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<td>Device attribute setting</td>
<td>45</td>
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<td>4.3.5</td>
<td>KNX scene setting</td>
<td>48</td>
</tr>
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<td>4.4</td>
<td>Building outdoor station</td>
<td>50</td>
</tr>
<tr>
<td>4.4.1</td>
<td>Enter system setting of building OS</td>
<td>50</td>
</tr>
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Examples of typical system
1 Examples of typical system

1.1 Single family house, single indoor station

Fig. 1: Single family house, single indoor station, without PoE switch

In the single-family house application, only one indoor station is used, if there is a normal switch (not PoE switch) to connect the indoor station and the outdoor station, an independent power supply is needed to support the indoor station and the outdoor station.

Fig. 2: Single family house, single indoor station, with PoE switch

In the single-family house application, only one indoor station is used, if there is a PoE switch to connect the indoor station and the outdoor station, the PoE switch can support the indoor station and the outdoor station directly, no independent power supply is needed to support the indoor station and the outdoor station.
1.2 Single family house, multi-indoor stations

Fig. 3: Single family house, multi indoor stations or APP application

In the single-family house application, if you want to use the mobile/tablet APP or you want to use the multi indoor stations in the house, you need to add a device called IP gateway. Indoor stations, outdoor stations, the IP gateway are powered by an independent power supply.
1.3 High rising building

Fig. 4: High-rise building

In high-rise building applications, the PoE switches can provide network connectivity and power supply for the indoor stations and the outdoor stations. Lift control modules and card readers are powered by the independent power supplies.
1.4 Resident complexes

In the residential complex application, including single-family houses and multi high-rise buildings, gate stations are used at the gate of the complex, guard units are used at the property management offices and card readers are used at the public areas. Guard units and card readers need to be powered by the independent power supply.
2 Planning

Table 1: Capacity of the system

<table>
<thead>
<tr>
<th></th>
<th>Per apartment</th>
<th>Per building</th>
<th>Public</th>
<th>Per system</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distance</td>
<td>Unlimited</td>
<td>Unlimited</td>
<td>Unlimited</td>
<td>Unlimited</td>
</tr>
<tr>
<td>Channel</td>
<td>2+1&lt;sup&gt;(1)&lt;/sup&gt;</td>
<td>32&lt;sup&gt;(2)&lt;/sup&gt;</td>
<td>32&lt;sup&gt;(2)&lt;/sup&gt;</td>
<td>/</td>
</tr>
<tr>
<td>Building</td>
<td></td>
<td></td>
<td></td>
<td>999</td>
</tr>
<tr>
<td>Guard unit</td>
<td></td>
<td>32</td>
<td>32</td>
<td></td>
</tr>
<tr>
<td>PC management software</td>
<td></td>
<td>32</td>
<td>32</td>
<td></td>
</tr>
<tr>
<td>Outdoor station</td>
<td>4&lt;sup&gt;(3)&lt;/sup&gt;</td>
<td>64</td>
<td>32</td>
<td>~8 M</td>
</tr>
<tr>
<td>Indoor station</td>
<td>8</td>
<td></td>
<td></td>
<td>~16 M</td>
</tr>
<tr>
<td>Apartment</td>
<td>~2 K</td>
<td>~2 M</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Access control</td>
<td>9</td>
<td>32</td>
<td>~9 K</td>
<td></td>
</tr>
<tr>
<td>IP camera</td>
<td>256</td>
<td>256</td>
<td>~512 M</td>
<td></td>
</tr>
</tbody>
</table>

<sup>(1)</sup> The 1st and the 2nd incoming calls can be displayed on the screen, the 3rd incoming call can be saved as a history record.

<sup>(2)</sup> It is calculated based on 100 M bandwidth.
(3) Outdoor stations are connected to the public network ("Uplink" port of IP gateway)

In this case, outdoor stations should be set as "No IP gateway mode" and the max number is 4; indoor stations should be set as "IP gateway mode" and the max number is 8.

![Diagram of outdoor stations connected to the public network](image)

Fig. 7: Outdoor stations are connected to the public network

(4) Outdoor stations are connected to the home network ("LAN" port of IP gateway)

In this case, outdoor stations should be set as "IP gateway mode" and the max number is 32; indoor stations should be set as "IP gateway mode" and the max number is 8.

![Diagram of outdoor stations connected to the home network](image)

Fig. 8: Outdoor stations are connected to the home network
2.1 Selection of outdoor station

ABB-Welcome IP provides a wide range of outdoor stations to meet diverse requirements.

**Building outdoor station/Gate station**

The building outdoor station is installed at the entrance of a building, the gate station is installed at the entrance of the residential complexes.

The building outdoor station and the gate station with display, transponder and keypad serve as terminal devices for communication with the indoor station or guard unit. Support door communication, call guard unit, unlocking via passwords/cards/cellphone and other functions. Suitable for flush-mounted installation.

**Villa outdoor station**

The villa outdoor station is installed at the entrance of a villa.

The villa outdoor station with camera, transponder serves as terminal device for communication with the indoor station or guard unit. Support door communication, call guard unit, unlocking via cards and other functions. Suitable for flush-mounted installation.

**Mini outdoor station**

The mini outdoor station is installed at the entrance of an apartment or a villa.

