HFP - M

180° Adjustable & Long-Range Safety Beam Sensor With Battery



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CE

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 Movable Battery-Powered Safety Photocell (HFPM) is an infrared (IR) sensor system developed to provide safety and control in automatic door and barrier systems. The system consists of two main modules: a transmitter (HFPM-V) and a receiver (HFPM-A), positioned opposite each other. The HFPM-V operates on battery power and continuously emits modulated infrared signals, eliminating the need for cabling and simplifying installation. The HFPM-A detects these signals, and when an object passes between the transmitter and receiver, the infrared signal path is interrupted. Once the signal is blocked, the HFPM-A generates an output signal to the connected control panel.In addition, since both the transmitter and receiver units are designed with ±90° angle adjustment, proper line-of-sight alignment can be easily achieved even when they are mounted on different surfaces. The system provides reliable operation at distances of up to **35 meters**.

1.1 BOX CONTENT

1x HFPM-V – Transmitter Safety Photocell **1x** HFPM-A – Receiver Safety Photocell	**2x** Waterproof gasket **2x** Waterproof gasket **4x** Screw plug **4x** 2.9 X 13 YHB Sheet Metal Screw

**For special orders, the box contents may vary depending on the project or customer requirements.*

2. TECHNICAL SPECIFICATION

	HFPM-V Transmitter Safety Photocell	HFPM-A Receiver Safety Photocell
Product Code	K217-01	K217-02
Operating Voltage	1 x 3,6V DC Pil*	12/24V DC
Operating Current	80uA @ 3,6V DC	8mA @ 24V DC
Operating Distance	35m(Max.)	35m(Max.)
Operating Temprature	-20 °C +55 °C	-20 °C +55 °C
Contact Type	-	DRY Contact (NO/NC)
Contact Response Time	-	150ms(Min.)
Contact Capacity	-	30V DC 1A / 125V AC 0.3A (Max.)
Weight	157gr ±5gr	58gr ±5gr
Dimensions	43 x 105 x 36,5mm	43 x 105 x 36,5mm

* The battery life of the transmitter safety photocell (HFPM-V) is approximately 2 years. This duration may vary depending on the quality of the battery used and external environmental conditions. When the battery is low, the LED on the transmitter board will blink three times at regular intervals to indicate this status.

For stable operation of the HFPM-A, it is recommended to use a power supply with a minimum output power of 0.5 W on the supply line.

3. ADJUSTMENT COMPONENT

a- HFPM-V – Transmitter Safety Photocell Adjustment Component

- **JMP1**: This component allows you to activate or deactivate the HFP-V. (See also Section 4.1)
- **JMP2** : This component allows you to adjust the operating range of the HFP. (See also Section 4.1)

b- HFPM-A – Receiver Safety Photocell Adjustment Component

- **JMP**: This component allows you to adjust the operating voltage of your receiver safety photocell. (See also Section 5.1)
- **LED1**: This component allows you to check the battery status of your transmitter photocell. (See also Section 5.1)
- **LED2**: This component allows you to monitor the contact status of your receiver photocell. (See also Section 5.1)

4. HFPM-V CONTROL BOARD



Figure 4.1 HFPM-V Control Board

4.1 HFPM-V Installation and initial setup

a. Remove the top cover of your product. (See also Section 6.1 Installation)

b. Activate your product using JMP1.



JMP1
HFPM-V Active



JMP1
HFPM-V Passive

c. Set the operating distance of your product.

JMP1



HFP - M Long-Range Operation (Max. 35 m)

JMP1



HFP-M Short-Range Operation (Min. 15m)

d. You can monitor the operating and battery status of your product using LED1 on the device:

e. When the transmitter module is activated (operating mode), LED1 blinks on and off for approximately 3 seconds. This indicates that the transmitter module has started operating.

f. When LED1 begins blinking on and off at 10-second intervals, the transmitter module's battery must be replaced as soon as possible.

