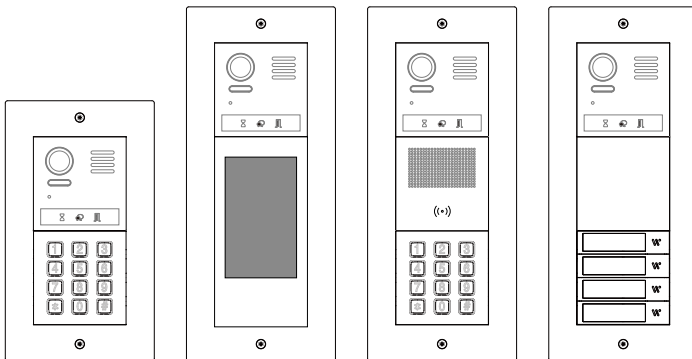


Apartment Intercom System

2-wire Series

VULCAN



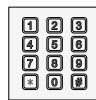
821-VD



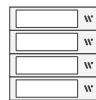
821-AD



821-DR



821-MK



821-S4



821-TFT



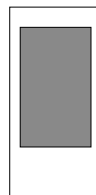
821-LB



821-BL



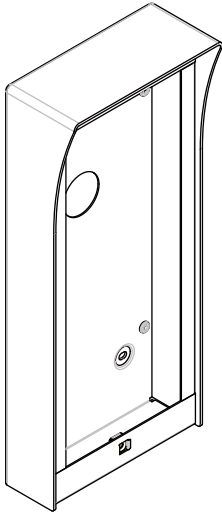
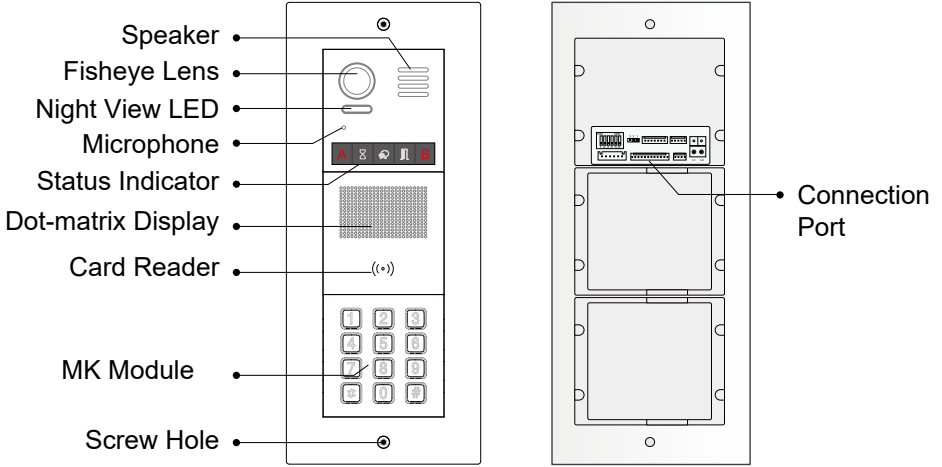
821-S0



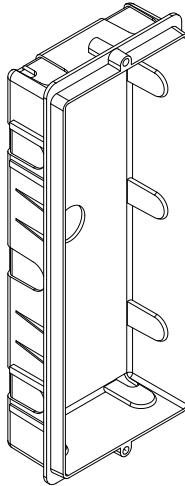
821-T5



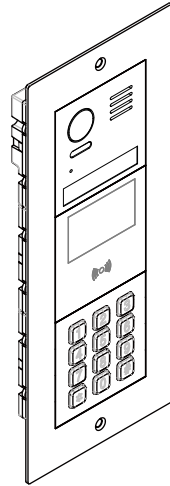
1. Parts and Functions



Surface mount box



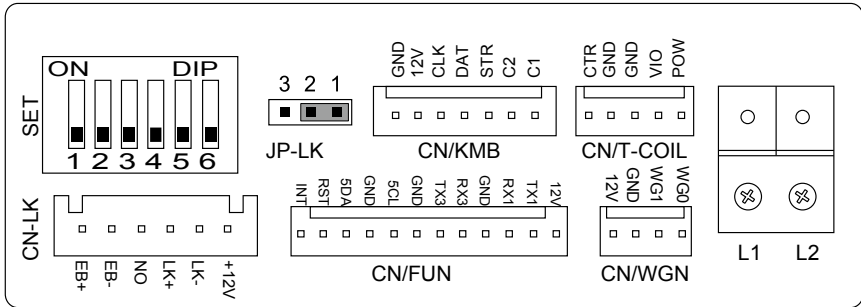
Flush mount wall box



Door Station



2. Terminal Description



- **+12V:** 12VDC power output
- **LK-:** power ground
- **LK+:** relay common contact
- **NO.:** relay normally open contact
- **EB+:** exit button positive
- **EB-:** exit button negative
- **JP-LK:** electronic lock type setting
- **SET :** DIP switches for system configuration
- **CN/KMB:** additional bell button connection port
- **CN/T-COIL:** reserved
- **CN/FUN:** Mechanical keypad module or TFT display module connection port
- **CN/WGN:** Card reader module connection port
- **Bus(L1,L2):** no-polarity bus line,connect to PC7(power supply)

3. Specification

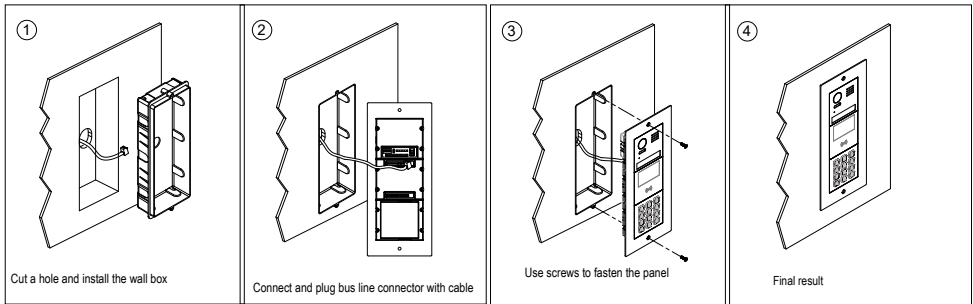
Power supply:	24Vdc(supplied by PC7)
Camera:	1/2.7" fisheye camera,170° wide angle
Power Consumption:	1W standby 5W working
Card Reader:	Support 125KHz and 13.56MHz unencrypted RFID tag
Unlock Power output:	12Vdc,250mA



