Product manual
ABB-Welcome IP

H8138.K-. IP keypad outdoor station

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.

Compatible mode

If there is no management software, this outdoor station needs to run in "Compatible mode" to function normally. It can be set on indoor station. Please refer to the product manual for IP touch 7".

Video privacy

> **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
H81383K-S	2TMA130010X0037	OS, IPkeypad, with display, ID	Stainless steel	135 x 349 x 29
H81384K-S	2TMA130010X0038	OS, IPkeypad, with display, Desfire/IC	Stainless steel	135 x 349 x 29
H81381K-W	2TMA130010W0033	OS, IPkeypad, with display, ID	White	135 x 349 x 29
H81382K-W	2TMA130010W0037	OS, IPkeypad, with display, Desfire/IC	White	135 x 349 x 29

5.2   Control elements
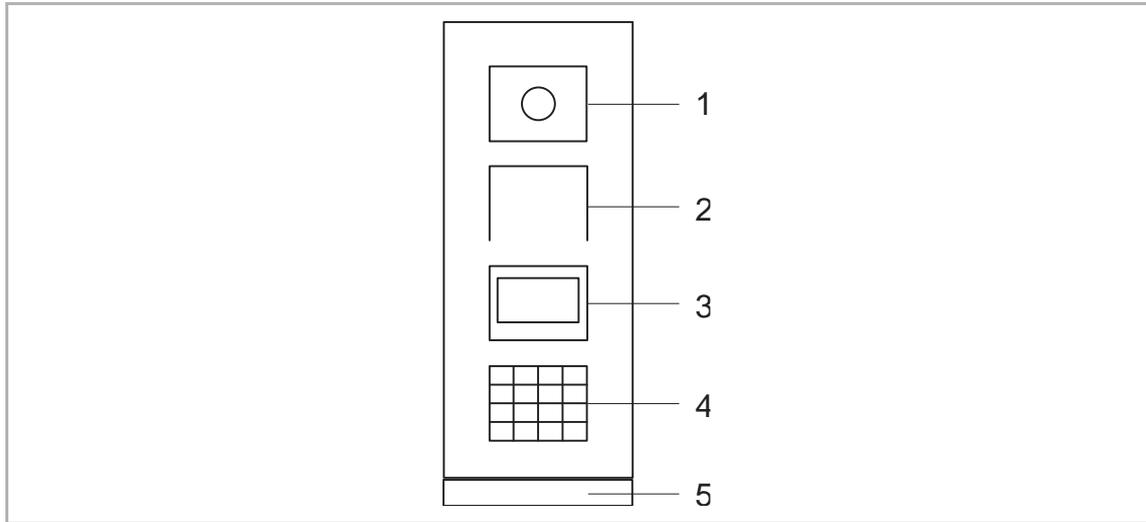
No.	Function
1	Camera
2	Speaker and microphone integration
3	Display module with ID/IC card reader
4	Keypad
5	End strip

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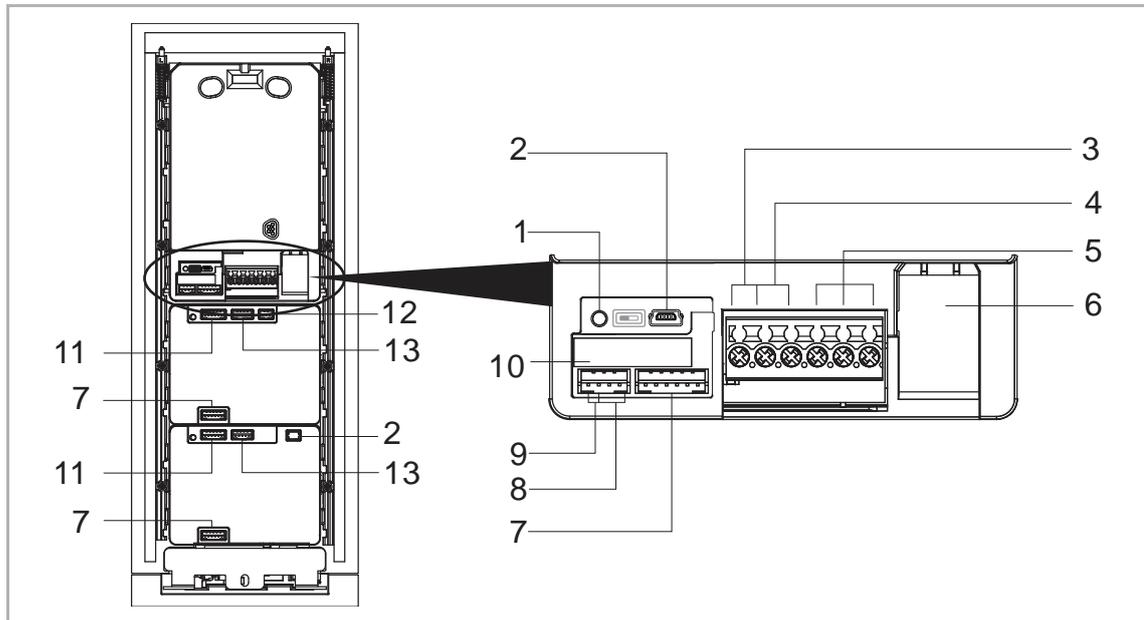
No.	Function
1	Reset button
2	Micro USB update connector
3	Plug-in clamps (DC+-GND) for standalone power supply
4	Plug-in clamps (LOCK-GND) for door opener
5	Plug-in clamps (COM-NC-NO) for floating output, door opener
6	LAN (PoE)
7	Connector for next module
8	Connector for exit button
9	Connector for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

