



Hard Wired Interconnected Relay Module

User's Manual



1.Important Safeguards and Warnings

This section introduces content covering the proper handling of the device, hazard prevention, and prevention of property damage. Read carefully before using the device, and comply with the guidelines when using it.

Operation Requirements



WARNING

- Never ignore any alarm. Failure to respond may lead to serious injury or death.
- The device will activate after being fully mounted to the mounting bracket.



CAUTION

- Make sure that the power supply of the device works properly before use.
- Use the device according to the operating environment.
- Only use the device within the rated power range.
- Transport, use and store the device under allowed humidity and temperature conditions.
- Prevent liquids from splashing or dripping on the device. Make sure that there are no objects filled with liquid on top of the device to avoid liquids flowing into it.
- Avoid using relays in strong magnetic field because it will change the parameters of relay such as operate and release voltage.
- To maintain the performances of relays, please do not make the relay drop or be shocked strongly.
- Please avoid using the relay in an environment containing organic silicon, otherwise the entry of organic silicon into the relay may acceleration contact failure. If there are harmful substances and elements such as water vapor, H₂S, SO₂, NO₂, Cl, P, dust, etc., as well as unknown harmful substances and elements. In the use of environmental gases, it may lead to increased contact resistance and poor contact during the use of relays. In the above situations, please control the materials that produce harmful substances and elements or use plastic sealed type, and arrange relevant tests to confirm that it meets the requirements for actual use.

Installation Requirements



WARNING

- The device **MUST NOT** be powered from a light dimmer circuit.
- The device **MUST NOT** be connected when the house wiring insulation is being checked with high voltages. i.e. Do not use a high voltage insulation tester on the device.
- Before installation and removal, disconnect the Mains power supply.
- The device must be installed by a qualified electrician. There are no repairable parts inside.
- Strictly comply with the local electrical safety code and standards, and check whether the power supply is correct before operating the device.

- Do not connect the device to two or more kinds of power supplies, unless otherwise specified, to avoid damage to the device.
- The device must be installed in a location that only professionals can access, to avoid the risk of non-professionals becoming injured from accessing the area while the device is working. Professionals must have full knowledge of the safeguards and warnings of using the device.

 CAUTION

- Observe all safety procedures and wear required protective equipment provided for your use while working at heights.
- Do not expose the device to direct sunlight or heat sources.
- Keep the original packing material well because you might need it to pack the device and send it back for repair.
- Make sure the application scenario conforms to installation requirements. Contact your local retailer or customer service center if there is any problem.
- All installation and operations shall conform to your local electrical safety requirements, fire protection regulations, and other relevant regulations.
- The device doesn't need to be earthed. The device is a class II electrical appliance.
- This product must be installed by a licensed electrician in accordance with AS/NZS 3000.

Maintenance Requirements

- Do not clean the device with any cleaning products.
- Disposal of a battery into fire or a hot oven, or mechanically crushing or cutting of a battery, that can result in an explosion.
- Leaving a battery in an extremely high temperature surrounding environment that can result in an explosion or the leakage of flammable liquid or gas; and a battery subjected to extremely low air pressure that may result in an explosion or the leakage of flammable liquid or gas.

