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Product manual
ABB-Welcome IP

H8304 IP actuator
H8304-02 IP actuator

Table of contents

1 Notes on the instruction manual 3

2 Safety 3

3 Intended use 3

4 Environment 4

4.1 ABB devices 4

5 Product description 5

5.1 Terminal description 5

5.2 Lock type and connection 6

6 Technical data 7

7 Mounting/Installation 8

7.1 Requirement for the electrician 8

7.2 Mounting 9

8 Commissioning 10

8.1 IP actuator enters engineering mode 10

8.2 Device settings 11

8.3 Power lock settings 14

8.4 Relay lock settings 15

8.5 Report when unlock 16

8.6 Exit button 17

8.7 Door status detection 18

8.8 Firmware update 19

9 FCC 20

10 Cyber security 21

10.1 Disclaimer 21

10.2 Performance and service 21

10.3 Deployment guideline 22

10.4 Upgrading 22

10.5 Backup/restore 22

10.6 Malware prevention solution 22

10.7 Password rule 22

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 a part of the Busch-Welcome IP system, this device can only be used with accessories from the system.

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.

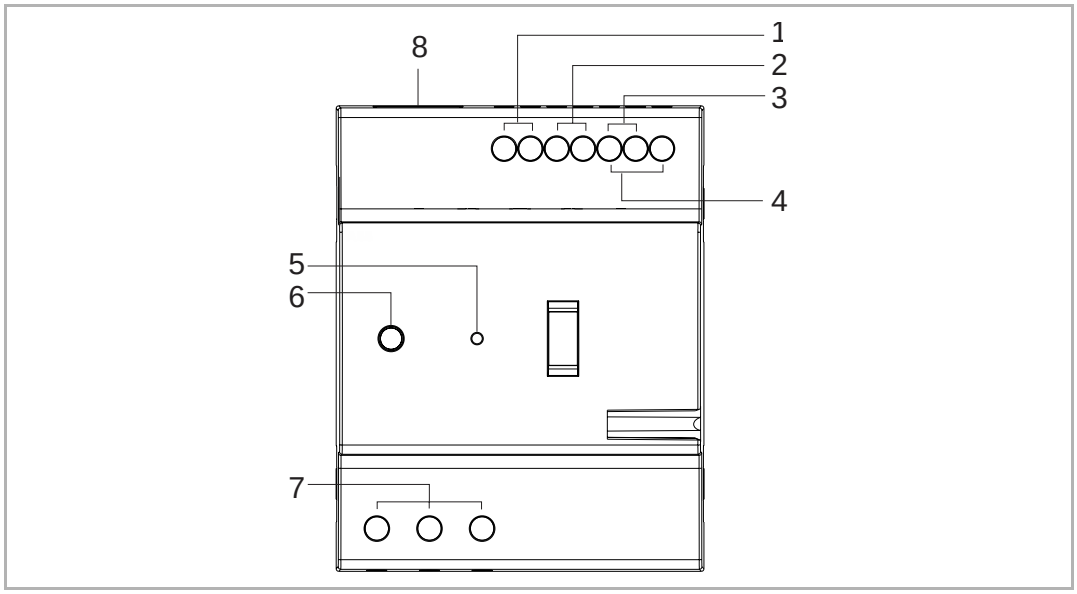
ABB products meet the legal requirements, in particular the laws governing electronic and electrical devices and the REACH ordinance.

