

# Chapter 6

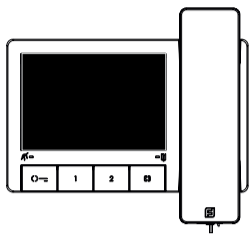
## INSTALLATION DIAGRAMS

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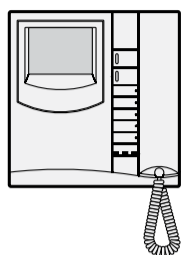
## WHAT TO INSTALL

The installation diagrams represented in this chapter are typical system situations in which the products listed below can be installed. Where VC, CT and PE appear, it is possible to install one of the products (or the set of products for that particular device category) described below.:PE Application with 2220S 6.42

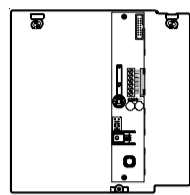
### VIDEOINTERCOMS (VC)



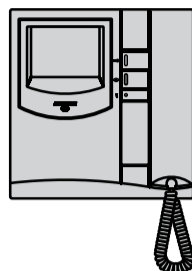
AT9262



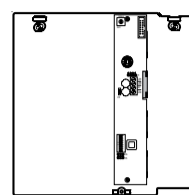
EX3262C



WB3262



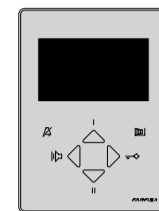
EX3252C



WB3252

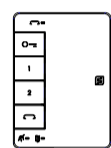


SE4252

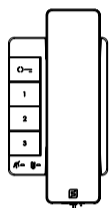


ZH1252WE

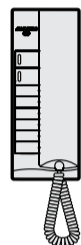
### INTERCOMS (CT)



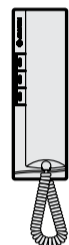
AT972



AT962

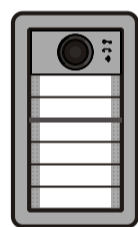


EX362



EX352

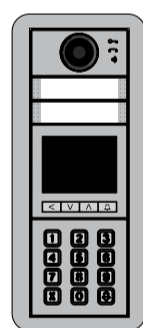
### DOOR STATIONS (PE)



C.2144AB  
CT2138AB

It is possible to install the ALBA push-button panel either flush-mounted, using a correct box composition SC1-SC-SC3, or Onrface-mounted, choosing between the shield roof version AB91-AB92-AB93-AB94-AB96 or the Onrface-mounted box version AB81S-AB82S-AB83S. Bearing in mind that the buttons of the CV2144AB (or CA2144AB) module and of the CT2138AB add-on modules can be configured so that pressing the button on the left or on the right sends the call to the same user (**single row configuration**) or, on the contrary, so that pressing on the left sends the call to a different user than pressing on the right side (**double row configuration**), the maximum number of users that can be contacted by an ALBA panel with traditional buttons is listed below:

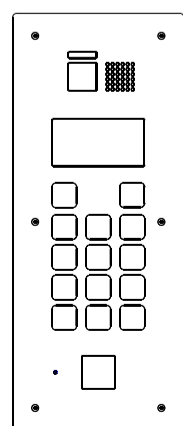
- **flush-mounted solution: maximum 68 users (34 if configured on single row),,**
- **Surface solution with shield roof AB91-AB96: maximum 44 users (22 if configured on single row);**
- **Surface solution with AB81S-AB83S boxes: maximum 20 users (10 if configured on single row).**



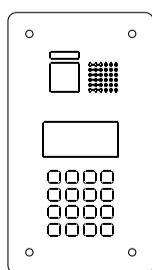
C.2144AB  
DD2140AB  
PD2100AB

When using the Display (**DD2140AB**) and digital keypad (**PD2100AB**)

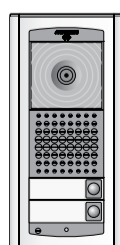
- **up to 19800 calls.**



TD2000HE



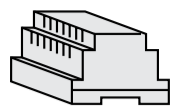
TD2000..



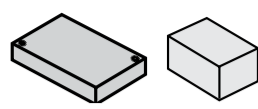
Push-button panels for  
single and two-family  
kits

AD2101AGL  
AD2102AGL  
VD2101AGL  
VD2102AGL

## POWER-ONPLIES AND SERVICES MODULES

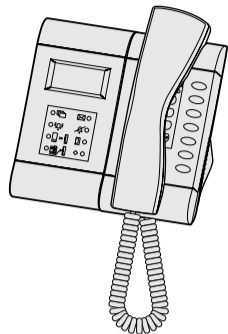


PowerOnplies, amplifiers, actuators, concentrators, modulators, separators.



Distributors.

## CONCIERGE SWITCHBOARD



## ELECTRIC DOOR LOCK (SE)



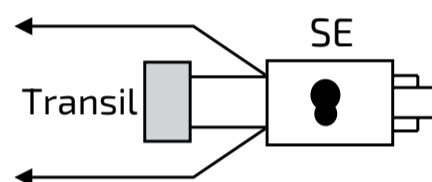
13 Vac - 1 A max

### Electric door lock

As shown in the following installation diagrams, the electric door lock can be operated directly from the door station for the system to function properly the electric lock must be of the 13 Vac/1 A max. type. To operate locks with different characteristics, it is recommended to use an additional power Supply and relay (with 24 VDC control voltage).

### Important

In order to comply with the European Electromagnetic Compatibility Directive and to increase product reliability, it is necessary to connect a noise Onppression device when operating an electric lock. Onppressors (**transils**) must be connected as close as possible to the load (theoretically directly on the load terminals).



## DOOR LOCK RELEASE BUTTON (PA) FLOOR CALL (FP)



Optional buttons (not Onplied)

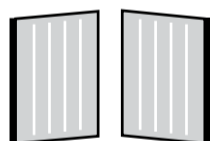
## Graphic signs



Programming via Bluetooth with 'DUO System' app is recommended".



Twisted cable for connecting the DUO digital line



Automatic gate



Dividing lines (for schematic reasons in multi-family systems only the first and last user are shown. Between the two dividing lines are theoretically all the devices required for the complete installation)



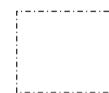
J1 moveable jumper for line impedance matching (found in floor distributors and video amplifiers).



Indication of system extension. Additional risers and/or door stations.



PDX2000 concierge switchboard possible connection points.



Electrical Box. It is recommended that the Articles enclosed in this box be placed in a single electrical panel.

Using the [www.farfisa.com](http://www.farfisa.com) 'CONFIGURE YOUR SYSTEM' area, it is possible to obtain a complete list of all the articles required for the composition of any configuration (from among those eligible) of the desired system. If you are using an interactive pdf version of this document, pressing the button below will take you directly to the configurator, otherwise the full web address is shown below.

<http://configurator.farfisa.com/it>

## LOADS AND MAXIMUM DISTANCES

When applying the installation diagrams to actual installations, the maximum loads that can be handled by the power Supply unit and the maximum permissible distances in relation to the type of conductor used for the installation must be taken into consideration.

### Maximum load.

In general, for both intercom and videointercom systems, depending on the type of power Supply unit used (2221MQ/2221S), the following indications must be observed

**systems with 2221MQ: maximum 20 users;**

**systems with 2221S: prudentially a maximum of 40 users.**

These values were calculated using Table 6.1 below

**Table 6.1 Equivalent Load.**

	Device	IE	% utilisation	
AL	2221MQ	400		
	2221S	700		
	Device	CE	Q.ty	Absorption
AT	2281Q	10		
AV	2223Q	15		
MO	VM2521	10		
DL	DV2420	30		
DM	DM2421	10		
	DM2444	30		
	DV2421Q	0		
	DV2424Q	0		
PDX	PDX2000	30		
PE	AD2101AGL	20		
	CA2144AB	20		
	CV2144AB	20		
	CT2138AB	12		
	DD2140AB	70		
	PD2100AB	50		
	TD2000.	80		
	TD2000.A	80		
	TD2000HE	100		
	VD2101AGL	20		
SM	2231Q	8		
CT	AT962	10		
	AT972	10		
	EX352	8		
	EX362	10		
VC	AT9262	10		
	EX3252C	8		
	EX3262C	10		
	SE4252	10		
	ZH1252WE	10		
<b>Amount</b>				

In order to function, the DUO videointercom system needs to have a correct power Supply on the riser line. Table 6.1, shown on the left, lists the equivalent load that each device installed in the system adds to the system. The Onm of all the equivalent loads represents the total absorption to be borne by the power Supply in the stand-by situation. It is necessary that the maximum absorption is conservatively kept within a margin of at least 10 % of the current delivered by the ballast in continuous operation IE. In the event that the system to be realised requires to serve a number of users (and therefore has a number of apparatuses) higher than the limits highlighted above, recourse is made to the use of separators art. **2231Q** which divide the system into a common section (where the main entrance panels and possibly the main concierge switchboard are generally located) and a certain number of seconfromry systems (each with its own power Supply, the possible external staircase station and, if required, a secondary switchboard). Failure to comply with the preceding lines could result in data transmission errors in addition of noisy video and audio signals.

**If an interactive version of this file is used, the Q.ty (quantity) field in the table on the left can be valorised. In the lines relating to power supplies, the percentage of use of the selected power supply will be highlighted.**

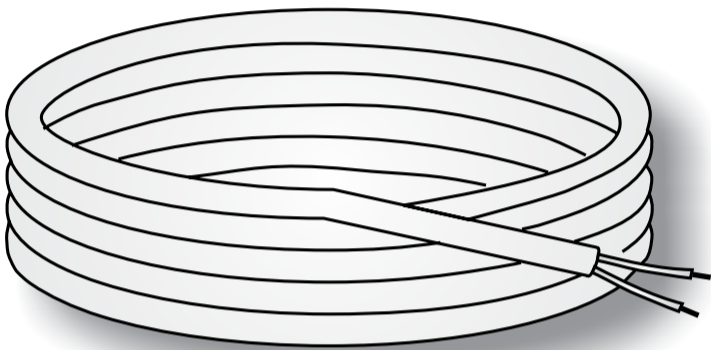
## Conductors

A cable with two non-polarised conductors and preferably twisted wires is used to connect the devices throughout the Duo digital system. The conductors must be sized according to the distance of the various devices and the number of modules to be applied. It is also important to observe the maximum recommended distances between the various devices as indicated in the conductor cross-section table. Using inappropriate conductors and not respecting the distances of the various apparatuses may not guarantee full performance and may affect the correct operation of the system.

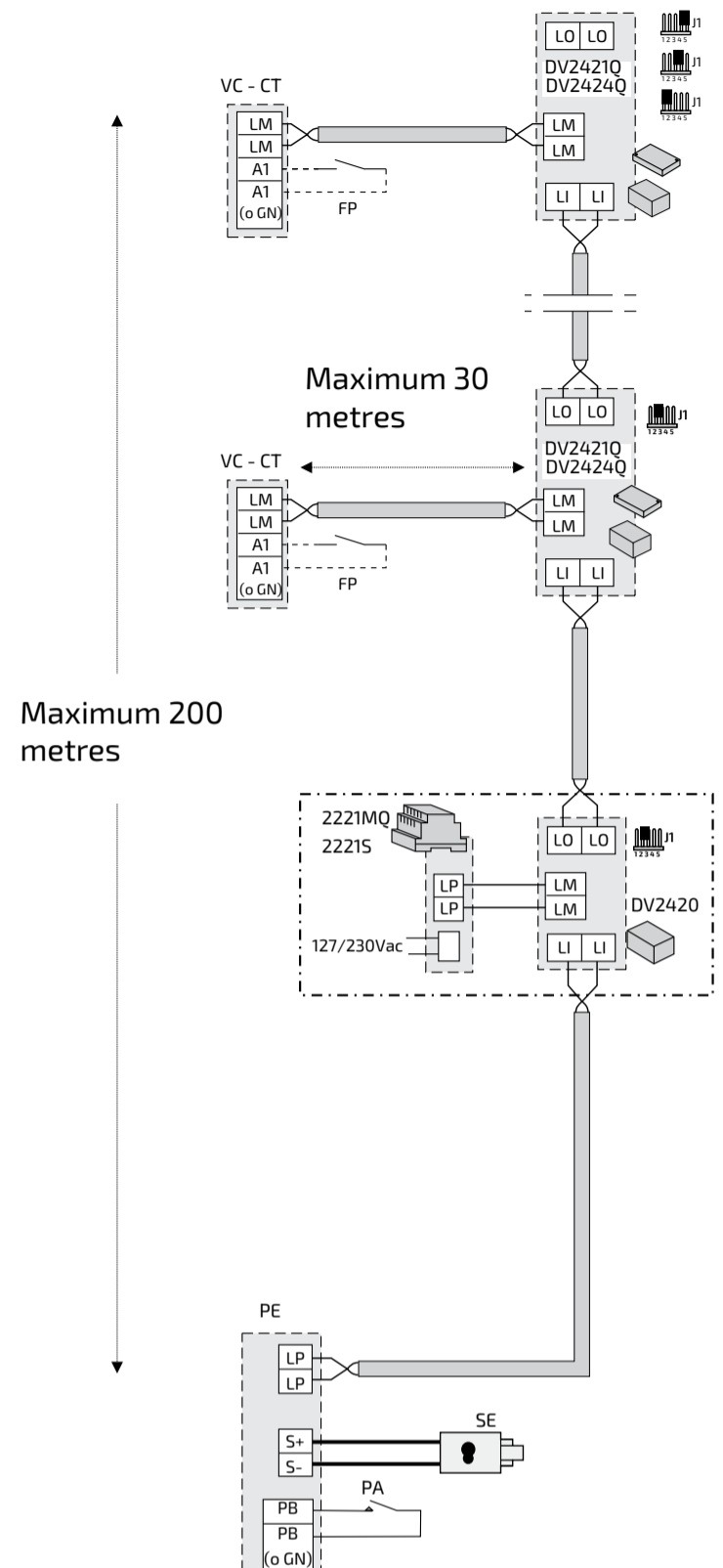
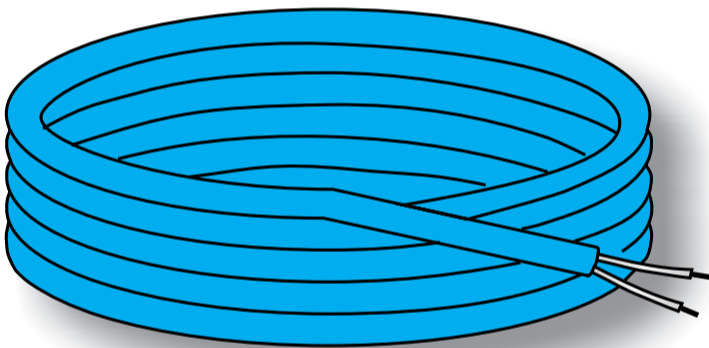
**2302.** Twisted 2-conductor cable specifically for DUO series digital systems.

### Cable technical fromta

Number of conductors:	2
Conductor colour:	red/black
Cross-section:	2x1mm <sup>2</sup>
Material:	tinned copper
Cord pitch:	40mm
Characteristic impefromnce:	100Ω



**2302E.** Cable for outdoor use with the same characteristics as article 2302.



**Table 6.2 Maximum permissible distances in intercom-only systems (mea0nrements in metres).**

Installation sections	Cable type			
	Farfisa cable art.2302/2302E	NOT twisted AWG18	telephone AWG22	CAT5 AWG24
	Section 1 mm <sup>2</sup>	Section 0,75 mm <sup>2</sup>	Section 0,32 mm <sup>2</sup>	Section 0,2 mm <sup>2</sup>
Door station-intercom	800	650	250	150

**Table 6.3 Maximum permitted distances in videointercom systems (mea0nrements in metres).**

Installation sections	Cable type			
	Farfisa cable art.2302/2302E	NOT twisted AWG18	telephone AWG22	CAT5 AWG24
	Section 1 mm <sup>2</sup>	Section 0,75 mm <sup>2</sup>	Section 0,32 mm <sup>2</sup>	Section 0,2 mm <sup>2</sup>
DV2420-2221MQ/2221S	50	35	5	5
Door station-videointercom	200	30	70	50
DV2421Q/DV2424Q-videointercom	30	20	20	20

## HOW TO CONNECT

### Videointercom systems

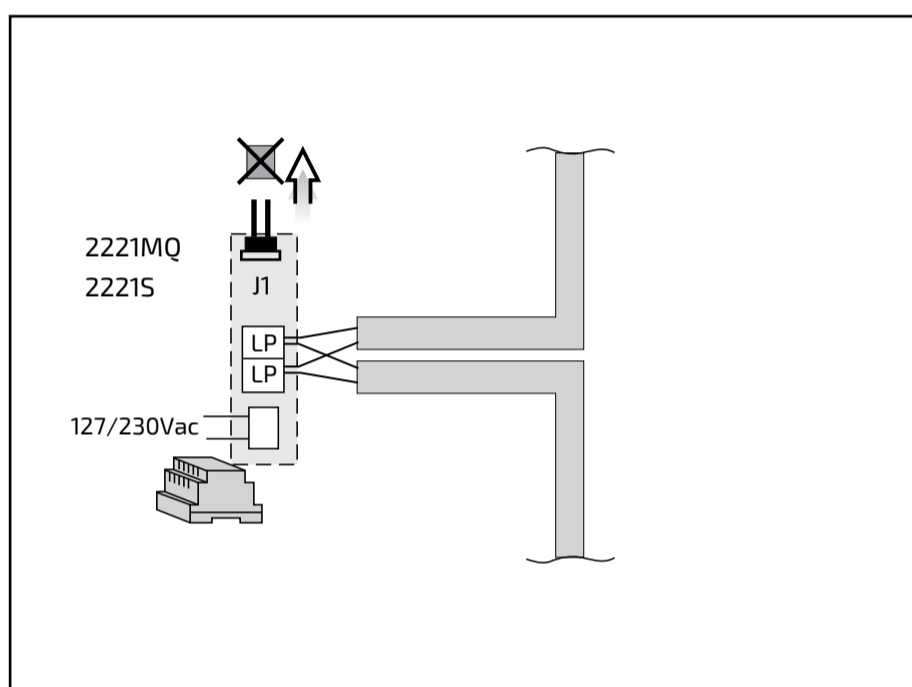
This section highlights how to connect the various devices in videointercom systems.

