

LC 100

CAN bus
microprocessor
elevator system

user
manual



making technology
simple

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1. General

LC100 is a microprocessor control system for elevators up to 40 stops and 8 elevators in multiplex work. The system is universal and applicable to a wide variety of requirements that are set to control a new generation of all types of elevators up to 4m/s..

The system is modular with the basic concept that signals are processed on the spot and the output signals are generated where needed. Communication between modules is realized with very robust standardized industrial CAN bus to meet the latest achievements in technology of CAN communications.

System is mainly produced in SMT technology (surface mounting technology). The system is designed with components that meet the low power consumption. All boards have passed several tests: electrical test of printed boards before assembling, functional test after production and temperature and load test for each lot.

The system meets the following standards:

EN 81-1, EN 81-2, EN81-A3
 EN 12015, EN 12016,
 EN 55011, EN 61000-4-2, EN 61000-4-3,
 EN 61000-4-4, EN 61000-4-5, EN 61000-4-6, EN 61000-4-11
 EN 81-20, EN81-50, EN81-21

Basic features:

- The universal program for all types of installation with the possibility of complete user settings with LCD mobile terminal, personal computer or through the internet.
- Applicability to all known types of drive elevators (adaptability to different systems of control plants), different types and kinds of doors, a passing cab.
- A short floor distances, relabeling, door preopening, several types of parking, more fire zones, loading and unloading of the building, driving priority.
- Different modes of call processing, with emphasis on energy saving and lighting and ventilation energy saving management.
- Module connection with connectors – plugs & plays system.
- Universal traveling cable for all kind of installation prewired for easy connecting.
- Different types of copying the position of the cab.
- Cabinet load measurement.
- Monitoring the temperature of the engine and control cabinets.
- Landing correction for each floor.
- Parameter selection for signalization.
- More than 100 parametric timers for various applications.
- Real time failure statistics.
- Small size plate which provide a control cabinet of width 120 mm.
- Safety circuit voltage from 24 DC to 230 AC.
- Adaptability to new installations and modernization.
- Monitoring system via Internet.

Modules of LC100 system:

LC100-C Main control board
 LC100-K Cabin input-output board
 LC100-S Safety circuit controlling board
 LC100-Z Cabin connection board with emergency power supply 12VDC
 LC100-I Shaft input-output board
 LC100-B CAN bridge board
 LC100-M3, M4, M5, M6, M8 Landing call unit with dot matrix floor indicator
 LC100-M7 Landing call unit with seven segment floor indicator
 LC100-G Monitoring connection board
 LC100-R, T Relay board with 4 relays (R) and 8 relays (T)
 LC100-E, J Input-output board
 LC100-F Additional in-out board (16 I/O)
 LC100-V Weight measurement board (available from 11/2011)

2. LC100 boards description

2.1 LC100-C main control unit

LC100-C is a central control system plate of a LC100 system. In addition to processing input and output information management and storage system parameters, plate has the function of communication between peripheral I / O plate system. Communication between different parts of the system is based on CAN communication. The system has two independent CAN channels. One is used for CAN communication with the boards on the level of simplex and the other for connection of the landing call boards for multiplex and the communication to the monitoring system.

Input Power for the system (XC13) is 24 VDC. Voltage tolerance is +10 / -20%. To operate the processor power is converted through a DC / DC converter to the 5V. Input voltage (24 VDC) is transmitted directly to the connectors XC1 to XC4, the power is connected across a diode to the XC12 connector for connecting a landing call boards in multiplex operation. All connectors are different colours and pitches.

Main functions:

- 2 independent CAN bus.
- 14 programmable optocoupler inputs with status LED indicators.
- 6 opt coupler inputs for connecting the LC100-S safety circuit board.
- 8 programmable digital outputs.
- Input for connection of an inductive sensor (NPN) that is used in certain types of copying the position of the cabin.
- Analog input for PTC probe resistance measurement with adjustable resistance tripping.
- Real-time clock with battery supply.
- Measurement of ambient temperature with adjustable temperature range operation.

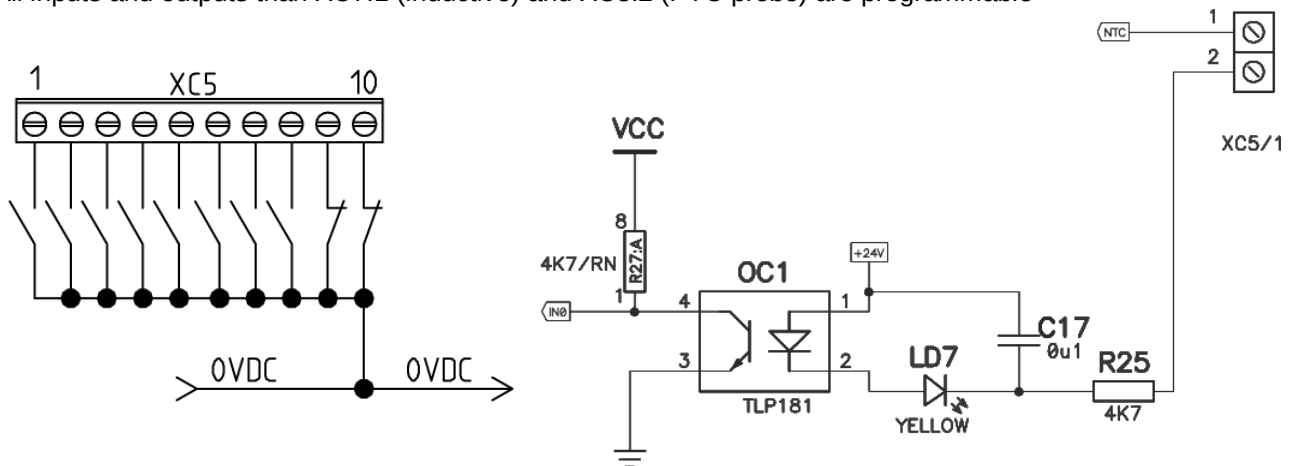
Pin: 2 on the input connector XC8 is used for connection of PTC sensor and has the ability to customize the level of tripping over the parameter [I-01](#) and [I-02](#).

Pin XC7: 1 on the connector is for connecting an inductive sensor type NPN to copy elevator position.

All digital inputs are optocoupler with LED status indication of input.

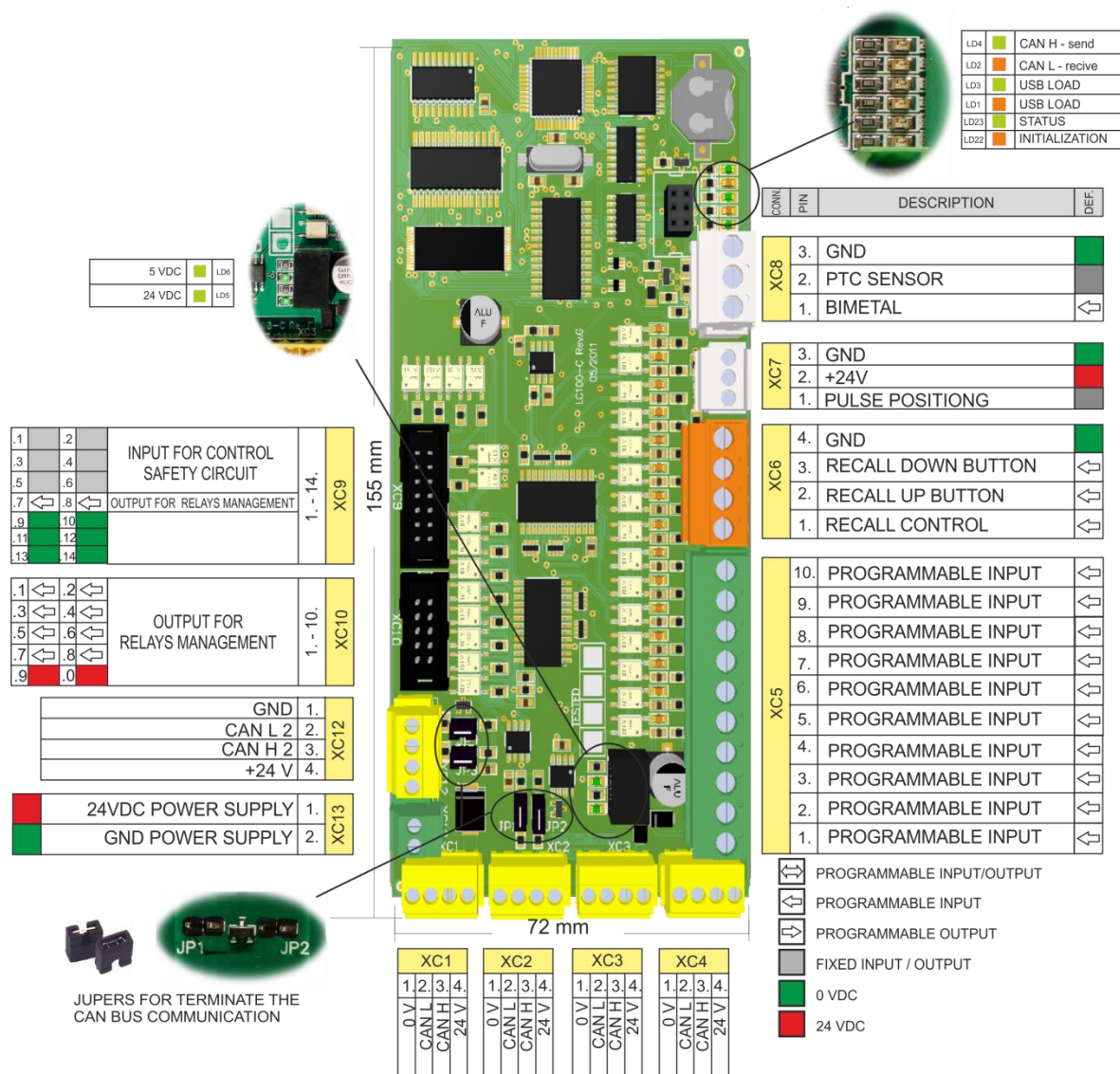
Board is equipped with CR1220-C1 3V battery for storing parameters and statistics.

All inputs and outputs than XC7.1 (inductive) and XC8.2 (PTC probe) are programmable

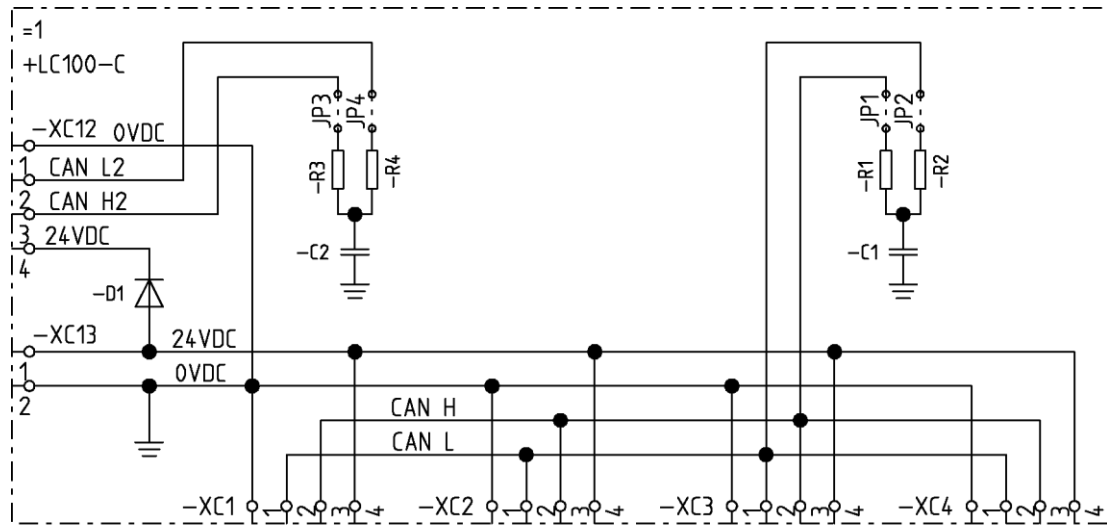


Picture 1 - Example of connecting the inputs.

The example in Figure 1 shows a way of connecting the inputs on the LC100-C plate, the polarity configuration inputs (NO or NC) is available on all inputs through the configuration parameters [TYPE-N](#).



Power supply for LC100-C board:



JP1, JP2 JUMPERS FOR CAN1 BUS LINE TERMINATION
JP3, JP4 JUMPERS FOR CAN2 BUS LINE TERMINATION

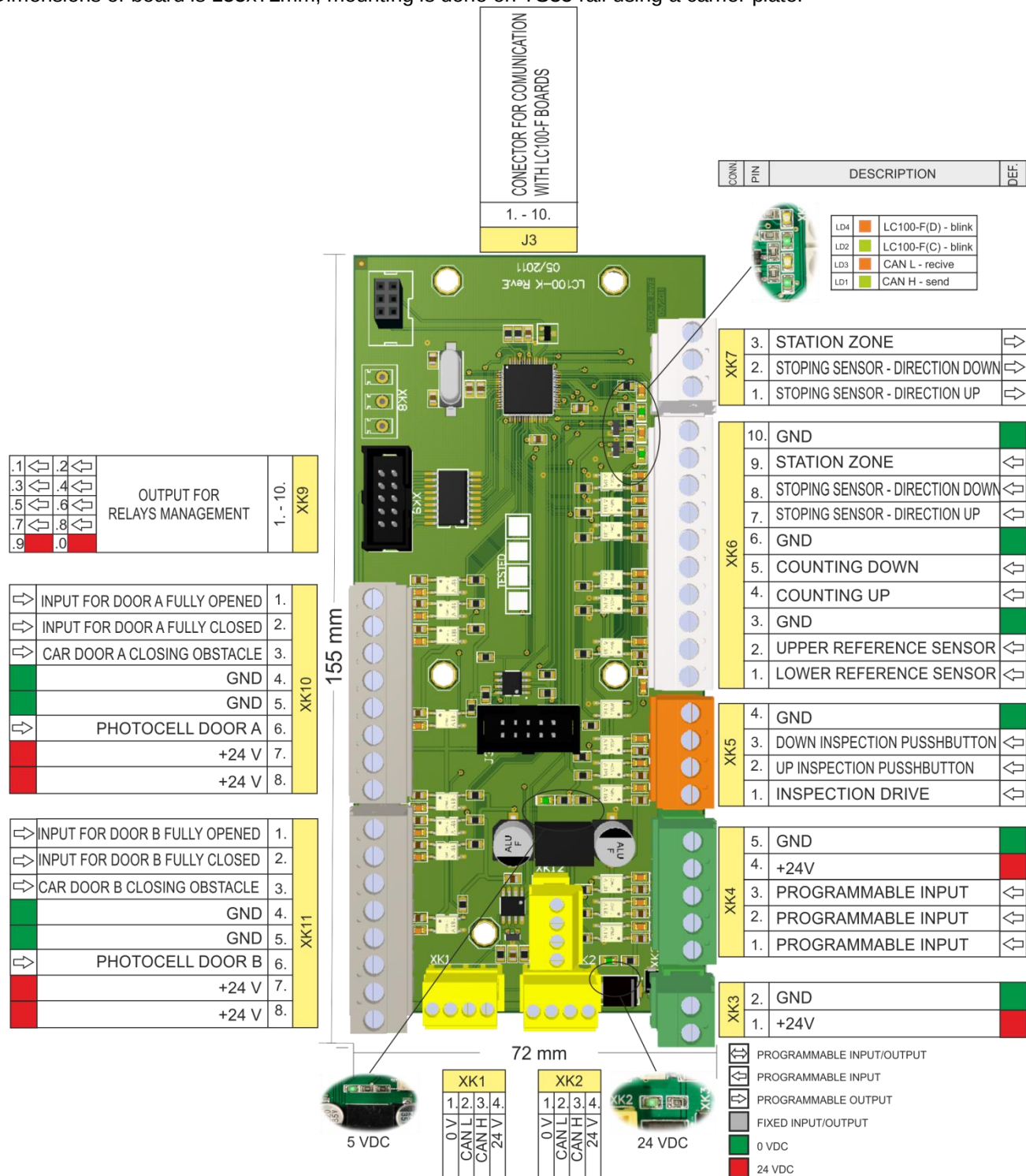
2.2 LC100-K cabin I/O board

LC100-K board is used as an input/output unit for elevator cabin.

Supply is 24VDC and is powered via CAN / power connector XK1, XK2.

All inputs and outputs on the LC100-K board are programmable. You can change the polarity of the inputs (NO or NC) and output (NOR or INV).

Dimensions of board is 155x72mm, mounting is done on TS35 rail using a carrier plate.



Picture 3 - LC100-K board

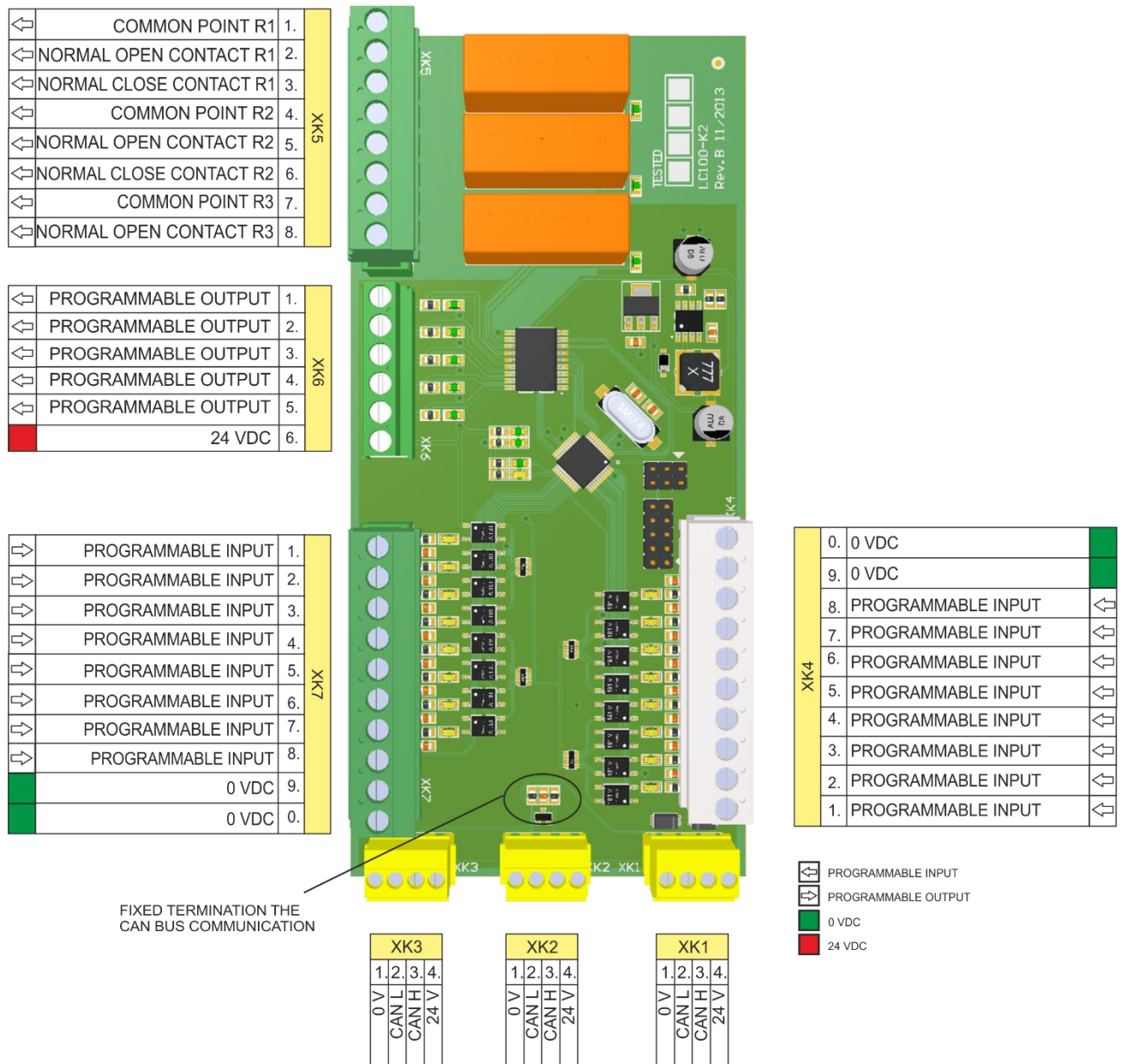
2.3 LC100-K2 cabin I/O board

LC100-K2 board is used as an input/output unit for elevator cabin.

Supply is 24VDC and is powered via CAN / power connector XK1, XK2, XK3

All inputs and outputs on the LC100-K2 board are programmable. You can change the polarity of the inputs (NO or NC) and output (NOR or INV).

Dimensions of board is 155x72mm, mounting is done on TS35 rail using a carrier plate.



Picture 4 - LC100-K2 board

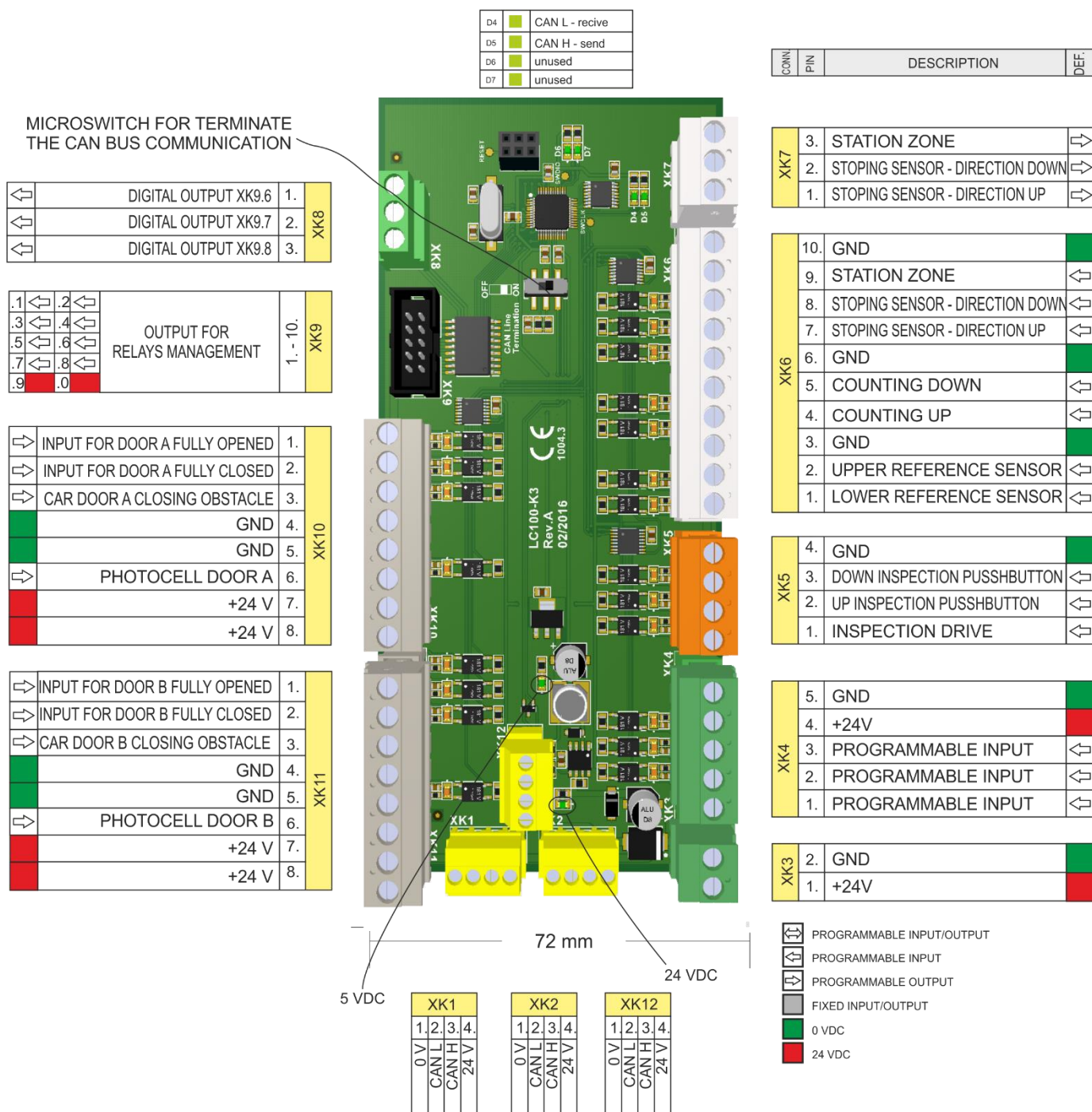
2.4 LC100-K3 cabin I/O board

LC100-K3 board is used as an input/output unit for elevator cabin.

Supply is 24VDC and is powered via CAN / power connector XK1, XK2, XK12.

All inputs and outputs on the LC100-K3 board are programmable. You can change the polarity of the inputs (NO or NC) and output (NOR or INV).

Dimensions of board is 155x72mm, mounting is done on TS35 rail using a carrier plate.



Picture 5 - LC100-K3 board

2.5 LC100-S safety circuit board

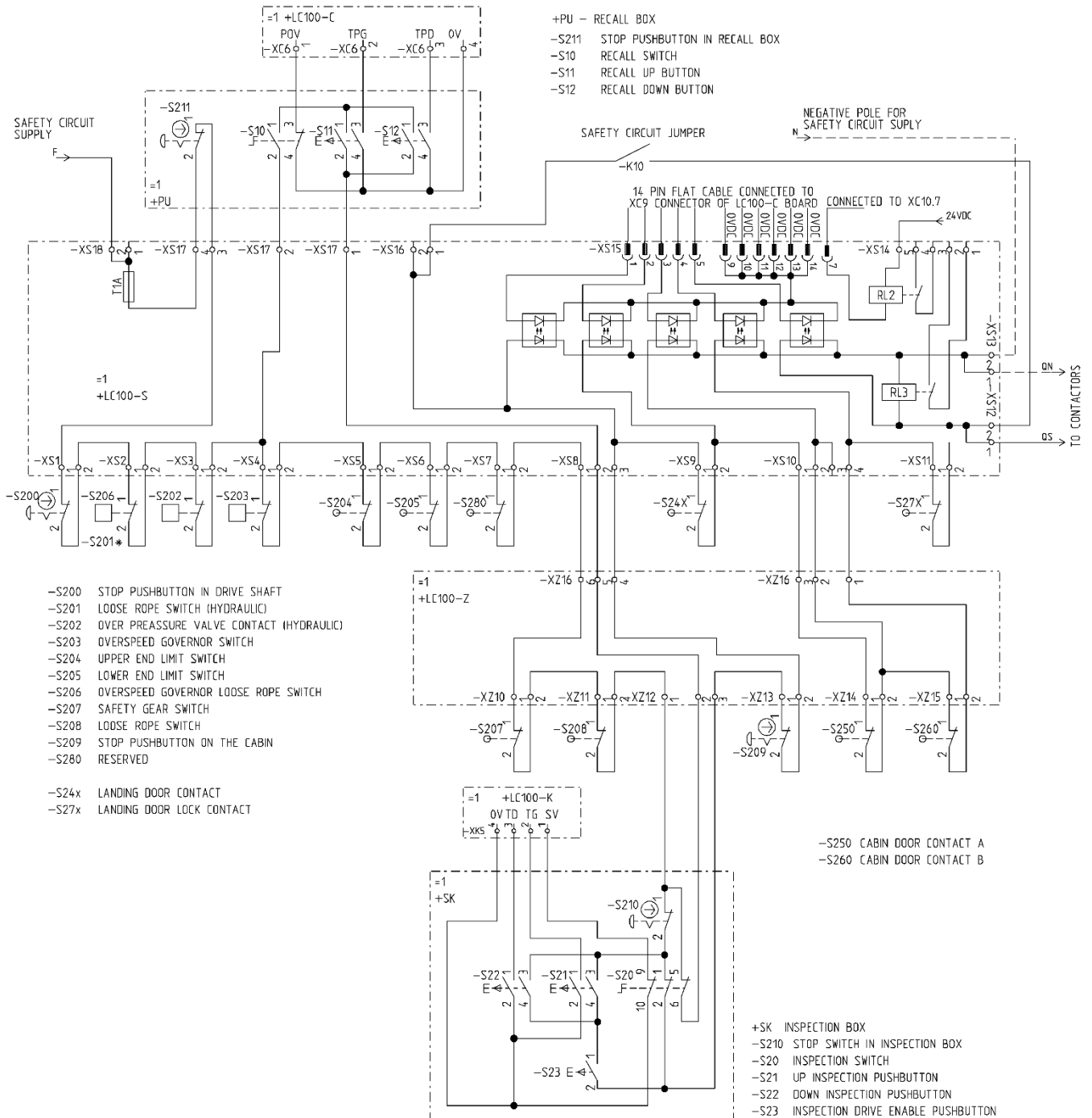
LC100-S safety board is used to connect elements of a safety circuit. Information about points of safety circuit is transferred to lower voltage through optocoupler and then transferred through XS15 flat connector to main LC100-C board.

Elements of a safety circuit are connected to connectors XS1 to XS16 which are red coloured. On the board there is a safety fuse and status LED diodes.

There is two versions of LC100-S board according to the safety circuit voltage:

1. 220VAC and 48VAC (with capacitors)
2. 48VDC (short circuited capacitors).

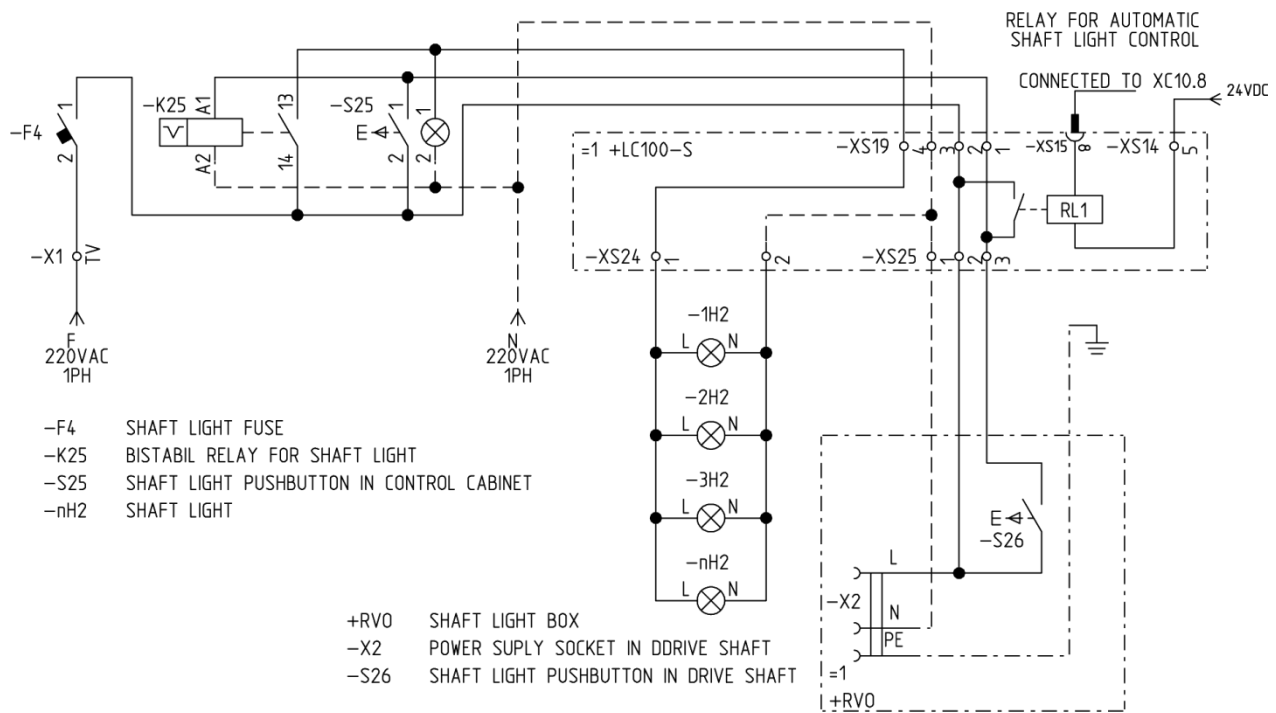
Connection diagram for safety circuit:



On LC100-S board there are also connectors for connecting the drive shaft light with LED indicator and controlling the status for automatic control of the light (the light is powered automatically when the inspection mode is on). Shaft lighting is controlled by relay RL1 with output parameter XC10.2.

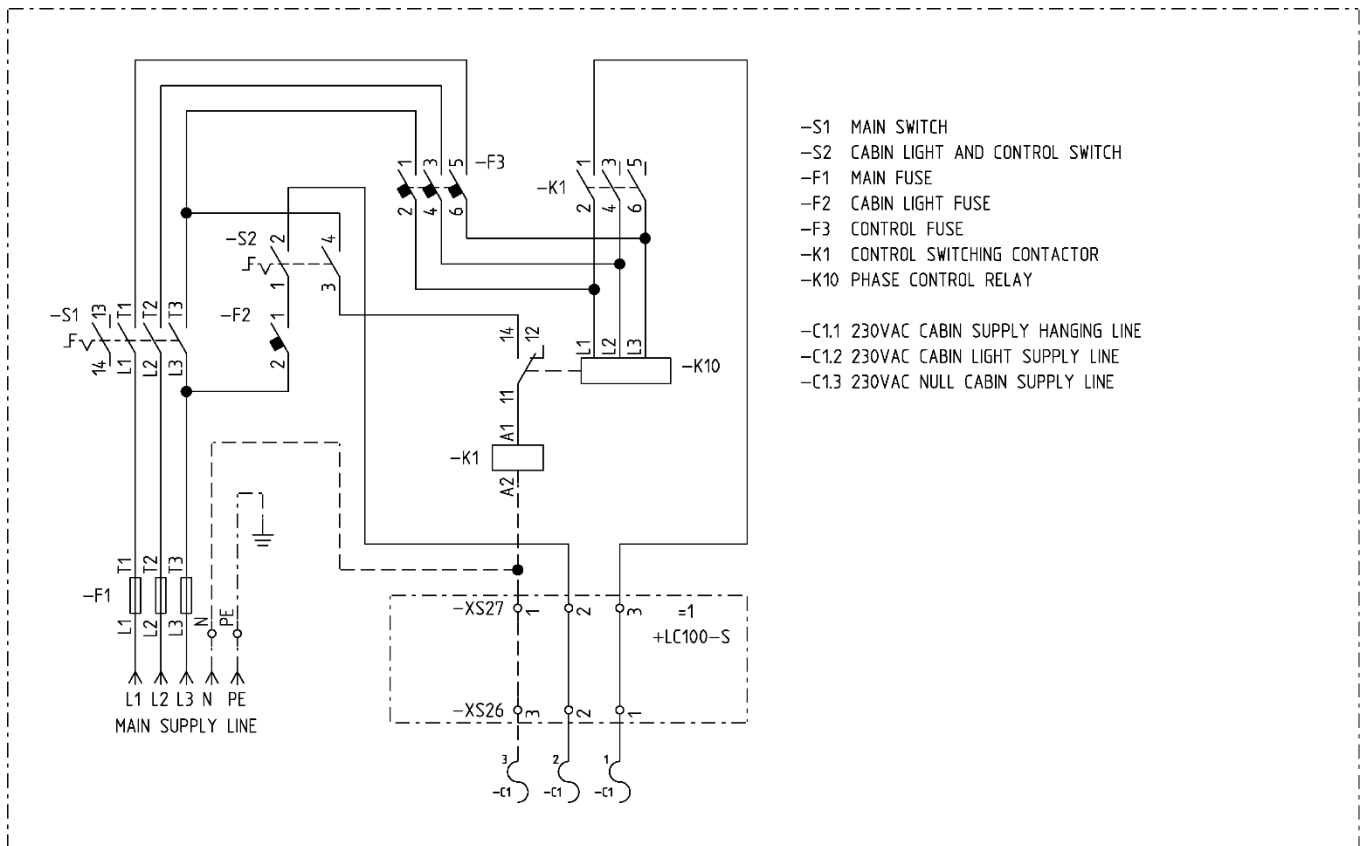
- XS19 – input connector for shaft light power supply.
- XS25 – connector for shaft light box in the drive shaft pit.
- XS24 – connector for shaft light.

Shaft light connection diagram:



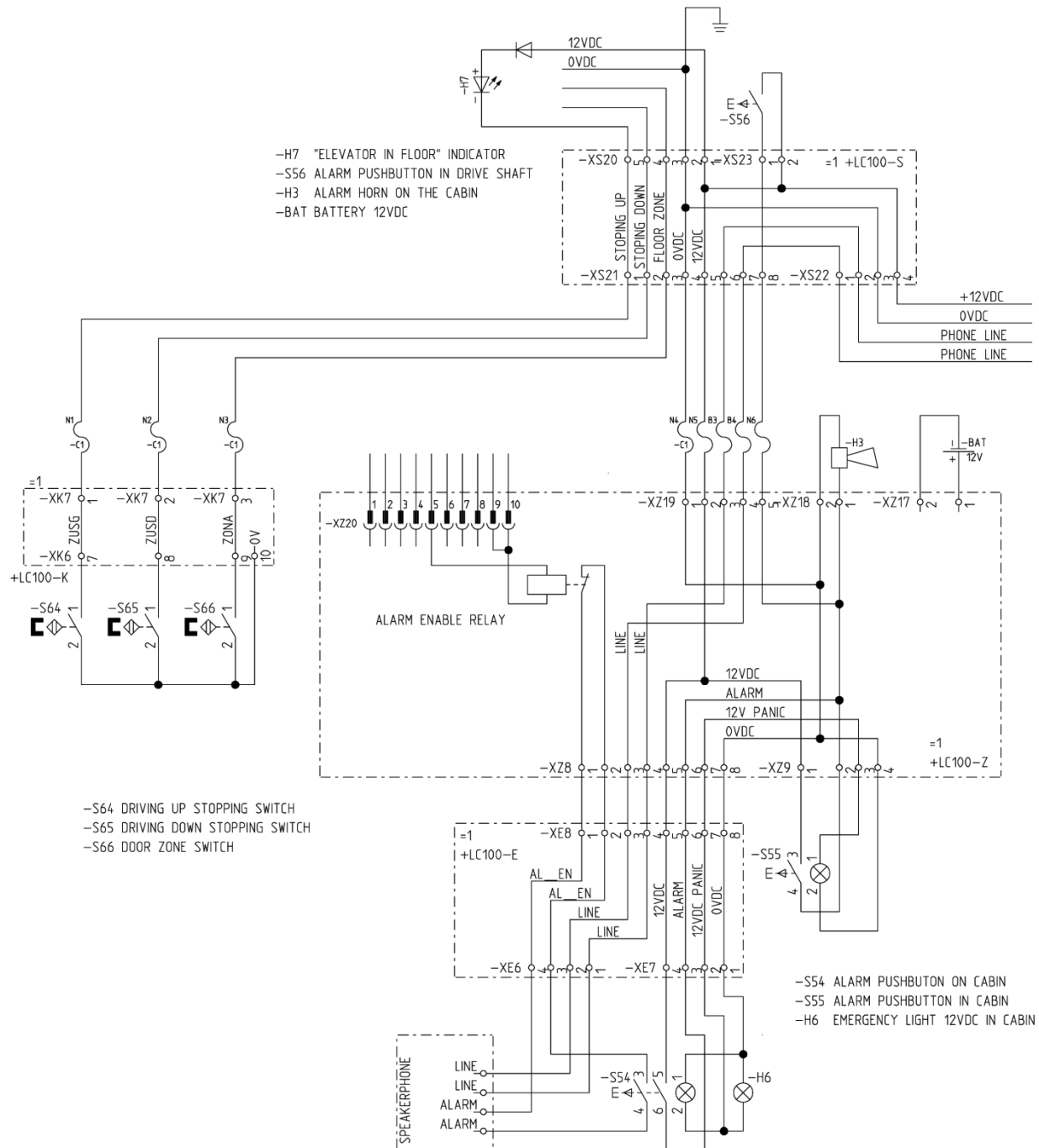
XS27 connector is a power supply 230VAC for cabin, XS26 connector is output power supply for the cabin connected with the traveling cable.

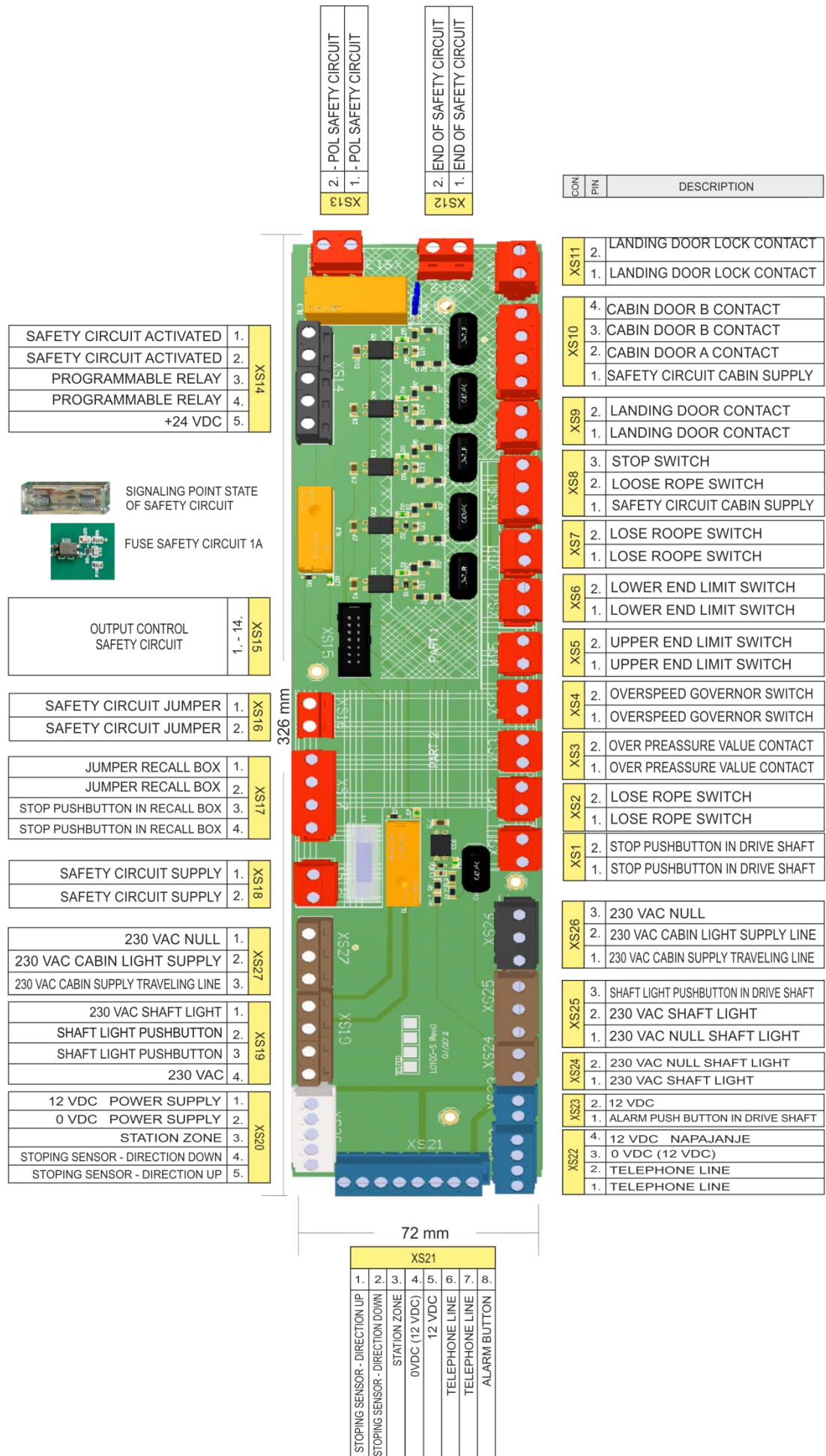
Cabin power supply connection diagram:



- XS20 output connector is used for connecting "elevator in the station " indicator, and connecting safety module for applications with releveling or preopening the doors..
- XS21 input connector for signals from the cabin (travelling cable)
- XS22 connector for speaker phone in machine room.
- XS23 connector for alarm pushbutton in drive shaft.

Alarm and speaker phone connection diagram:





Picture 5 - LC100-S board

2.6 LC100-SR safety circuit board

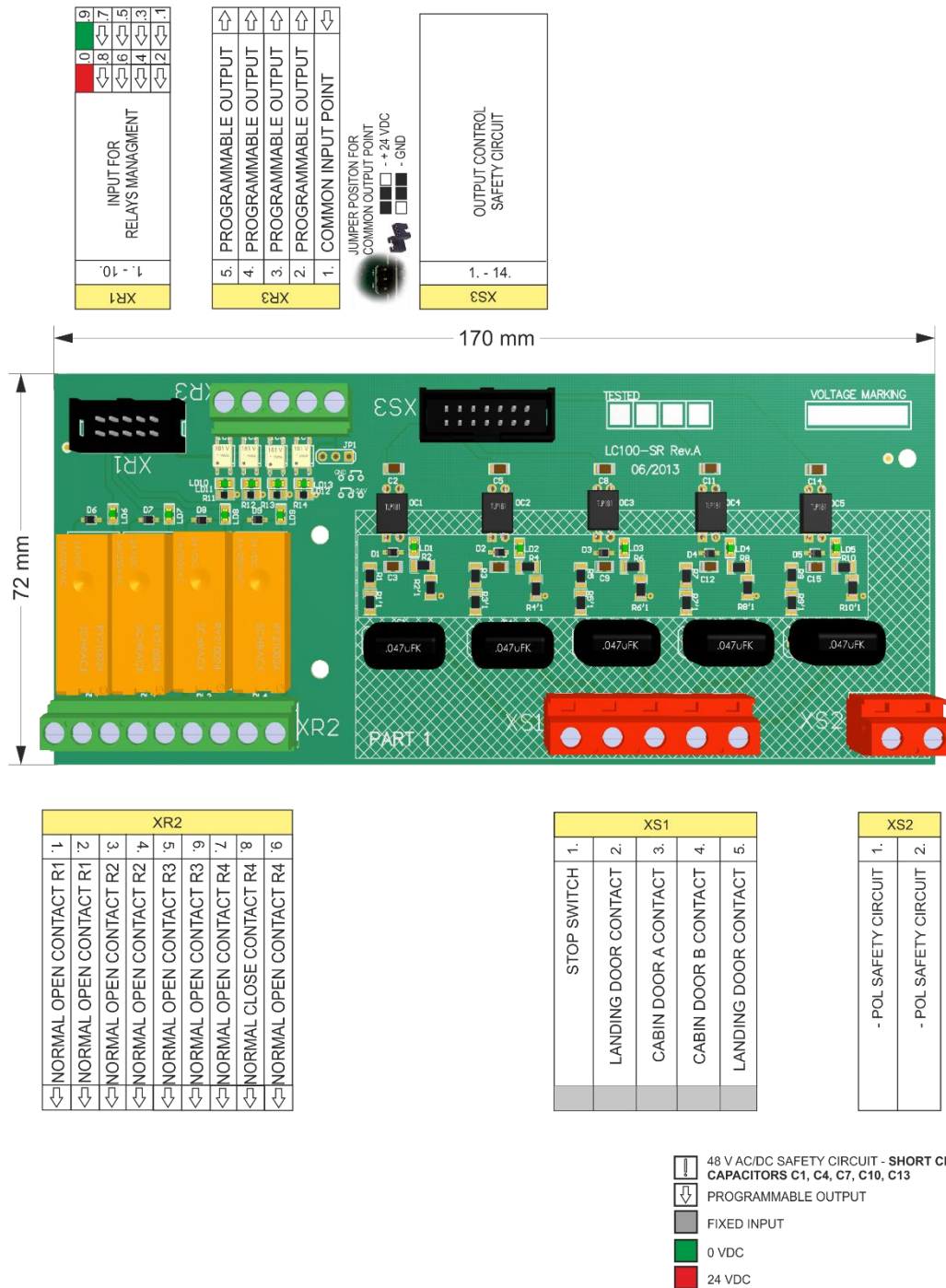
LC100-SR safety board is used to connect elements of a safety circuit. Information about points of safety circuit is transferred to lower voltage through optocoupler and then transferred through XS3 flat connector to main LC100-C board.

Elements of a safety circuit are connected to connectors XS1 to XS2 which are red coloured. On the board there is a safety fuse and status LED diodes.

There is two versions of LC100-SR board according to the safety circuit voltage:

3. 220VAC and 48VAC (with capacitors)
4. 48VDC (short circuited capacitors).

Connection diagram for safety circuit:



2.7 LC100-SR2 safety circuit board

LC100-SR2 safety board is used to connect elements of a safety circuit. Information about points of safety circuit is transferred to lower voltage through optocoupler and then transferred through CAN bus communication, X1,X2,X8 connector to main LC100-C board.

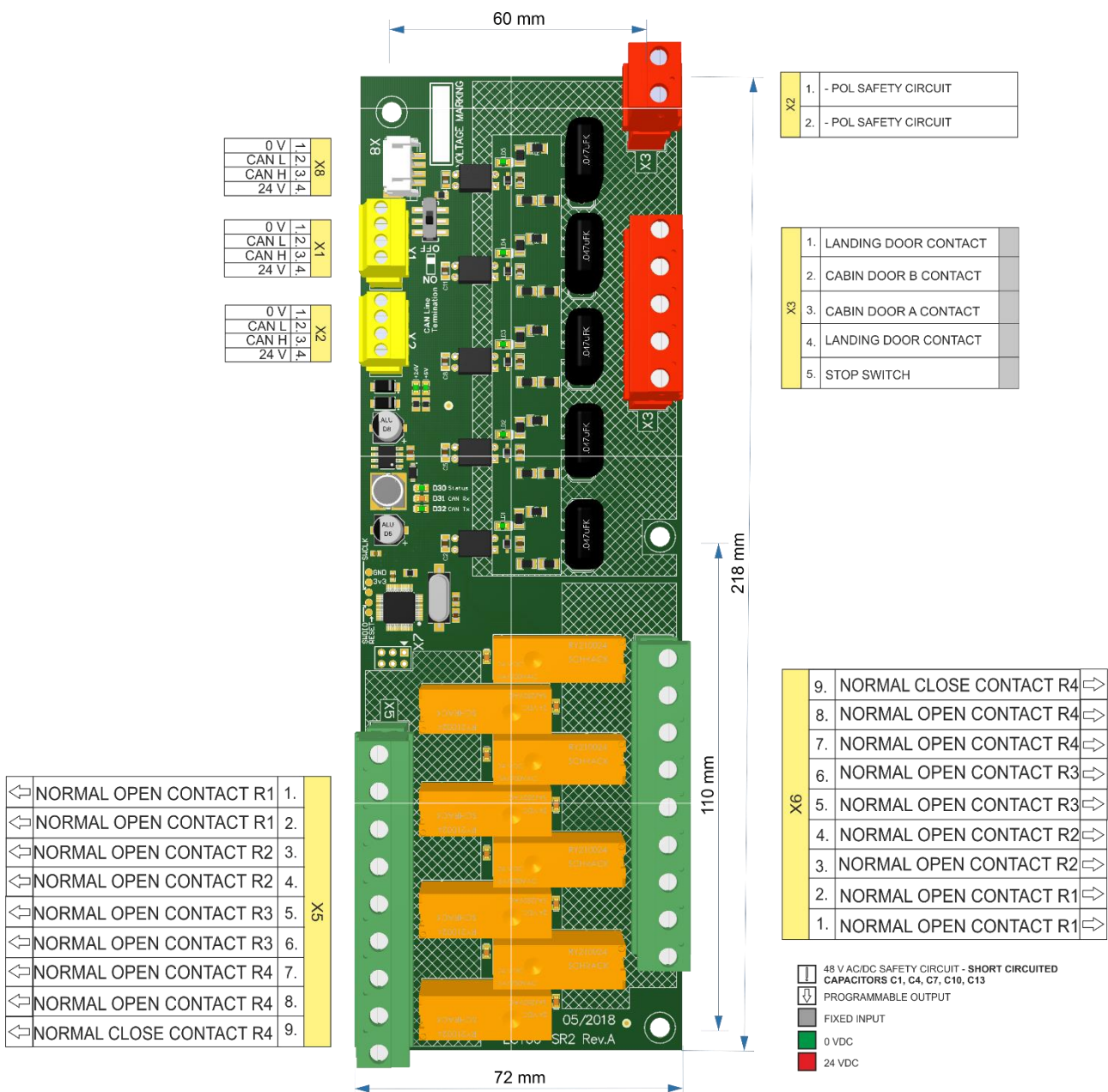
Elements of a safety circuit are connected to connectors X3 to X2 which are red coloured.
On the board there is a safety fuse and status LED diodes.

There exist 8 relays for output connection (X5, X6).

There is two versions of LC100-SR2 board according to the safety circuit voltage:

1. 220VAC and 48VAC (with capacitors)
2. 48VDC (short circuited capacitors).

Connection diagram for safety circuit:



2.8 LC100-E input-output unit for cabin calls

LC100-E board of the system is used as input / output unit. The main purpose of the board is for cabin call processing. It consists of CAN communication connector XE1 and XE2, and connectors with I / O pins and XE3 XE4. XE5 connector for connecting additional input-output board LC100-F.

The system can have two LC100-E boards addresses "0" and address "1".

Addressing LC100-E board is performed by inserting a jumper JP3.

- No jumper JP3 board address "0" - LC100-E0
- With jumper JP3 board address "1" - LC100-E1

All I / O pins are programmable and are equipped with LED indication to monitor the status of inputs / outputs.

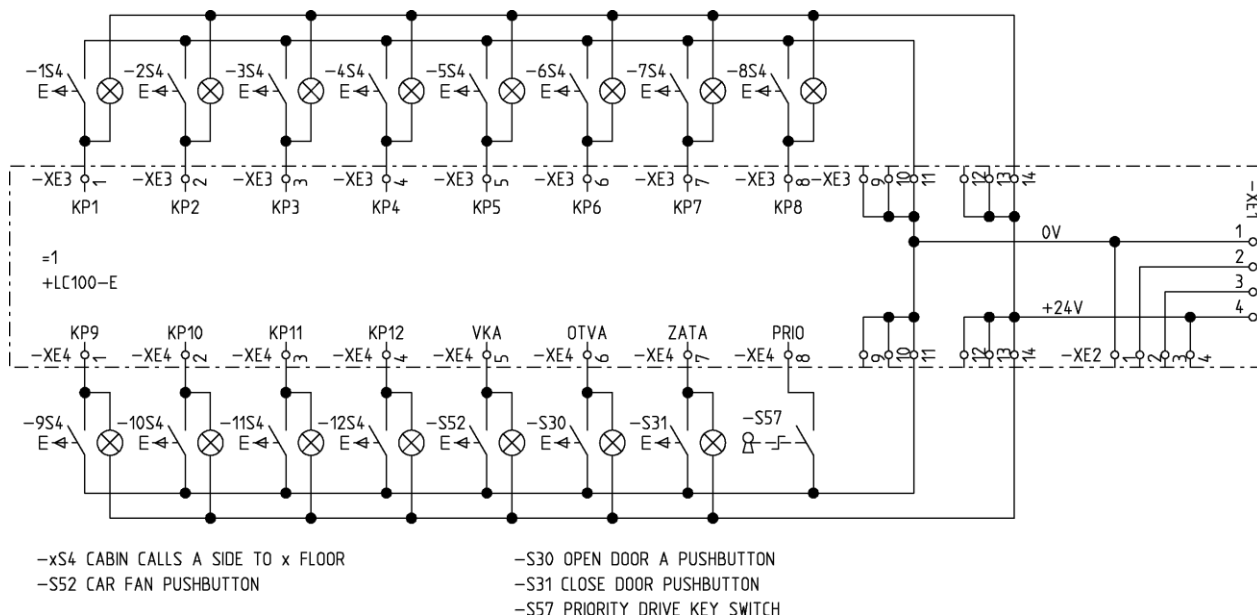
XE4.7 XE4.8 pins and are used for managing matrix indicator if the pins do not have function.