2.Introduction

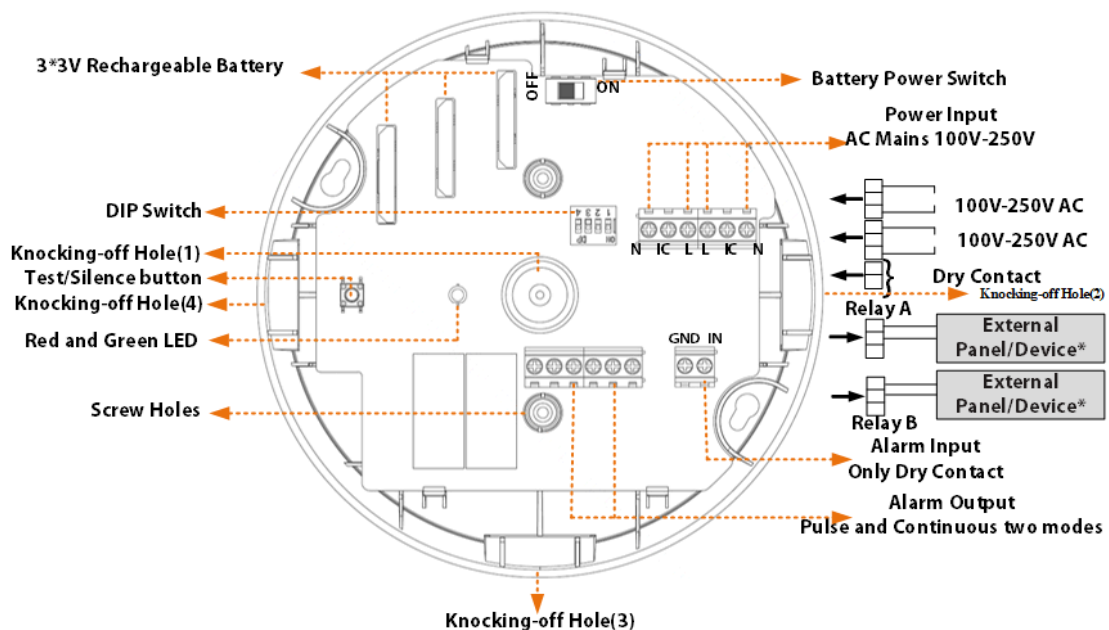
2.1 Overview

The Hard Wired Interconnected Relay Module is designed to enable ad hoc networking with Wisualarm mains powered devices, supporting the interconnection of up to 24 devices.

The relay features a dry contact input that can receive alarm outputs from other devices. However, the alarm output signal from these devices must be processed in a quarantine state, as it is a passive signal.

The module operates on AC mains power ranging from 100V to 250V and is equipped with a built-in rechargeable lithium battery backup to ensure operation in the event of a mains power failure.

2.2 Product Profile



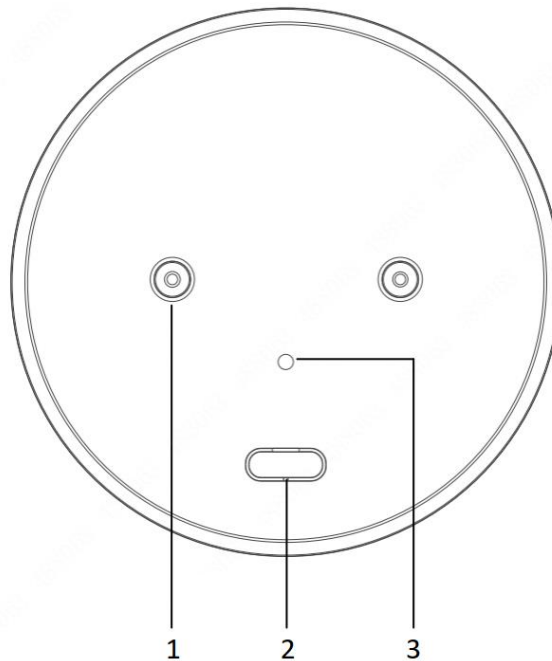


Table 2-1 Panel introduction

No.	Name	Introduction
1	Screw Hole	Secure the relay cover.
2	Test/Silence Button	Used for testing and pairing. For specific functions and operations, refer to the table.
3	Indicator	Indicate power, alarm, and other states.

