

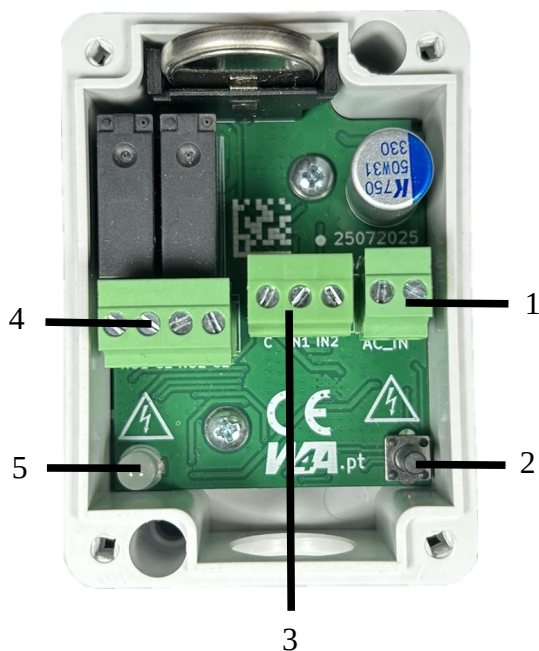


W4Key

User guide

W4A Key-24

W4A Key-230



v1.0



1. Description

The W4A Key allows outputs to be operated remotely via Bluetooth or Wi-Fi and their activation status to be monitored in real time.

This operation is managed so that only authorized and authenticated profiles can perform it, subject to their assigned restrictions, while a complete usage history is recorded.

Its main features are:

- Remote access
- Encrypted communication
- Profile management
- Customizable operations
- Low power consumption
- Access log
- Access duration limits
- Access schedule restrictions
- Access count limits
- Detection of access by the same profile

2. Intended use

The W4A Key is intended to control, monitor and manage electrical outputs for operating compatible systems, such as doors, automation systems, lighting, shutters and other similar equipment, in accordance with the product's technical specifications.

Use the equipment only within the electrical, environmental and functional limits specified by the manufacturer, including the power supply, maximum output current, temperature, humidity and ingress protection limits stated in the technical specifications.

Incorrect use, improper installation, modification of the equipment or operation outside its specifications may compromise safety, cause malfunctions, prevent proper operation of the connected load and void the warranty.

2.1. Prohibited use

Do not use the equipment:

- outside the specified voltage, current, temperature and humidity limits;
- with loads exceeding the rated capacity of the contacts or outputs;
- as a replacement for the electrical protection devices required for the installation;
- as the sole emergency, evacuation, personal safety control or fire protection system;
- on doors, access points or automation systems where equipment failure could endanger people, unless suitable independent safety systems are in place;
- in explosive or corrosive environments or where condensation occurs, unless expressly permitted by the manufacturer;
- if it shows signs of damage, overheating, internal moisture, smoke, a burning smell or deformation;
- after modifications, repairs or firmware changes not authorized by the manufacturer;
- with applications, firmware or accessories not authorized by W4A, Lda.

3. Package contents

1 device	1 mounting accessory
2 mounting screws	1 application user guide
2 wall plugs	

4. Specifications

Before installation, check the model shown on the equipment label and use only the corresponding specifications.

	W4A Key-24	W4A Key-230
Power supply	9–26 V DC or 24 V AC, 50/60 Hz	22–48 V DC or 90–230 V AC, 50/60 Hz
Maximum power consumption	1.4 W	
Output channels	2	
Output current/voltage	DC < 5 A at 30 V or AC < 5 A at 250 V~	
Input channels	2	
Dimensions	50 × 70 × 38 mm	
Weight	86 g	
Enclosure	IP65	

5. Safety

5.1. Essential safety warnings

The following table summarizes the essential warnings. It does not replace reading all the safety information in this section.

