

JUNG

FRWM-AR



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Betriebsanleitung
Operating manual

Alarmrelais mit potentialfreiem Eingang
Alarm relay with floating input

Die Originalfassung dieser Anleitung ist nach DIN EN 82079-1 in deutscher Sprache erstellt.

The original version of this instruction has been prepared in German in accordance with DIN EN 82079-1.

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1 Notes on the operating manual

We are glad that you have chosen our product and we would like to thank you for your trust!

This operating manual contains information and instructions for commissioning the FRWM-AR alarm relay, its operation, maintenance and decommissioning in a safe manner. The operating manual is intended to increase the reliability and service life, and to help avoid hazards and downtime, or a loss of warranty claims.

It is absolutely necessary that the operating manual is read and understood.

For better readability, the FRWM-AR alarm relay is hereinafter referred to as "FRWM-AR" or "device".

1.1 Scope of the operating manual

This operating manual only applies for the product designation FRWM-AR alarm relay.

1.2 Conformity

ALBRECHT JUNG GMBH & CO. KG hereby declares that the radio system type Art. No. FRWM-AR corresponds to the directive 2014/53/EU. You can find the full article number on the device. The complete text of the EU Declaration of Conformity is available under the Internet address: www.jung.de/ce

1.3 Safekeeping of the operating manual

The operating manual is an important component of the device and should always be kept to hand at the location where it is used and handed over to the user.

1.4 Symbols used

Various text styles, markings and symbols are used in the operating manual.

These are explained below:



Warning symbol in warning labels



Additional information and guidelines

(1) Numbered action steps

- ▶ Symbol for an instruction or a required action
- ☑ Result of an action
- Symbol for a list

1.5 Copyright

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1.6 Warranty

ALBRECHT JUNG GMBH & CO. KG guarantees the legal warranty for a period of 2 years.

- ▶ Please keep your receipt as a proof that the device has been purchased from an authorized retailer, and as a proof of purchase date.

The receipt is essential and required for any possible warranty claims!

1.7 Disclaimer

Except for the legal warranty, ALBRECHT JUNG GMBH & CO. KG assumes no additional explicit or implicit liability under the applicable statutory provisions. This shall also extend to any liability in relation to usability

and/or suitability for a particular purpose under any implied liability which nevertheless exists under the law.

1.8 Limitation of liability

Your rights are limited to the repair or replacement of this device as shipped. ALBRECHT JUNG GMBH & CO. KG shall accept no liability for any special, incidental or consequential damages, including, but not limited to, resulting loss of revenue, loss of profits, restrictions of the use of software/hardware, loss or recovery of data, cost of substitute equipment, downtime, damage to property and claims by third parties as a result of contractual, statutory or tort recovery claims arising out of warranty, regardless of any other warranty, limited or implied by the law, or in the event that the limited warranty shall not apply, the liability of ALBRECHT JUNG GMBH & CO. KG shall be limited to the purchase price of the device.

2 Safety instructions

2.1 Presentation and structure of warning labels

The warning labels are action-oriented; they are structured and graded as follows:

⚠ CAUTION
Type and source of the danger! Explanation about the type and source. ▶ Measures to avert the danger.

⚠ CAUTION
Potential minor injuries, material or environmental damage.

2.2 Proper and intended use

The device may only be used for the following purposes:

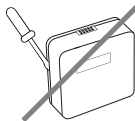
- Addition to a FRWM radio group to an external interface (alarm output)
- Expansion of a FRWM radio group to include an alarm input

When using the FRWM-AR, please note the following:

- ▶ Treat alarm and alert tones from the radio smoke alarm device as a priority.
- ▶ Use the device only as intended and in a technically perfect condition.

Battery replacement

If a battery replacement is required, please send the device to ALBRECHT JUNG GMBH & CO. KG. Our specialists will then undertake the battery replacement for you. This work will be invoiced. Never open the device yourself to change the batteries. This would void any warranty claims.



2.3 Improper use

The device must not be used for the following purposes:

- Any use which is not expressly described as being permitted in this operating manual

2.4 Relevant documents

Along with the operating manual and quick-start guide for the FRWM-AR, the operating manuals for the corresponding radio smoke alarm devices also apply:

- ▶ Observe the operating manual for the radio smoke alarm device

2.5 Basic safety instructions

The basic safety instructions group all the safety measures by topic and apply at all times.

