IŞIK ELEKTRONİK

IEP1001© Automatic Door Control Card

User Manual

It Can Prevent The Air Circulation With The Airlock System

Recognizes Directly, No Control Unit Required

Turkey's First and Only Door Card with LVD Certificate

IEP 1001© Automatic Door Control Card

User Manual

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About General Use:

IEP1001© Card works directly with 220AC mains voltage. It is designed for 24VDC, 100W brushed-type, dual-channel motors with a 100-pulse encoder. It has an automatic measurement feature to accommodate doors of different sizes. In heavy traffic, the door adjusts the open waiting time automatically (can be canceled) to adapt to the conditions. In case of power outages, it continues to operate with the help of 2 connected batteries in series (optional). It has a 3-stage braking system. All functions, speed, and similar settings can be adjusted using the function switch. Remote control programming can be done using the RF (radio frequency) receiver module without requiring an additional remote control receiver. Up to 4 separate controls can be programmed.

Figure 1 illustrates the overall appearance of the card and its structural components indicated by numbers:

Perform cable connections and socket assembly according to the numbered sequence indicated in Figure 1!

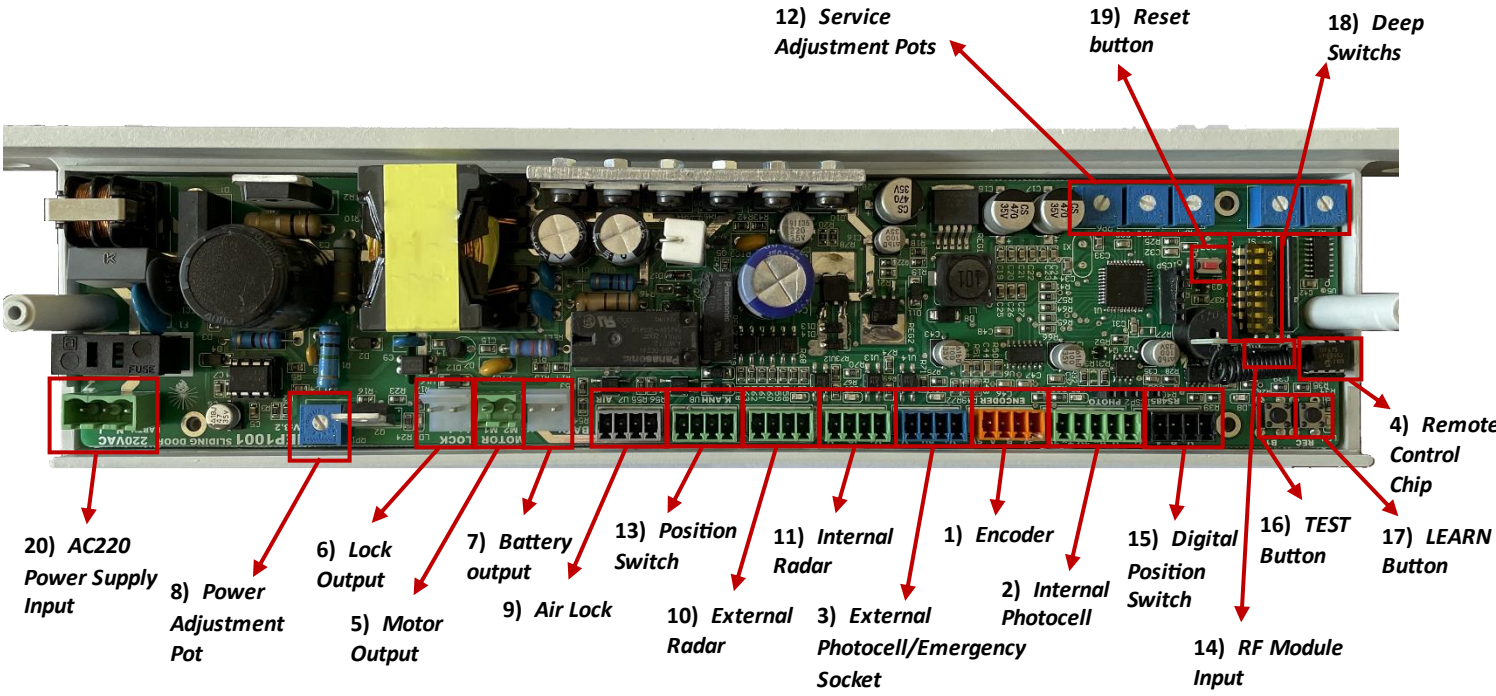

Figure 1: The general appearance and anatomy of the IEP 1001© card.

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Installation and Usage Information:

When the connections are made correctly in the order indicated in Figure 1, the door will automatically perform the installation. After the installation, the door will be ready for use.

- All socket outputs on the card are powered by 24V DC 500mA. The radar and other outputs operate as N.O. dry contacts.
- **To register a remote control:** Without needing to reset the card, ***press and hold the LEARN button while pressing all the buttons on your remote control to register it.***
- **To delete registered remote controls:** Cut off the power to the card and reapply power while holding down the LEARN button. **Resetting with the reset button will not delete the registered remote controls.**
- **For Airlock mode: Airlock mode should be active on both doors.** When both are active, the two doors will not open simultaneously.
- **To reset the card:** You can reset the card by holding down the reset button. **When the card is reset, all the settings and mode changes made with the function switch will be canceled. Therefore, you can readjust using the potentiometers.**

IN CASE OF ANY ISSUES DURING OR AFTER THE INSTALLATION, PLEASE CHECK THE 'COMMON ISSUES' SECTİ

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1) **Encoder:** The position information of the door is achieved through a 100-pulse phase-shifted input on the card. The overall appearance and input types are shown in Figure 2. ***MAKE SURE THAT THE + AND - CABLES ARE PROPERLY CONNECTED. INCORRECT CONNECTION CAN CAUSE DAMAGE TO BOTH THE MOTOR AND THE CARD.***

