2TMD041800D0006 | 20.11.2024

Product manual

ABB-Welcome IP

H8138.T-. IP touch 5" outdoor station

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1 Notes on the instruction manual

Please read through this manual carefully and observe the information it contains. This will assist you in preventing injuries and damage to property and ensure both reliable operation and a long service life for the device.

Please keep this manual in a safe place. If you pass the device on, also pass on this manual along with it. ABB accepts no liability for any failure to observe the instructions in this manual.

2 Safety

Warning

Electric voltage!

Dangerous currents flow through the body when coming into direct or indirect contact with live components.

This can result in electric shock, burns or even death.

– Disconnect the mains power supply prior to installation and/or disassembly!
– Permit work on the 100-240 V supply system to be performed only by specialist staff!

3 Intended use

As part of the ABB-Welcome IP system, this device can only be used with accessories from that system.

Security mode

This outdoor station runs in "Security mode" by default to guarantee high security.

In "Security mode", this outdoor station requires a certificate issued by the management software before it can function normally.

Video privacy

Making and saving video recordings can infringe on personal rights! Always observe the applicable legal and labeling requirements for the placement and operation of video components!

4 Environment

Consider the protection of the environment!

Used electric and electronic devices must not be disposed of with household waste.

– The device contains valuable raw materials that can be recycled. Therefore, dispose of the device at the appropriate collecting facility.

4.1 ABB devices

All packaging materials and devices from ABB bear the markings and test seals for proper disposal. Always dispose of the packing materials and electric devices and their components via an authorized collection facility or disposal company.

ABB products meet the legal requirements, in particular the laws governing electronic and electrical devices and the REACH ordinance.

(EU-Directive 2012/19/EU WEEE and 2011/65/EU RoHS)

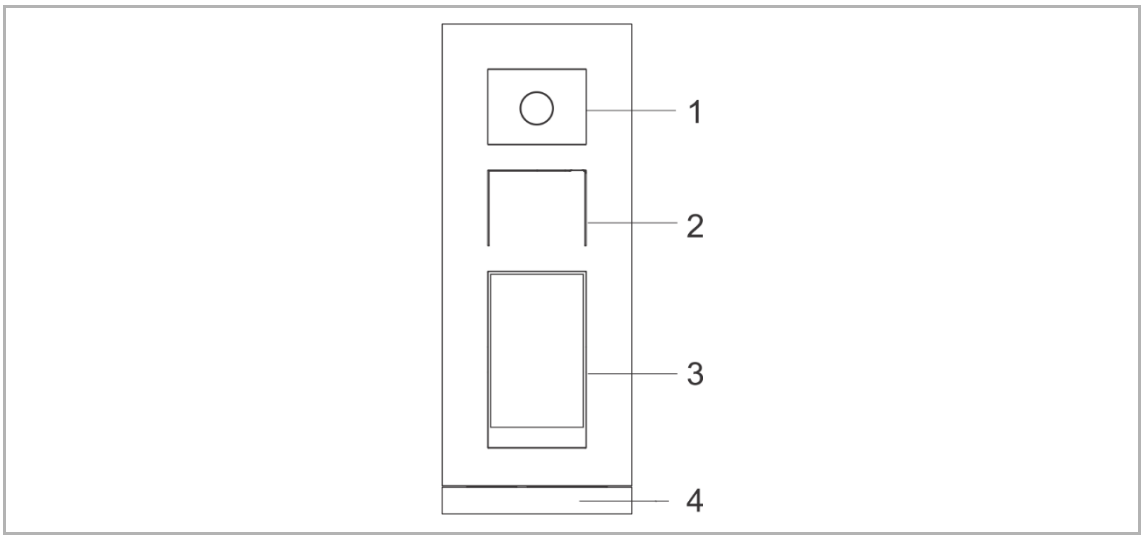
(EU-REACH ordinance and law for the implementation of the ordinance (EG) No.1907/2006)

5 Product description

5.1 Device type

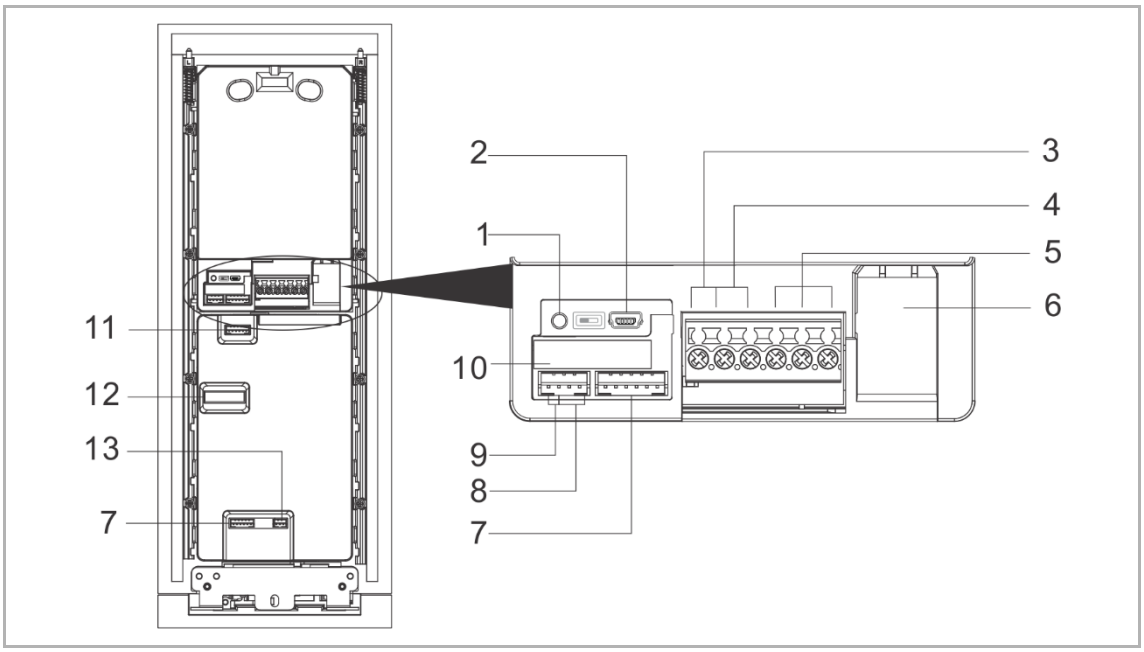
Article number	Product ID	Product name	Colour	Size (HxWxD) Unit: mm
H81381T-S	2TMA130010X0009	IP touch 5" outdoor station	Stainless steel	135 x 349 x 29
H81381T-W	2TMA130010W0013	IP touch 5" outdoor station	White	135 x 349 x 29

5.2 Control elements



No.	Function
1	Camera
2	Speaker and microphone integration
3	5-inch touch display
4	End strip

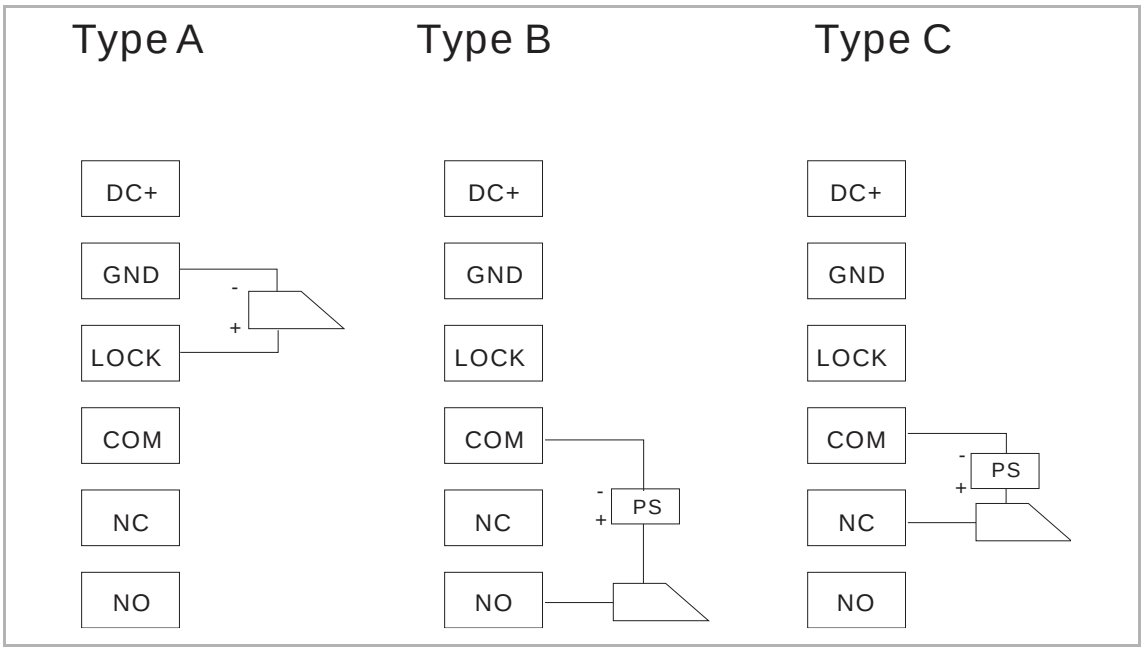
5.3 Terminal description



No.	Function
1	Reset button
2	Micro USB update connector
3	Plug-in clamps (DC+...GND) for standalone power supply
4	Plug-in clamps (LOCK...GND) for door opener
5	Plug-in clamps (COM...NC...NO) for floating output, door opener
6	LAN (PoE)
7	Connector for next module
8	Connector for exit button
9	Connector for the sensor used for door status detection
10	Connector for 5" display module
11	Connector for previous module
12	Connector for A/V module
13	Connector for Wiegand output It supports 26 bits and 34 bits

5.4 Lock type and connection

Lock type	Pic	Operation type	Voltage	Wiring type
Electrical strike lock, 12V		Power on to open	12 V ⎓/~	Type A/B
Electrical strike lock, 24V		Power on to open	24 V ⎓/~	Type B
Electrical rim lock, 12 V		Power on to open	12 V ⎓	Type A/B
Electrical mortise lock		Power off to open	12 V ⎓	Type C
Magnetic lock		Power off to open	12/24 V ⎓	Type C



6 Technical data

Designation	Value
Rating voltage	24 V ⎓
Operating voltage range	20-27 V ⎓
Rating current	27 V ⎓, 410 mA 24 V ⎓, 450 mA
Operating temperature	-20 °C…+55 °C
Camera type	CMOS
Camera viewing angle	130°
Resolution ratio	HD (1280 x 720 pixel)
Ambient brightness	<50000 Lux
Power supply for door opener	18 V, 4 A impulse, max. 250 mA holding
Floating output for door opener	230 V ~, 3 A 30 V ⎓, 3 A
Video codec	H.264
Audio codec	G.711
IP level	IP 54
IK level	IK 07

7 Mounting/Installation

Warning

Electric voltage!

