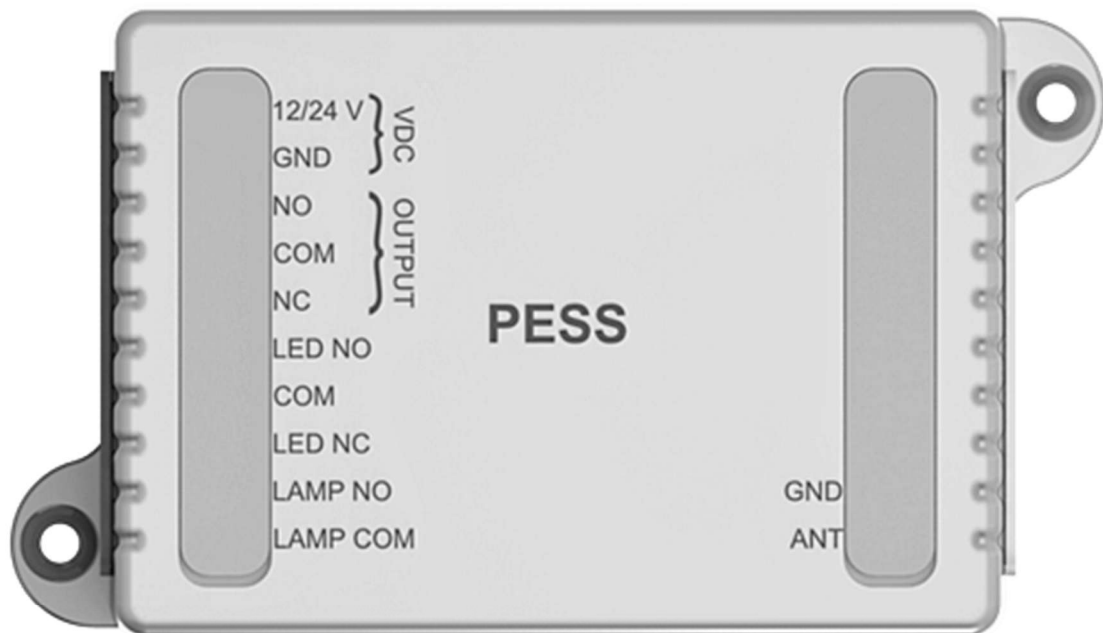


PESS

PES Synchronisation Board



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Before operating the device, be sure to read this user manual carefully. Follow the steps described in the installation, electrical connection, and initial startup sections with attention. After completing these steps, the product owner/user must keep this manual in a known and easily accessible location for the entire service life of the product.



- Store the product in a dry environment. Otherwise, malfunctions may occur.
- In battery- or accumulator-powered products, batteries and accumulators are not covered under warranty. Similarly, failures caused by battery discharge or leakage in products that have exceeded their shelf life are not covered under warranty.
- All service and repair operations must be carried out exclusively by Kontal Elektronik technical service. The product must not be tampered with by unauthorized personnel.
- The operating voltage of each product is indicated on the label. Do not supply the device with a voltage different from the specified value.



- ✓ Failure to comply with the above-mentioned conditions may result in fire, serious personal injury, or damage to the product or the structure in which it is installed. In such cases caused by user negligence or misuse, **Kontal Elektronik San. ve Tic. Ltd. Şti.** assumes no responsibility.
- ✓ This symbol will be used to highlight important notes in the following sections.



- ✓ Do not touch the power supply terminals of the device with bare hands.
- This symbol will be used to indicate warnings related to voltage in the following sections.



- This symbol on the label indicates that the device operates with a DC supply voltage.



- This symbol on the label indicates that the device is equipped with reinforced insulation.
-



- This symbol on the product or its packaging indicates that the product must not be disposed of as household waste. Instead, it should be delivered to designated collection points for the recycling of electrical and electronic equipment. Improper disposal or destruction of the product may have adverse effects on the environment and human health.



- This document and its revisions are the legal property and responsibility of **KONTAL ELEKTRONİK SAN. VE TİC. LTD. ŞTİ.** Any unauthorized modification or alteration is strictly prohibited.



- Ensure that the system is properly grounded for the device to operate reliably.

1. DEFINITION

The Battery-Powered Hand Sensor Synchronization Board is a control board designed to operate with 433 MHz wireless battery-powered hand sensors, enabling the synchronized operation of two sensors (interior and exterior). The system is designed to manage door, lock, and lighting scenarios via touchless hand gestures. This product is particularly suitable for areas requiring controlled entry and exit, such as restrooms, office meeting rooms, and restricted-access spaces.