Jumpers JP1 and JP2 are used to terminate the CAN bus communication.

Input supply is 24VDC and it is powered through the CAN-power connector.

Dimensions is 42x200mm board, installation is done installing the spacers.

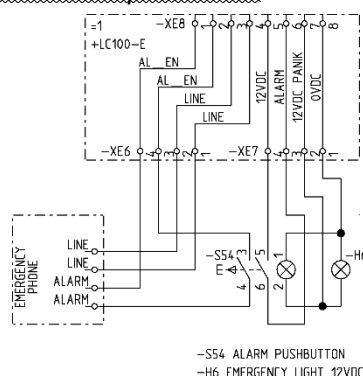
Cabin comands wiring diagram:

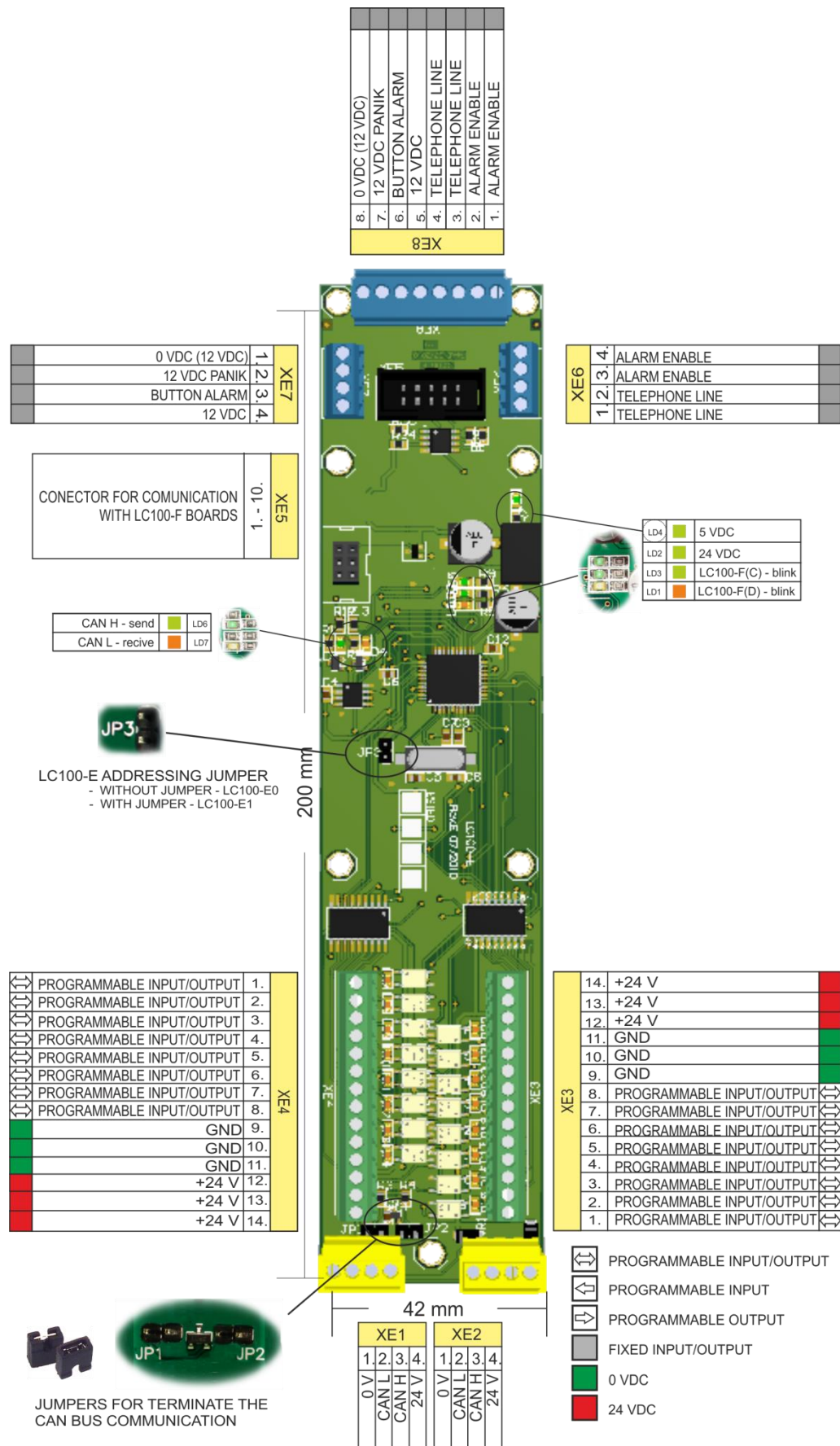


LC100-E board also contains connectors for connecting alarm push button, emergency phone and emergency power supply in the cabin.

- XE6 connector for connecting a voice device
- XE7 connector for connecting alarm pushbutton.
- XE8 connector for connecting LC100-E with LC100-Z board.

Connection diagram for alarm pushbutton





Picture 4 - LC100-E board

2.9 LC100-E2 in/out board

LC100-E2 board of the system is used as input / output unit. The main purpose of the board is for cabin call processing. It consists of CAN communication connector XE1 and XE2, and connectors with I / O pins XE3 XE4.

The system can have 8 LC100-E2 boards addresses LC100-E0, E1, E0(FC), E0(FD), E1(FC), E1(FD), LC100-K(FC), K(FD)..

Addressing LC100-E2 board is performed by software addressing menu

All I / O pins are programmable and are equipped with LED indication to monitor the status of inputs / outputs.

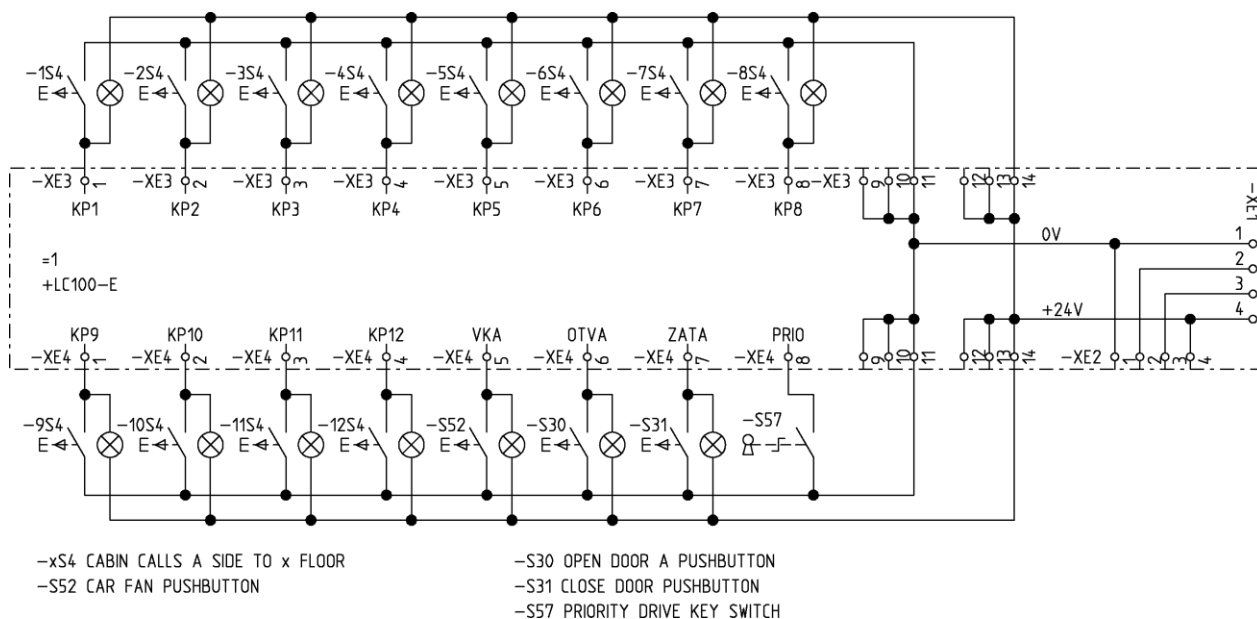
XE4.7 XE4.8 pins and are used for managing matrix indicator if the pins do not have function.

Jumpers JP1 and JP2 are used to terminate the CAN bus communication.

Input supply is 24VDC and it is powered through the CAN-power connector.

Dimensions is 172x42mm board, installation is done installing the spacers.

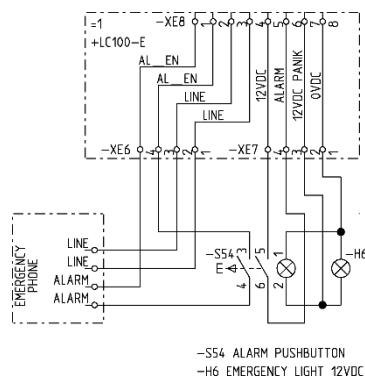
Cabin commands wiring diagram:

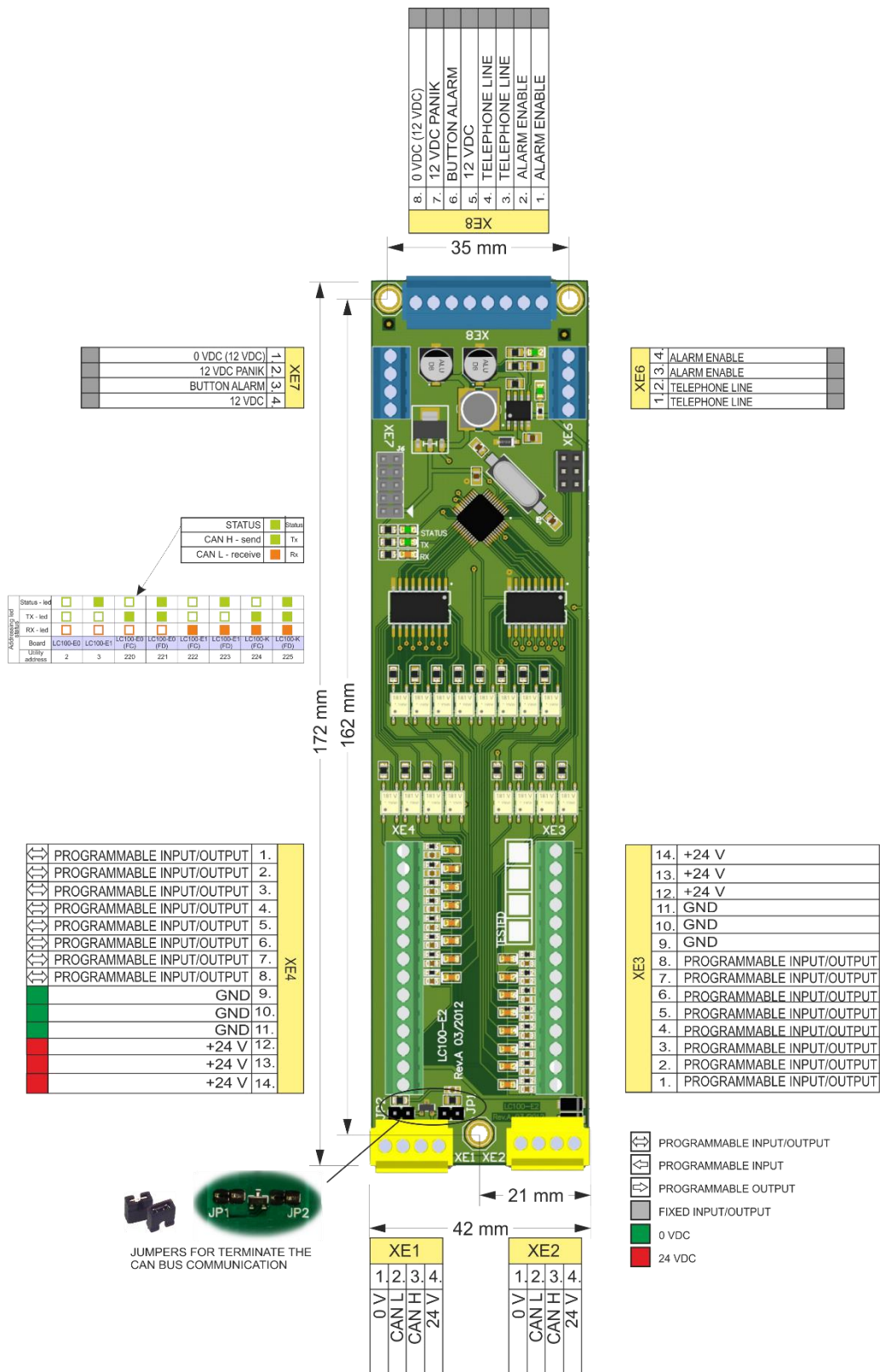


LC100-E2 board also contains connectors for connecting alarm push button, emergency phone and emergency power supply in the cabin.

- XE6 connector for connecting a voice device
- XE7 connector for connecting alarm pushbutton.
- XE8 connector for connecting LC100-E2 with LC100-Z board.

Connection diagram for alarm pushbutton





Picture 6- LC100-E2 board

2.10 LC100-E3 cabin I/O board

LC100-E3 board of the system is used as input / output unit. The main purpose of the board is for landing and cabin call processing. It consists of CAN communication connector XE1 and XE2, and connector with I / O pins XE3 and XE4.

The system can have 8 LC100-E3 boards addresses LC100-E0, E1, E0(FC), E0(FD), E1(FC), E1(FD), LC100-K(FC), K(FD)..

Addressing LC100-E3 board is performed by software addressing menu

All I / O pins are programmable and are equipped with LED indication to monitor the status of inputs / outputs.

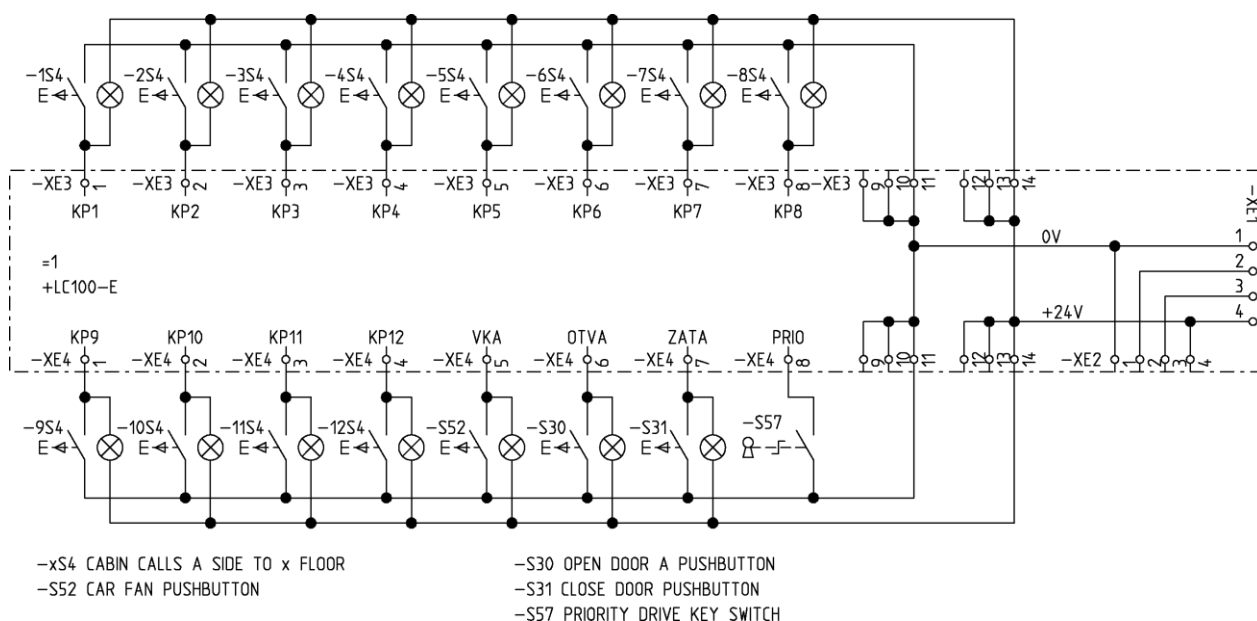
XE4.7 XE4.8 pins and are used for managing matrix indicator if the pins do not have function.

Jumpers JP1 and JP2 are used to terminate the CAN bus communication.

Input supply is 24VDC and it is powered through the CAN-power connector.

Dimensions is 172x42mm board, installation is done installing the spacers.

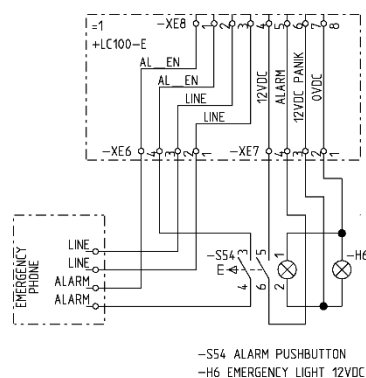
Cabin commands wiring diagram:

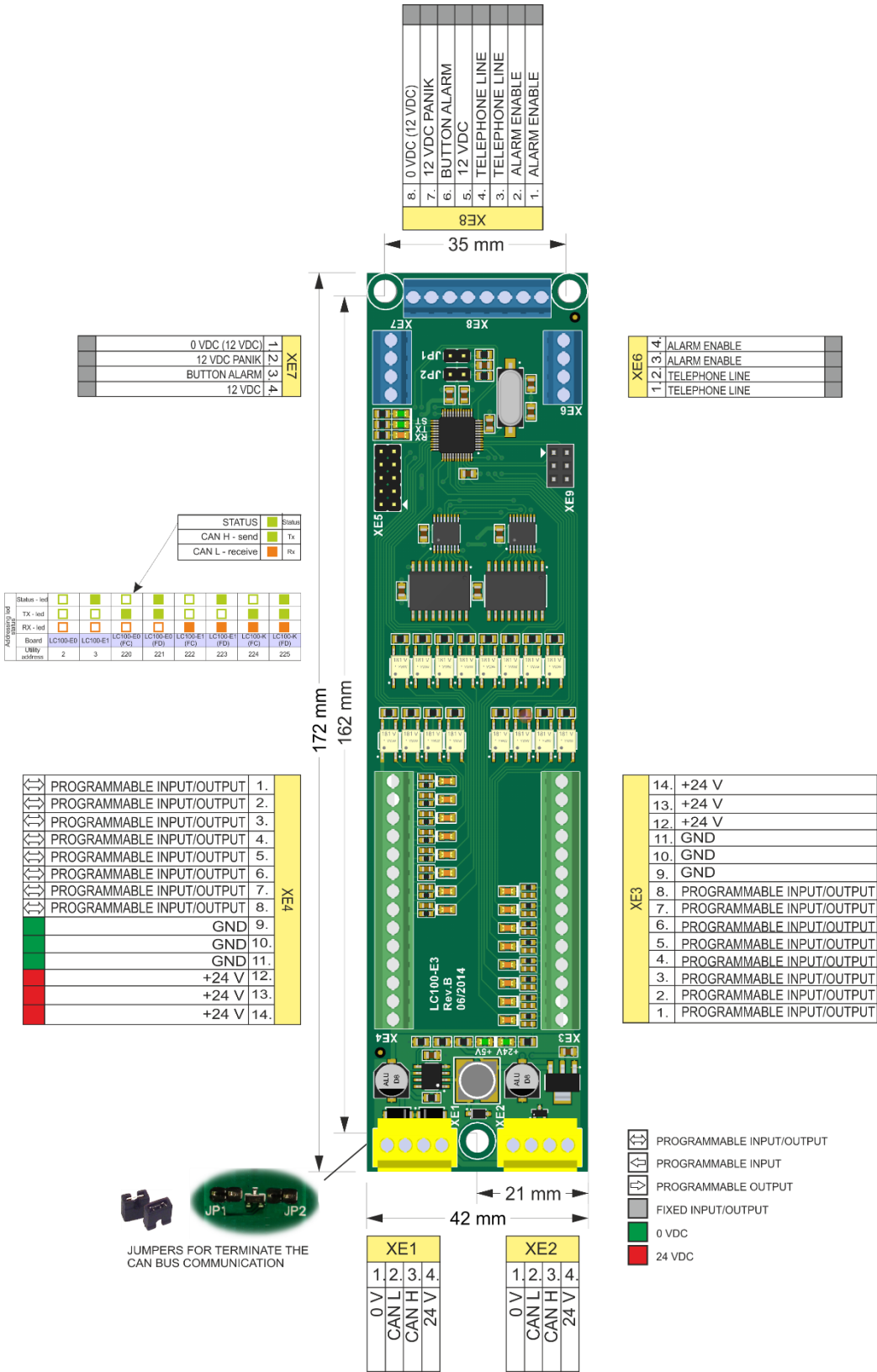


LC100-E3 board also contains connectors for connecting alarm push button, emergency phone and emergency power supply in the cabin.

- XE6 connector for connecting a voice device
- XE7 connector for connecting alarm pushbutton.
- XE8 connector for connecting LC100-E3 with LC100-Z board.

Connection diagram for alarm pushbutton





Picture 7- LC100-E3 board

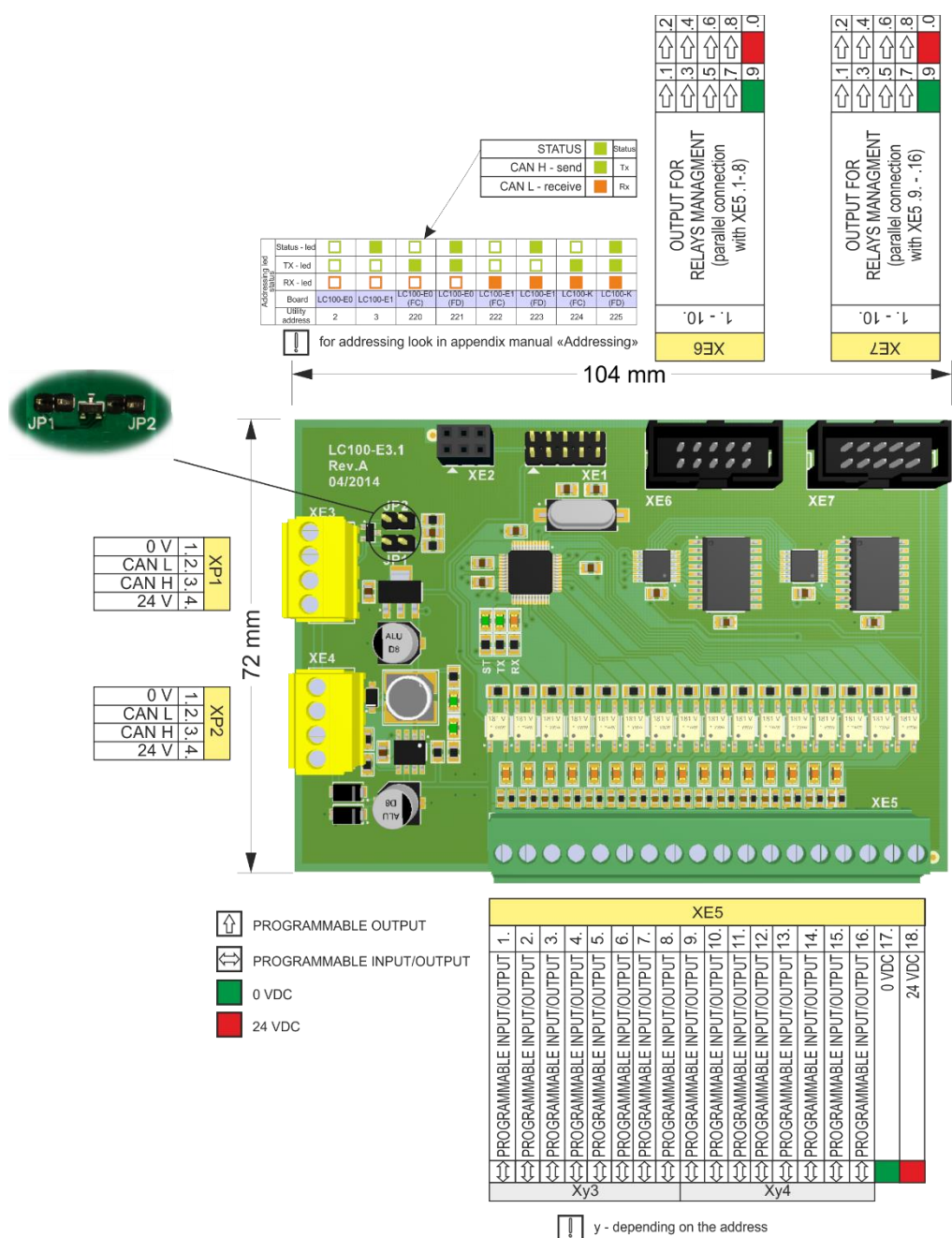
2.11 LC100-E3.1 cabin I/O board

LC100-E3.1 board of the system is used as input / output unit. The main purpose of the board is for landing and cabin call processing. It consists of CAN communication connector XE3 and XE4, and connector with I / O pins and XE5 with parallel connection to XE6 and XE7 connector for management relays.

The system can have 8 LC100-E3.1 boards addresses LC100-E0, E1, E0(FC), E0(FD), E1(FC), E1(FD), LC100-K(FC),K(FD)..

Addressing LC100-E3.1 board is performed by software addressing menu
All I / O pins are programmable and are equipped with LED indication to monitor the status of inputs / outputs. XE4.7 XE4.8 pins and are used for managing matrix indicator if the pins do not havefunction.
Jumpers JP1 and JP2 are used to terminate the CAN bus communication.
Input supply is 24VDC and it is powered through the CAN-power conector.

Dimensions of board is 104x72mm, mounting is done on TS35 rail using a carrier plate.



Picture 8- LC100-E3.1 bord

2.12 LC100-E4 cabin I/O board

LC100-E4 board of the system is used as input / output unit. The main purpose of the board is for landing and cabin call processing and for inputs/outputs. It consists of CAN communication connector XE1 and XE2,and connector XE3 and XE4 with I / O pins and XE6 output connector and XE5 input connector.

The system can have 4 LC100-E4 boards addresses LC100-E0, E1, E2, E3 (must be enabled with A-10 parameter)

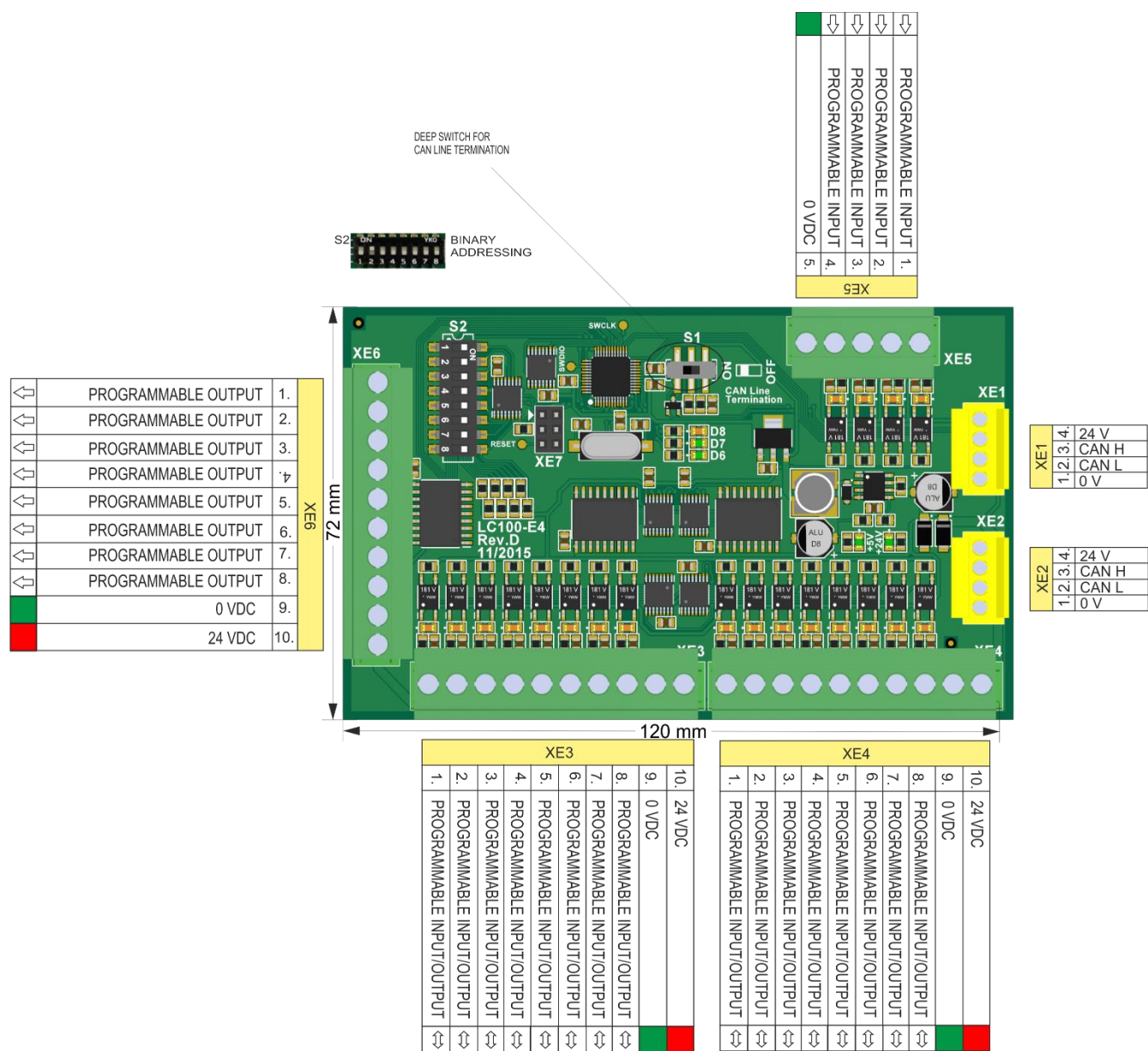
Addressing LC100-E4 board is performed by S2 deep switch (directly addressing).

All I / O pins are programmable and are equipped with LED indication to monitor the status of inputs / outputs. XE4.7 XE4.8 pins and are used for managing matrix indicator if the pins do not havefunction.

Jumpers JP3 and JP4 are used to terminate the CAN bus communication.

Input supply is 24VDC and it is powered through the CAN-power conector.

Dimensions of board is 120x72mm, mounting is done on TS35 rail using a carrier plate.



Picture 9- LC100-E4 bord

2.13 LC100-E5 cabin I/O board

LC100-E5 board of the system is used as input / output unit. The main purpose of the board is for landing and cabin call processing. It consists of CAN communication connector XE1 and XE2, and connector with I / O pins XE3 and XE4.

The system can have 8 LC100-E5 boards addresses LC100-E0, E1, E0(FC), E0(FD), E1(FC), E1(FD), LC100-K(FC), K(FD)..

Addressing LC100-E5 board is performed by dip switches binary addressing.

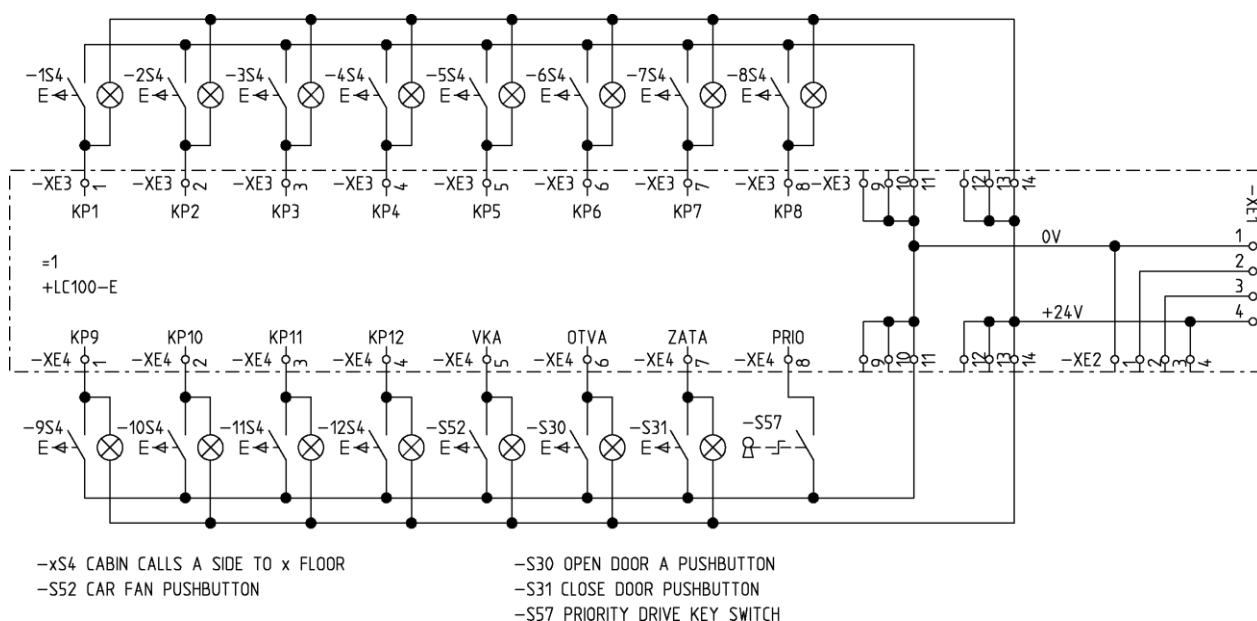
All I / O pins are programmable and are equipped with LED indication to monitor the status of inputs / outputs. XE4.7 XE4.8 pins and are used for managing matrix indicator if the pins do not have function.

S1 switch is used to terminate the CAN bus communication.

Input supply is 24VDC and it is powered through the CAN-power connector.

Dimensions is 171,5x42mm board, installation is done installing the spacers.

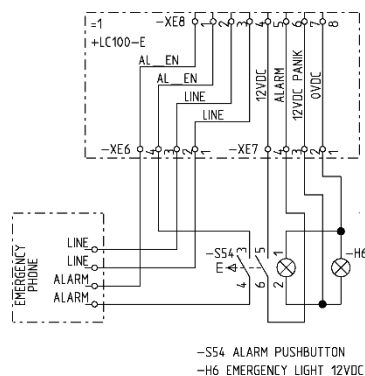
Cabin commands wiring diagram:

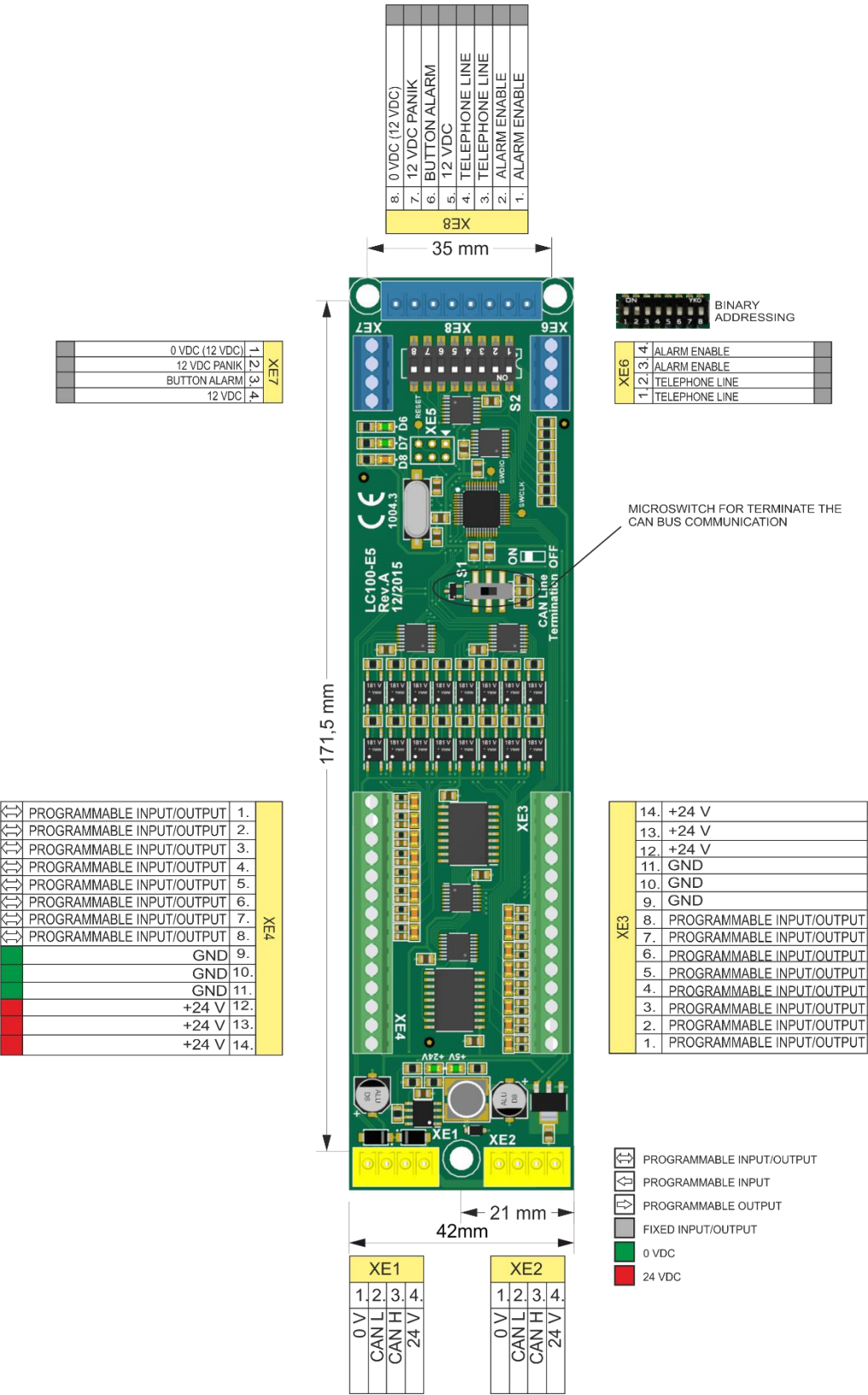


LC100-E5 board also contains connectors for connecting alarm push button, emergency phone and emergency power supply in the cabin.

- XE6 connector for connecting a voice device
- XE7 connector for connecting alarm pushbutton.
- XE8 connector for connecting LC100-E5 with LC100-Z board.

Connection diagram for alarm pushbutton





Picture 10- LC100-E3 board

2.14 LC100-E6 cabin/landing I/O board

LC100-E6 board of the system is used as input / output unit. The main purpose of the board is for landing and cabin call and output for driving display. It consists of CAN communication connector X1 and X2, and connector X3 I / O pins and X4 output connector through relays.

The system can have 8 LC100-E4 boards addresses LC100-E0, E1, E2, E3, E4, E5, E6, E7 (must be enabled with A-7 parameter)

Addressing LC100-E6 board is performed by dip switches binary addressing.

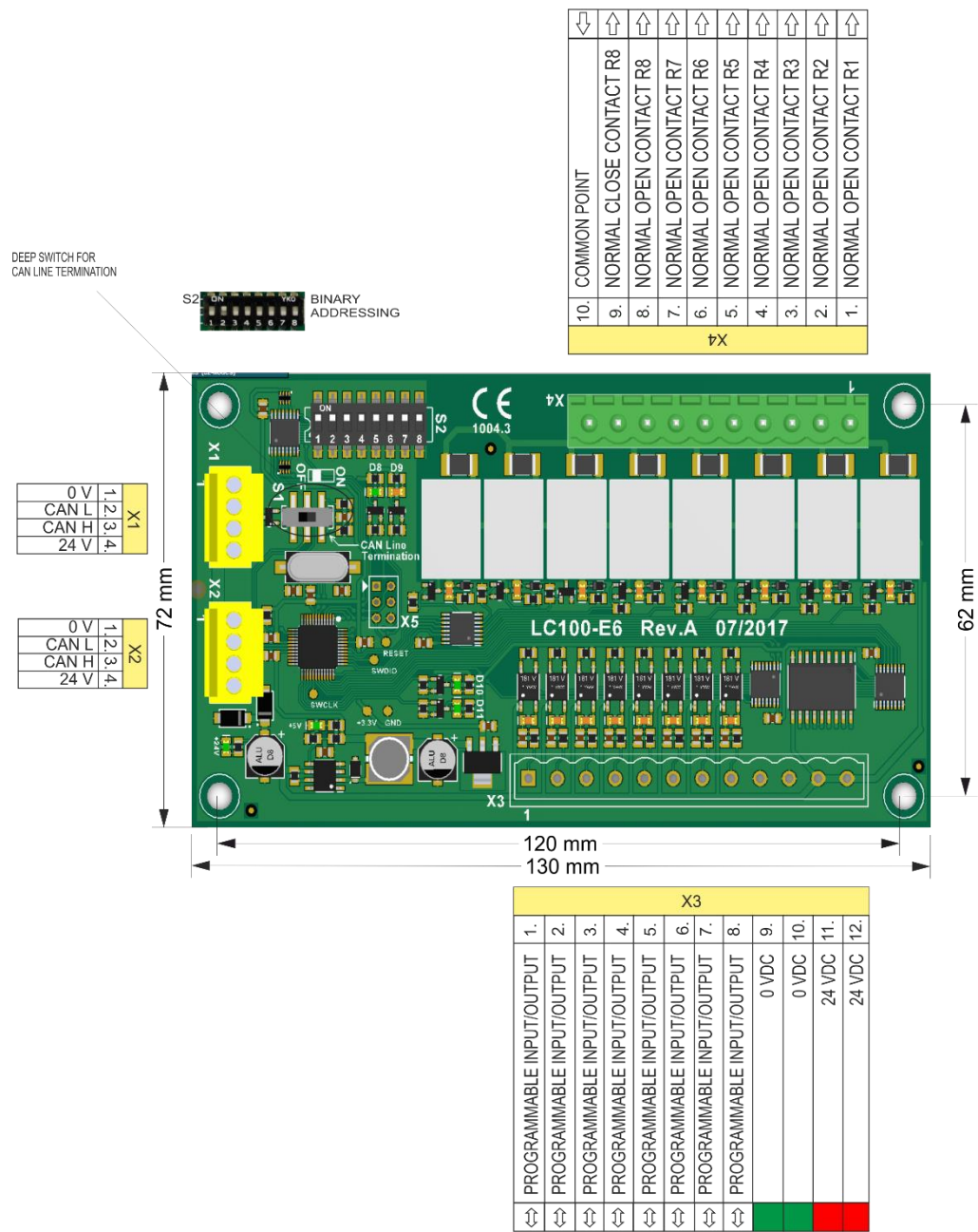
X3 I / O pins are programmable and are equipped with LED indication to monitor the status of inputs / outputs.

X4 pins are only have output programmable and they are equipped with LED indication to monitor the status of outputs.

S1 switch are used to terminate the CAN bus communication.

Input supply is 24VDC and it is powered through the CAN-power conector.

Dimensions is 171,5x42mm board, installation is done installing the spacers.



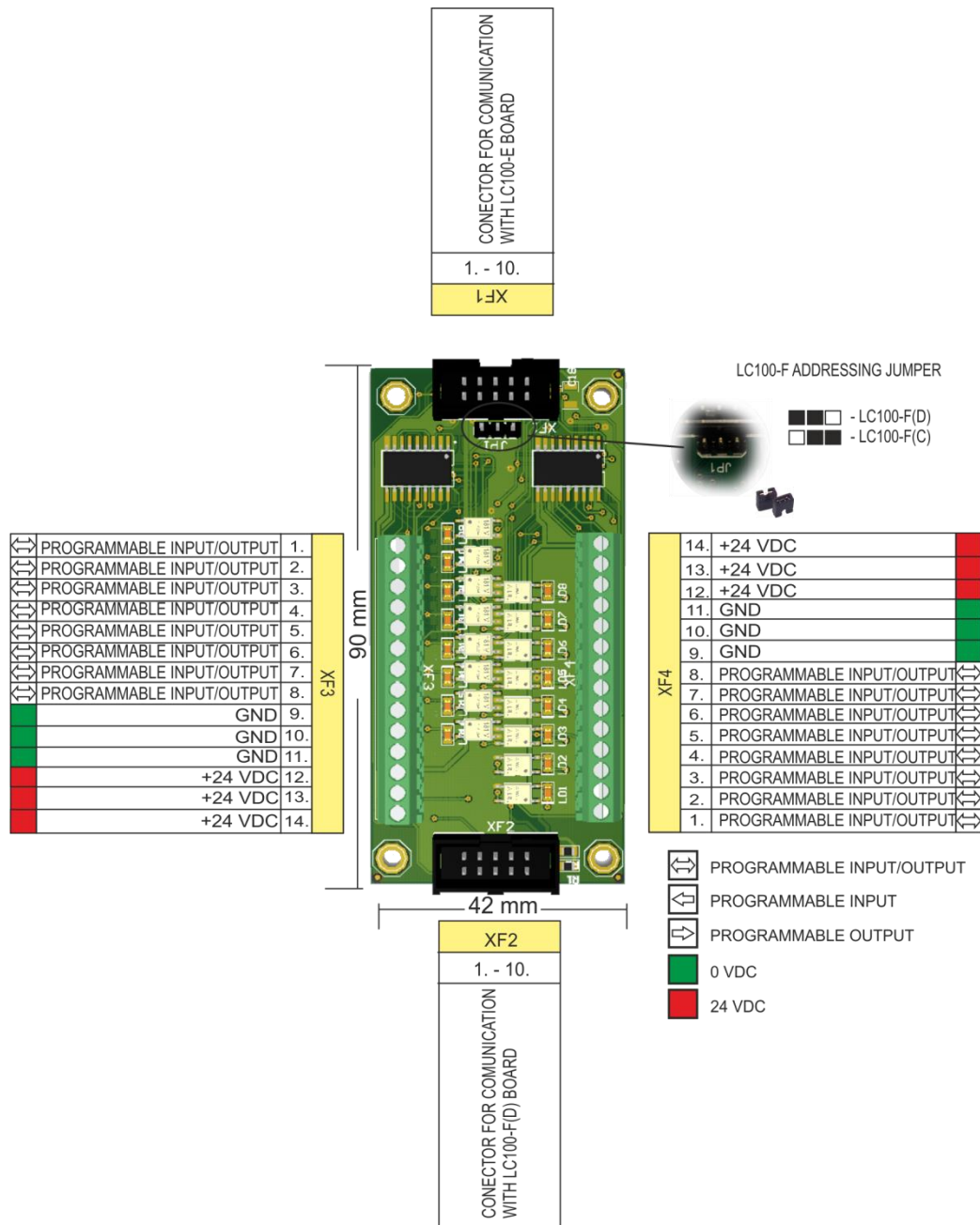
Picture 10- LC100-E6 board

2.15 LC100-F in/out board

LC100-F board is input-output board with 16 input / output pins for the upgrade. The system can connect up to 6 LC100-F board.

To LC100-K board is possible to connect two LC100-F boards with address „C“ and „D“, to LC100-E0 board is possible to connect two board with address „C“ and „D“, and to LC100-E1 board is possible to connect two boards with address „C“ i „D“.

Adressing the LC100-F boards is done with jumpers like it is explained on picture 6.



Picture 11 - LC100-F board

Connecting the LC100-F board is done with 10 pin flat cable to connectors XF1 or XF2 (connectors XF1 and XF2 are connected pin to pin). Connecting to LC100-E is done through XE5 connector, and connecting to LC100-K board through connector XK12.

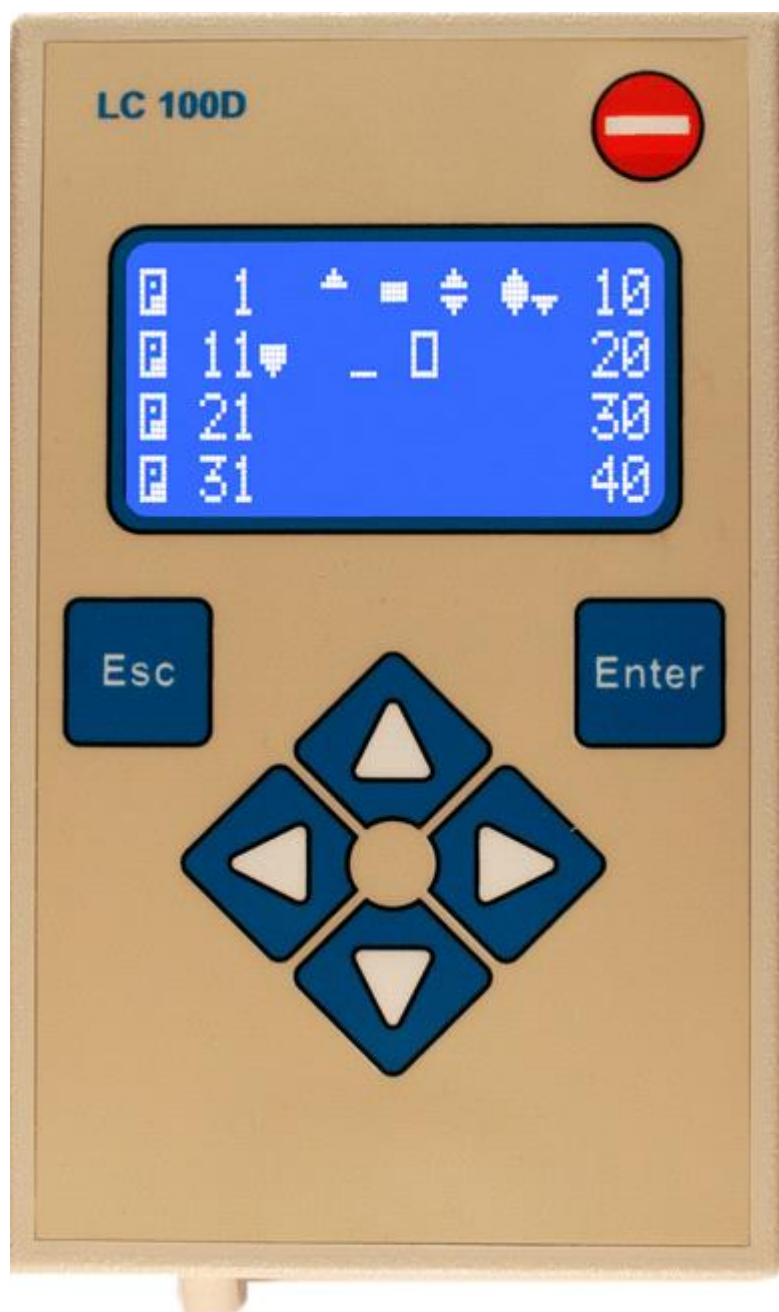
2.16 LC100-D control terminal

LC100-D control terminal consists of a 2x16 blue LCD screen to display and push-button ENTER, ESC, left, right, up and down navigation and push-button to reset the system.

Reset button is used for resetting some errors that can't be reset by recycling the power. By pressing the reset button for 5s processor is reseted like switching the power of and on.

Connecting the LC100-D terminal is performed by CAN connector. The terminal can be connected anywhere on the CAN bus system.

Dimensions:145x90x25mm



Picture 12 - LC100-D control terminal

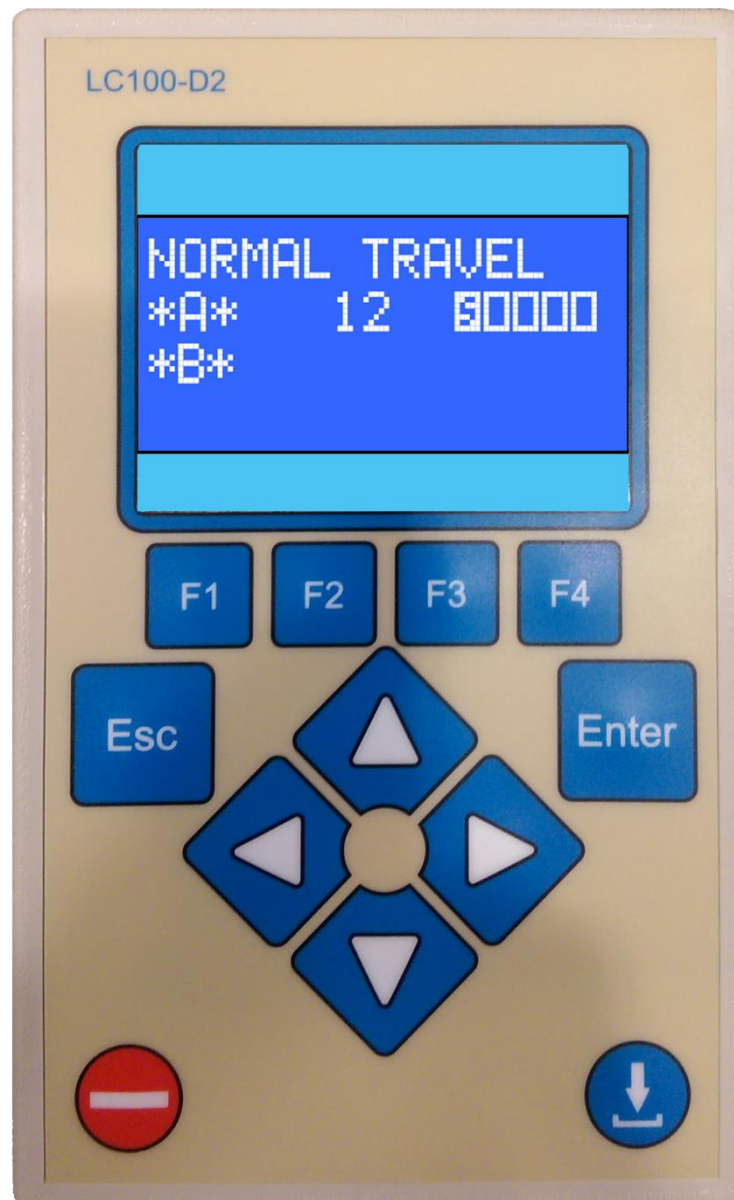
2.17 LC100-D2 control terminal

LC100-D2 control terminal consists of a LCD screen to display and push-button ENTER, ESC, left, right, up and down navigation and push-button to reset the system and function buttons F1, F2, F3, F4, download.

Reset button is used for resetting some errors that can't be reset by recycling the power. By pressing the reset button for 5s processor is reseted like switching the power of and on.

Connecting the LC100-D2 terminal is performed by CAN connector. The terminal can be connected anywhere on the CAN bus system.