5. HFP-A CONTROL BOARD

5.1 HFPM-A Installation and initial setup

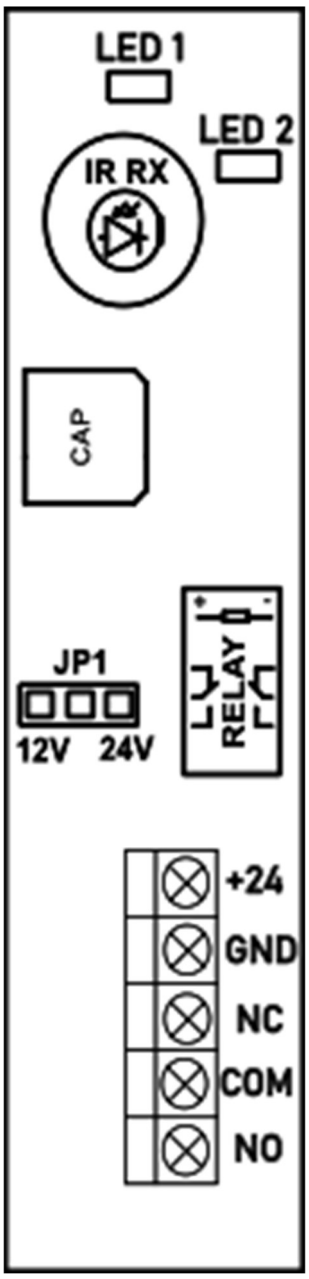


Figure 5.1 HFPM-A Control Board

a. Remove the top cover of your product. (See also Section 6.1 Installation)
b. Set the operating voltage of your product using JMP.



JMP
HFPM-A Operating Voltage: 15–29 V DC



JMP
HFPM-A Operating Voltage: 29–40 V DC

c. Make the terminal block connections of your product. (See also Wiring Diagram.)

When making the power connections, pay attention to the "+" and "–" polarity!

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

Do not touch the connection points after the product's power connections have been made!

a. When an obstacle interrupts the beam between the photocells, LED2 on the receiver module will light up, and the relay will switch to the energized position.
b. If the battery voltage of the transmitter unit decreases while your system is operating, LED1 on the receiver photocell will light up. In this case, you must replace the transmitter battery as soon as possible.

6. INSTALLATION

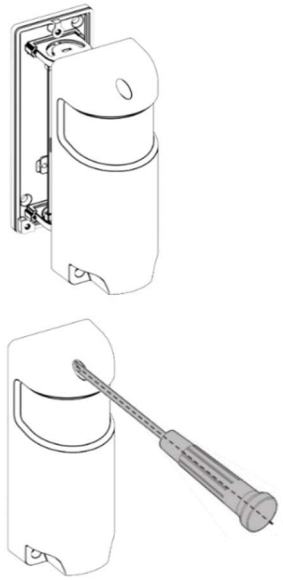


Figure 6.1 – Removing the front cover of the HFBM.

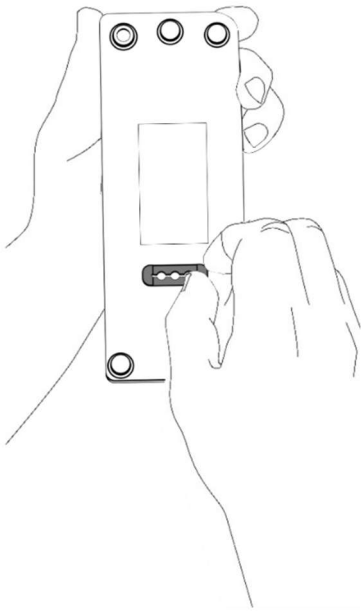


Figure 6.2 – Installing the rear waterproof gasket of the HFBM.

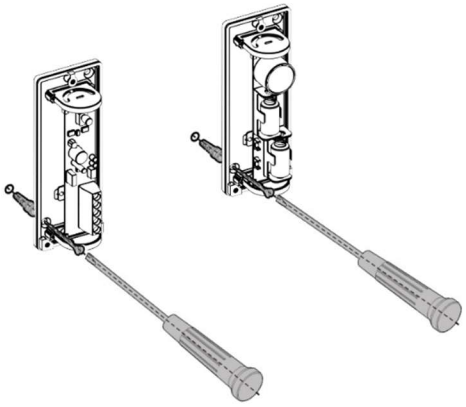


Figure 6.3 – Securing the HFBM to a flat surface with screws.

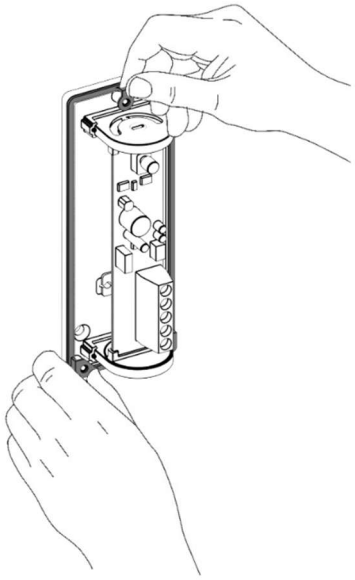


Figure 6.4 – Installing the internal waterproof gasket of the HFBM.

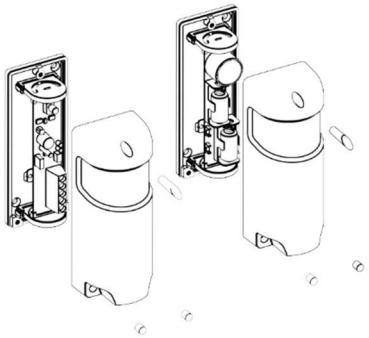


Figure 6.5 – Installing the screw plugs of the HFBM.