(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

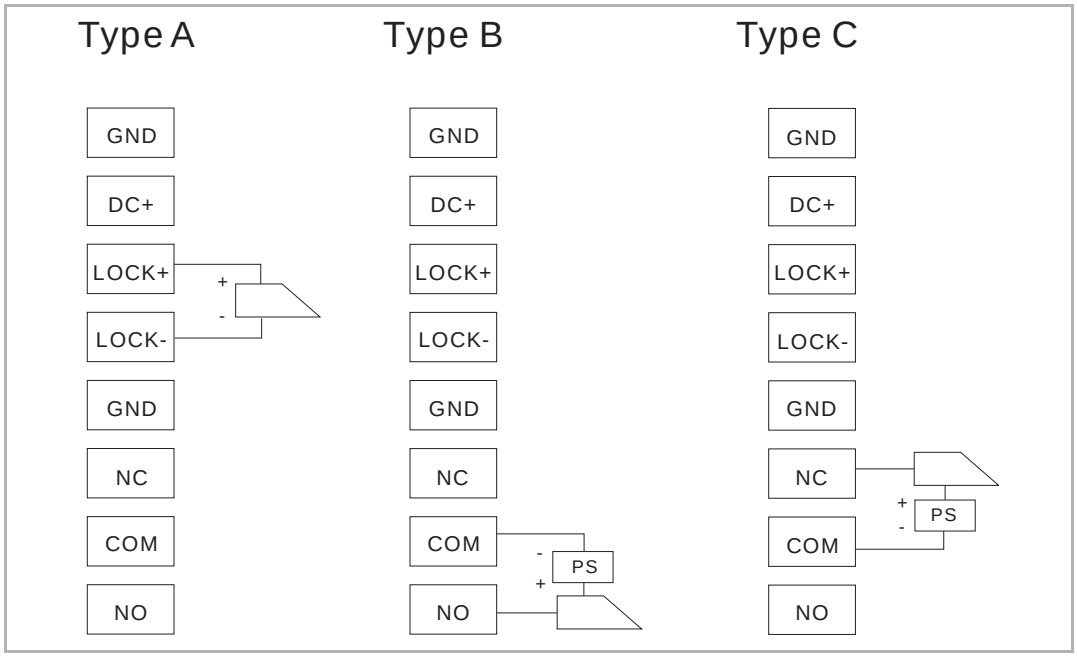
5.1 Terminal description



No.	Function
1	System power supply connector
2	Plug-in clamps (LOCK+…LOCK-) for door opener
3	Connector for sensor used for door status detection
4	Connector for exit push-button
5	Reset button
6	Status indicator
7	Plug-in clamps (NC…COM...NO) for floating output, door opener
8	LAN (PoE)

5.2 Lock type and connection

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



6 Technical data

Designation	Value
Rating voltage	24 V DC
Operating voltage range	20-27 V DC
Rating current	27 V DC, 310 mA 24 V DC, 350 mA
Product dimensions	71 mm × 90 mm × 64.5 mm
Operating temperature	-25 °C…+55 °C
Power supply for door opener	DC: 12 V DC, 4 A impulse, max. 500 mA holding AC: 12 V AC, 50 Hz, max. 500 mA holding
Signal unlocking	230 V AC, 3 A
Network connection standard	IEEE802.3, 10/100 Mbps, 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!

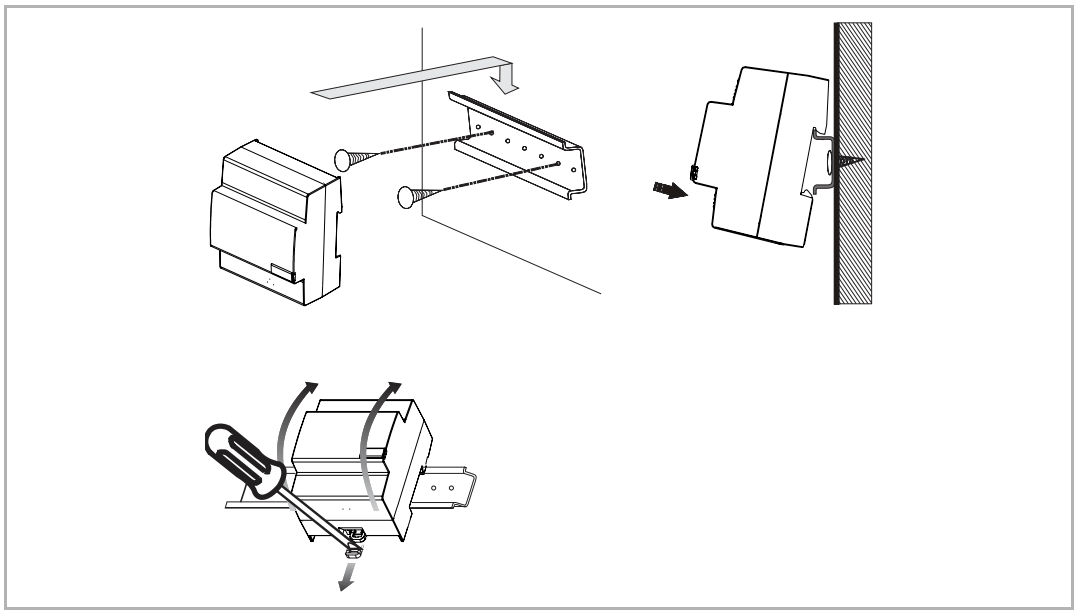
Install the device only if you have the necessary electrical engineering knowledge and experience.

– 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.).

