



**LF-10**

**DOOR CONTROLLER  
MANUAL**

LF-LF10-UM-en

v1.16

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## LF-10 Manual

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### Approval

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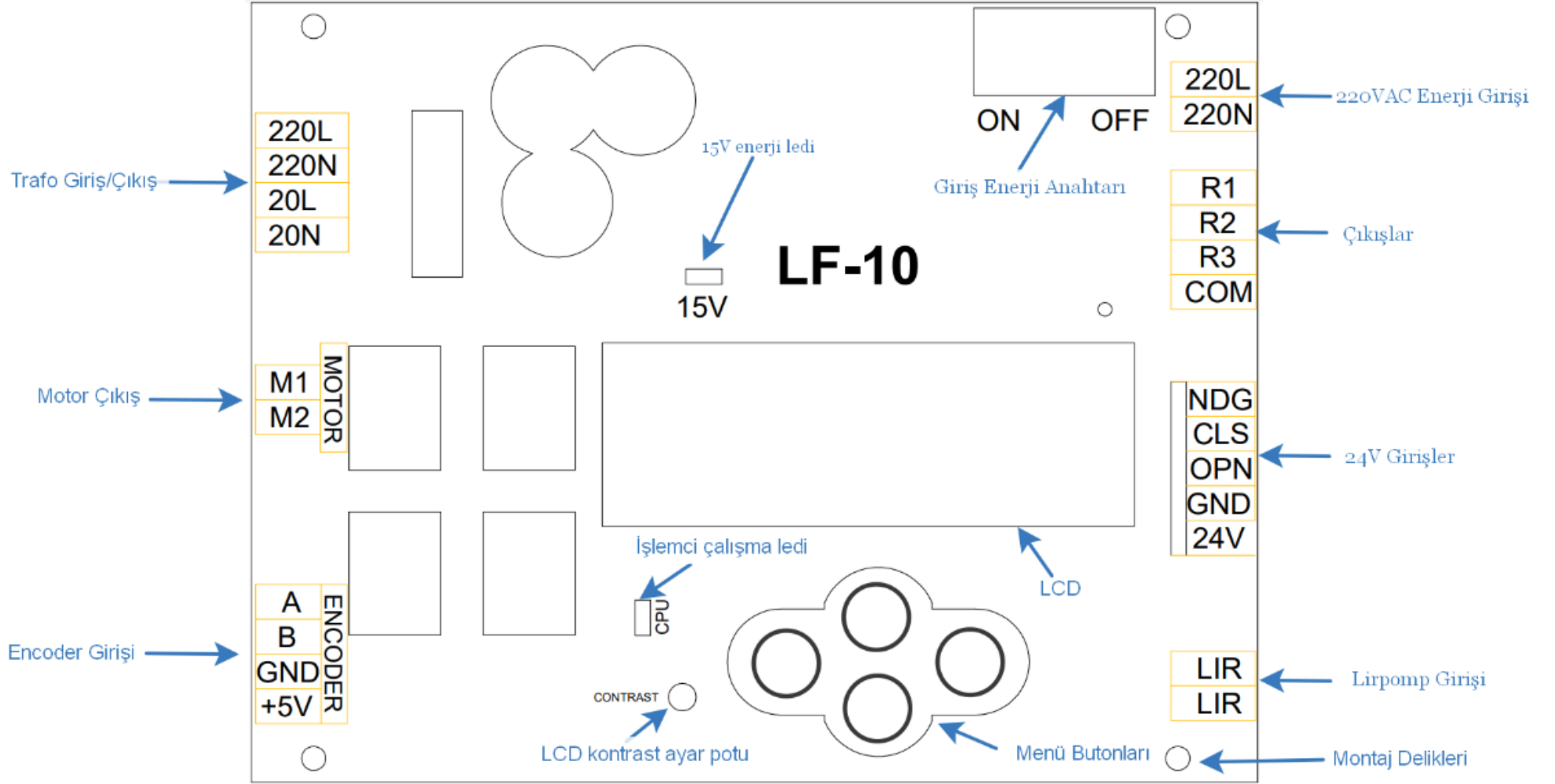
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## **1 GENERAL FEATURES**

LF-10 card is designed for 24VDC motor elevator doors with a high comfort door control capability. It provides easy use with its original and ergonomic design.

- Easy assembly by ready-made installation logic
- Automatic recognition of open and closed positions
- Working following fire regulations
- Nudging mode
- Audible warning in case of jam
- Flexible parameter options

## 2 SYSTEM OVERVIEW



Şekil 1 System Overview

### 3 TECHNICAL SPECIFICATIONS

#### 3.1 Supply Voltage

| Specifications    | Description |
|-------------------|-------------|
| Supply Voltage    | 20VAC       |
| Supply Protection | 8A Fuse     |

*Table 1 Power Supply*

#### 3.2 Encoder

| Specifications    | Description         |
|-------------------|---------------------|
| Encoder Type      | Incremental Encoder |
| Supply Protection | 5VDC                |

*Table 2 Encoder Info*

#### 3.3 Motor

| Specifications   | Description        |
|------------------|--------------------|
| Motor Voltage    | 30VDC              |
| Max. Current     | 7A                 |
| Motor Protection | Current Protection |

*Table 3 Motor Info*

### 3.4 Inputs

| Label | Description                         |
|-------|-------------------------------------|
| K5    | Open command signal input 24VDC     |
| K3    | Close command signal input 24VDC    |
| NDG   | Nudging command signal input 24VDC  |
| LIR   | Lirpomp command signal input 190VDC |