Table 2-2 Button and Indicator Functions

State	Action	Introduction
Normal Test	Press the button once	After pressing the button, the red LED flashes 3 times, pauses for 1 second, then flashes 3 times again
Indicator	Mains power supply	Green LED is constantly on
	Backup power supply	Green LED flashes once every minute
	Low backup power	Red LED flashes once every minute
	Alarm	Red LED flashes once every second
Silence	Press the button once	All interconnected devices are temporarily silenced

3. Technical Information

Specification	Introduction
Power Supply	AC 100-250V
Battery Back-up	9V Lithium rechargeable (non-replaceable)
Operating Temperature	-10°C to +50°C (+14°F to +122°F)
Operating Humidity	≤95% RH (non condensing)
Contact Rating	AC 250V, 5A resistive, Continuous or Pulse mode
Output	2 volt free contacts (NO/NC)
Input	1 dry contact input
Maximum Number of Interconnected Units	24
Standby Power Consumption	<20μA
Battery Life	700 hours without alarm when the battery is fully charged
Dimensions	Φ144.4mm × 36.4mm (Φ5.69" × 1.43")
Weight	232 g (Packaging is not included)

4. Interconnection

This device can be interconnected with Wisualarm mains powered alarms to construct a hybrid system. A maximum of 24 alarms can be interconnected.

Prerequisite

- Make sure all wiring is firmly connected to ensure successful interconnection. Otherwise, the interconnection will fail or device malfunction may occur.
- All installation and operations shall conform to your local electrical safety requirements, fire protection regulations, and other relevant regulations.
- Avoid connecting the alarms to any other model manufactured by a different company. Such connections may cause damage to the alarms and pose risks of electric shock or fire hazards.

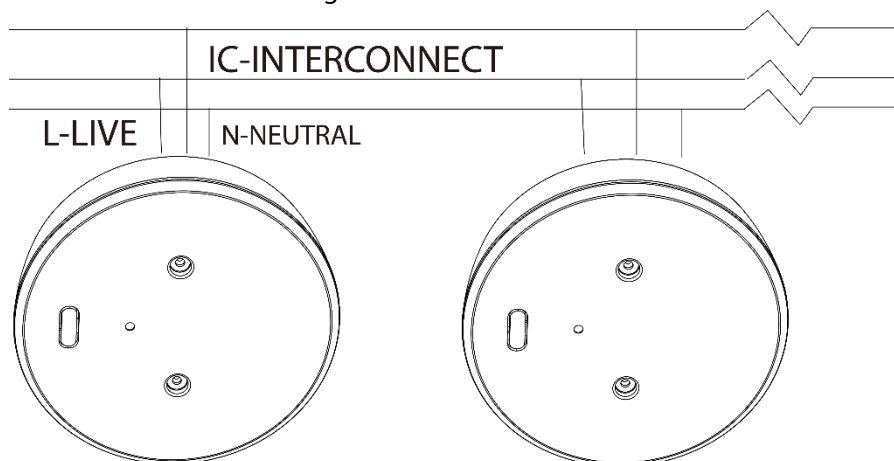
How to interconnect

To interconnect two or more devices, connect all the IC terminals together.



- The interconnecting wire (minimum 0.75 mm² cable) must be treated as if it were Live. It should be insulated and sheathed.
- Wiring must be by a licensed electrician in accordance with BS 7671. If there are other relevant standards in this region, please comply with local relevant regulatory requirements.
- Do not exceed 250 m of connecting wire per circuit.

Figure 5-1 Interconnection



5. Device Installation

5.1 Packing List

Check the package according to the following checklist. If you find device damage or any loss, contact the after-sales service.

Table 6-1 Checklist

Name	Quantity
Hard Wired Interconnected Relay Module	1
Screw Package	1
User's Manual	1

5.2 Installation Principle

It is recommended to follow local laws and regulations for equipment installation. For example the guidance in British Standard BS 5839-6:2019 or the building code of Australian, state and territory building regulation and AS 1670.1 in general (for further information refer to the relevant standards).



- Mains-operated devices must be installed and interconnected by a licensed electrician in accordance with AS/NZS 3000. Failure to install this device correctly may expose the user to shock or fire hazards and damage the product.
- The device must be continuously powered throughout the day. Do not connect the device to a circuit that can be turned off by a switch.
- Avoid installation in new or renovated buildings until all work is completed.