Dangerous currents flow through the body when coming into direct or indirect contact with live components.

This can result in electric shock, burns or even death.

– Disconnect the mains power supply prior to installation and/or disassembly!
– Permit work on the 100-240 V supply system to be performed only by specialist staff!

7.1 Requirement for the electrician

Warning

Electric voltage!

Install the device only if you have the necessary electrical engineering knowledge and experience.

– Incorrect installation endangers your life and that of the user of the electrical system.
– Incorrect installation can cause serious damage to property, e.g. due to fire.

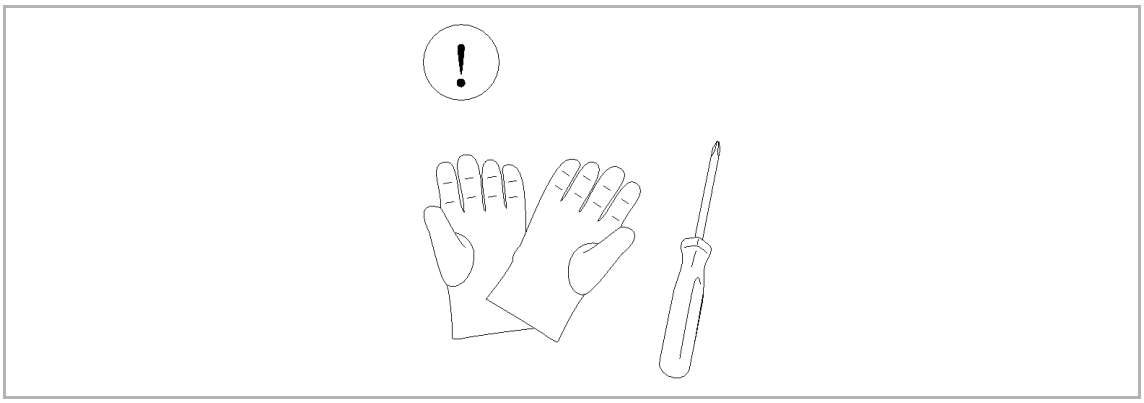
The minimum necessary expert knowledge and requirements for the installation are as follows:

– Apply the "five safety rules" (DIN VDE 0105, EN 50110):
  1. Disconnect
  2. Secure against being re-connected
  3. Ensure there is no voltage
  4. Connect to earth and short-circuit
  5. Cover or barricade adjacent live parts.
– Use suitable personal protective clothing.
– Use only suitable tools and measuring devices.
– Check the type of supply network (TN system, IT system, TT system) to secure the following power supply conditions (classic connection to ground, protective grounding, necessary additional measures, etc.).

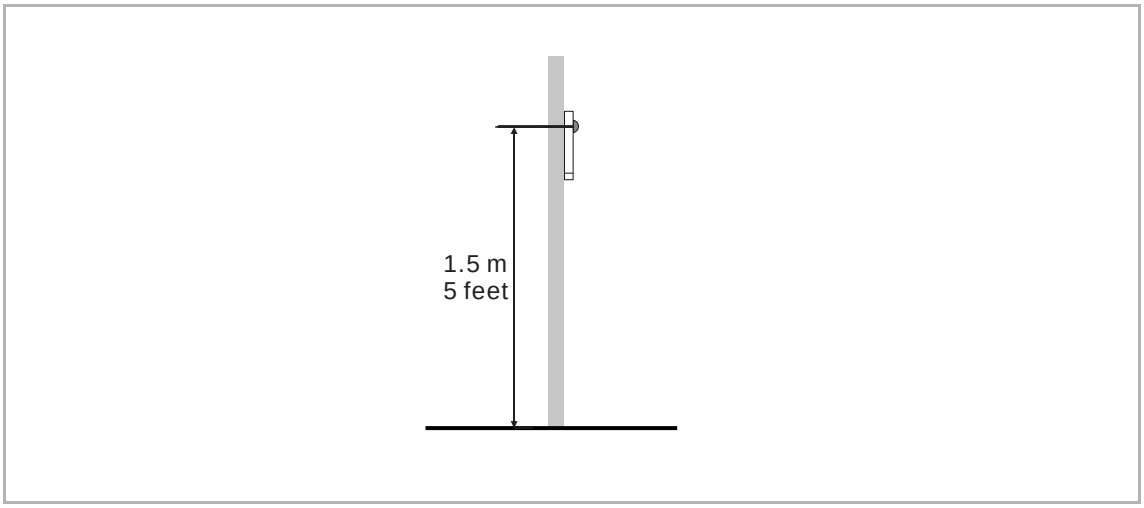
7.2 Mounting

7.2.1 Preparation

Use gloves to protect yourself against cuts.



7.2.2 Installation height

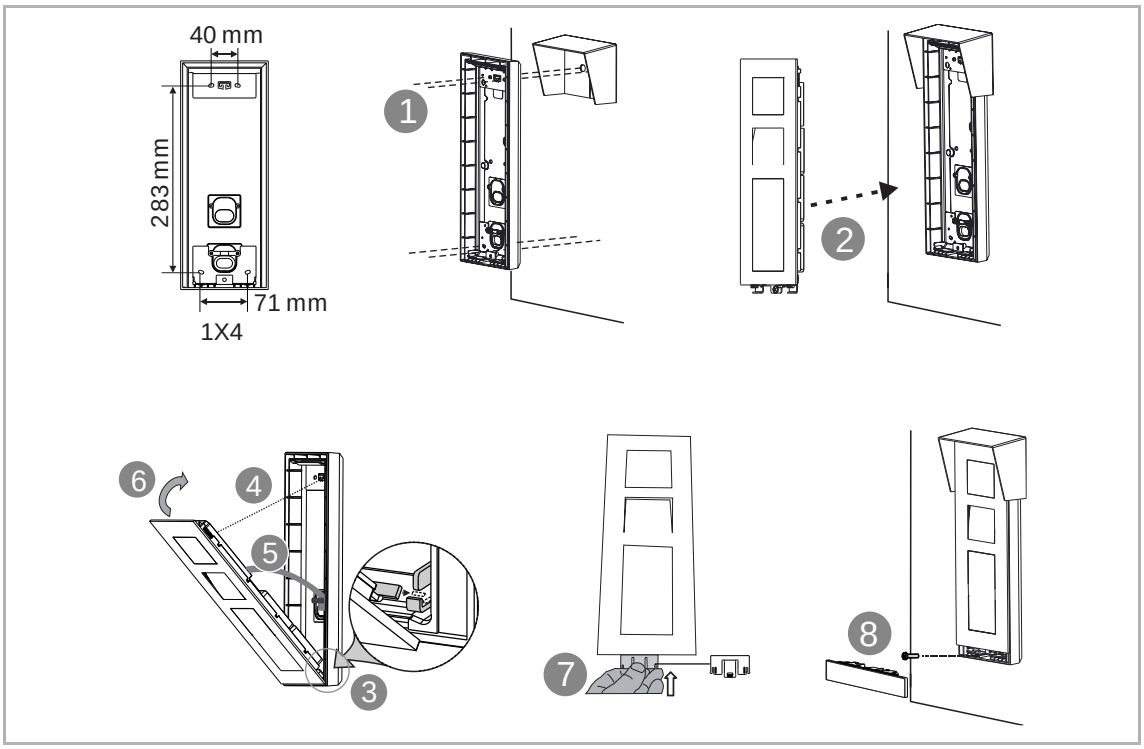


Note

The following installation situations must be avoided without fail to ensure picture quality:

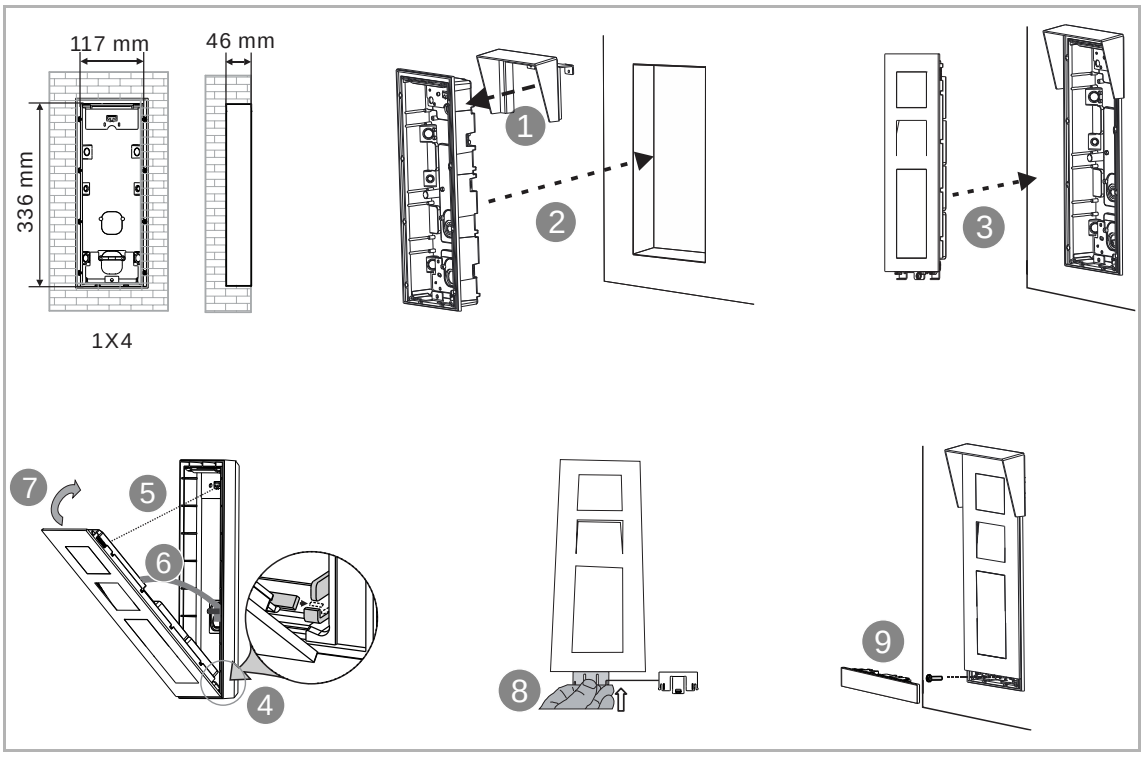
- Direct light
- Direct sunlight
- Extremely bright picture background
- Highly reflective walls on the opposite side of the door station

7.2.3 Surface-mounted installation

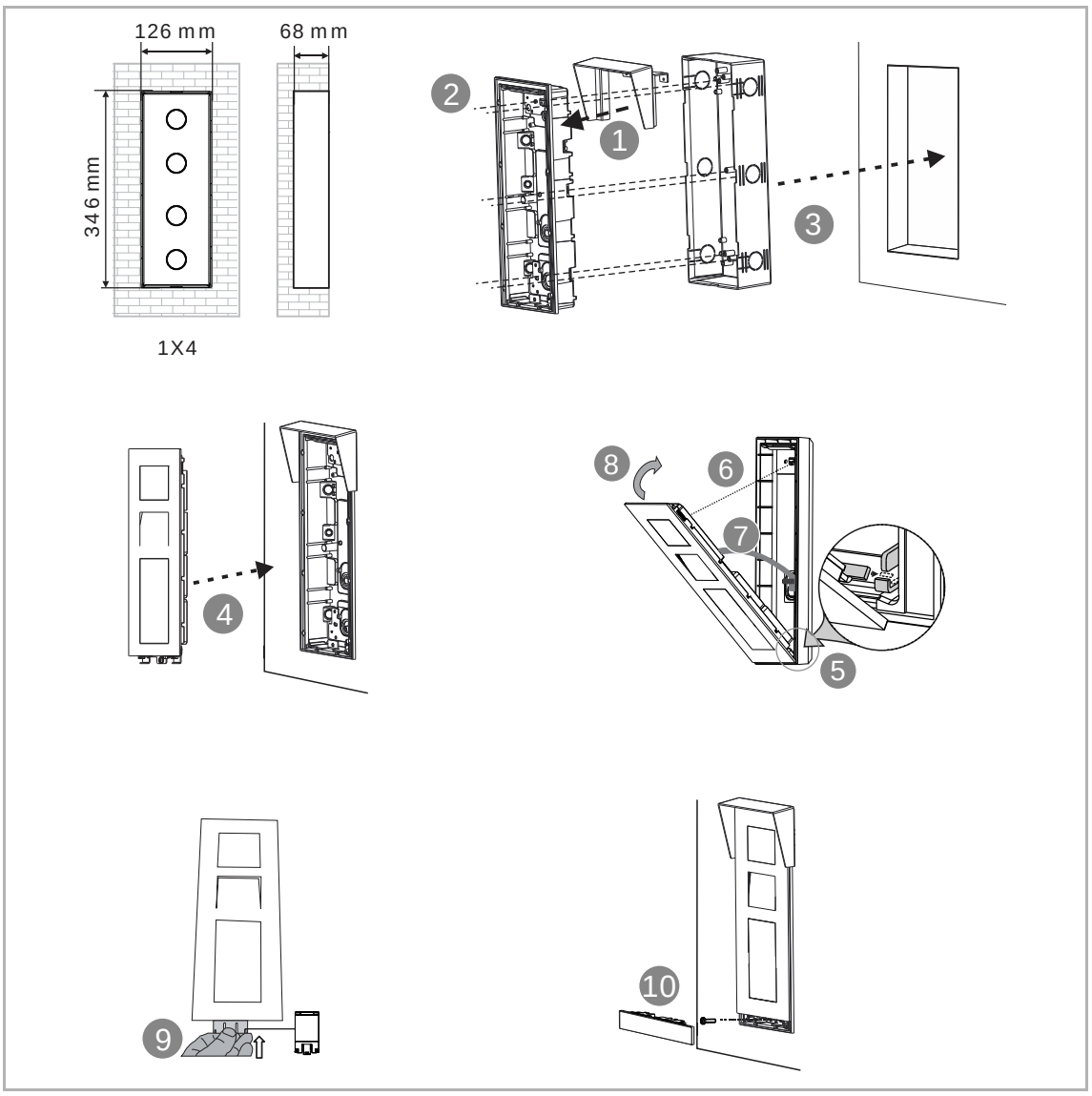


7.2.4 Flush-mounted installation

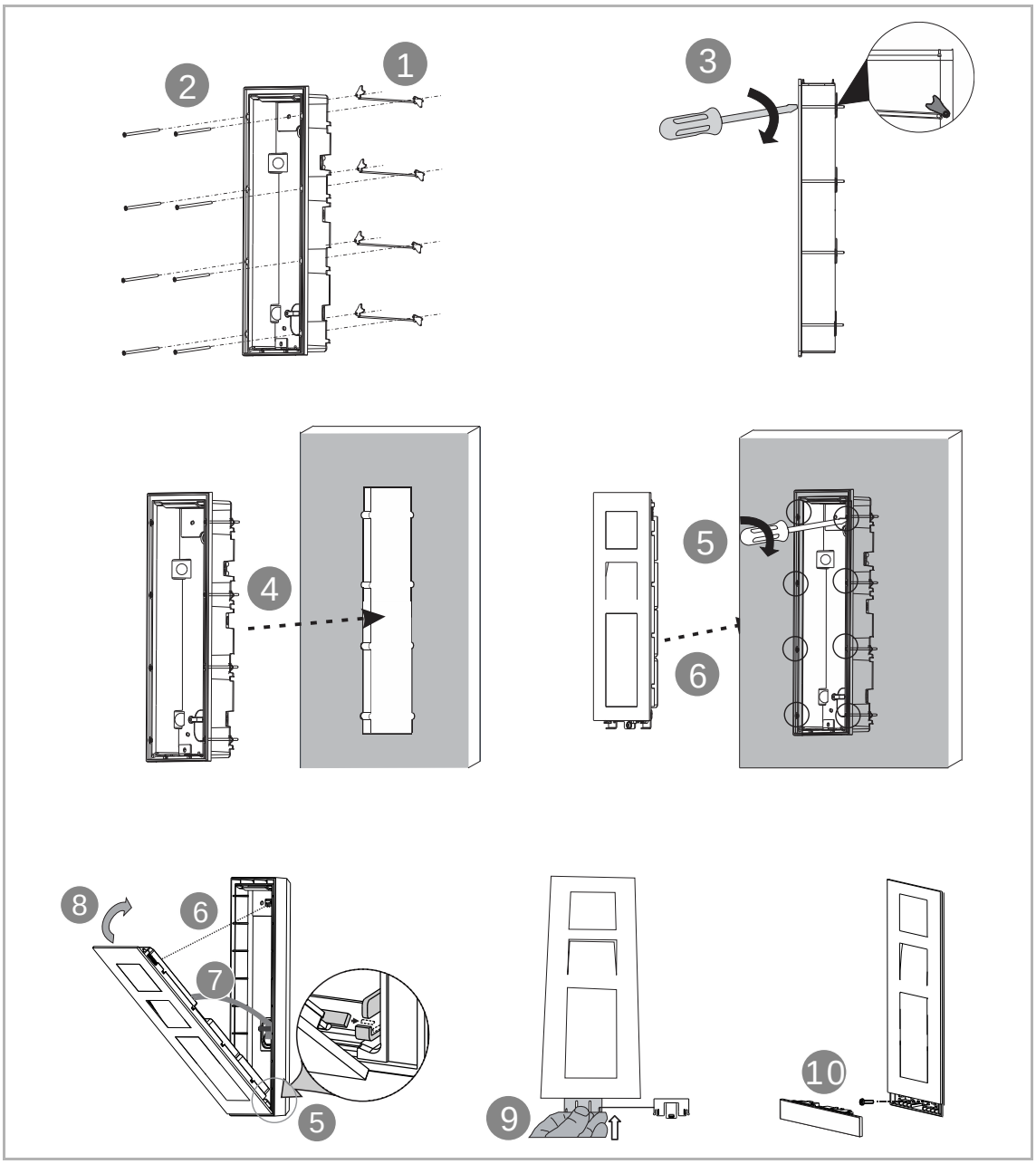
1. Flush-mounted without pre-installation box