*Table 4 Inputs*

### 3.5 Outputs

| Label | Description               |
|-------|---------------------------|
| K16   | Open Limit Contact (NO)   |
| K19   | Closed Limit Contact (NO) |
| K20   | Stuck Contact (NO)        |

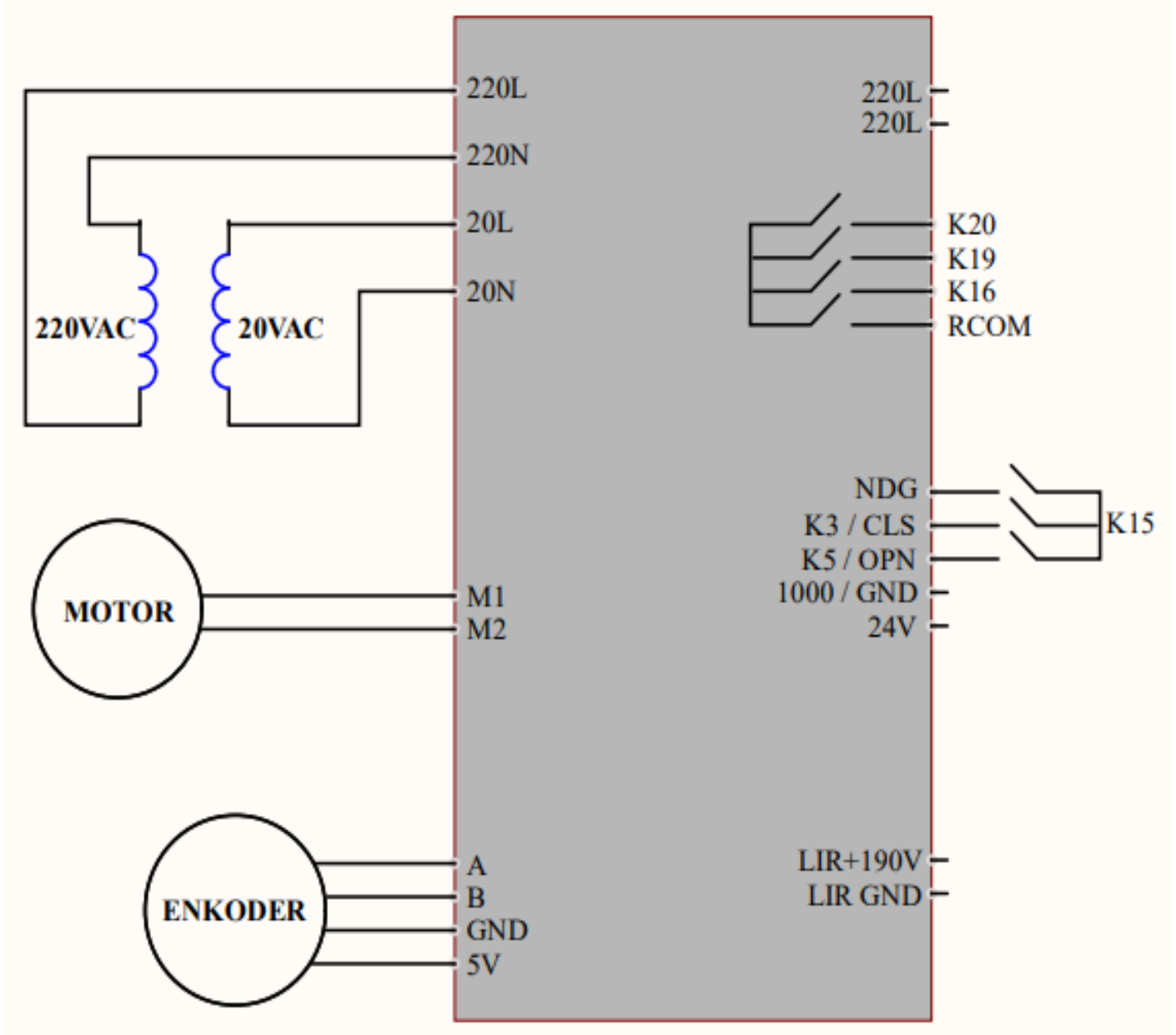
*Table 5 Outputs*

#### 4 LABELS

| Terminal                   | Label     | Description                         |
|----------------------------|-----------|-------------------------------------|
| Door Power Supply Terminal | 220L      | Phase                               |
|                            | 220N      | Neutral                             |
| Limits Terminal            | RK1/ K20  | Open Limit Contact                  |
|                            | RK2/ K19  | Closed Limit Contact                |
|                            | RK3/ K16  | Stuck Contact                       |
|                            | RCOM      | Relays Com                          |
| Input Terminal             | OPN / K3  | Open command signal input 24VDC     |
|                            | CLS / K5  | Close command signal input 24VDC    |
|                            | GND/ 1000 | GND/COM                             |
|                            | +24V      | +24VDC Test Output                  |
| LirPomp Terminal           | LIR       | Lirpomp command signal input 190VDC |
|                            | LIR       |                                     |
| Transformer Terminal       | 220L      | Transformer 220VAC Supply Phase     |
|                            | 220N      | Transformer 220VAC Supply Neutral   |
|                            | 20L       | Transformer 20VAC Output Phase      |
|                            | 20N       | Transformer 20VAC Output Neutral    |
| Motor Terminal             | M1        | Motor                               |
|                            | M2        | Motor                               |
| Encoder Terminal           | A         | Encoder A channel                   |
|                            | B         | Encoder B channel                   |
|                            | GND       | Encoder supply (-)                  |
|                            | +5V       | Encoder supply (+5VDC)              |