#### Connection of power Supply (art.2221MQ/art.2221S) to the DUO line.

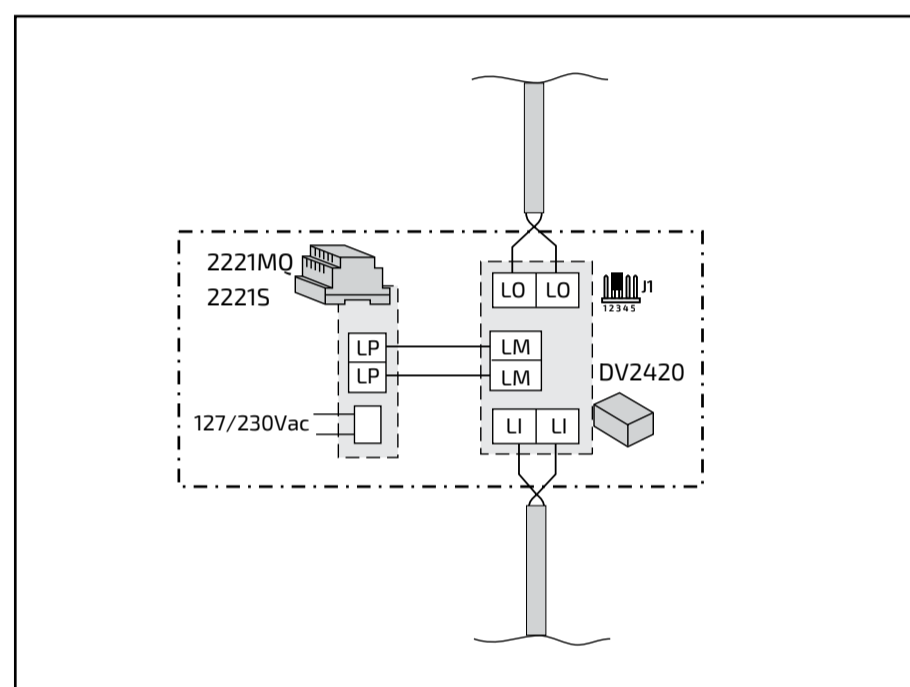
Power to the riser is Onplied by art.2221MQ or 2221S which must be located between the first apartment station and the door unit (or between the first apartment station and the DM2421 closest to it if there are several door units). Each riser must have its own line power Supply. There are basically four ways to connect art.2221MQ (linear power Supply) or art.2221S (switching power Supply) to the DUO line:

- the BUS DUO is connected directly to the power Supply unit via the **in-out mode** of the conductors. The cable coming from the door unit is brought to the LP/LP terminals of the power Supply unit and, at the same time from the same terminals, the cable going to the riser column is brought again. This is generally the way videointercom kits are wired;
- by means of a **DV2420** distributor which is a device equipped with four sets of terminals and whose purpose is to allow connection of the power Supply unit while guaranteeing correct input impefromnce. This wiring mode represents the typical scenario for systems with one riser and one or more entrance panels (excluding those with DM2444);
- via **2231Q separator**, i.e. the case of a system divided into stairs or blocks (see section on 'Expansions');
- via **DM2444** concentrator which represents the case in which the distribution of the system takes on the characteristic star topography (see paragraph 'Expansions').

#### Input-output connection directly from the line



#### Connection with DV2420



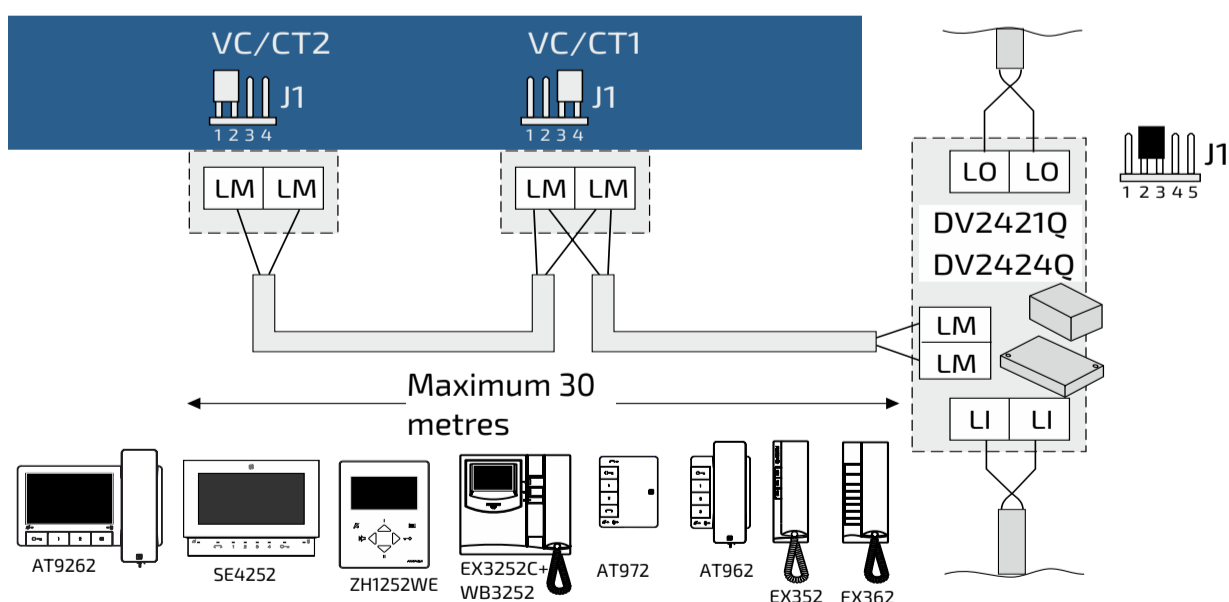
#### Simplified connection of apartment stations.

The following diagram can be used in all installations and allows for the simplified connection of up to 2 flat stations (intercoms or video intercoms) in each flat.

If the intercom service is required, simply programme the apartment stations correctly.

Intercom calls within the same flat are individual (each apartment station is called by a dedicated button).

#### 2 APARTMENT STATIONS IN PARALLEL WITH OR WITHOUT INTERCOM SERVICE

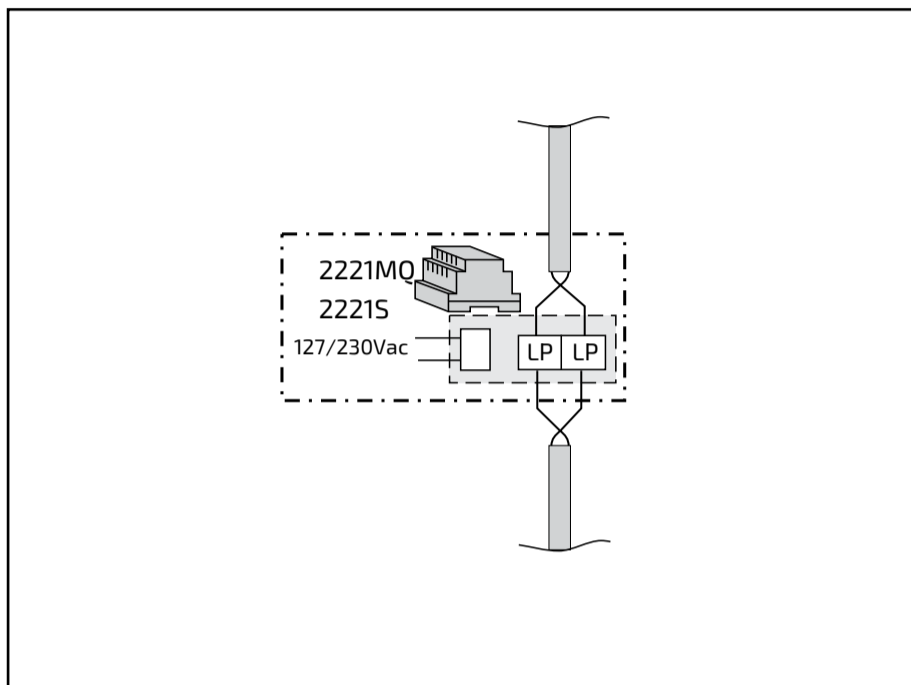


**Connection of power Supply (Art.2221MQ/art.2221S) to the DUO line.**

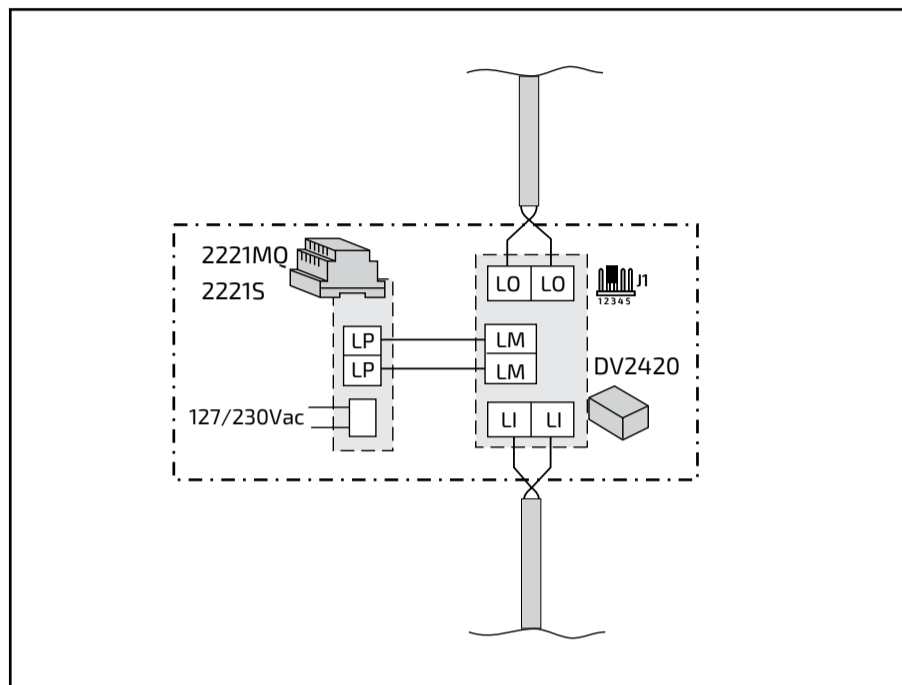
In the case of only audio systems, the power Supply unit connection to the DUO BUS is generally made by means of **entry-exit** wiring (except in the case of division into stairs or blocks).

If the load offered to the power Supply unit by the system is particularly low, as would be the case with a number of intercoms less than 6 and in the presence of door units with local power Supply (2220S) and therefore not burdening the power Supply to the riser, the use of the **DV2420** is recommended in order to load the power Supply unit appropriately.

**Input-output connection directly from the line**

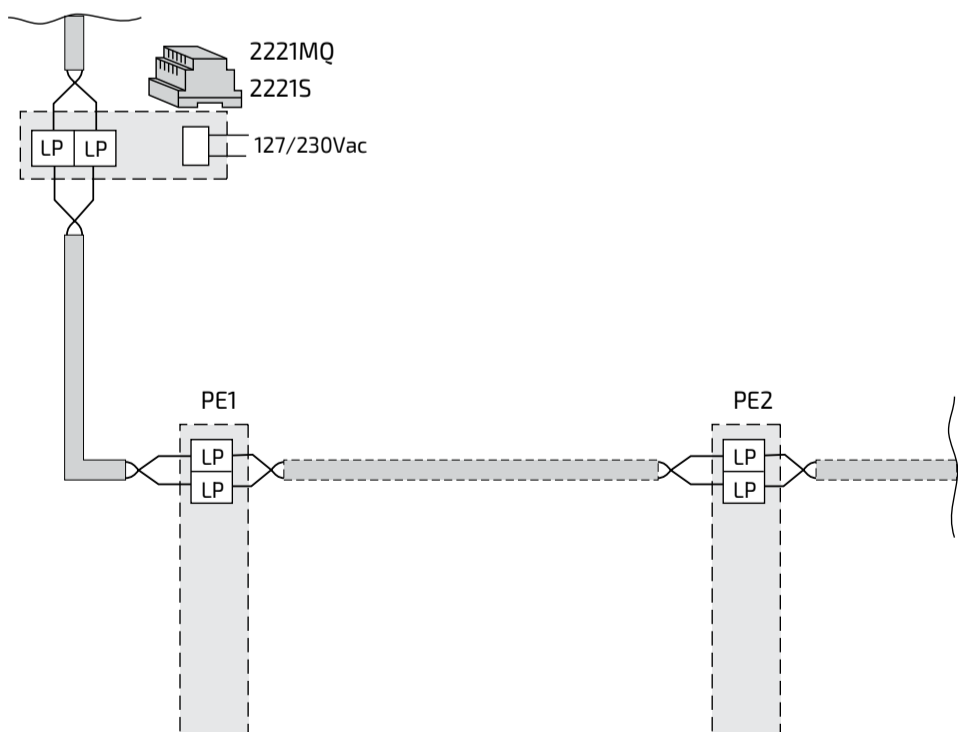


**Connection with DV2420**



**Connecting Main Door Stations**

Several door units can be installed in parallel in an intercom system. Door units can be applied anywhere on the DUO line connected to the IN input of the DV2420 distributor or, if not present, to the LP terminals of the 2221MQ (or 2221S).



## EXPANSIONS

### Video signal amplification

By connecting the video amplifier art.2223Q in the DUO video doorphone system within 200 metres of the video signal source, it is possible to increase the maximum permitted distance to the monitor by a further 200 metres (the distances referred to can only be guaranteed by using Farfisa cable art.2302 or art.2302E).

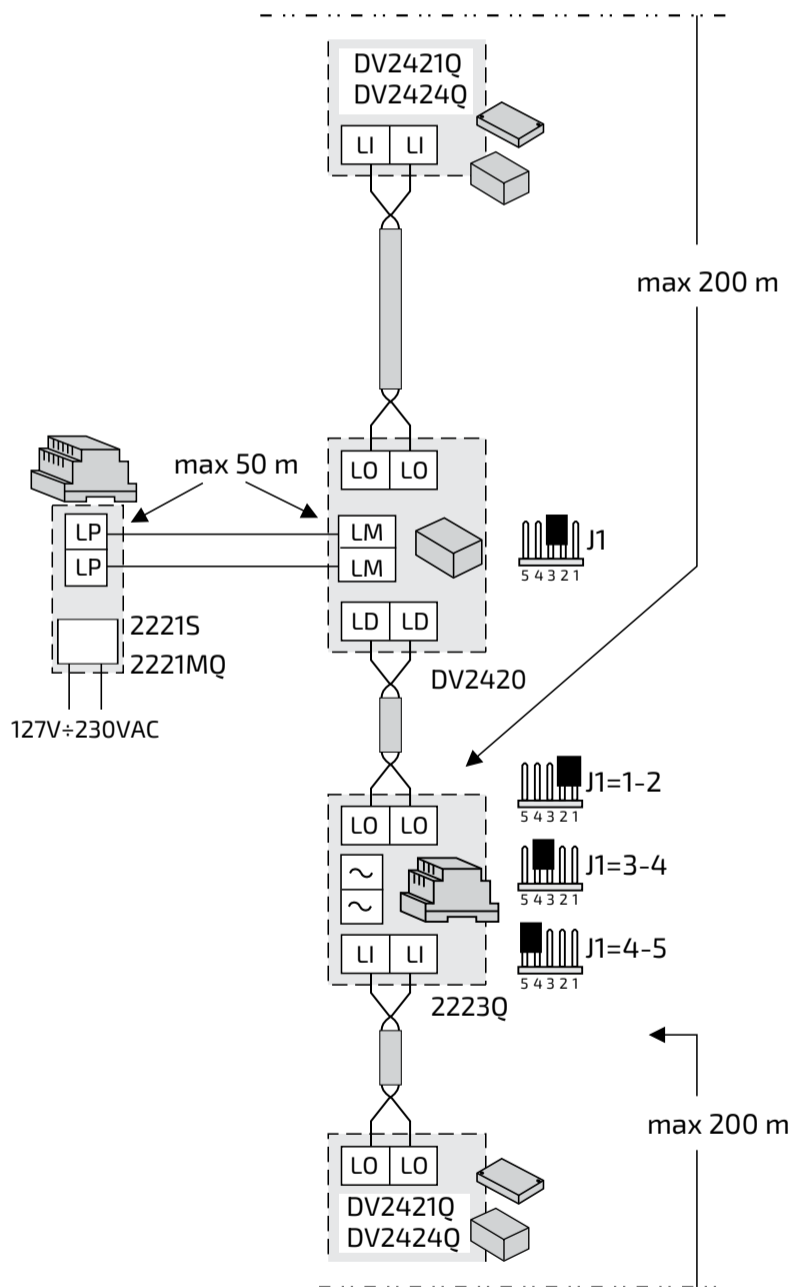
### Connecting the amplifier to the riser

If the distance between the door unit and the farthest video intercom requires it, the riser line must be interrupted by connecting the necessary equipment and following the instructions in the diagram below. The modification can be applied in all installation diagrams with one riser and one or more door units (in the case of several door units, the most stringent constraint is the distance to the farthest camera).

### Installation diagram with 2223Q directly powered by the DUO BUS and with line power restored.

The following items must be added to the installation diagram

- n.1 2223Q amplifier
- n.1 distributor DV2420
- n.1 power Supply 2221MQ or 2221S



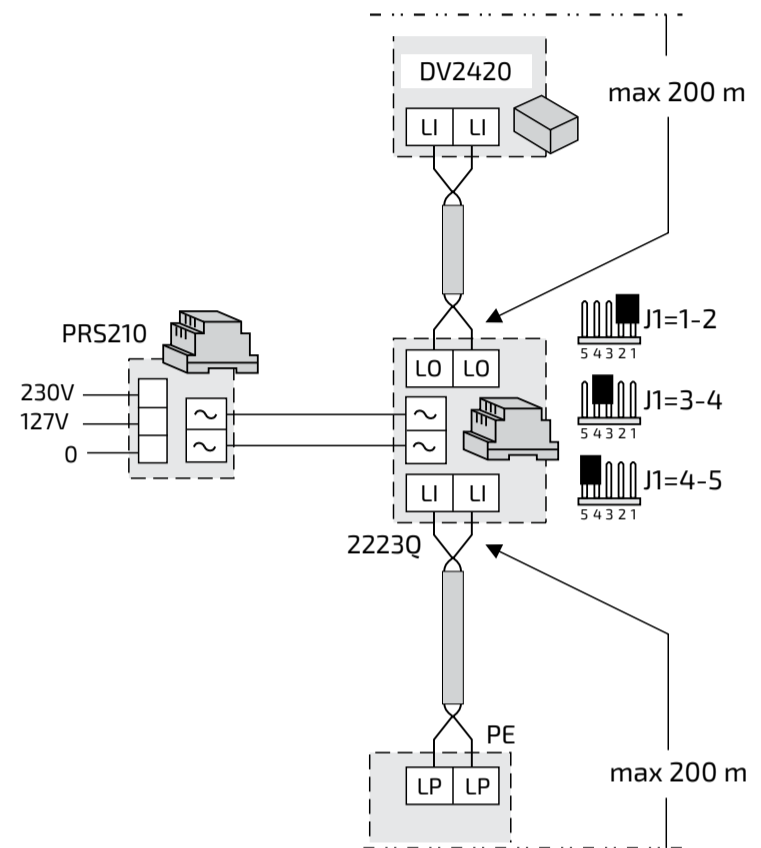
### Amplifier between door unit and riser power Supply unit

Another possible location for the amplifier is between door unit and riser power Supply, if distances make this necessary.

