: Enter the port used by the IP device to receive commands, e.g. "8080".
- ***Message***: Enter the command expected by the device, for example the command used to open the gate.
- Click ***Save*** to create the new Send IP-Notify bell action.

8.1.10. Bell Actions: Show image or clip

This feature displays a preloaded image, such as a company logo, on the terminal's screen when the bell button is pressed, enhancing brand visibility or providing a clear visual cue for users.

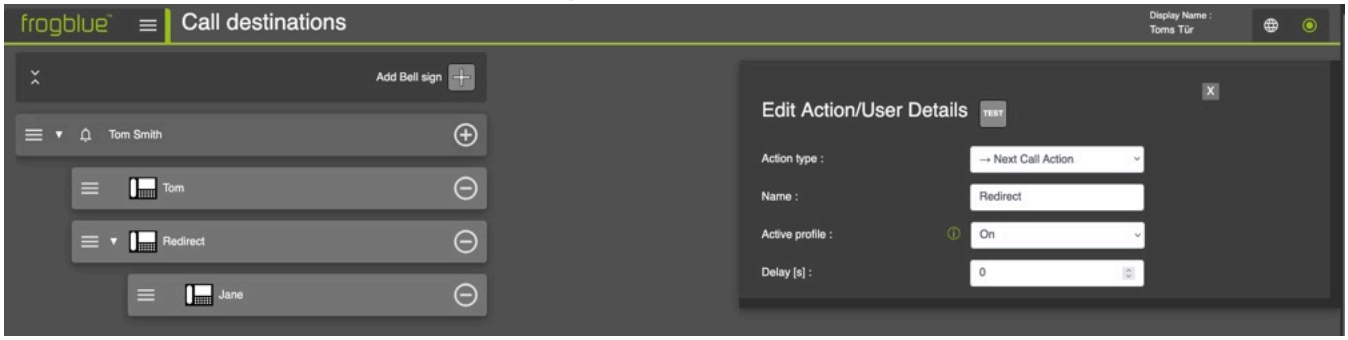


- ***Action type***: Select ***Display Image*** from the drop-down menu.
- ***Name***: Enter a name for the action, e.g. "Show Company Logo".
- ***Active profile***: Select a time profile in which the bell sign is active.
- ***Delay [s]***: Time in seconds until the file is displayed.
- ***Duration***: Time in seconds, how long the file is displayed.
- ***Show image or clip***: Select a file that was previously uploaded under ***Media*** on the terminal's web interface. For further details, please refer to ***Section 16: "On-board Media Settings"***.

8.1.11. Bell Actions: → Next Call Action

The Next Call Action function provides a simple way to create call redirects or call chains. Actions added after a Next Call Action belong to the next call group and are only executed if the previous call group is not answered or is declined.

Multiple Next Call Actions can be used to create a sequence of call groups, for example:
Call Pre-Sales → Call Sales → Call Sales Supervisor

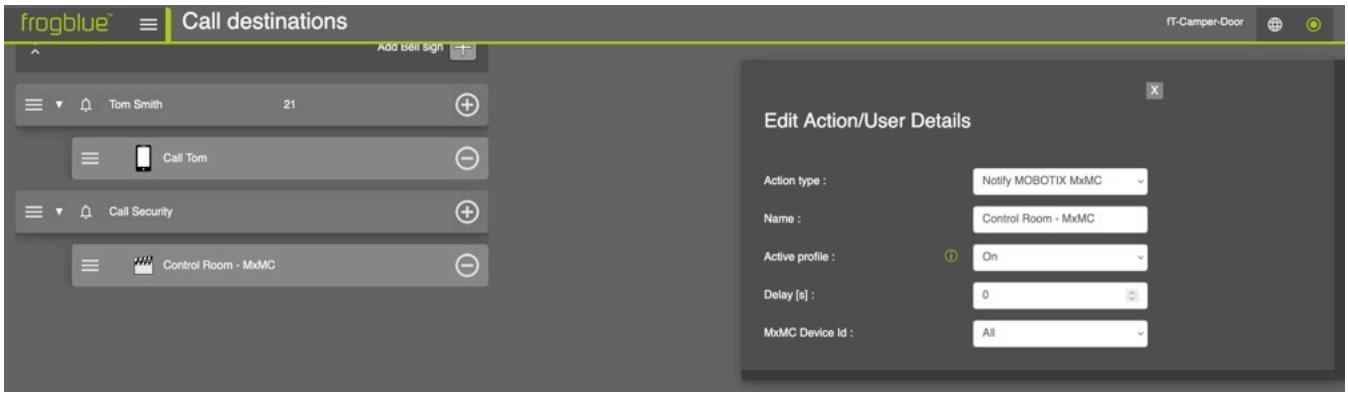


- ***Action type***: Select ***→ Next Call Action*** from the drop-down menu.
- ***Name***: Enter a name for the action, e.g. "Redirect".
- ***Active profile***: Select a time profile during which the redirect is active.
- ***Delay***: Time in seconds until the redirect is called.

In this example, Tom is called first. If he does not answer or declines the call, the call chain continues and Jane is called automatically. To add the bell action for Jane, click ➕ next to Tom Smith, as usual.

8.1.12. Bell Actions: Notify MOBOTIX MxMC

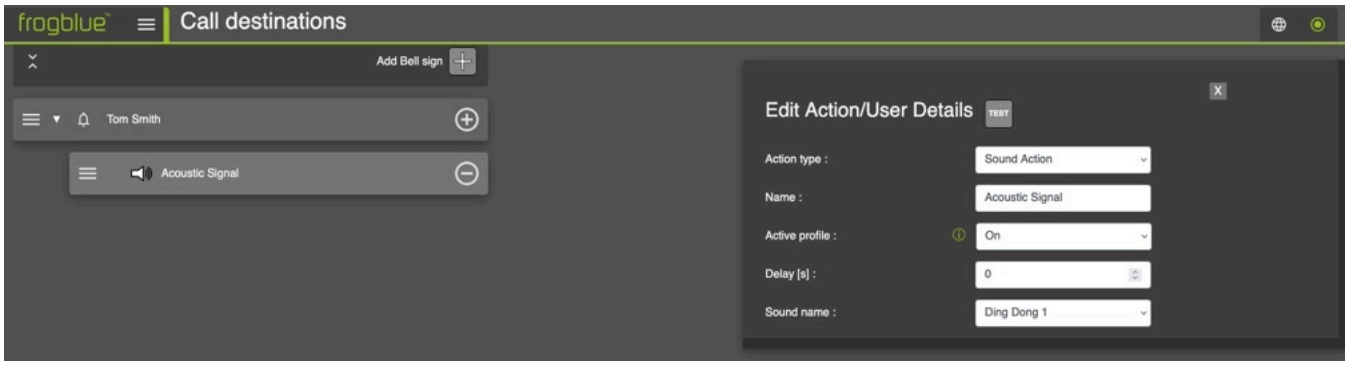
Use this action to notify MOBOTIX MxManagementCenter when the bell button is pressed.



- Click ***Add bell sign*** ➕ to add a call action and select your New action to edit it.
- ***Action type***: Select "Notify MOBOTIX MxMC" from the drop-down menu.
- ***Name***: Enter a name for the action, e.g. "Call Security".
- ***Active profile***: Select a time profile in which the action is active.
- ***Delay [s]***: Time in seconds until the notification is sent.
- ***MxMC Device ID***: Select All to notify all MxMC instances running on the network, or select a specific instance from the list of unique IDs. Instances are detected automatically when MxMC connects to your frogTerminal.
- Click ***Save*** to create the new Notify MxMC bell action.

8.1.13. Bell Actions: Sound Action

The Terminal plays a pre-defined sound when the bell button is pressed. This functionality is especially useful for testing purposes.

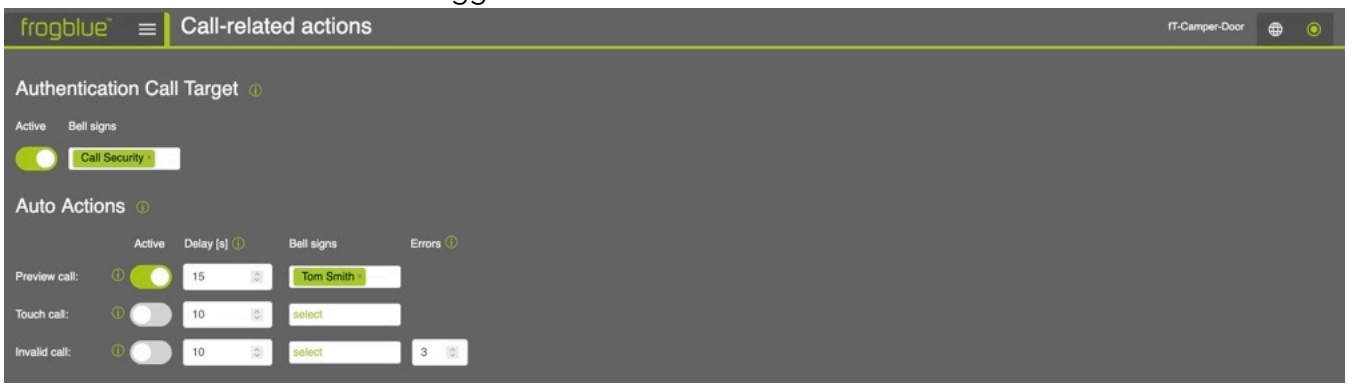


- ***Action type***: Select ***Sound Action*** from the drop-down menu.
- ***Name***: Enter a name for the action, e.g. "Acoustic Signal".
- ***Active profile***: Select a time profile in which the sound is active.
- ***Delay [s]***: Time in seconds until the sound is played.s
- ***Sound name***: Select a factory sound from the drop-down menu. Alternatively, you can use your own audio files. These must first be uploaded under ***Media → Audio files***. See ***Section 16.1 "Audio files"***.

8.2. Authentication Call Target

Via Web Browser Menu: ***Communication → Call-related actions***

Configure the target for multi-factor **authentication calls**. This call is initiated during an Access Event when the Authentication Call is triggered based on the defined Access Rule.



- Toggle **Active** to enable authentication calls and click to select the Bell Sign(s) to call, e.g. "Call Security".

8.3. Auto actions

Via Web Browser Menu: ***Communication → Call-related actions***

Define the call targets for events or errors at the Terminal:

- ***Preview call***: Initiated when the proximity or motion sensors are triggered for the specified Delay period and no action is taken, e.g. a loitering event.
- ***Touch call***: Initiated when the touch screen is activated for the specified Delay period without any valid function being executed, e.g. suspected tampering.
- ***Invalid call***: Initiated when the number of errors exceeds the configured threshold, e.g. three consecutive incorrect PIN entries or an unrecognised card / key scan.

9. Event Management

Via Web Browser Menu: ***Events & Analytics → Event management***

The ***Event Management*** section is used to configure event-based behaviour within the system. Here you define:

- Events or Triggers (what happens)
- Conditions (under which circumstances)
- Actions or action chains (what the system should do)

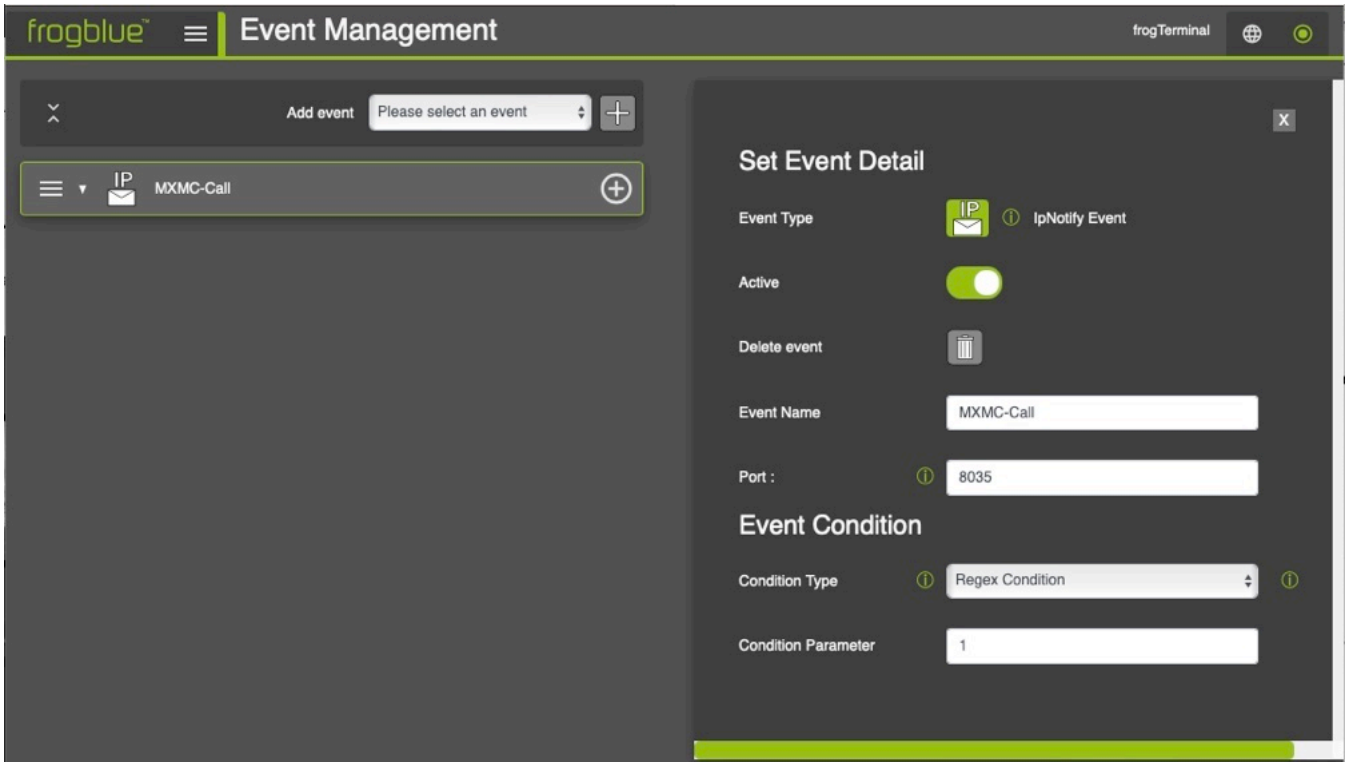
This allows you to implement customised automation logic such as:

- When a specific frogMessage is received (Event) from 10:00 AM (Condition) → play a sound and send an IP message (Action).
- When an external system sends an IP message containing "OpenDoor" (Event) → trigger a homeobject or local output relay (Action).
- When a SIP call is received (Event) → trigger a light output (Action).

Adding a New Event

1. Select the Event Type from the ***Add event*** drop-down menu and click ➕.
2. A configuration dialog opens where you can edit the event parameters.
3. Save the event.

The configuration dialog follows a similar structure for all event types:



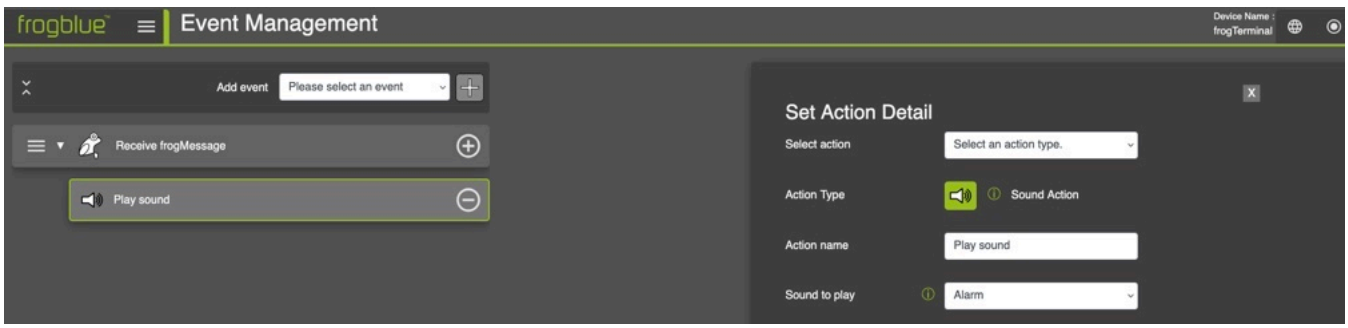
Set Event Details

- ***Active***: Activate or de-activate the event.
- ***Delete event***: Completely remove this event configuration with associated action(s).
- ***Event Name***: Assign a meaningful name for easier identification.
- ***Event Parameter***: The parameter field changes depending on the selected event type. Examples are:
    - ***Port***: <Port to Listen for IP Message Event>
    - **frogMessage Name**
    - **IP Notify String**
    - **Timer Interval**
    - ***Local Variable***

Event Condition

- ***Condition Type***: Condition Types define when the event should execute its actions.
    - ***No Condition***: The actions are always triggered when the event occurs.
    - ***Regex Condition***: Triggers only if the received value matches a regular expression pattern.
    - ***Value Equal Condition***: Triggers only if the received value exactly matches the defined string.
    - ***Time Table Condition***: Triggers only during a specific time table (calendar-based schedule).
    - ***Time Profile Condition***: Triggers based on a predefined time profile.
    - ***Variable Equal Condition***: Triggers when a defined variable matches a specified value. Variables are defined with a $, e.g. "$myVar1".
    - ***Compare Condition***: Triggers when a comparison rule is met (e.g. "$myVar1" greater than, less than, equal to "$value").
- ***Condition Parameter***: Condition Parameters define when the event should execute its actions.
    - ***No:*** The action always triggers.
    - ***Yes***: The following is valid for every condition type:
    - If the parameter value meets the condition, the action is executed.

Note that in the example above, only event (the frogMessage "door"is received) and condition (time profile: Shop open) have been defined. So far, no action has been executed. The desired action can be added by clicking + next to the event name.



Set Action Detail

- ***Select action***: Choose an action.
- ***Action Type***: Shows the selected action.
- ***Action name***: Assign a meaningful name to your action. Depending on the selected action, different configuration options for that action will appear after the action name.

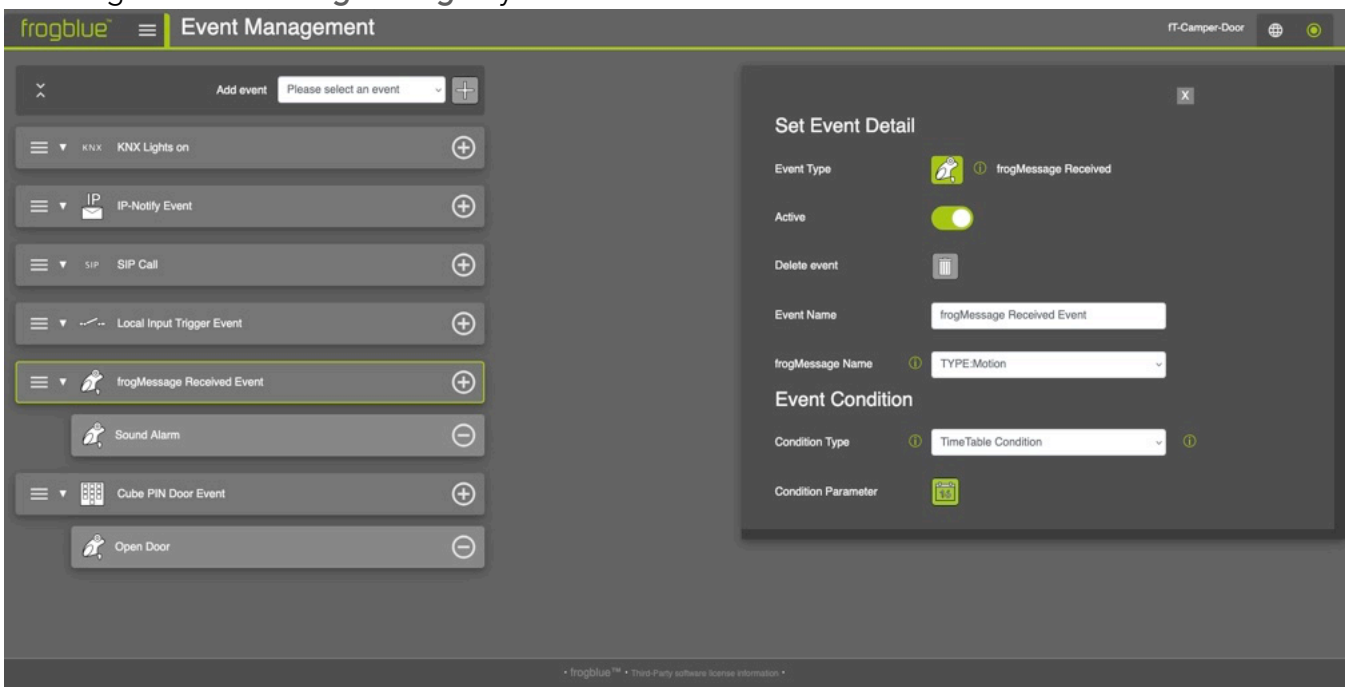
In this example, a sound is played (Action) when the frogMessage Door is received (Event) while the Shop open time profile is active (Condition).

9.1. Events

The following event types are available:

9.1.1. frogMessage Received

This event is triggered when a frogMessage is received. The ***Event Parameter*** changes to allow selecting the relevant ***frogMessage*** by name.

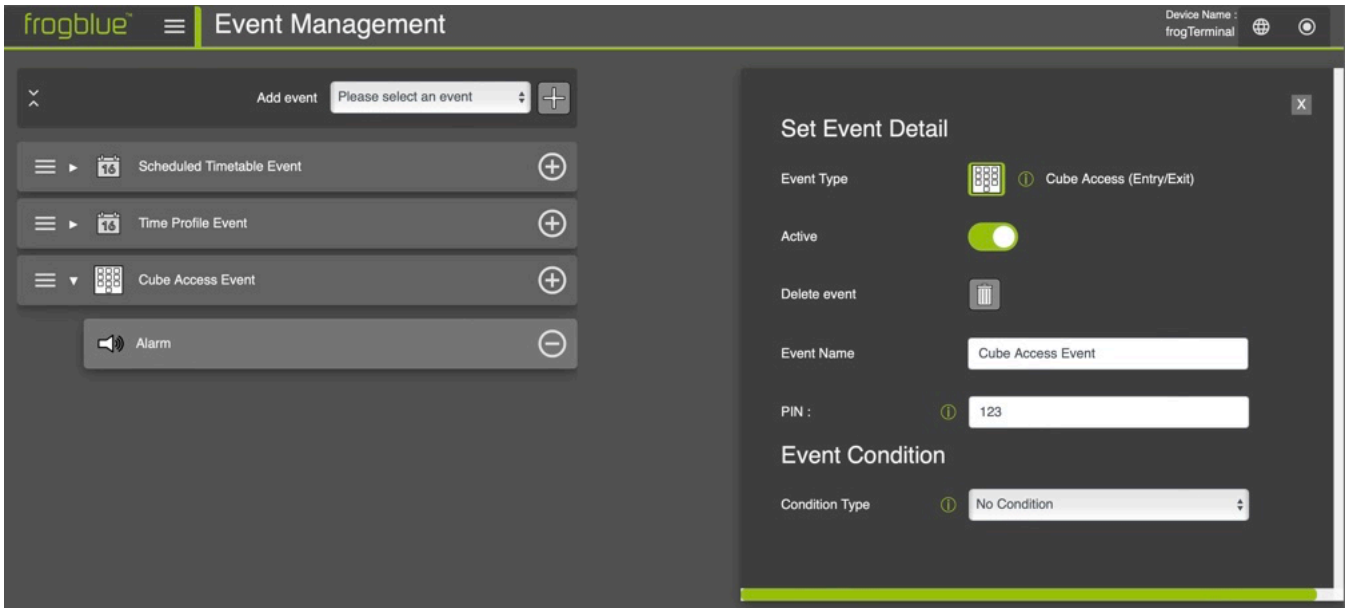


- ***frogMessage Name***: Name of the frogMessage to trigger this event.
- ***Condition Type***: Condition, e.g. Time Profile.

9.1.2. Access

This event is used with frogblue Cube access devices, such as **frogAccess1-1**. The event is triggered when a PIN is entered on the Cube.

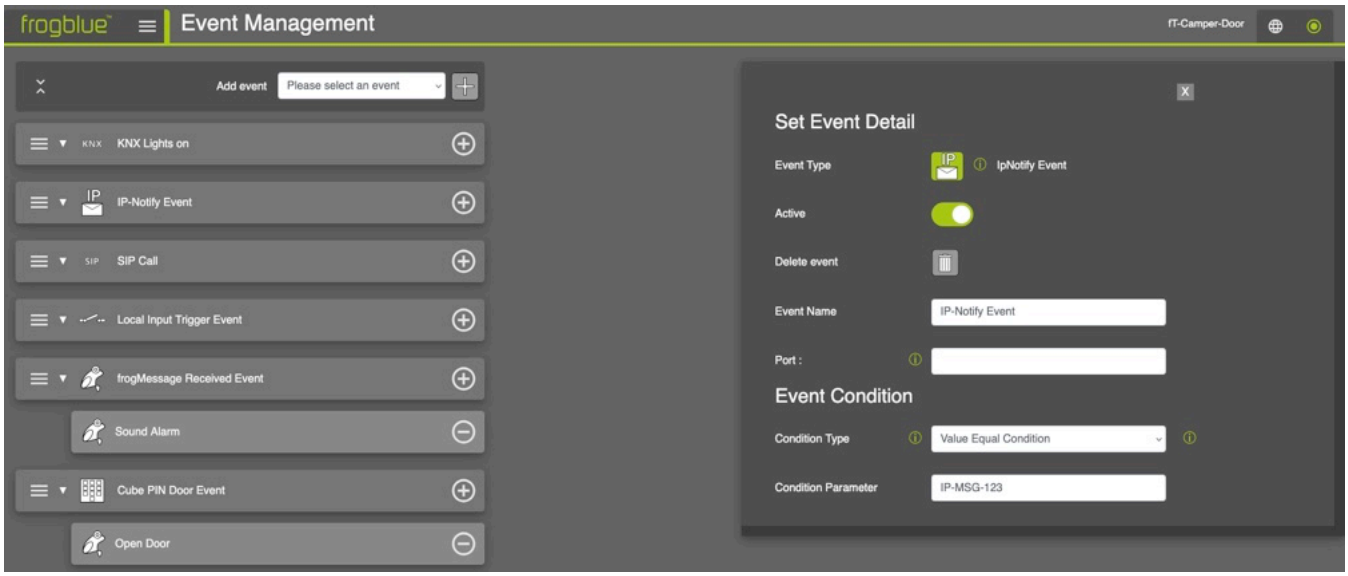
Before this event can be configured, the Cube must be integrated into the project using the frogProject app. Do not make any changes to the initial CubeAccess configuration. Write the configuration to both the Cube and the frogTerminal.