General

The devices are subject to strict quality controls during production. In addition, a function test is performed before delivery. Nevertheless, unexpected malfunctions can occur.

External influences

External influences can cause malfunctions and damage to the device as well as the batteries. Protect the device from:

- Moisture
- Cold
- Contamination of any kind

Immersion in water

Immersion in water causes damage to the device.



- ▶ Do not immerse the device in water.

Sensitive components

The device consists of sensitive components.



- ▶ Do not throw the device.
- ▶ Do not drop the device.
- ▶ Do not apply pressure to the device.
- ▶ Package, transport and store the device in accordance with chapter 10 „Packaging, transport and storage“ on page 36.

Handling the batteries

CAUTION

Risk of corrosion and burns!

Improper handling of the batteries can cause them to leak, explode or inflame. This can result in chemical burns and other burn injuries.

- ▶ Do not charge the batteries.
- ▶ Do not short-circuit the batteries.
- ▶ Do not break, crush, dismantle or burn the batteries.
- ▶ Do not expose the batteries to temperatures above 65 °C.

With intended use of the device and an intact battery cell, the electrode and electrolyte material is not released into the environment.

3 Overview

3.1 Function

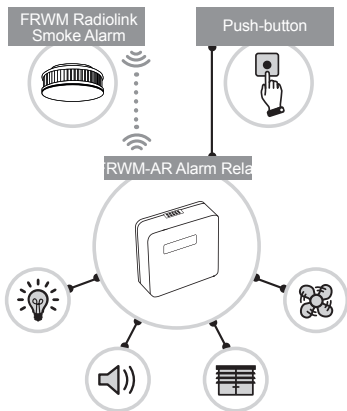
A FRWM-AR which is integrated into a radio group, has a similar operation to a FRWM. If an alarm is triggered in a main or subgroup, the FRWM-AR is also triggered. This triggering activates the following on the FRWM-AR in the first step:

- the Status-LED
- the Buzzer
- the relay itself

Depending on which end device or fire alarm controller is connected to the FRWM-AR, these get also activated via triggering the alarmoutput of the relay.

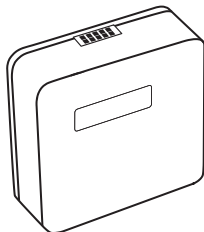
If the alarm input is used, a signal is sent to the respective radio group which results in all the alarm devices in the radio group sounding the alarm. If the radio group is preceded by a common group / shared radio group, their alarm devices are also triggered. Using the FRWM-AR alarm relay, you can extend an existing FRWM radio group by an interface, e.g.:

- to a ventilation system
- to a sprinkler system
- to a lighting installation
- or to other external devices



3.2 Construction

1. Relay: You can connect a voltage of between 3 and 30 V and an output current of between 1 and 100 mA to the relay (alarm output with changeover contact (NC/NO)).



1.1 NC (normally closed)

1.2 COM (ground)

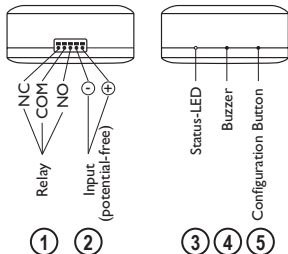
1.3 NO (normally opened)

2. Input: A maximum voltage of 24 V can be connected to the potential-free alarm input. The switching level is 1,6 V.

3. Status-LED: Displays various events.

4. Buzzer: Acoustic signal in the event of an alarm

5. Configuration button: Using the supplied split pins, you can configure the FRWM-AR by gently pressing the button.



4 Putting into operation

3.3 Application example

1. Trigger button

One possible way to use the alarm input of your FRWM-AR is the use of a manual push-button alarm. If this button is pressed, it also activates the FRWM-AR. An alarm is sent to the radio group and it activates the radio-linked smoke alarms in the group.

2. Catch system

To use the alarm output of your FRWM-AR, you could connect this to a catch system, for example. Catch systems ensure that fire protection doors or smoke-connections are kept open but, in the event of a fire or if smoke builds up, close safely.

If a fire breaks out, the alarm is sound via the radio alarms and the signal is passed to the catch system. Then the doors will close.

4.1 Minimum separation distances during installation

Maintain an approximately equal distance between the shared radio group and other radio groups

- ▶ Install additional equipment, if required.
- ▶ Keep a minimum distance of 2 m to electronic, radio-based devices (e.g., wireless LAN routers).
- ▶ Keep a minimum distance of 3 m to radio smoke alarm devices.

