



DT 2-wire System

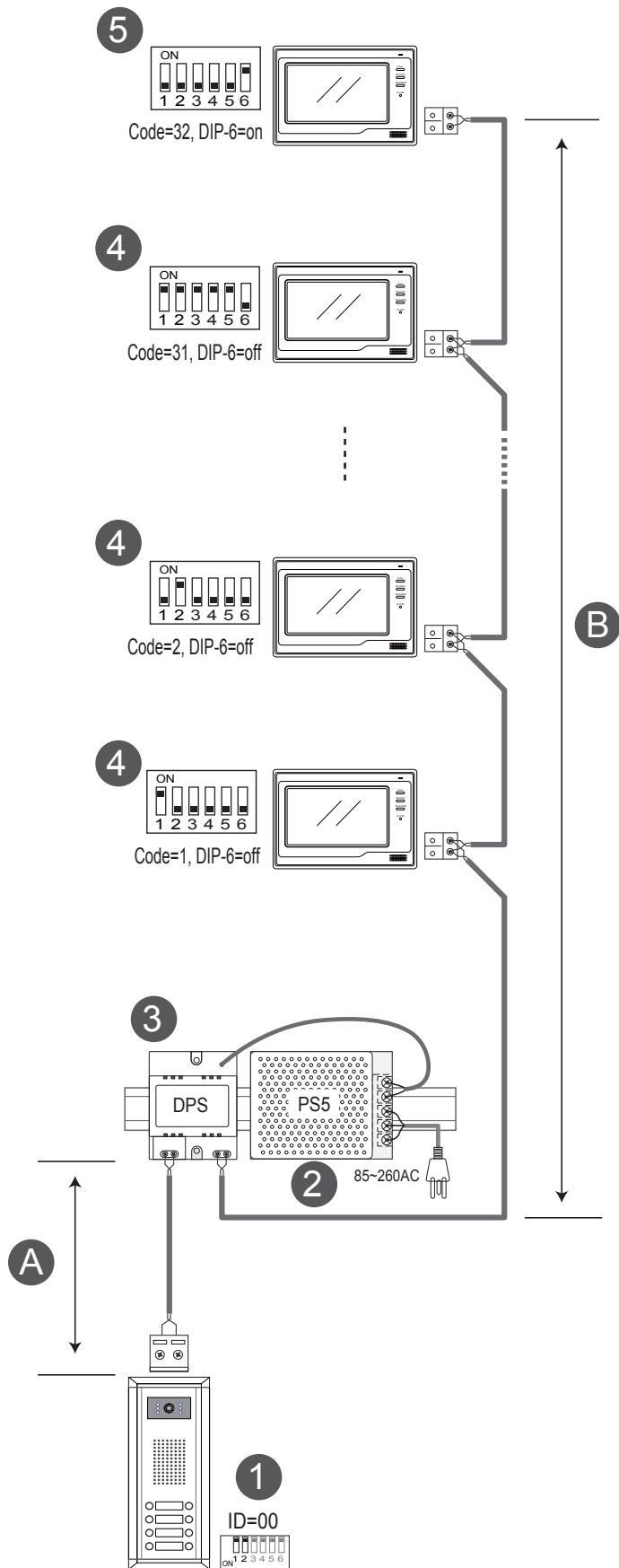
Quik Start Guide

ATTENTION:

This is an abbreviated Installation Manual, addressing Wiring and Programming of the DT System only. For all the detail information of DT 2-wire system, please refer to the DT Technical Manual.

1. System Wirings and Connections

1.1. IN-OUT wiring without any distributor



[1]: Door Station, when there is only one Door Station, the DIP bit-1 and bit-2 should be set to 00.

[2]: Power Supply(PS5), MUST be installed side by side with the DPS unit.

[3]: Power Separator, MUST be installed side by side with the PS5 unit.

[4]: Monitor, each one with a unique User Code (Max.32 Monitors), the bit-6 of the DIP should be set to 0 (off) if the Monitor is not at the end of the bus line.

[5]: Monitor, the bit-6 of the DIP should be set to 1 (on) if the Monitor is connected at the end of the bus line.

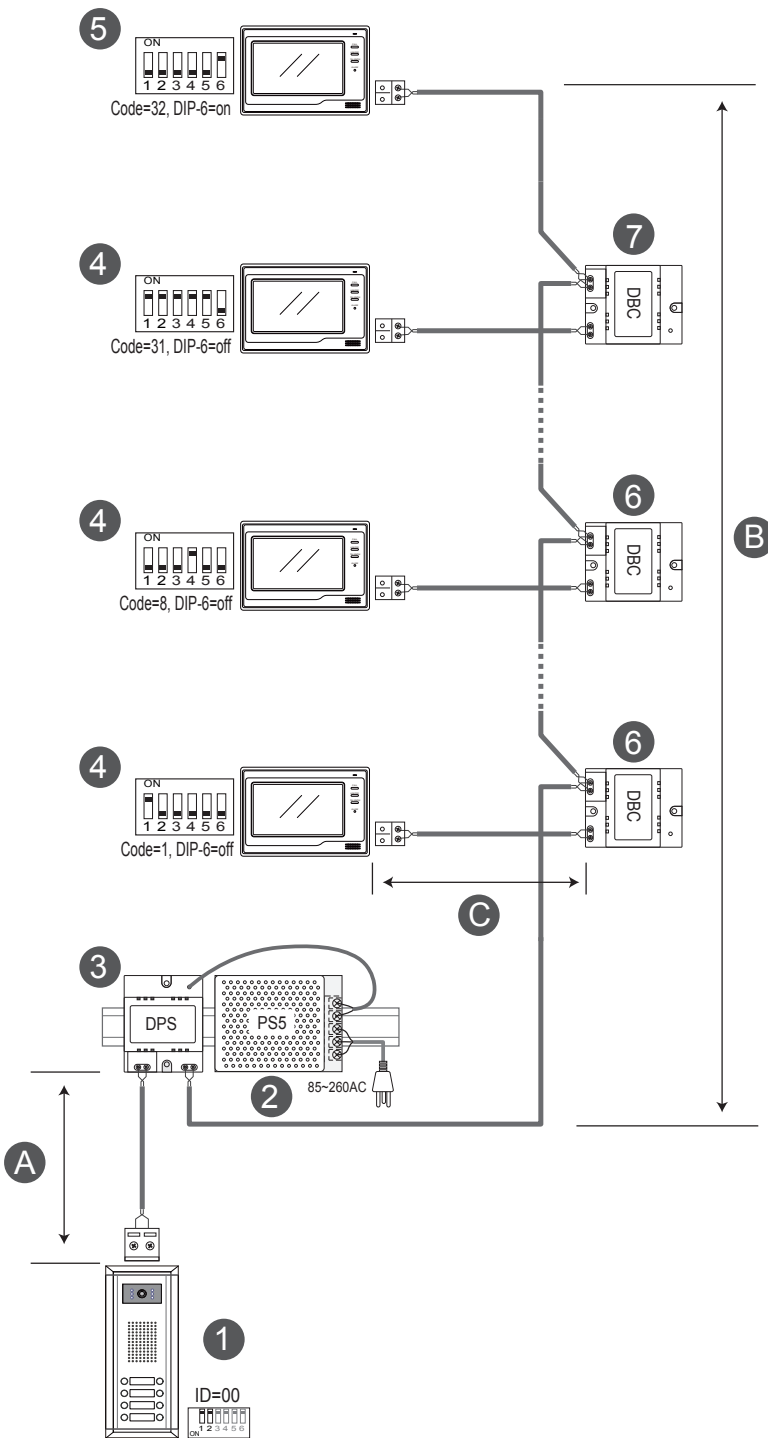
When Monitor quantity < 20

Cable Usage	A	B
Twisted cable 2x0.75 mm ²	60	60
Twisted cable 2x1 mm ²	80	80

When Monitor quantity > 20

Cable Usage	A	B
Twisted cable 2x1 mm ²	70	30
Twisted cable 2x1.5 mm ²	70	50

1.2. IN-OUT wiring with DBC One-user distributor



[1]: Door Station, when there is only one Door Station, the DIP bit-1 and bit-2 should be set to 00.