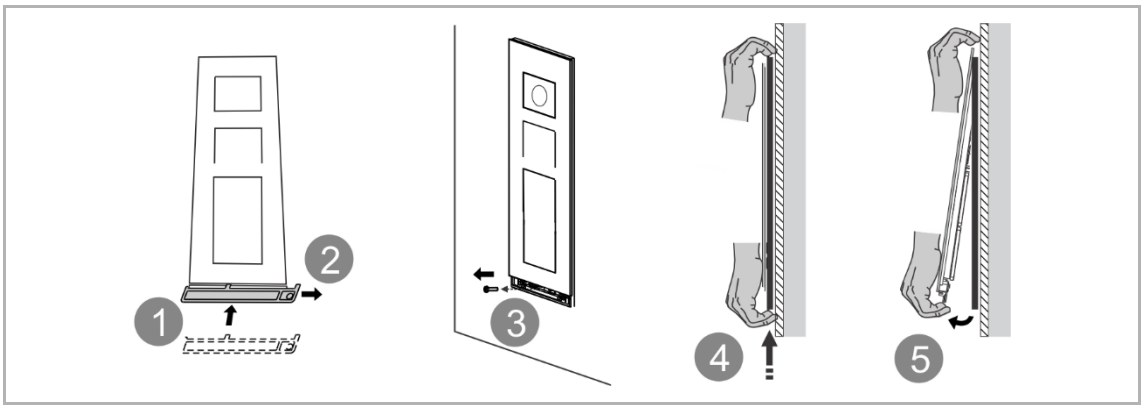
2. Flush-mounted with pre-installation box



7.2.5 Cavity wall installation



7.2.6 Dismantling



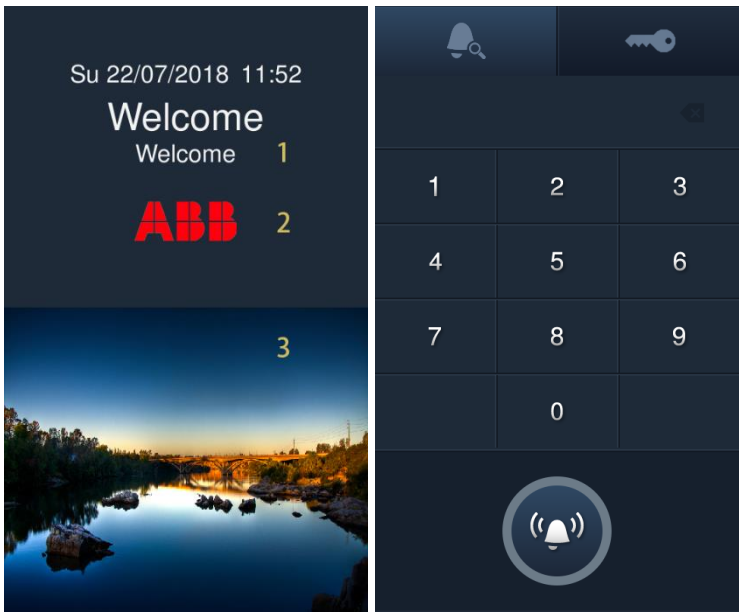
8 Commissioning

8.1 Welcome screen and home screen

This outdoor station will light up and display the welcome screen when someone approaches the station or if the station screen is touched.

Click the bulletin to display it as full screen.

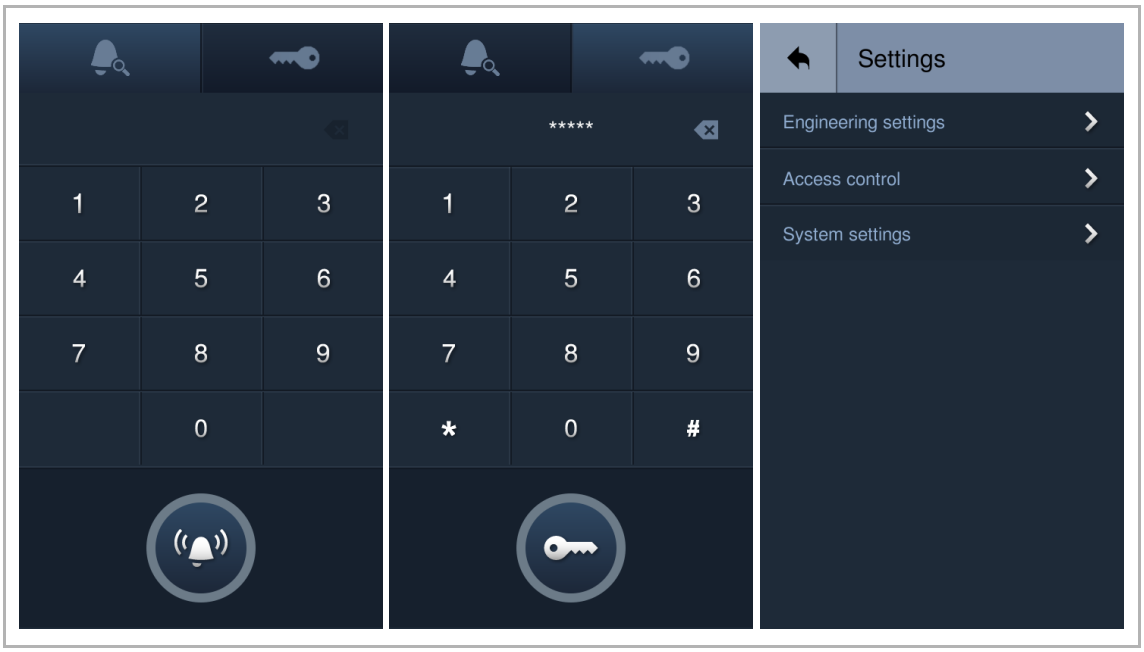
Click the area (not the bulletin) to access the home screen (see the picture below on the right).



No.	Function
1	**Welcome message** If there is no bulletin, the Welcome screen will display according to the welcome screen time. (1...60 s)
2	**Developer information** Developer information can be text or a picture. It is sent from the management software.
3	**Bulletin** If there are any bulletins, the screen will be displayed according to the number of bulletins before accessing the home screen. ▪ Bulletin number = 1, the screen will be displayed for 10 s ▪ Bulletin number = 2, the screen will be displayed for 20 s ▪ Bulletin number = 3, the screen will be displayed for 30 s

8.2 Entering the "Settings" screen

- On the home screen, tap " ", followed by [#] [*] [engineering password] [#] to access the "Settings" screen.



Note

The engineering password must be changed the first time you access the engineering settings. (The system default is 345678. This password should only be used for initial setting work and should be changed to another password. It cannot be used as the actual password)

Note

If an incorrect engineering password is entered 10 times within 5 minutes, no further attempts are permitted for the next 5 minutes.

8.3 Engineering settings

On the "Settings" screen, tap "Engineering settings" to access the corresponding screen.

Level 1	Level 2	Level 3	Option
Engineering settings	**Device attribute**	Block no.	Outdoor station: 001...999
		Device type	▪ Outdoor station ▪ Gate station
		Device no.	▪ Outdoor station: 01...64 ▪ Gate station: 01...32
	System attribute	Call guard unit	▪ On, 01...32 ▪ Off (default)
		Digits of indoor station	▪ 3 digits ▪ 4 digits
		Block digits (Gate station)	▪ 1 digit ▪ 2 digits ▪ 3 digits
		Default call type	▪ Call from address book ▪ Call via keypad
		Call mode	▪ Physical address ▪ Logical address
		Compatible mode	▪ On ▪ Off (Default)
	Change password	Input current password	Input new password

8.4 Access control settings

On "Settings" screen, tap "Access control" to access the corresponding screen.

Level 1	Level 2	Level 3	Option
Access control	**Password**	Private password	▪ On ▪ Off (default)
		Public password	▪ On, 3...8 digits ▪ Off (default)
	Card mode	Safe mode	▪ On (default) ▪ Off
	User card	Enrol	▪ Outdoor station: Maximum 5,000 pcs ▪ Gate station: Maximum 40,000 pcs
		Delete card	
		Delete all	
	Card setting	Copy card to another outdoor station/gate station	Address of outdoor station/gate station
		Unlock type when swiping	Default lock
			Subsidiary lock
			Unlock manually
	Contact	Add	▪ Outdoor station: Maximum 1,200 ▪ Gate station: Maximum 5,000
		Delete all	
		Search	

8.5 System settings

On the "Settings" screen, tap "System settings" to access the corresponding screen.