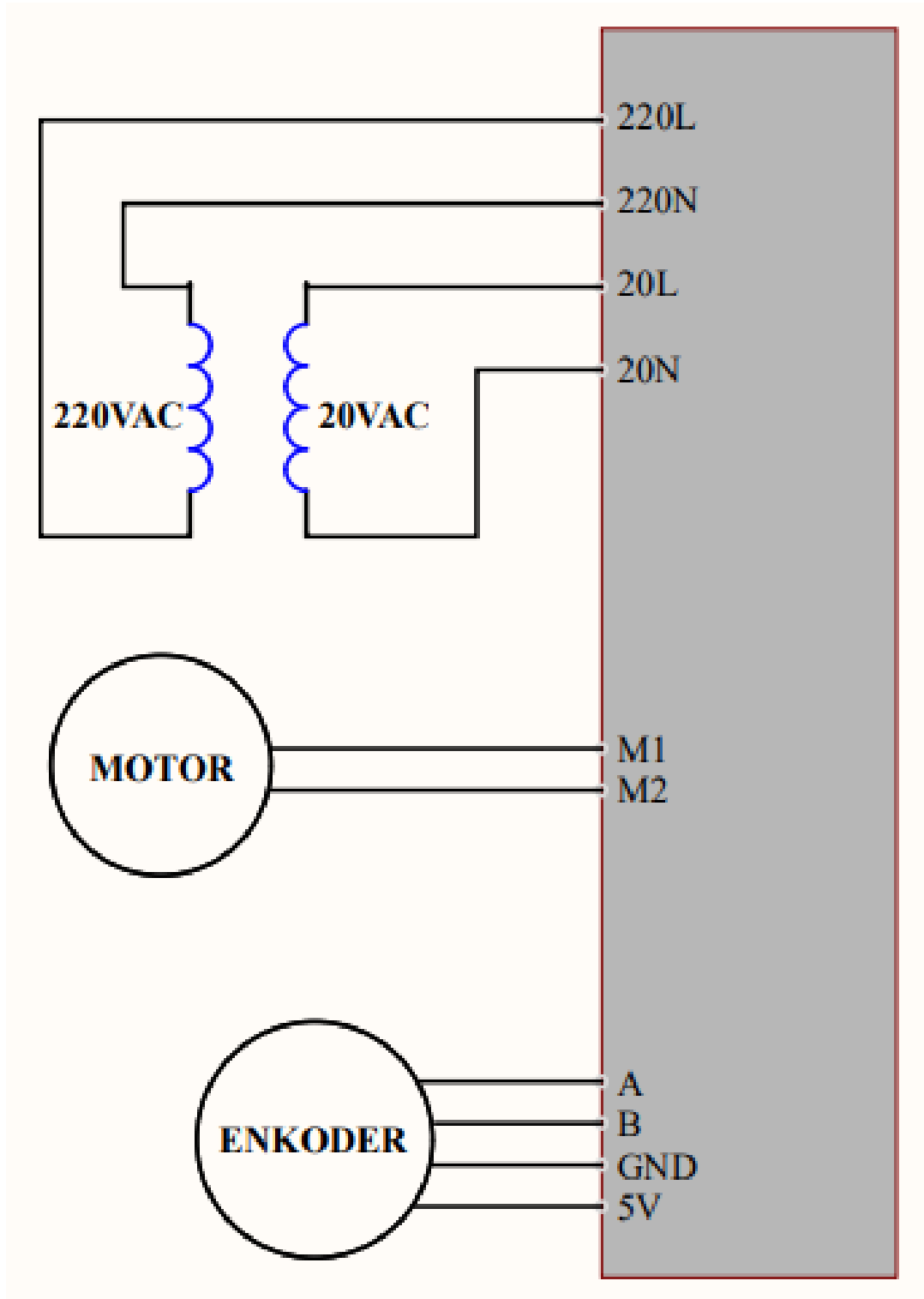
Table 6 Terminal Labels

## 5 CONNECTION DIAGRAM



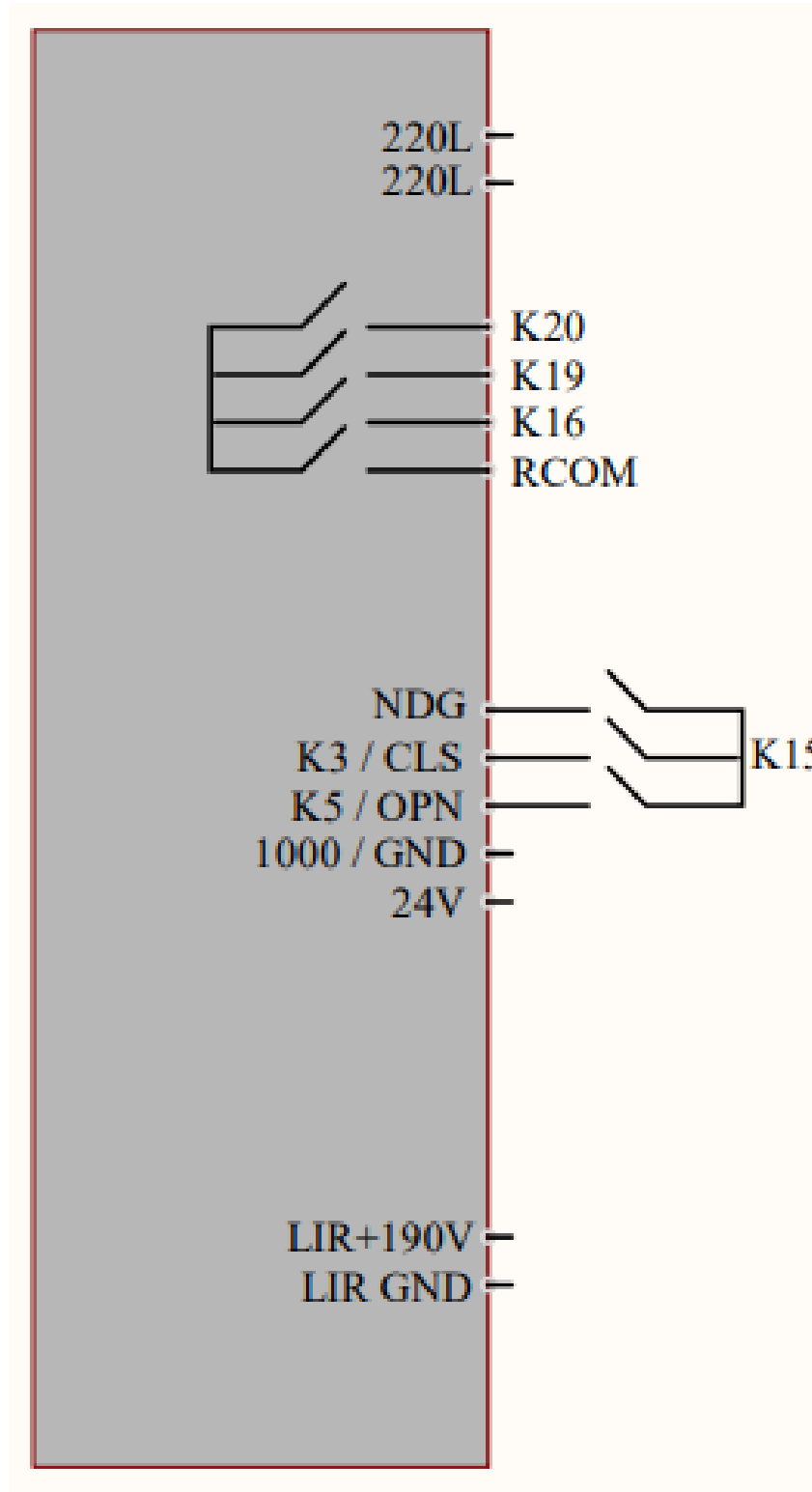
Şekil 2 Connection Diagram

## 6 MANUFACTURER WIRING DIAGRAM



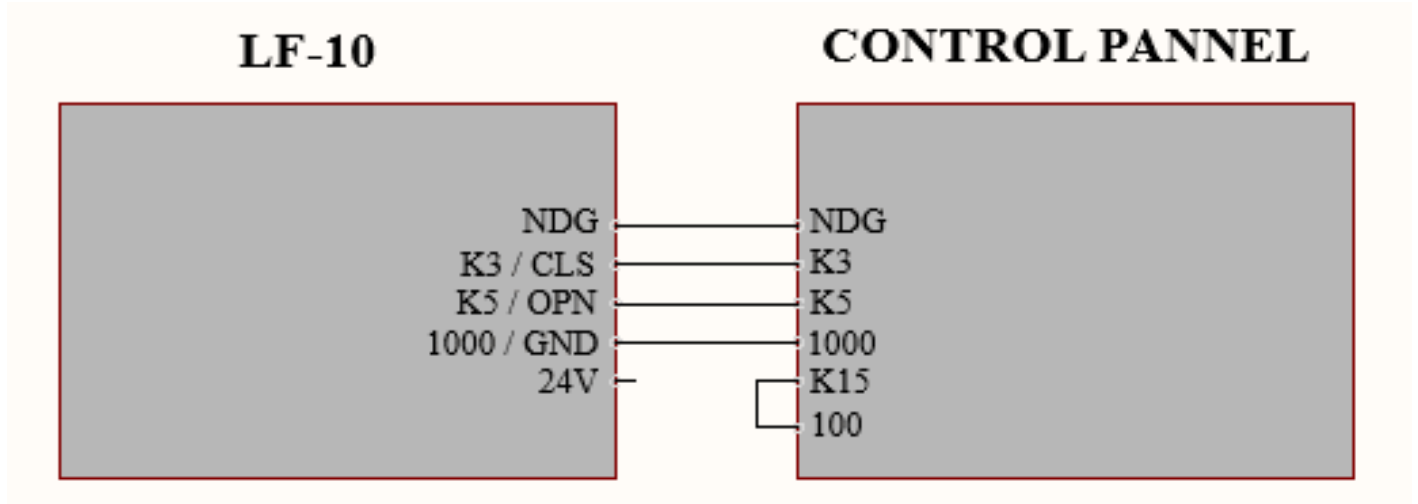