### Application diagram with 2223Q locally powered

Add the following items to the diagram

- n.1 2223Q video amplifier
- n.1 PRS210 transformer



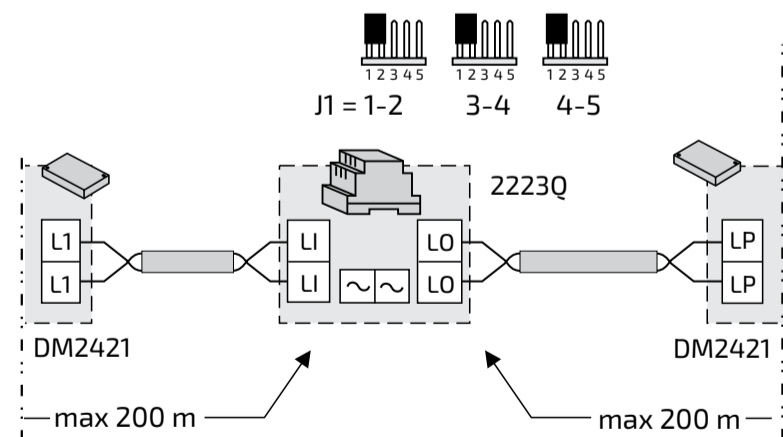
### Connecting a video amplifier between risers

In installations with staircase division, a video amplifier can be connected to extend the distance between the various blocks of the installation.

### Installation diagram with 2223Q fed directly from the DUO line

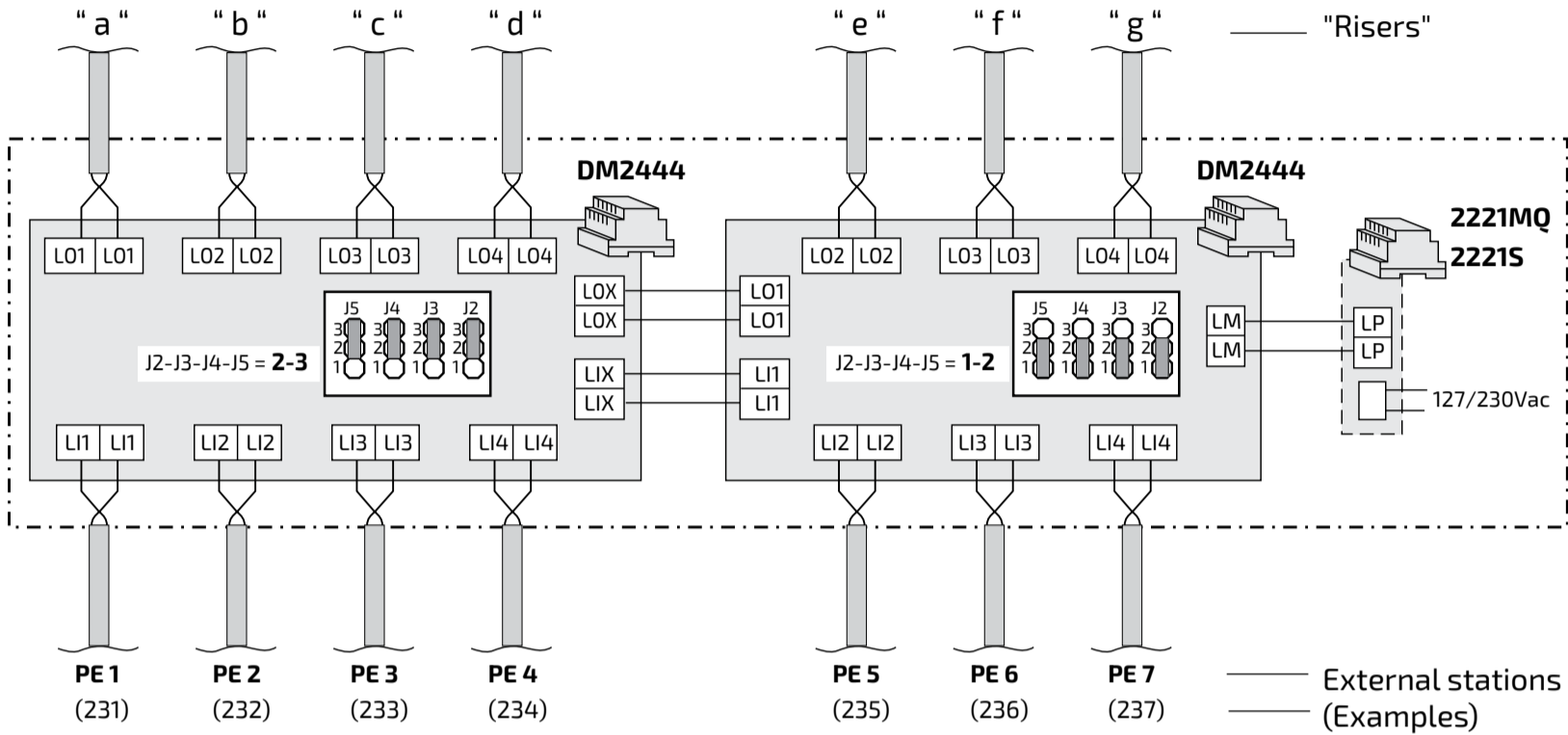
The following item must be added to the installation diagram:

- n.1 2223Q amplifier



**Connection of 2 riser distributors to have a maximum of 7 video door entry panels and 7 risers (or 6 risers and 1 PDX2000 concierge switchboard)**

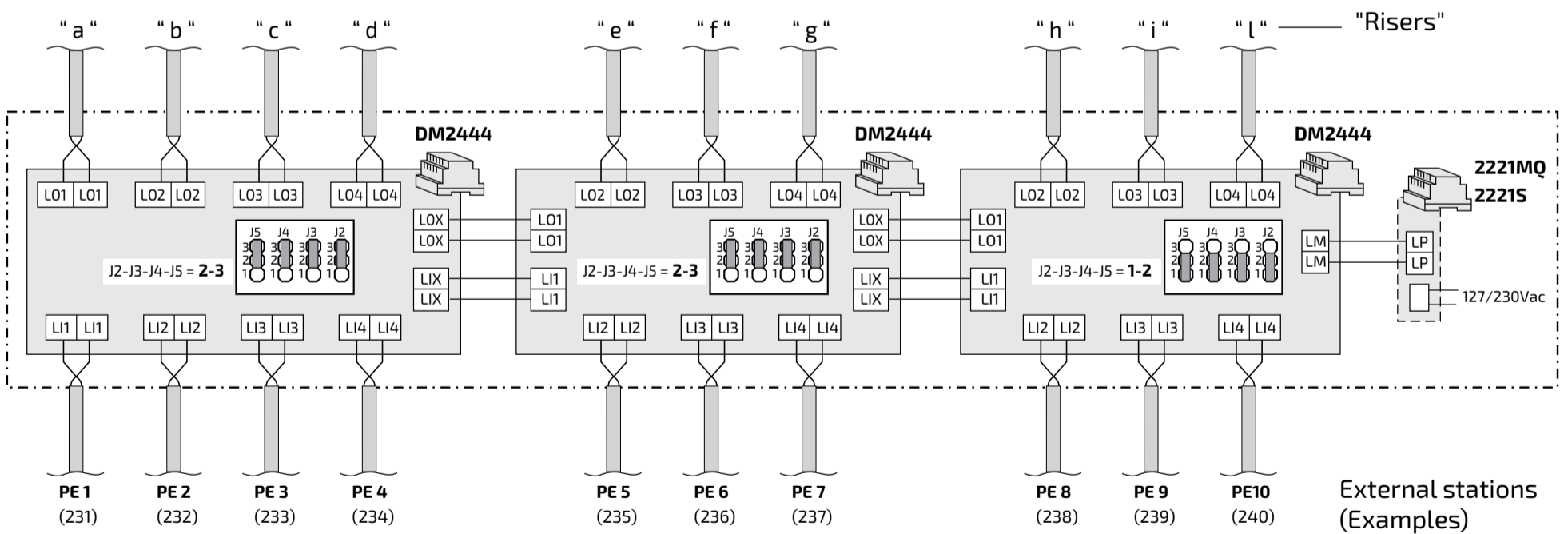
**Risers ('a' to 'g').** The internal station addresses of each riser must be programmed in the number ranges of the corresponding concentrator output line (except for L01 \* which allows the transit of all addresses except those programmed in the ranges of the other outputs).



**Video external door stations (PE).** The address example shown in brackets must be programmed both on the door unit and in one of the number ranges of the corresponding concentrator input line (except for LI1 which allows all addresses except those programmed in the ranges of the other input lines to pass through).

**Connection of 3 distributors to have a maximum of 10 video door entry panels and 10 risers (or 9 risers and 1 PDX2000 concierge switchboard)**

**Risers ('a' ÷ 'l').** The internal station addresses of each riser must be programmed in the number ranges of the corresponding concentrator output line (except for L01 \* which allows the transit of all addresses except those programmed in the ranges of the other outputs)



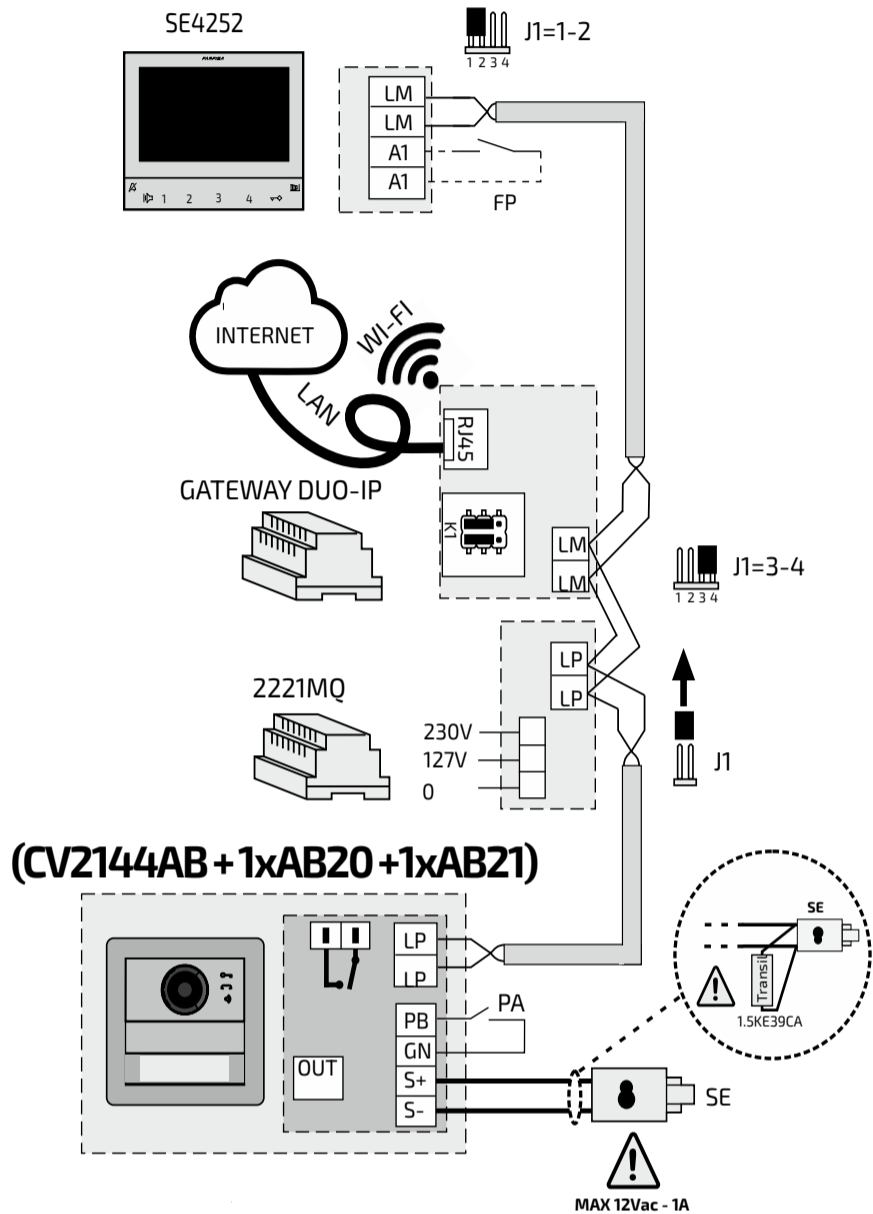
**Video external door panels (PE).** The address example shown in brackets must be programmed both on the door unit and in one of the number ranges of the corresponding concentrator input line (except for LI1 which allows all addresses except those programmed in the ranges of the other input lines to pass through).



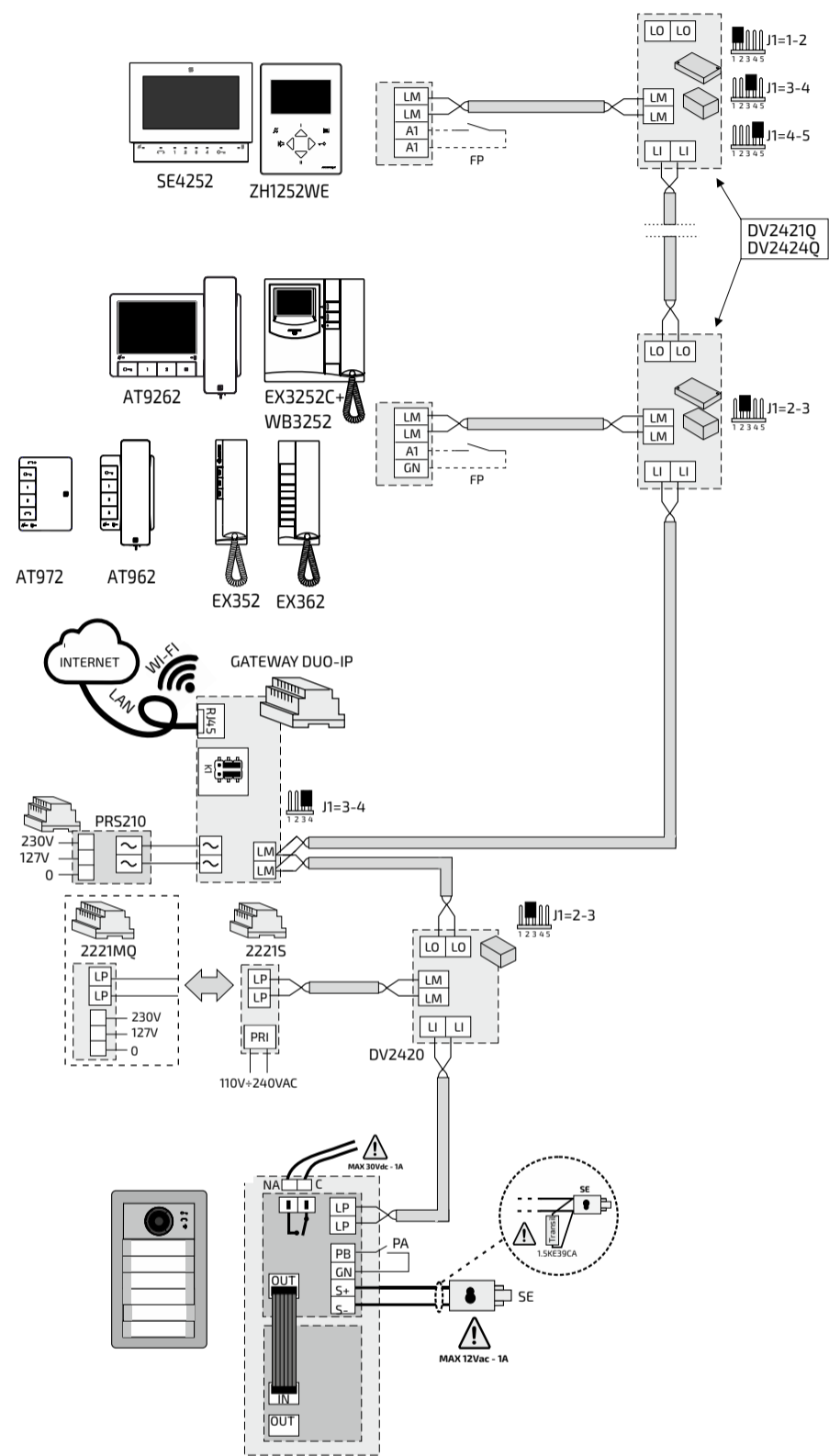
## Trasferring the call from the external door station to the smartphone

By installing a GW2IP gateway, it is possible to expand the system, using your smartphone as a user device for receiving the call from the external door station. The gateway can be installed both in single-family installations (single house or villa) and, by purchasing a Onitable number of additional licences, in multi-family contexts. Two typical installation diagrams are given below:

### GW2IP gateway installed in a single-family system



### Centralised installation of a GW2IP gateway in a multi-family installation



## Safety Warnings

- The products presented here are to be used only for Farfisa door phone and video door phone systems; installation and maintenance must be carried out only by qualified personnel in accordance with current installation regulations.
- The wiring of any videointercom and intercom system must be carried out separately from the light or industrial system as prescribed by the relevant safety standards and the whole system must be carried out in accordance with current regulations.
- The equipment for lighting (2221MQ/2221S/PRS210) is not Onitable for installation in rooms where children are likely to be present. They must be installed in an electrical cabinet.
- Do not obstruct ventilation slots and do not expose the equipment to rain or splashing water. No objects filled with liquid, Onch as vases, should be placed on the devices.
- A two-pole mains switch with a contact separation of at least 3 mm in each pole, a 16 A circuit breaker and a 0.03 A earth leakage circuit breaker must be incorporated into the electrical installation in the building.
- The connection to the mains Supply must only be made with cable type H03VVH2-F (300/300V) 2x0.75mm<sup>2</sup>; after connection, insert and screw the protection on the terminals and cable clamps supplied with the power supplies.
- For other connections, follow the instructions in the technical manuals of the products.
- The power Onplies are protected by a temperature sensor. To reset, the mains voltage must be switched off for about 1 minute and switched back on after the fault has been rectified.
- Before carrying out any maintenance or repair work, disconnect the power Supply to the system.



