

# U-PROX Relay DC User Manual

Wireless Low-Current Relay for Remote Control of Appliances

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## 1. Introduction

The U-PROX Relay DC is a wireless low-current relay designed to control appliances remotely. It forms part of the U-PROX security alarm system and enables secure switching of connected devices via a wireless ISM-band interface. The module is configured using the U-PROX Installer mobile application and is ideal for integrating low-current loads into your security system.

For technical support, please contact:

Phone: +38(091)481-01-69

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

## 2. Safety Warnings

### Electrical Safety:

This module controls AC/DC power (operating at 10.8 to 13.2 VDC for its power supply, with

relay contacts rated up to 10A at 250V AC or 30V DC). Installation and maintenance should be performed by a qualified electrician. Always disconnect power before installing or servicing the device.

### Handling:

Do not disassemble or modify the device. Failure to follow the provided instructions may result in hazardous conditions, including the risk of electrocution.

### Installation Precautions:

The device must be installed in a secure enclosure (e.g., a wall switch box with a minimum depth of 60 mm) to prevent user access to live parts, including the antenna.

## 3. Applications for Customization

The U-PROX Relay DC integrates seamlessly with the U-PROX security system. Customize its operation and monitor its performance using:

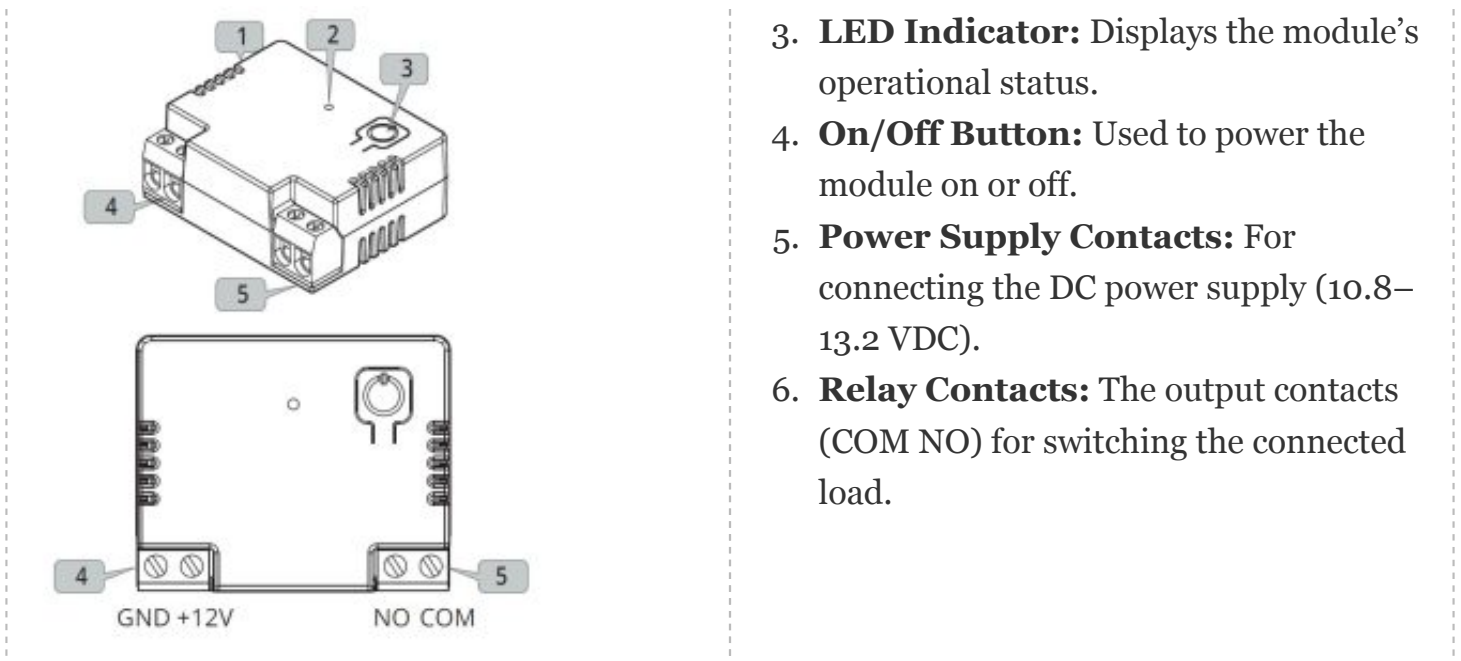
- **U-PROX Installer Mobile Application:** Quickly register the relay, adjust output settings, and monitor system status.
- **Installer Web Portal:** Access advanced configuration options and perform remote management.

