U-PROX WDC Uni User Manual

Wireless Magnetic Contact Sensor with Angle-Adjustable Alarm and Glass Breakage Detection

This model incorporates all features of the WDC Plus – including integration with roller shutters, indoor/outdoor use, impact and vibration sensing, over-the-air (OTA) updates, three available body colors, and arming in airing mode – and adds a unique glass breakage detection function. It is fully compatible with the U-PROX security system.

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1. Introduction

The U-PROX WDC Uni is a wireless magnetic contact sensor designed to monitor the open/close status of doors, windows, and similar structural elements. In addition to the standard detection provided by the WDC Plus, the Uni model integrates a glass breakage detection function, enabling it to detect both intrusion attempts and potential glass break incidents.

For technical support, please call +38(091)481-01-69 or email support@u-prox.systems.

2. Safety Warnings

Battery and Electrical Safety:

This device is powered by a built-in CR123A lithium battery. Replacing the battery with an incorrect type may result in fire or explosion. Dispose of used batteries in accordance with local regulations. Always install and service the sensor with the power supply turned off.

Installation and Handling:

Do not disassemble the device or its power supply when energized. Follow all electrical and fire safety guidelines during installation and maintenance.

3. Applications for Customization

The U-PROX WDC Uni integrates seamlessly into the U-PROX security system. Customize and monitor its operation using:

- **U-PROX Installer Mobile Application:** For quick setup, testing, calibration, and configuration.
- **Installer Web Portal:** For comprehensive remote configuration at https://web-security.u-prox.systems/.

4. Description and Principle of Operation

The U-PROX WDC Uni is a magnetic contact sensor that detects door or window openings via its built-in reed switch. When an opening or displacement is detected, it sends an encrypted alarm notification to the central U-PROX control panel using a two-way ISM-band wireless interface.

Uni extends the standard functionality by incorporating a glass breakage detection feature. In this mode, the sensor also monitors for vibrations or acoustic signals associated with breaking glass, alerting the system to potential forced entry attempts. Combined with its angle-adjustable alarm capability, the WDC Uni is ideal for installations where standard horizontal mounting is impractical.

5. Functional Elements of the Device

The sensor comprises the following parts:

- **Bottom Plate of the Magnet Case**
- **Magnet Case Cover**
- **Neodymium Magnet**
- **Bottom Plate of the Sensor Case**
- **Upper Cover of the Sensor Case with Device Capsule**
- **Magnet Position Marks**
- **LED Indicator** – displays device status, including alarm configuration and glass break detection status
- **Protective Plastic Plate for the Device Board**
- **Tamper Contact**
- **Connector for External Sensor/LED:**
    - LD contact (+ LED, red)
    - GND contact (ground, blue)
    - DC contact (reed switch, yellow)
- **On/Off Button**
- **CR123A Battery (Pre-installed)**
- **External Sensor (Reed Switch)**
- **External LED (Optional)**
- **Angle Adjustment Mechanism** – unique to this model, allowing the sensor to be set at a non-standard angle.
- **Glass Breakage Detection Component** – integrated to sense vibrations and acoustic cues from breaking glass.

6. Technical Specifications

Power Supply: 3V, CR123A lithium battery with a service life of up to 5 years.

Wireless Communication:

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

Operating Temperature: −20°C to +50°C

Environmental Conditions: Permissible humidity up to 95%; Climate class III (EN 50131-1)

Dimensions & Weight: Approximately 85 x 20.9 x 20.4 mm (sensor); Weight: 66 grams;

Magnet: 85 x 11 x 6 mm

Protection: IP55 rated

Additional Features: Built-in temperature sensor, OTA automatic update, three available body colors, angle-adjustable alarm, and integrated glass breakage detection.

7. Installation Instructions

7.1 Selecting the Installation Location

Avoid areas with high humidity, extreme temperatures, or heavy radio interference. For optimal performance:

- Ensure the sensor is within 1 meter of the security center during registration.
- Select a location where the sensor's field of view can cover doors, windows, or roller shutters.
- Use the U-PROX Installer app to verify signal strength and confirm that the installation site is optimal for both contact detection and glass breakage sensing.

7.2 Mounting and Angle Adjustment

This sensor supports both vertical and horizontal mounting. Its unique angle-adjustment mechanism allows for optimal configuration even when the sensor is installed at an angle.

1. **Install the Magnet:** Securely fix the magnet at the desired location (e.g., on a door, window frame, or roller shutter) using the provided mounting kit or adhesive tape.
2. **Mount the Sensor Base:** Attach the sensor's bottom plate to the surface using screws or double-sided adhesive tape. Ensure the mounting surface is clean and dry.
3. **Adjust the Angle:** Before locking the sensor in place, adjust its angle using the built-in mechanism. This adjustment not only optimizes contact detection but also calibrates the glass breakage detection sensor.
4. **Install the Sensor:** Slide the sensor into the base and ensure the tamper contact locks properly (the LED indicator will flash to confirm proper locking).

7.3 Connecting External Components

If additional external components (such as an external LED for visual confirmation) are required, connect them to the dedicat