

*Lift Controller*

# **PLAYBOARD R2**



**PITAGORA**  
Sistema elettrico completo

## **User Manual**

Rel. 2.4 - English

## Document references

Prepared by:	Pierluigi Palumbo, Paolo Vagnoni; Gabriele Laporta	06/05/04
Checked by:	Emanuele Emiliani	12/05/04
Approved by:	Nicandro Gagliardi	

## Document changes

The changes listed in the following table refer to the previous release of this document:

<b>Changes description</b>	<b>References</b>
General review	Rel. 2.1
Quick Installation Guide entered	Rel. 2.2
Pictures modified and graphical review	Rel. 2.3
Reviewed and updated by Ascentec	Rel. 2.4



## Contents

<b>1.</b>	<b>Description of the Playboard Modular Controller .....</b>	<b>4</b>
1.1	Technical Features .....	4
1.2	Main functions.....	4
1.3	Signalisations and diagnostic .....	4
1.4	Controller Layout .....	5
1.5	Modules description.....	6
1.5.1	Playboard R2 mother board .....	6
1.5.2	Safety Chain Module (SEC) .....	7
1.5.3	Doors Module (DOM) .....	9
1.5.4	Car light or Car light and retiring ramp (LUX / SKATE) .....	9
1.5.5	Screw terminal Interface Module (INT).....	10
<b>2.</b>	<b>Quick installation guide .....</b>	<b>11</b>
2.1	Mounting the controller in the machine-room .....	11
2.2	Main connections and Temporary Operation.....	12
2.3	Definitive connections.....	14
2.4	Protection against noises.....	15
2.5	Circuits protection (printed circuits and components).....	15
<b>3.</b>	<b>How to modify the system's parameters .....</b>	<b>16</b>
3.1	Use of the programming keyboard .....	16
3.2	Use of the programming keyboard .....	16
3.3	Manu map.....	17
3.4	Menu "System state" .....	18
3.5	Menu "Faults" .....	19
3.6	Menu "User Parameters" .....	20
3.7	Menu "Configuration" .....	23
3.8	Menu "Rec parameters" .....	31
3.9	Menu "Diagnosis" .....	32
3.10	Menu "Clock" .....	35
<b>4</b>	<b>Troubleshooting.....</b>	<b>36</b>
<b>5</b>	<b>ANNEX A – CAR POSITION SETTING .....</b>	<b>40</b>
5.1	Definitions .....	40
5.2	Counting sensors: FAI / FAS .....	40
5.3	Deceleration sensors: AGH / AGB.....	40
5.4	Slowing points .....	41
5.4.1	Passage in Low Speed, slowing point 5 .....	41
5.4.2	Passage in Low Speed, slowing point 3 .....	42
5.4.3	Passage in Low Speed, slowing point 2 .....	43
5.4.4	Short floor contact : EL1 .....	44

## 1. Description of the Playboard Modular Controller

The lift controller *Playboard R2* is based on the modular electronic technology conceived by DMG Spa and allows adapting the controller's modules according to the installation's technical requirements.

This User Manual refers to the typical configurations of the *Playboard R2* controller: 2 speeds electric, hydraulic and with VVVF driver. Possible construction variations due to different installations features are described in the following chapters, where necessary.

The *Playboard R2* controller is fully compatible with the Prewired Electric System *Pitagora*.



### 1.1 Technical Features

- 1/2 speeds, hydraulic direct start, hydraulic star/delta, Soft Starter
- VVVF driver open or closed loop
- Speed up to 1,6 m/s
- Power supply 220 ÷ 415V
- Contactors 18 A ÷ 40 A
- SAPB (fully automatic), down collective, full collective
- Simplex to Quadruplex
- Traditional wiring or prewiring type PITAGORA
- 2 to 16 floors with traditional wiring with screw terminal (14 with prewiring type Pitagora)
- Safety chain 48 ÷ 230 V AC/DC (controlled on 4 different points)
- Battery 12V at 6,5Ah with integrated battery charger
- Door type: manual, automatic, regulated, independent

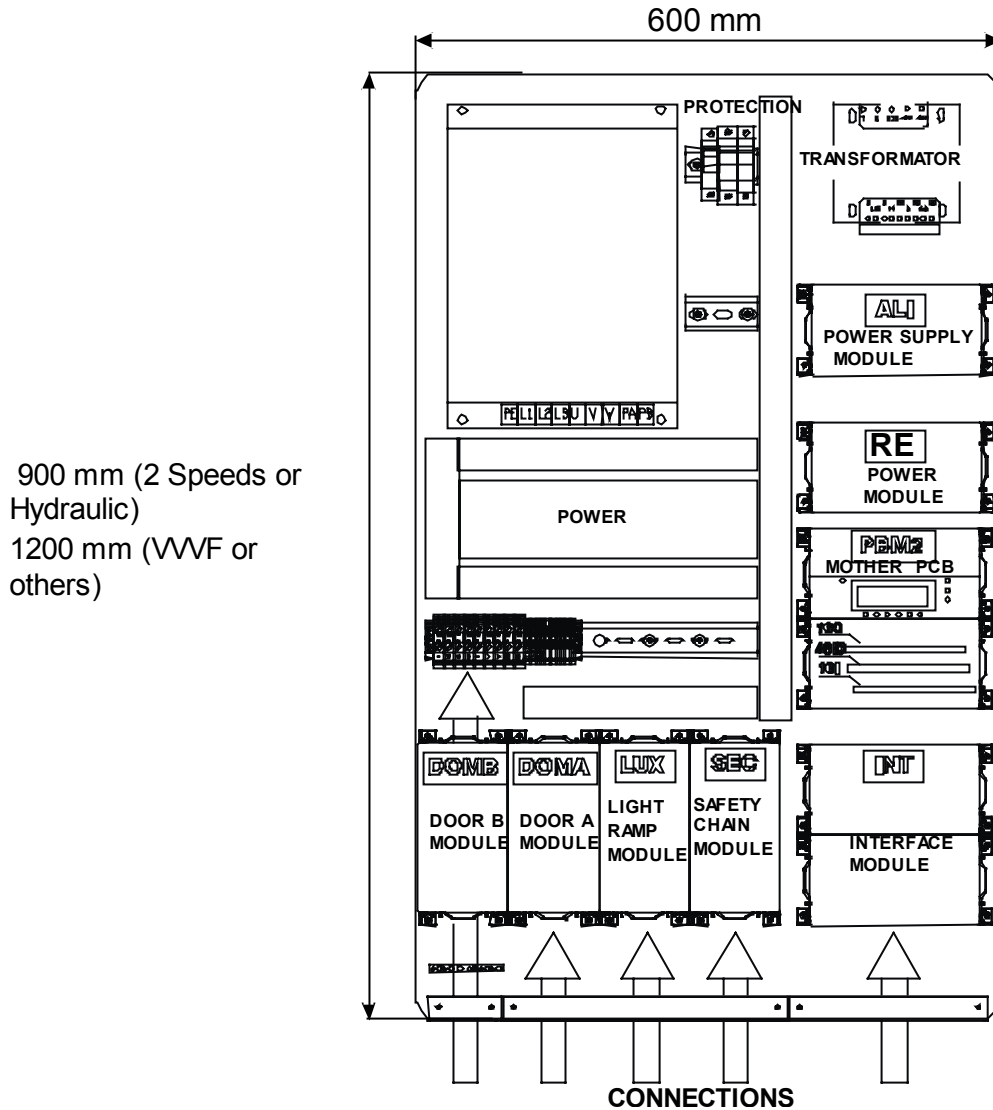
### 1.2 Main functions

- Re-levelling with open or closed doors
- Anticipated door opening
- Fire-fighters operation, Priority operation, Out of Service operation
- Law 13 (Italy)
- Full load control, overload control, temperature control, phase sequence control
- Fire sensors inputs
- Retiring cam control
- Car illumination time-limited or permanent
- Photocell NO/NC contact control (screw terminal version)
- Slowdown regulation different for each floor
- Double entrance control
- Remote control of the lift installation through telephone connection

### 1.3 Signalisations and diagnostic

- Serial output for display (possible programming of alphanumeric characters for each floor)
- Signalisations busy/called permanent lighted or flashing
- Out of service operation and signalisation
- Car and landing gong with next direction acoustic signal
- Car and landing direction arrows and landing next direction arrows
- Landing alarm acoustic signal (Law 13)
- Programming module with LCD and 6 buttons keyboard
- Visualisation on LCD of I/Os and of the last 60 faults detected
- Over 40 different faults detection

### 1.4 Controller Layout

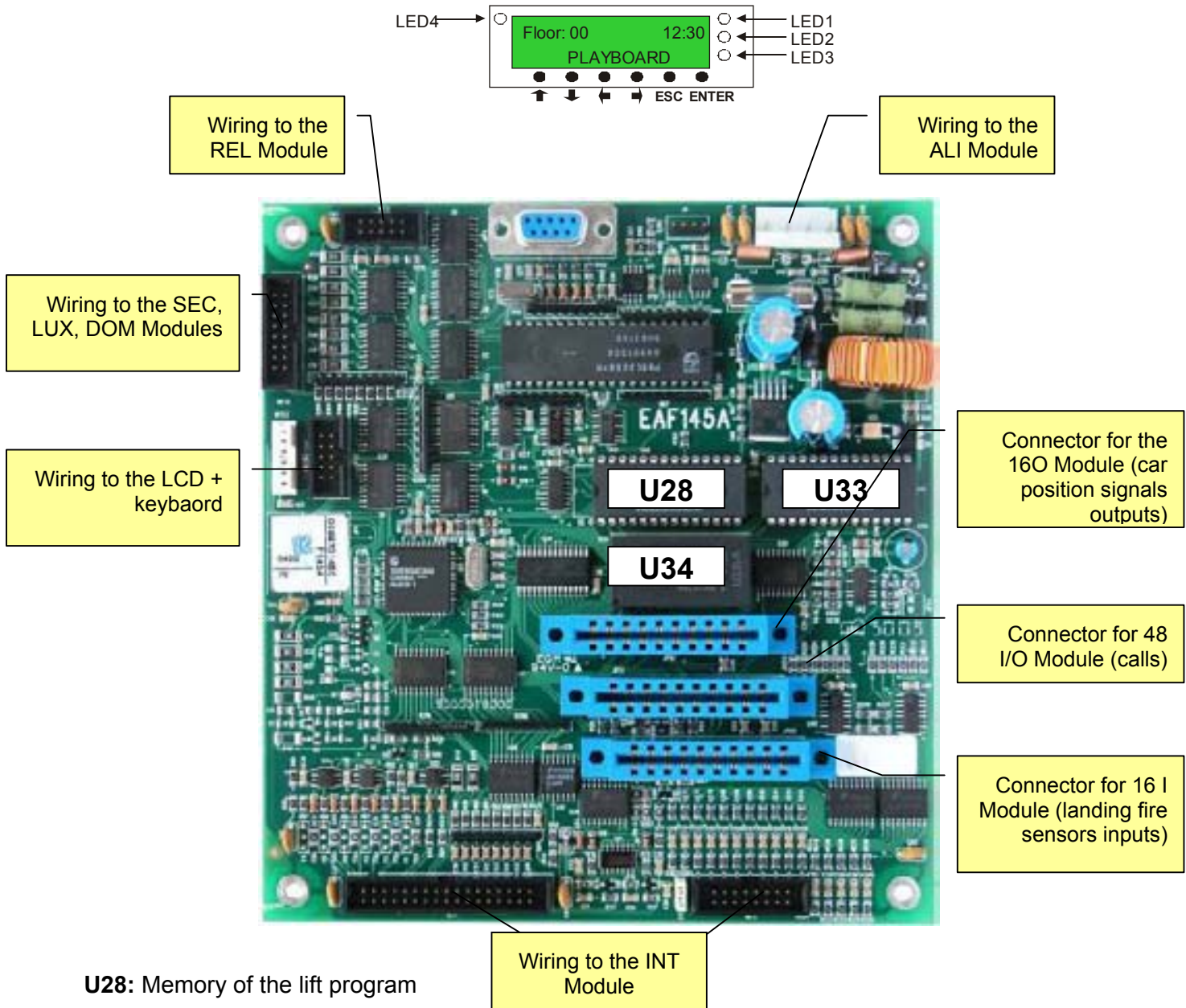


Module	Description
ALI	Power supply module 12VDC emergency 24VDC - Brake or valves door brake
DOMA	Door motor module, entrance A
DOMB	Door motor module, entrance B (optional)
INT	Interface module for car, landing and machine-room command information
LUX	Car light and retiring ramp command module
PBM2	PLAYBOARD mother board
REL	Power wiring for POWER module contactors command
SEC	Safety chain control and connection module
POWER	Power wiring for motor command

## 1.5 Modules description

### 1.5.1 Playboard R2 mother board

The motherboard contains the software, which controls the functioning logic of the Playboard R2 modular controller. The programming module *Scenic*, equipped with buttons and LCD, allows to manually modify every parameter of the controller.



**U28:** Memory of the lift program

**U33:** Memory of the messages program

**U34:** Clock (optional)

**PBM2:** Microprocessor

**JP22:** Wiring to the Scenic Module

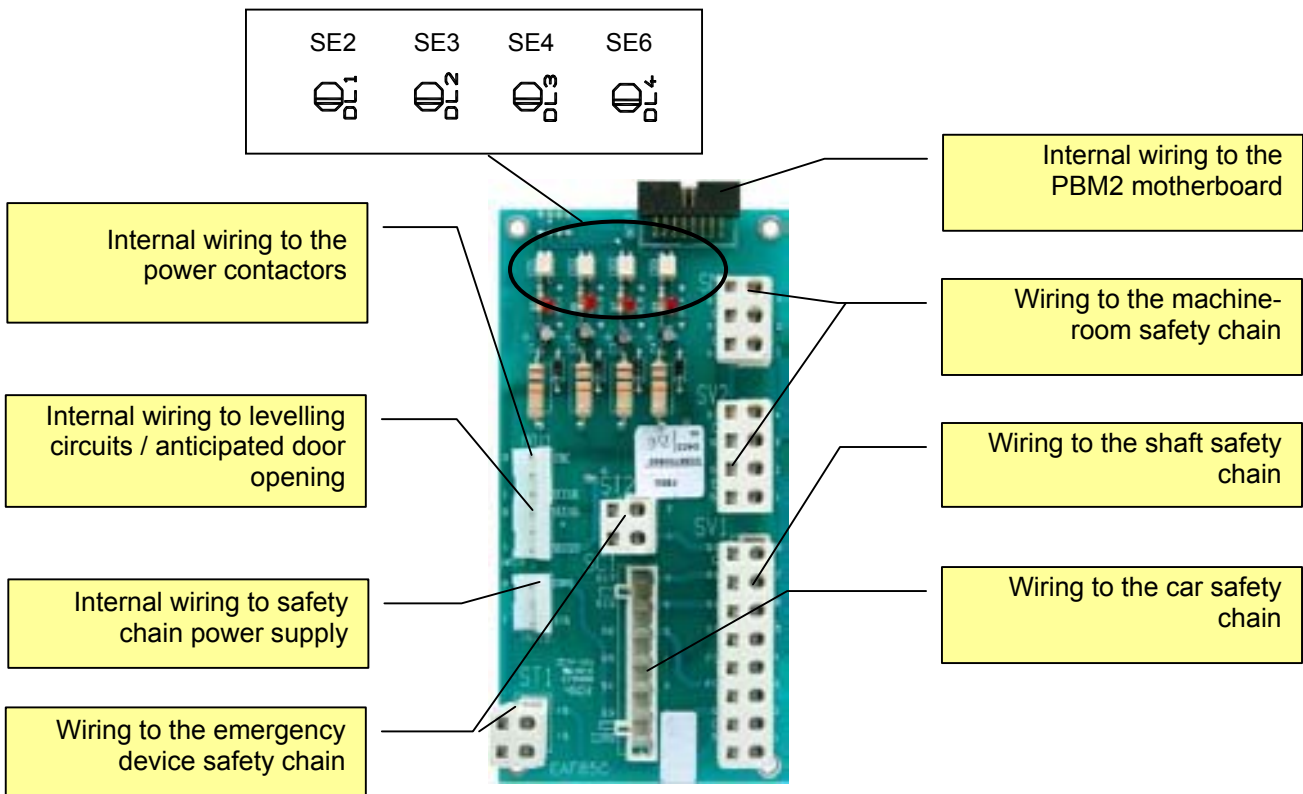
### 1.5.2 Safety Chain Module (SEC)

The whole installation safety chain is wired on the safety chain module:

- Shaft safety chain
- Machine-room safety chain
- Car safety chain
- Emergency device

The installation safety chain is divided in 4 parts:

SE2	SE3	SE4	SE6
<ul style="list-style-type: none"> <li>• Shaft Stop</li> <li>• Car Stop</li> </ul>	<ul style="list-style-type: none"> <li>• Car frame contact</li> <li>• Inspection</li> <li>• Machine-room operation</li> <li>• Limit switch</li> <li>• Speed governor</li> </ul>	<ul style="list-style-type: none"> <li>• Landing door lock contacts</li> </ul>	<ul style="list-style-type: none"> <li>• Car door contacts</li> <li>• Landing door contacts</li> </ul>