[2]: Power Supply(PS5), MUST be installed side by side with the DPS unit.

[3]: Power Separator, MUST be installed side by side with the PS5 unit.

[4]: Monitor, each one with a unique User Code (Max.32 Monitors), the bit-6 of the DIP should be set to 0 (off) if the Monitor is not at the end of the bus line.

[5]: Monitor, the bit-6 of the DIP should be set to 1 (on) if the Monitor is connected at the end of the bus line.

[6]: DBC(DT Branch Controller) unit, each apartment use one DBC unit to connect to the bus, except the last apartment at the end of the bus line.

[7]: DBC(DT Branch Controller) unit, at the end of the bus line, can connect two apartments, the last apartment and the 2nd last apartment.

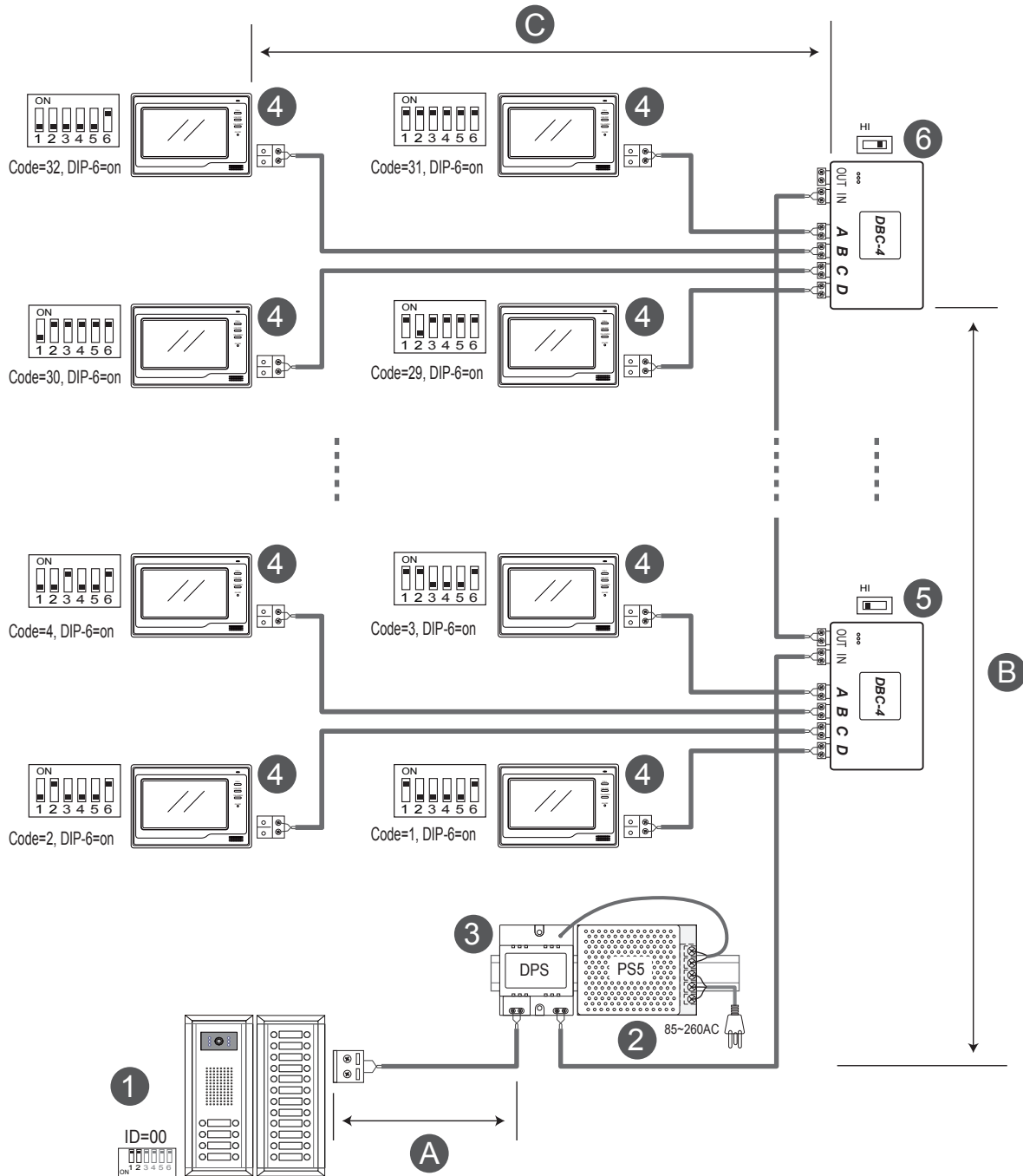
When Monitor quantity < 20

Cable Usage	A	B	C
Twisted cable 2x0.75 mm ²	60	60	30
Twisted cable 2x1 mm ²	80	80	40

When Monitor quantity > 20

Cable Usage	A	B	C
Twisted cable 2x1 mm ²	70	30	20
Twisted cable 2x1.5 mm ²	70	50	30

1.3. Star wiring with 4 output distributor DBC-4



[1]: Door Station, when there is only one Door Station, the DIP bit-1 and bit-2 should be set to 00.

[2]: Power Supply(PS5), MUST be installed side by side with DPS unit.

[3]: Power Separator, MUST be installed side by side with the PS5 unit.

[4]: Monitor, each one with a unique User Code, note that all the bit-6 of the DIP should be set to 1 (on) in this case.(Max.32 Monitors)

[5]: DBC-4(4 output Branch Controller) unit, the switch of the DBC-4 should be set to HI except the last one which is at the end of the bus line.

[6]: DBC-4(4 output Branch Controller) unit, the switch of the DBC-4 should be set to 120 as it is at the end of the bus line.