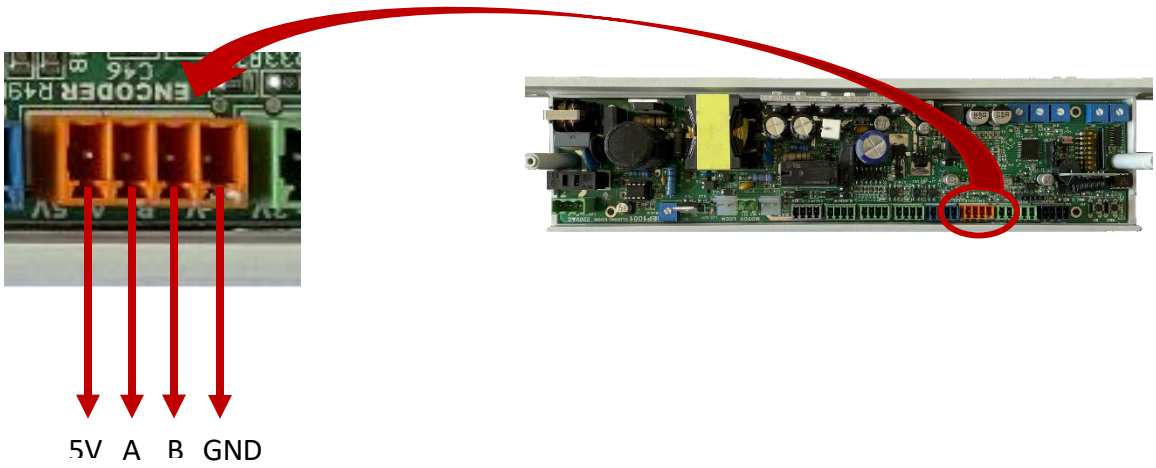

Figure 2: The position of the encoder on the card, input types, and a close-up view.

2) **Internal Photocell Eye Input:** It is the socket where the connection for the internal photocells is made. **When deep switch 5 is in the 'ON' position, the internal photocell is active. When deep switch 5 is in the 'OFF' position, the external photocell is active. To use the emergency socket, activate the internal photocell by switching deep switch 5 to the 'ON' position.**

If the photocell eyes are not connected correctly or not properly installed, the door will not close during the installation process and will continuously sound an alarm, preventing the completion of the installation.

The overall appearance and how the cables should be connected are shown in Figure 3.

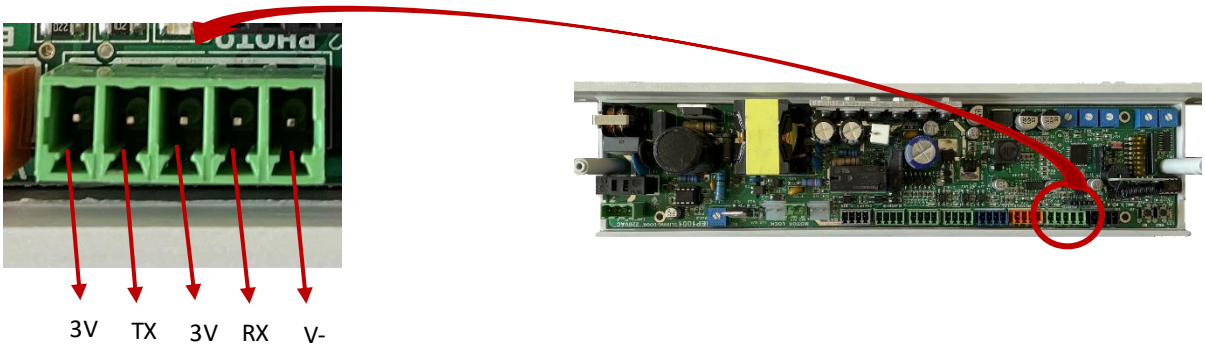

Figure 3: The position of the internal photocell eye input on the card, a close-up view, and the input types.

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3) **External Photocell/Emergency Socket:** ***If the internal photocell is connected and Switch 2 is in the 'ON' position, this socket functions as the emergency socket.*** If Switch 2 is in the 'OFF' position, the internal photocell is deactivated, and other brand photocells and boxes can be connected to this socket.

The input types and their features are indicated in Figure 4.

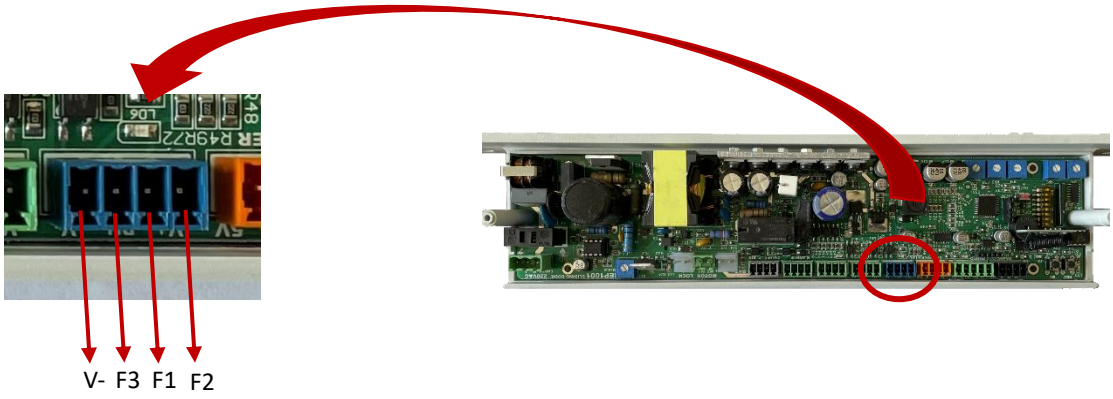

Figure 4: The position of the External Photocell/Emergency Socket on the card, a close-up view, and the input types

4) ***Remote Control Chip*:** Proper installation of the Remote Control Chip is highly important! **The protrusion on the upper part of the integrated circuit should be installed in a leftward direction! When installing the integrated circuit, take care not to damage its legs!**

How the integrated circuit should be installed and the protrusion on the integrated circuit is shown in Figure 5.

Figure 5: The position of the integrated circuit on the card, a close-up view, and its correctly installed state.

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5) **Motor Output:** It is the 24VDC motor output to which the motor is connected. If the connections are reversed, the door will operate in the opposite direction. **If your radar receives a signal and the door closes but then immediately opens, change the positions of the cables.** It is indicated in Figure 6.