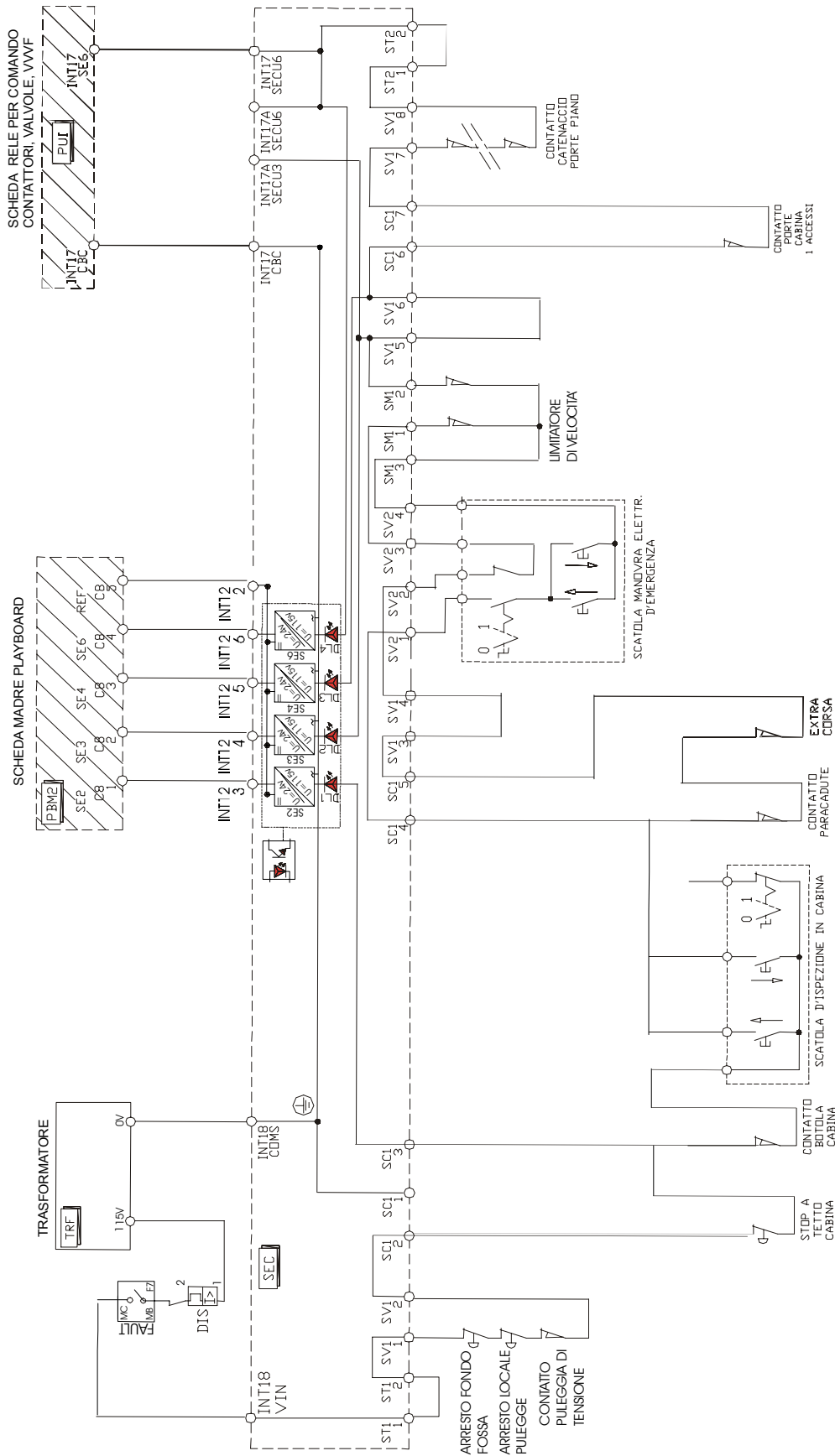


On this modules is connected the whole safety chain and there is a protected circuit, which is connected to the Playboard module for the control of the safety chain on 4 different points.

The 4 leds on the board allow the technician to quickly check the safety chain. The board has been developed and certified according to the EN81 norm (1999).

For further details about the wiring please see the wiring diagram of the controller (the safety chain wiring diagram is shown in the following page).

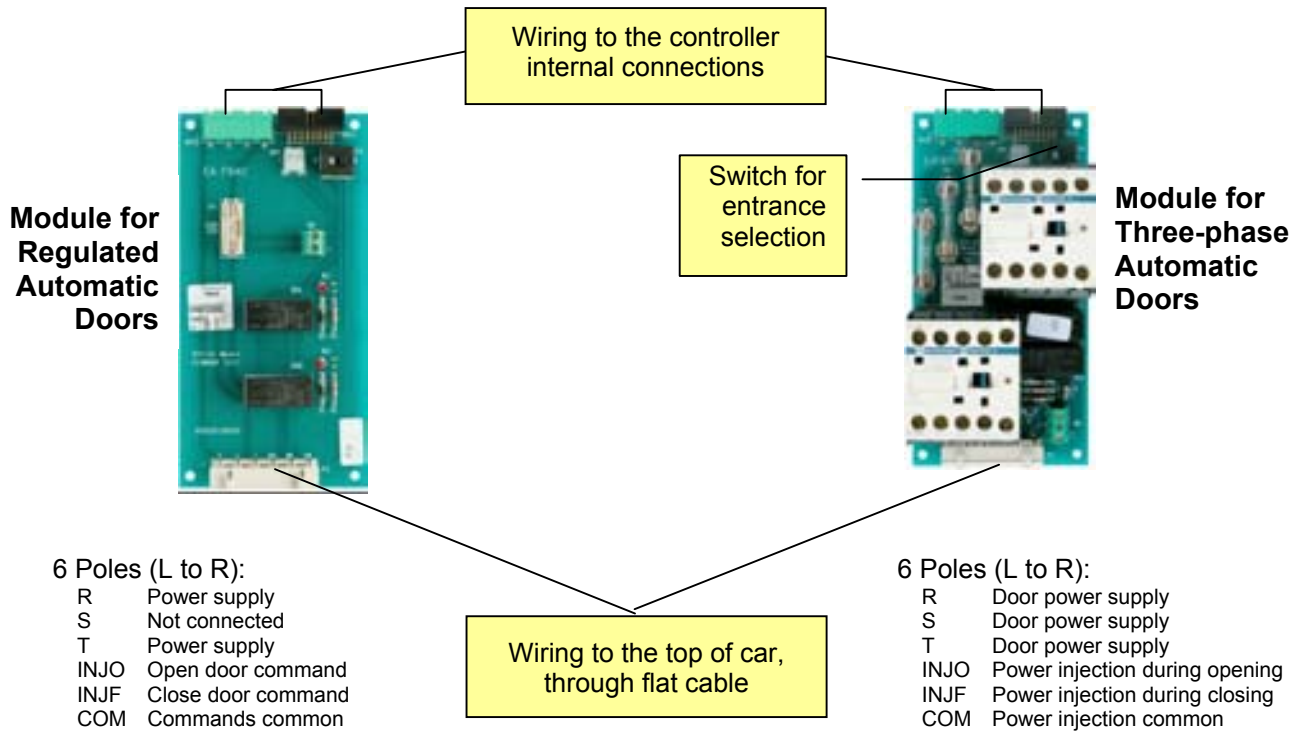
Fig 1.1 – Safety chain wiring diagram





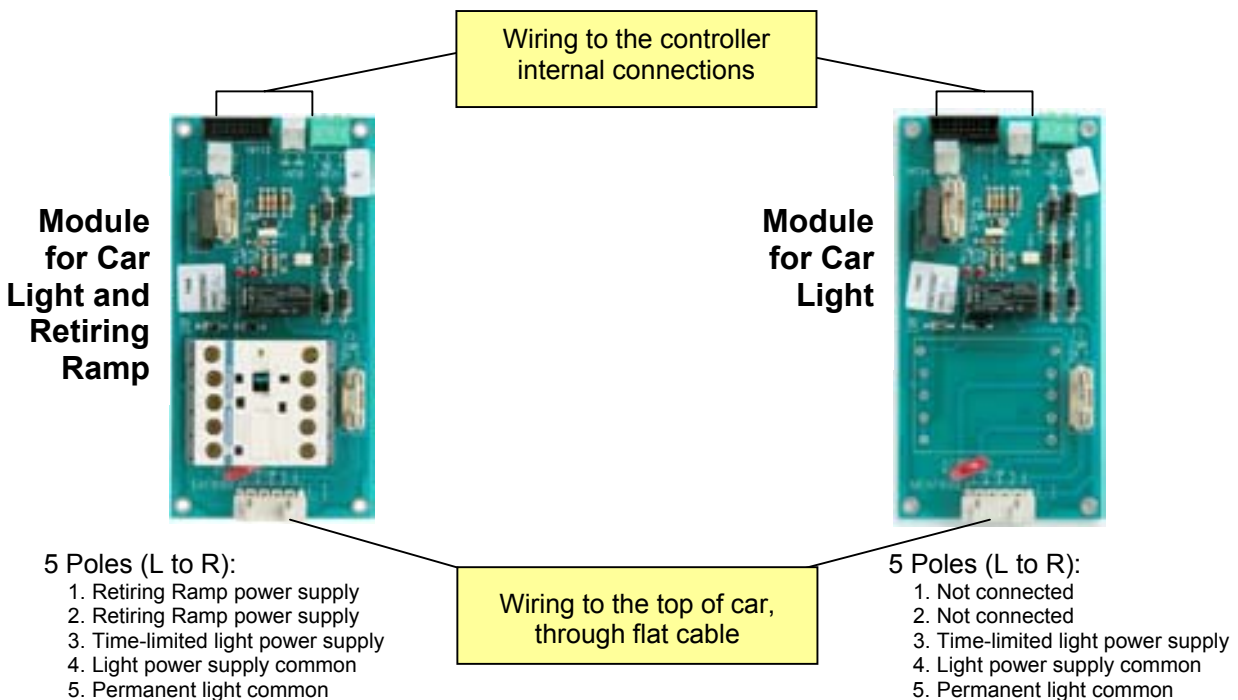
### 1.5.3 Doors Module (DOM)

The doors module controls the car doors functioning. There are 2 different modules for Regulated Automatic Doors o Three-phase Automatic Doors:



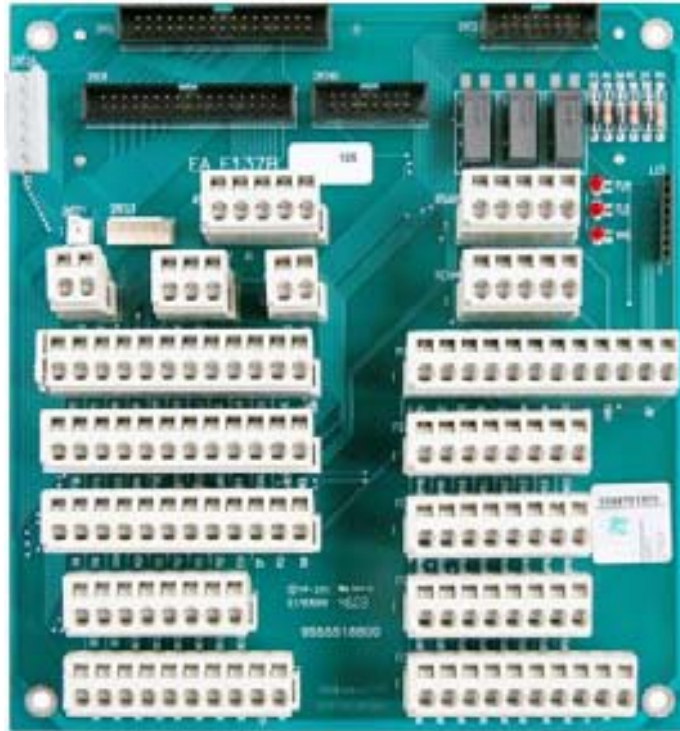
### 1.5.4 Car light or Car light and retiring ramp (LUX / SKATE)

The Car light / Car Light + Retiring Ramp Module controls the car light power supply (permanent or time limited light) and the retiring ramp power supply (optional).



### 1.5.5 Screw terminal Interface Module (INT)

All 12 and 24V signals to car and landing operating panels and indicators are connected to the Interface Module. The module is available for prewiring system PITAGORA for 8 or 16 floors and for traditional wiring with screw terminals (8 or 16 floors).



<b>Connector</b>	<b>Description</b>
RS422	Serial connection to the top of car
RS485	Multiplex serial connection
FCO	Limit switch for hydraulic installations
FLE	Direction arrows
MTH	Motor temperature sensor
REVMR	Machine-room operation
L13	Connector to Law 13 module
DS3	Different (arrows, gong, serial display, emergency lamp, alarm, alarm received signal...)
M1	Law 13 signals, Fire-fighters operation, Out of Service key contact and signal, Full load signal
DS2	Door limit switch, Photocells, Inspection, Door close / Door open
DS1	Position sensors
CC1	Car calls from 0 to 7
CC2	Car calls from 8 to 15
FC1	Landing calls downwards from 0 to 7
FC2	Landing calls downwards from 8 to 15
FC3	Landing calls upwards from 0 to 7
FC4	Landing calls upwards from 8 to 15

## 2. Quick installation guide

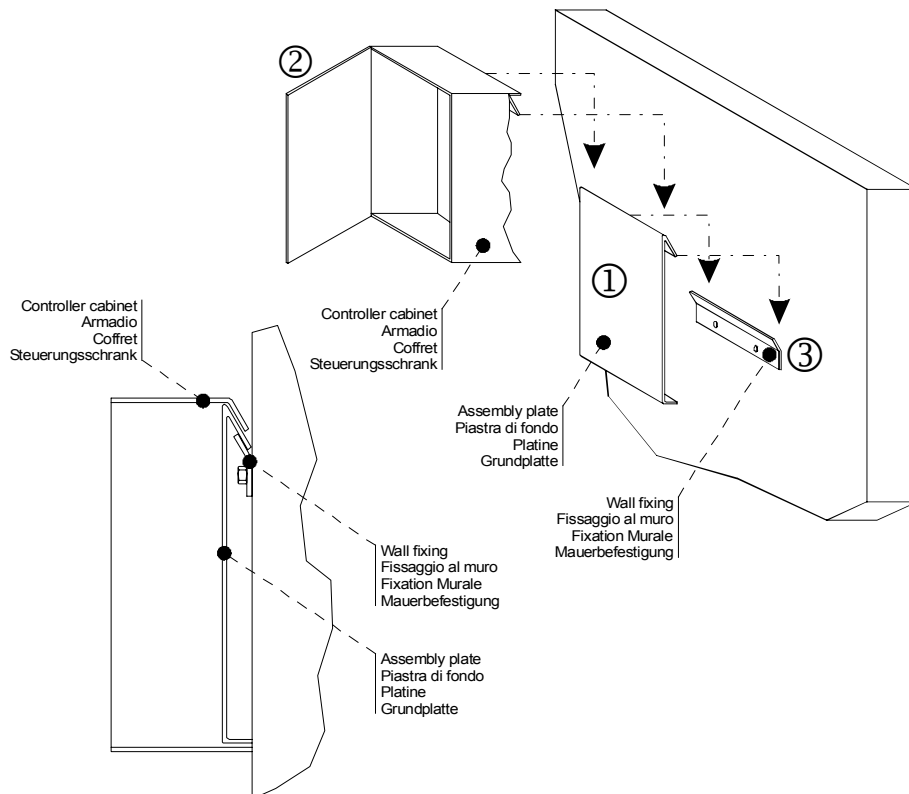
For the first installation of the *Playboard* controller read the following instructions:

### 2.1 Mounting the controller in the machine-room

The Playboard modular controller is composed of an assembly plate ①, on which all the electric components are mounted, and of a cabinet with door ②, which can be fixed to the back plate.

To fix the controller you must:

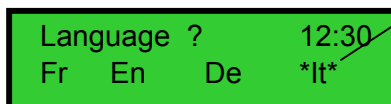
- Fix the metal support to the wall ③
- Fix the assembly plate to the support
- Make the necessary connections (see following paragraphs)
- Fix the cabinet to the assembly plate



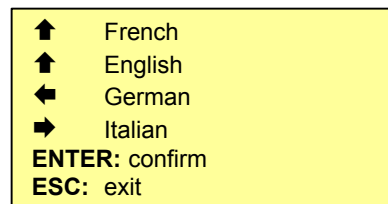
## 2.2 Main connections and Temporary Operation

To make the main connections and run the installation in temporary operation, make the following:

1. According to the wiring diagram in the following page<sup>1</sup>, connect:
  - The net power supply
  - The traction motor
  - The brake/The hydraulic unit
  - The motor temperature sensor
  - The temporary operating panel (to be connected to the screw terminals of the INT and SEC modules as shown)
2. Supply the controller
3. Check the language on the programming module; if you need to change the language, use the *Scenic* as follows:
  - In the Main Menu press **[ENTER]**
  - Press **↑** to enter the Menu *Language*
  - Select the new language:

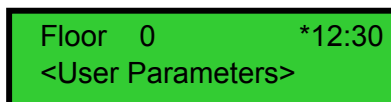


```
Language ?      12:30
Fr  En  De  *It*
```



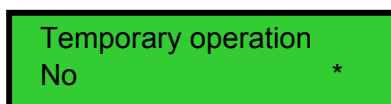
```
↑ French
↑ English
← German
→ Italian
ENTER: confirm
ESC: exit
```

- Press **[ENTER]** to confirm and exit the menu
4. Enter the “Temporary Operation” mode using the *Scenic* module as follows:
    - The mother board displays:



```
Floor 0      *12:30
<User Parameters>
```

- Double press **[ENTER]** to modify the parameter “Temporary Operation”. The mother board displays:



```
Temporary operation
No      *
```

- Press **→** to select “Yes” and press **[ENTER]** to confirm

5. Disconnect the power supply to run the installation in temporary operation

<sup>1</sup> The indicated diagram shows the typical connections of hydraulic installations (direct start and star/delta) and electric installations (2 speeds and with VVVF driver), the latter equipped with one-phase brake. For different installations, always refer to the wiring diagram delivered with the controller.