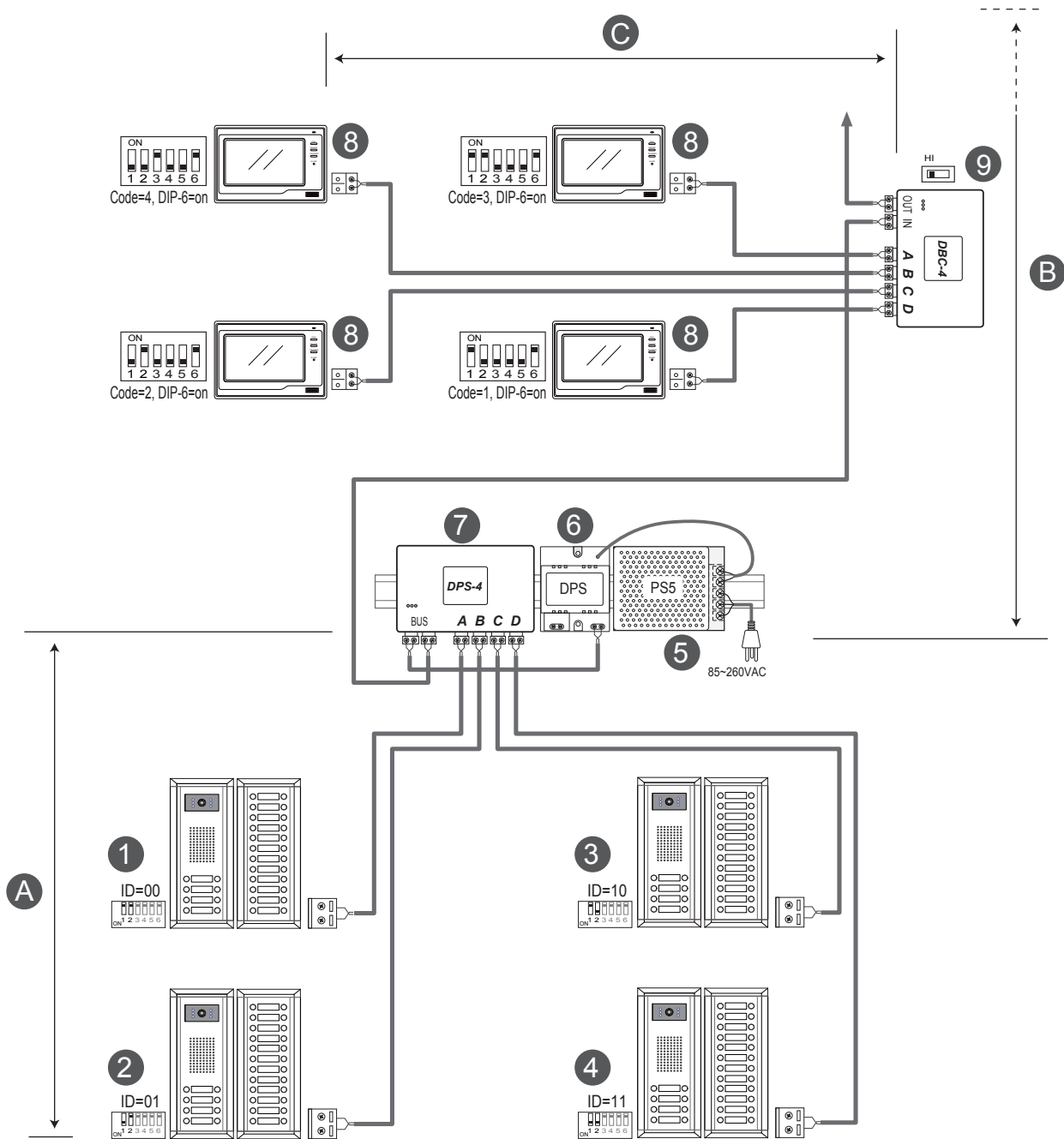
When Monitor quantity < 20

Cable Usage	A	B	C
Twisted cable 2x0.75 mm ²	60	60	30
Twisted cable 2x1 mm ²	80	80	40

When Monitor quantity > 20

Cable Usage	A	B	C
Twisted cable 2x1 mm ²	70	30	20
Twisted cable 2x1.5 mm ²	70	50	30

1.4. Multi Door Station wiring



[1]: The first Door Station, the DIP bit-1 and bit-2 should be set to 00.

[2]: The 2nd Door Station, the DIP bit-1 and bit-2 should be set to 01.

[3]: The 3rd Door Station, the DIP bit-1 and bit-2 should be set to 10.

[4]: The 4th Door Station, the DIP bit-1 and bit-2 should be set to 11.

[5]: Power Supply(PS5), MUST be installed side by side with DPS unit.

[6]: Power Separator, MUST be installed side by side with the PS5 unit.

[7]: DPS-4(4 input Power Separator), can connect Max. 4 Door Stations.

[8]: Monitor, each one with a unique User Code, note that all the bit-6 of the DIP should be set to 1 (on) in this case.(Max.32 Monitors)

[9]: DBC-4(4 output Branch Controller) unit, the switch of the DBC-4 should be set to Hi except the last one which is at the end of the bus line.

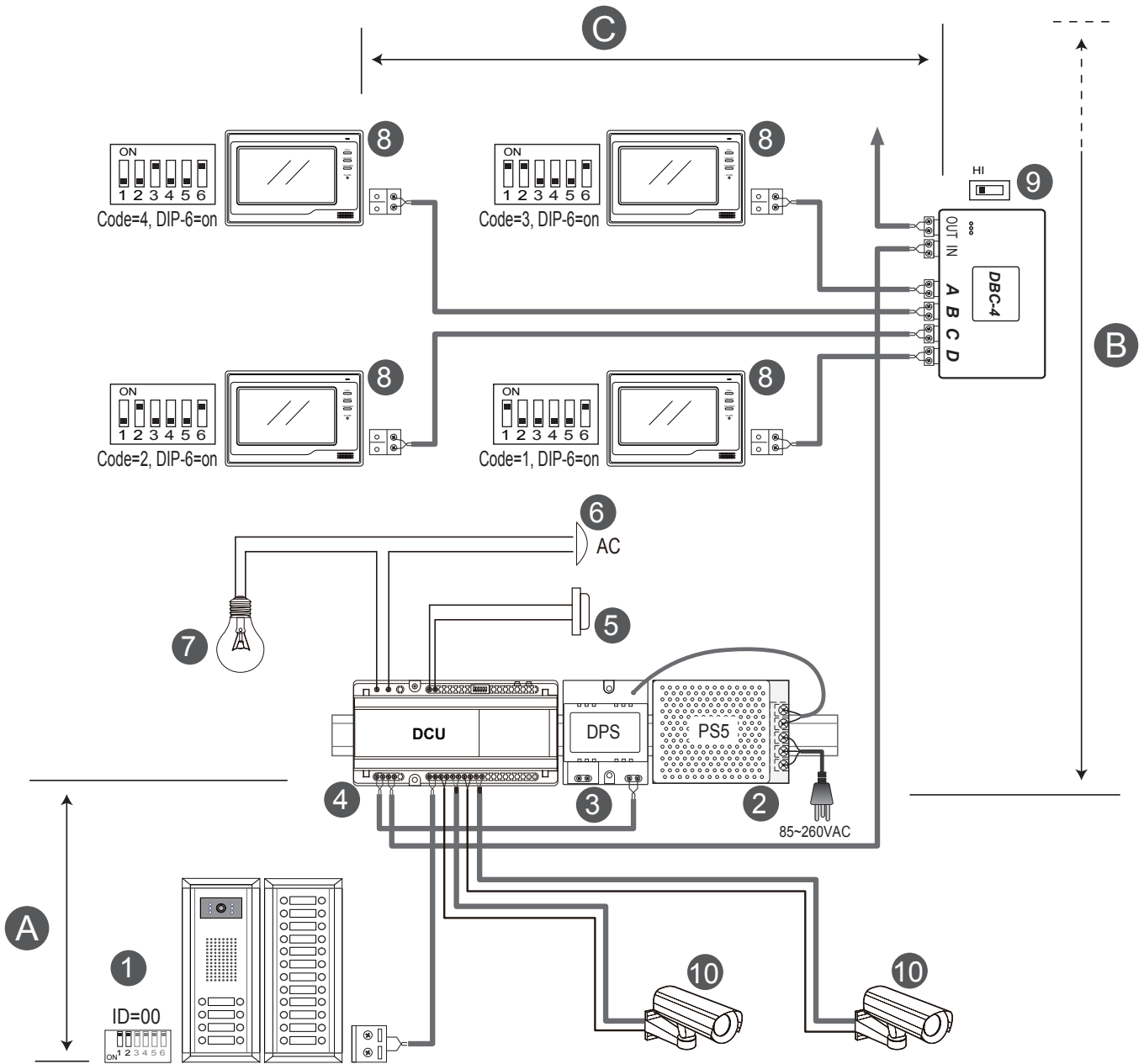
When Monitor quantity < 20

Cable Usage	A	B	C
Twisted cable 2x0.75 mm ²	60	60	30
Twisted cable 2x1 mm ²	80	80	40