Dimensions:145x90x25mm



Picture 13 - LC100-D2 control terminal

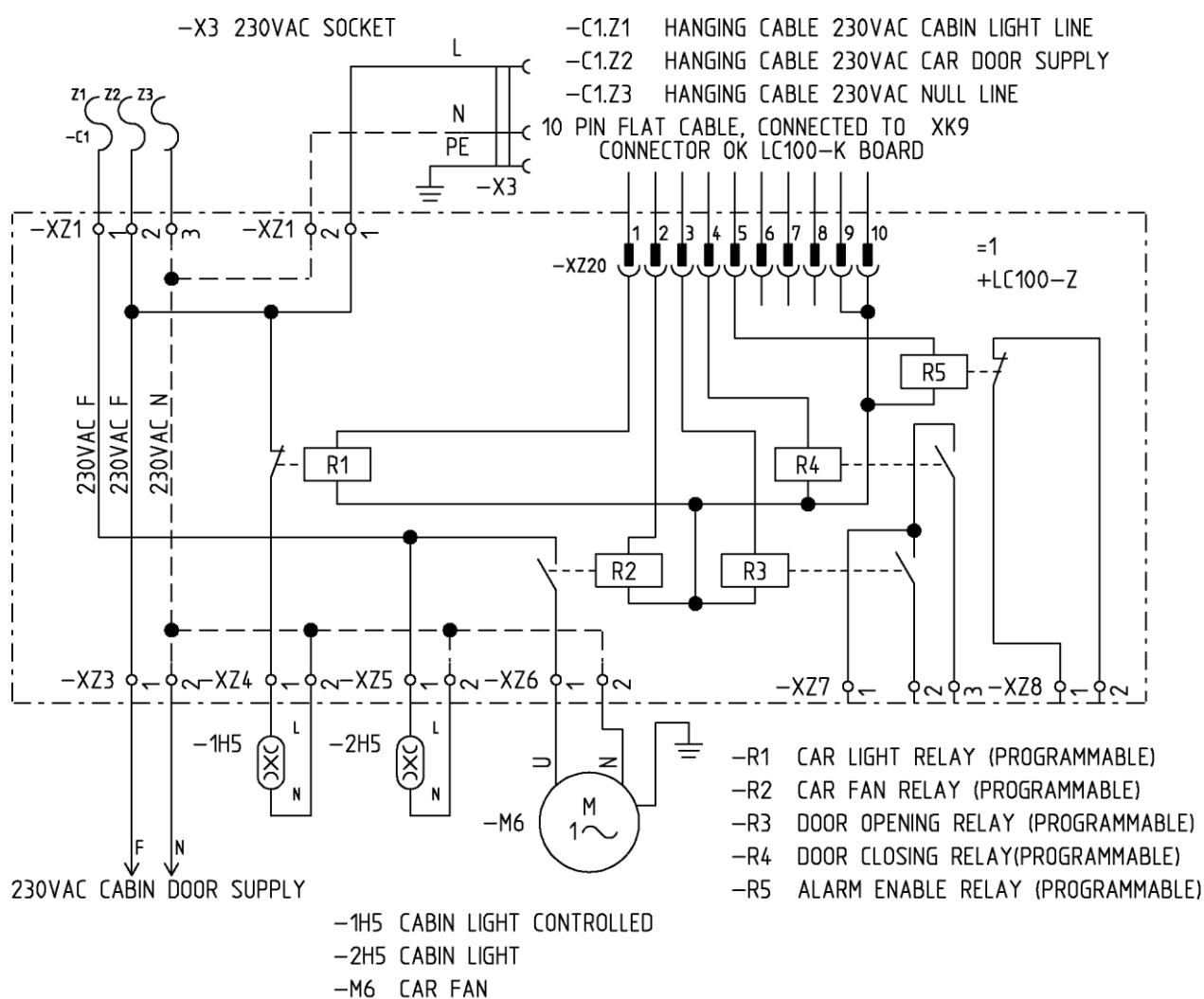
2.18 LC100-Z cabin connection board

LC100-Z board is used for connecting the cabin safety circuit, door power, door management, alarm pushbutton, car fan...

Dimensions of plate are 229x72mm and mounting is done on TS35 rail using bracketplates or with spacers. (there are holes on the modul).

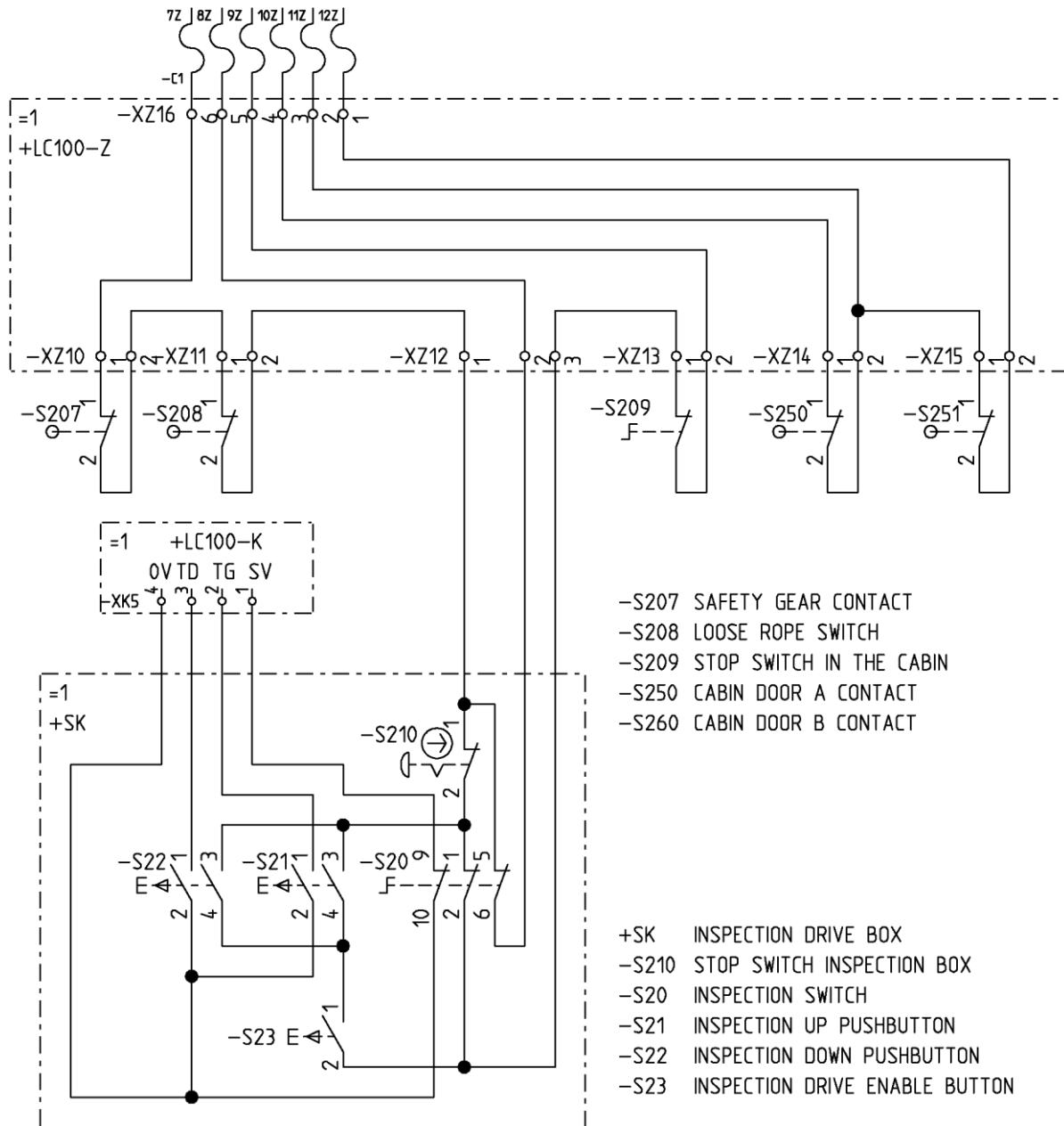
Management of relays on the plate is carried out through input connector XZ20 which connects with LC100-K XK9 output connector. Next to each relay is a status LED indication.

Cabin power supply and door managment connection diagram:



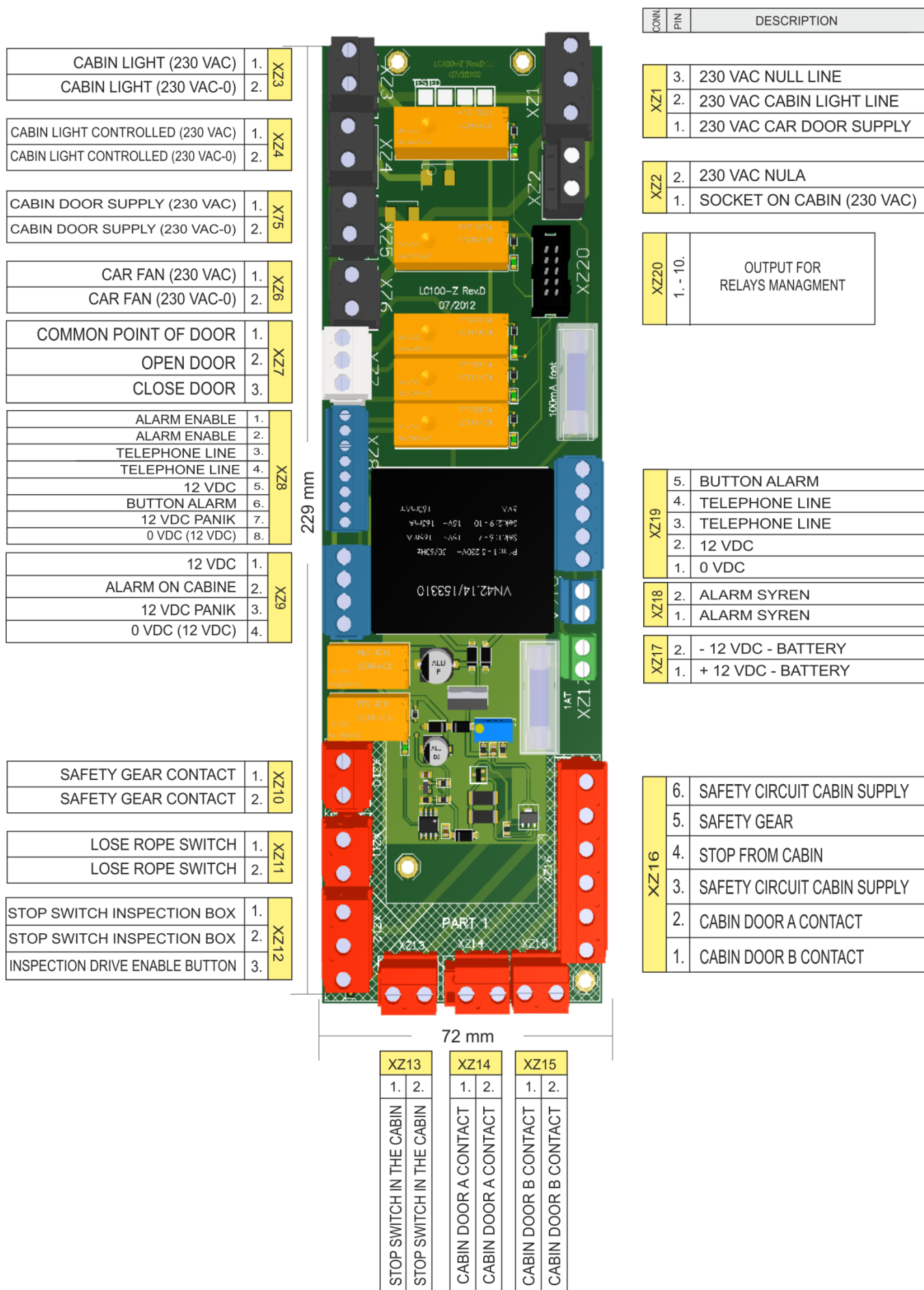
Connectors XZ10 to XZ16 are used to connect safety circuit.

Safety circuit on the cabin connection diagram:



LC100-Z circuit includes an emergency power supply. Circuit for emergency power supply is equipped with a 100mA fuse on the primary side of transformer, and 1A fuse on the side of the 12VDC power supply. On the board is installed potentiometer for setting the battery charging voltage.

Connection diagram for alarm and emergency light is given in [LC100-S](#) board description.

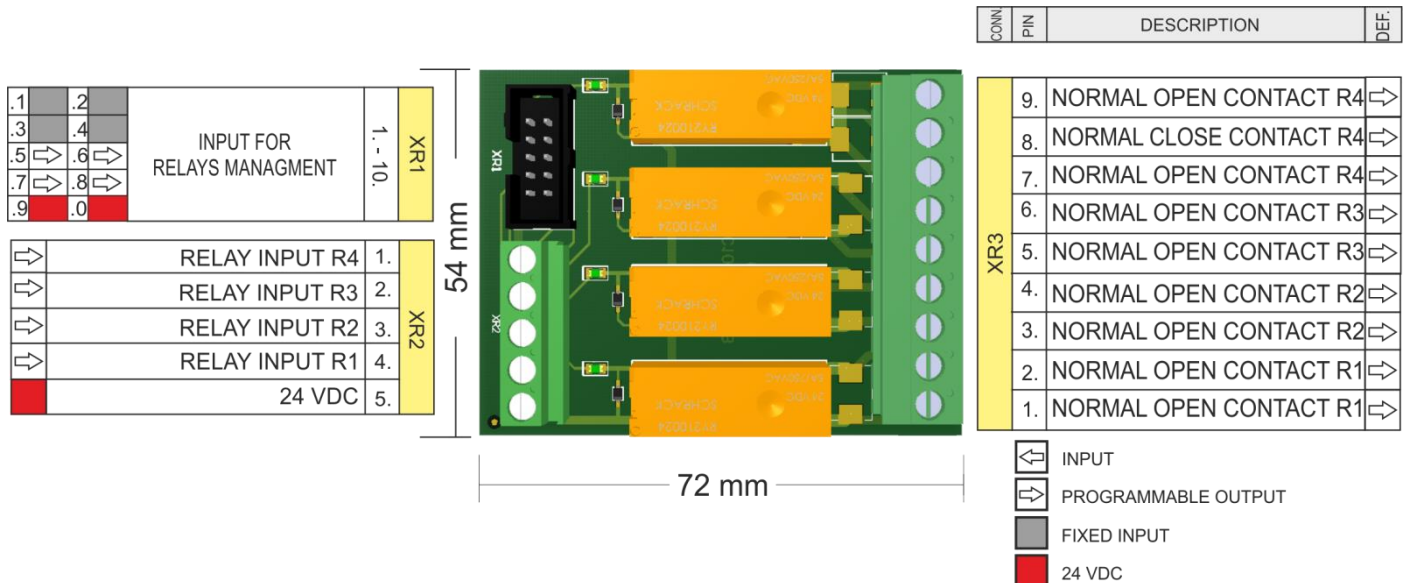


Picture 14 - LC100-Z board

2.19 LC100-R relay board with 4 relays

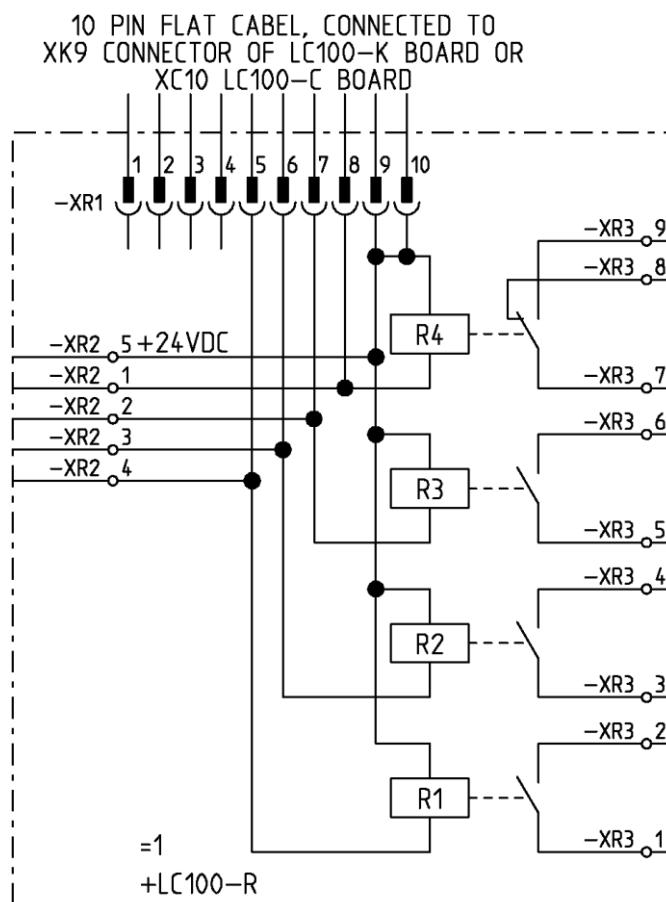
LC100-R is relay circuit board with 4 relays. Management of relays is performed through the 10 pin flat connector XR1 which is connected to XC10 or XK9 connector, management of relays is also possible through XR2 connector.

Relay modul consist of 4 relays – on R1, R2 i R3 normally open contact connected to XR3, on R4 change over contact connected to XR3.



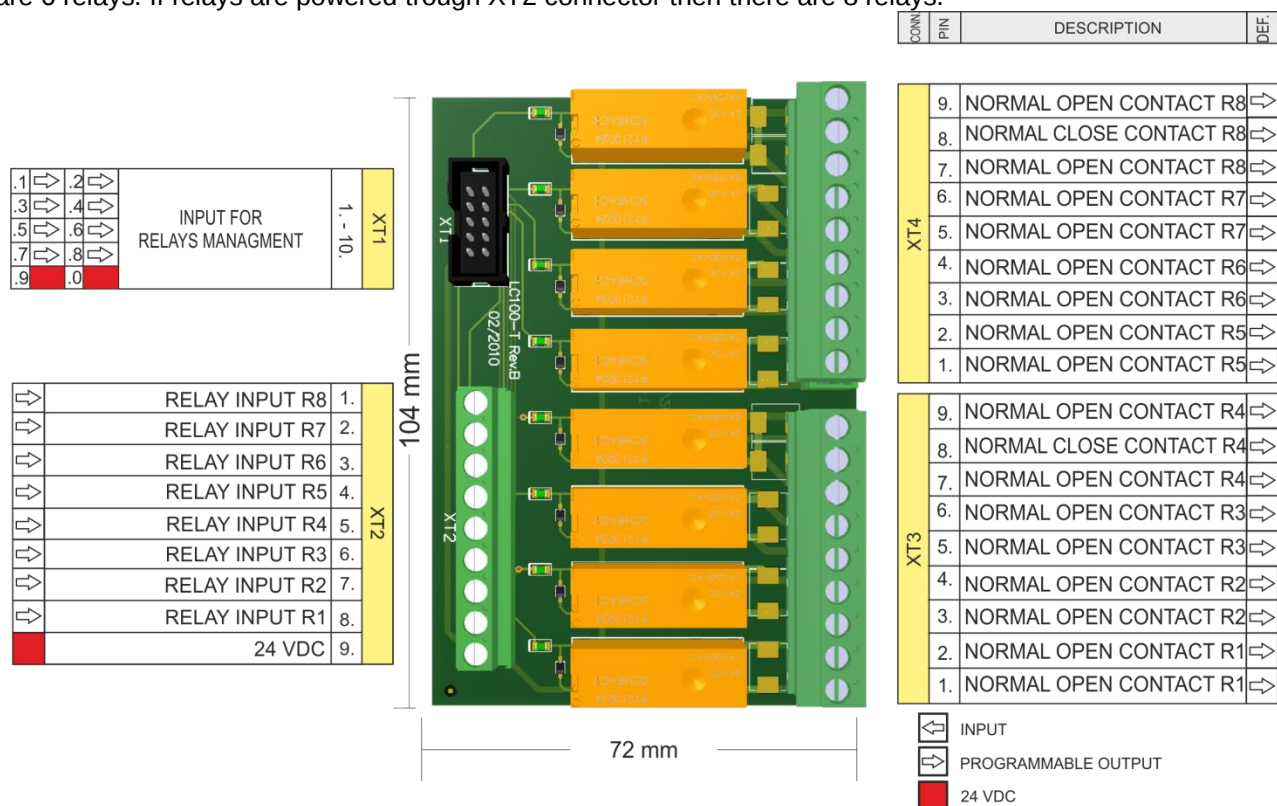
Picture 15 - LC100-R board

Relay module connection diagram:



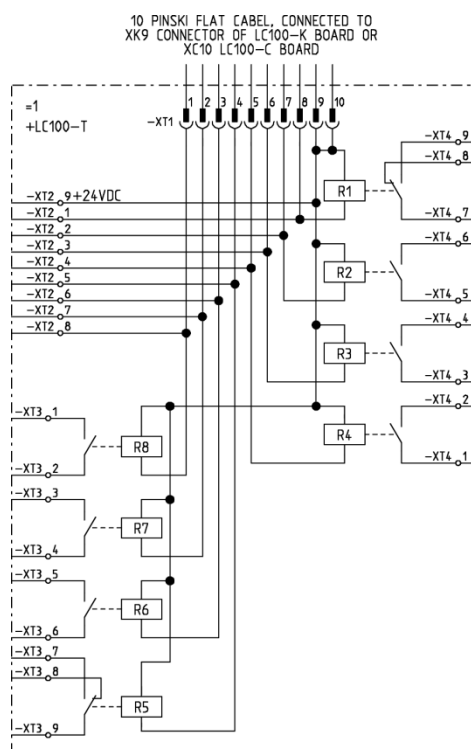
2.20 LC100-T relay board with 8 relays

LC100-T is a relay board with 8 relays. Management of relays is performed through the 10 pin flat connector XT1 which is connected to XC10 or XK9 connector. When relays are powered through XC10 or XK9 connector then on the board are 6 relays. If relays are powered through XT2 connector then there are 8 relays.



Picture 16 - LC100-T board

Relay module connection diagram:



2.21 LC100-I IN/OUT board

LC100-I is input-output board used mainly on elevators without machine room when there is a control cabinet in the shaft.

LC100-I consist of :

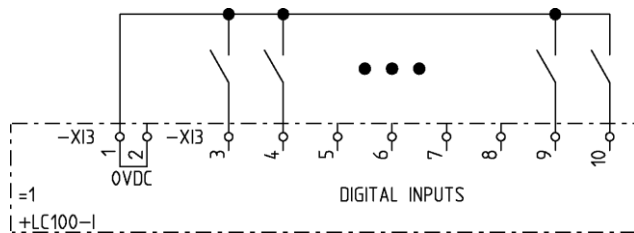
8 digital input connected to connector XI3

4 relay output connected to XI4

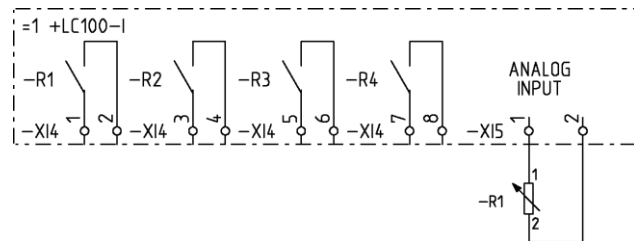
8 digital output connected to XI5

Analog current input 4-20mA on XI5

Connecting the inputs:

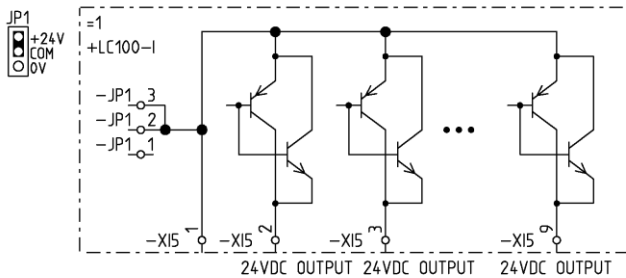


Relay outputs connection:

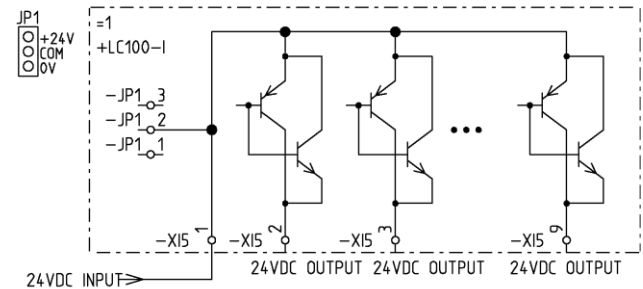


Digital output connection diagram:

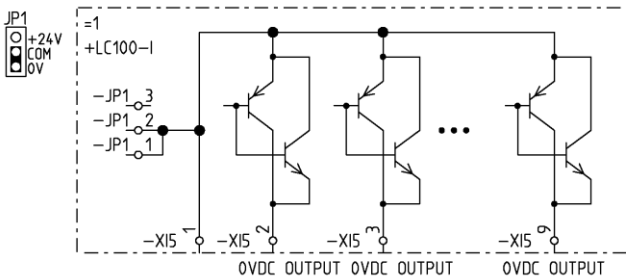
1. USING INTERNAL 24VDC FOR OUTPUTS:



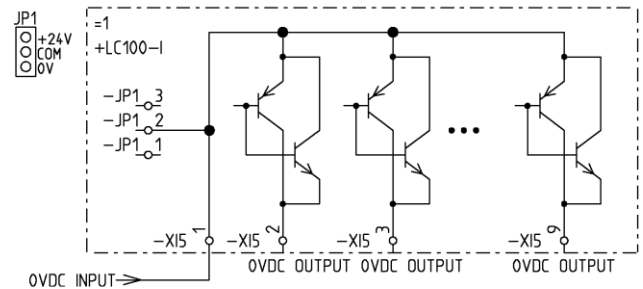
3. USING EXTERNAL 24VDC FOR OUTPUTS

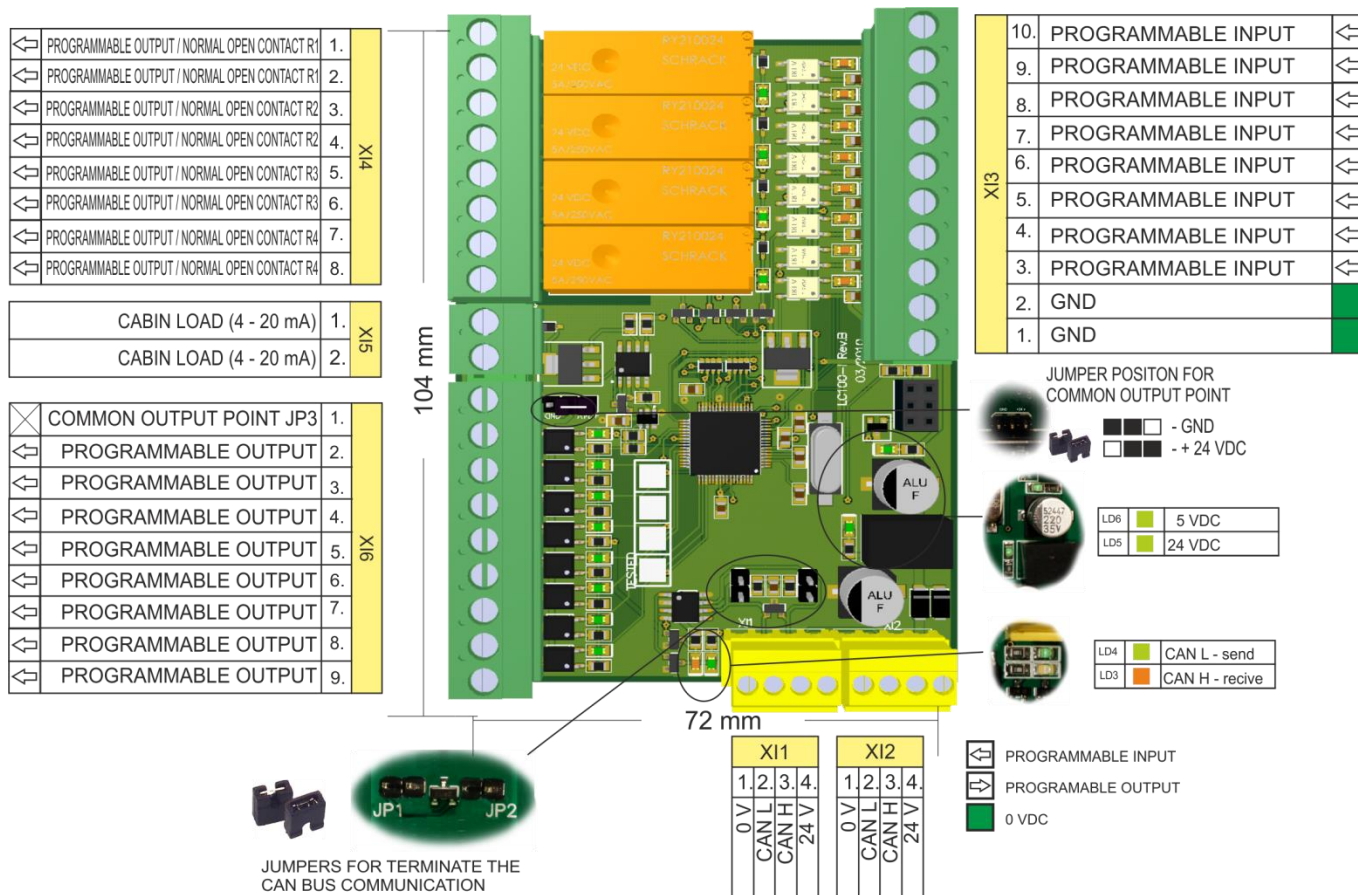


2. USING INTERNAL 0VDC FOR OUTPUTS:



4. USING EXTERNAL 0VDC FOR OUTPUTS





Picture 17 - LC100-I board

2.22 Boards for landing calls and signalization

2.22.1 LC100-M5 dot matrix display

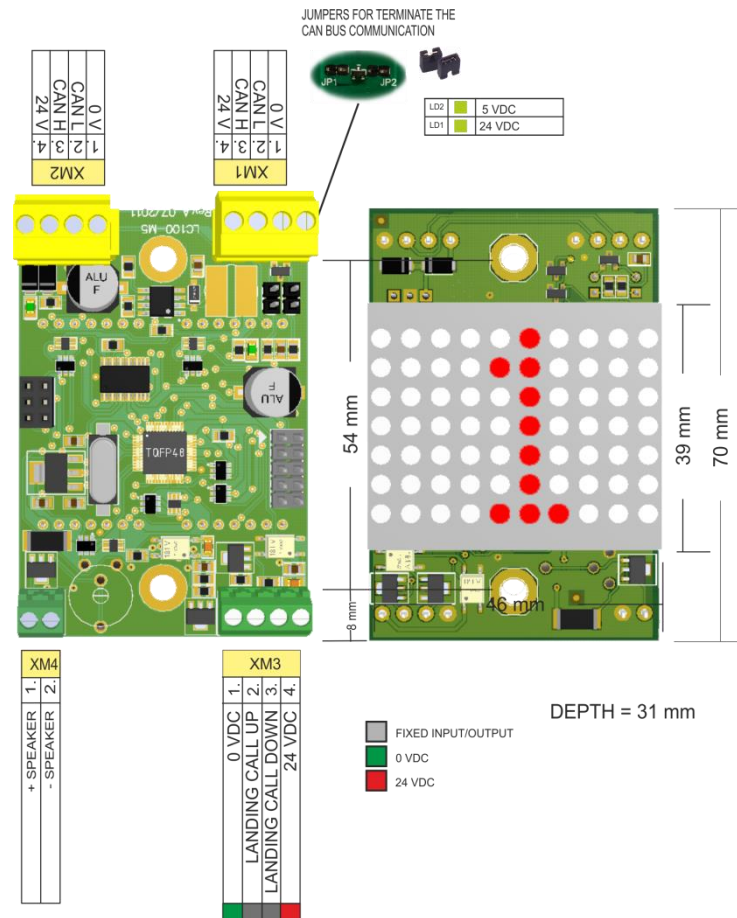
LC100-M5 matrix dot display with resolution 10x7 dots is made in two versions:

LC100-M5B	Blue dot display
LC100-M5R	Red dot display

LC100-M5 displays are used as landing displays with connector for connecting the landing calls. Connection to the displays is made through XC12 connector which is CAN2 bus.

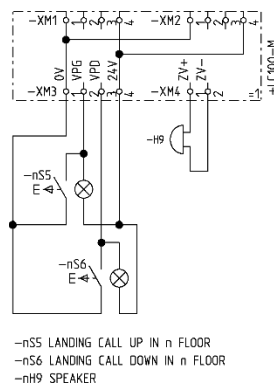
Each display is addressed for a floor. Addressing is done through the additional menu for addressing.

What the displays will show can be set through **P-M-L modules TYPE P**.



Picture 18 - LC100-M5 matrix display

Connection diagram for connecting the pushbutton:



2.22.2 LC100-M6 dot matrix display

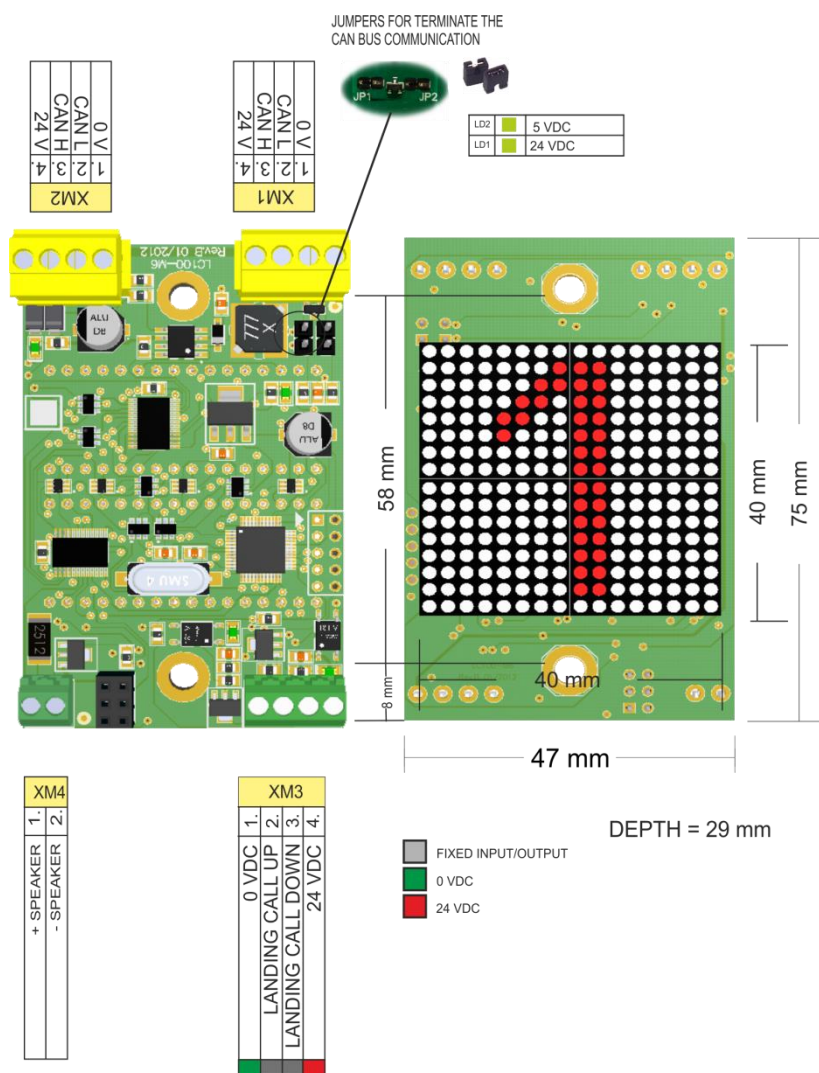
LC100-M6 matrix dot display with resolution 16x16 dots is made in two versions:

LC100-M6B Blue dot display
 LC100-M6R Red dot display

LC100-M6 displays are used as landing displays with connector for connecting the landing calls. Connection to the displays is made through XC12 connector which is CAN2 bus.

Each display is addressed for a floor. Addressing is done through the additional menu for addressing.

What the displays will show can be set through [P-M-L modules TYPE P](#).



Picture 19 - LC100-M6 dot matrix display

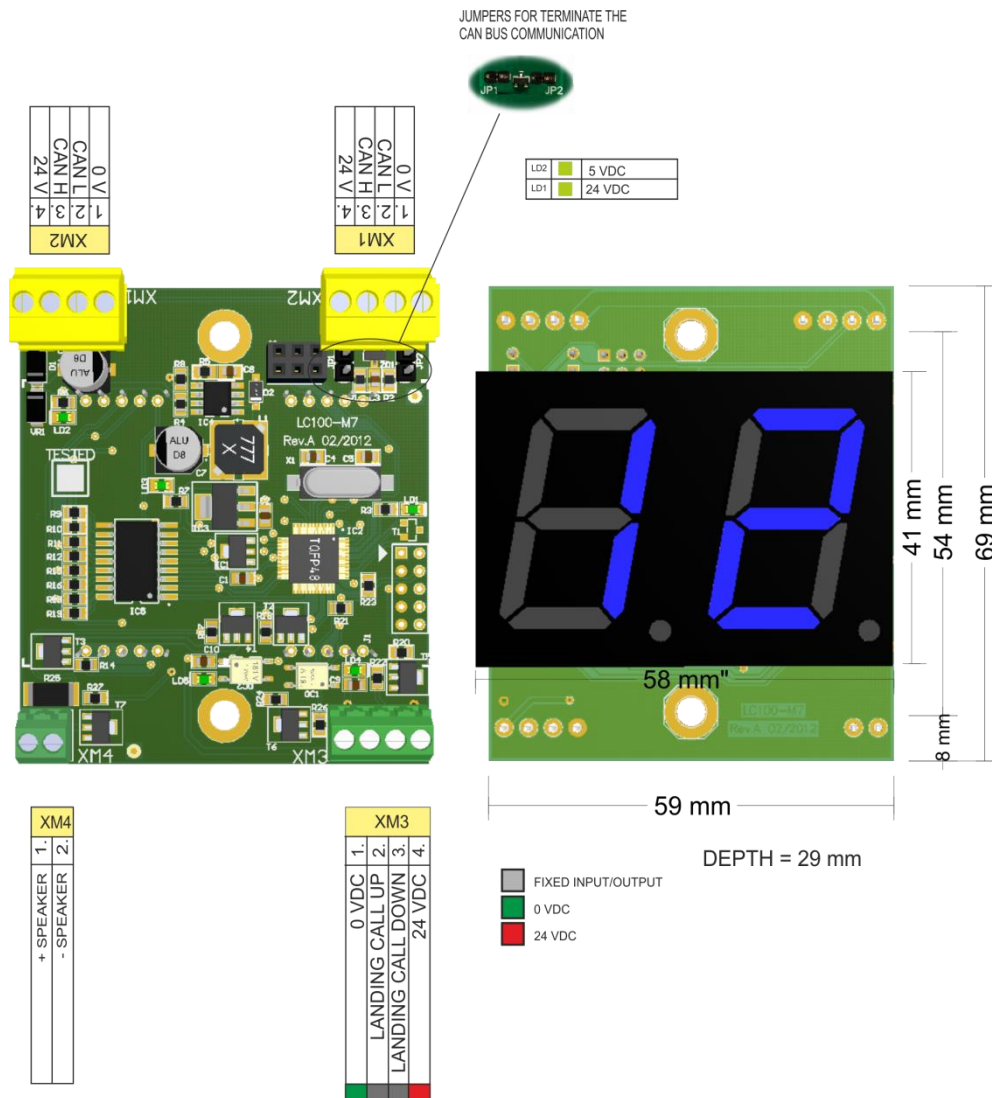
2.22.3 LC100-M7 segment display

LC100-M7 landing display is done in two versions:

- LC100-M7B Blue 7-segment display
- LC100-M7R Red 7-segment display

LC100-M7 displays are used as landing displays with connector for connecting the landing calls. Connection to the displays is made trough XC12 connector which is CAN2 bus.

Each display is addressed for a floor. Addressing is done through the additional menu for addressing. What the displays will show can be set trough [P-M-L modules TYPE P](#).



Picture 20 - LC100-M7 segment display

2.22.4 LC100-M3 horizontal dot matrix display

LC100-M3 board is produced in two versions:

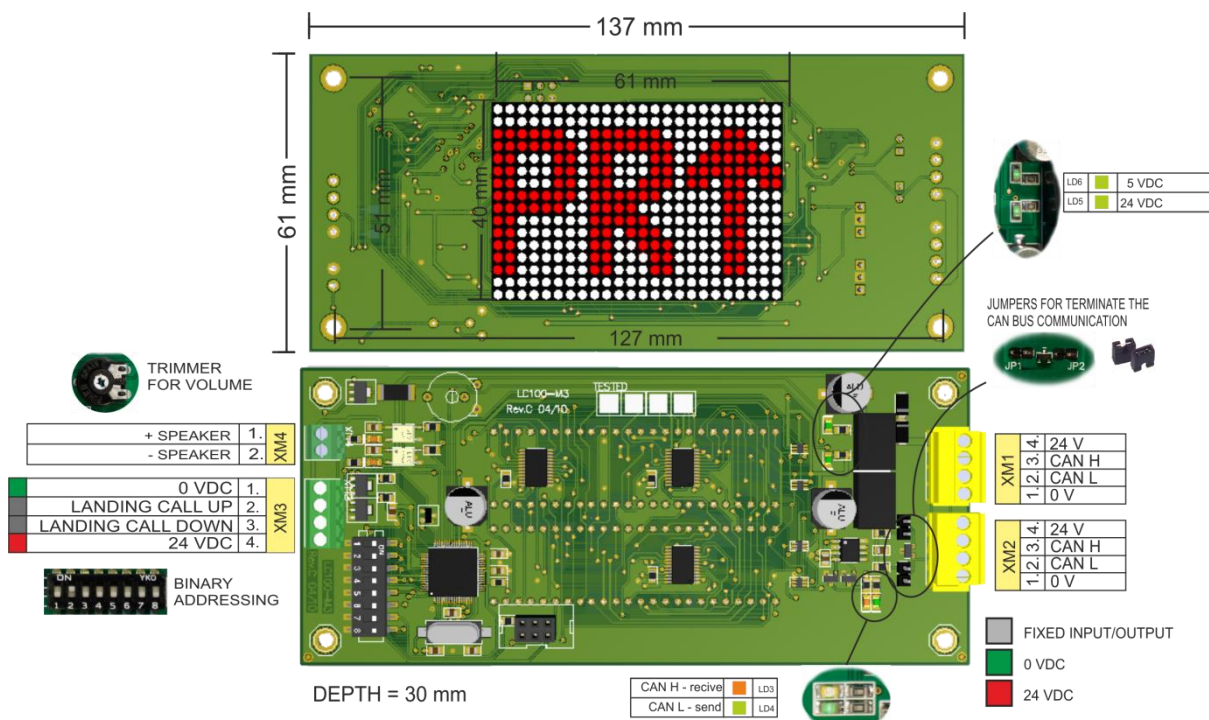
LC100-M3B	Blue DOT matrix display
LC100-M3R	Red DOT matrix display

LC100-M3 displays are used as a cabin displays and can be used as a landing units. When used as a cabin display it is connected to CAN1 bus, and used as a landing call units it is connected to CAN2 bus (connector XM12).

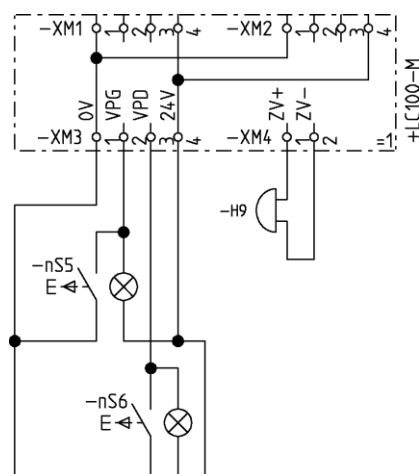
Every landing call unit is addressed, addresses are given in the [ADDRESSING TABLE](#).

To ensure that the landing calls are processed through landing units parameter [A-9](#) must be set.

Configuration of the units is done through parameters [P-M-L module TYPE-P](#).



Picture 21 - LC100-M3 dot matrix display



-nS5 LANDING CALL UP IN n FLOOR
 -nS6 LANDING CALL DOWN IN n FLOOR
 -nH9 SPEAKER

2.22.5 LC100-M8 vertical dot matrix display

LC100-M8 board is produced in two versions:

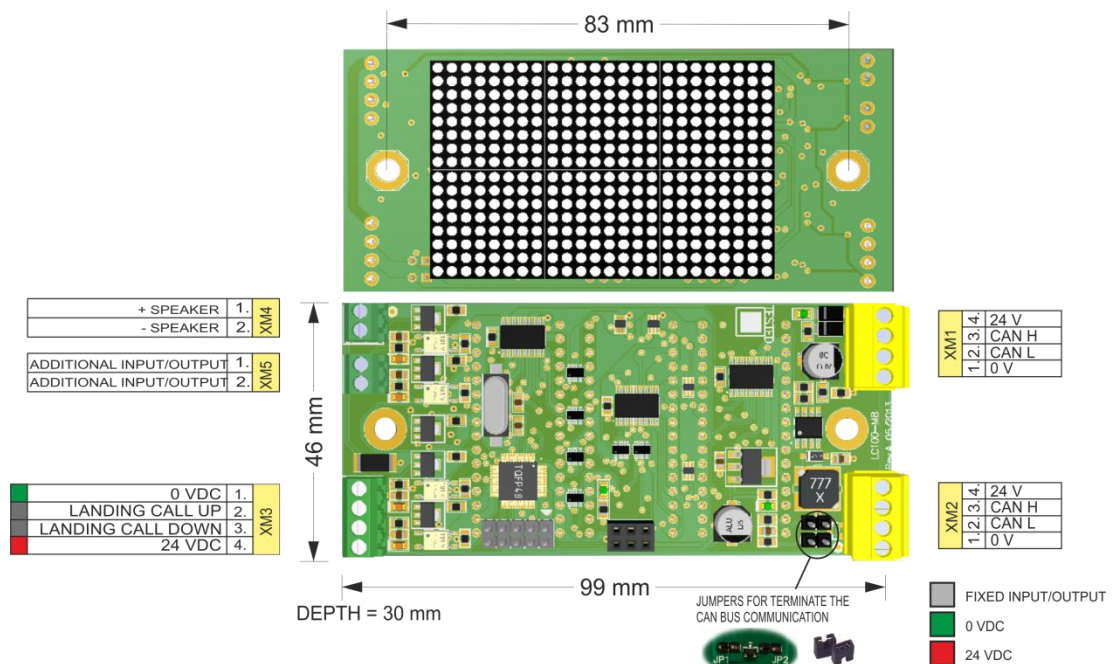
LC100-M8B	Blue DOT matrix display
LC100-M8R	Red DOT matrix display

LC100-M8 displays are used as a cabin displays and can be used as a landing units. When used as a cabin display it is connected to CAN1 bus, and used as a landing call units it is connected to CAN2 bus (connector XM12).

Every landing call unit is addressed, addressing is done trough addressing menue.

To ensure that the landig calls are procesed through landing units parameter **A-9** must be set.

Configuration of the units is done through parameters **P-M-L module TYPE-P**.



Picture 22 - LC100-M8 dot matrix display

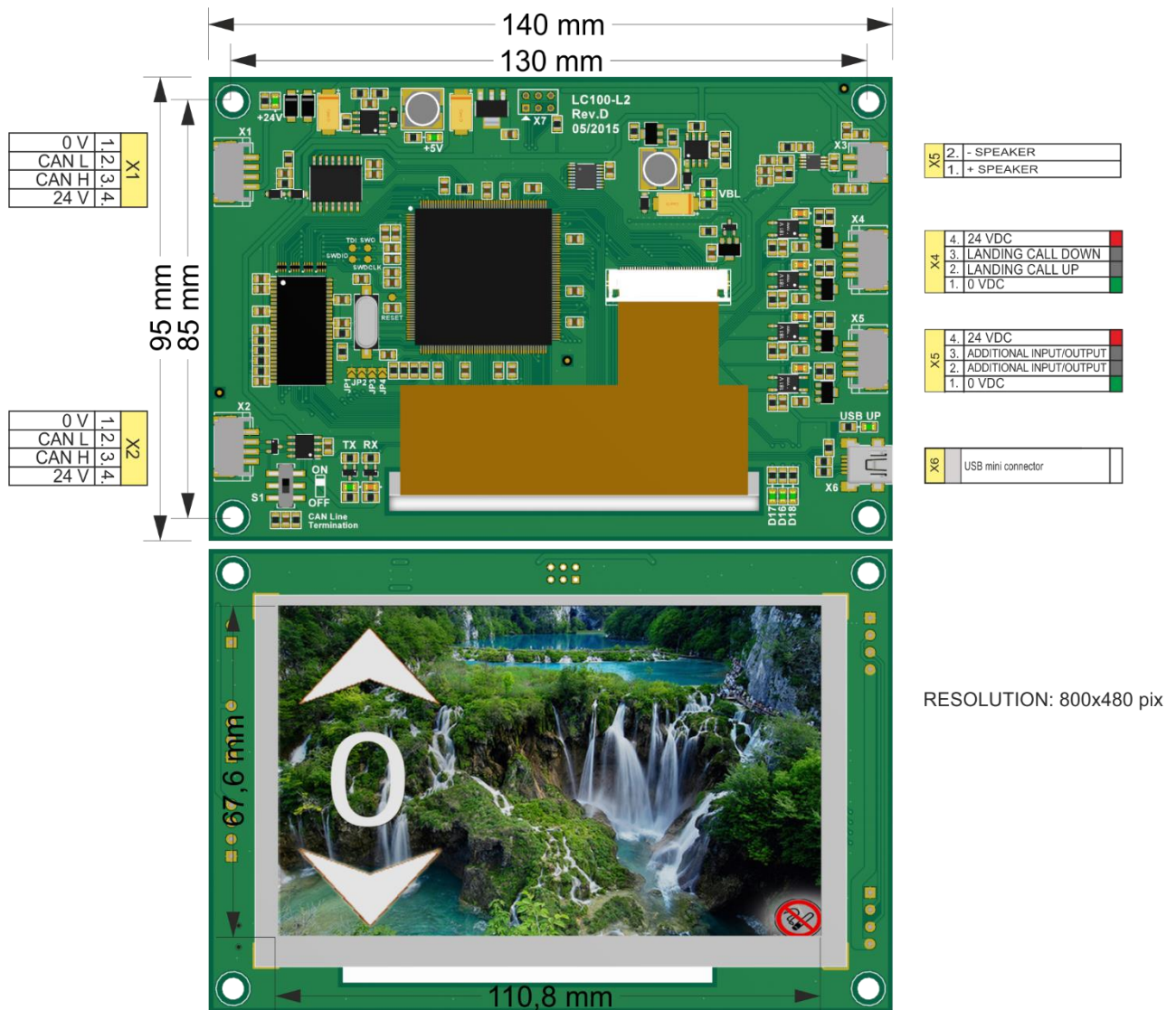
2.22.7 LC100-L2 TFT display

LC100-L2 displays are used as a cabin displays and can be used as a landing units. When used as a cabin display it is connected to CAN1 bus, and used as a landing call units it is connected to CAN2 bus (connector XC12).

Every landing call unit is addressed, addressing is done trough addressing menue.

To ensure that the landig calls are procesed through landing units parameter **A-9** must be set.

Configuration of the units is done through parameters **P-M-L module TYPE-P**.



Picture 24 - LC100-L2 TFT display

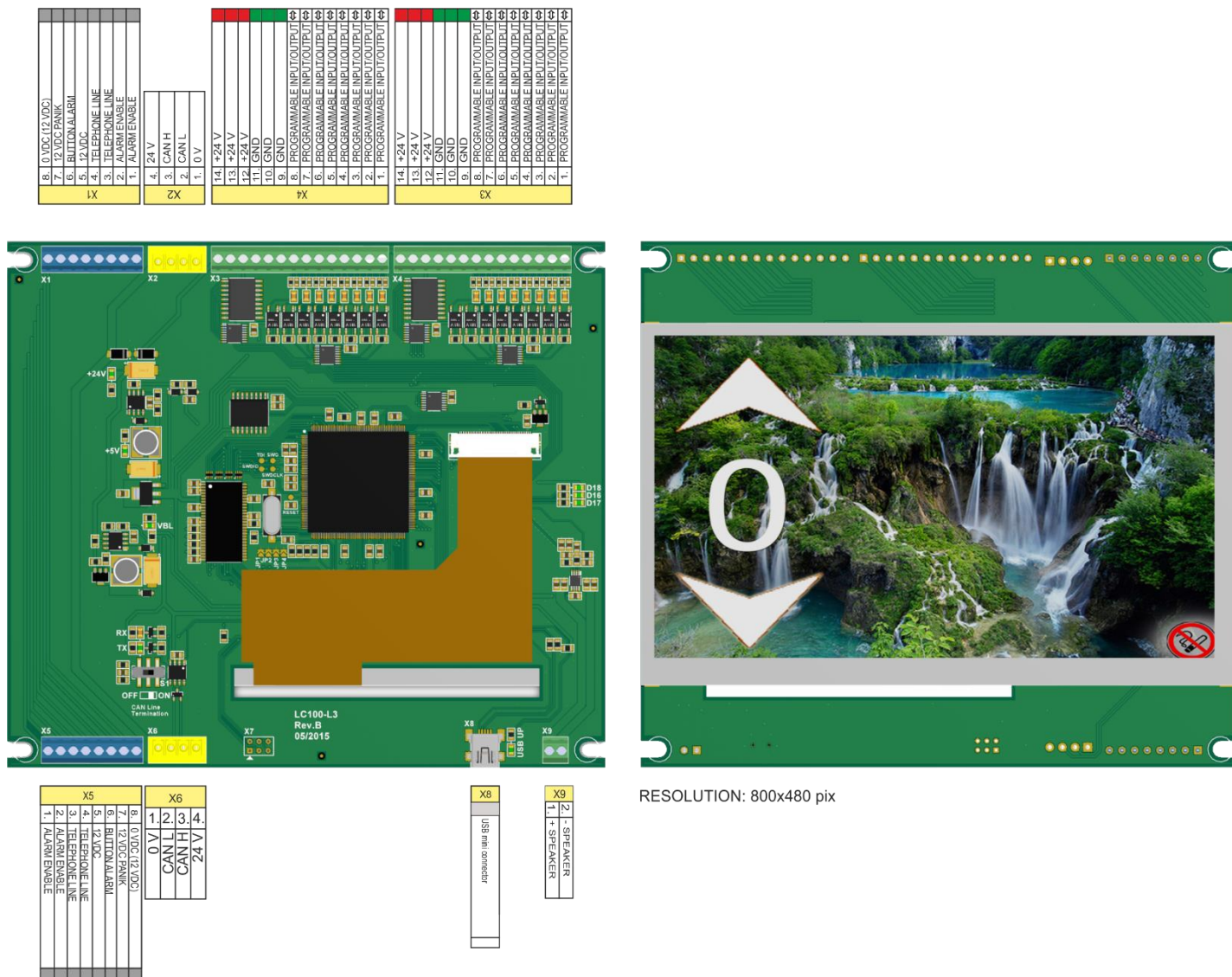
2.22.8 LC100-L3 TFT display

LC100-L3 displays are used as a cabin displays and can be used as a landing units. When used as a cabin display it is connected to CAN1 bus, and used as a landing call units it is connected to CAN2 bus (connector XC12).

Every landing call unit is addressed, addressing is done trough addressing menue.

To ensure that the landing calls are processed through landing units parameter **A-9** must be set.

Configuration of the units is done through parameters **P-M-L module TYPE-P**.



2.23 Addressing the landing call units (LC100-M boards)

Addressing is done with microswitches on the landing calls units (LC100M boards).

Switches S1 to S6 are used for addressing landing units, addressing is binary coded given in the table.