No programming to do

On CA2144AB/CV2144AB install AB21 at the bottom



SINGLE AND TWO-FAMILY VIDEOINTERCOM SYSTEM WITH 2 VIDEOINTERCOMS IN PARALLEL



SINGLE AND TWO-FAMILY VIDEO INTERCOM SYSTEM WITH 1 VIDEOINTERCOM AND 1 INTERCOM



Two-family system: on VC2 or CT

Device	How to programm	What to programm	Suggested address
AT9262, AT962, AT972	Dip-switches SW1	User address	099
EX3252C + WB3252	Dip-switches SW1	User address	
EX352, EX362, EX3262C (+WB3262)	Via Bluetooth or manually	User address	
SE4252	Via Bluetooth or manually	User address	
ZH1252WE	Dip-switches SW1	User address	

One-family system: on VC2 or CT



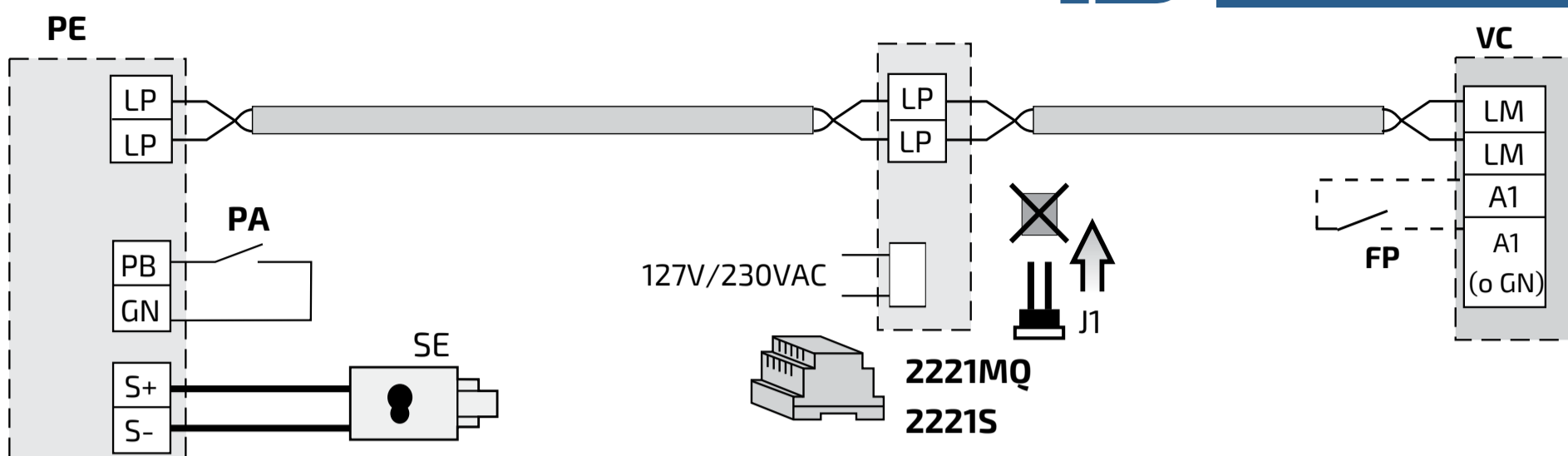
On CA2144AB/CV2144AB install AB21 at the bottom.

Device	How to programm	What to programm	Suggested address
AT9262, AT962, AT972	Via Bluetooth or manually	Room number	001
EX3252C + WB3252	On WB3252 move J4 on the right	Internal address	
EX352, EX362, EX3262C (+WB3262)	Via Bluetooth or manually	Internal address	
SE4252	Via Bluetooth or manually	Room number	
ZH1252WE	Dip-switches SW2	Room number	

SINGLE-FAMILY VIDEO INTERCOM SYSTEM



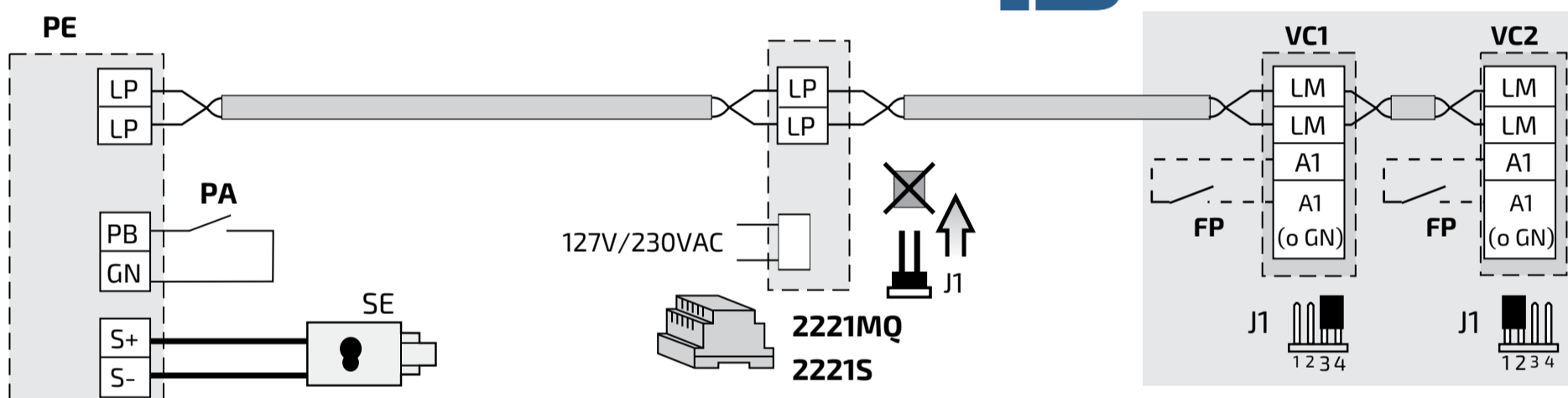
Diagram id. code  
**Si 51VM/190**



SINGLE AND TWO-FAMILY VIDEO INTERCOM SYSTEM WITH 2 VIDEOINTERCOMS IN PARALLEL



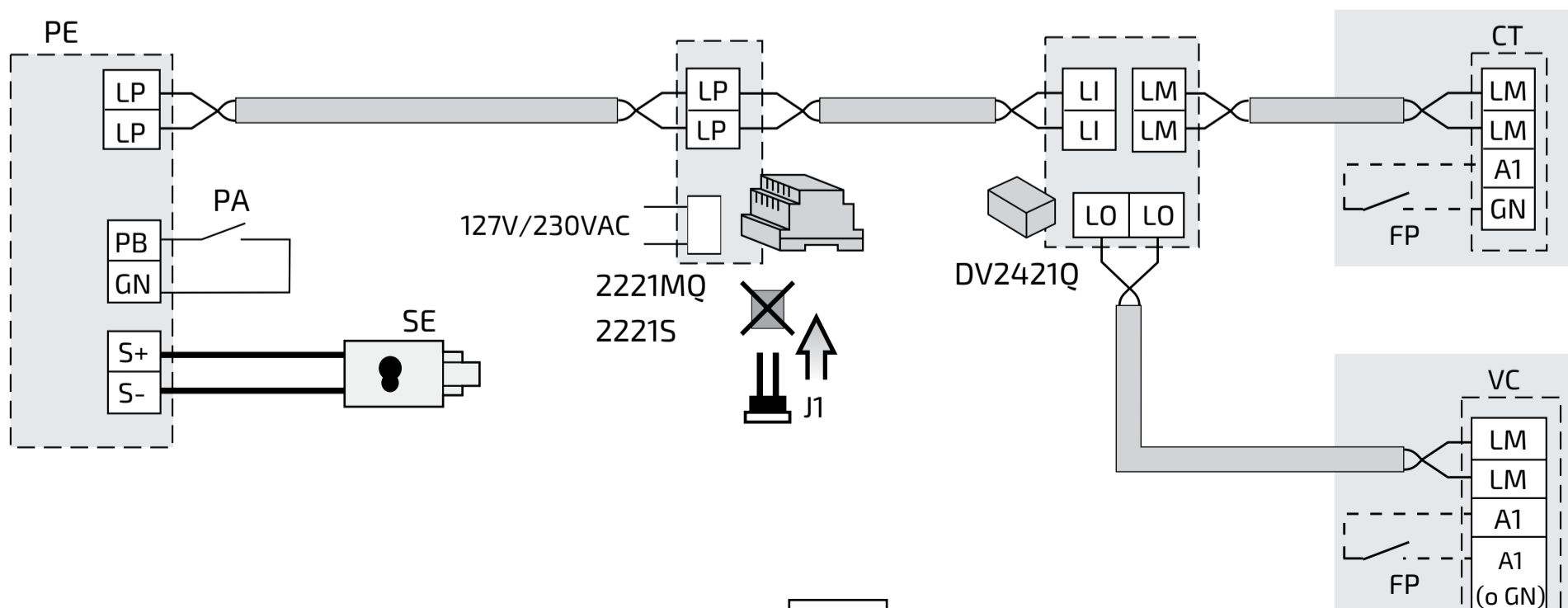
Diagram id. code  
**Si 51VM/191**



SINGLE AND TWO-FAMILY VIDEO INTERCOM SYSTEM WITH 1 VIDEOINTERCOM AND 1 INTERCOM



Diagram id. code  
**Si 51VM/192**

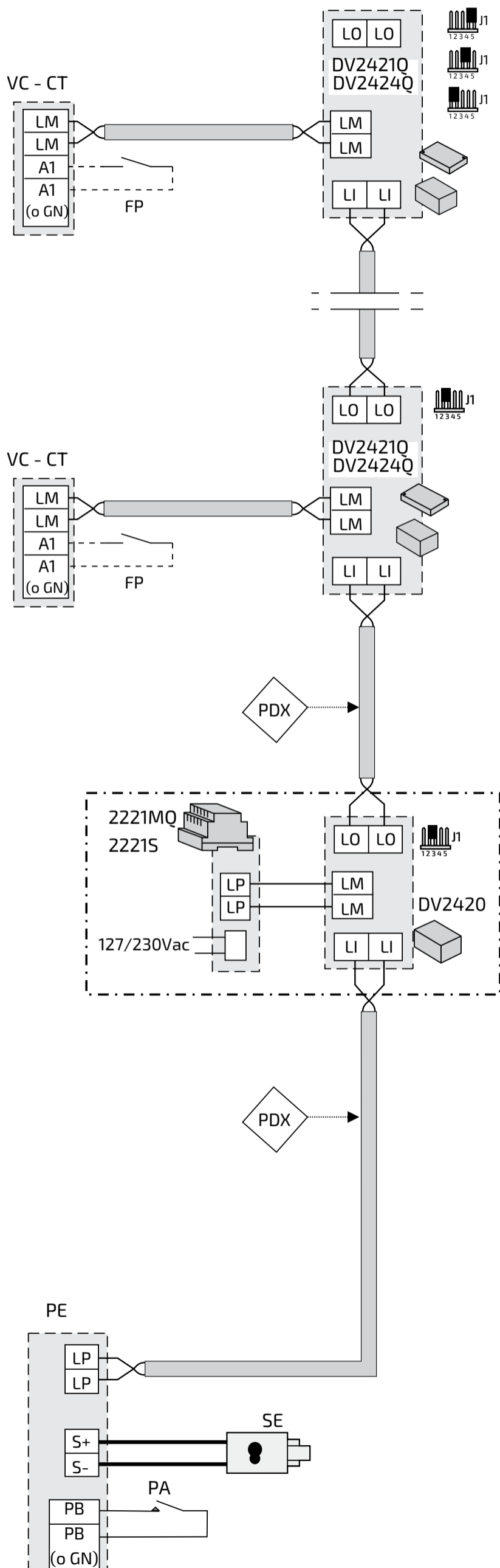




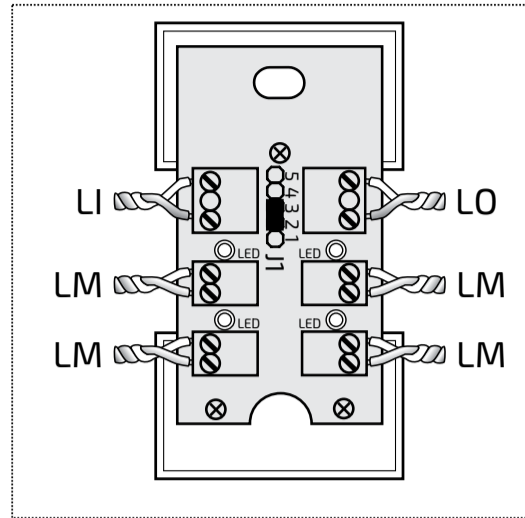
Device	How to programm	What to programm	Suggested addr
AT9262, AT962, AT972	Dip-switches SW1	User address	099-200
EX3252C + WB3252	Dip-switches SW1	User address	
EX352, EX362, EX3262C (+WB3262)	Via Bluetooth or manually	User address	
SE4252	Via Bluetooth or manually	User address	
ZH1252WE	Dip-switches SW1	User address	

Device	How to programm	What to programm
CA2144AB, CV2144AB + CT2138AB	Via Bluetooth or manually	Up to 34 calls: no programming over 34 calls: double row mode
CA2144AB, CV2144AB + DD2140AB+PD2100AB	Via Bluetooth or manually	Directory
TD2000HE	Via Bluetooth or manually	Directory
TD2000, TD2000RL, TD2000A, TD2000RAL	Manually	Directory

Power Supply selection	Number of internal stations
2221MQ	up to 20
2221S	from 21 to 40



DV2424Q





Device	How to programm	What to programm	Suggested addr
AT9262, AT962, AT972	Dip-switches SW1	User address	099-200
EX3252C + WB3252	Dip-switches SW1	User address	
EX352, EX362, EX3262C (+WB3262)	Via Bluetooth or manually	User address	
SE4252	Via Bluetooth or manually	User address	
ZH1252WE	Dip-switches SW1	User address	

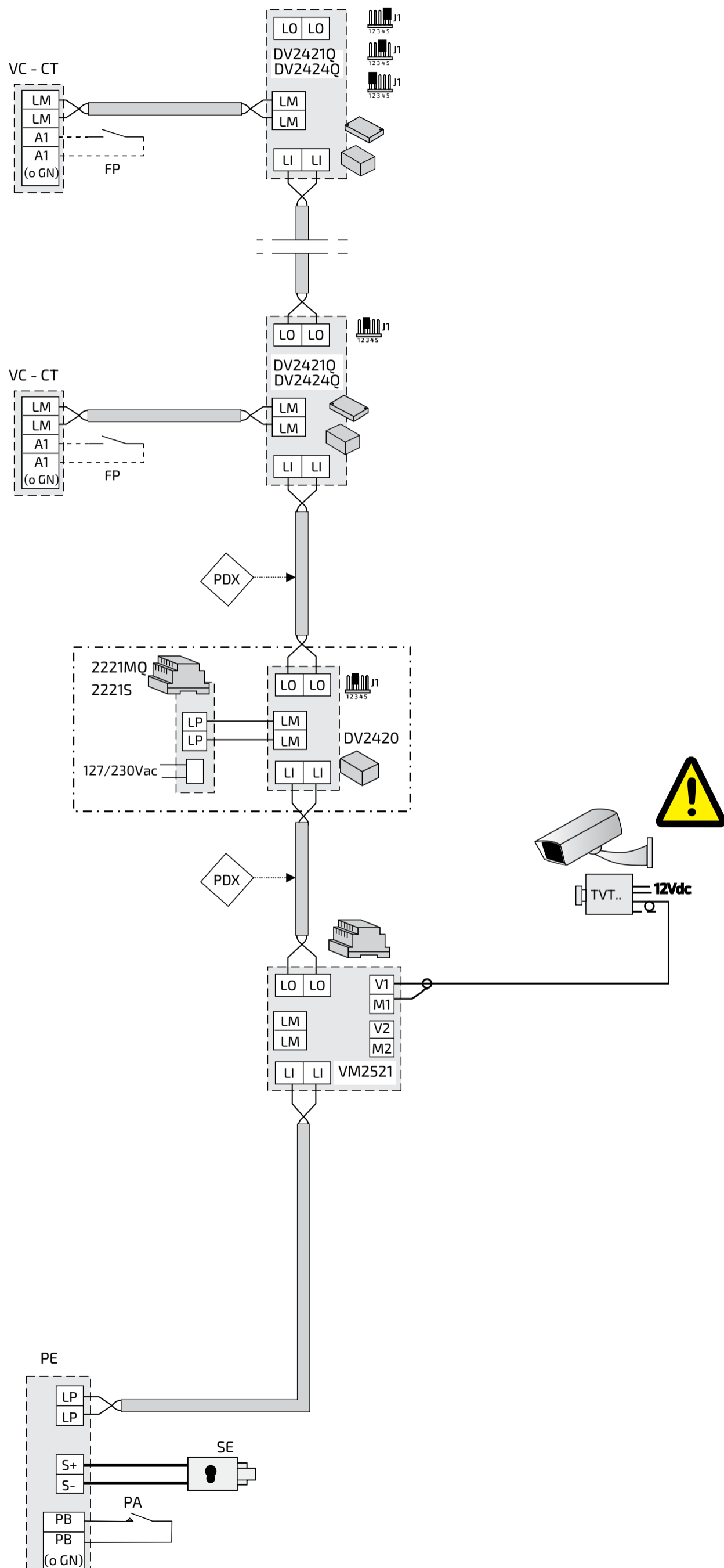
Device	How to programm	What to programm
CA2144AB, CV2144AB + CT2138AB	Via Bluetooth or manually	Up to 34 calls: VM2521 input address V1/M1 Over 34 calls: double row mode and input address V1/M1 of VM2521
CA2144AB, CV2144AB + DD2140AB + PD2100AB	Via Bluetooth or manually	Directory input address V1/M1 of VM2521
TD2000HE	Via Bluetooth or manually	Directory input address V1/M1 of VM2521
TD2000, TD2000RL, TD2000A, TD2000RAL	<b>Manually</b> -----> via Bluetooth or manually	<b>Directory</b> input address V1/M1 of VM2521

Device	How to programm	What to programm	Suggested address
VM251	Via Bluetooth or manually	input address V1/M1	240

Power Supply selection	Number of internal stations
2221MQ	up to 20
2221S	from 21 to 40



Use PAL cameras with analogue output on coax, powered at 12-24 VDC (power Supply not Onplied).



