

# U-PROX PIR Combi User Manual

## Wireless Motion and Breakglass Detector with Pet Immunity

### Table of Contents

- Introduction
  - Safety Warnings
  - Applications for Customization
  - Description and Principle of Operation
  - Functional Elements
  - Technical Specifications
  - Installation Instructions
    - 7.1 Selecting the Installation Location
    - 7.2 Mounting Procedures (Wall and Angle Bracket Options)
  - Operation and Settings
    - 8.1 Device Registration
    - 8.2 Alarm Indication and Communication Test
    - 8.3 Configuring Settings
  - Maintenance and Service
  - Compliance and Warranty
  - Scope of Delivery
- 

## 1. Introduction

The U-PROX PIR Combi is a combined wireless motion detector and acoustic breakglass sensor designed for indoor residential or industrial premises. Equipped with a PIR sensor and a microphone, it detects changes in the thermal balance or the sound of breaking glass. When triggered, the device sends an alarm notification securely to the U-PROX control panel. This sensor is intended for indoor use only.

For technical support, please call +38(091)481-01-69 or email

[support@u-prox.systems](mailto:support@u-prox.systems)

## 2. Safety Warnings

## Battery Safety:

This device is powered by a built-in 3V CR123A lithium battery. Replacing the battery with an incorrect type can lead to fire or explosion. Always dispose of used batteries in accordance with local regulations.

## Installation Precautions:

Install the device only when the power is off and follow all electrical and fire safety guidelines. Do not disassemble the device or its power supply while energized.

## Handling:

Avoid exposing the sensor to extreme conditions or using non-approved accessories.

## 3. Applications for Customization

The U-PROX PIR Combi is designed to integrate seamlessly with the U-PROX security system. Customize its settings and monitor its performance using:

- **U-PROX Installer Mobile Application:** Use your mobile device to perform setup, testing, calibration, and configuration of the sensor.
- **Installer Web Portal:** Access the web portal at

<https://security.u-prox.systems/ua/u-prox-pir-combi-ua/>

for comprehensive configuration and remote monitoring.

## 4. Description and Principle of Operation

The U-PROX PIR Combi is a dual-function sensor that combines a motion detector and a breakglass detector. It continuously monitors the area for two types of events:

- **Motion Detection:** Using a passive infrared (PIR) sensor, it detects human movement while remaining insensitive to animals up to 20 kg.
- **Breakglass Detection:** The built-in microphone and Fresnel lens detect the sound of glass breaking. The sensor monitors glass dimensions ranging from 0.5 m x 0.5 m to 3.0 m x 3.0 m with a detection angle of 120° and a glass thickness of 2–8 mm.

When an event is detected—either motion or glass breakage—the sensor sends an encrypted alarm notification via an ISM-band wireless interface to the U-PROX control panel.

## 5. Functional Elements



## 6. Technical Specifications

**Power Supply:** 3V, CR123A lithium battery (pre-installed); battery service life up to 5 years

### Wireless Communication:

- ISM-band interface with multiple channels using secure two-way communication (256-bit encryption and sabotage detection)
- **ITU Region 1 (EU, UA):** 868.0 to 868.6 MHz, 100 kHz bandwidth, 20 mW max, up to 4800 m (line-of-sight)
- **ITU Region 3 (AU):** 916.5 to 917 MHz, 100 kHz bandwidth, 20 mW max, up to 4800 m (line-of-sight)

**Operating Temperature:**  $-10^{\circ}\text{C}$  to  $+55^{\circ}\text{C}$

### Dimensions & Weight:

- Device: 90 x 60 x 34.35 mm; Weight: 150 grams
- Bracket Options:
  - With an angle bracket: 90 x 60 x 41.6 mm
  - With a wall bracket: 90 x 60 x 48.84 mm

### Breakglass Detection:

- Glass Dimension Range: 0.5 m x 0.5 m to 3.0 m x 3.0 m
- Detection Angle:  $120^{\circ}$

- Glass Thickness: 2 mm to 8 mm

### **Motion Detection:**

- Maximum Working Distance: 8 m
- Target Detection Speed: 0.3 to 3 m/s
- Optical Noise Immunity: >6500 Lux

### **Additional Parameters:**

- Pet Immunity: Up to 20 kg
- Detection Angle for Glass: 88°
- Environmental Conditions: Permissible humidity up to 75%; Environmental class II (EN 50131-1)
- Security Grade: 2

## **7. Installation Instructions**

### **7.1 Selecting the Installation Location**

**Suitable Locations:** Install indoors in areas where the sensor's field of view will cover the most likely points of intrusion (e.g., near windows or glass doors).