Şekil 3 Manufacturer Wiring Diagram

## 7 ASSEMBLER CONNECTION DIAGRAM



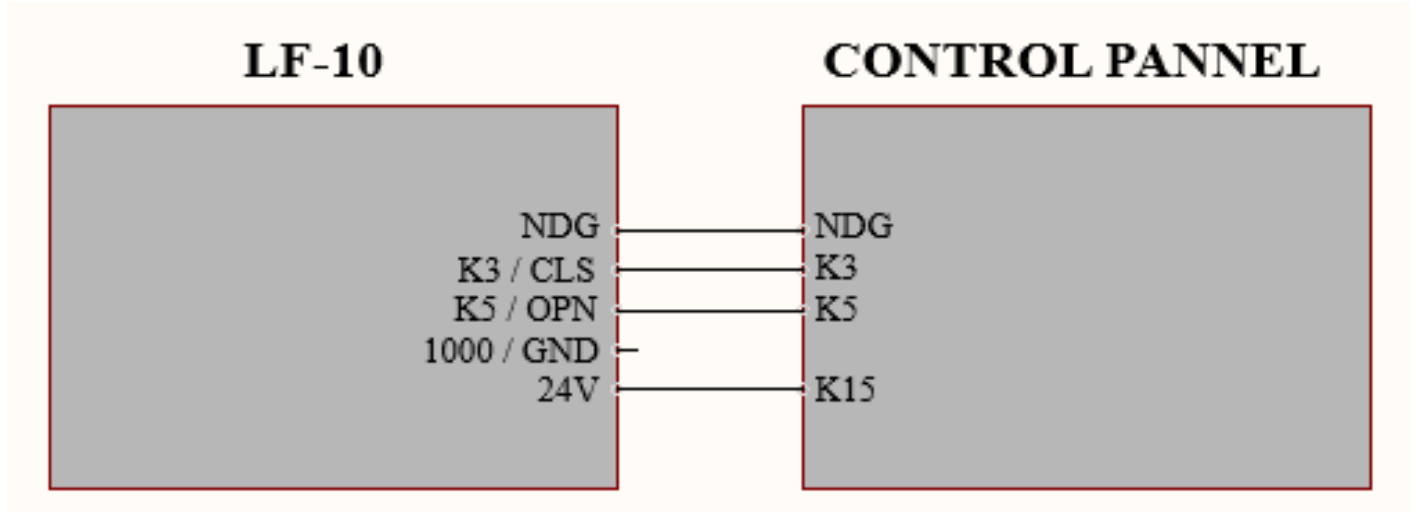
Şekil 4 Assembler Connection Diagram

## 7.1 Control Board Powered Signal