STATION	S1	S2	S3	S4	S5	S6	STATION	S1	S2	S3	S4	S5	S6
1.	ON	OFF	OFF	OFF	OFF	OFF	21.	ON	OFF	ON	OFF	ON	OFF
2.	OFF	ON	OFF	OFF	OFF	OFF	22.	OFF	ON	ON	OFF	ON	OFF
3.	ON	ON	OFF	OFF	OFF	OFF	23.	ON	ON	ON	OFF	ON	OFF
4.	OFF	OFF	ON	OFF	OFF	OFF	24.	OFF	OFF	OFF	ON	ON	OFF
5.	ON	OFF	ON	OFF	OFF	OFF	25.	ON	OFF	OFF	ON	ON	OFF
6.	OFF	ON	ON	OFF	OFF	OFF	26.	OFF	ON	OFF	ON	ON	OFF
7.	ON	ON	ON	OFF	OFF	OFF	27.	ON	ON	OFF	ON	ON	OFF
8.	OFF	OFF	OFF	ON	OFF	OFF	28.	OFF	OFF	ON	ON	ON	OFF
9.	ON	OFF	OFF	ON	OFF	OFF	29.	ON	OFF	ON	ON	ON	OFF
10.	OFF	ON	OFF	ON	OFF	OFF	30.	OFF	ON	ON	ON	ON	OFF
11.	ON	ON	OFF	ON	OFF	OFF	31.	ON	ON	ON	ON	ON	OFF
12.	OFF	OFF	ON	ON	OFF	OFF	32.	OFF	OFF	OFF	OFF	OFF	ON
13.	ON	OFF	ON	ON	OFF	OFF	33.	ON	OFF	OFF	OFF	OFF	ON
14.	OFF	ON	ON	ON	OFF	OFF	34.	OFF	ON	OFF	OFF	OFF	ON
15.	ON	ON	ON	ON	OFF	OFF	35.	ON	ON	OFF	OFF	OFF	ON
16.	OFF	OFF	OFF	OFF	ON	OFF	36.	OFF	OFF	ON	OFF	OFF	ON
17.	ON	OFF	OFF	OFF	ON	OFF	37.	ON	OFF	ON	OFF	OFF	ON
18.	OFF	ON	OFF	OFF	ON	OFF	38.	OFF	ON	ON	OFF	OFF	ON
19.	ON	ON	OFF	OFF	ON	OFF	39.	ON	ON	ON	OFF	OFF	ON
20.	OFF	OFF	ON	OFF	ON	OFF	40.	OFF	OFF	OFF	ON	OFF	ON

Switch S7 is used for addressing the side when using opposite calls.

Side A S7 set to OFF

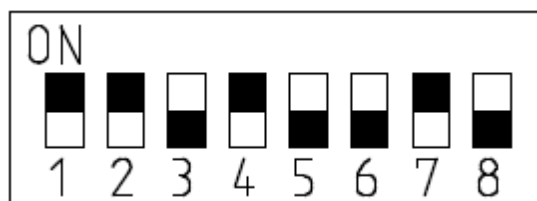
Side B S7 set to ON

Switch S8 is used to address the elevator in DUPLEX system.

Elevator A S8 set to OFF

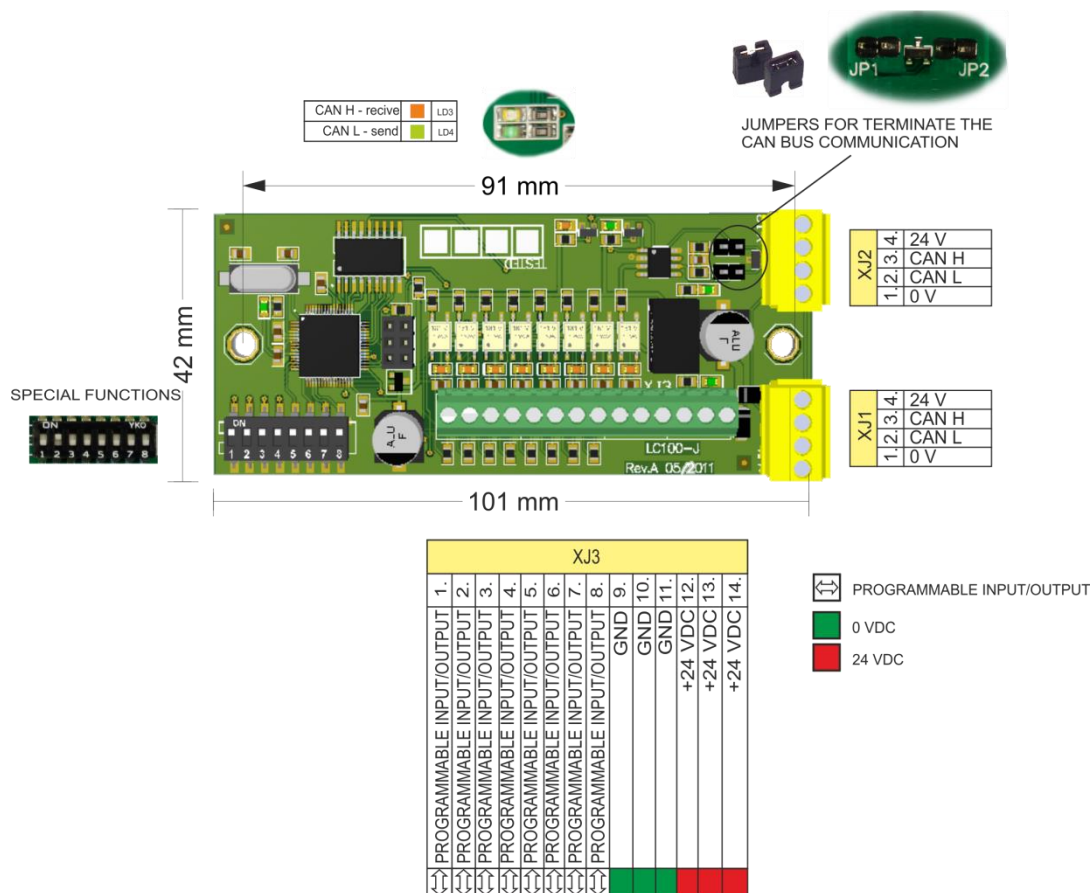
Elevator B S8 set to ON

Example addressing landing call on 11th floor, side B SIMPLEX elevator:



2.24 LC100-J input/output board

LC100-J board is used as additional input/output board. It is equipped with 8 in/out and two CAN connectors. There are also microswitches for addressing or defining functions according to the installed software.



Picture 26 - LC100-J board

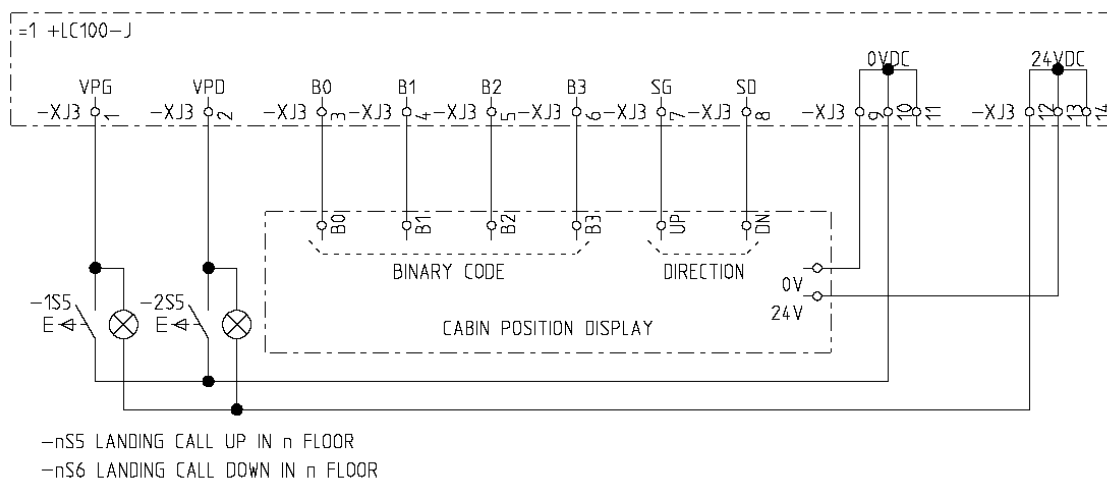
Applications examples using LC100-J board:

1. Floor units SIMPLEX elevator with binary coded landing display.

Floor units are coded according to the addressing table.

LC100-J boards are connected to CAN2 bus, there is no need for parameterization because inputs and outputs are set as shown on the connection diagram.

Connection diagram:



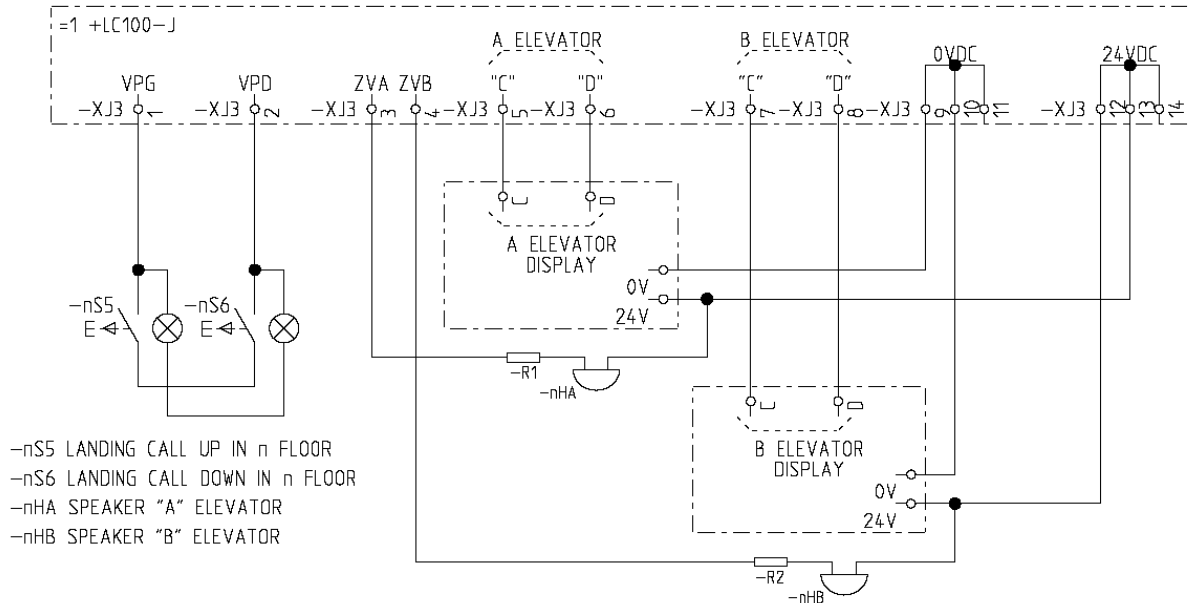
2. Floor units DUPLEX elevator with „C“ i „D“ protocol displays.

Floor units are coded according to the addressing table.

LC100-J boards are connected to CAN2 bus, there is no need for parameterization because inputs and outputs are set as shown on the connection diagram.

When connecting speakers on XJ3.3 and 4 there is need for putting resistor with minimal value 100Ω.

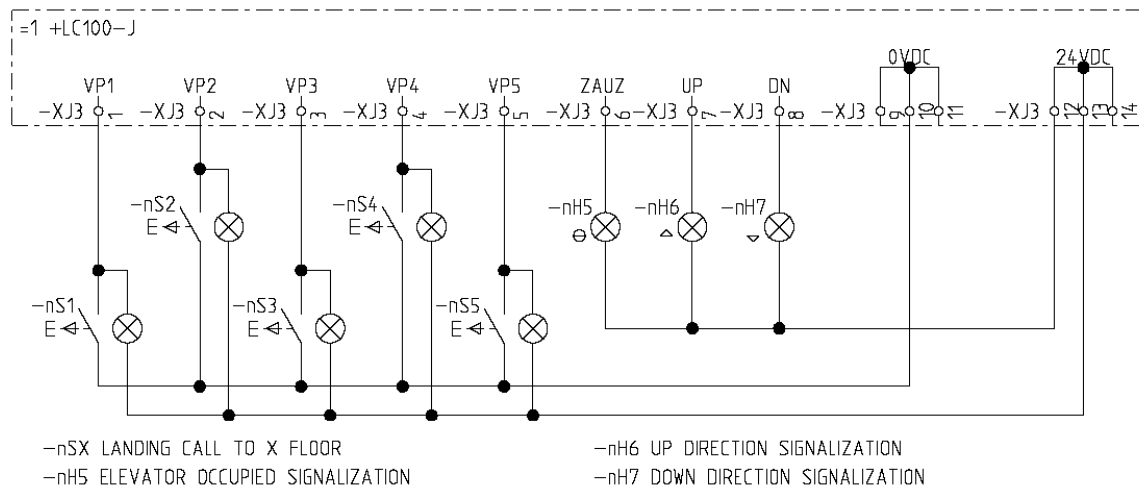
Connection diagram:



3. Floor units for elevators without cabin calls.

For LC100-J software for non passenger elevators addressing is not done, inputs are like on connection diagram. All the landing calls are connected in parallel.

Connection diagram:

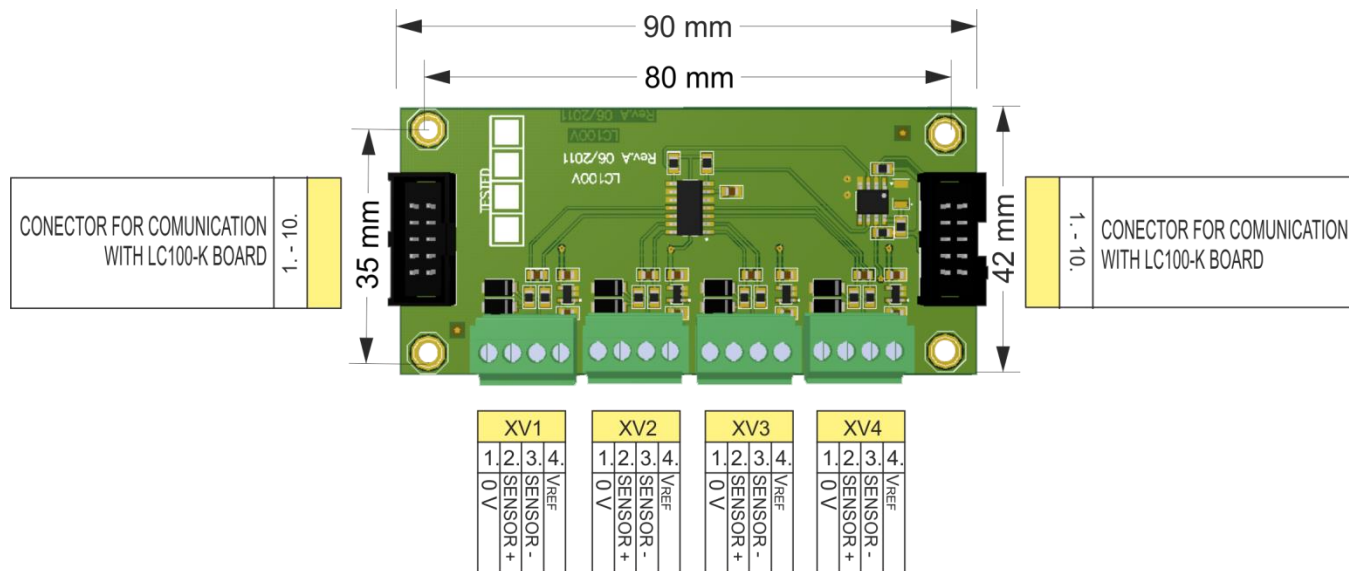


NOTE! Here are only some examples on using LC100-J, other configurations are made on request.

2.25 LC100-V load measurement board

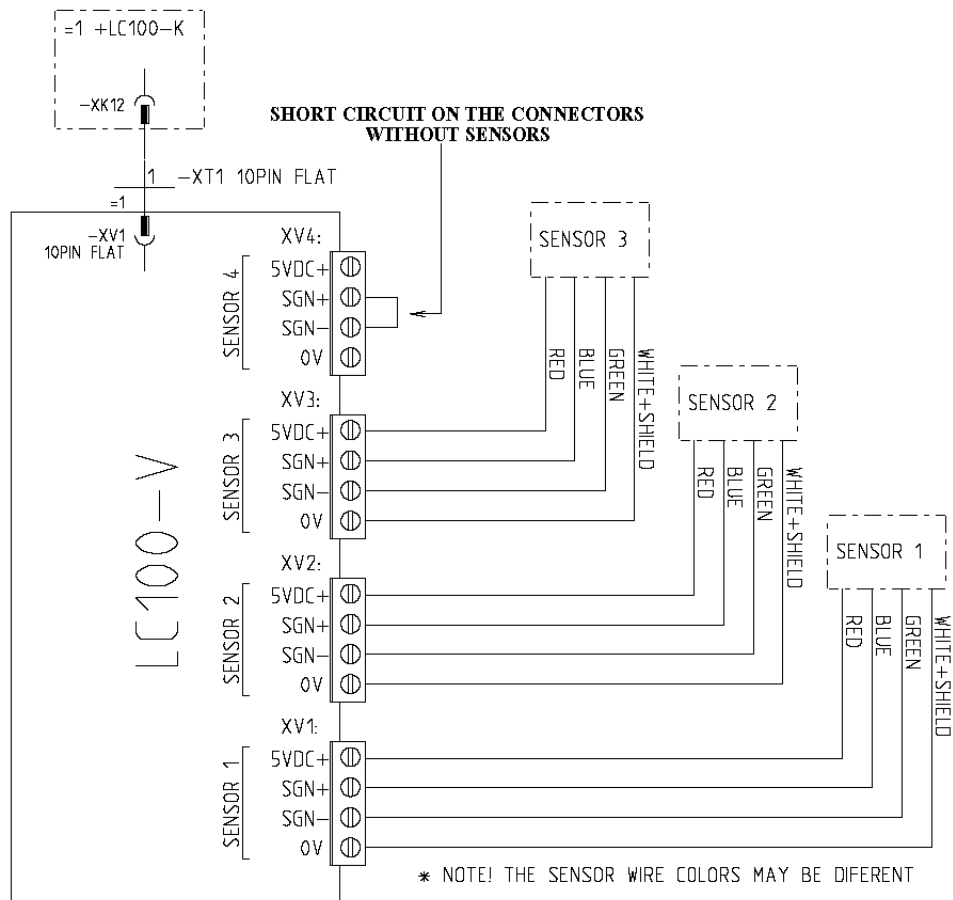
LC100-V board is used to connect the load measurement cells. It has four connectors for connecting up to four cells and a flat connector for connecting it to the LC100-K board.

Programming the load measurement is done with the LC100-D2 keyboard as explained in additional menu, section **5/7 LOAD MEASUREMENT**



Picture 27 LC100-V board

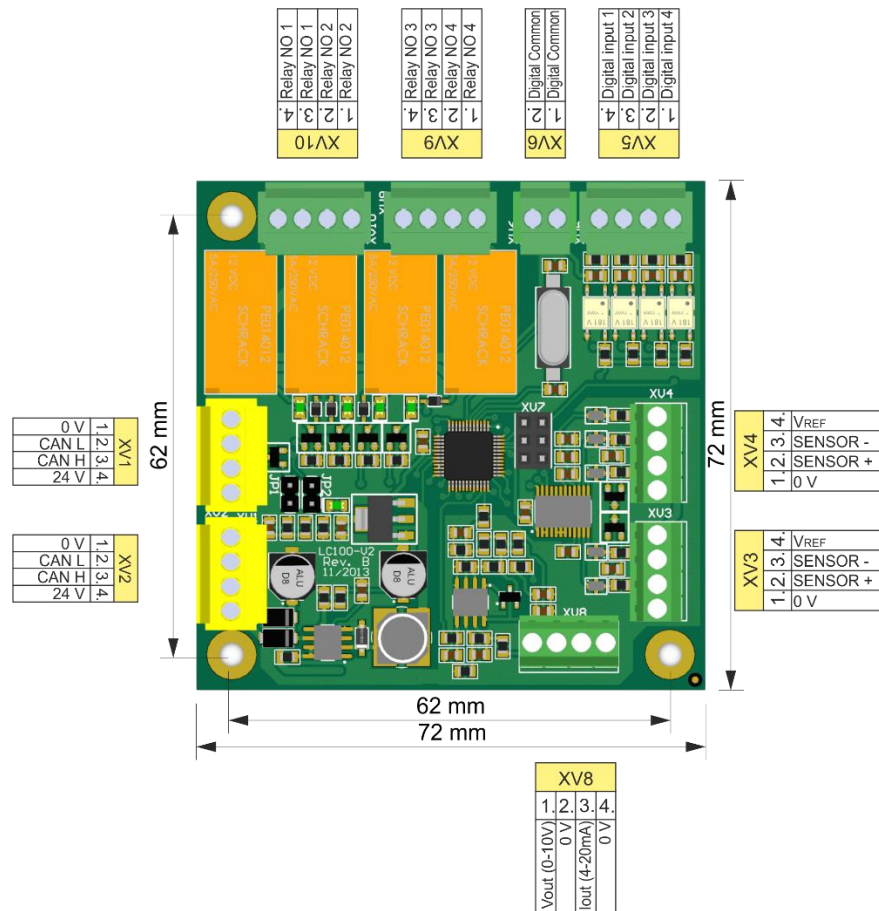
Connection diagram for LC100-V:



2.26 LC100-V2 load measurement board

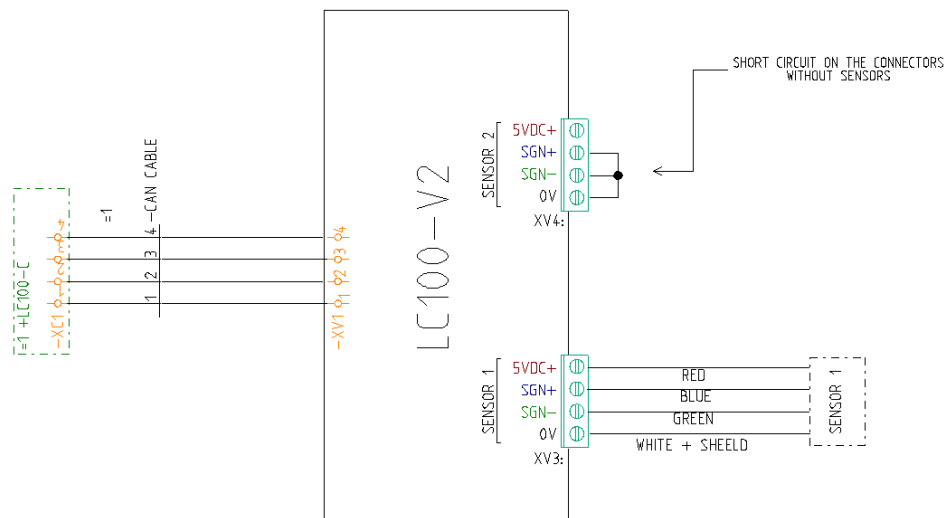
LC100-V2 board is used to connect the load measurement cells.

Programming the load measurement is done with the LC100-D2 keyboard as explained in additional menu, section **5/7 LOAD MEASUREMENT**



Picture 28 LC100-V2 board

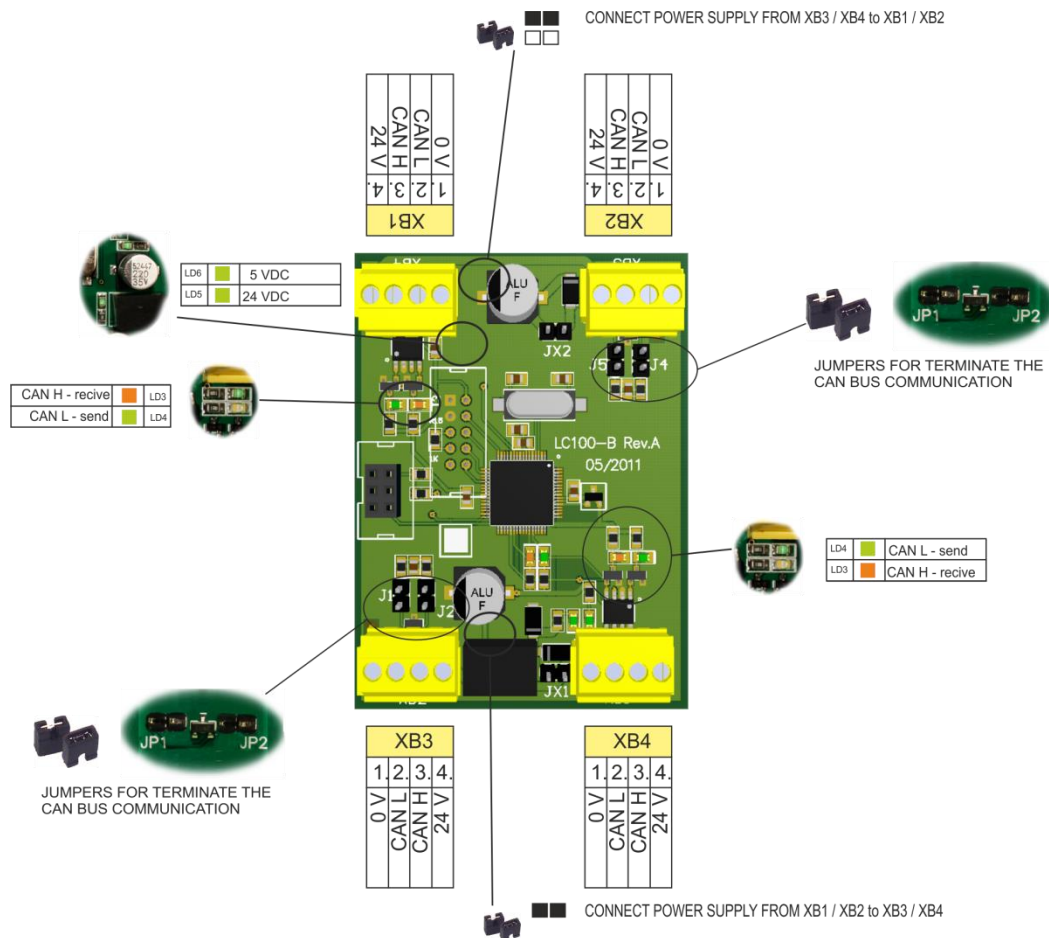
Connection diagram for LC100-V2:



2.27 LC100-B CAN bridge board

LC100-B CAN bridge board is used for connecting can devices which are not compatible with the LC100 CAN protocol (frequency inverter, encoders...).

Board is connected to CAN1 bus of LC100 trough XB1 or XB2 connector.



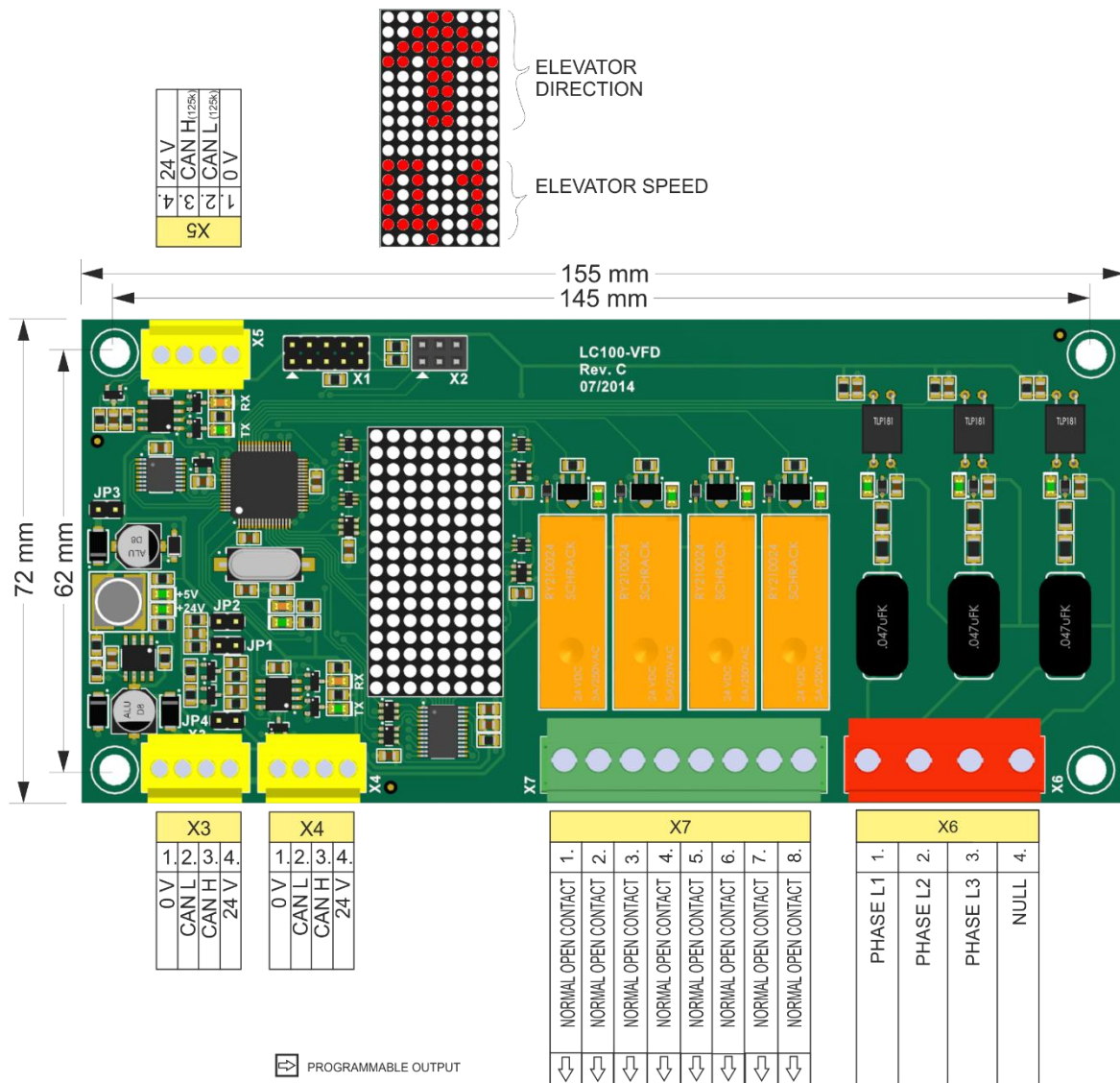
Picture 29 LC100-B board

2.28 LC100-VFD - CAN bridge board, relay output, phase control board

LC100-VFD – board include CAN bridge (CAN bridge board is used for connecting can devices which are not compatible with the LC100 CAN protocol (frequency inverter)), 4 relay outputs, phase control, display which show elevator direction and speed.

Phase control is enable or disable by parameter T-19 star below A.

Board is connected to CAN1 bus of LC100 trough X3 or X4 connector.



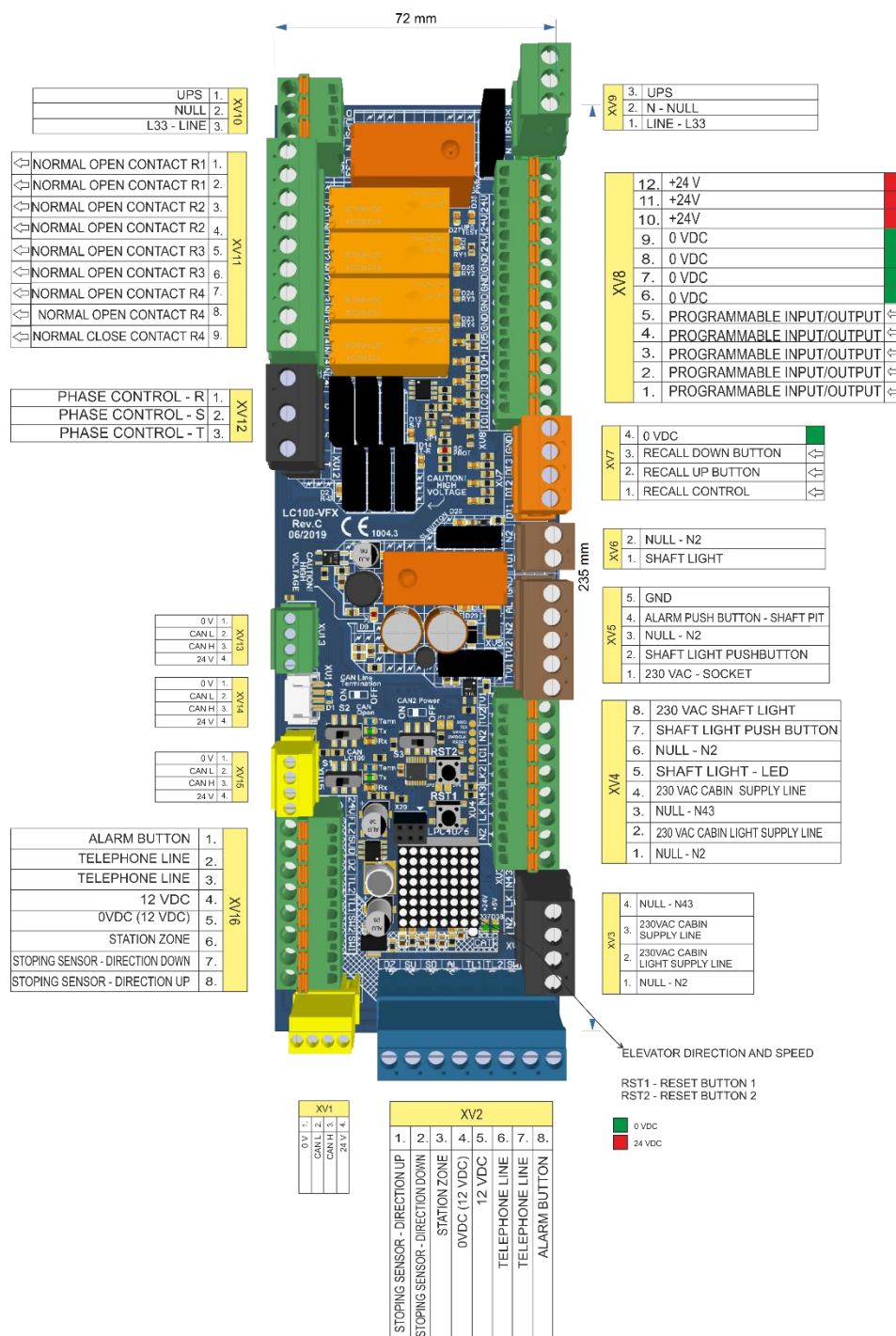
Picture 30 LC100-VFD board

2.29 LC100-VFX - CAN bridge board, relay output, phase control, safety circuit board

LC100-VFX – board include CAN bridge (CAN bridge board is used for connecting can devices which are not compatible with the LC100 CAN protocol (frequency inverter) XV13 connector), 4 relay outputs, phase control, display which show elevator direction and speed.

Phase control is enable or disable by parameter T-19 star below A.

Board is connected to CAN1 bus of LC100 trough XV1 or XV15 connector.

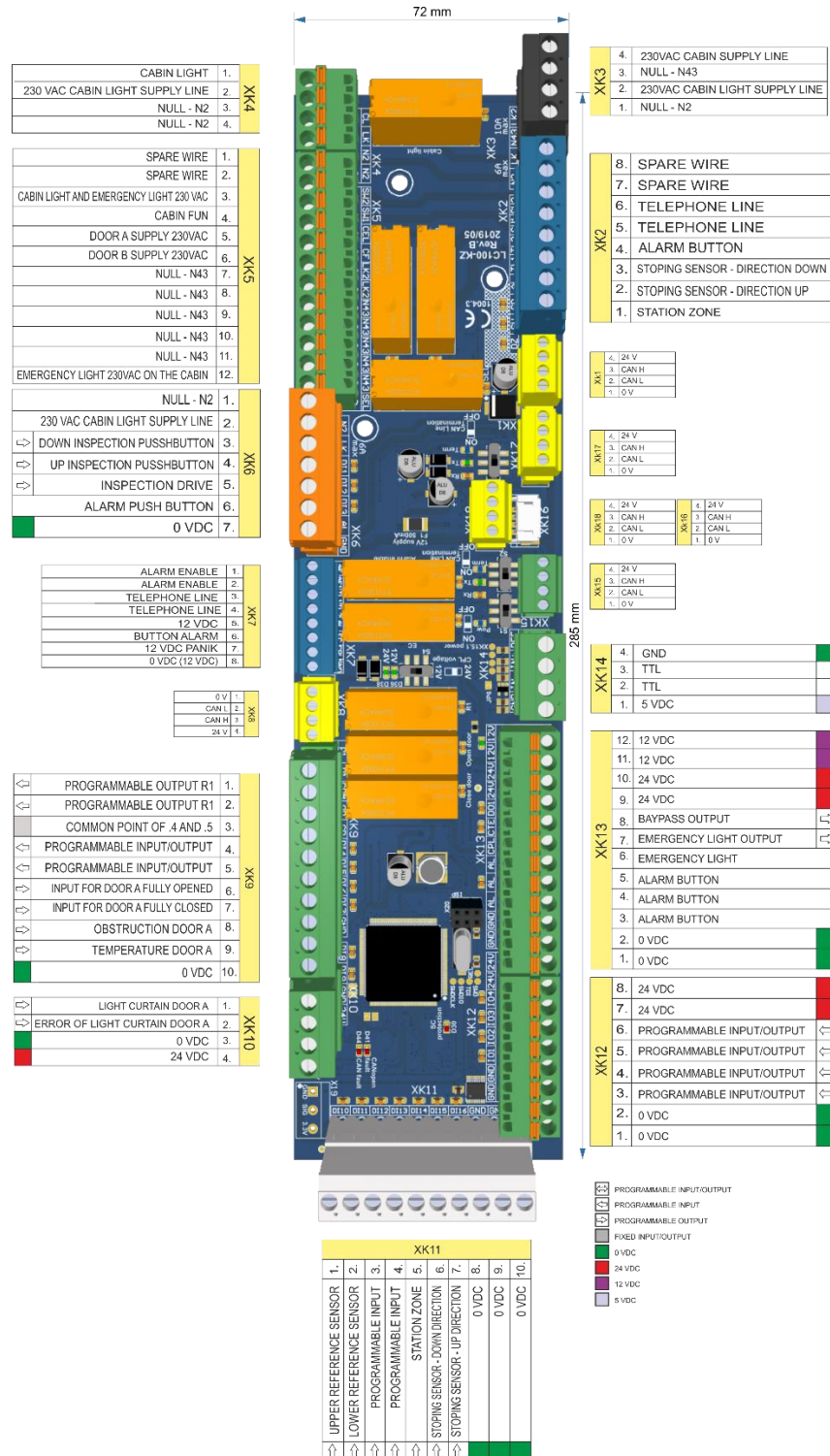


Picture 31 LC100-VFX board

2.30 LC100-KZ - cabin board

LC100-KZ – board include CAN bridge (CAN bridge board is used for connecting can devices which are not compatible with the LC100 CAN protocol (absolute encoder) XK15 connector), pre-connection of the cabin supply voltage (light, doors, alarm...)

Board is connected to CAN1 bus of LC100 trough XK1, XK17, XK18 or XV16 connector.

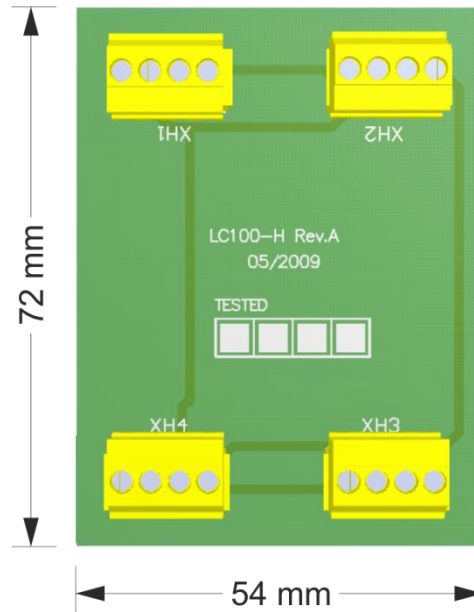
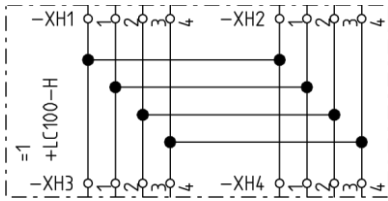


Picture 32 LC100-KZ board

2.32 LC100-H CAN connection board

LC100-H board is used to multiply CAN connectors, it consist of 4 CAN conectors.

LC100-H board connection:



Picture 31 - LC100-H board

2.33 LC100-GSM emergency voice call

LC100-GSM is GSM modem board used for emergency voice calls and communication with Lift Remote Monitoring system.

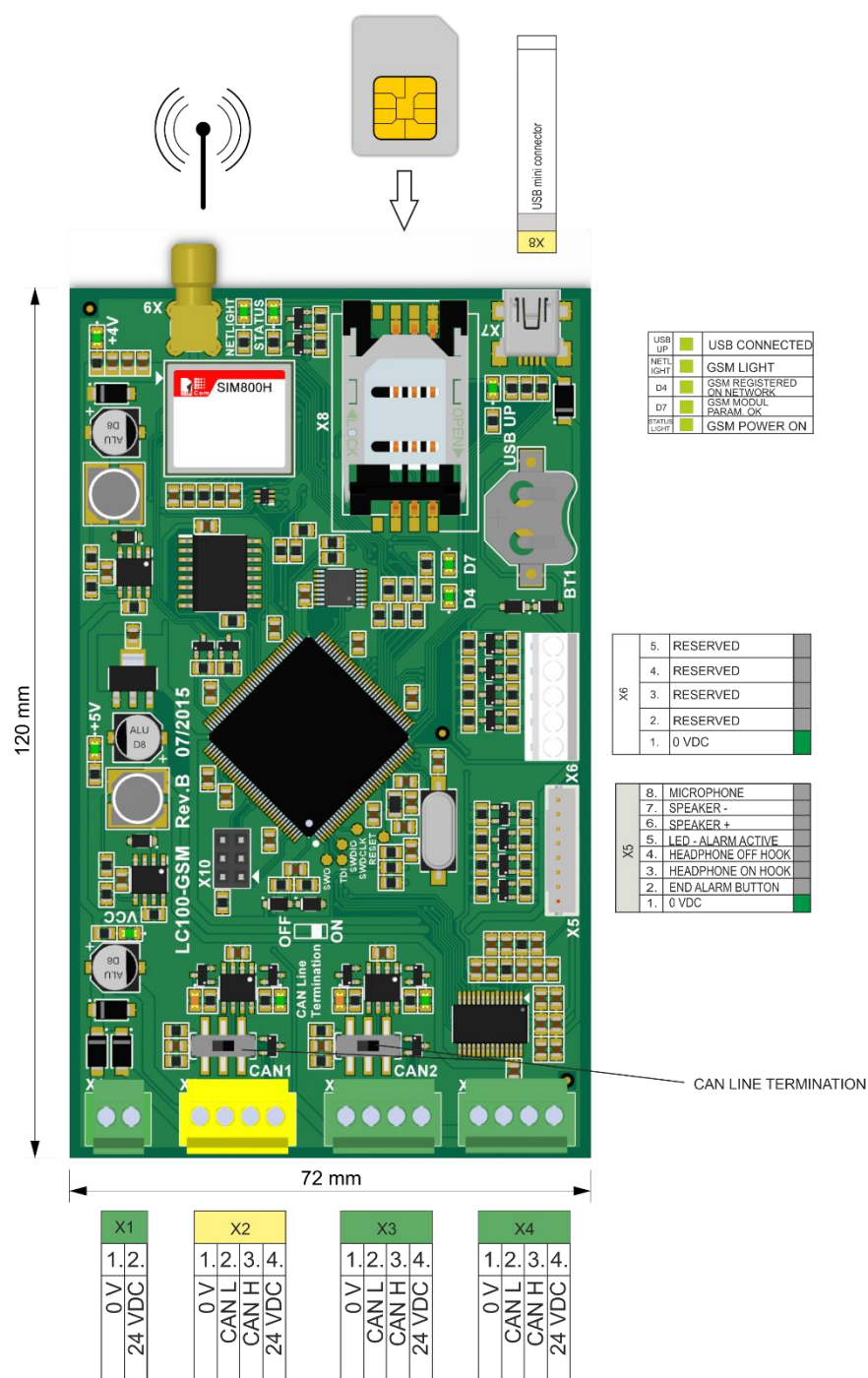
Main functions:

- 2 independent CAN BUS serial communication channels
- Integrated GSM/GPRS modem with SIM card slot
- Speaker and microphone connection
- USB memory stick connection

Programing is possible using;

- DTMF codes
- LC100-D2 terminal

More information in additional document: „0219-E-ENG-LC100_Emergency_Telephone_Manual.pdf“



Picture 32 - LC100-GSM

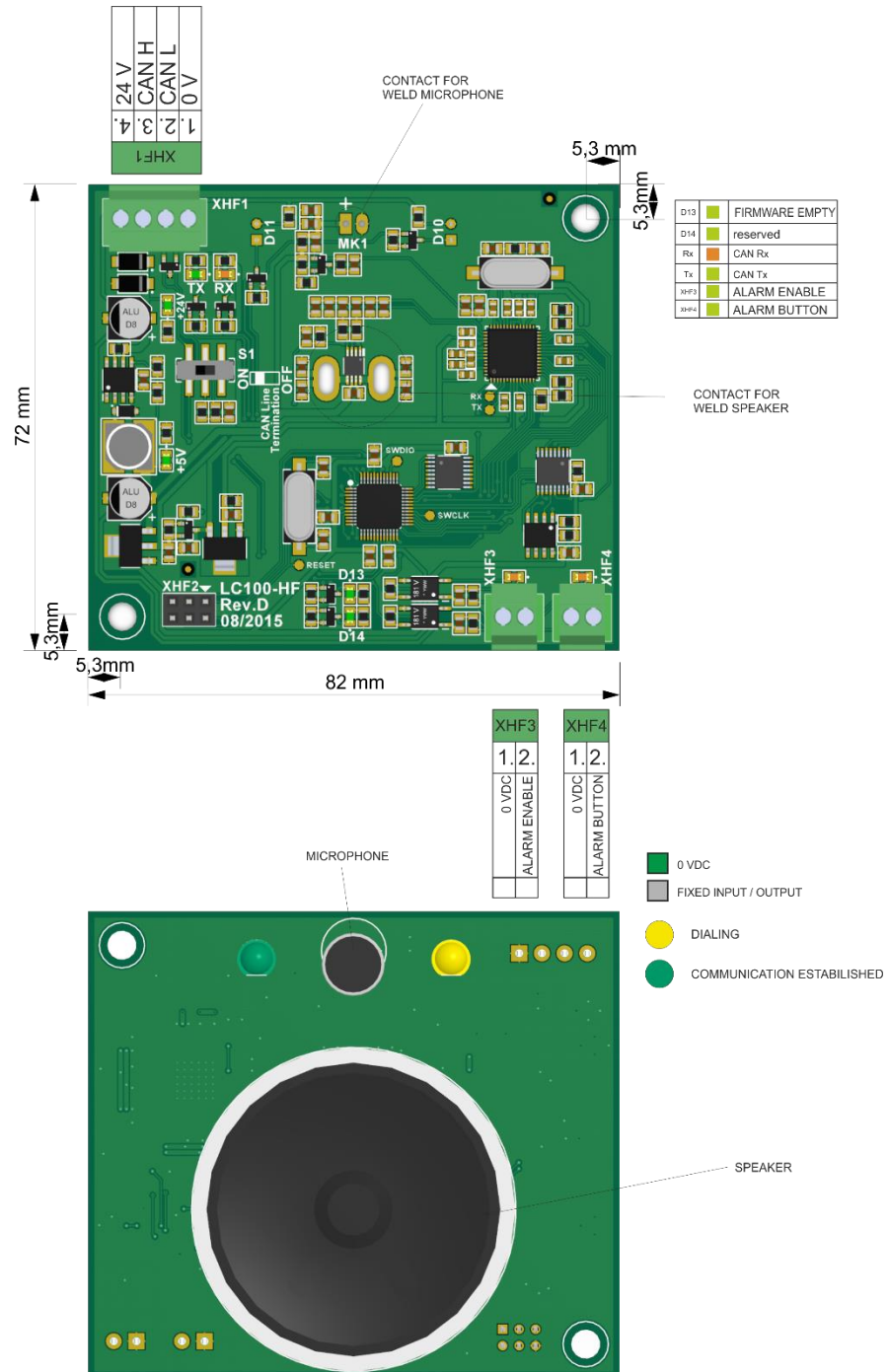
2.34 LC100-HF handsfree voice communication

LC100-HF is board with handsfree voice communication function (part of emergency voice communication system).

Main functions:

- CAN bus serial communication
- Alarm enable and alarm pushbutton connection
- Integrated speaker and microphone
- Fully digital voice transfer via CAN BUS (excellent noise immunity and acoustic echo cancellation)
-

More information in additional document: „0219-E-ENG-LC100_Emergency_Telephone_Manual.pdf“



Picture 33 - LC100-HF module

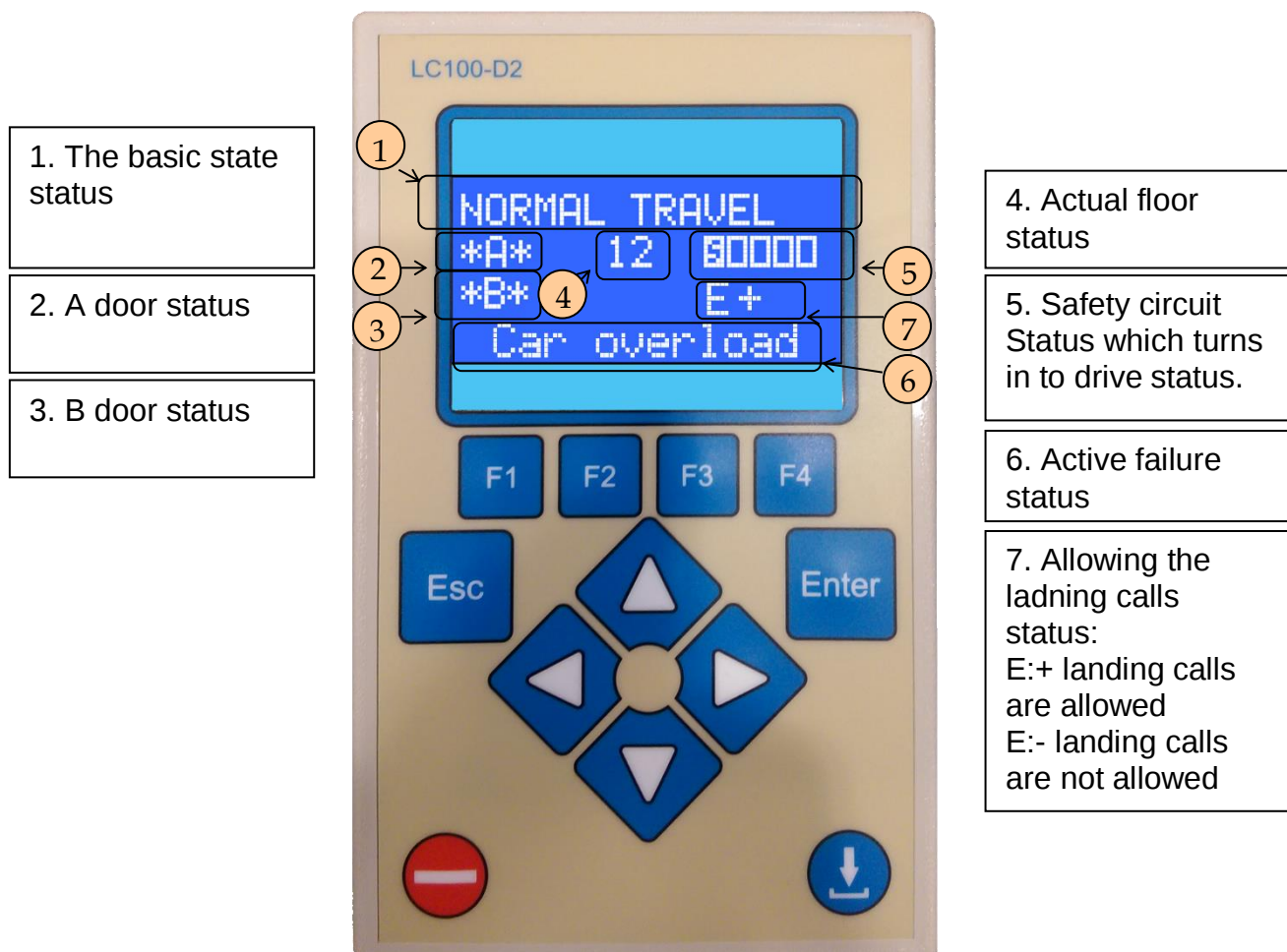
3. Managment with LC100-D2 terminal

Parameter setting, diagnostics and monitoring the system LC100 is enabled by using supervision and control terminal LC100-D. Supervisory-control terminal consists of four line LCD screen and the keyboard of the four buttons to scroll through the menus, pressing the Enter key to enter the menu and confirm the parameter, the Escape key to exit the menu and reset button as shown in Figure 3.1. LC100-D2 terminal can be connected anywhere on the CAN bus communication. After switching to the bus terminal is shows basic display status of elevators and after pressing the enter key it goes to the main menu.

For additional menu are used F1, F2, F3, F4 buttons.

3.1 Basic view

The main display on the LC100-D2 terminal contains basic status of the system. Display status is divided into 7 parts:



3.1.1 Basic elevator state

Basic elevator state is shown on the top line on the primary screen of terminal LC100-D2.

Elevator state	ID	Description
Service (35) und.	4	Indicates that the service travel port is not defined FI-235 . It is necessary to define service travel port in configuration.
Service travel	5	Indicates that the service travel is active. The message is recorded in the statistics without time delay after switching off service travel FI-235 . Cabin calls are canceled. Landing calls are canceled in simplex mode.
Recall control	6	Indicates that the recall travel is activated. The message is recorded in the statistics without time delay after switching on recall travel FI-201 .
Service & recall	7	Indicates that the signals are simultaneously active service and recall travel. Service travel is priority and the recall travel is disabled. It is necessary to turn off service travel to get the recall control.
Simulator	8	Indicates that the „Simulator drive“ program is active.
Evacuation	9	Indicates that the evacuation of passengers from elevator due to power failure is in process. Or evacuation input active FI-207 . Elevator does evacuation depending on the type of evacuation defined parameter A-04 .
Additional power	10	Indicates that the elevator is in the auxiliary power supply mode.
Learning travel	11	Learning travel is in process.
Normal travel	12	Normal travel is in process.
Service from cab	13	Indicates that the service travel on the cabin is active. The message is recorded in the statistics without time delay after switching off service travel FI-235 . Cabin calls are canceled. Landing calls are canceled in simplex mode.
Service from pit	14	Indicates that the service travel from the pit is active. The message is recorded in the statistics without time delay after switching off service travel FI-235 . Cabin calls are canceled. Landing calls are canceled in simplex mode.
Continue→RESET	28	Indicates information that for normal travel it is necessary to press reset button on LC100-D terminal or activating FI-214 .

3.1.2 Elevator door state

First three characters of the second line indicates door A state, and the first three characters of the third line for door B state. All views of state for door A are the same for door B.

Door state	Description
A	Door A stoped
→A←	Closing door A
[A]	Closed door A
←A→	Opening door A
]A[	Open door A
!A!	Error door A
0A0	Indicates that the door A is in open position

3.1.3 Display of current elevator station

Display of current elevator station is located in the middle of the second line.

0—Indicates that the learning travel is not done.

1-40—Indicates current station during normal travel.

3.1.4 Safety line and drive display

In standby (with no calls) last five characters of second line indicates the status of controlled points in safety circuit:

```
NORMAL TRAVEL
*A*   12  00000
*B*      E+
Car overload
```

-  - Indicates active state
-  - Indicates inactive state

First field indicates the presence of safety circuit voltage at the terminal XS8:3 on the LC100-S board (presence of STOP in safety circuit)

Second field indicates the presence of safety circuit voltage at the terminal XS9:2 (presence of landing door contact)

Third field indicates the presence of safety circuit voltage at the terminal XS10:2 (car door A contact)

Fourth field indicates the presence of safety circuit voltage at the terminal XS10:4 (car door B contact)

Fifth field indicates the presence of safety circuit voltage at the terminal XS11:2 (door lock contact)

After the drive command, safety circuit status turns into drive status:

```
NORMAL TRAVEL
*A*   12 P_M↓
*B*      E+
Car overload
```

- P_** - Specifies the drive, and next two characters indicates the driving speed and direction.