When Monitor quantity > 20

Cable Usage	A	B	C
Twisted cable 2x1 mm ²	70	30	20
Twisted cable 2x1.5 mm ²	70	50	30

1.5. CCTV wiring with DCU



[1]: The first Door Station, the DIP bit-1 and bit-2 should be set to 00.

[2]: Power Supply(PS5), MUST be installed side by side with DPS unit.

[3]: Power Separator, MUST be installed side by side with the PS5 unit.

[4]: DCU(CCTV Controller), can connect Max.2 CCTV cameras and lamp/lock at the same time.

[5]: Light turn on button.

[6]: AC input for the lamp.

[7]: Lamp.

[8]: Monitor, each one with a unique User Code, note that all the bit-6 of the DIP should be set to 1 (on) in this case.(Max.32 Monitors)

[9]: DBC-4(4 output Branch Controller) unit, the switch of the DBC-4 should be set to HI except the last one which is at the end of the bus line.

[10]: CCTV camera.

When Monitor quantity < 20

Cable Usage	A	B	C
Twisted cable 2x0.75 mm ²	60	60	30
Twisted cable 2x1 mm ²	80	80	40

When Monitor quantity > 20

Cable Usage	A	B	C
Twisted cable 2x1 mm ²	70	30	20
Twisted cable 2x1.5 mm ²	70	50	30

2. Parts and Installations

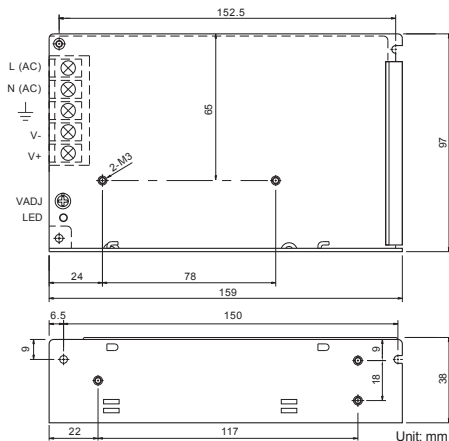
2.1. PS5 - Power Supply

The PS5 power supply unit is designed for DT system to supply up to 32 Monitors and total 4 Door Stations at the same time.

- Universal AC input/full range.
- Multi protection: short circuit, overload, over voltage
- Cooling by free air convection
- DIN rail mounting.
- Support up to 32 Monitors
- Support up to 4 Door Stations.

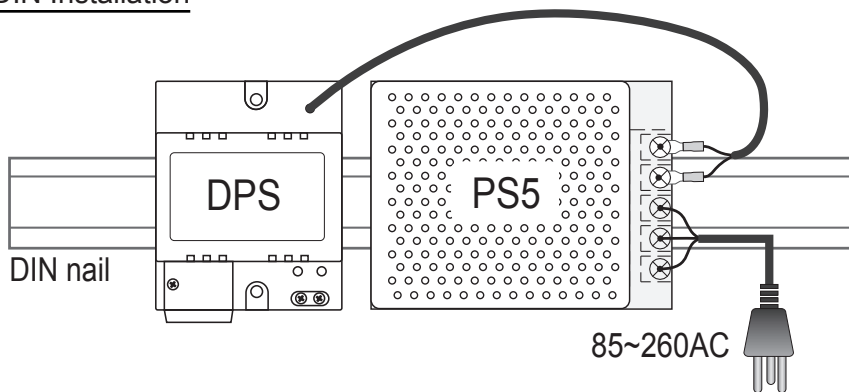


Dimension and Terminal



- **L(AC):** AC input.
- **N(AC):** AC input.
- \perp : Earth Ground.
- **V-:** DC power output.(21.5~26.5 adjustable)
- **V+:** DC power output.(21.5~26.5 adjustable)
- **VADJ:** Output voltage adjustment.
- **LED:** Working state indicator.

DIN Installation

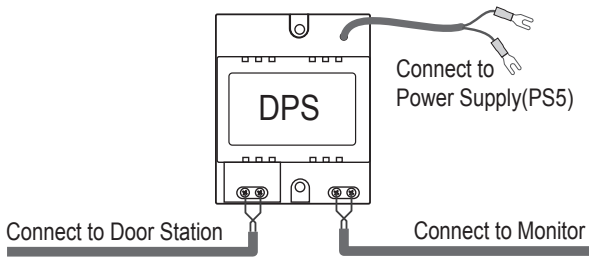


Electronic Specifications

Input Voltage:	85~260Vac, 120~370Vdc
Input Frequency:	47~63 Hz
Leakage Current:	>2mA / 240Vac
AC current (TYP.)	1.5A / 150Vac, 0.9A / 230Vac
Output VADJ range:	21.5~26.5 Vdc adjustable
Rated Voltage:	24Vdc
Rated Current:	3.2A
Rated Power:	76.8W

2.2. DPS - DT Power Separator

DPS: This unit is a power supply adaptor for the PS5 or PS4 power supply, it transfers the power from the power supply to the suitable power for the non-polarity bus. Note that the DPS must work together with the PS5 or PS4 power supply.

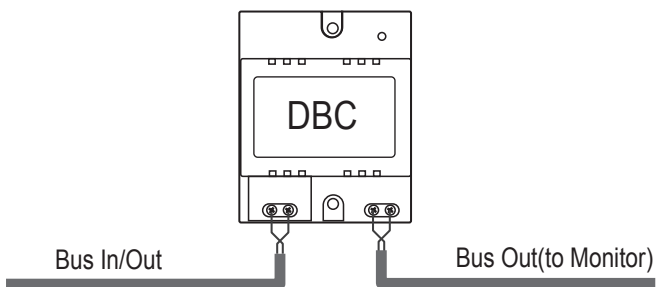


Technical Specifications(DPS)

Power input: 24Vdc (supplied by PS5)
Power output: 18Vdc
Power Consumption: 0.25W in standby, 0.5 W in acting
Working temperature: -5°C +45°C

2.3. DBC - DT Branch Controller

DBC: This unit is a single user distributor unit used to transfer all data between the Monitor and the Bus Line. Every Monitor(except the last one at the end of the line) needs one DBC to connect to the Non-polarity Bus Line. No extra power supply needed, and one LED indicator to show the working state.