The mini outdoor station with camera, transponder serves as terminal device for communication with the indoor station or guard unit. Support door communication, call guard unit, unlocking via cards and other functions. Suitable for surface-mounted or flush-mounted installation.
## Selection of outdoor stations

<table>
<thead>
<tr>
<th>Article no.</th>
<th>H8137xPx-S</th>
<th>H8137xK-S</th>
<th>H8131xPx-A</th>
<th>H8136xPx-A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type</td>
<td>Villa OS</td>
<td>Building OS/Gate station</td>
<td>Mini OS</td>
<td>Mini OS</td>
</tr>
<tr>
<td>Material</td>
<td>Stainless steel</td>
<td>Stainless steel</td>
<td>Aluminum</td>
<td>Aluminum</td>
</tr>
<tr>
<td>Installation</td>
<td>Flush-mounted</td>
<td>Flush-mounted</td>
<td>Surface-mounted</td>
<td>Flush-mounted/Cavity wall installation</td>
</tr>
<tr>
<td>Camera pixel</td>
<td>1 M</td>
<td>1 M</td>
<td>0.3 M</td>
<td>0.3 M</td>
</tr>
<tr>
<td>Camera viewing angel</td>
<td>130°</td>
<td>130°</td>
<td>104°</td>
<td>104°</td>
</tr>
<tr>
<td>Card capacity</td>
<td>300</td>
<td>Building OS: 2,000 Gate station: 40,000</td>
<td>64</td>
<td>64</td>
</tr>
<tr>
<td>Public/Private password</td>
<td>/</td>
<td>√</td>
<td>/</td>
<td>/</td>
</tr>
<tr>
<td>Wiegand output</td>
<td>/</td>
<td>√</td>
<td>/</td>
<td>/</td>
</tr>
<tr>
<td>Call guard unit</td>
<td>√(1)</td>
<td>√</td>
<td>√(1)</td>
<td>√(1)</td>
</tr>
<tr>
<td>Call PC guard</td>
<td>√(2)</td>
<td>√</td>
<td>√(2)</td>
<td>√(2)</td>
</tr>
<tr>
<td>Call other apartment</td>
<td>/</td>
<td>√</td>
<td>√(2)</td>
<td>√(2)</td>
</tr>
<tr>
<td>Welcome message</td>
<td>/</td>
<td>√</td>
<td>/</td>
<td>/</td>
</tr>
<tr>
<td>Lift control</td>
<td>/</td>
<td>√</td>
<td>/</td>
<td>/</td>
</tr>
<tr>
<td>Anti-fog camera</td>
<td>√</td>
<td>√</td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>Forward to guard unit</td>
<td>/</td>
<td>√</td>
<td>/</td>
<td>/</td>
</tr>
<tr>
<td>Release 2 locks</td>
<td>√</td>
<td>√</td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>Door status detection</td>
<td>√</td>
<td>√</td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>Exit button</td>
<td>√</td>
<td>√</td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>Support 802.3af POE switch</td>
<td>√</td>
<td>√</td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>Standalone power supply</td>
<td>√</td>
<td>√</td>
<td>√</td>
<td>√</td>
</tr>
</tbody>
</table>

Table 2: Selection of outdoor station

(1) Default function of the 2nd button
(2) Programming function of the 2nd button
2.2 Selection of indoor station

To the select indoor station of ABB-Welcome IP, the surface colour is the only difference. All indoor stations are 7” video hands-free indoor stations with bracket for surface mounting. The touch screen can serve as terminal device for communication with the outdoor station. As far as the function goes, the indoor station supports door communication, call guard unit, unlocking, visualization for surveillance, alarm and home automation, etc. You can read following for more detailed features.

**Door communication and unlocking**

![Door communication and unlocking](image)

At an incoming call from the outdoor station, the resident can communicate with the visitor and release the lock for the visitor.

**Receiving or establishing the call with the guard unit**

![Receiving or establishing the call with the guard unit](image)

The guard unit and the indoor station can call each other directly. The receiver can answer to establish communication or refuse the call.

**Call waiting**

![Call waiting](image)

If there is a second incoming call during the first call, the indoor stations will display the second video in the lower right corner of the screen. You can answer the call, refuse to answer the call or release the second lock. If there is a third call at this time, it will not be displayed on the screen, but the indoor station will save it as a missed call in the history record.
**Text message**

The home owner can receive text from an apartment or a group of apartments. And the home owner can send or receive the messages from the property management software.

![Text message diagram](image12.png)

**Automatic unlocking**

The owner can activate the automatic unlocking function manually. If the visitor makes a call to the owner, the door will open automatically after 5 seconds ringing.

![Automatic unlocking diagram](image13.png)

**Image saving**

The outdoor station will snap shut automatically and save the image for each incoming call during ringing of the bell, the pictures can be looked up on the indoor station. You can also send the pictures to an SD card to save the pictures.

![Image saving diagram](image14.png)

**SOS**

When there is an emergency, the owner or family can hold down the SOS icon of the main machine interface for more than 3 seconds and send an alarm signal to the management machine and the PC management center.

![SOS diagram](image15.png)
**Absence message**

The home owner can record an audio message for other family members before leaving home, when a family member comes back, he can listen to the absence audio note and receive the information from the audio message.

And the absence audio message can also be saved as an absence message, once the visitor initiates a call from the outdoor station, the absence message will be played automatically for visitors.

**Room to room communication**

PC management software can initiate a call to the relevant apartment and communicate with the home owner after the call is answered.

