ELETOUCH

SYSTEM
USER'S GUIDE

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REV.	SOFTWARE	DATE	T.M. Checked and Approved.

1 - INDEX

2 - INTRODUCTION

ELETOUCH is a control board system for lift operation, designed and produced by SMS.

ELETOUCH system consists of different boards:

- ELETOUCH (main board)

Expansion boards:

- ELECAR
- ELEFLOOR
- ELECB
- ELEXP

Boards are connected together by CAN BUS and different configurations are possible, depending from the number of floors, the type of operation, the type of doors and the type of inverter.
The maximun supported number of floors is **32**.
ELETOUCH is the main board and it controls all aspects of the lift operation, it has a 4,3" touchscreen display in order to modify parameters and settings.
This board has to be installed in the Control Panel.
Car and Control Panel are connected through serial CAN Bus with the ELECB board or the ELECAR board that communicate signals from shaft and car, if it is in use the VVVF TKL drive also the inverter is connected to ELETOUCH with a dedicated CAN bus.
ELECAR needs a dedicated wires set because it uses quick coupling connectors.

ELEFLOOR is a small board (also called "Floor node") that has the function of managing calls at one floor.

Each ELEFLOOR manages one floor car entrance, so ELEFLOOR boards are connected in series along the shaft depending from the lift configuration. They communicate with ELETOUCH through serial CAN Bus.

ELECB works as an extension for signals from car, ELEXP is an extension board for extra calls.

Following tables show maximum stops number in case of serial commands for drive, all other cases are presented further in this manual.

Serial connection ELETOUCH + ELECB (or ELECAR) boards		
Operation	**ELEXP**	**Max. Stops**
APB	0	8
Down Collective	0	12
	2	24
	4	32
Full Collective	0	8
	2	15
	3	21
	5	27
	6	32

Parallel connection ELETOUCH board		
Operation	**ELEXP**	**Max. Stops**
Home Lift	0	5
APB	0	8
Down Collective	0	8
	1	14
	2	20
	3	26
	4	32
Full Collective	0	6
	1	10
	2	14
	3	18
	4	22
	5	26
	6	30
	7	32

A further configuration for ELETOUCH system is **Multiplex** operation, available both for serial and parallel connection.

In case of Multiplex operation, two or more lifts work together to optimize traffic, it's necessary a ELECAR board or a ELECB board for each car. ELETOUCH manages **Duplex, Triplex** and **Quadruplex** operation.

Max stops number changes for different configuration (i.e. parallel commands to the drive).

3 - GENERAL CHARACTERISTICS

3.1 - ELETOUCH system General Specifications

Application Software on board of the micro-controller, can be upgraded via USB with a PC.

Lift configuration and fault diagnostics through a 4,3" touchscreen display on ELETOUCH board or through wireless connection.
Parameters are stored permanently on E^{2}PROM memory, even in absence of suplly voltage.

Operating temperature: 0°C ÷ 50°C

ELETOUCH system manages the following types of installation:

► **Drives**
- Traction Lift
  - AC 1 speed
  - AC 2 speeds
  - VVVF (OPEN/CLOSED loop)
- Hydraulic Lift
  - Direct Starting
  - Soft Starter Starting (with optional Soft Stop)
  - Star-Delta Starting
  - HYDROVERT

► **Door Types**
- Manual
- Semiautomatic (automatic car door and manual landing doors)
- Automatic
- Open or Closed Door Parking
- 1 Entrance or 2 Entrances with Serial car connection.

► **Operations**
- Automatic Reset at Top or Bottom Floor at Start Up
- Inspection
- Manual Control (for testing and adjustments)
- Releveling
- Automatic Return at Selected Floor
- Emergency
- VIP call
- Fire-Fighters operation EN81-72 or EN81-73

► **Car Positioning System**
- Monostable or Bistable Magnetic Switches

► **CONTROLS AND PROTECTIONS**
- Motor Thermal Protection via Thermistors
- Maximum Travel Time Alarm (separate for High Speed and Low Speed)

► **Standards and Directives**
- See **CONFORMITY DECLARATION**

3.2 - Description of the Main Operation Phases

ELETOUCH manages lift operation in different conditions that can occur during service:

- **Automatic Service**
- **Reset Operation**
- **Inspection Operation**
- **Releveling**

- **Automatic Return to Floor**
- **Emergency Operation**
- **VIP Call Operation**
- **Fire-Fighter Operation EN81-72 / EN81-73**
- **Home Lift Operation**

3.2.1 - Automatic Service

This is the regular service of the system.

It completely manages the operating logic of the lift, which can be: Automatic Push Button (APB), Down Collective, Full Collective or Home Lift.

At starting, the board checks, via the **RC** input, that none of the contactors involved in car travel is stuck.

The starting sequence is then initiated by activating the closing of any automatic doors. Door closing is allowed only if all reopening devices (photocell, safety edge, door opening button) are not activated.

The board is informed when doors are closed by the closing of the car door contact (safety chain input **SC4**); there is no input for the door closing limit switch, which must be connected, if present, in series with the closing contactor coil.

When doors are closed, with a small adjustable delay to allow the complete mechanical closing (see function **F52**), the CAM output (only if present, see **5.6 - Programmable Outputs**) is enabled to activate any retiring cam; subsequently, after the landing door locked contact closing (safety chain input **SC5**), the actual starting is commanded and, except for special cases, it always is in high speed, with the activation of the outputs Up **UP** or Down **DN**, and High Speed **HS** at the same time.

The lift slows down by activating the Low Speed output **LS** and de-activating High Speed output **HS**.

The stop at floor takes place by opening **LS**. The opening of **UP/DN** may be simultaneous with **LS** (for 2-speeds or hydraulic systems), or it can be appropriately delayed for systems with VVVF drive.

The delay can be programmed through an internal timer **F17**.

If operation type is VVVF TKL (TKL drive) speed and direction commands are given through CAN messages.

In case of EPC application (TKL drive and **F31** function set as "EPC") speeds and direction are managed by the drive. EPC is a particular application possible with VVVF TKL drive that uses the engine encoder and a one-magnet-per-floor shaft installation, ELETOCUH communicates with the drive using the CAN bus. (for further information see EPC user's guide).

When motor contactors are switched off, if the car is in the door zone, so if at least one of the two switches **USS** and **DSS** is engaged, automatic doors opening is executed.

3.2.2 - Reset Operation

The reset operation is carried out automatically by bringing the car to an end floor every time the supply voltage is restored or when returning to normal operation, after inspection operation or after some alarm has tripped (such as the maximum travel time or motor protection with thermistors, etc.).

During reset, the position of the car is not defined, therefore at this stage on display appears:

```
                    SMS

    ┌─────────────────────────────┐
    │ Floor:            ---        │
    │                             │
    │ Mode:             RIF       │
    │                             │
    │ Doors:            Closed    │
    │                             │
    │                             │
    └─────────────────────────────┘
```

Reset is carried out in different ways, depending on the position of the car and the drive type:

- **Car outside the bottom floor slowdown area**:

    the car starts in down direction at high speed and stops when the switch **DLS** opens (1 speed lift) or slows down when **DLS** opens and stops with the opening of **USS** and **DSS** (for all the other types of drives).

- **Car in the bottom floor slowdown area but not at floor level**:

    – 1 or 2 speed lift systems: the car starts moving up at high speed and stops when switch **ULS** opens (1-speed lift) or slows down when **ULS** opens and stops when **USS** and **DSS** switches are engaged (2 speed lift).

    – Hydraulic system or with VVVF drive: the car starts moving down at low speed and stops at bottom floor when **USS** and **DSS** switches are engaged.

When the car stops at the end floor and opens the doors, the car position is reset.

Even during Automatic Service, every time the car reaches an end floor, it is always forced to slow down and the current car position is updated.

In case of EPC application reset operation is managed in a different way:

- **Car outside the bottom floor slowdown area**:

The car starts moving down at low speed and stops at bottom floor when **USS** and **DSS** switches are engaged.

- **Car in the bottom floor slowdown area but not at floor level**:

the car starts moving up and when it gets outside **DLS** zone it stops then starts moving down untill it reaches **USS** and **DSS** (the floor level).

3.2.3 - Inspection Operation

During the inspection operation, the maintenance worker on car roof controls its movement in hold to run mode (with permanent pressure of the push-buttons).

The board detects the status of the inspection switch via the input **ISQ** (ELETOUCH) or **ISC** (ELECB) (**ISQ** / **ISC** = **OFF** → **inspection service active**) and controls the movement direction when the relative inspection push-buttons are activated.

Inspection run can be programmed at high or low speed, if the high speed is set and the motor drive is by VVVF, it is always commanded a medium speed level anyway.

In inspection mode the elevator stops on ULS, DLS limit switches if parameter **F61** = YES.

Disabling Inspection Operation, the system returns in Automatic Service after a Reset Operation.

3.2.4 - Manual Control Service

In the manual control service, the maintenance worker can control the movement of the car from the control panel, while normal calls and the opening of the doors are disabled.

The service is activated by selecting on the display the menu "Manual mode", with car stopped at floor level.
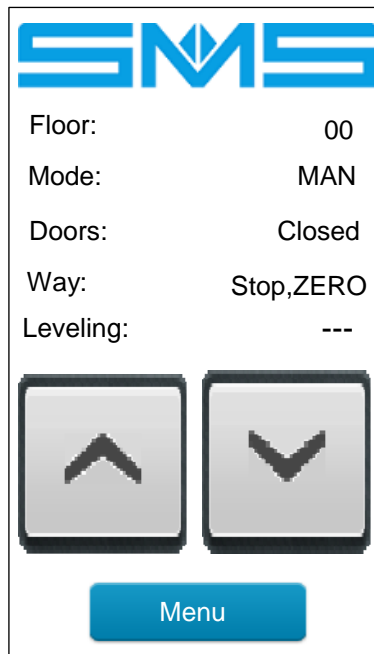
If the safety chain is closed, the keys ⬆ and ⬇ control (up and down respectively) car starting, which moves at High Speed to the next floor.

If the button opposite to the direction of travel of the car is pressed (e.g. key ⬇ with car moving up), the lift stops immediately.

To return to automatic operation, you must press the **Menu** key, then exit main menu by pressing the **Monitor** key.

NOTE: if function **F31: Select. Type** is set as "EPC" (so EPC application is active) the manual control service has a different working mode. See the dedicated EPC manual.

3.2.5 - Releveling

It is the operation that allows the car to return within the stop zone, both in up and down direction.

Provide a Safety Circuit (CS) in the Control Panel that bypasses the Safety Chain Door Contacts when the car is located within the door zone, and enables the releveling operation with the doors open by activating **REL** input. The board enables the releveling if the car has stopped for at least 3 seconds, it is positioned between the door zone, and the **REL** input is active.

In this condition, if the car moves below **USS**, keeping **DSS** engaged, the **UP** (Run Up) command is activated whereas if the car rises above **DSS**, keeping **USS** engaged, the **DN** (Run Down) command is activated.

The movement is controlled at Low Speed if the drive is **F04: 2 SPEEDS** or **HYDRAULIC**.

If the drive type is set to **VVVF**, a different level of speed **HS + LS** is commanded: that speed must be programmed correctly on the VVVF itself.

For more information on how to connect the Safety Circuit with ELETOUCH board see **5.5.1 - Positioning and Releveling** .

Releveling operation is disabled in Inspection and Emergency operation and also when the safety input **SC3** is open, but it remains active during out of service because of the memorized opening of the overtravel switch (safety chain input **SC2**), on the condition that the overtravel switch has closed in the meantime.

3.2.6 - Automatic Return to Floor

The car return to a floor is controlled when the car has no command active, after a programmable time **F28** (maximum 15 minutes); such control is different for Traction lifts (**1 speed**, **2 speed** or **VVVF**), or Hydraulic.

For Traction systems, automatic return is executed only if enabled by **F13**, at the floor programmed by **F14**.

For Hydraulic systems, **car return is always executed** and the return floor is the **bottom floor**.

The automatic return is only activated during normal function; when the car stops at the programmed return floor, the doors do not open.

3.2.7 - Emergency Operation

Emergency operation brings the car at floor when the mains voltage turns off; the operation is activated when the emergency input **ROP** closes, and Function **F36 - Emergency Floor** defines the operation mode (See **9.3 - Functions**)

a) **F36 = Next Floor** – Recommended setting for **traction lifts**
   5 seconds after activating **ROP**, the board commands the car to go down at low speed.
   The car stops at the first stop zone (i.e. when USS and DSS are both engaged), the automatic doors open and when fully open no other operation are executed.

b) **F36 = Bottom floor** – Recommended setting for **hydraulic lifts**
   5 seconds after activating **ROP**, the car goes down at high speed to the bottom floor. On arriving at the down limit switch **DLS** it slows and stops at the floor, the automatic doors open and any further operation is prevented.

In both cases, when the **ROP** input returns to **OFF**, the system performs a Reset Operation and returns to service.

Programmable output **EME** (only in serial shaft configuration) is turned **ON** during all the emergency operation; for automatic or semiautomatic doors, after reaching the destination floor and opening the doors, this output switches **OFF**. See **5.6 - Programmable Outputs**

NOTE: if function **F31: Select. Type** is set as "EPC" (so EPC application is active) the emergency operation is managed by the TKL drive. See dedicated EPC manual.

3.2.8 - VIP Call Operation

The VIP call floor is provided with a key switch (VIC input). **In case of ELETOUCH board in standalone configuration (no extension boards present) and F59: EN81:20 set as "No", VIP call operation is not enabled. See 7- STANDALONE BOARD CONFIGURATION**

When the key is inserted **VIC = ON**, all commands and the existing calls are cancelled, and it is no longer possible to enable other commands.

The car reaches as fast as possible the programmable VIP call floor **F15**:

a)   if the car is stopped, it immediately moves to the VIP call floor.

b)   if the car is moving in the same direction as that required by VIP call, it keeps on moving until reaching the VIP call floor.

c)   if the car is running in the opposite direction to that requested by VIP call, it slows down and stops at the first floor reached, without opening the doors and, after 2 seconds, it starts moving in the direction of the VIP call.

When the car reaches the floor, if the VIC input stays ON, only car calls can be used and one at a time: in this way, the preferential user can reach the desired floors without the lift being called by another person.

During this operation, the lift parks with doors open.

The normal operation of the lift is restored when the key is removed and the VIC input turns OFF.

3.2.9 - Fire-Fighter Operation EN81-72 / EN81-73

ELETOUCH supports Fire-fighter Operation in two operation modes, selectable through **F44** parameter:

- **EN81-73**, **Behavior of lifts in the event of fire** (applies to all lift systems)
- **EN81-72**, **Fire fighters lifts** (special lifts designed for Fire fighters rescue)

If **None** is selected, fire-fighter operation inputs are ignored.

Both operations provide a first phase, indicated in the Standards as **Phase 1**, in which the system brings the car to a programmable floor and opens the doors.

In particular:

a) if the car is still, it immediately leaves towards the fire-fighter floor.

b) if the car is running in the programmed fire-fighter floor direction, it continues the run until it reaches the fire-fighter floor.

c) if the car is running in the opposite direction, it slows down and stops at the first floor it encounters, and without opening the doors it starts again for the fire-fighter floor.

If the lift is built-up in compliance to EN81-72 Standards, there is a second phase, called **Phase 2**, in which the fire-fighters may move the car under their own exclusive control.

For more detailed information, please refer to the Standards.

For Fire-Fighter Operation management the following inputs are involved:

► On **ELETOUCH** board

> **NOTE: In case of ELETOUCH board in standalone configuration (no extension boards present) and F59: EN81-20 set as "No" Fire-Figther operation EN81-72 cannot be activated, while Fire-Figther operation EN81-73 can be activated in any case. See 7- STANDALONE BOARD CONFIGURATION**

FO - Fire-Fighter Operation Activation Contact

> It can be a key switch at the fire-fighter floor, or the contact of an automatic fire detection system. Input status must be **ON with firefighter operation Not Active** (Normally Closed contact). When the input turns **OFF**, the fire-fighter operation is activated, bringing the car at the floor defined by Function **F45 Fire-Fighters Floor 1**.

EKF - Key Switch External To The Car

> Activates Phase 2 of fire-fighter operation, type EN81-72, to allow firefighters to move the car towards a designated floor.
> As defined in point 5.8.8 g) of the Standards, if the key is removed when the car is at a different floor than the designated one, it closes the doors and goes to the designated floor.
> Input status must be **OFF with Phase 2 Not Active** (Normally Open contact).

VIC - Additional External Control

> Brings the car to the designated fire-fighter floor, with lift compliant to EN81-72, after the designated floor has first been reached, then left for an operation controlled by a fire-fighter in the car.
> This option is described at point 5.8.2 of the Standards.
> Input status must be **OFF** with **Non Active** operation (Normally Open contact).

► On **ELECB** board

IKF - Key Switch In The Car

> Activates Phase 2 of fire-fighter operation type EN81-72, to allow firefighters to move the car towards a designated floor.
> As defined in points 5.8.8 g - and h) of the Standards, it has priority compared to the external switch, and if the key is removed when the car is at a different floor than the designated one, it closes the doors and remains still.
> Input status must be **OFF** with Phase 2 **Not Active** (Normally Open contact).

IPA - Key Switch At Floor

> Used as request for Fire-Fighter Operation, with arrival of the car at the floor defined by Function **F46** Fire-Fighter Floor 2.
> Input status must be **OFF to activate firefighter operation** (Normally Closed contact).

Moreover:

ODB - Door Opening Push Button

Operates in Phase 1 and in Phase 2 of the EN81-72 operation for opening of the car doors, as indicated in points 5.8.7 b - and 5.8.8 e) of the Standards.

Also it can be activated at the end of Phase 1 of the EN81-73 operation as door opening push button, in the countries where car parking with doors open is not permitted, as indicated in point 5.3.5 of the Standards. Programming **F47 Door Closing Phase 1** to **Yes**, after 20 seconds from arrival of the car to the designated floor, the doors close automatically and can be re-opened by pressing the ODB push button. If the operation is type EN81-72 or if the **F47** value is set on **No**, this function is not active and at the end of Phase 1 the doors remain open.

Input status must be **ON** in case of **Non Activated** push button, as for the normal operation (Normally Closed contact).

In case of return of the activation inputs to normal conditions, the system can return to normal operation only if it has been brought back to the firefighter floor from which the operation started (Point 5.8.8 m of the Standards).

F45 – F46

Function **F45** is the designated Fire-Fighters floor n. 1, activated by the **FO** input, prior compared to **IPA**, which is instead relative to the **F46** function, designated fire-fighters floor n. 2.
The programmable value in **F45** and **F46** goes from 0 to the top floor, but 0 defines the "not leaving" of the car during Phase 1, meaning the opening of the doors directly at the floor in which the lift is stopped.
This means that if you want to bring the lift to floor 0, actually you need to set for example **F45** = 1.
More generally, when the lift needs to be brought to a specific floor, set this value at the floor number plus 1.

3.2.10 - Home Lift Operation

This operation is for managing commands on the load support and landing calls according to EN81-41 regulations.

The buttons located on the platform, which are used to control the movement from the platform, are depending upon "hold to run".

The landing call buttons, which are used to control the movement from the floors, are not "hold to run", the call is memorized like APB Operation.

Calls cannot be registered from floors if the platform is not at a defined floor.

3.3 - Diagnostics and Programming

ELETOUCH board has a 4,3" touchscreen display.
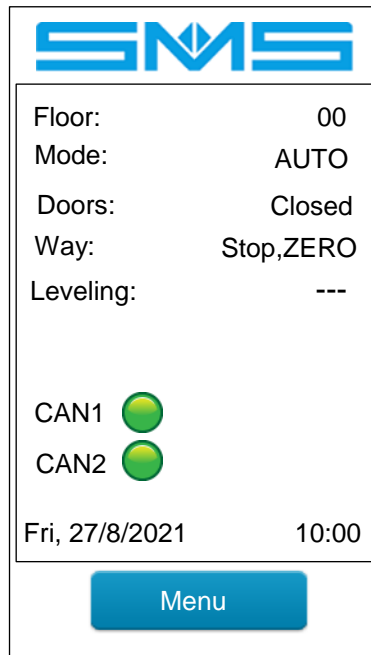
During the operation the display shows a "Monitor" screen which contains some information on the status of the system:

- The **Floor** at which the car is:
  the displayed floor number depends on the main floor setting (**F02**): this is normally displayed as 00, the upper floors from 01 up, while the lower floors as -1, -2, etc. During reset is shown ‑‑‑.
  By setting **F54** it is possible to change the main floor. (See **9.3 - Functions**)

- The **state** of the lift,for example:
- Normal operation	AUTO
- Manual service control	MAN
- Reset	RES
- Inspection	INS
- Emergency	EME

- **Direction** and **Speed level**   HS, LS, Up, Dn, ZERO, Stop
- **Doors** status   Doors open, Opening, Closed, Closing
- Other information   Leveling Up/Down

The display has a 30 minutes timeout starting from the last touch on the screen, when this timeout expires the LCD turns off to reduce power consumption: to turn it on again it is just necessary to touch the screen in any place.

3.3.1 - Main Menu

By pressing the "Menu" button in Monitor screen you will access main menu.
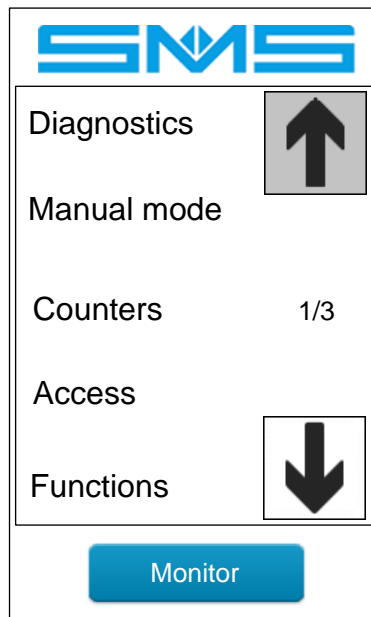
To access all submenus (except Diagnostics) it is necessary a numerical **Access Code** (a number between 0 and 99999999).

SMS supplies the ELETOUCH boards programmed with **Access Code = 0**, the user can modify this password (see **3.3.5 - Access**)

To insert the code use the keyboard that appears on screen:
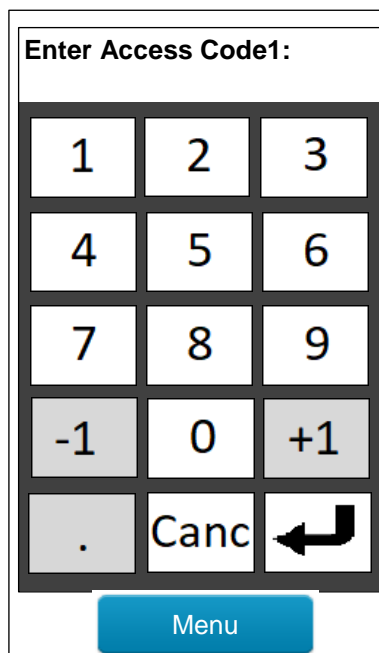
By pressing ⏎ , if the code is correct you will enter selected menu, otherwise you can return to menu by

pressing "Menu" button. The access is allowed for 30 minutes, after that you have to enter again the password. During free access, when you go back to monitor screen, the ELECT Wi-Fi network is activated so you can manage board functions from a mobile device (smartphone, PC); see **3.4 - Wi-Fi Module**.

3.3.2 - Diagnostics
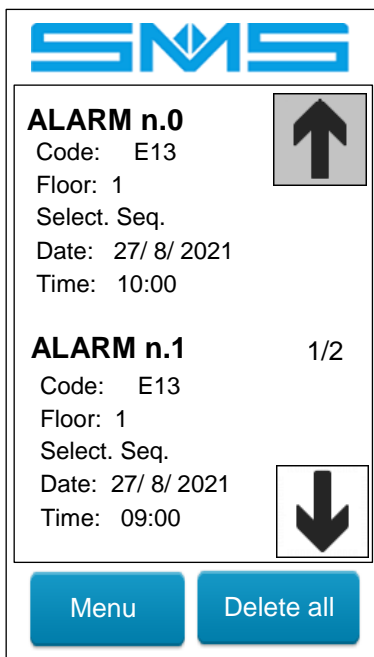
In Diagnostics is displayed alarms list. To scroll the list press and

To reset the list press "**Delete all**" or press "**Menu**" to go back to main menu.

Alarm codes are reported in **9.2 - Alarm Codes**.

3.3.3 - Manual mode

Enter Manual Control Service, see **3.2.4 - Manual Control Service.**

3.3.4 - Counters
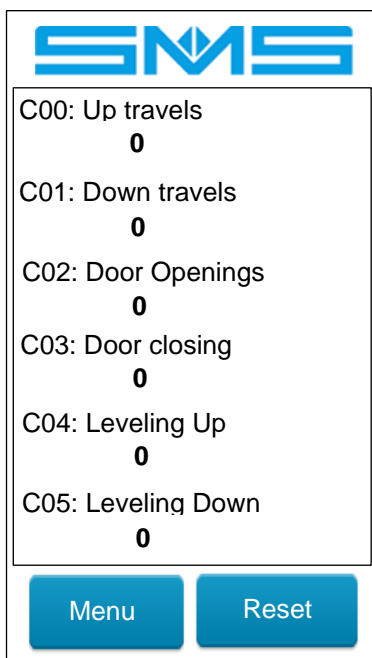
In Counters some useful statistics are displayed: Up and Down Travels, Number of door openings, number of door closing and Up and Down Leveling..

To reset counters press "**Reset**", or press "**Menu**" to go back to main menu.

3.3.5 - Access
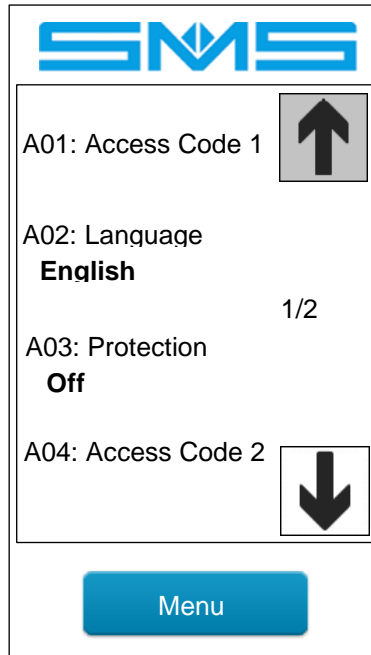
- Selecting A01: Access Code 1 it is possible to modify the access code, like in the following screens:
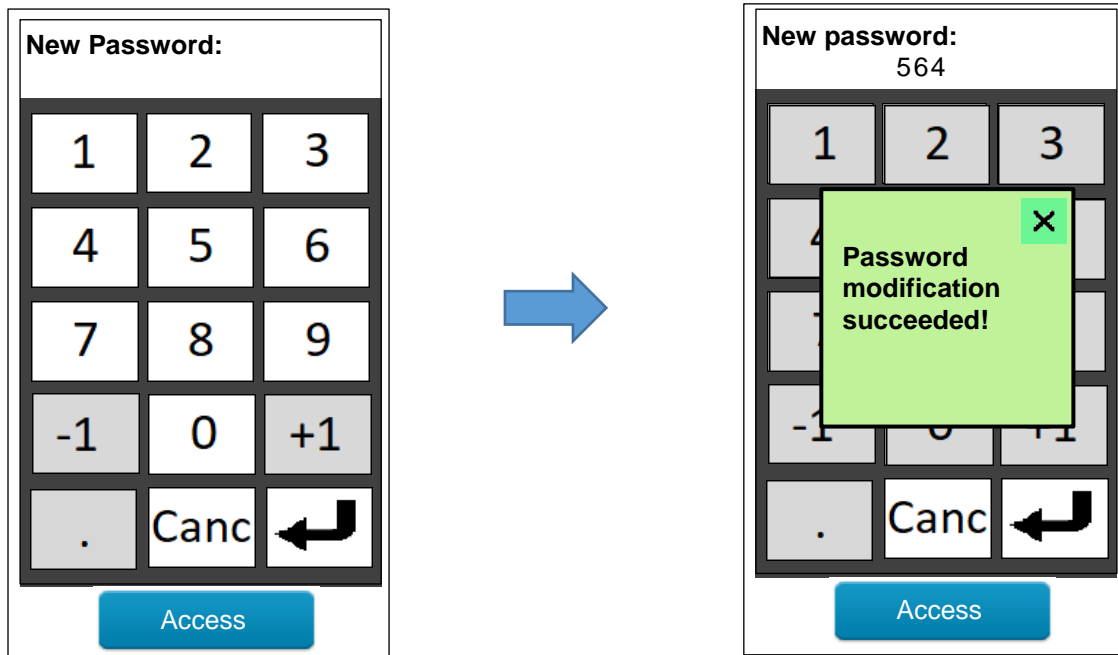
By pressing "**Access**" the operation is cancelled, otherwise to change the password you have to digit the new numerical code then press

- Selecting A02: Language it is possible to choose the language (Italian, English, Spanish, French or Arabic (partial))

- Selecting A03: Protection it is possible to activate the access protection with a USB key (optional service – ELEKEY USB key needed). This setting allows to access menu Counters, Access, Functions, Settings, Test, Shaft, Drive TKL by inserting a USB key called ELEKEY (to be ordered separately) instead of digiting the password. Once you have changed the setting as "ON" the board asks you to insert the USB key which is recognized by ELETOUCH and you will get free access to menus for 30 minutes. As you go back to the monitor screen, the ELECT Wi-Fi network is activated so you can manage board functions from a mobile device (smartphone, PC); see **3.4 - Wi-Fi Module**. Access is allowed for 30 minutes, after that it is necessary to insert again the USB key to enter protected menus.
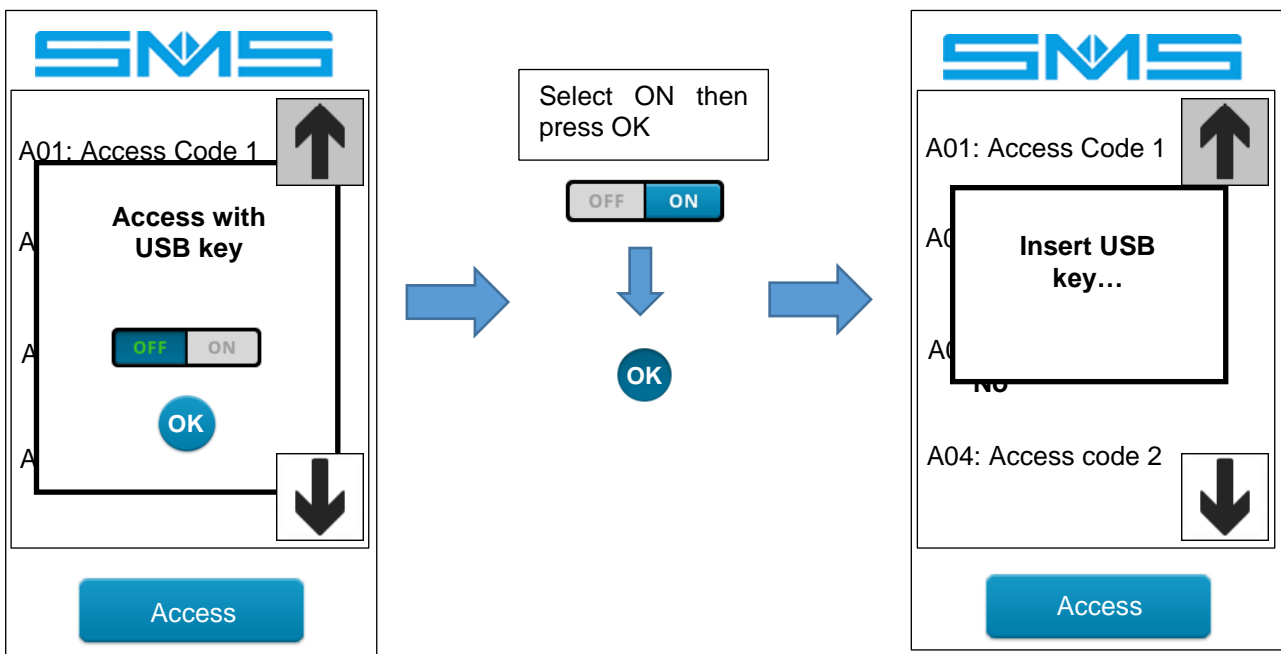
- Selecting A04: Access Code 2 it is possible to modify the access code 2 (asked by the board after three times of wrong password 1 insertions), the change password 2 screen is identical to change password 1 screen.
- Selecting A05: Date setting it is possible to modify date.
- Selecting A06: Time setting it is possible to modify time.
- Selecting A07: Lift ID it is possible to choose a number between 0 and 9 to identify the lift. This number is useful in case of multiplex operation to distinguish ELETOUCH boards controlling different cars, in particular their Wi-Fi networks (called SMS-Lift0, SMS-Lift1, SMS-Lift2 …).