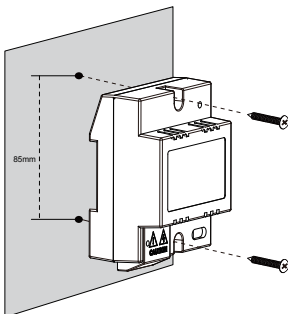


Technical Specifications(DBC)

Power Consumption: 0.25W standby, 0.5 W in working
Working temperature: -5°C +45°C

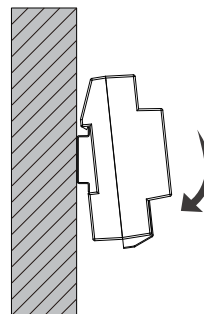
Direct Wall Mounting

Use the screws to fasten the unit on the wall directly.



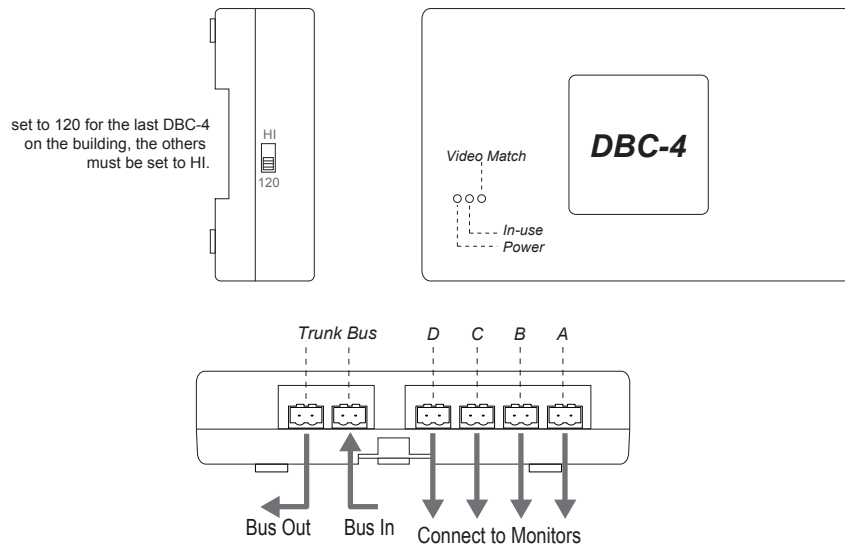
DIN Rail Mounting

Install on the DIN Rail.



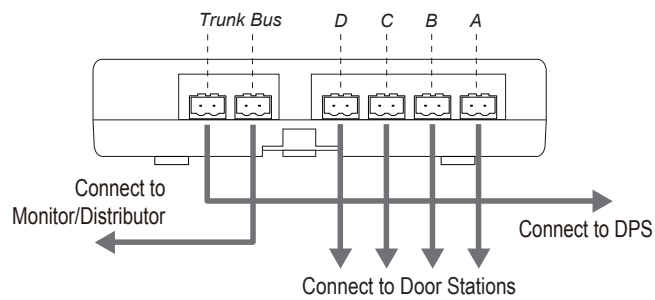
2.4. DBC-4 - DT 4 output Branch Controller

DBC-4 (4 output Branch Controller) Distributor is a 4 output user distributor for DT system, to approach the star topology connection in the apartment system. See Section 3 Cables and Connection for detail connection information.

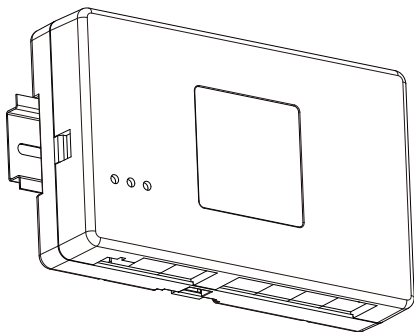


2.5. DPS-4 - DT 4 input Power Separator

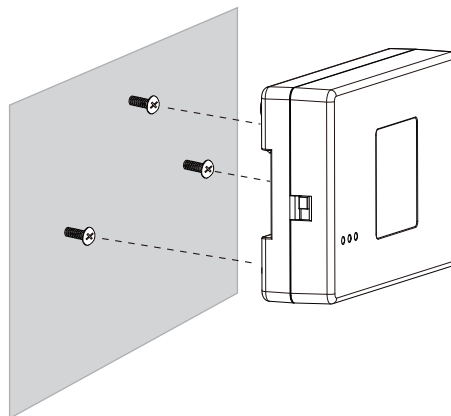
DPS-4 (4 input Power Separator) Unit is used to connect multi Door Stations, total 4 Door Stations can be connected to the DPS-4 unit.