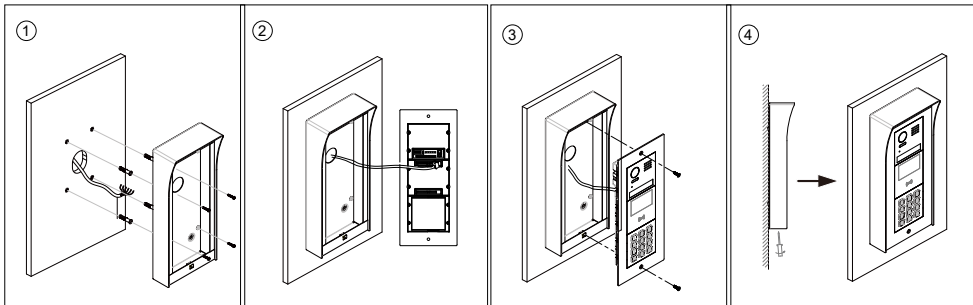
Unlock timing: 1~99s
 Working temperature: - 20°C ~ +55°C
 Wiring: 2 wires (no-polarity)
 Dimension: H316×W133×D48mm(3-Modules)
 H232×W133×D48mm(2-Modules)

4. Mounting

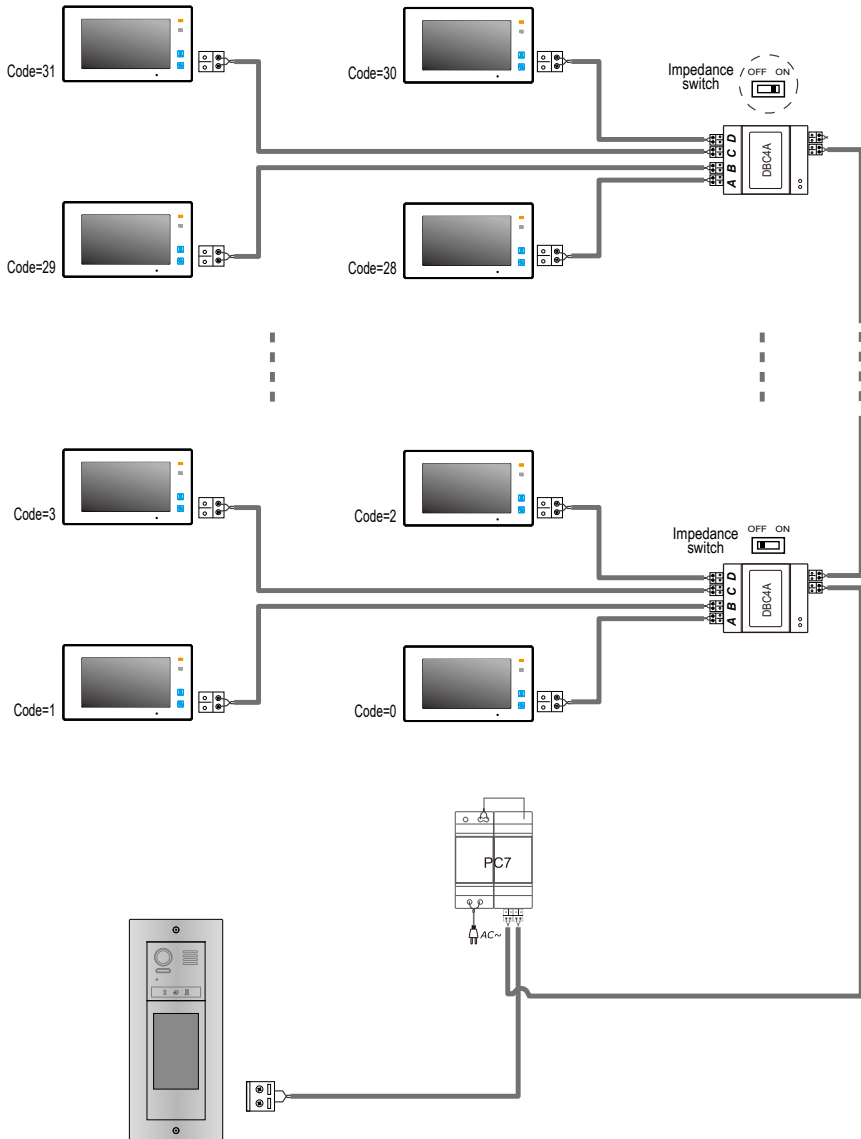
Flush mounting



Surface mounting

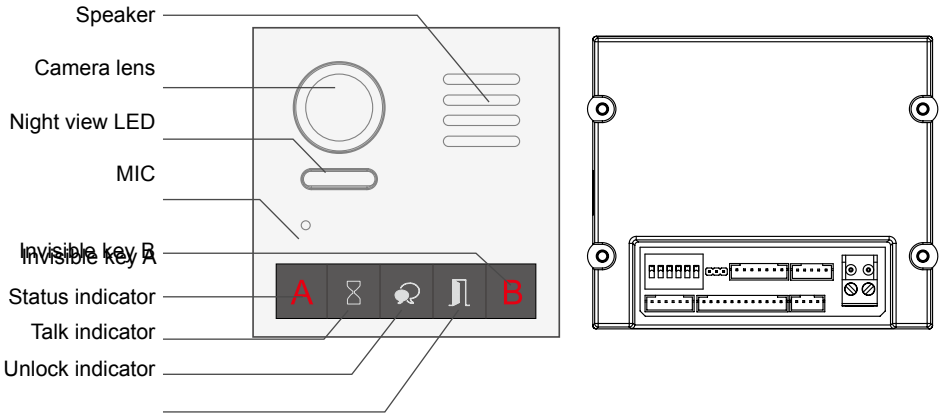


5. Connection Diagram





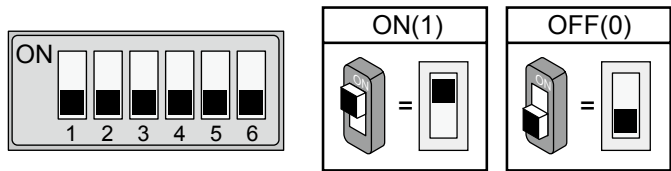
6. VD (VIDEO) Module



Note: Key A and key B can not be seen on the panel, they are cryptic. Normally, key A and key B are not active. To activate them, flip DIP switch 6 into On position