#### **Avoid:**

- Areas with direct sunlight or rapid temperature changes
- Rooms with high levels of radio interference
- Locations near objects that may block or attenuate the signal
- Areas where the sensor is exposed to excessive humidity or extreme temperatures

**Tip:** Use the U-PROX Installer app to perform a range test for optimal placement.

### **7.2 Mounting Procedures**

#### **Option A – Wall Bracket Installation:**

- **Prepare the Surface:** Ensure the wall is clean, dry, and flat.
- **Mount the Bracket:** Secure the wall bracket using the screws and dowels provided in the mounting kit.
- **Install the Sensor:** Place the sensor onto the bracket and slide it down until the tamper switch locks. A confirmation light on the indicator will show that the sensor is properly installed.

## Option B – Angle Bracket Installation:

- **Prepare the Surface:** Verify the surface suitability as with wall installation.
- **Attach the Angle Bracket:** Fix the angle bracket securely with the provided hardware.
- **Position the Sensor:** Insert the sensor into the bracket ensuring proper alignment and that the tamper switch is engaged.

## 7.3 Connecting External Components

If additional external components (such as an LED for visual arm/disarm confirmation) are required, connect them to the dedicated contacts as follows:

- **LD Contact:** + LED (red)
- **GND Contact:** Ground (blue)
- **DC Contact:** Sensor (yellow)

# 8. Operation and Settings

## 8.1 Device Registration

Launch the U-PROX Installer Mobile App or Web Portal and log in with your installer credentials.

- **Add the Device:** Follow the on-screen instructions to register the U-PROX PIR Combi with the U-PROX control panel. For best results, hold the sensor within approximately 1 meter of the control panel during registration.

## 8.2 Alarm Indication and Communication Test

**Indicator Feedback:** The sensor's light indicator will display the operating mode. During a range test, the LED may flash different colors to indicate the quality of the signal:

- **Green:** Excellent signal (up to  $-87$  dBm)
- **Yellow:** Average signal ( $-88$  to  $-94$  dBm)
- **Red:** Poor signal ( $-95$  to  $-111$  dBm)

**Alarm Notification:** When motion or glass breakage is detected, the sensor sends an encrypted alarm notification to the U-PROX control panel.

## 8.3 Configuring Settings

- **Light Indication:** Toggle the LED indicator on/off according to your requirements.
- **Group Assignment:** Assign the sensor to the appropriate security group (for example, “Front Door” or “Living Room Window”) to enable integrated system monitoring.
- **Additional Settings:** Further settings may be configured via the U-PROX Installer app or web portal to customize behavior, such as alarm delays and response to tampering.

## 9. Maintenance and Service

### Cleaning:

Wipe the device periodically with a soft, dry cloth to remove dust and debris.

### Battery Replacement:

If the battery’s service life ends (up to 5 years), replace the CR123A battery only with the approved type. Follow manufacturer guidelines and dispose of used batteries in compliance with local regulations.

### Troubleshooting:

If the sensor does not communicate correctly, verify the installation, check for interference, and consult the diagnostics available in the U-PROX Installer app.

## 10. Compliance and Warranty

### Standards Compliance:

The U-PROX PIR Combi complies with the Radio Equipment Directive 2014/53/EU and the Directive 2011/65/EU (RoHS). The original Declaration of Conformity is available on the U-PROX website in the Certificates section.

### Warranty:

Warranty for U-PROX devices (excluding batteries) is valid for two years from the purchase date. If issues arise, please contact

[support@u-prox.systems](mailto:support@u-prox.systems)

—remote troubleshooting may be available.

## 11. Scope of Delivery

The complete package includes:

- U-PROX PIR Combi Sensor
- CR123A Battery (Pre-installed)
- Wall Bracket
- Angle Bracket
- Mounting Kit
- Quick Start Guide

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