Connection Diagram



Şekil 5 Control Board Powered Signal Connection Diagram

## 7.2 Door Card Powered Signal Wiring Diagram



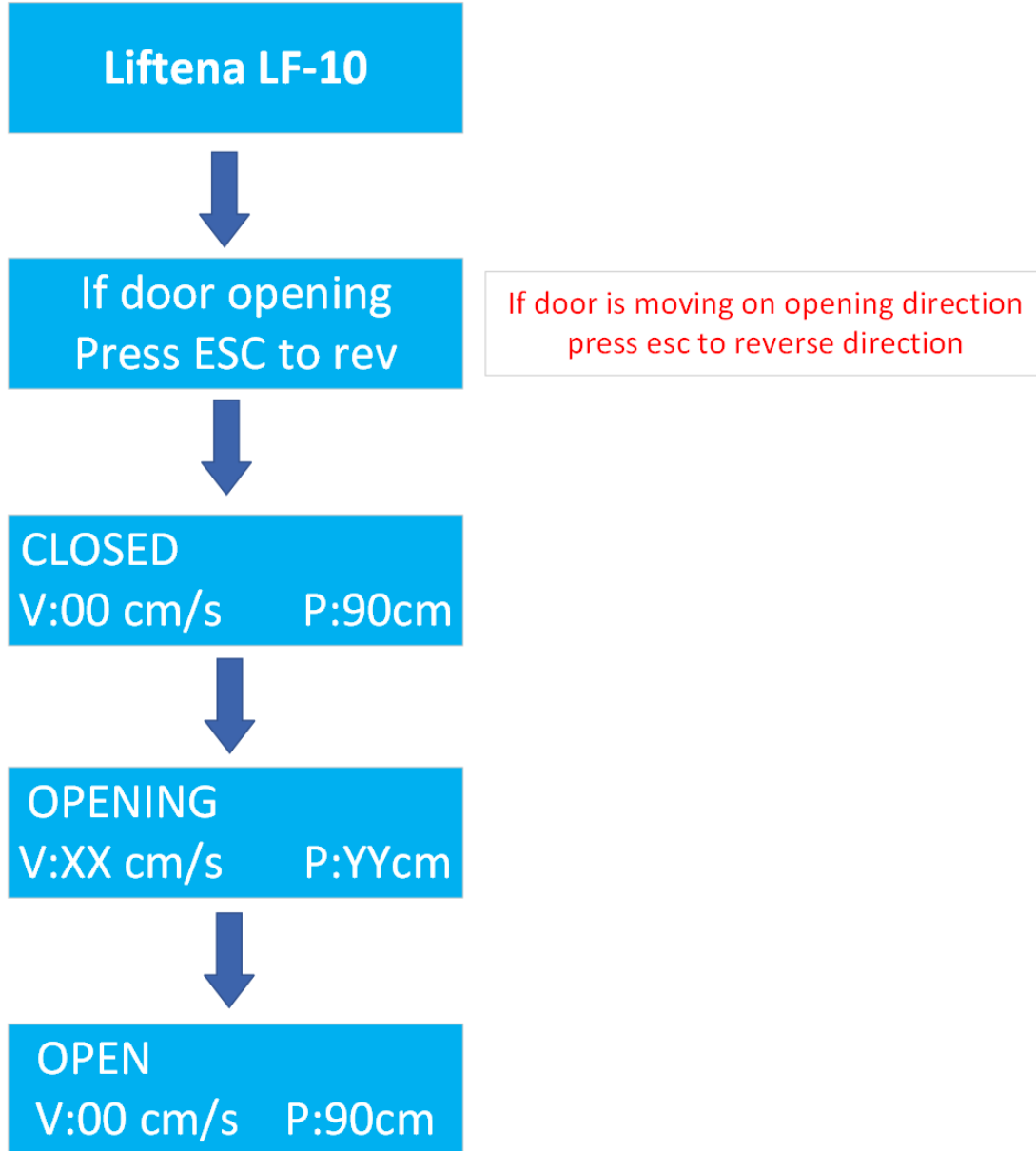
Şekil 6 Door Card Powered Signal Wiring Diagram