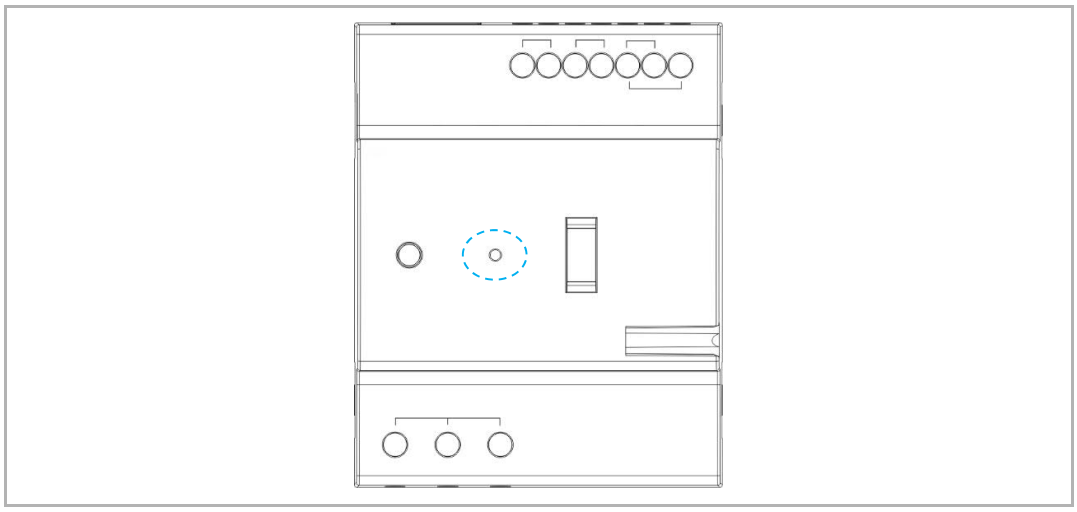
7.2 Mounting



8 Commissioning

8.1 IP actuator enters engineering mode

When pressing the reset button of the IP actuator when it is powered on, the LED flashing means that the IP actuator has entered engineering mode.



On the "Engineering setting" screen on the indoor station, click "IP actuator settings" to access the corresponding screen.

Tip

The IP actuator will exit engineering mode if no operation are carried out for 5 minutes.

8.2 Device settings

On the "IP actuator settings" screen.

1. Device type = Network IP Actuator

Device no. range is 1...32.