- ***PIN***: Enter a PIN that uses CubeAccess as its PIN source.
- ***Condition Type***: Condition, e.g. Time Profile

9.1.3. IP Notify Event

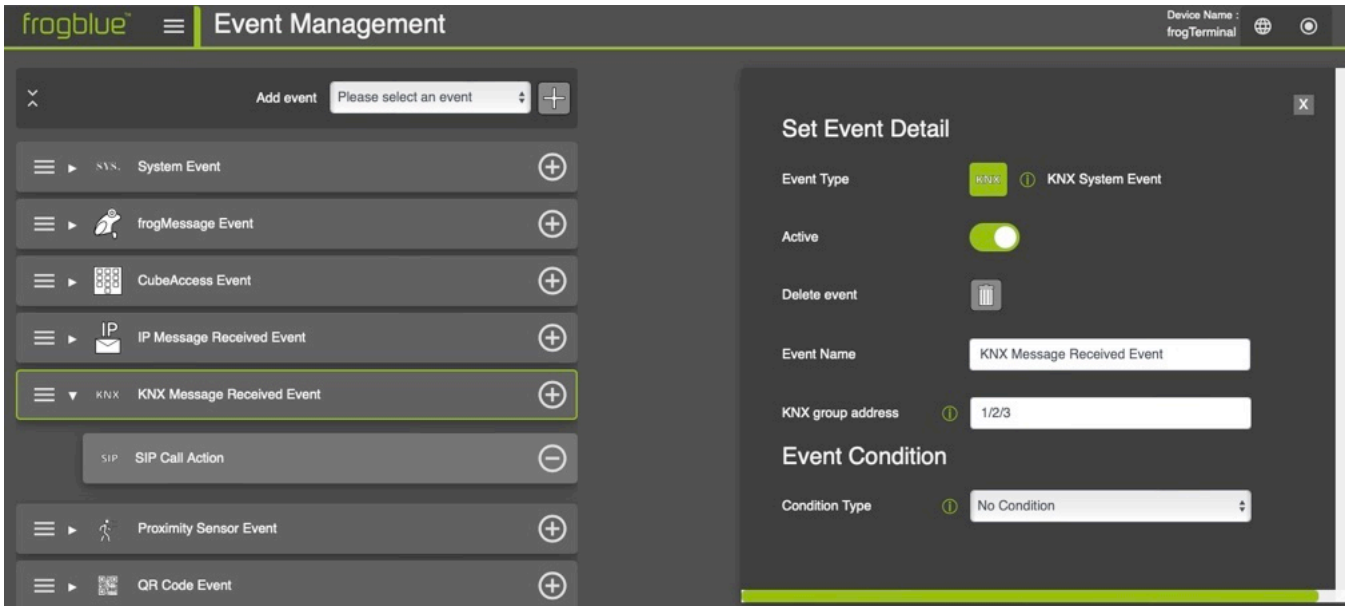
This event listens for incoming IP-Notify (TCP/IP) messages.



- ***Port***: Port: By default, the port configured under ***System → Network*** is used. The system default port is 4806. Alternatively, you can define an individual port for this event.
- ***Condition Type***: Condition, e.g. value equal condition. Triggers only if the incoming message matches the defined string, e.g. "IP-MSG-123".

9.1.4. KNX System Event

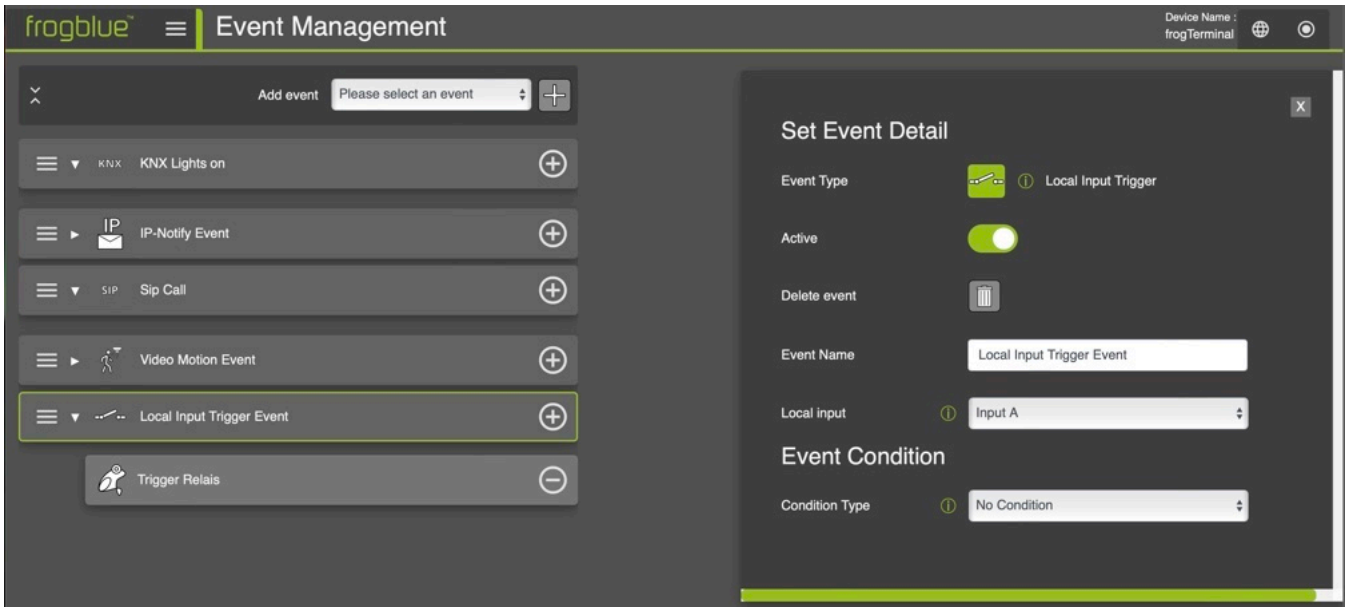
This event listens on the Network for incoming KNX group address messages.



- ***KNX group address***: Enter a KNX Group Address. Example: Main/Middle/Sub → "1/2/3"
- ***Condition Type***: Condition, e.g. Time Profile.

9.1.5. Local Input Trigger

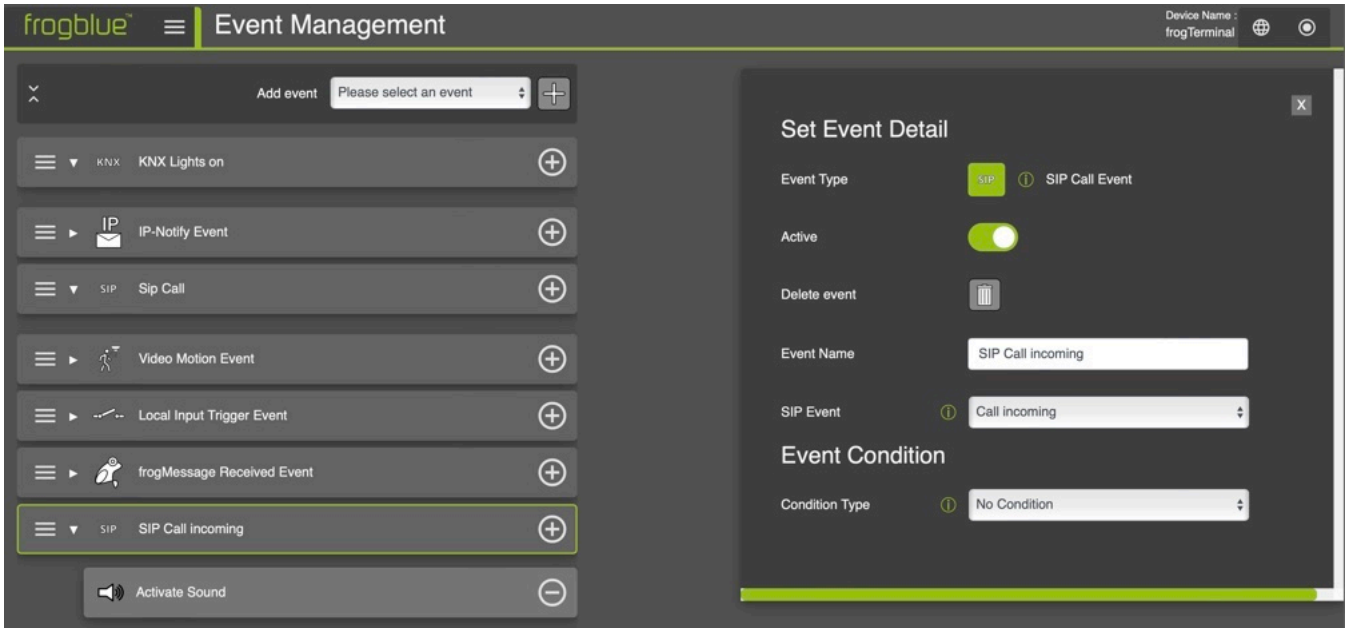
This event occurs when an input event at the physical input port is detected.



- ***Local Input***: Choose local Hardware input A or B.
- ***Condition Type***: Condition, e.g. Time Profile

9.1.6. SIP Call Event

An incoming SIP call event.

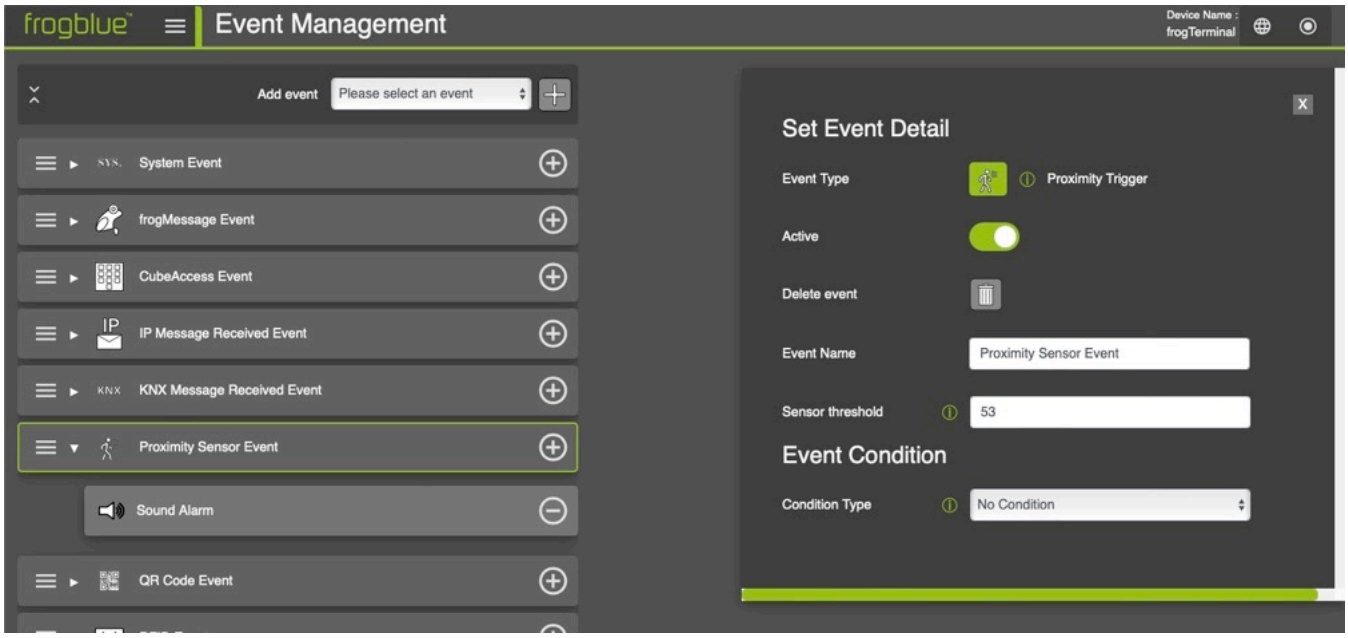


For ***SIP Event*** choose one of the following SIP Event types: The event is triggered as soon as

- ***Call incoming***: an incoming call is registered.
- ***Call outgoing***: an outgoing call is registered.
- ***Call closed***: a call is closed.
- ***Call DTMF start***: a DTMF tone is received, the system recognizes the unique sound - just like when a number key is pressed during a call. This signal immediately triggers a DTMF event, which is received and processed by the terminal.
- ***Call denied***: a call is denied.
- ***Maximum ring duration reached***: the maximum ring duration set under ***Settings → General*** is reached.
- ***Maximum call duration reached***: the maximum call duration set under ***Settings → General*** is reached.
- ***Ringing***: the device is still ringing.
- ***Call answered***: the call is answered.
- ***Call established***: the call is established.

9.1.7. Proximity Trigger

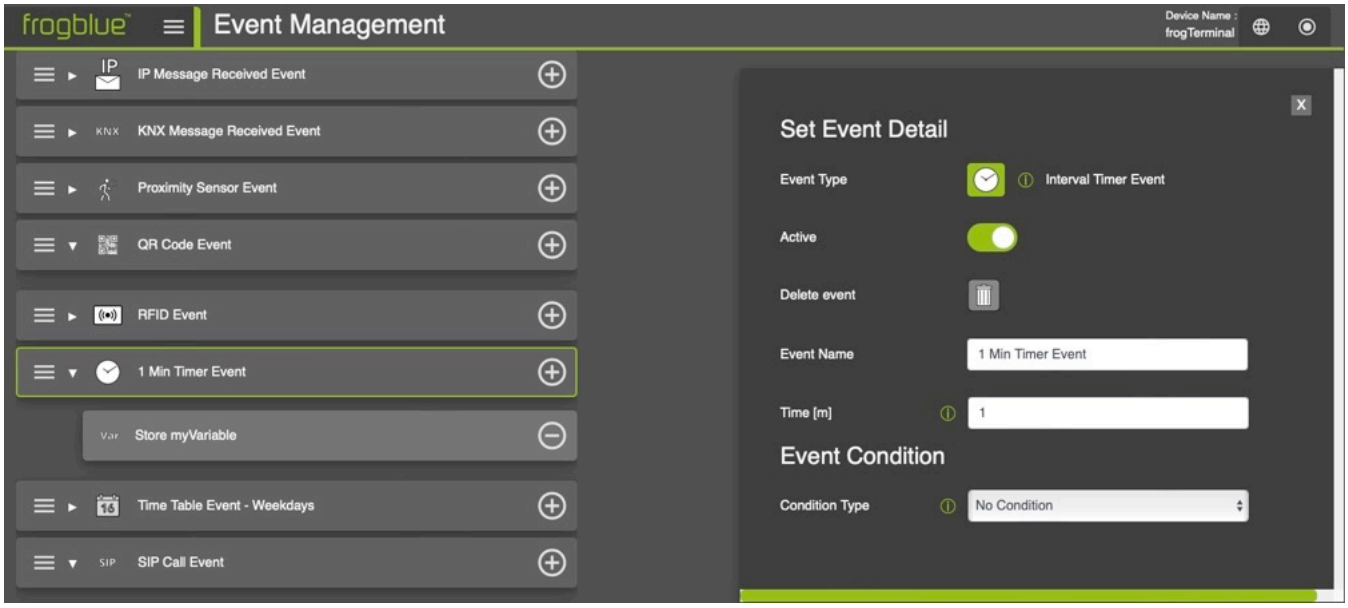
This event is triggered when the proximity sensor detects an approaching object.



- *Sensor threshold*: Enter the desired sensitivity threshold for the proximity sensor. A higher value makes the sensor less sensitive, resulting in a shorter detection range.

9.1.8. Interval Time Event

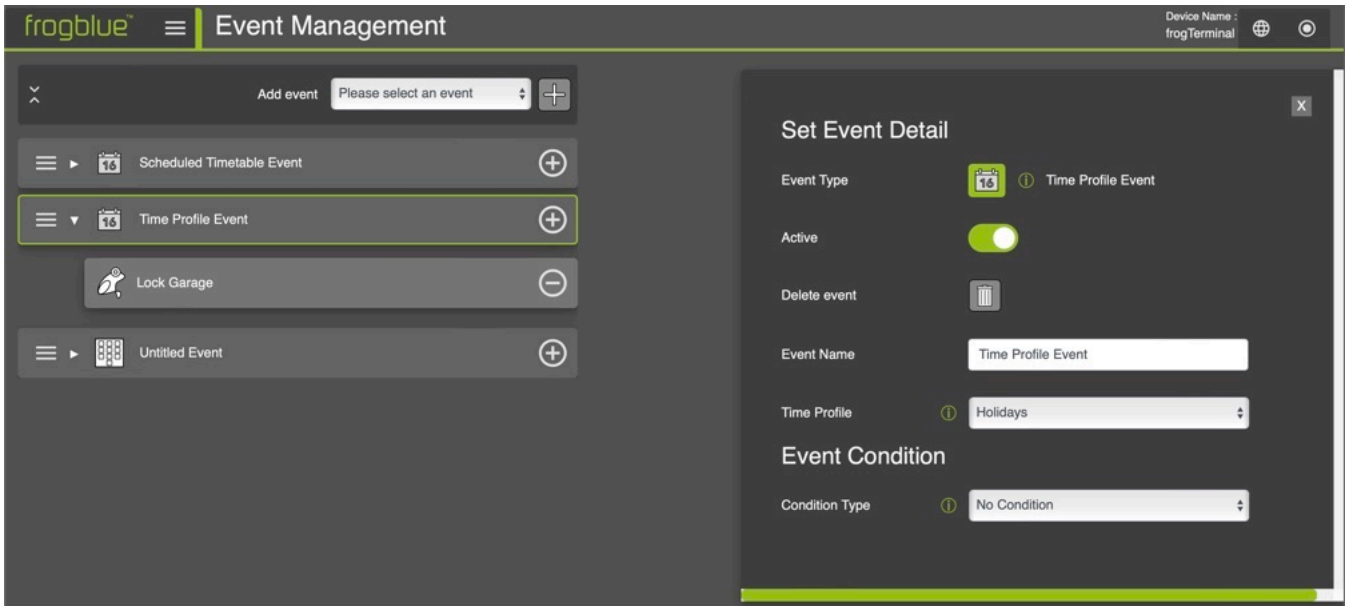
Event which repeatedly triggers after a certain amount of time.



- *Time [m]*: Enter the time in minutes after which the event will be triggered repeatedly.
- *Condition Type*: Condition, e.g. Time Profile.

9.1.9. Time Profile Event

The event occurs at the times defined in the ***time profile***.



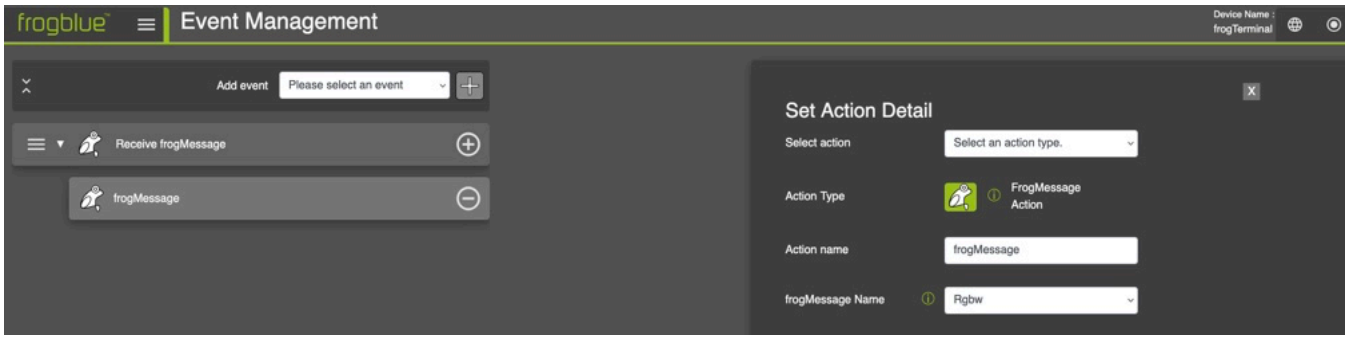
- ***Time Profile***: Include a time profile that you previously created under ***Access Control → Time profiles***.

9.2. Actions

After defining the event, you can choose from the following actions:

9.2.1. FrogMessage Action

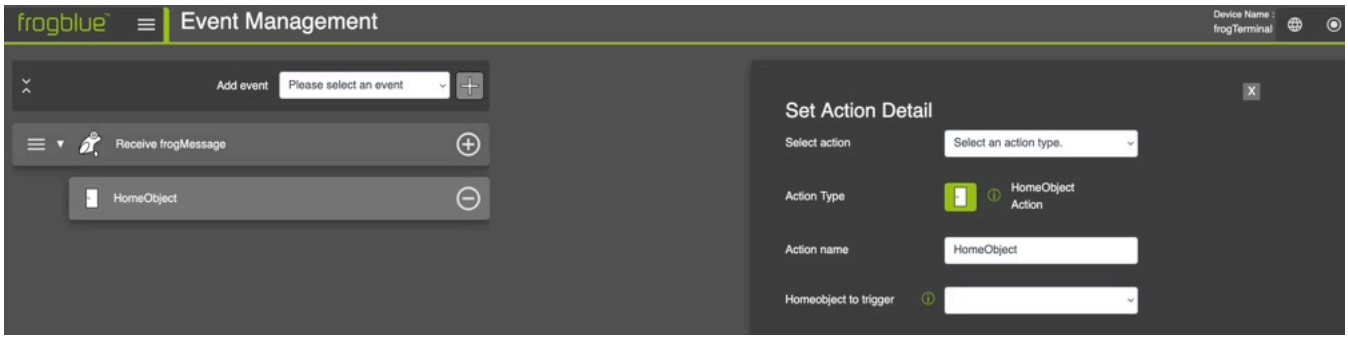
Triggers a frogMessage.



- ***frogMessage Name***: Choose an existing frogMessage from the drop-down menu.

9.2.2. Homeobject Action

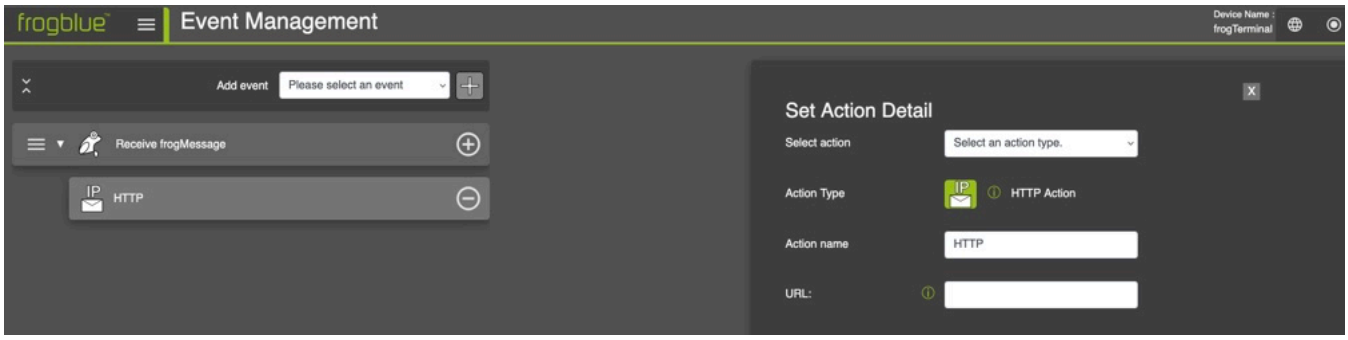
Triggers a homeobject.



- ***Homeobject to trigger***: Select an existing homeobject from the drop-down menu.

9.2.3. HTTP Action

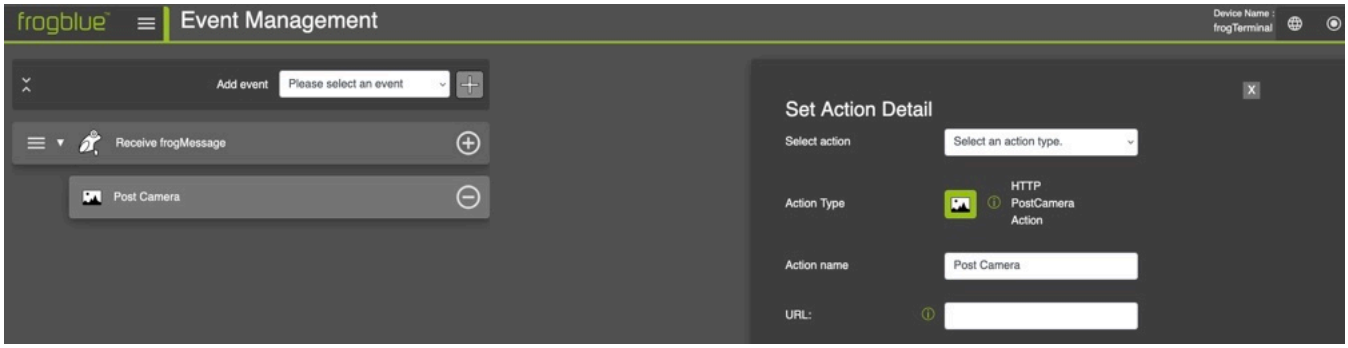
Calls an HTTP address.