1.1 Box Content

1x PESS – PES Synchronization Board	1x PESS User Manual 1x 17cm Internal Cable Antenna
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**For special orders, the box contents may vary depending on the project or customer requirements.*

2. TECHNICAL SPECIFICATIONS

Model	PESS
Product Code	K193-01
Operating Voltage	12/24V DC
Operating Current	15mA @ 24V DC
Operating Frequency	433,92MHz
Operating Temperature	-20 °C +55 °C
Number of Contact	3
Contact Type	Dry Contact (NO/ NC)
Contact Capacity	250V AC 10A (max.)
Transmitter Capacity	6 PES, comprising 3 internal and 3 external sensors.
Weight	121gr
Dimensions(W x H x D)	67,10 x 115,59 x 34,6 mm



For reliable and stable operation of the device, it is recommended to use a power supply with a minimum output power of 1.5 W on the supply line.

3. PESS – USER ADJUSTMENT

BTN1: Used to pair the interior sensor.

BTN2: Used to pair the exterior sensor.

POT1: Adjusts the automatic opening duration.

POT2: Adjusts the automatic closing duration.

DIP SWITCH: Configures the buzzer and extra time settings.

JMP1: Adjusts the lock release duration.

4. PESS – CONTROL BOARD & INITIAL STARTUP

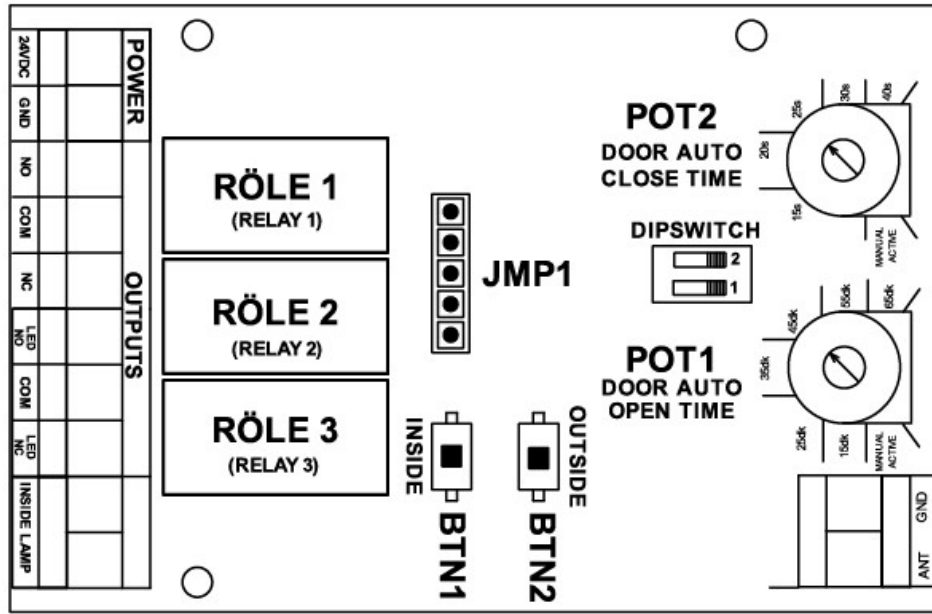


Figure 4.1 PESS Control Board

- Remove the top cover of the device.
- Wire the power supply and contact connections as shown in the wiring diagram.



Pay strict attention to the polarity ("+" and "-") when making the power connections!



Do not power the device with a voltage outside the specified operating range. Otherwise, the device may be damaged!



Never touch the connection terminals after the power supply has been connected!

Sensor Pairing and Configuration: (Eğer kılavuz içinde bağımsız bir başlık/bölüm adı olacaksa)

4.1 Pairing the PES (Battery-Powered Hand Sensor) to PESS

When the PESS Synchronization Board is powered on for the first time, an audible alert is generated via the onboard buzzer. This audio notification indicates which sensors have been previously paired with the device. Interpret the buzzer alerts as follows:

4 Beeps: No PES (Battery-Powered Hand Sensor) has been previously paired with the PESS device.

3 Beeps: Only the interior sensor (PES) has been previously paired with the PESS device.

2 Beeps: Only the exterior sensor (PES) has been previously paired with the PESS device.

1 Beeps: Both the interior and exterior sensors (PES) have been successfully paired with the PESS device.

4.1.1 Pairing the Interior Sensor (PES) to PESS

To pair an interior sensor (PES) with the PESS synchronization board, perform the following steps in order:

- Press and hold the **BTN1 (INSIDE)** button on the control board for approximately **0.5–1 second**.
- Once the button is pressed, the onboard buzzer will start beeping continuously. This indicates that the control board has entered **learning mode**.
- While the control board is in learning mode, wave your hand in front of the interior sensor (PES) you wish to pair.
- When the sensor is successfully detected, the control board will emit a rapid series of beeps.
- This audible alert confirms that the interior sensor (PES) has been successfully paired with the PESS synchronization board.