5.3 Installation Position

The relay module can be installed directly underneath a Mains Powered Smoke/Heat alarm base but can also be sited separately with the cover supplied.



This device is intended for use in ordinary indoor locations of residential accommodation. Construction and layout of individual dwellings will vary, so this should be regarded as a reference only. For further guidance, please check with your local fire station.

Figure 5-1 Wall mount Installation

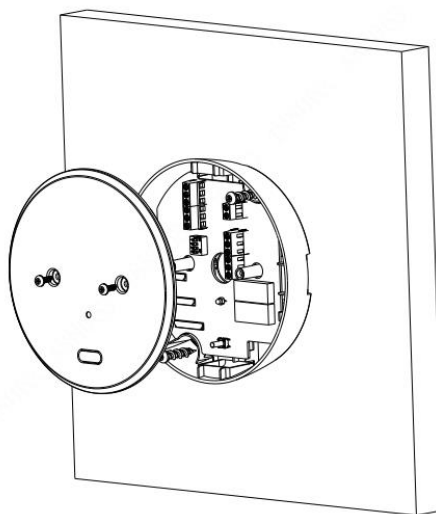


Figure 5-2 Ceiling mount Installation

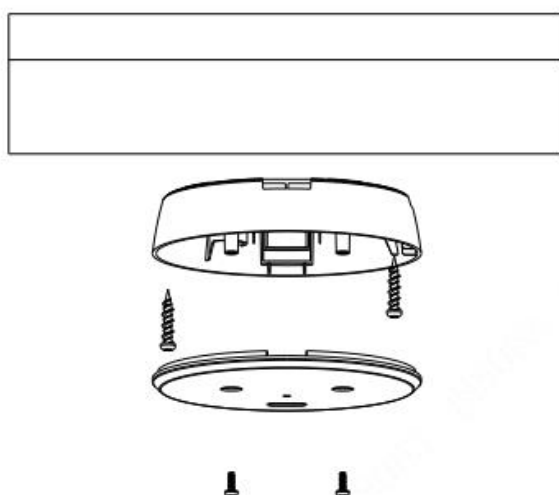
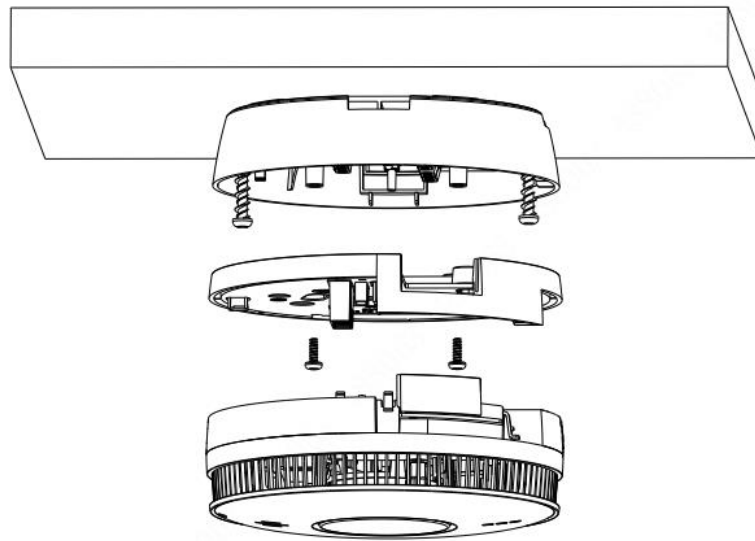


Figure 5-3 Combined installation with Wisualarm's AC device with Hard Wired
Interconnected Module