- ***URL***: Provide a URL (http) for the web resource.

9.2.4. HTTP Post Camera Action

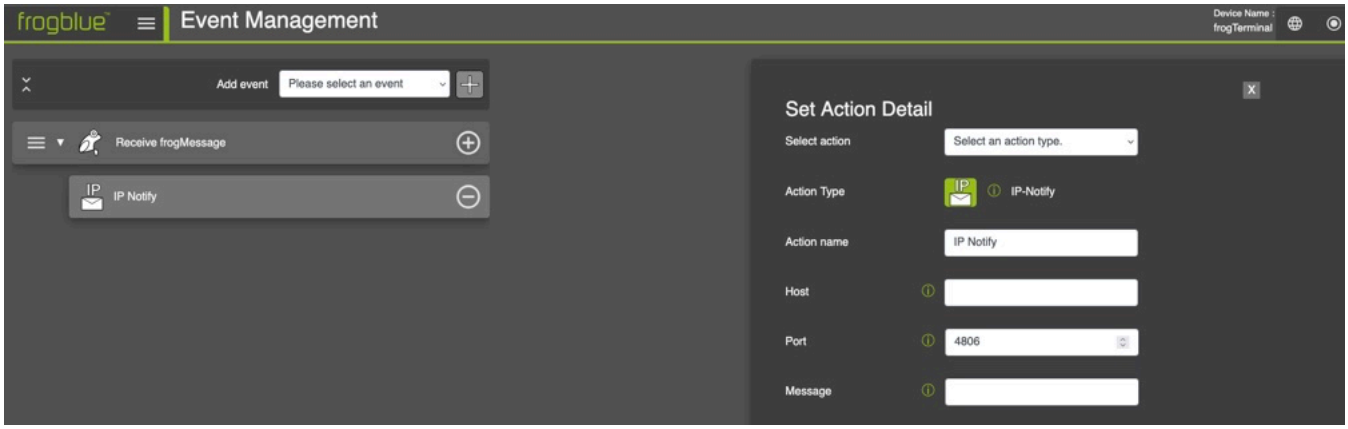
Triggers an HTTP Post that contains the current camera image in the body.



- ***URL***: Enter a target URL.

9.2.5. IP Notify Action

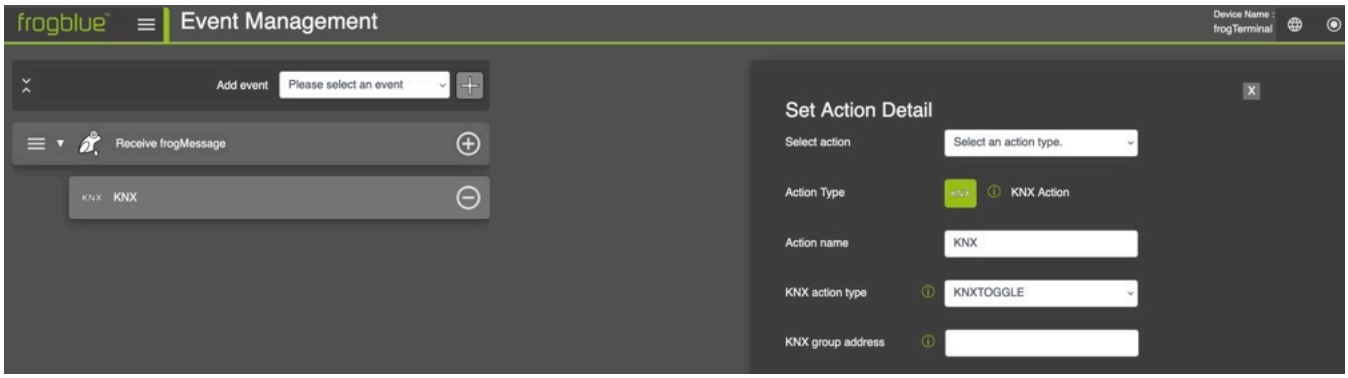
Sends an IP Notify.



- ***Host***: Provide the destination host or IP address.
- ***Port***: Destination port. By default, the port set under ***System*** → ***Network*** is used.
- ***Message***: Define the message to be sent. Use $value as a placeholder for the event value.

9.2.6. KNX Action

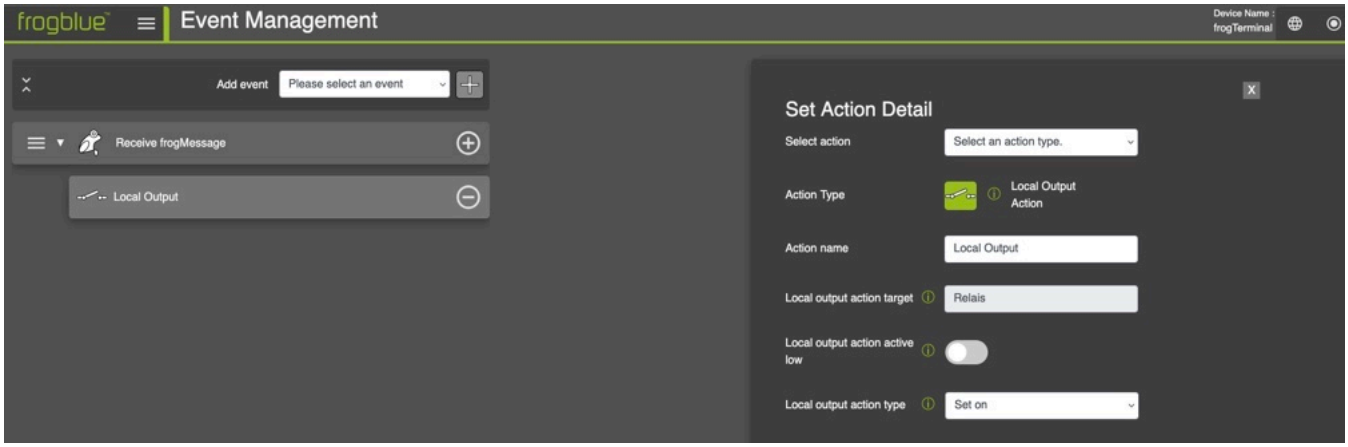
Triggers a KNX action.



- ***KNX action type***: Select the type of KNX action. Choose between *KNX Toggle* and *KNX SetValue*.
- ***KNX group address***: Enter a KNX group address. Example: *Main/Middle/Sub* → *"1/2/3"*

9.2.7. Local Output Action

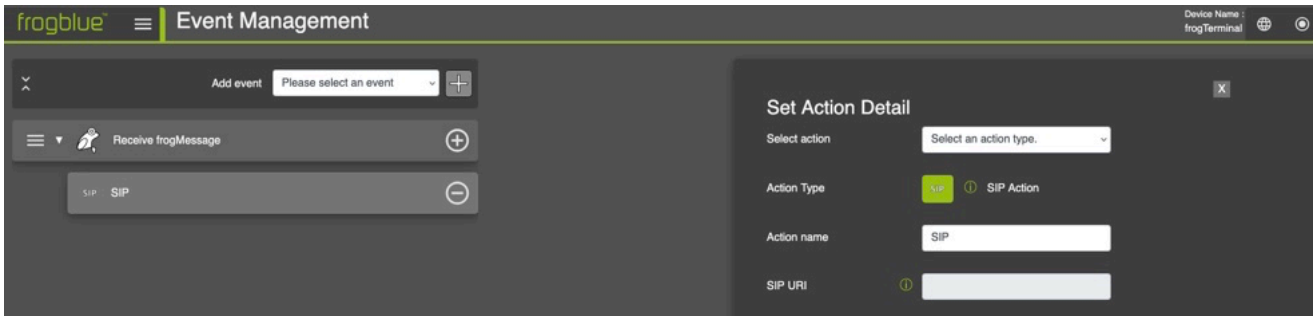
The Local Output Action triggers the frogTerminal's local relay output. This can be used, for example, to activate a connected door opener, gate control, signal device, or another system connected to the relay output.



- ***Select action***: Select local output action.
- ***Action name***: Enter a name for the relay action. This name is used to identify the action in the event configuration.
- ***Local output action target***: The action target is set internally by the system to Relay.
- ***Local output action active-low***: Defines whether the switching logic of the relay output is inverted. By default, this option is disabled. In this state, the output uses active-high switching logic. Enable the switch if the connected system requires active-low switching logic, meaning the output is controlled with inverted logic.
- ***Local output action type***: Defines how the relay output is triggered.
    - ***Set on***: Switches the relay output on.
    - ***Set off***: Switches the relay output off.
    - ***Toggle***: Changes the current relay state. If the relay is off, it is switched on. If it is on, it is switched off.
    - ***Set on for time***: Switches the relay output on for a defined time and then switches it off again.
    - ***Set to event value***: Sets the relay output according to the value received from the triggering event.
    - ***Set on for time action parameter***: This option is shown when ***Set on for time*** is selected. Enter the duration in milliseconds for which the local output should remain active. For example, a value of 3000 keeps the output active for 3 seconds.

9.2.8. SIP Action

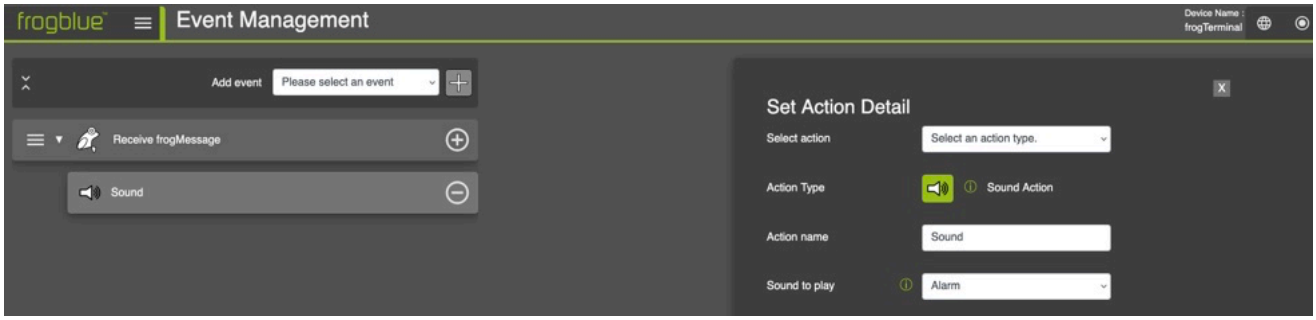
Starts a SIP call.



- *SIP URI*: Enter a SIP URI. Format: *sip:user@host[:port]*.
  Example: "*sip:bob.smith@example.com*" or *sip:"1234@192.0.2.1:5060"*

9.2.9. Sound Action

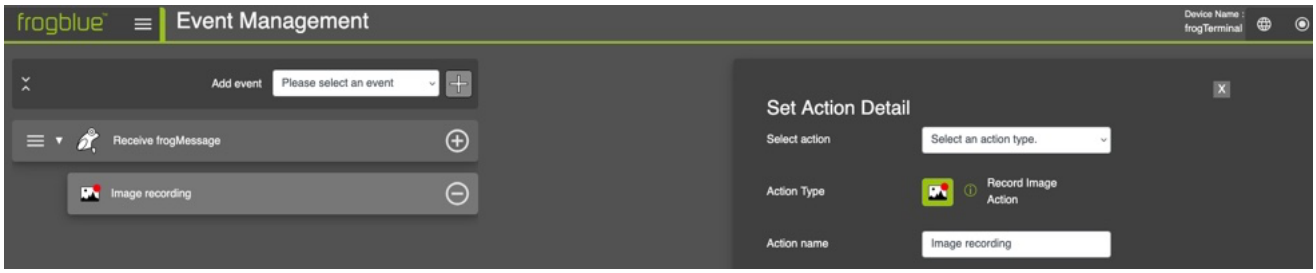
Outputs a signal sound.



- *Sound to play*: Select the sound to be played from the drop-down menu.

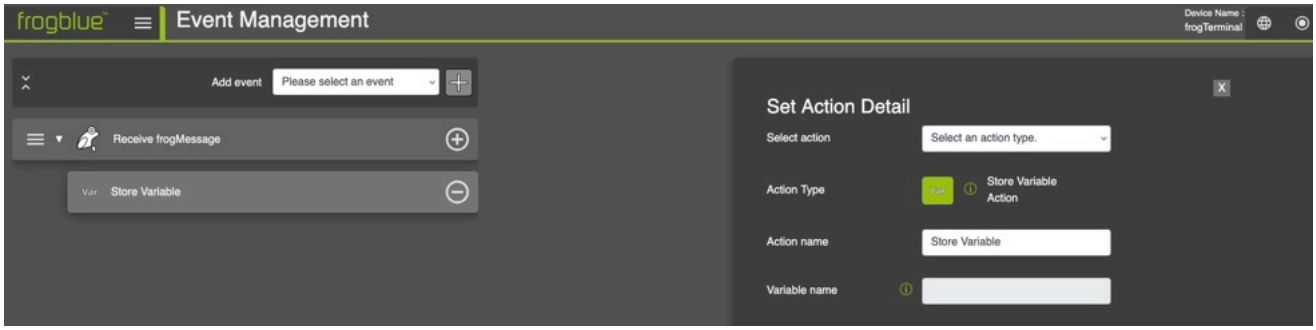
9.2.10. Record Image Action

Starts image recording.



9.2.11. Store Variable Action

Stores a value in a variable for a fix period of time.



- *Variable name*: Enter a name for the variable.

10. Camera Settings and Recording Management

10.1. Configuring the Camera Image Settings

Via Web Browser Menu: ***Settings → Image Settings***

Adjust camera settings for optimal video quality and coverage.

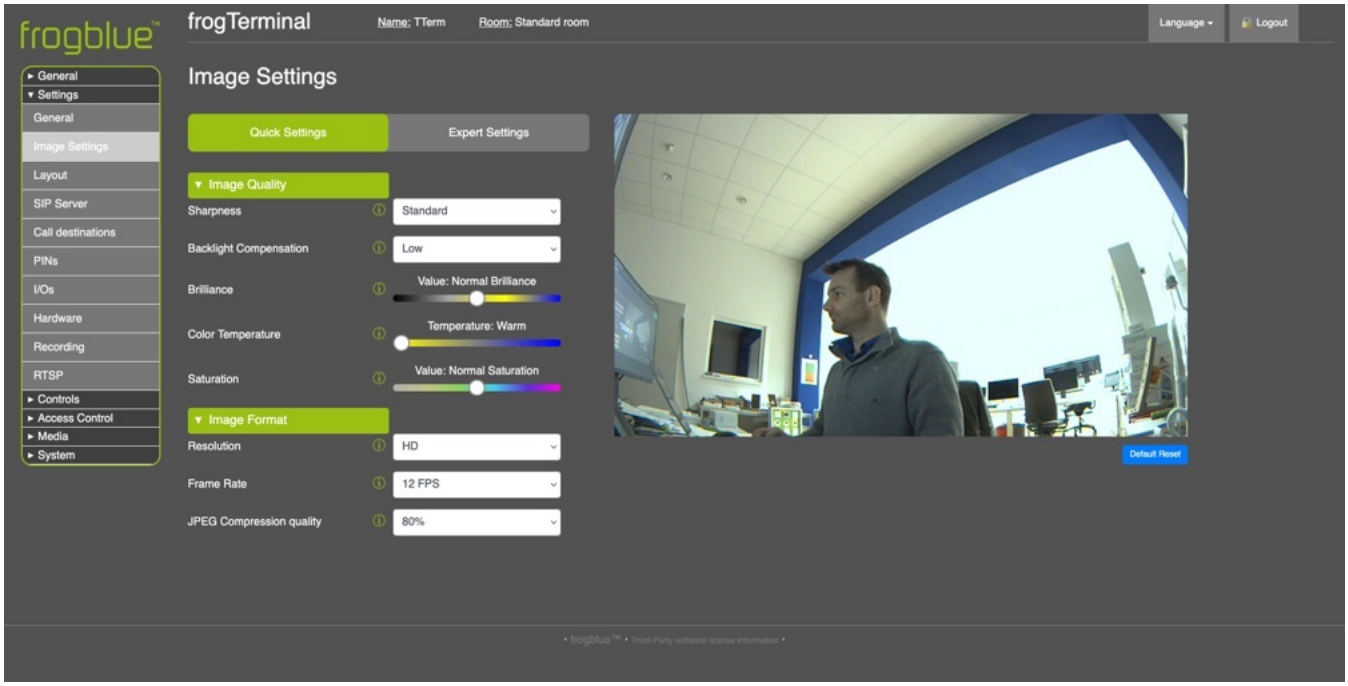


Image Quality:

- ***Sharpness***: Increases the clarity of edges and fine details, giving the image either a more defined, crisp or or a more smoothed look.
- ***Backlight Compensation***: Adjusts the intensity of the backlight to improve visibility in dark environments or to reduce glare in bright scenes.
- ***Brilliance***: Adjusts overall contrast and vividness, making colours and details stand out more.
- ***Colour Temperature***: Adjusts the warmth or coolness of the colours in the image, balancing the colour tones based on the environment (e.g. sunlight or fluorescent lighting).
- ***Saturation***: Controls the intensity of colours, allowing adjustments to make colours appear more vibrant or subtle.

Image Format:

- ***Resolution***: Determines the level of detail in the image and sets the clarity and pixel density of the video output.
- ***Frame Rate***: Controls or limits the number of frames per second, affecting the fluidity and smoothness of the video.
- ***JPEG Compression quality***: Quality setting for the underlying JPEG compression.

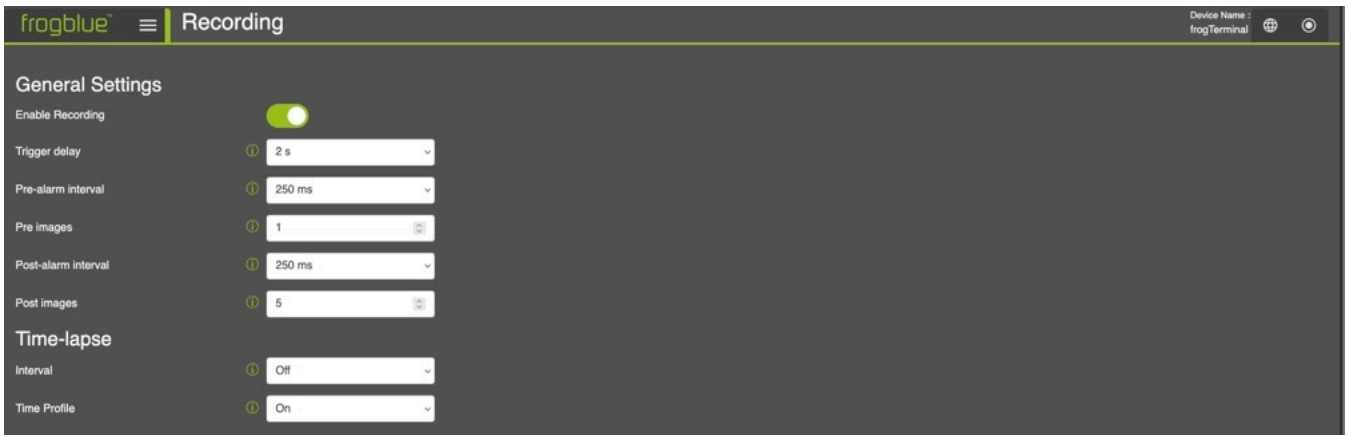
10.2. Optimal Settings for Low Latency & High Frame Rate

To achieve the best low-latency performance and high frame rate, ensure that:

- **No browser-based HTTPS or web stream** is running (e.g. camera live stream in a browser).
- The following **image settings** are applied:
  - ***Image Enhancement***: Set to Off.
  - ***Image Resolution***: Set to maximum HD.
  - ***JPEG Compression Quality***: Set to 60%.
- ***On-board recording*** is **disabled** for optimal performance. Instead, use a VMS system for video recording.

10.3. Event Recording Settings

- Enable, configure and manage event-based recordings.
- Configure pre- and post-event snapshot settings.
- Enable alert notifications for failed access attempts.
- View and manage recorded events.



- ***Enable Recording***: Toggle event recording on or off for the on- board SD Card.
- ***Trigger Delay***: Set the delay between the event occurrence and the start of recording. This ensures that transient events, such as a bell press, do not capture an obstructive hand covering a significant portion of the image.
- ***Pre-alarm Interval***: Define the period during which recording occurs before the event is triggered. This interval, which includes the trigger delay, allows you to capture footage preceding the event.
- ***Pre Images***: Specify the number of images or frames to record prior to the event trigger.
- ***Post-alarm Interval***: Set the duration for recording after the event trigger occurs.
- ***Post Images***: Define the number of images or frames to capture after the event trigger.

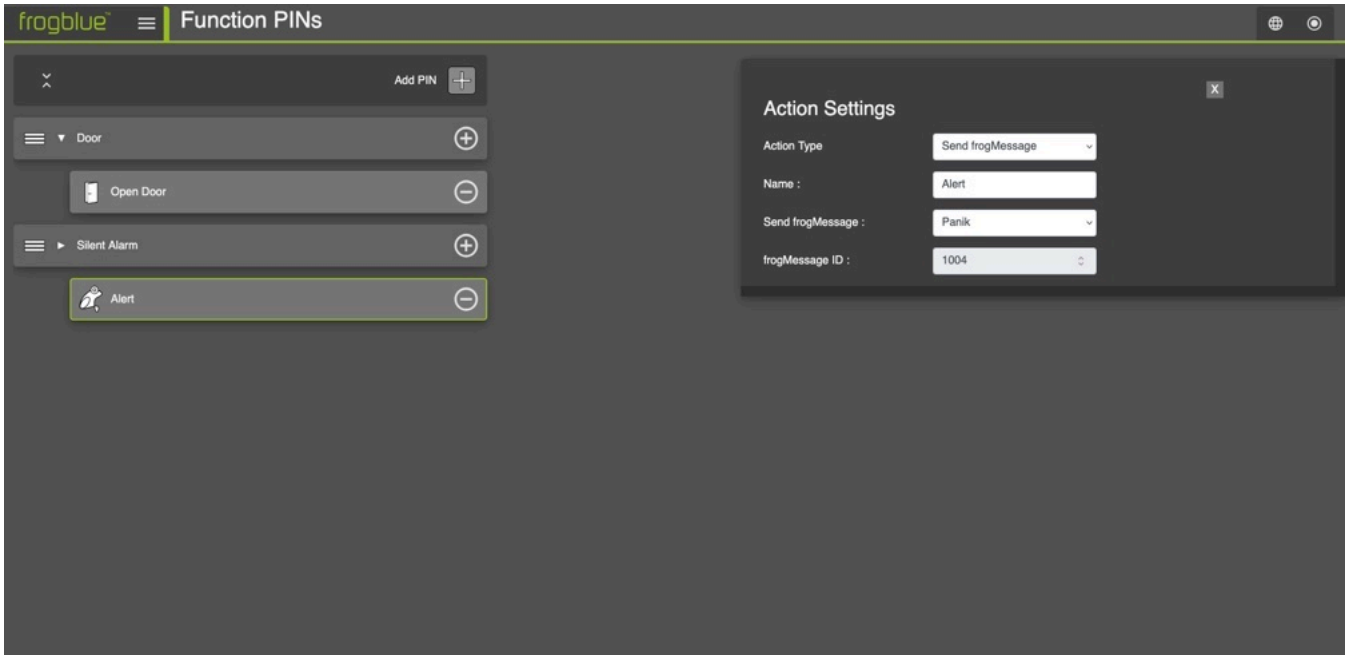
Time lapse

- ***Interval***: Set the interval between time-lapse images to capture periodic snapshots.
- ***Time Table***: Specify the schedule for time-lapse recording—for example, recording only during daylight hours—to ensure optimal image capture.

11. Function PINs

Via Web Browser Menu: ***Controls → Function PINs***

Function PINs can be mapped to specific functions allowing for example direct opening of a door, switching on all the lights in an area via frogMessage, or sending a silent alarm or security alert. Functions can be stacked much like with Call Destinations allowing for sequences or multiple actions, e.g. open door but also trigger a silent alarm.



Function PINs: A function PIN must contain 1-6 numbers, the length of the PIN is freely selectable. Function PINs trigger stored functions, such as the local relay, or send messages via IP & Bluetooth.

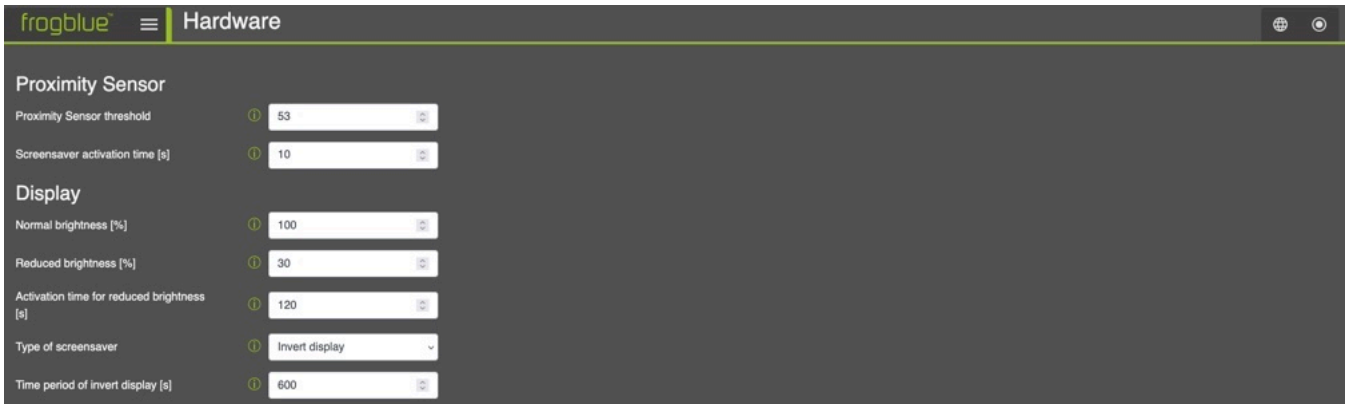
Note: Function PINs currently support sending frogMessages, triggering the built in relay, starting a door opener sequence, sending IP messages or triggering 3rd party systems via HTTP msg.