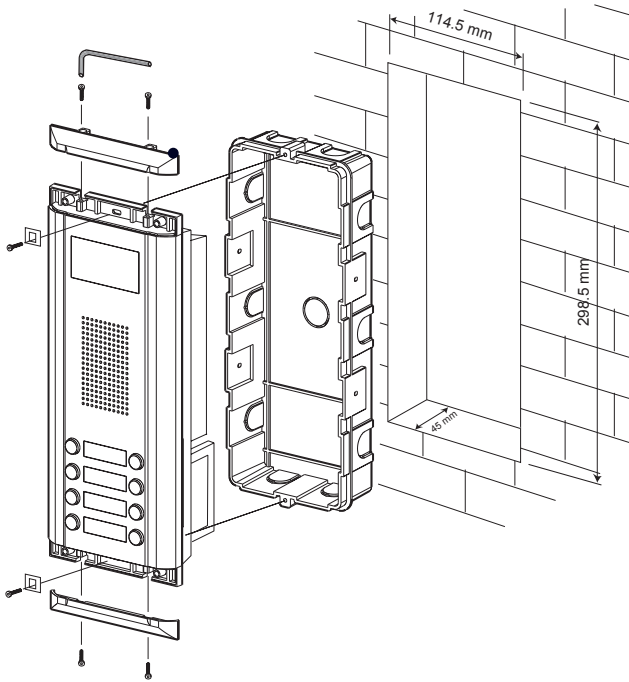
DIN Rail Mounting



Direct Wall Mounting

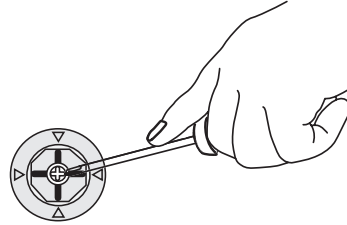


2.7. Door Station Mounting

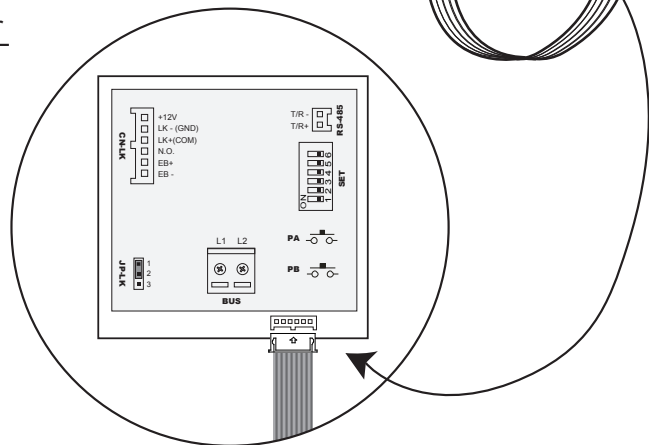
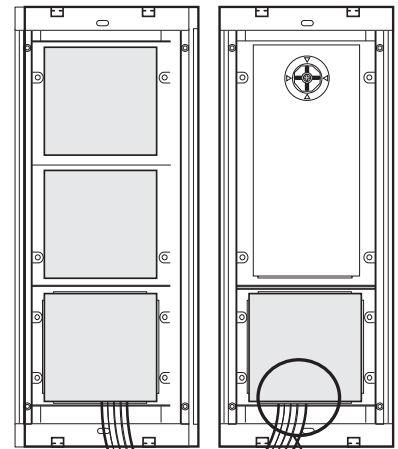
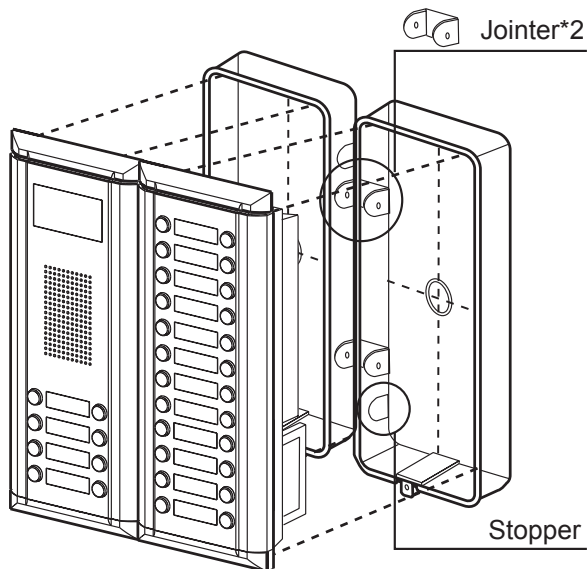


Camera Angle adjustment

Open the mounting box of the panel, use a cross screw to adjust the view angle of the camera before installation.



Installation with expanding panel

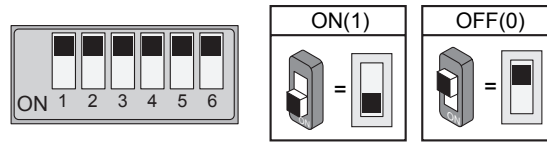


Note

The double button line expansion panel can only be connected to double button line Door Station; the single button line expansion panel can only be connected to single button line Door Station. For example, the EP11/Dx can only be connected to DMR11/Dx Door Station.

2.8. Door Station DIP setting

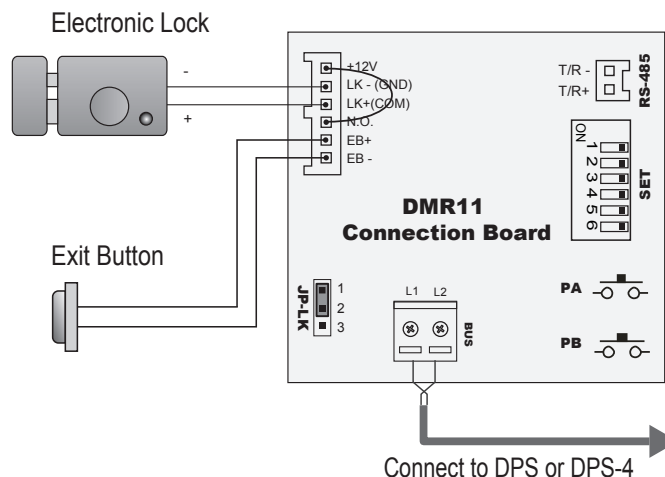
Total 6 bits in the DIP switches can be configured. The switches can be modified either before or after installation.



Bit definition	Bit state	Function Descriptions
Bit-1 and bit-2 Door Station ID setting		Default setting, ID = 0, set to the first Door Station.
		ID = 1, set to the second Door Station.
		ID = 2, set to the third Door Station.
		ID = 3, set to the fourth Door Station.
Bit-3 User ID select		Default setting for using a double line button Door Station.
		when using a single line button Door Station.
Bit-4 Button line select		Default setting for using the default codes of the button.
		using the programmed codes of the button.
Bit-5 Unlocking time quick select		Default setting, unlocking time = 1 second.
		Unlocking time = 5 seconds.(can be changed by software)
Bit-6 Function reserved		Working state.
		Function reserved.

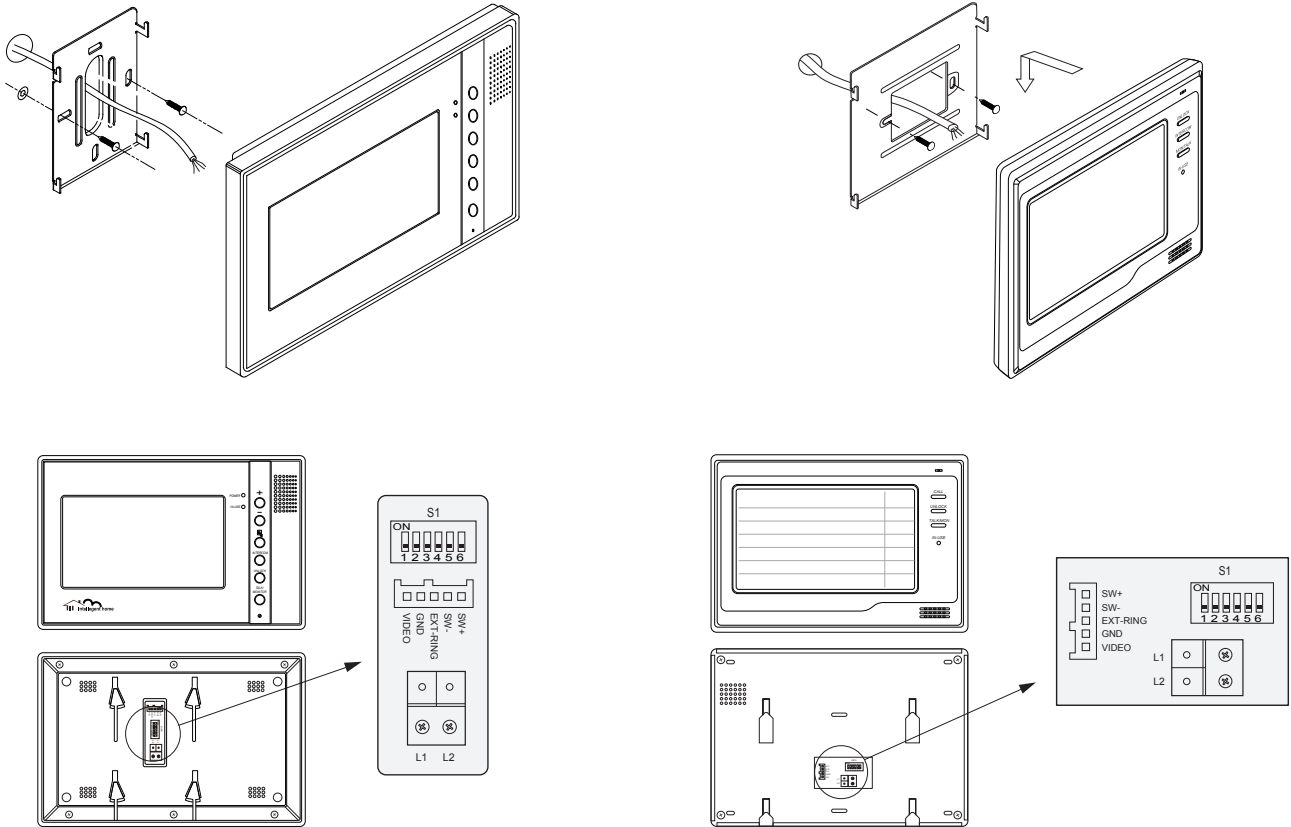
2.9. Standard Electronic Lock Connection