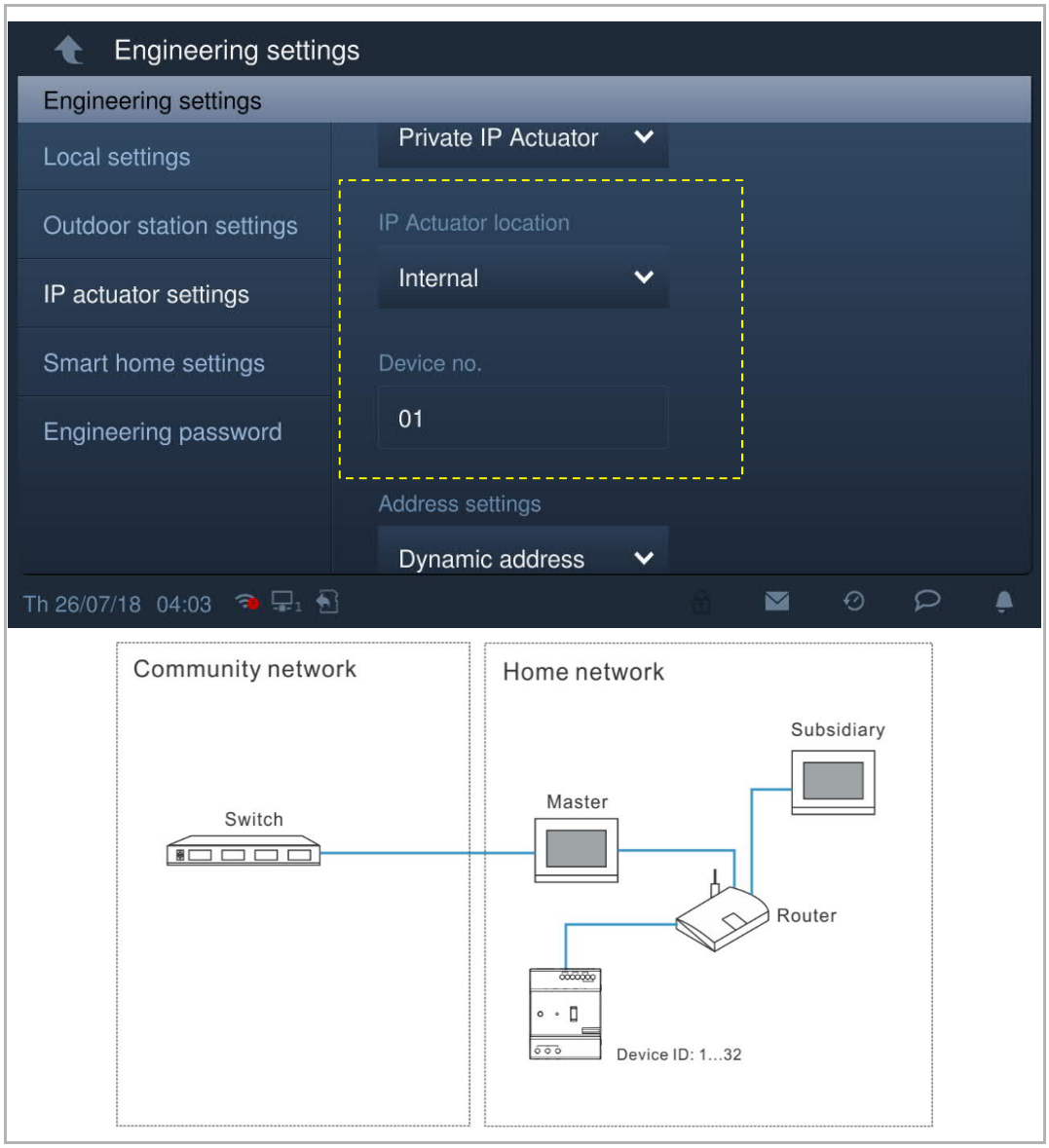
2. Device type = Building IP actuator

Block no. range is 1...999; device no. range is 1...32

3. Device type = Private IP Actuator

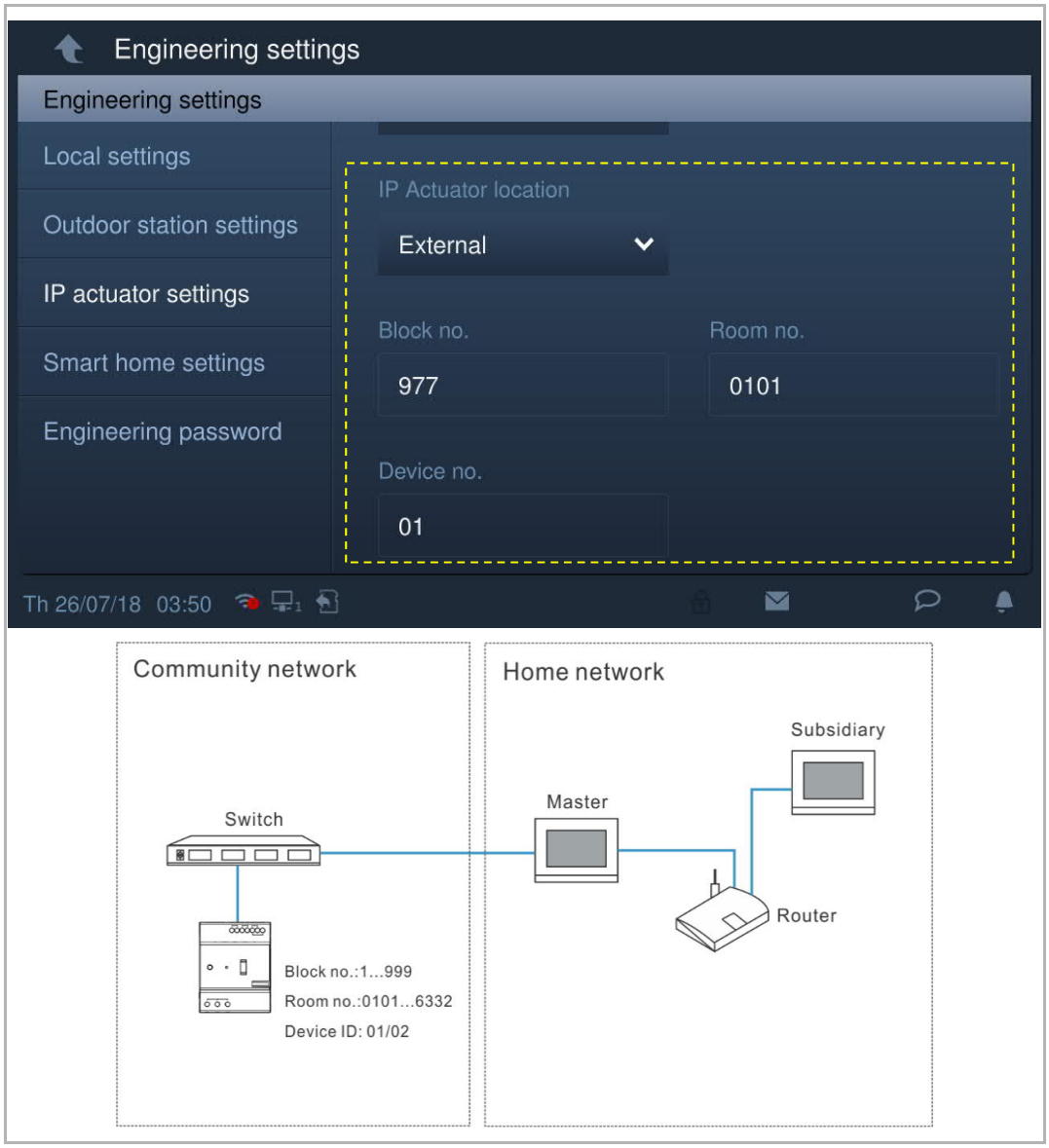
Location of IP actuator = Internal

Device no. range is 1...32 (see diagram below).



Location of IP actuator = External

Block no. range is 1…999; Room no. range is 01…63 + 01…32 (e.g. 0101); device no. range is 01…02 (see diagram below).