- M** – Leveling speed
- 1** – Nominal speed 1 speed
- 2** – Second working speed
- 3** – Third working speed
- R1** – Inspection speed 1
- R2** – Inspection speed 2
- P** – Releveling speed
- Z** – Stopping (no speed command)
- ↑** – Direction up
- ↓** – Direction down

3.1.5 Active delays and errors display

If an elevator in any way is not in operational state, the bottom line of primary screen will show messages describing the current error, or elevator failure state. All messages that are included in the statistics should be written in a way that the bottom line of primary screen flash on and off every second. When there are two or more error situations, the bottom line of primary screen will alternately show messages describing the current state of elevator.

Table of active errors and failures:

Elevator state	ID	Description
Power turn-on	1	Indicates that the voltage is switched on.
Reset LC100	2	Indicates that the reset button is pressed on the LC100-D keyboard or reset input is active.
Both service inf	15	Indicates that the inputs are active at the same time for button service travel up FI-236 and service travel down FI-237
Undefined RU-50	16	Indicates that the upper reference switch input is not defined in system configuration FI-250 for rated speed. Service travel is disabled.
Undefined RD-52	17	Indicates that the lower reference switch input is not defined in system configuration FI-252 for rated speed. Service travel is disabled.
Upper position - 52	18	Indicates that the upper reference switch is active FI-250
Down position - 52	19	Indicates that the lower reference switch is active FI-252
Low safety space	20	Indicates that the low safety space input is active FI-206 . Normal travel possible only after reset over LC100-D terminal or by activating FI-327
NGV A3 no RDY	21	Indicates that after drive command is given to NGV hydraulic agregat there is no „ready“ signal active (input FI-288) and starting is not possible.
ELGO not init	22	Indicates that is not maked initial position of absolute encoder.
ELGO not conn.	23	Indicates that absolute encoder are not connected.
Low safety sp. 1	24	Indicates that the low safety space input if active FI-308 . Normal travel possible only after activating FI-327 .

Table of load meter and special program state:

Screen message	ID	Description
Pillar in shaft	25	Idicates that pillar in the shaft are in vertical positioning FI-309 .
Activ ALARM	26	Indicates that alarm button is active FI-335 .
Set password	27	Indicates that you need login in system by password.
Continue-->Reset	28	Indicates that error are occurred and for normal travel need press reset (red) button.
Priority travel	30	Indicates that the priority tavel is active. Priority travel can be activated over input FI-243 (key in cabin) or over the monitoring system. Message is recorded in the statistisc without time delay. By activating priority travel all cabin calls are deleted, elevator takes only one cabin call, landing calls are not processed, and are deleted after the priority travel takes longer than 2 min.
Fireman travel	31	Indicates that the fireman travel is active (fireman program is activated using the same input as priority travel at the time when fire program is activated and elevator stops at the evacuation floor)
Fire program 1	32	Indicates that the fire program is activated. Fire program is activated using adjustable input function FI-210 or over the monitoring system. Also evacuation floor parametar must be defined B-07 After activating elevator comes at the evacuation floor and standing with open door.
Fire program 2	33	Indicates that the fire program is activated. Fire program is activated using adjustable input function FI-211 or over the monitoring system. Also evacuation floor parametar must be defined B-08 After activating elevator comes at the evacuation floor and standing with open door.

Fire program 3	34	Indicates that the fire program is activated. Fire program is activated using adjustable input function FI-212 or over the monitoring system. Also evacuation floor parameter must be defined B-09 After activating elevator comes at the evacuation floor and standing with open door.
Fire program 4	35	Indicates that the fire program is activated. Fire program is activated using adjustable input function FI-213 or over the monitoring system. Also evacuation floor parameter must be defined B-10 After activating elevator comes at the evacuation floor and standing with open door.
Car full	36	Indicates that the 80% load input is activated (input with parameter FI-241) more than 10 sec. Elevator ignores landing calls.
Car overload	37	Indicates that the 100% load input is activated (input with parameter FI-242) more than 10 sec. Elevator stays at the station with open door.

Safety circuit state messages:

Screen message	ID	Description
STOP switch OFF	38	Indicates that safety circuit is interrupted before the first series of control points on the connector XS8:3, or power circuit interruption between connectors XS1:1 and XS8:3
LD switch OFF	39	Indicates that safety circuit is interrupted at the landing door contact. No power on connector XS9:2
CD-A switch OFF	40	Indicates that safety circuit is interrupted at the car door A contact. No power on connector XS10:2
CD-B switch OFF	41	Indicates that safety circuit is interrupted at the car door B contact. No power on connector XS10:4
LOCK switch OFF	42	Indicates that safety circuit is interrupted at the landing door lock contact. No power on connector XS11:2
Door lock welded	43	Indicates that the landing door lock contact is stuck, or there is a power on connector XS11:2 and there is no door lock command.
UPER LIMIT OFF	44	Indicates that the upper end switch is active, switch is controlled by input function FI-229 . System reset is necessary.

Messages that describe the contactor deactivation failure in the control group:

Screen message	ID	Description
Con.UP not OFF	45	Indicates a direction up contactor deactivation fault. Contactor is controlled by defined input FI-220 . Contactor must be off xx seconds after system turns off the output function FO-001 .
Con.DOWN not OFF	46	Indicates a direction down contactor deactivation fault. Contactor is controlled by defined input FI-221 . Contactor must be off 2 seconds after system turns off the output function FO-002 .
Con.HS not OFF	47	Indicates a high speed contactor deactivation fault. Contactor is controlled by defined input FI-223 . Contactor must be off 2 seconds after system turns off the output function FO-004 .
Con.LS not OFF	48	Indicates a low speed contactor deactivation fault. Contactor is controlled by defined input FI-222 . Contactor must be off 2 seconds after system turns off the output function FO-003 .
Con. MOT not OFF	49	Indicates motor contactors deactivation fault, used with frequency regulated elevators. Contactors are controlled by defined input FI-225
Con. Y not OFF	50	Indicates a „star“ contactor deactivation fault, used with hydraulic elevators. Contactor is controlled by defined input FI-227 . Contactor must be off 2 seconds after system turns off the output function FO-013 .
Con. D not OFF	51	Indicates a „delta“ contactor deactivation fault, used with hydraulic elevators. Contactor is controlled by defined input FI-228 .

Messages that describe the contactor activation failure in the control group:

Screen message	ID	Description
Con.UP not ON	52	Indicates a direction up contactor activation fault. Contactor is controlled by defined input FI-220 . Contactor must be on 2 seconds after system turns on the output function FO-001 .
Con.DOWN not ON	53	Indicates a direction down contactor activation fault. Contactor is controlled by defined input FI-221 . Contactor must be on 2 seconds after system turns on the output function FO-002 .
Con.HS not ON	54	Indicates a high speed contactor activation fault. Contactor is controlled by defined input FI-223 . Contactor must be on 2 seconds after system turns on the output function FO-004 .
Con.LS not ON	55	Indicates a low speed contactor activation fault. Contactor is controlled by defined input FI-222 . Contactor must be on 2 seconds after system turns on the output function FO-003 .
Con.MOT not ON	56	Indicates motor contactors activation fault, used with frequency regulated elevators . Contactors are controlled by defined input FI-225 .
Brake not ON	57	Indicates a failure to activate electromechanical elevator brake. Brake control is done over brake contact at the input FI-224 . Signal must be present while traveling, and max 2 seconds after direction contactors activation.
Inverter not OK	58	Indicates a frequency regulator fault. Controlled by input FI-226 . Regularity signal must be present all time.
Con. Y not ON	59	Indicates a „star“ contactor activation fault used with hydraulic elevators. Contactor is controlled by defined input FI-227 . Contactor must be on 2 seconds after sytem turns on the output function FO-013 .
Con. D not ON	60	Indicates a „delta“ contactor activation fault used with hydraulic elevators. Contactor is controlled by defined input FI-228 .
Con FAN not ON	61	Indicates a motor fan contactor fault. Contactor is controlled by defined input FI-209 . Contactor must be on after system turns on output function FO-018 .
Supply not OK	62	Indicates a phase presence and sequence control relay fault. Relay is controlled by input FI-204 .

Table with warnings and other failures:

Screen message	ID	Description
Error I-valve	29	Indicates that Bucher I-Valve don't give output and it's in error FI-313 .
PTC active	63	Indicates that the resistance of PTC sensor is above limit set by parameter I-02 (hot state PTC resistance). Error remains on for another five min after the signal, or once the probe resistnace falls below the value set by parameter I-01 (cold state PTC resistance). Current PTC resistance can be monitored in the menu inputs/outputs .
Start failure	64	Indicates that the elevator after establishment of control signals from the control group was not initiated in time set by parameter I-03 . As a start control, group takes into account all the signals except for a pulses for copying used in copying type 4 or 5 E-01 . Parameter should be set to a sufficient value needed to elevator pass the path between the 2 copying signals when traveling at low speed increased by approximately 20%. After activating the error it is necessary to reset the control disconnecting power supply or using the reset button on LC100-D terminal. Inspection travel is possible.
Movement failure	65	Indicates that the elevator after start from the station has not moved for logner that the time set by parameter I-03 . This message is identical to the protection Start failure with the difference that after the start at least one copying signal has changed . It is necessary to reset the control disconnecting power supply or using the reset button on LC100-D terminal.

Screen message	ID	Description
Slow speed fail.	66	Indicates that the elevator is travelling at low speed for longer than the time set by parameter I-04 , and that in the meantime stopping switch signal did not activate. Since the above error may occur as a result of copying error (stopping switch) elevator must do a first travel again. It is necessary to reset the control disconnecting power supply or using the reset button on LC100-D terminal.
Leveline failure	67	Indicates that the elevator is traveling at releveing speed for longer than the time set by parameter I-05 , and that in the meantime stopping switch signal did not activate. It is necessary to reset the control disconnecting power supply or using the reset button on LC100-D terminal.
Box overtemper.	68	Indicates that the temperature measured by the processor on LC100-C board rose above the value set by parameter I-12 .
Con. BRK not OFF	69	Indicates the elevator brake deactivation error. Brake control is done over mechanical contact on input FI-224 .

Elevator door error messages:

Screen messages	ID	Description
Door A open err	70	Indicates a door A opening failure: - If there are end-switch – Elevator door A were not opened until end-switch, FI-260 in time set by parameter D-13. - If there are no end-switch – after opening sequence, system continues to have the information from safety circuit that the door is closed .
Door B open err	71	Indicates a door B opening failure: - If there are end-switch – Elevator door B were not opened until end-switch, FI-270 in time set by parameter D-21. - If there are no end-switch – after opening sequence, control cabinet continues to have the information from safety circuit that the door is closed.
Door A close err	72	Indicates a failure closing the door A which means that the door A is not closed until end-switch FI-261 if it exists, or to safety circuit contact if there is no end-switch.
Door B close err	73	Indicates a failure closing the door B which means that the door B is not closed until end-switch FI-271 if it exists, or to safety circuit contact if there is no end-switch.
Landing door err	74	Indicates a landing door contact failure. After the information about cabin door closed over the end-switch FI-261 or FI-271 within 3 seconds did not activate landing door signal from safety circuit.
Car door A err	75	Indicates a cabin door A contact failure. After closing the cabin door A, the system has recieved information on the end-switch FI-261 , and within 3 seconds was not activated cabin door A closed signal from safety circuit.
Car door B err	76	Indicates a cabin door B contact failure. After closing the cabin door B, the system has recieved inormation on the end-switch FI-261 , and within 3 seconds was not activated cabin door B closed signal from safety circuit.
Door lockins err	77	Indicates a landing door locking failure, that occurs: - At the door with mechanical locking 3 seconds after closing the door - At the door with electrical locking 3 seconds after door locking output signal FO-48.

Screen messages	ID	Description
Obstacle door A	78	Indicates an obstacle signal too long (>30s) while closing door A FI-262 . The message is information about input state, elevator is holding the door open until signal deactivation. Function is off during inspection travel.
Obstacle door B	79	Indicates an obstacle signal too long (>30s) while closing door B FI-272 . The message is information about input state, elevator is holding the door open until signal deactivation. Function is off during inspection travel.
Photocell door A	80	Indicates a photocell signal active on side A, FI-263 . If there is fireman program active photocell input is ineffective. The message is information about input state FI-263 , elevator is holding the door open until signal deactivation.
Photocell door B	81	Indicates a photocell signal active on side B, FI-273 . If there is fireman program active photocell input is ineffective. The message is information about input state FI-273 , elevator is holding the door open until signal deactivation.
Door A open but.	82	Indicates a open door A button signal active FI-264 .
Door B open but.	83	Indicates a open door B button signal active FI-274 .
Door A close but.	84	Indicates a close door A button signal active FI-265 for longer than 30 seconds. The message is information for user, control sets standard exit time at stop D-30=0.0 seconds.
Door B close but.	85	Indicates a close door B button signal active FI-275 for longer than 30 seconds. The message is information for user, control sets standard exit time at stop D-30=0.0 seconds.
Door lim sw A-er	86	The message is information that the door A is both on end-switch open and end-switch close (active inputs FI-260 and FI-261). Door A stops and the elevator is blocked until logic input state is established (door can be on one end-switch only). Function is off during inspection travel.
Door lim sw B-er	87	The message is information that the door B is both on end-switch open and end-switch close (active inputs FI-270 and FI-271). Door B stops and the elevator is blocked until logic input state is established (door can be on one end-switch only). Function is off during inspection travel.
Door in car	89	Indicates that the input for door in the car is active. Function FI-246 .
Photo in drive	90	Indicates that the photocell signal FI-263 or FI-273 interrupted during travel if there is no automatic car door. Cabin call can start elevator. After activating alarm elevator can't be started over landing calls before resetting.

Elevator positioning error messages:

Screen messages	ID	Description
Down/Ref sen.err	91	Elevator stopped at the station, 1st station copied, and the lower reference switch not activated FI-252. Elevator repeats learning travel. Error is effective for the copy type E-01=2 Possible errors: - Too many stations copied so elevator stopped in the station without reference switch. - Elevator is in the 1st station but there is no reference switch. - Elevator is not in the 1st station, but the reference signal appeared and then lost.
Up /Ref sen.err	92	Elevator stopped at the station, last station copied, and the upper reference switch not activated FI-250. Elevator repeats learning travel. Error is effective for the copying type E-01=2 Possible errors: - Too many stations copied so elevator stopped in the station without reference switch. - Elevator is in the last station but there is no reference switch. - Elevator is not in the last station, but the reference signal appeared and then lost.
Ref.1 sensor err	93	Both upper and lower reference switch active at the same time FI-250 and FI-252. Switch activity is controled with elevator in the station . After establishing the logical input state elevator does learning travel. The message does not indicate during inspection travel and learning travel, if elevator does not start from the station.
Ref.2 sensor err	94	Both upper end lower reference switch for medium speed active at the same time FI-251 and FI-253, for the copying type E-01=5. Switch activity is controled with elevator in the station. After establishing the logical input state elevator does learning travel. The message does not indicate during inspection travel and learning travel, if elevator does not start from the station.
Down sensors err	95	Indicates counting downwards switch error, FI-255 for the copying type E-01=2 or 3. As elevator comes to the lower reference switch, FI-252, system controls counting downwards. If counting state differs by 2 or more as it comes to the reference switch, error indicates. Elevator is not blocked but continues to travel. It is necessary to check the count signals and the lower reference switch. Possible errors: - There is more stations than defined by the parameter A-01. - Incorrect counting downwards signal.
Up sensors err	96	Indicates counting upwards error, FI-254 for the copying type E-01=2 or 3. As the elevator comes to the upper reference switch, FI-250, system controls counting upwards. If counting state differs by 2 or more as it comes to the reference switch, error indicates. Elevator is not blocked but continues to travel. It is necessary to check the count signals and the upper reference switch. Possible errors: - There is more stations than defined by the parameter A-01. - Incorrect counting upwards signal.
Up stop sen.er	97	Indicates stopping upwards switch deactivation failure FI-256. Entering the deceleration zone system controls signal activity (must be inactive). Otherwise, the elevator can not perform the alignment and the preopening until signal deactivation.
Down stop sen.er	98	Indicates stopping downwards switch deactivation failure FI-257. Entering the deceleration zone system controls signal activity (must be inactive). Otherwise, the elevator can not perform the alignment and the preopening until signal deactivation.
Impulse sens err	99	Indicates copying impulse failure. During drive between two stations there was no change on the input for counting or inductive switch input.

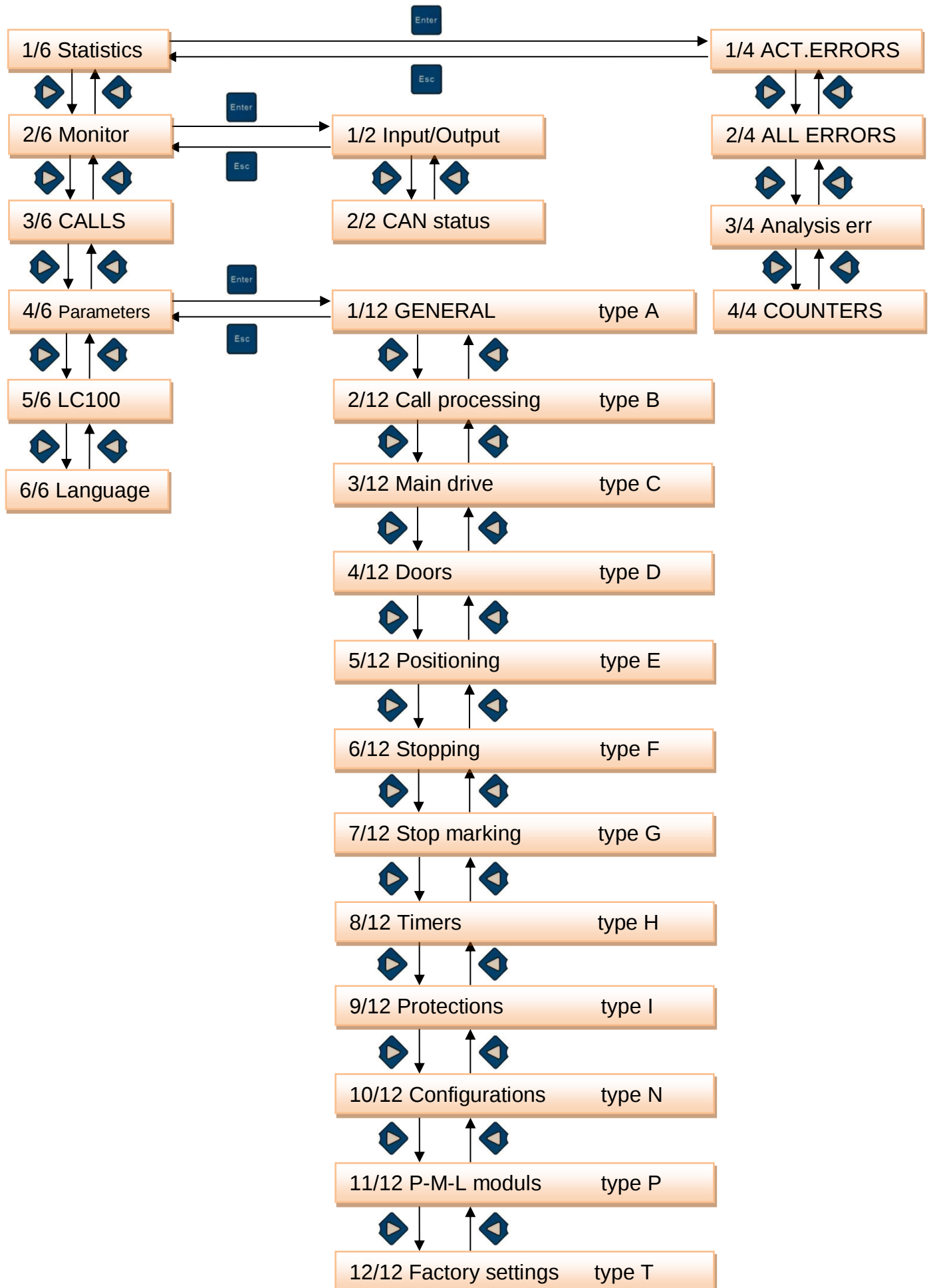
Screen messages	ID	Description
Too many floors	100	Message can be displayed if coping type is E01=4 or 5. First travel (learning travel) is done through entire shaft from top to bottom station. Stopping in station FI-256 and FI-257 and impulse switch XC7:1 are controlled during learning travel. System counts the stations so between stations must be at least 10 impulses. If system didn't count stations correct, first travel is repeated. Possible errors: - Elevator pass through end station. - There is too many stations in relation to parameter A-01.
Too few floors	101	Message can be displayed if coping type is E01=4 or 5. First travel (learning travel) is done through entire shaft from top to bottom station. Stopping in station FI-256 and FI-257 and impulse switch XC7:1 are controlled during learning travel. System counts the stations so between stations must be at least 10 impulses. If system didn't count stations correct, first travel is repeated. Possible errors: - No impulse change at all or at least between two stations so system didn't count number of stations in relation to parameter A-01. - Not enough station signals in relation to parameter A-01.
Error EN81 (A3)	102	Indicates fault on the UCM safety device. Device is controlled trough the input with FI-300. Fault can't be reset with resetting the power. Fault must be reset with the reset button on the LC100-D keypad. If service drive is switched on than controller will give a reset command on the first inspection drive command is resetting is possible.
Gov.not on (A3)	103	Indicates that when attempting to drive overspeed governor coil was not powered on. Control of the overspeed governor coil is done trough the input with the function FI-290. Fault must be reset trough reset button on the LC100-D keypad.
Gov.not off (A3)	104	Indicates that when stopping the elevator overspeed governor coil was not powered off. Control of the overspeed governor coil is done trough the input with the function FI-290. Fault must be reset trough reset button on the LC100-D keypad.
Test EN81 (A3)	105	Indicates that there is UCM test active. Test is started trough the LC100/test menu.
Err.V.down (A3)	106	Indicates that valve down A3 are not opening FI-310 .
Error UPS	107	Indicates that UPS test don't pass successfully FI-342 or FI-311 are not present.
Phase failure	108	Indicates that missing one of the power line phase checked by VFD card or inputs FI-297 , FI-298 , FI-299 .
Evacuat.failure	109	Indicates that the automatic evacuation last more than time set by parameter I-06 . Reset should be done.
Safety device er	110	Indicates safety device for preopening and leveling error. Reset should be done.
Car light error	111	Indicates car light error. Car light is controlled over input FI-245 .
Proeram ENTERING	112	Indicator that building loading program is active.
Proeram EXIT	113	Indicator that building unloading program is active.
Phase seq.fail	114	Indicates that sequence of phase are not ok checked by VFD card.
Real time err.	115	Indicates that setting time is needed. Time can be set trough Time menu. If the time is not remembered while switching off the controller check the batery
Bridge saf.cir.	128	Indicates that safety circuit are bridged.
Err light curt A	129	Indicates that light curtain don't work correctly detected by FI-336 or D-37 or D-39 parameter
Err light curt B	130	Indicates that light curtain don't work correctly detected by FI-337 or D-38 or D-39 parameter
Temperature do.A	131	Indicates that door inverter are overheated, input function FI-338 .
Temperature do.B	132	Indicates that door inverter are overheated, input function FI-339 .
FOTO-A disable	133	Indicates that light curtain A are defective and closing door work with nudging.

FOTO-B disable	134	Indicates that light curtain B are defective and closing door work with nudging.
Service door op.	135	Indicates that service door are opened FI-343 .
Err.safety gear.	136	Indicates that safety gear is active FI-344 .
STOP in control	137	Indicates that STOP are active in the cabinet FI-345 .
STOP on cabine	138	Indicates that STOP are active on the cabine FI-346 .
STOP by machine	139	Indicates that STOP near machine are active FI-347 .
STOP in the pit	140	Indicates that STOP in the pit are active FI-348 .
Undefined error	141	--
Err.saf.co.Cab-A	142	Cabin door A contact failure.
Err.saf.co.Cab-B	143	Cabin door B contact failure.
Err.saf.lock A	144	Locking device door A contact failure.
Err.saf.lock B	145	Locking device door B contact failure.
Con.sov.not on	155	Indicates that when attempting to drive overspeed governor contactor was not powered on. Control of the overspeed governor contactor is done trough the input with the function FI-291 . Fault must be reset trough reset button on the LC100-D2 keypad.
Con.sov.not off	156	Indicates that when stopping the elevator overspeed governor contactor was not powered off. Control of the overspeed governor contactor is done trough the input with the function FI-291 . Fault must be reset trough reset button on the LC100-D2 keypad.
ZONA sensor err.	157	Indicates stopping zone switch deactivation failure, control of the zone is done trough the input with the function FI-258 .
Sen.ZONA not on	158	Indicates stopping zone switch activation failure, control of the zone is done trough the input with the function FI-258 .
K-EUCM not off	159	Indicates that when stopping the elevator contactor was not powered off. Control of the K-EUCM contactor is done trough the input with the function FI-355 . Fault must be reset trough reset button on the LC100-D2 keypad.
K-EUCM not on	160	Indicates that when attempting to drive NC80 don't give output to contactor K-EUCM. Control of the K-EUCM contactor is done trough the input with the function FI-355 . Fault must be reset trough reset button on the LC100-D2 keypad.
Check F Far	162	Indicates that when positioning system E-1=6, parameters F are not good configuration.
Valve block err.	163	Indicates that hydraulic block valve are in error FI-356 .

Communication error messages:

Screen messages	ID	Description
Comm err w -I	116	Communication error between LC100-C with LC100-I board.
Comm err w -K/K2	117	Communication error between LC100-C with LC100-K board.
Comm err w -E(0)	118	Communication error between LC100-C with LC100-E board with address 0.
Comm err w -E(1)	119	Communication error between LC100-C with LC100-E board with address 1.
Comm err w -C(A)	120	Communication error between LC100-C with LC100-C board of elevator „A“ in duplex mode.
Comm err w -C(B)	121	Communication error between LC100-C with LC100-C board of elevator „B“ in duplex mode.
Comm err w -C(C)	122	Communication error between LC100-C with LC100-C board of elevator „C“ in duplex mode.
Comm err w -C(D)	123	Communication error between LC100-C with LC100-C board of elevator „D“ in duplex mode.
WDT RESET	124	Indicates reset of the processor in the event of unforeseen flow of program code.
Comm err w -E(2)	146	Communication error between LC100-C with LC100-E board with address 2.
Comm err w -E(3)	147	Communication error between LC100-C with LC100-E board with address 3.
Comm err w -E(4)	148	Communication error between LC100-C with LC100-E board with address 4.
Comm err w -E(5)	149	Communication error between LC100-C with LC100-E board with address 5.
Comm err w -E(6)	150	Communication error between LC100-C with LC100-E board with address 6.
Comm err w -E(7)	151	Communication error between LC100-C with LC100-E board with address 7.
Comm err w -VFD	152	Communication error between LC100-C with LC100-VFD board.
Comm err w -VFX	153	Communication error between LC100-C with LC100-VFX board.
Comm err w -SR2	154	Communication error between LC100-C with LC100-SR2 board.
Error on ANTS	161	Communication error between LC100-C with LC100-B2/ANTS board.

3.2 Menu structure



3.2.1 Statistics

1/6 Statistics	1/4 Active errors
----------------	-------------------

Active error ←

Number of error ←

Time when error appeared ←

Door A close err

P-53 [72] 24

=>01-01 01:38:54

→ Floor

→ Message ID

Active errors menu displays active errors. In the first row error is displayed.
P-XX Means number of error. The last error is the one with number 0, the one before is number 1 and so on.
[XX] Means message ID.
24 Means floor in which error occurred.
Third row shows date and time when error happened.
If there are more active errors, pushing the button left or right it is possible to see other errors.

1/6 Statistics	2/4 All errors
----------------	----------------

Active error ←

Number of error ←

Time when error appeared ←

Time when error ended ←

Lift in STOP

P-12 [38] 12

=>01-01 01:38:54

<=01-01 01:41:24

→ Floor

→ Message ID

All errors menu displays all errors. In the first row error is displayed.
P-XX Means number of error. The last error is the one with number 0, the one before is number 1 and so on.
[XX] Means message ID.
12 Means floor in which error occurred.
Third row shows date and time when error happened.
Fourth row shows date and time when error ended.
If there are more errors, pushing the button left or right it is possible to see other errors.

1/6 Statistics	3/4 Error analysis
----------------	--------------------

Error ←

Search message

[41]

Brake not on

→ Message ID

In the error analysis menu it is possible to filter errors.
After entering the menu select the error which is wanted to filter by pressing the buttons left or right. After choosing the error and pressing the „Enter“ button error is filtered.
If there are no errors filtered message *no error* appears.

3.2.1 Statistics *In firmware 4.437.14 or newer.*

1/6 Statistics	1/4 Active errors
Active error Number of error Floor Comm err w -E(0) [-1] code=118 N= 0[?] S=000000 _A_00 _B_00 Comm err w -E(0) [-1] code=118 P[imp]= ABCD FGH -024576 Comm err w -E(0) [-1] code=118 =>29-04 23:01:46 <=30-04 20:00:00 Message ID Safety circuit status Door status Time when error occurs	
Active errors menu displays active errors. In the first row error is displayed. [-1] Means number of error. The last error is the one with number 0, the one before is number 1 and so on. Code= Means message ID. N = 0[?] Means floor in which error occurred. S=000000 Safety circuit status _A_00 _B_00 Door status _A_00 Door are closed, _A_00 Door are opened. A – Referent switch down 1 B – Referent switch down 2 C – Referent switch up 1 D – Referent switch up 2 E – Counter up/down switch F – Stopping UP G – Stopping DOWN H – Stopping ZONE I – Revision limit switch down J – Revision limit switch up K – Stopping position L – Door zone M – Releveling zone up N – Stopping position in releveling O – Releveling zone down For more statuses of error press down button. If there are more active errors, pushing the button left or right it is possible to see other errors.	

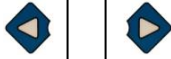
1/6 Statistics	2/4 All errors
Active error Number of error Time when error appeared Time when error ended Lift in STOP P-12 [38] 12 =>01-01 01:38:54 <=01-01 01:41:24 Floor Message ID	
All errors menu displays all errors. In the first row error is displayed. P-XX Means number of error. The last error is the one with number 0, the one before is number 1 and so on. [XX] Means message ID. ■ XX Means floor in which error occurred. Third row shows date and time when error happened. Fourth row shows date and time when error ended. If there are more errors, pushing the button left or right it is possible to see other errors.	

1/6 Statistics	3/4 Error analysis
Error Search message [41] ----- Brake not on Message ID	
In the error analysis menu it is possible to filter errors. After entering the menu select the error which is wanted to filter by pressing the buttons left or right. After choosing the error and pressing the „Enter“ button error is filtered. If there are no errors filtered message *no error* appears.	

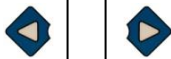
1/6 Statistics

4/4 Counters

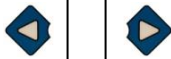
```
Total counter:
-----
TOTAL=      158
```



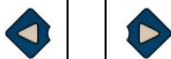
```
User counter:
-----
USER=       120
```



```
Daily counter:
-----
12-08=      30
```



```
Monthly counter:
-----
08-11=      90
```



```
Annually counter
-----
2011=       130
```

In „Counter“ menu there are few counters. After entering the menu „total counter is shown.

Pressing the left or right button it is possible to chose user counter, daily counter, monthly counter and annual counter.

Total counter shows number of starts from instaling the elevator. Total counter can be reset though the [RESET](#) menu.

User counter can be reset so the user can monitor number of drives through specific time interval. Reset of the user menu can be done through [RESET](#) menu.

Daily counter shows number of drives through a specific day. Counter shows days in active month, changing the day is done by pressing the up or down button.

Monthly counter shows number of drives through a specific month. Counter shows months in active year, changing the month is done by pressing the up or down button.

Annually counter shows number of drives trough a specific year. Counter shows active year, changing the year is done by pressing the up or down button.

3.2.2 Monitor

2/6 Monitor

1/2 Input/output

Input/output menu is used to monitor status of the inputs-outputs of all boards in the system. First row shows the LC100 board. Second row displays connector, third row displays pin on the connector. In the fourth row under the pin sign ■ means that the input/output is active, active status for the safety circuit and PTC is shown with the sign □

Chosing the input/output is done by pressing the „Left“ or „right“ button.

```

      LC100-S
S8  S9  S10  S11
■ ■  ■ ■ ■ ■ ■ ■
```

Status of the input signals on **LC100-S** board, for connectors XS8, XS9, XS10 and XS11. On the example XS8 and XS9 are active, other inputs are not active.

```

      LC100-C
XC5:      XC6 8
1234567890 123 2
■
```

Status of the input signals on **LC100-C** board for connectors XC5, XC6 and XC8

```

      LC100-C
Impuls = +00232
Stop   = 4
PTC= 127 Ω   □
```

Status of the counter for inductive switch (input XC7.3). Every thime the drive is reset status of the counter is set to 00000. When driving down the counter counts backwards and when driving up counter counts foward.

Third row displays active floor.

Fourth row displays resistance of the motor PTC probe and the status of the PTC input XC8.2. Active input is presented with ■ sign and means that the probe resistance reached the limit defined with the parameter **I-02**.

```

      LC100-C
XC10:
12345678
■
```

Status of the output signals on the **LC100-C** board for the connector XC10.

```

      LC100-I
XI3:      XI5-ANA
34567890 5.0%
■
```

Status of the input signals on **LC100-I** board for connector XI3, and status of the analog output XI5. Display exist only if the **LC100-I** board is included through parameter **A-05**.

```

      LC100-I
XI6:      XI4-REL
23456789 2468
■
```

Status of the output signals on **LC100-I** board for conector XI6, and status of the relay outputs XI4. Display exist only if the **LC100-I** board is included through parameter **A-05**.

```

      LC100-K
XK4: XK5: XK6:
123 123 1245789
■ ■ ■
```

Status of the input signals on **LC100-K** board for connectors XK4, XK5 and XK6. Display exist only if the **LC100-K** board is included through parameter **A-06**.

```

      LC100-K
XK8: XK10: XK11:
123 1235 1235
■ ■ ■
```

Status of the input signals on **LC100-K** board for connector XK8, and status for input signals for connectors XK10 and XK11. Display exist only if the **LC100-K** board is included through parameter **A-06**.

```

LC100-K
XK9:
12345678

```

Status of output signals on **LC100-K** board for connector XK9. Display exist only if the **LC100-K** board is included through parameter **A-06**.

```

LC100-FC(K)
XF3:   XF4:
1234567812345678

```

Status of input/output signals on **LC100-F** board address „C“ connected to LC100-K board for connectors XF3 and XF4. Display only exist if the LC100-F board address „C“ is included through parameter **A-06**.

```

LC100-FD(K)
XF3:   XF4:
1234567812345678

```

Status of input/output signals on **LC100-F** board address „D“ connected to LC100-K board for connectors XF3 and XF4. Display only exist if the LC100-F board address „D“ is included through parameter **A-06**.

```

LC100-E0
XE3:   XE4:
1234567812345678

```

Status of input output signals on **LC100-E** board address „0“ for connectors XE3 and XE4. Display only exist if the LC100-E board address „0“ is included through parameter **A-07**.

```

LC100-FC(E0)
XF3:   XF4:
1234567812345678

```

Status of the input/output signals on **LC100-F** board address „C“ conected to LC100-E board address „0“ for connector XF3 and XF4. Display only exist if the LC100-F board address „C“ is included through parameter **A-07**.

```

LC100-FD(E0)
XF3:   XF4:
1234567812345678

```

Status of the input/output signals on **LC100-F** board address „D“ conected to LC100-E board address „0“ for connector XF3 and XF4. Display only exist if the LC100-F board address „D“ is included through parameter **A-07**.

```

LC100-E1
XE3:   XE4:
1234567812345678

```

Status of input output signals on **LC100-E** board address „1“ for connectors XE3 and XE4. Display only exist if the LC100-E board address „1“ is included through parameter **A-08**.

```

LC100-FC(E1)
XF3:   XF4:
1234567812345678

```

Status of the input/output signals on **LC100-F** board address „C“ conected to LC100-E board address „1“ for connector XF3 and XF4. Display only exist if the LC100-F board address „C“ is included through parameter **A-08**.

```

LC100-FD(E1)
XF3:   XF4:
1234567812345678

```

Status of the input/output signals on **LC100-F** board address „D“ conected to LC100-E board address „1“ for connector XF3 and XF4. Display only exist if the LC100-F board address „D“ is included through parameter **A-08**.

```

A-01 PML A-10
1234567890
.2  ■ ■
.3  ■ ■

```

Status of the input/output signals on **LC100-P**, M or L boards for pins 2 and 3 on connector XP3 or XM3. A-10 means first ten adresses of P or M boards on side „A“. Second row presents floor, third row is status of the pin 2, fourth row is the status of the pin 3. Display only exist if the P or M boards are included through parameter **A-09**.

```

A-11  PML  A-20
      1234567890
.2    =    =
.3    =    =

```

Status of the input/output signals on [LC100-P](#), M or L boards for pins 2 and 3 on connector XP3 or XM3. A-20 means second ten adresses of P or M boards on side „A“. Second row presents floor 1=adress 11, 2=adress 12, ond so on. Third row is the status of the pin 2, fourth row is the status of the pin 3. Display only exist if the P or M boards are included through parameter [A-09](#).

Next dysplay is A-30 which is status for adresses 21 to 30 same as for A20, than also A-40 for adresses 31 to 40.

```

B-01  PML  B-10
      1234567890
.2    =    =
.3    =    =

```

Status of the input/output signals on [LC100-P](#), M or L boards for pins 2 and 3 on connector XP3 or XM3. B-10 means first ten adreses of P or M boards on side „B“. Second row presents floor, third row is status of the pin 2, fourth row is the status of the pin 3. Display only exist if the P or M boards are included through parameter [A-09](#).

```

B-11  PML  B-20
      1234567890
.2    =    =
.3    =    =

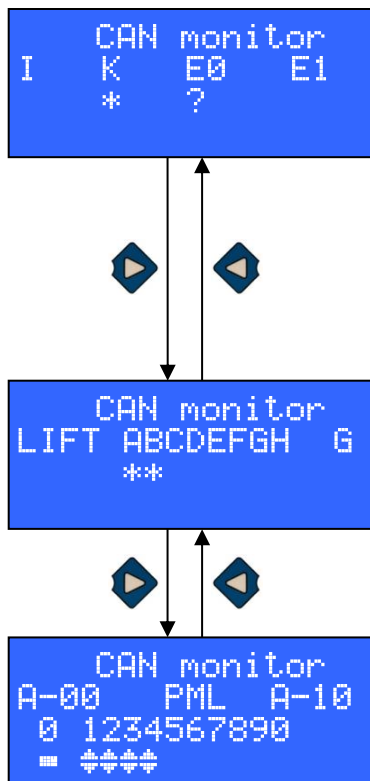
```

Status of the input/output signals on [LC100-P](#), M or L boards for pins 2 and 3 on connector XP3 or XM3. A-20 means second ten adreses of P or M boards on side „B“. Second row presents floor 1=adress 11, 2=adress 12, ond so on. Third row is the status of the pin 2, fourth row is the status of the pin 3. Display only exist if the P or M boards are included through parameter [A-09](#).

Next dysplay is B-30 which is status for adresses 21 to 30 same as for B-20, than also B-40 for adresses 31 to 40.

2/6 Monitor

2/2 CAN status



In CAN status menu it is possible to see status of communication between main control board LC100-C with other LC100 units connected to CAN bus.

After entering the menu communication with LC100-I, K, E0 and E1 board is displayed.

Sign „*“ means that the communication with the board is correct. If the communication is not correct sign „?“ will appear. Units which don't have any sign are not included in the system through parameter A-05 to A-08.

Pushing the „right“ button display shows next communication status:

This display shows communication status with other elevators in multiplex and communication status with the LC100-G board.

Next display is CAN communication status for P or M boards address „A“ on floors 1 to 10, and communication status for P or M board with address „0“.

For **SIMPLEX** elevators sign “█” means that the communication is correct.

For **DUPLEX** elevators sign for communication is:

Sign „“ for „A“ elevator

Sign „“ for „B“ elevator

Next display is A-20 which is status of communication for P or M board address „A“ on the floors 11 to 20, then A-30 for floors 21 to 30, A-40 for floors 31 to 40.

Next are communication statuses for P or M boards addressed „B“. B-10 for floors 1 to 10, B-20 for floors 11 to 20, B-30 for floors 21 to 30 and B-40 for floors 31 to 40.

3.2.3 Calls

3/6 Calls

1	▲	■	◆	10
11	▼	-	□	20
21				30
31				40



1	▲	■	◆	10
11	▼	-	□	20
21				30
31				40



1	▲	■	◆	10
11	▼	-	□	20
21				30
31				40



1	▲	■	◆	10
11	▼	-	□	20
21				30
31				40

In the calls menu it is possible to monitor cabin and landing calls. It is also possible to assign a cabin call.

First row is reserved for monitoring the calls from first ten floors.

Second row shows calls for floors 11 to 20, third floor is for calls 21 to 30 and fourth row is for calls 31 to 40.

„■“ presents active cabin call.

„▲“ presents active landing call up.

„▼“ presents active landing call down.

„□“ presents cursor position on the display.

„-“ presents active position of the cabin.

At the same time there can be active cabin and the landing call on the same floor which is then shown as in example where in the 7th floor are active landing call up and landing call down. In 9th floor active are both landing calls and cabin call.

To assign a cabin call, set a cursor with the buttons left, right, up and down to wanted floor and press enter button. In the example there is set cabin floor for station 23.

4. Parameters

Menu parameters is used for monitoring and setting parameters of the LC100 system. Viewing the parameters is possible without password while to change the values of parameters password is needed.

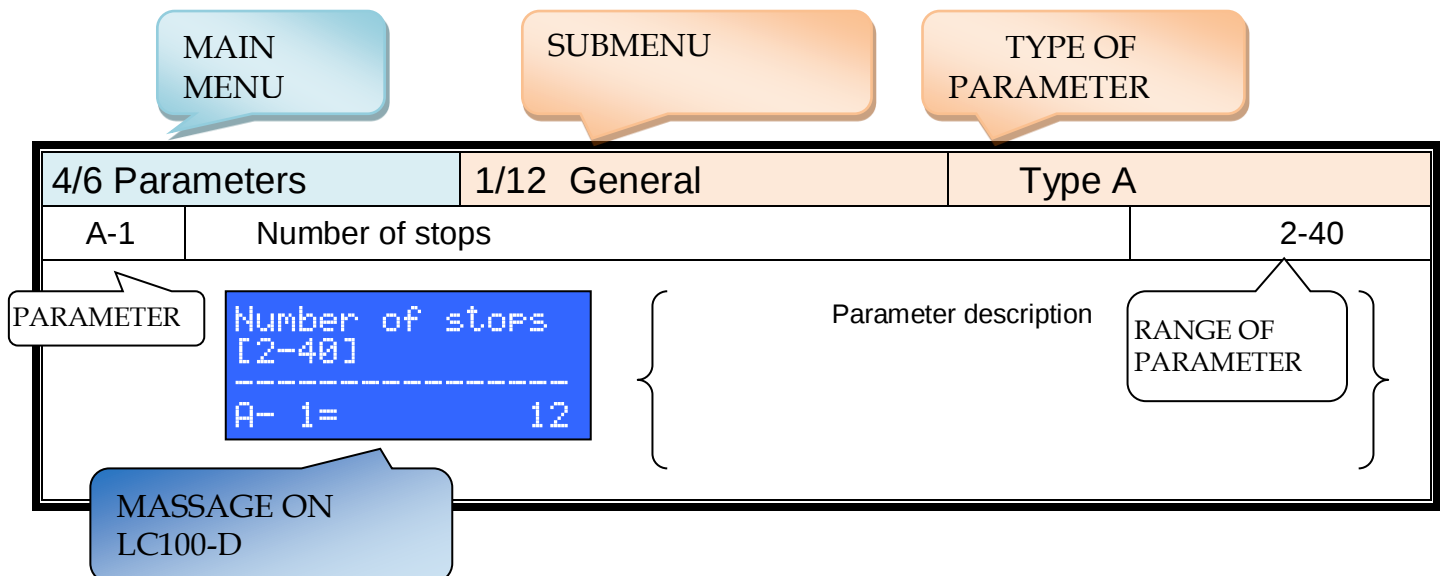
Parameters are divided into 12 submenus:

1/12	General	type A
2/12	Call processing	type B
3/12	Main drive	type C
4/12	Doors	type D
5/12	Positioning	type E
6/12	Stopping	type F
7/12	Stop marking	type G
8/12	Timers	type H
9/12	Protections	type I
10/12	Configurations	type N
11/12	P-M-L moduls	type P
12/12	Factory settings	type T

After entering the „parameters“ menu by pressing left or right button choosing the parameters submenu is made. After choosing the submenu entering is done by pressing the „enter“ button. Overview of parameters is done by pressing left or right button, choosing the parameter is done by pressing enter and changing the value by buttons up or down. Confirming the change of the parameter is done by pressing enter button.

Parameter range is written in brackets.

Example of parameter description in manual:



4.1 General - Type A

4/6 Parameters		1/12 General	Type A
A-1	Number of stops	2-40	
Number of stops [2-40] ----- A- 1= 12		Setting the number of floors. It is possible to set up to 40 floors.	
A-2	Number of elevators	1-8	
Number of elevat [1-8] ----- A- 2= 2		Number of elevators in multiplex. It is possible to set up to 8 elevators in multiplex.	
A-3	Elevator marking	A-H	
Elevator markine [A-H] ----- A- 3= A		Elevator marking im multiplex mode. When elevator is working in multiplex mode it is necessairly to define the elevator marking. First elevator is „A“, second is „B“ and so on. In multiplex there can't be two elevators with same marking because the communication and landing calls processing will not work correctly.	
A-4	Evacuation	0-2	
Pre. evacuation [0-2] ----- A- 4= 0		Parameter for choosing the type of emergency passanger evacuation. 0 – there is no emergency evacuation 1 – automatic evacuation of the passangers 2 – manual evacuation by pressing the brake open button from the cabin.	
A-5	Configuration LC100	---	
Confie. LC100 ----- I VFD Y SR A- 5= *		Parameter to include the LC100-I, LC100-VFD, LC100-Y, LC100-SR board into system. If there exist board connected to CAN bus it needs to be included through A-5 parameter. Including is done by placeing the sign „*“ under the „board“ character. for software version less than 4.410.00	
A-5	Configuration LC100	---	
Confie. LC100 ----- I VFD/X SR/2 A-5= *		Parameter to include the LC100-I, LC100-VFD, LC100-VFX, LC100-SR, LC100-SR2 bord into system. If there exist bord connected to CAN bus it needs to be included through A-5 parameter. Including is done by placeing the sign „*“ under the „board“ character. In firmware 4.410.00 or newer.	

4/6 Parameters		1/12 General	Type A								
A-6	Configuration LC100	---									
Confie. LC100 ----- K K2 U U2 A- 6= *		Parameter to include the LC100-K, LC100-K2, LC100-V, LC100-V2 board into system. If there exist board connected to CAN bus it needs to be included through A-6 parameter. Including is done by placing the sign „*“ under the „board“ character. for software version less than 4.410.00									
A-6	Configuration LC100	---									
Confie. LC100 ----- K K2 KZ-A/D A- 6= *		Parameter to include the LC100-K, LC100-K2, LC100-KZ board into system. If there exist board connected to CAN bus it needs to be included through A-6 parameter. Including is done by placing the sign „*“ under the „board“ character. A - Analog load cell D – Digital load cell In firmware 4.442.00 or newer.									
A-7	LC100-Ex	---									
Confie. LC100-E ----- adr=01234567 A-7= *		Parameter to include LC100-E board into the system. Including is done by placing the sign „*“ under the „board“ character. (list below) <table><tbody><tr><td>0 – LC100-E0</td><td>4 – LC100-E1 (FC)</td></tr><tr><td>1 – LC100-E1</td><td>5 – LC100-E1 (FD)</td></tr><tr><td>2 – LC100-E0 (FC)</td><td>6 – LC100-K (FC)</td></tr><tr><td>3 – LC100-E0 (FD)</td><td>7 – LC100-K (FD)</td></tr></tbody></table>		0 – LC100-E0	4 – LC100-E1 (FC)	1 – LC100-E1	5 – LC100-E1 (FD)	2 – LC100-E0 (FC)	6 – LC100-K (FC)	3 – LC100-E0 (FD)	7 – LC100-K (FD)
0 – LC100-E0	4 – LC100-E1 (FC)										
1 – LC100-E1	5 – LC100-E1 (FD)										
2 – LC100-E0 (FC)	6 – LC100-K (FC)										
3 – LC100-E0 (FD)	7 – LC100-K (FD)										
A-8	Configuration LC100	---									
Confie. LC100 ----- ADL ELG A- 8= *		Parameter to include ADL inverter or ELGO absolute position system into the system. for software version less than 4.410.00									
A-8	Configuration LC100	---									
Confie. LC100 ----- ADL ABS A- 8= *		Parameter to include ADL inverter or absolute position system into the system. In firmware 4.410.00 or newer.									
A-9	LC100-P, L100-M, LC100-L	---									
Confie. P/M/L ----- A B M A- 9= *		Parameter to include P or M modules and choosing the function on the input pins X3:2 and X3:3 on P or M modules. A – Landing call side A B – Landing call side B M – for kitchen elevator until 2 stations (must be star under A & M) When there is no function active (there is no P or M modules) landing calls must be set through configurations parameters.									

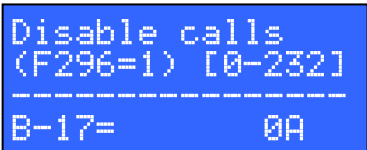
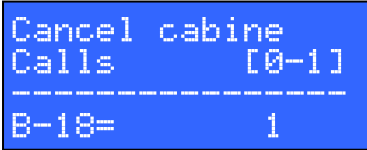
A-10	Type LC100-E	---
<pre>Type LC100-E ----- adr=01234567 A-10= *</pre> Parameter to include LC100-E4 board into the system. Including is done by placing the sign „*“ under the „board“ character. <i>(list below)</i> 0 – LC100-E4 (address 0) 1 – LC100-E4 (address 1) 2 – LC100-E4 (address 2) 3 – LC100-E4 (address 3)		
A-11	Initial stop down	1-4
<pre>Initial stop down [1-4] ----- A-11=1</pre> When in multiplex have asymmetric stations. With this parameter you chose beginnig initial stop (when elevator come to reference switch). Landing call and cabin call are automaticly masked for work in multiplex.		

4.2 Call processing – Type B

4/6 Parameters	2/12 Call processing	Type B
B-1	Call proces type	0-3
<pre>Type call proces ----- [0-3] B-1= 2</pre> Type of landing calls processing 0 – One call reserved. Elevator process landing call only if it is in standstill (there are no active calls, safety circuit is correct and “lift occupied“ time has ended B-02.) 1 – One way collective to main floor. If the elevator has landing call and the car is driving elevator will stop for this call only if the landing call is in same direction as car travelling, and there is no „80% car load“ input active. Also the car will not stop if the elevator had passed slow down zone for the floor in wich the call is given. Else the elevator will finish the drive, and than process the landing call. Landing call in the main floor which is defined with parameter B-06 includes both directions. 2 – Full collective with two button. Collective system with two buttons with functions landing call up, and landing call down. Stopping condition is the same as for „one way collective“ system. 3 – Full collective with one button. Same as full collective with two buttons, but the function for landing call up and down is given through one input. 4 – One way colletive to main floor Same as full collective with two buttons, but the function for landing call up and down is given through one input 5 – One call reserved (in case of one button) In case of using program of A/B side B-4=1 use this type of call processing. Accept just one landing call in case when don't have cabin call and elevator is in the station and don't have direction. *similar like B-1=0, work only with MLC displays and don't work in combination with LC100-E cards 6 – One call reserved (in case of two button). In case of using program of A/B side B-4=1 use this type of call processing. Accept just one landing call in case when don't have cabin call and elevator is in the station and don't have direction. *similar like B-1=0, work only with MLC displays and don't work in combination with LC100-E cards.		
In firmware 4.431.00 or newer (B-1 =5, B-1=6).		

4/6 Parameters		2/12 Call processing	Type B
B-2	Priority time for car call	0-25s	
<pre>New call time ----- B-2 3.0s</pre>		Time for „car in use“ function when using „one call reserved“ type of call processing (Parameter B-01=0). During this time elevator does not accept new calls and the output function „car in use“ FO-069 is active. Time is measured from the end of the previous drive.	
B-3	Multiplex program	1-2	
<pre>Pre. multiplex [1-2] ----- B-3 1</pre>		Choosing the type of call processing in duplex elevators. 1 – Standard call processing 2 – Program for direct calling of the „A“ elevator. - If the landing call button is pressed longer than 3s elevator „A“ will process this call.	
B-4	Program A/B side	0-1	
<pre>Pre. A/B side [0-1] ----- B- 4= 0</pre>		Program A/B side 0 – Cabin doors are opened according to the parameters for door side (D-02 to D-11) independently to landing call side. (ex. if in the 2nd floor has two doors (A and B) landing call is always A side but elevator will open both doors 1 – Cabin doors are opened according to the parameters for door side (D-02 to D-11) with the side control according to the landing call side (ex. if in the 2nd floor has two doors (A and B) landing call on one side is „A“, and on the other side is „B“. the elevator will open only the door on side on which the landing call is made.	
B-5	Program lift-boy	0-1	
<pre>Pre. lift boy [0-1] ----- B- 5= 0</pre>		Program lift boy is the function to control elevator only with cabin commands. By pressing the landing call blinking signalization is switched on in the cabin for matching call. After that lift boy is processing the calls from the cabin. 0 – „lift boy“ function not on 1 – „lift boy“ function activated	
B-6	Main landing floor	1-A1	
<pre>Main stop [1-A1] ----- B- 6= 2</pre>		Choosing the main floor. In the main floor elevator with the „one way collective“ system of landing call processing (B-1=1) has the function for both direction collecting.	
B-7	Fire stop zone 1	0-A1	
<pre>Fire stop zone 1 [1-A1] ----- B- 7= 1</pre>		Defining the floor for evacuation in case of fire program 1. Fire program 1 is activated through the input with the function parameter FI-210. When the fire program is activated elevator erases all existing cabin and landing calls and switch on the cabin call to the fire stop zone 1 floor. Then elevator goes to the fire stop zone 1 floor and opens the door. If the elevator was driving when fire program was activated it will end current drive and then go to fire stop floor.	

4/6 Parameters		2/12 Call processing	Type B
B-8	Fire stop zone 2	0-A1	
<pre> Fire stop Zone 2 [1-A1] ----- B- 8= 1 </pre>		Defining the floor for evacuation in case of fire program 2. Fire program 2 is activated through the input with the function parameter FI-211 . Fire program 2 has lower priority than fire program 1.	
B-9	Fire stop zone 3	0-A1	
<pre> Fire stop zone 3 [1-A1] ----- B- 9= 1 </pre>		Defining the floor for evacuation in case of fire program 3. Fire program 3 is activated through the input with the function parameter FI-212 . Fire program 3 has lower priority than fire program 2 and 1.	
B-10	Fire stop zone 4	0-A1	
<pre> Fire stop zone 4 [1-A1] ----- B-10= 1 </pre>		Defining the floor for evacuation in case of fire program 3. Fire program 3 is activated through the input with the function parameter FI-212 . Fire program 4 has lower priority than fire programs 3, 2 and 1.	
B-11	False calls erasing	0-8	
<pre> False calls erasing [0-8] ----- B-11= 0 </pre>		Erasing the false cabin calls: 0 – Erasing the calls is disabled 1 – Erasing the calls after first call 2 – Erasing the calls after second call 3 – Erasing the calls after third call 4 – Erasing the calls after fourth call 5 – Erasing the calls after fifth call 6 – Erasing the calls after sixth call 7 – Erasing the calls after seventh call 8 – Erasing the calls after eight call	
False call erasing: if there are many cabin calls, when the elevator stops at the floor and the landing doors are not opened or there is no passing through photocell this is called false call.			
B-12	Parking program	1-2	
<pre> Type Program Parking [1-2] ----- B-12= 1 </pre>		Choosing the parking type program. 1. MASTER elevator decides which elevator is going to park. Parking stop set on the master elevator is active for parking. In the parking stop there is one elevator which is parked and proces only landing calls from that stop and exits from the parking floor if there is more landing calls than free elevators in multiplex. 2. In multiplex mode, each elevator separately make parking.	