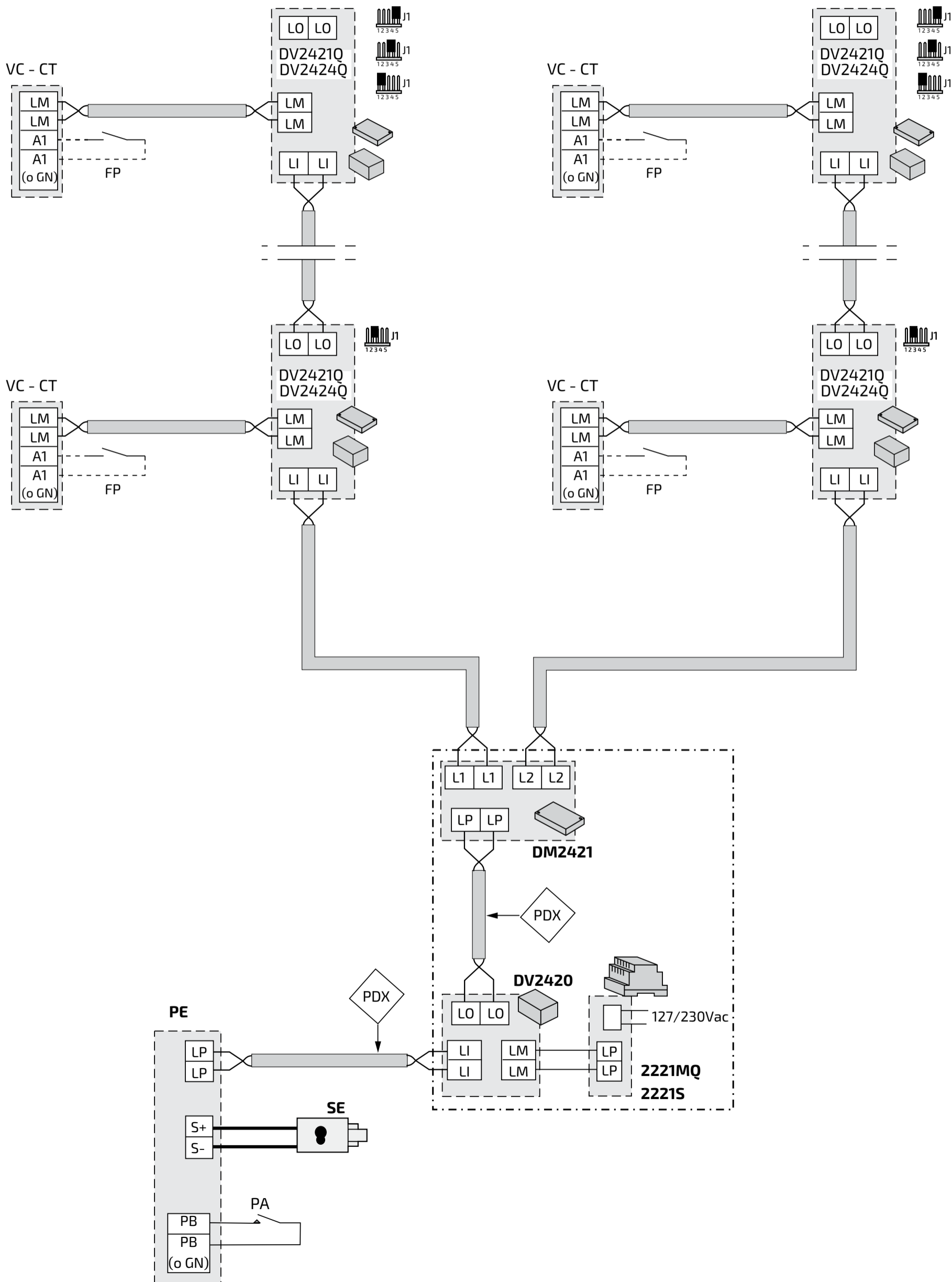


Device	How to programm	What to programm	Suggested addr
AT9262, AT962, AT972	Dip-switches SW1	User address	099-200
EX3252C + WB3252	Dip-switches SW1	User address	
EX352, EX362, EX3262C (+WB3262)	Via Bluetooth or manually	User address	
SE4252	Via Bluetooth or manually	User address	
ZH1252WE	Dip-switches SW1	User address	

Device	How to programm	What to programm
CA2144AB, CV2144AB + CT2138AB	Via Bluetooth or manually	Up to 34 calls: no programming over 34 calls: double row mode
CA2144AB, CV2144AB + DD2140AB+PD2100AB	Via Bluetooth or manually	Directory
TD2000HE	Via Bluetooth or manually	Directory
TD2000, TD2000RL, TD2000A, TD2000RAL	Manually	Directory

Device	How to programm	What to programm	Fascia
DM2421	Via Bluetooth or manually	User address range of the devices connected on L2/L2	Initial address ending address

Power Supply selection	Number of internal stations
2221MQ	up to 20
2221S	from 21 to 40





Device	How to programm	What to programm	Suggested addr
AT9262, AT962, AT972	Dip-switches SW1	User address	099-200
EX3252C + WB3252	Dip-switches SW1	User address	
EX352, EX362, EX3262C (+WB3262)	Via Bluetooth or manually	User address	
SE4252	Via Bluetooth or manually	User address	
ZH1252WE	Dip-switches SW1	User address	

Device	How to programm	What to programm	Suggested address
AT9262, AT962, AT972	Via Bluetooth or manually	Actuator address on button 2 short press	212
EX352	Via Bluetooth or manually	Actuator address on one of the available keys	
EX362, EX3262C (+WB3262)	Via Bluetooth or manually	Actuator address on one of the available keys enable door-open reception	
SE4252	Manually	Actuator address on new user directory	
ZH1252WE	Via Bluetooth or manually	Actuator address on button	

Device	How to programm	What to programm
CA2144AB, CV2144AB + CT2138AB	Via Bluetooth or manually	Up to 34 calls: no programming over 34 calls: double row mode
CA2144AB, CV2144AB + DD2140AB+PD2100AB	Via Bluetooth or manually	Directory
TD2000HE	Via Bluetooth or manually	Directory
TD2000, TD2000RL, TD2000A, TD2000RAL	Manually	Directory

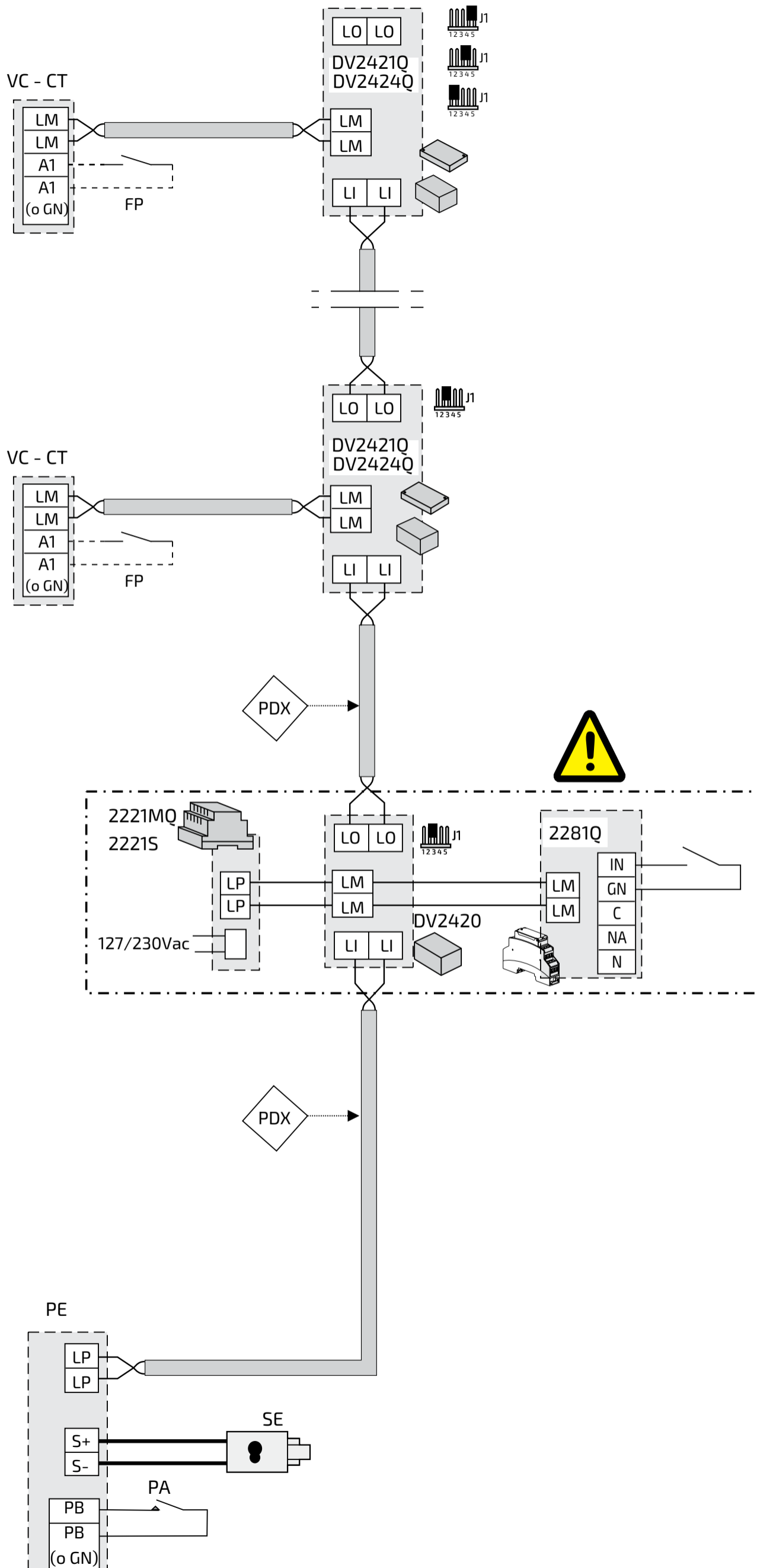
Device	How to programm	What to programm	Suggested address
2281Q	Via Bluetooth or manually	Relay address	212



The auxiliary actuator on board ALBA/HERO/SOLVO leaves the factory with address 211. To avoid simultaneous actuations, change the relay address of the 2281Q.

The IN/GN input is already set to send the door-open signal.

Power Supply selection	Number of internal stations
2221MQ	up to 20
2221S	from 21 to 40



6.21



Device	How to programm	What to programm	Suggested addr
AT9262, AT962, AT972	Dip-switches SW1	User address	099-200
EX3252C + WB3252	Dip-switches SW1	User address	
EX352, EX362, EX3262C (+WB3262)	Via Bluetooth or manually	User address	
SE4252	Via Bluetooth or manually	User address	
ZH1252WE	Dip-switches SW1	User address	

**On PE1**

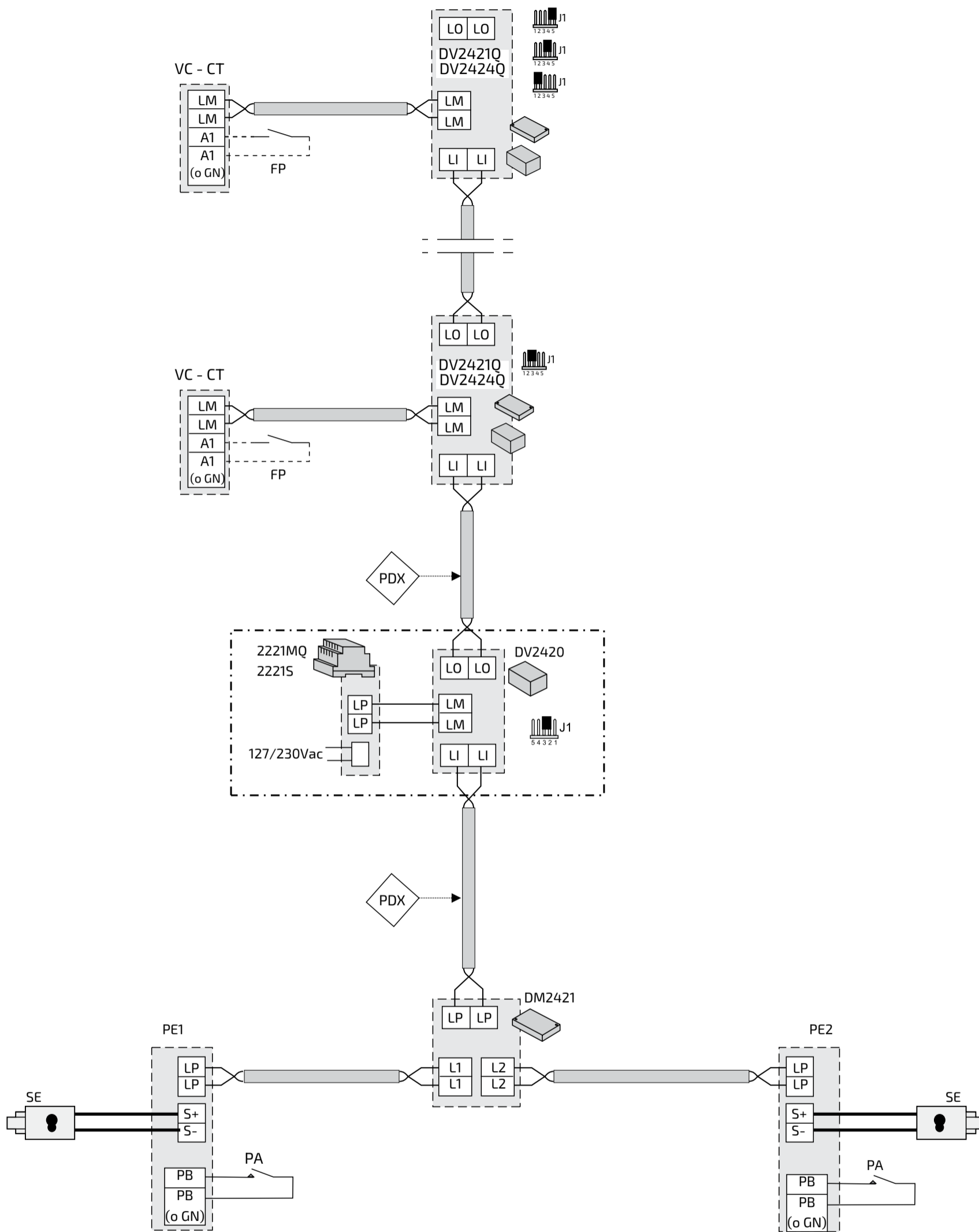
Device	How to programm	What to programm
CA2144AB, CV2144AB + CT2138AB	Via Bluetooth or manually	Up to 30 ocalls: no programming
CA2144AB, CV2144AB + DD2140AB+PD2100AB	Via Bluetooth or manually	Directory
TD2000HE	Via Bluetooth or manually	Directory
TD2000, TD2000RL, TD2000A, TD2000RAL	Manually	Directory

**On PE2**

Device	How to programm	What to programm	Suggested
CA2144AB, CV2144AB + CT2138AB	Via Bluetooth or manually	Up to 30 calls: change PE address	232
CA2144AB, CV2144AB + DD2140AB+PD2100AB	Via Bluetooth or manually	Directory and change PE address	
TD2000HE	Via Bluetooth or manually	Directory and change PE address	
TD2000, TD2000RL, TD2000A, TD2000RAL	<b>Manually</b> -----> Via Bluetooth or manually	<b>Directory</b> change PE address	

Device	How to programm	What to programm	Range	Suggested
DM2421	Via Bluetooth or manually	range with PE2 address	Initial address ending address	232 232

Power Supply selection	Number of internal stations
2221MQ	up to 15
2221S	from 16 to 30





Device	How to programm	What to programm	Suggested addr
AT9262, AT962, AT972	Dip-switches SW1	User address	099-200
EX3252C + WB3252	Dip-switches SW1	User address	
EX352, EX362, EX3262C (+WB3262)	Via Bluetooth or manually	User address	
SE4252	Via Bluetooth or manually	User address	
ZH1252WE	Dip-switches SW1	User address	

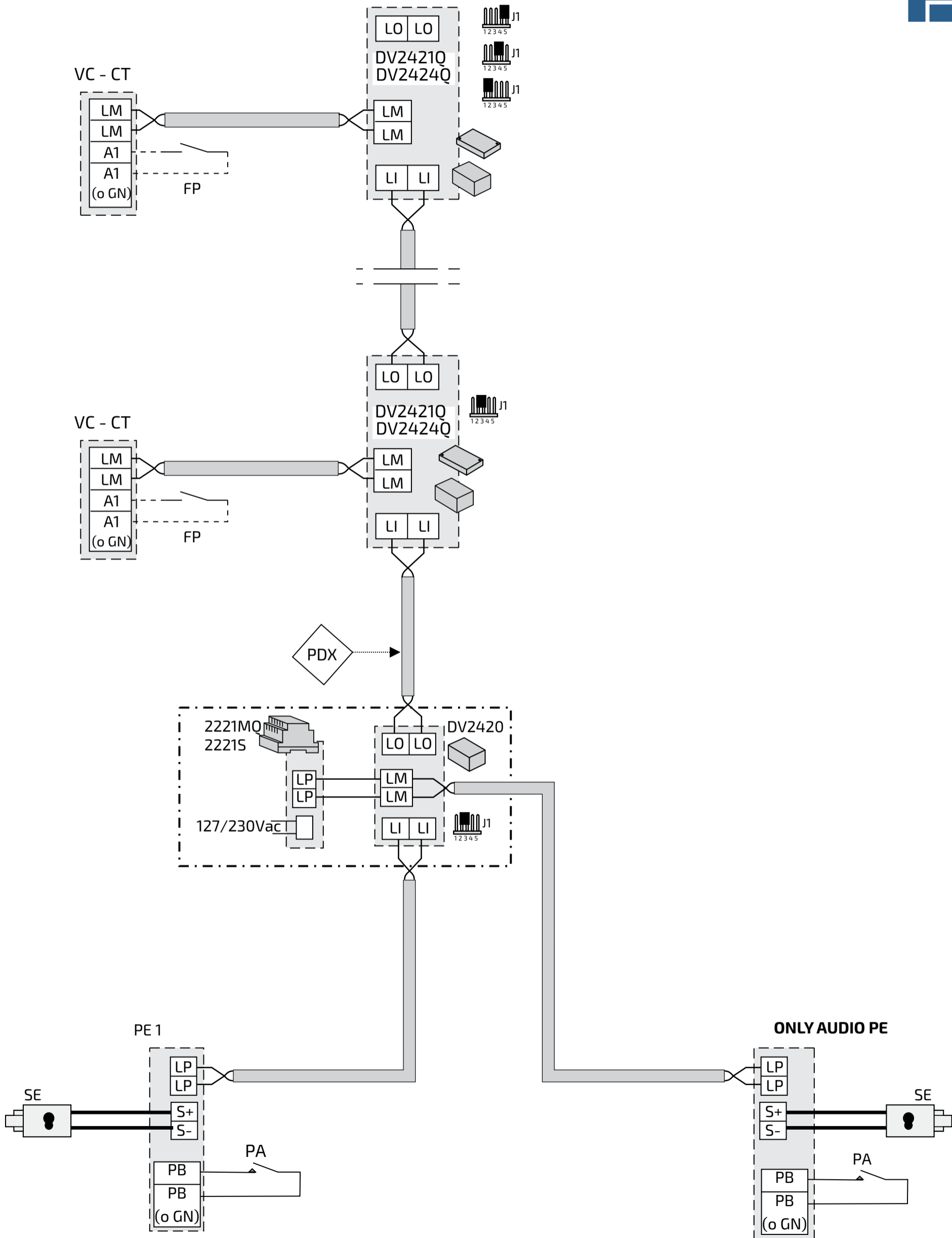
**On PE1**

Device	How to programm	What to programm
CA2144AB, CV2144AB + CT2138AB	Via Bluetooth or manually	Up to 30 calls: no programming
CA2144AB, CV2144AB + DD2140AB + PD2100AB	Via Bluetooth or manually	Directory
TD2000HE	Via Bluetooth or manually	Directory
TD2000, TD2000RL, TD2000A, TD2000RAL	Manually	Directory