4.2 Configuring the alarm input

Before integrating the FRWM-AR into a radio group, you can define one of the 3 possible connection variants to the input.

This is stored by the device until it is reset again. To subsequently change the connection state, a new installation of the radio group is required.

Connection variants

1. Input open



To activate this variant, you do not need to take any further steps before integrating into the radio group.

Alarm is triggered if:

- A DC voltage between 3 and 24 V DC is connected to the alarm input,
- or
- the contact on the alarm input is bridged, e.g. with a switch (short circuit).

2. Input closed (cable-break proof)

- ▶ To activate this variant, and prior to integrating the alarm relay into the radio group, either connect a closed circuit to the alarm input which does not exceed the switching threshold of 1.6 V or bridge the contact without applying a voltage.

Alarm is triggered if:

- The bridge on the contact or the circuit on the input (e.g. using a NC contact) is broken
- or
- a voltage is applied which exceeds the switching threshold of 1.6 V.

3. Voltage is present

- ▶ To activate this variant, at the time the device is integrated into the radio group, a voltage of between 3 and 24V must be present at the alarm input.

Alarm is triggered if:

- The applied voltage is interrupted
- or
- the voltage drops below the switching threshold of 1.6 V.

4.3 Integrating into a radio group

The FRWM-AR cannot be the master in a radio group. Therefore, to integrate the FRWM-AR, at least one FRWM must be in learning mode. Perform the following steps to integrate the FRWM-AR:

4.4 Set the FRWM radio group into learning mode

Start learning mode, if the FRWM is in its as delivered condition:

- ▶ Press and hold the radio button at the FRWM until the LED lights up yellow, then release it immediately.

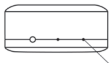
Starting learning mode if the FRWM is already integrated into a radio group:

- ▶ Press and hold the radio button at the FRWM until the LED lights up yellow and wait until it goes out again. Only then release the radio button!

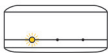


For all further steps, the FRWM-AR must be in its delivery condition.

- ▶ If this is not the case, follow the instructions listed under point 7 "Restoring default state" on page 33.



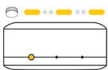
(1) Press the configuration button for approx. 1 second.



(2) The Status-LED now flashes yellow for approx. 5 seconds.



(3) Then the LED lights up green for approx. 3 seconds.



(4) Finally, the Status-LED flashes yellow at the same interval as the FRWM radio alarm.


- ☑ The FRWM-AR is now successfully integrated into the radio group.
- ▶ To end the learning mode, press the configuration button briefly once, or wait for 10 minutes.

5 Connectivity

With other radio group participants:

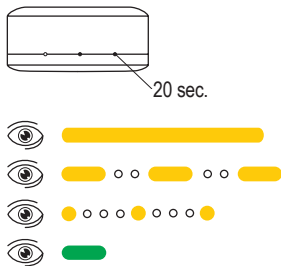
- You cannot set a radio group into learning mode via the FRWM-AR!
- Using the FRWM-AR, the alarm of a radio group cannot be muted or ended.

6 Connection test

-  The FRWM-AR cannot perform a connection test automatically. However, you can use the connection test function of a FRWM to test the radio connection to the FRWM-AR.
 - (1) To start the connection test press and hold the test/stop button on a FRWM for approx. 12 seconds.
 - (2) All the participants in the radio group will now produce a signal one after another. The FRWM-AR also acknowledges the connection test with a flashing red LED.
- ☑ The connection test is then successfully ended.

7 Restore default status

- (1) To set the FRWM-AR into default status, press and hold the configuration button for approx. 20 seconds. During these 20 seconds, the LED produces various optical signals at different intervals:



- At the start, a continuous yellow interval signal
- Then a slowly flashing yellow interval signal
- Finally a quickly flashing yellow interval signal

- (2) Now release the button.
(3) The Status-LED lights up green briefly.

- The device is now in the default status.

i The default status can only be restored if the FRWM-AR is in the status that was given, when the FRWM-AR was integrated into the radio group/during the learning process. Example: When the FRWM-AR was integrating and the contacts were bridged, during the reset, the contacts must also be bridged/the device must be in the non-alarm status.