Hazard	Risk	Required action
Dangerous electrical voltage	Severe electric shock, electric arc or fire	Switch off and isolate the power supply, and verify the absence of voltage in the equipment and circuits connected to the outputs before any work.
Remote or unexpected operation	Movement of doors, gates, barriers, shutters or other mechanisms	Check that the area is clear and provide independent means of emergency stopping, opening or release.
Relay outputs	Overcurrent, overheating or fire	Do not exceed the electrical limits. Use an auxiliary relay, contactor or suitable protection where necessary.
Inputs	Equipment damage or improper operation	Connect only dry contacts or sensors with a dry-contact output. Do not apply external voltage.

Hazard	Risk	Required action
Credentials and access	Operation by unauthorized persons	Protect credentials, do not share them and remove profiles that are no longer needed.
Damaged enclosure or seal	Water ingress, electric shock or failure	Do not use damaged equipment. Make sure the enclosure and cable entries are properly sealed.

5.2. General information

Incorrect installation, configuration or use of the W4A Key can cause:

- electric shock;
- fire;
- damage to the equipment or controlled load;
- unexpected operation of doors, gates, barriers, shutters or other mechanisms;
- loss of access control;
- use by unauthorized persons.

Before installing, configuring or using the device:

- read this manual;
- check that the model is suitable for the installation;
- check the power supply and load characteristics;
- use the equipment only for its intended purpose;
- ensure that local and remote operations do not create hazardous situations.

Following this manual does not remove the obligation to comply with applicable laws, electrical regulations and safety rules.

5.3. Qualifications and responsibilities

Installation, electrical connection, wiring changes, technical configuration, testing and commissioning must be carried out by qualified personnel.

The installer must have the necessary knowledge to:

- interpret electrical diagrams;
- select conductors and protective devices;
- assess the compatibility of the power supply and load;
- identify installation risks;
- configure inputs, outputs and operations;
- verify the safety of the complete system.

The end user must not:

- open the equipment;
- modify electrical connections;
- repair the device;
- change settings reserved for the installer;

- disable protective devices.

5.4. Electrical safety and protection

DANGER — Dangerous electrical voltage

Before installing, connecting, removing or working on the equipment:

1. switch off all power sources;
2. isolate the circuits;
3. prevent accidental reconnection;
4. verify the absence of voltage with a suitable instrument.

Do not touch terminals, conductors or internal components while the equipment is powered.

The absence of indicator lights does not prove that the equipment is voltage-free.

The W4A Key does not replace the protective, switching or isolation devices required for the installation and controlled load.

As applicable, the installation must include:

- short-circuit and overcurrent protection;
- protection against electric shock;
- residual-current protection;
- surge protection;
- a switching and isolation device;
- protection suited to the load;
- independent means of emergency stopping, opening or release.

Protective devices must be suitable for the required voltage, current and breaking capacity.

Even when the W4A Key-24 is powered at low voltage, its relay output terminals may be connected to circuits carrying dangerous voltage. Switch off and isolate the supply to the circuits connected to the outputs before any work.

The designer and installer are responsible for selecting protective devices.

5.5. Conductors, terminals, inputs and outputs

Before making any connection, check:

- the device model;
- the supply voltage;
- the voltage and current of the external circuit;
- the type of load;
- the electrical diagram;
- the conductor cross-section and insulation.

Conductors must:

- be suitable for the installation;

- be properly inserted into the terminals;
- have no exposed copper;
- have no loose strands;
- be protected against strain and mechanical damage.

Loose terminals or unsuitable conductors may cause overheating, electric arcs, malfunctions or fire.

The inputs are intended only for dry contacts. Do not apply external voltage to the inputs.

The outputs are potential-free relay contacts. They do not supply power to the load.

Do not exceed the maximum ratings stated in the technical specifications.

Inductive loads or loads with high starting currents may require:

- an auxiliary relay;
- a contactor;
- a flyback diode;
- an RC snubber;
- a varistor;
- another suitable protective device.

5.6. Unexpected or remote operation

WARNING — Unexpected movement or operation

Outputs can be operated:

- through the application;
- via Bluetooth;
- via Wi-Fi;
- remotely over the Internet;
- through the inputs;
- through compatible peripherals;
- by sequential operations;
- by another authorized user.