3.3.6 - Functions
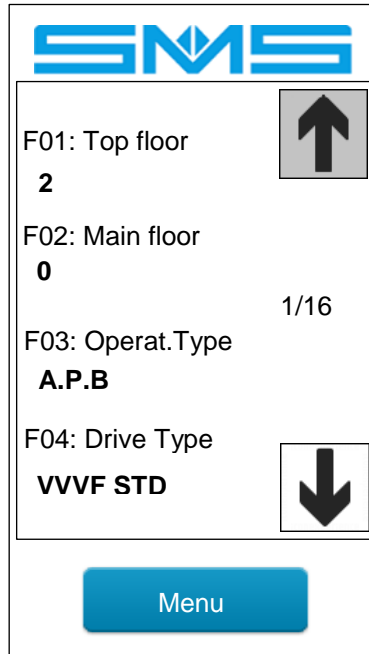
In Functions menu it is possible to modify lift configuration, for details see **9.3 - Functions**

3.3.7 - Settings

ELETOUCH system USER'S GUIDE - Version 00 - 28/06/2022
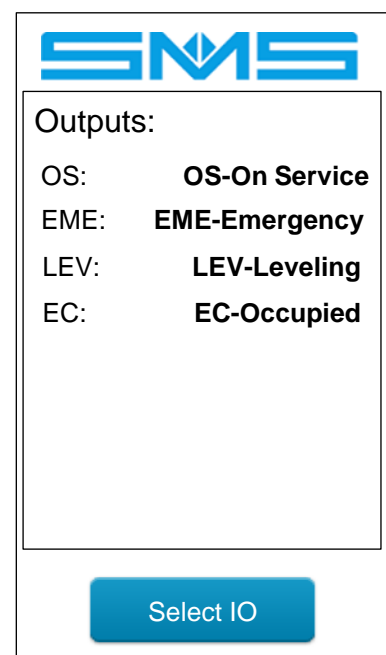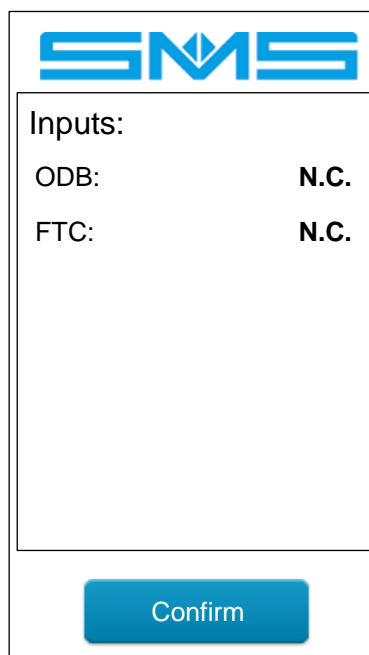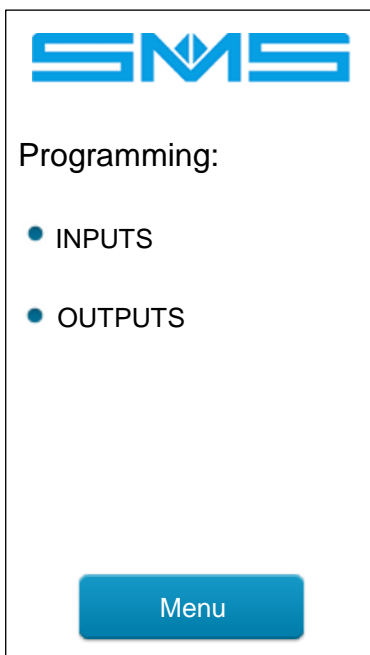
In "Settings" menu it is possible to configure programable I/Os. Regarding outputs, each pin can be configured as follows:
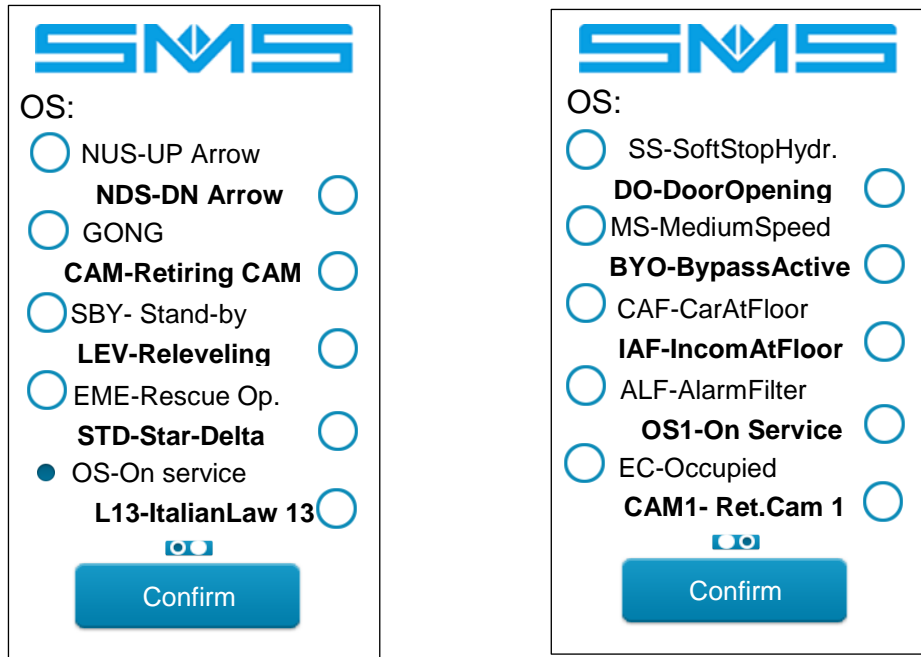
In order to move through pages in this screen you have to do a "Swipe" to the right to go on or swipe to the left to go back to previous page.

NOTE: Outputs can be configured ONLY in Serial Shaft configuration (F51: Extension == Car&Shaft), using ELEFLOOR boards.

3.3.8 - Test

In "Test" menu it is possible to test all I/Os present on board ELETOUCH. Before you continue to the output test be sure that all connectors of the board (except for the power supply) are disconnected!
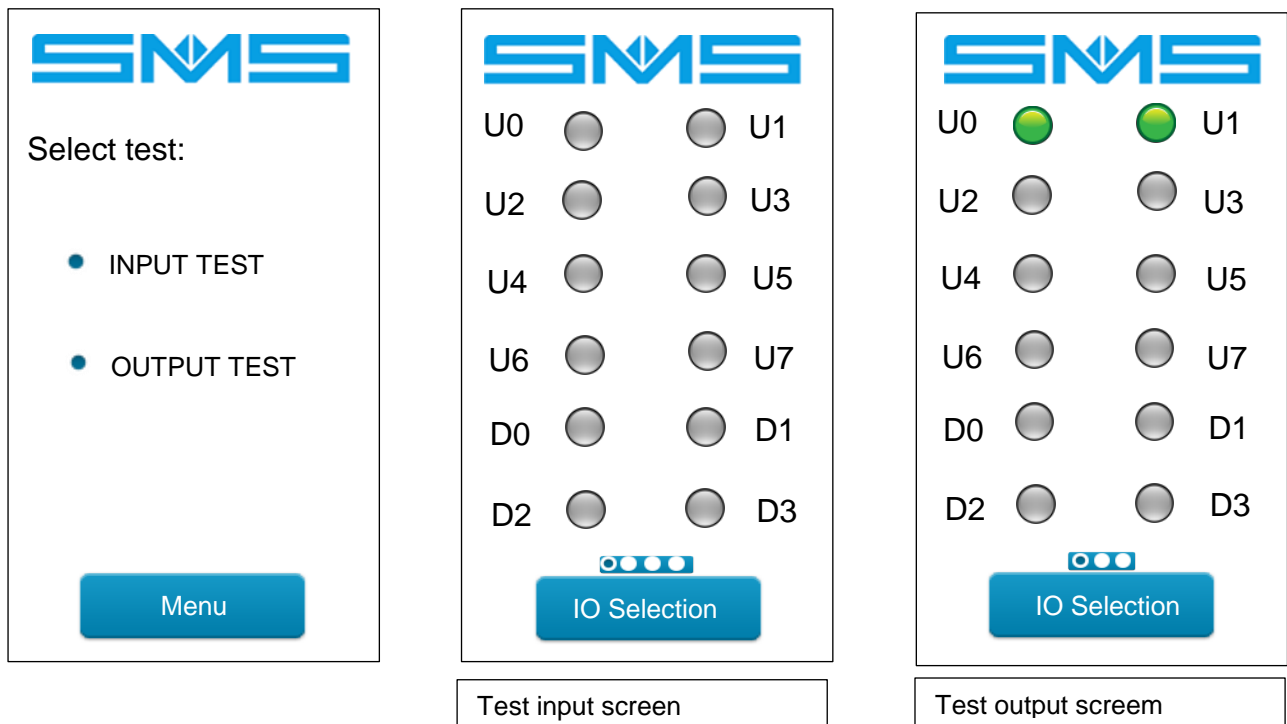
| Test input screen | Test output screem |

In order to move through pages in this screen you have to do a "Swipe" to the right to go on or swipe to the left to go back to previous page.

3.3.9 - Shaft

In "Shaft" menu it is possible to perform the floor node acquisition (ELEFLOOR boards) in case of lift configured with a serial shaft (function **F51: Extension = Car&Shaft**).
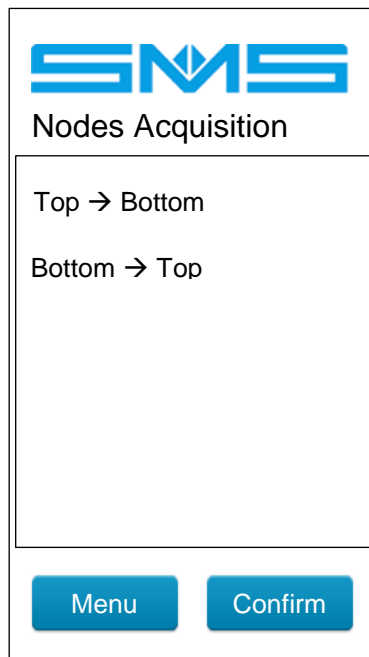
Depending on the control panel position (bottom or top floor) and so on the order of ELEFLOOR in the series you have to choose:

➢ "Top ---> Bottom" if the control panel is installed at top floor or higher, so the first ELEFLOOR in the series is that at top floor;
➢ "Bottom ---> Top" if the control panel is installed at bottom floor or lower, so the first ELEFLOOR in the series is that at bottom floor.

By pressing "Confirm" the acquisition starts (for details see the "Serial shaft" dedicated manual).

3.3.10 - Drive TKL

In "Drive TKL" menu it is possible to modify some VVVF TKL Inverter parameters (only if **F04: Drive Type** is set as **VVVF TKL**). In "Regulation" submenu it is possible to manage some parameters that define inverter's speed profile.
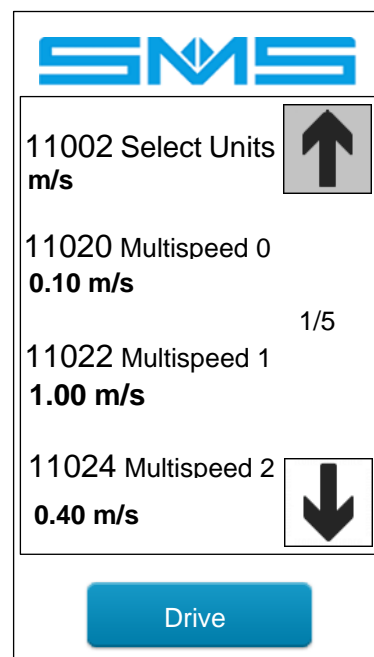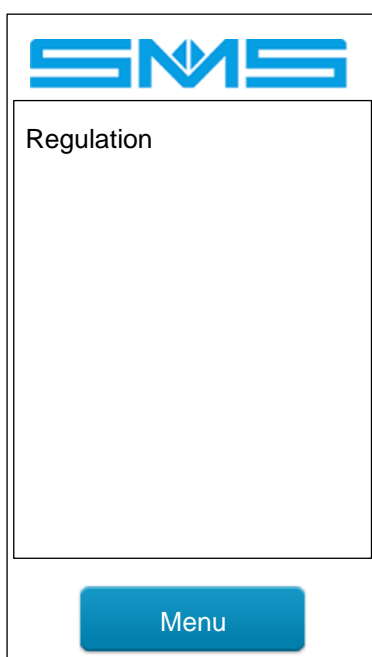
3.4 - Wi-Fi Module

ELETOUCH board can be configured also with a Web Application that needs a Wi-Fi connection and an Internet browser. The user can modify functions, settings, inverter configuration and see diagnostics.

More details can be found in "WebApp ELETOUCH Guide" manual.

It is necessary only a mobile device (Notebook or smartphone, with any operating system) that can be connected to a Wi-Fi network. ELETOUCH board has a Wi-Fi module that provides an access point, after connection it is possible to access the Web Application with any Internet browser. Following instructions explain how to access and use the Web Application.

ATTENTION: do not connect to ELETOUCH WiFi if someone is using the lift or if someone is using the onboard LCD to change any parameter!

3.4.1 - How to connect

First of all you have to get free access like explained in **3.3.1- Main Menu** then go back to monitor screen. The led named WI will be ON to indicate that Wi-Fi is active.

Connect with your device to the access point through Wi-Fi; be sure not to be too distant from the board in order to receive a good signal level.

1. Activate wireless connection on your mobile device then connect to the access point named "SMS-Lift-x" (x is the lift ID you can modify in "Access" menu, A07 setting):

Insert password (access code 1, like in A01 setting. See **3.3.5 - Access**). The access point requires an 8-digits password so if the access code 1 is a number made of less than 8 digits you have to add as many zeroes as it is necessary to reach this length.

Example: Access Code 1 = '1234' → Password Wi-Fi = '00001234'
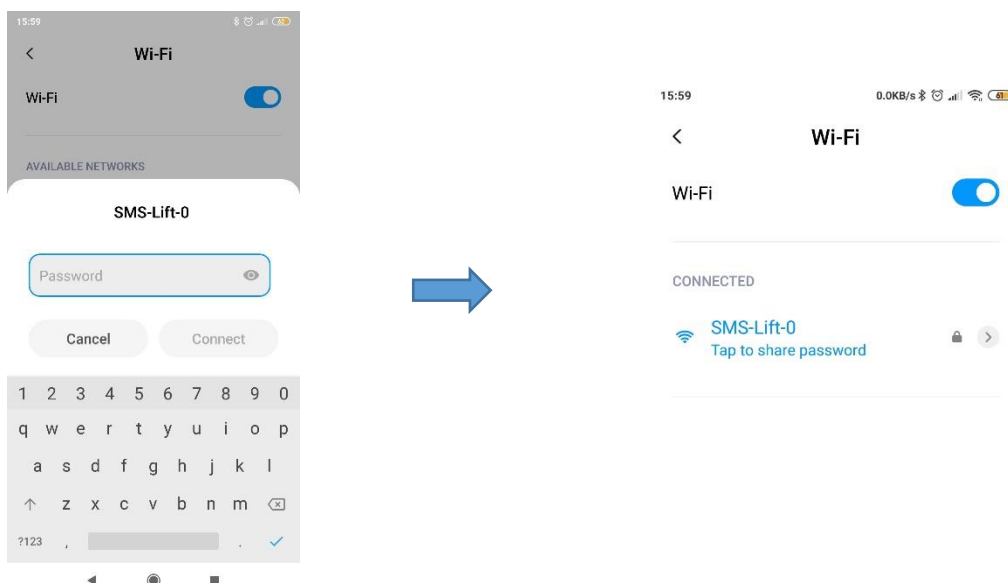
2. Open your favourite Internet browser and in the address bar insert "**192. 168.4.1**":
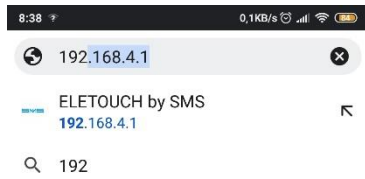
Open the web page
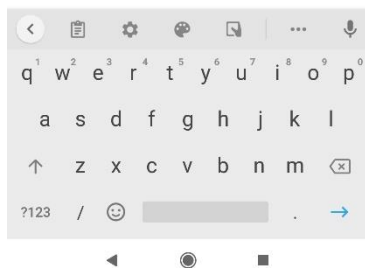
3. Press "MENU" button: the first page is the main menu.

Diagnostics
Counters
Functions
Settings
Shaft
TKL Drive
Update WebApp SW
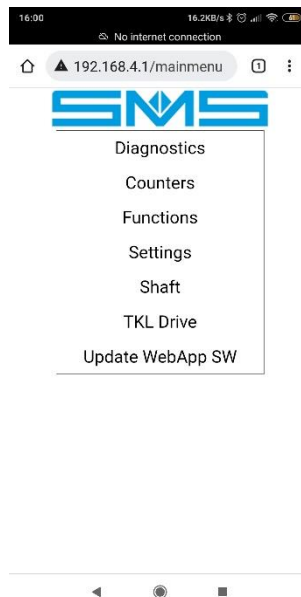
Now it possible to navigate through all submenus and manage all functions and settings like you do with the onboard ELETOUCH LCD. The user has total control over functions so be sure to use the Web Application only if nobody is using the lift!

4. If you are using an Android device you can add an icon on your smartphone's home screen to reach faster the Web Application once you have connected to the access point. From the Web Application homepage (192.168.4.1), click on "Settings" icon, then click on "Add to home screen…", finally press "Add".
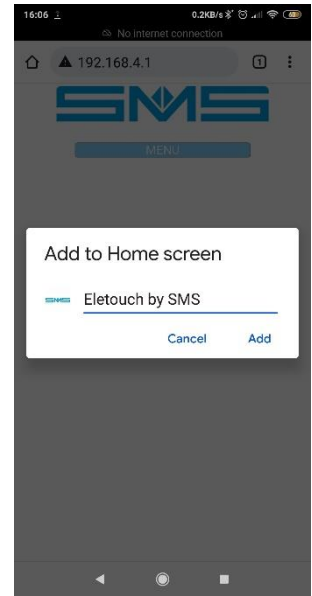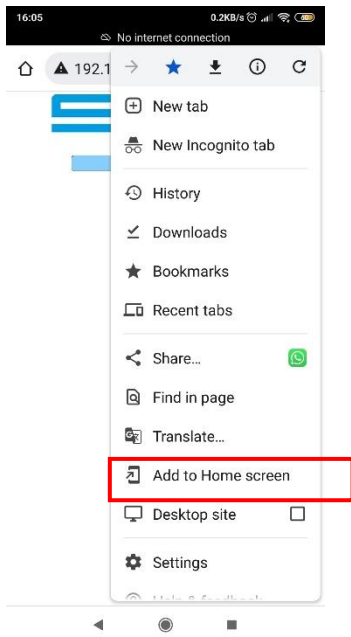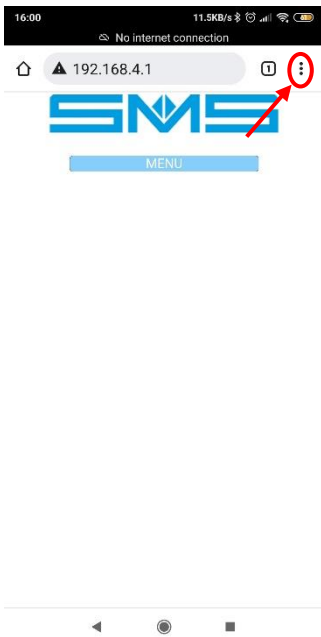
On your smartphone you will see a similar icon:

5. If you are using an Apple device, connect to ELETOUCH Wi-Fi and in the address bar of "Safari" (or any other Internet browser) digit "192.168.4.1" then click on the icon:

Finally click on
"Add to Home Screen"
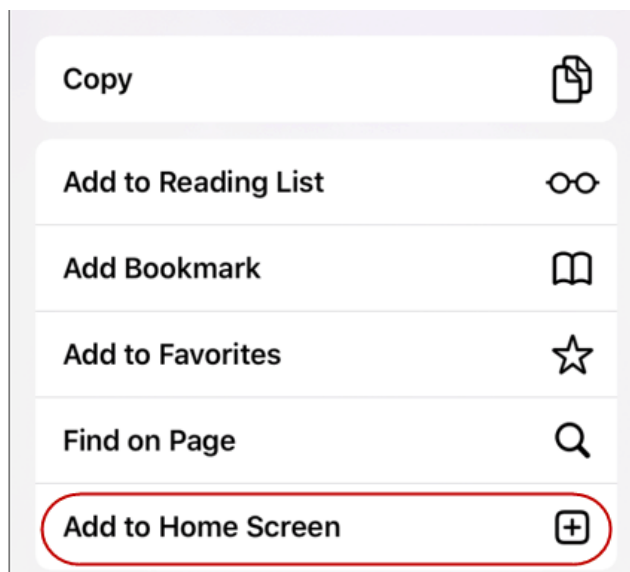
3.4.2 - Software update

ELETOUCH Web Application gives the possibility of updating the Wi-Fi module firmware.

Access the Web Application then press "MENU", finally click on "Update WebApp SW":
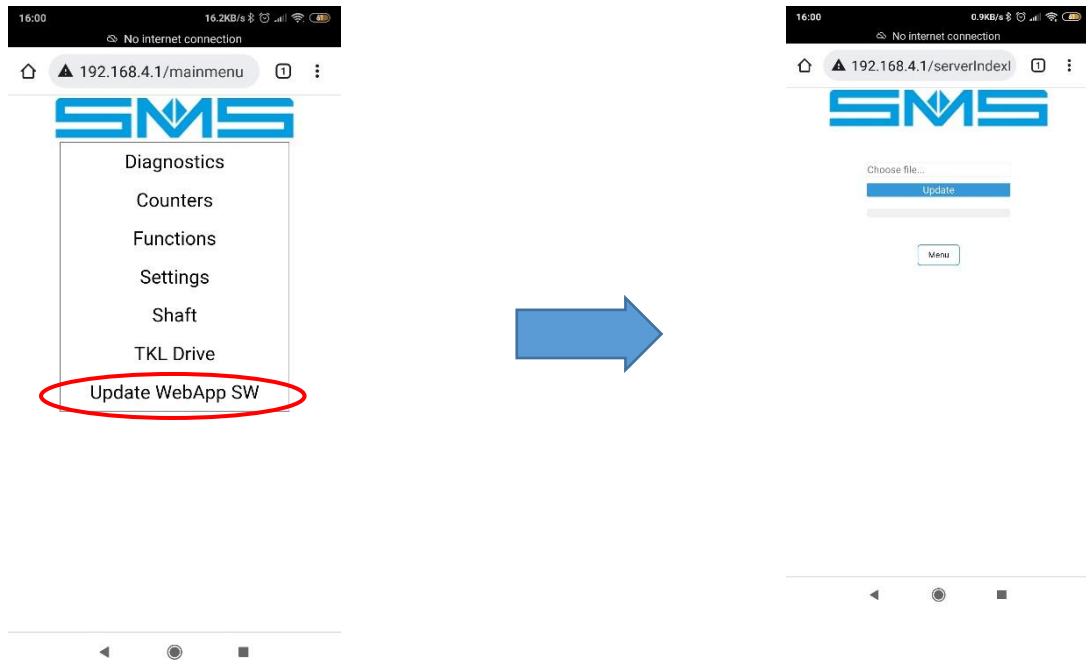
Click on "Choose file…", then select the .bin file containing the software you want to upload in the ELETOUCH Wi-Fi module. Finally click on "Update" and wait the end of the process.
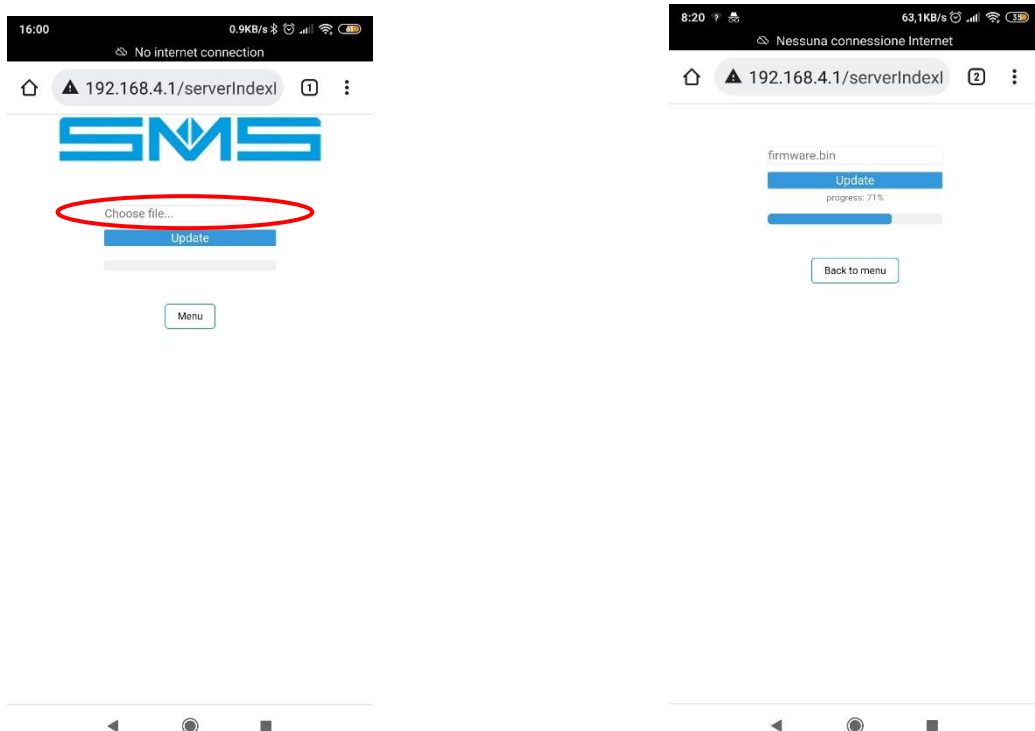
NOTE: When the progress bar is 100% the upload is finished but you have to wait at least one minute to let the ESP32 Wi-Fi module complete all update and restart operations.

4 - BOARDS CONFIGURATIONS

4.1 - Parallel Car Connection or standalone (no extensions)

ELETOUCH board can work also without any extension, in the standalone mode (**F51 = No**), but the maximum number of stops that can be configured depends on additional functionalities needed by the user (for example EN81-20, parallel drive connection…).

You can add ELEXP boards to increase ELETOUCH maximum number of stops, like shown in following table, up to **32** stops (**F51 = Only Calls**).

Parallel Car Connection (Standalone) ELETOUCH board		
Operation	**ELEXP**	**Max. Stops**
Home Lift	0	5
APB	0	8
Down Collective	0	8
	1	14
	2	20
	3	26
	4	32
Full Collective	0	6
	1	10
	2	14
	3	18
	4	22
	5	26
	6	30
	7	32

Table 1
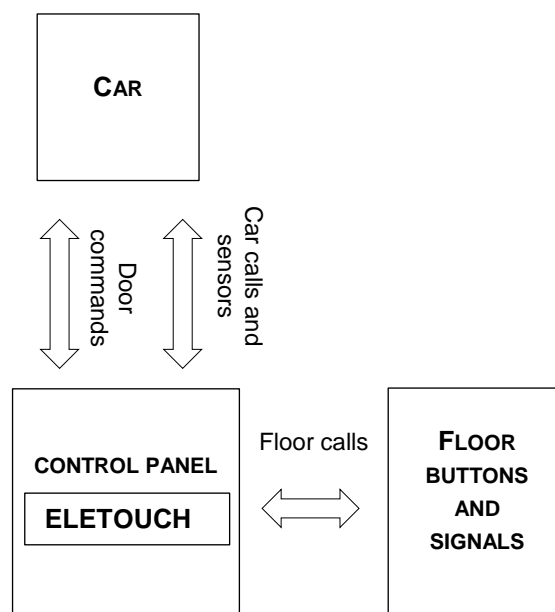
Extension boards are connected to **CAN Bus 1**, each ELEXP must be configured with the correct address using dipswitch **SW2**: see for details **9.6.2 - Board Address**

In following pages are reported tables showing how to connect **Landing Calls** and **Car Calls** and how to correctly set addresses for every combination of ELETOUCH and ELEXP, depending on the operation type chosen with **F03** function and the top floor number **F01**.

Each Car or Landing Call terminal is both a board input for a pushbutton and output for a signal, that assumes two different meaning:

- Car Incoming at n-th floor in APB operation
- Call Registered in case of Collective operation Come

As shown in *Figure 1* only one wire is required for the connection of a call button and the related signal.

See **9.4 - Electrical Specification** for further electrical information.

For Down Collective operation, **Landing Calls above the main floor are Down Calls**, Up Calls otherwise. Set the main floor with function **F02**.