5.4 Installation Steps

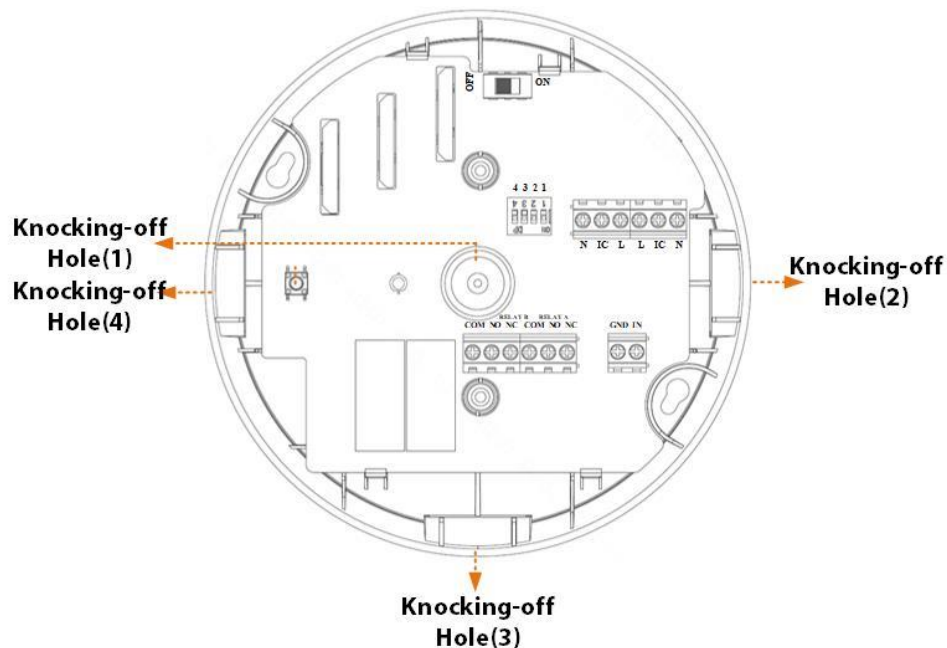
Follow below steps to install the device properly.

- Step 1** Choose a suitable mounting position near the mains supply and the device to be connected to the relay. Keep it away from metal surfaces or large metal objects (such as water cylinder and fuse boards), as these may adversely affect the range of the radio frequency signal.
- Step 2** Use a sharp knife to remove the material from the knocking-off hole. Screw the module to the wall after bringing the power supply through the knocking-off hole.



There are four designated knocking-off holes: three located on the sidewall and one at the center. DO NOT USE the knocking-off hole 4 which is closest to the antenna, otherwise, it will affect the antenna signal.

Figure 5-4 Knocking-off holes



Step 3 Dial the relay and turn on the standby power switch (refer to Chapter 8 for related operations and instructions).

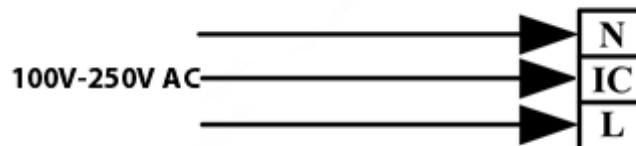
Step 4 Connect the relevant cable to the corresponding wiring sub-section and tighten the screw.

- Main power supply wiring



WARNING

Do not connect the mains supply to the IC interface; otherwise, the device will be damaged.