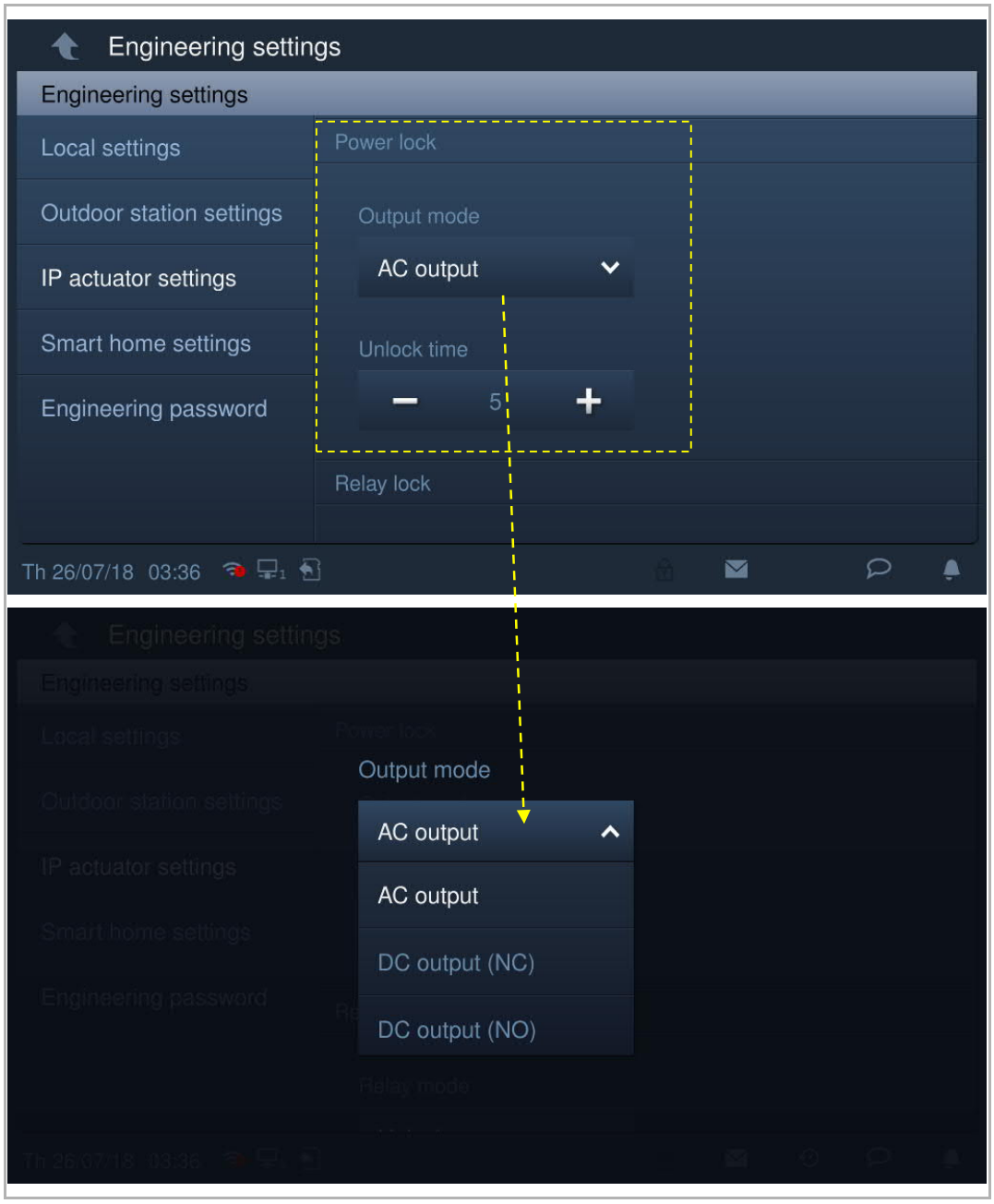


Note

The external and internal types cannot be used in mixed scenarios in the same apartment.