For every configuration of **F03**, the maximum number of stops supported is reported, and also the **board address** for every expansion board.
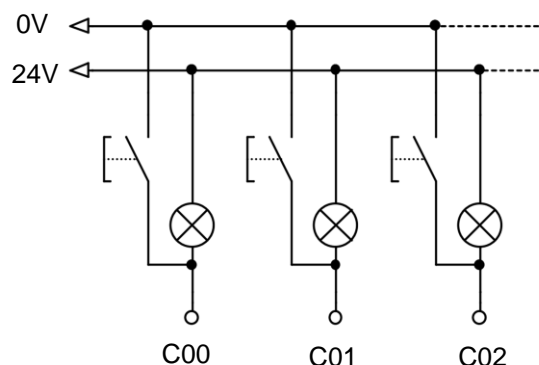
Figure 1

4.1.1 - Serial commands for drive

APB Max 8 stops

Module	Pin	Signal
M3 ELETOUCH	U0	K+C/L 00
	U1	K+C/L 01
	U2	K+C/L 02
	U3	K+C/L 03
	U4	K+C/L 04
	U5	K+C/L 05
	U6	K+C/L 06
	U7	K+C/L 07
M4 ELETOUCH	D0	LP 00
	D1	LP 01
	D2	LP 02
	D3	LP 03
	D4	LP 04
	D5	LP 05
	D6	LP 06
	D7	LP 07

Homelift Max 5 stops

Module	Pin	Signal
M3 ELETOUCH	U0	K/L 00
	U1	K/L 01
	U2	K/L 02
	U3	K/L 03
	U4	K/L 04
	U5	C/L 00
	U6	C/L 01
	U7	C/L 02
M4 ELETOUCH	D0	C/L 03
	D1	C/L 04
	D2	LP 00
	D3	LP 01
	D4	LP 02
	D5	LP 03
	D6	LP 04
	D7	X

Down Collective Max 8 stops

Module	Pin	Signal
M3 ELETOUCH	U0	K/L 00
	U1	K/L 01
	U2	K/L 02
	U3	K/L 03
	U4	K/L 04
	U5	K/L 05
	U6	K/L 06
	U7	K/L 07
M4 ELETOUCH	D0	C/L 00
	D1	C/L 01
	D2	C/L 02
	D3	C/L 03
	D4	C/L 04
	D5	C/L 05
	D6	C/L 06
	D7	C/L 07

Full Collective Max 6 stops

Module	Pin	Signal
M3 ELETOUCH	U0	U/L 00
	U1	U/L 01
	U2	U/L 02
	U3	U/L 03
	U4	U/L 04
	U5	D/L 01
	U6	D/L 02
	U7	D/L 03
M4 ELETOUCH	D0	D/L 04
	D1	D/L 05
	D2	K/L 00
	D3	K/L 01
	D4	K/L 02
	D5	K/L 03
	D6	K/L 04
	D7	K/L 05

Legend

Code	Description
C/L n	Landing calls
K/L n	Car calls
K+C/L n	Landing and Car calls in APB operation
D/L n	Down calls in Full Collective operation
U/L n	Up calls in Full Collective operation
LP n	Car position (1 signal for each floor)

ATTENTION: Maximum number of stops may change depending on additional functionalities needed, see **7- STANDALONE BOARD CONFIGURATION**

For **F03 = Down Collective** and **F03 = Full Collective** only 32 stops configuration is shown. Add as many ELEXP as needed to support the correct number of stops.

For example for a 20 stops lift in DC operation only 2 ELEXP are needed, one programmed with address 0 and the other with address 1. For 20 stops in DC operation 4 ELEXP are needed with addresses 0,1,2 and 3.

DC + 4 ELEXP max 32 stops

Module	Sig	Code	ELEXP	C	Code
M3 ELETOUCH	U0	K/L 00		C00	K/L 14
	U1	K/L 01		C01	K/L 15
	U2	K/L 02		C02	K/L 16
	U3	K/L 03		C03	K/L 17
	U4	K/L 04	M3 ELEXP Addr = 1	C04	K/L 18
	U5	K/L 05		C05	K/L 19
	U6	K/L 06		C06	C/L 14
	U7	K/L 07		C07	C/L 15
M4 ELETOUCH	D0	C/L 00		C08	C/L 16
	D1	C/L 01		C09	C/L 17
	D2	C/L 02		C10	C/L 18
	D3	C/L 03		C11	C/L 19
	D4	C/L 04		C00	K/L 20
	D5	C/L 05		C01	K/L 21
	D6	C/L 06		C02	K/L 22
	D7	C/L 07		C03	K/L 23
M3 ELEXP Addr = 0	C00	K/L 08		C04	K/L 24
	C01	K/L 09	M3 ELEXP Addr = 2	C05	K/L 25
	C02	K/L 10		C06	C/L 20
	C03	K/L 11		C07	C/L 21
	C04	K/L 12		C08	C/L 22
	C05	K/L 13		C09	C/L 23
	C06	C/L 08		C10	C/L 24
	C07	C/L 09		C11	C/L 25
	C08	C/L 10		C00	K/L 26
	C09	C/L 11		C01	K/L 27
	C10	C/L 12		C02	K/L 28
	C11	C/L 13		C03	K/L 29
				C04	K/L 30
			M3 ELEXP Addr = 3	C05	K/L 31
				C06	C/L 26
				C07	C/L 27
				C08	C/L 28
				C09	C/L 29
				C10	C/L 30
				C11	C/L 31

FC + 7 ELEXP max 32 stops

Module	Sig	Code	ELEXP	C	Code	ELEXP	C	Code
M3 ELETOUCH	U0	U/L 00		C00	K/L 10		C00	K/L 22
	U1	U/L 01		C01	K/L 11		C01	K/L 23
	U2	U/L 02		C02	K/L 12		C02	K/L 24
	U3	U/L 03		C03	K/L 13		C03	K/L 25
	U4	U/L 04	M3 ELEXP Addr = 1	C04	U/L 09	M3 ELEXP Addr = 4	C04	U/L 21
	U5	D/L 01		C05	U/L 10		C05	U/L 22
	U6	D/L 02		C06	U/L 11		C06	U/L 23
	U7	D/L 03		C07	U/L 12		C07	U/L 24
M4 ELETOUCH	D0	D/L 04		C08	D/L 10		C08	D/L 22
	D1	D/L 05		C09	D/L 11		C09	D/L 23
	D2	K/L 00		C10	D/L 12		C10	D/L 24
	D3	K/L 01		C11	D/L 13		C11	D/L 25
	D4	K/L 02		C00	K/L 14		C00	K/L 26
	D5	K/L 03		C01	K/L 15		C01	K/L 27
	D6	K/L 04		C02	K/L 16		C02	K/L 28
	D7	K/L 05		C03	K/L 17		C03	K/L 29
M3 ELEXP Addr = 0	C00	K/L 06		C04	U/L 13		C04	U/L 25
	C01	K/L 07	M3 ELEXP Addr = 2	C05	U/L 14	M3 ELEXP Addr = 5	C05	U/L 26
	C02	K/L 08		C06	U/L 15		C06	U/L 27
	C03	K/L 09		C07	U/L 16		C07	U/L 28
	C04	U/L 05		C08	D/L 14		C08	D/L 26
	C05	U/L 06		C09	D/L 15		C09	D/L 27
	C06	U/L 07		C10	D/L 16		C10	D/L 28
	C07	U/L 08		C11	D/L 17		C11	D/L 29
	C08	D/L 06		C00	K/L 18		C00	K/L 30
	C09	D/L 07		C01	K/L 19		C01	K/L 31
	C10	D/L 08		C02	K/L 20		C02	X
	C11	D/L 09		C03	K/L 21		C03	X
				C04	U/L 17		C04	U/L 29
			M3 ELEXP Addr = 3	C05	U/L 18	M3 ELEXP Addr = 6	C05	U/L 30
				C06	U/L 19		C06	X
				C07	U/L 20		C07	X
				C08	D/L 18		C08	D/L 30
				C09	D/L 19		C09	D/L 31
				C10	D/L 20		C10	X
				C11	D/L 21		C11	X

Legend:

C/L n	Landing calls
K/L n	Car calls
K+C/L n	Landing and Car calls in APB operation
D/L n	Down calls in Full Collective operation
U/L n	Up calls in Full Collective operation
LP n	Car position (1 signal for each floor)

NOTE: In case of more than 16 stops it is necessary an extra ELEXP board to be used as external display, refer to **6.3.3 - ELEXP as an external landing display** for configuration.

4.1.2 - Parallel commands for drive

APB Max 6 stops		
M3 ELETOUCH	U00	K+C/L 00
	U01	K+C/L 01
	U02	K+C/L 02
	U03	K+C/L 03
	U04	K+C/L 04
	U05	K+C/L 05
	U06	x
	U07	x
M4 ELETOUCH	D00	LP 00
	D01	LP 01
	D02	LP 02
	D03	LP 03
	D04	LP 04
	D05	LP 05
	D06	x
	D07	x

Homelift Max 4 stops		
M3 ELETOUCH	U00	K/L 00
	U01	K/L 01
	U02	K/L 02
	U03	K/L 03
	U04	C/L 00
	U05	C/L 01
	U06	x
	U07	x
M4 ELETOUCH	D00	C/L 02
	D01	C/L 03
	D02	LP 00
	D03	LP 01
	D04	LP 02
	D05	LP 03
	D06	x
	D07	x

Down Collective Max 6 stops		
M3 ELETOUCH	U00	K/L 00
	U01	K/L 01
	U02	K/L 02
	U03	K/L 03
	U04	K/L 04
	U05	K/L 05
	U06	x
	U07	x
M4 ELETOUCH	D00	C/L 00
	D01	C/L 01
	D02	C/L 02
	D03	C/L 03
	D04	C/L 04
	D05	C/L 05
	D06	x
	D07	x

Full Collective Max 4 stops		
M3 ELETOUCH	U00	U/L 00
	U01	U/L 01
	U02	U/L 02
	U03	D/L 01
	U04	D/L 02
	U05	D/L 03
	U06	x
	U07	x
M4 ELETOUCH	D00	x
	D01	x
	D02	K/L 00
	D03	K/L 01
	D04	K/L 02
	D05	K/L 03
	D06	x
	D07	x

C/L n	Landing calls
K/L n	Car calls
K+C/L n	Landing and Car calls in APB operation
D/L n	Down calls in Full Collective operation
U/L n	Up calls in Full Collective operation
LP n	Car position (1 signal for each floor)

Drive with parallel commands — DC + 5 ELEXP max 32 Stops

Board	Input	Signal	Board	Input	Signal	Board	Input	Signal
M3 ELETOUCH	U0	K/L 00	M3 ELEXP Addr = 1	C00	K/L 12	M3 ELEXP Addr = 3	C00	K/L 24
	U1	K/L 01		C01	K/L 13		C01	K/L 25
	U2	K/L 02		C02	K/L 14		C02	K/L 26
	U3	K/L 03		C03	K/L 15		C03	K/L 27
	U4	K/L 04		C04	K/L 16		C04	K/L 28
	U5	K/L 05		C05	K/L 17		C05	K/L 29
	U6	X		C06	C/L 12		C06	C/L 24
	U7	X		C07	C/L 13		C07	C/L 25
M4 ELETOUCH	D0	C/L 00		C08	C/L 14		C08	C/L 26
	D1	C/L 01		C09	C/L 15		C09	C/L 27
	D2	C/L 02		C10	C/L 16		C10	C/L 28
	D3	C/L 03		C11	C/L 17		C11	C/L 29
	D4	C/L 04	M3 ELEXP Addr = 2	C00	K/L 18	M3 ELEXP Addr = 4	C00	K/L 30
	D5	C/L 05		C01	K/L 19		C01	K/L 31
	D6	X		C02	K/L 20		C02	X
	D7	X		C03	K/L 21		C03	X
M3 ELEXP Addr = 0	C00	K/L 06		C04	K/L 22		C04	X
	C01	K/L 07		C05	K/L 23		C05	X
	C02	K/L 08		C06	C/L 18		C06	C/L 30
	C03	K/L 09		C07	C/L 19		C07	C/L 31
	C04	K/L 10		C08	C/L 20		C08	X
	C05	K/L 11		C09	C/L 21		C09	X
	C06	C/L 06		C10	C/L 22		C10	X
	C07	C/L 07		C11	C/L 23		C11	X
	C08	C/L 08						
	C09	C/L 09						
	C10	C/L 10						
	C11	C/L 11						

Drive with parallel commands — FC + 7 ELEXP max 32 stops

Board	Input	Signal	Board	Input	Signal	Board	Input	Signal
M3 ELETOUCH	U0	U/L 00	M3 ELEXP Addr = 1	C00	K/L 08	M3 ELEXP Addr = 4	C00	K/L 20
	U1	U/L 01		C01	K/L 09		C01	K/L 21
	U2	U/L 02		C02	K/L 10		C02	K/L 22
	U3	D/L 01		C03	K/L 11		C03	K/L 23
	U4	D/L 02		C04	U/L 07		C04	U/L 19
	U5	D/L 03		C05	U/L 08		C05	U/L 20
	U6	X		C06	U/L 09		C06	U/L 21
	U7	X		C07	U/L 10		C07	U/L 22
M4 ELETOUCH	D0	X		C08	D/L 08		C08	D/L 20
	D1	X		C09	D/L 09		C09	D/L 21
	D2	K/L 00		C10	D/L 10		C10	D/L 22
	D3	K/L 01		C11	D/L 11		C11	D/L 23
	D4	K/L 02	M3 ELEXP Addr = 2	C00	K/L 12	M3 ELEXP Addr = 5	C00	K/L 24
	D5	K/L 03		C01	K/L 13		C01	K/L 25
	D6	X		C02	K/L 14		C02	K/L 26
	D7	X		C03	K/L 15		C03	K/L 27
M3 ELEXP Addr = 0	C00	K/L 04		C04	U/L 11		C04	U/L 23
	C01	K/L 05		C05	U/L 12		C05	U/L 24
	C02	K/L 06		C06	U/L 13		C06	U/L 25
	C03	K/L 07		C07	U/L 14		C07	U/L 26
	C04	U/L 03		C08	D/L 12		C08	D/L 24
	C05	U/L 04		C09	D/L 13		C09	D/L 25
	C06	U/L 05		C10	D/L 14		C10	D/L 26
	C07	U/L 06		C11	D/L 15		C11	D/L 27
	C08	D/L 04	M3 ELEXP Addr = 3	C00	K/L 16	M3 ELEXP Addr = 6	C00	K/L 28
	C09	D/L 05		C01	K/L 17		C01	K/L 29
	C10	D/L 06		C02	K/L 18		C02	K/L 30
	C11	D/L 07		C03	K/L 19		C03	K/L 31
				C04	U/L 15		C04	U/L 27
				C05	U/L 16		C05	U/L 28
				C06	U/L 17		C06	U/L 29
				C07	U/L 18		C07	U/L 30
				C08	D/L 16		C08	D/L 28
				C09	D/L 17		C09	D/L 29
				C10	D/L 18		C10	D/L 30
				C11	D/L 19		C11	D/L 31

Legend

Code	Description
C/L n	Landing calls
K/L n	Car calls
K+C/L n	Landing and Car calls in APB operation
D/L n	Down calls in Full Collective operation
U/L n	Up calls in Full Collective operation

NOTE: In case of more than 16 stops it is necessary an extra ELEXP board to be used as external display, refer to **6.3.3 - ELEXP as an external landing display** for configuration.

4.2 - Serial Car Connection

With Serial Car connection ELETOUCH board is in the Control Panel, and ELECB (or the ELECAR) in the Car Box (set **F51** to **Car & Calls**).

The table below shows all the possible configuration depending on the operation mode.

Serial connection ELETOUCH + ELECB (or ELECAR) boards		
Operation	**ELEXP**	**Max. Stops**
APB	0	8
Down Collective	0	12
	2	24
	4	32
Full Collective	0	8
	2	15
	3	21
	5	27
	6	32

Table 2

The user can add ELEXP boards to support installation with number of stops higher than 12, as shown on the table, up to **32 floors**.

The boards are connected **via CAN Bus**, and every ELEXP board should be programmed with the correct address by operating the **SW2** dipswitch: see **9.6.2 - Board Address** for more information.

In the next pages there are some tables that shows how to connect **Landing Calls** and **Car Calls** for every combination of ELETOUCH and ELEXP, depending on **F03** parameter.

Each Car or Landing Call terminal is both a board input for a pushbutton and output for a signal, that assumes two different meaning:

- Car Incoming at n-th floor in APB operation
- Call Registered in case of Collective operation

As shown in *Figure 2*, only one wire is required for the connection of a call button and the related signal.

See **9.4 - Electrical Specification** for further electrical information.

For Down Collective operation, **Landing Calls above the main floor are Down Calls**, Up Calls otherwise. Set the main floor with function **F02**.

For every configuration of **F03**, the maximum number of stops supported is reported, and also the **board address** for every expansion board.
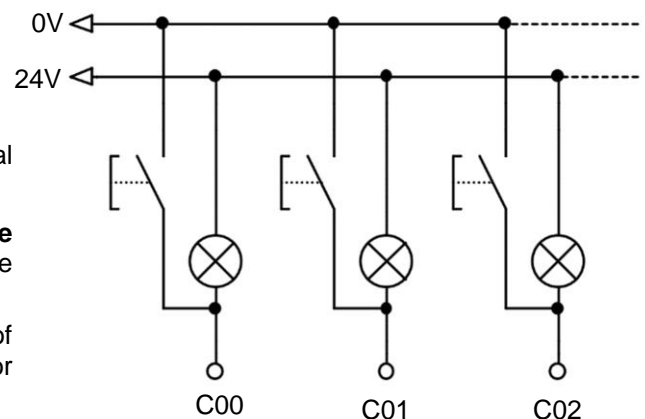
Figure 2

4.2.1 - Serial car with max 14 stops in DC or max 8 stops in FC

Calls configuration change for Down Collective operation in case of number of stops less or equal to 14 and for Full Collective operation in case of number of stops less or equal to 8.

► Down Collective

For DC operation **D6** and **D7** outputs are respectively used as **NUS-Up Arrow** and **NDS-Down Arrow** for landing display, OS, EC, LEV and EME outputs are used as floor number display (up to 15 stops).

Note: in case of 13 or 14 stops D6 and D7 are still used as UP/DOWN Arrows.

Down Collective + 1 ELECB max 12 stops			
M3 ELETOUCH	U0	C/L 00
	U1	C/L 01
	U2	C/L 02
	U3	C/L 03
	U4	C/L 04
	U5	C/L 05
	U6	C/L 06
	U7	C/L 07
M4 ELETOUCH	D0	C/L 08
	D1	C/L 09
	D2	C/L 10
	D3	C/L 11
	D4	X
	D5	X
	D6	→ NUS
	D7	→ NDS
M3-M4 ELECB Address = 0	C00	K/L 00
	C01	K/L 01
	C02	K/L 02
	C03	K/L 03
	C04	K/L 04
	C05	K/L 05
	C06	K/L 06
	C07	K/L 07
	C08	K/L 08
	C09	K/L 09
	C10	K/L 10
	C11	K/L 11

C/L n	Landing calls
K/L n	Car calls
K+C/L n	Landing and Car calls in APB operation
D/L n	Down calls in Full Collective operation
U/L n	Up calls in Full Collective operation

Signals to external landing display

M7 ELETOUCH	OS	PB0
	EC	PB1
	LEV	PB2
	EME	PB3

In case of number of stops greater than14, the landing floor display has to be managed by a dedicated ELEXP board. Refer to **6.3.3 - ELEXP as an external landing display** for configuration.

► Full Collective

For FC operation **U7** and **D0** outputs are respectively used as **NUS-Up Arrow** and **NDS-Down Arrow** for landing display, OS, EC, LEV and EME outputs are used as floor number display (up to 15 stops).

Full Collective + 1 ELECB max 8 stops		
M3 ELETOUCH	U0	U/L 00
	U1	U/L 01
	U2	U/L 02
	U3	U/L 03
	U4	U/L 04
	U5	U/L 05
	U6	U/L 06
	U7	➡ NUS
M4 ELETOUCH	D0	➡ NDS
	D1	D/L 01
	D2	D/L 02
	D3	D/L 03
	D4	D/L 04
	D5	D/L 05
	D6	D/L 06
	D7	D/L 07
M3-M4 ELECB Address = 0	C00	K/L 00
	C01	K/L 01
	C02	K/L 02
	C03	K/L 03
	C04	K/L 04
	C05	K/L 05
	C06	K/L 06
	C07	K/L 07
	C08	K/L 08
	C09	X
	C10	X
	C11	X

C/L n	Landing calls
K/L n	Car calls
K+C/L n	Landing and Car calls in APB operation
D/L n	Down calls in Full Collective operation
U/L n	Up calls in Full Collective operation

Signals to external landing display		

M7 ELETOUCH	OS	PB0
	EC	PB1
	LEV	PB2
	EME	PB3

In case of number of stops greater than 8, the landing floor display has to be managed by a dedicated ELEXP board. Refer to **6.3.3 - ELEXP as an external landing display** for configuration.

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4.2.2 - Serial Car plus ELEXP call extension boards

In following configurations the landing floors external display has to be controlled by an additional ELEXP board, see **6.3.3 - ELEXP as an external landing display**

DC + 1 ELECB + 2 ELEXP max 24 stops

Board	In	Call	ELEXP	In	Call
M3 ELETOUCH	U0	C/L 00		C00	K/L 12
	U1	C/L 01		C01	K/L 13
	U2	C/L 02		C02	K/L 14
	U3	C/L 03		C03	K/L 15
	U4	C/L 04		C04	K/L 16
	U5	C/L 05	M3 ELEXP Addr = 1	C05	K/L 17
	U6	C/L 06		C06	K/L 18
	U7	C/L 07		C07	K/L 19
M4 ELETOUCH	D0	C/L 08		C08	K/L 20
	D1	C/L 09		C09	K/L 21
	D2	C/L 10		C10	K/L 22
	D3	C/L 11		C11	K/L 23
	D4	C/L 12		C00	C/L 16
	D5	C/L 13		C01	C/L 17
	D6	C/L 14		C02	C/L 18
	D7	C/L 15		C03	C/L 19
M3-M4 ELECB Addr = 0	C0	K/L 00		C04	C/L 20
	C1	K/L 01	M3 ELEXP Addr = 2	C05	C/L 21
	C2	K/L 02		C06	C/L 22
	C3	K/L 03		C07	C/L 23
	C4	K/L 04		C08	X
	C5	K/L 05		C09	X
	C6	K/L 06		C10	X
	C7	K/L 07		C11	X
	C8	K/L 08			
	C9	K/L 09			
	C10	K/L 10			
	C11	K/L 11			

C/L n	Landing calls	
K/L n	Car calls	
K+C/L n	Landing and Car calls in APB operation	
D/L n	Down calls in Full Collective operation	
U/L n	Up calls in Full Collective operation	
LP n	Car position (1 signal for each floor)	

DC+ 1 ELECB + 4 ELEXP 32

Board	In	Call	ELEXP	In	Call
M3 ELETOUCH	U0	C/L 00		C00	K/L 24
	U1	C/L 01		C01	K/L 25
	U2	C/L 02		C02	K/L 26
	U3	C/L 03		C03	K/L 27
	U4	C/L 04		C04	K/L 28
	U5	C/L 05	M3 ELEXP Addr = 2	C05	K/L 29
	U6	C/L 06		C06	K/L 30
	U7	C/L 07		C07	K/L 31
M4 ELETOUCH	D0	C/L 08		C08	X
	D1	C/L 09		C09	X
	D2	C/L 10		C10	X
	D3	C/L 11		C11	X
	D4	C/L 12		C00	C/L 16
	D5	C/L 13		C01	C/L 17
	D6	C/L 14		C02	C/L 18
	D7	C/L 15		C03	C/L 19
M3-M4 ELECB Addr = 0	C0	K/L 00		C04	C/L 20
	C1	K/L 01	M3 ELEXP Addr = 3	C05	C/L 21
	C2	K/L 02		C06	C/L 22
	C3	K/L 03		C07	C/L 23
	C4	K/L 04		C08	C/L 24
	C5	K/L 05		C09	C/L 25
	C6	K/L 06		C10	C/L 26
	C7	K/L 07		C11	C/L 27
	C8	K/L 08		C00	C/L 28
	C9	K/L 09		C01	C/L 29
	C10	K/L 10		C02	C/L 30
	C11	K/L 11		C03	C/L 31
M3 ELEXP Addr = 1	C00	K/L 12		C04	X
	C01	K/L 13	M3 ELEXP Addr = 4	C05	X
	C02	K/L 14		C06	X
	C03	K/L 15		C07	X
	C04	K/L 16		C08	X
	C05	K/L 17		C09	X
	C06	K/L 18		C10	X
	C07	K/L 19		C11	X
	C08	K/L 20			
	C09	K/L 21			
	C10	K/L 22			
	C11	K/L 23			

Full Collective + 1 ELECB +2 ELEXP max 15 stops

Group	Label	Signal	ELEXP group	Label	Signal
M3 ELETOUCH	U0	U/L 00	M3 ELEXP Addr = 2	C00	U/L 08
	U1	U/L 01		C01	U/L 09
	U2	U/L 02		C02	U/L 10
	U3	U/L 03		C03	U/L 11
	U4	U/L 04		C04	U/L 12
	U5	U/L 05		C05	U/L 13
	U6	U/L 06		C06	D/L 09
	U7	U/L 07		C07	D/L 10
M4 ELETOUCH	D0	D/L 01		C08	D/L 11
	D1	D/L 02		C09	D/L 12
	D2	D/L 03		C10	D/L 13
	D3	D/L 04		C11	D/L 14
	D4	D/L 05	M3 ELEXP Addr = 1	C00	K/L 12
	D5	D/L 06		C01	K/L 13
	D6	D/L 07		C02	K/L 14
	D7	D/L 08		C03	X
M3-M4 ELECB Addr = 0	C0	K/L 00		C04	X
	C1	K/L 01		C05	X
	C2	K/L 02		C06	X
	C3	K/L 03		C07	X
	C4	K/L 04		C08	X
	C5	K/L 05		C09	X
	C6	K/L 06		C10	X
	C7	K/L 07		C11	X
	C8	K/L 08			
	C9	K/L 09			
	C10	K/L 10			
	C11	K/L 11			

Full Collective + 1 ELECB +3 ELEXP max 21 stops

Group	Label	Signal	ELEXP group	Label	Signal	ELEXP group	Label	Signal
M3 ELETOUCH	U0	U/L 00	M3 ELEXP Addr =2	C00	U/L 08	M3 ELEXP Addr = 3	C00	D/L 09
	U1	U/L 01		C01	U/L 09		C01	D/L 10
	U2	U/L 02		C02	U/L 10		C02	D/L 11
	U3	U/L 03		C03	U/L 11		C03	D/L 12
	U4	U/L 04		C04	U/L 12		C04	D/L 13
	U5	U/L 05		C05	U/L 13		C05	D/L 14
	U6	U/L 06		C06	U/L 14		C06	D/L 15
	U7	U/L 07		C07	U/L 15		C07	D/L 16
M4 ELETOUCH	D0	D/L 01		C08	U/L 16		C08	D/L 17
	D1	D/L 02		C09	U/L 17		C09	D/L 18
	D2	D/L 03		C10	U/L 18		C10	D/L 19
	D3	D/L 04		C11	U/L 19		C11	D/L 20
	D4	D/L 05	M3 ELEXP Addr = 1	C00	K/L 12			
	D5	D/L 06		C01	K/L 13			
	D6	D/L 07		C02	K/L 14			
	D7	D/L 08		C03	K/L 15			
M3-M4 ELECB Addr = 0	C0	K/L 00		C04	K/L 16			
	C1	K/L 01		C05	K/L 17			
	C2	K/L 02		C06	K/L 18			
	C3	K/L 03		C07	K/L 19			
	C4	K/L 04		C08	K/L 20			
	C5	K/L 05		C09	X			
	C6	K/L 06		C10	X			
	C7	K/L 07		C11	X			
	C8	K/L 08						
	C9	K/L 09						
	C10	K/L 10						
	C11	K/L 11						

Legend

Symbol	Description
C/L n	Landing calls
K/L n	Car calls
K+C/L n	Landing and Car calls in APB operation
D/L n	Down calls in Full Collective operation
U/L n	Up calls in Full Collective operation
LP n	Car position (1 signal for each floor)

Full Collective + 1 ELECB +5 ELEXP max 27 stops											
M3 ELETOUCH	U0	U/L 00	**M3 ELEXP Addr = 3**	C00	U/L 08	**M3 ELEXP Addr = 4**	C00	D/L 09	**M3 ELEXP Addr = 5**	C00	U/L 20
	U1	U/L 01		C01	U/L 09		C01	D/L 10		C01	U/L 21
	U2	U/L 02		C02	U/L 10		C02	D/L 11		C02	U/L 22
	U3	U/L 03		C03	U/L 11		C03	D/L 12		C03	U/L 23
	U4	U/L 04		C04	U/L 12		C04	D/L 13		C04	U/L 24
	U5	U/L 05		C05	U/L 13		C05	D/L 14		C05	U/L 25
	U6	U/L 06		C06	U/L 14		C06	D/L 15		C06	D/L 21
	U7	U/L 07		C07	U/L 15		C07	D/L 16		C07	D/L 22
M4 ELETOUCH	D0	D/L 01		C08	U/L 16		C08	D/L 17		C08	D/L 23
	D1	D/L 02		C09	U/L 17		C09	D/L 18		C09	D/L 24
	D2	D/L 03		C10	U/L 18		C10	D/L 19		C10	D/L 25
	D3	D/L 04		C11	U/L 19		C11	D/L 20		C11	D/L 26
	D4	D/L 05	**M3 ELEXP Addr = 1**	C00	K/L 12	**M3 ELEXP Addr = 2**	C00	K/L 24			
	D5	D/L 06		C01	K/L 13		C01	K/L 25			
	D6	D/L 07		C02	K/L 14		C02	K/L 26			
	D7	D/L 08		C03	K/L 15		C03	X			
M3-M4 ELECB Addr = 0	C0	K/L 00		C04	K/L 16		C04	X			
	C1	K/L 01		C05	K/L 17		C05	X			
	C2	K/L 02		C06	K/L 18		C06	X			
	C3	K/L 03		C07	K/L 19		C07	X			
	C4	K/L 04		C08	K/L 20		C08	X			
	C5	K/L 05		C09	K/L 21		C09	X			
	C6	K/L 06		C10	K/L 22		C10	X			
	C7	K/L 07		C11	K/L 23		C11	X			
	C8	K/L 08									
	C9	K/L 09									
	C10	K/L 10									
	C11	K/L 11									

Full Collective + 1 ELECB +6 ELEXP max 32 stops												
M3 ELETOUCH	U0	U/L 00	**M3 ELEXP Addr = 3**	C00	U/L 08	**M3 ELEXP Addr = 4**	C00	U/L 20	**M3 ELEXP Addr = 5**	C00	D/L 08
	U1	U/L 01		C01	U/L 09		C01	U/L 21		C01	D/L 09
	U2	U/L 02		C02	U/L 10		C02	U/L 22		C02	D/L 10
	U3	U/L 03		C03	U/L 11		C03	U/L 23		C03	D/L 11
	U4	U/L 04		C04	U/L 12		C04	U/L 24		C04	D/L 12
	U5	U/L 05		C05	U/L 13		C05	U/L 25		C05	D/L 13
	U6	U/L 06		C06	U/L 14		C06	U/L 26		C06	D/L 14
	U7	U/L 07		C07	U/L 15		C07	U/L 27		C07	D/L 15
M4 ELETOUCH	D0	X		C08	U/L 16		C08	U/L 28		C08	D/L 16
	D1	D/L 01		C09	U/L 17		C09	U/L 29		C09	D/L 17
	D2	D/L 02		C10	U/L 18		C10	U/L 30		C10	D/L 18
	D3	D/L 03		C11	U/L 19		C11	X		C11	D/L 19
	D4	D/L 04	**M3 ELEXP Addr = 1**	C00	K/L 12	**M3 ELEXP Addr = 2**	C00	K/L 24	**M3 ELEXP Addr = 6**	C00	D/L 20
	D5	D/L 05		C01	K/L 13		C01	K/L 25		C01	D/L 21
	D6	D/L 06		C02	K/L 14		C02	K/L 26		C02	D/L 22
	D7	D/L 07		C03	K/L 15		C03	K/L 27		C03	D/L 23
M3-M4 ELECB Addr = 0	C0	K/L 00		C04	K/L 16		C04	K/L 28		C04	D/L 24
	C1	K/L 01		C05	K/L 17		C05	K/L 29		C05	D/L 25
	C2	K/L 02		C06	K/L 18		C06	K/L 30		C06	D/L 26
	C3	K/L 03		C07	K/L 19		C07	K/L 31		C07	D/L 27
	C4	K/L 04		C08	K/L 20		C08	X		C08	D/L 28
	C5	K/L 05		C09	K/L 21		C09	X		C09	D/L 29
	C6	K/L 06		C10	K/L 22		C10	X		C10	D/L 30
	C7	K/L 07		C11	K/L 23		C11	X		C11	D/L 31
	C8	K/L 08									
	C9	K/L 09									
	C10	K/L 10									
	C11	K/L 11									

C/L n	Landing calls
K/L n	Car calls
K+C/L n	Landing and Car calls in APB operation
D/L n	Down calls in Full Collective operation
U/L n	Up calls in Full Collective operation
LP n	Car position (1 signal for each floor)

4.2.3 - Serial shaft for landing calls management

It is possible to manage landing calls using extra boards named ELEFLOOR (see dedicated manual for installation and use).