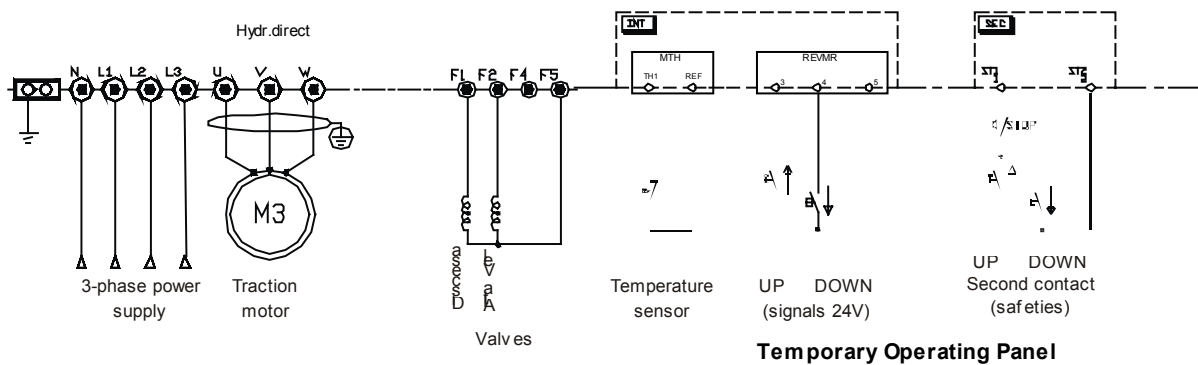
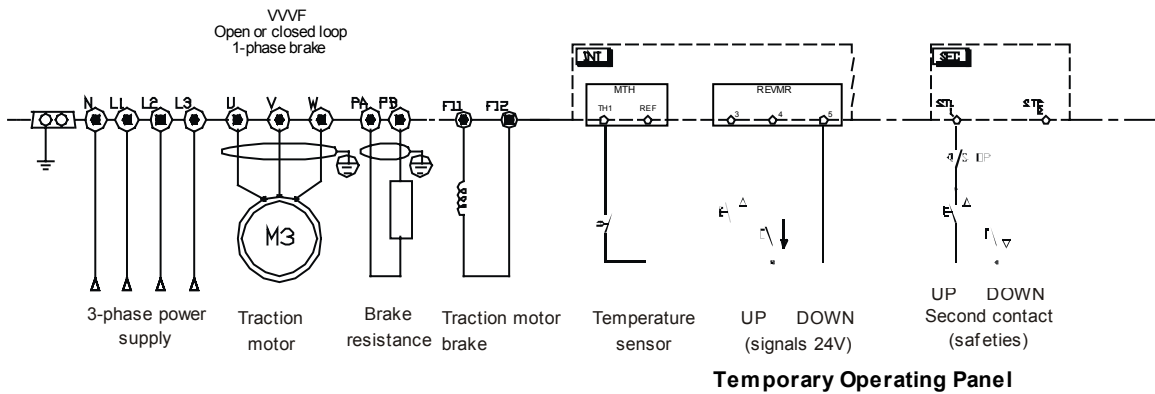
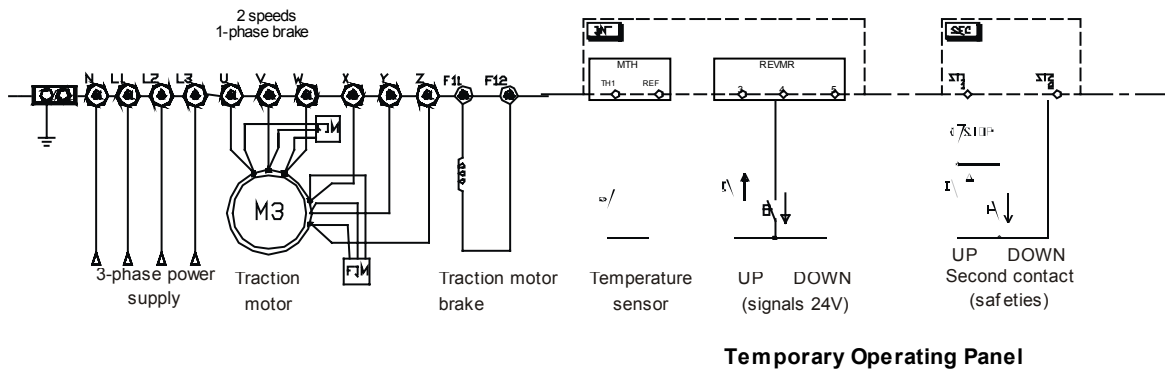
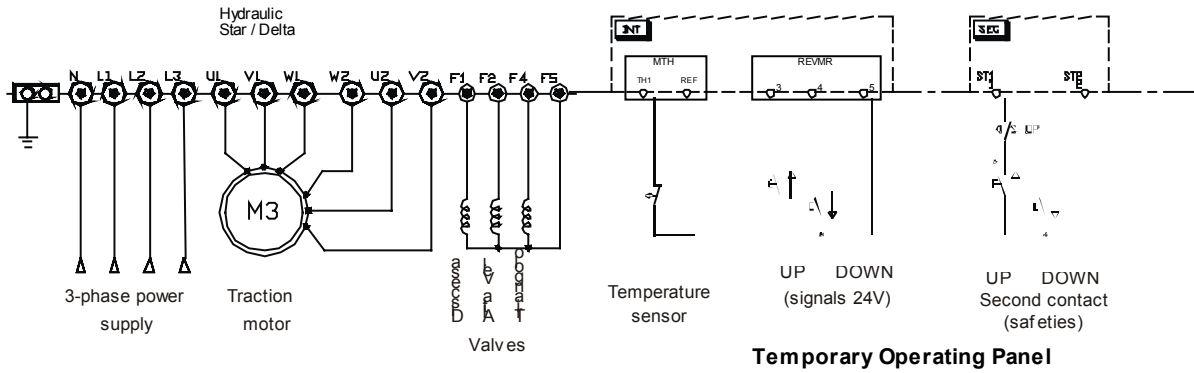


Fig. 2.1 – Wiring diagram for temporary operation connections

### 2.3 Definitive connections

To make the final connections of your installation, disconnect the temporary operating panel and follows the instructions listed below:

- for controllers with prewiring system *Pitagora*, please refer to the *Pitagora User Manual*;
- for controllers with screw terminal traditional wiring, please refer to the wiring diagram delivered with the controller following the table here under:

Element of the system	Reference document	Page
Machine-room operating panel (emergency operation)	Safety chain wiring diagram	Page 6 connector SV2
	Signals wiring diagram	Page 9 connector REVMR
Machine-room safety chain	Safety chain wiring diagram	Page 6 connector SM1
Inspection operating panel on car roof	Safety chain wiring diagram	Page 6 connector SC1
	Signals wiring diagram	
Top of car safety chain	User Manual Playboard R2	Page 7
	Safety chain wiring diagram	Page 6 connector SC1
Position sensors FAI/FAS N°2 NC magnetic sensors and related magnets or n°1 double beam optical sensor and related flags for shaft counting /slowdown /stop	User Manual Playboard R2	Annex A
	Safety chain wiring diagram	Page 7 connector DS1
	Wiring diagram	Page 3
Position sensors AGB/AGH N°2 magnetic bistable sensors and related magnets or n° 2 mechanic switches and related reset cams / inspection limit switch / high speed limit switch	User Manual Playboard R2	Annex A
	Signals wiring diagram	Page 7 connector DS1
	Wiring diagram	Page 3
Position sensors CIA/CIB N°2 NO magnetic sensors and related magnets for re-levelling with open door or for anticipated door opening	Wiring diagram	Page 12
Door Zone position sensors N° 1 NO magnetic sensor using the same magnets of re-levelling	Wiring diagram	Page 7
Door controller Wiring to the power supply, the operation commands, limit switch and photocell	User Manual Playboard R2	Page 9
	Wiring diagram	Page 10
Car Light	User Manual Playboard R2	Page 9
	Wiring diagram	Page 5
Car and Landing Operating Panel	Wiring diagram	Page 8 and 9
Shaft safety chain	User Manual Playboard R2	Page 9
	Wiring diagram	Page 6 connector SV1

**WARNING: Before running the installation in normal operation, do not forget to disconnect the shunts you have made for temporary operation.**

## 2.4 Protection against noises

The Playboard controller is protected against various types of noises according to the requirements of the norm, against accidental mistakes and localization.

Nevertheless we advice to respect the following rules:

- Connect all metal masses to earth;
- Connect all unused conductors to earth (only of the controller);
- Connect the anti-noise filter delivered with the controller (in the spare parts kit) in parallel to the brake coil (max 230VDC) the nearest you can to it;
- If there's a retiring ramp, connect the anti-noise diode delivered with the controller (in the spare parts kit) in parallel to the retiring ramp coil, the nearest you can to it and make sure to connect the cathode (diode side marked with a white strip) to the power supply common "P+" and the anode to the negative "P-";
- For the wiring towards the lift car, you **MUST NOT** connect signals and power supply 12 and/or 24V on the same travelling cable with circuits of different voltages (safety chain circuit, doors or retiring ramp power supply, 230V etc.).

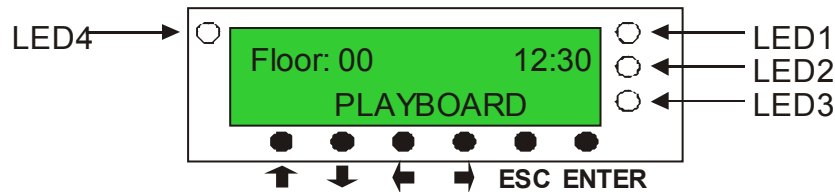
## 2.5 Circuits protection (printed circuits and components)

- The size of fuses **MUST BE RESPECTED**.
- It is advisable to use photocells supplied with 24V (not 220V) to avoid any problem of the 24V contact with other voltages.

### 3. How to modify the system's parameters

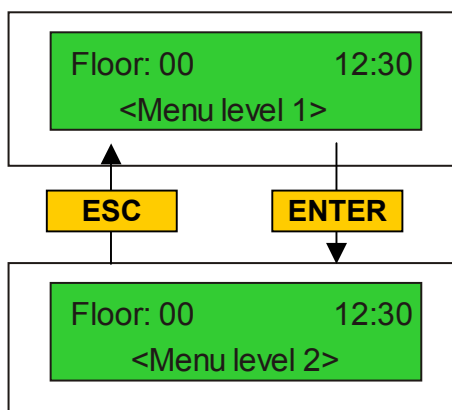
#### 3.1 Use of the programming keyboard

The *Scenic* module allows seeing and modifying the main installation parameters controlled by the Playboard. The module is composed by a LC-Display and programming buttons:



Symbol	Code	Description
↑	UP	Shows menus and sub-menus in increasing order
↓	DOWN	Shows menus and sub-menus in decreasing order
→	RIGHT	Value modification
←	LEFT	Value modification
ESC		<ul style="list-style-type: none"> <li>Back to the previous menu</li> <li>Erase the last value</li> </ul>
ENTER		<ul style="list-style-type: none"> <li>Confirm a menu to enter a sub-menu</li> <li>Confirm the value entered</li> </ul>
LED 1		Visualisation of FAS input (shaft counting)
LED 2		Visualisation of FAI input (shaft counting)
LED 3		<ul style="list-style-type: none"> <li><u>Permanent lighted Led</u>: no active fault</li> <li><u>Flashing Led</u>: active fault</li> </ul>
LED 4		Permanent lighted LED means the car is in the real door zone. This information comes from the ZP switch.

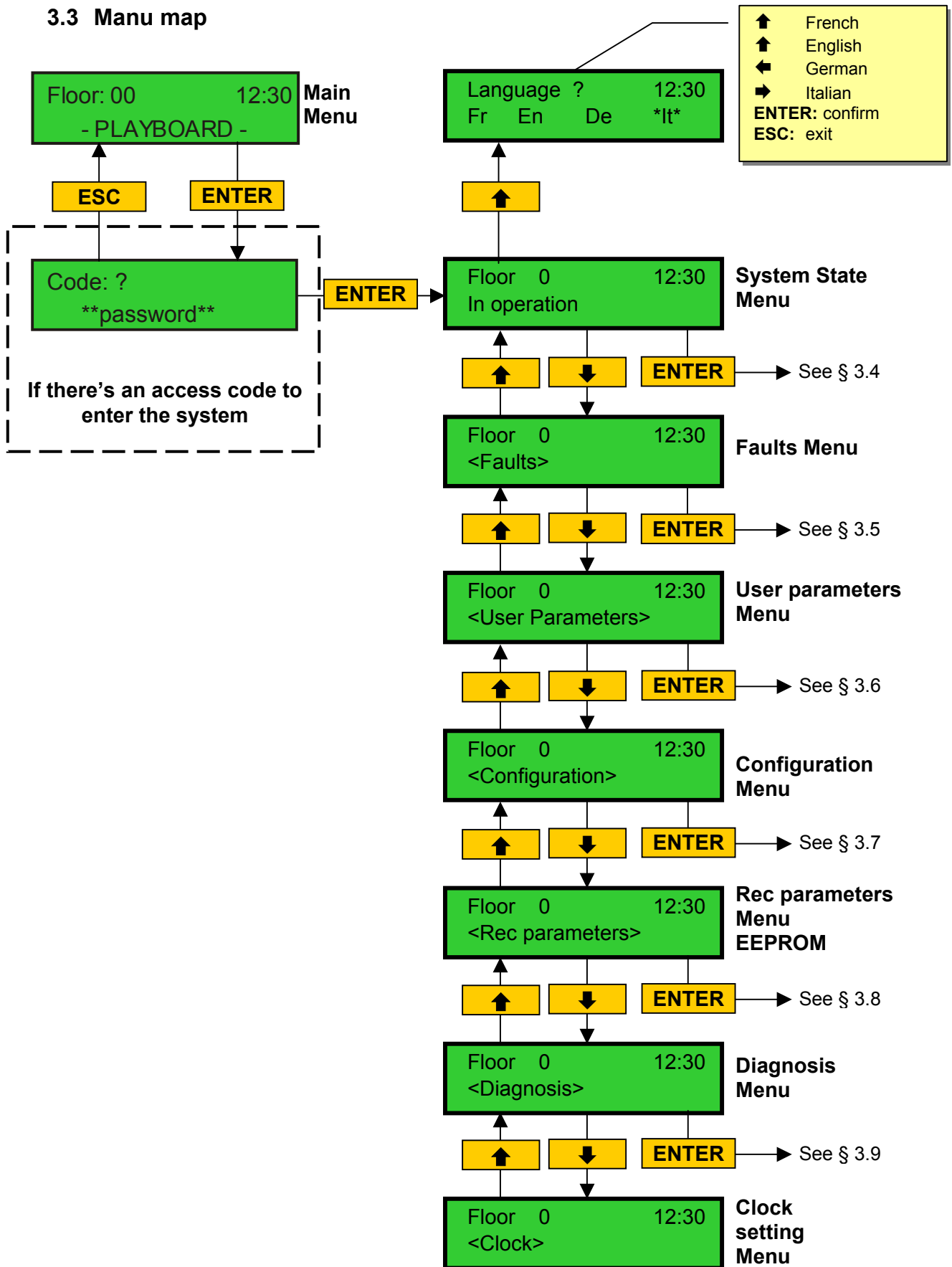
#### 3.2 Use of the programming keyboard



- The ENTER button allows you to enter the menu shown on the display
- The ESC button allows to exit the actual menu and go back to the upper level menu (if you aren't inside a menu, you'll go back to the system status control menu)

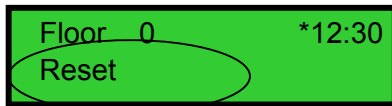


### 3.3 Menu map



### 3.4 Menu “System state”

Entering the Menu “System state” you can see the actual condition of the installation. The possible system conditions are listed in the table here below:

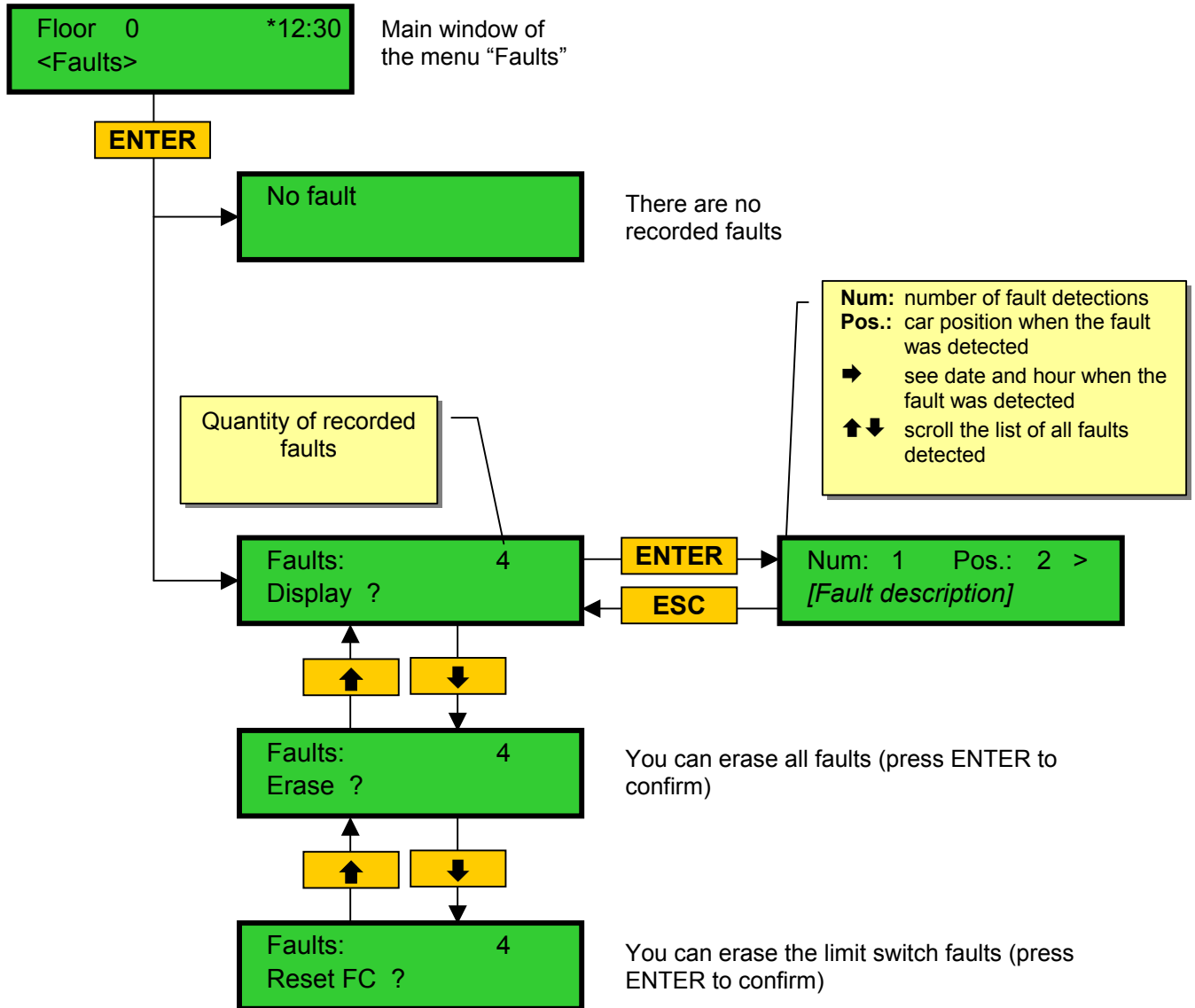


<b>Displayed</b>	<b>Description</b>
Reset	The system is running in reset mode
In operation	The system is running in normal operation
Inspection	The system is running in inspection mode (the switch on the inspection box or that of the machine-room pertain panel is in the “INSPECTION” position)
Temp.Operation	The system is running in temporary operation mode
Out of order	The system is running in out of order mode
Attendant ctrl	The system is running in car priority mode (the relevant key switch is in the “OUT OF ORDER” position)
Fire-fighters	The system is running in Fire-fighters mode (various operations)
Upward oper.	The system is running in up direction
Downward oper.	The system is running in down direction
Re-levelling	The car is at floor level and is re-levelling
Still at floor	The car is at floor level, without calls to serve
High speed	The system is running in high speed
Low speed	The system is running in low speed
Door closed	The door is completely closed
Door opened	The door is opened (or opening/closing)
Car full load	The car has been fully loaded
Photocell A	The input relevant to the photocell entrance A is active
Photocell B	The input relevant to the photocell entrance A is active
Light curtain A	The input relevant to the open door button of entrance A is active
Light curtain B	The input relevant to the open door button of entrance B is active
Active fault	At least one fault is active

**Note:** a flashing asterisk means that there are faults in the memory (not necessarily active). The displayed message is updated every second.

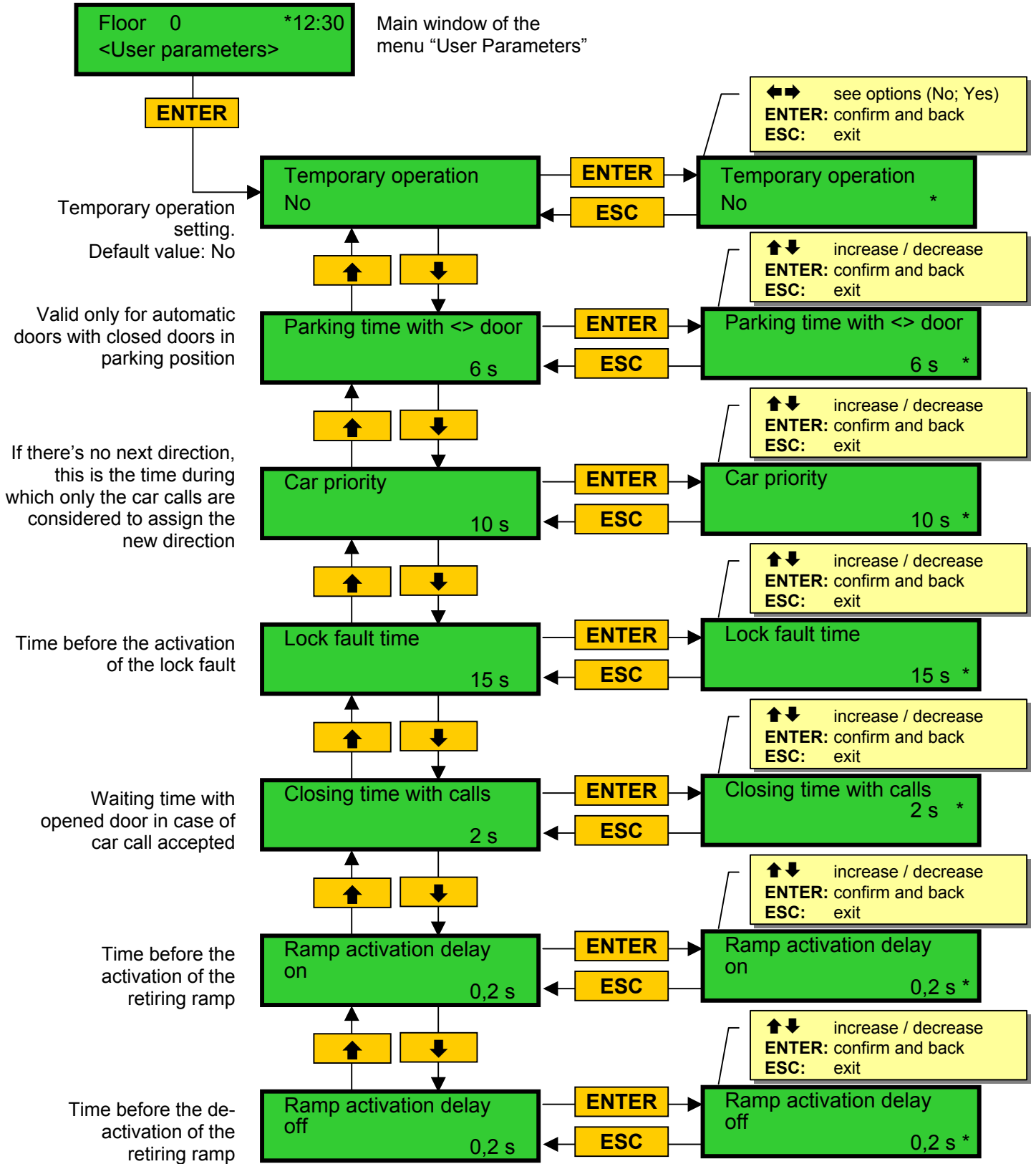
### 3.5 Menu "Faults"

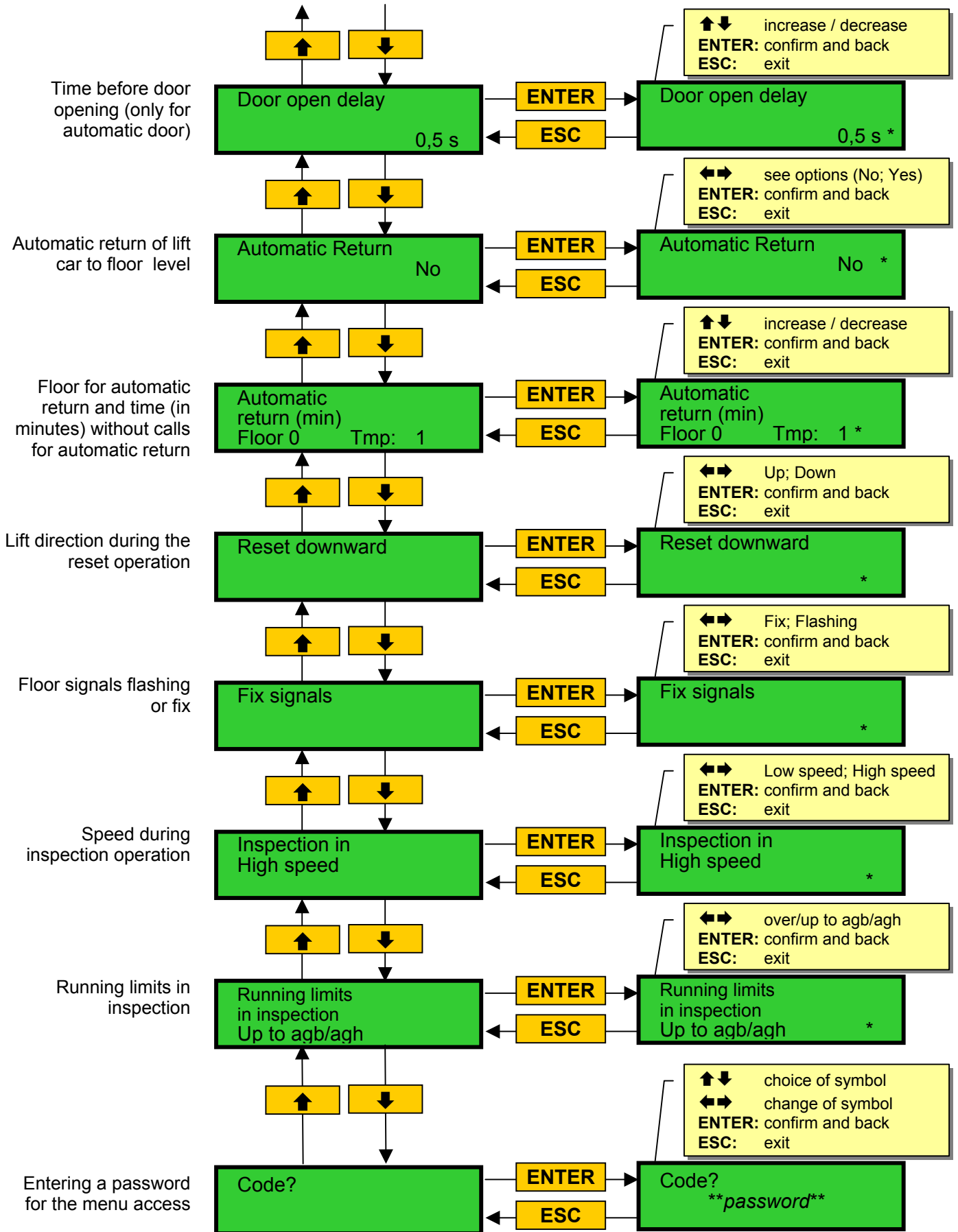
Entering the Menu "Faults" you can see the faults recorded by the system.



### 3.6 Menu “User Parameters”

Entering the Menu “User Parameters” you can see and modify certain parameters according to you needs.