12. Hardware

12.1. Proximity Sensor & Touchscreen Display

Via Web Browser Menu: ***Settings → Hardware***

Configure the Terminal's wake up and standby setting.



Proximity Sensor

- Proximity Sensor threshold: This setting determines the sensitivity of the proximity detector, lower values mean higher sensitivity.
- To visualise the current detection level, navigate through the device's on-screen settings (→ →) to view a live graph of the proximity sensor readings.
- **Screensaver activation time**: Time in seconds of no activity when the terminal will automatically return to the screen saver or Home Screen.

Display

- ***Normal brightness [%]***: This setting determines the brightness of the Terminal's screen when activated, e.g. by touch or proximity.
- ***Reduced brightness [%]***: This setting determines the brightness of the Terminal's screen when in standby mode.
- ***Activation time for reduced brightness [s]***: Time in seconds after which the brightness is reduced and the Terminal is in standby waiting for a touch, movement, or other trigger to activate it.

12.2. Inputs & Outputs

Via Web Browser Menu: ***Settings → Hardware***

Setup the hardware inputs and relay output settings for your frogTerminal.

Inputs (In a / In b): Configure the physical inputs A and B to trigger actions based on state changes.

- ***Rising edge***: Activates when the input transitions from low to high.
- ***Falling edge***: Activates when the input transitions from high to low.

Select the Action for the Input:

- ***Bell sign***: Choose the bell entry to trigger a call when this input is activated.
- ***BT-Message***: Send a Bluetooth message via frogMesh.
- ***Relay***: Activate the hardware relay.
- ***IP Notify***: Send an IP message or HTTP request to a specified URL.
- ***Play Sound***: Select an audio file (e.g. a bell sound) to play when the input is triggered.

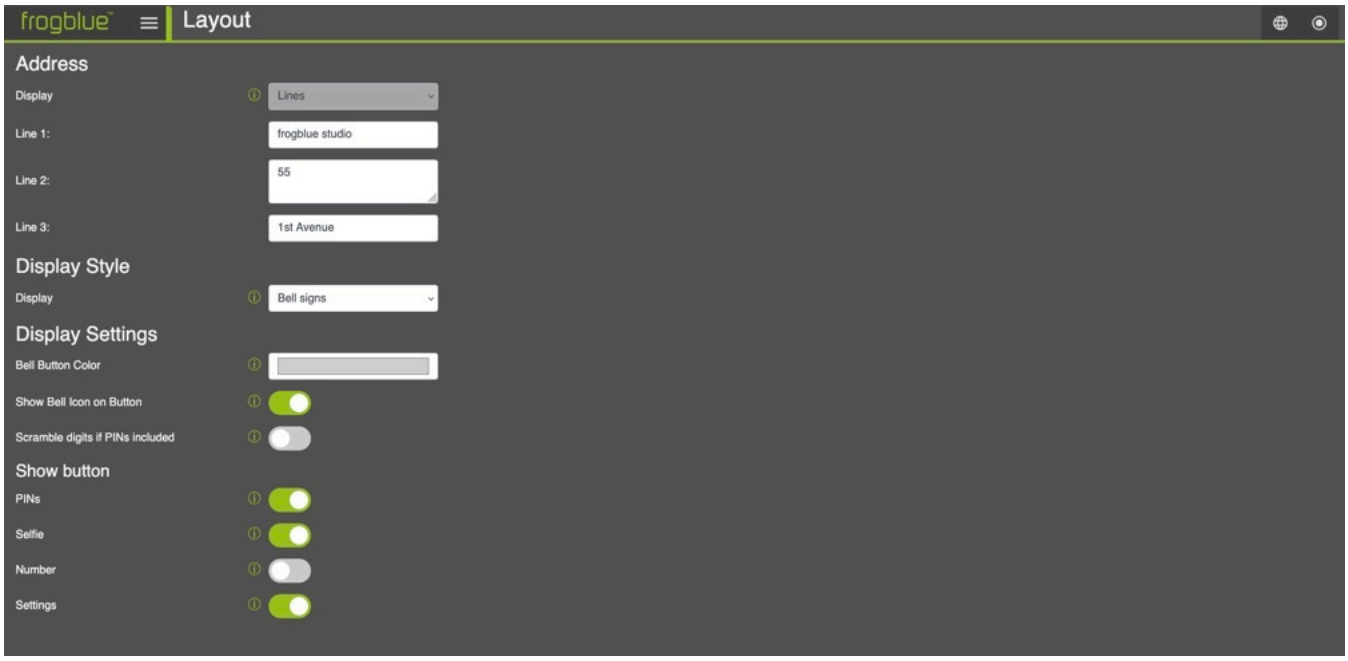
Output: Set the physical relay output settings:

- ***Out/Relay***: Choose between a positive or negative pulse.
- ***Duration (s)***: Define the duration in seconds to trigger the relay.

13. Touchscreen Display Layout

Via Web Browser Menu: ***Settings → Layout***

Configure the Home Screen Layout for the Terminal appearing on the device's touchscreen.



- ***Address***: The settings for the Standby Screen layout.
- ***Display***: The settings for the Home Screen.

14. General Terminal Settings

Via Web Browser Menu: ***Settings → General***

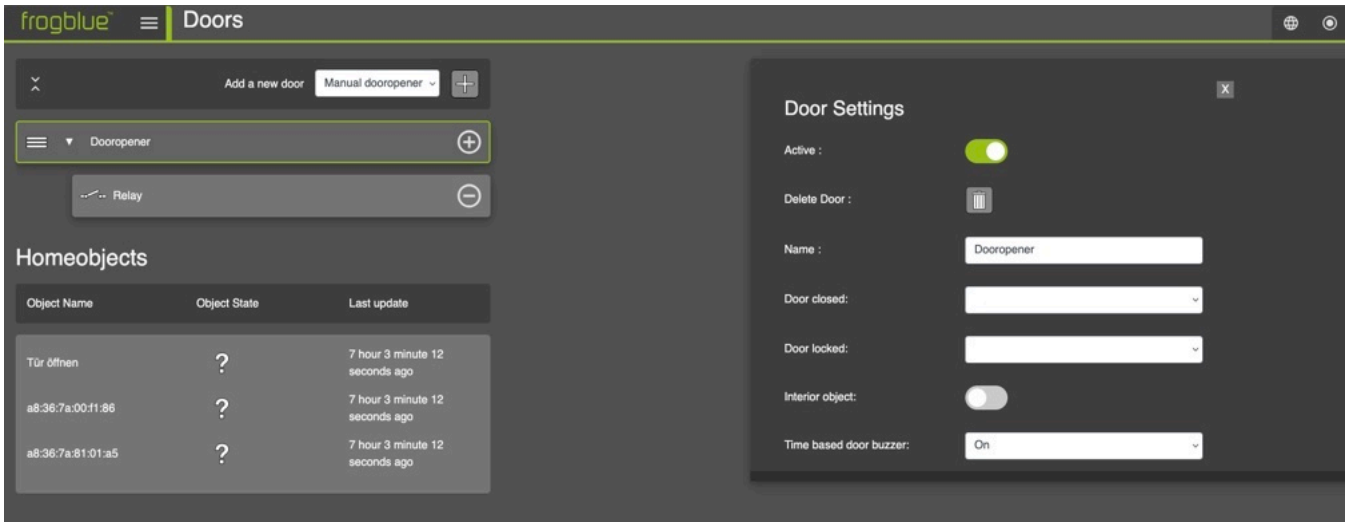
Configure general settings such as the name and default ring settings.

Settings

- ***Name for the doorVision***: Enter the name for your frogTerminal, e.g. "Tom's Door", to help identify the device within your system.
- ***Maximum ring duration***: Set the maximum time the terminal will attempt to ring a callee before giving up.
- ***Maximum call duration***: Set the maximum call time after which the terminal will automatically hang up.
- ***Show control icons during incoming call***: Automatically display the toolbar when receiving a call (e.g. to enable or disable video).
- ***Max autoanswer level for users***: Define the allowed level for automatic call answering:
  - ***Decline***: Automatically decline all incoming calls.
  - ***No***: Do not allow incoming calls; no SIP connections will be accepted.
  - ***Automatic answering***: Enable automatic call answering. Note that individual user permissions must still be configured in the Call Destinations actions menu (click the "i" button next to a user's action entry to allow call answering at the terminal for that user).
- ***Allow callback shortly after missed ringing***: After a call is missed, this feature permits the user or the called phone to call back and have the call automatically answered. It overrides other auto-answer settings and permissions.
- ***Sound on bell button press***: The sound played at the Terminal when the bell button is pressed.
- ***Sound for incoming calls***: The sound played at the Terminal when a call is made.
- ***Which sound on opening door***: The sound played at the terminal when the door is opened– useful to alert the person the door is now open especially for silent door openers.
- ***Nightly reboot***: Terminal restarts automatically between 2 a.m and 3 a.m.

15. Door Control Settings

Via Web Browser Menu: ***Controls → Doors***



Configure the local door opener, ***homeobjects*** and the control options of the frogSip app.

16. On-board Media Settings

Via Web Browser Menu: ***Media***

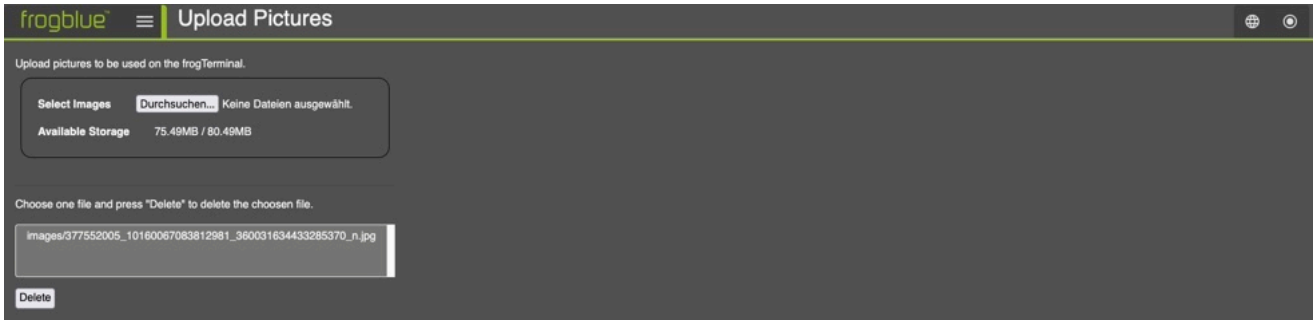
Upload and manage audio, image and video files and manage the recordings of local events.

16.1. Audio files

Allows managing and uploading custom audio files which can be used in the frogTerminal, e.g. for custom bell sounds, voice or sound notifications or alerts.

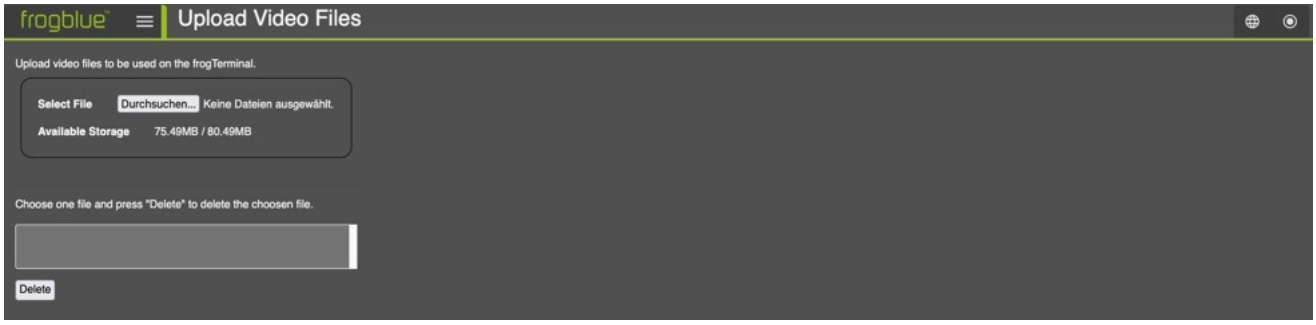
16.2. Image files

Allows managing and uploading custom image files which can be used in the frogTerminal, e.g. for custom logos or user interfaces.



16.3. Video files

Allows managing and uploading custom video files which can be used in the frogTerminal, e.g. for delivery instructions or automated site inductions.

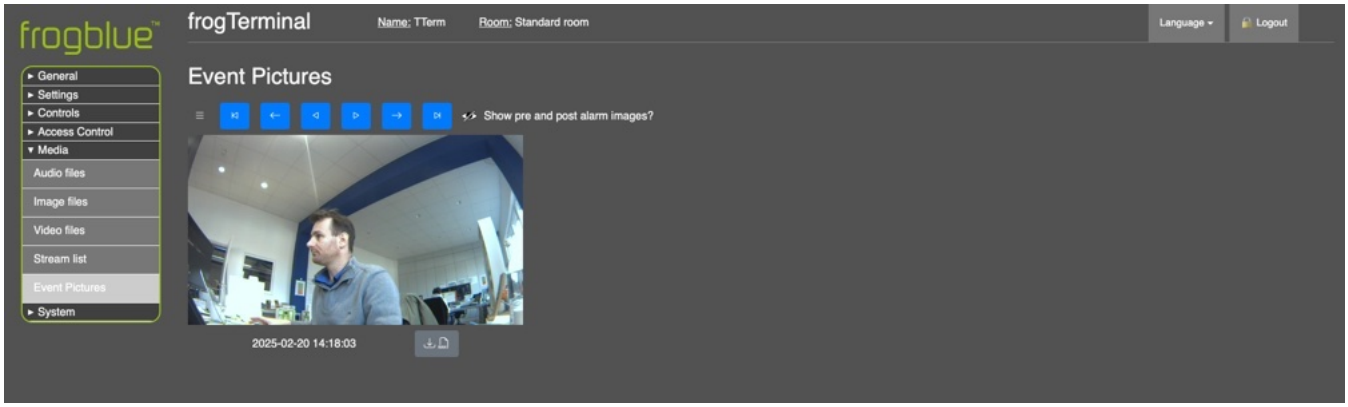


16.4. Stream list

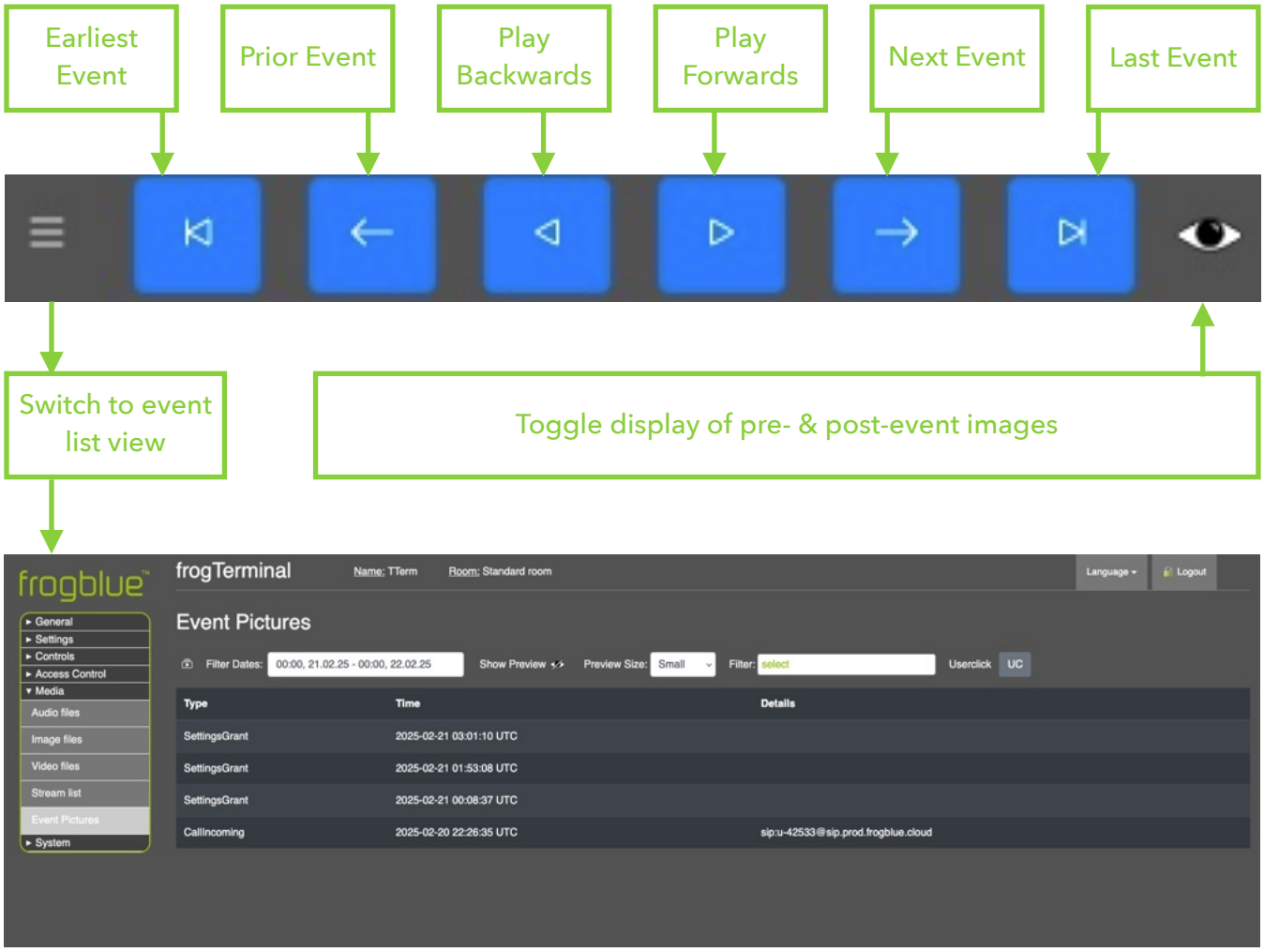
Feature not yet fully implemented - support for external streams coming.

16.5. Event Pictures

Allows searching, viewing, and downloading stored event images from the frogTerminal.



- Use the playback controls to find the event image you're looking for.
- Use the download button to download high quality RAW format images to your computer or browser enabled device.



- Use the event list view to search and filter events by Time, Date, and Event Type.
- UC triggers a manual recording.

17. Configuring the frogTerminal for Automation via frogCast/frogMesh

Provisioning the frogTerminal with frogCast/frogMesh configuration enables seamless integration with frogblue's smart automation mesh, allowing for automated control of lights, doors, and shutters.

First note down your frogTerminal's **Bluetooth MAC-Address** from Web Browser: ***General → Overview***.

Open the ***frogProject App*** on your iPad or compatible device.

Create a new project and set the project password (for simple setup you can use the same password you set in ***Section 4.4 "Installation Wizard Step 4: frogblue Mesh Setup"***).

If you left the interface open, proceed. If you locked the interface, see ***Section 22 "Maintenance and Troubleshooting"*** on resetting your frogTerminal.

Choose ➕ to add a device to frogProject and search for your frogTerminal via the Bluetooth MAC-Address.

Once added, select your Terminal from the device list and hit the config icon to write the settings (Do not select any setting parts to be replaced, simply tap **OK**).

Your frogTerminal is provisioned and ready for automation. Steps where frogMessages are available, e.g. in Function PINs or Call Destinations now show the available frogMessages in their respective drop-down menus.

18. Network Configuration

18.1. Ethernet or Wi-Fi Setup

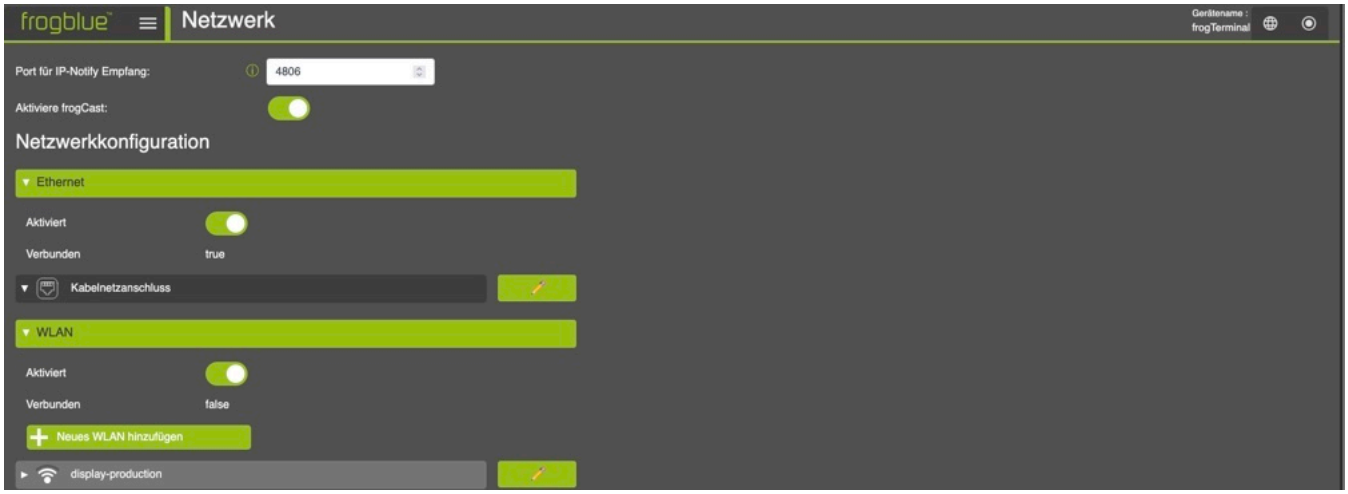
Configure the network settings to connect the frogTerminal to your local network.

Steps Overview:

- Choose connection type (Ethernet or Wi-Fi).
- Configure IP settings (DHCP or static).
- Test network connectivity.

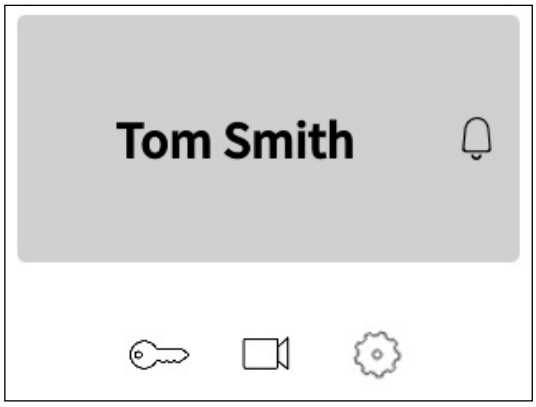
18.1.1. Network Configuration Via Web Browser

Via Web Browser Menu: ***System → Network***



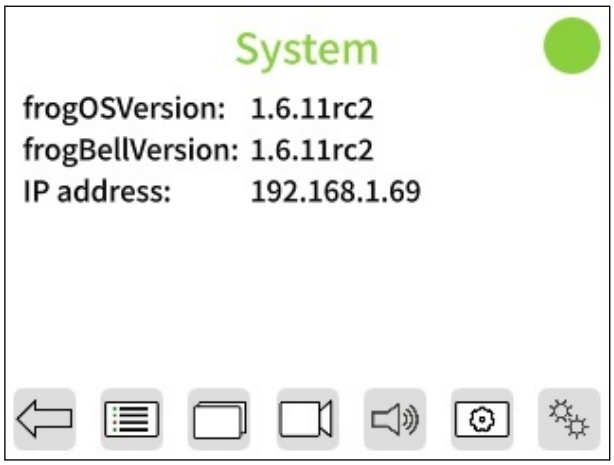
- ***Enable frogCast***: Enable frogCast via the checkbox so that Bluetooth messages can also be forwarded via a network connection.
- ***Ethernet***: Enable or disable your Ethernet connection. The connection status is displayed as ***true/false***. To connect to or disconnect from the network, use the on-device touchscreen as described in the next section.
  Click the pencil icon to edit your cable connection.
- ***Wi-Fi***: Enable or disable your Wi-Fi. The connection status is displayed as ***true/false***. To connect to or disconnect from the network, use the on-device touchscreen as described in the next section.

18.1.2. Network Configuration Via On-Device Touch Screen



- Tap ⚙ to enter the configuration mode.

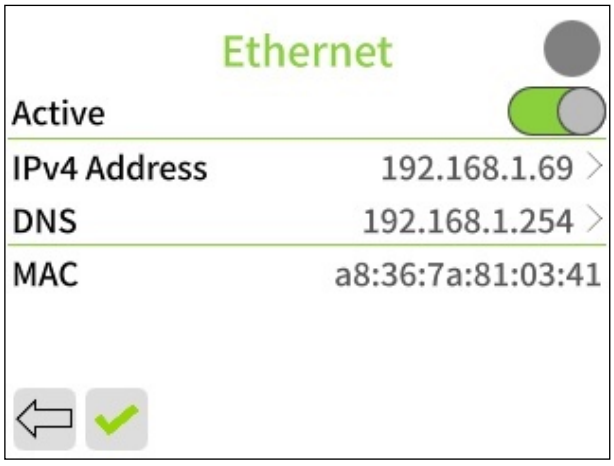
- Enter your 6-digit Admin PIN and tap **OK**.



- Tap to access the additional settings page.