In this configuration landing calls and signals are managed through CAN communication between ELEFLOOR boards at each floor and each selective car entrance and ELETOUCH board in control panel.

To activate this functionality it is necessary to set function **F51: Extension = "Car&Shaft"**, then follow the procedure described in **3.3.9 - Shaft**. In following scheme is shown an example of serial shaft configuration. Each ELEFLOOR represents a node of the chain of communication that runs in the shaft, in the example the control panel is above top floor and there are two selective stops.

Top to bottom Acquisition selective, example 6 stops + 2 selective

Floor	Nodes Side 1	Nodes Side 2
	Control panel	
5	0	
4	1	2
3	3	
2	4	
1	5	6
0	7	
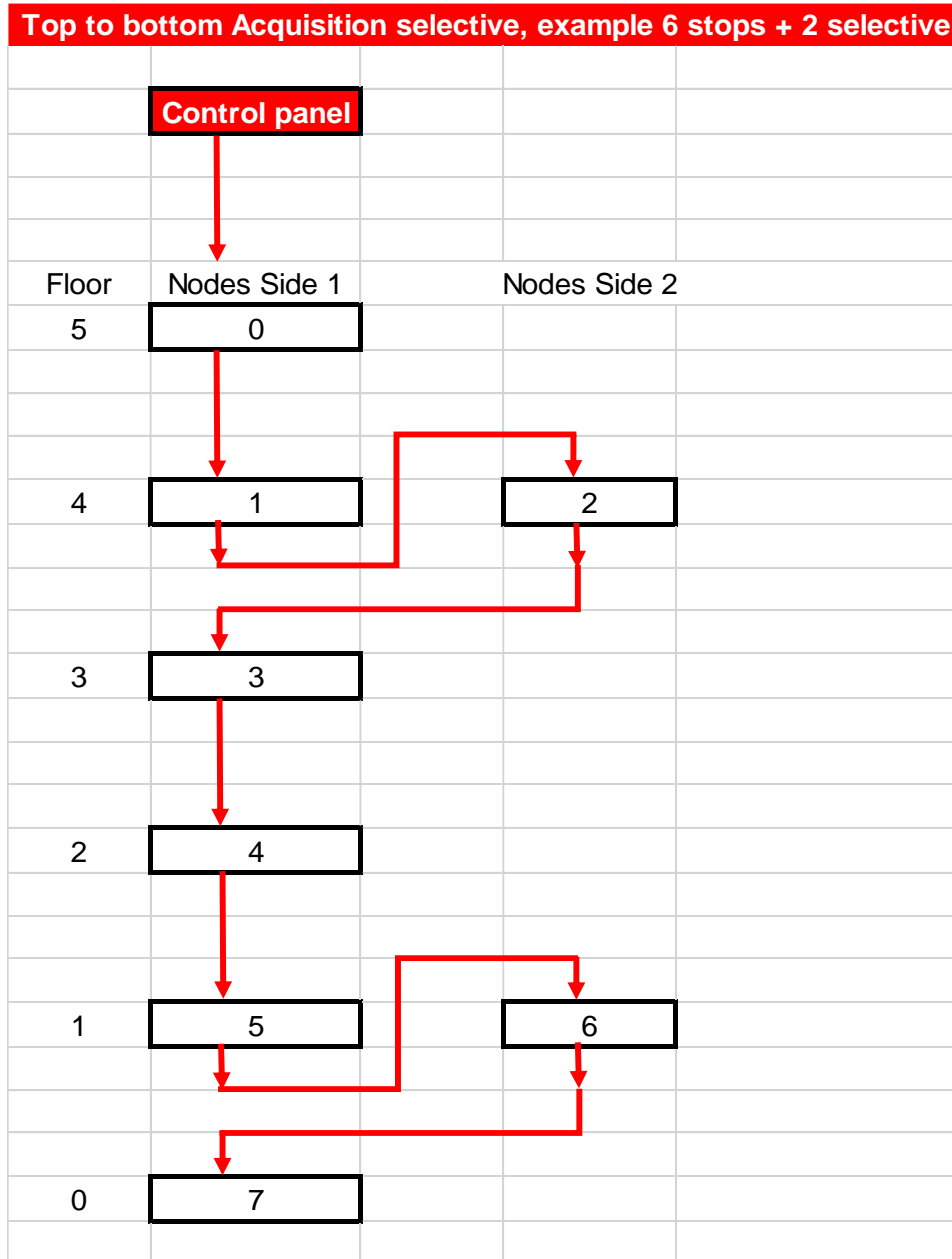
5 - INPUTS AND OUTPUTS SIGNALS

5.1 - Input Signals

► ELETOUCH

M5	USS		C	Up Stop Switch	Positioning switch inputs. By default NC contacts. USS and DSS polarity can be adjusted by **F32** parameter	**5.5.1 - Positioning and Releveling** **F32**
	DSS		C	Down Stop Switch		
	ULS		NC	Top Floor Limit Switch		
	DLS		NC	Bottom Floor Limit Switch		
	ISQ		NC	Inspection Box Contact	Enable Inspection Operation. It must be CLOSED with the system in NORMAL service, and OPEN in INSPECTION state.	**3.2.3 - Inspection Operation**
	URI		NO	Inspection Up Button	Inspection Box Directions (In standalone configuration URI acts as the Open Door Button when lift is not in inspection mode, DRI acts as the Quick Close Door Button when lift is not in inspection mode). Open Door Button (ODB) mode can be set in **3.3.7 - Settings**	
	DRI		NO	Inspection Down Button		
	ATP		NO	Generic input	Different use depending on board configuration	
	VIC		NO	VIP CALL	Activates VIP Call Operation (only for serial car connection or EN81-20 active)	**3.2.8 - VIP Call Operation**
	0V		*	0V voltage	0V aux terminal	**-**

M6	EA1		NC	External Alarm 1	The opening of this input causes the OUT OF SERVICE with immediate stop of the car. It can be connected, for example at the contact of the MAINS PHASE CONTROL device or at FAULT contact of the VVVF. When the input closes again after an opening, the lift automatically returns to service with a reset operation	**E16**
	EA2		NC	External Alarm2	The opening of this input causes the car to stop at the end of the current travel. It can be connected for example to the contact of the oil thermostat	**E17**
	RC		C	Run Contactors Control	Connect to auxiliary contacts of contactors that control car movement that if stuck, could lead to dangerous situations. It is possible to set the input to be active during RUN (NO contacts in parallel) or active with car STOPPED (NC contacts in series)	F37, F38
	REL		NO	Releveling Enable	Connect to an auxiliary contact of the SAFETY CIRCUIT which enables releveling with open doors and that provides the door contact by-pass	**Magnets position for installation with releveling by Safety Circuit**
	ROP		NO	Emergency Operation Enable	Activates Emergency Operation.	**3.2.7 - Emergency Operation**
	FO		NC	Fire-Fighters Operation Enable	Fire-Fighters Operation	**3.2.9 - Fire-Fighter Operation EN81-72 / EN81-73** **F44, F45, F46**
	EKF		NO	Full Car (collective)-Occupied (APB) / Fire-Fighters Operation Key Switch	In standalone configuration this is the Full Car input in collective operations, Occupied in APB operation.(only if the lift is not in Fire-Fighters Operation mode) In serial car connection this is the Fire-Fighter EN81-72 key input	
	OCI		NO	OCI	Car Overload Switch (load > 110% loading capacity), contact CLOSED with car overload.	**3.2.1 - Automatic Service**
	TH1		NC	Motor Thermistors	Connect to a PTC thermistor: if the thermistor resistance increases an alarm occurs. Make a connection between TH1 and TH2 if not used.	**F12, F33, E15**
	TH2					

						5.5.2 - Safety Chain
M8	SCC	NC	Safety Chain Common	Voltage reference of Safety Circuits. Grounded on Control Panel.		
	SC1	NC		Safety Chain Beginning. Downstream of the Operation Automatic Valve.		
	SC2	NC		1st Section. Downstream of the Overtravel switch		
	SC3	NC	Safety Chain Optoisolated Inputs	2nd Section. Downstream of various safety switches, of the Normal Service / Inspection switch, and the Landing Door Closed Contacts (only for Semiautomatic doors)		
	SC4	NC		3rd Section. Downstream of the Car Door Contact		
	SC5	NC		4th Section. Donwstream of the Landing Door Locked Contacts		

ATTENTION: Destination of use of I/Os can be different depending on board configuration if it is in standalone parallel configuration and on additional needed functionalities. For detail see **7- STANDALONE BOARD CONFIGURATION**.

	=	Mandatory wiring
	=	If not used leave open
	=	If not used connect to 0V
P	=	Only in Parallel Car connection
S	=	Only in Serial Car connection
NC	=	Normally Closed input
NO	=	Normally Open input
C	=	Configurable input (NC or NO)
-	=	Not used

5.2 - Input Signals only for Serial Car connection

► ELECB

M3	ODB	S	NC	ODB	Door Opening Button. If the lift is at floor opens the door in automatic and semiautomatic door modes. Open Door Button (ODB) mode can be set also as NO in **3.3.7 - Settings**	-
	CDB	S	NC	CDB	Door Quick Closing Button (Active only in Collective operation). If there are registered calls forces the doors to close in automatic and semiautomatic door modes.	-
M5	IPA	S	NC	Fire-Fighters Operation Enable	Fire-Fighter Inputs	**3.2.9 - Fire-Fighter Operation EN81-72 / EN81-73**
	IKF	S	NO	Fire-Fighters car key switch		
	IPB	S	-	-	-	
M8	IEC	S	NO	EC	EC - Occupied Car (load > 1 %) in Automatic Push Button operation in Collective Operation if it goes OFF at floor, cancels all the registered car calls	
	IFC	S	NO	FC	Full Car (load ≈ maximum capacity) in Collective operation	
	IOC	S	NO	OCI	Car Overload Switch (load > 110% loading capacity), contact CLOSED with car overload.	
M9	PE1	S	NC	PE1	Photocell and safety edge contact. Side 1	**5.5.3 - Automatic Door Control**
M10	SE1	S	NC	DOL1	Door Open Limit switch. Side 1	
	DCL2		NO	DCL1	Door Close Limit switch. Side 1 contact 1	
	DCL1		NO	DCL1	Door Close Limit switch. Side 1 contact 2	
	TH4		NC	TH	Door motor thermistors side 1 contact 1	
	TH3		NC	TH	Door motor thermistors side 1 contact 1	
M12	SE2	S	NC	DOL2	Door Open Limit switch. Side 2	
	DCL4		NO	DCL2	Door Close Limit switch. Side 2 contact 1	
	DCL3		NO	DCL2	Door Close Limit switch. Side 2 contact 2	
	TH6		NC	TH	Door motor thermistors side 2 contact 1	
	TH5		NC	TH	Door motor thermistors side 2 contact 2	
M13	PE2	S	NC	PE2	Photocell and safety edge contact. Side 2	
M14	ODB	S	NO	ODB	Door Opening Button Duplicate	**3.2.3 - Inspection Operation**
	ISC	S	NC	Inspection Box contact	Inspection box at the car top	
	IDC	S	NO	Inspection Down Button		
	IUC	S	NO	Inspection Up Button		

5.3 - Output Signals

► **ELETOUCH**

	+24	*	24V voltage	24V aux terminal	-
	OS	T	Generic Output	Generic output, different use depending of lift configuration	
	EC	T	Generic Output	Generic output, different use depending of lift configuration	
	LEV	T	Generic Output	Generic output, different use depending of lift configuration	
M7	EME	T	Generic Output	Generic output, different use depending of lift configuration	
	LS	T	Low Speed Control	Motor speed control (only if F04:Drive Type is different from VVVF TKL)	
	MS	T	Medium Speed Control		
	HS	T	High Speed Control		**F04**
	DN	T	Down Control	Motor direction control (only if F04:Drive Type is different from VVVF TKL)	
	UP	T	Up Control		

X	=	Unconnected
T	=	Transistor Output
O	=	Optoisolated Output
R	=	Relay Output
*	=	Voltage reference
	=	Programmable Output (only for serial shaft configuration)
	=	Mandatory Connection

Output signals **OS**, **EC**, **LEV** and **EME** on M7 connector can be programmed only if the lift has serial shaft connection (**F51 = Car&Shaft**). See **5.6 - Programmable Outputs**.

Motor Speed/Direction Controls have different function in some configurations (i.e. standalone with serial commands for drive).

5.4 - Output Signals only for Serial Car connection

► ELECB

M11	OB1	*	LC	Car Light/Fan control	
	OB2	R			
M10	CD1	*	Common Door Control	Door control side 1	**5.5.3 - Automatic Door Control**
	DC1	R	Door Closing Control		
	DO1	R	Door Opening Control		
M12	CD2	*	Common Door Control	Door control side 2	
	DC2	R	Door Closing Control		
	DO2	R	Door Opening Control		
M6	CB4	T	Display B4	Display Control outputs	**F55**
	CB3	T	Display B3		
	CB2	T	Display B2		
	CB1	T	Display B1		
	CB0	T	Display B0		
	GNG	T	GNG	Acoustic signal of car incoming	
	NUS	T	NUS	Direction Up Signal (APB operation), Next Leaving Up Signal (Collective operation)	
	NDS	T	NDS	Direction Down Signal (APB operation), Next Leaving Down Signal (Collective operation)	
	OPF	T	OCO	Car overload acoustic signal	
M7	OPA				
	OPC	T			
	OPD	T			
	OPE	T			
	0V	*	0V voltage	0V aux terminal	

X	=	Unconnected
T	=	Transistor Output
O	=	Optoisolated Output
R	=	Relay Output
*	=	Voltage reference
	=	Programmable Output
	=	Mandatory Connection

5.5 - Connections details

5.5.1 - Positioning and Releveling

ELETOUCH board manages car position through 4 magnetic switches sensed through 4 inputs:

1. USS - Up Stop Switch (Downward Slowdown)
2. DSS - Down Stop Switch (Upward Slowdown)
3. ULS - Top Floor Limit Switch
4. DLS - Bottom Floor Limit Switch

USS, DSS switches are used to slow down the car and stop it.

The contacts of USS and DSS can be of NO or NC type, with appropriate programming (Default NC).
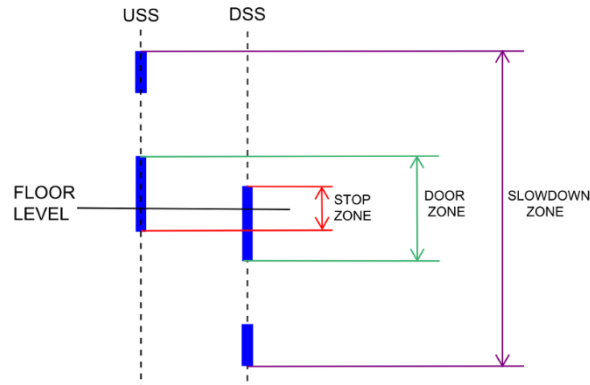
Figure 3

If necessary, for example due to the speed of the system or to the distance between the floors, the magnets that control the slowdown can "cross", i.e. the magnet, which controls the slowdown to the next floor may be positioned immediately after the magnets of floor zone (stop/door zone). No programming is required for the board in this case, as software adjusts automatically.

It is however required to provide a distance of a few centimetres between the floor zone magnets and the slow down on, to allow the correct reading of the input (this distance depends on the system speed); usually 5 cm are sufficient, and therefore the **minimum distance between floors** allowed is equal to the **slowdown space + door unlock space + 5 cm**.

ULS, DLS switches are used for reset operation and to slow the car at the upper and lower floors.

The switches ULS and DLS must be of type NC and driven at end floors by a magnet with a length equal to slowdown distance minus 2 cm, as shown in the figure below.
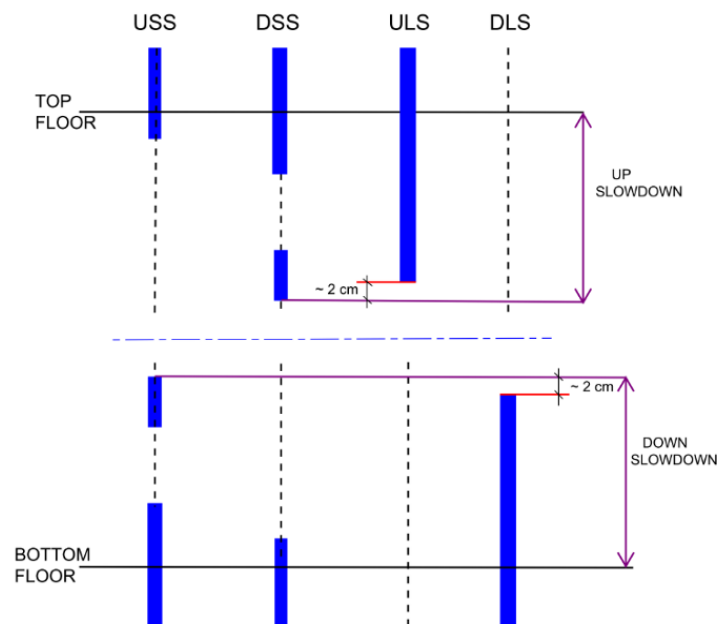
Figure 4

► Magnets position for installation without releveling

If releveling is not needed, the magnets placement scheme to follow is the one in **Figure 5**.

USS - Up Stop Switch (Downward Slowdown)
DSS - Down Stop Switch (Upward Slowdown)
ULS - Top Floor Limit Switch
DLS - Bottom Floor Limit Switch

A = 150mm

D = 20mm

R = 100mm

X1 = Upward Slowdown Space

X2 = Upward Stop Space

Y1 = Downward Slowdown Space

Y2 = Downward Stop Space
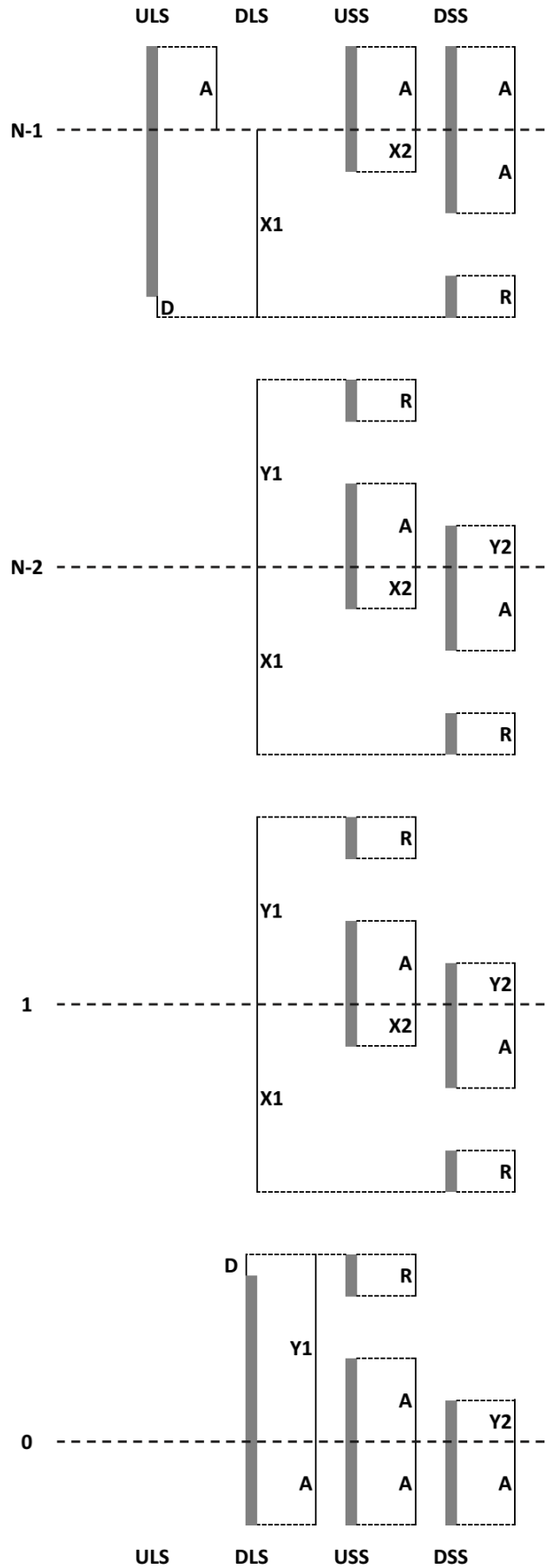
Figure 5

► Magnets position for installation with releveling by Safety Circuit

For installation with releveling by Safety Circuit, for example hydraulic lifts, the magnets scheme to follow is the one in **Figure 6**.

In this case there is another magnet switch **IZS** that functions as a Door zone switch: this enables the Safety Circuit in the correct zone, so the board can command the releveling correctly. This switch must have a NO contact (closed at floor).
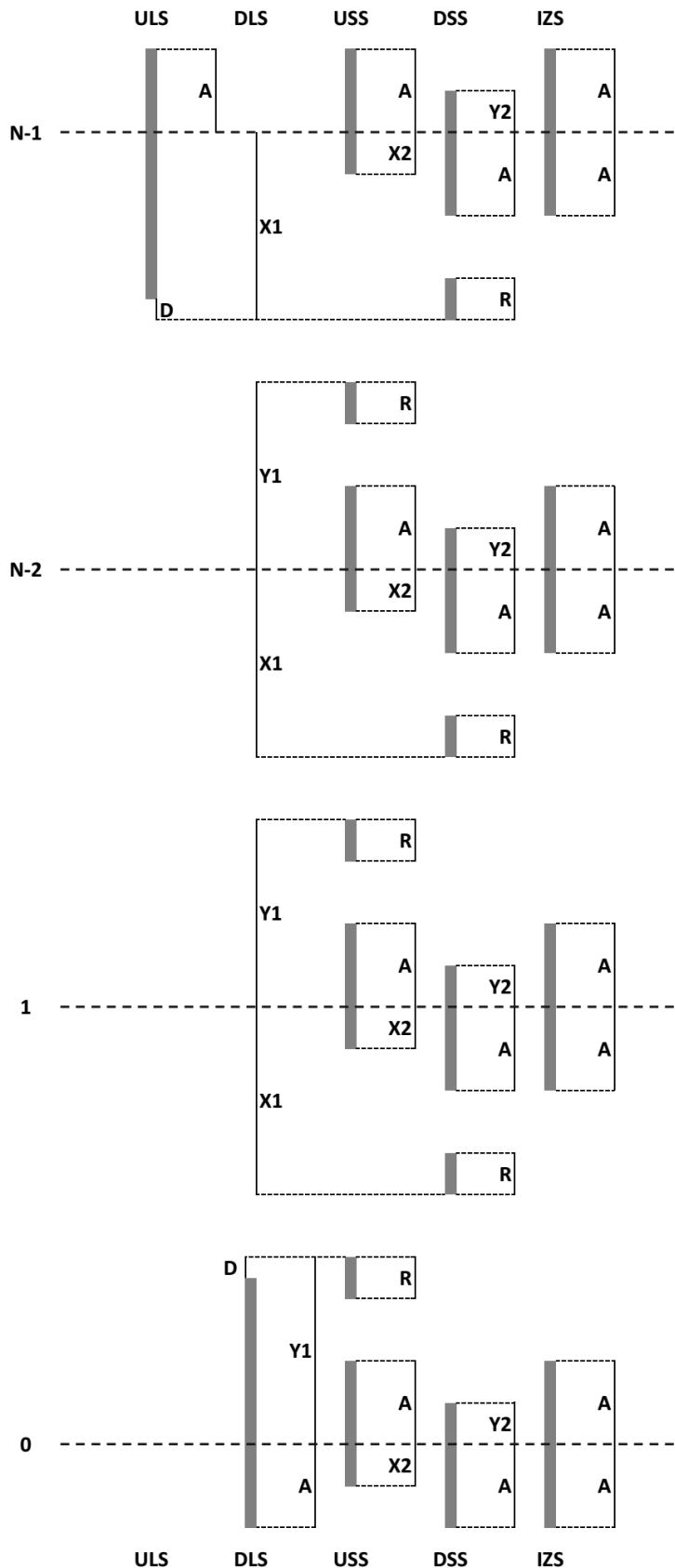
USS - Up Stop Switch (Downward Slowdown)

DSS - Down Stop Switch (Upward Slowdown)

ULS - Top Floor Limit Switch

DLS - Bottom Floor Limit Switch

IZS - Releveling zone switch

A = 150mm

D = 20mm

R = 100mm

X1 = Upward Slowdown Space

X2 = Upward Stop Space

Y1 = Downward Slowdown Space

Y2 = Downward Stop Space

Figure 6

► Safety Circuit connection for releveling
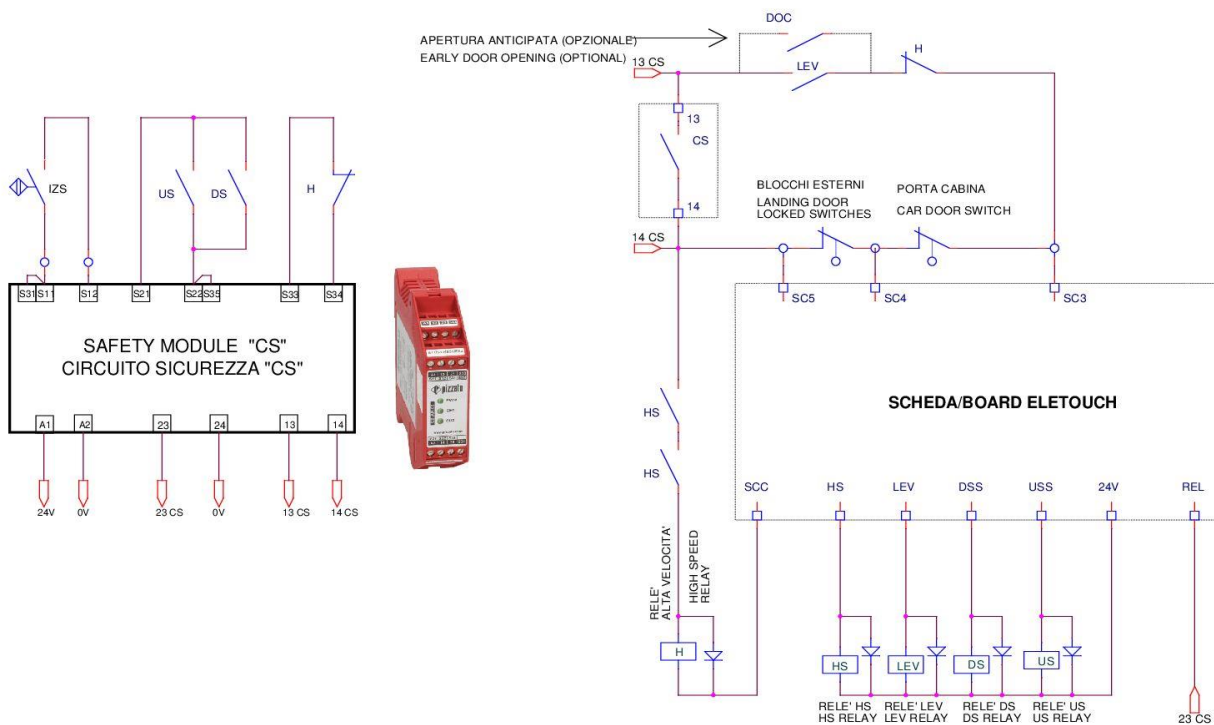
Figure 7 - Concept schematic of safety module connection

When the lift is not in High Speed and within the Door Zone, Safety Module activates ELETOUCH board **REL input**. Note: **LEV** output is programmable only in case of serial shaft connection, while in case of EN81-20 active (**F59:EN81-20** = Yes) the output to be used depends on the type of operation: for Down Collective or APB it is necessary to use **U5**, for Full Collective or Home Lift it is necessary to use **D1.**
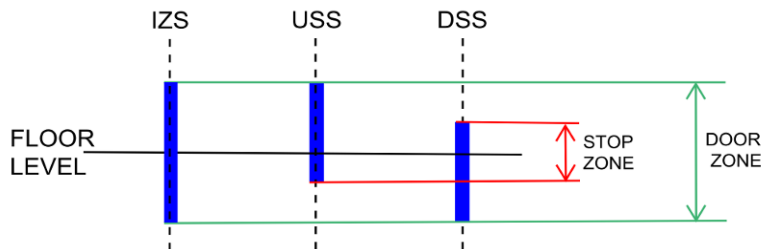
Figure 8

At this point the board, if detect any changes in USS and DSS inputs, commands releveling activating the correct **Direction** and **Speed** level, and **LEV output**, and its relay enables the by-pass of the doors contacts.

For more information about the connection of Safety Chain see **5.5.2 - Safety Chain**.