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
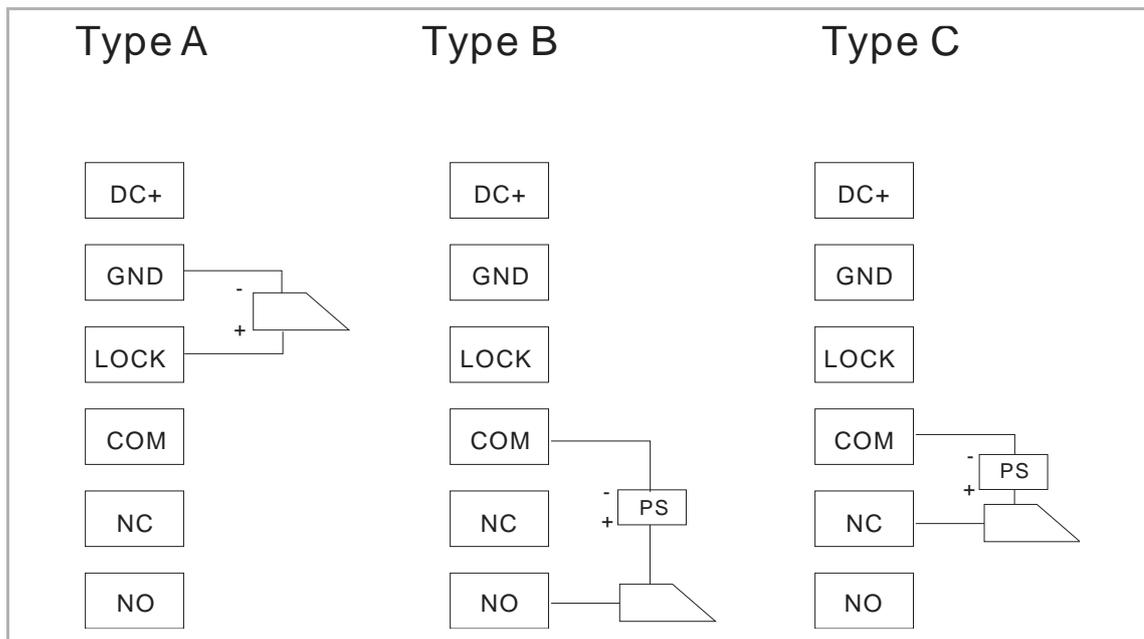
6   Technical data

Designation	Value
Rating voltage	24 VDC
Operating voltage range	20-27 V DC
Rating current	27 V DC, 455 mA 24 V DC, 500 mA
Operating temperature	-40 °C…+55 °C
Product dimensions	135 mm x 348.9 mm x 17.6 mm
Display type	LCD
Display size	57.8 mm ✕ 31.9 mm
Camera type	CMOS
Camera viewing angle	130°
Resolution ratio	HD (1280 x 720 pixel)
Power supply for door opener	18 V, 4A impulse, max. 250 mA holding
Floating output for door opener	230 V AC, 3 A 30 V DC, 3 A
Video codec	H.264
Audio codec	G.711
IP level	IP54
IK level	IK07
Network connection standard	IEEE 802.3, 10Base-T/100Base-TX, auto MDI/MDI-X

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.
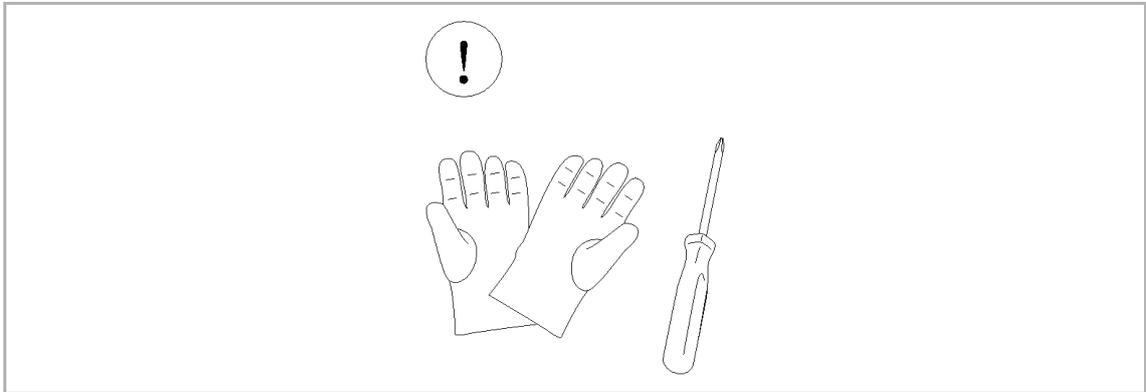
7.2.2   Installation height