## 8 WORKING SCENARIOS

### 8.1 Starter Configurations

After the door assembly is completed, the configuration screen is entered as described in Section [8.4](#) the configuration options shown in Section 9 are adjusted accordingly.

## 8.2 First Run

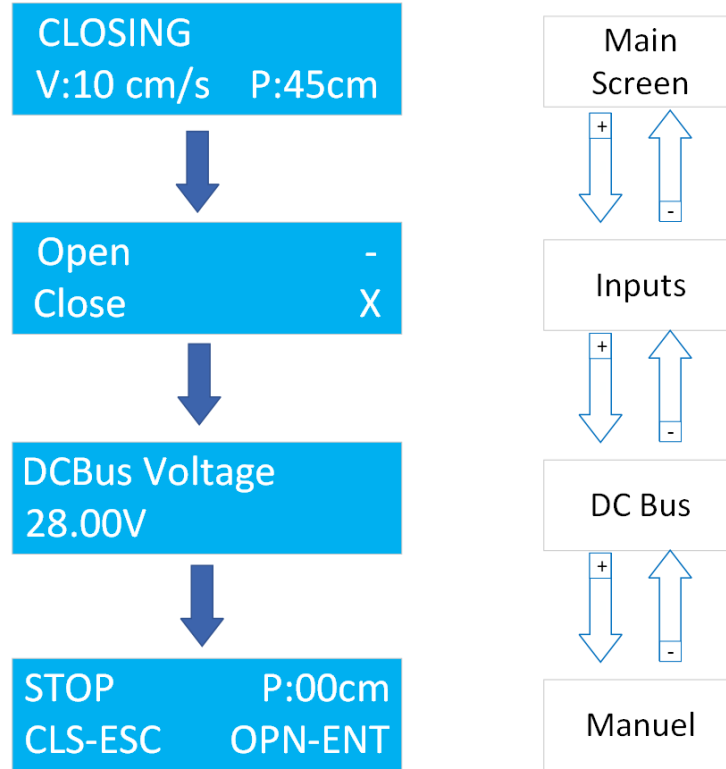


Şekil 7 Kart Açılış Akış Diyagramı

### 8.3 Normal Operation Mode Screen Transitions

In normal operating scenario, screen transition is provided with (+) and (-) keys.

During Manual Drive, the ENTER key causes the card to move pannels in the closing direction, while the ESC key allows it to move pannels in the opening direction.



Şekil 8 Normal Mode Ekran Geçişleri

### 8.4 Menu Transitions

- Pressing the (+) and (-) keys together opens the configuration screen with the manufacturer's authorization when the card is energized.
- When the ESC and ENTER keys are pressed together while the card is running, the configuration screen opens with the authority of the installer.
- When you want to exit the configuration settings, Press the Esc key until the text "Exit?" appears. When the phrase "Exit" is displayed, press ENTER key to normal running mode.

## 9 CONFIGURATION MENU

| Menu               | Sub Menu     | Options                              | Description                                                                                                                                                                                                                                              | Auth           |
|--------------------|--------------|--------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| 1-Language         | -            | "TR"<br>"EN"<br>"FR"<br>"DE"<br>"GE" | Language selection parameter                                                                                                                                                                                                                             | Not Restricted |
| 2-General Settings | Demo?        | "Active"<br>"Passive"                | When the demo mode is activated, the door will open/close continuously.                                                                                                                                                                                  | Not Restricted |
|                    | Command Type | "Only Close"<br>"Open/Close"         | When Open Close is selected, the door moves with open and close commands.<br><br>When Close Only is selected, the door moves with the Close and Lirpomp commands. Door will be closed if Close or Lirpomp are active. Otherwise, it keeps the door open. | Not Restricted |
|                    | Door Type    | "Full Auto"<br>"Semi Auto"           |                                                                                                                                                                                                                                                          | Not Restricted |
|                    | Manufacturer | "General"<br>...                     | By selecting the manufacturer company, the company-specific settings are loaded.                                                                                                                                                                         | Manufacturer   |

|                  |                                           |                                          |                                                                                                                                                                                                                                                         |                |
|------------------|-------------------------------------------|------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
|                  | Position Reset                            |                                          | The door position is recalibrated                                                                                                                                                                                                                       |                |
| 3-Speed Settings | Factory Settings                          | “SLOW”<br>“ORTA”<br>“NORMAL”<br>“CUSOTM” | If desired, the door speed parameters can be easily adjusted to the factory settings. If Manual is selected, individual adjustments can be made.<br><br>When a value other than manual is selected, other speed parameters will not appear in the menu. | Not Restricted |
|                  | Closing Speed (mm/s)                      | 0 - 400                                  | It is the highest speed parameter targeted during the closing of the door.                                                                                                                                                                              | Not Restricted |
|                  | Closing Slow Speed(CLSNG SLOW SPD) (mm/s) | 0 - 100                                  | It is the drift speed of the door when reaching the closing limit.                                                                                                                                                                                      | Not Restricted |
|                  | CLS SLOW AREA                             | 0 -100                                   | It is the drift distance of the door when reaching the closing limit.                                                                                                                                                                                   | Not Restricted |
|                  | SKATE CLOSE SPD (mm/s)                    | 0 -100                                   | It is the closing speed parameter of the skate of the door.                                                                                                                                                                                             | Not Restricted |
|                  | ACC ON CLOSE (mm/s <sup>2</sup> )         | 0 -1000                                  | It is the highest acceleration parameter targeted during the closing of the door.                                                                                                                                                                       | Manufacturer   |
|                  | OPENING SPEED (mm/s)                      | 0 - 450                                  | It is the highest speed parameter targeted during the opening of the door.                                                                                                                                                                              | Not Restricted |