**Home to home communication**

The home owner can make a call or receive a call from other apartments. If the home owner doesn’t want to receive calls from an apartment, he can set it into the blacklist for privacy.
Smart home

You can choose to extend your smart home system, such as a KNX system or i-jia system.

Fig. 19: Smart home

Central unit for security alarm system

The home owner can arm or disarm his house via the indoor station. When enabling the alarm system, there will be an alarm once it is triggered, the home owner should disarm to stop the alarm.

Fig. 20: Guard unit for security alarm system

Surveillance

The home owner can initiate surveillance of the outdoor station, and during the surveillance the home owner can initiate communication, unlock the door or terminate the surveillance. The home owner also can initiate surveillance of the home IP camera or public camera via the indoor station.

Fig. 21: Surveillance
**Family entertainment**

The home owner can insert an SD card into the indoor station, and the multimedia file from the SD card is able to show photos on the indoor station and also choose favourite music to define individual bell tones or create an individual screen saver.

![Family entertainment](image)

**Lift control**

The home owner can call the elevator before going out. The home owner can call and authorize elevator floor access for visitors after releasing the door. In addition, during the apartment to apartment communication, the home owner can call and authorize elevator floor access for neighbours.

![Lift control](image)
2.3 Selection of system devices

Power supply

Power supply supplies the power for system devices.

Fig. 24: Power supply

Card reader

For one building, the card reader is limited to 9 pcs.
For public, the card reader is limited to 32 pcs.
And it can be increased to 9K pieces per system.
The stand-alone card reader allows to open locks or switch the load by swiping a valid card.

Fig. 25: Card reader

IP gateway

The IP gateway serves as apartment entry gateway to protect the private devices of your home.
If there are multi indoor stations or the APP need to be used inside the apartment, there should be one IP gateway for each apartment.

Fig. 26: IP gateway
Lift control module

The lift control module serves as the communication interface for the elevator system.

If the home owner wants to enable the lift control function, there must be a lift control module. Enabling the lift control function: The home owner can call the elevator before going out, he can also call and authorize elevator floor access for visitors after releasing the door. During home to home communication, the home owner can call and authorize elevator floor access for neighbours.

Guard unit

The guard unit provides access to various services using the intuitive icons menu on the touch screen. Communication with outdoor station, indoor station or other guard unit. Suitable for desktop mounting with the desktop bracket.

Door communication and unlocking

Visitor makes a call to the concierge, the concierge can talk to the visitor or open the door via the guard unit.

Door communication with apartment

The guard unit can initiate a call to the relevant apartment and communicate with the resident after the call is answered.

Surveillance of outdoor station and community IP cameras

The concierge can initiate surveillance of the outdoor station, and during the surveillance the concierge can initiate communication, unlock the door or terminate the surveillance. And the concierge can initiate surveillance to the community IP camera.

Emergency release

Once there is an emergency situation, the concierge can release all the locks of the gate stations and building outdoor stations on the guard unit.
**PC management software**
For one system, the management software is also limited to 32 pcs.

**Door communication and unlocking**
Visitors make a call to property manager, the property manager can talk to the visitors or open the door via the PC management software.

**Door communication with apartment**
The PC management software can initiate a call to the relevant apartment and communicate with the home owner after the call is answered.

**Surveillance of outdoor station and community IP Camera**
The property manager can initiate surveillance of the outdoor station, and during the surveillance the property manager can initiate communication, unlock the door or terminate the surveillance. And the property manager can initiate surveillance to the community IP camera.

**Emergency release**
Once there is an emergency situation, the property manager can release the emergency on PC management software.

**Receiving the alarm and handling it**
If the alarm is initiated, the PC management software will receive the alarm, and the property manager can handle it immediately.

**Intelligent community server database**
The property manager can manage the community database via the PC management software.

Send the text message to and receive it at the apartment or outdoor station
The property manager can send text messages to and receive them at the apartment or outdoor station via the PC management software.

**Card management (add, edit, delete)**
The property manager can manage user cards, add cards, edit cards and delete cards.

**History and log**
The property manager can view the history and logs via the PC management software directly.

**Remote software update**
The property manager can operate the remote software update via the PC software.

System setting (time sync, etc.)
The property manager can set the system manually via the PC management software, such as time setting, sync setting, etc.
2.4 Power consumption and distance calculate

Power consumption

<table>
<thead>
<tr>
<th>Device</th>
<th>Power via PoE switch</th>
<th>Power via local PS</th>
<th>Consumption</th>
<th>Power supply capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indoor station</td>
<td>√</td>
<td>√</td>
<td>300 mA/27 VDC</td>
<td></td>
</tr>
<tr>
<td>Building OS</td>
<td>√</td>
<td>√</td>
<td>400 mA/27 VDC</td>
<td></td>
</tr>
<tr>
<td>Villa OS</td>
<td>√</td>
<td>√</td>
<td>250 mA/27 VDC</td>
<td></td>
</tr>
<tr>
<td>Mini OS</td>
<td>√</td>
<td>√</td>
<td>400 mA/27 VDC</td>
<td></td>
</tr>
<tr>
<td>Card reader</td>
<td>x</td>
<td>√</td>
<td>100 mA/27 VDC</td>
<td>2500 mA/27 VDC</td>
</tr>
<tr>
<td>Guard unit</td>
<td>x</td>
<td>√</td>
<td>300 mA/27 VDC</td>
<td></td>
</tr>
<tr>
<td>IP gateway</td>
<td>x</td>
<td>√</td>
<td>100 mA/27 VDC</td>
<td></td>
</tr>
<tr>
<td>Lift control module</td>
<td>x</td>
<td>√</td>
<td>60 mA/27 VDC</td>
<td></td>
</tr>
<tr>
<td>Lift control relay module</td>
<td>x</td>
<td>√</td>
<td>300 mA/27 VDC</td>
<td></td>
</tr>
</tbody>
</table>