This example is a standard electronic lock wiring, by connecting the lock directly to the door station. note that the lock used here is a 12Vdc 500mA power-to-unlock type. (other locks can be supported, please refer to DT technical manual for Lock connection detail information-)



3. Monitor Mounting and User Code Setup

3.1. Monitor Mounting



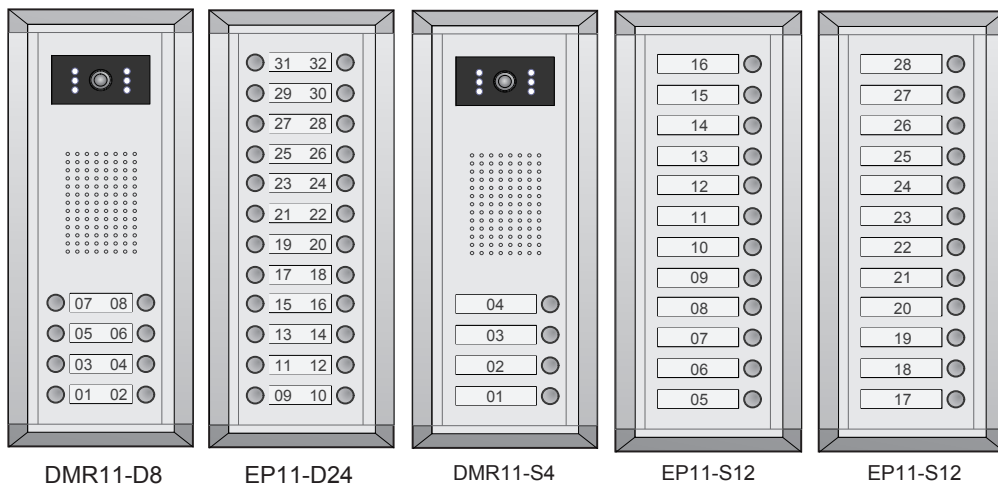
3.2. What's User Code

In 2-wire DT system, each Monitor installed in system must be programmed with a calling address or calling number, which is User Code.

For Monitor, User Code is defined by 1~5 bits DIP switchers on the back of Monitor, according the User Code rules. For example, if you want to program the Monitor's User Code to be "03", the Monitor's 1~5 bit DIP switches should be set as: ON, ON, OFF, OFF, OFF.

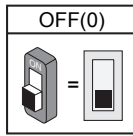
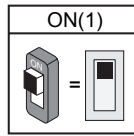
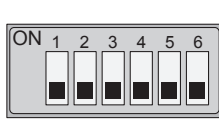
For Door Station, each Call Button on panel is assigned to a specified User Code, and press this button will call related Monitor. For example, press the call button pre-defined as "03", system will launch a call to the Monitor which programmed with "03" User Code.

The User Code array on panels has been pre-defined as below, that's the default mapping as follow:



3.3. Monitor User Code Setup

Bit-6 line terminal setting:



Bit state	Setting	Bit state	Setting
	Monitor not at the end of the line.		Monitor at the end of the line.

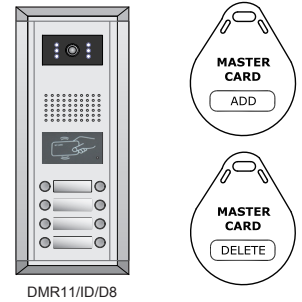
Bit state	User Code	Bit state	User Code	Bit state	User Code
	Code=1		Code=12		Code=23
	Code=2		Code=13		Code=24
	Code=3		Code=14		Code=25
	Code=4		Code=15		Code=26
	Code=5		Code=16		Code=27
	Code=6		Code=17		Code=28
	Code=7		Code=18		Code=29
	Code=8		Code=19		Code=30
	Code=9		Code=20		Code=31
	Code=10		Code=21		Code=32
	Code=11		Code=22		

4. Proximity ID Card Operation

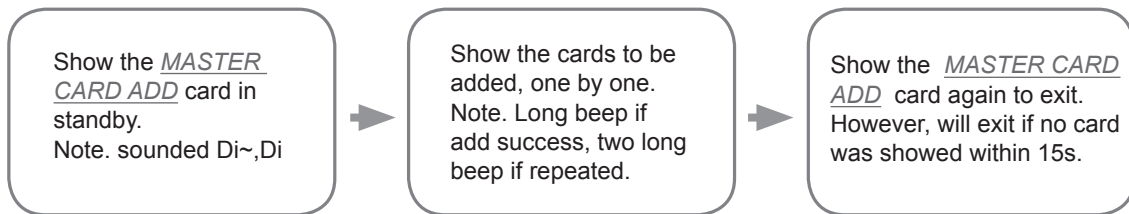
4.1. Introduction

- Up to 1000 user cards can be registered by the Door Station.
- Easy management with LED state and Sound hint.
- There are two master cards, one MASTER CARD ADD card and one MASTER CARD DELETE card, When adding a new master card, the old one will be replaced automatically.
- Card reading distance is from 3 to 5 cm.

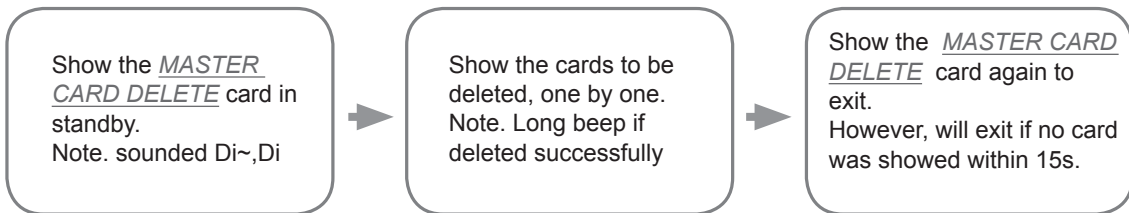
The Master cards are necessary when you add or delete user cards, Please keep the Master cards carefully. However, it is much easier to manage the ID cards using DT-CONFIG software.



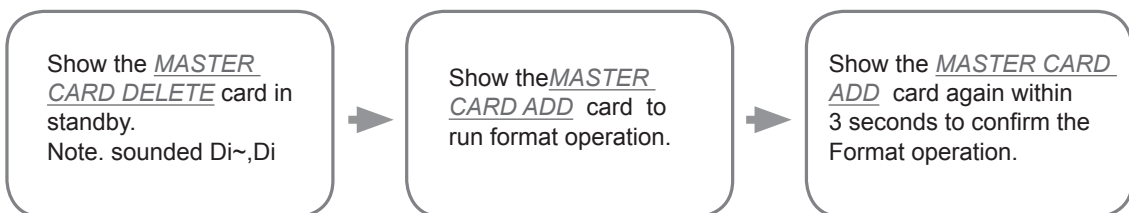
4.2. How to add user cards:



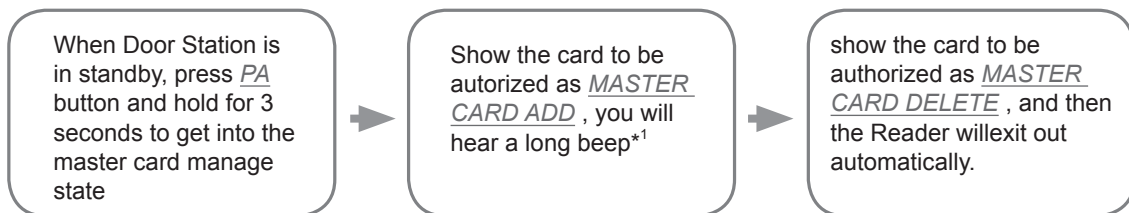
4.3. How to delete user cards:



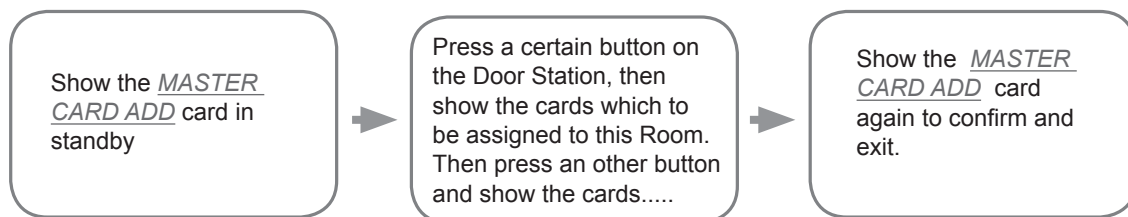
4.4. How to delete all user cards(formatting):



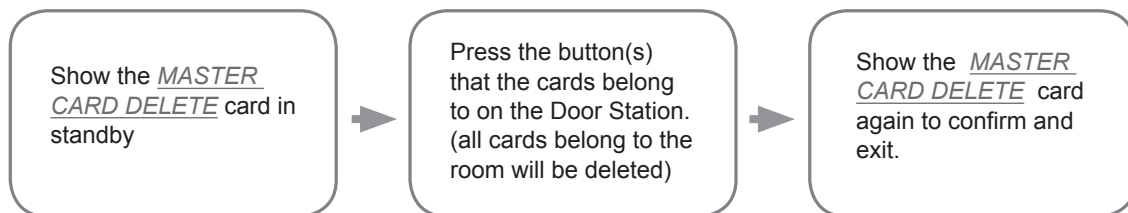
4.5. Authorize master cards:



4.6. Add user cards by Room:



4.7. Delete user cards by Room:



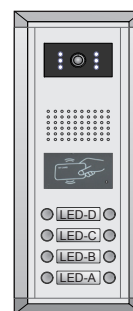
Note 1: The MASTER CARD ADD card must be showed before the Reader can get in to the Authorize DELETE-Card state, and make sure each operation have to take place within 10 seconds, or the Door Station will return to normal state automatically.

4.8. Card management shoud hints

State	Operation	Sound hint
standby state	show user card(registered)	a long 'D~.' (door opens)
	show user card(not-registered)	3 short 'Di' (Di, Di ,Di)
Card management state	Enter the card management state	a long 'Di~' + a short 'Di' (Di~ Di)
	Exit out the card management state	2 short 'Di' (Di ,Di)
	Add card/Delete card/Format successful	a long 'Di~' (Di~)
	Add a already existed card	2 long 'Di~' (Di~, Di~)
	Add card/Delete card/Format unsuccessful	3 short 'Di' (Di, Di, Di)
	Add a debug card(16666666)	4 short 'Di' (Di, Di ,Di, Di)
	Add card failure (1000 cards registered)	5 short 'Di' (Di, Di ,Di, Di, Di)

4.9. Card management LED hints

State	LED-A	LED-B	LED-C	LED-D
Standby	ON	ON	ON	ON
Authorize ADD-Card	ON	OFF	OFF	ON
Authorize DELETE-Card	OFF	ON	OFF	ON
Add user card	ON	OFF	OFF	OFF
Delete user card	OFF	ON	OFF	OFF
Format	ON	ON	OFF	OFF



DMR11/ID/D8

5. Quik Debug

5.1. Online search

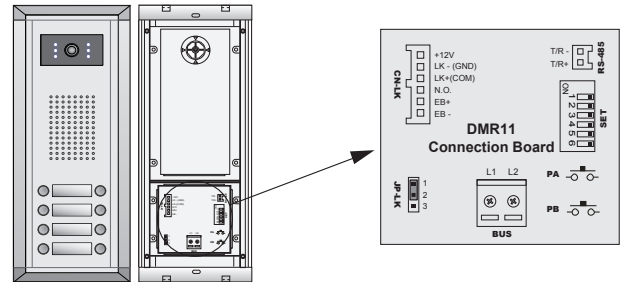
Online search function is designed for the purpose of getting a quick view of the Monitors installing situations, or to check if each of them works or not. It is very useful for installation maintain.

When the Online search is acting, the Door Station will search every Monitor with the User Code from 1 to 32. If the Monitor is one line(work normally), the LED light of that button will light up, and one 'Di~' sound hit will be heard; if the Monitor is off line(disconnected or malfunctioning), the LED light of that button will not light up, and a 'Di,Di,Di' sound hit will be heard. After 32 Monitors all be searched, the Monitor will quit out automatically, or press PB button to abort the searching.

A. Manual search

To execute searching, just press PB button(or hold it for 3 seconds) on Door Station Connection Board, the Door Station will start searching, and the result is shown by lighting the related Name Label backlight with sound tips. After 5 seconds, Door Station returns to normal.

- Press the PB button, will search the Monitors in the right Call Buttons column.
- Press the PB button and hold for 3 seconds, will search the Monitors in the left Call Buttons column.



B. Use ID tag(Only for DMR11/ID series)

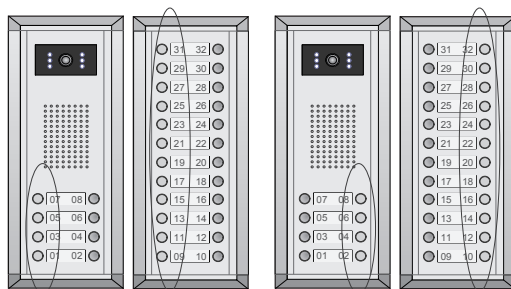
If the Door Station has ID card function(DMR11/ID series), it will be equipped with a Online search Card with a card number of 16666666, which is designed for the online search only.

- Show the Online search card on the card window one time within 3 seconds, the Door Station will start to search the Right column Monitors.
- show the Online search card on the card window twice within 3 seconds, the Door Station will start to search the Left column Monitors.



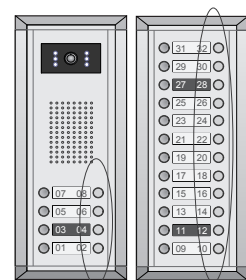
DMR11/ID/D8

For Example, if 01, 03, 04, 11, 12, 13, 28 Monitors are installed and work correctly, the result will be:

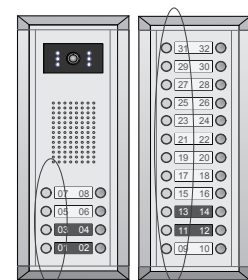


PB button for 3 seconds
Online search range

PB button
Online search range



press PB button once
(or show the Online Search Card once)



press PB button and hold for 3 seconds
(or show the Online Search Card twice
within in 3 seconds)

5.2. Auto-Callback

The Auto-Callback function is designed for the purpose of testing the Monitor's working state, which enable the installer to check a certain Monitor working state by only one person.

Press and hole the Call Button for 2 seconds on any Monitor, the Door Station will call the Monitor automatically, then the installer can answer the call and check if system work properly(such as video, audio etc).