|                    |                                   |         |                                                                                                       |                |
|--------------------|-----------------------------------|---------|-------------------------------------------------------------------------------------------------------|----------------|
|                    | OPN SLOW SPD (Açma Y.Hızı) (mm/s) | 0 -100  | It is the drift speed of the door when reaching the opening limit.                                    | Not Restricted |
|                    | OPN SLOW AREA (mm)                | 0 -100  | It is the drift distance when reaching the opening limit of the door.                                 | Not Restricted |
|                    | SK OPEN SPEED (mm/s)              | 0 -100  | It is the speed parameter that the door will watch during the opening of the skate.                   | Not Restricted |
|                    | ACC ON OPEN (mm/s <sup>2</sup> )  | 0 -1000 | It is the highest acceleration parameter targeted during the opening of the door.                     | Manufacturer   |
|                    | SKATE ZONE (mm)                   | 0 -100  | Skate zone parameter                                                                                  | Manufacturer   |
|                    | NUDGING SPEED (mm/s)              | 0 -200  | Nudging speed parameter.                                                                              | Not Restricted |
| 4-CONTROL SETTINGS | CURRENT KP                        | 0-1000  | It is the current control multiplier.                                                                 | Not Restricted |
|                    | SPEED KP                          | 0-1000  | It is the speed control multiplier.                                                                   | Not Restricted |
|                    | CLS HOLD FORCE                    | 0-300   | It expresses the force that the motor will apply to the door when the door is in the closed position. | Not Restricted |
|                    | OPN HOLD FORCE                    | 0-250   | It expresses the force that the motor will apply to the door when the door is in the open position.   | Not Restricted |
|                    | STUCK FORCE                       | 0-600   | It expresses the maximum force that the door will apply to overcome an obstacle while closing.        | Not Restricted |

|  |  |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |  |
|--|--|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
|  |  |  | <p>If stuck is detected while closing:</p> <ul style="list-style-type: none"> <li>• Door stops</li> <li>• The stuck location is saved in memory.</li> <li>• By activating the R3 relay, stuck information is sent to the control card.</li> <li>• Opens the door completely.</li> <li>• R3 relay releases.</li> <li>• The door switches to normal operation.</li> </ul> <p>Note: The gate slows down as it approaches the obstacle position.</p> <p>If stuck is detected while opening:</p> <ul style="list-style-type: none"> <li>• Door stops</li> <li>• The stuck location is saved in memory.</li> <li>• Close signal is waited for 5 seconds.</li> <li>• If a closing signal comes, the door closes.</li> <li>• If the open signal is still active, it tries to open it again.</li> </ul> <p>The door passes through the area where the obstacle is detected at a slow speed. If the obstacle is overcome, the gate returns to its normal course. If not exceeded, the</p> |  |
|--|--|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|

|                    |               |                            |                                                                                   |                |
|--------------------|---------------|----------------------------|-----------------------------------------------------------------------------------|----------------|
|                    |               |                            | same process is repeated.                                                         |                |
|                    | C.CONTROL FRC | 0-700                      | The force to be applied to the motor at the shutdown point.                       |                |
|                    | O.CONTROL FRC | 0-700                      | The force to be applied to the motor at the tripping point.                       |                |
| 5-MOTOR SETTINGS   | ENCODER PULSE | 0-2048                     | It is the number of pulses that occur as a result of one revolution of the motor. | Manufacturer   |
|                    | MOTOR RPM     | 0-3000                     |                                                                                   | Manufacturer   |
|                    | GEAR RATIO    | 0-50                       | the motor reduction ratio                                                         | Manufacturer   |
|                    | PULLEY CIRCUM | 0-50                       | It is the drive wheel circumference.                                              | Manufacturer   |
| 6-Factory Settings | -             | "FactorySettings Confirm?" | With the reset process, it is ensured that the device goes to factory settings.   | Not Restricted |