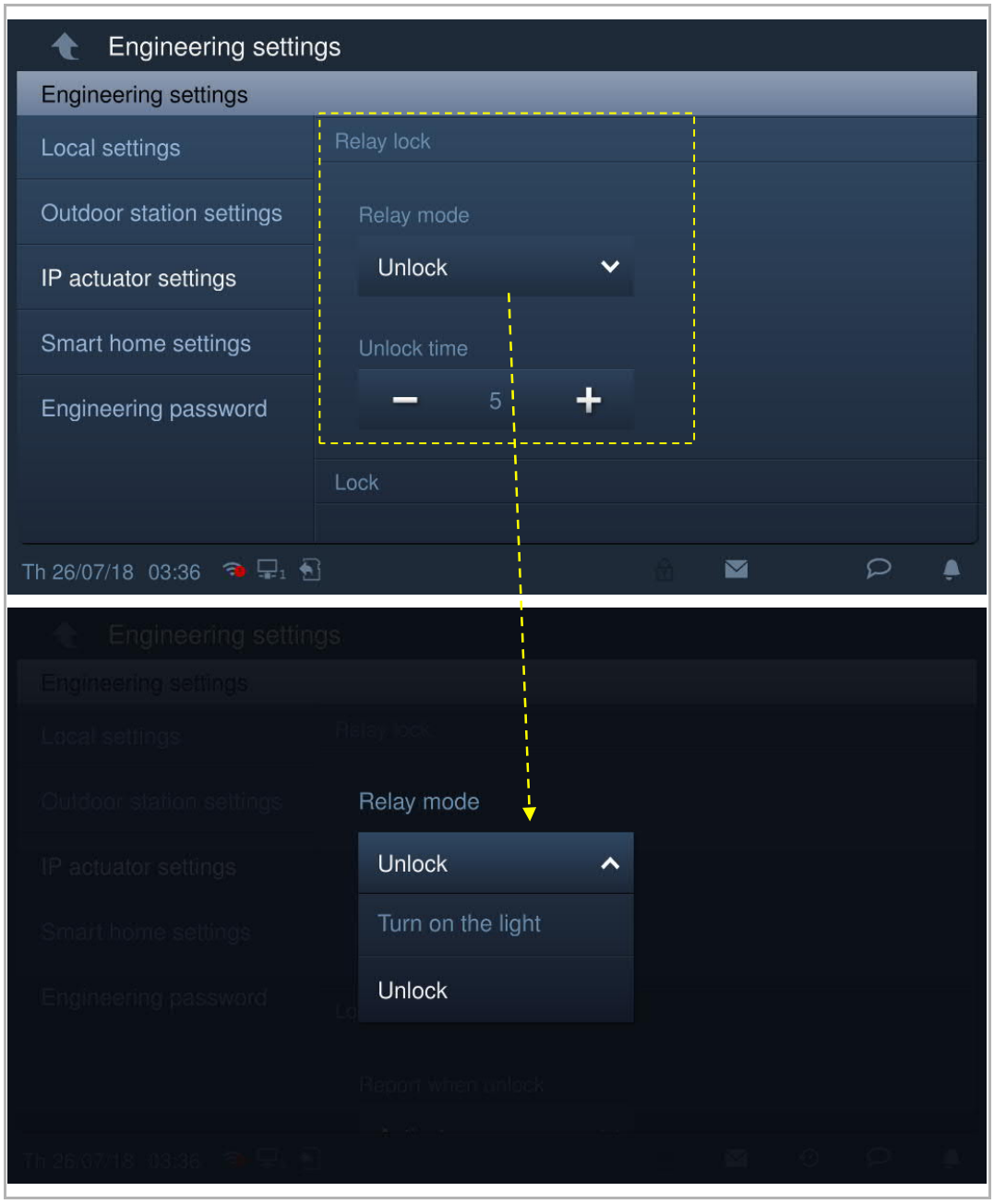
8.3 Power lock settings

On the "IP actuator settings" screen, set output mode and unlock time.



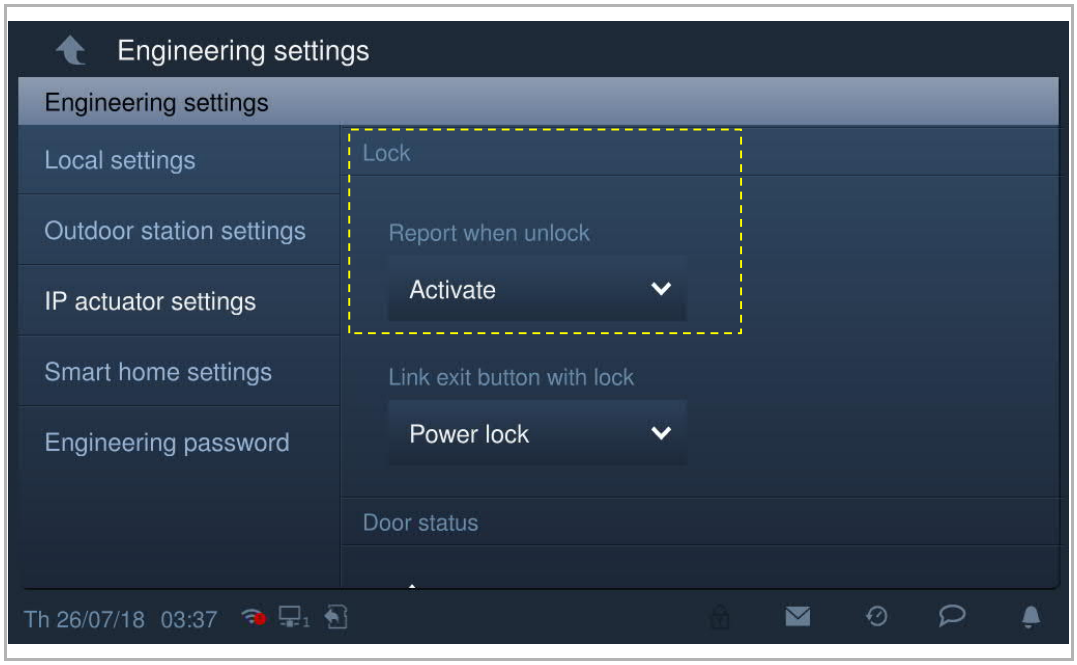
8.4 Relay lock settings

On the "IP actuator settings" screen, set Relay mode and unlock time.