Level 1	Level 2	Level 3	Option
System settings	**Ringtone settings**	Volume	1...5
		Ringback volume	1...3
		(1) Voice prompts	▪ On ▪ Off (default)
		Ringtone feedback	▪ On (default) ▪ Off
	Display	Turn off the screen	▪ 1 minute ▪ 2 minutes (default) ▪ 5 minutes ▪ 10 minutes
		Touch feedback	▪ On (default) ▪ Off
		Auto-brightness	▪ On (default) ▪ Off (1...10)
		(2) Contacts font size	1...4
	Data and time	Time sync from	▪ On (sync time from management software) ▪ Off (Local setting)
		Set time	hh:mm
		Set date	dd/mm/yyyy
		Time format	▪ 12 hours ▪ 24 hours (default)
		Date format	▪ DD/MM/YYYY (default) ▪ MM/DD/YYYY ▪ YYYY/MM/DD
	Unlock time	Lock-GND	1...10 s
		NO-NC-COM	1...10 s

(1) Voice prompt

If this function is enabled, the outdoor station will play the sound for "Call in progress" during the operation. The language of the voice prompt will be the same as the language setting.

(2) Contacts font size

This function will be available only when the number of contacts $\leqslant$ 3.

Level 1	Level 2	Level 3	Option
System settings	**Default lock**	Lock-GND	
		NO-NC-COM	
		IP actuator	▪ Power lock (ID range: 1...32) ▪ Relay lock (ID range: 1...32)
	Subsidiary lock	Lock-GND	
		NO-NC-COM	
		IP actuator	▪ Power lock (ID range: 1...32) ▪ Relay lock (ID range: 1...32)
	Unlock type configuration	QR code unlock	▪ On ▪ Off (default)
	Welcome screen settings	Welcome screen time	1...60 s
		Developer information	▪ On (default) ▪ Off
		Bulletin	▪ On (default) ▪ Off
	Lift settings	Block no.	001...999
		Lift control	▪ On (current floor, -7...+63) ▪ Off (default)
	Language		
	Other	Wiegand output	▪ Off (default) ▪ 26 bits ▪ 34 bits
		Anti-flicker	▪ 60 Hz (default) ▪ 50 Hz
		Door open alarm	▪ On (can be set as "Local alarm") ▪ Off (default)
		Temper alarm	▪ On ▪ Off (default)
		Forward to guard unit	▪ On ▪ Off (default)
		(1) Display Resident's flat details	▪ On (default) ▪ Off
	Reset user settings	Reset	

(1) Display Resident's flat details

This function will be available only when the number of contacts ⩾ 2.

Level 1	Level 2	Level 3	Option
System settings	**Help**	Version	▪ Major version ▪ MCU version ▪ Hardware version ▪ Display version
		Serial number	(This number is used to obtain the certificate issued by the management software.)
		Signature	Displays the value if the certificate issued is obtained successfully.
		QR code (Manual)	

9 Operation

9.1 Call a resident via keypad

1. Call a resident via the room number

Precondition

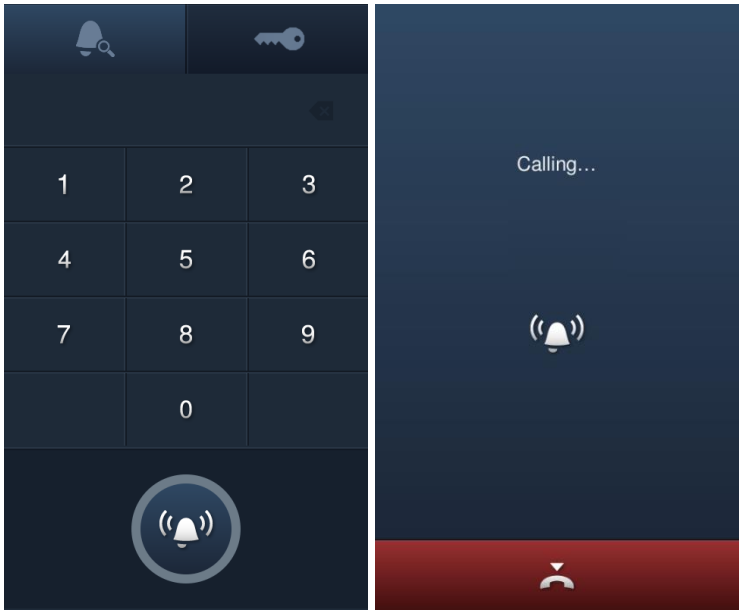
- On the home screen, tap " ", followed by [#] [*] [engineering password] [#] to access the "Settings" screen.

On the "Settings" screen, complete the following settings:

- "Engineering settings">>"System attribute">>"Default call type">>"Call via keypad"
- "Engineering settings">>"System attribute">>"Call mode">>"Physical address"

Initiating a call using the room number

On the home screen, enter the room number (e.g. 0101), followed by " " to initiate a call.



2. Call a resident via the specified code

Precondition

- On the home screen, tap " " , followed by [#] [*] [engineering password] [#] to access the "Settings" screen.

On the "Settings" screen, complete the following settings:

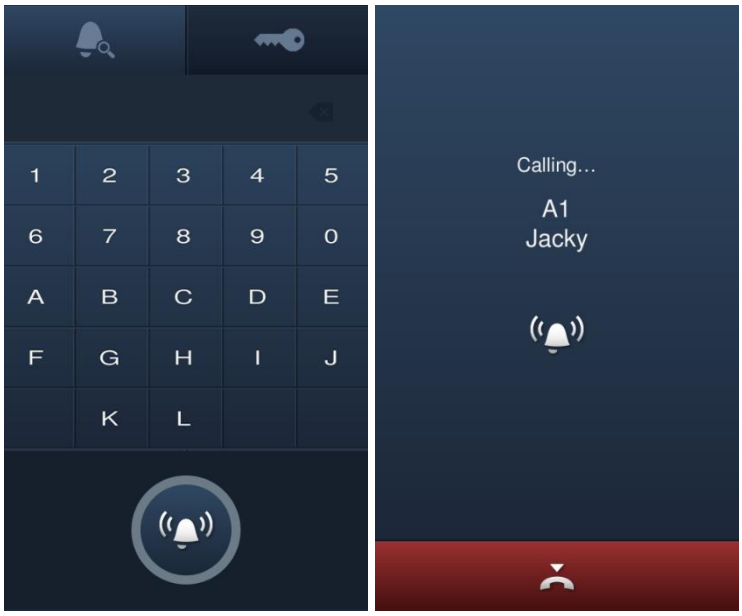
- "Engineering settings">>"System attribute">>"Default call type">>"Call via keypad"
- "Engineering settings">>"System attribute">>"Call mode">>"Logical address"
- "Access control">>"Contact">>"Add">>[number] [Specific code] [Name] (see the picture below)
  - If device type = outdoor station, [number] = room number
  - If device type = gate station, [number] = building number + room number

Note

It is recommended that contacts are created and maintained only using the local outdoor station or only using the management software.

Initiating a call using the specific code

On the home screen, enter the specific code (e.g. A1), followed by " " to initiate a call.



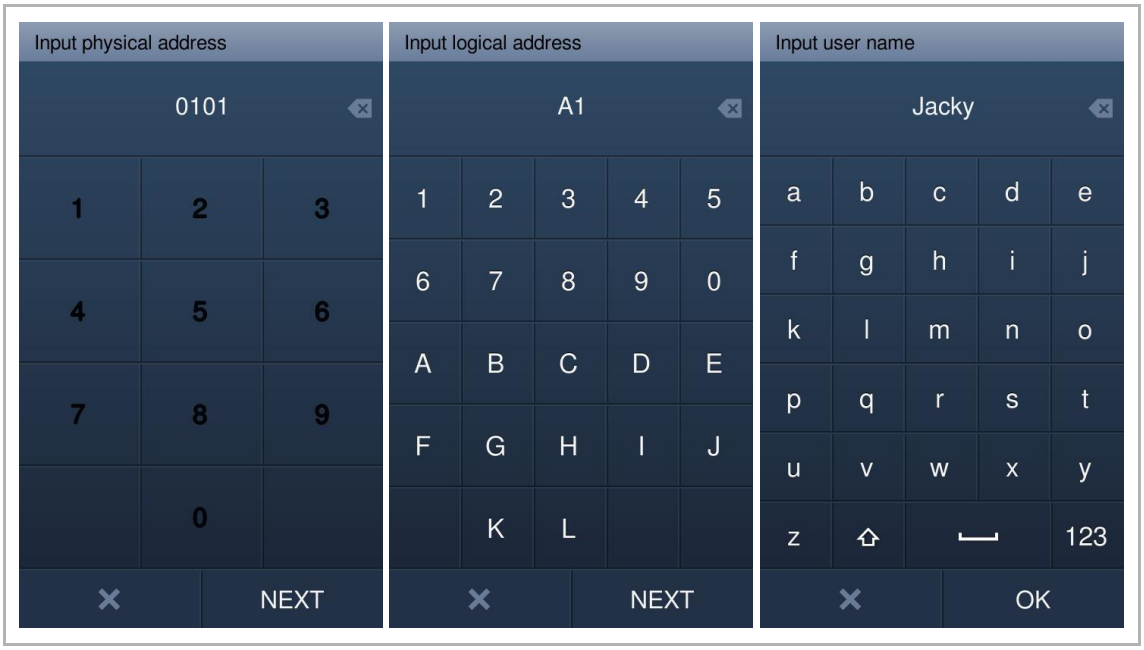
9.2 Call a resident via the address book

Precondition

- On the home screen, tap " ", followed by [#] [*] [engineering password] [#] to access the "Settings" screen.