1. DIP Switches Settings

There are 6 DIP-switches on the rear of door station. The switches can be modified either before or after installation, but restarting the power is needed whenever the switches have been modified



- DIP-1 and DIP-2 are for door station ID setting. When multiple door stations are installed, the first door station address is 00 (default), the second door station address is 01: DIP-2 is On, the third door station address is 10: DIP-1 in On, the fourth door station address is 11: DIP-1 and DIP-2 are On
- DIP-3 is for single or double row button door station selection. If the door station is a double row button, such as DMR21-D8, set this bit to 0. For single row button door station, set to 1



- DIP-4 is for button code selection for Door Stations with buttons. All Buttons are pre-programmed with User Code/Address (see page 15). If you planning to use factory programming, keep DIP-4 Off. When factory programming going to be modified, change DIP-4 to On position
- DIP-5 is for unlocking time quick setting. Off(0) is the default setting, and the default time is 1 second. If set On(1), the unlock time is 5 seconds (Different unlock time can be programmed, DIP-5 should be in On position for different times)
- DIP-6 is for activating invisible key A and key B. Power Off door station and power On, then flip DIP-6 into On position. Remember to flip Off after programming finished.

2. Settings via Invisible Keys A and B

Remember to power Off and power On the door station and then flip DIP-6 ON to perform following settings:

- ***Unlocking Mode Setting***

1. Press Key A, **Unlock Indicator** turns on with double beep sound
2. Press Key A again to set the **Unlocking Mode** to **Normally Open** or **Normally Closed**

Normally Open: **Status Indicator** blinks once with beep sound

Normally Closed: **Status Indicator** blinks twice with beep sound

If door station has TFT screen connected, current Unlocking Mode will be visible on the screen





• **Unlocking Time Setting**

1. Press Key A, **Unlock Indicator** turns on with double beep sound
2. Press and hold Key B to change unlocking time from default 1s. Every beep and/or flash of **Status Indicator** increase unlocking time by second. If door station has TFT screen connected, time increase will be visible on the screen



• **Ringtone Setting**

1. Press and hold Key A for 3 seconds to enter the **Ringtone Option Mode**, the **Status Indicator** turns on and the current Ringtone will be played.

There are 3 options to choose from:

00 - Mute; 01 - Tune (default); 02- English (voice Annunciation)-Deafult

2. Press key A to select
3. Press Key B to exit





- **Ringtone Volume Setting**

1. Press Key B to enter **Ringtone Volume Setting**, the **Talk Indicator** turns on and plays the tune at the current volume

2. Press Key A to increase/decrease volume

3. Press Key B to exit

If door station has TFT screen connected, the current **Volume** and changes will be visible on the screen



- **Talk Volume Setting**

1. During conversation, press and hold Key B for 3 seconds to enter the **Talk Volume Setting**

The **Talk Indicator** turns on with beep sound

2. Press Key A to increase/decrease volume

3. Press Key B to exit





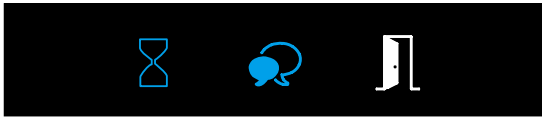
• **Camera NTSC / PAL Settings**

1. Press Key A, the **Talk Indicator** and **Status Indicator** turns on with double beep sound

2. Press Key A again to enter the **Camera NTSC/PAL** setting.

PAL(Default): the Status indicator blinks ones with beep sound

NTSC: the Status indicator blinks twice with double beep sound



• **Enable/Disable Image Zoom Mode**

1. Press Key A, the **Talk Indicator** and **Status Indicator** turns on with double beep sound

2. Press Key B to enter **Enable/Disable Image Zoom Mode** settings.

Enable Image Zoom Mode (Default): the Talk indicator blinks ones with the beep sound

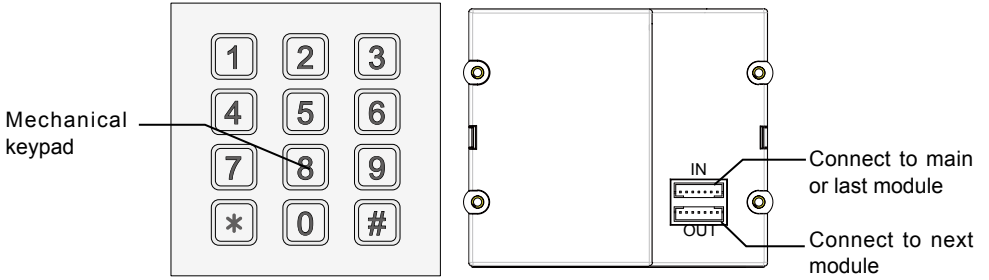
Disable Image Zoom Mode: the Talk indicator blinks twice with double beep sound



Door Station is equipped with Fisheye camera. Enabled Image Zoom Mode, allows monitor to display image on full screen for 5 seconds, then switch to zoomed image. Not all monitors have Zoom Pan&Tilt option, so those without, should be used with disabled Image Zoom Mode. Otherwise image will be flickering, trying to zoom.



7. MK (MECHANICAL KEYPAD) Module



Parameters Setting

To be able to change any default settings go first into Programming Mode by typing in