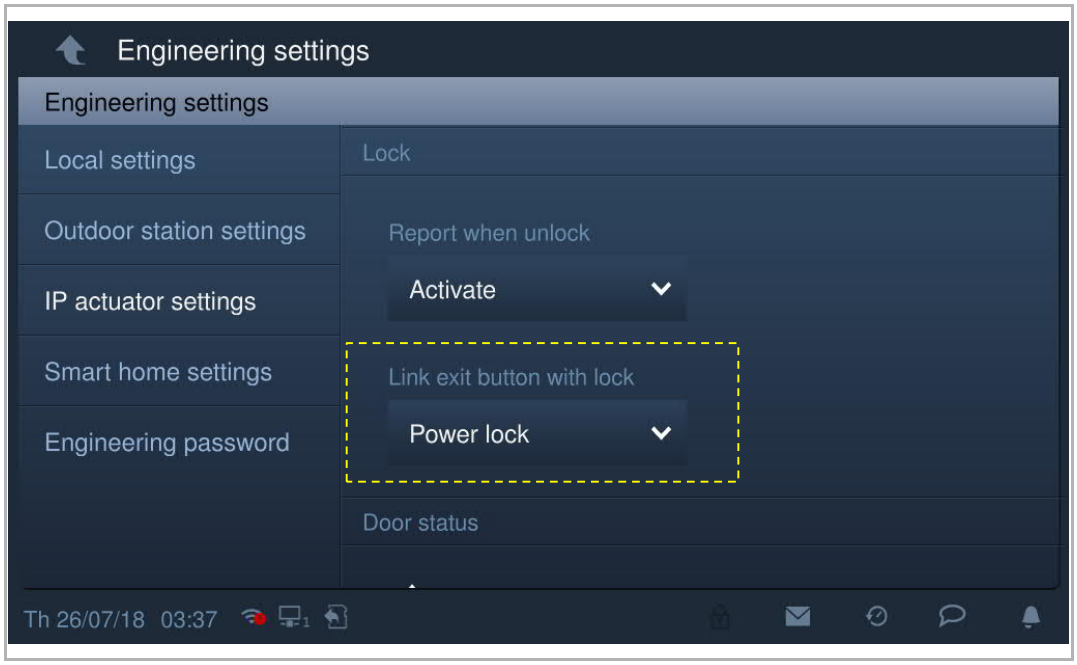
8.5 Report when unlock

On the "IP actuator settings" screen, if "Report when unlock" is enabled, each unlock record from the IP actuator will be sent to the management software.



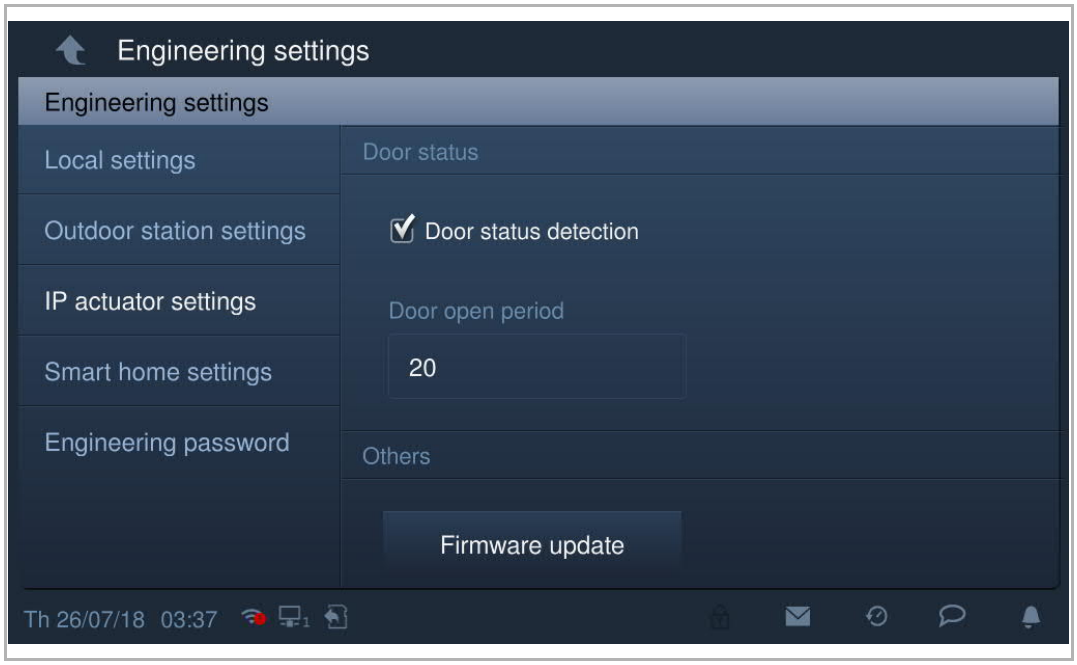
8.6 Exit button

On the "IP actuator settings" screen, set the lock type for the exit button ("Power lock" or "Relay lock").