On the "Settings" screen, complete the following settings:

- "Engineering settings">>"System attribute">>"Default call type">>"Call from address book"
- "Access control">>"Contact">>"Add">>[number] [Specific code] [Name] (see the picture below)
  - If device type = outdoor station, [number] = room number
  - If device type = gate station, [number] = building number + room number

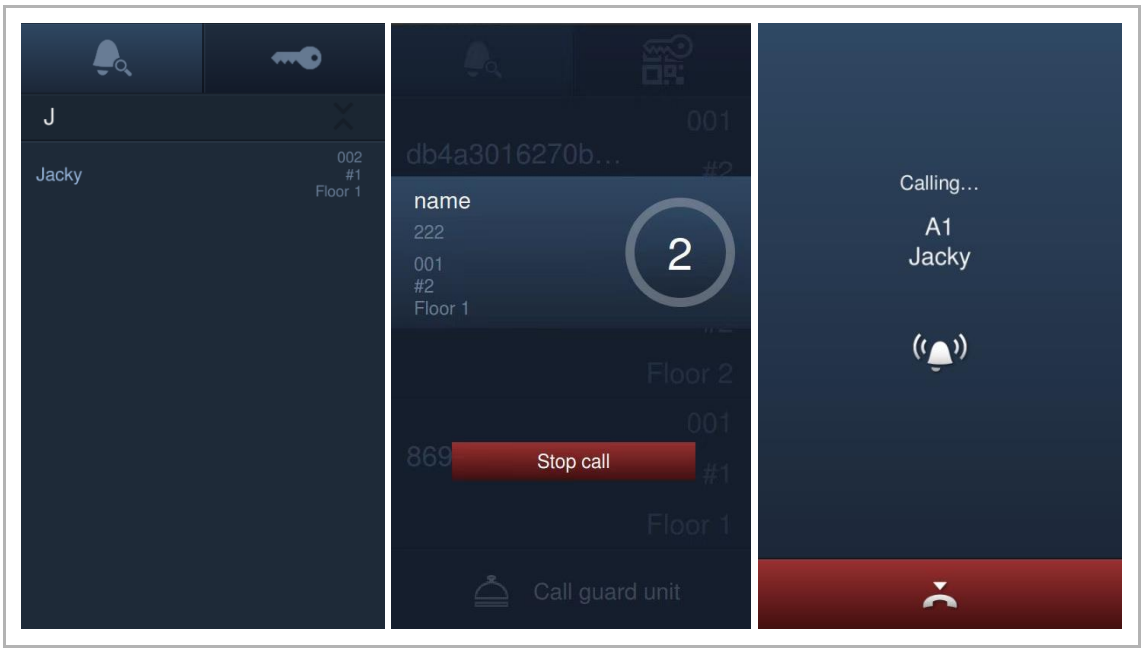


Note
It is recommended that contacts are created and maintained only using the local outdoor station or only using the management software.

Initiating a call from the address book

On the home screen, tap a contact from the address book to access a countdown screen.

- Tap "Stop call" to pause the call.
- Tap the countdown number or call button to continue the call.
- Tap other position to cancel the call.



9.3 Call Guard Unit

Precondition

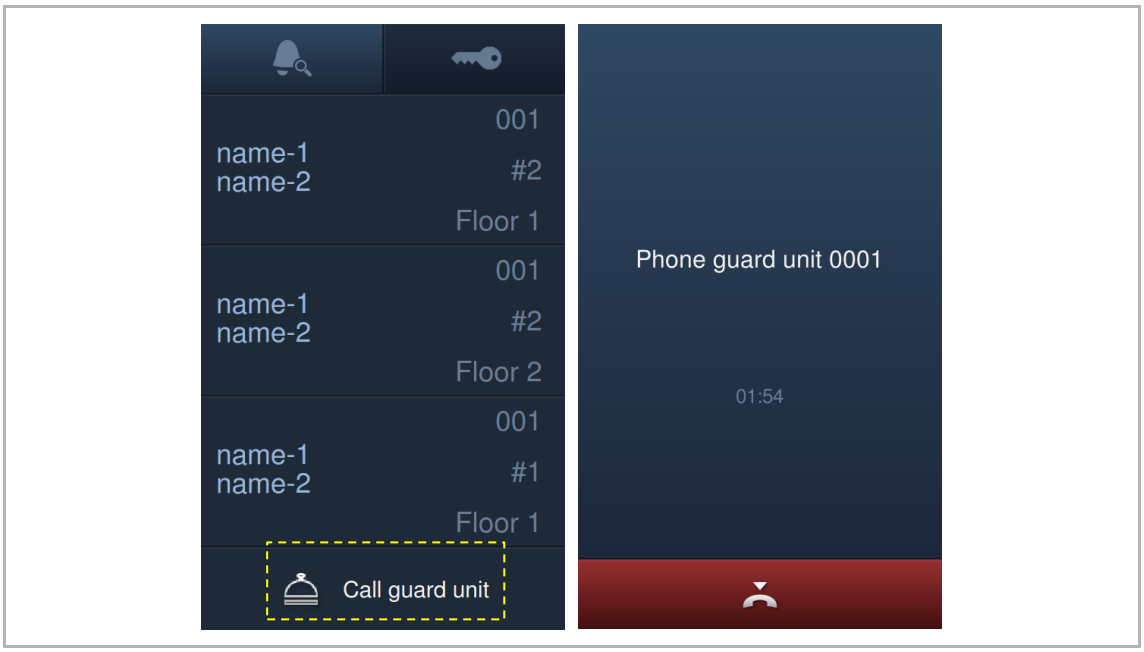
- On the home screen, tap " ", followed by [#] [*] [engineering password] [#] to access the "Settings" screen.

On the "Settings" screen, complete the following settings:

- "Engineering settings">>"System attribute">>"Call guard unit">>"On">> enter the guard unit number (1~32)

Call guard unit

On the home screen, click "Call guard unit" to initiate a call.



9.4 Releasing the lock by entering a password

9.4.1 Releasing the lock with a password set on the indoor station

Precondition

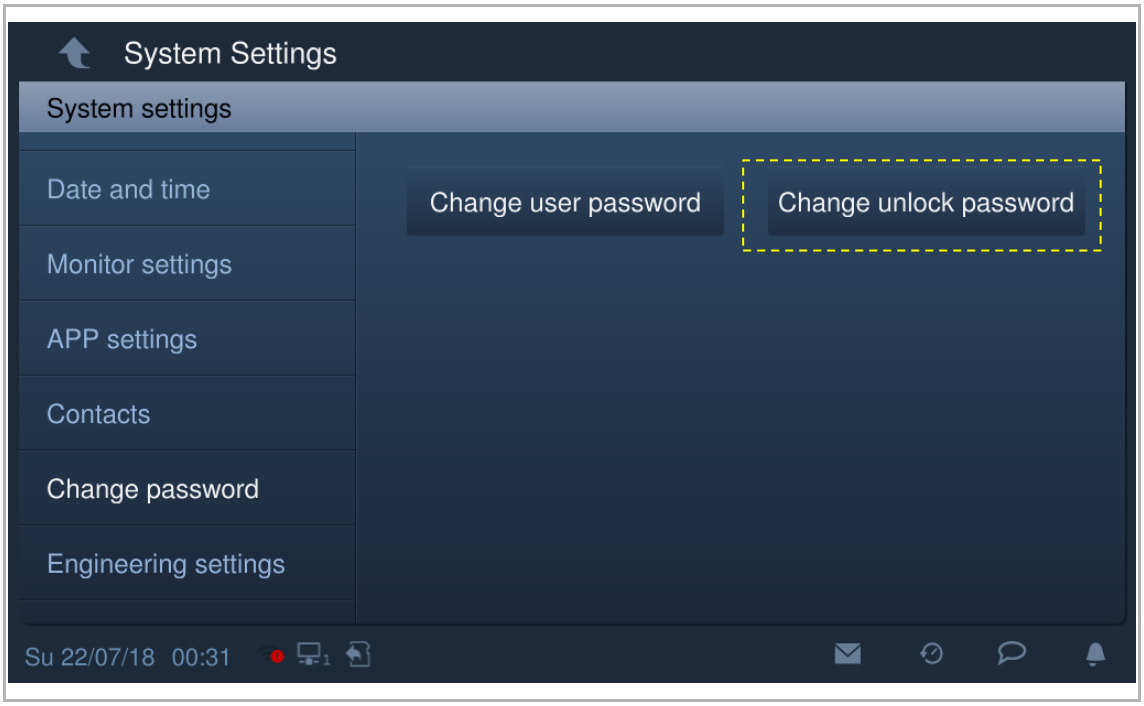
- On the home screen of the outdoor station, tap " ", followed by [#] [*] [engineering password] [#] to access the "Settings" screen.

On the "Settings" screen, complete the following settings:

- "Access control">>"Password">>"Private password">>"On"

On the "System settings" screen of the indoor station, follow the steps below:

- "Change password">>"Change unlock password">>Set a 3~8 digits password.