1.5 m
5 feet
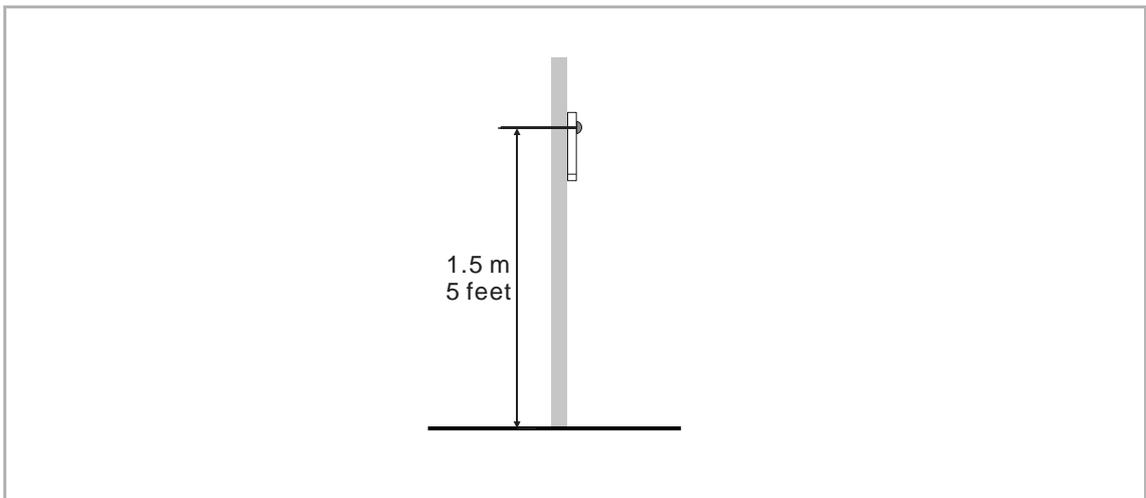
Note

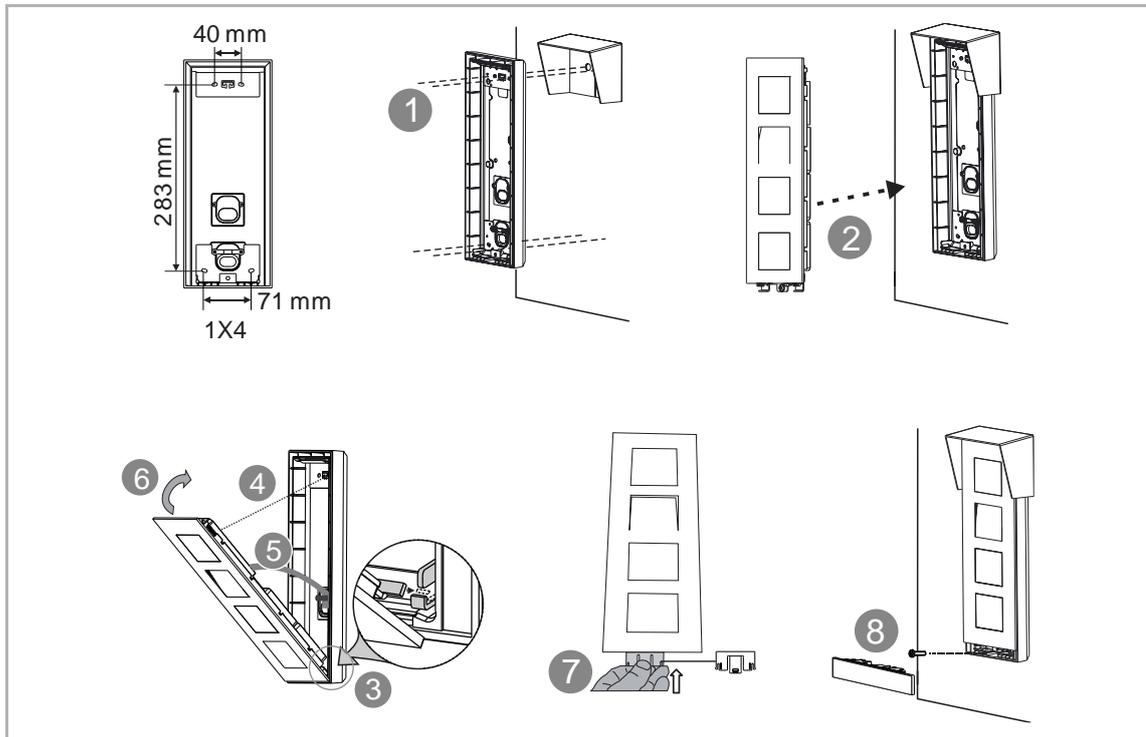The following installation situations must be avoided without fail to ensure picture quality:
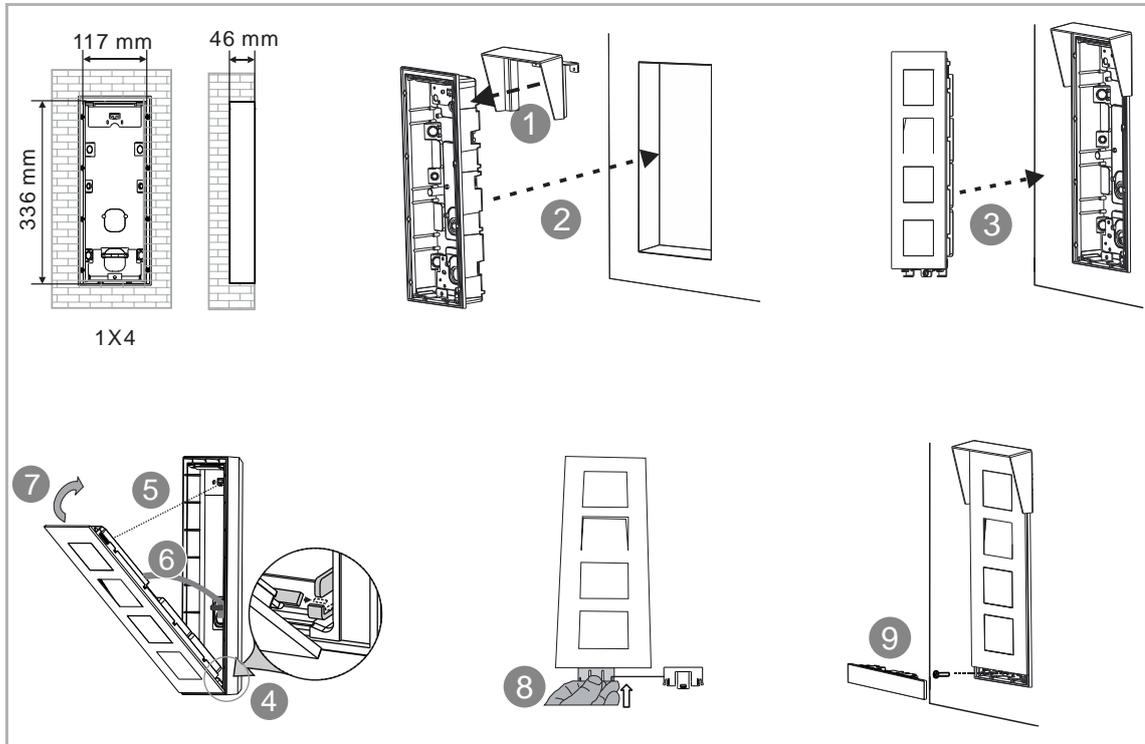
- Direct light
- Direct sunlight
- Extremely bright picture background
- Highly reflective walls on the opposite side of the door station