4/6 Parameters		2/12 Call processing	Type B
B-13	Parking stop 1	0-A1	
		Setting the parking stop 1. 0 – Not activated – parking program is not active. 1-A1 – Parking floor. After the time set in the parameter B-14 expires elevator goes to parking stop, and does not open the doors.	
B-14	Time for parking 1	0-41min 40s	
		Time for parking for parking zone 1.	
B-15	Parking stop 2	0-A1	
		Setting the parking stop 2. 0 – Not activated – parking program is not active. 1-A1 – Parking floor. After the time set in the parameter B-16 expires elevator goes to parking stop and does not open the doors.	
B-16	Time for parking 2	0-41min 40s	
		Time for parking for parking zone 2.	
B-17	Landing call disable	0-41min 40s	
		Parameter is used to disable landing and cabin calls. Function for disabling the calls is on the input with function FI-296 . Parameter B-17 is used to define the condition for calls disabling. How to set the B-17 parameter is explained in „ configuring disable calls “ manual.	
B-18	Cancel cabine Calls	0-1	
		Parameter is used to enable/disable cangle cabine calls. If is enabled, when you press cabin call and you want cancel cabin call just need press against the same cabin call and it will be canceled and elevator will stop in first nearest station.	

4/6 Parameters		2/12 Call processing	Type B
B-19	Fire program standard	0-3	
Fire program standard [0-3] ----- B-19= 0			
B-20	Fire program –close time -	0-200 s	
Fire program - Close time - ----- B-20= 0 s Defining the time after which time the cabin door will be closed in fire program. Condition T-20=A. In firmware 4.421.00 or newer.			
B-21	Time for cabine direction reserved	0-200 s	
Time for cabine dir. reserved ----- B-21= 0 s Defining the time for reservation of cabin direction when is defined target station. (If value = 0, then time is 10.0 s) In firmware 4.442.00 or newer.			
B-22	Maximal number of landing calls in stop	0-20	
Max.numb.landine calls in stop ----- B-22= 0 Defining the time for reservation of cabin direction when is not defined target station. (If value = 0, then time is 20.0 s) In firmware 4.442.00 or newer.			
B-23	Multiplex program	--	
Multiplex prog. ----- ABC EFG B-23= Defining call processing arbitrage. ABC – summarizes the call counter when other elevator in multiplex will go on the call (A = 1, B = 2, C = 4), if is not set any bit then standard is 1. The higher number is slower the response. EFG – summarizes the call down counter for landing calls, when the free lift is not activated, but they wait coming down elevator. (E = 1, F = 2, C = 4) If is not set any bit the standard is 2. In firmware 4.442.00 or newer.			

B-20	Multiplex program	--
Multiplex prog. ----- 1234 B-24= Defining landing call up for coming elevator to the station on a cabin call (1 – first station, 2 – second station, 3 - third station, 4 – fourth station) <i>In firmware 4.442.00 or newer.</i>		

4.3 Main drive - Type C

4/6 Parameters		3/12 Main drive	Type C
C-1	Main drive type	1-4	
<pre> Main drive type ----- C-1 Tip=4 Mod=A Hydraulic HID </pre>		Parameter is used for defining the main drive type. 1 – Not regulated AC1 – One speed elevator. When the drive is one speed not regulated than also parameter E-01 must be set to 1. Also parameter C-15 must be set to 1. 2 – Not regulated AC2 – Two speed not regulated elevator. 3 – Regulated VVVF – Frequency regulated elevator. 4 – Hydraulic HID – Hydraulic elevator.	
C-2	Nominal speed V1	---	
<pre> Nominal speed V1 ----- V1: UMRPI C- 2= * </pre>		Parameter is used to set speed encoding for nominal speed V1. Parameter is available only for frequency regulated elevators (C-01=3). Sign „*“ under a specific letter means that in nominal speed board activates the outputs with the belonging parameter Meaning of the letters: V – Output on which „high speed“ function is set FO-004. M – Output on which „low speed“ function is set FO-003. R – Output on which „inspection speed“ is set FO-005. P – Output on which „relevelling speed“ is set FO-006. I – Output on which „intermediate speed“ is set FO-007.	
C-3	Nominal speed V2	---	
<pre> Nominal speed V2 ----- V2: UMRPI C- 3= ** </pre>		Parameter is used to set speed encoding for nominal speed V2. Parameter is available only for frequency regulated elevators (C-01=3). Sign „*“ under a specific letter means that in nominal speed board activates the outputs with the belonging parameter. Meaning of the letters is explained in parameter C-2.	
C-4	Nominal speed V3	---	
<pre> Nominal speed V3 ----- V3: UMRPI C- 4= *** </pre>		Parameter is used to set speed encoding for nominal speed V3. Parameter is available only for frequency regulated elevators (C-01=3). Sign „*“ under a specific letter means that in nominal speed board activates the outputs with the belonging parameter. Meaning of the letters is explained in parameter C-2.	
C-5	Stopping speed	---	
<pre> Stopping speed ----- MB: UMRPI C- 5= * </pre>		Parameter is used to set speed encoding for stopping speed (levelling speed). Parameter is available only for frequency regulated elevators (C-1=3). Sign „*“ under a specific letter means that in stopping speed board activates the outputs with the belonging parameter. Meaning of the letters is explained in parameter C-2.	

4/6 Parameters

3/12 Main drive

Type C

C-6 Leveling speed

```

Leveling speed.
-----
          UP: UMRPI
C- 6=      *  *
  
```

Parameter is used to set speed encoding for levelling speed. Parameter is available only for frequency regulated elevators (C-01=3). Sign „*“ under a specific letter means that in levelling speed board activates the outputs with the belonging parameter.

Meaning of the letters is explained in parameter C-2.

C-7 Inspection speed 1

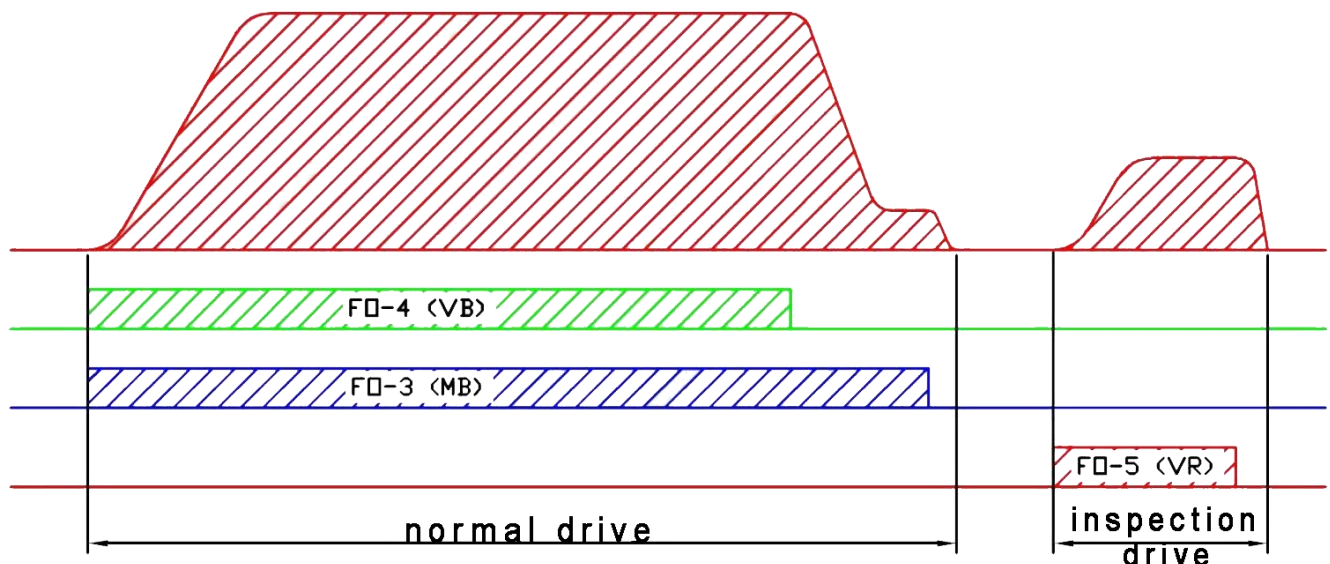
```

Service speed 1
-----
          UR1: UMRPI
C- 7=      *  *
  
```

Parameter is used to set speed encoding for inspection speed 1. Parameter is available only for frequency regulated elevators (C-01=3). Sign „*“ under a specific letter means that in intermediate speed board activates the outputs with the belonging parameter.

Meaning of the letters is explained in parameter C-2.

Example for encoding the nominal speed and inspection speed.



On the diagram there is a example for speed encoding for frequency regulated elevator. In the start the speed encoding is for nominal speed C-03 (active is output for nominal speed FO-004 and output for low speed FO-003). When slowing down elevator switches to levelling speed C-04 (output for nominal speed is switched off FO-004, and output for slow speed FO-003 stays on).

When driving with the service speed elevator switches on the outputs defined through parameter C-05 (output for inspection speed FO-005).

Example on the diagram is only informative, it is shown based on the example of parameters in this manual. Real encoding for the speeds depends on type of frequency regulator and wiring of the cabinet.

4/6 Parameters		3/12 Main drive	Type C
C-8	Inspection speed 2	0-2,5s	
Service speed 2 ----- VR2: UMRPI C- 8= * *		Parameter is used to set speed encoding for inspection speed 1. Parameter is available only for frequency regulated elevators (C-01=3). Sign „*“ under a specific letter means that in intermediate speed board activates the outputs with the belonging parameter. Meaning of the letters is explained in parameter C-2.	
C-9	Delay time for switching off the motor contactors	0-25s	
Time OFF motor contactors ----- C- 9= 1.5 s		Delay for switching of the motor contactors (function FO-001 or FO-002) from the moment when stopping comand is given (when elevator reaches the stopping switch FI-256 or FI-257).	
C-10	Time for switching on the brake contactors	0-2,5s	
Time ON brake contactor ----- C-10= 1.5 s		Delay time for switching on the brake contactors (function FO-011) from the moment start command is given (function FO-001 or FO-002).	
C-11	Delay time for switching off the brake contactor	0-2,5s	
Time OFF brake contactor ----- C-11= 1.5 s		Delay time for switching off the brake contactor (function FO-011) from the moment stopping command is given (when elevator reaches the stopping switch FI-256 or FI-257).	
C-12	Time for brake holding voltage	0-25s	
Time low brake voltage ----- C-12= 1.0 s		Time for low brake voltage. Function for brake holding voltage, FO-12 is switched on parallel with function for the brake FO-11 and is on during time defined with parameter C-12.	
C-13	Working time for main drive fan	0-250s	
Workine time main drive fun ----- C-13= 30.0 s		Working time for main drive fan FO-18. Function for fan FO-18 is switched on when bimetal input signal is switched on FI-208, and it is on during time defined with parameter C-13.	
C-14	Starting time for motor pump	0-25s	
Startine time motor PUMP ----- C-14= 2.5 s		Starting time for motor pump for hydraulics elevators C-01=4. It defines time for function „start pump“ FO-13.	

4/6 Parameters		3/12 Main drive	Type C
C-15	Service speed	0-1	
Service speed 0/1 ----- C-15= 0		Setting the command for service speed. 0 – Service speed is done with low speed (function FO-03) 1 – Service speed is done with high speed (function FO-04) Parameter is active only for C-01=2 or 4, while for one speed elevators it must be set to „1“ C-01=1. For frequency regulated elevators C-01=3 parameter is not valid because service speed is encoded through parameter C-05.	
C-16	Time for valve UP function	0-2,5s	
Time ON valve UP ----- C-16= 1.5 s		Parameter is used for hydraulics elevators. Functions FO-14 and FO-15 are switched on with delay C-16 after checking that all elements for drive up are switched on.	
C-17	Additional time for motor pump	0-2,5s	
Additional time motor PUMP ----- C-17= 1.0 s		Additional working time for pump for hydraulics elevators C-01=4. When elevator reaches the stopping switch outputs for powering the valves are switched off (FO-14 i FO-15). Output for controlling the motor (FO-1) is on for this additional time.	
C-18	Relevelling	0-2	
Program leveline [0-3] ----- C-18= 0		Defining the relevelling program. 0 – Relevelling is not active. 1 – Relevelling is done only with closed doors. 2 – Relevelling is done wit open or closed doors. 3 – Additional releveing pump. When elevator in normal drive exits the floor levell, if relevelling function is on drive gives command for returning to the floor level. If the cabin has lowered down – output for stopping in direction up FI-256 is switched off. Conditions for relevelling is that elevator is still on the other stopping switch (active input FI-257) and zone switch is active (active input FI-258). In that case drive switch on the rellevelling enable output FO-21 which then activates the safety device for relevelling. If the safety device is correct (control on the input with function FI-205) drive switches relevelling in up direction. Relevelling is done with low speed for drive types C-01=2 or 4, while for C-01=3 relevelling is done with encoded speed defined by parameter C-06. If the cabin has lowered down – output for stopping in direction down FI-257 is switched off. Conditions for relevelling is that elevator is still on the other stopping switch (active input FI-256) and zone switch is active (active input FI-258). In that case drive switch on the rellevelling enable output FO-21 which then activates the safety device for relevelling. If the safety device is correct (control on the input with function FI-205) drive switches relevelling in down direction. Relevelling is done with low speed for drive types C-01=2 or 4, while for C-01=3 relevelling is done with encoded speed defined by parameter C-06..	
C-19	Additional relevelling time	0-2,5s	
Additional time for leveline ----- C-19= 1.0 s		Additional time for relevelling. In the normal drive elevator approaches to stopping magnet in slow speed, after comand for stopping because of inertia there is some distance from command to complete stop in the floor levell. While relevelling this inercion is lower so the car sometimes will not reach the floor levell. In that case additional relevelling time is needed for car to reach the floor level.	

4/6 Parameters		3/12 Main drive	Type C
C-20	Open brake time on evacuation	0-2,5s	
<pre> Open brake time on evacuation ----- C-20= 0.30s </pre>		Parameter is used for setting the „on“ time of output function FO-36.	
C-21	Close brake time on evacuation	0-2,5s	
<pre> Close brake time on evacuation ----- C-21= 0.30s </pre>		Parameter is used for setting the „off“ time of output function FO-36.	
C-22	I-valve delay UP	0-2,5s	
<pre> I-valve delay UP ----- C-22= 0.30s </pre>		Parameter is used for hydraulics elevators. Functions FO-001 are switched off with delay C-22 .	
C-23	I-valve delay DOWN	0-2,5s	
<pre> I-valve delay DOWN ----- C-23= 0.30s </pre>		Parameter is used for hydraulics elevators. Functions FO-002 are switched off with delay C-23 .	
C-24	Speed reference for hydraulic elevator	0-1	
<pre> Speed reference for hydraulic e. ----- C-24= 0 </pre>		Parameter is used for hydraulics elevators. Setting the command for normal travel. 0 – Service speed is done with low speed (function FO-03) 1 – Service speed is done with high speed (function FO-04)	

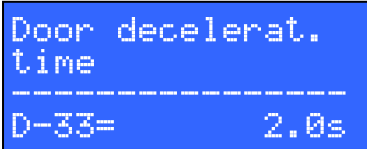
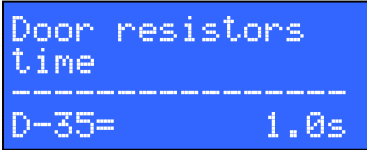
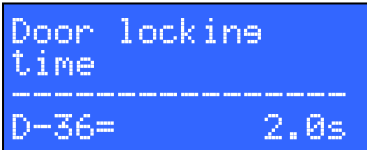
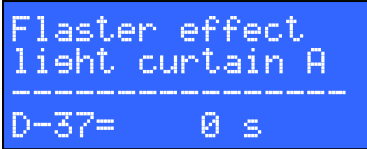
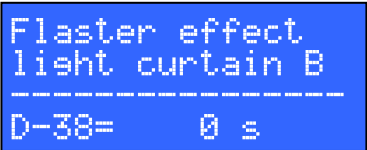
4.4 Doors - Type D

4/6 Parameters		4/12 Door	Type D
D-1	Cabin door		0-2
Type of car door ----- [0-2] D- 1= 1 Cabin door type selection: 0- No door or manual door 1- One automatic cabin door 2- Two automatic cabine doors In the case of two cabin doors, door opening in the stations must be defined over the parameters D-02 to D-11.			
D-2	A-side door for stations 1 to 8		---
Door A side ----- [1- 8]:12345678 D- 2= *** A-side door opening selection in case of two cabin doors (D-01=2). Parameter D-02 select door opening in the stations 1 to 8. Example shows door opening in the stations 1, 2 and 3.			
D-3	A-side door for stations 9 to 19		---
Door A side ----- [9-16]:90123456 D- 3= **** A-side door opening selection in case of two cabin doors (D-01=2). Parameter D-03 select door opening in the stations 9 to 16. Example shows door opening in the stations 14, 15 and 16.			
D-4, D-5, D-6	A-side door		---
D-4 - same as D-3 but for the stations 17 to 24 D-5 - same as D-3 but for the stations 15 to 32 D-6 - same as D-3 but for the stations 33 to 40			
D-7	B-side door for stations 1 to 8		---
Door B side ----- [1- 8]:12345678 D- 7= *** B-side door opening selection in case of two cabin doors (D-01=2). Parameter D-07 select door opening in the stations 1 to 8. Example shows door opening in the stations 3, 4 and 5.			
D-8	B-side door for stations 9 to 16		---
Door B side ----- [9-16]:90123456 D- 8= **** B-side door opening selection in case of two cabin doors (D-1=2). Parameter D-08 select door opening in the stations 9 to 16. Example shows door opening in the stations 14, 15 and 16.			
D-9, D-10, D-11	B-side door		
D-9 - same as D-8 but for the stations 17 to 24 D-10 - same as D-8 but for the stations 15 to 32 D-11 - same as D-8 but for the stations 33 to 40			

4/6 Parameters		4/12 Door	Type D
D-12	A-side door orders	---	
		Voltage holding definition (command open or close active) for cabin door at A-side. A – Close door output FO-41 is active during travel. B – Open door output FO-40 is active during passenger passing time. C – Close door output FO-41 is active when the door is closed. D – Close door output FO-41 is active during inspection travel FI-235 or feedback control FI-201 except while open door order is active. E – Close door output FO-41 is active during normal travel when elevator is not in the station (active input FI-256 or FI-257), except while open door order is active.. F – Includes door manipulation over the feedback control (applies to the door B). G – don't use nuding door A	
D-13	A-side door opening time	0-25s	
		Door A opening time defining. It is used in case of no door end-switches (FI-260 and FI-261) or as maximum door manipulation time during inspection travel.	
D-14	A-side landing door type	0-3	
		A-side landing door type: 0 – Semi-automatic or manual door with mechanical locking. 1 – Automatic door with mechanical locking. 2 – Semi-automatic or manual door with electrical locking 3 – Automatic door with electrical locking.	
D-15	A-side automatic door open in stations 1 to 8	---	
		Defining stations in which elevator waiting with door A open. For stations 1 to 8. Parameter has function with automatic landing door A D-14=1 or 3. Symbol „*“ below the number means that elevator waits in that station with door open. Example shows that elevator in standby in stations 1, 2 and 3 waiting with door open. In other stations keeps door closed.	
D-16	A-side automatic door open in stations 9 to 16	---	
		Defining stations in which elevator waiting with door A open. For stations 9 to 16. Parameter has function with automatic landing door A D-14=1 or 3. Symbol „*“ below the number means that elevator waits in that station with door open. Example shows that elevator in standby in stations 14, 15 and 16 waiting with door open. In other stations keeps door closed.	

4/6 Parameters	4/12 Door	Type D
D-17, D-18, D-19	Door A open	---
D-17 - same as D-16 but for stations 17 to 24 D-18 - same as D-16 but for stations 15 to 32 D-19 - same as D-16 but for stations 33 to 40		
D-20	B-side door orders	0-7
<pre> Orders door B ----- ABCDEF D-20= ** * * </pre> Voltage holding definition definition (command open or close active) for cabin door at B-side. A – Close door output FO-45 is active during travel. B – Open door output FO-44 is active during passenger passing time. C – Close door output FO-45 is active when the door is closed. D – Close door output FO-45 is active during inspection travel FI-235 or feedback control FI-201 except while open door order is active. E – Close door output FO-45 is active during normal travel when elevator is not in the station (active input FI-256 or FI-257), except while open door order is active. F – Includes door manipulation over the feedback control (applies to the door B).		
D-21	B-side door opening time	0-25s
<pre> Opening time door B ----- D-21= 4.0s </pre> Door A opening time defining. It is used in case of no door end-switches (FI-270 and FI-271) or as maximum door manipulation time during inspection travel.		
D-22	B-side landing door type	0-3
<pre> Type of landing door B [0-3] ----- D-22= 0 </pre> B-side landing door type: 0 – Semi-automatic or manual door with mechanical locking. 1 – Automatic door with mechanical locking. 2 – Semi-automatic or manual door with electrical locking 3 – Automatic door with electrical locking.		
D-23	B-side automatic door open in stations 1 to 8	---
<pre> Open door B stop ----- [1- 8]:12345678 D-23= *** </pre> Defining stations in which elevator waiting with door B open. For stations 1 to 8. Parameter has function with automatic landing door B D-22=1 or 3. Symbol „*“ below the number means that elevator waits in that station with door open. Example shows that elevator in standby in stations 1, 2 and 3 waiting with door open. In other stations keeps door closed.		

4/6 Parameters		4/12 Door	Type D
D-24	B-side automatic door open in stations 9 to 16		---
Open door B stop ----- [9-16]:90123456 D-24=*** Defining stations in which elevator waiting with door B open. For stations 9 to 16. Parameter has function with automatic landing door B D-14=1 or 3. Symbol „*“below the number means that elevator waits in that station with door open. Example shows that elevator in standby in stations 14, 15 and 16 waiting with door open. In other stations keeps door closed.			
D-25, D-26, D-27	Door B open		---
D-25 - same as D-24 but for stations 17 to 24 D-26 - same as D-24 but for stations 15 to 32 D-27 - same as D-24 but for stations 33 to 40			
D-28	Preopening		0-1
Preopening door [0-1] ----- D-28=0 Door preopening: 0 – Door preopening off. 1 – Door preopening on.			
D-29	Preopening delay		0-2,5s
Delay for start Preopening door ----- D-29=1.0s Door open delay time in preopening mode.			
D-30	Passenger passing time		0-25s
Standard exit time at stop ----- D-30=2.0s Door open time when elevator comes to the station.			
D-31	Passenger passing time after photocell		0-25s
Waiting time after photocell ----- D-31=2.0s Passenger passing time after photocell input is activated or landing door opening if not automatic. Interrupting FI-263 or FI-273 open door time is set by parameter.			

4/6 Parameters		4/12 Door	Type D
D-32	Passenger passing time after cabin call	0-25s	
		Passenger passing time after new cabin call while in station. By giving new cabin command passenger passing time is set by parameter.	
D-33	Door deceleration time	0-25s	
		Parameter is used to activate input function FO-42 (for A door) or FO-46 (for B door) with doors with no before end-switches. Parameter estimates the time of opening or closing the door and activates a low speed depending on the parameter.	
D-34	Door reversing time	0-2,5s	
		Parameter is time with no active commands for open and close door while reversing.	
D-35	Door resistors time	0-25s	
		The parameter is the time of the resistors to reduce the mechanical strain of the door if resistor function is in use FO-43 for A-side door, FO-47 for B-side door.	
D-36	Door locking time	0-2,5s	
		After door lock acivating, system filtrates input for stabilizing door lock contact and starts traveling after filter set by parameter. The parameter is used to prevent safety circuit break after start command.	
D-37	Flaster effect ligh curtain A	0-250 s	
		The parameter is the time how long input FI-263 "Photocell door A" can be active before starting door nudging.	
D-38	Flaster effect ligh curtain B	0-250 s	
		The parameter is the time how long input FI-273 "Photocell door B" can be active before starting door nudging.	

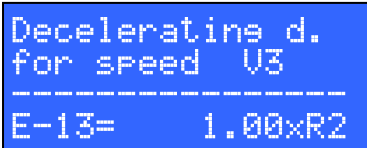
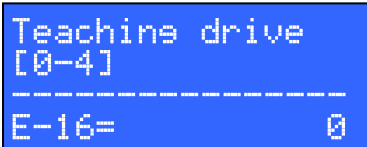
4/6 Parameters		4/12 Door	Type D
D-39	Error detection light curtain (EN81-20)	0-250	
<pre>Error detection light curtain ----- D-39= 0</pre>		Parameter is used to enable/disable light curtain error detection. Detection works on way that look input FI-263/FI-273 and cabin calls. If they have cabin call and don't have active inputs more seted value. Controler detect light curtain error and start close door in nudging.	
D-40	Additional functions of door A		
<pre>Additional fun A ----- ABCDEFGH D-40=</pre>		A – Work in case of light curtain error detected with input FI-336. B – Work in case of light curtain error detected with D-37 parameter. Disabled – keep opened door in the station Enabled – start closing doors with nudging C – If issue with light curtain detected through algoritam of D-39 parameter Disable – stay in the station with opened door Enable – resumes closing door with low speed D – Enable testing procedure of safety cabin and locking contact. E – Locking device checking point Disable – checking locking contact through signal of locking contact (must be turned off) Enable – checking locking contact through signal cabin door A (must be turned off) F – Disable opening door B if door A are open. (Priority in door opening have door A) G – H – Enable door A opening after first travel or after switching power on. (Must be set T-20 = D.)	
D-41	Additional functions of door B		
<pre>Additional fun B ----- ABCDEFGH D-41=</pre>		A – Work in case of light curtain error detected with input FI-337. B – Work in case of light curtain error detected with D-38 parameter. Disabled – keep opened door in the station Enabled – start closing doors with nudging. C – If issue with light curtain detected through algoritam of D-39 parameter Disable – stay in the station with opened door Enable – resumes closing door with low speed D – Enable testing procedure of safety cabin and locking contact. E – Locking device checking point Disable – checking locking contact through signal of locking contact (must be turned off) Enable – checking locking contact through signal cabin door B (must be turned off) F – Disable opening door A if door B are open. (Priority in door opening have door B) G – H – Enable door B opening after first travel or after switching power on. (Must be set T-20=D.)	
D-42	Additioonal time for door wait	0-250s	
<pre>Additional time for door wait ----- D-42= 2.0s</pre>		When function FI-340 or FI-341 are active, with this parameter set how much door will be opened.	

4/6 Parameters		4/12 Door	Type D
D-43	Max number of closing obstac.		0-20
Max number of closing obstac. ----- D-43= 0 With parameter define maximum numbers of obstacle or photocell at closing. Counter are reseted when door are closed. After reaching the counter, the elevator exits from group work, reporting errors (which are normally reported with a long active signal).			

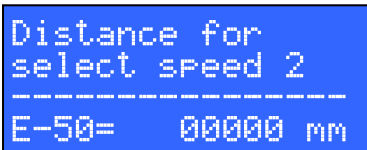
4.5 Positioning - Type E

4/6 Parameters		5/12 Positioning	Type E
E-01	Positioning type	1-5	
Positioning type [1-5] ----- E- 1= 3 Choosing the positioning type: 1 – Positioning type for one speed elevator. For positioning type 1 referent switches are used and stopping switch is used. Elevator is driving with one speed, floors are counted when passing through stop switch according to the driving direction. 2 – Positioning type with two switches for counting. There are also two referent switches and stopping switch. Elevator counts the floors +1 when passing counting up switch and -1 when passing by the counting down switch. Counting switches are also the slowing down point for the middle floors while for the end floors slowing down point is the referent switch. 3 – Possitioning type with bistabile counting switch. There are also two referent switches and stopping switch. Elevator counts the floors when passing by counting switch according to the travelling direction. Counting switch is also the slowing down point for the middle floors while for the end floors slowing down point is the referent switch. 4 – Positioning type with inductive switch. There are also two referent switches and stopping switch. Elevator countc the floors accordint to the traveling direction and the number of the impulses. Slowing down point for the final floors are referent switches while for middle floors slowing down point is the same impulse numbers as for the final floors. When using frequency regulator on CAN bus impulses are taken from the motor encoder. 5 – Positioning type with inductive switch and two nominal speeds. There are also two referent switches for nominal speed, two referent switches for lower speed and stopping switch. First drive elevator goes with the lower speed C-07 and slows down while passing the lower referent switch FI-251 or FI-253. Driving between two next floors is always done with lower speed C-07. Driving two or more floor distances elevator is driving with nominal speed C-03. If the relevelling (C-18=1 or 2) or preopening the doors (D-28=1) is activated then there are two stopping switches: stopping UP (FI-256) and stopping DOWN (FI-257), and one switch for door zone (FI-258). If there is no releveling or preopening the doors activated one stopping switch is used. It is connected to input with function stopping UP (FI-256) and it is used for stopping in both direction. Connecting the positioning switches and magnets position in the shaft is explained in appendix POSITIONING. *6 – Absolute positioning system is an exclusive and innovative solution that provides absolute positioning down to +/-1 mm. An absolute positioning system shall determine the absolute position and velocity of the elevator car as it transits the histway by reading fixed installed code tape in the hoistway using an absolute encoder. * - In firmware 4.437.14 or newer.			
E-02	Learning drive direction	0/1	
Learnine drive d 0=DOWN 1=UP ----- E- 2= 0 Choosing the direction for the learning drive. It is possible to chose direction for the possitioning type E-01=1, 2 i 3. While when using positioning type 4 or 5 parameter is not in use. 0 – Learning drive is in direction UP 1 – Learning drive is in direction DOWN.			
E-03	Decelerating zone correction [imp]	0-250imp	
Deceleratine zon correction [imp] ----- E- 3= 0 Parameter is active when using positioning type E-01=5 if there are no referent switches inputs defined (functions FI-251 and FI-253). Decelerating zone for nominal speed is defined as a sum of impulses for lower speed zone and this parameter. When using this positioning type 5 subtype choosing the speed for the drive is calculated with the floor to floor distance and decelerating zone calculated by measurement and this parameter. This way it is possible that the one floor distance is driven by lower or the nominal speed.			

4/6 Parameters		5/12 Positioning	Type E
E-04	Preopening speed [imp/s]		0-100imp
Preopening speed [imp/sec] ----- E- 4= 0		Parameter is used as a speed control for preopening the doors. Speed is measured by the number of impulses on the inductive switch (positioning type E-01=4 or 5). If the speed is lower than one defined in the parameter E-04 then output with the „preopening enabled“ function FO-21 is switched on.	
E-05	Stopping delay in direction UP		0-2,5s
Stopping delay in UP drive ----- E- 5= 0.5s		Parameter for stopping delay when driving up. When elevator reaches the stopping magnet drive command is switched off and elevator stops. With this parameter it is possible to extend the driving time after reaching the stopping switch. Parameter is used for leveling adjustment and it is active for all floors. Leveling adjustment for each floor by itself is done by parameters for stopping F-XX.	
E-06	Stopping delay in direction DOWN		0-2,5s
Stopping delay in down drive ----- E- 6= 0.2s		Parameter for stopping delay when driving down. When elevator reaches the stopping magnet drive command is switched off and elevator stops. With this parameter it is possible to extend the driving time after reaching the stopping switch. Parameter is used for leveling adjustment and it is active for all floors. Leveling adjustment for each floor by itself is done by parameters for stopping F-XX.	
E-07	Short floor distance 1-8		---
Short floor dist [1- 8]:12345678 E- 7= ** 23456789		Parameter for defining short floor distances for floors 1 to 8. Short floor means that the distance between two floors is shorter than the deceleration distance. Setting the short floors is done by putting the „*“ sign between the floors wich have the short distance. Between the floors that are set elevator is driving with slow speed. On the example between the 3th and 4th floor and between 4th and 5th floor elevator will drive in slow speed.	
E-08	Short floor distance 9-16		---
Short floor dist [9-16]:90123456 E- 8= * * 01234567		Parameter for defining short floor distances for floors 9 to 16. Short floor means that the distance between two floors is shorter than the deceleration distance. Setting the short floors is done by putting the „*“ sign between the floors wich have the short distance. Between the floors that are set elevator is driving with slow speed. On the example between the 12th and 13th floor and between 15th and 16th floor elevator will drive in slow speed.	
E-09,E-10,E-11		Short floor distance	---
E-09 - same as E-08 but for floors 17 to 24 E-10 - same as E-08 but for floors 15 to 32 E-11 - same as E-08 but for floors 33 to 40			

4/6 Parameters		5/12 Positioning	Type E
E-12	Decelerating distance for speed V2 [imp]	1.00-3.00	
		Parameter is used for positioning type 5. E-12 represent the decelerating zone for V2. If there is an input for second referent switch FI-251 and FI-253 then the zone is defined by the input. If the inputs are not defined then decelerating zone can be calculated as multiplier of zone for V1 R1 – is deceleration distance for V1. E-12 – represent R2 (deceleration distance for V2) I.e. Decelerating zone for V1 is 1m (I.e 1000imp) where speed V1=1m/s. If there is need to set additional speed V2=1,6m/s with deceleration distance 2,5m E-12 will be set to E-12=2.5xR1. Then deceleration zone for V2 is set to 2,5m (2500imp). Assumption is that 1mm=1imp Which can be diferent in real situation.	
E-13	Decelerating distance for speed V3 [imp]	1.00-3.00	
		Parameter is used for positioning type 5. E-13 represent the decelerating zone for V3. Parameter is used to define deceleration distance for V3 as a multiplier of zone for V2 R2 – is deceleration distance for V2 (parameter E-12). E-13 – represent R3 (deceleration distance for V3) I.e. Decelerating zone for V2 (E-12) is 2,5m (I.e 2500imp) where speed V2=1,6m/s. If there is need to set additional speed V3=2m/s with deceleration distance 5m E-13 will be set to E-13=2.00xR2. Then deceleration zone for V3 is set to 5m (5000imp). Assumption is that 1mm=1imp Which can be diferent in real situation.	
E-14	Condition distance for V2 [imp]	1.00-3.00	
		Parameter is used to determine drive speed. When drive command is given elevator will start with the speed V2 if condition E-14 is satisfied. R2 – presents deceleration distance for V2 (parameter E-12). I.e. We want to drive with the speed V2 (1,6m/s) if the driving distance is more than 6m. E-12 is set to 2,5m (2500imp), than we must set the E-14 to E-14=2.4xR2 which means 6m (6000imp). If the drive distance is more than E-14 (6m) the elevator will drive with the speed V2 otherwise it will start with V1.	
E-15	Condition distance for V3 [imp]	1.00-3.00	
		Parameter is used to determine drive speed. When drive command is given elevator will start with the speed V3 if condition E-15 is satisfied. R3 – presents deceleration distance for V3 (parameter E-13). I.e. We want to drive with the speed V3 (2,5m/s) if the driving distance is more than 12m. E-13 is set to 5m (5000imp), than we must set the E-15 to E-15=2.4xR3 which means 12m (12000imp). If the drive distance is more than E-15 (12m) the elevator will drive with the speed V3 otherwise it will check conditions for speed V2 (parameter E-14)	
E-16	Learning travel	0-4	
		Parameter is used to activate the learning travel when using positioning type E-01= 4 ili 5. When all Positioning elements are set and parameters E-12 to E-14, if used, learning drive must be done. To do a learning travel parameter E-16 must be set to „0“, after that parameter change the value as follows: 0 – Learning drive command is given. 1 – Learning drive in progres. 2 – Calculating the results 3 – Learning travel done 4 – Not used	

4/6 Parameters		5/12 Positioning	Type E
E-41	Distance for service spd UP	0-65535	
Distance for service spd UP ----- E-41= 00000 mm		Parameter is used for positioning type 6. It is used for limit point of service travel in UP direction. <i>In firmware 4.437.14 or newer.</i>	
E-42	Distance for dec.speed 1-UP	0-65535	
Distance for dec. speed 1-UP ----- E-42= 00000 mm		Parameter is used for positioning type 6. Deceleration zone for speed 1 in up direction. <i>In firmware 4.437.14 or newer.</i>	
E-43	Distance for dec.speed 2-UP	0-65535	
Distance for Dec.speed 2-UP ----- E-43= 00000 mm		Parameter is used to determine drive speed. Deceleration zone for speed 2 in up direction. <i>In firmware 4.437.14 or newer.</i>	
E-44	Distance for dec.speed 3-UP	0-65535	
Distance for Dec.speed 3-UP ----- E-44= 00000 mm		Parameter is used to determine drive speed. Deceleration zone for speed 3 in up direction. <i>In firmware 4.437.14 or newer.</i>	
E-45	Distance for service spd DOWN	0-65535	
Distance for Service spd DOWN ----- E-45= 00000 mm		Parameter is used for positioning type 6. It is used for limit point of service travel in DOWN direction. <i>In firmware 4.437.14 or newer.</i>	

4/6 Parameters		5/12 Positioning	Type E
E-46	Distance for dec.speed 1-DOWN	0-65535	
		Parameter is used for positioning type 6. Parameter is used to determine drive speed. When drive command is given elevator will start with the speed V1 if condition E-46 is satisfied. R1 – presents deceleration distance for V1 (parameter E-42). <i>In firmware 4.437.14 or newer.</i>	
E-47	Distance for dec.speed 2-DOWN	0-65535	
		Parameter is used for positioning type 6. Parameter is used to determine drive speed. When drive command is given elevator will start with the speed V2 if condition E-47 is satisfied. R2 – presents deceleration distance for V2 (parameter E-43). <i>In firmware 4.437.14 or newer.</i>	
E-48	Distance for dec.speed 3-DOWN	0-65535	
		Parameter is used to determine drive speed. Parameter is used to determine drive speed. When drive command is given elevator will start with the speed V3 if condition E-48 is satisfied. R3 – presents deceleration distance for V3 (parameter E-43). <i>In firmware 4.437.14 or newer.</i>	
E-49	Distance for selected speed 0	0-65535	
		Parameter is used for positioning type 6. Parameter define low distance space between stations, When set value is smaller then station distance, elevator will drive with V0 (low speed). <i>In firmware 4.437.14 or newer.</i>	
E-50	Distance for selected speed 2	0-65535	
		Parameter define the distance for the selection of driving speed V2. If speed V2 are not seted then elevator driving with V1 speed. <i>In firmware 4.437.14 or newer.</i>	

4/6 Parameters	5/12 Positioning	Type E
E-51	Distance for selected speed 3	0-65535
<pre> Distance for select speed 3 ----- E-51= 00000 mm </pre>		Parameter define the distance for the selection of driving speed V3. If speed V3 are not seted then elevator driving with V1 speed. <i>In firmware 4.437.14 or newer.</i>
E-52	Distance for open door zone	0-65535
<pre> Distance for open door zone ----- E-52= 00000 mm </pre>		Parameter is used for positioning type 6. Door opening zone in floor (for preopening and door opening permission in seted value when elevator come to station) <i>In firmware 4.437.14 or newer.</i>
E-53	Distance for stop in drive UP	0-65535
<pre> Distance for Stop in drive UP ----- E-53= 00000 mm </pre>		Parameter is used for positioning type 6. With E-53 parameter determine the station zone UP. <i>In firmware 4.437.14 or newer.</i>
E-54	Distace for stop in drive DOWN	0-65535
<pre> Distance for Stop in drive D0 ----- E-54= 00000 mm </pre>		Parameter is used for positioning type 6. With E-54 parameter determine the station zone DOWN. <i>In firmware 4.437.14 or newer.</i>
E-55	Distance for releveing UP	0-65535
<pre> Distance for releveline UP ----- E-55= 00000 mm </pre>		Parameter is used for position type 6. With this parameter determines the station zone in the upward direction. <i>In firmware 4.437.14 or newer.</i>

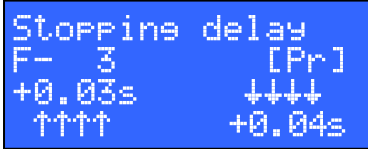
4/6 Parameters		5/12 Positioning	Type E
E-56	Distance for releveing DOWN	0-65535	
<pre> Distance for releveing DOWN ----- E-56= 00000 mm </pre>		Parameter is used for positioning type 6. With this parameter determines the releveing zone in the downstream direction. <i>In firmware 4.437.14 or newer.</i>	
E-57	Distance for stop in releveing UP	0-65535	
<pre> Distance for stop in releveing UP ----- E-57= 00000 mm </pre>		Parameter is used for positioning type 6. With this parameter determines releveing stop zone in upward direction. <i>In firmware 4.437.14 or newer.</i>	
E-58	Distance for stop in releveing DOWN	0-65535	
<pre> Distance for stop in releveing DOWN ----- E-58= 00000 mm </pre>		Parameter is used for positioning type 6. With this parameter determines releveing stop zone in downstream direction. <i>In firmware 4.437.14 or newer.</i>	
E-59	Initialization of position	0-65535	
<pre> INITIALIZATION --- Position --- (h= 000000 mm) E-59= 0 [Ini ?] </pre>		Parameter is used for positioning type 6. With parameter E-59 we make initialization of initial stop. It can start from 0 (bellow the bottom station), 1 (correct in first station) or other station. <i>In firmware 4.437.14 or newer.</i>	
E-60	ABS SAFE Mode	--	
<pre> ABS SAFE Mode ----- E-60= ABCDEFGH </pre>		A – ABS SAFE include If ABS SAFE enable, then UCM are enable and work on next way: UCM = elevator with bridged door go out from door zone and drive with higher speed than 0.3 m/s with bridged door. Detection of UCM make interrupt of safety chain. Reset of UCM with LC100 or PSU 02 B – Reduced headroom End of revision are on position 1200 mm below end limit switch UP and can not be reduced. C – Reduced pit End of revision are on position 1200 mm over end limit switch DOWN and can not be reduced. D – Inspection wired even is not reduced pit or headroom Suggested if is not RPH. If it not RPH and if is not seted inspection wired system, not control revision speed 0.6 m/s and do not have safety disable door bridging on revision. E – Door bridging fast start inside flash zone 20 mm (additional function) Releveing, preopening and door control are activated via predefined parameters and information from ANTS SAFE is used if it is on.	

F – Reserved
G – Reserved
H – Reserved

In firmware 4.442.00 or newer.

E-61	ABS SAFE Zone reduced speed UP	0-65535 cm
ABS SAFE Zone reduced speed UP ----- E-61= 00000 cm Retardation safety zone UP in cm for $v > 1$ m/s It can be used at speed $V_n > 1$ m/s. It is limited speed in zone if is set. If value equal 0, function are disabled. In firmware 4.442.00 or newer.		
E-62	ABS SAFE Zone reduced speed DOWN	0-65535 cm
ABS SAFE Zone reduced speed DO ----- E-62= 00000 cm Retardation safety zone DOWN in cm for $v > 1$ m/s It can be used at speed $V_n > 1$ m/s. It is limited speed in zone if is set. If value equal 0, function are disabled. In firmware 4.442.00 or newer.		
E-63	ABS SAFE Zone door opening	0-200 mm
ABS SAFE Zone door opening ----- E-63= +/- 0mm Defining In firmware 4.442.00 or newer.		
E-64	ABS SAFE Nominal speed	0.0-5.00 m/s
ABS SAFE Nominal speed ----- E-64= 0.00 m/s Defining In firmware 4.442.00 or newer.		

4.6 Stopping - Type F

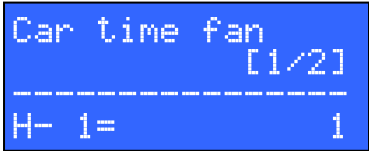
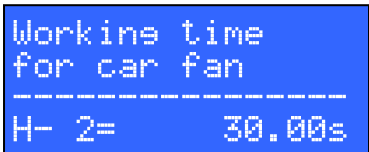
4/6 Parameters	6/12 Stopping	Type F
F-xx	Stopping delay for x floor	0-2,55s
 Parameter for setting the levelling adjustment. Parameter F-01 is setting for 1th floor, F-02 for 2nd ... In bracket the floor marking is shown which is set through parameters G-XX. It is possible to set delay for each floor from up and down direction. Parameter is set in seconds and represents stopping delay from reaching the stopping magnet.		

4/6 Parameters	6/12 Stopping	Type F
F-xx	Stopping position for x floor	---
 Parameter for setting the level position. Parameter F-41 is setting for 1th floor, F-42 for 2nd ... In bracket the floor marking is shown which is set through parameters G-XX. <i>In firmware 4.437.14 or newer.</i>		

4.7 Lift markings - Type G

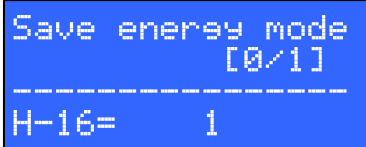
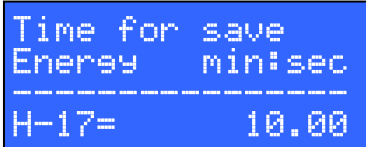
4/6 Parameters	7/12 Lift markings	Type G
G-xx	Marking for the lift on display on M boards	---
 Parameters for setting the lift markings. Lift marking is displayed on LC100-M landing call boards. Parameter G-00 is marking for the unknown car position G-01 is marking for the first floor, G-02 for second... In order to LC100-M board showing the floor marking it is needed to set PML parameters (put „*“ sign under the letter „A“ for floors in which is the LC100-M board).		

4.8 Timers - Type H

4/6 Parameters		8/12 Timers	Type H
H-01	Type of car fan control		1-2
		Parameter for setting the car fan control type. 1 – Car fan (function FO-50) is switched on after the input car fan is triggered (FA-561) and is switched on time set in parameter H-02 . 2 – Car fan (FO-50) is switched on automatically every time that car is driving and is switched off after car has stopped and time H-02 has expired.	
H-02	Working time for car fan		0-250s
		Parameter for setting the working time for car fan.	

4/6 Parameters		8/12 Timers	Type H
H-03	Car light control type	1-2	
Car light type ----- [1/2] H- 3= 1		Car light control type selection. 1 – Standard – Function for controlling the cabin light FO-51 is switched off afert time set in H-04 expired. 2 – Reserved.	
H-04	Working time for the car light	0-250s	
Workine time for car light ----- H- 4= 30.00s		Parameter for setting the working time for car light. After all conditions for powering the light off are made this time must expire before switching the power off.	
H-05	OFF time for shaft light	0-250s	
OFF time for shaft light ----- H- 5= 5.00s		Parameter for setting the time to power off the shaft light. The shaft light is switched on automaticly when inspection input is activated (FI-235), and it is switched off after putting to normal drive and this time has expired.	
H-06	Programable relay T1	---	
Prog. relay T1 ----- H- 6= impuls_1 TIME=00:00:00.00		Parameter for setting the time relay T1 . It is possible to set 3 type of time relays: BISTABIL Output function FO-33 changes every time on positive puls on input function FI-216. IMPULS Output function FO-33 switches of after time set in this parameter after positive puls on input function FI-216. DELAY Output function FO-33 is activated after time set in this parameter after positive puls on input function FI-216.	
Time settings: „TIME=aa:bb:cc.dd„ - „aa“-hours, „bb“ minutes, „cc“ seconds, „dd“milliseconds“			
BISTABIL IMPULS DELAY			
ACTIVE STATE INPUT OR OUTPUT			
H-08	Programable relay T2	---	
Parameter for setting the programabile relay T2. Setting is the same as for T1, parameter H06. Input function FI-217, output function FO-34. *if BISTABIL are sets then throught CAN message work out of order, and B-17 parameter. (included in new firmware version 4.328.0 or higher).			

4/6 Parameters		8/12 Time	Type H
H-10	GONG signal duration		0-2,55s
Duration time GONG / UNLOCK ----- H-10= 2.00s The parameter is used to adjust the duration of the gong signal coming to the station. The arrival of the elevator on the slowdown zone switch triggers the GONG signal. For display LC100-M or L displays to signalize gong PML parameters must be set (mark „*“ below letter „C“ for stations with LC100-M or L display).			
H-11	UNLOCKING signal duration		0-25s
Activations time UNLOCKING DOOR ----- H-11= 2.00s The parameter is used to adjust the duration of landing door unlocking signal. Time H-09 is unlocking signal delay after cabin door opening. Unlocking signal is used with semi-automatic landing door and automatic cabin door. For display LC100-M or L to signalize unlocking PML parameters must be set (mark „*“ below letter „E“ for stations with LC100-M or L display).			
H-12	PHOTOCELL signal activation		0-250s
Time for signal PHOTOCELL ----- H-12= 20s Parameter is used to delay photocell (FI-263 or FI-273) signalization on LC100-M or L display. If the photocell input is active longer than the time set by parameter, it is saved in the statistic and signaled on display. For display LC100-M or L to signalize photocell activity PML parameters must be set (mark „*“ below letter „I“ for stations with LC100-M or L display).			
H-13	CLOSING OBSTACLES signal activation		0-250s
Time for signal OBSTACLE DOOR ----- H-13= 30s Parameter is used to delay closing door obstacle (FI-262 or FI-272) signalization on LC100-M or L display. If the closing door obstacle input is active longer than the time set by parameter, it is saved in the statistic and signaled on display. For display LC100-M or L to signalize closing door obstacle PML parameters must be set (mark „*“ below letter „I“ for stations with LC100-M or L display).			
H-14	STOP signal activation		0-41min40s
Time for signal STOP min:sec ----- H-14= 02:30 Parameter is used to delay safety circuit STOP interrupt signalization on LC100-M or L. If the safety circuit STOP input is interrupt longer than the time set by parameter, it is saved in the statistic and signaled on display. For display LC100-M or L to signalize safety circuit STOP interruption PML parameters must be set (mark „*“ below letter „G“ for stations with LC100-M or L display).			
H-15	LANDING DOOR signal activation		0-41min40s
Time for signal L.DOOR min:sec ----- H-15= 02:30 Parameter is used to delay landing door open on LC100-M or L display. If the landing door input is active longer than the time set by parameter, it is saved in the statistic and signaled on display. For display LC100-M or L to signalize landing door open PML parameters must be set (mark „*“ below letter „H“ for stations with LC100-M or L display).			

4/6 Parameters		8/12 Time	Type H
H-16	Save energy mode	0-1	
 <pre> Save energy mode [0/1] ----- H-16= 1 </pre>		Parameter is used for switching on the power saving mode. In the power saving mode after time set in parameter H-17 all the displays are switched off and output for power saving FO-57 is switched on. Trough relay with the power saving FO-57 it is posible to disconnect all unnessesary power consumers.	
H-17	UNLOCKING signal duration	0-25s	
 <pre> Time for save Energy min:sec ----- H-17= 10.00 </pre>		The parameter is the time after which power energy mode is switched on.	
H-18	Output FO-058 OFF delay	0.0-3.0s	
 <pre> Delay off for function 58 ----- H-18= 0.0 s </pre>		Output function FO-058 OFF delay. It is used for A3 overspeed governer.	
H-19	Acceleration time (for time positioning)	0.0-20.0s	
 <pre> Accel. Time (for time pos.) ----- H-19= 0.00s </pre>		Estimated elevator acceleration time. (time it takes the elevator to reach full speed for standstill; used only for time positioning system)	
H-20	Time for OFF FUN-58 for AMI	0-250s	
 <pre> Time for OFF FUN-58 for AMI ----- H-20= 0s </pre>		Parameter for setting the additional time to hold on function FO-058 when elevator arrive to station. Function FO-058 is switched on automaticly when elevator start drive.	

4.9 Protection - Type I

4/6 Parameters		9/12 Protection	Type I
I-01	Cold state PTC resistance	0-9999Ω	
PTC resistance in cold state ----- I- 1= 750Ω		Cold state PTC resistance. When the resistance of the PTC probe connected to the input XC8:2 rises above the value defined by parameter I-02 elevator ends current travel, activates motor fan, if there is any, and waits for PTC resistance to fall below the value I-01.	
I-02	Warm state PTC resistance	0-9999Ω	
PTC resistance in warm state ----- I- 2= 2250Ω		Warm state PTC resistance.	
I-03	Normal travel max. time	0-250s	
Max. drive time in normal travel ----- I- 3= 02:50		Maximum time of normal travel, from first to last station.	
I-04	Time between station.	0-250s	
Max. drive time for movement ----- I- 4= 10.00s		Maximum time between station. Otherwise elevator indicates error „start failure“.	
I-05	Leveling max. time	0-250s	
Max. drive time in leveline ----- I- 5= 5.00s		Maximum time of relevening. From order to relevel to activating stoping in station switch should not take more than the time set by the parameter. Otherwise elevator indicates error „releveling fail.“	
I-06	Evacuation max. time	0-250s	
Max. drive time in evacuation ----- I- 6= 30.00s		Maximum evacuation travel time. Maximum passenger evacuation time from cabin.	

4/6 Parameters		9/12 Protection	Type I
I-07	Maximal time for door opening		0-25s
Max. time for opening door ----- I- 7= 04:00s Maximal time for opening the doors. When the end switches for the doors are used (FI-260 or FI-270) opening signal is active until door open signal is active. I-07 is maximal time in which open signal must appear. If signal does not appear Door A open err" or „Door B open error“ occurs.			
I-08	Maximal time for door closing		0-25s
Max. Time for closing doors ----- I- 8= 06.00s Maximal time for closing the doors. When the end switches for the doors are used (FI-261 or FI-271) closing signal is active until door close signal is active. I-08 is maximal time in which door signal must appear. If signal does not appear „Door A close err" or „Door B close error“ occurs.			
I-09	Maximal time for locking the doors		0-25s
Max. time for locking doors ----- I- 9= 2.00s Represents the time for door locked signal to appear. It is the time from locking the doors command to signal that the doors are locked. If in this time door locked signal is not active „door locking err" occurs.			
I-10	Temperature for switching off the control board		0-85°C
Temperature for switch OFF panel ----- I-10= 60C Parameter for switching off the control board. If the temperature measured on the procesor reaches the set value the control board is switched off (the program is not procesed) after the temperature falls below the value set in I-11 the board is switched on again.			
I-11	Temperature for switching on the control board		0-85°C
Temperature for switch ON panel ----- I-11= 40C Parameter for setting the temperature for switching on the control panel.			