Note: You can pair a maximum of 3 interior sensors (PES) with the synchronization board.

4.1.2 Pairing the Exterior Sensor (PES) to PESS

To pair an exterior sensor (PES) with the PESS synchronization board, perform the following steps in order:

- Press and hold the **BTN2 (OUTSIDE)** button on the control board for approximately **0.5–1 second**.
- Once the button is pressed, the onboard buzzer will start beeping continuously. This indicates that the control board has entered **learning mode**.
- While the control board is in learning mode, wave your hand in front of the exterior sensor (PES) you wish to pair.
- When the sensor is successfully detected, the control board will emit a rapid series of beeps.
- This audible alert confirms that the exterior sensor (PES) has been successfully paired with the PESS synchronization board.

Note: You can pair a maximum of 3 exterior sensors (PES) with the synchronization board.

4.2 Unpairing / Deleting a PES (Battery-Powered Hand Sensor) from PESS

To delete previously paired interior or exterior sensors (PES) from the PESS synchronization board, perform the following procedure:

- Completely disconnect the power supply from the control board.
- Press and hold the pairing button for the sensor you wish to delete (**BTN1 – Interior Sensor** or **BTN2 – Exterior Sensor**).
- While continuing to hold the button down, reconnect power to the control board.
- When the onboard buzzer emits **3 consecutive beeps**, the sensor corresponding to the held button has been successfully deleted from memory.
- Release the button after hearing the buzzer notification.



The deletion process only affects the sensor corresponding to the button held down. Other paired sensors will remain stored in the system memory

4.3 PESS – Operating Principle

The system operates on the principle of sequential interaction between the interior and exterior battery-powered hand sensors.

- When the door is closed, waving a hand near the **exterior sensor (OUTSIDE)** opens the door, and the buzzer emits **2 short beeps**. If connected, the interior lighting turns on automatically.
- When the door closes, the buzzer emits **1 short beep** to indicate status.
- After entering, the user holds their hand near the **interior sensor (INSIDE)** for approximately **2 seconds** to close and lock the door. During locking, the buzzer emits **2 long beeps**. In this state, the exterior sensor is disabled, and the top indicator lamp (if installed) turns red.
- Once locked, the door remains locked for the automatic opening duration set by **POT1**. When this time expires, the buzzer emits a warning sound for **30 seconds**. If no hand movement is detected during this warning period, the door becomes unlockable from the outside, and the top indicator lamp switches to green. Waving a hand during the warning period resets the timer.
- **POT1** is used to adjust the automatic opening duration. In the fully counterclockwise position, automatic opening is disabled (manual mode). The remaining positions correspond to 15, 25, 35, 45, 55, and 65 minutes, respectively.
- The user can open the door at any time before the timer expires by holding their hand near the interior sensor for **2 seconds**. When the door opens, the top indicator lamp turns green (if connected). *This timeout can be completely disabled by activating the **JMP1** jumper.*
- After the user exits, the door closes automatically at the end of the auto-closing duration configured via **POT2**. In the fully counterclockwise position, **POT2** sets the system to manual closing mode; other levels correspond to **10, 15, 20, 25, 30, and 40 seconds**, respectively.
- When the door is closed either manually or automatically, the interior lighting turns off automatically.



After the door is locked from the inside, the system ignores sensor inputs for the first **6 seconds** to prevent accidental triggering. Therefore, the door can only be unlocked from the inside after a minimum of **6 seconds** following the locking action.



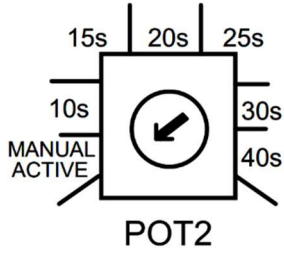
Whenever the position of the **POT1** and **POT2** trimpots on the synchronization board is changed between specified levels, the onboard LED flashes once and the buzzer emits a short alert. This signal indicates that the setting change has been recognized.