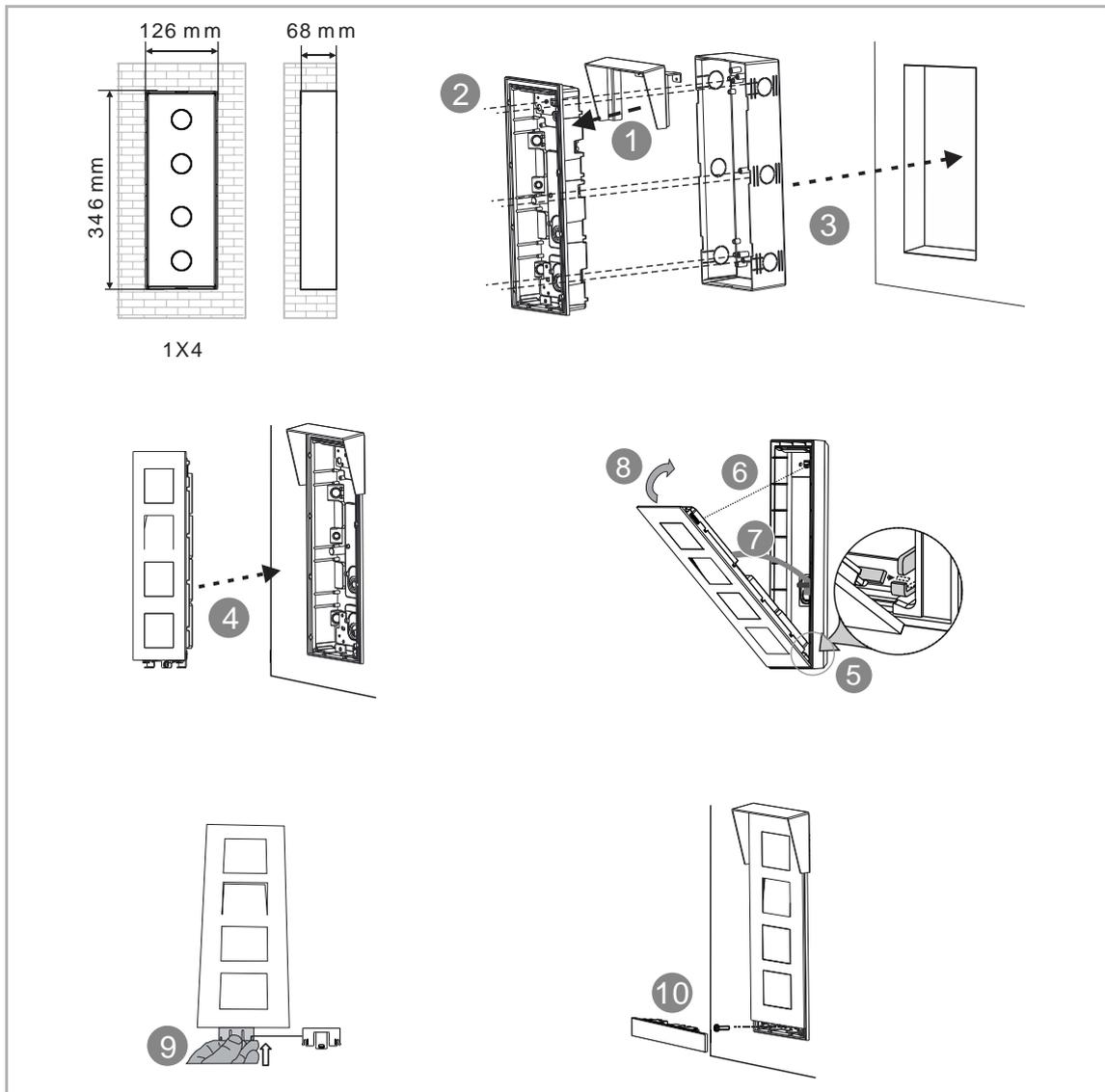### 7.2.3   Surface-mounted installation

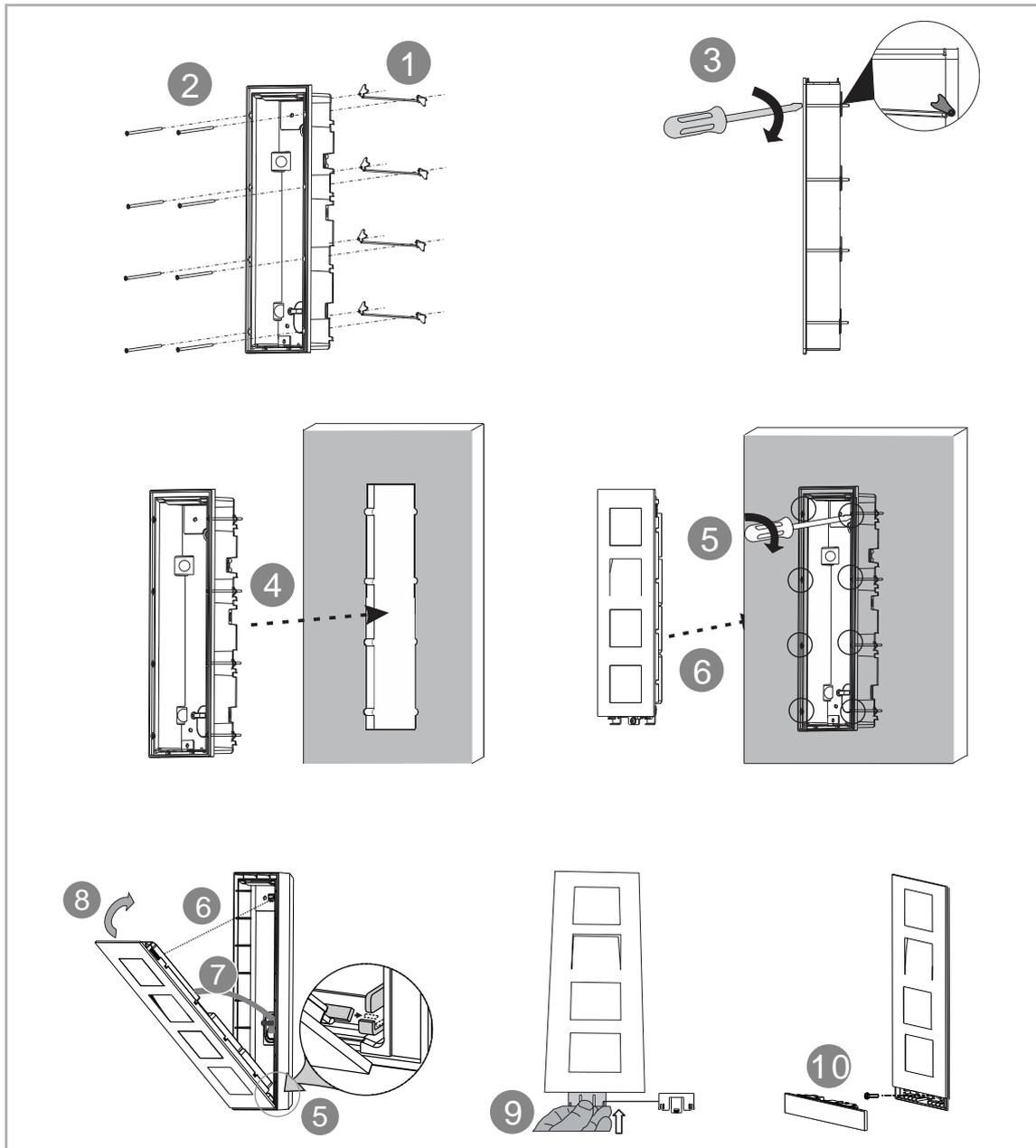### 7.2.4   Flush-mounted installation

1. Flush-mounted without pre-installation box

2. Flush-mounted with pre-installation box

7.2.5 Cavity wall installation

7.2.6   Dismantling
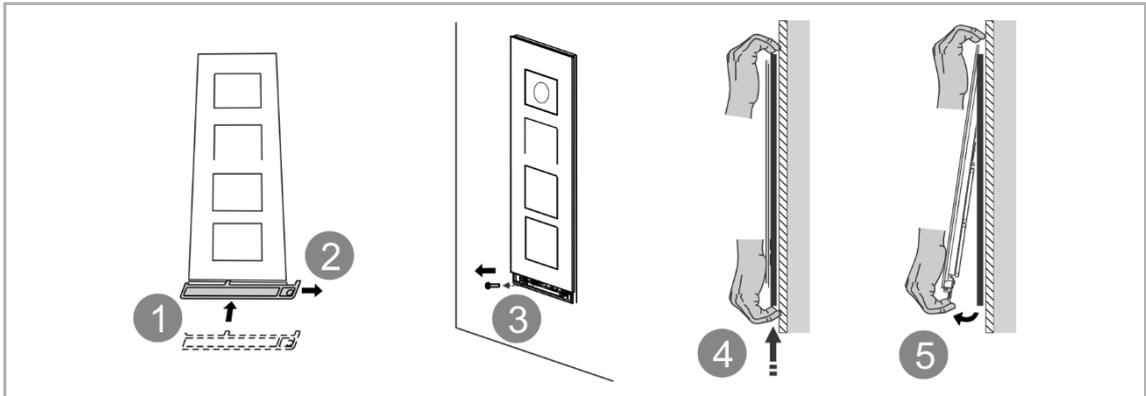
8 Commissioning

8.1 Accessing the "Menu" screen

In standby mode, press [#*] + system password + [#] to access the "Menu" screen.

```
#*
******
```

Note

The system password must be changed the first time you access "Menu" screen. (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 system password is entered 10 times within 5 minutes, no further attempts are permitted for the next 5 minutes.

Password rule

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

Please see the "Engineering settings overview" chapter for more details on changing the system password.

8.2 Engineering settings

On the "Menu" screen, click "Engineering settings" to access the corresponding screen.

Engineering settings overview

Level 1	Level 2	Level 3	Option
Engineering settings	**Device attribute**	Device type	▪ OS = Outdoor station ▪ GS = Gate station
		Device no.	▪ Outdoor station: 01...64 ▪ Gate station: 01...32
	System attribute	IS digits	▪ 3 digits ▪ 4 digits (default)
		Block no. (outdoor station)	001...999
		Block digits (gate station)	▪ 1 digit ▪ 2 digits ▪ 3 digits
		Default GU	01...32
		Digits of indoor station	▪ 3 digits ▪ 4 digits
		Change system password	Input new password
		⁽¹⁾ Mode select	▪ Compatible mode ▪ Security mode
		Call mode	▪ Physical address ▪ Logical address

⁽¹⁾ Mode select

This outdoor station is used in "Security mode" by default to guarantee high security. It requires the certificate issued from the management software before use.

8.3 Access control settings

On the "Menu" screen, click "Access control" to access the corresponding screen.