Table 3: Power consumption

Distance

Fig. 29: Distance
3 Mounting/Installation

3.1 Installation of outdoor station

3.1.1 Installation of Keypad outdoor station

---

Fig. 30: Product dimension of keypad OS

Fig. 31: Flush-mounted installation of keypad OS
3.1.2 Installation of villa outdoor station

Fig. 32: Product dimension of pushbutton OS

Fig. 33: Flush-mounted installation of pushbutton OS
Fig. 34: Dismantling and replace the nameplate
3.1.3 Installation of mini outdoor station

Surface-mounted installation

Fig. 35: Product dimension

Fig. 36: Surface mounting on the wall

Fig. 37: Surface mounting with standard flush-mounted box
Flush-mounted installation without pre-installation box

Fig. 38: Product dimension

Fig. 39: Flush-mounted installation without pre-installation box
Flush-mounted installation with pre-installation box

Fig. 40: Product dimension

Fig. 41: Flush-mounted installation with pre-installation box

For the flush-mounted installation, a pre-installation box is highly recommended to ensure the efficient and sleek installation. Without the pre-installation box, in case the hole is deeper or tilt, the installation will looks ugly or hard to install. For flush-mounting in a cavity wall, the pre-installation box is not need.

Fig. 42: Installation flexibility with pre-installation box
Cavity wall installation

- Fix 4 claws onto the back of outdoor station with 4 screws. (The direction of the claws please refer to the picture above)
- Tie up 4 claws with 2 rubbers.
- Put the back cover into the cavity wall.
- Tighten 4 screws.
- Latch the upper part onto the bottom part.
Mounting/Installation

Fig. 45: Dismantling

Fig. 46: Replace the nameplate
3.2 Installation of indoor station

3.2.1 Surface-mounted installation

Fig. 47: Product dimension

Fig. 48: Surface-mounted installation

Fig. 49: Dismantling
3.3  Installation of system devices

3.3.1  Mounting and dismantling of MDRC devices

Fig. 50:  Mounting and dismantling of the MDRC devices

3.3.2  Mounting and dismantling of card reader

Fig. 51:  Mounting and dismantling of card reader
## 4 Commissioning

### 4.1 Address range

<table>
<thead>
<tr>
<th>Building address</th>
<th>Floor address</th>
<th>Apartment address</th>
<th>Identifier</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gate station</td>
<td>/</td>
<td>/</td>
<td>/</td>
</tr>
<tr>
<td>Building OS</td>
<td>000 - 999</td>
<td>-7 - 63</td>
<td>1 - 64</td>
</tr>
<tr>
<td>Villa/Mini OS(^{(1)})</td>
<td>000 - 999</td>
<td>-7 - 63</td>
<td>1 - 32</td>
</tr>
<tr>
<td>Villa/Mini OS(^{(2)})</td>
<td>/</td>
<td>/</td>
<td>/</td>
</tr>
<tr>
<td>Indoor station(^{(1)})</td>
<td>000 - 999</td>
<td>1 - 63</td>
<td>1 - 32</td>
</tr>
<tr>
<td>Indoor station(^{(2)})</td>
<td>/</td>
<td>/</td>
<td>/</td>
</tr>
<tr>
<td>IP gateway</td>
<td>000 - 999</td>
<td>1 - 63</td>
<td>1 - 32</td>
</tr>
<tr>
<td>PMO software</td>
<td>/</td>
<td>/</td>
<td>/</td>
</tr>
<tr>
<td>Guard unit</td>
<td>/</td>
<td>/</td>
<td>/</td>
</tr>
<tr>
<td>Card reader(^{(3)})</td>
<td>/</td>
<td>/</td>
<td>/</td>
</tr>
<tr>
<td>Card reader(^{(4)})</td>
<td>000 - 999</td>
<td>/</td>
<td>/</td>
</tr>
<tr>
<td>Lift control module</td>
<td>000 - 999</td>
<td>/</td>
<td>/</td>
</tr>
<tr>
<td>Lift control relay module</td>
<td>/</td>
<td>/</td>
<td>/</td>
</tr>
</tbody>
</table>

\(^{(1)}\) It is connected to the building door entry system bus.

\(^{(2)}\) It is connected to the home router while there is IP Gateway in the house.

\(^{(3)}\) It is used for common areas.

\(^{(4)}\) It is used for one building (with lift control function)
4.2 Engineering setting of indoor station

4.2.1 Indoor station enters engineering mode

- Press the function button of the indoor station to open the "Basic setting" interface.
- Single click on "Advanced Setting" in the upper right corner, input the programming password and click "OK" to enter the engineering settings interface.

(The system default programming password is A12037. Press and hold the number 0 to enter the letter A.)
4.2.2 Address setting

On the engineering configuration page, click the "Address" tab to set the address of the indoor station.

If “IP Gateway" is not checked on the indoor station, the "Block No." and "Unit No." need to be set.

If “IP Gateway" is checked on the indoor station, only “ID" needs to be set. (Range 1-8)

Please refer to the system manual to see whether or not the IP gateway needs to be checked.