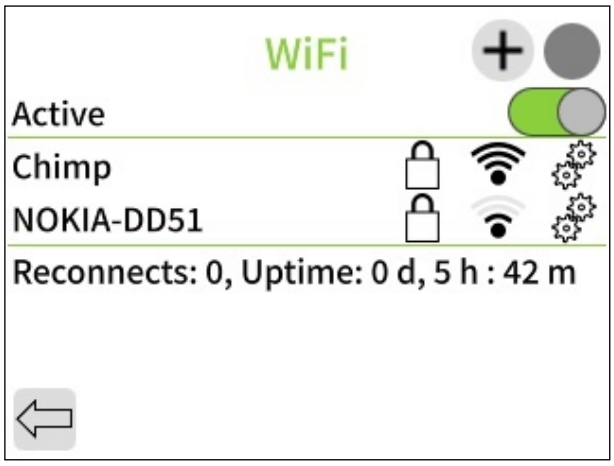
- Tap to configure Ethernet Settings
  → Jump to *Section 18.1.3*
- Tap to configure Wi-Fi Settings
  → Jump to *Section 18.1.4*

18.1.3. Ethernet Configuration Via On-Device Touch Screen



- Leave active or deactivate Ethernet via the toggle switch if using Wi-Fi.
- Tap the lines to modify IPv4 address or DNS Settings.
- Tap to return, or to save changes and return to the Network Setup Page.

18.1.4. Wi-Fi Configuration Via On-Device Touch Screen



- Activate via the toggle switch if using Wi-Fi.
- Wait for the network list to populate – this may take a few minutes in complex setups.
- Tap on your preferred Wi-Fi Network or tap + to manually enter Wi-Fi details.

- For manual setup, tap and enter Network Name, Password, and Security mode.
- For a Network selected from the list enter the Password & Security mode.
- Use the on-screen keyboard to enter the details and tap OK.
- Finally, tap ***Connect***. If the first attempt fails, pause briefly and tap ***Connect*** again.

18.1.5. Troubleshooting Network Connection Problems

Ethernet Connections:

- Ensure all cables are securely connected and undamaged.
- Test the Ethernet cable with another device to rule out cable issues.
- Verify the network port is active and properly configured.

Wi-Fi Connections:

- Move the device closer to the Wi-Fi router to improve signal strength.
- Check for obstacles or interference, such as walls or other electronic devices.
- Ensure the Wi-Fi credentials are entered correctly.

General Network Checks:

- Restart your router or access point.
- Verify the device is allowed on the network (e.g. MAC address filtering is disabled).
- Contact your administrator to ensure settings are correct and no restrictions are in place.

18.2. SIP Server Registration

This section explains how to register the terminal with a Session Initiation Protocol (SIP) server for telephony and intercom functionality. SIP registration enables the terminal to make and receive calls, integrate with VoIP systems, and support video calls.

Steps Overview:

- Single SIP server registration.
- Multiple SIP server registrations (multi-tenant scenarios).
- Testing SIP connectivity.

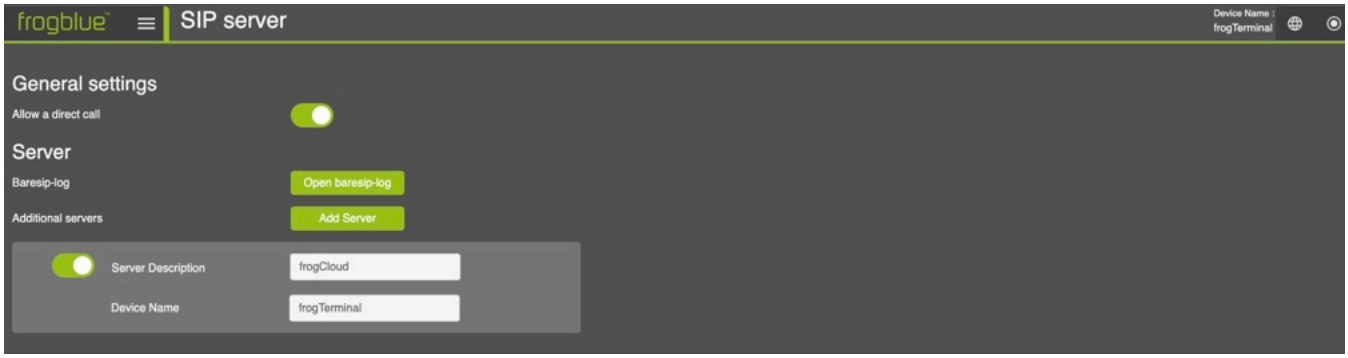
18.2.1. SIP Basics

Before proceeding with configuration, it's useful to understand some key SIP concepts:

- **SIP Server (Registrar Server)**: The main server handling SIP registrations and authenticating devices. This is the primary server address where the terminal registers.
- **Outbound SIP Server (Proxy Server)**: A secondary server used for routing outbound calls, often different from the registrar server. Some providers require a separate outbound server for call handling.
- SIP Account (Username & Authorisation Username):
  - **Username (SIP Extension)**: The unique identifier assigned to the terminal (e.g. "1001" or "door@mybuilding.com").
  - **Authorisation Username**: Some SIP providers require a separate authorisation username for login, which may differ from the SIP extension.
- **SIP URI (Uniform Resource Identifier)**: The terminal's SIP address, formatted like an email (e.g. "sip:door@mybuilding.com").
- **SIP Transport Protocols**: The method used to send SIP messages:
  - **UDP** (fastest but less reliable)
  - **TCP** (more reliable, better for NAT traversal)
  - **TLS** (encrypted and secure, recommended for VoIP security)
- **SIP Video Support**: If enabled, the terminal can transmit real-time video alongside audio calls using compatible codecs (e.g. H.264).

18.2.2. SIP Setup via Web Browser

Via Web Browser Menu: ***Settings → SIP Server***



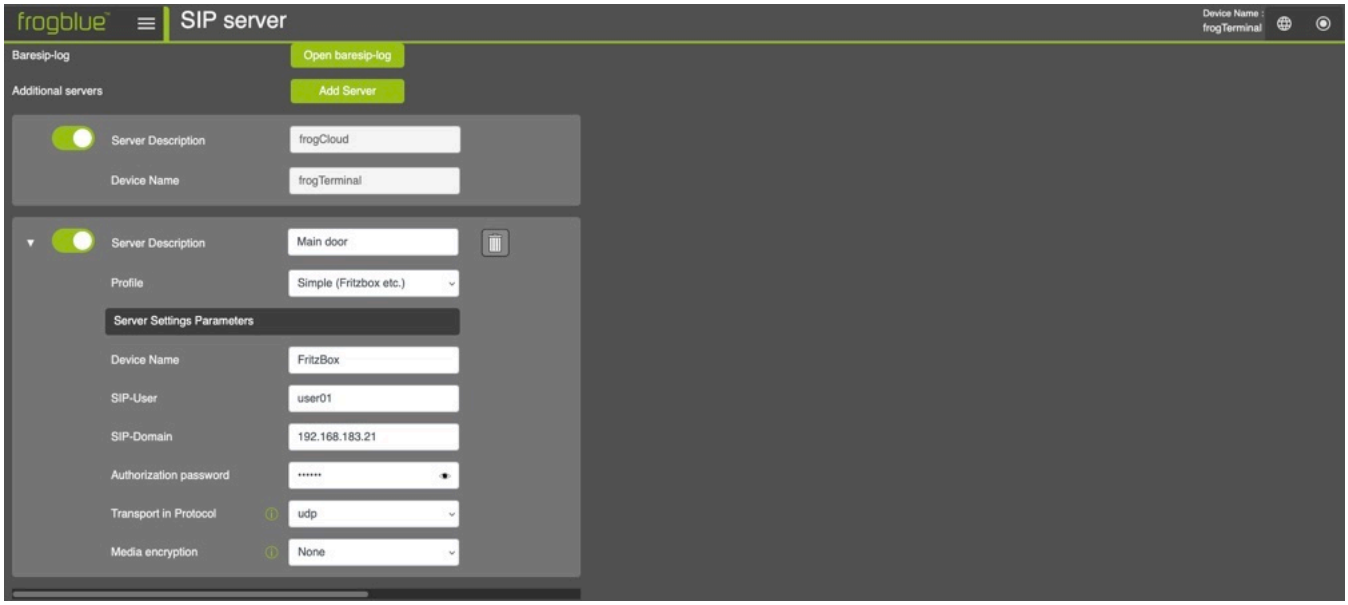
General Settings:

- ***Allow a direct call***: Check/uncheck to allow/deny direct IP calls at this Terminal without requiring any authentication via a SIP Server.
  Warning! INSECURE: For testing or local (advanced) usage only. Use with caution as may result in malicious calls or call hijacking.

Server:

- ***Baresip-log***: Open log file for expert debugging purposes.
- ***Additional servers***: Add a new SIP server. By default, the frogCloud is already integrated.

When clicking on ***Add server***, the following dialogue opens:



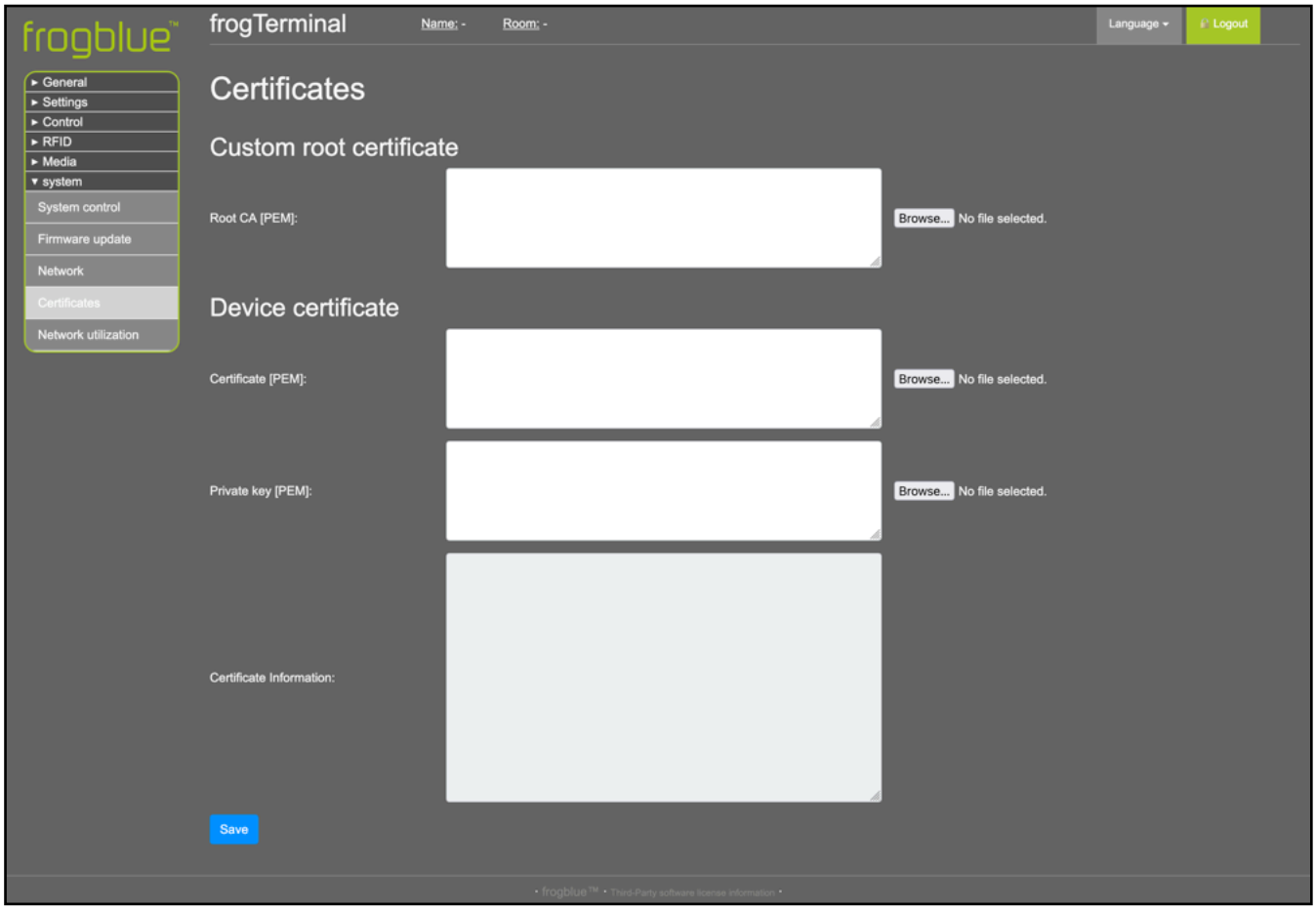
- ***Server Description***: Name of the SIP server
- ***Profile***: Choose a profile from the drop-down menu
- ***Device Name***: Name of the SIP device
- ***SIP-User***: User of SIP device
- ***SIP-Domain***: IP adress of the SIP device
- **Authorization password**: Password of the SIP device

18.3. Custom root certificates

This section explains how to configure custom certificates on the frogTerminal for secure communication. The terminal allows you to upload a custom Root CA certificate, as well as a device certificate and private key in PEM format. This functionality is useful for environments requiring secure and private connections, particularly with internal networks or custom Certificate Authorities (CAs).

Steps Overview:

- Uploading a custom Root CA certificate.
- Uploading a device certificate and corresponding private key.
- Verifying certificate information.



Custom Root Certificate:

- The Root CA (PEM) field allows you to upload a custom root certificate in PEM format. This is used to authenticate server or peer certificates for secure communication.

Use cases:

- Integrating with private or internal CAs.
- Enabling secure API calls or encrypted communication in private networks.

How to upload:

- Click ***Browse*** next to the Root CA (PEM) field.
- Select the appropriate PEM file containing your Root CA certificate and click **Open**.
- Click ***Save*** to apply your custom root certificate.

Device Certificate:

- The ***Certificate (PEM)*** field allows you to upload the device's unique certificate for identification and authentication.
- The ***Private Key (PEM)*** field allows you to upload the private key associated with the device certificate.

Use cases:

- Secure mutual authentication with servers (e.g. in TLS handshakes).
- Enabling encrypted communication between devices and servers.

How to upload:

- Click ***Browse*** next to the ***Certificate (PEM)*** field and select the device certificate file and click ***Open***.
- Click ***Browse*** next to the ***Private Key (PEM)*** field and select the private key file and click ***Open***.
- Ensure both files are correctly paired and valid.

Certificate Information:

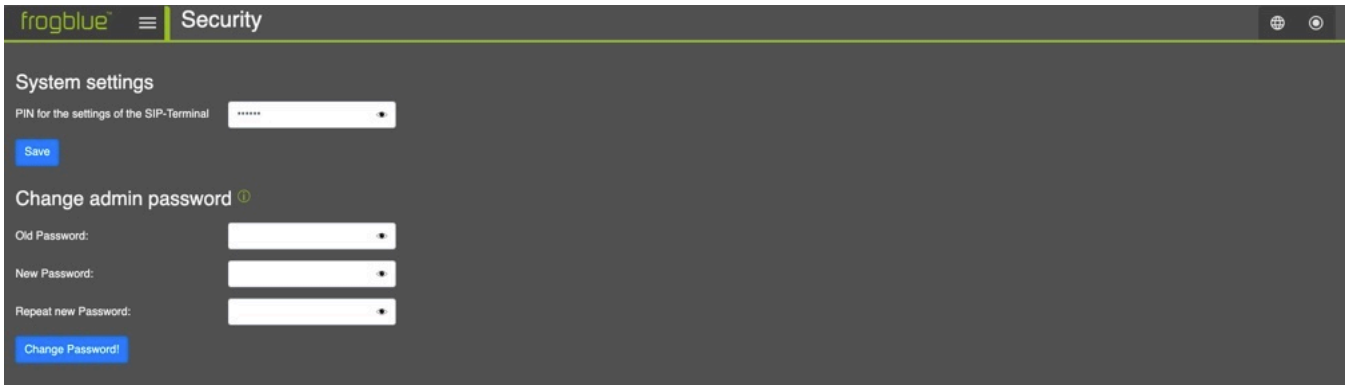
- The ***Certificate Information*** field provides a summary of the uploaded device certificate, including details such as the certificate's issuer, validity period, and subject.
- Verify this information to ensure the certificate has been uploaded and recognised correctly.

Important Notes:

- Ensure all files are in ***PEM format*** before uploading. Unsupported file formats will result in errors.
- Uploading incorrect or invalid certificates may cause connectivity issues or disrupt communication.
- For private networks or custom applications, consult your system administrator for the correct certificates.
- Certificates and private keys must be securely stored and handled to prevent unauthorised access.

19. Security

Via Web Browser Menu: ***System*** → ***Security***



19.1. Admin PIN

PIN for the settings of the SIP-Terminal: Specifies an exact 6-digit PIN which is used to manage the frogTerminal via the on-device touchscreen to gain access to the local system settings.

19.2. Admin Password

Change admin password: Here you can change the web administrator password. Note: you need to enter the old password and then twice repeat your desired new password before clicking ***Change Password***!

20. Integration with Third-Party Video Systems

Integrate the terminal with external video streaming or management systems.

20.1. HTTPS or Web Integration - Plain MJPEG stream

The **frogTerminal** supports an **MJPEG stream** or **Fast-Stream** over **HTTPS** for compatibility with legacy systems or simple integration into websites. **HTTPS authentication** is required and can be passed in standard HTTP format, for example:

- **Basic URL**: https://<IP Address>/cgi-bin/cam.cgi
- **With Authentication**: https://<username>:<password>@<IP Address>/cgi-bin/cam.cgi

20.2. RTSP Settings

Menu: System → RTSP Settings

The **frogTerminal** supports the **Real-Time Streaming Protocol (RTSP)** for **integrating** its camera video stream into **third-party video systems**. Audio support is currently in development.

RTSP is a widely adopted streaming protocol that allows clients to request, control, and receive real-time video feeds from IP cameras and media servers. It serves as the underlying protocol for ONVIF (Open Network Video Interface Forum), the industry standard for interoperability between IP-based security devices. ONVIF support for the frogTerminal is currently in development.

Many popular Video Management Systems (VMS), such as **Milestone XProtect** and **Genetec Security Center**, support direct **RTSP stream integration**, allowing the frogTerminal to be added as a video source without requiring additional drivers or plugins.

RTSP Stream URL Format

To access the RTSP stream from the frogTerminal, use the following URL format:

rtsp://<username>:<password>@<IP Address>:<port>/cam

- **<username>**: The designated RTSP user (rtsp) or an admin user.
- **<password>**: The password for the RTSP user or an admin account.
- **<IP Address>**: The local or external IP of the frogTerminal.
- **<port>**: The RTSP service port (default: 554, unless changed in the configuration).
- **/cam**: The RTSP stream path.

Optimal Settings for Low Latency & High Frame Rate

To achieve the best low-latency performance and high frame rate, ensure that:

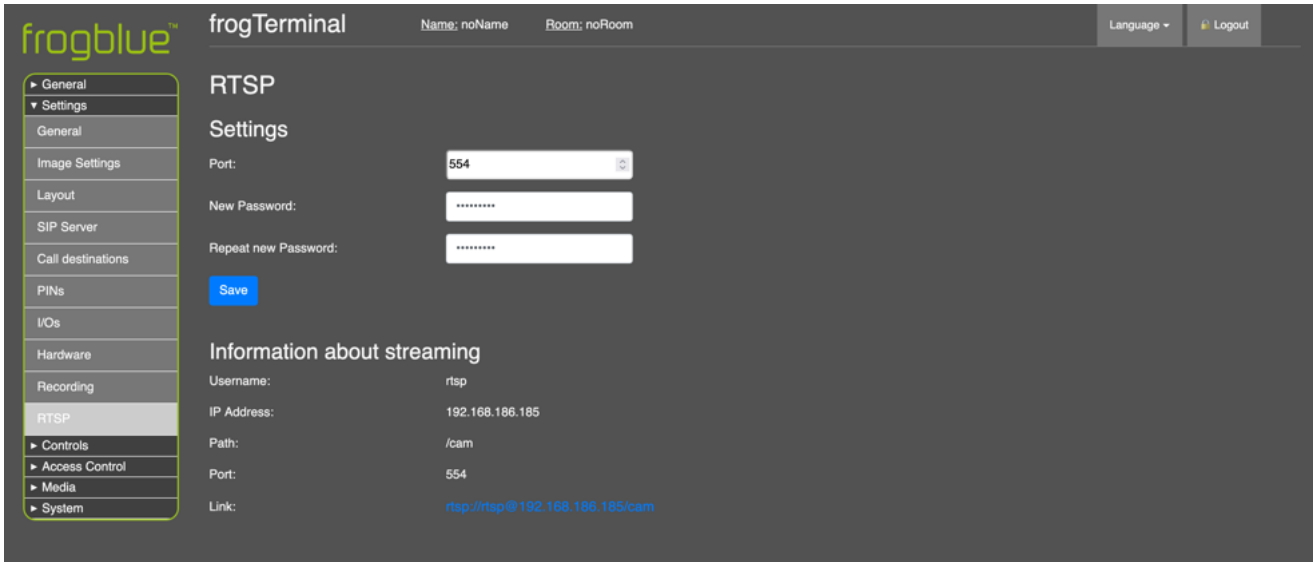
- No **browser-based HTTPS** or **web stream** is running (e.g. camera live stream in a browser).
- The following **image settings** are applied:
  - **Image Enhancement**: Set to Off.
  - **Image Resolution**: Set to maximum **HD**.
  - **JPEG Compression Quality**: Set to 60%.
- **On-board recording** is **disabled** for optimal performance. Instead, use a **VMS** system for video recording.

User Access:

- The dedicated RTSP user (rtsp) can be used exclusively for RTSP streaming.
- Admin users can also access the RTSP stream using their credentials.

Additional Notes:

- Ensure that **RTSP is enabled** on the frogTerminal and that firewall rules allow traffic on the specified RTSP port.
- For **remote access**, port forwarding or a **VPN** connection may be required, depending on the network setup.
- **ONVIF support is planned**, which will enable further integration with automated VMS discovery and additional video security platforms.
- **Latency and stream stability** depend on network conditions and encoding settings.



Port

- Defines the port used for the RTSP streaming service.
- Default: 554 (standard RTSP port).
- If your network requires a different port, enter the desired custom port number.
- Ensure that the selected port is open in your firewall/router if accessing the stream remotely.

New Password

- Set a new password for the RTSP user (rtsp).
- This is a dedicated password for connecting to the stream using the RTSP URL.
- **Minimum Requirements**: At least 8 characters, including a mix of uppercase, lowercase, and numbers for security.

Repeat New Password

- Re-enter the new password to confirm it.

Save

- Saves the updated port and password settings.
- Changes will take effect immediately after saving.
- After saving, update your RTSP settings in external applications if you changed the password or port.

20.3. RTSP Stream Integration

This section provides step-by-step instructions on how to integrate the frogTerminal RTSP stream with OBS Studio and VLC Media Player.

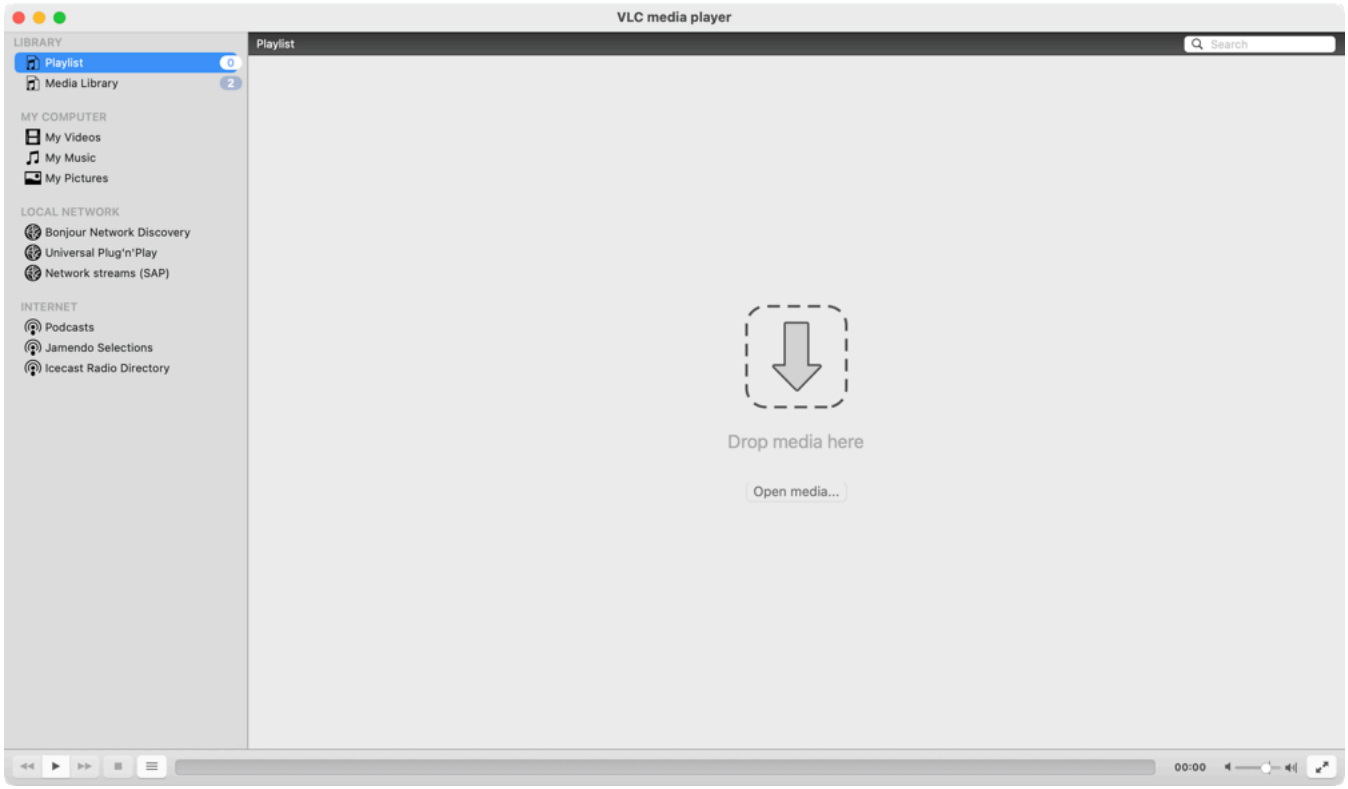
Ensure that:

- RTSP is enabled on the frogTerminal.
- The correct RTSP URL is used.

