U-PROX Relay AC User Manual

Wireless Relay Module for Remote Electrical Control

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1. Introduction

The U-PROX Relay AC is a wireless relay module designed to remotely control the electrical supply of appliances. As an integral component of the U-PROX security alarm system, it enables secure switching of electrical loads from a remote control panel. The module is managed via the U-PROX Installer mobile application, providing both ease of use and flexibility.

For technical support, please contact:
Phone: +38(091)481-01-69
Email: support@u-prox.systems

2. Safety Warnings

Electrical Safety

The U-PROX Relay AC controls high-voltage AC power (110–250V, 50–60Hz). It must be installed in a protective enclosure (e.g., a wall switch box with a minimum depth of 60 mm) on a 10A line. All installation work must be carried out by a qualified, licensed electrician.

Handling and Installation

Always disconnect the power supply before installation or servicing. Do not disassemble or modify the device. Failure to follow these instructions may result in severe injury, electrocution, or fire.

Access Restriction

After installation, all components—including the antenna—must be inaccessible to users.

3. Applications for Customization

The U-PROX Relay AC integrates seamlessly into the U-PROX security system. Its operation can be customized and monitored using:
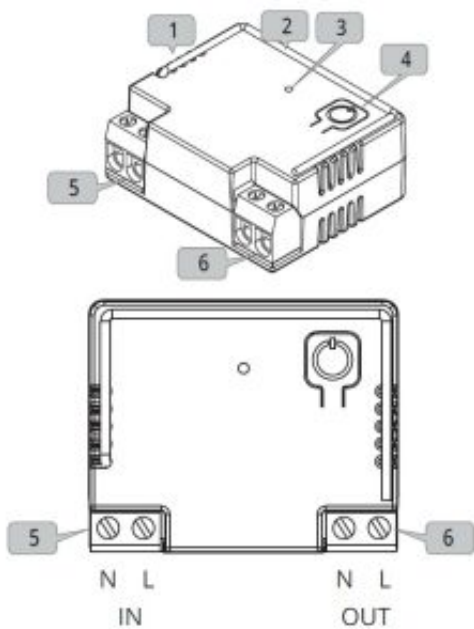
- **U-PROX Installer Mobile Application:** Register the module, adjust output settings, and monitor system performance directly from your mobile device.
- **Installer Web Portal:** Access advanced configuration and remote management options via the web.

4. Description and Principle of Operation

The U-PROX Relay AC is a wireless relay module that controls the electrical supply to connected appliances. When a command is issued from the U-PROX control panel, the module activates its relay contacts to switch the connected load. It uses an ISM-band wireless interface with multiple channels for secure, two-way communication, including sabotage detection with 256-bit encryption.

5. Functional Elements

1. **Device Case:** The main housing (available in white or black).
2. **Antenna:** Ensures robust wireless

communication.

3. **LED Indicator:** Displays the operational status.
4. **On/Off Button:** Powers the device.
5. **Power IN Contacts:** Connects to the AC power supply.
6. **Power OUT Contacts:** Provides the controlled output to the connected appliance.

6. Technical Specifications

Power Supply

110–250V AC, 50–60Hz

Wireless Communication

- **Interface:** ISM-band wireless interface with multiple channels
- **Frequency (ITU Region 1):** 868.0–868.6 MHz
- **Frequency (ITU Region 3):** 916.5–917 MHz
- **Bandwidth:** 100 kHz
- **Maximum Transmitter Power:** 20 mW
- **Range:** Up to 4800 m (line-of-sight)
- **Security:** Secure two-way communication with a 256-bit encryption key and sabotage detection

Operating Conditions

- **Operating Temperature:** −10°C to +55°C
- **Dimensions & Weight:** 44 x 36 x 19.4 mm; Weight: 55 grams
- **Response Delay:** Maximum of 5 seconds

Output Characteristics

- **Output Contacts:** Configured as Neutral (N) and Line (L)
- **Load:** Up to 10A @ 250V AC (maximum)

- **Impulse Duration:** Adjustable from 0.1 to 250 seconds
- **Modes:** Supports impulse and trigger (bistable) modes

Environmental & Safety Ratings

- **Environmental Class:** II (as per EN 50131-1)
- **Permissible Humidity:** Up to 75%
- **Security Grade:** 2
- **Operational Endurance:** Over 100,000 switching operations

7. Installation Instructions

7.1 Preparing the Installation Site

Location: The relay module should be installed indoors in a secure, protected area.

Requirements: Ensure the installation is performed in a wall switch box or similar protective enclosure (minimum depth 60 mm) on a 10A line.

Qualified Personnel: All work must be done by a licensed electrician in accordance with national regulations.

7.2 Mounting and Wiring

Surface Preparation: Ensure that the mounting surface is clean, flat, and robust.

Mounting the Device: Secure the device case to the chosen surface using the appropriate mounting hardware provided in the quick start guide.

Wiring Connections

- Connect the AC power supply (110–250V, 50–60Hz) to the Power IN contacts.
- Connect the electrical load (appliance) to the Power OUT contacts (Neutral and Line).
- Ensure that all wiring is performed with the power supply disconnected.

Final Checks: Verify that the antenna is properly installed and that all contacts are securely connected. Ensure that the device is not accessible to end users once installed.

8. Operation and Settings

8.1 Device Registration and Pairing

Launch the U-PROX Installer: Open the U-PROX Installer mobile application or access the installer web portal.

Register the Relay: Follow the on-screen instructions to add the U-PROX Relay AC to your security system. The device should be within approximately 1–2 m of the control panel during registration.

Confirmation: A steady LED light indicates successful registration.

8.2 Output Configuration and Testing

Testing the Relay: Use the U-PROX Installer app to verify that the relay operates as expected. The module should switch the connected load when activated.

Impulse Duration: Configure the adjustable impulse duration (0.1 to 250 seconds) according to your application requirements.

Response Verification: Confirm that the response delay remains below the maximum of 5 seconds.

9. Maintenance and Service

Cleaning: Regularly clean the device case and wiring connectors with a soft, dry cloth.

Inspection: Periodically inspect all wiring and mounting hardware to ensure secure connections.

Troubleshooting: If the device malfunctions, verify that the power supply is stable and check the U-PROX Installer app's diagnostics.

> Important: Do not attempt any repairs or modifications yourself. All maintenance should be performed by qualified professionals.

10. Compliance and Warranty

Standards Compliance: The U-PROX Relay AC complies with the Radio Equipment Directive 2014/53/EU and 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 date of purchase. If any issues arise, please contact **support@u-prox.systems** for assistance;

remote troubleshooting may be available.

11. Scope of Delivery

The complete package includes:

- U-PROX Relay AC Module
- Quick Start Guide

For further information and support, please refer to the U-PROX Installer mobile application or visit the U-PROX website.