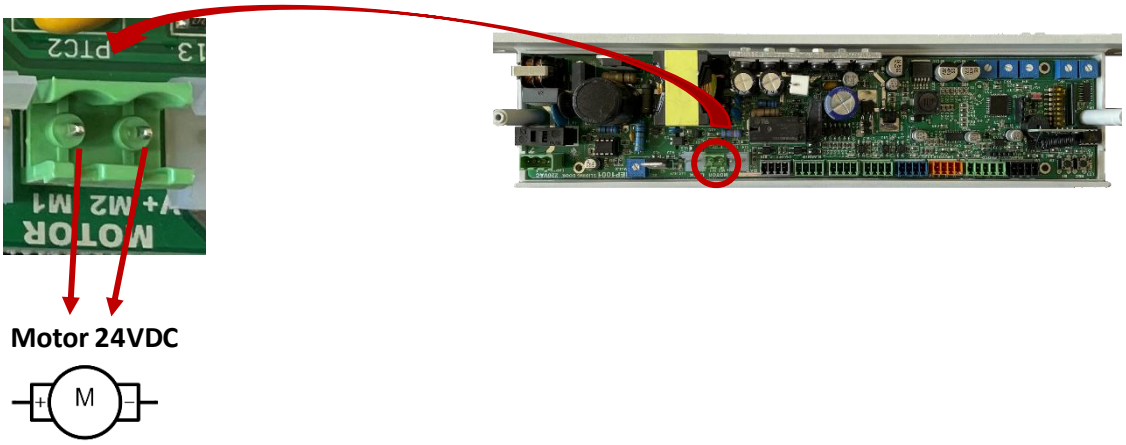
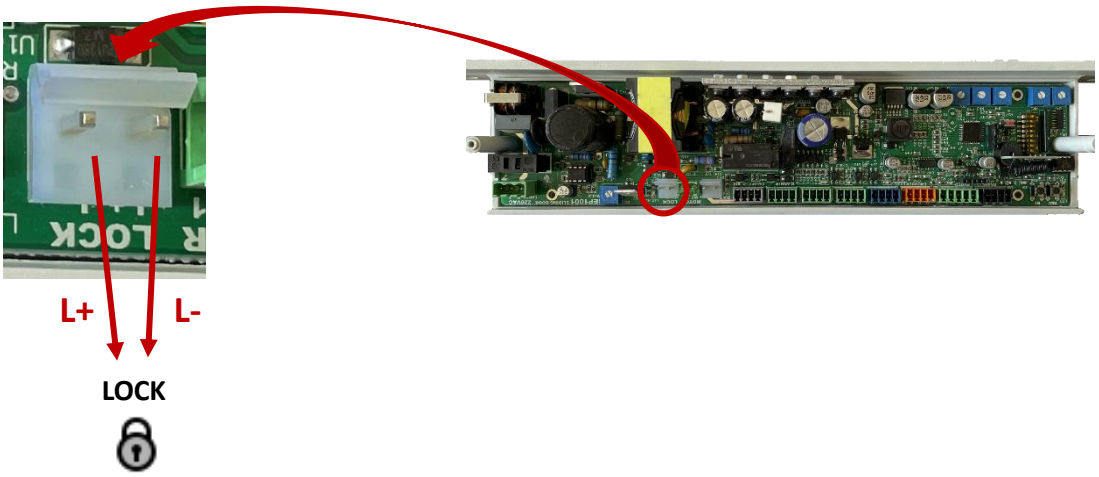


Figure 6: The position of the motor output on the card, a close-up view.

6) **Lock Output:** It is the lock output where the lock is connected, operating at 4-24V and 25-30W. It is indicated in Figure 7. **Please choose a lock compatible with the card.**



Şekil 6: Kilit çıkışının üzerindeki konumu ve yakından görünümü.

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7) **Battery Output:** They are the 2 x 12VDC 2A battery outputs where two batteries can be connected in series. It is indicated in Figure 8.

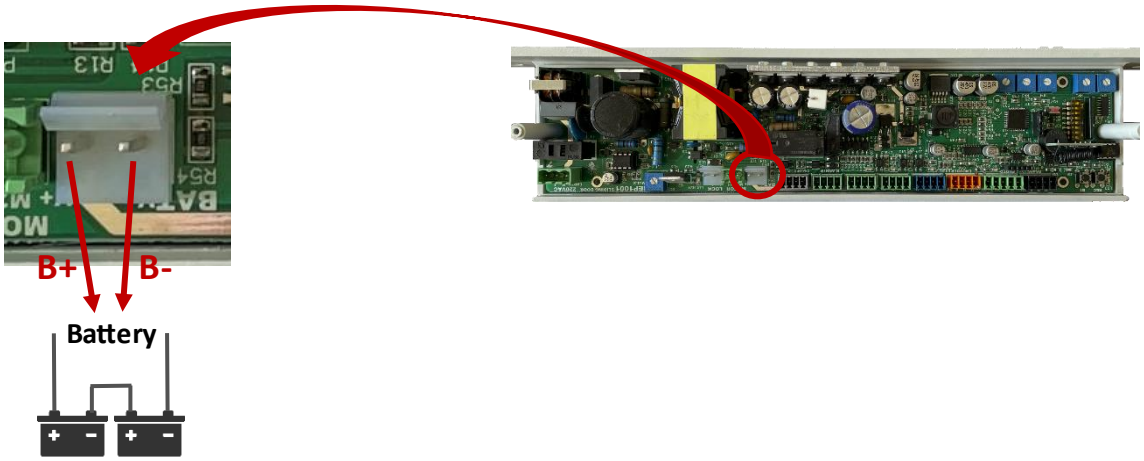

Figure 8: The position of the battery outputs on the card and a close-up view.

8) **Power Adjustment Potentiometer:** It adjusts the output voltage on the card. This adjustment is between 20V and 29V. ***DO NOT MAKE ANY ADJUSTMENTS YOURSELF ON THE POWER POTENTIOMETER!***

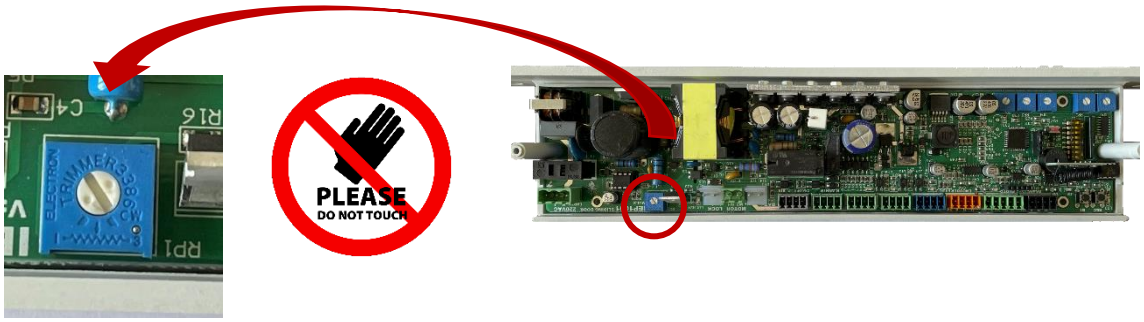

Figure 9: The position of the power adjustment potentiometer on the card and a close-up view.

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9) **Airlock:** It is used in systems where two doors are used to prevent air circulation. **If both doors have switch 4 in the "ON" position and the cable connections shown below are made correctly, the airlock system will operate. When the first door is opened by the signal from the external radar, the second door will lock. Once the first door is closed, the radar of the second door will start detecting and it will open Both doors cannot be opened simultaneously.** The procedure is illustrated in Figures 10 and 11.