**On PE2**

Device	How to programm	What to programm	Suggested
CA2144AB + CT2138AB	Via Bluetooth or manually	Up to 30 calls: change PE address	232
CA2144AB + DD2140AB + PD2100AB	Via Bluetooth or manually	Directory e change PE address	
TD2000A, TD2000RAL	<b>Manually</b> -----> Via Bluetooth or manually	<b>Directory</b> change PE address	

Power Supply selection	Number of internal stations
2221MQ	up to 15
2221S	from 16 to 30





Device	How to programm	What to programm	Suggested addr
AT9262, AT962, AT972	Dip-switches SW1	User address	099-200
EX3252C + WB3252	Dip-switches SW1	User address	
EX352, EX362, EX3262C (+WB3262)	Via Bluetooth or manually	User address	
SE4252	Via Bluetooth or manually	User address	
ZH1252WE	Dip-switches SW1	User address	

**On PE1**

Device	How to programm	What to programm
CA2144AB, CV2144AB + CT2138AB	Via Bluetooth or manually	Up to 24 calls: no programming
CA2144AB, CV2144AB + DD2140AB + PD2100AB	Via Bluetooth or manually	Directory
TD2000HE	Via Bluetooth or manually	Directory
TD2000, TD2000RL, TD2000A, TD2000RAL	Manually	Directory

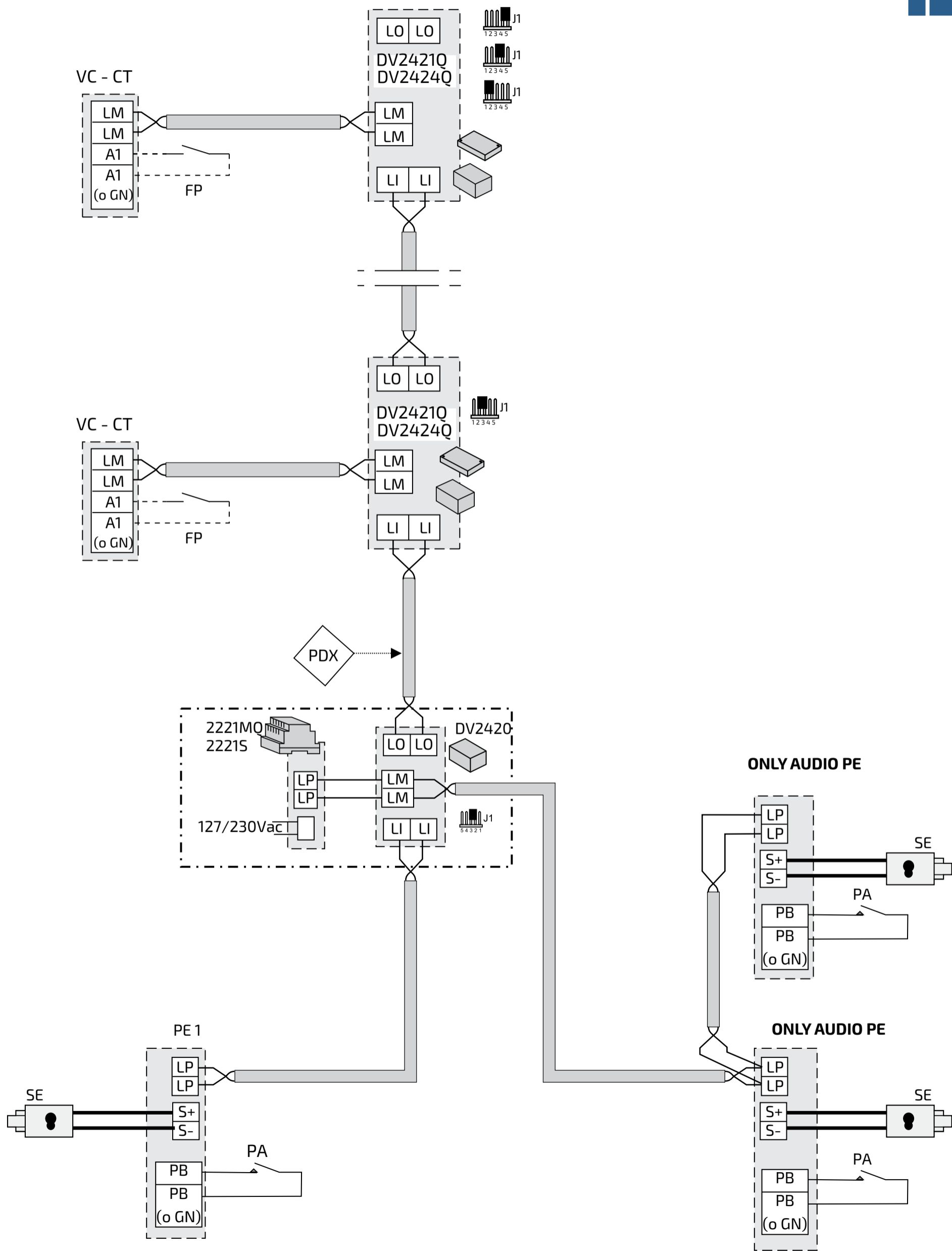
**On PE2**

Device	How to programm	What to programm	Suggested
CA2144AB + CT2138AB	Via Bluetooth or manually	Up to 24 calls: change PE address	232
CA2144AB + DD2140AB + PD2100AB	Via Bluetooth or manually	Directory e change PE address	
TD2000A, TD2000RAL	<b>Manually</b> -----> Via Bluetooth or manually	<b>Directory</b> change PE address	

**On PE3**

Device	How to programm	What to programm	Suggested
CA2144AB + CT2138AB	Via Bluetooth or manually	Up to 24 calls: change PE address	233
CA2144AB + DD2140AB + PD2100AB	Via Bluetooth or manually	Directory e change PE address	
TD2000A, TD2000RAL	<b>Manually</b> -----> Via Bluetooth or manually	<b>Directory</b> change PE address	

Power Supply selection	Number of internal stations
2221MQ	up to 12
2221S	from 12 to 24



6.27



Device	How to programm	What to programm	Suggested addr
AT9262, AT962, AT972	Dip-switches SW1	User address	099-200 (if they are not sufficient 001-200)
EX3252C + WB3252	Dip-switches SW1	User address	
EX352, EX362, EX3262C (+WB3262)	Via Bluetooth or manually	User address	
SE4252	Via Bluetooth or manually	User address	
ZH1252WE	Dip-switches SW1	User address	

**On PE1**

Device	How to programm	What to programm
CA2144AB, CV2144AB + CT2138AB	Via Bluetooth or manually	Up to 34 calls: no programming over 34: double row button configuration
CA2144AB, CV2144AB + DD2140AB+PD2100AB	Via Bluetooth or manually	Directory
TD2000HE	Via Bluetooth or manually	Directory
TD2000, TD2000RL, TD2000A, TD2000RAL	Manually	Directory

**On PE2**

Device	How to programm	What to programm	Suggested
CA2144AB, CV2144AB + CT2138AB	Via Bluetooth or manually	Up to 34 calls: change PE address over 34: double row button configuration	232
CA2144AB, CV2144AB + DD2140AB+PD2100AB	Via Bluetooth or manually	Directory e change PE address	
TD2000HE	Via Bluetooth or manually	Directory e change PE address	
TD2000, TD2000RL, TD2000A, TD2000RAL	<b>Manually</b> -----> Via Bluetooth or manually	<b>Directory</b> change PE address	

**On PE3**

Device	How to programm	What to programm	Suggested
CA2144AB, CV2144AB + CT2138AB	Via Bluetooth or manually	Up to 34 calls: change PE address over 34: double row button configuration	233
CA2144AB, CV2144AB + DD2140AB+PD2100AB	Via Bluetooth or manually	Directory e change PE address	
TD2000HE	Via Bluetooth or manually	Directory e change PE address	
TD2000, TD2000RL, TD2000A, TD2000RAL	<b>Manually</b> -----> Via Bluetooth or manually	<b>Directory</b> change PE address	

**On PE4**

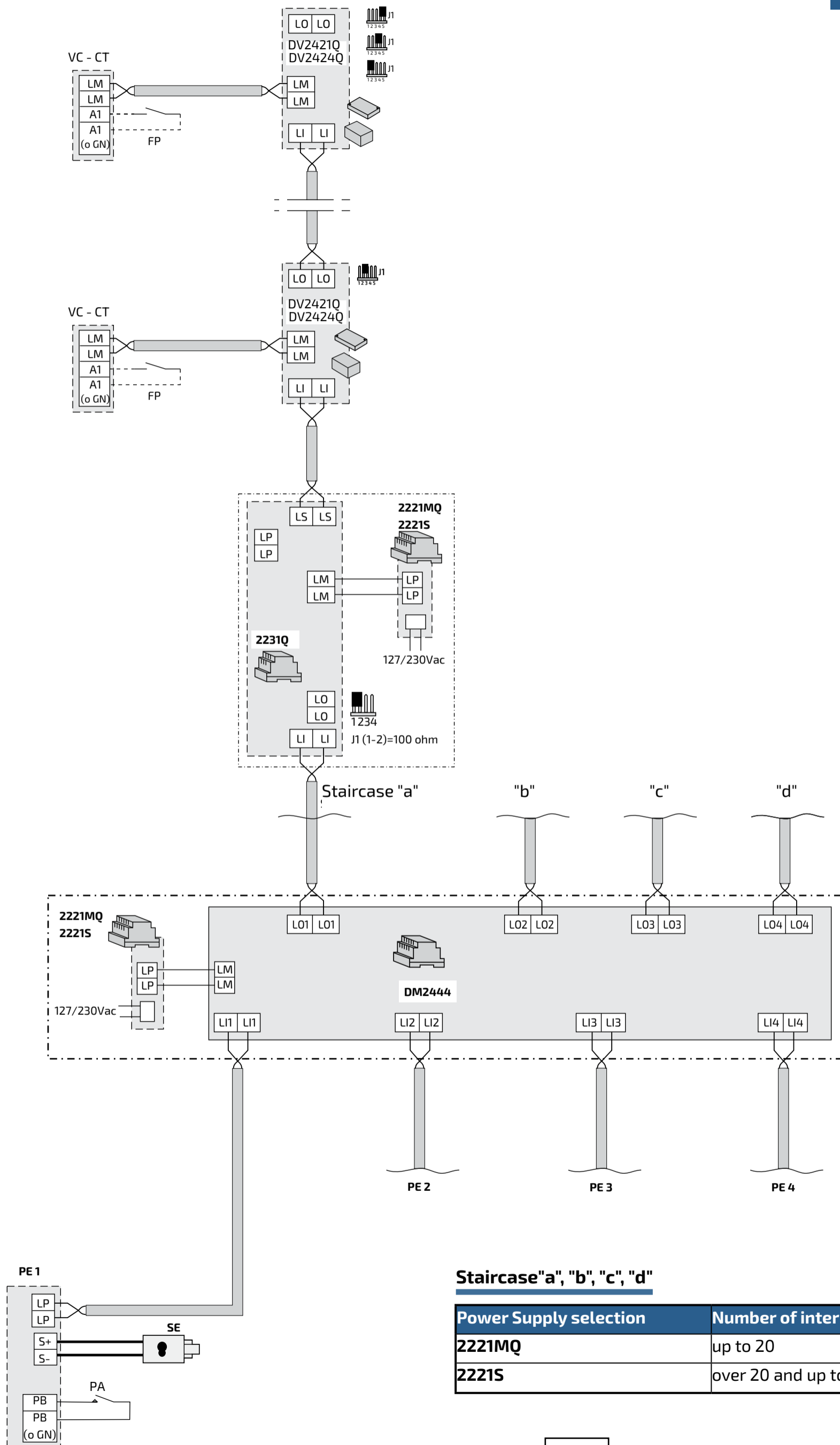
Device	How to programm	What to programm	Suggested
CA2144AB, CV2144AB + CT2138AB	Via Bluetooth or manually	Up to 34 calls: change PE address over 34: double row button configuration	234
CA2144AB, CV2144AB + DD2140AB+PD2100AB	Via Bluetooth or manually	Directory e change PE address	
TD2000HE	Via Bluetooth or manually	Directory e change PE address	
TD2000, TD2000RL, TD2000A, TD2000RAL	<b>Manually</b> -----> Via Bluetooth or manually	<b>Directory</b> change PE address	

Device	How to programm	What to programm	Range	Suggested
DM2444	Via Bluetooth or manually	RG1 range of line LI2, RG1 range of line LI3, RG1 range of line LI4, RG1 range of line LO2, RG1 range of line LO3, RG1 range of line LO4	RG1 Initial address ending address	LI2 LI3 LI4 LO2 LO3 LO4 232 233 234 116 133 150 232 233 234 132 149 166

**Staircase "a"**

Device	How to programm	What to programm	Range	Suggested
2231Q	Via Bluetooth or manually	F1 range	Initial address ending address	099 115

Staircase 'b', staircase 'c', staircase 'd' proceed as for staircase 'a', entering in the F1 band of the relevant 2231Q the start and end address of the user address range of that staircase (following the example above: staircase 'b' 116-132, staircase 'c' 133-149, staircase 'd' 150-166)



**Staircase "a", "b", "c", "d"**

Power Supply selection	Number of internal stations
2221MQ	up to 20
2221S	over 20 and up to 40



Device	How to programm	What to programm	Suggested addr
AT9262, AT962, AT972	Dip-switches SW1	User address	099-200
EX3252C + WB3252	Dip-switches SW1	User address	
EX352, EX362, EX3262C (+WB3262)	Via Bluetooth or manually	User address	
SE4252	Via Bluetooth or manually	User address	
ZH1252WE	Dip-switches SW1	User address	

**On PE1**

Device	How to programm	What to programm
CA2144AB, CV2144AB + CT2138AB	Via Bluetooth or manually	Up to 20 calls: no programming
CA2144AB, CV2144AB + DD2140AB+PD2100AB	Via Bluetooth or manually	Directory
TD2000HE	Via Bluetooth or manually	Directory
TD2000, TD2000RL, TD2000A, TD2000RAL	Manually	Directory

**On PE2**

Device	How to programm	What to programm	Suggested
CA2144AB, CV2144AB + CT2138AB	Via Bluetooth or manually	Up to 20 calls: change PE address	232
CA2144AB, CV2144AB + DD2140AB+PD2100AB	Via Bluetooth or manually	Directory e change PE address	
TD2000HE	Via Bluetooth or manually	Directory e change PE address	
TD2000, TD2000RL, TD2000A, TD2000RAL	<b>Manually</b> -----> Via Bluetooth or manually	<b>Directory</b> change PE address	

**On PE3**

Device	How to programm	What to programm	Suggested
CA2144AB, CV2144AB + CT2138AB	Via Bluetooth or manually	Up to 20 calls: change PE address	233
CA2144AB, CV2144AB + DD2140AB+PD2100AB	Via Bluetooth or manually	Directory e change PE address	
TD2000HE	Via Bluetooth or manually	Directory e change PE address	
TD2000, TD2000RL, TD2000A, TD2000RAL	<b>Manually</b> -----> Via Bluetooth or manually	<b>Directory</b> change PE address	

**On PE4**

Device	How to programm	What to programm	Suggested
CA2144AB, CV2144AB + CT2138AB	Via Bluetooth or manually	Up to 20 calls: change PE address	234
CA2144AB, CV2144AB + DD2140AB+PD2100AB	Via Bluetooth or manually	Directory e change PE address	
TD2000HE	Via Bluetooth or manually	Directory e change PE address	
TD2000, TD2000RL, TD2000A, TD2000RAL	<b>Manually</b> -----> Via Bluetooth or manually	<b>Directory</b> change PE address	

Device	How to programm	What to programm	Range	Suggested
DM2444	Via Bluetooth or manually	RG1 range of line LI2, RG1 range of line LI3, RG1 range of line LI4, RG1 range of line LO2, RG1 range of line LO3, RG1 range of line LO4	RG1 initial address ending address	LI2 LI3 LI4 LO2 LO3 LO4 232 233 234 104 109 114 232 233 234 108 113 118