4/6 Parameters		9/12 Protection	Type I
I-12	Temperature for switching the control board fan ON	0-85°C	
Temperature for fan panel ON ----- I-12= 50C		Parameter for setting the temperature for control board fan. If the processor temperature reaches the set value the output with the function FO-35 is switched on. Output for control board fan stays active until the temperature falls below the value set in I-13 .	
I-13	Temperature for switching the control board fan OFF	0-85°C	
Temperature for fan panel OFF ----- I-13= 40C		Parameter for setting the temperature for switching off the control board fan.	
I-14	Conditions reset		
Conditions reset ----- I-14= ABCDEFGH		A – After activating end limit switch for automatic drive reset is required B – After activating car lock device for automatic drive reset is required. C – After activating service pit doors for automatic drive reset is required. D – After service drive from the cabin for automatic drive reset is required. E – After service drive from the pit for automatic drive reset is required. F – After „Start failure ID-64“ for automatic drive reset is required. G – After car or landing door contact error has occurred drive reset is required. H – After contactors turning on failure for automatic drive reset is required	
I-15	Conditions mode		
Conditions mode ----- I-15= ABCDEFGH		A – not selected – on the service drive stop on the reference switch. selected - On the service drive stop on stopping magnet (with low speed after reference switch). B – not selected - levelling speed before reference switch on recall travel. selected - Service speed 1(C-7) before reference switch on recall travel. C – not selected - levelling speed after reference switch on recall travel. selected - Service speed 1(C-7) after reference switch on recall travel. D – enable doors opening with service buttons on the cabin. E – enable doors opening on the recall drive with buttons for driving if elevator is in the floor level F – Recall travel are not possible without vertical position of pillar in the pit (FI-309) G – reserved H – reserved	

I-16 Conditions mode

```
Conditions mode
-----
I-16=      ABCDEFGH
```

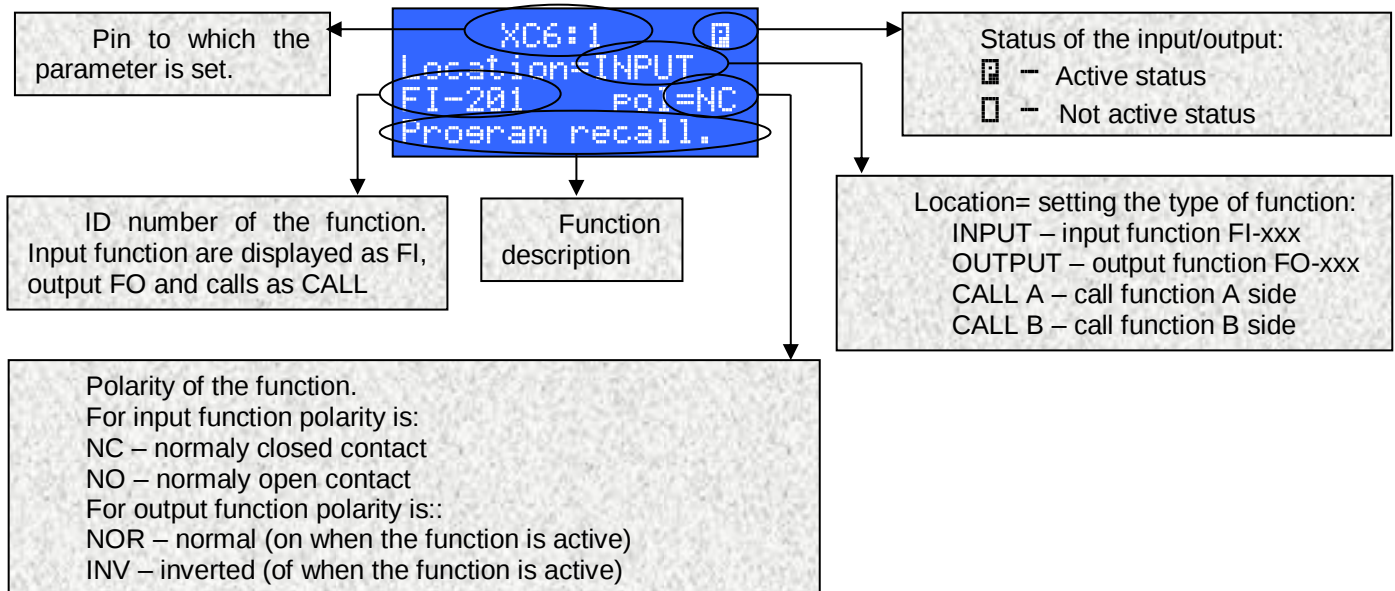
- A – **not selected** - stay in the station with opened doors don't accept calls after detection UPS error.
selected - enable automatic drive after detection UPS error.
- B – **not selected** - stay in the station with opened doors don't accept calls after detection cabin light error.
selected - enable automatic drive after detection cabin light error.
- C – **selected** – enable detection UCM error through **FI-205** (Output control function **FO-160**)
- D – **reserved**
E – **reserved**
F – **reserved**
G – **reserved**
H – **reserved**

4.10 Configurations - Type N

4/6 Parameters	10/12 Configurations	Type N
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Configurations menu is for programming the input and output pins of LC100 boards.

Example of configuring pin XC6:1 to have a function „program recall“:



Main rule for parameters:

If some parameters are not set then the function of that parameter is swithed of (Example: If the limit switches for the door are not set then doors are opene,d as defined by the parameter D-13 and closing is done until safety circuit is closed).

Polarity of the function can be set only with input and output function while polarity of the calls is preset to NO and can't be changed.

OUTPUT FUNCTION TABLE

NO	DYSPLAY ON LC100-D	DESCRIPTION
FO-001	DRIVE UP	Up travel command.
FO-002	DRIVE DOWN	Down travel command.
FO-003	LOW SPEED M	Slow speed travelling command. (In case of C-1 = 4 then C-22, C-23 > 0)
FO-004	HIGH SPEED V	High speed travelling command.
FO-005	SERVICE SPEED R	Inspection speed travelling command.
FO-006	LEVELING SPEED P	Leveling speed travelling command.
FO-007	MEDIUM SPEED I	Medium speed travelling comand.
FO-008	START MOT.CONT.	Motor contactor start command for frequency regulated elevator. The function is impuls which is activated simultaneously with the function drive up or drive down and is active during the time set by parameter T-5.
FO-009	MOTOR CONTACTORS	Motor contactors command for frequency regulated elevator. The function is switched on parallel with the function drive up or drive down and lasts entire drive.
FO-010	INVERTER RESET	Frequency inverter reset function. Function is on when the input FI-226 „inverter control“ is activated. Reset function is on for 1s and repeats to switch on every 5s until inverter control is ok.
FO-011	BRAKE CONTROL	Function to switch on contactor for the brake. Function is used for frequency regulated elevators. Time to power on and power of the brake can be set through parameters C-10 and C-11.
FO-012	LOW BRAKE VOLTAGE	Function for energy saving on the brake. Function is powered simultaneously with the brake control function and lasts time which is programable through parameter C-12.
FO-013	START PUMP (Y)	Function for starting the pump on the hydraulic elevators.
FO-014	VALVE UP	Function for powering the up direction valve.
FO-015	VALVE DOWN	Function for powering the high speed up direction valve.
FO-016	VALVE HIGH DOWN	Function for powering the high speed down direction valve.
FO-017	LEVELING PUMP	Function for powering the relevelling pump.
FO-018	MAIN MOTOR FAN	Function for main motor cooling fan. Function is on when FI-208 „bimetal sensor“ is on and lasts until time C-13 expires.
FO-019	SUPPLY CONTACTOR	Supply contactor command. It is used with frequency regulated elevators with automatic evacuation of passengers. Function is on when time T-3 expires if there is no input on function for evacuation FI-207.
FO-020	UPS CONTACTOR	Emergency power supply contactor command. It is used with frequency regulated elevators with automatic evacuation of passengers. Function is on when time T-4 expires if the evacuation input FI-207 is active.
FO-021	ENABLE LEV/OPE	Function to enable relevelling and preopening the door. Function is active when relevelling if the inputs „stopping zone“ (FI-258) and one of the stopping inputs (FI-256 or FI-257) are active.
FO-022	VVVF ENABLE	Frequency inverter enable function. Output is active if safety circuit is on.
FO-023	MOTOR PUMP HID	Function for motor pump used in NGV agregats.
FO-024	HIDRO UP DELAY	Additional hydraulic pump function..
FO-025	TEST PULSE A3	Output for testing valve before start drive down for hydraulic type C (VVVF), testing time parameter T-14. (C-22, C-23 must be 0)
FO-026	LIFT IN STOP	Function is active when the car is in floor level - FI-256 or FI-257 is active.
FO-027	LIFT WORK	Function is active if the elevator is in normal drive, and there is no error active.
FO-028	LIFT ERROR	Function is active when the lift is in error.
FO-029	END OF EVACUAT.	End of evacuation function. It is used in elevators with automatic passenger evacuation. The function is on when automatic evacuation is over.
FO-030	FIRE PRG ON	Fire program on function. Function is active when there is one of the fire programs active – functions FI-210 to FI-214.

NO	DYSPLAY ON LC100-D	DESCRIPTION
FO-031	END OF FIRE PRG	End of fire program function. Function is on when fire program has ended.
FO-032	SHAFT LIGHT	Function for controlling the shaft light. Function is on when inspection drive is on, and turned off when turned back to normal drive and time H-05 expired. Function is not working if the function elevator test FI-219 is on.
FO-033	TIMEREL 1 OUT	Output function for time relay 1. Setting of the relay is explained in the parameters type H.
FO-034	TIMEREL 2 OUT	Output function for time relay 2. Setting of the relay is explained in the parameters type H.
FO-035	CONTR.PANEL FAN	Output function for control panel fan management.
FO-036	BRAKE IN EVAC.	Output function for brake opening in evacuation.
FO-037	ERROR (A3)	Output function is active in case UCM fault.
FO-038	PIT LIGHT GREEN	Output function is active in case "Pillion in shaft" FI-309.
FO-039	PIT LIGHT RED	Output function is active in case "Landing door N=1" FI-308.
FO-040	OPENING DOOR A	Open door A command
FO-041	CLOSING DOOR A	Close door A command.
FO-042	LOW SPEED DOOR A	Low speed command to door A. It is used for frequency regulated cabin doors. Function is activated according to the functions FI-266 or FI-267.
FO-043	RESISTORS DOOR A	Function for controlling the resistor for reversing the cabin doors A. Function is used for doors with spindle. When reversing the doors power for the doors is given through resistors. Time for this function can be set through parameter D-35.
FO-044	OPENING DOOR B	Open door B command
FO-045	CLOSING DOOR B	Close door B command.
FO-046	LOW SPEED DOOR B	Low speed command to door B. It is used for frequency regulated cabin doors. Function is activated according to the functions FI-266 or FI-267.
FO-047	RESISTORS DOOR B	Function for controlling the resistor for reversing the cabin doors B. Function is used for doors with spindle. When reversing the doors power for the doors is given through resistors. Time for this function can be set through parameter D-35.
FO-048	RETARING CAM	Function for management the retaring cam. Function is active during drive.
FO-049	LOW VOLTAGE CAM	Low voltage control for retaring cam.
FO-050	CAR FAN ORDER	Cabin fan control function. It is activated according to the type of control – parameter H-01. Engage time for fan is defined by parameter H-02.
FO-051	CAR LIGHT ORDER	Cabin light control function. It is activated according to the type of control – parameter H-03. Engage time for cabin light is defined by parameter H-03.
FO-052	IMPULS NEW STOP	New stop output function. Function is impulse after changing the floor. Engage time of the function is when cabin pass by counting switch.
FO-053	ALARM ENABLE	Alarm enable function. Function is active when the car is at floor and the doors are opened.
FO-054	IMP NEW CAR CALL	New cabin call function. Function is impulse and it is triggered every time when cabin call is activated.
FO-055	IMP.STOPPING	Stopping impulse function. Function is triggered when elevator is slowing down – when cabin pass by counting switch for selected floor.
FO-056	OUT OF ORDER	Function active when elevator is out of order.
FO-057	OUT SAVE ENERGY	Output function for energy saving mode.
FO-058	OUT OVERSP.G. A3	Output for powering the overspeed governor coil or for AMI safety device For enable work with AMI device (H-20 > 0).
FO-059	PHASE/SEQ OK	Phase sequence are correct.
FO-060	SIG. UP STAND.	Reserved direction up signalization.
FO-061	SIG. DOWN STAND.	Reserved direction down signalization.

NO	DYSPLAY ON LC100-D	DESCRIPTION
FO-062	SIG. UP TIME	Flashing reserved direction up signalization.
FO-063	SIG. DOWN TIME	Flashing reserved direction down signalization.
FO-064	SIG. NEXT UP	Next drive up signalization.
FO-065	SIG. NEXT DOWN	Next drive down signalization.
FO-068	SIG. GONG UP	Gong for next travel up.
FO-067	SIG. GONG DOWN	Gong for next travel down.
FO-068	LIFT OCUPATED	Lift in use signalization. Function is used for single travel elevators, parameter B-01 =0. Function is activated when call is made, and is deactivated when drive has ended and the time B-02 has expired.
FO-069	LIFT OCUPATED T	Flashing lift in use signalization. Function is used for single travel elevators, parameter B-01 =0. Function is activated when call is made, and is deactivated when drive has ended and the time B-02 has expired.
FO-070	SIG. CAR OVERLOAD	Car overload signalization. Function is active when input 100% load is active, FI-242 .
FO-071	LEAVE THE CAR	Leave the car signalization.
FO-072	PHOTOCELL ACTIVE	Photocell active signalization. Function is active when photocell side A, or side B is active, inputs FI-263 or FI-273
FO-073	SIGNAL UNLOCKING	Signalization for unlocked landing door. Function is used when having semiautomatic landing doors.
FO-074	UNLOCKING DOOR A	Output function for door A unlocking device.
FO-075	UNLOCKING DOOR B	Output function for door B unlocking device.
FO-076	DOOR A OPENED	Output function, active when door A is opened.
FO-077	DOOR B OPENED	Output function, active when door B is opened.
FO-078	TEST IMPULSE 1S	Output function pulsating 1s „on“ 1s „off“
FO-079	RESET OUT	Output function for reset, active when reset button on LC100-D keypad is pressed.
FO-080	STOP: BIN.0	Cabin position output – binary code bit 0. It is used for car position signalization the way that binary outputs are active for the active floor according to the ADRESS TABLE .
FO-081	STOP: BIN.1	Cabin position output – binary code bit 1.
FO-082	STOP: BIN.2	Cabin position output – binary code bit 2.
FO-083	STOP: BIN.3	Cabin position output – binary code bit 3.
FO-084	STOP: BIN.4	Cabin position output – binary code bit 4.
FO-085	STOP: BIN.5	Cabin position output – binary code bit 5.
FO-086	STOP: GRAY.0	Cabin position output – gray code bit 0. It is used for car position signalization the way that binary outputs are active for the active floor aording to the GRAY CODE TABLE
FO-087	STOP: GRAY.1	Cabin position output – gray code bit 1.
FO-088	STOP: GRAY.2	Cabin position output – gray code bit 2.
FO-089	STOP: GRAY.3	Cabin position output – gray code bit 3.
FO-090	STOP: GRAY.4	Cabin position output – gray code bit 4.
FO-091	STOP: GRAY.5	Cabin position output – gray code bit 5.
FO-092	TEST OUTPUT 1	Output function which is activated when input function FI-301 are activated.
FO-093	TEST OUTPUT 2	Output function which is activated when input function FI-302 are activated.
FO-094	RESET SAFETY CIR.	Output function for reset safety chain. Activate only if is EN81(A3) error present.

NO	DYSPLAY ON LC100-D	DESCRIPTION
FO-095	NUDGING DOOR A	Nudging output for door A.
FO-096	NUDGING DOOR B	Nudging output for door B.
FO-097	INIT RES. SAF.SPC	Output function for start safety procedure for inspection drive in case of low pit function (FI-308) didn't occurred before switched off power supply.
FO-098	ELEVATOR IN THE STATION	Forwarding information about Stopping UP & Stopping DOWN input.
FO-099	Empty cabin	Output function which is activated when cabin load is less then 40 kg.
FO-100	STOP=00	Function for the unknown position of the cabin.
FO-101	STOP=01	Function cabin at floor 1.
FO-102	STOP=02	Function cabin at floor 2.
FO-1xx	STOP=XX	Function cabin at floor XX.
FO-141	L 7-segment____A	7-segment display (left)
FO-142	L 7-segment____B	7-segment display (left)
FO-143	L 7-segment____C	7-segment display (left)
FO-144	L 7-segment____D	7-segment display (left)
FO-145	L 7-segment____E	7-segment display (left)
FO-146	L 7-segment____F	7-segment display (left)
FO-147	L 7-segment____G	7-segment display (left)
FO-148	R 7-segment____a	7-segment display (right)
FO-149	R 7-segment____b	7-segment display (right)
FO-150	R 7-segment____c	7-segment display (right)
FO-151	R 7-segment____d	7-segment display (right)
FO-152	R 7-segment____e	7-segment display (right)
FO-153	R 7-segment____f	7-segment display (right)
FO-154	R 7-segment____g	7-segment display (right)
FO-155	SAF.CIRC. BRIDGE	Output function, active when safety circuit are bridge.
FO-156	DRV W. BRIDGE-K	Output function, driving with bridged safety circuit, constantly signal.
FO-157	DRV W.BRIDGE-T	Output function, driving with bridged safety circuit, intermittent signal of=1Hz.
FO-158	TEST UPSa 1x/24h	Output function, UPS test (return information from FI-342).
FO-159	DOOR LOCK TEST	Output function for testing door locking.
FO-160	UCM ENABLE	Output function, when function FI-205 are active
FO-161	SHAFT LIGHT ON	Output function for turning ON shaft light.
FO-162	SHAFT LIGHT OFF	Output function for turning OFF shaft light.
FO-163	EMERGANCY LIGHT	Output function for turning on emergency light, detected by evacuation/LC100-VFD plate.
FO-164	OUT PUSH ALARM	Output function which is active when then function FI-335 are activated.
FO-165	ENABLE BR.L. PIT	Output function which is activated when input function FI-309 are activated.

INPUT FUNCTIONS TABLE

NO	DYSPLAY ON LC100-D	DESCRIPTION
FI-201	Program recall	Input function for switching to recall program.
FI-202	Recall UP	Recall pushbutton up input function.
FI-203	Recall DOWN	Recall pushbutton down input function.
FI-204	Supply control	Input function for power supply phase loss relay control.
FI-205	Safety device ct	Input function for controlling the safety circuit control device used for releveiling and preopening the doors.
FI-206	Short safety sp.	Input function for elevators with short safety space. After the input is once activated (input FI-206) elevator is blocked until reset button on the LC100-D2 is pressed or activation of input FI-327
FI-207	Evacuation	Input function for emergency passanger evacuation. After the input is active elevator begins evacuation according to the parameter A-04
FI-208	Bimetal sensor	Input function for motor bimetal sensor. After the input is activated function motor fan FO-18 is switched on.
FI-209	Con. FAN control	Input for fan contactor control.
FI-210	Fire program 1	Input for fire program 1. After the input is activated elevator goes to fire program, existing calls are ignored, elevator goes to the station which is defined in the parameter B-07 . After the elevator ends with the fire program it is blocked until input is switched off.
FI-211	Fire program 2	Input for fire program 2. After the input is activated elevator goes to fire program, existing calls are ignored, elevator goes to the station which is defined in the parameter B-08 . After the elevator ends with the fire program it is blocked until input is switched off.
FI-212	Fire program 3	Input for fire program 3. After the input is activated elevator goes to fire program, existing calls are ignored, elevator goes to the station which is defined in the parameter B-09 . After the elevator ends with the fire program it is blocked until input is switched off.
FI-213	Fire program 4	Input for fire program 4. After the input is activated elevator goes to fire program, existing calls are ignored, elevator goes to the station which is defined in the parameter B-17 . After the elevator ends with the fire program it is blocked until input is switched off.
FI-214	Reset LC100-C	Reset input for LC100-C board.
FI-215	Out of order	Input for out of order status of the elevator.
FI-216	Input TIMEREL 1	Input function for time relay 1. Setting the time relay is explained in parameters type H
FI-217	Input TIMEREL 2	Input function for time relay 2. Setting the time relay is explained in parameters type H
FI-218	No landing calls	Input for disableing the landing calls.
FI-219	Elevator test	Input for elevator test mode. After the input is activated elevator is in normal drive but the landing calls are disabled and shaft light control is disabled.
FI-220	Con. UP contr.	Input for up travel contactor control.
FI-221	Con. DOWN contr.	Input for down travel contactor control.
FI-222	Con LS control	Input for low speed contactor control.
FI-223	Con HS control	Input for high speed contactor control.

NO	DYSPLAY ON LC100-D	DESCRIPTION
FI-224	Brake control	Input for brake control.
FI-225	Mot con. Control	Input for motor contactor control, used for frequency regulated elevators.
FI-226	Inverter control	Input for frequency regulator control.
FI-227	Con Y control	Input for star contactor control for hydraulics elevators.
FI-228	Con D control	Input for delta contactor control for hydraulics elevators.
FI-229	UPER LIMIT cont.	Input for upper final limit switch control. When the input is activated elevator is blocked until manual reset.
FI-230	Safety c. STOP	Safety circuit control input for STOP when LC100-S board not used.
FI-231	Safety c. LAND D	Safety circuit control input for LANDING DOOR when LC100-S board not used.
FI-232	Safety c. DOOR A	Safety circuit control input for DOOR A when LC100-S board not used.
FI-233	Safety c. DOOR B	Safety circuit control input for DOOR B when LC100-S board not used.
FI-234	Safety c. LOCK	Safety circuit control input for LANDING LOCK when LC100-S board not used.
FI-235	Service travel	Inspection drive input
FI-236	Service UP	Inspection drive up input function.
FI-237	Service DOWN	Inspection drive down input function.
FI-238	Empty car	Input to control the presence of the person in the elevator cabin.
FI-239	25% car load	Input for 25% load in the cabin.
FI-240	50% car load	Input for 50% load in the cabin. It is used with frequency regulated elevators with evacuation to determine direction for evacuation. When the load is under 50% (input not active) evacuation is in direction up, when the input is active evacuation is in direction down.
FI-241	Fullfill car	Input for 80% load in the cabin. It is used to determine if the cabin is full loaded. When the input is active the elevator does not stop for landing calls until the input is deactivated.
FI-242	Overload car	Input for 100% load in the cabin. When the input is activated car overload signalization is on, and elevator is blocked until deactivation of the signal.
FI-243	Priority travel	Priority travel input function. When input is activated cabin calls are erased and elevator waits for the priority cabin call. Landing calls are remembered but are not processed until priority drive is deactivated.
FI-244	Fireman travel	Fireman travel input.
FI-245	Car light contr.	Cabin light control input function.
FI-246	Door inside cabin	Input for door inside the cabine.
FI-247	Car call hold	Function for holding the cabin calls for platform use.
FI-248	Brake release	Brake activation input when using manual evacuation A-04=2
FI-249	Service speed 2	Input for activating service speed 2.
FI-250	Reference UP 1	Input for upper reference switch for nominal speed.
FI-251	Reference UP 2	Input for upper reference switch for second nominal speed.
FI-252	Reference DOWN 1	Input for lower reference switch for nominal speed.
FI-253	Reference DOWN 2	Input for lower reference switch for second nominal speed.
FI-254	Counting UP	Counting input for up direction travel.
FI-255	Counting DOWN	Counting input for down direction travel.
FI-256	Stopping UP	Stopping switch input for up direction travel.
FI-257	Stopping DOWN	Stopping switch input for down direction travel.

NO	DYSPLAY ON LC100-D	DESCRIPTION
FI-258	Stoppins zone	Input for stopping zone switch.
FI-259		
FI-260	Openins limit A	Opening limit switch input for door A
FI-261	Closins limit A	Closing limit switch input for door A
FI-262	Obstacle door A	Input for closing door obstacle side A
FI-263	Photocell door A	Input for photocell door A
FI-264	Open but.door A	Input for door A open pushbutton.
FI-265	Close but.door A	Input for door A close pushbutton.
FI-266	Slowins open A	Input for slowing the door A opening speed.
FI-267	Slowins close A	Input for slowing the door A closing speed.
FI-268	Open but.door A2	Additional input for door A open pushbutton.
FI-269	Close but.door A2	Additional input for door A close pushbutton.
FI-270	Openins limit B	Opening limit switch input for door B
FI-271	Closins limit B	Closing limit switch input for door B
FI-272	Obstacle door B	Input for closing door obstacle side B
FI-273	Photocell door B	Input for photocell door B
FI-274	Open but.door B	Input for door B open pushbutton.
FI-275	Close but.door B	Input for door B close pushbutton.
FI-276	Slowins open B	Input for slowing the door B opening speed.
FI-277	Slowins close B	Input for slowing the door B closing speed.
FI-278	Open but.door B2	Additional input for door B open pushbutton.
FI-279	Close but.door B2	Additional input for door B close pushbutton.
FI-280	Photocell do. A2	Additional input for photocell door A
FI-281	Photocell do. B2	Additional input for photocell door B
FI-282	Auto call 1-2	Input for automatic call from floor 1 to floor 2 for car elevators.
FI-283	Auto call 2-1	Input for automatic call from floor 2 to floor 1 for car elevators.
FI-284	Auto call 1-3	Input for automatic call from floor 1 to floor 3 for car elevators.
FI-285	Auto call 3-1	Input for automatic call from floor 3 to floor 1 for car elevators.
FI-286	Auto call 2-3	Input for automatic call from floor 2 to floor 3 for car elevators.
FI-287	Auto call 3-2	Input for automatic call from floor 3 to floor 2 for car elevators.
FI-288	Sig. RDY NGV(A3)	Input control for READY relay from NGV agregat.
FI-289	Sig. RUN NGV(A3)	Input control for RUN relay from NGV agregat.
FI-290	Overspd.gov.(A3)	Overspeed governor coil control input or for control AMI safety device. For enable work with AMI device (H-20 > 0).
FI-291	Saf.cir.gov.(A3)	Overspeed contact control input.
FI-292	Ctr.con.gov.(A3)	Overspeed contactor control input / AMI contact control input.

NO	DYSPLAY ON LC100-D	DESCRIPTION
FI-293	Short safety sp2	Additional input function for elevator with short pitt. After input FI-293 is active elevator is blocked until reset on the LC100-D keypad or activating FI-372. Function is identical as function FI-206.
FI-294	Open but.d. A+B	Input for open door button for both cabin doors „A“ and „B“
FI-295	Close but.d. A+B	Input for close door button for both cabin doors „A“ and „B“
FI-296	Disable call	Input function for disabeling the calls defined by the parameter B-17.
FI-297	Phase L1 (R)	Input for power supply control phase „R“
FI-298	Phase L2 (S)	Input for power supply control phase „S“
FI-299	Phase L3 (T)	Input for power supply control phase „T“
FI-300	Ctr. NCU10 (A3)	Input for controlling the UMD safety device.
FI-301	Test input 1	Input function for activating output function FO-92.
FI-302	Test input 2	Input function for activating output function FO-93.
FI-303	Earthquake prg.	Input function for earthquake program. Elevator stops in the nearest floor and stays with the open doors until input is deactivated.
FI-304	Spd.stp >0.1 m/s	Input for leveling speed control.
FI-305	Evak. door A	Input function for door A opening in case of automatic evacuation.
FI-306	Evak. door B	Input function for door B opening in case of automatic evacuation.
FI-307	Program lift boy	Input for activating the lift boy program.
FI-308	Landine door N1	Input for control of the landing door contact for the first floor door, used in elevators with the short pit space.
FI-309	Pillion in shaft	Input for control of the pillion in the pitt, used in elevators with the short pit space.
FI-310	Valve down A3	Input for controlling the additional valve for down drive.
FI-311	UPS control	Input for control of the UPS..
FI-312	Test NORM 2454-2	Input for active function for testing norme 2454-2.
FI-313	I-valve control	Input for control of the Bucher I-Valve. <i>*condition for enable I-valve mode are parameters C-22 or C-23 <> #0</i>
FI-314	Landine d. N=1	Input for control of the landing door contact for the first floor.
FI-315	Landine d. N=2	Input for control of the landing door contact for the second floor.
...	...	...
FI-325	Landine d. N=12	Input for control of the landing door contact for the twelfth floor.
FI-326	Request for rev.	Input for activating automatically entrance on the cabin roof for service drive.
FI-327	Reset small pit	Input for reset small pit status.
FI-328	Service from pit	Inspection drive from the pit input.
FI-329	Service pit UP	Inspection drive from the pit, up input function.
FI-330	Service pit DOWN	Inspection drive from the pit, down input function.
FI-331	Limit ser.2m UP	Input for limit service switch UP 2 meters beffore station.
FI-332	Limit ser.2m DOWN	Input for limit service switch DOWN 2m meters beffore station.
FI-333	Safe.circ. bridge	Input for control bridging safety chain.

NO	DYSPLAY ON LC100-D	DESCRIPTION
FI-334	Shaft light	Shaft light control input function.
FI-335	Pushbutton ALARM	Information input Alarm button is pressed.
FI-336	Err light curt.A	Control input for light curtain of door A.
FI-337	Err light curt.B	Control input for light curtain of door B.
FI-338	Temperature do.A	Control input for temperature of door A.
FI-339	Temperature do.B	Control input for temperature of door B.
FI-340	Imp.for hold d.A	Input for door A open pushbutton – additional time.
FI-341	Imp.for hold d.B	Input for door B open pushbutton – additional time.
FI-342	Test UPS 1x/24h	Input for control of the UPS, once a day.
FI-343	Service pit door	Input for control service pit door. Writes in statistic, for normal travel need to do reset.
FI-344	Safety gear	Input for control safety gear. Writes in statistic, for normal travel need to do reset.
FI-345	STOP in control	Input information that the STOP on the cabinet is activated.
FI-346	STOP on cabine	Input information that the STOP on the cabin is activated.
FI-347	STOP by machine	Input information that the STOP near machine is activated.
FI-348	STOP in the pit	Input information that the STOP in the pit is activated.
FI-349	Cont.cont UP/2	Additional input for UP travel contactor control for hydraulic elevators.
FI-350	Cont.cont DOWN/2	Additional input for DOWN travel contactor control for hydraulic elevators.
FI-351	Cont.mot.cont./2	Additional input for control motor contactots for VVVF elevators.
FI-352	Brake control./2	Additional input for brake control for VVVF elevators.
FI-353	Reset LC100-C/2	Additional input for reset error/controller.
FI-354	Reset small P./2	Additional input for reset small pit status.
FI-355	Cont.con.K-EUCM	Input for controlling the EUCM contactor.
FI-356	Cont.valve block	Input for controlling hydraulic valve block.

CABIN CALLS SIDE A TABLE

NO	DYSPLAY ON LC100-D	DESCRIPTION
401	CAR CALL 1A	Cabin call A side for 1st floor.
402	CAR CALL 2A	Cabin call A side for 2nd floor.
...		
440	CAR CALL 40A	Cabin call A side for 40th floor.
441	LAND C.UP 1A	Landing call up A side for 1st floor.
442	LAND C.UP 2A	Landing call up A side for 2nd floor.

...	*****	
479	LAND C.UP 39A	Landing call up A side for 39th floor.
482	LAND C.DOWN 2A	Landing call down A side for 1st floor.
483	LAND C.DOWN 3A	Landing call down A side for 2nd floor.
...	*****	
520	LAND C.DOWN 40A	Landing call down A side for 40th floor.
561	CAR FUN BUTTON	Car fan input.

CABIN CALLS SIDE B TABLE

NO	DYSPLAY ON LC100-D	DESCRIPTION
601	CAR CALL 1B	Cabin call B side for 1st floor.
602	CAR CALL 2B	Cabin call B side for 2nd floor.
...	*****	
640	CAR CALL 40B	Cabin call B side for 40th floor.
641	LAND C.UP 1B	Landing call up B side for 1st floor.
642	LAND C.UP 2B	Landing call up B side for 2nd floor.
...	*****	
679	LAND C.UP 39B	Landing call up B side for 39th floor.
682	LAND C.DOWN 2B	Landing call down B side for 1st floor.
683	LAND C.DOWN 3B	Landing call down B side for 2nd floor.
...	*****	
720	LAND C.DOWN 40B	Landing call down B side for 40th floor.

4.11 P-M-L Modul - Type P

4/6 Parameters

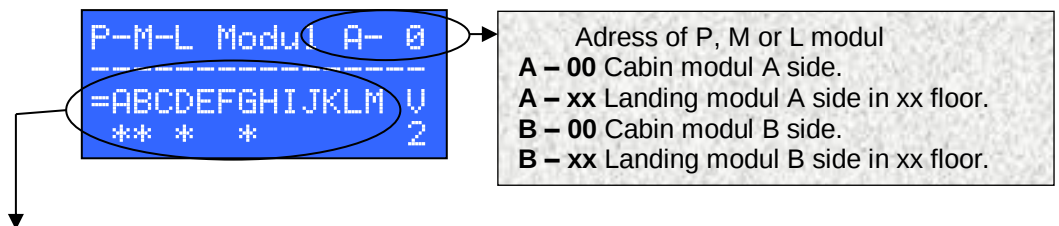
11/12 P-M-L Modul

Type P

In the PML modul menu it is possible to set the work of the signalization modules [LC100-P](#), [LC100-M](#) or [LC100-L](#). Sign „*“ under the letter means that for that module is activated mode which is explained in the description:

Example shows setting of the cabin signalization module (adress 0) which will display:

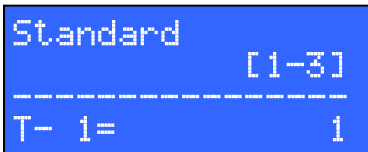
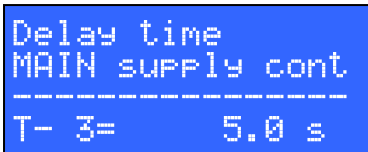
Cabin position	(A)
Car travel direction	(B)
Sound signal for stopping	(D)
Sound and light signal for STOP	(G)



Configuration for cabine and landing calls modules:

- A** – Car position signalization
Displays floor markings defined in G-00 to G-40 parameters.
- B** – Car travelling direction signalization
Displays up and down arrow when elevator is driving
- C** – Next car travel direction signalization
Displays up and down arrow when elevator is driving, and after stopping shows next drive direction
- D** – Sound signal for car stopping (arriving to the floor)
- E** – Sound signal for unlocking the landing doors
- F** – Sound and light signal for cabin overload
- G** – Sound and light signal for STOP
- H** – Sound and light signal for landing door open.
- I** – Sound and light signal for active photocell
- J** – „Out of order“ light signalization
- K** – „Fire program active“signalization
- L** – Disable landing call
- M** – „Landing call button pressed“ sound signal, for modul A-0 „New cabin call“ sound signal
- V**- speaker volume (1 to 7)

4.12 Factory - Type T

4/6 Parameters		12/12 Factory	Type T
T-01	Standard	1-3	
		Parameter for choosing the standard for software. 1 – EN81 standard 2 – Russian standard (firefighter mode) <i>When in firefighter mode open cabin doors, elevator stay with opened doors until new call. Closing door is possible with holding door close button, until door is not full closed if holding is interrupt, door's automatically reopening.</i> 3 – Reserved	
T-02	Time for starting the inverter	0-25s	
		Time for powering the frequency inverter. Defines the time for regulator to power up to ready state. Controlling the regulator is done through input with function FI-226 .	
T-03	Time for powering the main supply contactor	2-25s	
		Time for switching on the main supply contactor. Defines the delay to switch on the output function FO-019 . It is used for frequency regulated elevators with evacuation. When the control cabinet is powered if the input for evacuation FI-207 is not active output for main supply contactor (FO-019) is switched on with delay T-03 . If the input FI-207 is active then output for UPS contactor (FO-020) is switched on with delay T-04 .	
T-04	Time for powering the UPS contactor	0-25s	
		Time for switching on the UPS supply contactor. Defines the delay to switch on the output function FO-020 . It is used for frequency regulated elevators with evacuation. When the control cabinet is powered if the input for evacuation FI-207 is not active output for main supply contactor (FO-019) is switched on with delay T-03 . If the input FI-207 is active then output for UPS contactor (FO-020) is switched on with delay T-04 .	
T-05	Time for start motor conntactors	0-2s	
		Working time for the motor start function (FO-08).	
T-06	Next service DAY	0-31	
		Function is used for elevators with surveillance system to keep track for servicing the elevators. Parameter T-06 is for setting the day in the month, parameter T-07 is for setting the month and T-08 is for setting the year.	

4/6 Parameters		12/12 Factory	Type T
T-07	Next service MONTH		0-12
Next srvice month ----- T- 7= 0		Function is used for elevators with surveillance system to keep track for servicing the elevators. Parameter T-06 is for setting the day in the month, parameter T-07 is for setting the month and T-08 is for setting the year.	
T-08	Next service YEAR		0-99
Next service year ----- T- 8= 0		Function is used for elevators with surveillance system to keep track for servicing the elevators. Parameter T-06 is for setting the day in the month, parameter T-07 is for setting the month and T-08 is for setting the year.	
T-09	Monitoring type		0/1
Monitor type [0-1] ----- T- 9= 0		Monitoring type (filtering the parameters): 0 – on parameter filtering is switched off. 1 – off parameter filtering is switched on. When the filtering is switched off all parameters of the system are visible through the LC100-D terminal. When the filter is „on“ parameters and functions are visible according to each other. If some parameters are not reachable that means the filter is „on“. Example 1: If the parameter „Main drive“ is set to C-01=3 (frequency regulated elevator). Then all other parameters that are related are visible (C-02, C-03 ... C-12, C-13), while all other parameters are not visible (C-14, C-15, C-16, C-17 – parameters for hydraulic elevators). Example 2: If the parameter „Cabin door“ is set to D-01=1 (one automatic door). Then all parameters for door A are visible and parameters for door B are hidden. Example 3: Parameter „Number of stops“ is set to A-01=7 (elevator with 7 floors). Then for cabin calls is possible to set only seven calls, and all other parameters that are for higher floors are not visible.	
T-10	CAN frequency		0-99
Baud rate CAN 0/1 ----- T-10= 0		Parameter for changing the CAN baudrate.	

T-11	Factory setting	
Factory setting ----- ABCDEF GH T-11= * * * A – Close button priority off B – Automatic reset EN81 error and give output FO-79 - after service travel plate C – Deactivating phase control from LC100- D – Weight scale deactivating E – F – G – Enable recall drive until arrival reference switch. H – Enable releveing when elevator is overloaded.		
T-12	Output tables bin/gray codes	
Output tables bin/gray codes ----- T-12 Bin=0 Gry=1 Output table selection for the display; Bin=0 – first station start with binary 0001 Bin=1 – first station start with binary 0000 Gry=1 – standardy gray code output Gry=2 – shifted gray code output (<i>Turkey market</i>)		
T-13	Simulator enable	0/1
Simulator enable 0/1 ----- T-13= 0 Enable possibility to show simulator mode in LC100 menu.		
T-14	Control times valve down A3	0-2,50 s
Control time Valve down A3 ----- T-14 0.50 s P		
T-15	Delay on order direction ALGI	0-2,50 s
Delay on order direction ALGI ----- T-15= 0.50 s Start delay in up direction for hydraulic elevator VVVF – typ C.		

T-16 ADL config

```

ADL confie
-----
T-16=    ABCDEFGH
          ***
  
```

- A – Drive direction (*not selected – normal, selected – inverted*)
 B – Impulse direction (*not selected – normal, selected – inverted*)
 C – Reset by CAN enable/disable (*not selected – enable, selected – disable*)
 D – Contactor status signal transfer from ADL by CAN (*not selected – enable, selected – disable*)
 E – Brake status signal transfer from ADL by CAN (*not selected – enable, selected – disable*)
 F – ADL ready signal transfer from ADL by CAN (*not selected – enable, selected – disable*)

G		Positioning system by encoder on ADL enable with resolution 1
H		Impulses = impulses / 1
G	*	Positioning system by encoder on ADL enable with resolution 2
H		impulses = impulses / 2
G		Positioning system by encoder on ADL enable with resolution 3
H	*	impulses = impulses / 4
G	*	Positioning system by encoder on ADL disable (another source of impulses in use)
H	*	

T-17 Stp NORM 2454-2

0-40

```

Stp  NORM 2454-2
      [0-40]
-----
T-17=    0
  
```

After activation of input **FI-312** elevator reach the station which is defined with parameter **T-17**, without opening the doors, descent automatically elevator for length which is define by parameter T-18, open the doors and waiting with opened doors until deactivated input **FI-312**, then start normal travel.

*While the function **FI-312** is activated, elevator don't accept landing and cabin calls.*

T-18 Drv NORM 2454-2 * 100ms / *10mm

0-100

```

Drv  NORM 2454-2
*100ms / *10mm
-----
T-18=    0
  
```

Defining times / descent time in the zone test.
 (For the absolute positioning type - descent is T-18 x 10 mm)
 (For other positioning type – descent length was determined by the T-18 x 100 ms)

T-19 LC100-VFD configuration

```

VFD confie
-----
T-19=    ABCDEFGH
          ***
  
```

- A – enable phase control through LC100-VFD card
 B – enable evacuation detection through LC100-VFD card (only in combination with selected letter A)
 C – **Reserved**
 D – **Reserved**
 E – **Reserved**
 F – **Reserved**
 G – **Reserved**
 H – **Reserved**

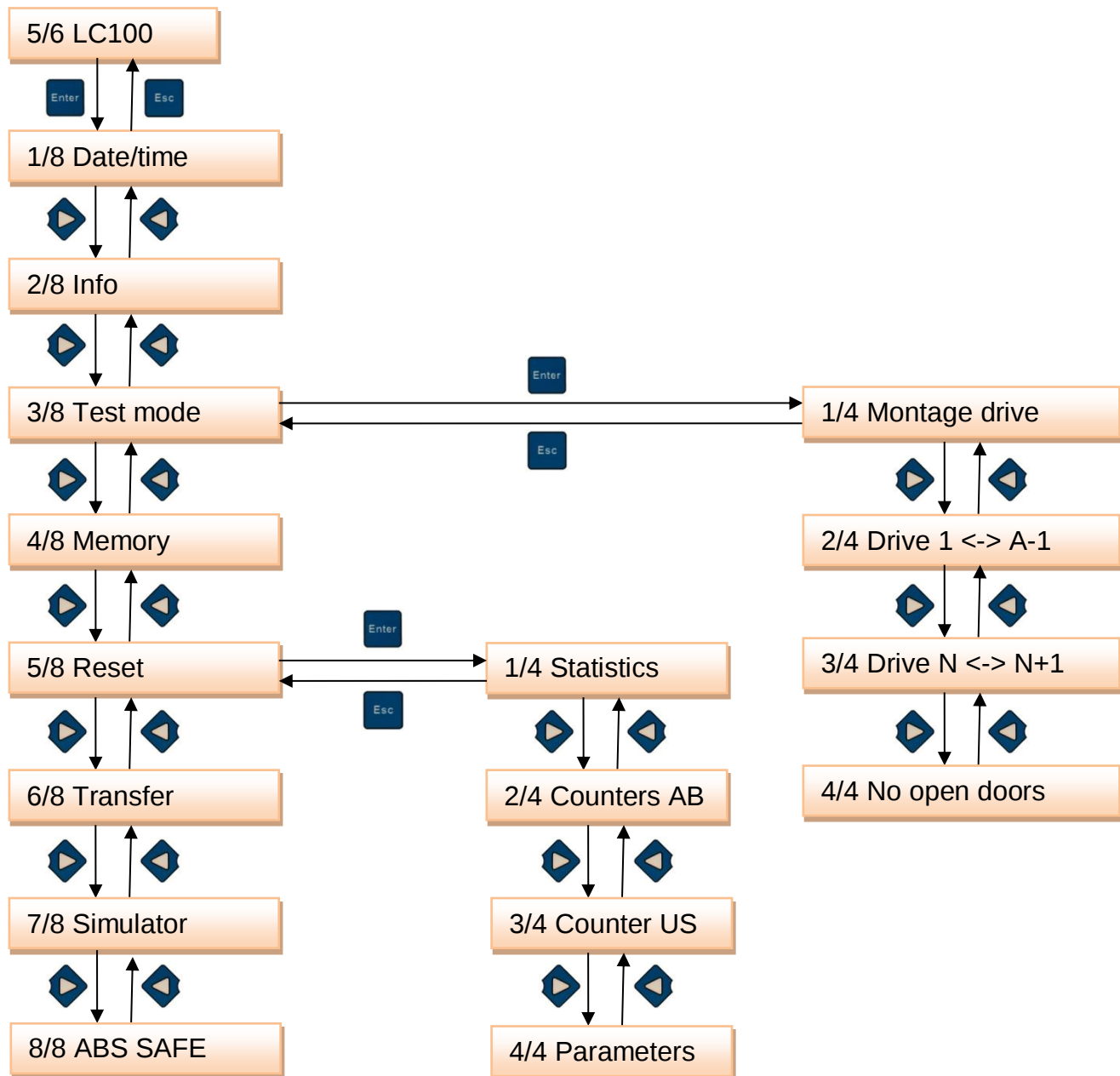
In firmware 4.409.00 or newer.

T-20	Factroy settings	
<pre> Factory settine ----- ABCDEFGH T-20= </pre> A – not selected – Cabin door will be open in the fire station when fire program are active. selected – Cabin door will close automatically after time (which is defined by parameter B-20), in the fire station when fire programs are active. B – not selected – selected – C – Enable service until arrival stopping zone. D – not selected – First travel after service travel must be confirmed with call selected – If cabin is in the station, cabin door will open after service travel E – not selected – without UCM status reset after service travel selected – UCM status reset on service drive button F – not selected – UCM status reset for automatic drive on landing/cabin call if elevator is out of station with closed door. selected – If cabin is in the station, cabin door will open after service travel G – reserved H – not selected – Enable reset with button or terminal. selected – Disable reset with button or terminal.		
T-21	Enterence to service drive	0-255
<pre> Enter to rev. [2-A1] ----- T-21= 0 </pre> When function service travel enterance are active (FI-326), elevator came to seted station and start drive with low speed		
T-22	Distance to service drive	0-250
<pre> Distance to rev. *100 /*100mm ----- T-22= 0 </pre> Descent time/space for entering on cabin roof (service travel). T-21 station bellow T-22 time/space.		
T-23	Impulses to mm	0-99999
<pre> Resolution imp T-23= ----- 100mm =00000 IMP </pre> Defining how many impulses is 100 mm. When parameter is present, then all other menus for positioning are showed in mm.		
T-24	Password 1	0-9999
<pre> Password 1 ----- T-24= 00000 </pre> Set protection password level 1 for locking menu. If password is seted, on system booting must be entered password. If you don't use keypad more then 10 min. system is automatically locked, to disable password put factory value 0000.		

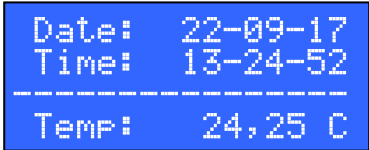
T-25	Password 2	0-9999
Password 2 ----- T-25= 00000 Set protection password level 2 for locking menu. If password is seted, on system booting must be entered password. If you don't use keypad more then 10 min. system is automatically locked, to disable password put factory value 0000.		
T-26	Next service date (2)	day-month-year
Next service 2 (2) DD-MM-YYYY ----- T-26= 00-02-2000 Function is used for elevators with surveillance system to keep track for servicing the elevators.		
T-27	Password 3 (3+SMS)	0-9999
Password 3 ----- T-27= 0 Set protection password level 3 for locking menu. If password is seted, on system booting must be entered password. If you don't use keypad more then 10 min. system is automatically locked, to disable password put factory value 0000.		
T-28	Password 3 (3+SMS)	day-month-year
Next service 3 (3) DD-MM-YYYY ----- T-28= 00-02-2000 Function is used for elevators with surveillance system to keep track for servicing the elevators.		

5. LC100 menu

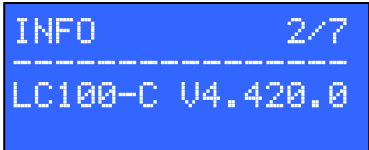
LC100 menu has 7 submenus like shown on the picture:



5.1 Date/time

5/6 LC100	1/8 Date/time
	In the date/time menu the time is set, it is also possible to monitor the processor temperature. Date format is xx-yy-zz, where the: - xx is day - yy is month - zz is year Clock format is aa-bb-cc, where the: - aa is hour - bb is minute - cc is second After entering the menu setting is done by pressing the enter button. Changes are made with up, down, left or right button. Saving the changes is done by pressing the enter button.

5.2 Info

5/6 LC100	2/8 Info
	Info menu shows the current software version installed at LC100-C board.

5.3 Test mode

5/6 LC100

3/8 Test mode

```
Test mode: 1/9
Montage drive
-----
**OFF**    < >
```

For elevator testing there is possible to change the 4 drive modes:

1/9 Montage drive – Switches on the montage drive.

Montage drive presents driving the elevator without the cabin connection box (only with the control cabinet in the machine room). If there is no cabin board LC100-K connected there is „Comm err with –K“ error – communication error with the LC100-K board. In that case elevator is in service drive because the input for service is on the „K“ board. Switching on the montage drive inputs on the „K“ board are ignored and the drive is possible with the recall buttons from the machine room.

Switching off the montage drive is always when power down the LC100-C board. Also montage drive is switched automatically after there is communication with the cabin board (connecting the LC100_K board to CAN communication bus).

It is possible to switch the montage drive through the digital input.

```
Test mode: 2/9
Drive 1 <-> A-1
-----
**OFF**    < >
```

2/9 Drive 1 <-> A-1 – Switches on the automatic drive only to first and the last floors.

```
Test mode: 3/9
Drive N <-> N-1
-----
**OFF**    < >
```

3/9 Drive N <-> N+1 – Switches on the automatic drive with floor to floor drive. Elevator drives only one floor at a time..

```
Test mode: 4/9
NO OPEN doors
-----
**OFF**    < >
```

4/9 NO OPEN doors – Switches on the automatic drive without the door managing function. Elevator is working normally but the doors are not opened.

```
Test mod: 5/9
EN81+A3 UP
-----
**OFF**    < >
```

5/9 EN81+A3 UP – Switches on the automatic field test of UCM safety device. Elevator must be in the floor. After starting the test elevators opens the doors and starts levelling in up direction. After exit the floor zone switches safety device must stop the elevator with the error UCM (A3). Reset can be done only with the reset button on the LC100-D keypad.

```
Test mod: 6/9
EN81+A3 DOWN
-----
**OFF**    < >
```

6/9 EN81+A3 DOWN – Identical as the test UP but in down direction.

```
Test mod: 7/9
TST LIMIT SWITCH
-----
**OFF**    < >
```

7/9 TST LIMIT SWITCH – When test limit switch are active, when controller have cabin call to last station (up or down), elevator will go to this station and with stopping speed they will pass stopping sensors and go to limit switch.

```
Test mod: 8/9
LEVELING ADJ.
-----
**OFF**  < >
```

8/9 LEVELING ADJ –

```
Test mod: 9/9
RE-LEVELING ADJ.
-----
**OFF**  < >
```

9/9 LEVELING ADJ –

5/6 LC100

4/8 Memory

```
MEMORY STATUS:
-----
A=0000H->  D=0AH
__0001H->  D=01H
```

Factory parameter for monitoring the values of internal memory.

5.5 Reset

5/6 LC100

5/8 Reset

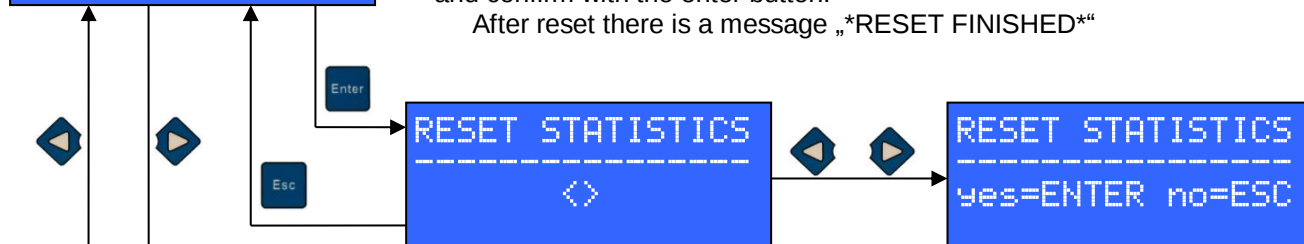
```

  RESET
-----
statistics  1/4
  
```

In the reset menu it is possible to reset statistics, counters and parameters.

After entering the menu type of reset is chosen by pressing left or right button. After choosing the reset, press enter button, then press left or right and confirm with the enter button.

After reset there is a message „*RESET FINISHED*“



Reset statistics erases all data in **STATISTICS** menu.

```

  RESET
-----
COUNTERS AB  2/4
  
```



Reset counters A sets all counters in the **COUNTERS** menu to 0.

```

  RESET
-----
COUNTERS US  3/4
  
```



Reset counters U sets **USER** counter to 0.

```

  RESET
-----
Parameters  4/4
  
```

Parameter reset sets all parameters to factory value. After confirming the parameter reset it is needed to choose which factory set of parameters to use.

After choosing the set confirm with enter button and message „*RESET FINISHED*“ appears.

Parameters for each factory set are shown in the „**STANDARD CONFIGURATIONS OF PARAMETER**“

Factory sets are different only in the drive type (type C) and configurations (type N) parameters. Other parameters must be set manually (number of stops, doors, positioning...).

5.6 Transfer

5/6 LC100

6/8 Transfer

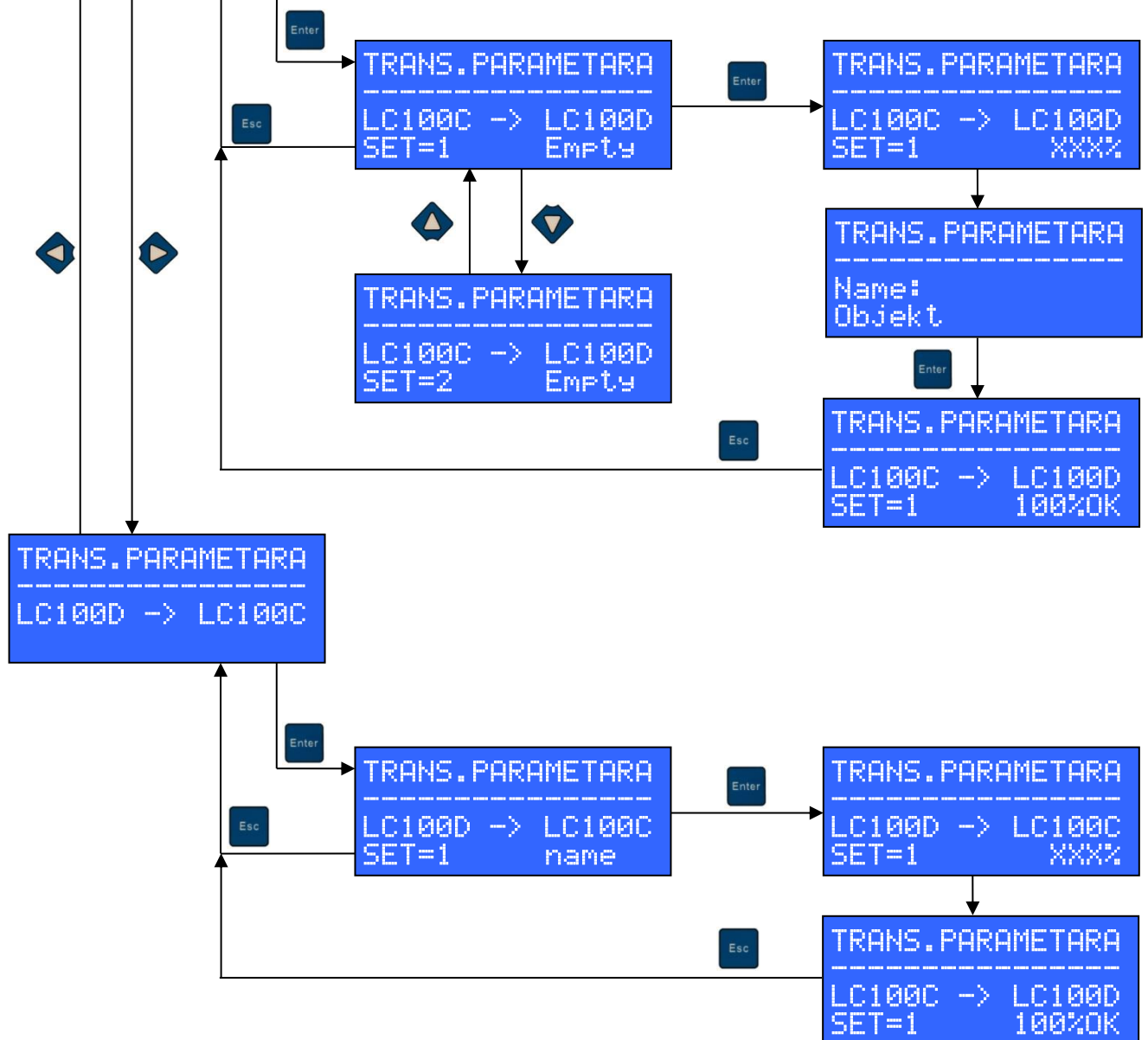
```

TRANS.PARAMETARA
-----
LC100C -> LC100D
  
```

In transfer menu it is possible to transfer parameters from LC100-C board to the internal memory of LC100-D keypad.