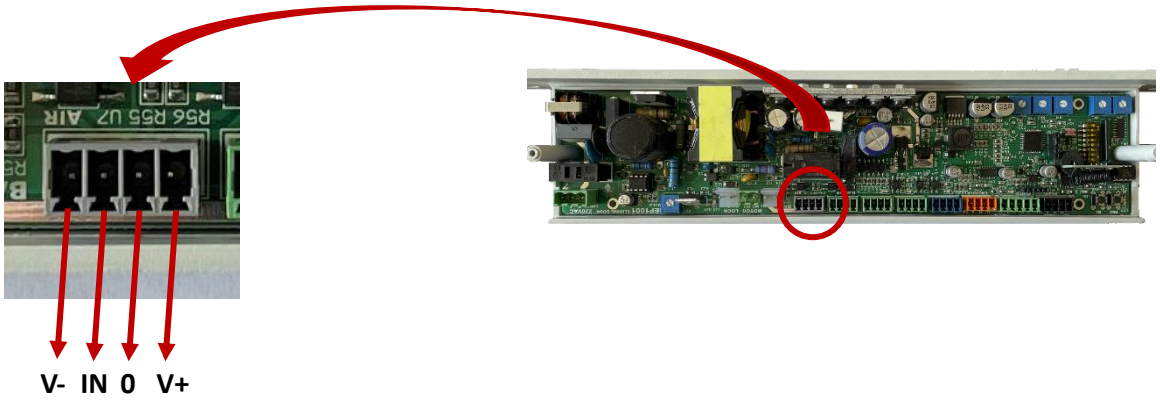

Figure 10: The position of the Air Lock output on the board and its close-up view.

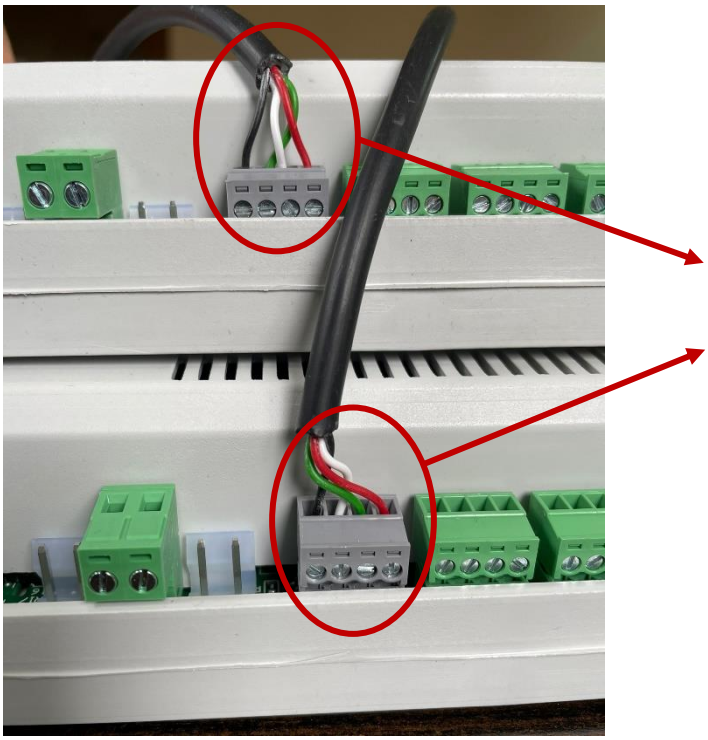

Figure 11: Image of Air Lock connections.

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10) and 11) Internal Radar and External Radar: These are the sockets where the internal and external radars will be connected. ***It is important to connect the correct radar to the correct socket for the proper functioning of the "One-Way" function.***

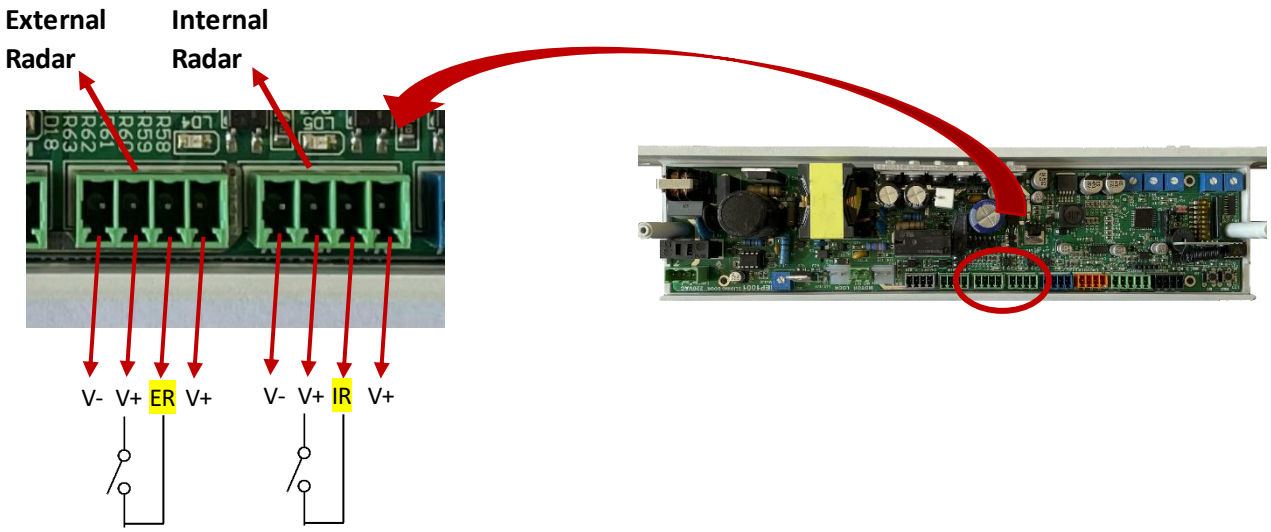

Figure 12: The position of the external radar and internal radar sockets on the board and their close-up view.

12) Service Adjustment Potentiometers: These are potentiometers used for service adjustments. ***Rotating them clockwise with a suitable screwdriver increases the characteristics they adjust, while rotating them counterclockwise decreases them.*** The image of the pots and their functions are shown in the diagram below.