5.5.2 - Safety Chain

Safety chain connection is different for every door configuration, as shown in the concept schematic in **Figure 9**.
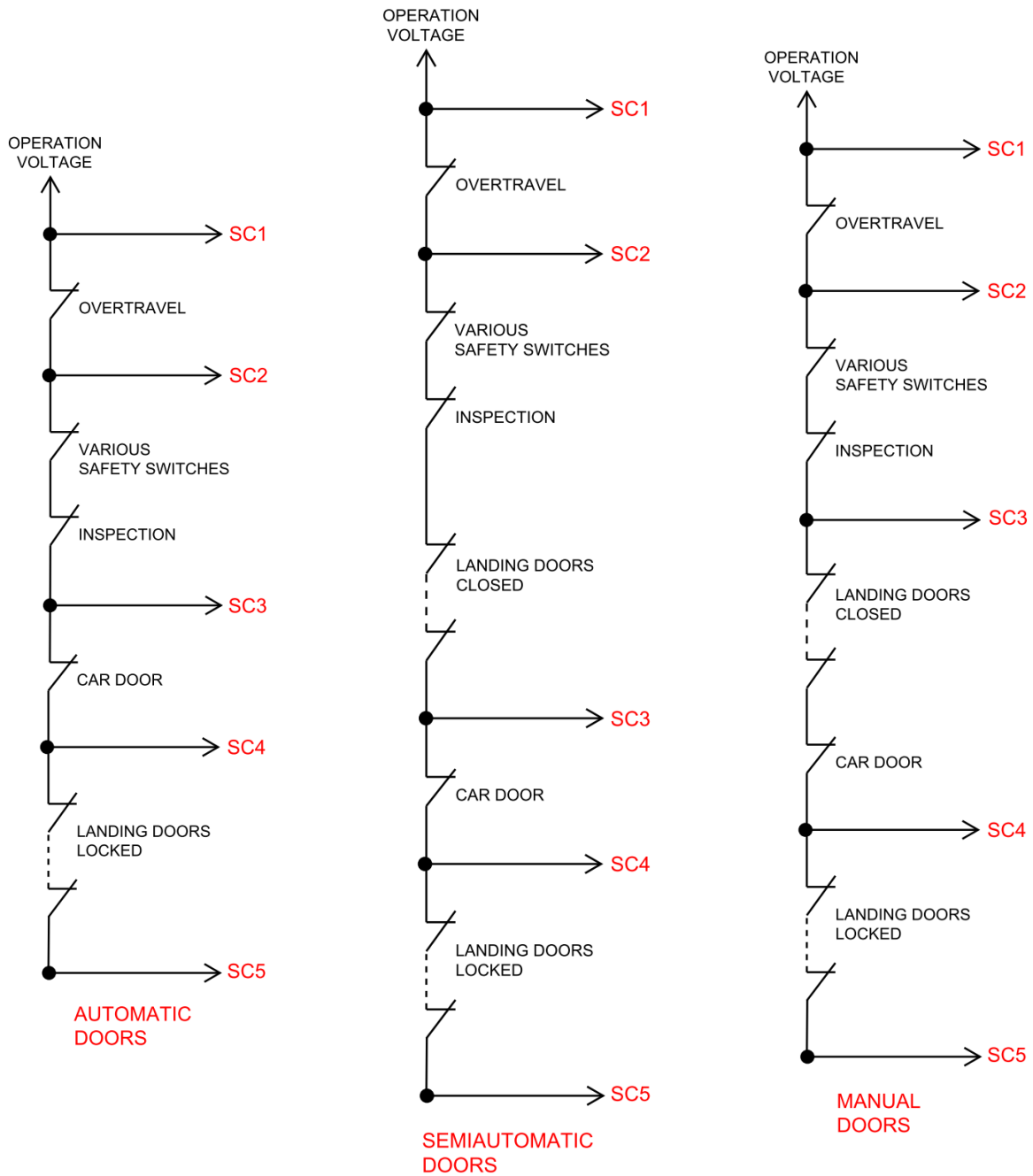
Figure 9 - Concept schematic of Safety Chain

Various safety switches can include:

- Stop switch in the pit
- Overspeed Governor
- Overspeed Governor Tension Device
- Safety Gear
- ...

5.5.3 - Automatic Door Control

► Parallel Car Connection – Standalone

In case of ELETOUCH standalone door controls and related inputs signals (Door open limit, photocell…) are located in a different way depending on drive type (**F04** function).

For details see **7- STANDALONE BOARD CONFIGURATION**.

► Serial Car Connection

For Serial Car Connection ELECB (or ELECAR) controls automatic doors.
In this case inputs and outputs are doubled, because this board can support two car entrances.

There are two sets of outputs: **CD1**, **DC1**, **DO1** (**M10**) for side 1, e **CD2**, **DC2**, **DO2** (**M12**) for side 2.

Same thing for photocell and **DOL** inputs: **PE1 (M9)**, **SE1** (**M10**) for side 1, and **PE2 (M13)**, **SE2** (**M12**) for side 2. Connect this signals with the same logic as it would be in Parallel Car connection with ELETOUCH.

For one entrances car simply do not connect any I/O for side 2 and make sure that **F07:Car Entrances=1**.

Regarding door motor thermistors inputs (TH3, TH4, TH5, TH6) and door close limit inputs (DCL1, DCL2, DCL3, DCL4) you have to connects properly depending on the number of car entances:

- **One car entrance at side 1**

In case of a single car entrance at side **1** you have to connect **DCL1** and **DCL2** to respective close limit contacts on door motor for side **1**, while you have to connect **DCL3** and **DCL4** together; then you have to connect **TH3** and **TH4** to respective thermistor contacts on door motor for side **1**, while you have to connect **TH5** and **TH6** together.

- **One car entrance at side 2**

In case of a single car entrance at side **2** you have to connect **DCL3** and **DCL4** to respective close limit contacts on door motor for side **2**, while you have to connect **DCL1** and **DCL2** together; then you have to connect **TH5** and **TH6** to respective thermistor contacts on door motor for side **2**, while you have to connect **TH3** and **TH4** together.

- **Double car entrance, side 1 and 2**

In case of double car entrance you have to connects **DCL1** and **DCL2** to respective close limit contacts on door motor for side **1**, while you have to connect **DCL3** and **DCL4** to respective close limit contacts on door motor for side **2**; then you have to connect **TH3** and **TH4** to respective thermistor contacts on door motor for side **1**, while you have to connect **TH5** and **TH6** to respective thermistor contacts on door motor for side **2**.

If you do not want to use thermistors, you have to connect **TH3** to **0V**, if you do not want to use door close limit you have to connect **DCL1** to **0V**.

For double car doors set **F07:Car Entrances=2** and **F08** according to the **Table 1**. **F08** is defined for every floor in the system, so for example **F08.03** means **F08** at floor 3.

Table 1 - Behaviour of ELECB board depending on F08

F08.n	**Behaviour**
Side 1	ELECB open and close only side 1
Side 2	ELECB open and close only side 2
Simultaneous	ELECB open and close both sides simultaneously.
Selective	Every side has its own floor and car call, see also **6.2 - Selective Door Opening**
None	No open or close command are activated

5.5.4 - Star-delta start for Hydraulic drives

ELETOUCH supports Star-delta Hydraulic drives only in case of serial shaft connection (**F51:Extension** = **Car&Shaft**).

In **upwards** run, after a programmable delay, **STD** programmable output **activates**. This can be used to control external contactors to switch the motor connection from Star to Delta (see **5.6 - Programmable Outputs** and **F56:T. StarDelta**).

In **down** run **STD** output is always **deactivated**.

This output activates in every operating mode.

5.5.5 - Stand by for energy saving

Setting **F49** to a value greater than 0 activates standby mode.

Only in case of serial shaft connection (**F51:Extension** = **Car&Shaft**) it is possible to program one of following outputs : OS, EC, LEV, EME as **SBY**.

The **SBY** output is **active** during **normal operation** (see **5.6 - Programmable Outputs**)

If the car is at floor and in automatic operation, when no calls are registered for the time **F49**, **SBY** output is **deactivated**.

Any landing or car call **activates SBY** and turn the board to normal operating conditions.

This output can be used to control relays or contactors that cut the power supply for control panel auxiliary circuits, to achieve energy saving.

5.5.6 - Soft stop for Hydraulic drives

ELETOUCH board supports hydraulic drives with soft stop input only in case of serial shaft connection (**F51:Extension** = **Car&Shaft**), by using programmable output **SS** (see **5.6 - Programmable Outputs**) as a soft stop command and **F16**, **F34** and **F57** parameters to control contactor timing.

AU output, in this case of hydraulic drive, will be used as pump engine command.

SS programmable output activates only during upwards movements, as shown in **Figure 10**.

At first **SS** activates with **AU** and **HS**, and at stop deactivates before AU by a time defined by **F57**.

To set **F57** correctly see hydraulic drive data sheet, because this time has to be greater than the Soft Stop time: this enables the car to stop slowly and **AU** contactor will not drop too early making the car do a sudden stop.

Now set **F16** = **F57**. In this configuration the board will deactivate **SS** output immediately when the car reaches the destination floor.

If the car stops lower than the floor level, increase **F16** to adjust the stop, but make sure that **F16** > **F57** always; for this situation **Figure 11** shows the timing of the output signals.

For releveling upwards the board uses the same logic before, set **F34** = **F57** than if required adjust the stop by increasing **F34**.

Figure 10

Figure 11

ELETOUCH system USER'S GUIDE - Version 00 - 28/06/2022
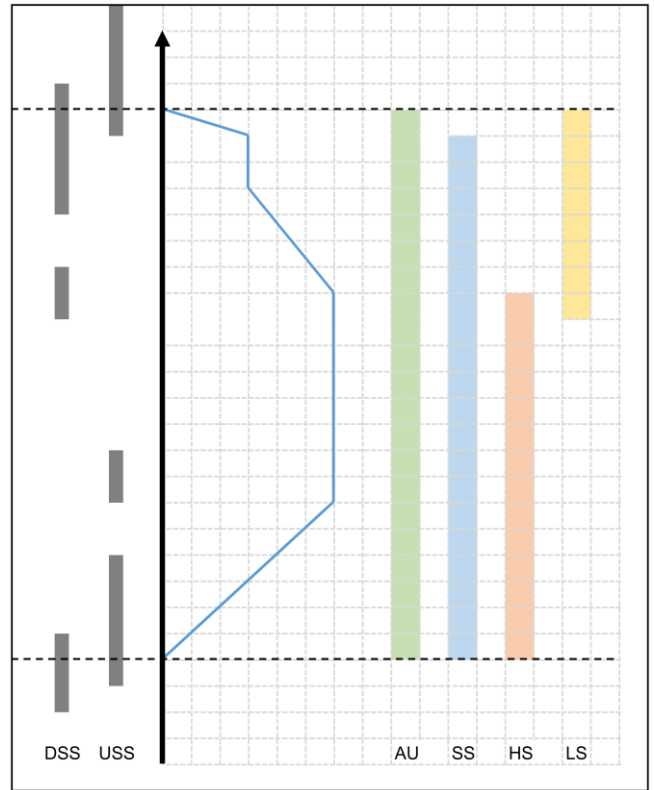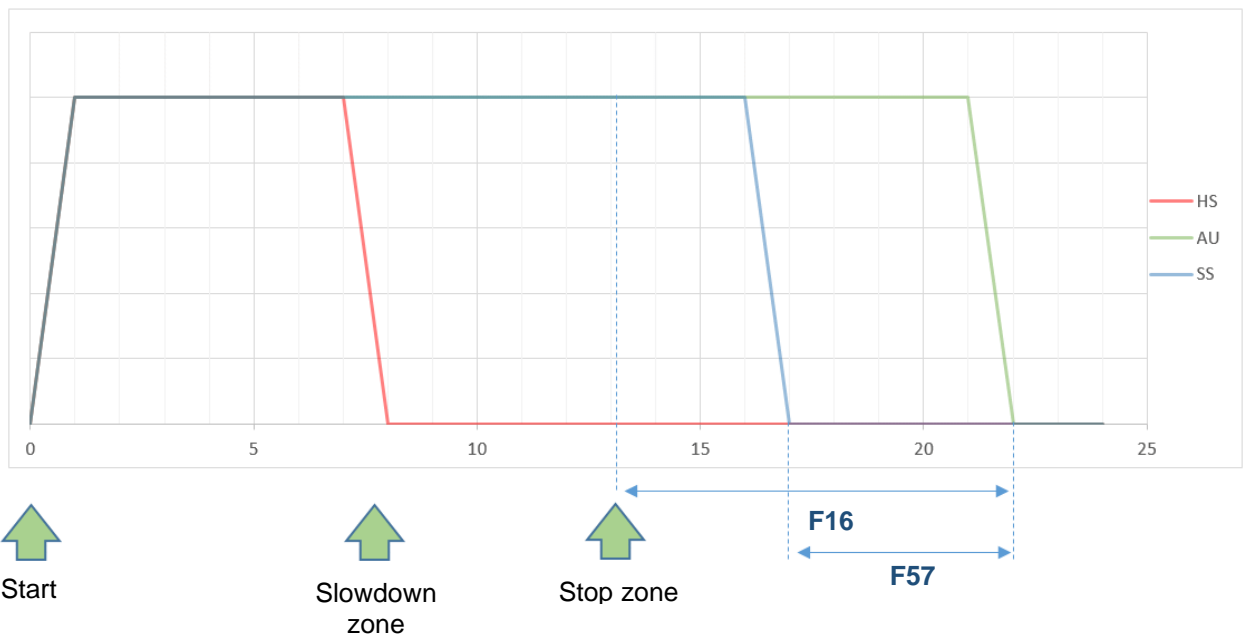
5.6 - Programmable Outputs

ELETOUCH outputs **OS EC LEV** and **EME** located on **M7** connector are programmable only in case of serial shaft connection (**F51:Extension** = **Car&Shaft**), any terminal can be programmed to execute a specific function in **Settings** menu (See **3.3.7 - Settings**).

NUS-UP Arrow	Direction Up Signal (APB operation), Next Leaving Up Signal (Collective operation)
NDS-DN Arrow	Direction Down Signal (APB operation), Next Leaving Down Signal (Collective operation)
GONG	Acoustic signal of car incoming
CAM-Retiring CAM	Retiring CAM output
SBY-Stand by	Stand by output (see **5.5.6 - Stand by for energy saving**)
LEV-Releveling	Releveling operation active
EME-Rescue op.	Emergency operation active
STD-Star-Delta	Star-delta output
OS-On Service,	On service output
L13-ItalianLaw13	Italian Law 13 Output
SS-SoftStopHydr.	Soft Stop output
DO-DoorOpening	Door open signal (for advanced door opening)
BYO-BypassActive	Safety chain bypass active (EN81-20)
CAF-CarAtFloor	CAR on the door zone position
IAF-IncomAtFloor	CAR is incoming at floor (Active for 500ms after slowing)
ALF-AlarmFilter	Signal for telephone dialer (Active when car is at floor with door open)
OS1-On Service	On service output mode 1 (Active when elevator can't be used from users)
EC-Occupied	EC Occupied output
CAM1-Ret.Cam 1	Retiring CAM output mode 1*

*Retiring CAM output mode 1 is used on semi-automatic doors, CAM block at car door closing, release at car door fully open.

6 - ADVANCED FUNCTIONS

6.1 - Multiplex Operation

No other additional board are needed for pairing lift systems to work in **Multiplex** operation (up to four).

To connect the landing calls, please refer to the tables (see **4 - BOARDS CONFIGURATIONS**) in this Manual, depending on the configuration and the stop number, considering that the **all landing calls shall be parallel connected** to all the lifts in the group.

In multiplex operation landing calls push buttons must work even if it one of the lift in the group is disabled for maintenance. To achieve this behaviour:

- connect the landing call button common to all **0V** of ELETOUCH boards.
- connect the registered signal common to all **24E** of ELETOUCH and ELEXP boards.

On every ELETOUCH set also **F39**, **F40** and **F41** and **F43** according to the specific installation (see **9.3 - Functions**).

While **F39** sets the total number of lifts, **F40** specifies for every ELETOUCH an unique master address, so program a different value for every lift, 0 for the first, 1 for the second...

Also program every expansion board dipswitch (ELECB and ELEXP) according to **F40**, as specified in **8.6.2 - Board Address.**

F41 function set the behaviour for high traffic lifts; when some calls are not served for a certain time set by this parameter, the internal algorithm enables high priority for this call group.

F43 function consider the possibility that one of the lifts serves one call less than the others.

Set this lift **F43** to **Bottom Floor** if this floor is at the bottom, and **F43** to **Other car Bottom** in every other lift.

If the missing floor is the top one, set **F43** to **Top Floor** in this particular lift and **F43** to **Other car Top** in every other.

6.1.1 - Example of Connections for Triplex Operation
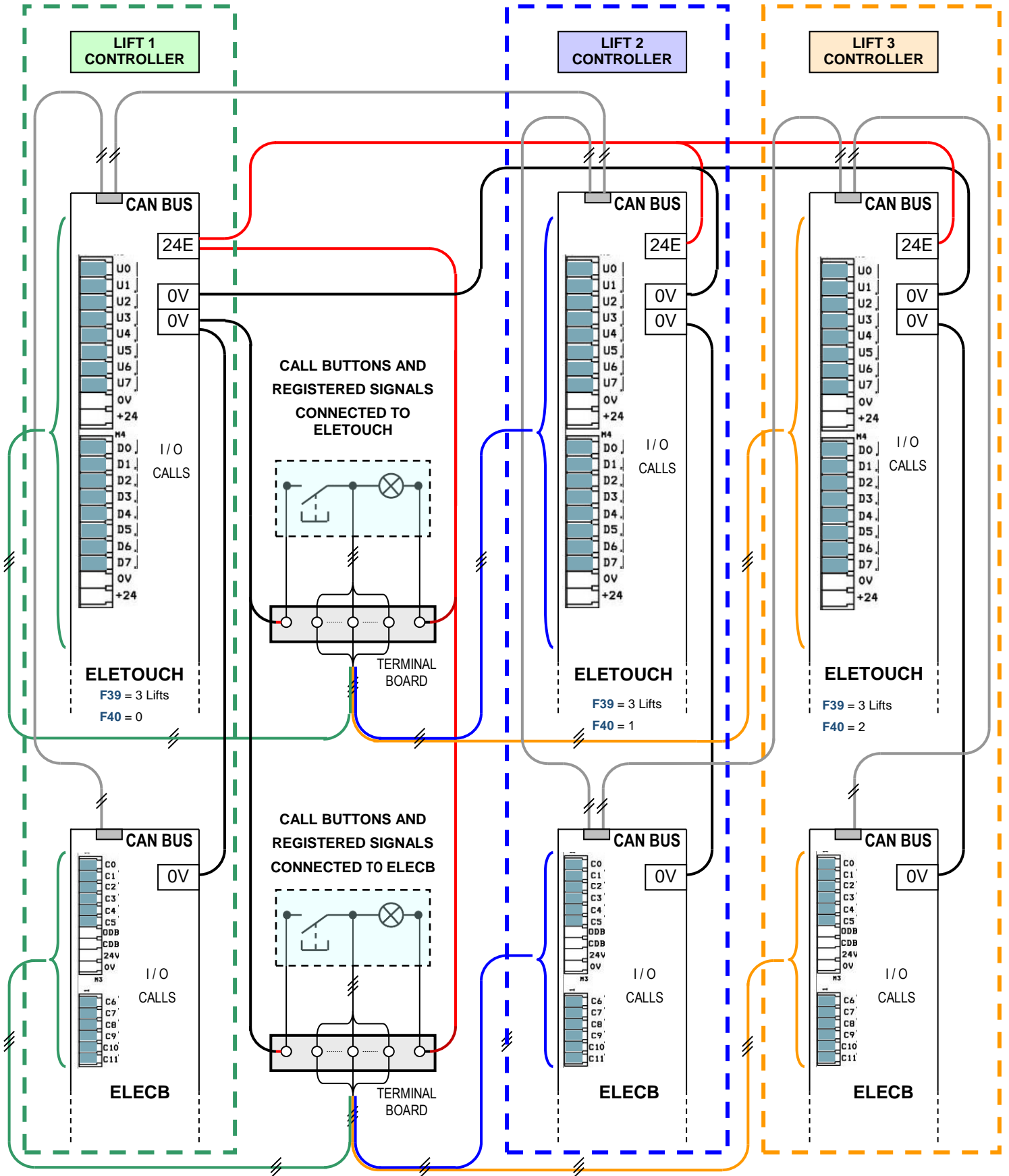
6.2 - Selective Door Opening

With Selective Door Opening for two entrances cars, at one floor two possible stops are possible, one from one side, and one from another, completely independent one from the other: it means that separate calls and commands can be recorded for that floor, which make the doors to open on side 1 or on side 2, but never simultaneously.

This mode of operation is **supported only in Serial Car connection**, with ELECB board (set **F51** to **Car & Calls**).

Selective opening can be programmed for one or more floors, by setting **F07** to 2, and **F08** to selective (see **5.5.3 - Automatic Door Control** and **9.3 - Functions**).

In order to consider what configuration of ELETOUCH, ELECB and ELEXP boards is required, the total number of buttons has to be considered, namely **the number of services**, and **not the number of floors** served, considering that **there are two services for every selective opening floor**.

See **4.2 - Serial Car Connection** to choose the configuration for the desired number of services.

Landing and Car Calls are placed differently with Selective Door Opening: connect non selective calls and selective calls side 1 normally, with the same logic reported in the tables, instead **connect selective calls side 2 starting from the last terminal** for that configuration, and then **backwards**; to clarify the placement logic, in the next pages examples of some configurations are shown.

6.2.1 - APB Operation

For the APB Operation the maximum number of stops is 8, so this means that if every floor needs selective opening (2 services), a maximum of 4 floors with a total 8 services is supported.

Connect to ELETOUCH non selective landing calls and selective landing calls for side 1, starting from forward; connect instead side 2 selective landing calls from U7 backward, connecting the button at the lowest floor to U7.

Connect to ELECB non selective Car Calls and selective Car Calls for side 1, starting from C0 forward; connect instead side 2 selective Car Calls from C11 backward, connecting the button for the lowest floor to C11.

► EXAMPLE 1

Lift with 6 stops, 2 car entrances, SELECTIVE OPENING on floors 2 and 4, No. OF SERVICES = 8, drive with serial commands

Service Number	Landing Call Terminal	Car Call Terminal	Floor	Side
0	U0 - ELETOUCH	C0 - ELECB	0	Side 1
1	U1 - ELETOUCH	C1 - ELECB	1	Side 2
2	U2 - ELETOUCH	C2 - ELECB	2	Side 1
3	U3 - ELETOUCH	C3 - ELECB	3	Side 1
4	U4 - ELETOUCH	C4 - ELECB	4	Side 1
5	U5 - ELETOUCH	C5 - ELECB	5	Side 2
6	U6 - ELETOUCH	C10 - ELECB	4	Side 2
7	U7 - ELETOUCH	C11 - ELECB	2	Side 2

Side 1   Side 2

```
         ┌───┐
      ___│ 5 │___
         │ 4 │___
      ___│ 3 │
      ___│ 2 │___
         │ 1 │___
      ___│ 0 │
         └───┘
```

Program functions **F08.01** and **F08.05** as **Side 2**, **F08.02** and **F08.04** as **Selective**, other **F08.n** as **Side1**.

6.2.2 - Special APB operation (A.P.B SX).

This operation is working as APB operation for landing calls and down collective operation for Car calls.
The maximum number of stops for this special ABP operation is the same as per Down collective operation.
Use the same tables for down collective operations to determine the number of stops and connections.
To have this feature, parameter **F03** must be programmed as A.P.B SX, parameter **F26** is used as occupied time instead of **F27**.

6.2.3 - Collective operations

For Collective operations (Down or Full), in case of floor with selective opening, landing calls can be registered both from side 1 and side 2 (or car calls); in such cases, on stopping, the door on the side where the first call was registered opens, after the starting time door closes, and once the doors are closed the opening of the other door is commanded.

6.2.4 - Down Collective

There is only one button at the floor and different configurations can be made; to determine what board configuration is needed, keep in consideration the total number of services and use the tables for Down Collective operation with Serial Car Connection (see tables at **4.2 - Serial Car Connection**).

In the following paragraphs, some possible configurations are shown as an example.

ELETOUCH + ELECB, Maximum number of SERVICES = 12

Connect to ELETOUCH non selective Landing Calls and selective Landing Calls for side 1, starting from U0 forward; connect instead side 2 selective Landing Calls from 2 from D3 backward, connecting the button at the lowest floor to D3.

Connect to ELECB non selective Car Calls and selective Car Calls for side 1, starting from C0 forward; connect instead side 2 selective Car Calls from C11 backward, connecting the button for the lowest floor to C11.

► **EXAMPLE 2**

Lift with 5 stops, 2 car entrances, SELECTIVE OPENING on floors 1, 2 and 3, No. OF SERVICES =8, drive with serial commands

Service Number	Landing Call Terminal	Car Call Terminal	Floor	Side
0	U0 - ELETOUCH	C0 - ELECB	0	Side 1
1	U1 - ELETOUCH	C1 - ELECB	1	Side 1
2	U2 - ELETOUCH	C2 - ELECB	2	Side 1
3	U3 - ELETOUCH	C3 - ELECB	3	Side 1
4	U4 - ELETOUCH	C4 - ELECB	4	Side 2
5	D1 - ELETOUCH	C5 - ELECB	3	Side 2
6	D2 - ELETOUCH	C10 - ELECB	2	Side 2
7	D3 - ELETOUCH	C11 - ELECB	1	Side 2

Side 1   **Side 2**

Program functions **F08.06** as **Side 2**, **F08.01** to **F08.03** as **Selective**, other **F08.n** as **Side 1**.

ELETOUCH + ELECB + 2 ELEXP, Maximum number of SERVICES = 24

Connect to ELETOUCH non selective Landing Calls and selective Landing Calls for side 1 starting from U0 forward; connect instead side 2 selective Landing Calls from C07 of ELEXP (address=2) backward, connecting the button at the lowest floor to C07.

Connect non selective Car Calls and selective Car Calls for side 1, starting from C0 of ELECB (address=0) forward; connect instead side 2 selective Car Calls from C11 of ELEXP (address=1) backward, connecting the button for the lowest floor to C11.

► EXAMPLE 3

Lift with 8 stops, 2 car entrances, SELECTIVE OPENING on floors 1-6, No. OF SERVICES = 14, drive with serial commands

Service Number	Landing Call Terminal	Car Call Terminal	Floor	Side
0	U0 - ELETOUCH	C0 - ELECB (0)	0	Side 1
1	U1 - ELETOUCH	C1 - ELECB (0)	1	Side 1
2	U2 - ELETOUCH	C2 - ELECB (0)	2	Side 1
3	U3 - ELETOUCH	C3 - ELECB (0)	3	Side 1
4	U4 - ELETOUCH	C4 - ELECB (0)	4	Side 1
5	05 - ELETOUCH	C5 - ELECB (0)	5	Side 1
6	U6 - ELETOUCH	C6 - ELECB (0)	6	Side 1
7	U7 - ELETOUCH	C7 - ELECB (0)	7	Side 1
x	D0 - ELETOUCH	C8 - ELECB (0)	x	x
x	D1 - ELETOUCH	C9 - ELECB (0)	x	x
x	D2 - ELETOUCH	C10 - ELECB (0)	x	x
x	D3 - ELETOUCH	C11 - ELECB (0)	x	x
x	D4 - ELETOUCH	C00 - ELEXP (1)	x	x
x	D5 - ELETOUCH	C01 - ELEXP (1)	x	x
x	D6 - ELETOUCH	C02 - ELEXP (1)	x	x
x	D7 - ELETOUCH	C03 - ELEXP (1)	x	x
x	C00 - ELEXP (2)	C04 - ELEXP (1)	x	x
x	C01 - ELEXP (2)	C05 - ELEXP (1)	x	x
8	C02 - ELEXP (2)	C06 - ELEXP (1)	6	Side 2
9	C03 - ELEXP (2)	C07 - ELEXP (1)	5	Side 2
10	C04 - ELEXP (2)	C08 - ELEXP (1)	4	Side 2
11	C05 - ELEXP (2)	C09 - ELEXP (1)	3	Side 2
12	C06 - ELEXP (2)	C10 - ELEXP (1)	2	Side 2
13	C07 - ELEXP (2)	C11 - ELEXP (1)	1	Side 2

Program functions from **F08.01** to **F08.06** as **Selective**, other **F08.n** as **Side 1**.

6.2.5 - Full Collective

There are 2 buttons for each floor and different configurations can be made; to determine what board configuration is needed, keep in consideration the total number of services and use the tables for Full Collective operation with Serial Car Connection, see **4.2 - Serial Car Connection** . In the following paragraphs a possible configuration is shown as an example.

ELETOUCH + ELECB + 2 ELEXP, Maximum number of SERVICES = 15

Connect to ELETOUCH non selective Up Landing Calls and selective Down Landing Calls for side 1, starting from U0 forward; connect instead side 2 selective Up Landing Calls from C05 of ELEXP (address=2) backward, connecting the button at the lowest floor to C05.
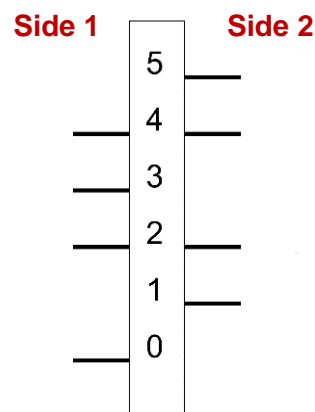
Connect to ELETOUCH non selective Down Landing Calls and selective Down Landing Calls for side 1, starting from D0 forward; connect instead side 2 selective Down Landing Calls from C11 of ELEXP (address=2) backward, connecting the button at the lowest floor to C11.

Connect non selective Car Calls and selective Car Calls for side 1, starting from C0 of ELECB (address=0) forward; connect instead side 2 selective Car Calls from C02 of ELEXP (address=1) backward, connecting the button for the lowest floor to C02.

► EXAMPLE 4

Lift with 8 stops, 2 car entrances, SELECTIVE OPENING on floors 1-6, No. OF SERVICES = 14, drive with serial commands

Service Number	Landing Call Terminal	Car Call Terminal	Floor	Side	Service Number
0	U0 - ELETOUCH	x	C0 - ELECB (0)	0	Side 1
1	U1 - ELETOUCH	D0 - ELETOUCH	C1 - ELECB (0)	1	Side 1
2	U2 - ELETOUCH	D1 - ELETOUCH	C2 - ELECB (0)	2	Side 1
3	U3 - ELETOUCH	D2 - ELETOUCH	C3 - ELECB (0)	3	Side 1
4	U4 - ELETOUCH	D3 - ELETOUCH	C4 - ELECB (0)	4	Side 1
5	U5 - ELETOUCH	D4 - ELETOUCH	C5 - ELECB (0)	5	Side 1
6	U6 - ELETOUCH	D5 - ELETOUCH	C6 - ELECB (0)	6	Side 1
7	x	D6 - ELETOUCH	C7 - ELECB (0)	7	Side 1
8	C00 - ELEXP (2)	C06 - ELEXP (2)	C9 - ELECB (0)	6	Side 2
9	C01 - ELEXP (2)	C07 - ELEXP (2)	C10 - ELECB (0)	5	Side 2
10	C02 - ELEXP (2)	C08 - ELEXP (2)	C11 - ELECB (0)	4	Side 2
11	C03 - ELEXP (2)	C09 - ELEXP (2)	C00 - ELEXP (1)	3	Side 2
12	C04 - ELEXP (2)	C10 - ELEXP (2)	C01 - ELEXP (1)	2	Side 2
13	C05 - ELEXP (2)	C11 - ELEXP (2)	C02 - ELEXP (1)	1	Side 2
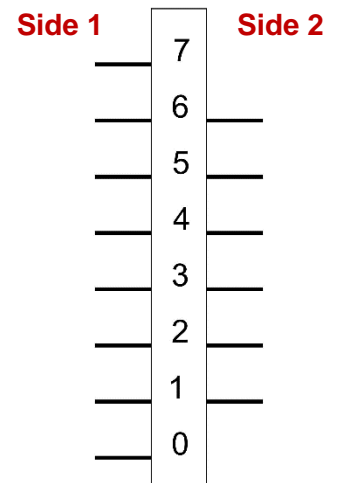
Program functions from **F08.01** to **F08.06** as **Selective**, other **F08.n** as **Side 1**.