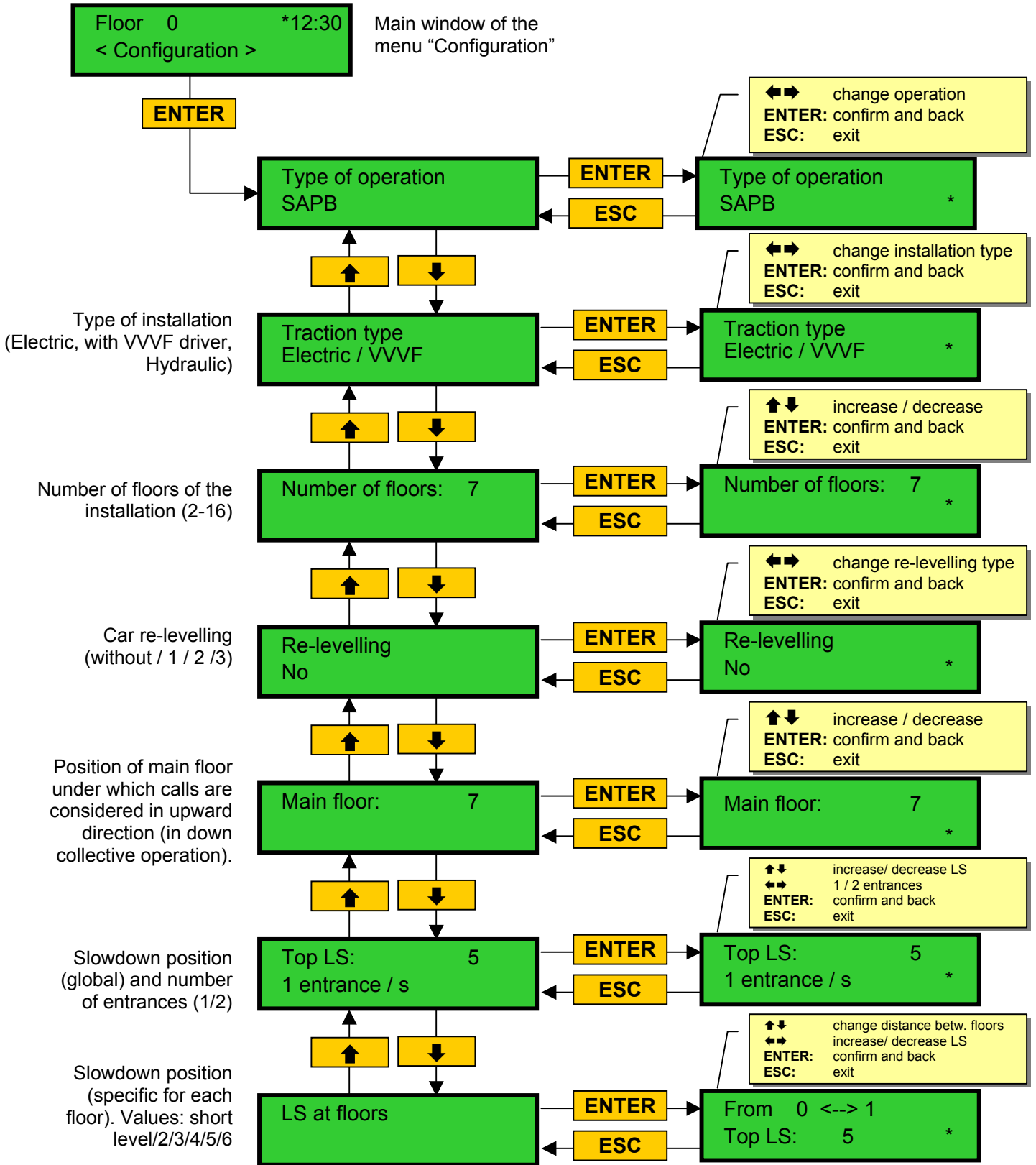


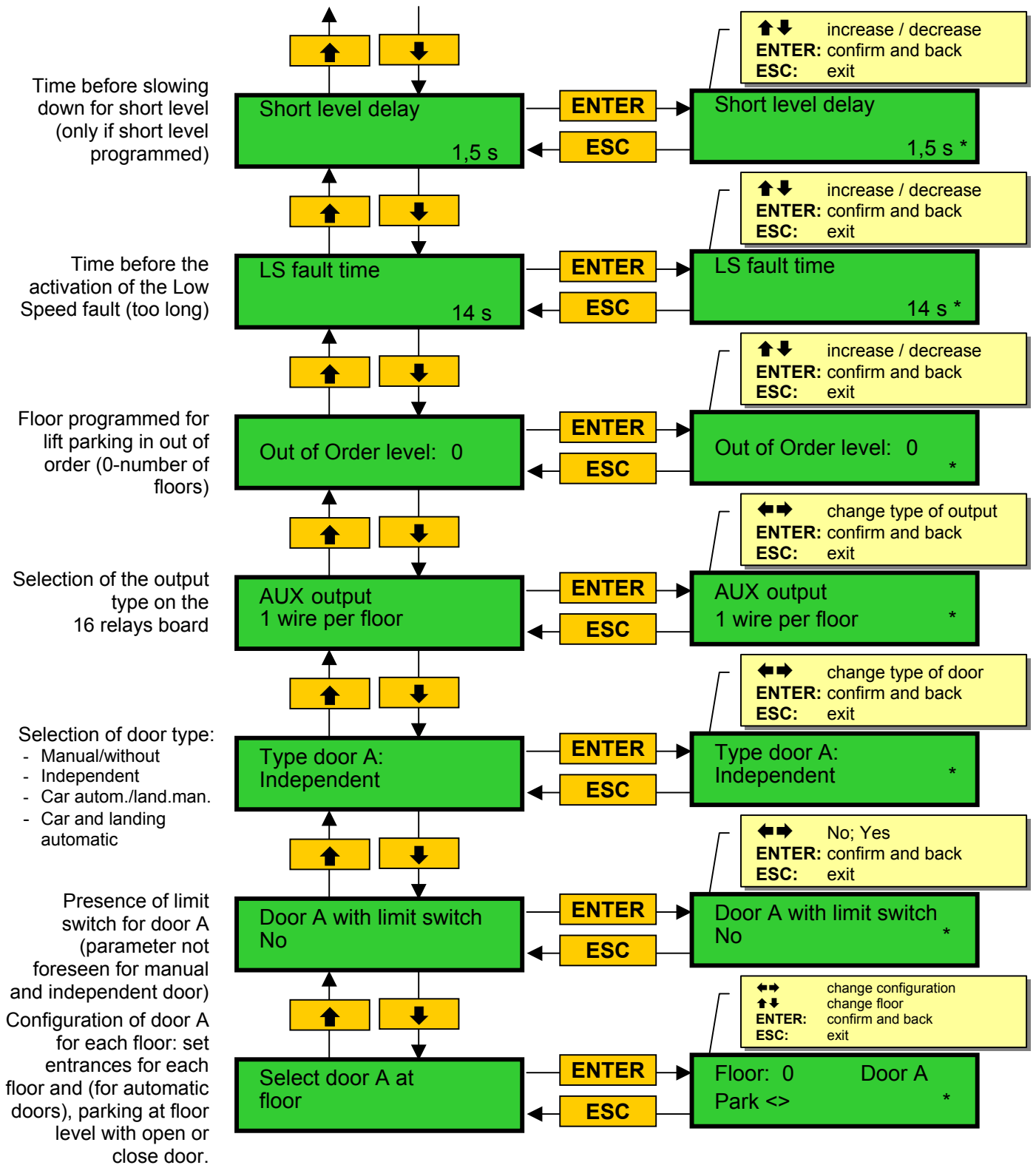
**Table of parameters of the Menu “User Parameters”**

<b>Parameter</b>	<b>Description</b>	<b>Admitted values</b>	<b>Default values</b>
Temporary operation	Parameter for the temporary operation mode	No; Yes	No
Parking time with <> door	Lift car parking time with open door (in sec.)	1-30	7
Car priority	Time of car at floor level without direction before serving landing calls. In case of combined automatic doors, this timing starts when the doors have closed and the shock, photocell and re-opening contacts do not activate.	2-30	10
Lock fault time	Time before the activation of the lock fault.	4-60	15
Closing time with calls	<b>Time (in sec.) before door closes in case of calls to serve</b>	1-60	2
Ramp activation delay on	Time before activation of the retiring ramp	0,1-9,9	0,1
Ramp activation delay off	Time before de-activation of the retiring ramp	0,1-9,9	0,1
Door open delay	Time before door opening – for automatic door	0,1-9,9	0,5
Automatic return	Automatic return of lift car to floor level	No; Yes	No
Automatic return (min.)	Floor for automatic return and time (in minutes) without calls	0-n° floors Time: 1-60 min.	Floor: 0 Time: 20 min.
Reset downward	Lift direction during the reset operation	Down; Up	Down
Fix signals	Floor signals flashing or fix	Fix; Flashing	Fix
Inspection in high speed	Speed during inspection operation	Low speed; High speed	Low speed
Running limits in inspection	Running limits in inspection	Up to agb/agh; Over agb/agh	Up to agb/agh
Code	Password to protect the access to the main menu	0-9; a-Z; a-z	No PWD

### 3.7 Menu "Configuration"

Entering the Menu "Configuration" you can see and modify the default parameters of the controller.







According to the door:

- Manual: time before start (0,1-9,9 sec.)
- With limit switch: time for double journey fault; (1-60 sec.)
- Without limit switch: door opening/closing time (1-60 sec.)

Parameter for door A powered during run. Not considered for manual or independent door. Default value: No

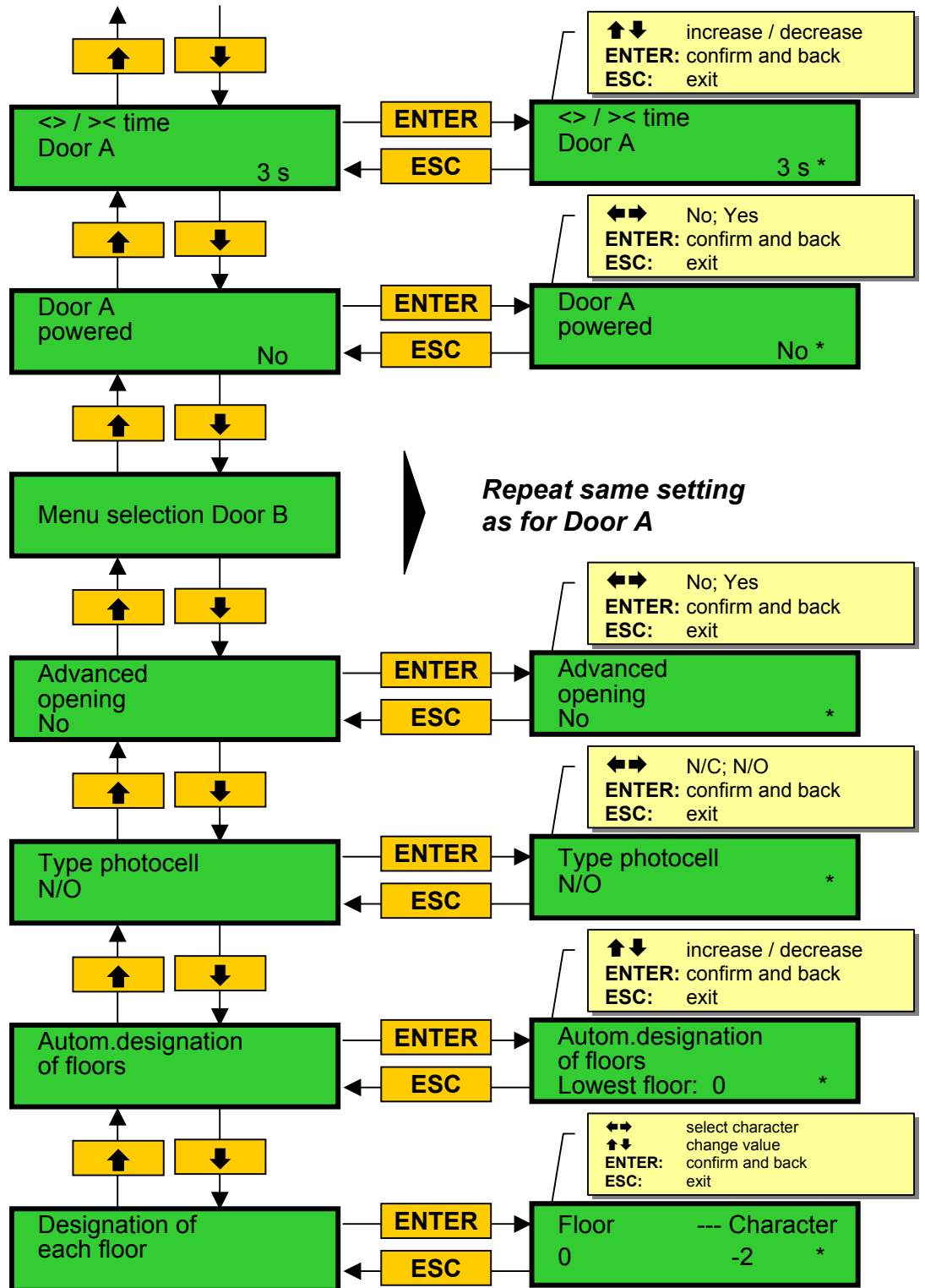
If there's a second access, repeat the setting as for door A

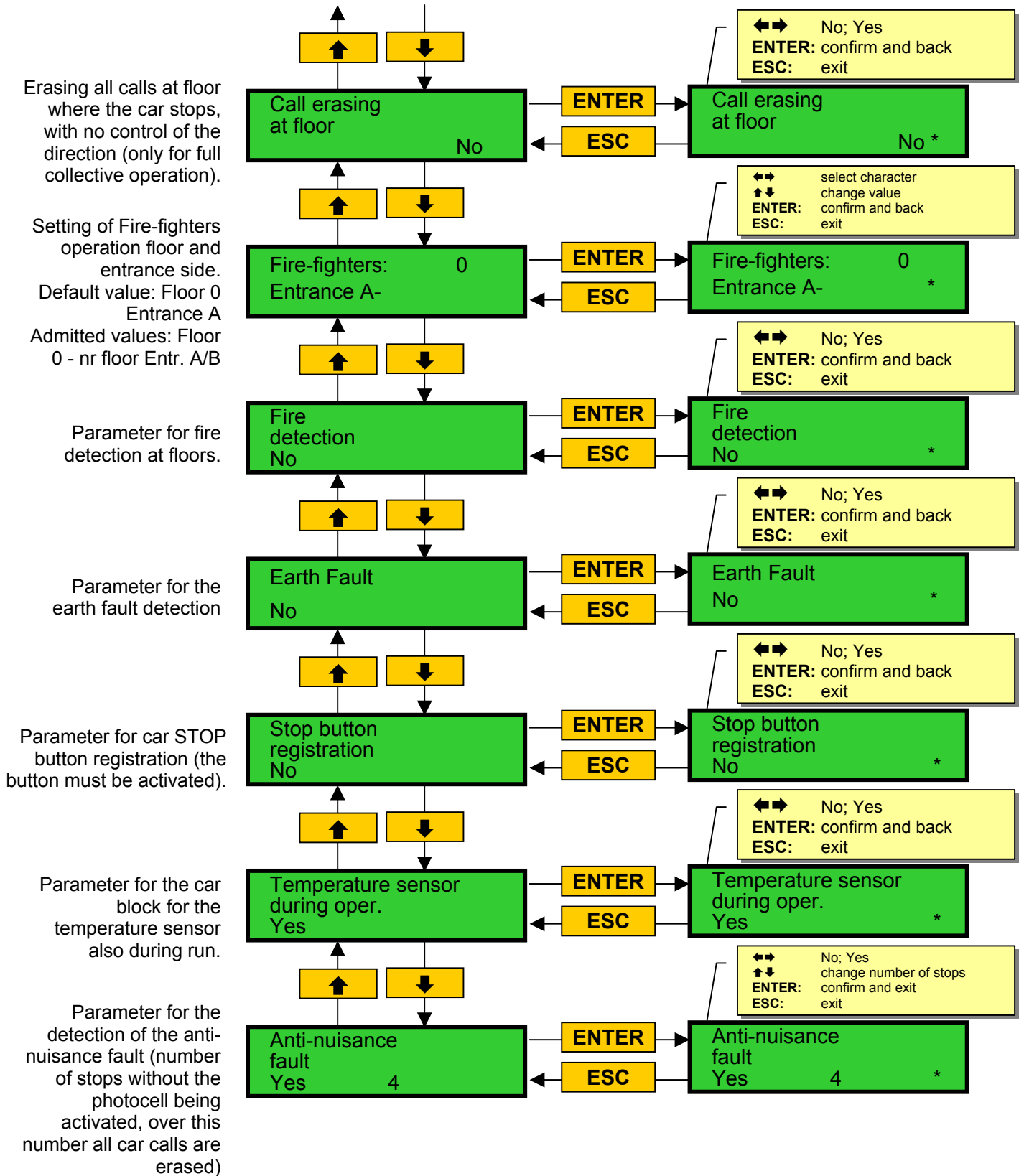
Parameter for door advanced opening (opening starts before car stop). Default value: No

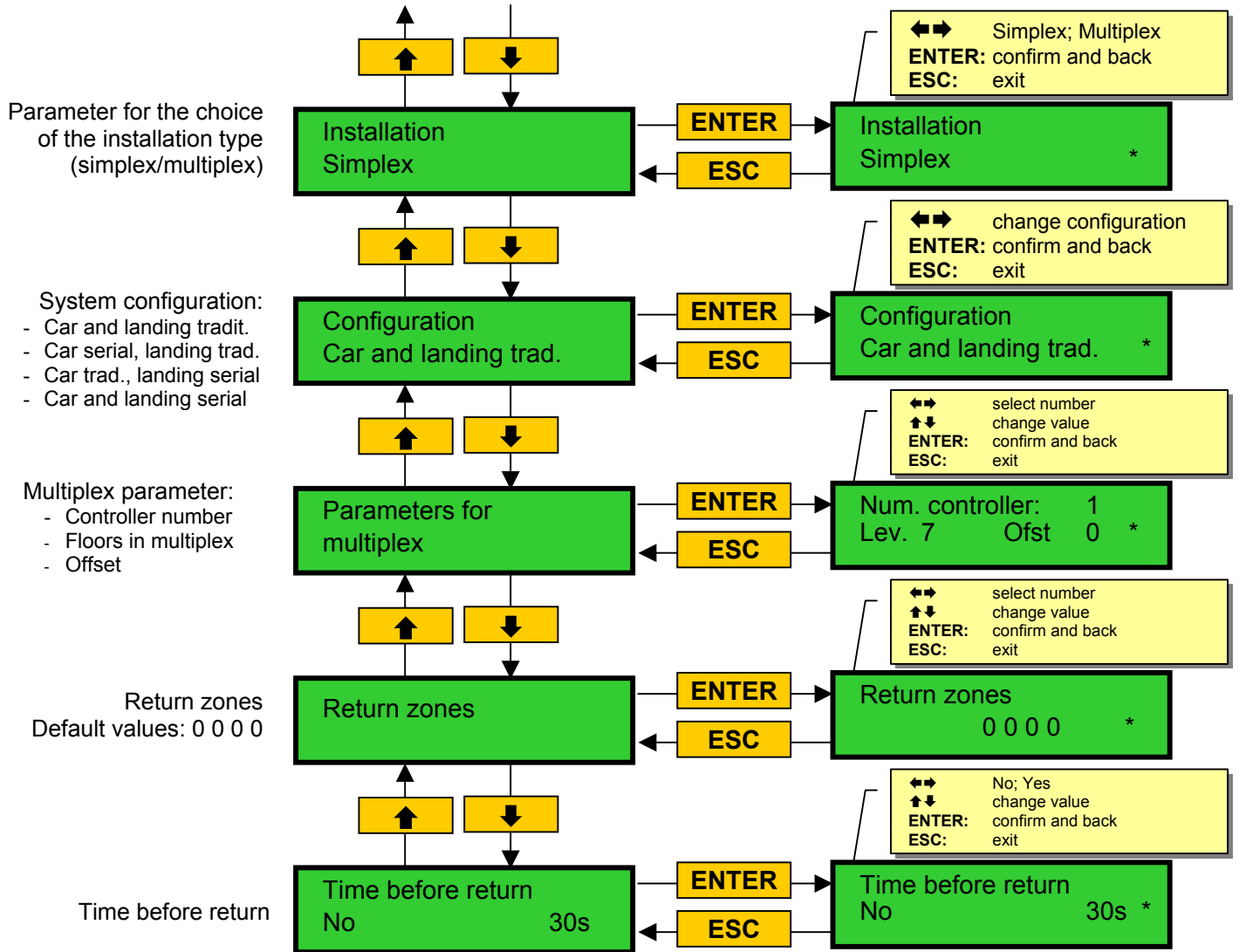
Parameter for type of photocell. Default value: N/O

Automatic setting of numeric characters for serial displays. The value increases for all further floors.

Manual setting of alpha-numeric characters for serial displays. (-,0..9,A..Z, ). Setting must be done for each single floor.