- **Entering service adjustment mode with the function switch disables the pots. To reactivate the pots, you can perform a reset on the board using the Reset button**

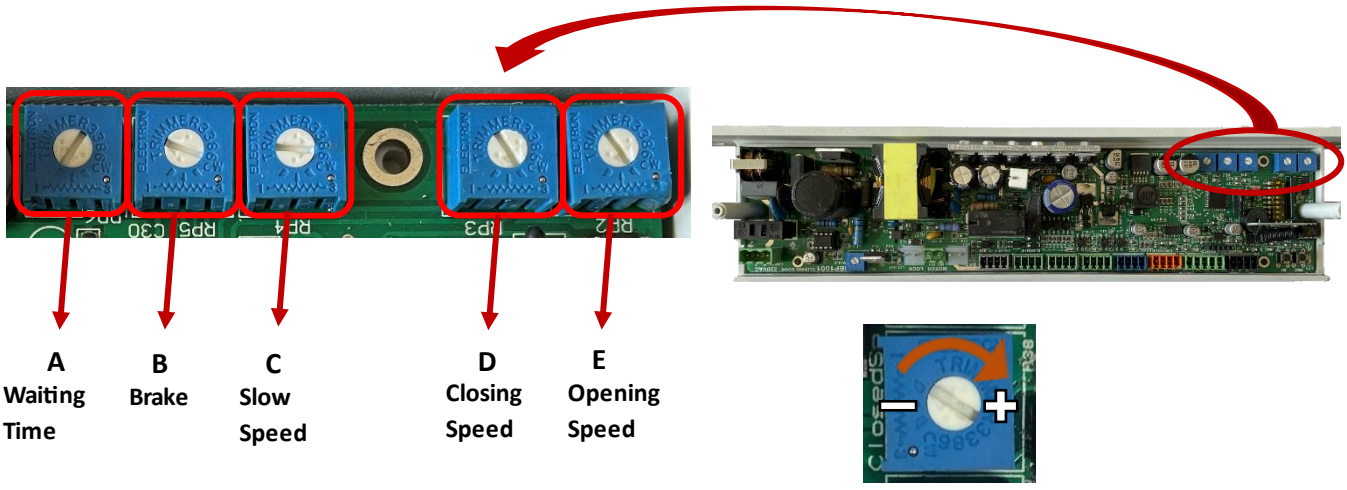

Figure 13: The position, close-up view, and rotation directions of the Service Adjustment.

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a) ***Wait time after opening (t):*** The duration of keeping it open after opening is between 0 and 45 seconds.

b) ***Opening-Closing brake intensity:*** It adjusts where and with what intensity the door applies the brakes during opening and closing. **(**It is adjusted according to the weight of the door. For heavy doors, this setting should be increased, while for light doors, it should be decreased. **If the setting is too low for light doors, the door may close too slowly. On the other hand, if the setting is too high for heavy doors, the door may close too forcefully.)**

c) ***Opening-Closing Slow Speed Torque:*** It adjusts the slow speed of the door during opening and closing. (It is adjusted according to the weight of the door. This setting should be increased for heavy doors and decreased for light doors. **If light doors are opened, they can close very abruptly and hit the stops forcefully. If heavy doors are closed, they may not fully close and leave a small gap.**)

d) ***Door closing speed:*** It adjusts the door closing speed.

e) ***Door opening speed:*** It adjusts the door opening speed.

13) **Position Switch:** Position switch socket is the socket where the position switch is connected. It allows the position switch to control functions such as one-way, lock, open, and winter mode. The input types and features are indicated in Figure 13.

Please make a GND connection from one of the adjacent sockets!

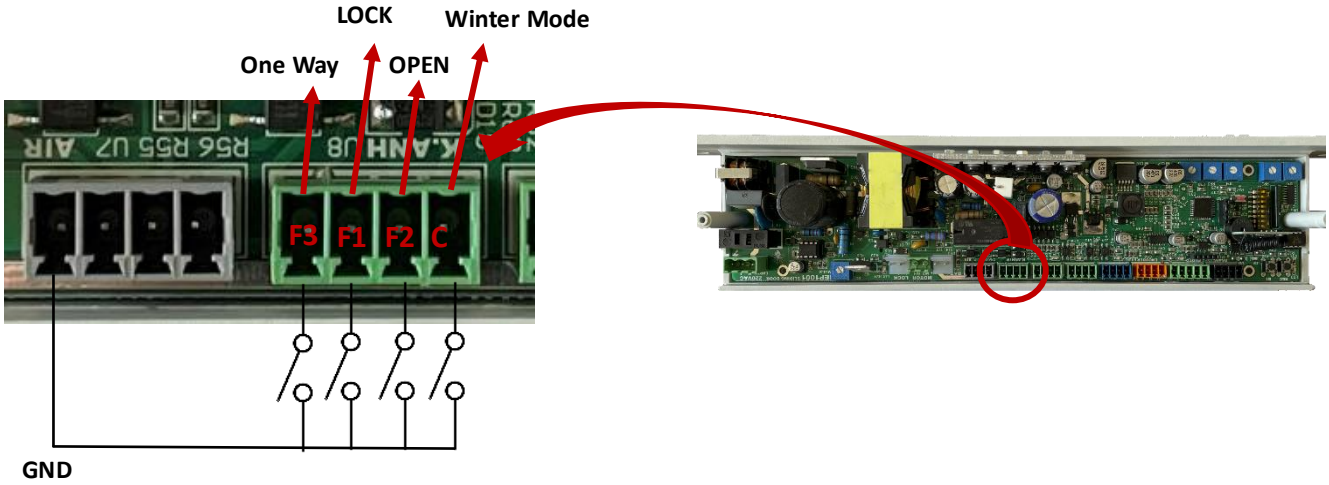

Figure 14: The position switch input's location on the board, close-up view, and input types..

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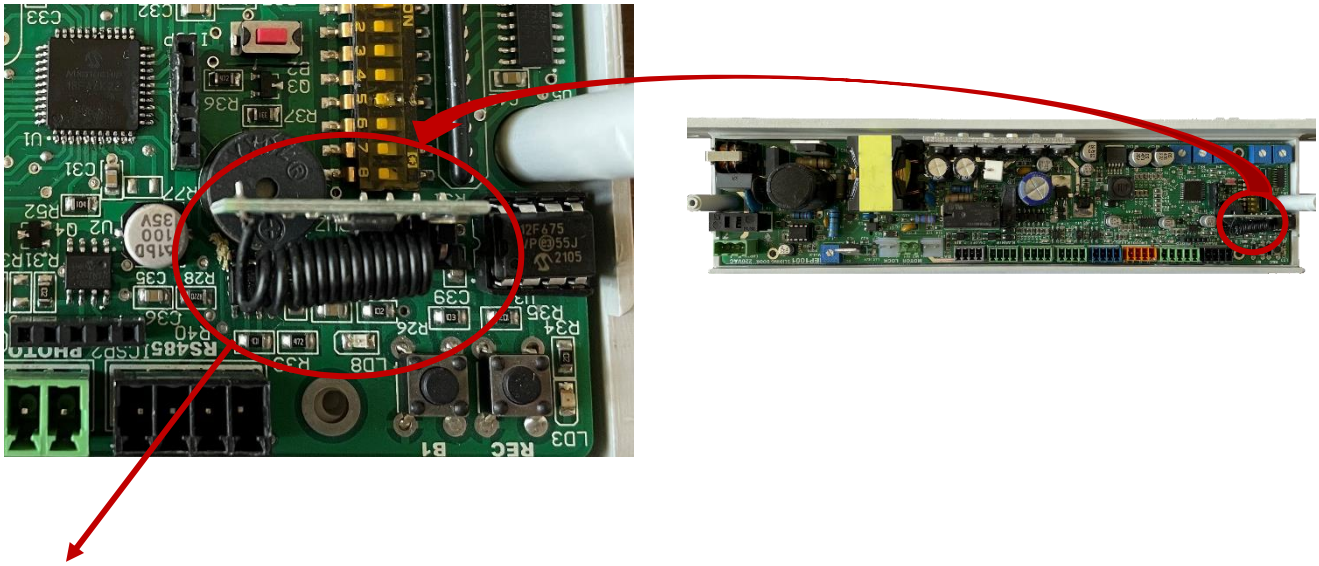
14) **RF Module Input:** The socket where the RF receiver module is connected is used to control the system remotely with a remote control.. ***The direction in which the RF receiver is plugged into the socket is extremely important! The face of the RF receiver that is connected to the antenna should be facing downwards (towards the side where the LEARN and TEST buttons are located) when plugged in! If the RF receiver is plugged in the wrong way, it may cause a short circuit.!*** **The image and proper installation of the RF receiver are shown in Figure 14.** After installing the RF receiver, you can proceed with the programming of the remote control.