Default Master Code 1234 #

and type in the corresponding codes. Touch * to exit the Setting Mode



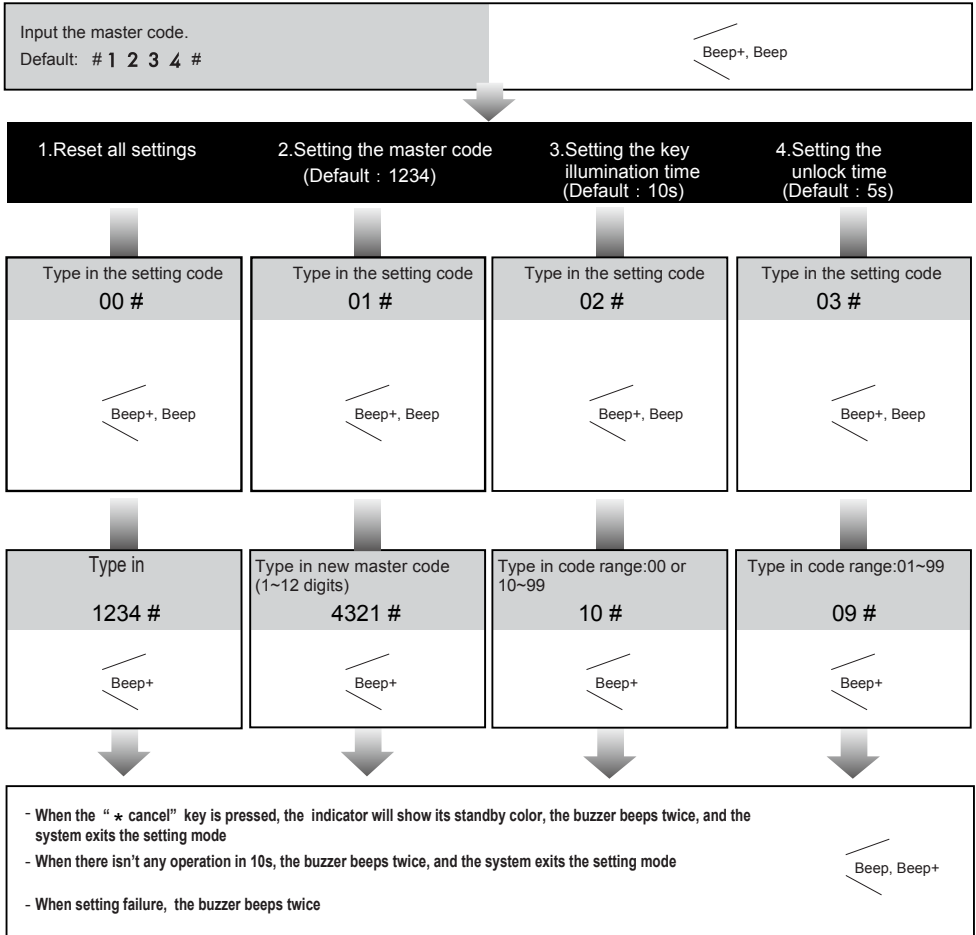
- The Defaults are: * as cancel button and # as confirm button
- # “confirm” button should be used after every change made
- If no activity for 10sec, system exits Programming Mode automatically

Programming Codes Tables

Setting items	Setting range	Default value	Setting code
Reset all settings	1,2,3,4	-	00
Setting the master code	1 ~ 12 digits Valid keys:0 ~ 9	1234	01



Setting items	Setting range	Default	Setting code
Setting the key illumination time	10 to 99 seconds/ continually lit	10 seconds	02
Setting the unlock time	01 to 99 seconds	1 second	03
Setting the unlock mode	0:opened/1:closed	open	04
Operation tone settings	0,1,2	on	05
Reset code settings	1,2,3,4	-	06
*&# function settings	0:Normal/1:Reverse	Normal	07
Call tone settings	0:Enable/1:Disable	Enable	08
SPK Adjustment	Valid keys:0~9	5	11
Night light level	Valid keys:0 ~ 5	4	13
Reserve	Reserve	Reserve	14~17
Setting the code forTemporary1	1 ~ 12 digits Valid keys:0~9	-	18
Setting the code forTemporary2	1 ~ 12 digits Valid keys:0~9	-	19
Setting the code for user group1	1 ~ 12 digits Number of codes:40 Valid keys:0~9	-	20~59
Setting the code for user group2	1 ~ 12 digits Number of codes:40 Valid keys:0~9	-	60~99

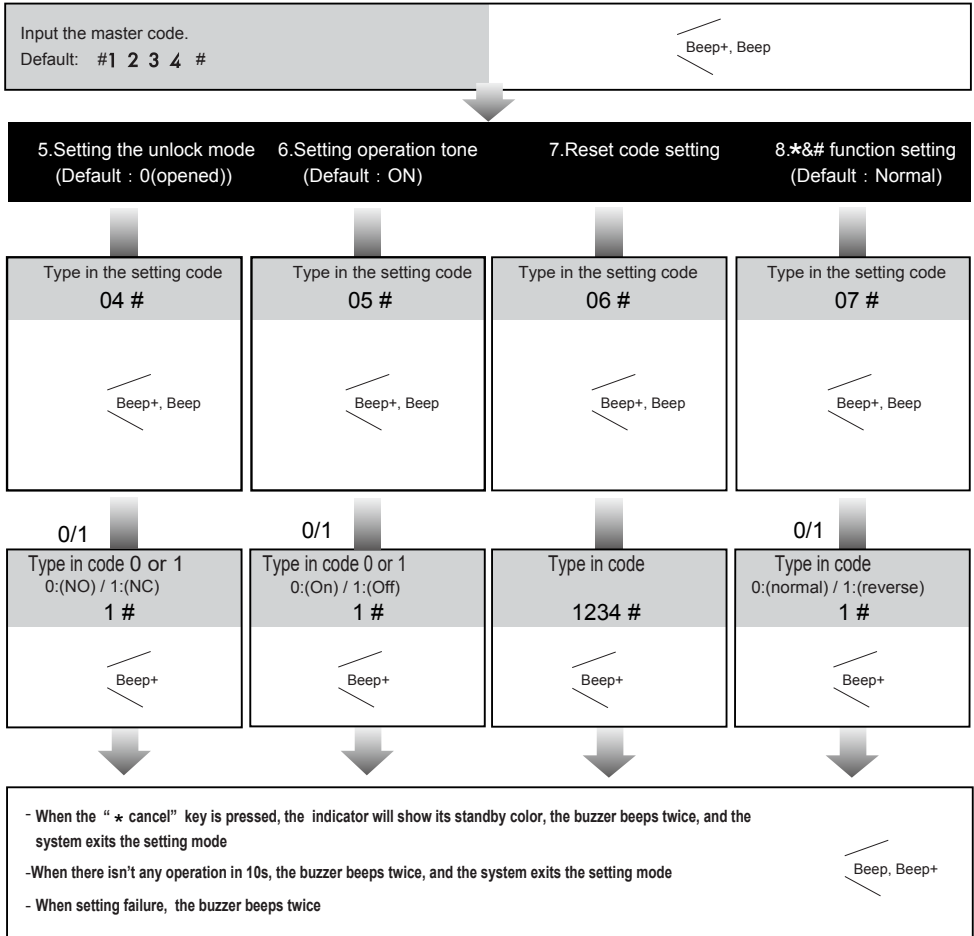


- All settings will restore to their default values
- When power on or activate 'Reset all settings', the keypad checking will carry out, during this time, the key illumination will blink and the touch operation is not possible. When finished, keys illumination will stop blinking and long beep will sound