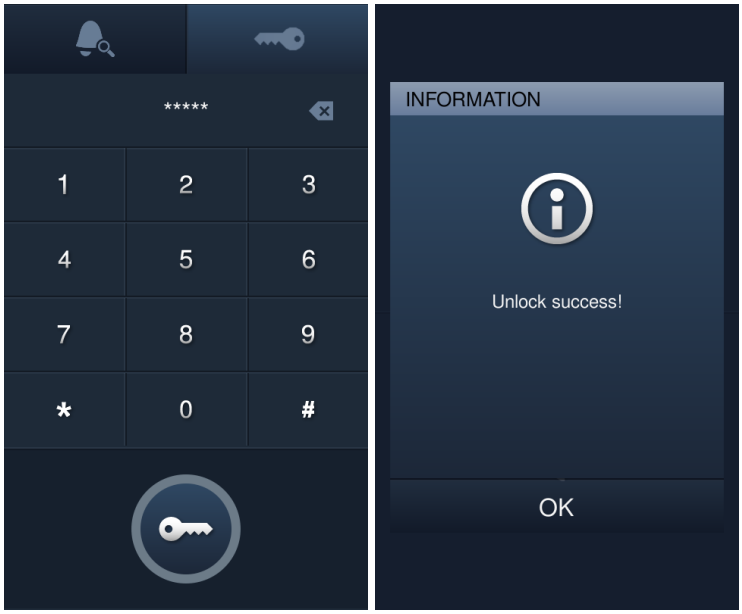


Password rule

This password must not include continuously increasing or decreasing numbers (e.g. 123456, 654321). Three consecutive identical numbers are similarly not permitted (e.g. 123444, 666888).

Releasing the lock by entering the password

- On the home screen of the outdoor station, tap " ", enter [*] [address] [#] [password] [#], followed by " " to release the lock.
  - If call mode = physical and device type = outdoor station, [address] = room number
  - If call mode = physical and device type = gate station, [address] = building number + room number
  - If call mode = logical, [address] = specific code



Wrong password

If an incorrect password is entered 10 times within 5 minutes, no further attempts are permitted for the next 5 minutes.

9.4.2 Releasing the lock with a password set on the local outdoor station

Precondition

- On the home screen of the outdoor station, tap " " ", followed by [#] [*] [engineering password] [#] to access the "Settings" screen.

On the "Settings" screen, complete the following settings:

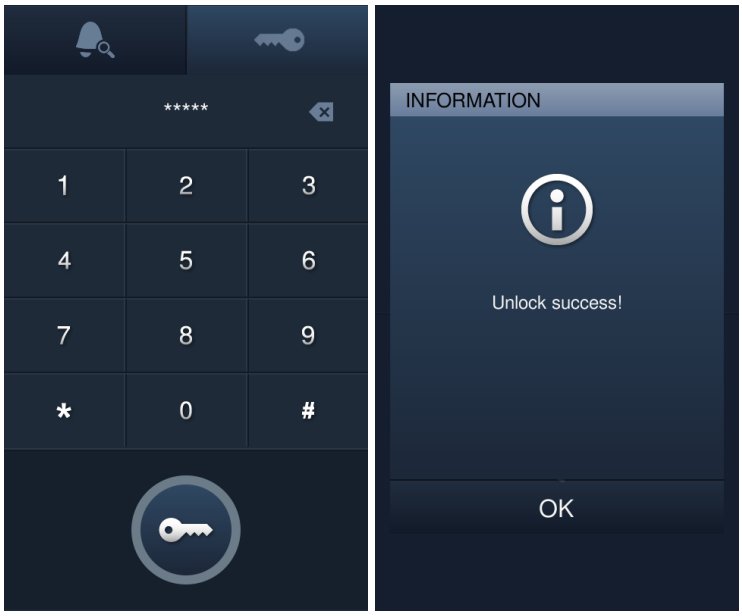
- "Access control">>"Password">>"Public password">>"On">>enter a 3~8 digits password.

Password rule

This password must not include continuously increasing or decreasing numbers (e.g. 123456, 654321). Three consecutive identical numbers are similarly not permitted (e.g. 123444, 666888).

Releasing the lock by entering the password

- On the home screen of the outdoor station, tap " " ", enter [#] [password] [#], followed by " " " to release the lock.



Wrong password

If an incorrect password is entered 10 times within 5 minutes, no further attempts are permitted for the next 5 minutes.

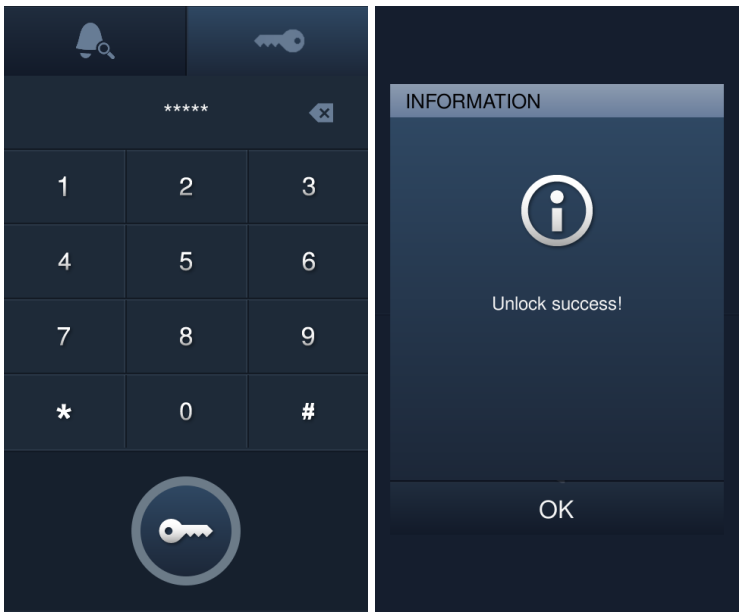
9.4.3 Releasing the lock with a password set on the App

Precondition

You need to create an unlock password on the Welcome App. For more information, please see the Welcome App manual.

Releasing the lock by entering a password

On the " " screen, enter the password, followed by " " to release the lock.



Wrong password

If an incorrect password is entered 10 times within 5 minutes, no further attempts are permitted for the next 5 minutes.

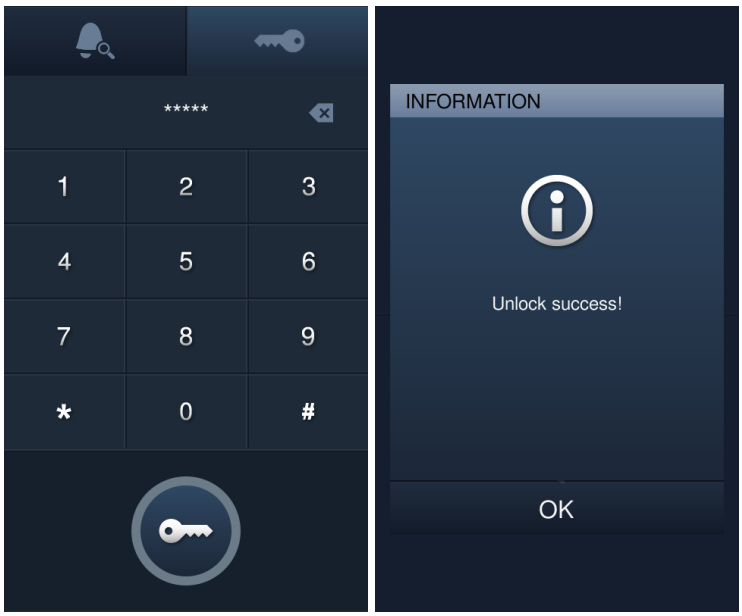
9.4.4 Releasing the lock with a password set in the management software

Precondition

You need to create an unlock password in the management software. For more details, please see the management software manual.

Releasing the lock by entering a password

On the " " screen, enter the password, followed by " " to release the lock.



Wrong password

If an incorrect password is entered 10 times within 5 minutes, no further attempts are permitted for the next 5 minutes.

9.5 Releasing the lock with a QR code set on the App

You need to pair the Welcome App with an indoor station before this function is used.

1. Create an unlock QR code

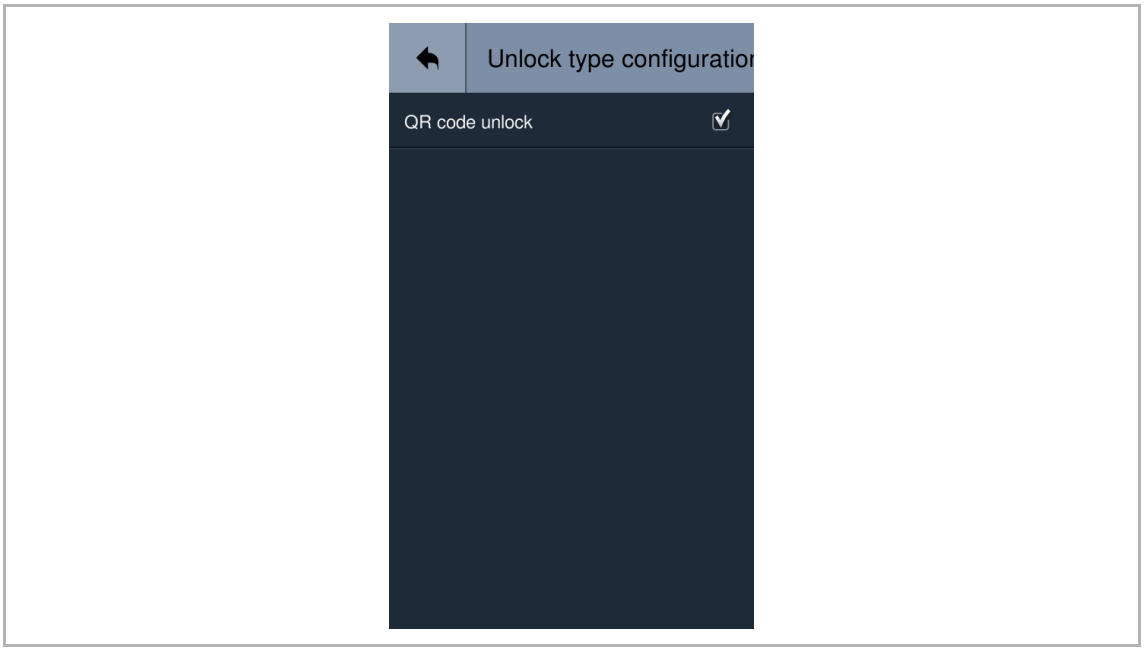
Please see the Welcome App product manual for more details.