To perform the remote control pairing process: Press and hold the LEARN button, then press all the buttons on your remote control. You can pair up to 4 remotes in total.
To delete the paired remotes, turn off the power to the card and then press and hold the LEARN button while restoring the power..



The face of the antenna should be facing downward.

Figure 15: RF Reciever, RF Reciever Input and correctly installed state.

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15) **Digital Position Switch Input:** Digital Position Switch Input is the socket where the digital position switch is connected. The appearance of the socket and the input types are indicated in Figure 16.

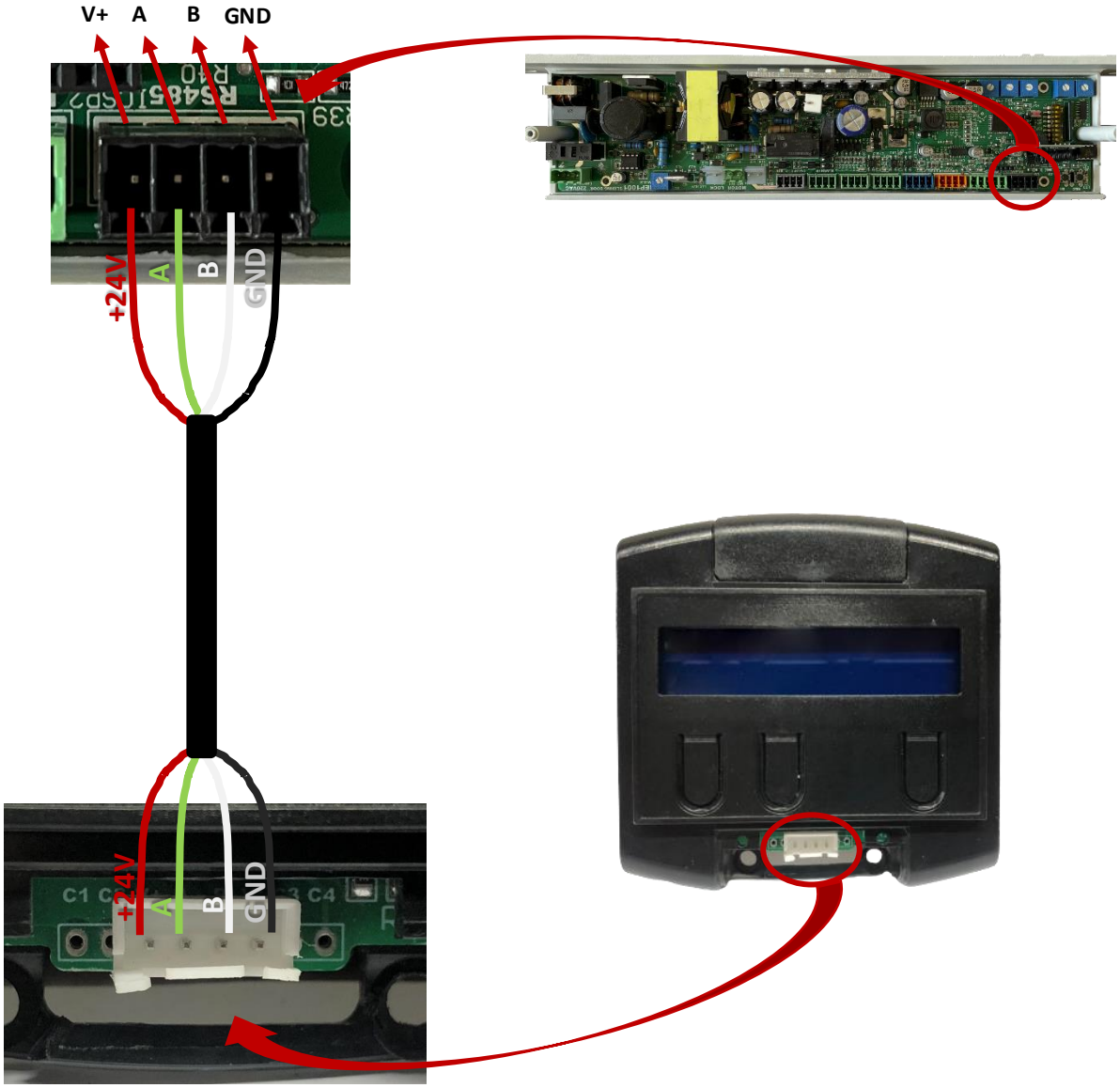

Figure 16: The position of the Digital Position Switch Input on the circuit board, its close-up view, and the connection method..

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16) **TEST Button:** When pressed once, the door will open and close once. It is shown in Figure 17.

Figure 17: The position and close-up view of the TEST button on the board.

17) **LEARN Button:** It is the button that enables the remote control programming process. For remote control programming:

- Press and hold the LEARN button without the need to disconnect the power supply of the board.
- Press each button on your remote control and make sure you press them properly. (The board will emit a sound for each button that is successfully recognized.)

After these steps, your remote control will be ready for use. You can perform the pairing process for up to 4 remotes.