- The Master password is allowed 1~12 digits. The user password can not be the same as Master password. It is recommended that you change the default Master password

- If the key illumination time is set to 00, the key illumination will stay lit at all times
- If the key illumination time is set to 10~99, the key illumination will light up for 10~99 seconds before turning off. Default is 10 sec

- The unlocking time can be set on either video monitor or door station, and the valid value is the number you set last

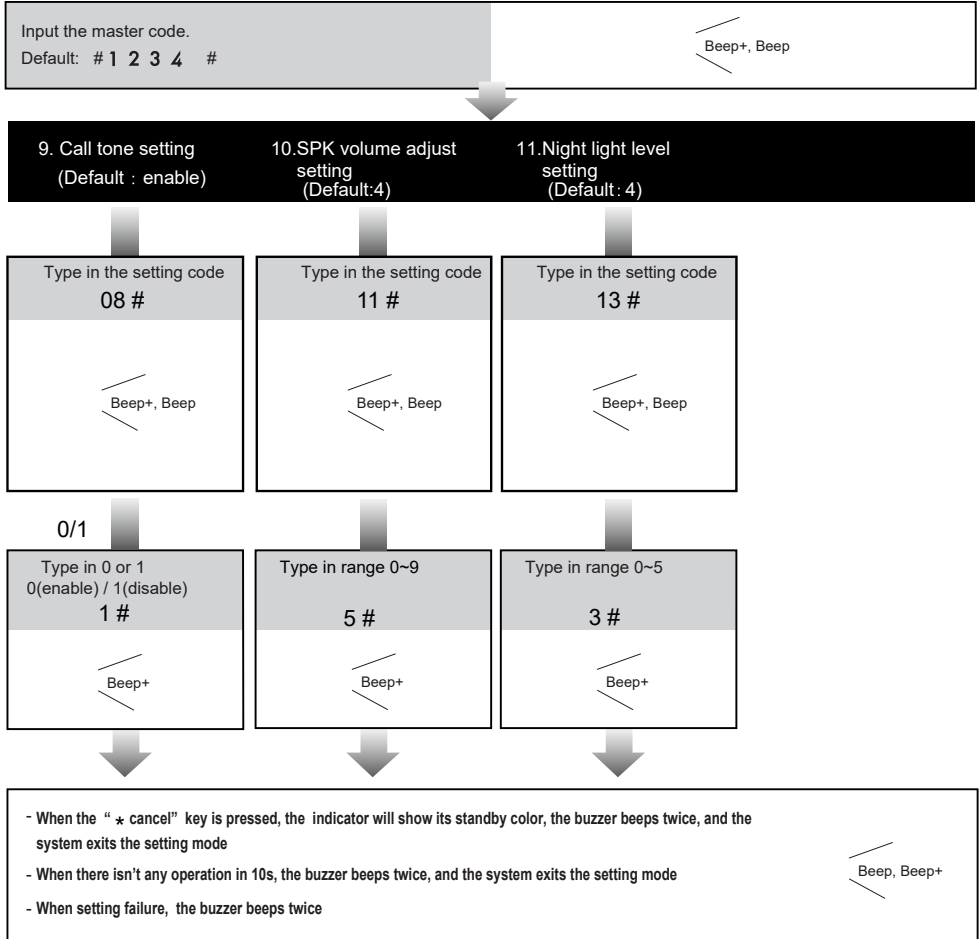


- The unlock mode can be set on either video monitor or door station, and the valid value is the number you set last

- When the operation tone is set to 0, keyboard clicks are sound
 - When the operation tone is set to 1, keyboard clicks are silent

- Cancel all passwords except master password
 - Restore the master password to a default 1,2,3,4

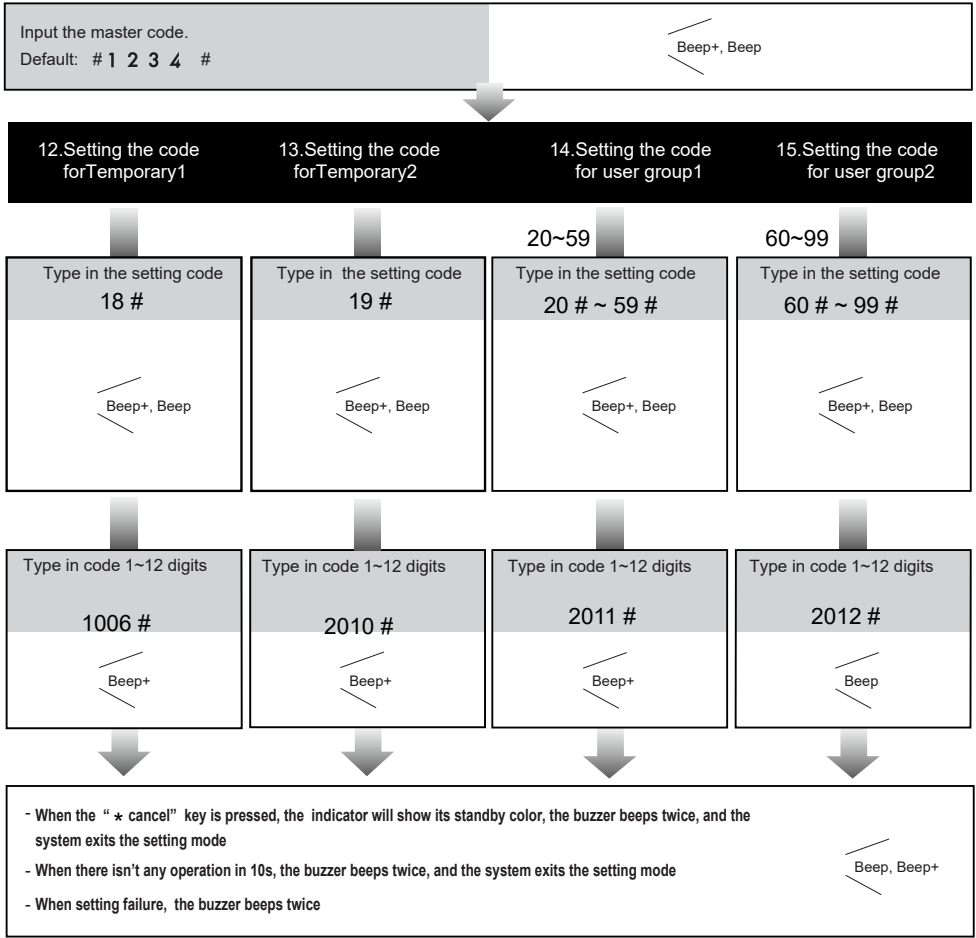
- When is set to 0, * button is to cancel the input, # button to confirm the input
 - When is set to 1, * button is to confirm the input, # button to cancel