Access control overview

Level 1	Level 2	Level 3	Option
Access control	**Password setting**	Change public password	The system default is 123456
		[1] Enable public password	▪ On ▪ Off (default)
		[2] Enable private password	▪ On ▪ Off (default)
	Card setting	User card	▪ Add ▪ Delete ▪ Clear all
		[3] Copy to	Destination OS no.
		[4] Card mode (only for H81382K-.)	▪ Standard ▪ Customization (default)

[1] Public password

This password is used by everyone for access via the entrance. It is set on the local outdoor station.

[2] Private password

This password is used by each resident for access via the entrance. It is set on indoor station. Please see the product manual for IP touch 7" for more details.

Password rule

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

[3] Copy to

Card information can only be copied from an outdoor station to the other outdoor station, or a gate station to another gate station.

[4] Card mode

If the card mode is set to "Customization" (default), this outdoor station will only support IC cards with a correct token.

8.4 System settings

On the "Menu" screen, click "System settings" to access the corresponding screen.

System settings overview

Level 1	Level 2	Level 3	Option
System settings	Sound	Voice volume	▪ Low ▪ Relatively low ▪ Medium ▪ Relatively high (default) ▪ High
		Key tone	▪ Off ▪ On (default)
		(1) Voice prompt	▪ Off (default) ▪ On
		Ringtone volume	▪ Off ▪ Low ▪ Medium (default) ▪ High
	Date and time	Local setting	Date and time setting
		Management software sync	
	Language		
	Wiegand settings	▪ Off (default) ▪ 26 bits ▪ 34 bits	
	Choose door	Default lock	▪ L1 LOCK-GND ▪ L2 NO-NC-COM ▪ IPA LOVK-GND (1...32) ▪ IPA NO-NC-COM (1...32)
		Auxiliary lock	▪ L1 LOCK-GND ▪ L2 NO-NC-COM ▪ IPA LOVK-GND (1...32) ▪ IPA NO-NC-COM (1...32)

(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.

Level 1	Level 2	Level 3	Option
System settings	**Unlock time**	L1 LOCK-GND	1...10 s
		L2 NO-NC-COM	1...10 s
	Door status alarm	Off (default)	
		On	▪ Off ▪ On (alarm sound)
	Temper alarm	▪ Off (default) ▪ On	
	Call forward (to guard unit)	Off (default)	
		On	
	Lift settings	Enable lift	▪ Off (default) ▪ On
		Floor no. (outdoor station)	-7...+63
		(2) Block no.	001...999
	Anti-flicker	▪ 50 Hz ▪ 60 Hz (default)	
	Reset factory default	Press [#]	
	Help	Version	

(2) Block no.

This block no. means the number of the lift control module. It must be the same as the number of the connecting outdoor station.

8.5   Logical address settings

The call mode should be set to "logical address" before use.

On the "Menu" screen, click "Logical address settings" to access the corresponding screen.

Add

Enter "Logical address" + [∨] + "Physical address"+ [#] to add a new one.

Modify

Enter "Logical address" + [#], then enter new "Logical address" + [∨] + "Physical address" + [#] to change it.

Delete

Enter "Logical address" + [#] to delete it.

Clear all

Enter [#] to clear all logical address.

9 Operation

9.1 Calling a resident

[1] Device type = OS

In standby mode, enter the room no. (e.g. 0101), press [*] to end the call.

[2] Device type = GS

In standby mode, enter the building no. + room no. (e.g. 020101), press [*] to end the call.

Forward to GU
If "Call forward" is enabled, all calls will be transferred to the guard unit.

9.2 Calling a guard unit

In standby mode, press ⚲ to call the default guard unit. Press [*] to end the call.

9.3 Releasing a lock

9.3.1 Releasing a lock by swiping cards

Please enroll the ID/IC cards before use. Please see the "Access control overview" chapter for more details.

Swipe registered ID/IC cards near the area (see diagram below) to release the lock.
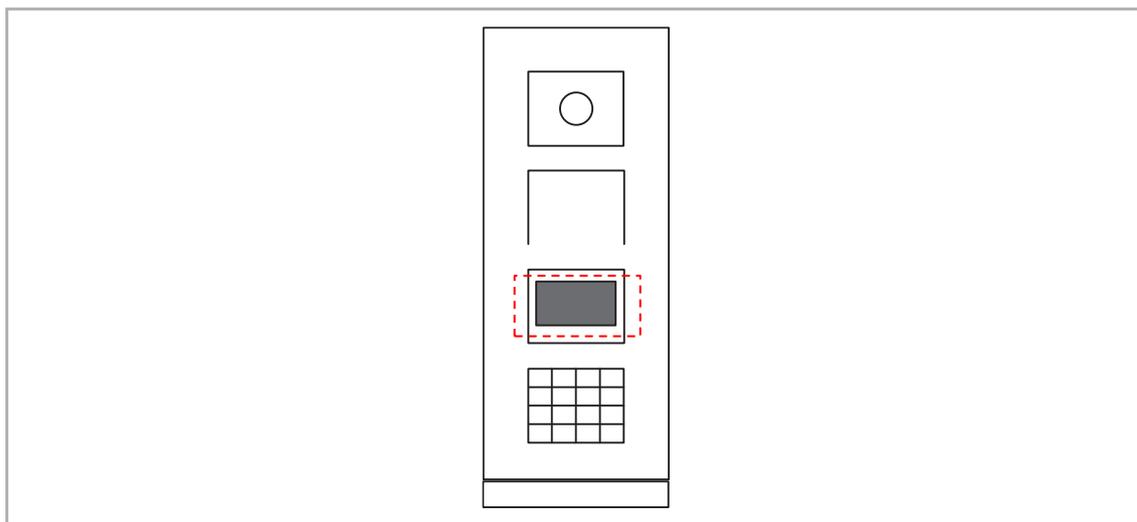
IC card specification