Before starting an operation:

- check that you have selected the correct operation;
- check that the area around the load is clear;
- make sure that no people, animals or objects are at risk;
- do not operate the system remotely if you cannot confirm that the area is safe.

Loss of communication does not guarantee that the load is switched off or isolated.

Before inspecting, cleaning, releasing or repairing the load:

1. put the system in a safe state;
2. switch off and isolate the load supply;

3. prevent accidental reconnection;
4. verify the absence of voltage;
5. prevent automatic operation.

5.7. Interlocking, sequences and inputs

Depending on the configuration, inputs may take priority over commands from the application.

Interlocking may prevent both outputs from being activated at the same time or cause one output to switch off when the other is activated.

This feature does not replace an independent electrical or mechanical interlock where one is required for safety.

Operations may be performed sequentially or simultaneously.

Incorrect configuration may cause:

- operation of the wrong output;
- overlapping commands;
- unexpected movement;
- excessive operating times;
- conflicts with inputs or external commands.

The installer must test all inputs, operations, sequences and interlocks before making the system available to users.

5.8. Environment, mounting and maintenance

Install and use the equipment only within the specified environmental limits.

Do not install the device in locations with:

- condensation;
- water or excessive humidity;
- conductive dust;
- flammable or corrosive gases;
- excessive vibration;
- temperatures outside the specified limits;
- direct sunlight;
- intense heat sources;
- potentially explosive atmospheres.

Avoid installation near:

- large metal surfaces;
- motors;
- transformers;
- contactors;

- power cables;
- sources of electromagnetic interference.

The enclosure must be properly closed and the seals must be kept in good condition.

The IP65 rating is maintained only when the enclosure is properly closed, the seals are in good condition and all cable entries are properly sealed with suitable accessories.

Maintenance and repairs must be performed only by qualified personnel or authorized technical support.

Do not use the equipment if it shows:

- visible damage;
- deformation;
- moisture;
- signs of overheating;
- a burning smell;
- damaged terminals.

5.9. Communications, credentials and updates

Bluetooth, Wi-Fi and Internet communications may be affected by distance, obstacles, interference, network failures or service unavailability.

Do not rely on wireless communications as the sole means of controlling safety-critical functions.

Treat credentials as confidential information.

Users must:

- use strong passwords;
- protect their mobile phones;
- share access information only with authorized persons;
- use secure means to transmit files, QR codes or credentials;
- remove profiles that are no longer needed;
- change the password if unauthorized access is suspected.

Use only applications, firmware and updates supplied or authorized by W4A.

Do not disconnect the power or interrupt communication during an update unless the application expressly instructs you to do so.

5.10. Abnormal operation and emergencies

If it is safe to do so, immediately switch off and isolate the power supply if any of the following occurs:

- smoke, flames or a burning smell;
- sparks or electric arcs;
- unusual electrical noise;

- excessive heating;
- water ingress;
- damage to the enclosure, terminals or cables;
- loss of control of the load;
- unexpected operation;
- repeated tripping of protective devices;
- signs of a short circuit;
- any situation that endangers people, animals or property.

Do not touch the equipment if there are live parts, fire, water or another immediate hazard.

Use the upstream disconnecting device.

Do not switch the equipment back on until qualified personnel have identified and corrected the cause.

Bluetooth, Wi-Fi, Internet, application or clock failures, or status update failures, do not necessarily indicate an electrical fault, but they must be investigated if they affect safe operation.

5.11. Residual risks

Even when installed and used correctly, risks may remain due to:

- the presence of voltage;
- unexpected operation of the load;
- movement of doors, gates, barriers or shutters;
- failure of relays, sensors or external equipment;
- loss or delay of communications;
- outdated status information;
- misuse of credentials;
- incorrect configuration;
- loss of date, time or data;
- hazards inherent to the controlled load.

The W4A Key does not replace a risk assessment of the complete installation.

The designer, installer and person responsible for the installation must provide independent protective measures wherever required.