Parameter for the choice of the installation type (simplex/multiplex)

System configuration:  
 - Car and landing tradit.  
 - Car serial, landing trad.  
 - Car trad., landing serial  
 - Car and landing serial

Multiplex parameter:  
 - Controller number  
 - Floors in multiplex  
 - Offset

Return zones  
 Default values: 0 0 0 0

Time before return

Table of parameters of the Menu “Configuration”

Parameter	Description	Admitted values	Default values
Type of operation	Type of operation of the installation	SAPB Down coll. Full coll.	Down coll.
Traction type	Type of motor (electric with VVVF drive / hydraulic)	Elect./VVVF Hydraulic	Elect./VVVF
Number of floors	Number of floors controlled by the installation	2-16	2
Re-levelling	<p><b>Type 1:</b> Levelling 1 beam: (open or close door). <i>This parameter is particularly used for electric installations to have a good precision at floor stop. This device activates the car re-levelling 1 second after the car has left its position "exactly at floor", it means after one of the two beams has been obstructed. It deactivates when both beams are no more obstructed. <b>WARNING:</b> the use of this parameter for hydraulic installation is inadvisable due to the "pumping" phenomenon.</i></p> <p><b>Type 2:</b> Levelling 2 beams (open or close door). <i>This parameter has to be used for hydraulic installations for the re-levelling. It works exactly like Type 1, but the two beams have to be obstructed before starting the levelling. It ends when the two beams are no more obstructed. <b>NOTE:</b> We advice to use sensors with reduced distance between beams (TMS03 = 20 mm).</i></p> <p><b>Type 3:</b> Levelling 1 beam open door 2 beams closed door. <i>using this parameter allows the levelling 1 beam, floor door open (car light on) and levelling 2 beams, floor door closed (car light off). <b>NOTE:</b> to operate the levelling door open, no matter which option you have chosen, it is necessary to shunt the door safety, using a system according to the norm.</i></p>	Without 1 2 3	Without
Main floor	Position of the main floor (all calls underneath this floor are served only in up direction (only down collective)	0 – Nr. of floors	0
Top LS	Position of the slowdown (passage in Low Speed) and number of entrances	LS=2-6 1-2 entrances	LS=5; 1 entrance
LS at floors	Position of the specific slowdown for each floor	Short level; 2-6	5
Short level delay	Time before short level slowdown (only if a short level is programmed)	0,1-9,9 sec.	1,5 sec.
LS fault time	Time before the activation of the Low Speed fault (low speed too long).	7-19 sec.	7 sec.
Out of order level	Floor programmed for lift in out of order condition.	0-number of floors	0
AUX output 1 wire per floor	Selection of the output type on the 16 relays board	1 wire per floor landing arrow landing ill. timed Gray indicator 9 segm. indicator lift is coming	1 wire per floor
Type door A	Selection of door type for entrance A	Manual / without; Independent; Car autom. / landing manual; Car and landing aut.	Car and landing automatic
Door A with limit switch	Presence of limit switch for door A (parameter not foreseen for manual and independent door)	No; Yes	No



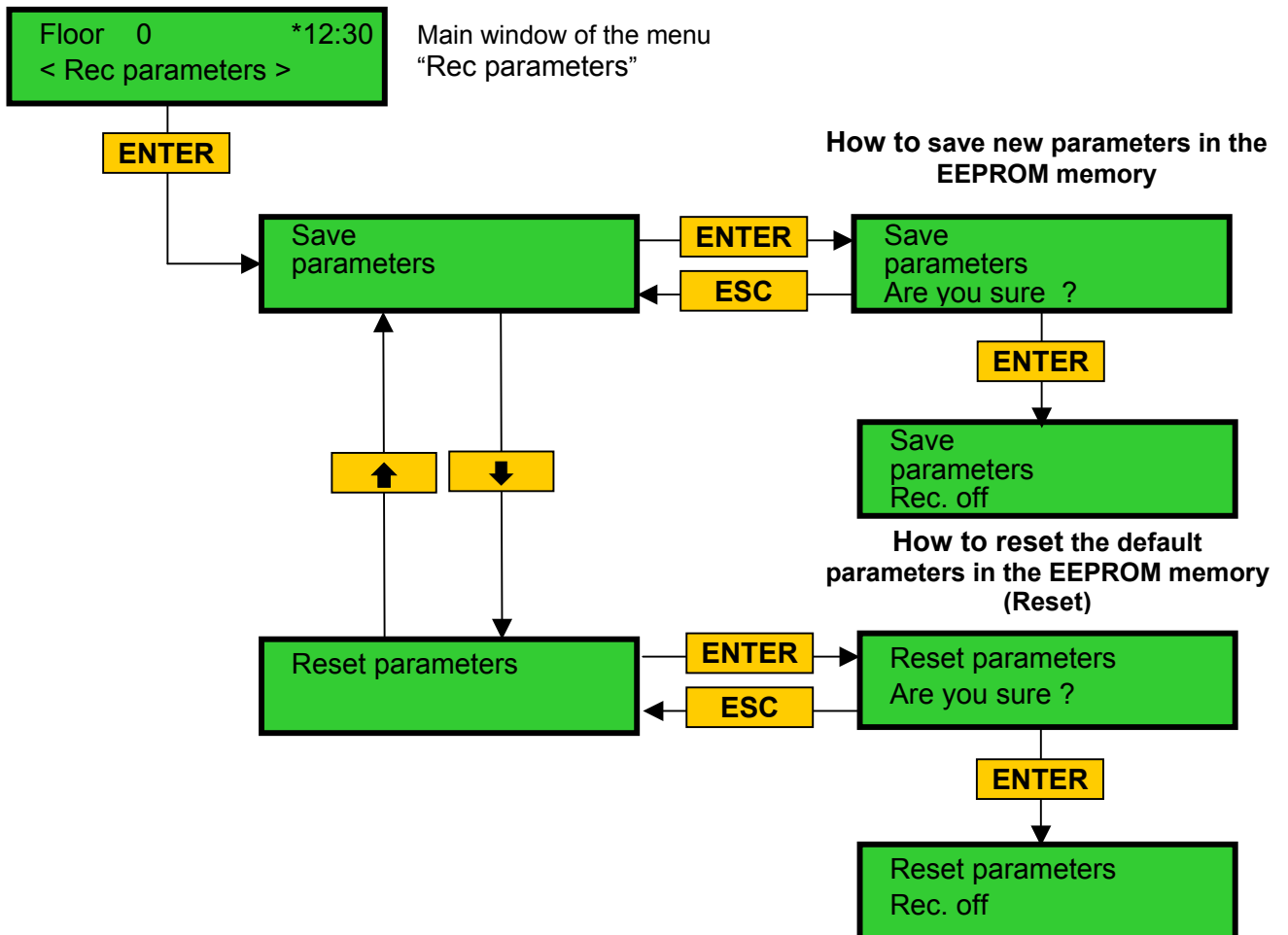
<b>Parameter</b>	<b>Description</b>	<b>Admitted values</b>	<b>Default values</b>
Select door A at floor	Configuration of door A for each floor: set entrances for each floor and (for automatic doors), parking at floor level with open or close door.	Park >< Park <> (for each floor)	Park ><
<> / >< time Door A	According to the door: A) Manual: time before start (0,1-9,9 sec.) B) With limit switch: time for double journey fault (1-60 sec.) C) Without limit switch: door opening/closing time (1-60 sec.)	1-60 sec.	N/A
Door A powered	Parameter for door A powered during run. Not considered for manual or independent door.	No; Yes	No
Advanced opening	Parameter for door advanced opening (opening starts before car stop).	No; Yes	No
Type photocell	Parameter to select the type of photocell: <b>NO photocell:</b> opened contact if the beam is free. The contact closes if the beam is obstructed. The shock, photocell and <> door contacts must be wired in parallel. <b>NC photocell:</b> it is the contrary of the NO photocell. The shock, photocell and <> door contacts must be wired serial. <b>NOTE:</b> The shock, photocell and <> door contacts must all be the same kind (NO or NC).	NO; NC	NO
Autom. designation of floors	Automatic setting of numeric characters for serial displays. The value increases for all further floors.	-9-30	Main floor: 0
Designation of each floor	Manual setting of alphanumeric characters for serial displays. Setting must be done for each single floor.	-,0-9;A-Z	N/A
Call erasing at floor	Erasing all calls at floor where the car stops, with no control of the direction (only for full collective operation and simplex installation). <b>NO Option:</b> calls will be erased according to the lift direction (erasing of a call upward, if the direction is up, of a call downward, if the direction is down, both if there are more directions); <b>YES Option:</b> for each car stop all car calls, landing up, landing down of the relevant floor will be erased no matter in which direction the lift moves. For floors with double entrance, calls will be erased when door opens. Selecting this option allows to avoid useless operations in buildings where the users press always both landing call buttons.	No; Yes	No
Fire-fighters	Setting of Fire-fighters operation floor and entrance side.	Floor 0 - nr floor Entr. A/B	Floor 0 Entr. A
Fire detection	Parameter for fire detection at floors. When a fire is detected: - if the lift is at a different floor than the one where fire was detected, all calls related to this latter are erased; - if the lift is at the floor where fire was detected: door will close if it's open when fire is detected, if not door will be blocked, the controller will send the car to a safe floor.	No; Yes	No
Earth fault	Parameter for the earth fault detection	No; Yes	Yes
Stop button registration	Parameter for car STOP button registration (the button must be activated).	No; Yes	No
Temperature sensor during oper.	Parameter for the car block for the temperature sensor also during run.	No; Yes	Yes



<b>Parameter</b>	<b>Description</b>	<b>Admitted values</b>	<b>Default values</b>
Anti-nuisance fault	Parameter for the detection of the anti-nuisance fault (number of stops without the photocell being activated, over this number all car calls are erased).	No; Yes 2-10	No 3
Installation Simplex	Parameter for the choice of the installation type (simplex/multiplex)	Simplex; Multiplex	Simplex
Configuration Car and landing trad.	System configuration:	Car and land.tradit. Car serial, land.trad. Car trad., land.serial Car and land.serial	Car and landing traditional
Parameters for multiplex	Parameters for the multiplex configuration:	Controller number; Floors in multiplex; Offset.	0, 1, 2
Return zones	Return zones.	0 0 0 0	0 0 0 0
Time before return	Time before return	No; Yes 1-60 sec.	No 30 sec.

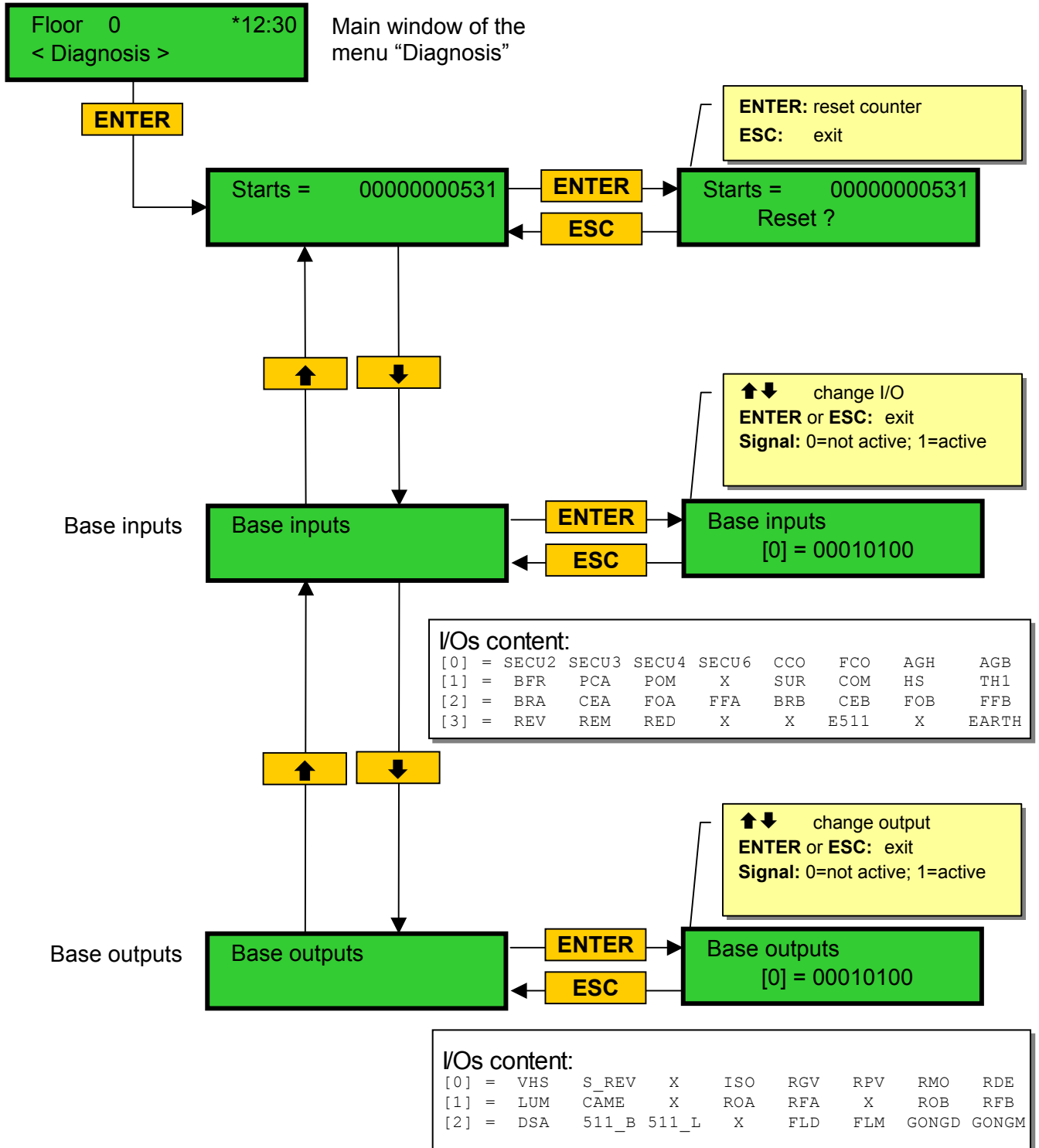
### 3.8 Menu “Rec parameters”

Entering the Menu “Rec parameters” allows you to record your parameters in the controller’s EEPROM.

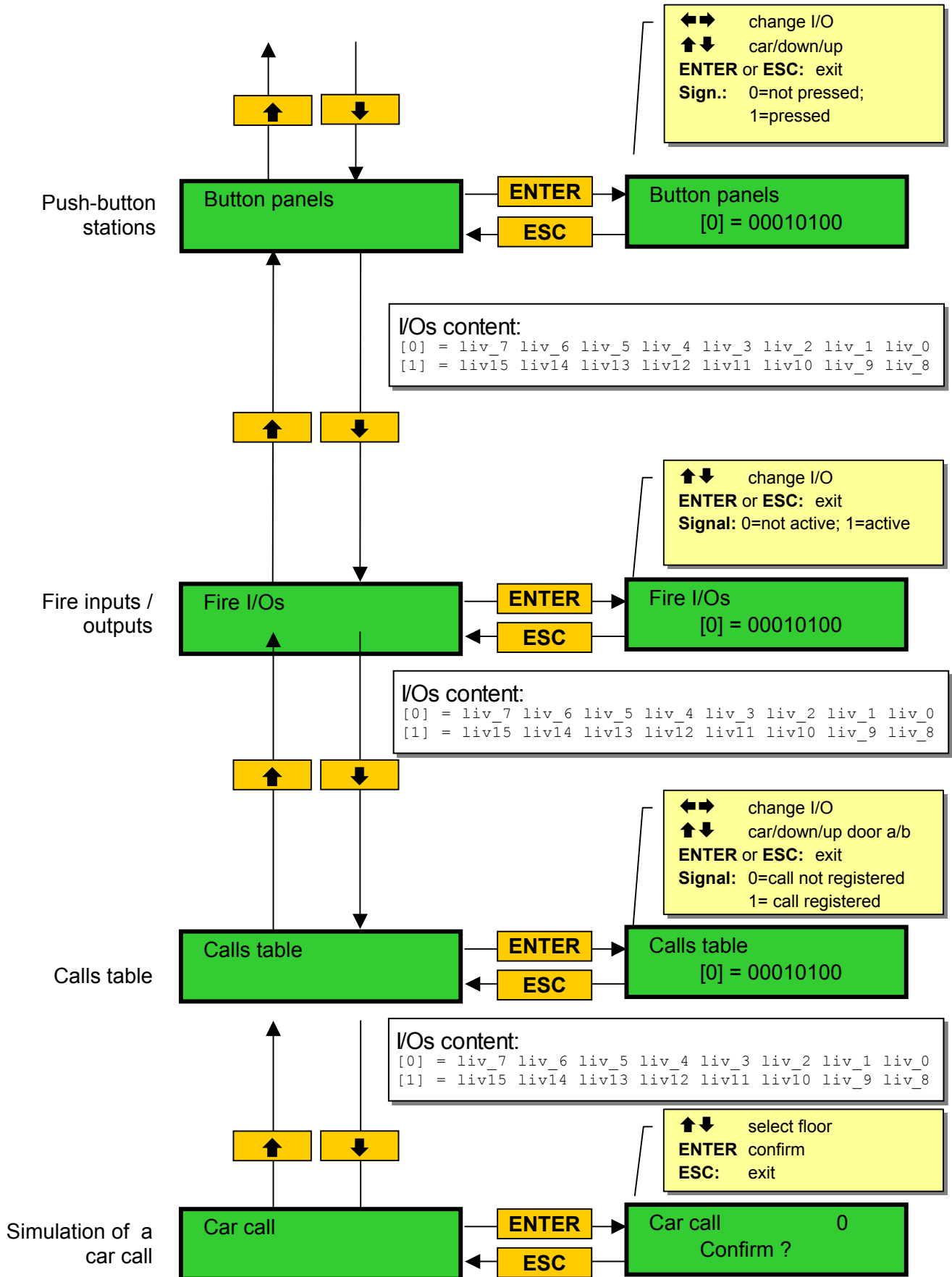


### 3.9 Menu “Diagnosis”

Entering the Menu “Diagnosis” allows you to see information about all system’s inputs/outputs, the lift starts, the buttons condition, and the fire detectors condition. The function “Car call” allows you to simulate a car call directly from the controller.