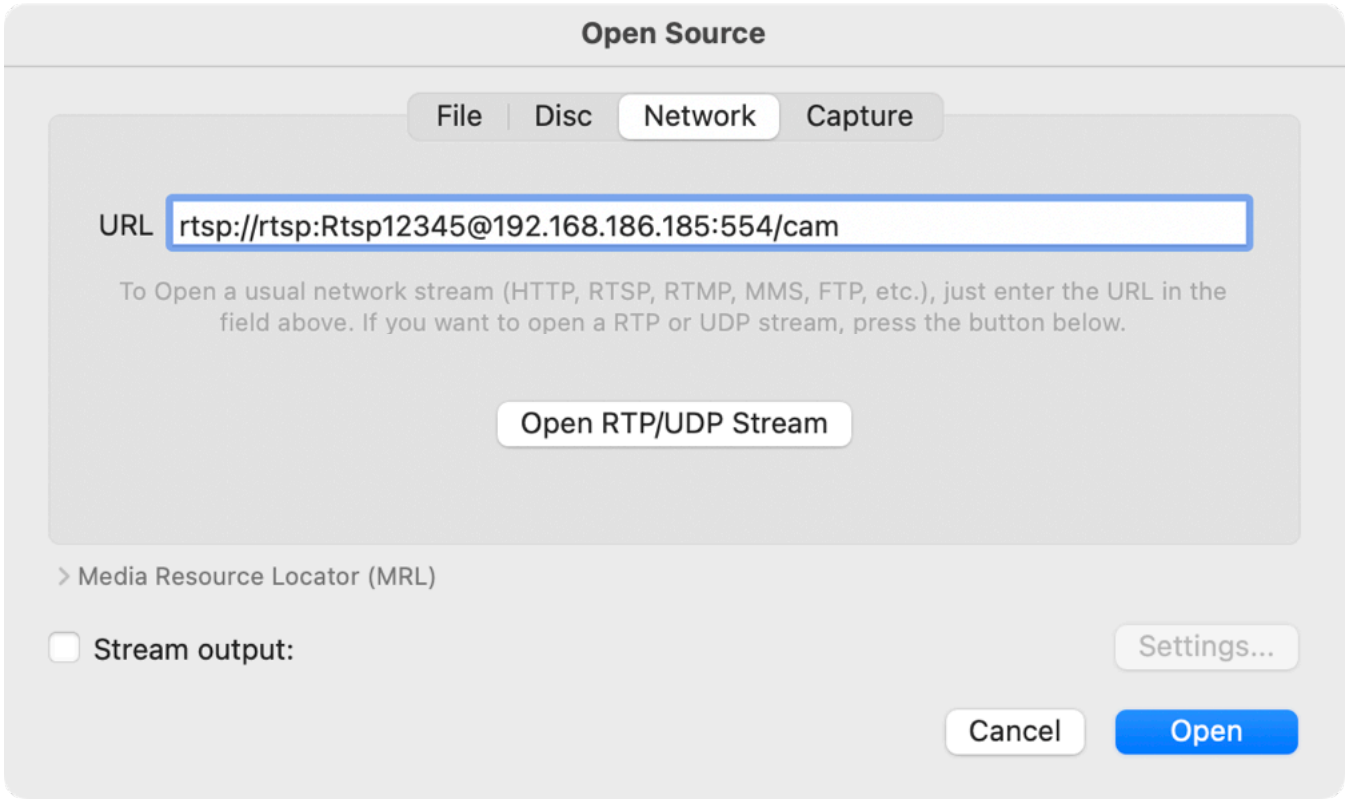
RTSP Integration with VLC Media Player

VLC Media Player is an open-source video player that supports **RTSP streaming**. To integrate the **frogTerminal RTSP stream** into VLC:

- Open VLC Media Player.



- Click *Open Media*.



- Go to → ***Network***.
- Enter the ***RTSP URL***. The username and password can be passed in HTTP format as per the example or entered at the next step.

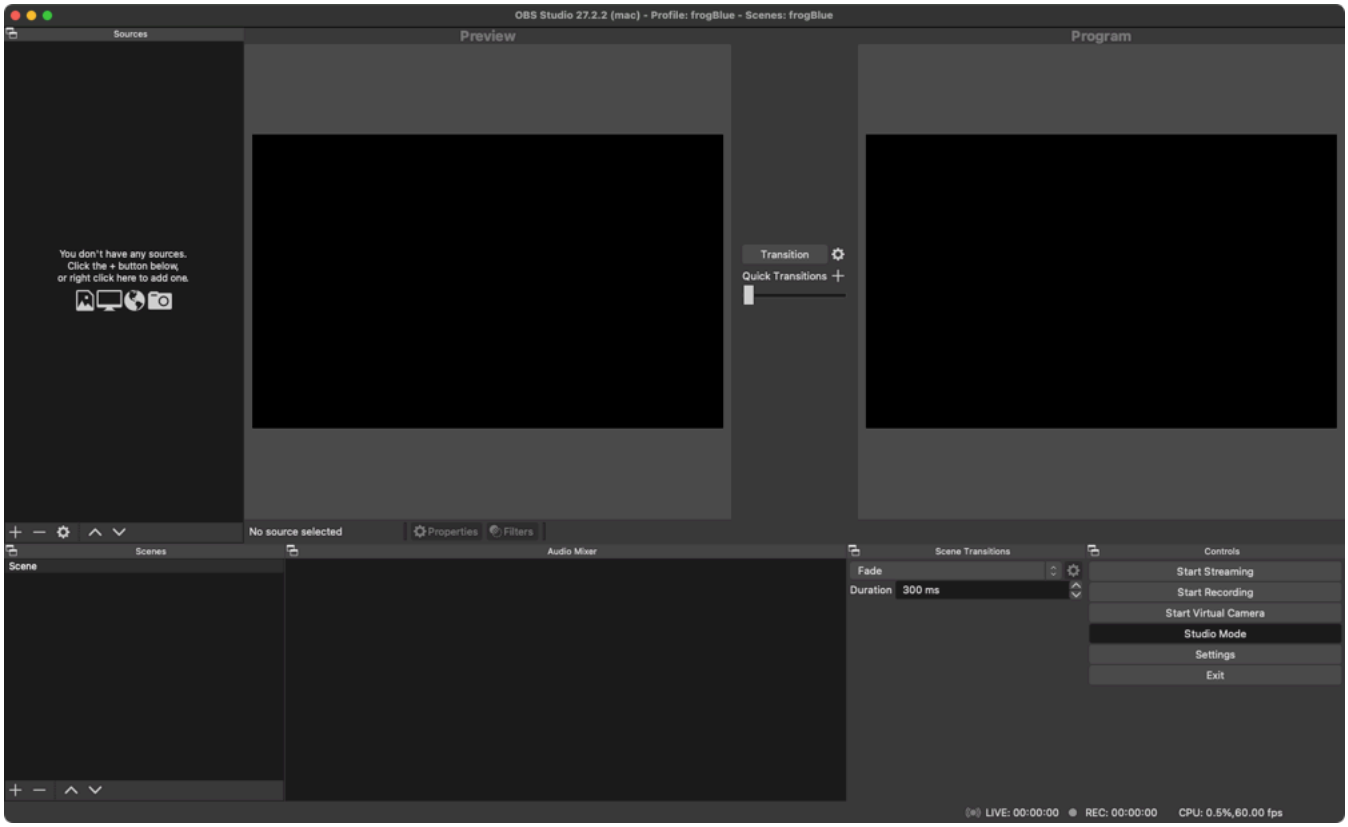
The camera stream should now appear in the VLC main window. By default, VLC will buffer the stream, which may introduce a delay of several seconds.

Note: VLC is primarily designed for **streaming over the internet** and includes built-in buffering mechanisms that may **increase latency**, which may affect real-time performance. To optimise VLC for **low-latency streaming**, adjustments to buffering settings may be required.

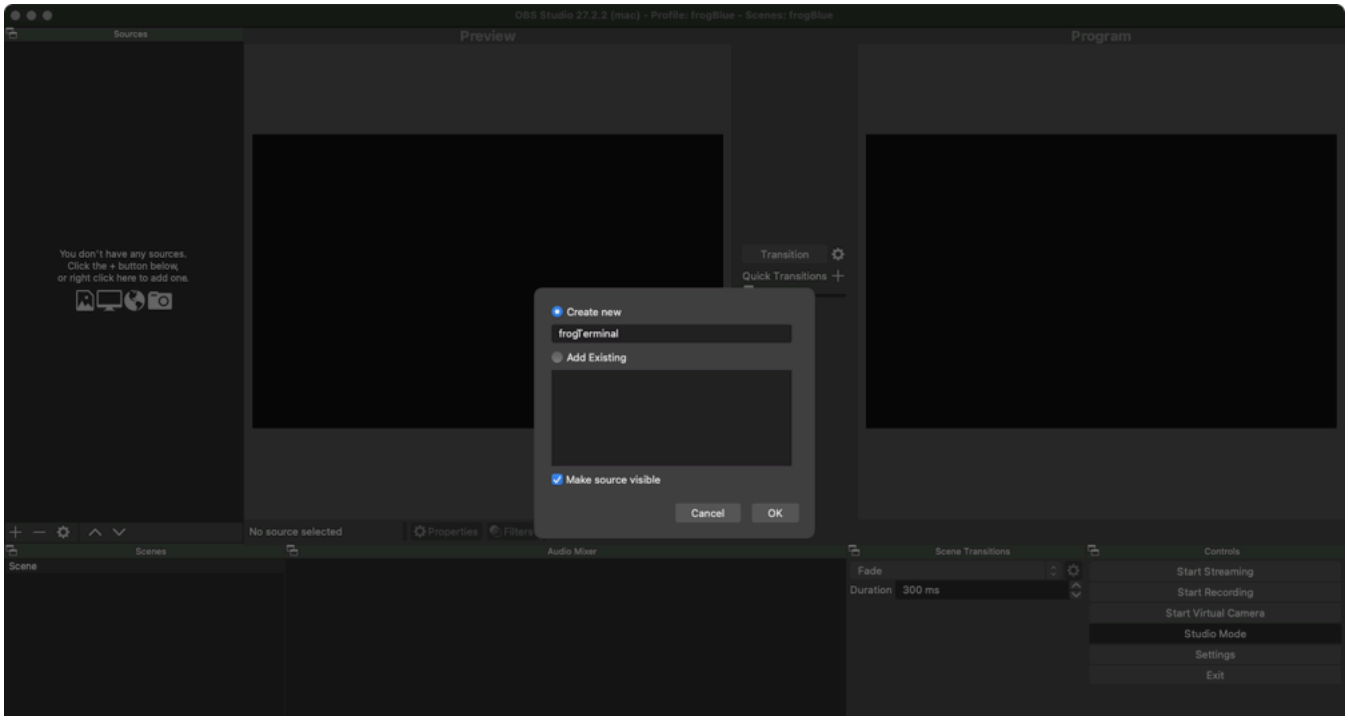
RTSP Integration with OBS Studio streaming and recording software

OBS Studio is a widely used open-source streaming and recording tool. Follow these steps to integrate the **frogTerminal RTSP stream** into OBS:

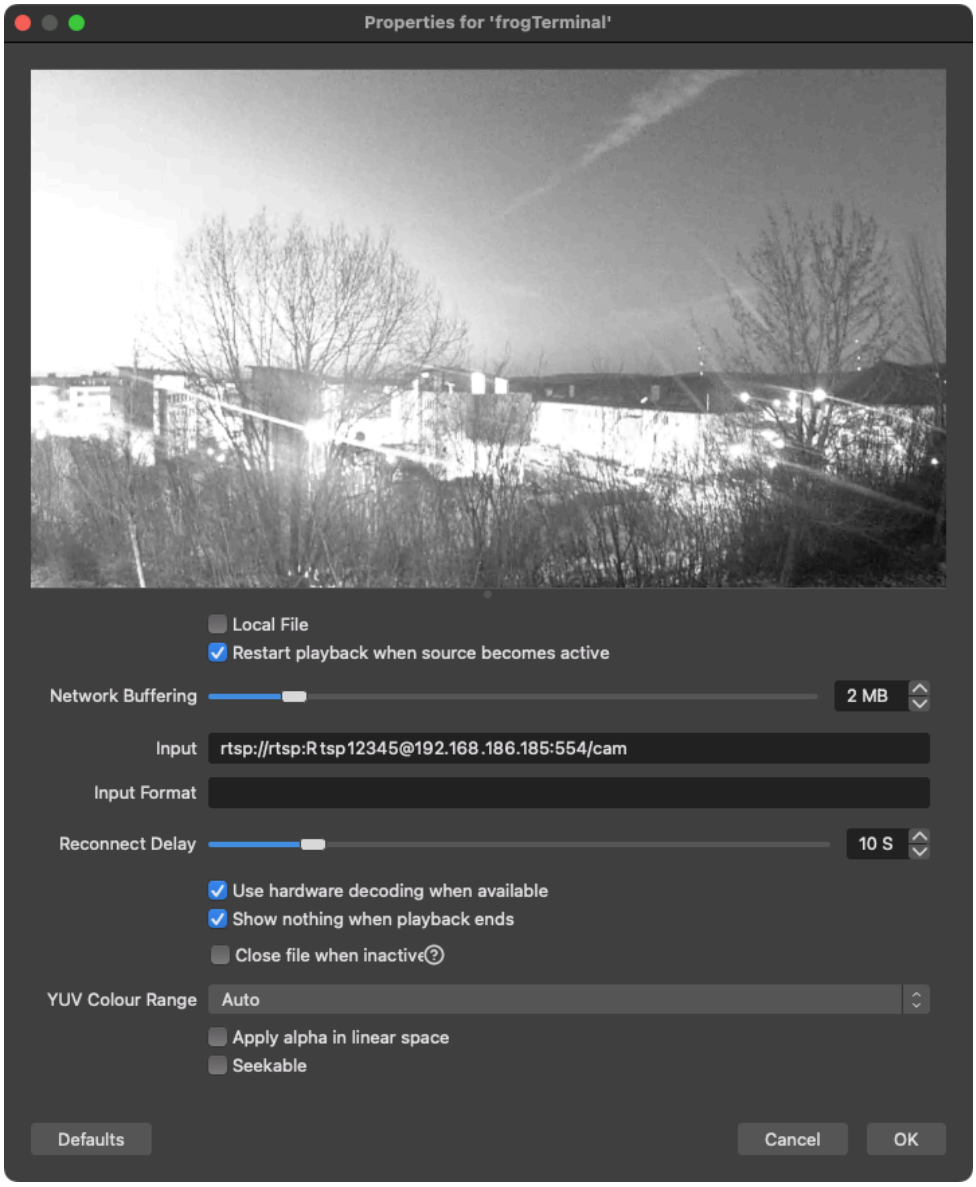
- Open **OBS Studio**.



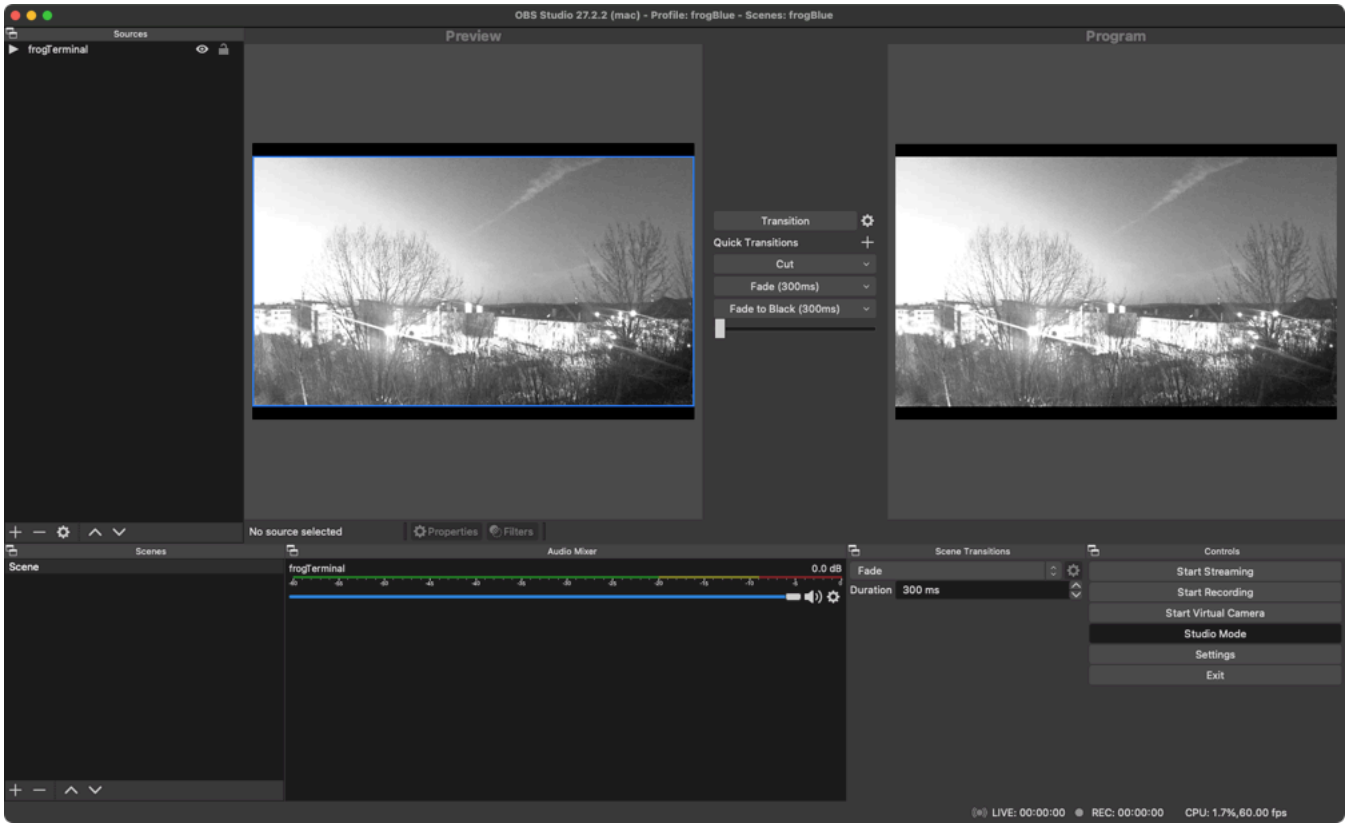
- Click ➕ under *Sources* to add a new video source.
- Choose *Media Source*.



- Give your source a name, e.g. "frogTerminal".
- Click **OK**.



- Untick ***Local File***.
- Input: Enter the ***RTSP URL***. The username and password can be passed in HTTP format as per the example or entered at the next step.
- Tick ***Use hardware decoding when available***.
- Click **OK**.



The frogTerminal camera livestream should now be visible in OBS Studio.

Note: On some **operating systems or OBS versions**, you may receive a **popup window** requesting permission to allow **OBS Studio** access to your **network** or through your **firewall**. Ensure that you confirm or **allow this access** to enable the stream.
Additionally, on certain systems, **OBS Studio may need to be restarted** after completing the setup and acknowledging any popups. If the stream does not appear immediately, try **closing and reopening OBS Studio**.

20.4. Integration with MOBOTIX ManagementCenter (MxMC)

20.4.1. Overview

frogTerminal - MxManagementCenter

The **frogTerminal** offers functionality to support integration with MOBOTIX MxManagementCenter Software.

Supported Version: MxManagementCenter 2.9.2
Protocol: MxEventStream via **Port: 8035**

Features supported by the frogTerminal include:

- Video & Audio Stream (MJPEG)
- Calls from frogTerminal to MxMC (MxMC Background Alarms)
- Live video call pop-up
- Two-way audio (push-to-talk)
- Open Door
- Switch on Light (Feature otw.)
- Event Image review from MxMC Event Strip (Right Sidebar)
- Advanced MxMC button integration via API (IP Messages / WebHooks)

Supported applications include **Door Terminals, Call Stations, Help or Information Points** with the **integrated touch display** and API support enabling advanced users the ability to customise the applications even further.

frogTerminal - as IP gateway to frogblue automation system.

The **frogTerminal** offers functionality to support integration with IP based systems.

frogDisplay - as IP Call Station for MOBOTIX door station system.

The **frogDisplay** offers functionality to support integration with MOBOTIX door station systems: T24, T25, T26 and can be called as an endpoint for door bell events triggered via the MOBOTIX "Concierge" system.

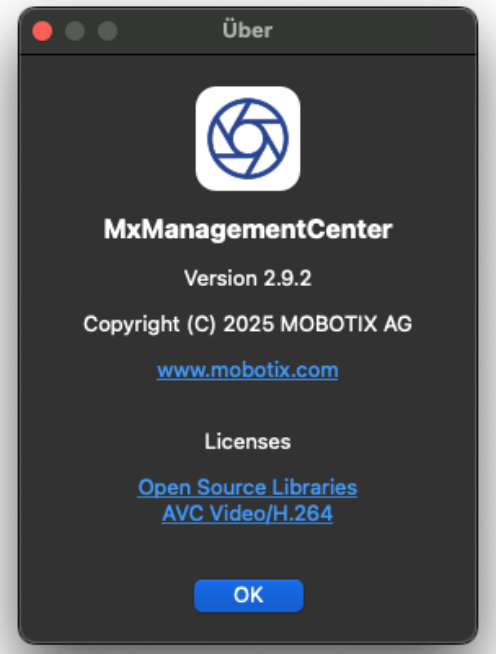
MOBOTIX Camera Device - as IP gateway to frogblue automation system.

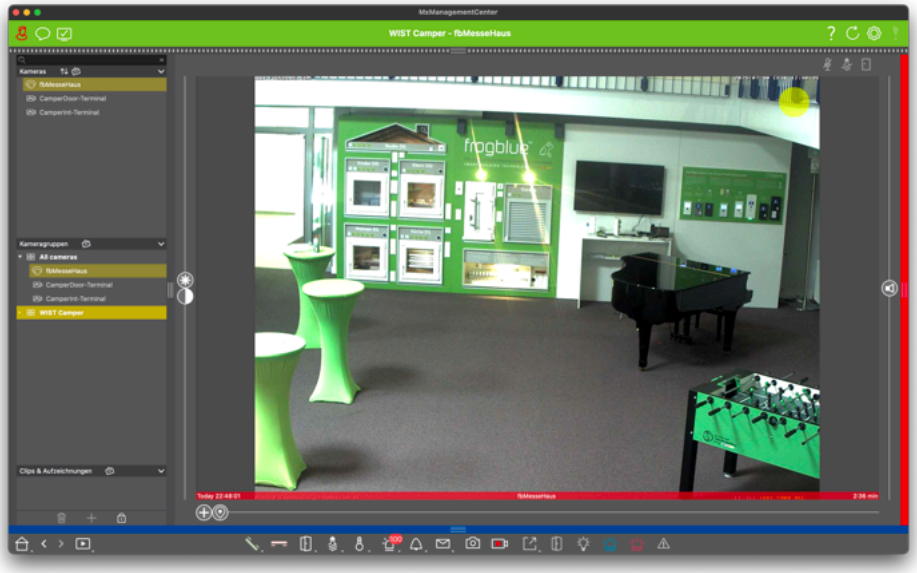
The **frogTerminal** offers functionality to support integration with IP based systems.

20.4.2. Integration Step by Step

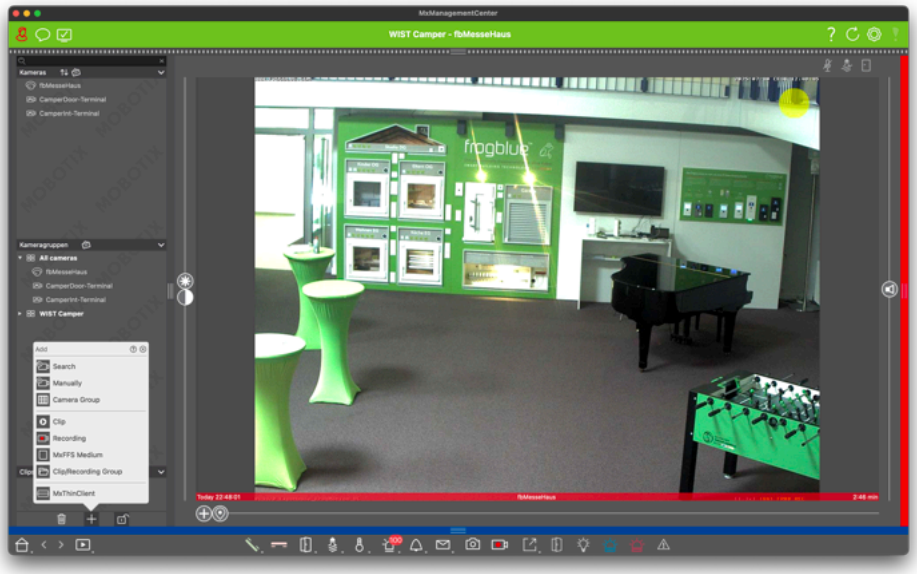
Add frogTerminal to MxManagementCenter

To add the **frogTerminal** as a device to the MOBOTIX MxManagementCenter Software, open your **MxMC Version 2.9.2**.