System alerts can optionally be configured as audible signals. To enable audio notifications, set **DIP switch 1** on the synchronization board to the **ON** position. When activated, all system alerts will be announced via the onboard buzzer.

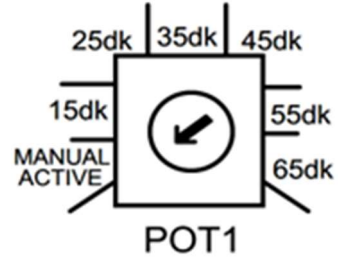
AUTOMATIC CLOSING TIMEOUT ADJUSTMENT

DOOR AUTO
CLOSE TIME
(OTOMATİK KAPI KAPANMA SÜRESİ)



AUTOMATIC OPENING TIMEOUT ADJUSTMENT

DOOR AUTO
OPEN TIME
(OTOMATİK KAPI AÇILMA SÜRESİ)



5. MOUNTING

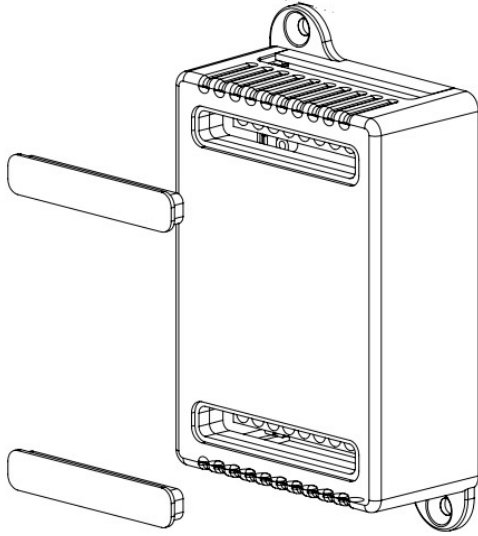


Figure 5.1 Removing the PESS top cover

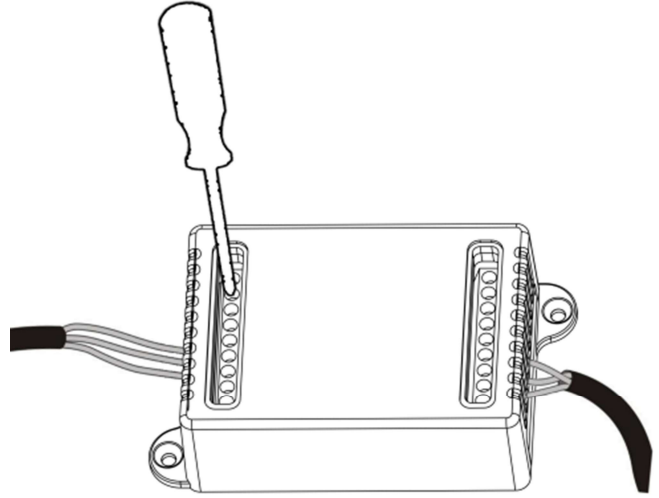


Figure 5.2 Making the PESS cable connections

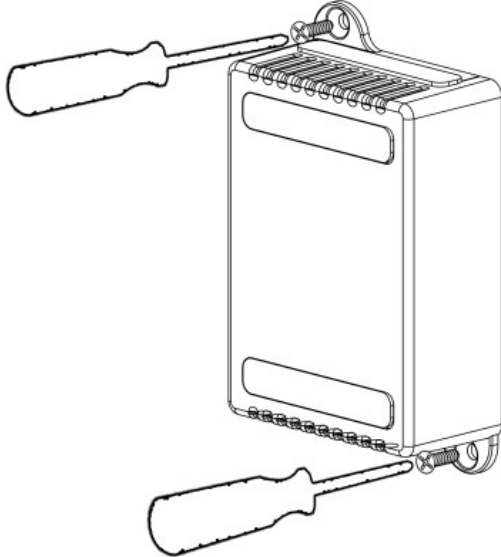


Figure 5.3 Mounting the PESS on a flat surface
with screws

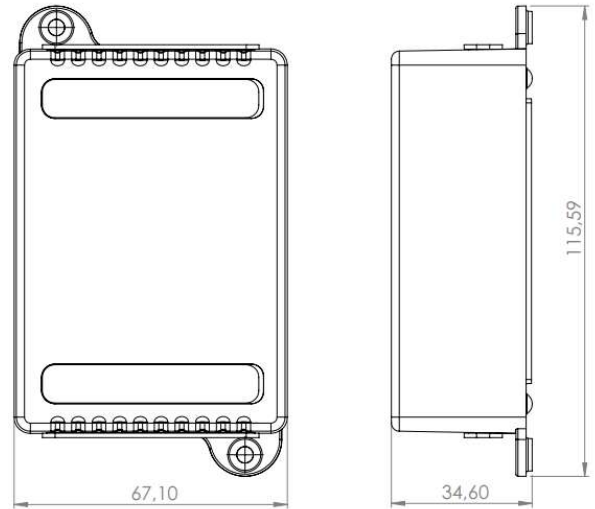
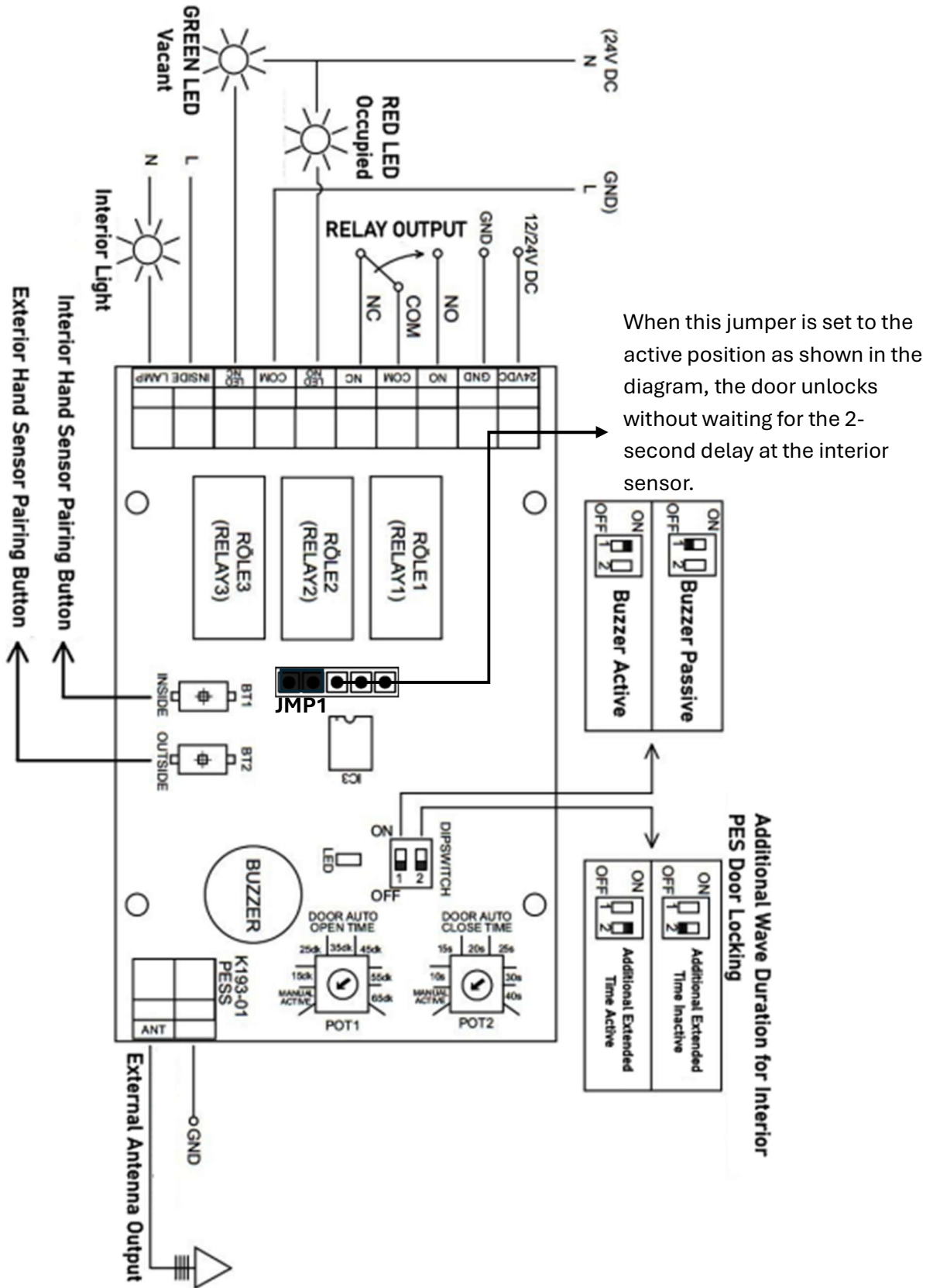


Figure 5.4 PESS dimensions (in mm)

6. WIRING SCHEMA



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