Click "Active", and in the pop-up "Confirmation" window click “Yes”.

If the indoor station address connection type or address setting changes, the “Confirmation" window will pop up again. Click “OK” to restart the indoor station and cause the setting to take effect.
4.2.3 Default GU setting

On the engineering configuration page, click the "Default GU" tab.

Guard unit type may be selected, "PC Guard" or "Guard Unit" (System default)

Input the guard unit ID (Range 1-32).

Click "Active", and in the pop-up "Confirmation" window click "Yes" in order for it to take effect. There is no need to restart the indoor station.
4.2.4 Function setting

On the engineering settings page, click the "Function" tab.

If the "Smart Community" function is enabled, the scene will be displayed on the right side of the indoor station’s main welcome interface, and KNX profile mode control can be set. If it is disabled, the scene does not appear. The system is enabled by default and the indoor station needs to be restarted for changes to the settings to take effect.
Select "Alarm Mode" type, "Floor Plan" or "Simple Mode". The system default is floor plan and the indoor station needs to be restarted for changes to the settings to take effect.

If the "Elevator" function is enabled, the elevator will be displayed on the right side of the indoor station’s main welcome interface, and call control can be performed. If it is disabled, the elevator does not appear. The system is enabled by default and the indoor station needs to be restarted for changes to the settings to take effect.

Select "Alarm Zone" type, "8 zones", "23 zones" or "32 zones". The system default is 8 zones, and the indoor station needs to be restarted for changes to the settings to take effect.

Select the connected "Smart Home" type, "i-jia" or "i-bus®KNX". The system default is "i-jia", and the indoor station needs to be restarted for changes to the settings to take effect.

When activating or blocking the "Subsidiary Lock" function, if set to "On", a second lock can be opened during a call. The system is enabled by default, the indoor station does not need to be restarted for changes to the settings to take effect, and they take effect immediately.
4.2.5 Picture setting

Fig. 56: Picture setting

On the engineering settings page, click the "Picture" tab.

Set the start screen, standby screen, screensaver screen and floor plan.

For example, to set the standby screen, click "Standby", select an appropriate picture in the pop-up interface and click "OK".

Three screensaver pictures can be set and, once set, they will replace the three pictures that come with the system.

After the settings have been completed, click "Active" for them to take effect immediately. There is no need to restart the indoor station.
4.2.6 Quick configure setting

Fig. 57: Quick configure setting

On the engineering settings page, click the "Quick Configure" tab.

Export configuration information to the SD card or import SD card configuration information.

Single or multiple import and export can be selected. After importing configuration information, restart the indoor station for this to take effect.
4.2.7 Private OS setting

For details see the "Engineering setting of mini OS" and "Engineering setting of villa OS" section.
4.3  KNX setting

4.3.1  Enter KNX engineering mode

Fig. 58: Enter KNX engineering mode

Premise: in the engineering mode of the indoor station, KNX is selected for smart home.

Single click on the status bar to enter the KNX interface.

Click "Setting", and input the password A12037 to enter the KNX engineering settings interface.
4.3.2 KNX interface setting

In the engineering settings interface, click "KNX Interface" to set the IP interface address.
If KNX is on the same network as the indoor station, for ID type choose IS Network, enter the IP address for KNX and click "OK".

Fig. 59: KNX interface setting—the same network with indoor station
Fig. 60: KNX interface setting-not the same network with indoor station

If KNX is not on the same network as the indoor station, for ID type choose Not IS Network. Enter the IP address for KNX.

Re-enter the local IP address for KNX. Click "OK".
4.3.3 Device position setting

Fig. 61: Device position setting

On the engineering settings interface, click "Position" to set the position information of the device.

Single click on the interface to add a device. Click "Save" to save.
4.3.4 Device attribute setting

Fig. 62: Enter attribute setting

On the engineering settings interface, click "Attribute" to set the attributes of the device.
On the interface, single click on added devices to enter the attributes interface.
Fig. 63: Device attribute setting

On the attributes page, select the device type on the “Device Type” drop-down list, and enter the on/off address and on/off status address.

If the device needs to be linked with a zone, single click “Alarm Linkage” to enter the linkage interface.
On the linkage interface, check “Device Linked With”, check the zone to be linked, and single click “OK”.

Fig. 64: Alarm linkage
4.3.5 **KNX scene setting**

On the engineering settings interface, click "Scene" to set the scene mode.

On the scene interface, click on a scene to enter the settings.

**Fig. 65:** Enter KNX scene setting
On the scene settings interface, check "Active" to activate the scene. If it is necessary for this to be managed with "Away", "Associate Arm for Away" may be checked.

Enter the address and scene number of the scene.

Set the scene's icon and customize the name of the scene.

Click "Save" to save.
4.4 Building outdoor station

4.4.1 Enter system setting of building OS

Fig. 67: Enter system setting

On standby mode, press [#*] + system code + [#] to enter the system setting.
Default system code is "345678".
4.4.2 Engineering setting

Set device type

OS = outdoor station, GS = gate station

Set device number

If GS, set block digits here; if OS, set block number here.