Power Supply selection	Number of internal stations
2221S	up to 20

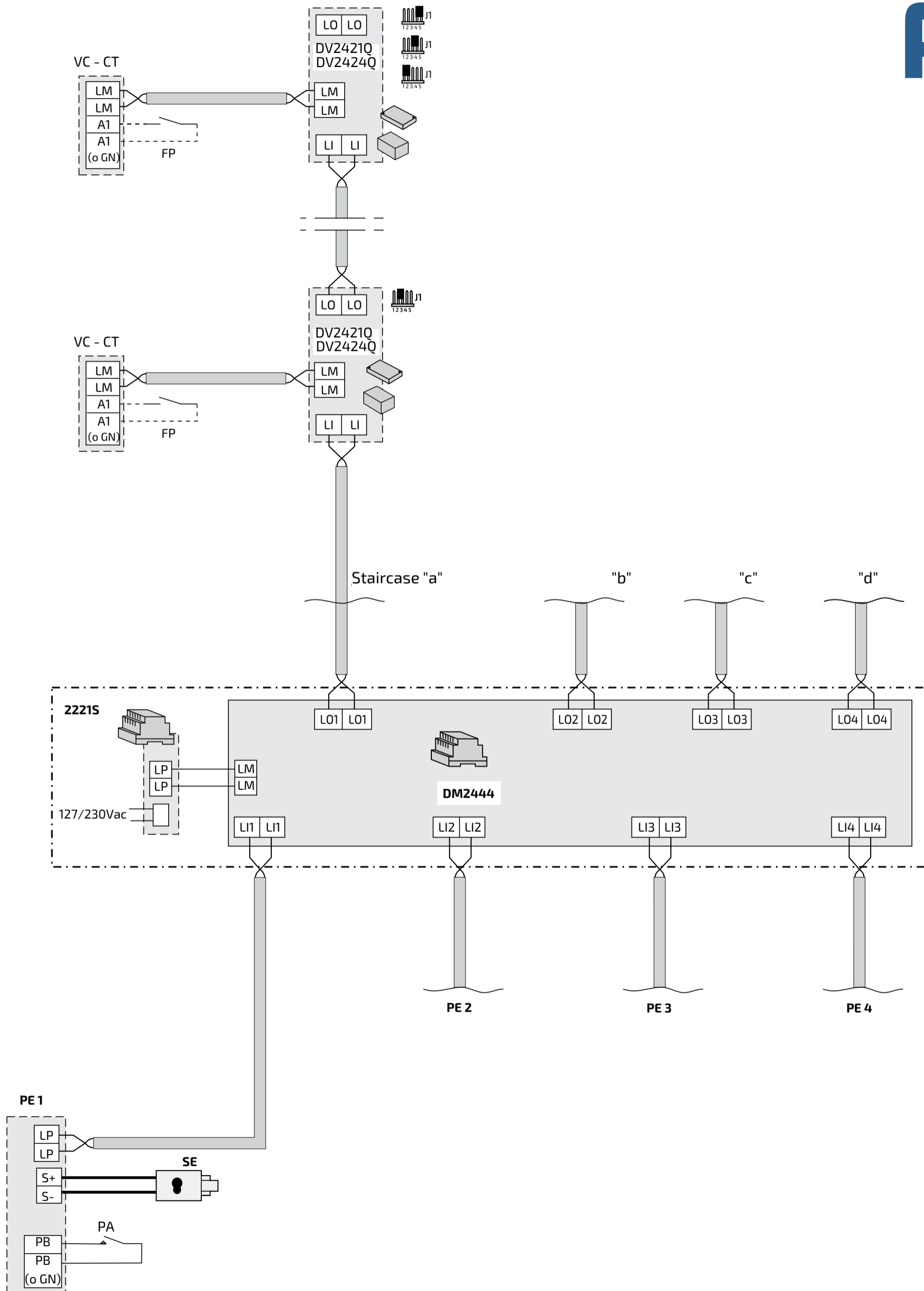
**STAR-CONNECTED MULTI-FAMILY VIDEOINTERCOM SYSTEM WITH 4 DOOR STATIONS AND 4 RISER COLUMNS WITH COMMON POWER SUPPLY**

Diagram id. code  
**Si 54VM/21**



6

DUO  
S Y S T E M



6.31

**MULTI-FAMILY VIDEOINTERCOM SYSTEM WITH A COMMON MAIN ENTRANCE DOOR STATION AND STAR CONNECTION TO SEVERAL INDEPENDENT RISER COLUMNS WITH ASSOCIATED SECONDARY DOOR STATIONS**

Diagram id. code  
**Si 56VM/84**



Device	How to programm	What to programm	Suggested addr
AT9262, AT962, AT972	Dip-switches SW1	User address	099-200 (if they are not sufficient 001-200)
EX3252C + WB3252	Dip-switches SW1	User address	
EX352, EX362, EX3262C (+WB3262)	Via Bluetooth or manually	User address	
SE4252	Via Bluetooth or manually	User address	
ZH1252WE	Dip-switches SW1	User address	

**On main PE**

Device	How to programm	What to programm	Suggested
CA2144AB, CV2144AB + CT2138AB	Via Bluetooth or manually	Up to 34 calls: change PE address over 34: double row and PE address	232
CA2144AB, CV2144AB + DD2140AB+PD2100AB	Via Bluetooth or manually	Directory e change PE address	
TD2000HE	Via Bluetooth or manually	Directory e change PE address	
TD2000, TD2000RL, TD2000A, TD2000RAL	<b>Manually</b> -----> Via Bluetooth or manually	<b>Directory</b> change PE address	

**On PEa - PEn secondary**

Device	How to programm	What to programm
CA2144AB, CV2144AB + CT2138AB	Via Bluetooth or manually	Up to 34 calls: initial button assignment (e.g. 101) over 34: double row and initial button assignment (e.g. 101)
CA2144AB, CV2144AB + DD2140AB+PD2100AB	Via Bluetooth or manually	Directory
TD2000HE	Via Bluetooth or manually	Directory
TD2000, TD2000RL, TD2000A, TD2000RAL	Manually	Directory

Device	How to programm	What to programm	Range
DM2421	Via Bluetooth or manually	User address range of connected devices on L2/L2	Initial address ending address

**Staircase "a"**

Device	How to programm	What to programm	Fascia	Suggested
2231Q	Via Bluetooth or manually	Range F1 with address range of the users connected to LS/LS	Initial address ending address	099 100
		range F2 with address range of external door stations connected to LP/LP	Initial address ending address	231 231

**Staircase 'b'..... staircase 'n' proceed as for staircase 'a', entering in the F1 range of the relevant 2231Q the start and end address of the user address range for that staircase (following the example above: staircase 'b' 101-120 ..... staircase 'n' 150-166)**

**Staircase "a", "b"....."n"**

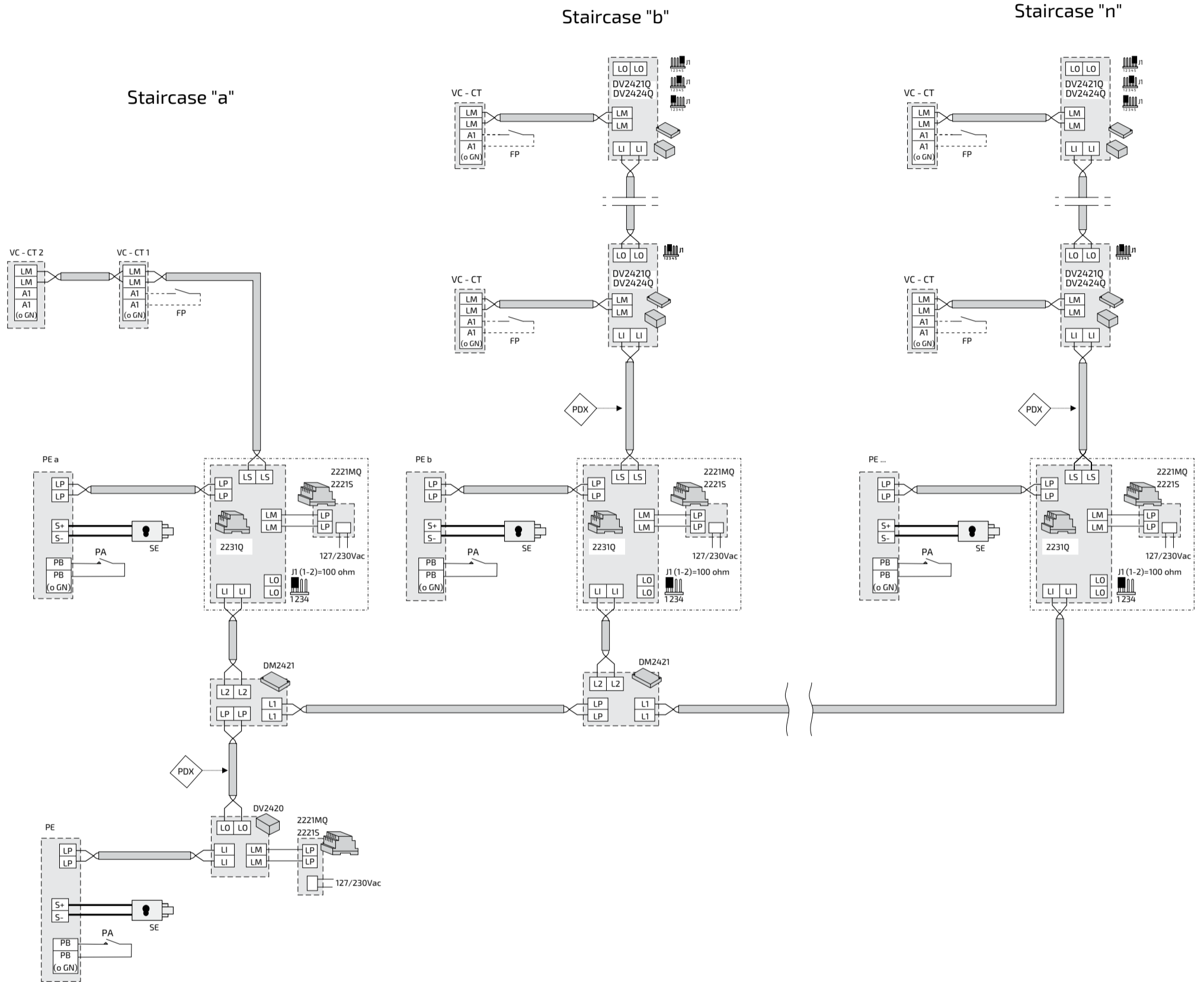
Power Supply selection	Number of internal stations
2221MQ	up to 20
2221S	over 20 and up to 40

**Connected to DV2420**

Power Supply selection	Numero 2231Q
2221MQ	up to 8
2221S	over 8 and up to 20

**MULTI-FAMILY VIDEO INTERCOM SYSTEM WITH A COMMON MAIN ENTRANCE DOOR STATION AND STAR CONNECTION TO SEVERAL INDEPENDENT RISER COLUMNS WITH ASSOCIATED SECONDARY DOOR STATIONS**

Diagram id. code  
**Si 56VM/84**



**MULTI-FAMILY VIDEO INTERCOM SYSTEM WITH A COMMON MAIN EXTERNAL DOOR STATION AND IN-OUT CONNECTION BETWEEN INDEPENDENT RAISERS COLUMNS WITH RELATED SECONDARY EXTERNAL DOOR STATIONS (DIVISION IN BLOCKS)**

Diagram id. code  
**Si 56VM/90**



Device	How to programm	What to programm	Suggested addr
AT9262, AT962, AT972	Dip-switches SW1	User address	099-200 (if they are insufficient 001-200)
EX3252C + WB3252	Dip-switches SW1	User address	
EX352, EX362, EX3262C (+WB3262)	Via Bluetooth or manually	User address	
SE4252	Via Bluetooth or manually	User address	
ZH1252WE	Dip-switches SW1	User address	

**On main PE (PEP)**

Device	How to programm	What to programm
CA2144AB, CV2144AB + CT2138AB	Via Bluetooth or manually	Up to 34 calls: programming buttons in groups over 34: double row and group button programming
CA2144AB, CV2144AB + DD2140AB+PD2100AB	Via Bluetooth or manually	Directory
TD2000HE	Via Bluetooth or manually	Directory
TD2000, TD2000RL, TD2000A, TD2000RAL	Manually	Directory

**On PEa - PEn secondary**

Device	How to programm	What to programm	Suggested
CA2144AB, CV2144AB + CT2138AB	Via Bluetooth or manually	Up to 34 calls: change PE address over 34: double row and PE address	245
CA2144AB, CV2144AB + DD2140AB+PD2100AB	Via Bluetooth or manually	Directory e change PE address	
TD2000HE	Via Bluetooth or manually	Directory e change PE address	
TD2000, TD2000RL, TD2000A, TD2000RAL	<b>Manually</b> -----> Via Bluetooth or manually	<b>Directory</b> change PE address	

**Staircase (or block) "a"**

Device	How to programm	What to programm	Reserved range	Suggested
2231Q	Via Bluetooth or manually	Block address	only one value	10

**Staircase (or block) 'b'..... staircase (or block) 'n'** proceed in the same way as for staircase 'a', by entering the block address that groups the users of that staircase into the dedicated range of the relevant 2231Q (following the example above, staircase 'b' can be assigned block address 20..... while block address 90 can be assigned to staircase 'n').

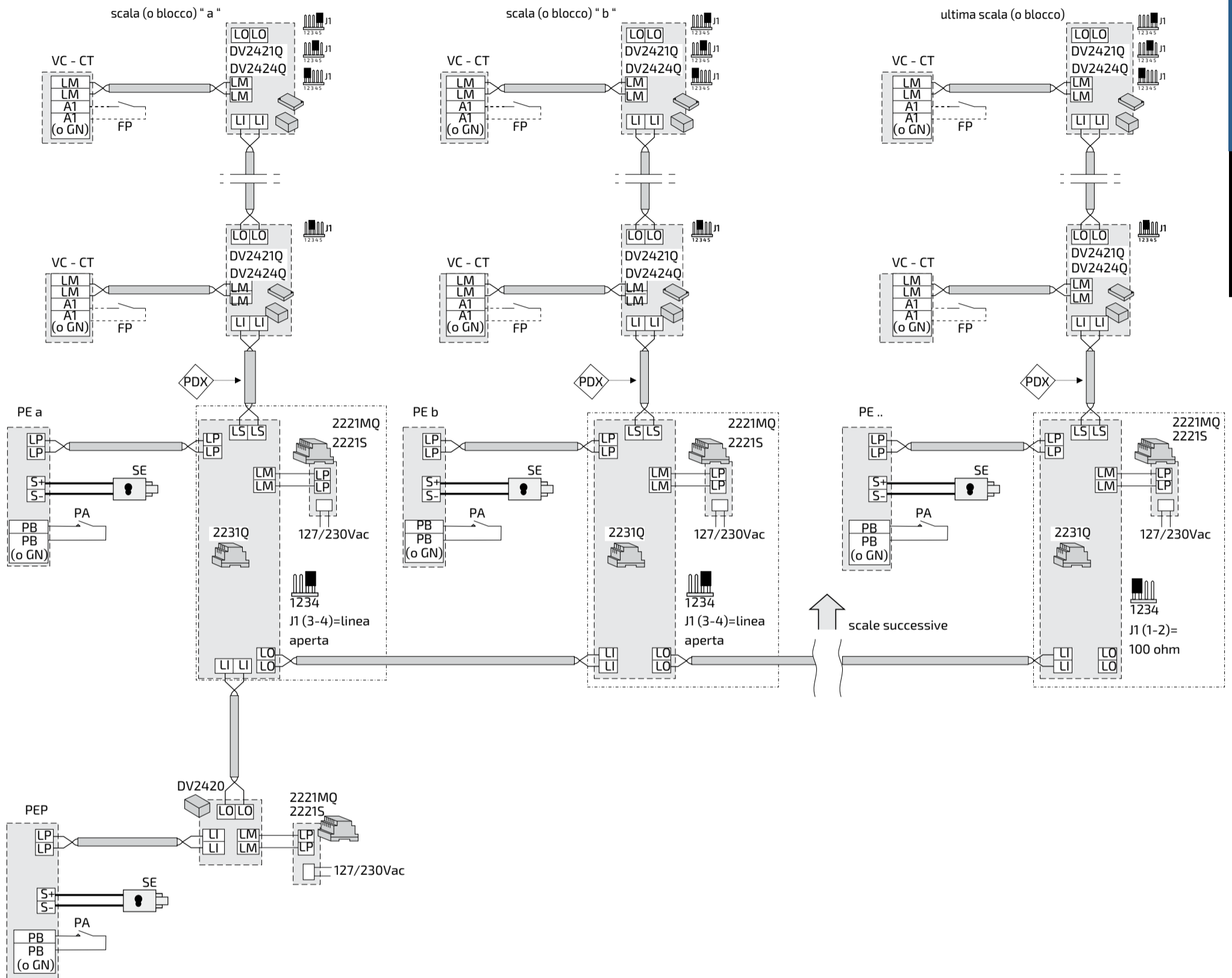
The available block addresses range from 01 to 99 and, exactly as with an international dialling code, the block address must be dialled when the user (which is always characterised by a device address of the classic DUO and ranges from 001 to 200) is called from outside the block, i.e. on the LI/LI input line of the block separator (2231Q). Using block addresses in a 'creative' or descriptive manner where there is not a very high number of users (which imposes more stringent numbering logic), it is possible (using digital keypads and displays) to identify the tenants in building A for example with addresses from 10-100 to 10-120, those in building B with addresses from 20-100 to 20-115.....obviously when the call is generated from main door station. In addition to what has already been said, push button panels like ALBA digital allow the creation of so-called ALIAS call addresses (also alphanumeric in HERO), i.e. fantasy addresses (up to 5 characters) that can identify the user in an even simpler and more intuitive way such as address 10502 (building A, floor 5, penthouse 2).