## 4. Description and Principle of Operation

The U-PROX Relay DC module is designed to switch low-current loads remotely. When a command is issued from the U-PROX control panel, the relay activates its internal switch contacts to control the connected appliance. The device uses a secure, encrypted ISM-band wireless interface (with 256-bit encryption and sabotage detection) to ensure reliable two-way communication.

## 5. Functional Elements

	<ol style="list-style-type: none"><li>1. <b>Device Case:</b> The main enclosure (available in white or black).</li><li>2. <b>Antenna:</b> Provides robust wireless communication.</li></ol>
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## 6. Technical Specifications

**Power Supply:** 10.8 to 13.2 VDC.

### Wireless Communication:

- Interface: ISM-band wireless interface with multiple channels
- **Frequency (ITU Region 1):** 868.0 to 868.6 MHz; **(Region 3):** 916.5 to 917 MHz
- Bandwidth: 100 kHz
- Max 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 Temperature:**  $-10^{\circ}\text{C}$  to  $+55^{\circ}\text{C}$

**Dimensions & Weight:** 44 x 36 x 18 mm; Weight: 55 grams

**Response Delay:** Maximum delay of 5 seconds

### Output Characteristics:

- Output Contacts: COM NO, rated for up to 10A at 250V AC or 30V DC (max)
- Impulse Duration: Adjustable from 0.1 to 250 seconds
- Modes: Impulse and trigger (bistable)

### Environmental Ratings:

- Environmental Class: II (EN 50131-1)

- Permissible Humidity: Up to 75%
- Security Grade: 2
- Operations: > 100,000 switching operations

## 7. Installation Instructions

### 7.1 Preparing the Installation Site

**Location:** Install the relay module indoors in a secure and protected area.

**Requirements:** The module should be installed in a wall switch box or other protective enclosure with a minimum depth of 60 mm, on a 10A line.

**Note:** All electrical work should be performed by a licensed electrician following national regulations.

### 7.2 Mounting and Wiring

**Surface Preparation:** Ensure that the installation surface is clean, flat, and structurally sound.

**Mounting:** Securely attach the device case to the chosen surface using the appropriate mounting hardware. Fasten the module with the locking screw.

**Wiring:**

- Connect the DC power supply (10.8–13.2 VDC) to the Power IN contacts.
- Connect the appliance or load to the Relay Contacts (COM NO).
- Ensure that all connections are secure and compliant with applicable safety standards.

**Final Checks:** Confirm that the antenna and all contacts are correctly positioned and that the device is inaccessible to users after installation.

## 8. Operation and Settings

### 8.1 Device Registration and Pairing

Launch the U-PROX Installer mobile application or access the installer web portal. Follow the on-screen instructions to add the U-PROX Relay DC module to your security system. Ensure that the module is within the recommended range (typically 1–2 m) of the control panel during registration.

**Confirmation:** The LED indicator on the module will confirm successful registration.

## 8.2 Output Configuration and Testing

**Output Test:** Use the U-PROX Installer app to test the relay's output. Verify that the relay switches the connected load as configured.

- **Adjustable Impulse Duration:** Configure the impulse duration (0.1 to 250 seconds) as required by your application.
- **Response Verification:** Confirm that the response delay does not exceed 5 seconds and that the module performs consistently.

**Configuration:** Adjust additional settings (such as load type, output mode, and alarm thresholds) via the U-PROX Installer application.

## 9. Maintenance and Service

### Cleaning:

Clean the device case and connectors periodically with a soft, dry cloth to prevent dust accumulation.

### Inspection:

Regularly inspect wiring connections and mounting hardware for secure attachment.

### Troubleshooting:

If the relay does not function correctly, verify that the power supply is stable, recheck all wiring connections, and consult the diagnostic tools available in the U-PROX Installer app.

**Note:** Do not attempt to modify or repair the module yourself; all maintenance should be performed by qualified personnel.

## 10. Compliance and Warranty

### Standards Compliance:

The U-PROX Relay DC 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 purchase date. If 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 DC Module
- Quick Start Guide