- If set to 0, ringtone will be present when pressing the "CALL" button
- If set to 1, no ringtone when pressing the "CALL" button

- Unlock via password is still available when the door station is talking state
- When door station is talking, you can enter the Master code (the LED turns white upon that) to activate the volume adjusting function:
 - * Speaker adjustment: 3 (up), 6 (down)

- Night Light Level:0~5
- The higher the number, the brighter the lights

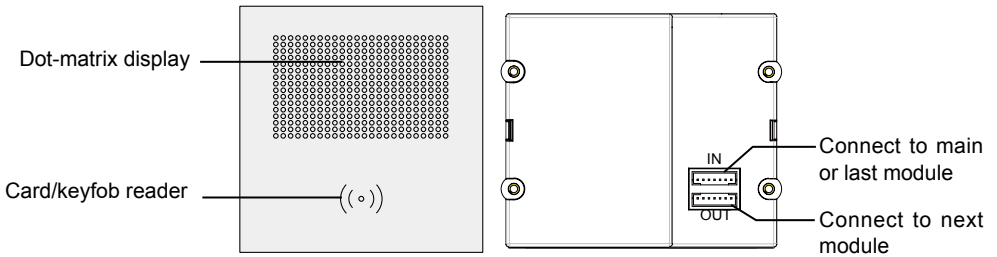


- The temporary password is for one time use and valid for 60 sec in case first attempt was unsuccessful.
- The temporary1 is used to release the first lock, and the temporary 2 is used to release the second lock (the second lock need an additional RLC Lock Control Interface)
- If the password length exceeds 12 digits, the keypad module will make multiple short beep sounds "beep,beep,beep,beep"- Failed
- The temporary password can not be set the same as the master password and the user password

- The user code group1 is used to release the first lock, and the user code group2 is used to release the second lock (the second lock need an additional RLC Lock Control Interface)
- The user code group1 and user code code group2 can contain 40 group passwords each
- If the password length exceeds 12 digits, the keypad module will make multiple short beep sounds "beep,beep,beep,beep"- Failed
- The user password can not be set the same as the master password and temporary password



8. DR (DOT-MATRIX) Module



Dot-matrix: 16 x 24 dot matrix display

Card Reader: support 125KHz and 13.56MHz unencrypted RFID tags

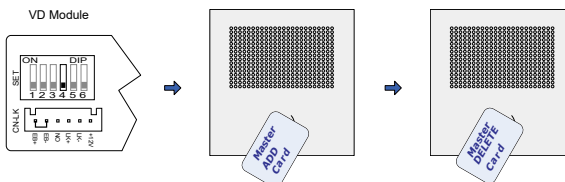
Features

- Up to 320 user cards can be registered by door station
- Easy management with indicators and sounds
- The distance of card reading is 3 to 5 cm
- The **Master Cards** are necessary when you add or delete user cards. Please keep them safe for future use

Card/Keyfob Operation

• Creating New Master Cards

- a. Power On and join together EB+ and EB- wires. Double beep will sound
- b. Toggle DIP4 switch four times. Double beep will sound
- c. Show the new, to be **Master ADD Card**, to the Proximity Reader, single beep will sound
- d. Show the new, to be **Master Delete Card**, to the Proximity Reader, single beep will sound



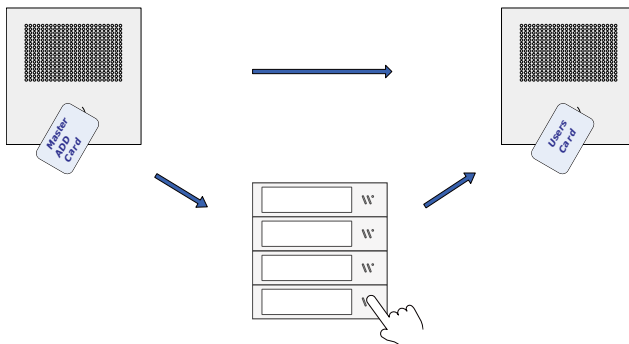


i) Add User Cards/Keyfobs

- a. Show the **Master ADD** card to the Proximity Reader, double beep will sound
- b. On Direct Call Button Module, press the Flat button which ID card needs to be associated with (skip if there is no Direct Call Button module)
- c. Show all blank ID cards, one by one
- d. Repeat steps b and c for each button
- e. Finish with **Master Add** card

For door stations without Direct Call Buttons

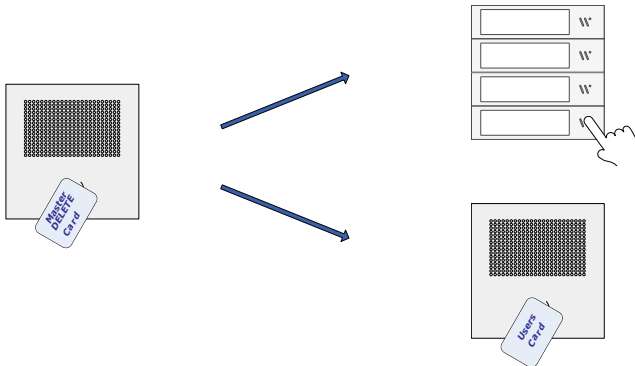
- a. Show the **Master Add** card to the Proximity Reader, double beep will sound
- b. Show all blank ID cards/keyfobs, one by one
- c. Finish with **Master Add** card





ii) Delete User Card

- a. Show the **Master DELETE Card** to the Proximity Reader, double beep will sound
- b. For Door Station with Direct Call buttons: if card is not present, press desired button and all ID cards registered to that flat will be deleted. If card is present, directly show the card and it will be deleted. If card was not assigned to direct button, you will need to use procedure **iii** below
- c. Finish with **Master DELETE Card**