8 Alert tones and alarm signals

The FRWM-AR alarm relay signals different events using different alert tones and alarm signals:

Alert tones

1. "Caution: Low battery charge"



If the battery charge has reached a critical point, the FRWM-AR signals this with a short beep at regular intervals.

2. "Group participant lost"



If you have initiated a connection test using a FRWM and a participant in the radio group has been lost, the FRWM-AR, as well as all other connected FRWMs, produces a triple-beep at regular intervals.

You can therefore check which group participant is not producing a signal tone and is therefore not connected.

Alarm signals

1. Smoke alarm:



If a FRWM in the radio group triggers a smoke alarm, then the FRWM-AR and the radio alarms produce 2 beeps at short intervals.

2. Temperature alarm:



If a FRWM in the radio group triggers a temperature alarm, then the FRWM-AR and the radio alarms produce a single beep at short intervals.

9 Faults/error messages

Possible faults when integrating into the radio group:

All faults are indicated by the Status-LED flashing red briefly.

Possible fault causes:

Radio range

A possible cause of a fault may be that the radio range between the radio group participants is exceeded or that the radio waves are too strongly shielded by walls, furniture or closed doors. To resolve the fault, please align the radio group participants again and reduce the distance between them.

Radio group not in learning mode

If the FRWM radio group is not in learning mode, please follow the instructions under 4.4 "Set the radio group into learning mode" on page 31.

FRWM-AR not in the default status

If the FRWM-AR is not in the default status, please follow the instructions under 7 "Restore default status" on page 33.

Radio group has reached the available number of participants

Please set up the radio group again. First set the master, and then connect the desired number of FRWM smoke alarms one after another. Please note that the FRWM-AR must be the last participant integrated into the radio group.

10 Packaging, transport and storage

10.1 Packaging

If you want to package the device for transport (e.g. to send it to your retailer), please note the following:

- (1) Select suitable packaging material. The package may not be too big or too small.
- (2) To protect the device against slipping, using filling material.
- (3) Carefully seal the packaging.

10.2 Transport

If you want to send a packaged device to your retailer, please observe the following:

- ▶ Do not throw or drop the package.

10.3 Storage

If you want to store the device for a longer period of time, please observe the following:

- (1) Ensure for dry ambient conditions (not above 70 % relative humidity).
- (2) Ensure for a dust-free environment.
- (3) Only store the device indoors (5 to 35 °C).
- (4) Avoid impacts and mechanical damage.

11 Air humidity, ambient temperature

i The ambient temperature and the relative air humidity affect the performance of the installed battery.

During the operation the ambient temperature should be between 5 °C and 35 °C.

The relative humidity (non-condensing) must be a max. of 70 % during operation.

12 Maintenance

You should perform a visual inspection at regular intervals. In addition and at least once a year, perform a function test by carrying out a radio connection test to ensure that the FRWM-AR is still integrated in the radio group.

12.1 Visual inspection

Before each use and at regular intervals, perform a visual inspection:

- ▶ Ensure that the device is not damaged.

12.2 Cleaning

Observe the following when cleaning:

- ▶ Clean the device with care, e.g. with a damp cloth.

13 Waste disposal

This product should never be placed in domestic waste according to the German Electrical and Electronic Devices Act (ElektroG). Return the device to be disposed to the manufacturer for further recycling, hand it over to your local waste disposal company, or to the return facilities established by the manufacturer.

Note that improper disposal can harm the environment.



14 Accessories, spare parts and service

14.1 Accessories

FRWM-IP-GATE gateway for
FRWM radio networks

14.2 Spare parts

Currently none available

14.3 Service

In the event of a warranty claim, send the device to your retailer.

If you have questions about the product or require help with the installation, please contact our product support department by telephone at +49 2355 806 0.

15 Technical Specifications

Power supply battery	1 x 3.0 V lithium not replacabel
Battery life	approx. 10 years
Material	ABS
Weight	54 grammes
Dimensions	54 x 54 x 22 mm
Protection class	IP 30
Floating contact alarm input	max. 24 V
Switching level	1.6 V
Alarm output	Relay with changer, 3 V to 30 V
DC and/or AC	1 to 100 mA
Peripheral cable with wire cross-section	single wire between 0.5 and 2.5 mm ²
Radio frequency	868.3 MHz
Transmitting power	< 0 dBm
Ambient temperature	5 ... 35 °C

Platz für Notizen
Place for notes

Impressum

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