Set block information

Fig. 68: Set device type

Fig. 69: Set device number

Fig. 70: Set block information
**Set IS digits**

![Diagram of Set IS digits]

Fig. 71: Set IS digits

**Set default GU**

![Diagram of Set default GU]

Fig. 72: Set default GU

**Set system password**

![Diagram of Set system password]

Fig. 73: Set system password
4.4.3 Access control setting

Access control password setting

Card mode setting

User card management

Fig. 74: Access control password setting

Fig. 75: Card mode setting

Fig. 76: User card management
Patrol card management

Card information copy to other outdoor station
4.4.4 System setting

Set volume

![Diagram of System setting: Volume and Voice volume]

Fig. 79: Set volume

Set date and time

![Diagram of System setting: Date & time and time]

Fig. 80: Set date and time

Set languages

![Diagram of System setting: Language and English]

Fig. 81: Set languages

Set Wiegand

![Diagram of System setting: Wiegand and 26bit, 34bit, OFF]

Fig. 82: Set Wiegand
Choose default lock

Set unlock time

Set door alarm

Set temper alarm

Set lift control
Set anti-flicker

Fig. 88: Set anti-flicker

Restore system setting

Fig. 89: Restore system setting

Guide and version

Fig. 90: Guide and version

Forward to GU

Fig. 91: Forward to GU
4.5 Engineering setting of mini OS

Preparation
- The mini outdoor station is connected directly to the indoor station or is on the same network segment.
- There is no checked IP gateway in the indoor station address settings. Please see the Engineering setting--Address setting section.

Step 1: Mini OS enters engineering mode

The default of the mini outdoor station is no IP address. It is therefore necessary for the engineering mode and configuration address of the mini outdoor station to be entered before use.

When the mini outdoor station is powered up for the first time, the engineering mode is entered as follows:
- Power up the mini outdoor station
- After a period of time, the button module of the mini outdoor station lights up, and the unlock indicator light flashes in a loop (red, green, orange)
- Hold the first push button of the mini outdoor station for 3 s
- When the three lights on the right side of the camera above the mini outdoor station begin to flash green at the same time, the mini outdoor station enters the engineering mode.

When the configuration of the mini outdoor station is subsequently changed, the engineering mode is entered as follows:
- Power up the mini outdoor station
- After a period of time, the button module of the mini outdoor station lights up
- Hold the first push button of the mini outdoor station for 3 s
- When the three lights on the right side of the camera above the mini outdoor station begin to flash green at the same time, the mini outdoor station enters the engineering mode.
Step 2: Indoor station enters engineering mode
For details see the "Indoor station enters engineering mode" section.

Step 3: Indoor station searches mini OS
After the indoor station has entered the engineering mode, select the "Private OS" tab
Click "Search" and, in the search successful prompt window, click "OK" to confirm.
Step 4: Mini OS setting

If “IP Gateway” is not checked on the mini outdoor station, set the “Block No.”, “Unit No.” and “ID” of the outdoor station. (Range 1-4). At this time, the second push button of the mini outdoor station may be set to call the PC guard unit, guard unit and to call other stations in the household.

If “IP Gateway” is checked on the mini outdoor station, only “ID” needs to be entered. (Range 1-32). At this time, the second push button of the mini outdoor station may be set to call the PC guard unit and guard unit.

Please refer to the system manual to see whether or not the IP gateway needs to be checked.

Click “Active”, and, if setting is successful, the mini outdoor station will beep.

Click “Restore Default”, and, if the mini outdoor station beeps, the factory values have been restored. setting is successful, the mini outdoor station will beep. The mini outdoor station restarts automatically, the button module lights up, and the unlock indicator light flashes in a loop of green yellow and red.

Click “Next Page” to turn to the next configuration page.
"Default Lock" is the unlock time set for the default lock. (1-10 s)
"Subsidiary Lock" is the unlock time set for the subsidiary lock. (1-10 s)
"Voice Volume" sets the call volume for the outdoor station.
Check "Upload Call log" to upload the call log to the PC guard center.
Check "Door Alarm" to activate the door status detection function.
Check "Upload Alarm" to upload the alarm log to the PC guard center.
When "Local Card" is set to "On" (the system default), information is on the outdoor station admin card. Please see the outdoor station manual for the operating method.
When "Local Card" is set to "Off", information is on the indoor station admin card. Please see the "Commissioning"--"Door entry setting" section for the operating method.
"Anti-Flicker" sets the mains frequency.
Check "Secure Unlock" to activate the secure unlock function. For settings, please see the "Door entry" section.
Check "Tamperproof" to start the tamper alarm function of the outdoor station.
Click "Active" and, if setting is successful, the outdoor station will beep.
Click "Previous Page" to go to the previous configuration page.

**Mini outdoor station exits engineering mode**
When the mini outdoor station is in the finish configuration, but the unlock display light of the mini outdoor module is lit up red, green and orange in a loop, and the mini outdoor station can't call indoor station. It will be necessary to swipe an ID card on the mini outdoor station to register as an admin card for normal use.
4.6 Engineering setting of villa OS

Preparation

- The villa outdoor station is connected to the indoor station.
- There is no checked “IP gateway” in the indoor station address settings. Please refer to the Commissioning--Address setting section.

Step 1: Villa OS enters engineering mode

- At the same time as powering up the villa outdoor station, press the Set button on the back for 3 s and then release;
- After a while, the backlight of the villa outdoor station will recycle flash, and the villa outdoor station will enter engineering mode.

Step 2: Indoor station enters engineering mode

For details see the "Indoor station enters engineering mode" section.