iii) Deleting All Not Present Cards at Once

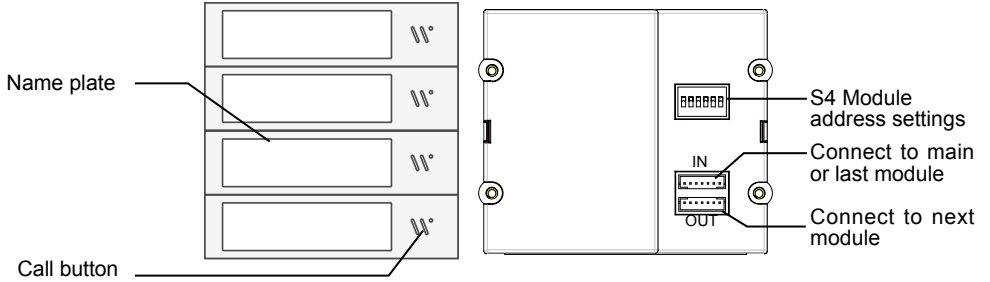
- a. In standby mode, show the **Master DELETE Card**, double beep will sound
- b. Show the **Master ADD Card**, double beep will sound
- c. Show the **Master DELETE Card again** single beep will sound. After approximately 10 sec, it will return to standby and all registered cards/keyfobs will be deleted

iiii) Card Database

- i) By PC- manage cards/fobs via software (coming soon)
- ii) By SD Card- Clone registered cards to a new door station (if door station was replaced for some reason). Power Off and power On the door station, flip DIP-6 into On position, insert micro SD card and it will backup all registered cards/keyfobs.
Power On new door station, flip DIP6 into On position, insert SD card and it will upload Card Database into new door station. Remove SD card, flip DIP6 Off



9. S4 Module



Call codes

The DT821 automatically assigns the call codes to the connected module's buttons. Regardless of the structure of the call button module, the button numbers are starting from the bottom

Call Code	DIP	Call Code	DIP	Call Code	DIP



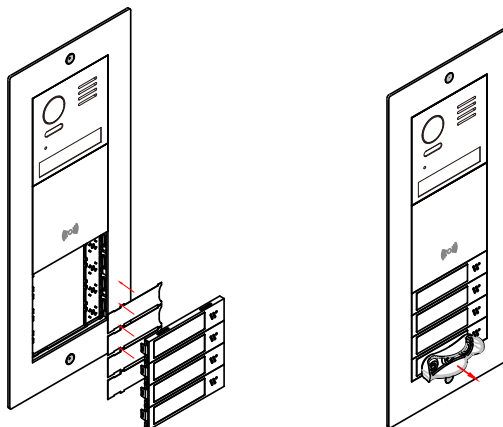
Call Code	DIP	Call Code	DIP
<input type="text"/> \28		<input type="text"/> \32	
<input type="text"/> \27		<input type="text"/> \31	
<input type="text"/> \26		<input type="text"/> \30	
<input type="text"/> \25		<input type="text"/> \29	

Nametag replacement

Nametag area to insert customized name card.

The suggested card size is: L58 x W11.7mm

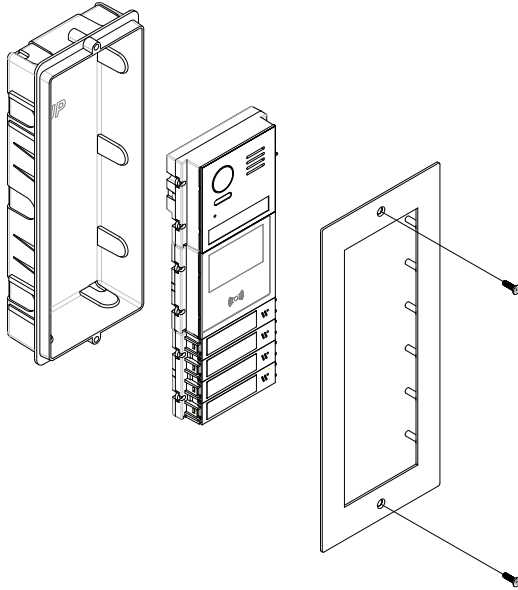
To replace nametag, remove the name tag via suck cup as below



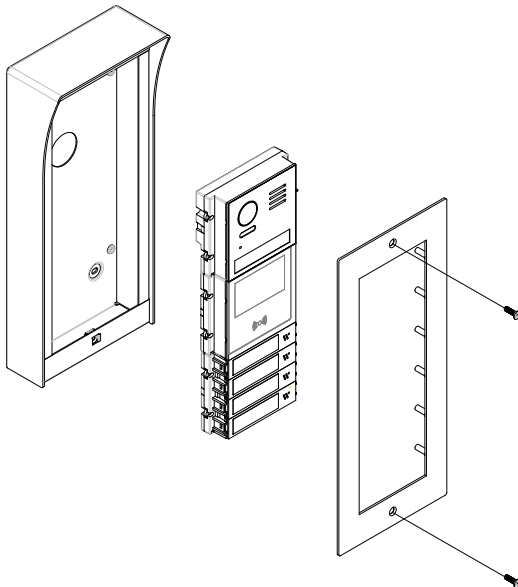


10. Module Mount

FLUSH MOUNT



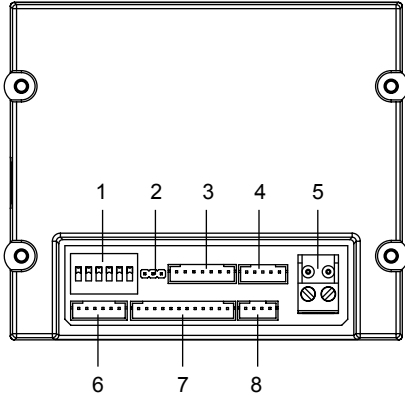
SURFACE MOUNT





11. Terminal Description

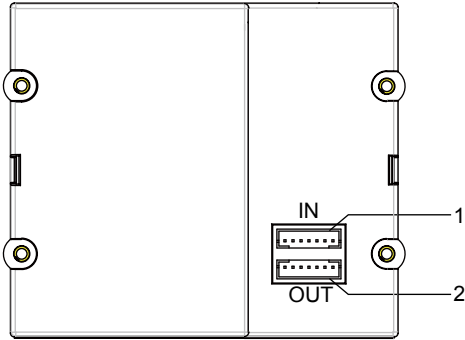
- VD module



NO.	Name	Descriptions
1	SET	DIP switches for system configuration
2	JP-LK	For electronic lock type setting
3	CN/KMB	Call button module connection port
4	CN/T-COIL	Reserved
5	Bus	No-polarity bus line, connect to power supply
6	CN-LK	Electric lock and exit button connection port
7	CN/FUN	Mechanical keypad module or TFT display module connection port
8	CN/WGN	Card reader module connection port