8.7 Door status detection

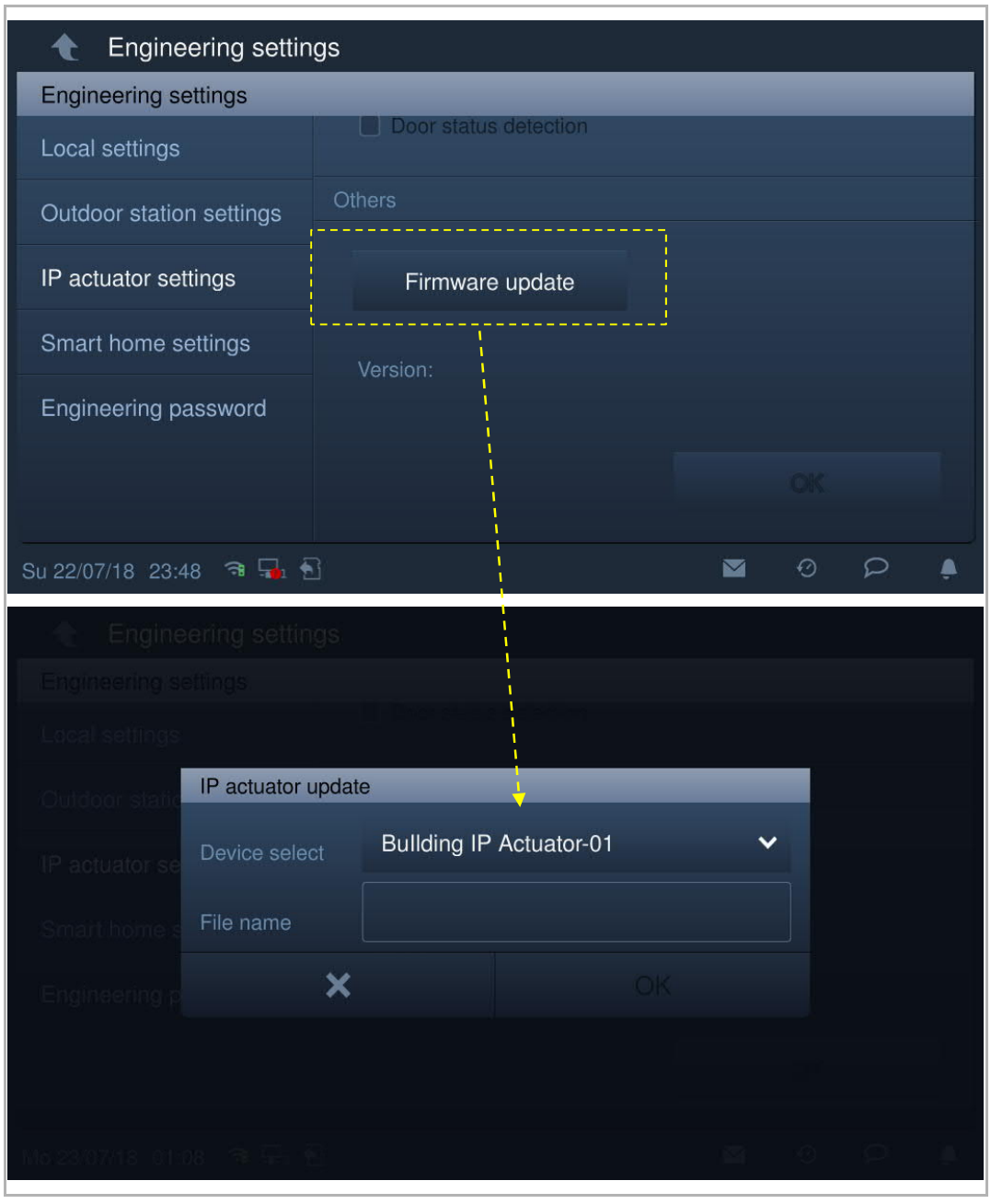
On the "IP actuator settings" screen, tick the checkbox to enable the function. Door open period range is 1…600 s.



8.8 Firmware update

The IP actuator must exit engineering mode before the firmware is upgraded.

On the "Engineering settings" screen, click "IP actuator settings" - "Firmware update", select IP actuator and the file from SD card, then click "OK" to update the firmware.



9 FCC

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Only operate the device in accordance with the instructions supplied.

Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

– Reorient or relocate the receiving antenna.
– Increase the separation between the equipment and receiver.
– Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
– Consult the dealer or an experienced radio/TV technician for help.

10 Cyber security

10.1 Disclaimer

H8304 product is 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 H8304 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 Ltd 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	6 Mbps (8,928 packets/sec)
ARP	40 packets/sec
ICMP	1 Mbps (1,488 packets/sec)
IP	20 packets/sec

Port and service

Port		
7777	TCP	To be used for device management
8887	TCP	To be used for firmware update
10777	TLS	Secure channel for device management

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 the management software acts as 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 involves a risk of attacks.

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

The device supports firmware updates via the management software, where a signature file is used to verify the authentication and integrity of the firmware.

10.5 Backup/restore

None

10.6 Malware prevention solution

The device H8304 is not susceptible to malware, because custom code cannot be executed on the system. The only way to update the software is by firmware upgrading. Only firmware signed by ABB can be accepted.

10.7 Password rule

None

We reserve the right to at all times make technical changes as well as changes to the contents of this document without prior notice.

The detailed specifications agreed to at the time of ordering apply to all orders. ABB accepts no responsibility for possible errors or incompleteness in this document.

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Approvals and Compliances