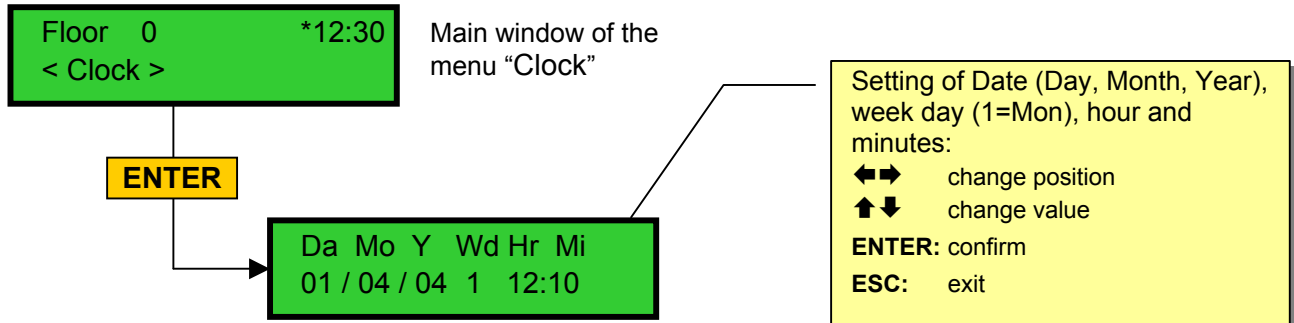


Inputs / Outputs table


<b>Ref.</b>	<b>Description</b>
AGB	Input - bottom stop switch
AGH	Input - top stop switch
BRA	Input - door <> entrance A button
BRA	Input - door <> entrance B button
BFB	Input - door >< button
CAME	Output - retiring ramp command
CCO	Input - power contactors control
CEA	Input - photocell entrance A
CEB	Input - photocell entrance B
COM	Input - car full load control
E511	Input - Norm 511, option
FFA	Input - door >< limit switch entrance A
FFB	Input - door >< limit switch entrance B
FLD	Output - down arrows command
FLM	Output - up arrows command
FOA	Input - door <> limit switch entrance A
FOB	Input - door <> limit switch entrance B
GONGD	Output - up direction gong command
GONGM	Output - down direction gong command
HS	Input - out of service function
ISO	Output - re-levelling command
LUM	Output - time limited car light command
FCO	Input - safety limit switch control (second contact)
PCA	Input - car priority function
POM	Input - Fire-fighters operation
RDE	Output - down travel command
RED	Input - down inspection travel command
REM	Input - up inspection travel command
REV	Input - inspection function
RFA	Output - door >< entrance A command
RFB	Output - door >< entrance B command
RGV	Output - high speed command
RMO	Output - up travel command
ROA	Output - door <> entrance A command
ROB	Output - door <> entrance B command
RPV	Output - low speed command
SECU2	Inputs - car and pit stop switch safety chain control
SECU3	Inputs - safety limit switch, parachute, regulator, inspection safety chain control
SECU4	Inputs - landing door contacts safety chain control
SECU6	Inputs - car and landing door lock contacts control
TH1	Inputs - motor temperature sensor control
SUR	Inputs - car overload control
VHS	Output - out of order illumination
S_REV	Output - inspection signalisation
DSA	Output - alarms de-activation
511_B	Output - Norm 511 Buzzer
511_L	Output - Norm 511 Light
X	Not used





### 3.10 Menu "Clock"

The Menu "Clock" allows setting the system hour.



## 4 Troubleshooting

N.	Fault	Type	Description	Cause	Remedy
1	Reset		Power supply failure: the controller is not powered	Power failure or black-out	
2	Contactors deactivated		NC contacts associated to the power contactors and connected in series on the input CCO.	NC Contact(s) remain(s) open after the lift stop (Input CCO active)	Check the series of the power contactors.
3	Low speed too long		Time of low speed too long.	Slowdown distance too short.	Check low speed contactor and the parameter "LS fault time" and increase time if necessary.
4	Overload		Too much weight inside the lift car.	Input SUR activated.	1 - Release input SUR 2 - Input SUR is o.o.o.
5	Counting fault		When the safety limit switches are activated (AGB/AGH) the fault indicates a difference between the calculated and the actual position.	One or more missing magnet/flag (or magnets inversed); Not enough distance between the safety limit switch and the magnet (or flag). FAI/FAS sensors may be defective.	Check correct position of magnets (or flags); Check distance safety limit switch – magnet (or flag); Check the 24V of the switches.
6	Direction fault		The lift does not recognise the direction anymore.	1 – Inverted beams (FAI/FAS). 2 – Inverted safety limit switches (AGB/AGH). 3 – Too short or too near sensors	1 – Inverse the beams 2 - Inverse inputs of AGB and AGB 3 - Use longer flags or increase distance between floors.
7	Safety 3 cut at stop		Passive safeties before screw terminal 3	The input of safety 3 is cut during car parking time. Car and landing calls are erased.	Check all relevant contacts (stop, parachute, car top door, etc.)
8	Earth fault		Connection to earth.	Screw terminal(s) «24V», «REF», «D01», «V+», «VOC», «TH1», «TH2», «24cc» connected to earth.	1- Disconnect earth 2- Separate the 24V from other tensions in the shaft wiring. 3- Connect all additional wire to earth. 4- Check the earth connection of the installation.
9	Door lock fault		It's activated after the door lock fault time and if the car must serve a call. <i>With automatic door:</i> door re-opens and then closet (it will try 3 times, then all calls are erased). <i>Other door type:</i> after a few seconds all calls are erased.	SECU6 safety signal missing.	Check door lock contacts, their connection and if any object is between the doors at the indicated floor.

N.	Fault	Type	Description	Cause	Remedy
10	Double journey door <> entrance A		Time programmed for the double journey of door A before which door A must be completely open (only doors with limit switch). In case of double journey during door opening door is considered open.	Door does not open before the time programmed for the double journey of door A.	Check: 1- Door <> limit switch (FOA) and its wiring; 2- door motor and fuses power supply; 3- door <> contactors (ROA).
11	Double journey door <> entrance B		Same as door A, for second entrance		Same as A, but signals (FOB) and (ROB).
12	Safety 3 cut during movement		Passive safeties before screw terminal 3.	The input of safety 3 is cut during lift movement. Car and landing calls are erased.	Check all relevant contacts (stop, parachute, car top door, etc.).
13	Motor temperature sensor		Input of motor temperature sensor is activated.	Input of motor temperature sensor is activated (TH1)	Check input (TH1)
14	Parameters memory		Fault in the parameters memory.	Faulty or incorrectly programmed electric memory.	Re-program electric memory.
15	Safety limit switch		When the top safety limit switch is reached, input FCO is active. The fault remains active also after releasing the input; you must erase fault "FC" in the system menu "Faults".	Activation of input FCO or parameter FC active.	Release the safety limit switch (FCO) and erase parameter FC.
16	Fire detection		In case of fire sensors installed, this fault indicates that one or more sensors are active.	Fire input/s active.	Check fire sensors inputs.
17	Safety 4 cut during movement		Active safety between screw terminals 3 and 4.	Connection to door lock.	Check all relevant contacts.
18	Safety 6 cut during movement		Active safety between screw terminals 4 and 6.	Door lock contacts opened during the lift movement.	Check the contacts at the indicated floor.
19	Low tension during movement		Motherboard power below 17V. The fault disappears when the 24V is re-established.	One or more phases are missing.	Check the phases and the presence of 24V.
21	Input CCO blocked		If the movement commands are activated, input CCO is not activated.	Input CCO remains active during the lift movement.	Release input CCO, or input CCO defective.
22	Low tension at stop		Motherboard power below 17V. The fault disappears when the 24V is re-established.	One or more phases are missing.	Check the phases and the presence of 24V.
23	AGB blocked		Input AGB must be active only when lift is at the lowest floor.	AGB contact blocked.	Check the condition of AGB contact.
24	AGH blocked		Input AGH must be active only when lift is at the highest floor.	AGH contact blocked.	Check the condition of AGH contact.
25	AGH and AGB activated simultaneously		After a simultaneous activation of the two safety switches, one of the 2 inputs must be released to run the lift in reset operation.	Both inputs AGH and AGB are active at the same time.	Check the condition of AGH and AGB contacts + wiring.

N.	Fault	Type	Description	Cause	Remedy
26	Double journey up		During the lift movement, the system checks the condition of the beams (FAI/FAS) changes during movement.	No change of the beam condition for more than 20 seconds.	1- Check contactors, brake, motor power supply, sensor and interface relay on the PCB. 2- Double journey test: disconnect output RGV of the terminal block POWER.
27	Double journey down		As double journey up.	As double journey up.	As double journey up.
28	Double journey door A ><		Time programmed for the double journey door A before which door A must close (only door with limit switch). In case of double journey during door closing, door will try to re-open 3 times, and then all registered calls are erased.	Door doesn't close before the time programmed for door A double journey.	Check: 1- door >< limit switch (FFA) and wiring 2- door motor power supply and fuses 3- door close contactors (RFA)
29	Double journey door B ><		Same as door A, for second entrance.		Same as door A, but signals (FFB) and (RFB)
30	Out of service button		If the relevant parameter has been programmed, it indicates that the system has been put out of service through the activation of input HS.	Installation out of order through the activation of input HS.	Check input HS.
32	Temporary operation without inspection		During temporary operation the input REV must be active or the lift will not move.	Input REV active during temporary operation.	Check input REV.
33	Car sliding		In normal operation when the lift stops at floor, the two leds FAI and FAS are lighted. If within 2 seconds from the stop one of the beams is cut, this fault is activated.	One of the two leds is off when lift is at floor.	Check position of the magnets (or flags); check slowdown distances; check motor brake.
34	Anti-nuisance		It appears after a call cancellation and if the parameter "Anti-nuisance" has been programmed.	A programmed number of car stops without the cell being cut in case of combined door or without the landing door opening with other door types.	Change number of stops of the parameter.
43	Inspection		It indicates that the system is in Inspection operation. To exit the inspection mode release input REV and closes the safety chain to make a reset.	System in inspection.	To finish the inspection operation release input REV and closes the safety chain.
44	Re-levelling		It indicates that the ISO input has been activated for 10 seconds without the operation having terminated. This doesn't allow a further re-levelling at the same floor.	Problems related to the Crouzet module. Problems related to the beams.	Check the condition of the Crouzet module. Check the condition of the beams.

N.	Fault	Type	Description	Cause	Remedy
45	Overload I/O PCB illumination		Overload on the 48 I/O PCB.	Overload on the 48 I/O PCB.	Problem related to the button panels connected to the 48 I/O PCB; PCB defective.
46	COM_X communication interrupted		In duplex systems, it indicates that the communication between the two controllers is missing. The MASTER controller considers the second controller not available to serve calls. The SLAVE controller passes to a similar functioning to SIMPLEX.	Problems related to the serial line RS-485.	Check the connection between the two controllers.
47	Faults memory		Errors of the faults memory.	Electric memory defective or not well programmed.	Erase all faults.
51	Wrong Password		If the system has a password, this fault appears after 3 wrong password entered.		

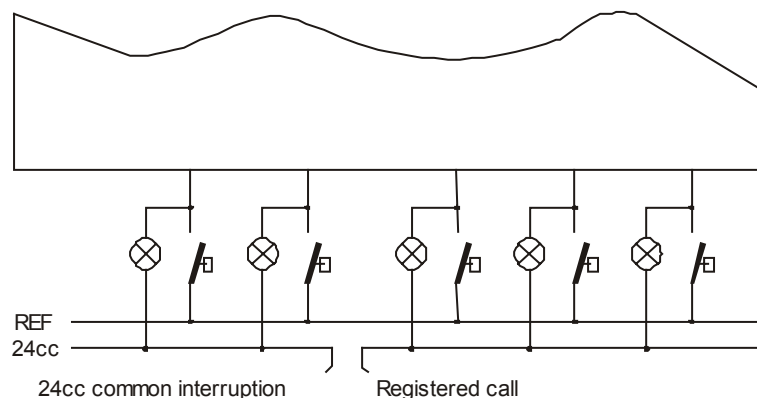


It means a blocking fault: switch the main power off and again on to re-establish normal operation of the lift.

**Faults not signalled by the display:**

- *The lift accepts aleatory calls*  
In collective operation, if a signal common disconnects, when one makes a car or hall call, the illumination of the lamps passes through other lamps and causes alien orders.

**Remedy:** Reconnect the common, which is disconnected.



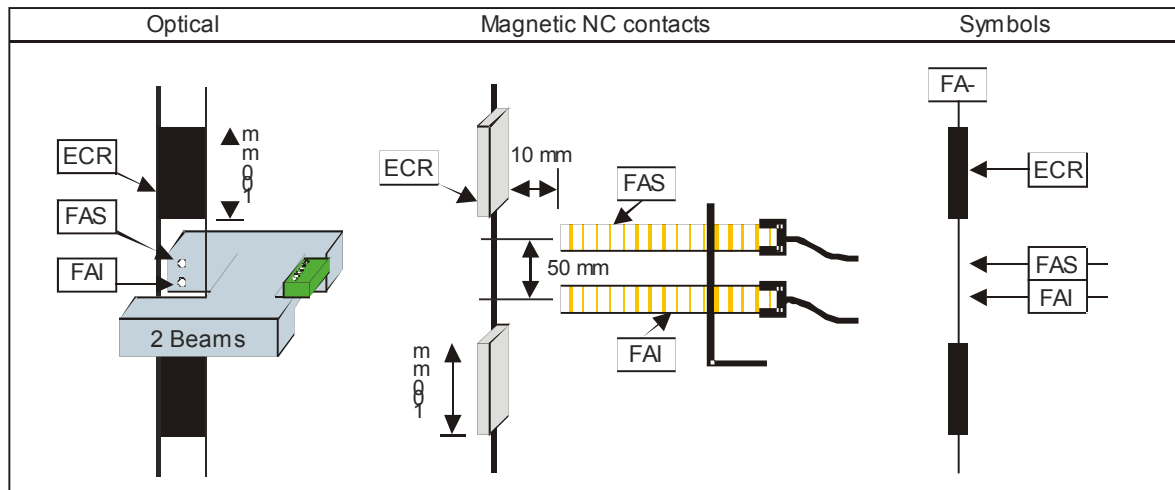
## 5 ANNEX A – CAR POSITION SETTING

### 5.1 Definitions

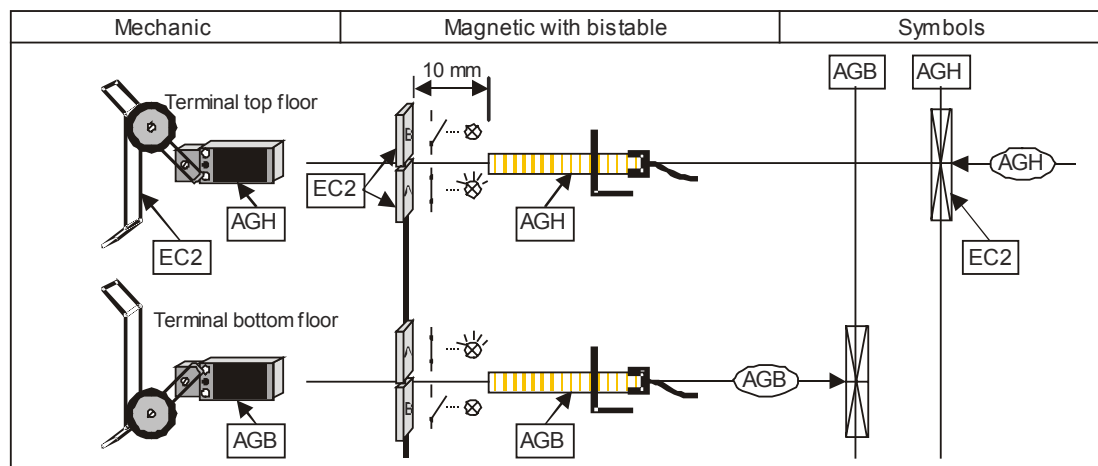
Code	Description
DI1	Short floor distance
DI2	Minimum distance of 100mm
ECR	Counting flags (or magnets)
EC2	Terminal floors slowdown flags (or magnets)
EC3	Short floor flags (or magnets)
AGH/B	Switches for bottom and top slowing or reset
FCB/H	Safety limit switches at bottom and top terminal floors
FCR	Inspection limit switch
SLOWING POINT	Deceleration point between two floors. Refer to the following pages to choose the different low speed information.
RE1	Deceleration distance

### 5.2 Counting sensors: FAI / FAS

Drawing of the car exactly at level. FAI and FAS beams are not blocked by the flags "ECR".