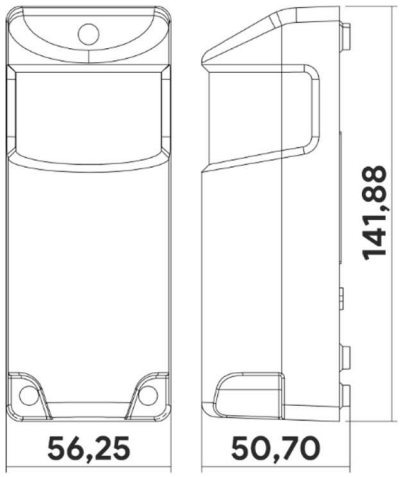
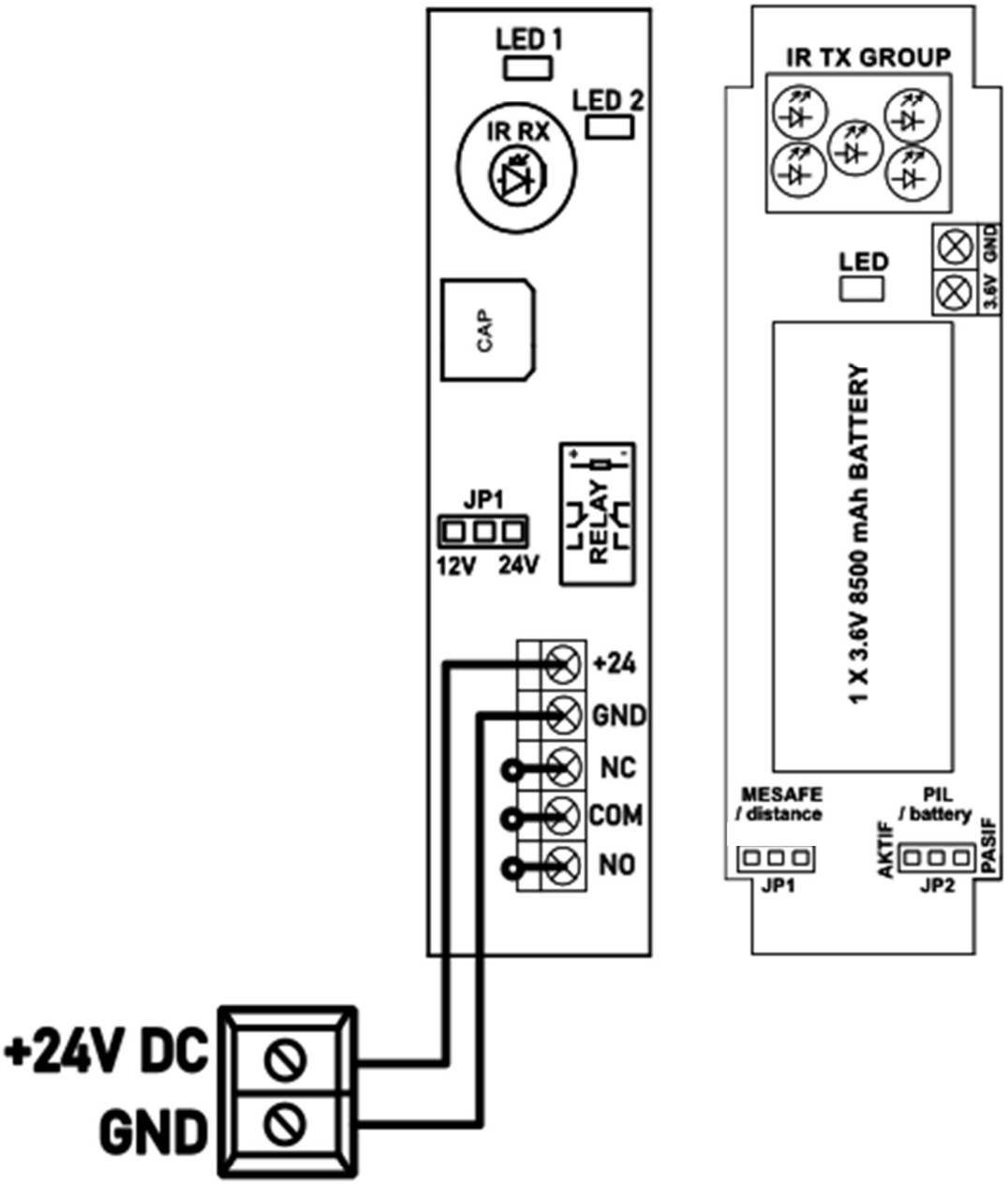


Figure 6.6 – HFBM dimensions (unit: mm)

7. WIRING DIAGRAM



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