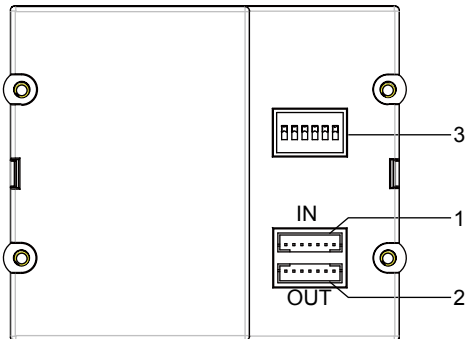


• MK and DR module



NO.	Name	Descriptions
1	CN/FUN_IN	Connect to CN/FUN of video entry module
2	CN/FUN_OUT	Connect to next keypad or TFT module

• S4 module

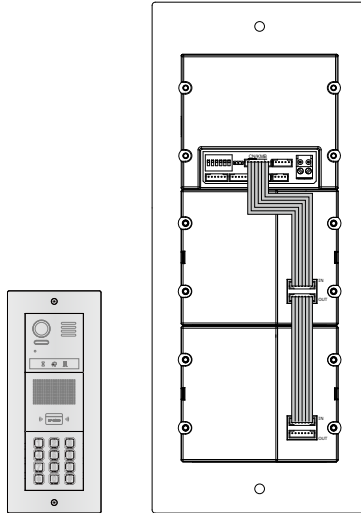


NO.	Name	Descriptions
1	CN/FUN_IN	Connect to CN/FUN of video entry module
2	CN/FUN_OUT	Connect to next keypad or TFT module
3	SET	DIP switches for system configuration

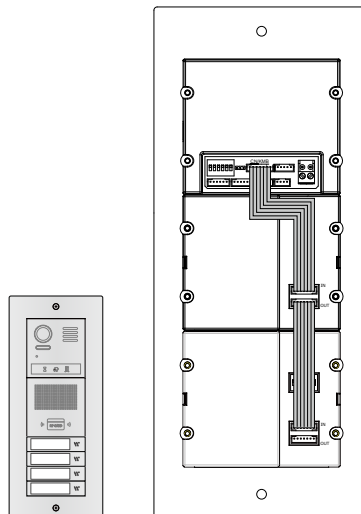


12. Connections

- VD and DR and MK module

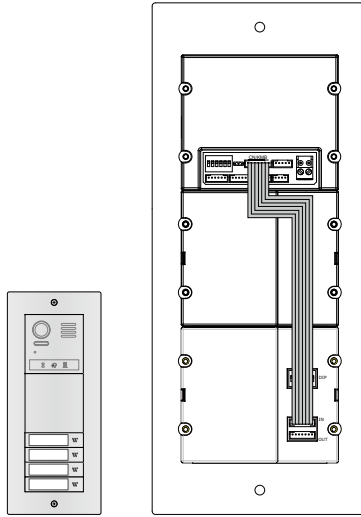


- VD and DR and S4 module





- VD and BL and S4 module



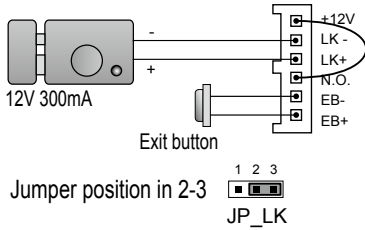
13. Electric Lock Connection

1) Door Lock Controlled with Internal Power

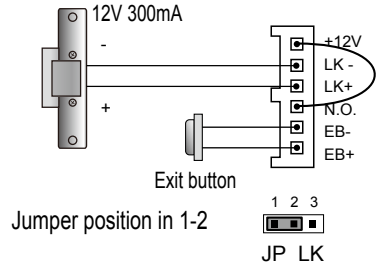
1. The door lock is limited to 12Vdc, and holding current must be less than 250mA when using internal power
2. The **Unlock Mode Parameter** must be set to 0 (default)
3. Jumper set to 1-2 position for power-off-to-unlock type (*Normally closed*); set to 2-3 position for power-on-to -unlock type (*Normally open*).
4. Default Unlocking time is 5 sec, See page 12 for different times settings



Power-on-to-Unlock type:



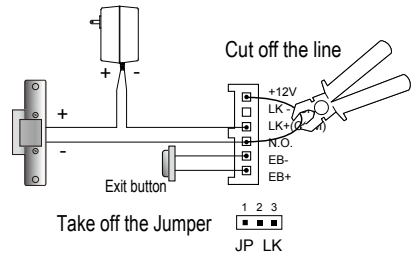
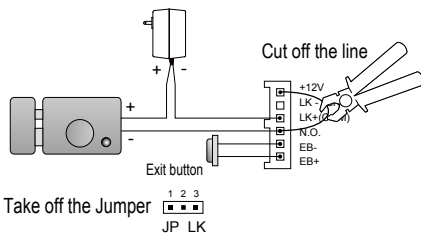
Power-off-to-Unlock type:





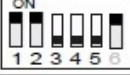
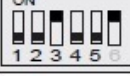

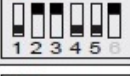



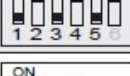

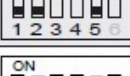
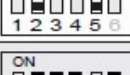
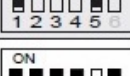
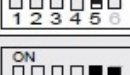
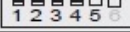
2) Door Lock Controlled with External Power

1. The external power supply must be used according to the lock
2. The jumper must be taken off before connecting
3. Setup the **Unlock Mode Parameter** for different lock types
 - Power-on-to-unlock type:Unlock Mode=0(default)
 - Power-off-to-unlock type:Unlock Mode=1
4. Default Unlocking time is 5 sec. See page 12 for different time settings

Power-on-to-Unlock type:



Programming Video Monitor Address with DIP switches

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