2. Use the unlock QR code on the outdoor station

On the outdoor station,

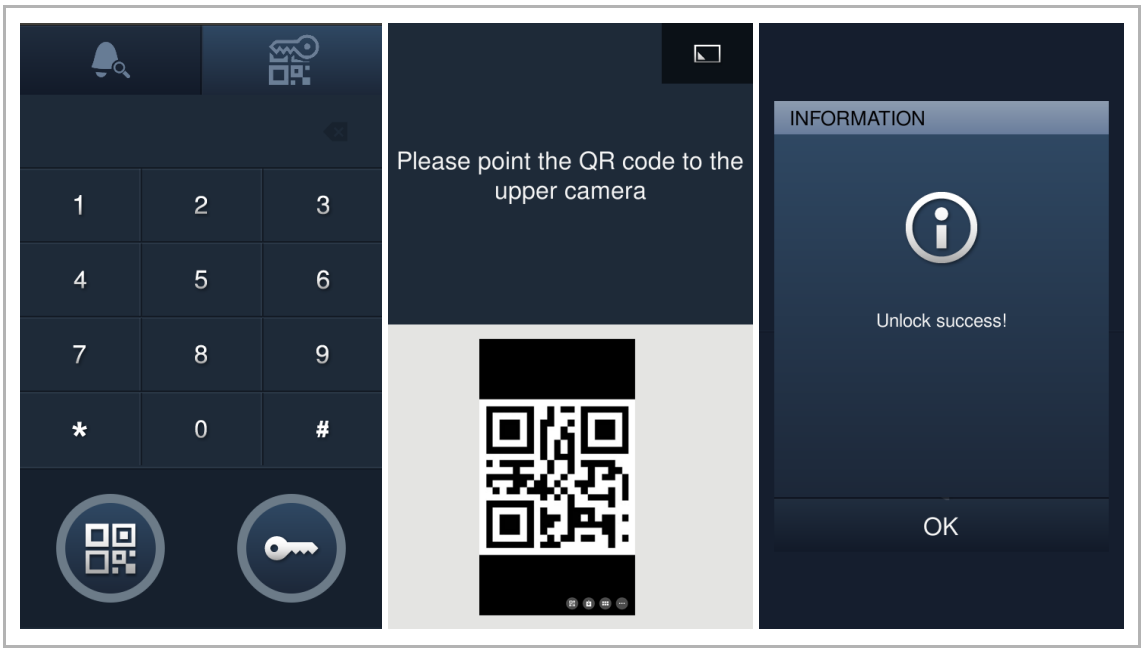
[1] On the home screen, tap " " , followed by enter [#] [*] [engineering password] [#] to access the "Settings" screen.

[2] On the "Settings" screen, tap "System settings", " Unlock type configuration ", " QR code unlock ", "On" to enable the QR code function.



[3] Go back to the home screen, tap " " , a QR code icon will be displayed in the lower left corner on the screen.

[4] Tap the QR code icon on the outdoor station, then place the QR code on your mobile in front of the camera on the outdoor station to release the lock.



9.6 Releasing the lock by swiping IC cards

Precondition

- On the home screen of the outdoor station, tap " ", followed by [#] [*] [engineering password] [#] to access the "Settings" screen.

On the "Settings" screen, complete the following settings:

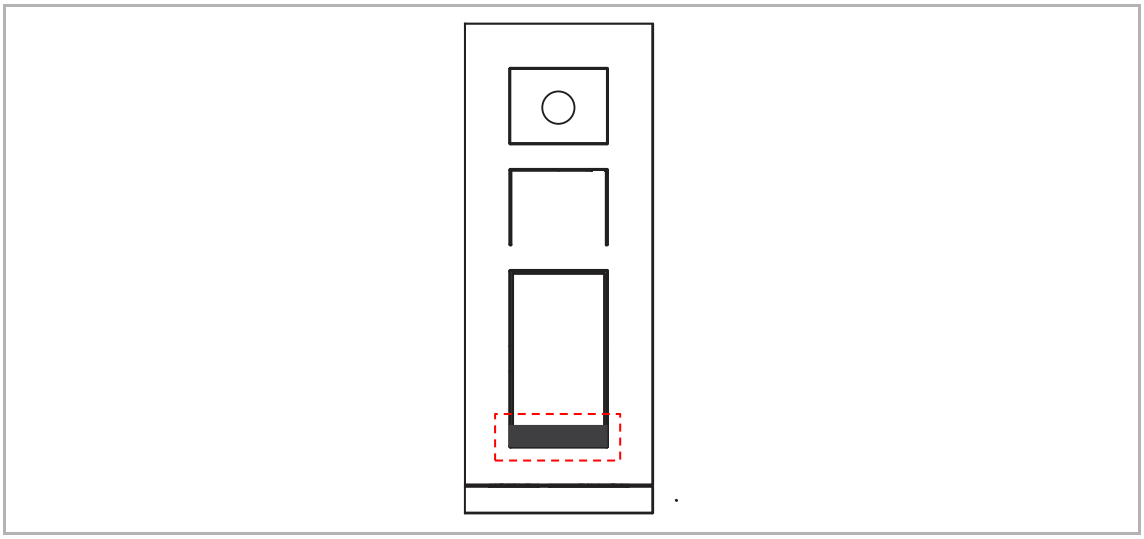
- "Access control">>"Card mode">>"Safe mode">>"On"

If "Safe mode" = "On", this outdoor station will only support IC cards with a token.

- "Access control">>"User card">>"Enrol"

Swipe the IC cards on the specified area (see the diagram below) to register them.

- "Access control">>"Card setting">>"Unlock type when swiping"
  - Select a lock type e.g. "Default lock" or "Subsidiary lock", if "Unlock manually" is selected, you can select a lock type to release on a pop-up window each time when you swipe the IC card on the specified area.



Note
It is recommended that IC cards are created and maintained only using the local outdoor station or only using the management software.

Releasing the lock by swiping an IC card

Swipe a registered IC card on the specified area to release the lock.

IC card specification

Operating frequency	13.56 MHz
Standard	ISO 14443A
Support card	Mifare one S50/S70, Mifare desfire EV1/EV2
Output format	Wiegand 26/34 bit

10 Cyber security

10.1 Disclaimer

H8138.T-. products are designed to be connected and to communicate information and data via a network interface, which should be connected to a secure network. It is customer‘s sole responsibility to provide and continuously ensure a secure connection between the product and customer‘s network or any other network (as the case may be) and to establish and maintain appropriate measures (such as but not limited to the installation of firewalls, application of authentication measures, encryption of data, installation of antivirus programs, etc.) to protect the H8138.T-. product, the network, its system and interfaces against any kind of security breaches, unauthorized access, interference, intrusion, leakage and/or theft of data or information. ABB and its affiliates are not liable for damages and/or losses related to such security breaches, unauthorized access, interference, intrusion, leakage and/or theft of data or information.

Although ABB provides functionality testing on the products and updates that we release, you should institute your own testing program for any product updates or other major system updates (to include but not limited to code changes, configuration file changes, third party software updates or patches, hardware change out, etc.) to ensure that the security measures that you have implemented have not been compromised and system functionality in your environment is as expected.

10.2 Performance and service

Network performance

Type	Value
Ethernet	24 Mbps (37,449 packets/sec)
ARP	12 Mbps (18,724 packets/sec)
ICMP	22 Mbps (34,328 packets/sec)
IP	22 Mbps (34,328 packets/sec)

Port and service

Port	Service	Purpose
5070	UDP	To be used by SIP client.
7777	TCP/UDP	To be used for device management.
10777	TLS	Secure channel for device management
7005	TCP	To be used for connectivity detection when this feature is enabled.
8887	TCP	To be used for firmware update.

10.3 Deployment guideline

All devices need to work in security mode by default and all devices on one system are to be signed by a public CA at commissioning stage; normally management software acts as the CA.

It is suggested that compatible mode is only used when the device needs to communicate with previous generation products. In this mode, data transmission between devices is not encrypted, may lead to data leaks and has the risk of being attacked.

When the user decide to remove the device from system, the user shall reset the device to the factory settings in order to remove all the configuration data and sensitive data on the device. This will prevent sensitive data leaks.

It is recommended to apply "MAC filter" and "Rate limiter” in the switch to prevent DOS attacks.

10.4 Upgrading

Device supports firmware updates via management software, a signature file will be used to verify the authentication and integrity of firmware.

10.5 Backup/Restore

None.

10.6 Malware prevention solution

The H8138.T-. device is not susceptible to malware, because custom code cannot be executed on the system. The only way to update the software is via firmware upgrades. Only firmware signed by ABB can be accepted.

10.7 Password rule

The user must change the engineering password when accessing the engineering settings for the first time. This engineering password must not include continuously increasing or decreasing numbers (e.g. 12345678, 98765432), and three consecutive identical numbers are similarly not permitted (e.g. 123444, 666888).

11 Notice

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Contact us

ABB Xiamen Smart Technology Co., Ltd.
No. 881, FangShanXiEr Road, Xiang'An Industrial Area, Torch Hi-Tech Industrial Development Zone, Xiamen
Tel: +86 592 295 9000
Fax: +86 592 562 5072

www.abb.com

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