When enter the transfer menu chose direction for transfer parameters, after confirm there are 4 memory locations available , after choosing memory location confirm with enter button.

After transfer there is possibility to give a name to parameter set.



5/6 LC100

8/8 ABS SAFE



```
TRANS.PARAMETARA
-----
LC100C -> LC100D
```

In transfer menu it is possible to transfer parameters from LC100-C board to the internal memory of LC100-D keypad.

When enter the transfer menu chose direction for transfer parameters, after confirm there are 4 memory locations available , after choosing memory location confirm with enter button.

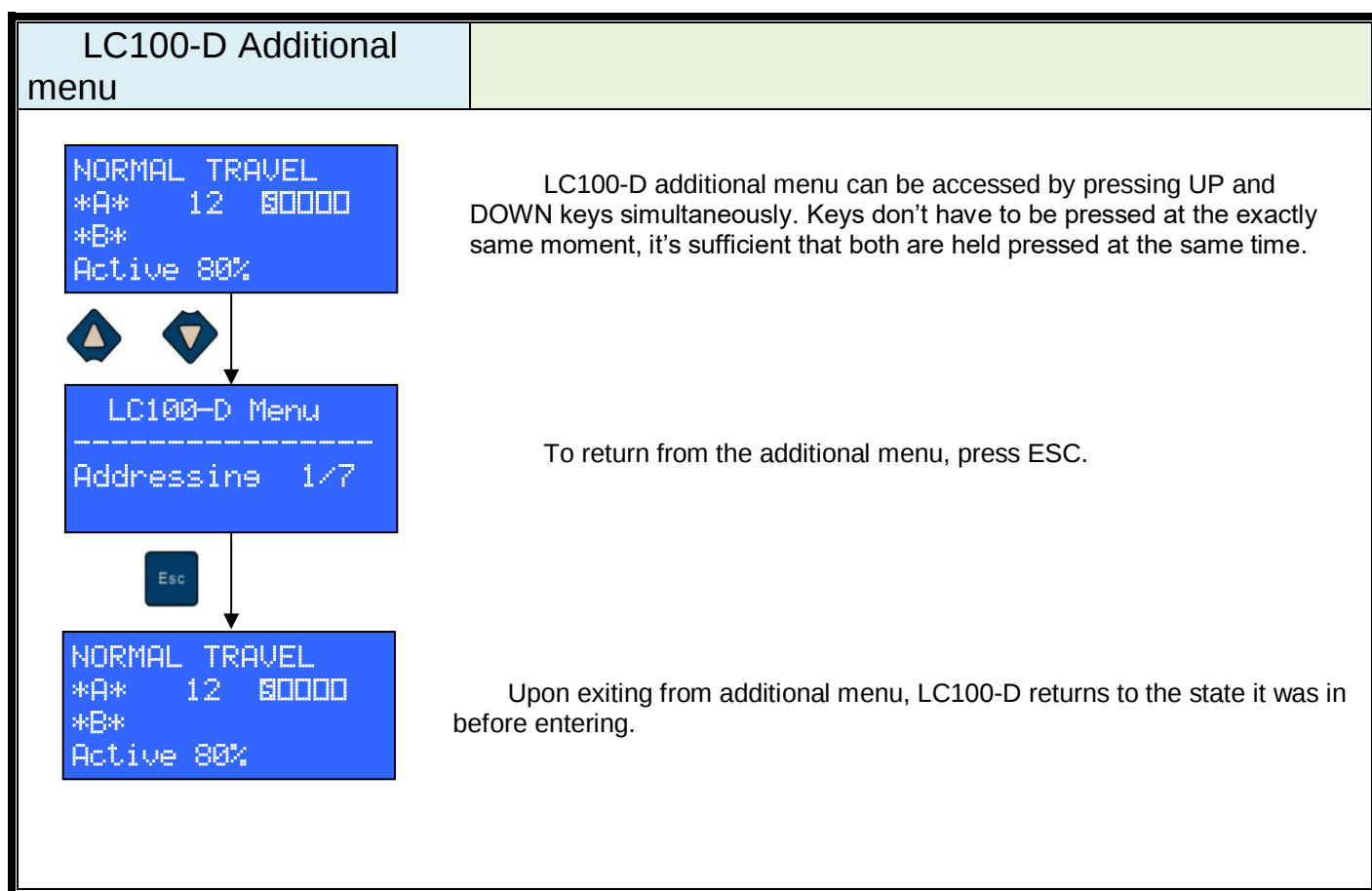
After transfer there is possibility to give a name to parameter set.

6. LC100-D ADDITIONAL MENU

6.1 General

In addition to the regular menus described in the main User Guide, LC100-D has an additional menu for the following purposes:

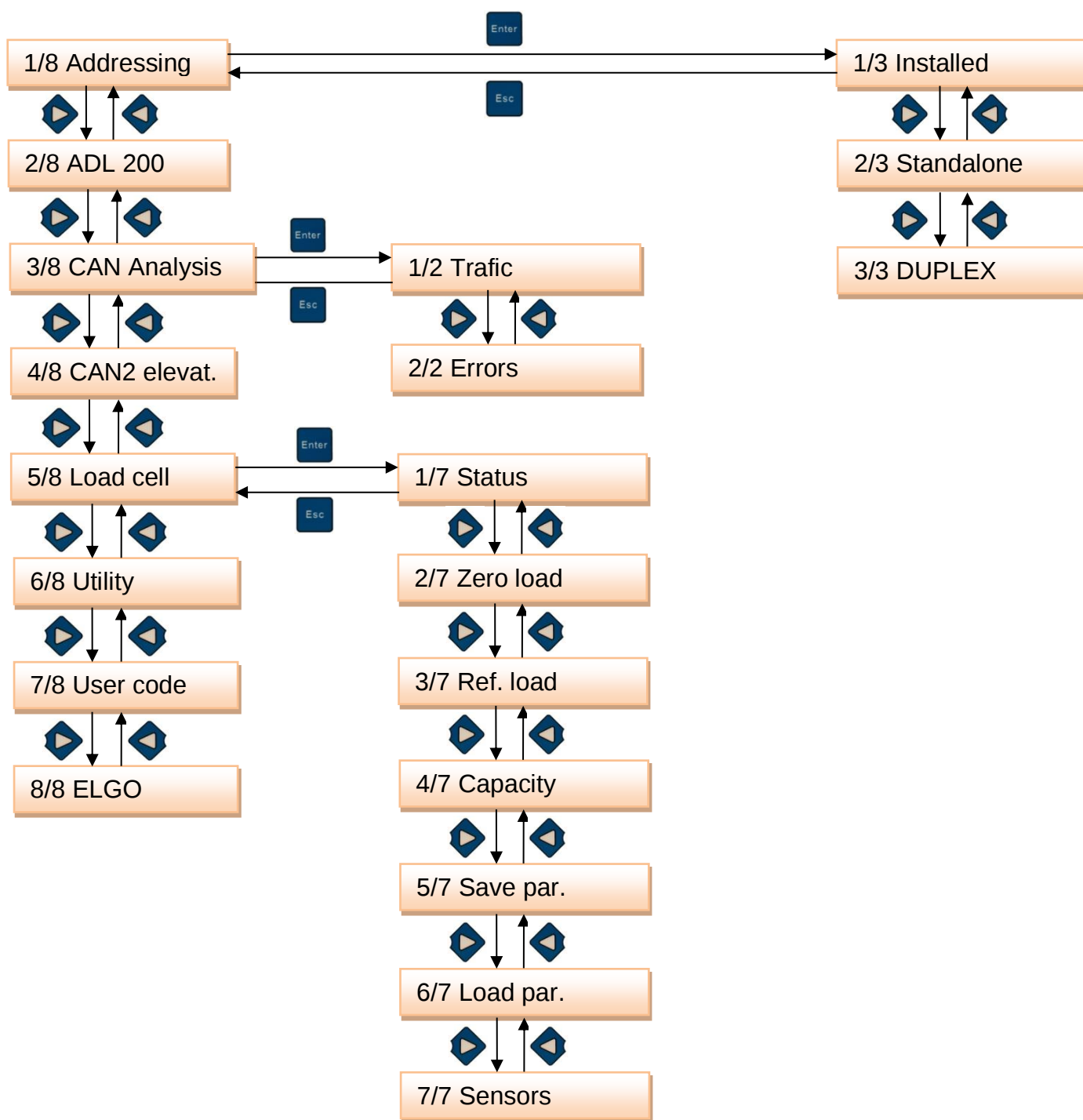
- LC100-M5, LC100-M6 and LC100-M7 module addressing
- CAN bus traffic analysis
- Elevator selection (if LC100-D is connected to CAN2 bus)
- Load sensor calibration and settings



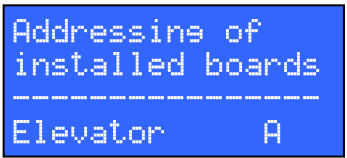
There are two situations, other than the one described, in which LC100-D is going to enter the additional menu:

- When LC100-D is connected to the CAN2 bus, elevator selection menu will be brought up automatically.
- When LC100-D is connected to a CAN bus where no LC100-C is present, the additional menu root will be brought up automatically. This behavior is useful for addressing signalization modules without connecting them to an elevator or analyzing CAN traffic on a bus that has no LC100-C connected to it e.g. standalone signalization module.

6.2 Additional menu structure



6.3 LC100-M5/M6/M7 addressing

1/8 Addressing	1/2 Installed
Multiple elevators  Single elevator 	First addressing mode is used for signalization modules that are already installed and connected to a LC100-C module. Signalization modules are addressed for one elevator at a time. Therefore, it's first necessary to select an elevator whose signalization modules are to be addressed. Picture on the left depicts LC100-D screen for elevator A. If there are multiple elevators connected to the CAN2 bus, LC100-D will draw arrows next to selected elevator designator, indicating that it's possible to select other elevators using LEFT and RIGHT keys. If there is only one elevator, no arrows will be drawn. With the elevator chosen, the next step is to drive that elevator to a stop whose signalization module is to be addressed. Then, by pressing call pushbutton the signalization module whose pushbutton has been pressed is assigned to the selected elevator in the current stop. If the selected elevator has front and rear doors, each press of the call pushbutton will alternate between door A and door B. By pressing and holding RESET key for more than 3 seconds, all signalization modules will be reverted to the default address (stop 0 i.e. cab indicator). After exiting the menu all of the signalization modules will save their assigned addresses, so no further action from the user is required.

1/8 Addressing	2/2 Standalone
	Second addressing mode is used when, for any one reason, the first mode is impossible to use or is considered impractical e.g. the elevator cannot drive at the moment or the signalization modules aren't connected to an elevator at all. First step is to select an address which is to be assigned to a signalization module, by pressing UP, DOWN, LEFT and RIGHT keys accordingly. Number next to address represents stop number, first letter represents elevator selection (A, B, C or D) and the third letter represents door selection (A or B). When the address is set, pressing a call pushbutton on a signalization module will assign the selected address to that module. Signalization modules automatically save their new address when call pushbutton is pressed, so no further action from the user is required. By pressing and holding RESET key for more than 3 seconds, all signalization modules will be reverted to the default address (stop 0 i.e. cab indicator). Image on the left shows LC100-D screen when stop 12, elevator B and landing door A is selected.

1/8 Adresiranje	3/3 DUPLEX
 Third way of addressing is for DUPLEX elevators with one button connected to both displays. Choosing the wanted address is done with up, down, left and right button. When pressing the pushbutton one display will be for the „A“ elevator, other one will be for „B“ elevator. When pressing pushbutton again they will change elevator address.	

As long as LC100-D is in any one of the addressing modes, all of the connected dot-matrix signalization modules will display their assigned address via two interchanging screen images. One of them displays stop number and the other one displays two characters, left one representing elevator assignment (A, B, C or D), and the right one representing landing door assignment (A or B).

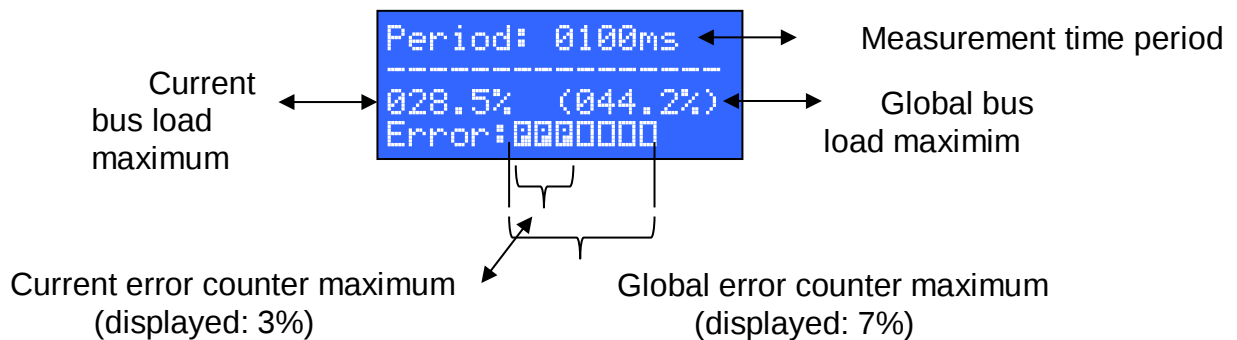
6.4 ADL 200/300 parameters

2/8 ADL200	ADL parameters
 In ADL 200 menu it is possible to change parameters in frequency inverter. Inverter must be connected to CAN communication. Parameter description are given in ADL200/300 user manual.	

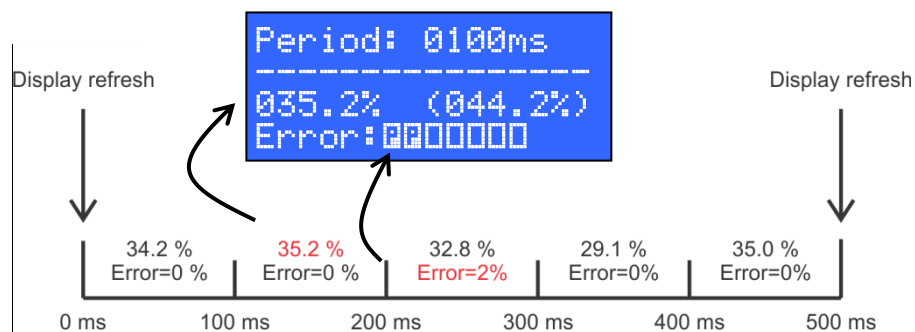
6.5 CAN bus traffic analysis

3/8 CAN Analysis

1/2 Traffic



- Traffic analysis menu displays CAN bus load and transfer error number.
- Two types of data are displayed: global and current.
- **Current data** are refreshed every 500ms.
- **Global data** are updated only when a current value is bigger than an existing global value. **Global data can be reset by pressing the RESET key**
- CAN bus load is a percentage of measurement time period during which the CAN bus is busy transmitting messages.
- Error counter is an error message percentage out of total number of messages transmitted during measurement time period. Every and represents 1%.
- represents global error counter maximum, and represents current error counter maximum.
- Measurement time interval can be changed by pressing UP and DOWN keys (from 10ms to 5000ms).
- Display refresh period is fixed to 500ms. Therefore, it's obvious that for measurement time periods shorter than that multiple measurement periods will pass between two screen refreshes. In that case display will be updated with biggest values from the ones available.



- Expected CAN bus load values vary with number of connected LC100 modules and selected measurement time period. In general, the values measured during the short time periods will be greater than ones measured during longer time periods. Reason for that lies in combination of random distribution of messages in time and described measurement results display method. Therefore, it's considered normal for bus load to temporarily go up to 100% for short measurement time periods (10, 20 and 50 ms).
- Current error counter value of 2% or less is not considered problematic.
- Constantly present current error counter value of 5% or more indicates a serious electrical problem on the CAN bus.

3/8 CAN Analysis

1/2 Errors

```
Board select
-----
Searchina...
```

```
Board select
-----
LC100-M5   03/07
011A1A
```

Enter

```
LC100-M5   011A1A
-----
1. REC      003
2. TEC      000↓
```

```
LC100-M5   011A1A
-----
2. TEC      000↑
3. Stuff    007↓
```

Upon entering error analysis menu, LC100-D searches the CAN bus for connected LC100 modules. Modules must have **firmware version 4.00 or newer** in order to be able to transfer their error counters.

After the search is finished, LC100-D will display a menu containing all of the connected modules (image shows an example of LC100-M5 module, addressed for 1. stop, elevator A and door A). Module can be selected by pressing LEFT and RIGHT keys (provided that there is more than one module). By pressing ENTER key, LC100-D will enter selected modules' error counter menu.

Error counter menu displays error counter values which can be listed through by pressing UP and DOWN keys. There are 7 values in total:

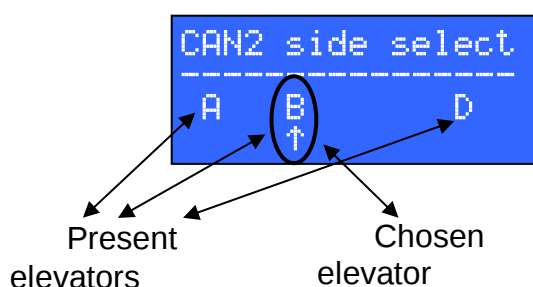
1. REC – CANREC
2. TEC – CANTEC
3. Stuff – bit stuffing error counter
4. Form – form error counter
5. Ack – ACK error counter
6. Bit – bit error counter
7. CRC – CRC error counter

Error types description can be found in the CAN bus specification.

CANREC and CANTEC counters display the current values of the CAN counters from the modules' CAN controller. Other counters accumulate values until they are reset to zero by pressing REEST key.

6.6 CAN2 bus elevator select

4/8 CAN2 Side



```
CAN2 side select
-----
No elevators
present on CAN2!
```

- CAN2 side select menu can be used to connect LC100-D to an elevator via CAN2 bus.
- Menu shows elevators present on the CAN2 bus in real time
- If there are no elevators connected to the CAN2 bus message like the one on the right picture is displayed.
- Elevator can be selected by pressing LEFT and RIGHT keys.
- To connect to the selected elevator user has to press the ENTER key. After the key press, LC100-D will exit the CAN2 side menu and display chosen elevator's main menu.

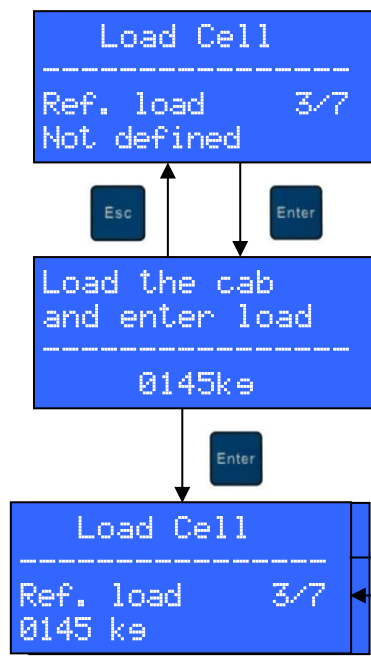
6.7 Load measurement

5/8 Load cell	1/7 State
<pre> Load Cell ----- Status 1/7 033 % (0150 kg) </pre>	The status screen displays current cab load in kilograms and in percentage of rated capacity.
<pre> Load Cell ----- Status 1/7 Not Calibrated </pre>	If load measurement system isn't calibrated, message "Not Calibrated" is displayed.
<pre> Load Cell ----- Status 1/7 Load cell absent </pre>	If the load measurement system isn't operational, message "Load cell absent" is displayed. There are multiple possible reasons for this state: • Module LC100-V isn't connected to LC100-K • Module LC100-V faulty • Module LC100-K isn't connected to the elevator • Module LC100-K faulty

5/8 Load cell	2/7 Zero load
<pre> Load Cell ----- Zero load 2/7 Not defined </pre> Esc ↑ ↓ Enter <pre> Zero load set ----- Unload the cab and press ENTER </pre> ↓ Enter <pre> Load Cell ----- Zero load 2/7 Defined </pre> Enter → <pre> Value is already defined! Update? ESC=No ENTER=Yes </pre> ← Esc ↓ Enter <pre> Zero load set ----- Unload the cab and press ENTER </pre>	Zero load menu is used to calibrate load measuring system to an empty cab. If zero load calibration is not already done, "Not defined" message is displayed. Zero load calibration procedure can be started by pressing ENTER key. The cab should be unloaded now and ENTER key should be pressed to commence with zero load calibration. After key press, LC100-D will display the outcome of the zero load calibration ("Successful" or "Communication error"). After successful zero load calibration, LC100-D will return to the load cell menu and display "Defined" as the zero load status.
If zero load value is set and user tries to redefine it, a warning will be displayed. Pressing the ENTER button dismisses the warning and proceeds with the calibration process.	

5/8 Load cell

3/7 Ref. load



Ref. load menu is used to calibrate load measuring system to a known load. If known load calibration is not already done, "Not defined" message is displayed. Known load calibration procedure can be started by pressing ENTER key.

The cab should be loaded uniformly with a known weight now. Load weight in kilograms should be entered using UP, DOWN, LEFT and RIGHT keys. Known load calibration will commence upon pressing the ENTER key.

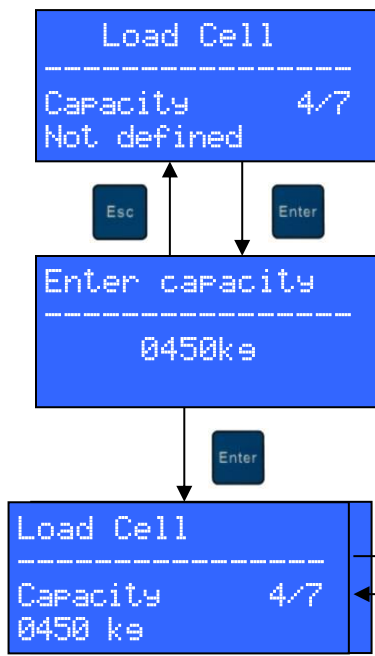
After key press, LC100-D will display the outcome of the known load calibration ("Successful" or "Communication error").

After successful known load calibration, LC100-D will return to the load cell menu and display load weight as the known load status.

If known load value is set and user tries to redefine it, a warning will be displayed. Pressing the ENTER button dismisses the warning and proceeds with the calibration process.

5/8 Load cell

4/7 Capacity set



Rated capacity menu is used to define rated capacity of an elevator. If rated capacity is not already defines, "Not defined" message is displayed. Rated capacity can be defined by pressing the ENTER key.

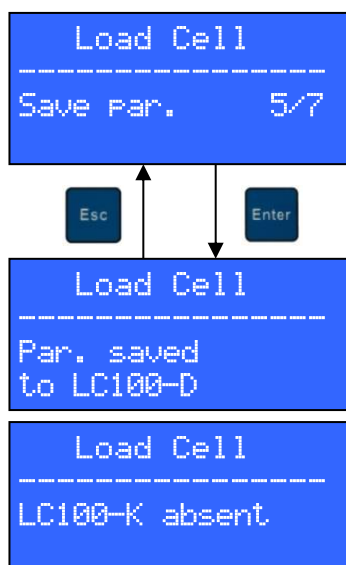
Rated capacity in kilograms should be entered using UP, DOWN, LEFT and RIGHT keys. Rated capacity is confirmed by pressing the ENTER key.

After key press, LC100-D will display the outcome of the rated capacity definition ("Successful" or "Communication error").

If rated capacity value is set and user tries to redefine it, a warning will be displayed. Pressing the ENTER button dismisses the warning and proceeds with the calibration process

5/8 Load cell

5/7 Save par.



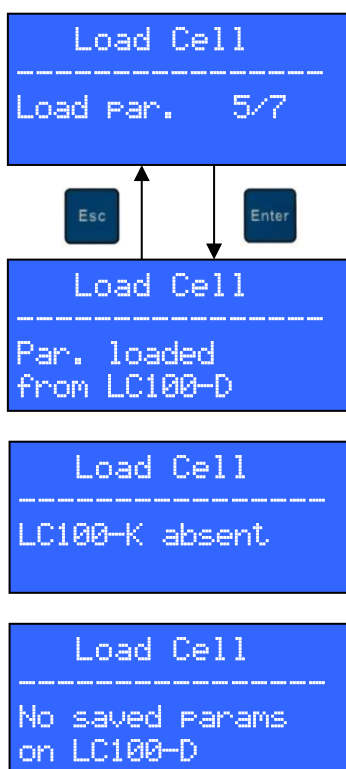
“Save parameters” and “Load parameters” menus can be used to temporarily store load measurement system parameters on the LC100-D and restore them at a later time, if LC100-K module has to be replaced (similar to “Parameter transfer from LC100-C to LC100-D”). There is no need to save parameters to LC100-D in any other situation.

If parameter saving is successful, “Par. Saved to LC100-D” message is displayed.

If parameter saving fails (e.g. because of communication error), “LC100-K absent” message is displayed.

5/8 Load cell

6/7 Load par.



“Save parameters” and “Load parameters” menus can be used to temporarily store load measurement system parameters on the LC100-D and restore them at a later time, if LC100-K module has to be replaced (similar to “Parameter transfer from LC100-C to LC100-D”). There is no need to save parameters to LC100-D in any other situation.

If parameter loading is successful, “Par. Saved to LC100-D” message is displayed.

If parameter loading fails (e.g. because of communication error), “LC100-K absent” message is displayed.

If there are no load measurement system parameters previously saved on LC100-D, and user tries to load parameters, “No saved params on LC100-D” message is displayed.

5/8 Load cell

7/7 Sensors

```

Input1 =-00244
Input2 =+00127
Input3 =+00000
Input4 =+00000
  
```

“Sensors” menu shows direct AD conversion results from each of the four LC100-V analog inputs and is used to troubleshoot sensor problems.

6.7 Utility

6/8 Utility

```

Periph. modules
-----
Per.addr: 000
doesn't exist
  
```

Utility menu is used as as a service menu. Trough utility menu it is possible to change some system parameters which are not a part of standard menu.

For accessing the boards address must be put as follows:
1- LC100-K, 2-LC100-E0, 3-LC100-E1, 4-LC100-I, 5-LC100-J, 6-Reserved, 7-LC100-B...

IMPORTANT!!

For changing the parameters in utility menu contact MLC electronic technical department.

6.8 User code

7/8 User code

User code menue is used for coding the LC100 boards. How to code the system is explained in „User Code manual“.

6.9 ABS POSITION SYSTEM

8/8 ELGO

ABS menu is used for setting the absolute possitioning system. How to set the parameters is explained in „absolute possitioning system manual“.

APPENDIX 1. POSITIONING

Positioning of the elevator implies to following the car position in the elevator shaft. In order to know the right position magnetic sensors (monostabil and bistabil) and inductive switch are used.

According to the configuration, type of elevator (electric, hydraulic) and speed of the elevator there are 5 types of positioning system which is set through parameter **E-01**.

With any type of positioning elevator always goes to first drive after switching the power on, switching from inspection drive to normal drive, or switching from recall to normal drive. When using positioning type 1-3 first drive is only in one direction (adjustable through parameter **E-02**) while when using positioning type 4 or 5 first drive direction is to down floor and then up to the last floor.

In the first drive elevator slows down when reaching the referent switch (up or down), same is in the normal drive, while slowing down for other floors is counting sensor switch or the impulse from the inductive switch depending on the positioning type.

Positioning type 1:

It is used for one speed elevators. Two bistables are used for final floors, and monostable switch for stopping in the floor level.

Positioning type 2:

It is used for two speed elevators (regulated or not regulated). It is usually used when the deceleration distance is higher than $\frac{1}{2}$ of the floor to floor distance.

Two bistables are used for final floors, one monostable switch for stopping in the floor, and two monostables for counting the floors and slowing down. Slowing down for first and the last floor is referent switch and for other floors slowing down is counting switch up or down according to direction of travel.

Positioning type 3:

It is used for two speed elevators (regulated or not regulated). It is usually used when the deceleration distance is lower than $\frac{1}{2}$ of the floor to floor distance.

Two bistables are used for final floors, one monostable switch for stopping in the floor and one bistable switch for counting the floors and slowing down. Slowing down for first and the last floor is referent switch and for other floors slowing down is counting switch.

Positioning type 4:

It is used for two speed elevators (regulated or not regulated). It is used when having annular gear on the overspeed governor or frequency inverter with close loop connected to CAN.

Two bistables are used for final floors, one monostable switch for stopping in the floor or optical sensor, and inductive switch on the overspeed governor. Slowing down for first and the last floor is referent switch and for other floors slowing down is impulse information from the inductive switch.

Positioning type 5:

It is used with frequency regulated elevators with two high speeds when the speed is so high that when driving from floor to floor there is not enough space to accelerate to nominal speed before slowing down. In that case positioning 5 is used and the speed between two floors is lower than nominal speed of the elevator.

Two bistables are used for final floors for high speed, and two bistables for lower speed, one monostable switch for stopping in the floor and inductive switch on the overspeed governor.

Slowing down for first and the last floor is referent switch and for other floors slowing down is impulse information from the inductive switch.

First drive is done with lower speed in down direction and up direction. In normal drive speed from floor to floor is lower while when driving two or more floors speed is nominal.

Table of switches according to positioning type:

	RDD FI-250 XK6.1	RDG FI-252 XK6.2	BG FI-254 XK6.4	BD FI-255 XK6.5	ZUSG FI-256 XK6.7	RDD2 FI-251 XK6.4	RDD2 FI-253 XK6.5	ZUSD FI-257 XK6.8	ZONA FI-258 XK6.9
E01=1	BIST.	BIST.			MON/OPT				
E01=2	BIST.	BIST.	MONO	MONO.	MON/OPT				
E01=3	BIST.	BIST.	BIST.		MON/OPT				
E01=4	BIST.	BIST.			MON/OPT				
E01=5	BIST.	BIST.			MON/OPT	BIST.	BIST.		
D28=1 or C18=1, 2	Connect switches according to the positioning type +							MON/OPT	MON/OPT

E-01=positioning type

D-28=preopening the doors

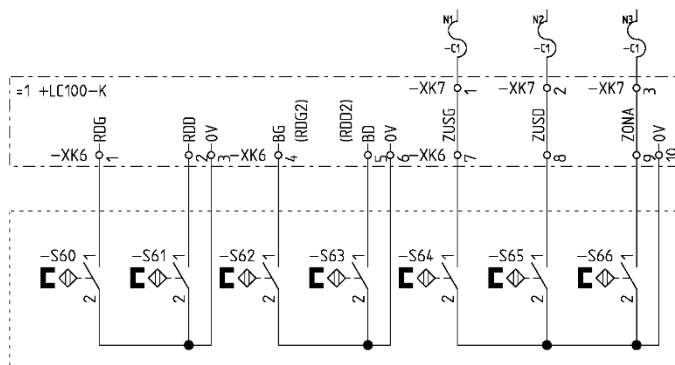
C-18=relevelling

BIST.=bistabile magnetic switch

MON=monostabil magnetic switch (NO or NC)

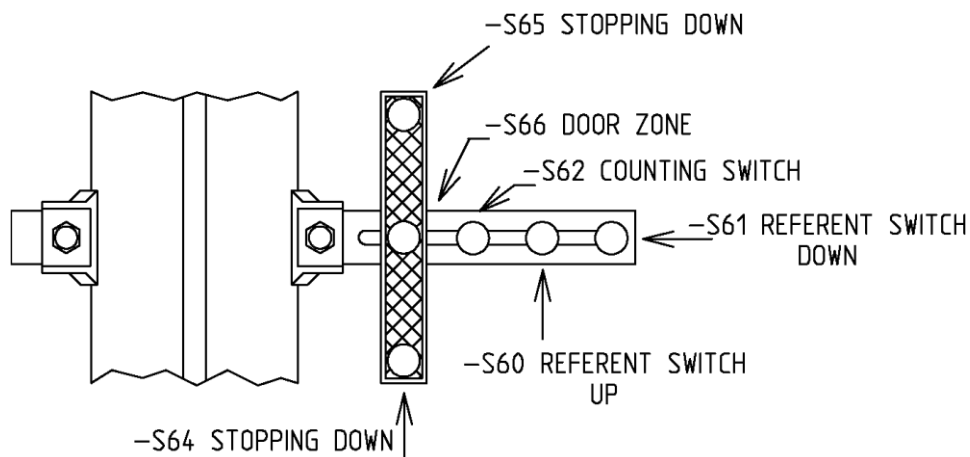
OPT=optical sensor

Connecting the positioning switches:

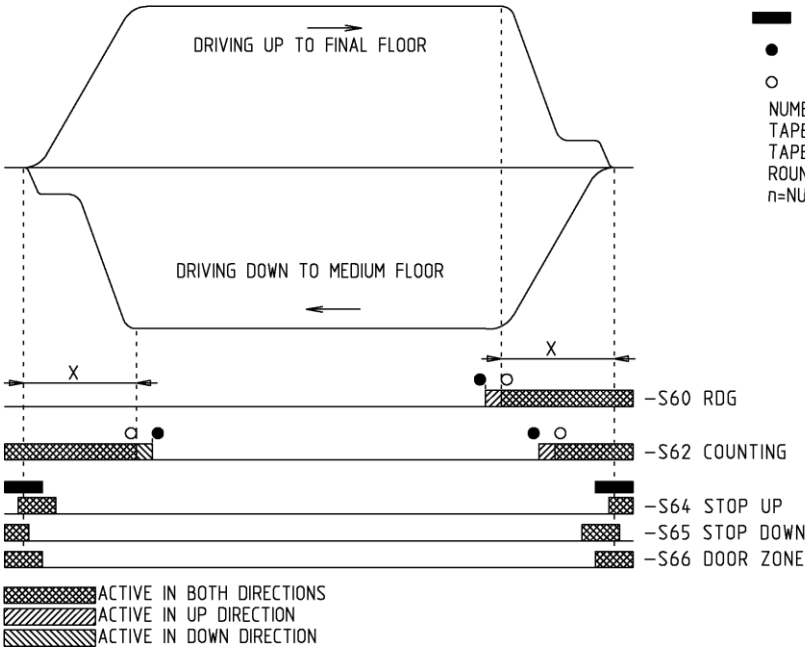


- S60 UPPER REFERENCE SWITCH
- S61 LOWER REFERENCE SWITCH
- S62 COUNTING UP OR UPPER REFERENCE SWITCH 2
- S63 COUNTING DOWN OR LOWER REFERENCE SWITCH 2
- S64 STOPPING UP
- S65 STOPPING DOWN
- S66 STOPPING ZONE

Magnetic switch position :



Magnetic switches status in drive:

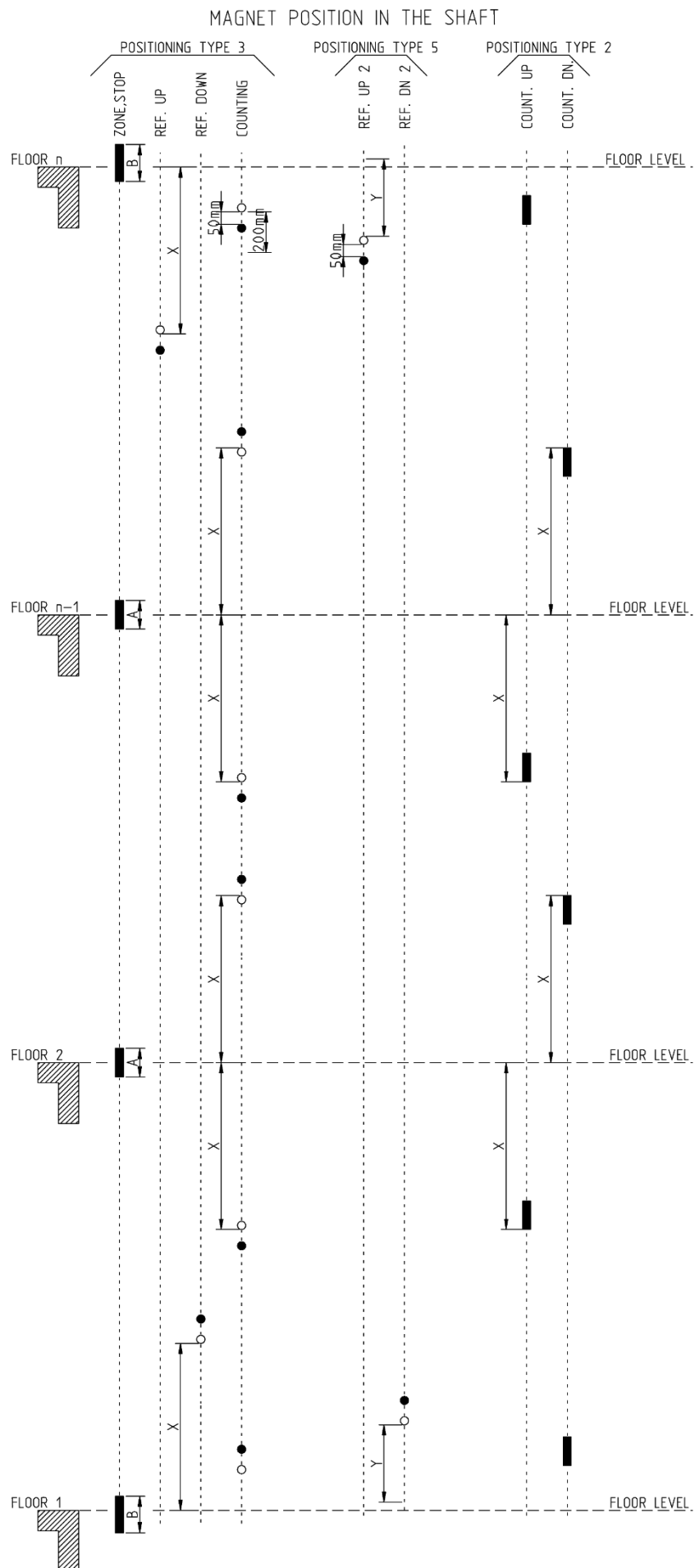


- MAGNETIC TAPE x2 (PUT ONE TO ANOTHER TO BOOST MAGNETIC FIELD)
 - ROUND MAGNET BLACK SIDE
 - ROUND MAGNET WHITE SIDE
- NUMBER OF MAGNETS:
TAPE LONG A: (n-2) PCS
TAPE LONG B: 2 PCS
ROUND MAGNET: (n x 4) PCS
n=NUMBER OF FLOORS

SLOW DOWN DISTANCE (X) AND SIZE OF THE STOPPING MAGNET (A, B) DEPENDS ON TYPE AND SPEED OF THE ELEVATOR.

EXAMPLE FOR FREQUENCY REGULATED ELEVATOR
STOPPING MAGNETS SIZE FOR FINAL FLOORS B=A+50mm

ELEVATOR SPEED [m/S]	X [mm] DECELER. LENGHT	A [MM] STOP MAGNET
0.5	450	100
0.6	600	100
0.8	1000	100
1	1200	100
1.2	1400	100
1.4	2600	100
1.6	3200	100
2	3800	100



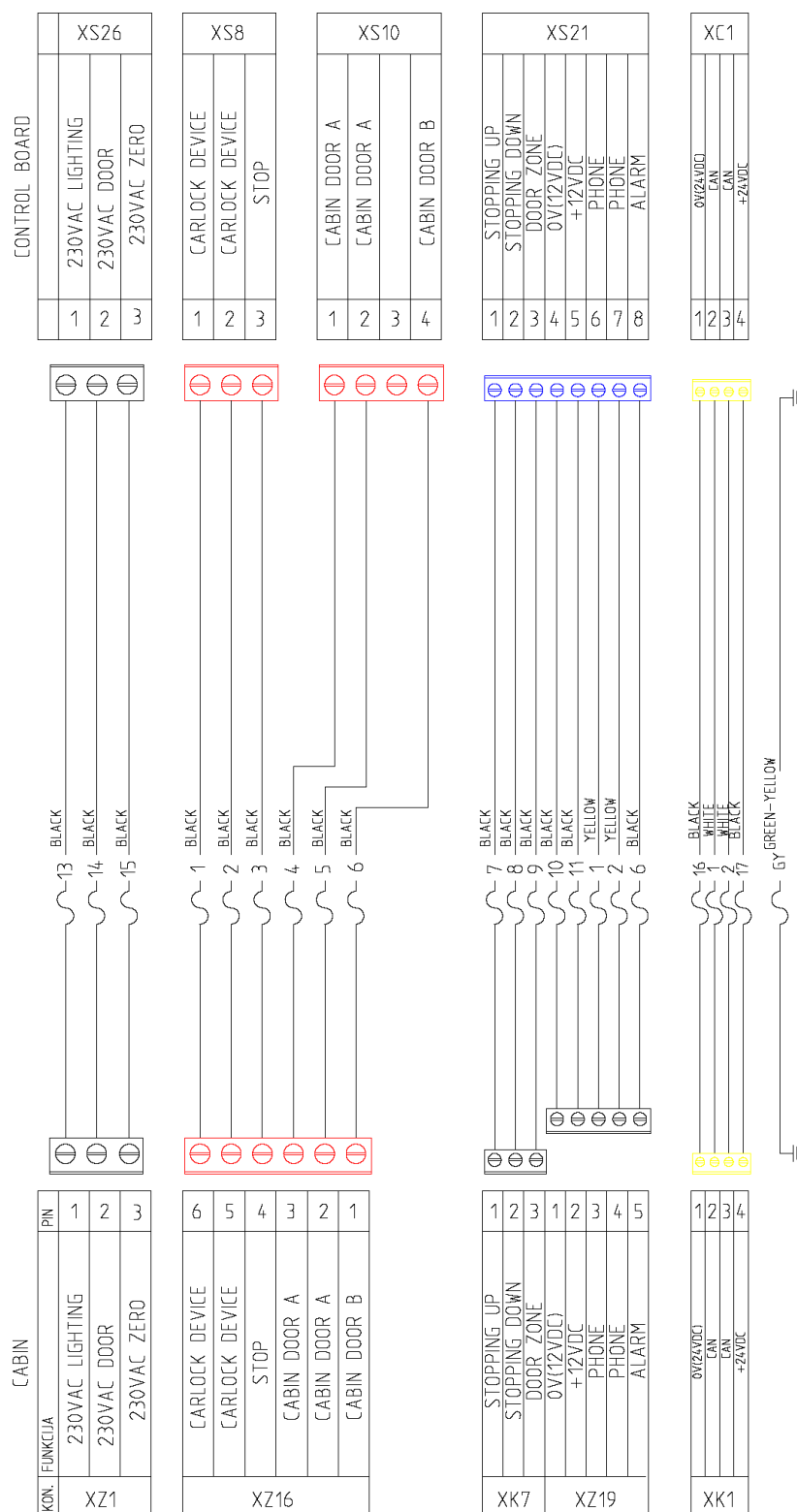
APPENDIX 2. TRAVELING CABLE CONNECTION

While installing the LC100 elevator system standard prewired traveling cable is used. Connectors are on both side of the cable.

Traveling cable consist of 22 wires, 0,75mm² intersection.

Traveling cable structure:

- 18 black wires numbered from 1. to 18.
- 2 white wires numbered 1. and 2. in steel shell.
- 2 yellow wires numbered 1. and 2. In steel shell.



APPENDIX 3. CONNECTING THE CAN AND CAN BUS TERMINATION

In order to have communication on the CAB bus „**CAN BUS TERMINATION**“ must be done.

Without CAN bus termination system is not working.

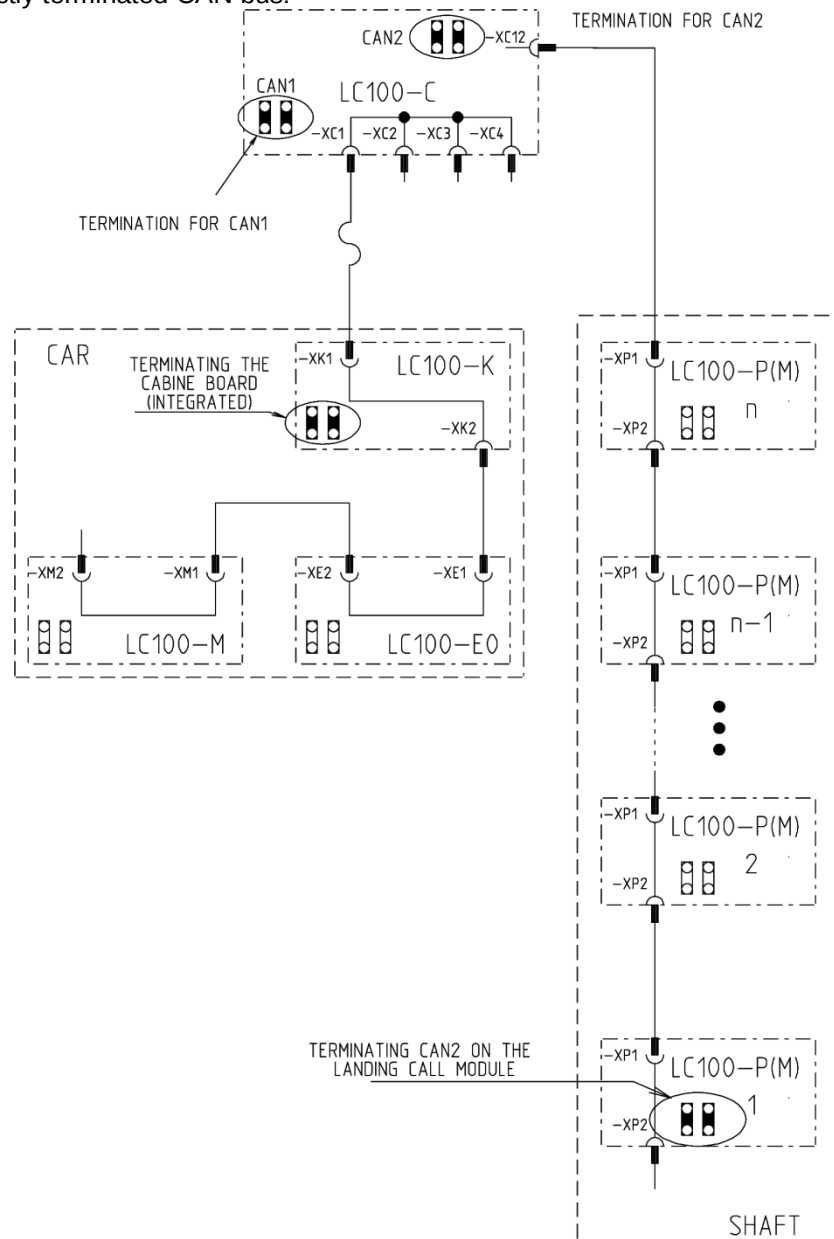
CAN bus termination is done by putting the jumpers to the places on the boards on which the termination is done (LC100-C, LC100-E, LC100-I, LC100-P or M)

LC100-K board has implemented CAN bus termination.

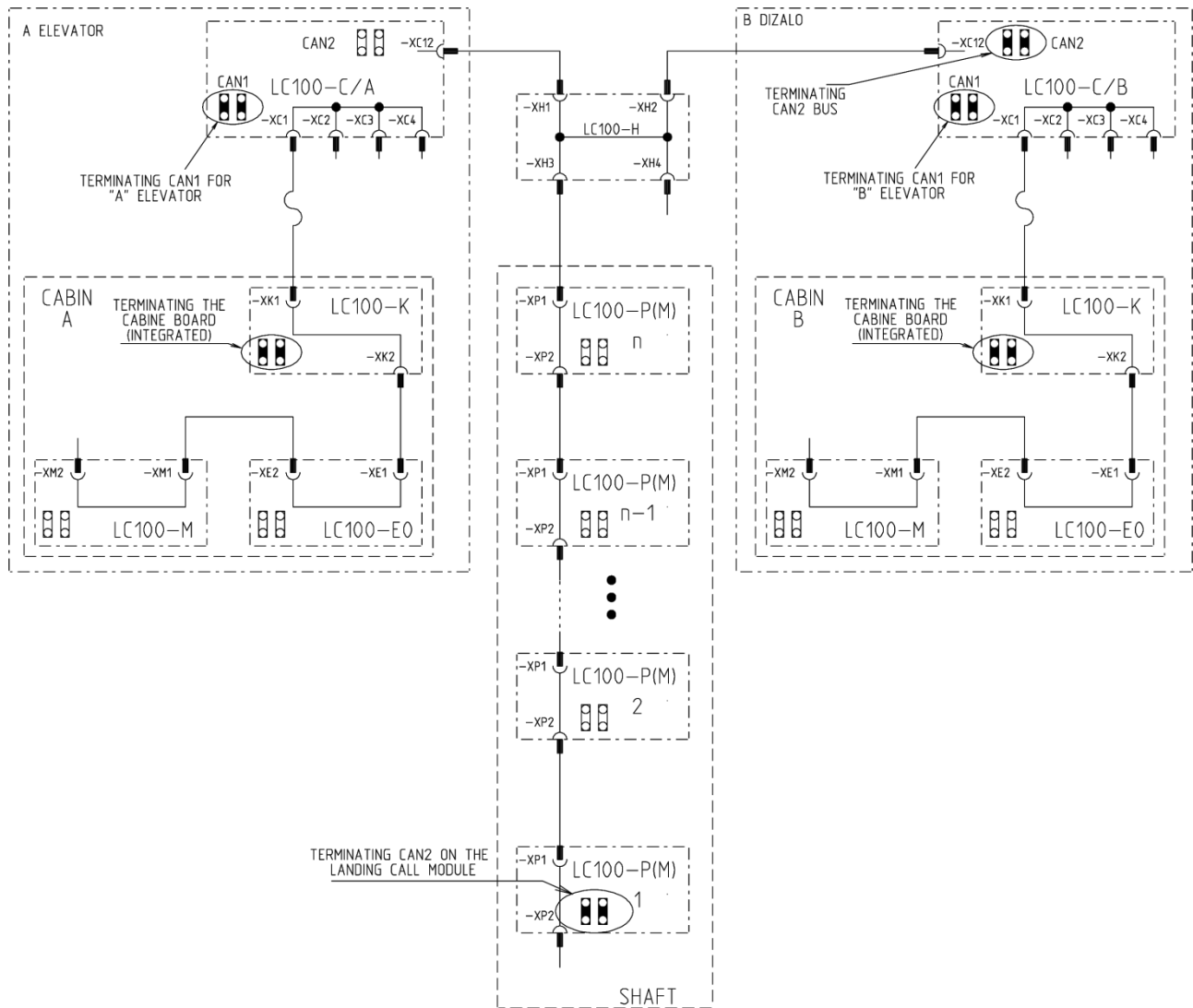
Correctly terminated CAN bus means that the termination is done on both ends of the CAN communication bus. On simplex elevators termination is done on the LC100-K (integrated) and on the LC100-C board for CAN 1 communication and for the landing calls (CAN2) termination is done on the LC100-C board and the farthest landing call module (LC100-P or M).

When the CAN bus is correctly terminated resistance between CAN_L and CAN_H line has to be cca 68Ω (between pins XC1.2 and XC1.3)

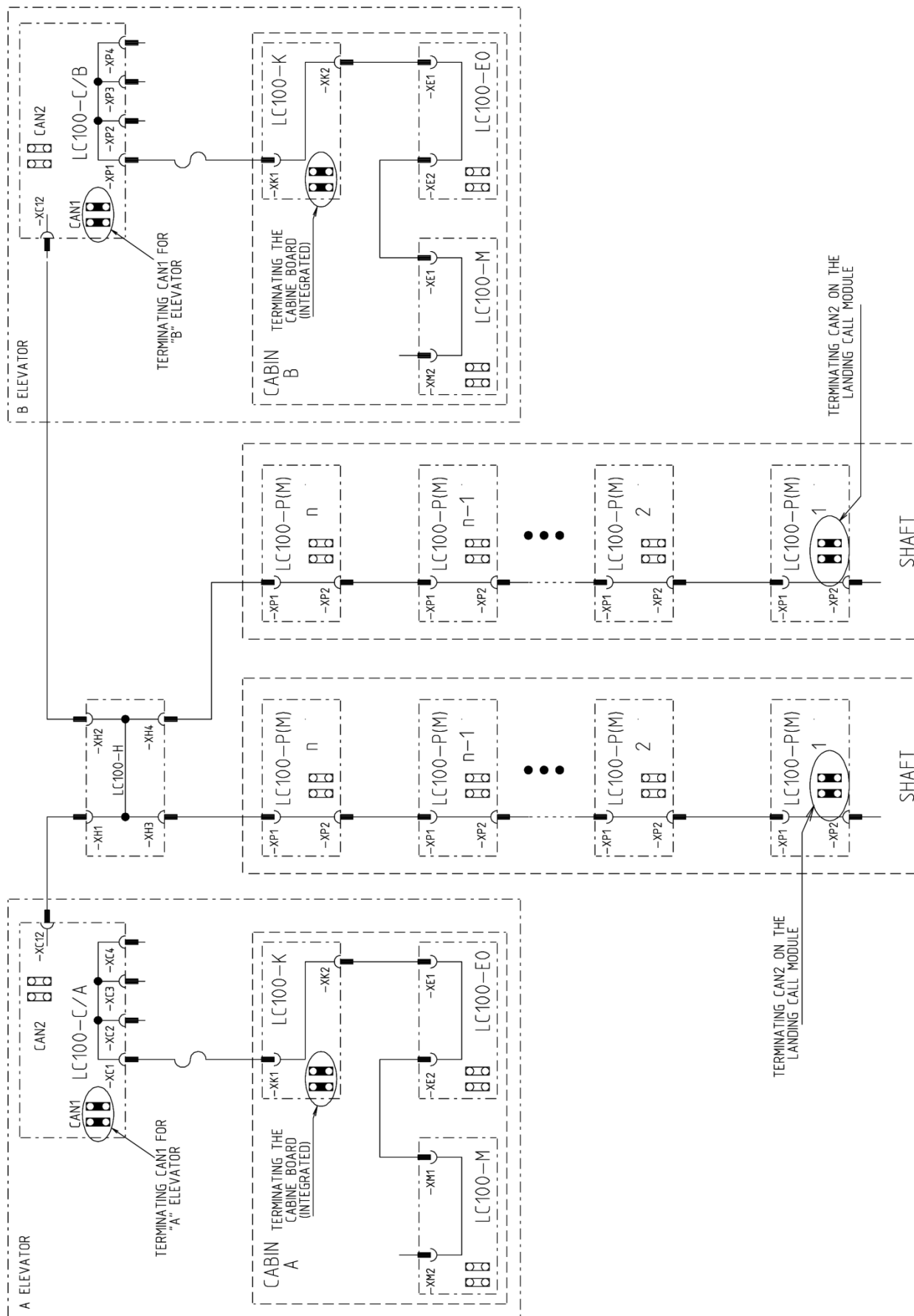
Examples of correctly terminated CAN bus:



Picture 21 Terminating the CAN on SIMPLEX elevators



Picture 12 Terminating the CAN bus on DUPLEX elevators



[illegible]



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