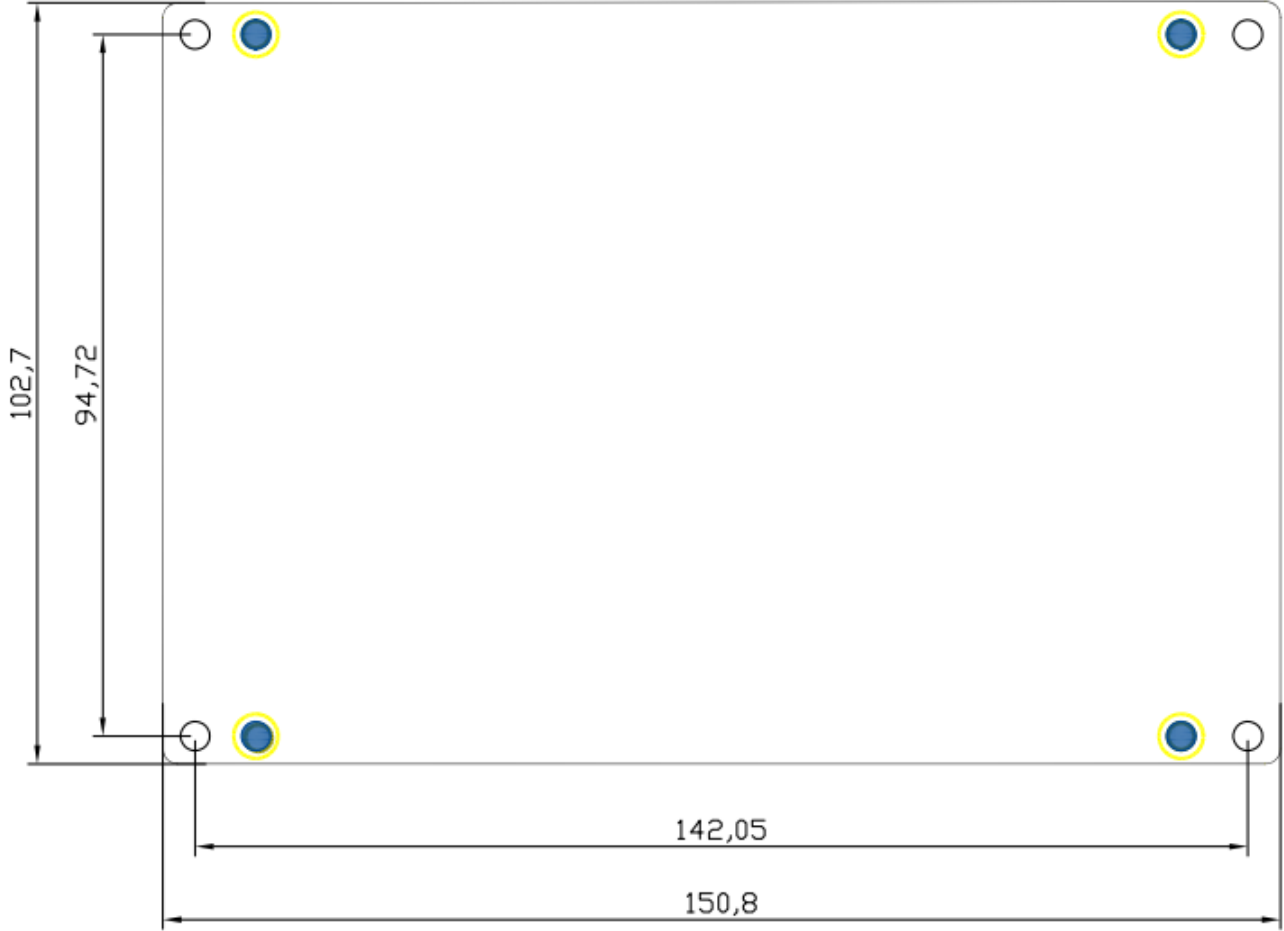
Table 7 Configuration Menu

## 10 FAQ

| Problem                                                                                                | Solution                                                                                                                                                                                                                               |
|--------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Door Does Not Move</b>                                                                              | <ul style="list-style-type: none"> <li>• Check the 220VAC input</li> <li>• Check the 20VAC Transformer return</li> <li>• If the 24V led does not light, check the glass fuse.</li> <li>• Check the motor power connections.</li> </ul> |
| <b>Door is not opened</b>                                                                              | Make sure the CLS led is not lit                                                                                                                                                                                                       |
|                                                                                                        | Make sure the OPN led is on                                                                                                                                                                                                            |
| <b>Kapı Kapanmıyor</b>                                                                                 | Make sure the CLS led is on                                                                                                                                                                                                            |
| <b>Although the Enter key is pressed, manual door calibration does not occur.</b>                      | Since the signals sent by the main board will have priority, manual identification should be done by removing the connections with OPN, CLS, NDG signal inputs.                                                                        |
| <b>Door Slams or Goes Slow Too Early</b>                                                               | Make Proosition calibration and try again                                                                                                                                                                                              |
| <b>Door Frequently Stucks</b>                                                                          | Check the encoder input                                                                                                                                                                                                                |
|                                                                                                        | The pinch pressure value may be set too low.                                                                                                                                                                                           |
|                                                                                                        | Check the mechanics of the door.                                                                                                                                                                                                       |
| <b>Door Panels Vibrating</b>                                                                           | Check the current KP value                                                                                                                                                                                                             |
|                                                                                                        | Check the encoder input                                                                                                                                                                                                                |
| <b>Mekanizmanın Kilidi Kapalı İken Enerji Verdiğinde Hiç Hareket Etmeden Ekranda Kapalı Yazıyor.</b>   | The motor direction may be reversed. Press the “ESC” button when the motor direction change warning appears after energizing again.                                                                                                    |
| <b>When the door is in the open position, it makes 2-3 cm move on closing direction and open again</b> | If the problem is experienced on only a single floor, the door spring on the relevant floor may be too hard, check it.                                                                                                                 |
|                                                                                                        | The hold-open pressure value may be set low. Increase the value.                                                                                                                                                                       |
|                                                                                                        |                                                                                                                                                                                                                                        |

Table 8 FAQ

## 11 DIMENSIONS



Şekil 8 Assembly Drawing

## 12 NOTES

No Notes

## 13 ATTECHMENTS

No Attechments