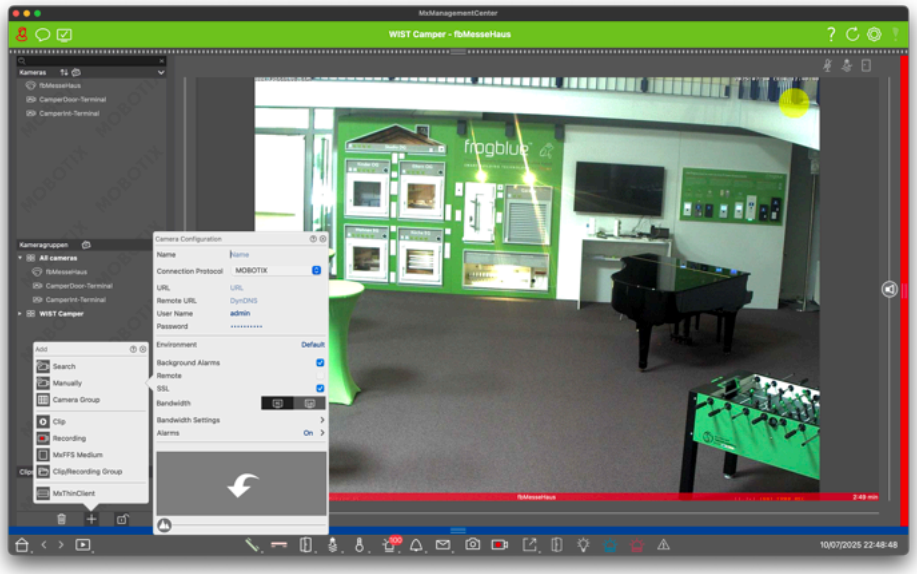




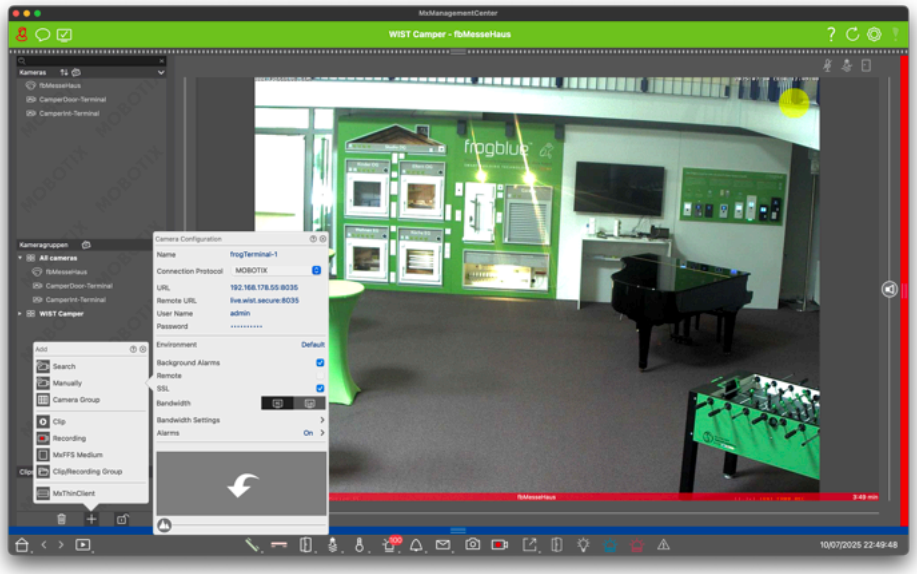
- Click on the Lock Symbol at the bottom of the left sidebar to unlock the interface.



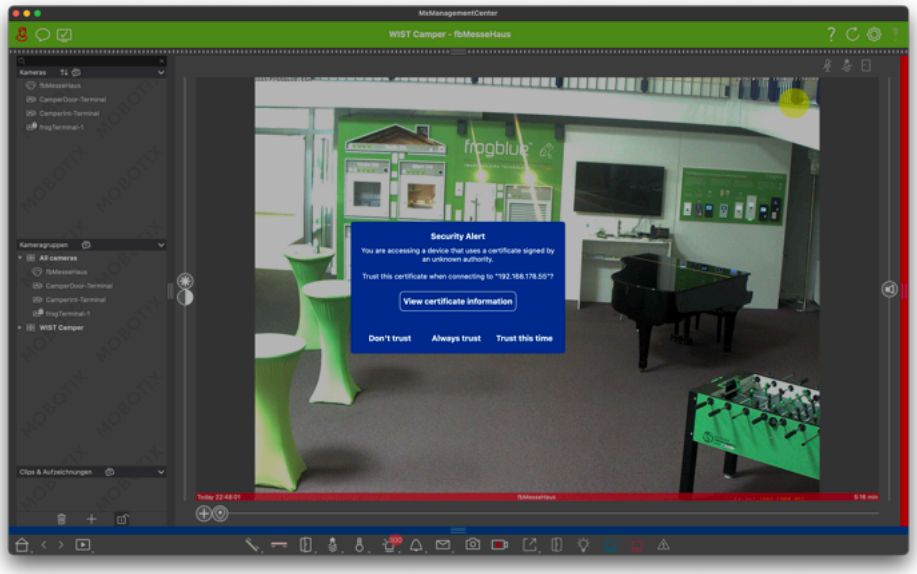
- Click on ➕ at the bottom of the left sidebar to add a new device element.



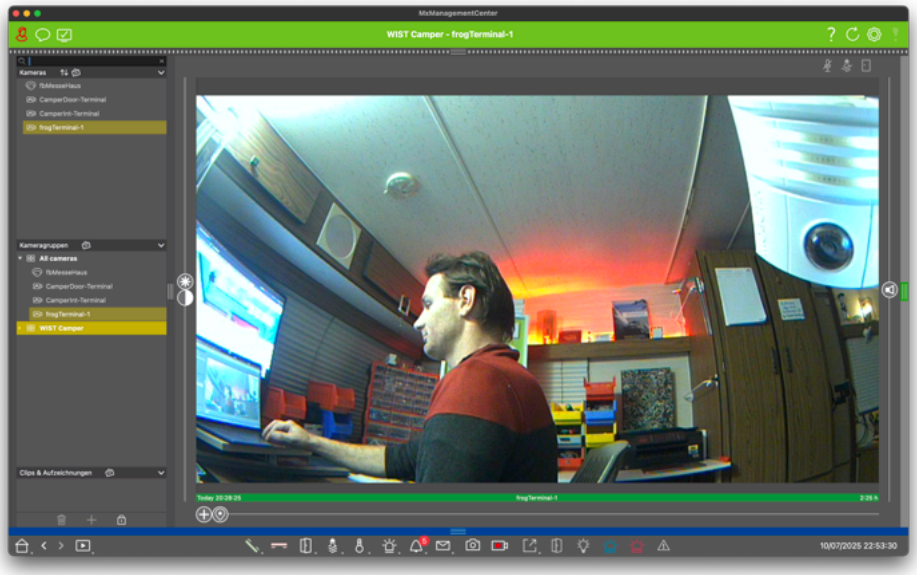
- Click on the Manually symbol to add a new camera source.



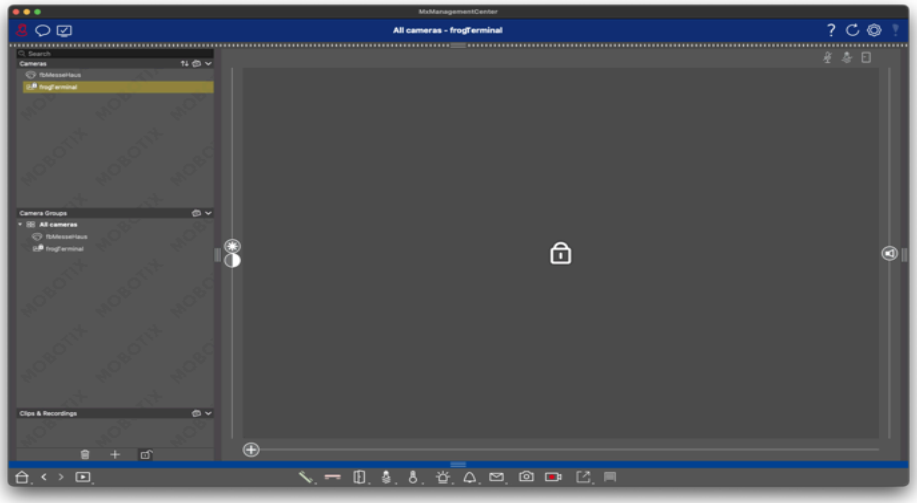
- ***Name***: Enter a name for your frogTerminal as it should appear in MxMC.
- ***Connection Protocol***: Select **MOBOTIX** from the options.
- ***URL***: Input the IP Address or URL of your frogTerminal followed by a colon and the port **8035**, e.g. "**192.168.178.58:8035**".
- ***Username***: Input the web username to access the frogTerminal.
- ***Password***: Enter the web password for the frogTerminal.
- ***Background Alarms***: Tick this option to enable background alarms. This is required for calls to be triggered when the Terminal is not actively being streamed.
- ***SSL***: Tick this box to enable a secure (SSL) connection to the frogTerminal. **Mandatory requirement**.
- To confirm your settings, click outside the input fields – for example, on the grey area of the left sidebar.



- If you see a Security Alert click ***Always Trust*** to accept the secure connection. Or for temporary testing choose ***Trust this Time***.



- You should see a live video stream from your frogTerminal in MxMC.



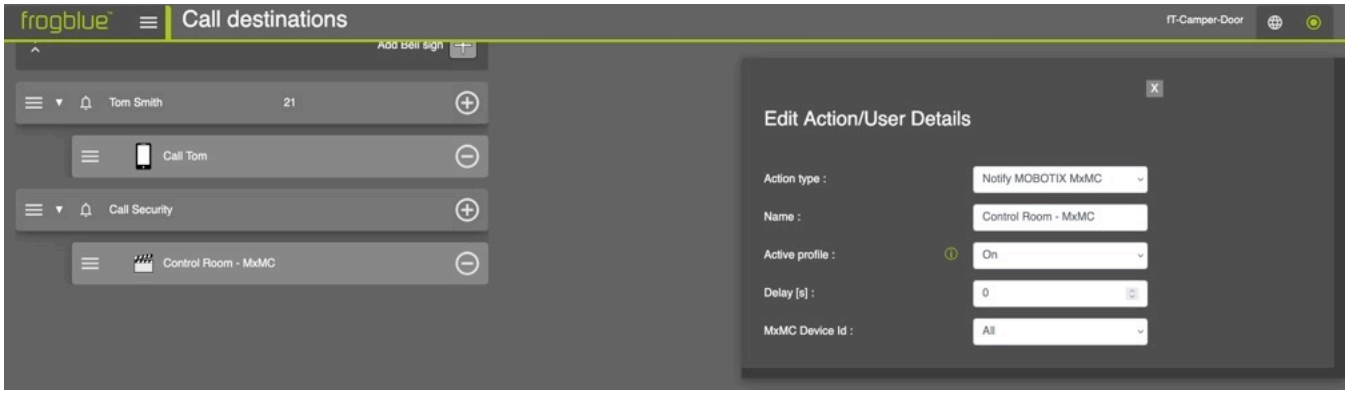
- If the connection does not establish:
- Click the Reconnect button (refresh icon in the top-right corner).
- Accept any Security Alerts that appear.
- If issues persist, check:
    - Your network settings (IP address, hostname, and port).
    - That port 8035 is correctly forwarded to your frogTerminal. (This port is used for the MOBOTIX MxEventStream protocol.)

frogTerminal - calls to MxManagementCenter

The **frogTerminal** offers functionality to call MxManagementCenter Software directly via the MxEventStream protocol.

To configure a call to your MxMC you will need the IP Address of the computer where the MxMC Software is installed, then open the ***Terminal Settings*** on your browser and go to the ***Call destination*** page.

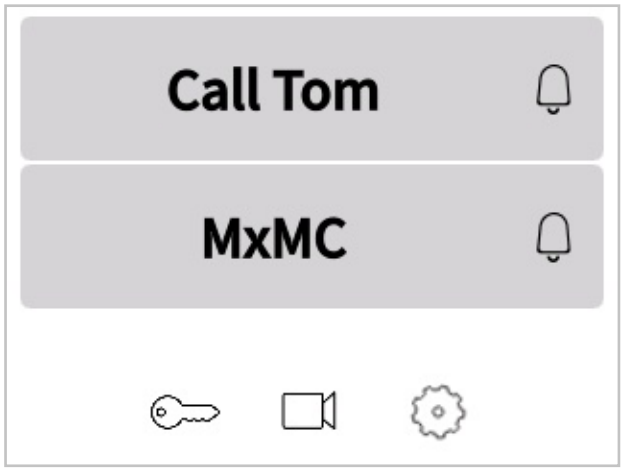
Add a Bell sign or select an existing Bell sign to use and click ▸ to expand the call action settings.

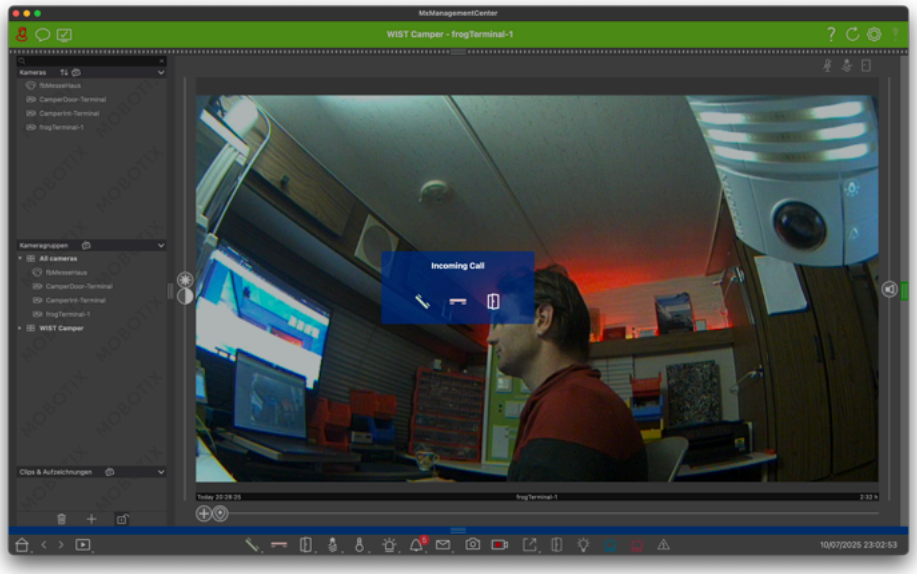


- Click ***Add Bell sign*** ➕ to add a call action and select your new action to edit it.
- ***Action type***: Select Notify MxMC from the drop-down menu.
- ***Name***: Enter a name for the action, e.g. "Call Security".
- ***Active profile***: Select a time profile in which the action is active.
- ***Delay [s]***: Time in seconds until the notification is sent.
- ***MxMC Device ID***: Select All to notify all MxMC instances running on the network, or select a specific instance from the list of unique IDs. Instances are detected automatically when MxMC connects to your frogTerminal.
- Click ***Save*** to create the new Notify MxMC bell action.

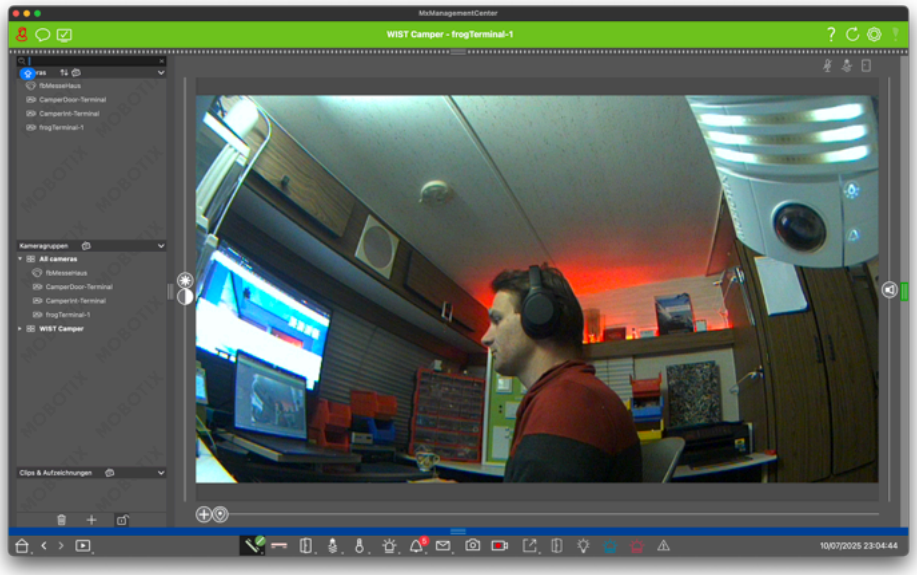
Tip: Calls can also be made directly to the frogTerminal from MxMC by clicking on the phone icon while connected to the frogTerminal live-stream.

Tap your newly created Bell sign, e.g. ***MxMC*** from the frogTerminal touchscreen bell page.





- A call is initiated and should appear in MxMC.
- The door icon directly triggers the frogTerminal door opener as defined under the *Controls -> Doors* settings.
- The green phone icon lets you accept the call and start live video & audio from the frogTerminal to MxMC.
- The red phone icon rejects the call.



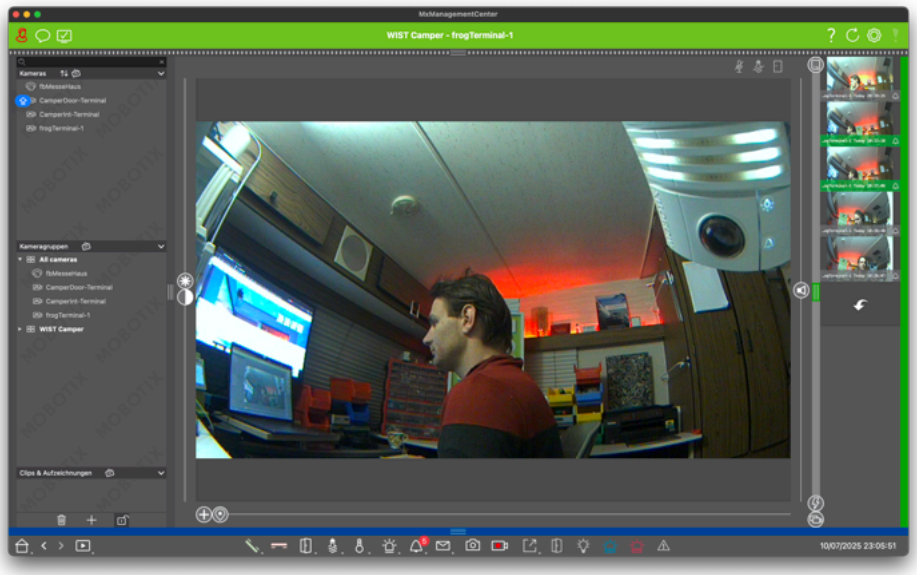
Once in a call:

- To Speak: Press and hold the green call icon.
- To Open the door: Click the door icon to trigger the door.
- To switch the light: Click the light icon to trigger the light.
- To end the call: Click the red phone icon.

frogTerminal - Event review with MxManagementCenter

The **frogTerminal** offers basic image event review from MxMC.

To review events click to open the right event-strip sidebar in MxMC.



- Click on an event image to inspect it in full screen.

21. Advanced Integration and API Features

Note: Special Features! Talk to your frogblue Partner or local frogblue Competence Center for details.

21.1. Custom Display Interfaces

Customise your frogTerminal's user interface to achieve stunning designs and next-level integrations. This high-quality smart door station access control interface is the ideal solution to elevate your system or SaaS offering, delivering both enhanced aesthetics and advanced functionality.

21.2. Time Tracking and Attendance

Leverage the frogTerminal to streamline staff time tracking. Configure simple check-in, break, and check-out options, and export attendance logs to your preferred workforce management system for efficient record-keeping.

Examples for applications include:

- **Logistics**: Notify warehouse automation systems to prepare or dispatch an order upon access. Automatically light a path to the delivery gate for efficient navigation.
- **Healthcare**: Trigger nurse call or management systems to log patient visitor details or confirm the delivery of critical medication including QR code verification to ensure the right medication is given to the right person.
- **Building Automation**: Activate lighting and adjust HVAC settings along a defined route for the user, or automatically call an elevator to the correct floor.

22. Maintenance and Troubleshooting

22.1. Firmware Updates

Keep the terminal up to date with the latest features and security patches.

22.2. System Control - Manage configuration files, Reboot, and Factory Reset

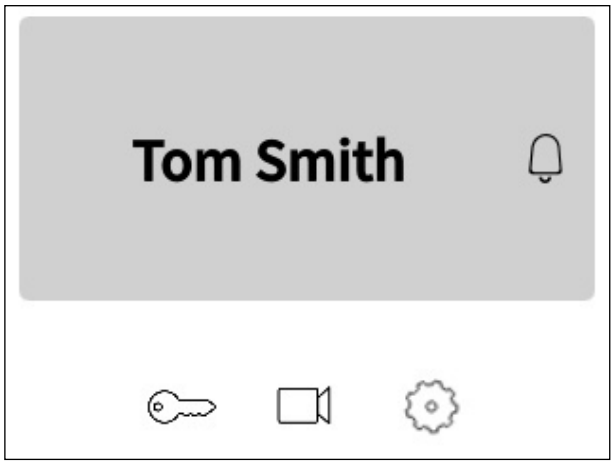
This section details how to download or upload the entire configuration, reboot the system, or reset the device to factory defaults.

Reset system to factory defaults via Web interface

Menu: System → System Control

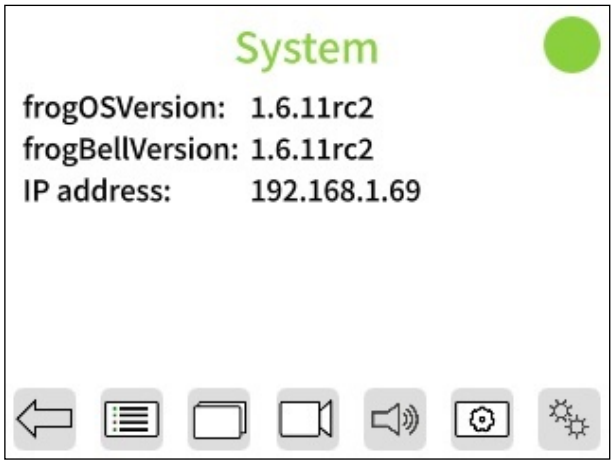
To perform a factory reset, click ***Reset to Factory Defaults*** and then ***Yes*** to confirm. Wait until you see the message "Done" in the browser and the Terminal screen returns to the Welcome page with the Start Wizard option. Please note that the reset process may take several minutes to clear all logs and recordings. For best results, allow sufficient time and perform a reboot or power cycle after the reset.

Via On-screen interface

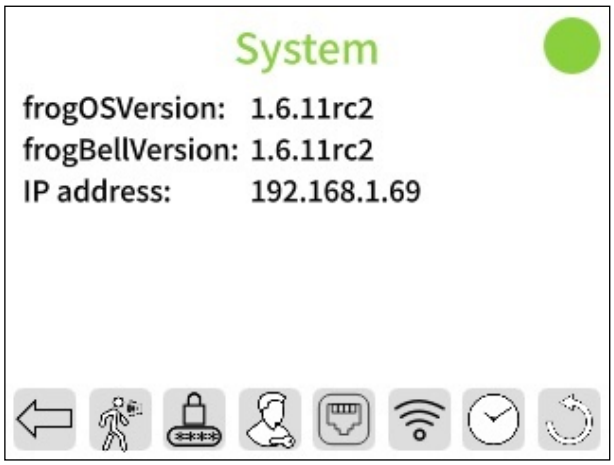


- Tap ⚙ to enter the configuration mode.

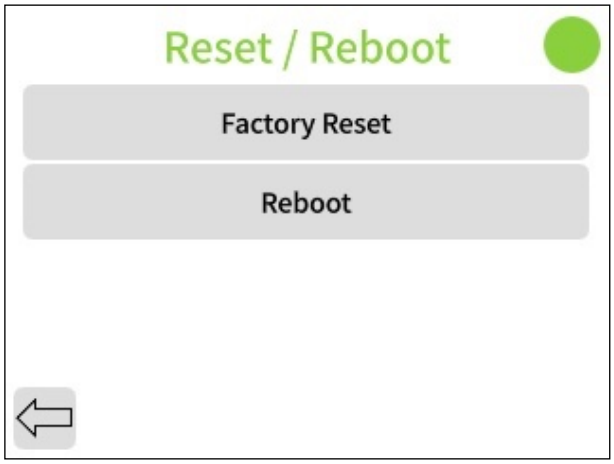
- Enter your 6-digit Admin PIN and tap **OK**.



- Tap  to access the additional settings page.

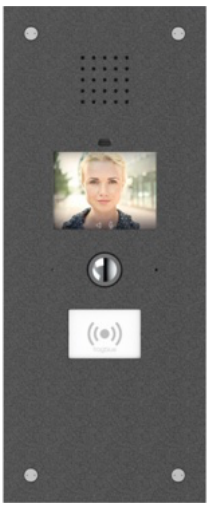


- Tap  to enter the system reset and reboot menu.



Note: **A hard reset can be performed with the frogProject App when all PINs & Passwords are forgotten. Reach out to your frogblue Partner or local frogblue Competence Center for support.**

D. Terminal Versions



S3 Plus / NIL / B1 / B2

S3 Vario

S3 X / NIL

S2

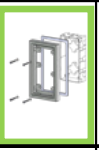
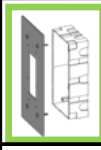
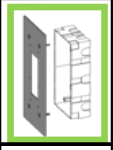
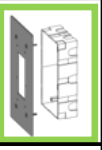
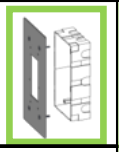
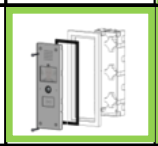
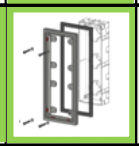
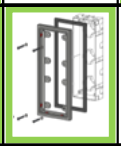
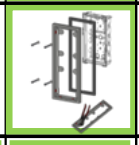
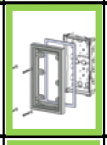
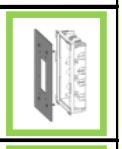
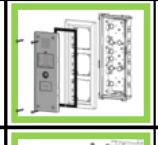
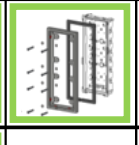
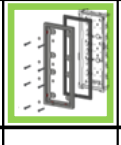
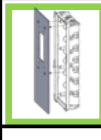
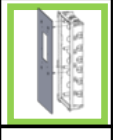
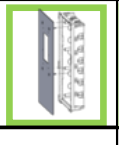
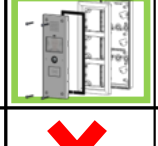
AL

KL

GL

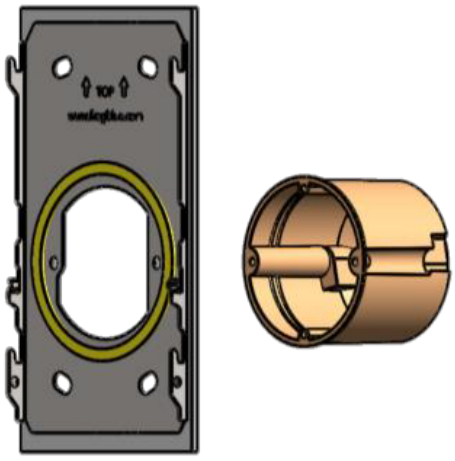
Available in white, silver, and anthracite.