Step 3: Indoor station searches villa OS

After the indoor station has entered the engineering mode, select the "Private OS" tab
Click "Search" and, in the search successful prompt window, click “OK” to confirm.
Step 4: Villa OS setting

If "IP Gateway" is not checked on the villa outdoor station, set the "Block No.", "Unit No." and "ID" of the outdoor station. (Range 1-4).

If "IP Gateway" is checked on the villa outdoor station, only "ID" needs to be entered. (Range 1-32).

Please refer to the system manual to see whether or not the IP gateway needs to be checked.

The second push button of the villa outdoor station may be set to call the PC guard unit or guard unit.

"Anti-flicker" sets the mains frequency.

Click "Active" for the restarting of the villa outdoor station to take effect.

Click "Restore Default" and the villa outdoor station will restore the factory settings automatically.

Click "Next Page" to turn to the next configuration page.
Fig. 97: “Private OS” setting of Villa OS page 2

“Default Lock” is the unlock time set for the default lock. (1-10 s)

“Subsidiary Lock” is the unlock time set for the subsidiary lock. (1-10 s)

“Default Lock” selects the default lock.

Check “Upload Call Log” to upload the call log to the PC guard center.

Check “Door Alarm” to activate the door status detection function.

Check “Upload Alarm” to upload the alarm log to the PC guard center.

When "IC Card Mode" is set to "ID only", when registering or using the card in the villa outdoor station, only card number information is required.

When "IC card mode" is set to "ID plus", when registering or using the card in the villa outdoor station, security information is required in addition to card number information.

"Wiegand output" sets the Weigand output.

Check "Secure Unlock" to activate the secure unlock function. For settings, please see the "Commission"--"Basic setting"--"Door entry setting" section.

Check "Tamperproof" to start the tamper alarm function of the outdoor station.

Click "Active" and, if setting is successful, the outdoor station will beep.

Click "Previous Page" to go to the previous configuration page.
4.7 Engineering of guard unit

Fig. 98: Enter engineering mode

- Press the button to open the "Basic setting" interface.
- Select "Reset factory default" in the left list, and then click “Adjust” to enter the setting interface.
- Enter the programming password in the pop-up window and then click "OK" to enter the engineer setting interface

(The system default programming password is A12037. Press and hold the number 0 to enter the letter A)

Fig. 99: Engineering mode of guard unit
4.8 Engineering of guard unit

4.8.1 Getting the IP address from the indoor station

If the connection type of the indoor station is set on "IP gateway", you can also find the IP address from the information page of the indoor station.

The indoor station needs to be connected to the LAN port of the IP gateway.

---

**Fig. 100: Getting IP address from indoor station**

---

**ENGINEERING**

**Connection Type**: IP-Gateway

**Address Setting**

- **Block No.**: 001
- **Unit No.**: 01011
- **ID**: 01

**SIP Server**

- **IP**: 192.168.1.102
- **Mask**: 255.255.255.0
- **Gateway**: 192.168.1.1
- **DNS**: 192.168.1.1

---

**SYSTEM INFORMATION**

**Firmware Version**: H82351_V3.27_20170310_MP_TIDM365

**Address of Indoor Station**: 0001 0101 01

**Hardware Version**: H82351_V0.30

**MAC Address**: 80:7A:7F:01:8F:39

**IP-gateway Address**: 192.168.1.101

---

**Android App**: ![Android App QR Code]

**IOS App**: ![IOS App QR Code]

---

**Error Log**
4.8.2 Logging into IP gateway with the IP address

- Enter the IP address of the IP gateway directly on the browser.
- Enter the user name and password. (default is "admin", "admin")
- Click "Login" to enter the configuration menu.

Fig. 101: Logging into IP gateway with the IP address

Please find details in the product manual.
4.9  Engineering setting of card reader

Point the infrared remote controller to card reader.
Enter "FN"+"345678"+"Enter" to enter engineering mode.
4.10 Engineering setting of lift control

Setting the lift control module on the keypad outdoor station

1. Connect the lift control module to the outdoor station directly via the LAN cable.
2. Enter the outdoor station engineering mode, see details in the "Enter system setting of Building OS" section.
3. Select "System setting"--"Lift setting", then enable lift, set block no. and floor no.

Fig. 102: Setting the lift control module on the keypad outdoor station
## Setting the lift control relay module

![Diagram of lift control relay module](image)

**Fig. 103: Control elements and Interfaces**

<table>
<thead>
<tr>
<th>No.</th>
<th>Function</th>
</tr>
</thead>
</table>
| 1   | Power indicator  
- Flashes during standby, always on when setting |
| 2   | Setting indicator  
- Flash * 1 when setting delay time T1  
- Flash * 2 when setting pulse width T2  
- Flash * 3 when setting delay time T3  
- Flash * 4 when setting pulse width T4 |
| 3   | Button (SW1/SW2)  
- Press this button when setting delay time T1/T3, or setting pulse width T2/T4 |
| 4   | DIP switch  
- Toggle this switch when setting delay time T1/T3, or setting pulse width T2/T4  
- Toggle this switch when setting the module number |
| 5   | Power interface |
| 6   | RS485: connecting to the bus of the DES system |
| 7   | RS485: connecting to the lift control module |
| 8   | Relay output: connecting to the lift controller |

Table 5: Description
Setting delay time T1/T3 and pulse width T2/T4

The high level of the pulse indicates that the relay is closed.
To set T1-T4 according to the requirement. (1-254 s)