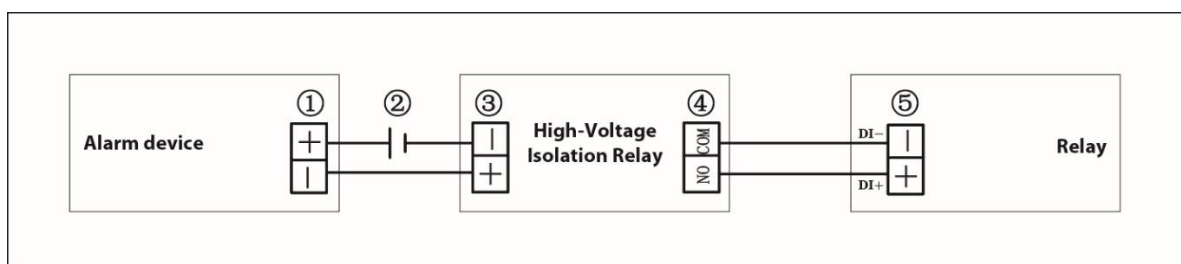


- Input wiring



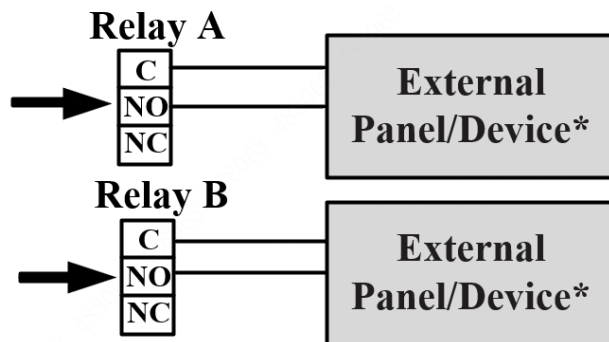
WARNING

- The output signal of the alarm device must be an isolated passive signal; otherwise, the relay will be damaged.
- Do not connect wires while the power is on.
- Do not connect low-voltage equipment directly to the digital input terminals; it must be connected via a high-voltage isolation relay. Failure to do so will result in permanent damage to the equipment.



No.	Introduction
1	Output terminal of the external alarm device; this signal is passive.
2	The power supply voltage is determined by the operating voltage of the high-voltage isolation relay.
3	Power supply interface of the high-voltage isolation relay.
4	Output signal interface of the high-voltage isolation relay.  The input and output terminals of high-voltage isolation relay must meet the safety requirements for double insulation or reinforced insulation specified in IEC 62368.
5	Digital input interface of the relay.

- Output wiring



The wiring must be connected to the terminal block on the mounting plate as follows:

- L: Live - connect to the house wires coloured brown or marked L.
- N: Neutral - connect to the house wires coloured blue or marked N.
- IC: Interconnect – connect all circuit terminals for alarm interconnection (see Section 5 Interconnection).



- Wiring must be in accordance with local codes.
- Checking for Live and Neutral using a two-probe tester is recommended.
- Checking for Live using a neon tester is recommended.
- Make sure that the Interconnect wire is NOT connected to Live or Neutral. DO NOT use an Earth wire to connect the interconnect terminal (IC terminal) for the interconnection.

Step 5 Install the upper cover, making sure that the upper cover is properly aligned with the lower case, and tighten it with the screw.



The battery switch should be switched to the **ON** position prior to completing the installation of the relay and fitting the upper cover.

6. Test and Maintenance

After the installation of the device or regular maintenance, a test must be carried out to confirm that the device is operating properly.

If any device defects are detected during the testing process, please refer to the "Frequently Asked Questions" and "Maintenance" section and retest the device. If it fails to complete the test successfully, please send the device to the manufacturer for repair.

6.1 Test

When the device is not interconnected, press the **Test/Silence** button once, the red LED indicator flashing three times for two cycles.

When the device is interconnected, press and hold the **Test/Silence** button (over 3 seconds), interconnected devices enter test state.

Press and hold the **Test/Silence** button (no more than 3 minutes), the relay A and relay B will be activated.



If the DIP switch 2/3 is in the ON position, the relay A/B will be latching for 5 seconds and then switches off.



WARNING

NEVER IGNORE ANY ALARM.

6.2 Maintenance

We recommend a monthly check of your Relay Module:

- Check that the green LED power indicator is on. If it is off, check circuit breaker fuse, wiring etc. When the mains power is restored, the green light will come on solid.
- The LED flashes red every minute, indicating a battery problem. Check that the slide switch is in the "ON" position and leave the battery to recharge for 2 hours before checking again. If the unit continues to flash red every minute, then the unit is defective and must be replaced.
- End of Life: After 10 years (see date label on the side of the Relay), the device must be replaced.