Figure 18: The location and close-up view of the LEARN button on the board

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18) Deep Switchs: It allows the enabling or disabling of certain features. These features are shown below. **For the lock to operate, Switch 2 needs to be in the ON position. If only Switch 2 is in the ON position, the door can be manually switched to the lock mode using the function switch when desired. If both Switch 2 and Switch 3 are in the ON position, the door will operate in Toggle lock mode.**

- In Toggle lock mode, the door will unlock and lock with each opening and closing. **Since this happens continuously, the sound of the lock will be heard every time.** Additionally, while Toggle lock mode is active, the door lock is automatically set, ***so it cannot be switched to lock mode using the function switch when desired***. **To prevent this, simply switch Switch 3 to the OFF position.**

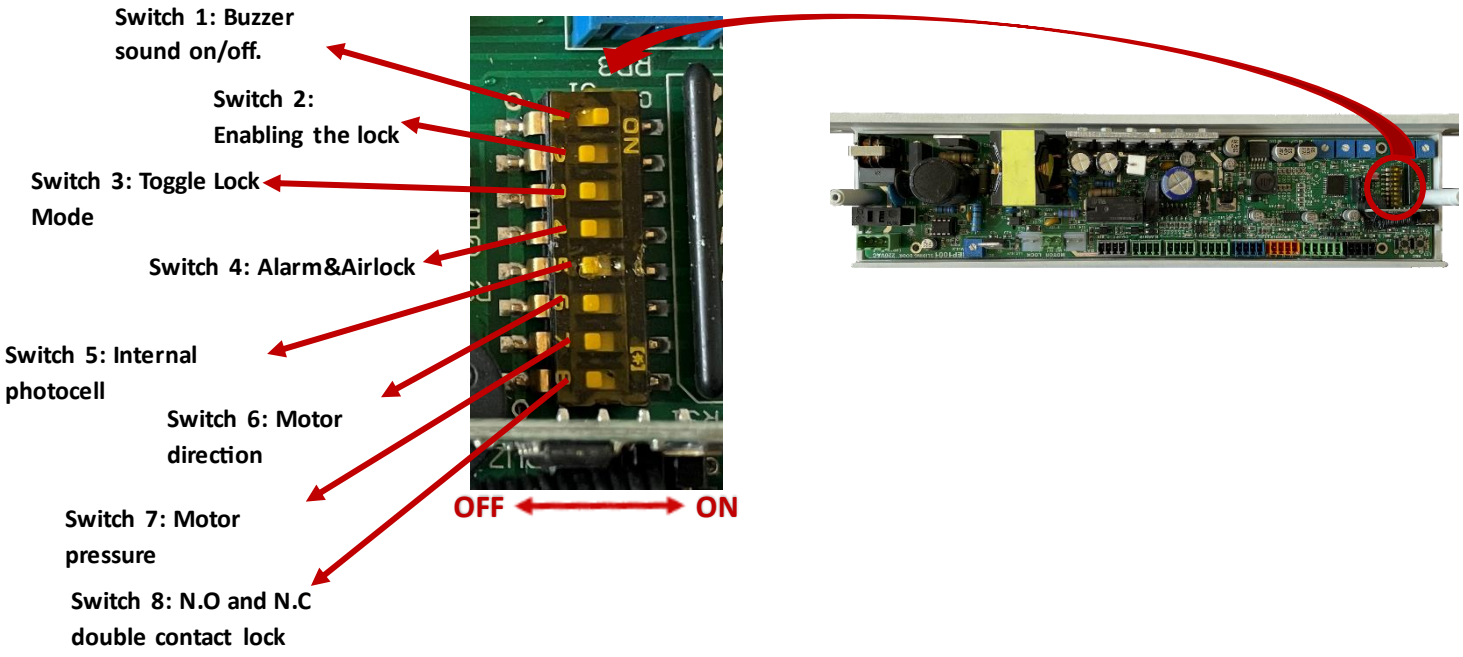

Figure 19: The position and close-up view of the Deep Switches on the card.

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19) **Reset Button:** The Reset Button allows for resetting the card. **It can be pressed and held without the need to cut off the power supply to the card.** **After the reset process, any settings made through the function key will be cleared, and the pots on the card will regain their functionality.**

Figure 20: The position and close-up view of the Reset Button on the card.

20) **AC220 Power Input:** The socket where the AC220 power supply input is connected on the board. The input types are shown in Figure 21.

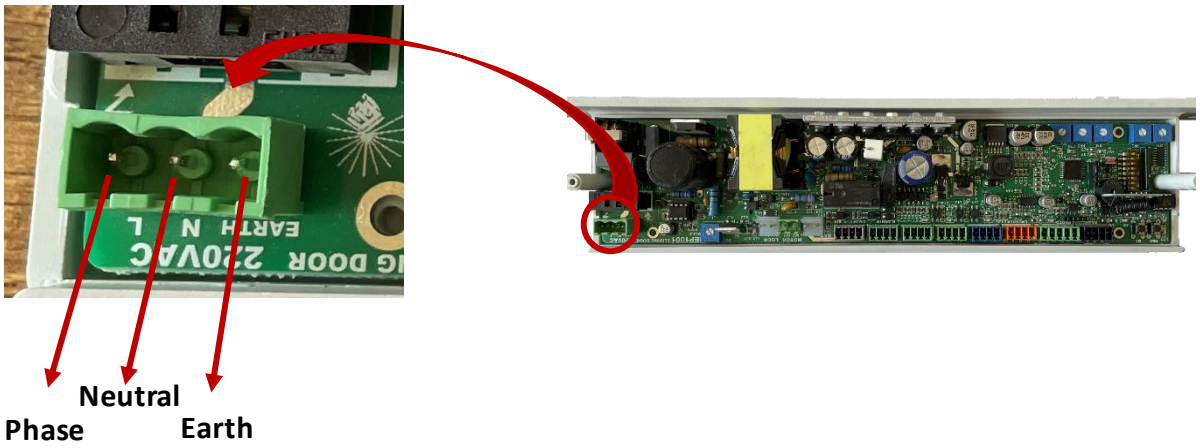

Figure 21: The position and close-up view of the power supply input on the board, as well as the input types, are shown in Figure 19.