6. Waste electrical and electronic equipment

At the end of its service life, dispose of this equipment in accordance with the legislation applicable to waste electrical and electronic equipment.

Do not dispose of the equipment with unsorted household waste.

7. Simplified EU declaration of conformity

W4A, Lda. declares that this radio equipment complies with Directive 2014/53/EU.

The full text of the EU Declaration of Conformity is available at:

www.w4a.pt/products/w4akey/legal/ce

8. Device diagram

1	Power supply	
2	Button	
3	2 contact or sensor inputs	 C IN1 IN2
4	2 normally open relay contact outputs (5 A, 250 V AC/30 V DC)	NO1 C1 NO2 C2
5	LED	

9. Using the device

To configure and use the device, you need a compatible Android phone (Android 8.0 or later) or an iOS phone (iOS 15.0 or later) and the W4A Key application.

9.1. Installation

Scan the QR code with a smartphone to install the application.



9.2. Permissions

After installation, the application will request the permissions needed to communicate with the device via Bluetooth. Denying these permissions will prevent Bluetooth communication and normal operation.

9.3. Using the application

Complete installation and device usage manuals are available in the application's Instruction manuals menu. Make sure you have an Internet connection to view them.

10. Checks and troubleshooting

10.1. Checks before commissioning

Before making the system available to users, the installer must check:

- that the installed model matches the power supply used;
- that all power supplies and circuits connected to the outputs are properly protected;

- that conductors are correctly inserted and tightened in the terminals;
- that there is no exposed copper, loose strands or damaged cable;
- that the inputs receive only compatible dry contacts;
- that loads connected to the outputs do not exceed the specified limits;
- that the inputs, outputs, operations, sequences and interlocks work as intended;
- that local and remote operation poses no risk to people, animals or property;
- that independent means of emergency opening, stopping or release are provided where needed;
- that the enclosure is properly closed and cable entries are properly sealed.

After commissioning, test the entire system and inform the user how to operate the equipment safely.

10.2. Cleaning and periodic inspection

Before cleaning or inspecting the equipment, switch off and isolate all power sources, including circuits connected to the outputs.

Clean the exterior with a soft, dry cloth only. Do not use pressurized water, abrasive products, solvents or harsh detergents.

Periodically check:

- the condition of the enclosure and seals;
- the tightness of the terminals;
- the condition of the cables and their insulation;
- for moisture, corrosion, deformation or overheating;
- the operation of the inputs, outputs and independent emergency devices.

Do not use the equipment if damage or abnormal operation is detected.

10.3. Basic troubleshooting

Problem	Recommended checks
The equipment does not turn on	Check the model, supply voltage, electrical protective devices and terminal connections.
No Bluetooth communication	Check that Bluetooth and the application's permissions are enabled, and move the phone closer to the equipment.
No Wi-Fi or Internet communication	Check network availability, configured credentials and possible obstacles or interference.
An output does not activate	Check the user's permissions, the selected operation, input states, interlocks and the circuit connected to the output.
Unexpected operation occurs	Put the load in a safe state and check the inputs, sequences, interlocks and authorized profiles.

Problem	Recommended checks
Water, damage or overheating is present	Switch off and isolate the power supply. Do not use the equipment again until it has been checked by qualified personnel.

If the problem persists, safely disconnect the equipment and contact technical support. Do not open or repair the device except in the cases and according to the procedures expressly stated in the full manual.

11. Warranty

This product is covered by the applicable statutory guarantee of conformity. Any commercial warranty offered by W4A, Lda. is additional and does not affect the consumer's legal rights against the seller.

This warranty does not cover:

- Damage caused by misuse, abuse, improper installation, accidents, natural disasters or maintenance and repairs performed by unauthorized third parties.
- Normal wear and tear and damage to finishes or surfaces.
- Products with an altered, removed or illegible serial number.
- Costs associated with removing and reinstalling the product.
- Indirect, incidental or consequential damage arising from the use of the product.

The exclusions apply only to the extent permitted by applicable law.

12. Customer support



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