

## I. Overview

HHD5-II Self-Resetting Overvoltage & Undervoltage Protection Relay (hereinafter referred to as the protector) is a new-generation household protection device developed based on current municipal power supply conditions. It activates protection when the voltage is abnormal: when the municipal power supply voltage exceeds or falls below the protector's operating voltage, the protector can quickly and reliably cut off the load power supply to protect electrical appliances and personal safety.

When the municipal power supply voltage returns to normal, the protector automatically switches on the power supply and resumes power delivery, realizing fully automated control. It features simple and convenient operation, stable and reliable performance, a compact structure, an attractive appearance, and can be installed in parallel with DZ47 (C45) devices.

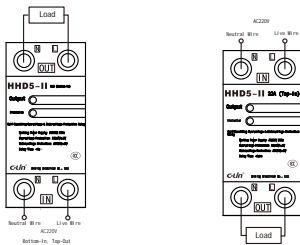
This protector complies with the relevant requirements of GB/T 14048.5.

## II. Main Technical Specifications

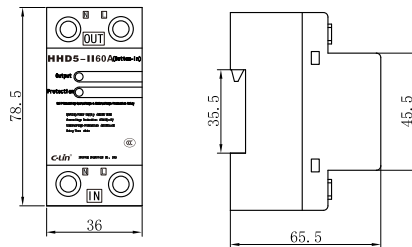
- Working power supply (control power supply voltage): AC220V 50Hz
- Maximum passing current: 32A, 40A, 60A (resistive load)
- Maximum load power: 4.4kVA, 7kVA, 8.8kVA, 13.2kVA
- Overvoltage action cutoff value:  $AC264V \pm 5V$
- Overvoltage recovery value:  $AC240V \pm 5V$
- Undervoltage action cutoff value:  $AC176V \pm 5V$
- Undervoltage recovery value:  $AC185V \pm 5V$

- Power-on delay after power failure: <math><1\text{min}</math>
- Operation delay value:  $1\text{s} \sim 5\text{s}$
- Ambient temperature:  $-5 \sim 40$
- Altitude: 2000m
- Humidity: When the maximum temperature at the installation site is  $40^{\circ}\text{C}$ , the relative humidity of the air shall be 50%. Higher relative humidity is allowed at lower temperatures (e.g., up to 90% at  $20^{\circ}\text{C}$ ). Special measures shall be taken for condensation occasionally caused by temperature changes.
- Pollution degree: Class 3
- Installation method: 35mm DIN rail mounting
- Conventional heating current Ith: 60A
- Rated insulation voltage  $U_i$ : 380V
- Rated impulse withstand voltage  $U_{imp}$ : 2.5kV

## III. Wiring Diagram



## IV. Outline Dimension Drawing (mm)



## V. Operating Instructions

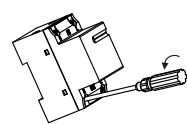
- Connect the input terminal (IN) and output terminal (OUT) correctly in accordance with the product's markings (the load power must be less than the product's rated power).
- Indication status of the two LED indicator lights on the HHD5-II panel: After the product is powered on, the protection indicator (red light) illuminates, and there is no power output from OUT. After a delay protection of approximately 1 minute, the output indicator (green light) illuminates, and OUT outputs power normally.
- When overvoltage or undervoltage occurs, the product enters the protection state: the red light illuminates, and the load power supply is automatically cut off. When the voltage returns to normal, after a delay of approximately 1 minute, the green light illuminates, and the product automatically connects the load power supply, resuming normal output operation.

## VI. Precautions

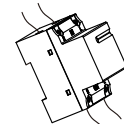
- When the product's input terminal is powered on for the first time, there will be a delay of approximately 1 minute before power is supplied to the load.
- Product wiring: N denotes the neutral wire, and L denotes the live wire. Do not reverse the connections.
- After the product is powered on, do not touch live parts to avoid electric shock.
- To prevent contact overheating under high current, ensure that the terminal screws are tightly fastened during wiring. Otherwise, excessive contact resistance will cause overheating at the terminals, which may damage the product or lead to other accidents.

## VII. Installation Method (Taking HHD5-II as an Example)

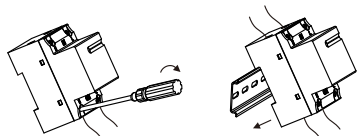
**Note:** The main circuit power supply must be cut off before installation or disassembly.



(1) Loosen the wiring screws



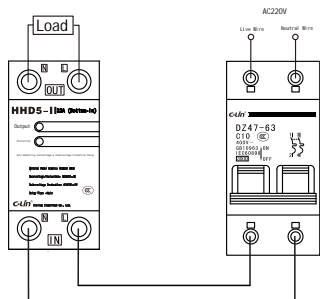
(2) Connect the wires



(3) Tighten the wiring screws (4) Snap the product onto the DIN rail

### VIII. Application Circuit Example (Taking HHD5-II (Bottom-In, Top-Out) as an Example)

Wiring for Direct Control Mode: If the controlled electrical appliance uses single-phase power supply and its power consumption does not exceed the rated capacity of the controller, the direct control mode can be adopted. The wiring method is shown in the figure below.



## IX. Ordering Instructions

Please specify the product model, protection current specification, working voltage, and quantity. If there are special requirements, they should be noted separately.

### Example:

HHD5-II 32A AC220V 100 units (Bottom-In, Top-Out). If not specified, the default configuration is Top-In, Bottom-Out.



产品合格证

产品合格证

符合标准: GB/T 14048.5

检验员: 徐01

出厂日期: 见产品或包装

本产品经检验合格, 准予出厂。

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使用说明书  
Products Instructions

HHD5-II

Self-Resetting Overvoltage & Undervoltage Protection Relay

Thank you very much for using the Xinling brand protection relay. Please read the user manual before use!

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