### 5.3 Deceleration sensors: AGH / AGB



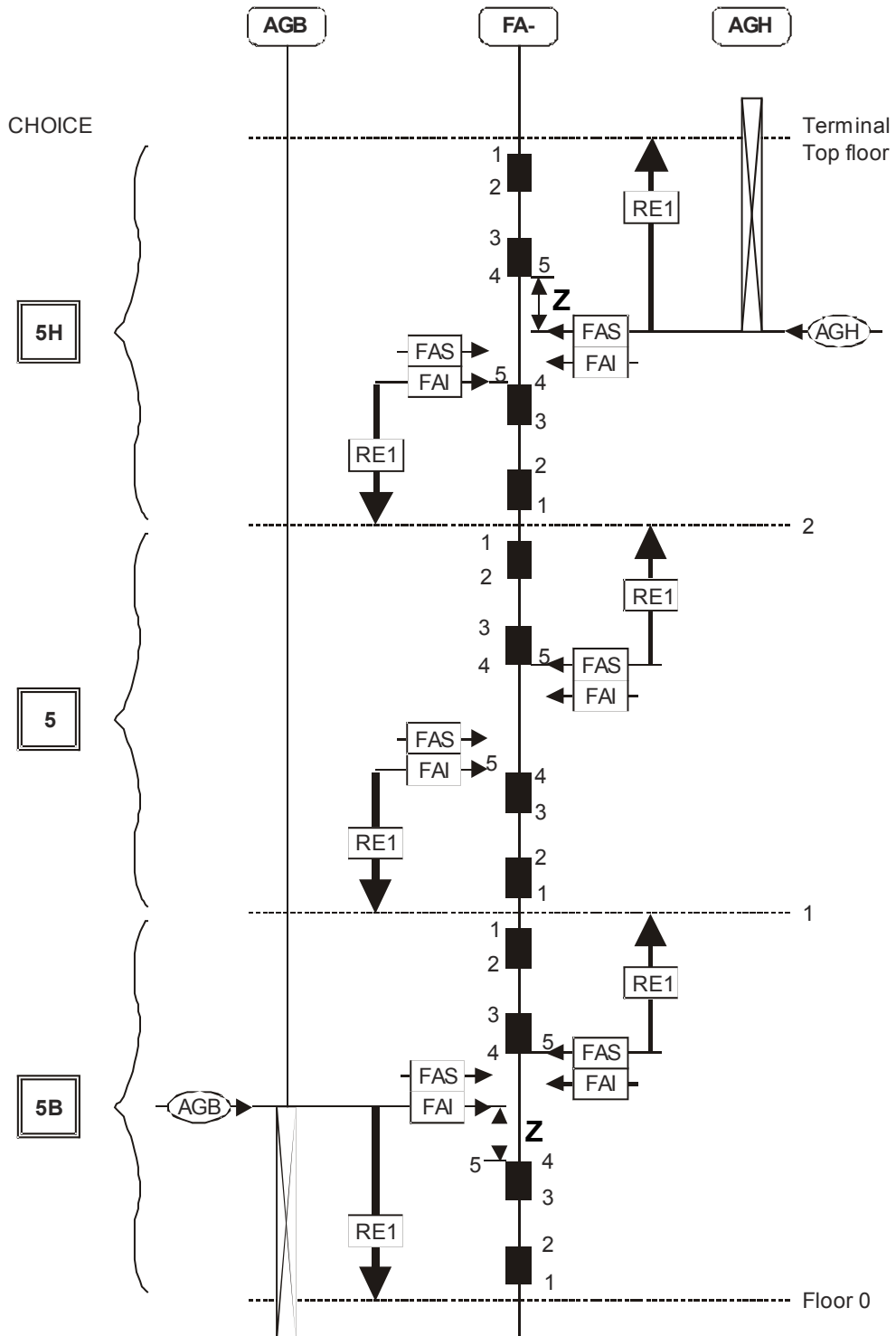


## 5.4 Slowing points

### 5.4.1 Passage in Low Speed, slowing point 5

Adjustment of the slowing distance "RE1" at slowing point 5. Example of setting:

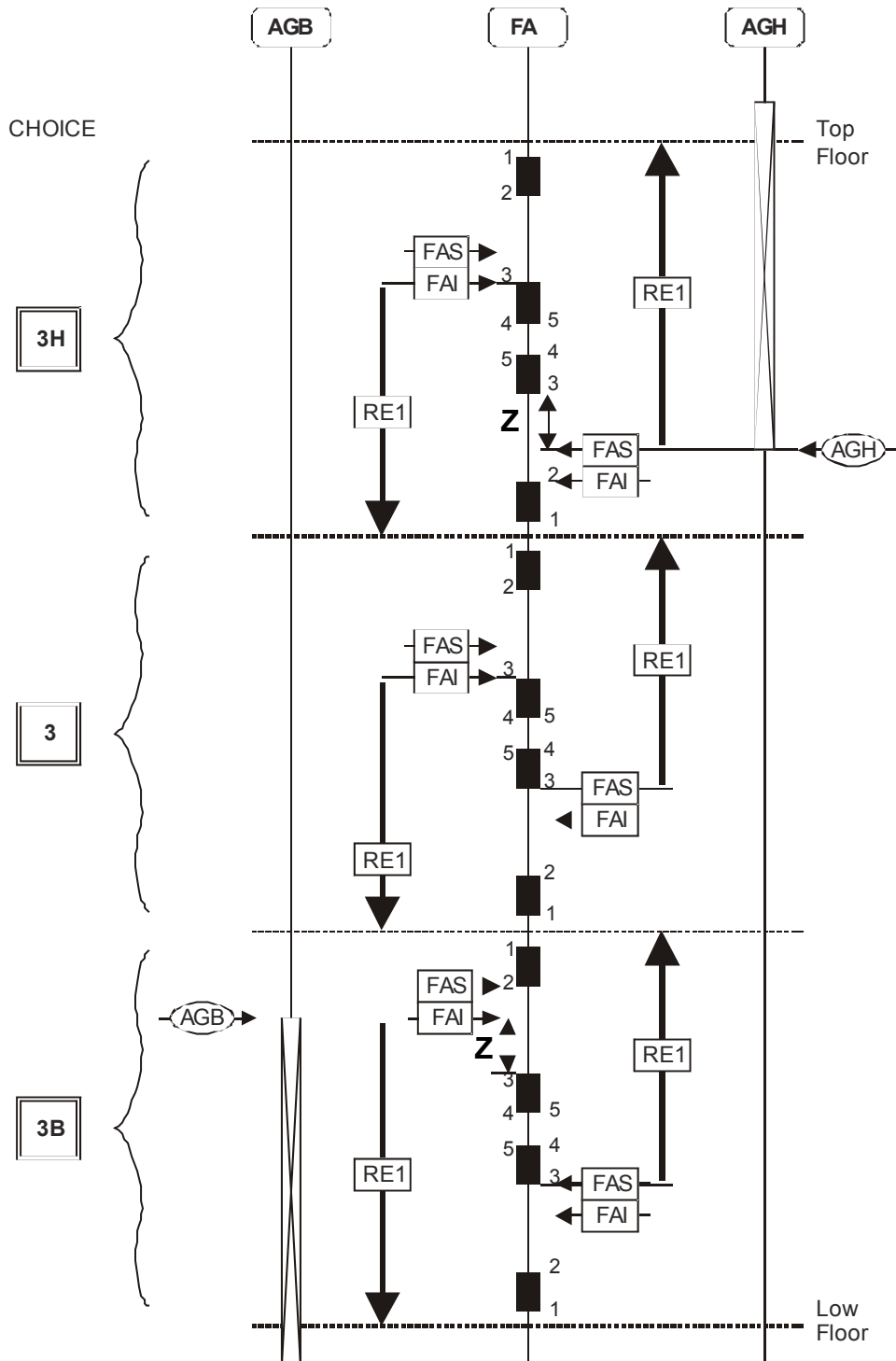
Distance calculation  $Z = \frac{1}{4}$  of RE1



5.4.2 Passage in Low Speed, slowing point 3

Adjustment of the slowing distance "RE1" at slowing point 3. Example of setting:

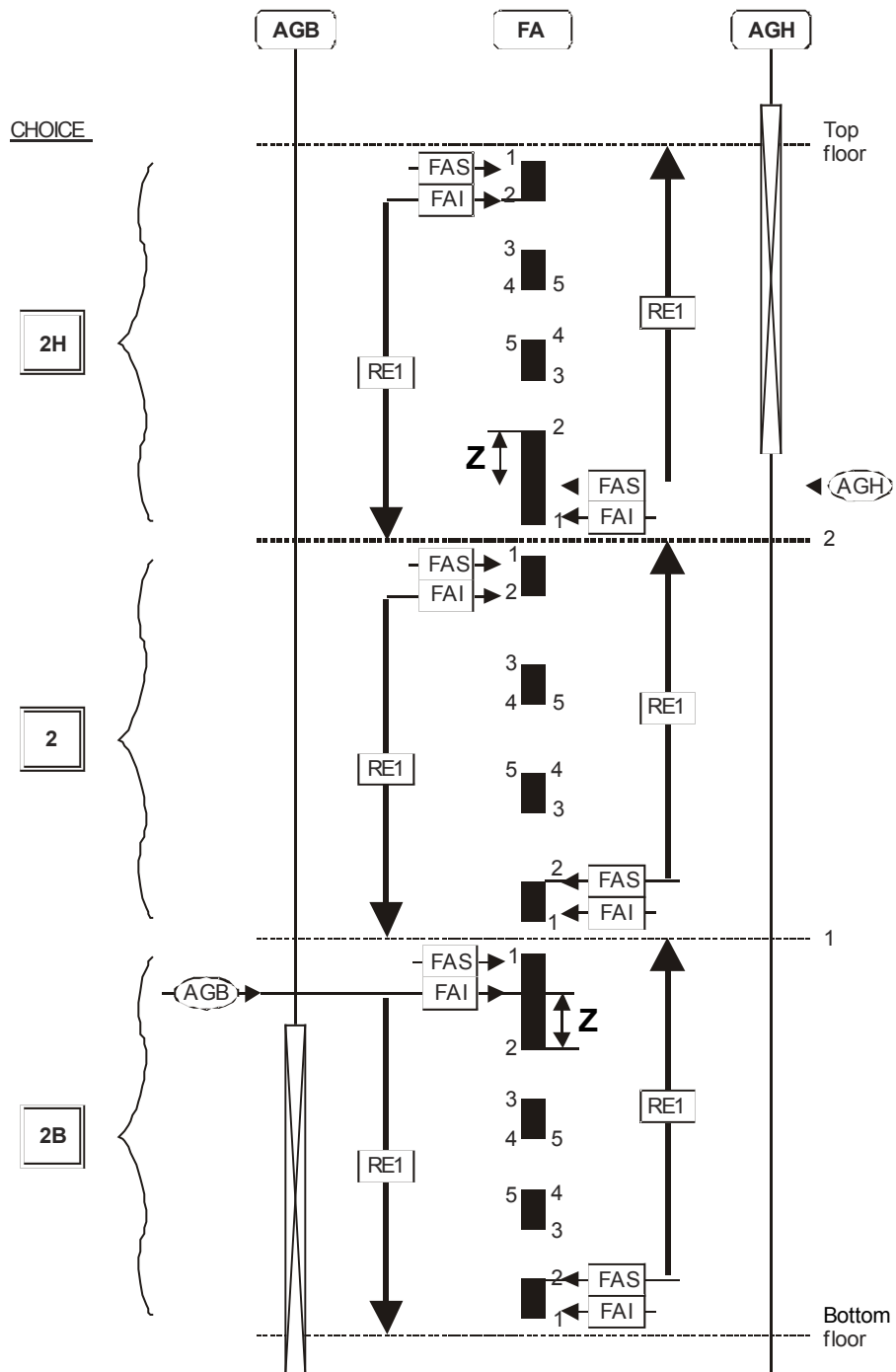
Distance calculation  $Z = \frac{1}{4}$  of RE1



### 5.4.3 Passage in Low Speed, slowing point 2

Adjustment of the slowing distance "RE1" at slowing point 2. Example of setting:

Distance calculation  $Z = \frac{1}{4}$  of RE1



#### 5.4.4 Short floor contact : EL1

If you program a short floor, it means that the distance between the two levels is equal or less than the distance necessary for slowing down.

In this case only two magnets will be used instead of 4 for standard distances between floors.

Two different slowing down types are possible for short floors:

1. call at short floor (fig. 5.1): the lift is at floor N+1 and must go to floor N+2. The lift will start at high speed (Zone 1) and start to slow down when it overruns the first magnet entering in Zone 2.

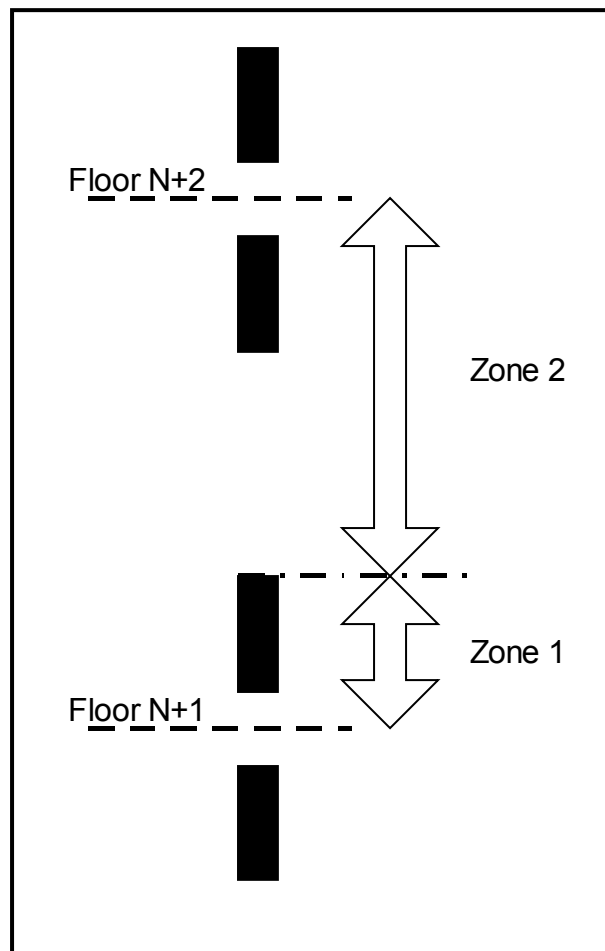


Fig. 5.1 – Short floor (first type of slow down)

2. Call at other floors to a short floor (fig. 5.2): the lift is coming from floor N (or lower floor) and must stop at floor N+2; in this case you can have three zones:
  - Zone 1: the car moves at high speed;
  - Zone 2: the car moves at high speed observing calls from the short floor (N+2); this “observation” zone lasts for the time programmed for the

parameter short level fault (tenths of seconds can be programmed); after this time (in any case at the last magnet), the lift passes to low speed.

- Zone 3: the lift moves at low speed in this zone.

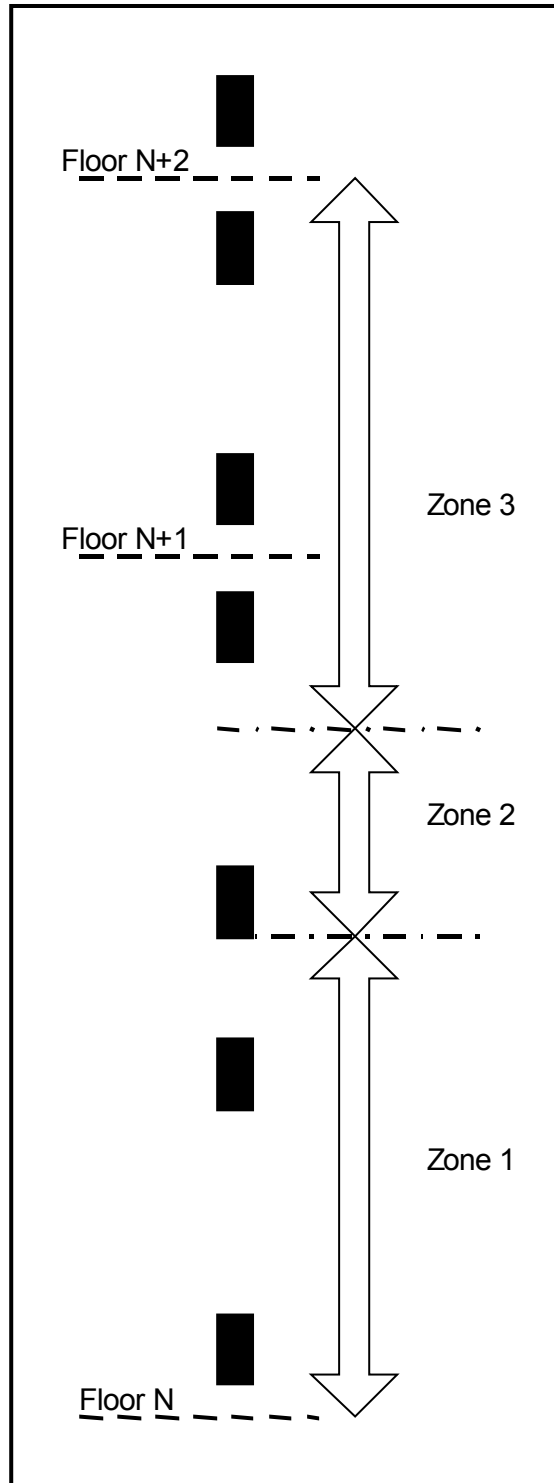


Fig. 5.2 – Short level (second type of slow down)