Operating frequency	13.56 MHz
Standard	ISO 14443A
Support card	EM4100, EM4205, EM4305, EM4450, TK4100, T5567/T5577
Output format	Wiegand 26/34 bit

ID card specification

Operating frequency	125 KHz
Standard	ISO 18000-2
Support card	Mifare one S50/S70, Mifare desfire EV1/EV2
Output format	Wiegand 26/34 bit

9.3.2   Releasing a lock by pressing the exit button

Press an exit button connected to this outdoor station to release the lock.
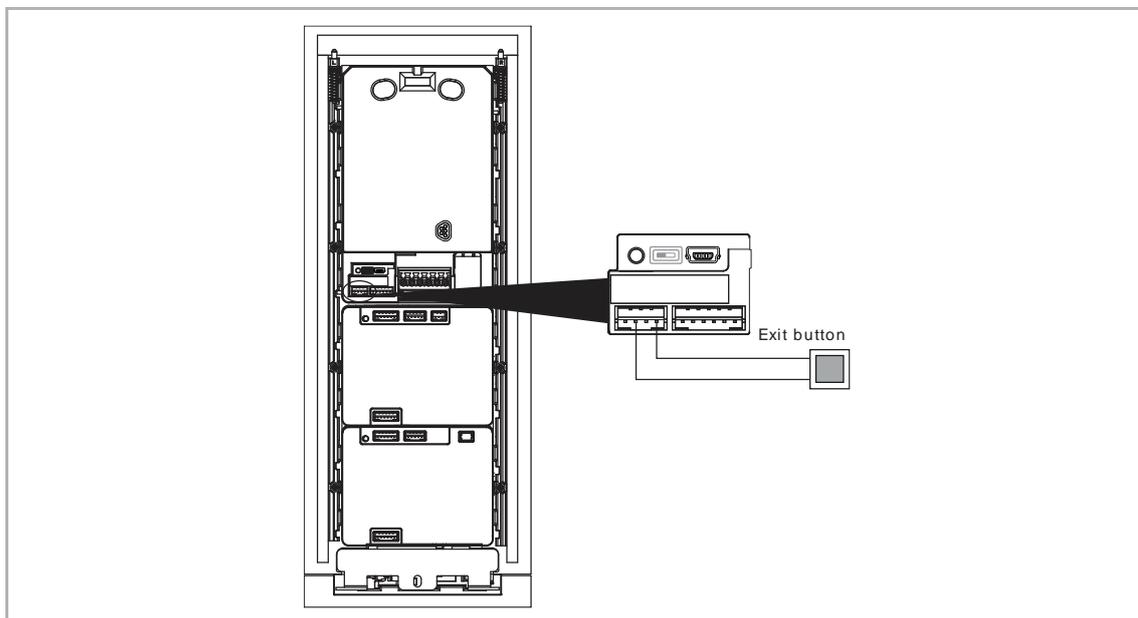
9.3.3   Releasing a lock by entering the public password

The "public password" must be enabled before use. Please see the "Access control overview" chapter for more details.

In standby mode, press [#] + public password + [#] to release the lock.

In standby mode, press [#] [2] [#]+ public password + [#] to release the second lock.

9.3.4 Releasing a lock by entering a private password

The "private password" must be enabled before use. Please see the "Access control overview" chapter for more details.

In standby mode,

[1] Device type = Outdoor station

Release default lock: [*1#] + room no. + [#] + private password + [#]

Release auxiliary lock: [*2#] + room no. + [#] + private password + [#]

[2] Device type = Gate station

Release default lock: [*1#] + building no. + [#] + room no. + [#] + private password + [#]

Release auxiliary lock: [*2#] + building no. + [#] + room no. + [#] + private password + [#]

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

10 Cyber security

10.1 Disclaimer

H8138.K-. 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.K-. 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 in one system shall be signed by a public CA at commissioning stage, normally management software works as CA.

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

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

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

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.K-. device is not susceptible to malware, because custom code cannot be executed on the system. The only way to update the software is by 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. 123456, 654321), and three consecutive identical numbers are similarly not permitted (e.g. 123444, 666888).

11 Notice

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