ELETOUCH + ELECB + 6 ELEXP, Maximum number of SERVICES = 32

Connect to ELETOUCH non selective Up Landing Calls and selective Down Landing Calls for side 1, starting from U0 forward; connect instead side 2 selective Up Landing Calls from C10 of ELEXP (address=4) backward, connecting the button at the lowest floor to C10.
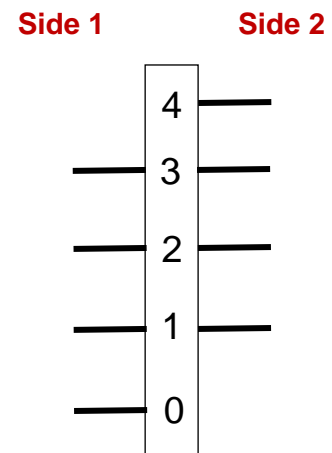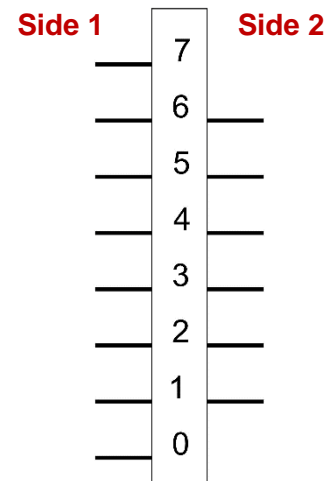
Connect to ELETOUCH non selective Down Landing Calls and selective Down Landing Calls for side 1, starting from D1 forward; connect instead side 2 selective Down Landing Calls from C11 of ELEXP (address=6) backward, connecting the button at the lowest floor to C11.

Connect non selective Car Calls and selective Car Calls for side 1, starting from C0 of ELECB (address=0) forward; connect instead side 2 selective Car Calls from C07 of ELEXP (address=2) backward, connecting the button for the lowest floor to C07.

► **EXAMPLE 5**

Lift with 16 stops, 2 car entrances, SELECTIVE OPENING on floors 1-4,6,7,9-14 No. OF SERVICES = 28, drive with serial commands

Service Number	Landing Call Up Terminal	Landing Call Down Terminal	Car Call Terminal	Floor	Side
0	U0 - ELETOUCH	x	C0 - ELECB (0)	0	Side 1
1	U1 - ELETOUCH	D1 - ELETOUCH	C1 - ELECB (0)	1	Side 1
2	U2 - ELETOUCH	D2 - ELETOUCH	C2 - ELECB (0)	2	Side 1
3	U3 - ELETOUCH	D3 - ELETOUCH	C3 - ELECB (0)	3	Side 1
4	U4 - ELETOUCH	D4 - ELETOUCH	C4 - ELECB (0)	4	Side 1
5	U5 - ELETOUCH	D5 - ELETOUCH	C5 - ELECB (0)	5	Side 2
6	U6 - ELETOUCH	D6 - ELETOUCH	C6 - ELECB (0)	6	Side 1
7	U7 - ELETOUCH	D7 - ELETOUCH	C7 - ELECB (0)	7	Side 1
8	C00 - ELEXP (3)	C00 - ELEXP (5)	C8 - ELECB (0)	8	Side 1
9	C01 - ELEXP (3)	C01 - ELEXP (5)	C9 - ELECB (0)	9	Side 1
10	C02 - ELEXP (3)	C02 - ELEXP (5)	C10 - ELECB (0)	10	Side 1
11	C03 - ELEXP (3)	C03 - ELEXP (5)	C11 - ELECB (0)	11	Side 1
12	C04 - ELEXP (3)	C04 - ELEXP (5)	C00 - ELEXP (1)	12	Side 1
13	C05 - ELEXP (3)	C05 - ELEXP (5)	C01 - ELEXP (1)	13	Side 1
14	C06 - ELEXP (3)	C06 - ELEXP (5)	C02 - ELEXP (1)	14	Side 1
15	x	C07 - ELEXP (5)	C03 - ELEXP (1)	15	Side 1
16	C11 - ELEXP (3)	C00 - ELEXP (6)	C08 - ELEXP (1)	14	Side 2
17	C00 - ELEXP (4)	C01 - ELEXP (6)	C09 - ELEXP (1)	13	Side 2
18	C01 - ELEXP (4)	C02 - ELEXP (6)	C10 - ELEXP (1)	12	Side 2
19	C02 - ELEXP (4)	C03 - ELEXP (6)	C11 - ELEXP (1)	11	Side 2
20	C03 - ELEXP (4)	C04 - ELEXP (6)	C00 - ELEXP (2)	10	Side 2
21	C04 - ELEXP (4)	C05 - ELEXP (6)	C01 - ELEXP (2)	9	Side 2
22	C05 - ELEXP (4)	C06 - ELEXP (6)	C02 - ELEXP (2)	7	Side 2
23	C06 - ELEXP (4)	C07 - ELEXP (6)	C03 - ELEXP (2)	6	Side 2
24	C07 - ELEXP (4)	C08 - ELEXP (6)	C04 - ELEXP (2)	4	Side 2
25	C08 - ELEXP (4)	C09 - ELEXP (6)	C05 - ELEXP (2)	3	Side 2
26	C09 - ELEXP (4)	C10 - ELEXP (6)	C06 - ELEXP (2)	2	Side 2
27	C10 - ELEXP (4)	C11 - ELEXP (6)	C07 - ELEXP (2)	1	Side 2

Side 1   Side 2

15
14
13
12
11
10
9
8
7
6
5
4
3
2
1
0
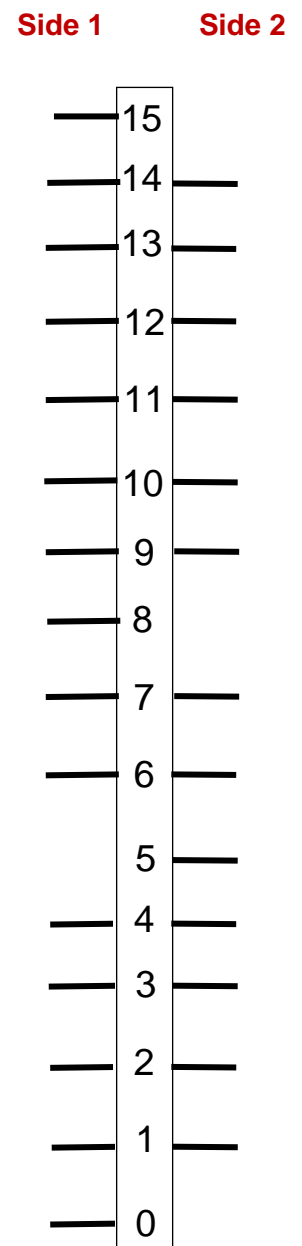
Program functions from **F08.01** to **F08.04**, from **F08.06** to **F08.07**, from **F08.09** to **F08.14** as **Selective**, **F08.05** as **Side 2**, other **F08.n** as **Side 1**.

6.3 - ELEXP As Display Driver

ELEXP can be used as a display driver on both Serial or Parallel Car connection.

This can be achieved by setting jumpers **JP3** on **A** and **JP4** on **B** on ELEXP and set function **F53** on ELETOUCH, according to the function desired.

6.3.1 - ELEXP as Decoder for 7 Segments Display

The ELEXP Board provides 9 outputs to control a 7 segment display, consisting of 2 digits and the minus sign for negative numbers. The tens digit can assume only the 1 value (max. number 19).

ELEXP can manage both **Positive Common** displays and **Negative Common** displays.

F53 (ELETOUCH)	=	**7 SEG** ELEXP(0) : SW2-1 = OFF ELEXP(1): SW2-1 = ON SW2-2 = OFF SW2-2 = OFF
SW1 (n° 10 Switches)	=	All **OFF** **Positive Common** Display All **ON** all the other cases
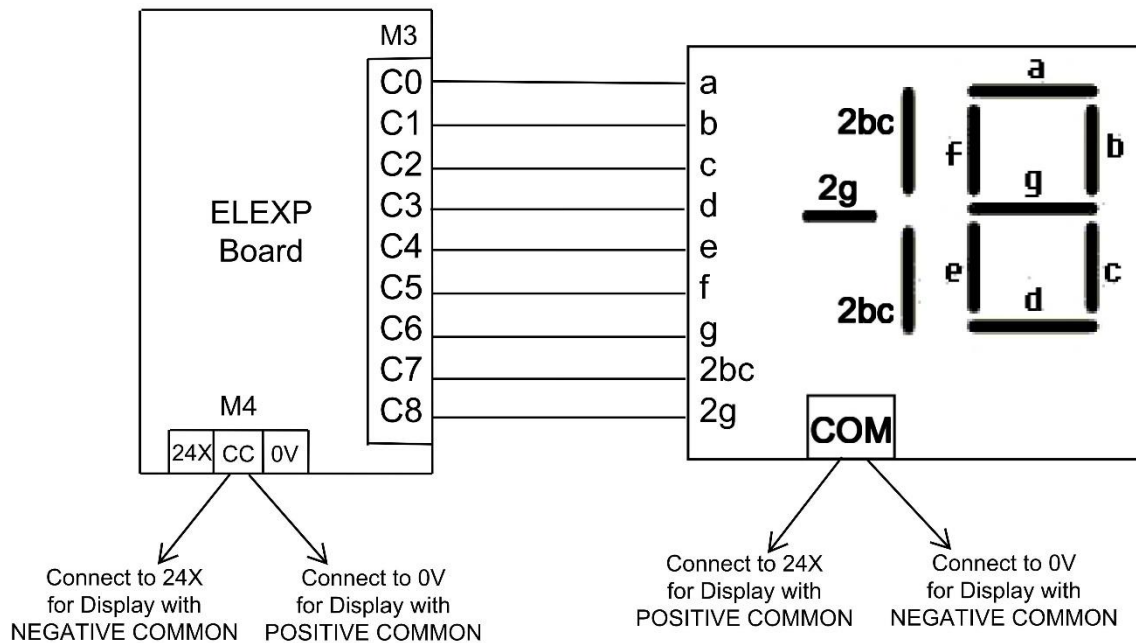
6.3.2 - ELEXP as Decoder for 1 Input Per Floor Display

The ELEXP Board provides 12 outputs to control a display with 1 Input per floor, and Negative Common.
In the same way, it's possible to control car position signals by lamps.

SETTINGS:

F53 (ELETOUCH)	=	**1 OUT * FLOOR** In this case the number of boards enabled depend on top floor number **F01**. If **F01** ≤ 11 one board, else if **F01** ≤ 23 two boards, else if **F01** > 23 three boards. ELEXP(0): SW2-1 = OFF ELEXP(1): SW2-1 = ON ELEXP(2): SW2-1 = OFF SW2-2 = OFF SW2-2 = OFF SW2-2 = ON
SW1 (n° 10 Switches)	=	All **ON**
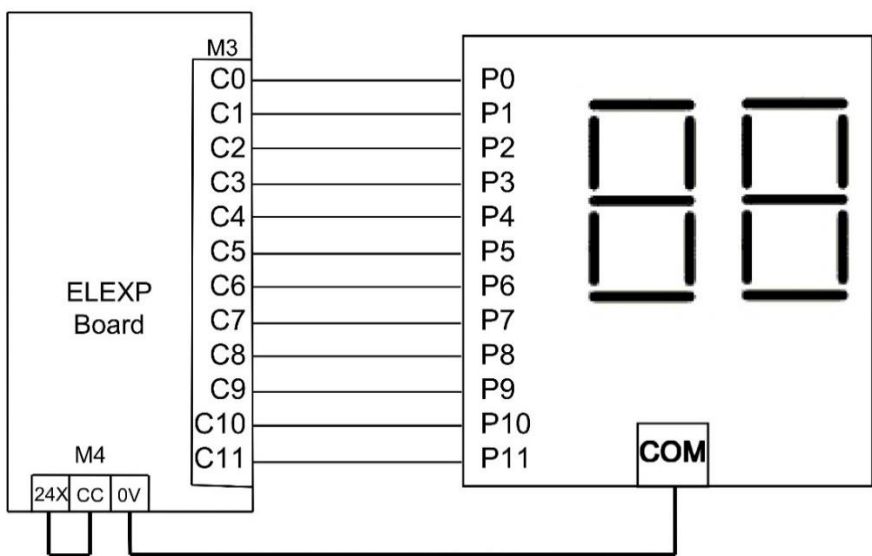
If display common is connected to positive, only outputs C0....C9 should be used.
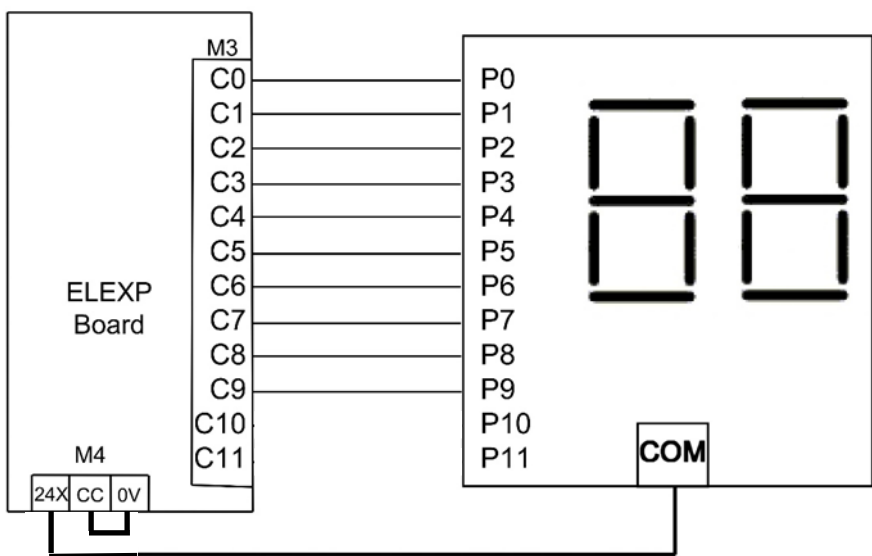
6.3.3 - ELEXP as an external landing display

The ELEXP provides 7 outputs to control a 5-digits binary display plus Up/Down Arrows.

| **F53** (ELETOUCH) | = | **7 Seg.X2**
In this case there is only one ELEXP board with address 0.

ELEXP(0):   SW2-1 = OFF
                SW2-2 = OFF |
| **SW1** (n° 10 Switches) | = | All **ON** |

Output decoding follows **F55: Decoding** value.
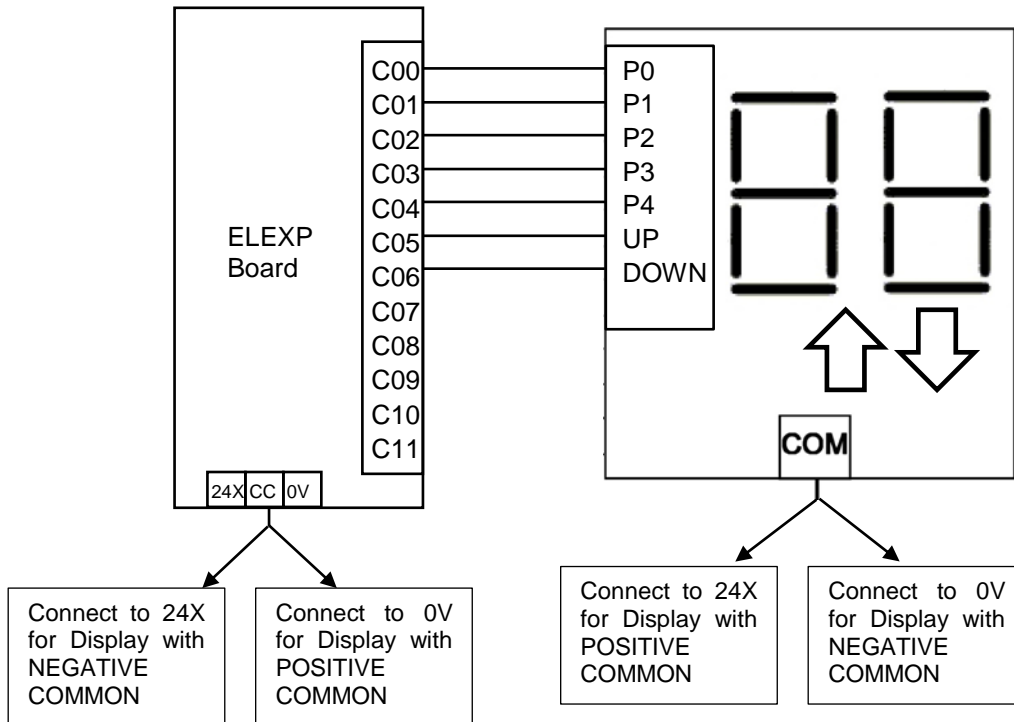
7 - STANDALONE BOARD CONFIGURATION

In case ELETOUCH board is installed without any expansion board so it is working in standalone configuration, the functions of I/Os and the maximun possible number of stops change depending on functionalities active and the command mode of the drive. Following cases are presented.

7.1 - TKL drive with serial CAN commands

In this configuration the function **F04: Drive type** is set as "VVVF TKL" and the drive receives direction and speed commands via CAN.

7.1.1 - EN81-20 not active

Function **F59: EN81-20** is set as "No",the maximun number of stops for all type of operation is equal to that in Table 1 in **4.1 - Parallel Car Connection or standalone (no extensions)** but I/Os have different functions listed in following tables:

► **INPUTS**

Connector	IN	Old function	New function	New function acronym
M5	URI	Inspection Up Button	Open Door Button only when the lift is not in Inspection mode	**ODB**
	DRI	Inspection Down Button	Door Quick Closing Button only when the lift is not in Inspection mode (Active only in Collective operation).	**CDB**
	VIC	Activates VIP Call Operation	Door Open Limit side 1	**DOL1**
	ATP	Generic Input	Photocell and safety edge contact. Side 1	**PE1**
M6	EKF	Fire-Fighters Operation EN81-72 Key Switch	FC - Full Car (load ≈ maximum capacity) in Collective operation Only if FO input is active (lift NOT in Fire-Fighters Operation mode)	**FCI**
			EC - Occupied Car (load > 1 %) in Automatic Push Button operation Only if FO input is active (lift NOT in Fire-Fighters Operation mode)	**ECI**

For this particular configuration it is not possible to use VIP Call and/or activate Fire-Fighter Operation EN81-72 (it is still possible to activate Fire-Fighter Operation EN81-73)

► **OUTPUTS**

Connector	OUT	Old function	New function	New function acronym
M7	OS	Generic outputs	Display control 0	**CB0**
	EC		Display control 1	**CB1**
	LEV		Display control 2	**CB2**
	EME		Display control 3	**CB3**
	LS	Low Speed Control	Acoustic signal of car incoming - GONG	**GNG**
	MS	Medium Speed Control	Door Open Command Side 1	**DO**
	HS	High Speed Control	Door Close Command Side 1	**DC**
	DN	Down Control	Direction Down Signal (APB operation), Next Leaving Down Signal (Collective operation)	**NDS**
	UP	Up Control	Direction Up Signal (APB operation), Next Leaving Up Signal (Collective operation)	**NUS**

7.1.2 - EN81-20 active

Function **F59: EN81-20** is set as "Yes", the maximum possible number of stops change for every type of operation because some call inputs (U6, U7, D6 and D7) change function, following tables show possible configurations:

APB Max 5 stops		
M3 ELETOUCH	U0	K+C/L 00
	U1	K+C/L 01
	U2	K+C/L 02
	U3	K+C/L 03
	U4	K+C/L 04
	U5	X
	U6	X
	U7	X
M4 ELETOUCH	D0	X
	D1	LP 00
	D2	LP 01
	D3	LP 02
	D4	LP 03
	D5	LP 04
	D6	X
	D7	X

Homelift Max 3 stops		
M3 ELETOUCH	U0	K/L 00
	U1	K/L 01
	U2	K/L 02
	U3	C/L 00
	U4	C/L 01
	U5	C/L 02
	U6	X
	U7	X
M4 ELETOUCH	D0	X
	D1	X
	D2	LP 00
	D3	LP 01
	D4	LP 02
	D5	LP 03
	D6	X
	D7	X

Down Collective Max 5 stops		
M3 ELETOUCH	U0	K/L 00
	U1	K/L 01
	U2	K/L 02
	U3	K/L 03
	U4	K/L 04
	U5	X
	U6	X
	U7	X
M4 ELETOUCH	D0	X
	D1	C/L 00
	D2	C/L 01
	D3	C/L 02
	D4	C/L 03
	D5	C/L 04
	D6	X
	D7	X

Full Collective Max 4 stops		
M3 ELETOUCH	U0	U/L 00
	U1	U/L 01
	U2	U/L 02
	U3	D/L 01
	U4	D/L 02
	U5	D/L 03
	U6	X
	U7	X
M4 ELETOUCH	D0	X
	D1	X
	D2	K/L 00
	D3	K/L 01
	D4	K/L 02
	D5	K/L 03
	D6	X
	D7	X

C/L n	Landing calls
K/L n	Car calls
K+C/L n	Landing and Car calls in APB operation
D/L n	Down calls in Full Collective operation
U/L n	Up calls in Full Collective operation
LP n	Car position (1 signal for each floor)

I/Os assume following functions:

► **INPUTS**

Connector	IN	Old function	New function	New function acronym
M3	U6	Floor call	Door Close Limit Side 1	**DCL1**
	U7	Floor call	Inspection from the pit activate input (EN81-20)	**AIF**
M4	D6	Floor call	Door Open Limit Side 1	**DOL1**
	D7	Floor call	Access To the Pit input (EN81-20)	**ATP**

Connector	IN	Old function	New function	New function acronym
M5	URI	Inspection Up Button	Open Door Button **(only if inspection not active)**	ODB
	DRI	Inspection Down Button	Door Quick Closing Button (Active only in Collective operation). **(only if inspection not active)**	CDB
	VIC	Activates VIP Call Operation	In AUTO operation VIC activates VIP Call In INSPECTION (input ISQ off): bypass safety serie input (EN81-20)	BYI
	ATP	Generic input	Photocell and safety edge contact. Side 1	PE1
M6	EKF	Fire-Fighters Operation EN81-72 Key Switch	FC - Full Car (load ≈ maximum capacity) in Collective operation **(only in AUTO operation)**	FCI
			EC - Occupied Car (load > 1 %) in Automatic Push Button operation **(only in AUTO operation)**	ECI

For this configuration it is possible to use VIP Call and activate Fire-Fighter Operation EN81-72.

► OUTPUTS

Connector	OUT	Old function	New function	New function acronym
M4	D0	Floor call	Test Bypass output	BPT
	D1	Floor call	ONLY FOR FULL COLLECTIVE OR HOMELIFT: Bypass active output	BYO
M3	U5	Floor call	ONLY FOR DOWN COLLECTIVE OR APB: Bypass active output	BYO
M7	OS	Programmable outputs	Display control 0	CB0
	EC		Display control 1	CB1
	LEV		Display control 2	CB2
	EME		Bypass Active output signal (EN81-20)	OBY
	LS	Low Speed Control	Acoustic signal of car incoming - GONG	GNG
	MS	Medium Speed Control	Door Open Command Side 1	DO
	HS	High Speed Control	Door Close Command Side 1	DC
	DN	Down Control	Direction Down Signal (APB operation), Next Leaving Down Signal (Collective operation)	NDS
	UP	Up Control	Direction Up Signal (APB operation), Next Leaving Up Signal (Collective operation)	NUS

In this configuration there are no programmable outputs.

7.2 - Drive with parallel commands

In this configuration function **F04: Drive Type** is set as "VVVF TKK" or "VVVF STD", the drive is controlled with ELETOUCH outputs on connector M7. The maximum possible number of stops is limited because some call signal outputs (U6, U7, D6 and D7) change function, following tables show possible configurations:

APB Max 6 stops		
M3 ELETOUCH	U0	K+C/L 00
	U1	K+C/L 01
	U2	K+C/L 02
	U3	K+C/L 03
	U4	K+C/L 04
	U5	K+C/L 05
	U6	X
	U7	X
M4 ELETOUCH	D0	LP 00
	D1	LP 01
	D2	LP 02
	D3	LP 03
	D4	LP 04
	D5	LP 05
	D6	X
	D7	X

Homelift Max 4 stops		
M3 ELETOUCH	U0	K/L 00
	U1	K/L 01
	U2	K/L 02
	U3	K/L 03
	U4	C/L 00
	U5	C/L 01
	U6	X
	U7	X
M4 ELETOUCH	D0	C/L 02
	D1	C/L 03
	D2	LP 00
	D3	LP 01
	D4	LP 02
	D5	LP 03
	D6	X
	D7	X

Down Collective Max 6 stops		
M3 ELETOUCH	U0	K/L 00
	U1	K/L 01
	U2	K/L 02
	U3	K/L 03
	U4	K/L 04
	U5	K/L 05
	U6	X
	U7	X
M4 ELETOUCH	D0	C/L 00
	D1	C/L 01
	D2	C/L 02
	D3	C/L 03
	D4	C/L 04
	D5	C/L 05
	D6	X
	D7	X

Full Collective Max 4 stops		
M3 ELETOUCH	U0	U/L 00
	U1	U/L 01
	U2	U/L 02
	U3	D/L 01
	U4	D/L 02
	U5	D/L 03
	U6	X
	U7	X
M4 ELETOUCH	D0	X
	D1	X
	D2	K/L 00
	D3	K/L 01
	D4	K/L 02
	D5	K/L 03
	D6	X
	D7	X

C/L n	Landing calls
K/L n	Car calls
K+C/L n	Landing and Car calls in APB operation
D/L n	Down calls in Full Collective operation
U/L n	Up calls in Full Collective operation
LP n	Car position (1 signal for each floor)

I/Os assume following functions:

► INPUTS

Connector	IN	Old function	New function	New function acronym
M5	URI	Inspection Up Button	Open Door Button **(only if inspection not active)**	ODB
	DRI	Inspection Down Button	Door Quick Closing Button (Active only in Collective operation). **(only if inspection not active)**	CDB
	VIC	Activates VIP Call Operation	Open Door Limit side 1	DOL1
	ATP	Generic Input	Photocell and safety edge contact. Side 1	PE1
M6	EKF	Fire-Fighters Operation EN81-72 Key Switch	FC - Full Car (load ≈ maximum capacity) in Collective operation	FCI
			EC - Occupied Car (load > 1 %) in Automatic Push Button operation	ECI

For this particular configuration it is not possible to use VIP Call and/or activate Fire-Fighter Operation EN81-72 (it is still possible to activate Fire-Fighter Operation EN81-73)

► OUTPUTS

Connector	OUT	Old function	New function	New function acronym
M3	U6	Floor Call Signal	Door Open Command Side 1	**DO**
M3	U7	Floor Call Signal	Door Close Command Side 1	**DC**
M4	D6	Floor Call Signal	Direction Up Signal (APB operation), Next Leaving Up Signal (Collective operation)	**NUS**
M4	D7	Floor Call Signal	Direction Down Signal (APB operation), Next Leaving Down Signal (Collective operation)	**NDS**
M7	OS	Programmable outputs	Display control 0	**CB0**
M7	EC	Programmable outputs	Display control 1	**CB1**
M7	LEV	Programmable outputs	Display control 2	**CB2**
M7	EME	Programmable outputs	Display control 3	**CB3**
M7	MS	Medium Speed Control **	Acoustic signal of car incoming - GONG	**GNG**

** In this particular configuration Medium Speed, if needed, is controlled with LS+HS commands.

8 - EXAMPLES

In this chapter are given a few examples of diagrams

The connections of the safety chain and contactors must comply exactly the ones shown in the drawings, supply voltage can be changed, provided that it is compatible with the Electrical Specifications (see **9.4 - Electrical Specification**).

We have chosen to describe a three phase door motor 127Vac in Parallel Commands for Drive drawings and a door motor controlled by a VVVF drive with supply voltage 230Vac in Serial Commands for Drive drawings. Of course other solutions are possible.

► **Parallel Car Connection - Standalone**

8.1 - Parallel Commands for Asynchronous Drive

8.2 - Parallel Commands for Synchronous Drive (only drive connections)

8.3 - Serial CAN Commands for Synchronous Drive Contactorless

► **Serial Car Connection**

8.4 - Serial Car with parallel commands for Synchronous Drive

8.1 - Parallel Commands for Asynchronous Drive

INGRESSO RETE
MAINS INPUT

TRASFORMATORE
TRANSFORMER

SCHEDA ELETOUCH
ELETOUCH BOARD

400VAC / 60 VAC
400VAC / 0 VAC
400VAC / 18 VAC
0 VAC
127 VAC
127 VAC
127 VAC

TP
TP1
TF
TF
FR

FRENO
BRAKE

TAKEDO
TKL

CC1   CC2   -   +   0V   EA1

COMANDO CONTATTORI
CONTACTOR COMMAND

CONTROLLO FRENO
BRAKE CONTROL

ALLARME
FAULT

ENABLE   24V   0V   DICM   SALITA UP   DISCESA DOWN   ALTA VELOCITA' HIGH SPEED   BASSA VELOCITA' LOW SPEED

U V W BR BR1 C1 BR2 EN+ EN- 9 12 11 10 8 7 4 3

RESISTENZA DI FRENATURA
BRAKING RESISTOR

SCHEDA ELETOUCH
ELETOUCH BOARD

AU   AD   HS   LS

0V

MA M 3~
MOTORE CABINA
MAIN MOTOR

DOC DOC DCC DCC

MP1 M 3~
MOTORE PORTE LATO 1
DOOR MOTOR SIDE1

SMS s.r.l.

Title: ELETOUCH DOWN COLLECTIVE CON TKL
ELETOUCH DOWN COLLECTIVE WITH TKL

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	SM-ELET.22000_TKL_P_SA_00	EC/SD	EC	00A

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VALVOLA AUTOMATICA
AUTOMATIC FUSE

EXTRACORSA
OVERTRAVEL SWITCH

TOP CAR STOP SWITCH
STOP TETTO

CAR STOP SWITCH
(EVENTUAL)

PORTE CABINA
CAR DOOR SWITCHES

BLOCCHI ESTERNI
LANDING DOOR
LOCKED SWITCHES

1/A,3

STOP FOSSA; LIM.
VELOCITA;
PARACADUTE...

PIT STOP SWITCH; SPEED
GOVERNOR; SAFETY
SWITCH....