Table 6: Setting delay time T1/T3 and pulse width T2/T4

<table>
<thead>
<tr>
<th>Operation</th>
<th>Setting indicator</th>
</tr>
</thead>
<tbody>
<tr>
<td>Long press of SW1</td>
<td>Change from flashing to always on to enter the setting mode</td>
</tr>
<tr>
<td>Adjust SW3 according to the T1 value, then press SW2</td>
<td>Flicker * 1 then always on</td>
</tr>
<tr>
<td>Adjust SW3 according to the T2 value, then press SW2</td>
<td>Flicker * 2 then always on</td>
</tr>
<tr>
<td>Adjust SW3 according to the T3 value, then press SW2</td>
<td>Flicker * 3 then always on</td>
</tr>
<tr>
<td>Adjust SW3 according to the T4 value, then press SW2</td>
<td>Flicker * 4 then always on</td>
</tr>
<tr>
<td>Turn the first dial of SW3 to OFF, then press SW2</td>
<td>Flicker * 5 then always on</td>
</tr>
<tr>
<td>Long press of SW1 or no operation within 60 s</td>
<td>Change from always on to flash to quit the setting mode</td>
</tr>
</tbody>
</table>
Setting the module number and starting floor

- Final value = the sum of all the effective values to be turned to ON
- Bit 1 - Bit 4: Module number (1-15)
- Bit 5 - Bit 7: Starting floor number
- Bit 8: It means "+" when it is turned to ON and "-" when it is turned to OFF.

When multi modules are cascaded, Bit5 - Bit 8 of each module should be set the same.

Example: one building has 40 layers (including 2 undergrounds)
It needs 3 lift control relay modules (-2-14 layer, 15-31 layer, 32-38 layer)
The DIP switch is set as follows:

Fig. 107: Example
4.11  Configuring APP as indoor station

4.11.1  Logging into IP gateway with the IP address

- Enter the IP address of the IP gateway directly on the browser.
- Enter the user name and password. (default is "admin", "admin")
- Click "Login" to enter the configuration menu.

Fig. 108: Logging into IP gateway with the IP address
4.11.2 Add standard user

On the "User management" page, you can add a standard user and set the access authorization.

For standard users, their authorizations only include "Surveillance" and "Unlock".
4.11.3 Access for standard user

For the login of IP gateway with standard user, you can find a QR code on the "User information" page.

A standard user can modify the login password, but can not change the authorization.
4.11.4 Quick configuration for standard user with APP

- Open the "System information" page of the indoor station;
- Scan the QR code with the mobile device, download and install the app;
- Open the app and click the "Setting" button;
- Make sure the mobile and IP gateway are located in the same network;
- Login to the IP gateway with normal user, click on "User information" page;
- Click on "Quick configuration with QR code" on the app, scan the QR code on the "User information" page.
- Click on "OK" to confirm the configuration.

Click on "Back" to return to the main page.
Fig. 112: Quick configuration for standard user with APP

The main page displays all devices added by the IP gateway.
Click the icon of the outdoor station to start the surveillance.
4.12 Using NFC app to open door

Push-button module with NFC can be used for opening the door. Programming is carried out on the indoor station. Additional devices are not required for commissioning.

To the play store

[1] Download and install the ABB door opener app from the Google Play Store.
[3] Enter the setting mode of the round push-button module.
[4] Start using the NFC app on your mobile device.
[5] Set up your mobile device as a new user card.

Fig. 113: Download APP

Fig. 114: Registration
5  Connection

ABB-Welcome IP system can be easily and quickly connected to all kinds of buildings. The following examples of terminal diagrams provide optimum orientation and ensure effective installation.

<table>
<thead>
<tr>
<th></th>
<th>PoE Switch</th>
<th>Router</th>
<th>IP gateway</th>
<th>Indoor station</th>
<th>Need APP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single family house</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>Single</td>
<td>-</td>
</tr>
<tr>
<td>(without PoE switch)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Single family house</td>
<td>√</td>
<td>-</td>
<td>-</td>
<td>Single</td>
<td>-</td>
</tr>
<tr>
<td>(with PoE switch)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Single family house</td>
<td>-</td>
<td>√</td>
<td>√</td>
<td>Multi</td>
<td>√</td>
</tr>
<tr>
<td>(multi-indoor station/APP/full integration)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Residential complex</td>
<td>-</td>
<td>√</td>
<td>√</td>
<td>Multi</td>
<td>√</td>
</tr>
</tbody>
</table>

Tab. 7: Terminal diagrams
5.1 Single family house, single indoor station

Fig. 115: Single family house, single indoor station (without POE switch)
Fig. 116: Single family house, single indoor station (with POE switch)
5.2 Single family house, multi-indoor stations

Fig. 117: Single family house, multi-indoor station
5.3 High rising building

Fig. 118: High rising building
5.4 Resident complexes

Fig. 119: Residential complex
### Legend

- **Mini video outdoor station**
- **Video round pushbutton outdoor station**
- **Video keypad outdoor station**
- **7" video hands-free indoor station**
- **Guard unit**
- **Card reader**
- **Power supply**
- **IP Gateway**
- **Lift control module**
- **Lift control relay module**
- **Switch**
- **Router**
- **Main entrance**
- **Side entrance**
- **Electric door opener**
- **Camera**
- **Elevator**
- **Phone/pad**
- **Smoke detection**
- **GAS detection**
- **Anti-burglar**
- **Light**
- **Curtain**
- **Switch**

---

Fig. 120: Legend