7.Frequently Asked Questions

Problem	Solutions
The green indicator light flashes once every minute	Only standby power supply works, please check whether the main power wiring and power supply are connected.
After the relay disconnects the main power, the green indicator light is constantly off	Check whether the standby power switch is in the ON position. When only the standby power is supplied, the green light flashes once every minute.
The red indicator light of the relay flashes once every minute	If only the standby power is supplied and the battery is undervoltage, check whether the mains power is connected. After the mains power is connected and the battery is charged for two hours, disconnect the mains power and check whether the green indicator light flashes once every minute.

8. Relay Switch Control

8.1 Standby Power Switch

The hard wired relay module contains a non-replaceable, rechargeable 9V lithium battery designed to power the relay in the event of a mains failure.

Before the relay is connected to the main power supply, please switch the backup power switch to the **ON** position.



WARNING

- Make sure that the mains power supply is disconnected before operating the switch.
- If in the event of a mains failure, the dedicated battery back-up will activate. The green LED will flash every minute to indicate powered by battery back-up. When the mains power has been restored, the LED will change to a constant green.

8.2 DIP Switch

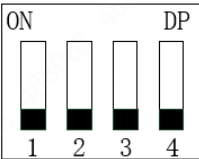
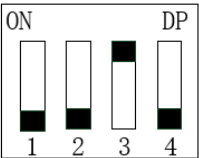
The hard wired relay module is equipped with a set of DIP switches. These DIP switches are used to select the output for relays A and B, as well as the output signal mode. Users can make selections based on their specific requirements.

- The Relay Module has the additional option to turn Relay B into a contact reporting, selectable by the DIP switch (1).
- The Relay Module are equipped with 2 x NO/NC contacts rated at 250V AC - 5A. Each contact has both pulse and continuous modes of operation, determined via DIP switch selection at the point of install (2 & 3).



- All switches can be used in different combinations at the same time.
- DIP switch 4 is a reserved switch and has no function for the time being.

Function	DIP switch	DIP switch Status	Function Introduction
-	DIP switch 1 (optional)	-	-
Relay A output mode	DIP switch 2		OFF: When DIP switch 2 is in the OFF position, relay A latching continuously.
			ON: When DIP switch 2 is in the ON position, relay A latching for 5 seconds.

Function	DIP switch	DIP switch Status	Function Introduction
Relay B output mode	DIP switch 3		OFF: When DIP switch 3 is in the OFF position, relay B latching continuously.
			ON: When DIP switch 3 is in the ON position, relay B latching for 5 seconds.

9. Disposal



Waste electrical products should not be disposed of your other household waste. Please dispose in an environmentally friendly manner, and strictly follow the local regulations regarding the disposal or recycling of the electrical device.



WARNING

Do not burn or dispose of in fire.

10. Warranty

Western EU Importer: DAHUA EUROPE B.V.

ADD: Louis Braillelaan 80, 2719 EK Zoetermeer The Netherlands

Email address for service purposes: support@wisualarm.com

CEE&Nordic Importer: Dahua Technology Poland Sp.z.o.o.

Address: Poleczki Park Salsy 2, 02-823 Warszawa

Email address for service purposes: support@wisualarm.com

UK Importer: Dahua Technology UK Ltd.

ADD: 3rd Floor, Quantum House, 60 Norden Road, Maidenhead, SL6 4AY

Email address for service purposes: support@wisualarm.com

Germany Importer: Dahua Technology GmbH

Address: Niederkasseler Lohweg 185, 40547 Düsseldorf, Deutschland

Email address for service purpose: support@wisualarm.com

11. Discard



Waste electrical products should not be disposed of your other household waste. Please dispose in an environmentally friendly manner, and strictly follow the local regulations regarding the disposal or recycling of the electrical device.



WARNING

Do not burn or throw into fire.

12. Documents

The full text of the EU declarations of conformity and EU declarations of performance is available at the following internet address: <https://en.wisualarm.com/en/Download>



For more information, please scan the QR code below or visit <https://en.wisualarm.com/en/Product>.