PULSANTI SALITA
ISPEZIONE
URI
UP RUN
INSPECTION BUTTON

ALT
(EVENTUALE)

PULSANTI DISCESA
ISPEZIONE
DRI
DOWN RUN
INSPECTION BUTTON

INTERRUTTORE
ISPEZIONE
ISQ
INSPECTION
SWITCH

SC1   SC2   SC3   SC4   SC5

SCHEDA ELETOUCH
ELETOUCH BOARD

DOR   DCR

INTERRUTTORE
FINE CORSA
CHIUSURA*

INTERR .
FINE CORSA
APERTURA*

DOOR OPEN
LIMIT*

DOOR CLOSE LIMIT*

DCC   DOC

DOC   DCC

CONTATTORE
APERTURA
PORTA

CONTATTORE
CHIUSURA
PORTA

DOOR OPEN
CONTACTOR

DOOR CLOSE
CONTACTOR

0V   VIC   U6   U7   24V   RC   SCC

DOR   DCR

TP   TP1

INTERR .
FINE CORSA
APERTURA*

DOOR OPEN
LIMIT*

(OPTIONAL*)

1/B,1   CC1

1/B,1   CC2

TP   TP1

CONTATTORI
MOTORE

MOTOR
CONTACTORS

- 1/B,5

*PONTICELLARE SE
NON VENGONO
UTILIZZATI I FINE
CORSA

*BRIDGE IF
DOOR OPEN AND
CLOSE LIMIT SWITCHES
ARE NOT PRESENT

	SMS s.r.l.				
Title	ELETOUCH DOWN COLLECTIVE CON TKL ELETOUCH DOWN COLLECTIVE WITH TKL				
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SCHEDA ELETOUCH
ELETOUCH BOARD

INTERR. RIFAS. ALTO — UP LIMIT SWITCH
INTERR. RIFAS. BASSO — DOWN LIMIT SWITCH
INTERR. FERMATA SALITA — UP STOP SWITCH
INTERR. FERMATA DISCESA — DOWN STOP SWITCH
PULSANTE APERTURA PORTE — OPEN DOOR BUTTON
PULSANTE CHIUSURA PORTE — CLOSE DOOR BUTTON
COSTOLA MOBILE — SAFETY EDGE SIDE1
EA1 1/B,2
ALLARME EST.2(*) — (*) EXT. ALARM 2
FOTOC. — PHOTOC.

0V   ULS   DLS   USS   DSS   URI   DRI   ATP   EA1   EA2

TERMISTORI MOTORE — MOTOR THERMISTORS
THM1
THM2
t°

EKF   OCI   URI   DRI   ISQ

CABINA OCCUPATA/ COMPLETA — CAR OCCUPIED / FULL
INTERR. SOVRA CARICO — OVERLOAD SWITCH
PULSANTE SALITA ISPEZIONE — UP RUN INSPECTION BUTTON
PULSANTE DISCESA ISPEZIONE — DOWN RUN INSPECTION BUTTON
CONTATTO AUSILIARIO INTERR. ISPEZIONE — INSPECTION SWITCH AUXILIARY CONTACT

SMS s.r.l.

Title: ELETOUCH DOWN COLLECTIVE CON TKL
ELETOUCH DOWN COLLECTIVE WITH TKL

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BU0÷BU5 CAR call buttons
LU0÷LU5 CAR call registered signals
BU0÷BU5 Comandi di CABINA
LU0÷LU5 Segnalazione comandi di CABINA

BU6÷BU11 LANDING down call buttons
LU6÷LU11 LANDING down call registered signals
BU6÷BU11 VANO, chiamate per scendere
LD1÷LD11 VANO, segnali prenotato per scendere

L0 L1 L2 L3 L4 L5 L6 L7 L8 L9 L10 L11

BI0 BI1 BI2 BI3 BI4 BI5 BI6 BI7 BI8 BI9 BI10 BI11

0V 24V U0 U1 U2 U3 U4 U5 D0 D1 D2 D3 D4 D5

SCHEDA ELETOUCH
ELETOUCH BOARD

0V

MS D6 D7

NUS NDS

GONG

EME LEV EC OS 24V

SEGNALI ACUSTICO/LUMINOSI
LIGHT AND ACOUSTIC SIGNALS

B3 B2 B1 B0 COM

POSIZIONE CABINA CON DISPLAY
BINARIO AD ANODO COMUNE

CAR POSITION INDICATOR WITH
COMMON ANODE DISPLAY

SMS s.r.l.

Title: ELETOUCH DOWN COLLECTIVE CON TKL
ELETOUCH DOWN COLLECTIVE WITH TKL

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	SM-ELET.22000_TKL_P_SA_00	EC/SD	EC	00A

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8.2 - Parallel Commands for Synchronous Drive (only drive connections)

For other connections see **8.1 - Parallel Commands for Asynchronous Drive**

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8.3 - Serial CAN Commands for Synchronous Drive Contactorless

INGRESSO RETE
MAINS INPUT

R S T

TRASFORMATORE
TRANSFORMER

400VAC — 60 VAC
400VAC — 0 VAC
400VAC — 230 VAC
0 VAC
18 VAC
0 VAC

+ 2/A,1
1/B,1

- 2/C,5
2/B,2
1/B,1

SCHEDA
ELETOUCH
BOARD

18~ 18~

C2L C2H SH2

L H SH
CAN BUS

TF TF

KSC KSC

RST RST

FRENO
BRAKE

AZIONAMENTO
VVVF
PORTE

VVVF DOOR DRIVE

F

N

DOR

COM

DCR

VVVF
TAKEDO
TKL

L1 L2 L3   52   53 52   53 54   55 56   57

- 1/A,3   + 1/A,3   CC1 2/B,5   CC2 2/B,5   - 1/B,5   + 1/A,3   0V 3/A,1   EA1 3/B,4

TBM

TF

COMANDO CORTO CIRCUITO
SHORT CIRCUIT COMMAND

COMANDO CONTATTORI
CONTACTOR COMMAND

CONTROLLO FRENO
BRAKE CONTROL

ALLARME
FAULT

ENCODER

D- D+ C- C+ B- B+ A- A+ -VE +VE
4 5 6 7 10 11 12 13 14 15

U V W   BR BR1   C1 BR2

SAFETY
EN+ EN- OK1 OK2   12 11 10   2   9

RST

A1
STO
A2

KSC STO

ENCODER

E

SCHERMO
SHIELD

U V W   MP1

M 3~

MOTORE PORTE LATO 1
DOOR MOTOR SIDE1

TBM   TBM

RESISTENZA
DI
FRENATURA
BRAKING
RESISTOR

U V W   MA

M 3~

MOTORE CABINA
MAIN MOTOR

VALVOLA AUTOMATICA
AUTOMATIC FUSE

EXTRACORSA
OVERTRAVEL SWITCH

TOP CAR STOP SWITCH
STOP TETTO

CAR STOP SWITCH
(EVENTUAL)

PORTE CABINA
CAR DOOR SWITCHES

BLOCCHI ESTERNI
LANDING DOOR
LOCKED SWITCHES

1/A,3
+

STOP FOSSA; LIM.
VELOCITA;
PARACADUTE...

PIT STOP SWITCH; SPEED
GOVERNOR; SAFETY
SWITCH....

URI
PULSANTI SALITA
ISPEZIONE
UP RUN
INSPECTION BUTTON

ALT
(EVENTUALE)

DRI
PULSANTI DISCESA
ISPEZIONE
DOWN RUN
INSPECTION BUTTON

ISQ
INTERRUTTORE
ISPEZIONE
INSPECTION
SWITCH

SC1   SC2   SC3   SC4   SC5

1/B,2   CC1

1/B,2   CC2

- 1/A,3
SCC

**SCHEDA ELETOUCH
ELETOUCH BOARD**

SCC

0V   VIC   RC   MS   HS   24V

DOR   DCR

KSC   KSC

INTERR .
FINE CORSA
APERTURA*

RST   KSC   STO

1/A,3 -

DOOR OPEN
LIMIT*

(OPTIONAL*)

BU0÷BU5 CAR call buttons
LU0÷LU5 CAR call registered signals
BU0÷BU5 Comandi di CABINA
LU0÷LU5 Segnalazione comandi di CABINA

BU6÷BU11 LANDING down call buttons
LU6÷LU11 LANDING down call registered signals
BU6÷BU11 VANO, chiamate per scendere
LD1÷LD11 VANO, segnali prenotato per scendere

L0 L1 L2 L3 L4 L5 L6 L7 L8 L9 L10 L11

BI0 BI1 BI2 BI3 BI4 BI5 BI6 BI7 BI8 BI9 BI10 BI11

0V 24V U0 U1 U2 U3 U4 U5 D0 D1 D2 D3 D4 D5

SCHEDA ELETOUCH
ELETOUCH BOARD

0V

LS AU AD

EME LEV EC OS 24V

NUS NDS

GONG

B3 B2 B1 B0 COM

SEGNALI ACUSTICO/LUMINOSI
LIGHT AND ACOUSTIC SIGNALS

POSIZIONE CABINA CON DISPLAY
BINARIO AD ANODO COMUNE

CAR POSITION INDICATOR WITH
COMMON ANODE DISPLAY

For other connections see **8.1 - Parallel Commands for Asynchronous Drive**

SMS s.r.l.

Title: ELETOUCH DC,TKL CAN,GEARLESS,CONTACTORLESS

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8.4 - Serial Car with parallel commands for Synchronous Drive

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INTERR.
RIFAS.
ALTO

INTERR.
RIFAS.
BASSO

INTERR.
FERMATA
SALITA

INTERR.
FERMATA
DISCESA

EA1

1/B,2

ALLARME
EST.2(*)

(*) EXT.
ALARM
2

UP LIMIT
SWITCH

DOWN LIMIT
SWITCH

UP STOP
SWITCH

DOWN
STOP
SWITCH

0V   ULS   DLS   USS   DSS   EA1   EA2

SCHEDA ELETOUCH
ELETOUCH BOARD

TERMISTORI
MOTORE

THM1

THM2

MOTOR
THERMISTORS

URI   DRI   ISQ

PULSANTE
SALITA
ISPEZIONE

PULSANTE
DISCESA
ISPEZIONE

CONTATTO
AUSILIARIO
INTERR.
ISPEZIONE

UP RUN
INSPECTION
BUTTON

DOWN RUN
INSPECTION
BUTTON

INSPECTION SWITCH
AUXILIARY CONTACT

SMS s.r.l.

Title: ELETOUCH DC CON TKL, SERIALE DI CABINA
ELETOUCH DC WITH TKL, SERIAL CAR

Size	Document Number	Checked	Drawn	Rev
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BU0÷BD5 LANDING DOWN call buttons
LU0÷LD5 LANDING DOWN registered signals
BU0÷BD5 VANO, chiamate per scendere
LU0÷LD5 VANO, segnali prenotato per scendere

EXAMPLE. 6 STOPS DOWN COLLECTIVE
See user manual for details.
ESEMPIO. 6 FERMATE DOWN COLLECTIVE.
Leggere il manuale utente per i dettagli.

LU0 LU1 LU2 LU3 LU4 LU5

BU0 BU1 BU2 BU3 BU4 BU5

0V 24V U0 U1 U2 U3 U4 U5 U6 U7 D0 D1 D2 D3 D4 D5

**SCHEDA ELETOUCH
ELETOUCH BOARD**

0V

D6 D7

EME LEV EC OS 24V

NUS NDS

SEGNALI DI DIREZIONE
DIRECTION SIGNALS

SHAFT: CAR POSITION INDICATOR
WITH COMMON ANODE DISPLAY

VANO: POSIZIONE CABINA CON DISPLAY
BINARIO AD ANODO COMUNE

B3 B2 B1 B0 COM

SCHEDA DI CABINA ELECB
ELECB CABIN BOARD (ECB)

BC0÷BC11 CAR call buttons
LC0÷LC11 CAR call registered signals
BC0÷BC11 Comandi di CABINA
LC0÷LC11 Segnalazione comandi di CABINA

EXAMPLE. 6 STOPS DOWN COLLECTIVE
See user manual for details.
ESEMPIO. 6 FERMATE DOWN COLLECTIVE.
Leggere il manuale utente per i dettagli.

SEGNALI ACUSTICI E LUMINOSI
LIGHT AND ACOUSTIC SIGNALS

GONG

PULSANTE SALITA ISPEZIONE
UP RUN INSPECTION BUTTON

PULSANTE DISCESA ISPEZIONE
DOWN RUN INSPECTION BUTTON

CONTATTO AUSILIARIO INTERR. ISPEZIONE
INSPECTION SWITCH AUXILIARY CONTACT

CONTATTO LUCE CABINA
CAR LIGHT CONTACT

PULSANTE APERTURA PORTE
OPEN DOOR BUTTON

PULSANTE CHIUSURA PORTE
CLOSE DOOR BUTTON

COSTOLA MOBILE
SAFETY EDGE SIDE1
FOTO CELLULA
PHOTOCELL

INTERR. FINE CORSA APERTURA*
DOOR OPEN LIMIT*
(OPTIONAL*)

CABINA COMPLETA
CAR FULL

INTERR. SOVRA CARICO
OVERLOAD SWITCH

DISPLAY CABINA BINARIO AD ANODO COMUNE
CAR POSITION DISPLAY WITH COMMON ANODE
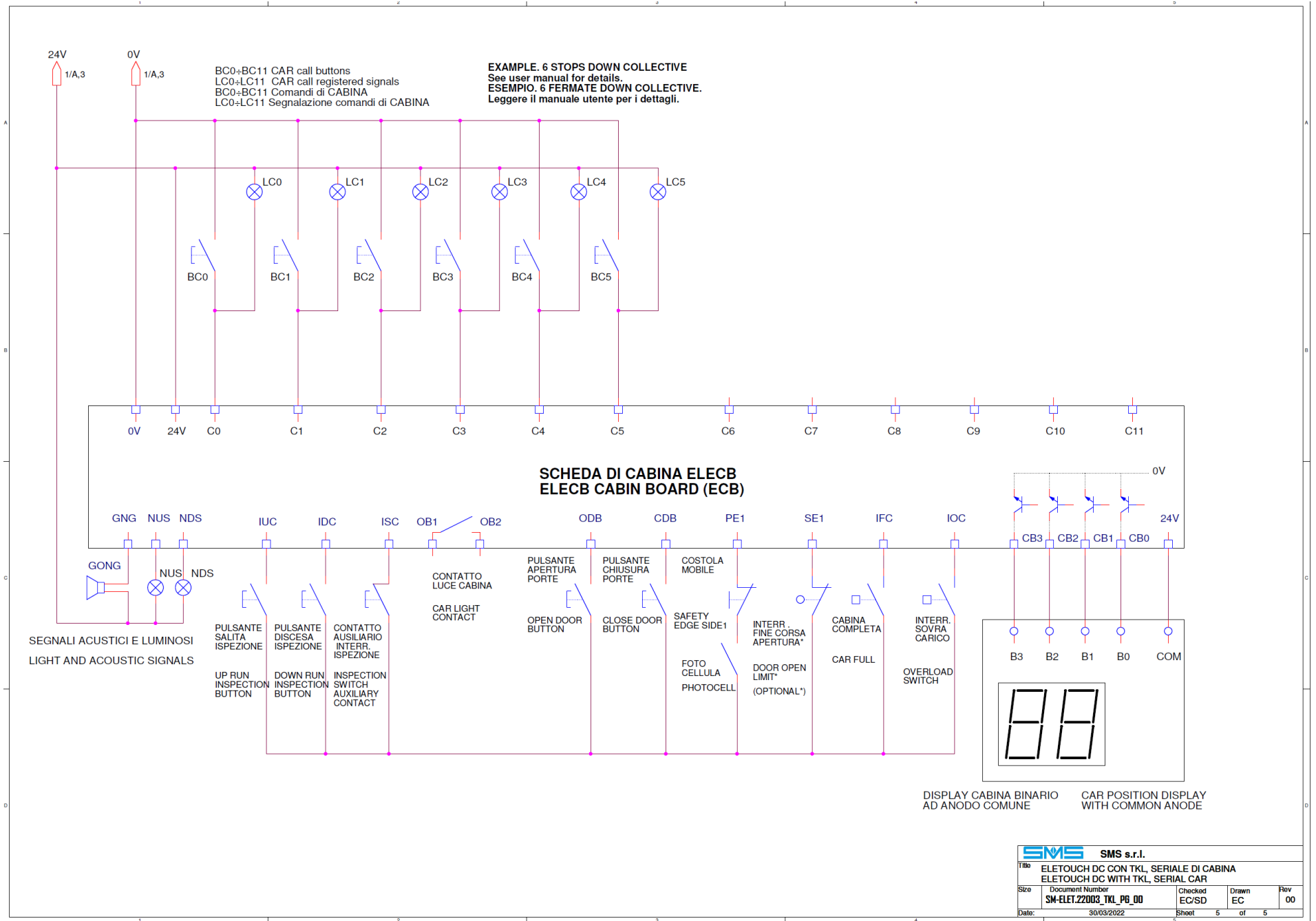
SMS s.r.l.

Title: ELETOUCH DC CON TKL, SERIALE DI CABINA
ELETOUCH DC WITH TKL, SERIAL CAR

Size	Document Number	Checked	Drawn	Rev
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9 - APPENDIX

9.1 - Warning messages

Message	Condition	Space for notes
ULS&DLS Active	Both UP (ULS) and DOWN (DLS) limit switch active	ULS and DLS are N.C. contacts. Switch active means contact open.
ULS Active	**Normal mode:** Car not at top floor but ULS active. **Inspection mode:** URI pressed with ULS active.	
DLS Active	**Normal mode:** Car not at bottom floor but DLS active. **Inspection mode:** DRI pressed with DLS active.	
ULS Not Active	Car at top floor but ULS not active	
DLS Not Active	Car at bottom floor but DLS not active	
Photocell Dark	Photocell dark from more than 20 seconds doesn't allow door close	
Door Open Button	Door open button doesn't allow door close	
Car Overload	Car overload doesn't allow car movement	
Contactors	RC input active without run command (UP or DOWN)	
Door Open Limit	Door open limit open doesn't allow door open activation	
Car Doors	Door open or close failed	
Landing Locks	Door locking failed	
CAN Extens.	Missing CAN communication with expansion boards	
Ext. Trip 2	Input EA2 open	

9.2 - Alarm Codes

E	ALARM	DESCRIPTION	CONSEQUENCES
E02	LANDING DOOR LOCKING FAILURE	Upon leaving, with the doors fully closed (input **SC4** active), the input **SC5** is not activated within 5 seconds. The description of the alarm reports the floor number in which the alarm triggered	APB OPERATION The call is canceled, the doors will reopen and the car is waiting for a new call. COLLECTIVE OPERATION The car and landing calls remain recorded and 5 attempts will be performed: if the problem persists, all calls are cancelled and the car remains in service, waiting for new calls. MULTIPLEX OPERATION The calls are not cancelled but are transferred to the other cars.
E03	MAIN CONTACTORS ACTIVATION FAILURE	Upon leaving, with locked doors (input **SC5** active), input **RC** is not activated within 2 seconds. The description of the alarm reports the floor number in which the alarm triggered	
E05	CAR MOVING FAILURE	Upon leaving, after the closing of contactors, the car does not move out from the stop zone within 10 seconds. The description of the alarm reports the floor number in which the alarm triggered	

E06	RESET FAILURE	The car is unable to complete the reset operation.(arrival at the end floor and doors opening).	The system waits for a next call to try again the reset operation.
E07	CAR DOORS FAIL TO CLOSE	The doors do not complete the closing (SC4 = ON) within the time set in **F23.**	**APB OPERATION** The call is cancelled, the doors will reopen and the car is waiting for a new call. **COLLECTIVE OPERATION** The car and landing calls remain recorded and 5 attempts will be performed: if the problem persists, all calls are cancelled and the car remains in service, waiting for new calls. **MULTIPLEX OPERATION** The calls are not cancelled but are transferred to the other cars. If the timer intervenes in the CLOSING FOR PARKING or RESET procedure, 5 closing attempts will be performed, after which the car will park with the doors open.
E08	CAR DOORS FAIL TO OPEN	The doors do not complete the opening within the time set in **F22**.	Door motor control is disabled and the lift normally remains in service.
E09	HIGH SPEED MAXIMUM TRAVEL TIME TRIGGERED	The car is moving at high speed without reaching the next floor within the time set in **F24**.	**Out of Service** Manual Alarm Reset required
E10	LOW SPEED MAXIMUM TRAVEL TIME TRIGGERED	The car moves at low speed without reaching the floor within the time set in **F25**.	**Out of Service** Manual Alarm Reset required
E11	RELEVELING MAXIMUM TRAVEL TIME TRIGGERED	The car is in releveling phase without reaching the floor within the time set in **F50**.	**Out of Service** Manual Alarm Reset required
E12	MAIN CONTACTORS DEACTIVATION FAILURE	The **RC** input (RUN contactors) do not turn off within 2 seconds from deactivation command (deactivation of outputs **UP** / **DN**).	Leaving is prevented until **RC** is active.
E13	FLOOR COUNT ERROR	Car position indicates an end floor but no limit switch is active.	A call is made to the opposite end floor to reset the car position.
E14	OVERTRAVEL	Opening of overtravel switch (input **SC2** - 1st section of safety chain)	**Out of Service** Manual Alarm Reset required
E15	MOTOR THERMISTORS PROTECTION TRIGGERED	Motor thermistors (connected to the input **TH1 - TH2**) have detected a rise in motor temperature up to the threshold of protection.	The car stops with the mode defined by **F33**, then the elevator is set to **Out of Service** Manual Alarm Reset required only if **F12** is set to **Manual**
E16	EXTERNAL ALARM 1	The contact connected to the input **EA1** is open (for example the alarm contact of the VVVF).	**Out of Service** Normal operation is automatically reset when the contact closes, performing the Reset operation.
E17	EXTERNAL ALARM 2	The contact connected to the input **EA2** is open (for example, the contact of the oil thermostat).	The lift stops at the end of the current travel and a subsequent leaving is prevented. Normal operation is automatically reset when the contact closes.
E18	NO OPERATING VOLTAGE	There is no voltage at the input **SC1** (upstream of the safety chain)	The lift stops and a subsequent leaving is prevented. The lift returns the service automatically when the voltage is restored.
E20	MAXIMUM TIME PHOTOCELL OR SAFETY EDGE INTERRUPTED	Contact connected to the photocell input is open for a time greater than 20 sec.	Leaving is prevented as long as such condition is active. Normal operation is automatically restored when the contact closes.
E21	RETURN TO BOTTOM FLOOR FAILED IN HYDRAULIC	If the car couldn't move to reach the bottom floor	**Out of Service** Manual Alarm Reset required

E22	DOOR THERMISTOR	The thermistors connected to **TH3-TH4** on **ELECB** board have detected a very high temperature of the door motor. Alarm active only if function **F59** EN81-20 is set to "YES"	The car stops in the mode defined by the function **F33** and the lift is put **out of service** state. Manual alarm reset is required only if the function **F12** is set to 'manual'.
E23	DOOR CONTACTS	The control of the door contacts has failed. Alarm active only if function **F59** EN81-20 is set to "YES"	**ELETOUCH** tries to open the door for a second time. If the test fails again, the car will not move from the floor.
E24	PIT ACCESS	Pit access has occurred. AIF state is shown on the display. Alarm active only if function **F59** EN81-20 is set to "YES"	In this condition, only pit inspection operation is permitted. For returning to normal service it is necessary to reset the alarm as described in paragraph **1.5**.
E25	MICRO OPENING 1	The brake micro switch 1 does not open with the system move. Alarm active only if function **F60** UCM Verify is set to "YES"	The lift is put **out of service** state at the end of the ride and the manual reset of the alarm is required
E26	MICRO CLOSING 1	The brake micro switch 1 does not close with system stop. Alarm active only if function **F60** UCM Verify is set to "YES"	The lift is put **out of service** state at the end of the ride and the manual reset of the alarm is required
E27	MICRO OPENING 2	The brake micro switch 2 does not open with the system move. Alarm active only if function **F60** UCM Verify is set to "YES"	The lift is put **out of service** state at the end of the ride and the manual reset of the alarm is required
E29	MICRO CLOSING 2	The brake micro switch 2 does not close with system stop. Alarm active only if function **F60** UCM Verify is set to "YES"	The lift is put **out of service** state at the end of the ride and the manual reset of the alarm is required
E28	SAFETY CIRCUIT	Safety circuity does not work correctly. Alarm active only if function **F59** EN81-20 is set to "YES"	The error can be seen and deleted in Diagnostics menu

► **Out of service**

In this condition the lift doesn't register any call and normally this state is not reversible in automatic.

If the lift is at door zone and the car has automatic doors, they are opened to make eventual people exit the car, then are closed again.

Eventual **OS** programmable output turns off in this condition.

The lift returns to normal operation after the alarm source is fixed and a **Manual Alarm Reset** is performed.

► **Manual Alarm Reset**
1. **Pressing "Delete all"** in Diagnostics menu (see **3.3.2 - Diagnostics**).
   In this case all the alarms are deleted from the Diagnostic menu.
2. Executing an Inspection operation (see **3.2.3 - Inspection Operation**).
   At the end of the operation the lift is not in an **Out of service** condition anymore, but alarms in Diagnostics are preserved.

9.3 - Functions

F	FUNCTION	ALLOWED VALUES	DESCRIPTION	DEFAULT
F01	TOP FLOOR	1 ÷ MAX FLOOR	Set this function to the maximum floor number, according to the operation mode and the number of expansion boards connected to the system.	11
F02	MAIN FLOOR	0 ÷ **F01**	Set the system main floor: any floor below the main floor has a negative number. This parameter effects calls management in Down Collective operation; landing calls above the main floor are down calls, up calls otherwise.	0
F03	OPERATION MODE	- APB: - DOWN COLLECTIVE: - FULL COLLECTIVE: - HOME LIFT: - A.P.B SX	Automatic Push-Button Operation. Collective Operation, one landing button per floor. Collective Operation, two landing buttons per floor. Operating mode for platforms. Special APB operation (collective for Car calls)	DOWN COLLECTIVE
F04	DRIVE TYPE	- 1 SPEED - 2 SPEEDS - VVVF_STD - VVVF TKK - HYDRAULIC - VVVF TKL	Sets the lift drive type. This setting effects the contactor activation sequence and the general lift behaviour.	VVVF_STD
F05	DOOR TYPE	- MANUAL: - SEMIAUTOMATIC: - AUTOMATIC:	manual car and landing doors automatic car doors and manual landing doors automatic car and landing doors	AUTOMATIC
F06	DOOR AT FLOOR	- OPEN DOORS - CLOSED DOORS - CLOSED AT F02	Set the behaviour of doors when the lift is at floor without registered calls. CLOSED AT F02 means: all doors normally open, except door at main floor F02, that is normally closed.	CLOSED DOORS
F07	CAR ENTRANCES	- 1 - 2	Set the number of car entrances. For two car entrances ELECB board and Serial Car Connection are mandatory.	1
F08	DOOR OPENING Floor: 0 1 ... **F01**	- SIDE 1: - SIDE 2: - SIMULTANEOUS: - SELECTIVE: - NONE:	Set the automatic doors behaviour for every floor (see **5.5.3 - Automatic Door Control**) open side 1 door only. open side 2 door only. open both side 1 and 2 doors simultaneously. see **6.2 - Selective Door Opening**. no doors opened (for manual doors).	SIDE 1
F09	INSPECTION SPEED	- LOW: - HIGH:	(See **3.2.3 - Inspection Operation**) Inspection speed is LS Inspection speed is HS; if **F04 = VVVF** Inspection speed is MS (M7)	HIGH
F10	FORCE DOOR CLOSING	- NO: - YES: - CONSTANT:	normal operation close command stays active while the lift is moving close command is always active, deactivated only during the opening	NO
F11	LAND CALL DELETE MODE	- SELECTIVE: - SIMULTANEOUS:	Valid only for Full Collective operation. arriving at floor, the call in the same direction as the car is cancelled. arriving at floor, both up and down calls are cancelled.	SELECTIVE
F12	THERMISTOR RESET MODE	- MANUAL: - AUTOMATIC:	normal operation is prevented until manual reset. normal operation is restored automatically 10 minutes after thermistors returning to normal status.	MANUAL
F13	AUTOMATIC RETURN FOR TRACTION DRIVES	- NO: - YES: - BELOW TO **F14**:	disabled enabled enabled for floors below return floor	NO
F14	AUTOMATIC RETURN FLOOR FOR TRACTION DRIVES	0 ÷ **F01**	Return Floor for traction drives. Valid only if **F13 = YES**	0
F15	VIP CALL FLOOR	0 ÷ **F01**	After the activation of the **VIC** input the car reaches this floor. (See **3.2.8 - VIP Call Operation**)	1
F16	STOP DELAY TIME	0.0 ÷ 2.0 sec.	Delay between the detection of the stop zone and the main motor contactor drop. Use this delay to achieve perfect stop position.	0.0 sec.
F17	CONTACTOR OPEN DELAY	0.0 ÷ 2.0 sec.	Valid only for VVVF drive. If RC input does not work; at stop, sets the delay between the deactivation of speed and direction commands.	2.0 sec.