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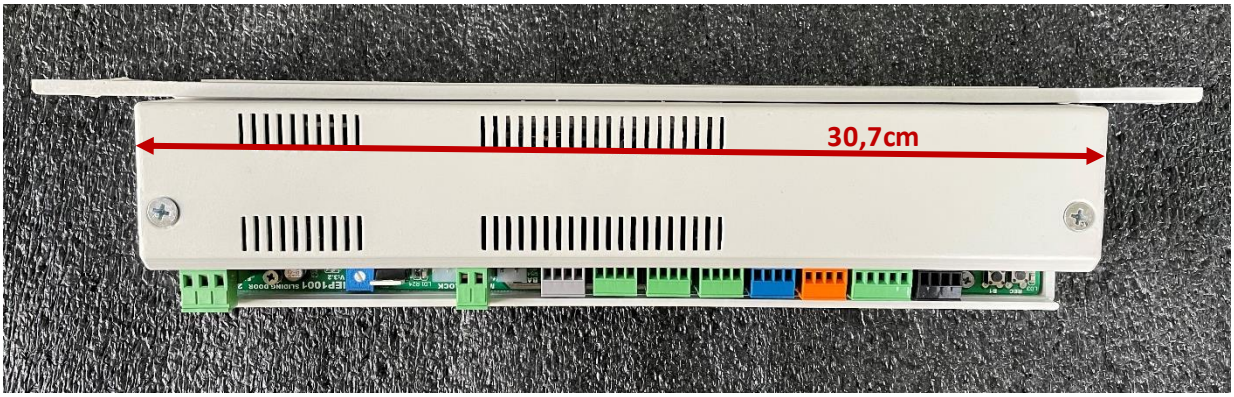
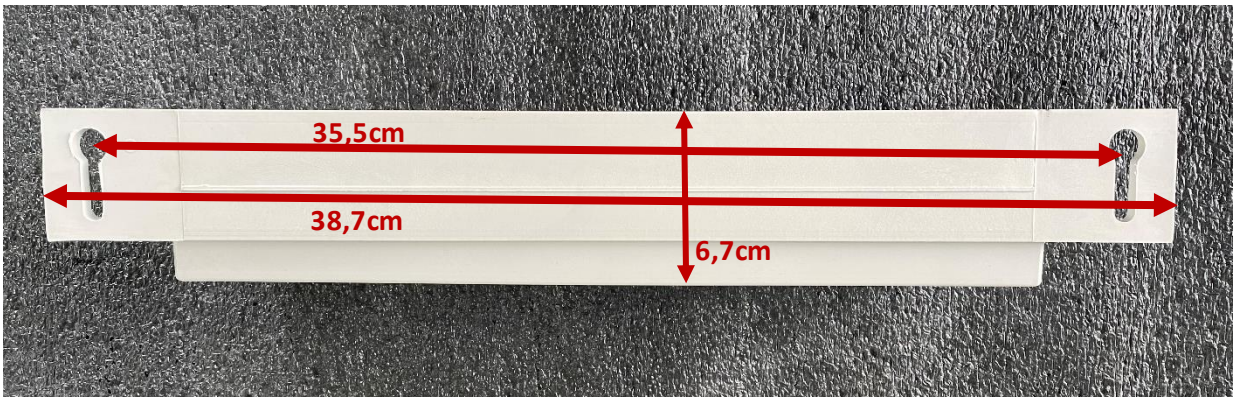
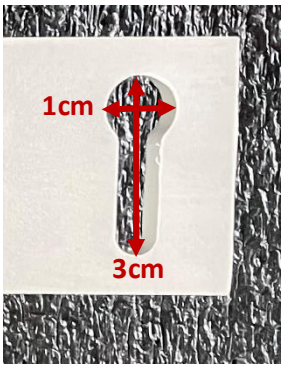
The Proportions of the Card.:







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Technical Specifications Table:

FEATURE	MINIMUM VALUE	MOST VALUE
Electricity supply	220 V AC – 50 Hz	250 V AC – 60 Hz
Mains/low voltage isolation	> 1 MOhm 500 V DC	>2 Mohm 600 V DC
Operating temperature range	- 10 / + 55 º C	-15 / + 60 º C
Output current supplied to the motor	Min. 3.5 A + 3.5 A	Max. 5.3 A + 3.5 A
Motor relay contact current	10 A	15 A
Maximum engine power	100 W (24 V DC)	150 W (24 V DC)
Electric supply for accessories	24 V DC (max. current 300 mA), Automatic engine lock is available	
Door lock feed output	4 V PWM - max 25 W	24 V PWM - max 30 W
Battery Input	2 units of 12V DC 1.4 2A(Total: 24 V 2.4A)	2 units of 12V DC 1.4 2A(Total: 24 V 2.4A)
Fuse	250volt 2 Amper (glass)	250 volt 2,5 Amper (glass)

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-Frequently Encountered Situations -

- **When energized, the door does not arm and the red LED is flashing.**
  - ✓ This situation indicates that the door has been previously locked. When you unlock the door using the programmed remote control or function switch, or when you set Switch 2 to the OFF position, the problem will be resolved.

- **When energized, the door moves to the right and left in short distances and the installation process does not take place.**
  - ✓ This may indicate a problem with the encoder. Make sure the encoder is connected and there is no damage to your cable or socket.

- **During the installation, the shutdown process does not occur, intermittent beeping sounds and the installation process is interrupted.**
  - ✓ This may mean that there is a problem with the photocell. Make sure your photocells are connected to the photocell eyelet and are not damaged.

- **The door beeps once and closes without touching the stopper.**
  - ✓ This means that the door does not touch the stopper. Try turning down the brake intensity/region or the "d" pot on the board with your function switch.

- **After the door is opened, it beeps once and closes while the full closing starts.**
  - ✓ This means that the settings of the power pot are incorrect. Since the power pot must be adjusted by the technical team, do not try to adjust it yourself and call us for technical support.

- **Magnetic lock does not work.**
  - ✓ This means that your current lock is not compatible. Please choose an IEP1001© compliant locking system.

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- **Engine lock does not work.**
  - ✓ Make sure that switch 2 is in the ON position. If it does not work even though it is ON, check the print settings from the function switch and make sure that it is turned on and switch 7 is in the ON position.

- **After the installation process, the door does not close completely, leaves a gap or does not touch the stopper.**
  - ✓ This means that the opening/closing slow travel torque settings are incorrect. Try opening the "c" pot on the card and closing the "d" pot.

- **The door closes too hard or touches the stopper hard.**
  - ✓ This means that the on/off brake intensity settings are incorrect. Try dimming the "c" pot and opening the "d" pot with your function switch or on the board.

- **There is no power on the board even though the plug is plugged in, the LEDs do not light up.**
  - ✓ This means that the fuse of the card has blown due to a voltage related problem. Never install a fuse yourself and call us for technical support. (In case of a fuse repair operation other than the technical team, the power supply unit of your card will be out of warranty.)

- **Constant locking sound when the door is closed and opened.**
  - ✓ This means that the Toggle lock mode is always on. Turn switch 3 to OFF position. If you want to remove the lock completely, turn the switch no. 2 to the OFF position.

- **The door works in reverse: it stays open all the time and closes once and then stays open when visible to the radar or when the door is operated with the test button.**
  - ✓ This indicates that the motor connections are reversed. Swap the wires of the motor output.

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If you encounter a problem other than the above-mentioned situations, or if the recommended solutions do not eliminate the problem, you can contact us via the address support@isikelektronik.com or our technical support line at +(90) 322 248 0508.