Replacement Guide

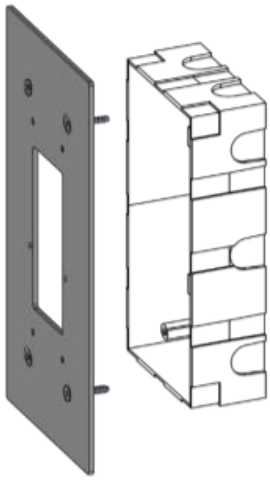
	 S3 X/ NIL	 S3 Plus/ NIL/ B1/ B2	 S3 Vario	 S2	 AL	 GL	 Station	 KL
Siedle © 2er flush-mounted box	✗		✗					
Siedle © 3er flush-mounted box				✗	✗	✗	✗	✗
Mobotix © 2er flush-mounted box	✗		✗					
Mobotix © 3er flush-mounted box								
Siedle © 3er Onwall box		✗	✗	✗	✗	✗	✗	✗
Mobotix © 3er Onwall box		✗	✗	✗				
Mobotix © 2er Onwall box	✗	✗	✗	✗				

Terminal Versions AL / KL Station / GL

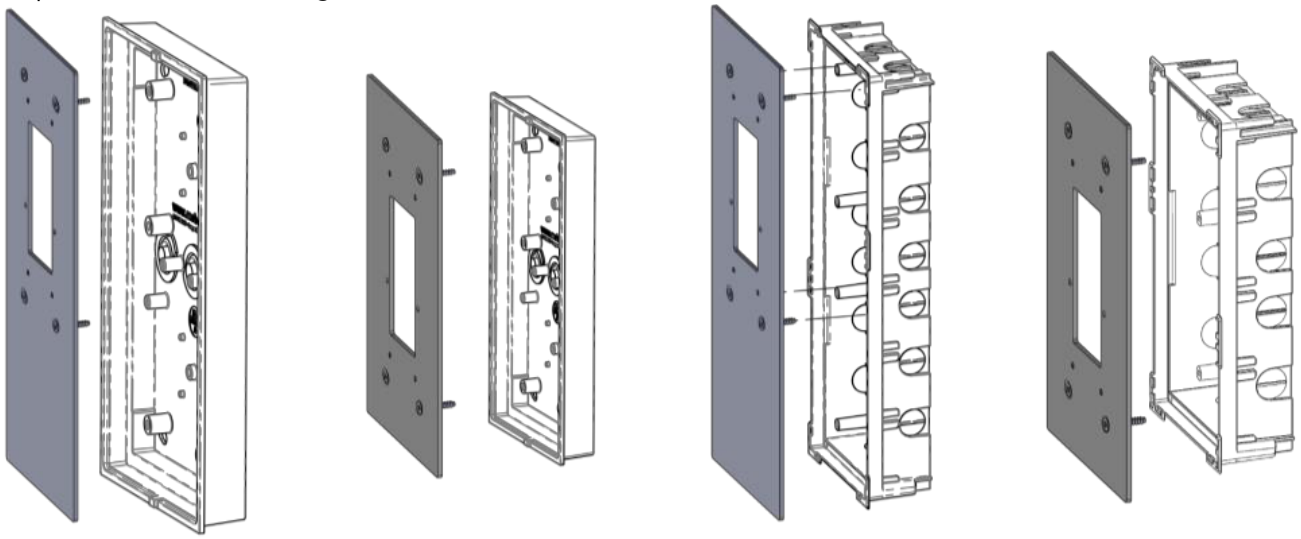
New Installation



Replacement for existing SIEDLE

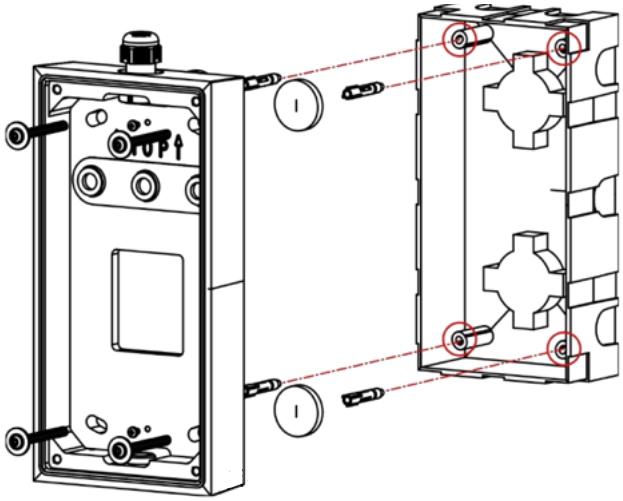


Replacement for existing MOBOTIX

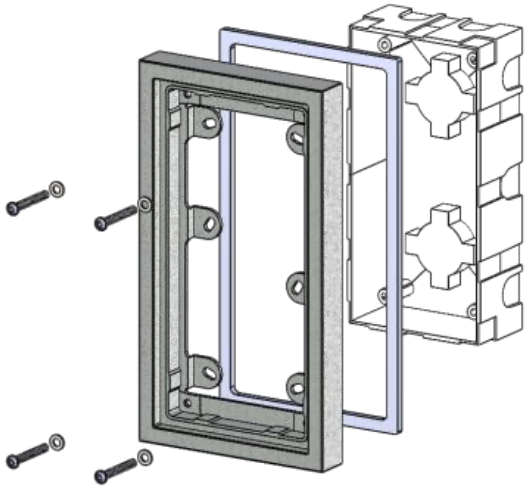


Terminal Version S2

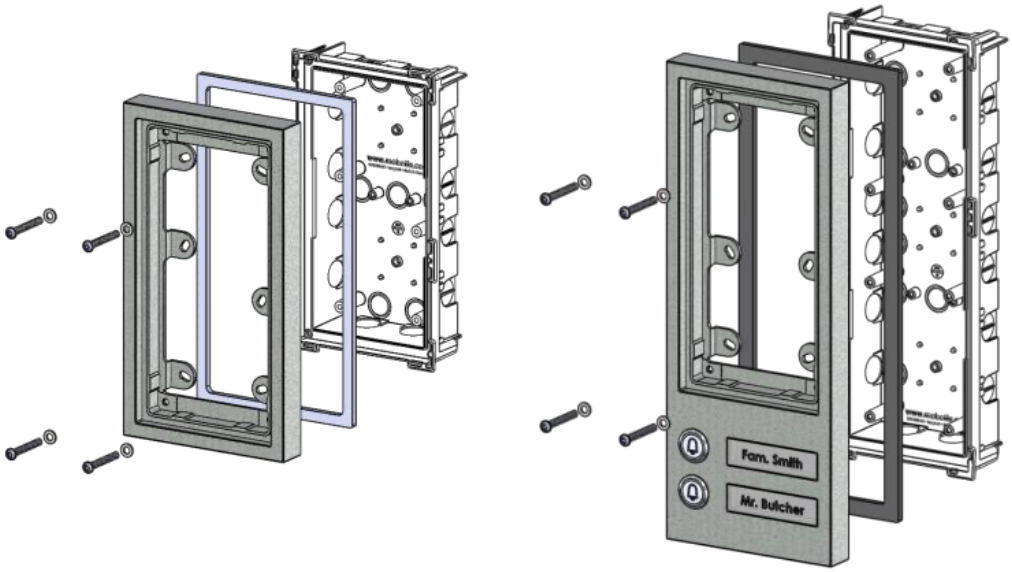
New Installation



Replacement for existing SIEDLE

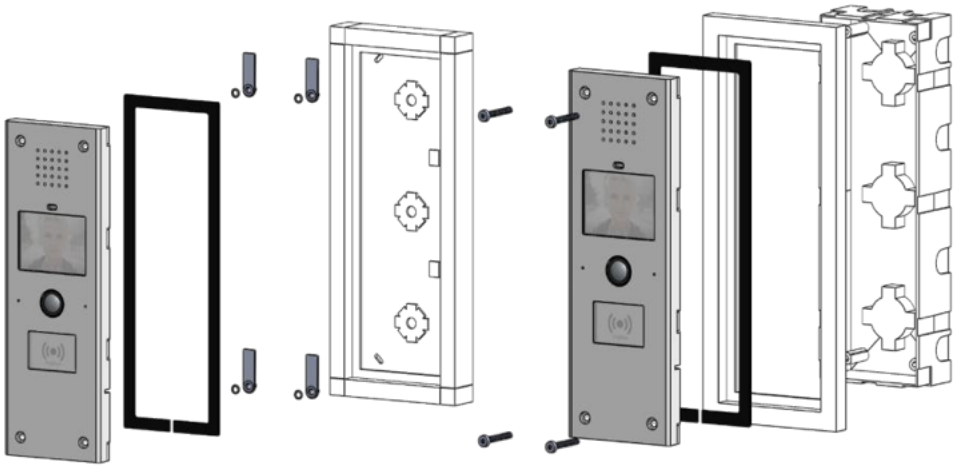


Replacement for existing MOBOTIX

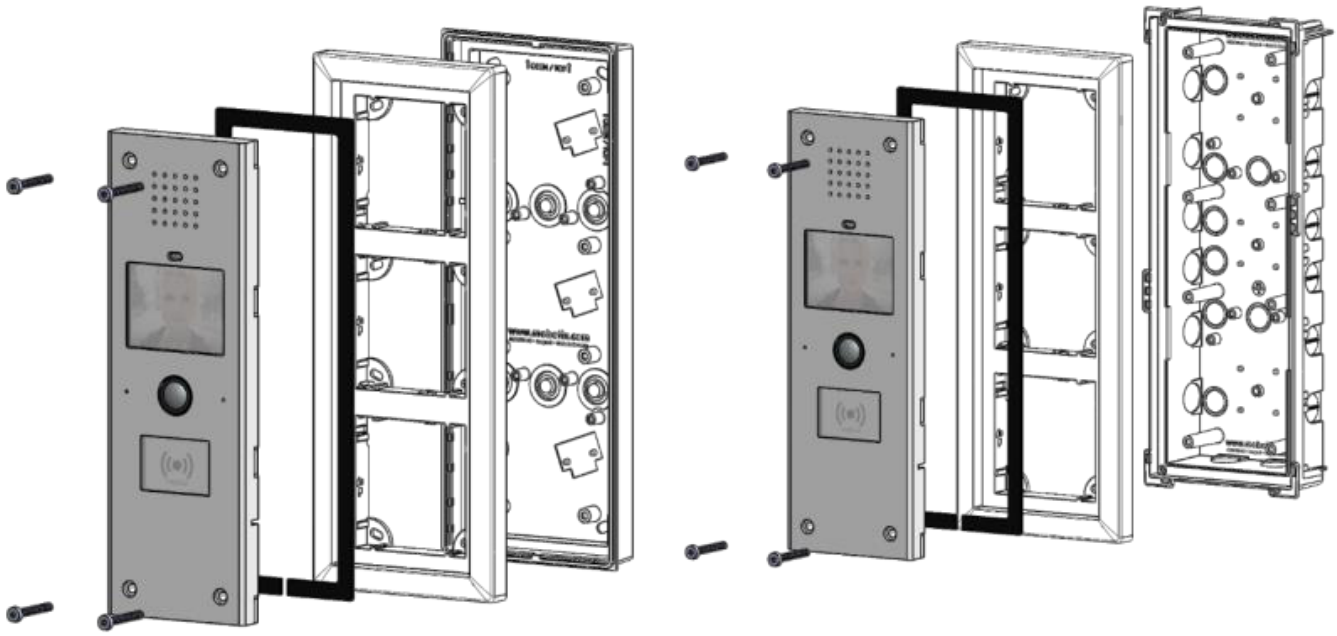


Terminal Version S3 X / NIL

Replacement for existing SIEDLE

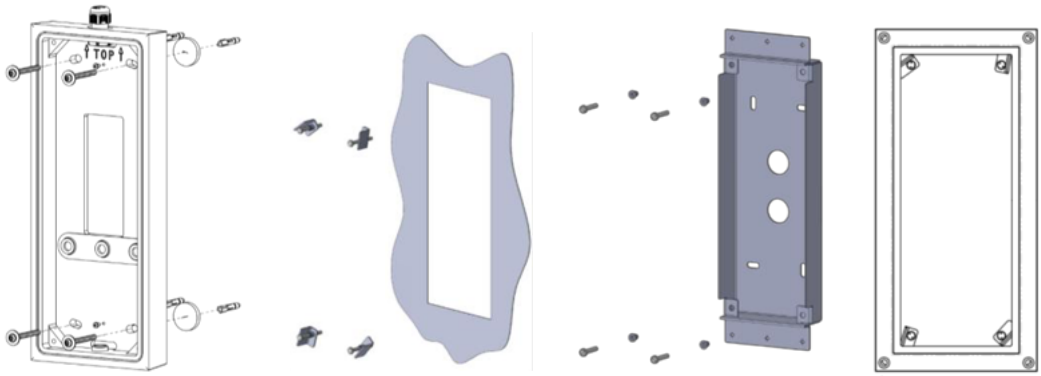


Replacement for existing MOBOTIX

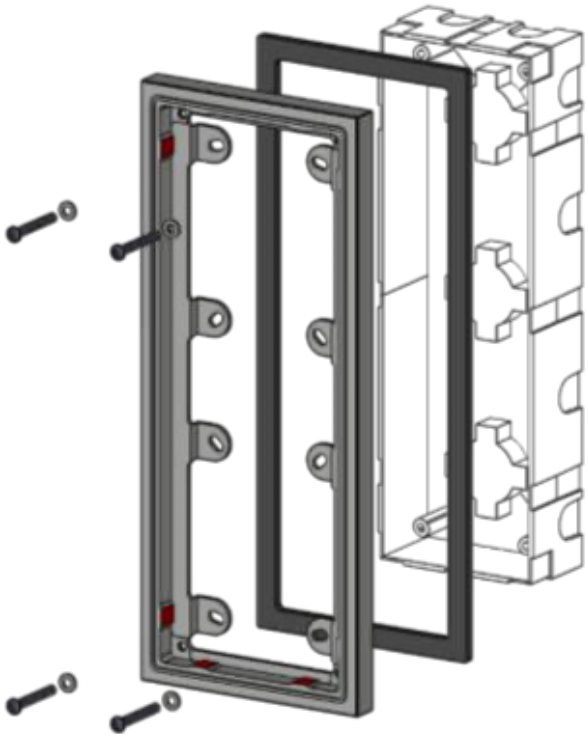


Terminal Version S3 Vario

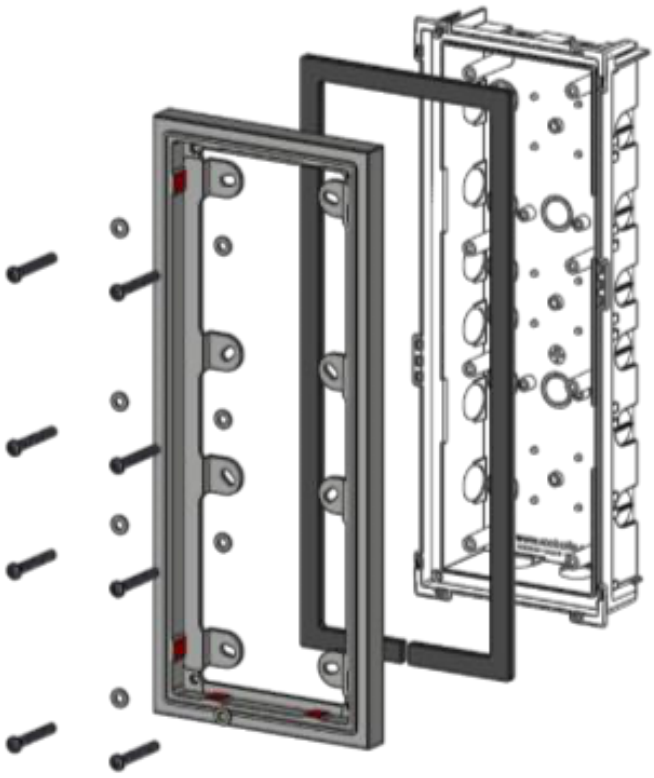
New installation



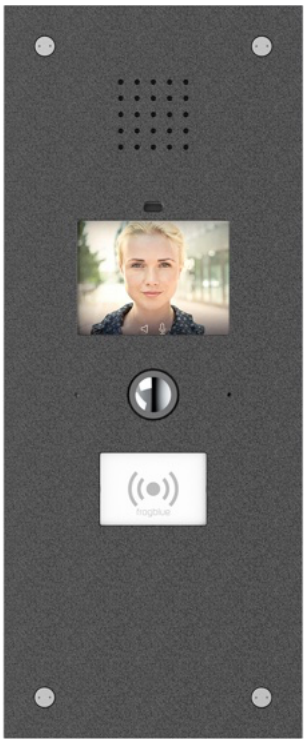
Replacement for existing SIEDLE



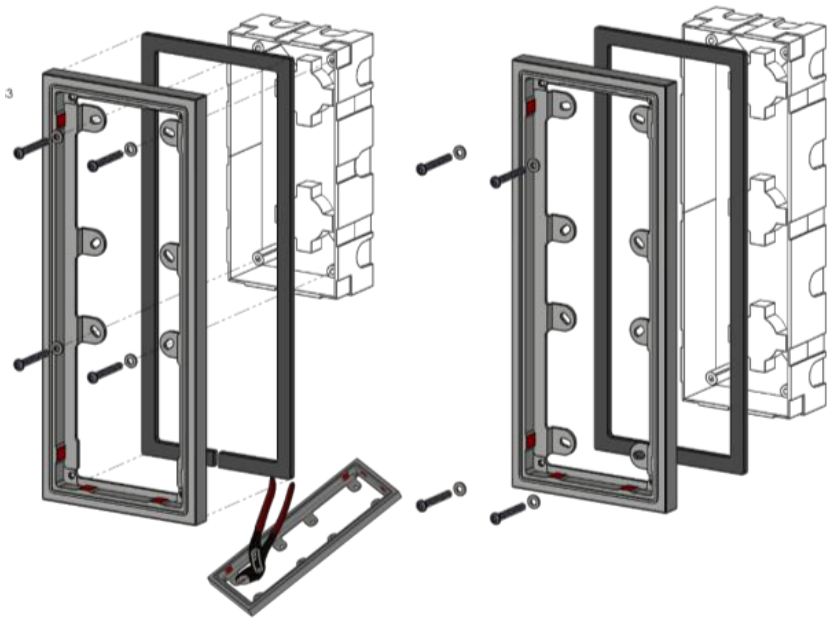
Replacement for existing MOBOTIX



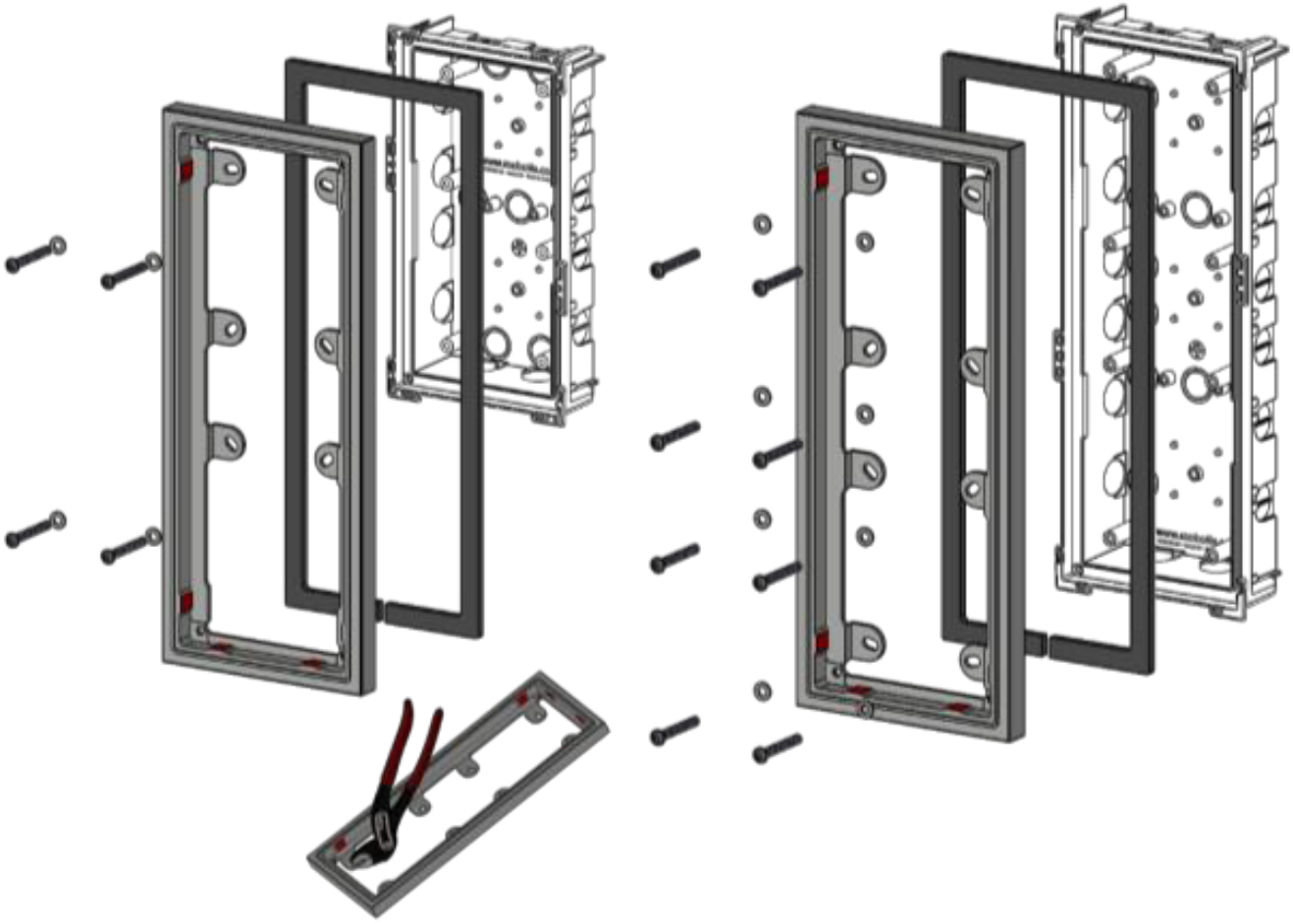
Terminal Version S3 Plus / B1 / B2 / NIL



Replacement for existing SIEDLE

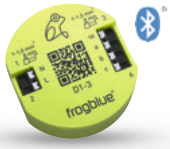


Replacement for existing MOBOTIX



frogblue™

SMART BUILDING TECHNOLOGY GERMANY



We wirelessly link lights, blinds, fans, windows, doors, heating, intercoms, and standard light switches via **Bluetooth**®.

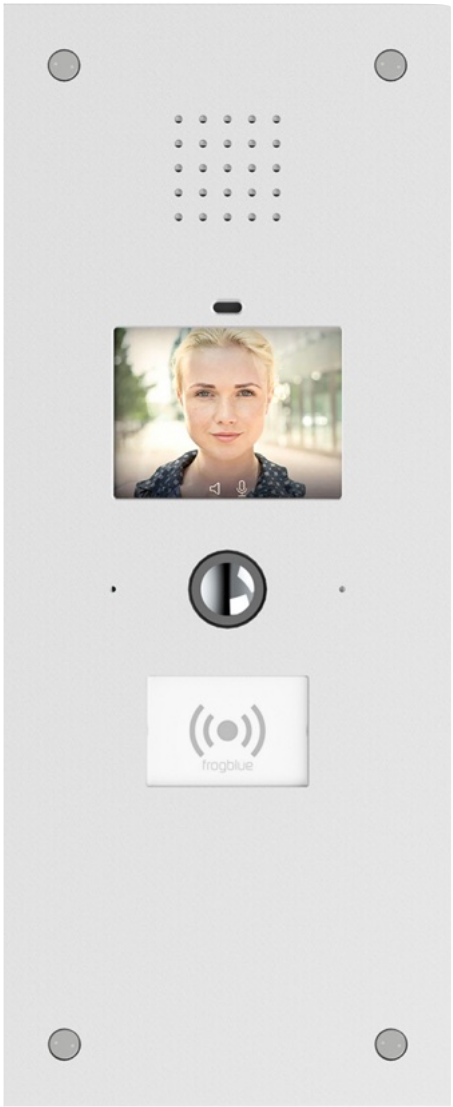
Our frogs are installed behind conventional light switches/outlets and only require 110..240V mains. Control wiring is not required as connections are made virtually.

A single app controls the entire house, either locally via Bluetooth® or worldwide from a smartphone. Frogblue is effortlessly installed without a server or switch cabinet and is child's play to configure.

Our intercom, **frogTerminal**, supports the universal SIP telephony standard, making it fully multi-tenant capable. Together with the integrated RFID reader and a PIN, it enables a decentralised access solution with 3-factor authentication.

Our major strengths are the **reliability and security** of a mature system that can be adapted to the user's needs even years later.

Remark: User interfaces of wall display, frogTerminal and apps are available in more than twenty languages!



The German Experts in Smart, Energy-Efficient Building Solutions and Communication