F	FUNCTION	ALLOWED VALUES	DESCRIPTION	DEFAULT
F18	EMERGENCY STOP DELAY	0.0 ÷ 2.0 sec.	Works as **F16** but in Emergency operation.	0.0 sec.
F19	CAM FALL DELAY	0.0 ÷ 2.0 sec.	Delay between the opening of the contactors at stop and the opening of the retiring cam relay (CAM).	0.3 sec.
F20	DOOR OPENING DELAY	0.0 ÷ 2.0 sec.	Delay between the opening of the contactors at stop and command for door opening. Use in lifts with automatic doors and retiring cam to ensure that the doors opening starts when the cam has already dropped.	0.5 sec.
F21	EMERGENCY MAXIMUM TIME	1 ÷ 15 min.	If Emergency operation does not finish within this time, it will be interrupted; to restore the operation disable the **ROP** input.	15 min.
F22	DOOR OPENING TIME	1 ÷ 60 sec.	Protection of the door motor for opening; set to a time higher than the time normally required to fully open the doors, at least 1 second higher.	10 sec.
F23	DOOR CLOSING TIME	1 ÷ 60 sec.	Protection of the door motor for closing; set to a time higher than the time normally required to fully close the doors, at least 2-3 second higher.	10 sec.
F24	HIGH SPEED TIME	1 ÷ 45 sec.	During the run in high speed the time between floors is measured continuously by the board. If this time exceed the High Speed Time, alarm **E09** is triggered.	45 sec.
F25	LOW SPEED TIME	1 ÷ 45 sec.	During the run, the time the system is in low speed is always measured. If this time exceed the low speed time, alarm **E10** is triggered.	45 sec.
F26	START DELAY TIME	1 ÷ 60 sec.	Valid only for Collective operations. Defines the stop time of the car at floor with the doors open before leaving for another call.	2 sec.
F27	OCCUPIED TIME	1 ÷ 60 sec.	In the APB operation this sets the delay for Occupied signal to turn off at floor, and also disabling landing calls. In Collective operation, defines the stop time before reversing direction to serve calls in the opposite direction. It must be greater than the time set in **F26**.	5 sec.
F28	AUTOMATIC RETURN DELAY	1 ÷ 15 min.	Valid for both traction and hydraulic lifts.	15 min.
F29	GONG TIME	0.1 ÷ 3.0 sec.	It is the time in which the acoustic signal of car coming at floor is active, at the beginning of door opening or after the stop in the case of manual doors.	0.5 sec.
F30	CAR LIGHT TIME	1 ÷ 255 time units	Controls the Car Light output and sets how long this output stays active after the Occupied turns off. Time unit is set by **F48**, seconds by default.	10 sec.
F31	SELECTOR TYPE	- Magnetic switches - EPC	- ELETOUCH uses USS and DSS magnetic switches - EPC application (only for Drive TKL)	Magnetic switches
F32	MAGNETIC SWITCH TYPE	- NORMALLY OPEN - NORMALLY CLOSED	Defines USS and DSS switch type. For NC contacts, at floor level, USS and DSS ELETOUCH inputs are OFF. ULS and DLS limit switches are always NORM. CLOSED.	NORMALLY OPEN
F33	THERMISTOR STOP MODE	- END RUN - STOP AT ONCE	Defines the stop mode of the car following a Thermistor Alarm	END RUN
F34	RELEVELING STOP DELAY	0.0 ÷ 2.0 sec.	Works as **F16** but in Releveling operation.	0.2 sec.
F35	NEXT START DIRECTION MODE	- OFF during RUN: - ON during RUN:	Valid only for Collective operations. next direction signals are active from stop at floor until the next leaving. next direction signals are on also during the run, indicating the car direction	OFF during RUN
F36	EMERGENCY FLOOR	- NEXT FLOOR: - BOTTOM FLOOR:	(See **3.2.7 - Emergency Operation**) Operation ends when car reaches USS and DSS Operation ends when car reaches USS, DSS and DLS.	NEXT FLOOR
F37	CONTACTOR CONTROL INPUT TYPE	- ACTIVE HIGH: - ACTIVE LOW:	Choose the control logic of the contactor control according to the availability of auxiliary contacts. H.connection to RC: parallel of main contact. NO contacts. L.connection to RC: series of main contactors NC contacts.	ACTIVE LOW

F	FUNCTION	ALLOWED VALUES	DESCRIPTION	DEFAULT
F38	CONTACTOR CONTROL MODE	- UP & DOWN: - UP ONLY:	control is always done, both in up and down run. control is made only during up run: required for the hydraulic systems where there is no relay/contactor for down run, as the down valve is controlled downstream of the safety chain.	UP & DOWN
F39	LIFT GROUP	- 1 Lift - 2 Lifts - 3 Lifts - 4 Lifts	Only valid in MULTIPLEX operation (see **6.1 - Multiplex Operation**). Set the number of the lift systems connected.	1 Lift
F40	LIFT NUMBER	0 ÷ 3	Only valid in MULTIPLEX operation (see **6.1 - Multiplex Operation**). Identifies the car within a group: 0 = Lift 1, 1 = Lift 2, 2 = Lift 3, 3 = Lift 4	0
F41	ZONE TIME OUT	1 ÷ 255 sec.	Only valid in MULTIPLEX operation (see **6.1 - Multiplex Operation**). Indicates the maximum time one or more calls can wait to be assigned to a car; after this time, this calls priority increases.	44 sec..
F42	ADVANCED DOOR OPENING	- NOT ACTIVE: - ON SLOWDOWN: - AT FLOOR:	advanced opening not enabled. opening is commanded at slowdown. An external safety circuit must provide the bypass of the door safety switches in the allowed door zone and enable the opening command at the suitable time the opening is commanded at when the car reaches the door zone. An external safety circuit must provide the bypass of door safety switches in the allowed door zone.	NOT ACTIVE
F43	MISSING FLOOR	- NONE - BOTTOM FLOOR - TOP FLOOR - OTHER CAR BOTTOM - OTHER CAR TOP	Only valid in MULTIPLEX operation (see **6.1 - Multiplex Operation**). In the particular case in which one car cannot reach an end floor, served instead by the other car.	NONE
F44	FIRE-FIGHTER OPERATION MODE	- NONE - EN81-72 - EN81-73	See **3.2.9 - Fire-Fighter Operation EN81-72 / EN81-73**	NONE
F45	FIRE-FIGHTER FLOOR 1	0 ÷ **F01**	See **3.2.9 - Fire-Fighter Operation EN81-72 / EN81-73** and the paragraph below	0
F46	FIRE-FIGHTER FLOOR 2	0 ÷ **F01**	See **3.2.9 - Fire-Fighter Operation EN81-72 / EN81-73** and the paragraph below	0
F47	DOOR CLOSE IN PHASE 1	- NO - YES	See **3.2.9 - Fire-Fighter Operation EN81-72 / EN81-73**	NO
F48	CAR LIGHT UNIT	- SECONDS - MINUTES	Sets the unit of measurement for **F30**. Sets to minutes for longer car light time.	SECONDS
F49	STAND-BY TIME	0 ÷ 255 min.	After this time, the system goes in stand-by mode. See **5.5.5 - Stand by for energy saving**	0 min.
F50	RELEVELING TIME	0 ÷ 255 sec.	If releveling operation time exceed this limit, an alarm **E11** is triggered.	10 sec.
F51	EXTENSION	- NO: - CALLS ONLY: - CAR & CALLS: - CAR & SHAFT	See **4 - BOARDS CONFIGURATIONS**. Parallel Car Connection, ELETOUCH Standalone Parallel Car Connection, ELETOUCH + ELEXP Serial Car Connection, ELETOUCH + ELECB (+ ELEXP if needed) Serial Car and Serial Shaft Connection (ELETOUCH+ELECB+ELEFLOOR (+ ELEXP if needed))	NO
F52	DOOR CLOSE RETENTION DELAY	0.0 ÷ 3.0 sec.	It's the time car door closing command holds ON, after the safety chain car door input SC4 is closed, in order to allow the complete mechanical closing. For manual doors it's the delay before to drive the retiring CAM once SC4 is closed	1.0 sec.
F53	REMOTE DISPLAY	- NO: - 7 SEG: - 7 SEG x 2: - 1 OUT * FLOOR:	no ELEXP boards used as display driver one ELEXP works as 7 segments display driver one ELEXP work as display driver with decoding as in **F55** one or more ELEXP work as 1 output per floor	NO
F54	MAIN FLOOR DISPLAY	- 0: - 1: - A,B,C...:	Main floor is 0, the floors below are negative Main floor is 1 and the floors below are negative (0 doesn't exist) Main floor is a letter, the floors below are negative	0

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F	FUNCTION	ALLOWED VALUES	DESCRIPTION	DEFAULT
F55	DISPLAY DECODING	- BINARY - GRAY - SINGLE POLE - BINARY +1	Set the decoding for display outputs on ELETOUCH and ELECB boards. If F53 is "7Seg.x2" this is the decoding of ELEXP as remote display controller. BINARY is 0-1-2-3.. BINARI+1 is 1-2-3-5….	BINARY
F56	STAR DELTA TIMER	0.0 ÷ 3.0 sec.	Set time for Star-delta hydraulic drives. See **5.5.5 - Star-delta start for Hydraulic drives**.	0.0 sec.
F57	SOFT STOP TIMER	0.0 ÷ 5.0 sec.	Set time for Soft stop function for hydraulic drives. If not used set to 0. See **5.5.7 - Soft stop for Hydraulic drives**.	0.0 sec.
F58	SHORT FLOOR	'- NO '- YES	This function is not used	NO
F59	EN81-20	'- NO '- YES	Enable EN81-20 functions See document "ELETOUCH Application EN81-20"	NO
F60	UCM Verify	'- NO '- YES	UCM Function brake switches monitoring, not certified See document "ELETOUCH Application EN81-20"	NO
F61	Stop DLS-ULS	'- NO '- YES	When in inspection, CAR stops on DLS or ULS limit switches	NO
F62	Total Shafts	0 ÷ 2	Number of shafts (only for Serial shaft Connection)	1

9.4 - Electrical Specification

WARNING!	DO NOT use any power source with voltage different from specifications
	SCC terminal (M8 connector) MUST BE CONNECTED TO GROUND

9.4.1 - General specifications

SPECIFICATION		ELETOUCH	ELECB	ELEXP
Power Input	Voltage	18Vac o 24Vdc ± 10% Protected by replaceable 3A Fuse	24Vdc± 10% Protected by replaceable 3A Fuse	24Vdc ± 10%
	Terminals	18~, 18~ (M9)	0V, 24X (M1)	24X, 0V (M12)
Power Output	Voltage	24Vdc from internal rectifier	-	-
	Terminals	24V, 0V (M9)	-	-
Generic Input	Voltage	24Vdc (NPN)		
	Number	34 (M3, M4, M5, M6)	29 (M3, M4, M5, M8, M9, M10, M12, M13, M14)	12 (M2)
Thermistor Input	Terminals	TH1/TH2 (M6)	TH3/TH4 (M10) Th5/TH6 (M12)	-
Safety chain Input	Voltage	24V-110V AC DC	-	-
	Terminals	SCC SC1-SC5 (M8)		
Transistor Output	Number	25 Registered / Incoming signal, Generic Output	25 Registered / Incoming signal, Generic Output	-
	Terminals	U0-U7/D0-D7 (M3 e M4), Outputs (M7)	C0-C11 (M3, M4), Outputs (M6, M7, M10, M12)	
	Voltage	24Vdc (NPN)		-
	Maximum Current	160 mA, short circuit protected		
	Max Current per group (12)	1A		
Relay Output Type 1	Number	0	1 Car Light	-
	Terminals	0	OB1/OB2 (M11)	
	Rating	Rated Load (8A 250Vac / 8A 24Vdc)		
Relay Output Type 2	Number	0	4 Door controls Side 1, Door controls Side 2	12 Registered / Incoming signal or Display driver dry contact outputs
	Terminals	-	CD1 DO1/DC1 (M10), CD2 DO2/DC2 (M12)	CC C00-C11
	Rating	Rated Load (0,5A 125Vac / 1A 30Vdc)		
CAN BUS 1	Connector	C1L/C1H/SH1 (M2 and M2A)	CAL/CAH/SH (M2 and M2A)	CAL/CAH/SH (M1 and M2)
CAN BUS 2	Connector	C2L/C2H/SH2 (M1)	-	-
RS485 1	Connector	CN2	-	-
RS485 2	Connector	CN3	-	-
USB Port	Connector	CN1	-	-

9.4.2 - Power Supply considerations

Power ELETOUCH board directly from the **18~ 18~** terminals, even for DC power supply.

Power ELECB board from **0V** and **24X** terminals, paying attention to the right polarity.

Use terminals **24V** or **24E** only as an output to power external control panel logic.

As AC power source is recommended to use a dedicated secondary winding from a insulated transformer, independent from other AC voltages as, for example, safety chain operation voltage, and not referred to ground.

For Serial Car connection, it is not recommended to connect output power terminals of ELETOUCH and ELECB together as **0V** or **24V**.

9.4.3 - ELETOUCH, ELECB I/O

Each Generic Input, Safety Chain Input and Thermistor Input status is indicated by a **green LED**.

The load must be connected between the corresponding terminal and **24V**, as indicated in the example in **Figure 12** for the **OS** signal.

24V

Relay coil
24VDC

OS
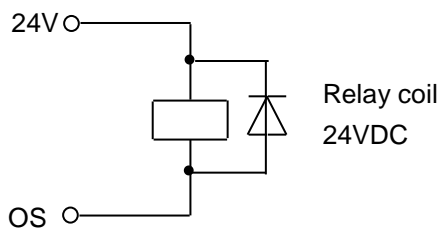
Figure 12

As a general rule, it is recommended to **always connect a protection device** in parallel to **relays coils**, **contactors coils**, electromagnets, or other similar magnetic devices, to protect the board against surges:

- **Diodes** for DC voltage loads
- **Varistors** or **RC Filters** for AC voltage loads, or when it is important to quickly de-energize the equipment.

For contactors, a good advice is to use the RC filter recommended by manufacturer.

ELETOUCH Safety Chain Inputs and Motor Direction and Speed Outputs comply with **Harmonized Standard EN81**, so insulation distances allow for example to connect motor contactors downstream the safety circuits.

9.4.4 - ELEXP I/O

ELEXP Board Outputs are all relay based **Normally Open dry contact**.

To use this board as a call expansion, **connect 0V** to relay common **CC**, as shown in **Figure 13**; also in this case make sure that all **SW1 switches are set to ON**.
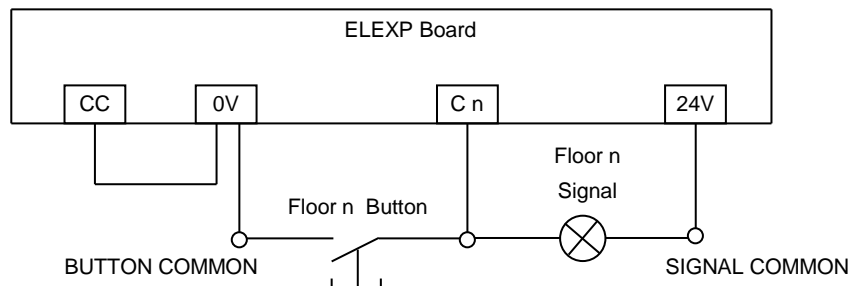

ELEXP Board

| CC | 0V | C n | 24V |

Floor n Signal

Floor n Button

BUTTON COMMON   SIGNAL COMMON

Figure 13

9.4.5 - LED Indicators

On ELEXP and ELECB boards there are two status LEDs which can be used for diagnostics:

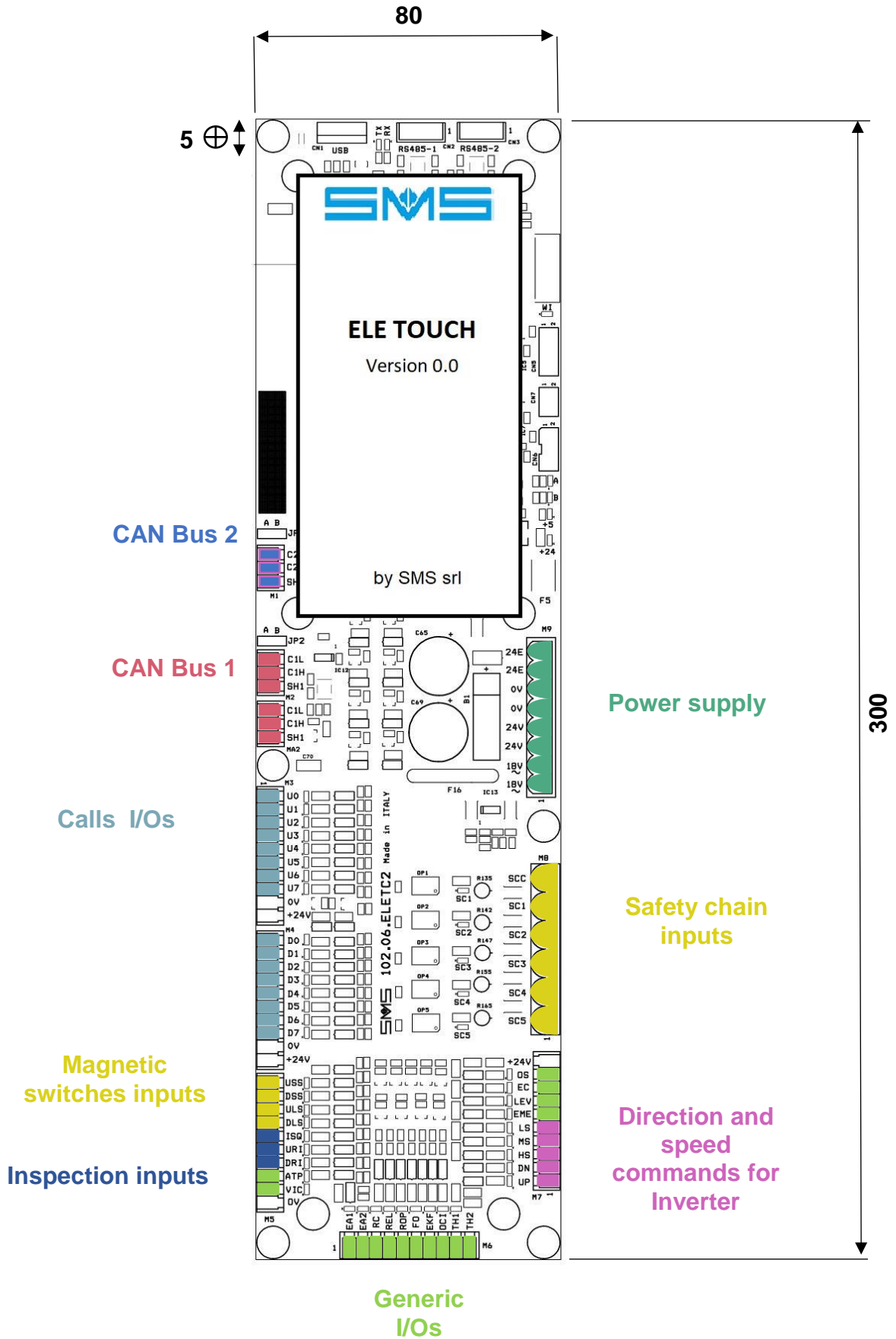| RED LED	Blinking	Microprocessor is working
GREEN LED	Blinking	CAN Communication OK
	Off	CAN Communication ERROR

Also on ELETOUCH board there are two status LEDs:

RED LED	On	Microprocessor is working
GREEN LED	Blinking	CAN Communication OK
	On	CAN Communication ERROR
	Off	CAN Communication not required

9.5 - Boards Layout

9.5.1 - ELETOUCH

CAN Bus 2

CAN Bus 1

Calls I/Os

Magnetic switches inputs

Inspection inputs

Power supply

Safety chain inputs

Direction and speed commands for Inverter

Generic I/Os

Dimensions: 80 x 300 x 50 mm

9.5.2 - ELECB

80

CAN Bus   Power supply

Calls I/Os

Generic I/Os

External
Display

Inspection inputs

Double car entrance
door inputs

Double car entrance
door controls

Car Light relay output

Automatic doors
inputs

Automatic door
controls

Generic I/Os
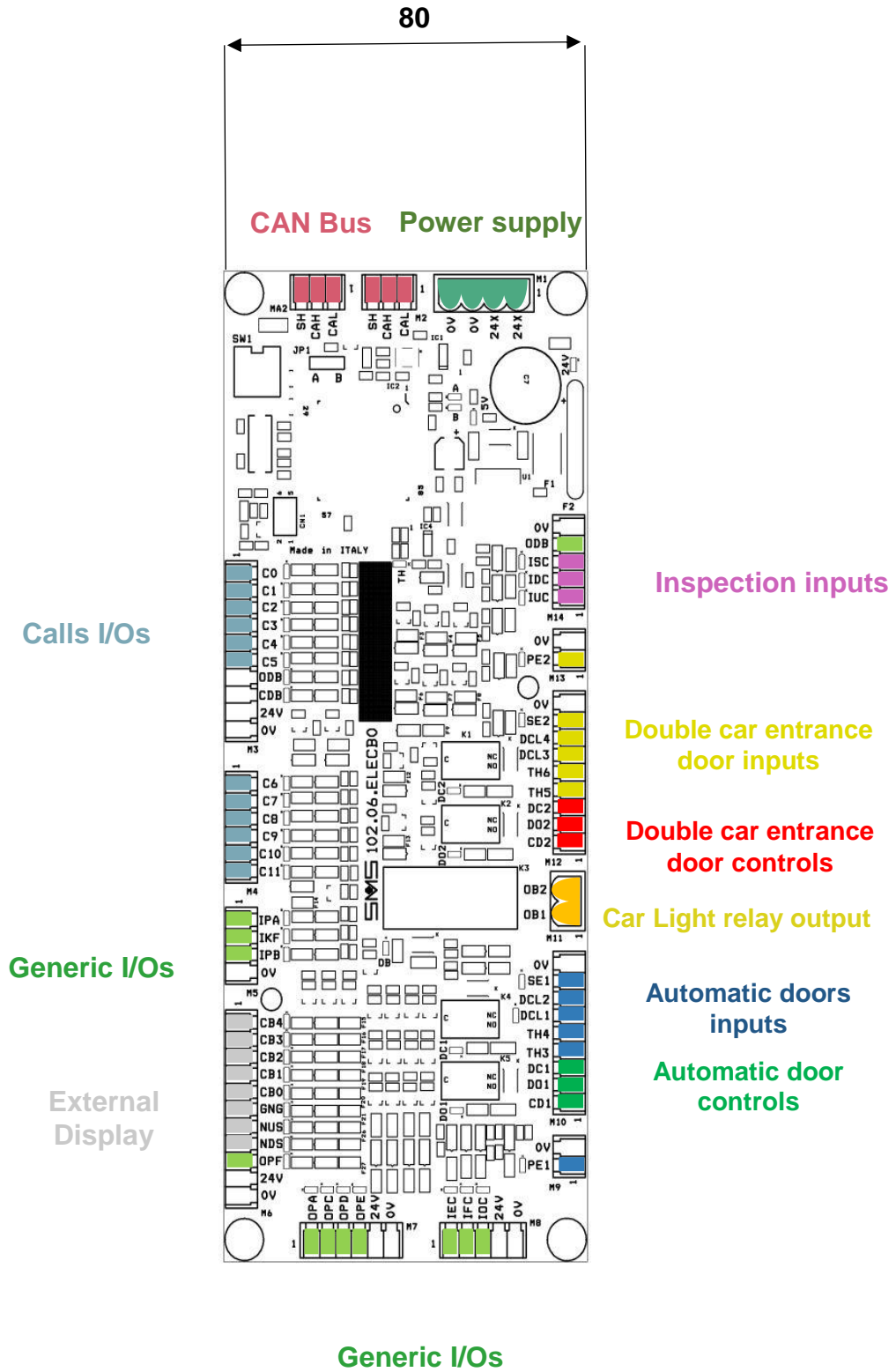
Dimensions: 80 x 200 x 32 mm

9.5.3 - ELEXP
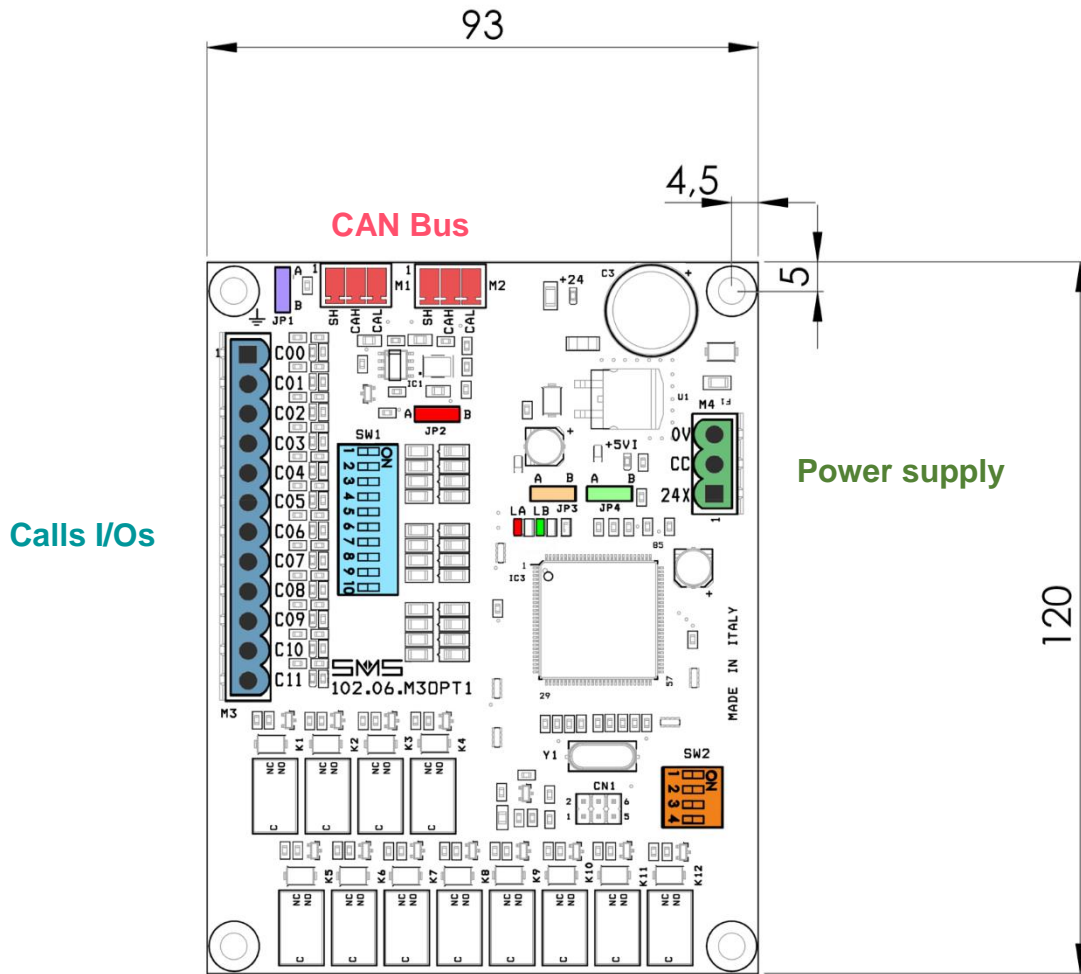
Dimensions: 93 x 120 x 32 mm - 4,5mm Ø

9.6 - CAN Bus

9.6.1 - Connection to CAN1 Bus

ELETOUCH is a CAN Bus based system, so this communication bus requires that every device is connected in parallel through **CAL** and **CAH** terminals.
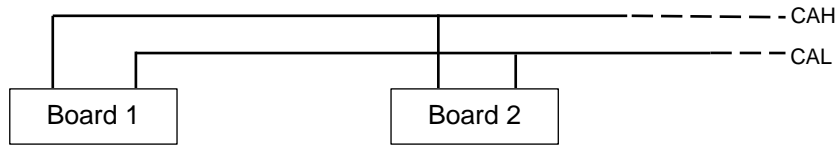
Figure 14

CAN Bus impedance should be around 60Ω, so every board has a Jumper that enables 120Ω in parallel, so only two jumper can be enabled in the system.

The boards have two CAN connectors (their terminals are in parallel to each other) to wire the boards of the system as a chain; enable resistance jumper always in the first and last board of the chain (the ones with one connector empty).

For Serial Car connection enable ELETOUCH (**JP2** on **B**) and ELECB (**JP1** on **B**) resistance, for Parallel Car connection enable ELETOUCH (**JP2** on **B**) resistance and the last ELEXP of the chain (**JP2** on **B**).

To ensure the best functionality, use of twisted pair cable is recommended, use of twisted pair shielded cable for CAN connection is better, especially if VVVF drives are present ; connect cable shield to **SH** terminals.

9.6.2 - Board Address

In CAN BUS systems every board has an unique address.
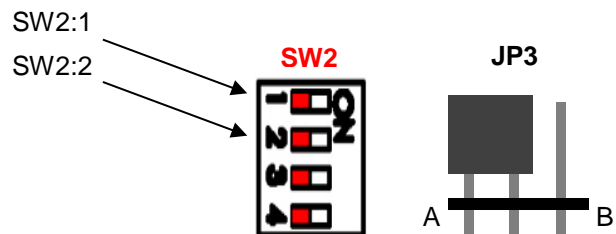
You can set a board address through some hardware switches:

- For ELEXP   **SW2** Dipswitch, **JP3** and **JP4** Jumpers
- For ELECB   **SW1** Dipswitch

► **ELEXP**

In ELEXP boards the address is set according to this table:

SW2:2	SW2:1	JP3	Address
OFF	OFF	A	0
OFF	ON	A	1
ON	OFF	A	2
ON	ON	A	3
OFF	OFF	B	4
OFF	ON	B	5
ON	OFF	B	6
ON	ON	B	7

JP4 jumper defines ELEXP Board function.

JP4	Function
A	Normal call expansion
B	Display Driver (see **6.3 - ELEXP As Display Driver**)

► **ELECB**

In ELECB Board **SW1** dipswitch behaves as **SW2** in ELEXP board; there is no **JP3** though, so only address numbers from 0 to 3 are available for this board.
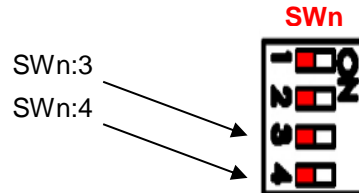
► Multiplex Operation

In multiplex operation set every board dipswitch according to the lift group that it is assigned.
For ELETOUCH the lift group is set by **F40** function (see **6.1 - Multiplex Operation**).
For ELEXP is set by the last two switches of **SW2, for** ELECB is set by the last two switches of **SW1**.

SWn:3	SWn:4	Lift group
OFF	OFF	LIFT 1
ON	OFF	LIFT 2
OFF	ON	LIFT 3
ON	ON	LIFT 4

Set lift group to one if multiplex operation is not active.

9.6.3 - CAN2 Bus for drive TKL connection

To enable CAN2 resistance for drive TKL set ELETOUCH jumper **JP1** on **B** then connect **C2H** and **C2L** to pin **H** and **L** in **CAN** connector drive TKL. Be sure that function **F04: Drive type** is set on "VVVF TKL".

9.6.4 - Troubleshooting

CAN Bus impedance can be measured with a multimeter from **C1L** terminal to **C1H** terminal and from **C2L** terminal to **C2H** terminal, with control panel disconnected from the power. Activate board jumpers until is ~ 60Ω as described in **9.6.2 - Connection to CAN1 Bus** and **9.6.3 - CAN2 Bus for drive TKL connection**

In Serial Car connection configuration, if shielded cable is not available, is important that CAN signals travel as far as possible from power signals in the travelling cable, especially if any VVVF are present.

If the CAN communication is correct, in automatic operation on every connected board a green led should flash continuously.

If in any ELEXP or ELECB board the green led does not flash, check if all the board address are correct according to the configuration used (see **4 - BOARDS CONFIGURATIONS** and **9.6.2 - Board Address**).

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CONFORMITY DECLARATION

Manifacturer: **SMS s.r.l.**

Address: **Via Guido Rossa, 46/48/50 – Loc. Crespellano 40053 Valsamoggia BO**

Product: **MICROPROCESSOR BOARDS FOR ELEVATORS**

Model or Type: **ELETOUCH SYSTEM**

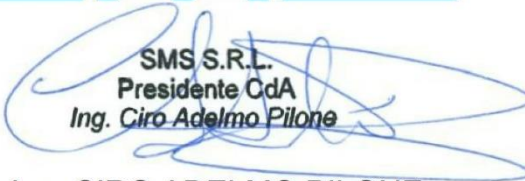The above product complies with the following EUROPEAN DIRECTIVES:

- **2014/33/UE   LIFT**
- **2014/30/UE   ELECTROMAGNETIC COMPABILITY (EMC)**

When installed as prescribed by the relative user manual.

To assess compliance, the following HARMONIZED STANDARDS were considered:

- **EN 81.1:2010**   **EN 81.2:2010**
- **EN 81-20: 2020**   **EN 81.21: 2018**
- **EN 81-41: 2011**   **EN 81-50: 2020**
- **EN 81-72: 2020**   **EN 81-73: 2020**
- **EN 12015: 2020**   **EN 12016: 2013**

Date: 08/04/2022

SMS S.R.L.
Presidente CdA
Ing. Ciro Adelmo Pilone

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