**Staircase (or block) "a", "b"....."n"**

Power Supply selection	Number of internal stations
2221MQ	up to 20
2221S	over 20 and up to 40

**MULTI-FAMILY VIDEO INTERCOM SYSTEM WITH A COMMON MAIN EXTERNAL DOOR STATION AND IN-OUT CONNECTION BETWEEN INDEPENDENT RAISERS COLUMNS WITH RELATED SECONDARY EXTERNAL DOOR STATIONS (DIVISION IN BLOCKS)**

Diagram id. code  
**Si 56VM/90**



6

SYSTEM

**MULTI-FAMILY VIDEOINTERCOM SYSTEM WITH 4 MAIN EXTERNAL DOOR STATIONS AND 4 RISERS COLUMNS EACH WITH INDEPENDENT POWER SUPPLY AND SECONDARY EXTERNAL DOOR STATIONS**

Diagram id. code  
**Si 57VM/31**



Device	How to programm	What to programm	Suggested addr
AT9262, AT962, AT972	Dip-switches SW1	User address	099-200 (if not sufficient: 001-200)
EX3252C + WB3252	Dip-switches SW1	User address	
EX352, EX362, EX3262C (+WB3262)	Via Bluetooth or manually	User address	
SE4252	Via Bluetooth or manually	User address	
ZH1252WE	Dip-switches SW1	User address	

**On PE1**

Device	How to programm	What to programm
CA2144AB, CV2144AB + CT2138AB	Via Bluetooth or manually	Up to 34 calls: no programming over 34: double row button configuration
CA2144AB, CV2144AB + DD2140AB+PD2100AB	Via Bluetooth or manually	Directory
TD2000HE	Via Bluetooth or manually	Directory
TD2000, TD2000RL, TD2000A, TD2000RAL	Manually	Directory

**On PE2**

Device	How to programm	What to programm	Suggested
CA2144AB, CV2144AB + CT2138AB	Via Bluetooth or manually	Up to 34 calls: change PE address over 34: double row and PE address	232
CA2144AB, CV2144AB + DD2140AB+PD2100AB	Via Bluetooth or manually	Directory e change PE address	
TD2000HE	Via Bluetooth or manually	Directory e change PE address	
TD2000, TD2000RL, TD2000A, TD2000RAL	<b>Manually</b> -----> Via Bluetooth or manually	<b>Directory</b> change PE address	

**On PE3 and PE4 similarly to PE2 (the suggested PE addresses are 233 and 234 respectively).**

**On PEa, PEb, PEc, PEd**

Device	How to programm	What to programm	Suggested
CA2144AB, CV2144AB + CT2138AB	Via Bluetooth or manually	Up to 34 calls: change PE address over 34: double row and PE address	240
CA2144AB, CV2144AB + DD2140AB+PD2100AB	Via Bluetooth or manually	Directory e change PE address	
TD2000HE	Via Bluetooth or manually	Directory e change PE address	
TD2000, TD2000RL, TD2000A, TD2000RAL	<b>Manually</b> -----> Via Bluetooth or manually	<b>Directory</b> change PE address	

Device	How to programm	What to programm	Fascia	Suggested
DM2444	Via Bluetooth or manually	RG1 range of LI2, RG1 range of LI3, RG1 range of LI4, RG1 range of LO2, RG1 range of LO3, RG1 range of LO4	RG1 Initial address ending address	LI2 LI3 LI4 LO2 LO3 LO4 232 233 234 116 133 150 232 233 234 132 149 166

**Staircase "a"**

Device	How to programm	What to programm	Fascia	Suggested
2231Q	Via Bluetooth or manually	F1 range: Device address range of the users connected to the LS/LS line  F2 range: address range of door station connected to the LP/LP line	Initial address ending address  Initial address ending address	099 115  240 240

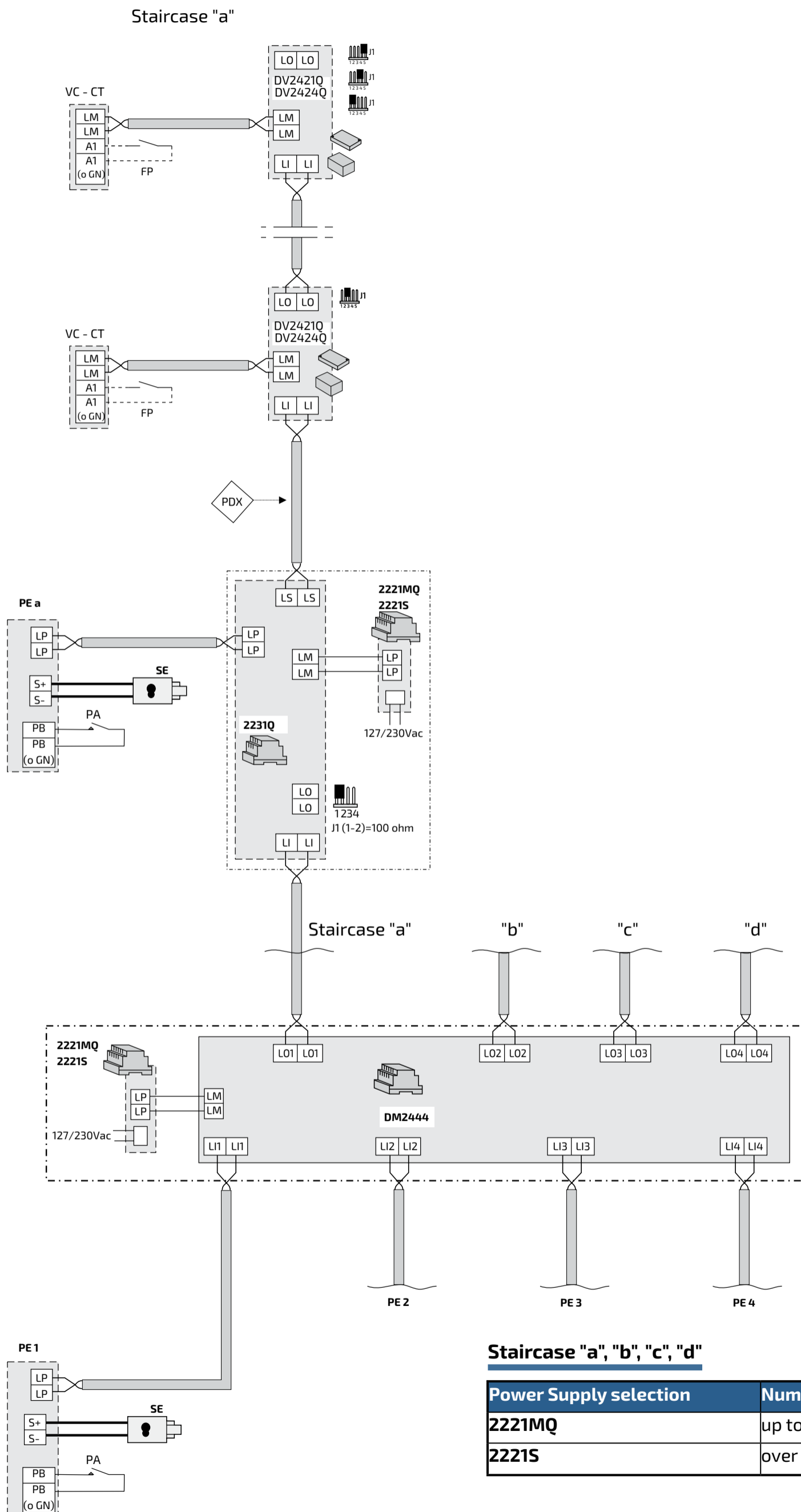
**Staircase 'b', staircase 'c', staircase 'd' proceed as for staircase 'a', entering in the F1 range of the relevant 2231Q the start and end address of the user address range of that staircase (following the example above: staircase 'b' 116-132, staircase 'c' 133-149, staircase 'd' 150-166) while in the F2 range for all will be configured the intrvalue 240-240.**

**MULTI-FAMILY VIDEOINTERCOM SYSTEM WITH 4 MAIN EXTERNAL DOOR STATIONS AND 4 RISERS COLUMNS EACH WITH INDEPENDENT POWER SUPPLY AND SECONDARY EXTERNAL DOOR STATIONS**

Diagram id. code  
**Si 57VM/31**



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**Staircase "a", "b", "c", "d"**

Power Supply selection	Number of internal stations
2221MQ	up to 20
2221S	over 20 and up to 40

Device	How to programm	What to programm	Suggested addr
AT962, AT972	Dip-switches SW1	User address	099-200
EX352, EX362	Via Bluetooth or manually	User address	



**If there only one external door station**

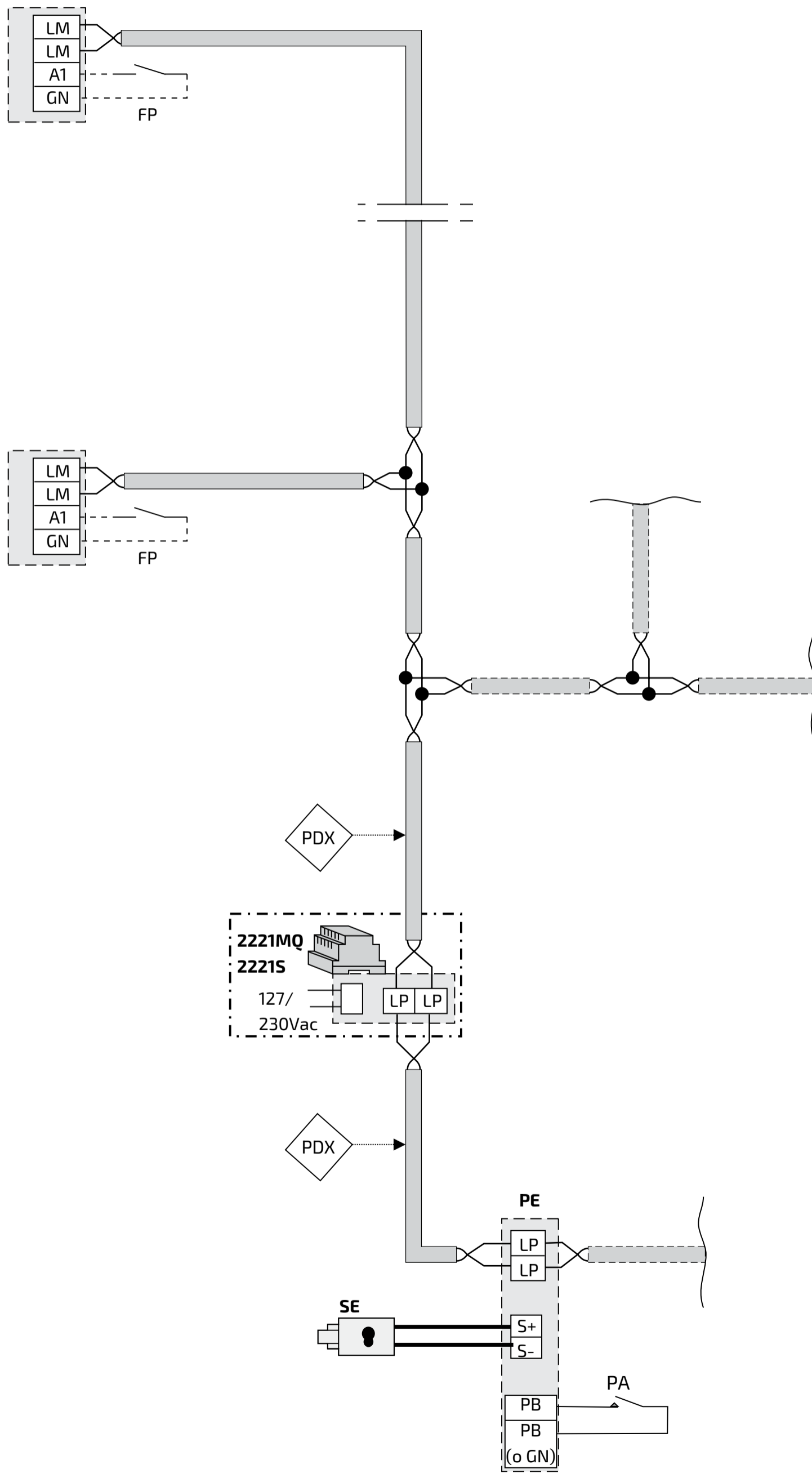
Device	How to programm	What to programm
CA2144AB + CT2138AB	Via Bluetooth or manually	Up to 34 calls: no programming over 34 calls: double row mode
CA2144AB + DD2140AB+PD2100AB	Via Bluetooth or manually	Directory
TD2000A, TD2000RAL	Manually	Directory

**If there are other external door stations (the second: 232, the third: 233.....)**

Device	How to programm	What to programm	Suggested
CA2144AB + CT2138AB	Via Bluetooth or manually	Up to 34 calls: change PE address over 34: double row and PE address	232 - 253
CA2144AB+ DD2140AB+PD2100AB	Via Bluetooth or manually	Directory e change PE address	
TD2000A, TD2000RAL	<b>Manually</b> -----> Via Bluetooth or manually	<b>Directory</b> change PE address	

Power Supply selection	Number of internal stations
2221MQ	up to 24 (16 with 2 PE, 8 with 3 PE)
2221S	up to 48 (38 with 2 PE, 28 with 3 PE)





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Device	How to programm	What to programm	Suggested addr
AT962, AT972	Dip-switches SW1	User address	099-200 (or 001-200)
EX352, EX362	Via Bluetooth or manually	User address	

**If there is only one main external door station (PEP1)**

Device	How to programm	What to programm
CA2144AB + CT2138AB	Via Bluetooth or manually	Up to 34 calls: programming buttons in groups Over 34: double row and group button programming
CA2144AB + DD2140AB+PD2100AB	Via Bluetooth or manually	Directory
TD2000A, TD2000RAL	Manually	Directory

**If there are other main external door stations (PEP2: 232, PEP3: 233.....)**

Device	How to programm	What to programm	Suggested
CA2144AB + CT2138AB	Via Bluetooth or manually	Up to 34 calls: programming buttons in groups and PE addr. Over 34: double row, buttons in group and PE address programming	232 - 244
CA2144AB+ DD2140AB+PD2100AB	Via Bluetooth or manually	Directory e change PE address	
TD2000A, TD2000RAL	<b>Manually</b> -----> Via Bluetooth or manually	<b>Directory</b> change PE address	

**PEa, PEb, PEc, PEd.....**

Device	How to programm	What to programm	Suggested
CA2144AB + CT2138AB	Via Bluetooth or manually	Up to 34 calls: change PE address oltre 34: double row and PE address	245 - 253
CA2144AB+ DD2140AB+PD2100AB	Via Bluetooth or manually	Directory e change PE address	
TD2000A, TD2000RAL	<b>Manually</b> -----> Via Bluetooth or manually	<b>Directory</b> change PE address	

**Staircase (or block) "a"**

Device	How to programm	What to programm	Reserved range	Suggested
2231Q	Via Bluetooth or manually	Block address	only one value	10

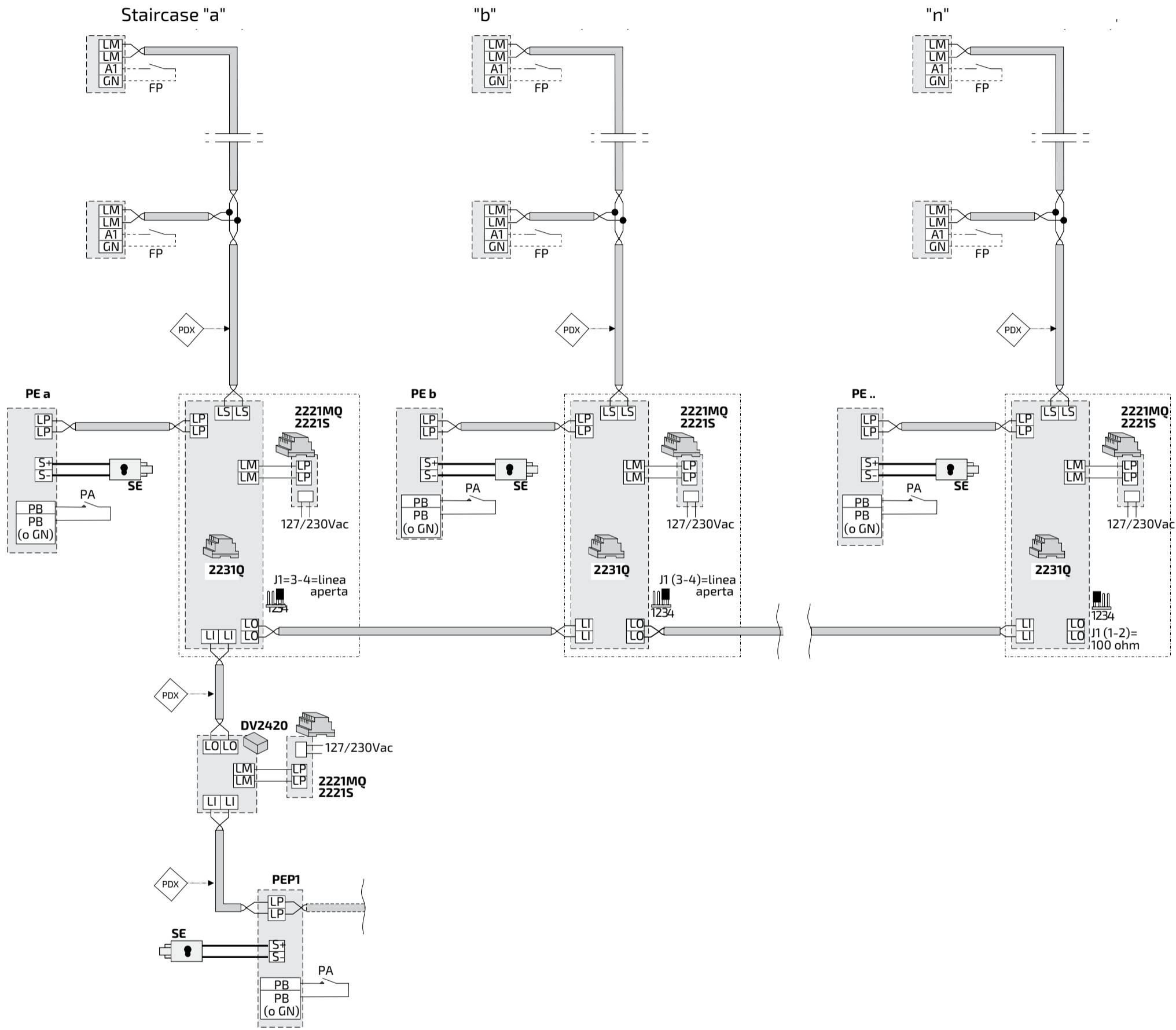
**Staircase (or block) 'b'..... staircase (or block) 'n'** proceed in the same way as for staircase 'a', inserting the block address that groups the users of that staircase into the dedicated range of the relevant 2231Q (following the example above, staircase 'b' can be assigned block address 20..... while block address 90 can be assigned to staircase 'n').

**Staircase (o block) "a", "b"....."n"**

Power Supply selection	Number of internal stations
2221MQ	up to 24
2221S	up to 48

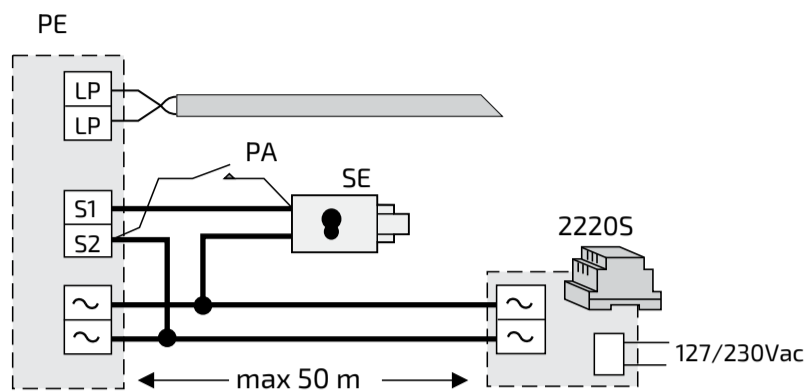
**Connected to DV2420**

Power Supply selection	Number of 2231Q
2221MQ	up to 16 with 1 PEP, 6 with 2 PEP
2221S	up to 30 with 2 PEP



## APPLICATION OF INSTALLATION DIAGRAMS IN THE CASE OF DOOR STATIONS WITH LOCAL POWER SUPPLY (POWER SUPPLY UNIT ART.2220S)

If it is necessary or required to install the first concept door stations (with local 2220S power supply), after checking that all the desired functions are still available, it is possible to use, from the point of view of connections, the installation diagrams presented on the previous pages, taking care to locally modify the connections, using the application diagram below as a reference (where SE is the electric lock whose maximum absorption must not be less than 1 A at 13 Vac):



**Door stations with digital encoder CD2131., CD2132., CD2134., CD2138.**In systems with digital encoder, when using **MAS24S, PL24S, PL228S, AG100TS and AGL100TS button modules**, it is advisable to power the LEDs on these modules with an additional 13Vac transformer of suitable power.

Using the **PRS210** transformer, it is possible to power up to a maximum of **7 AG100TS, AGL100TS** button modules; **6 PL24S, PL228S** button modules; **6 MAS24S** button modules.