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CMC III Rauchmelder
CMC III smoke alarm

7030.400

Montage-, Installations- und Bedienungsanleitung
Assembly and operating instructions

ENCLOSURES

POWER DISTRIBUTION

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IT INFRASTRUCTURE

SOFTWARE & SERVICES

FRIEDHELM LOH GROUP



Preface

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Preface

Dear Customer!

Thank you for choosing a CMC III smoke alarm (hereafter referred to as "smoke alarm") from Rittal.

We wish you every success.

Yours,
Rittal GmbH & Co. KG

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We are always happy to answer any technical questions regarding our entire range of products.

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1 Notes on documentation

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1 Notes on documentation

1.1 CE labelling

Rittal GmbH & Co. KG hereby confirms that the CMC III smoke alarm is compliant with the EC EMC Directive 2004/108/EC. An appropriate declaration of conformity has been prepared. It can be provided on request.



1.2 Storing the documents

The assembly and operating instructions as well as all other applicable documents are an integral part of the product. They must be passed to those persons who are engaged with the unit and must always be available and on hand for the operating and maintenance personnel.

1.3 Symbols used in these operating instructions

The following symbols are used in this documentation:



Danger!

A hazardous situation in which failure to comply with the instructions causes death or severe injury.



Warning!

A hazardous situation which may lead to death or serious injury if the instructions are not followed.



Caution!

A hazardous situation which may lead to (minor) injuries if the instructions are not followed.



Note:

Identification of situations that can lead to material damage.

- This symbol indicates an "action point" and shows that you should perform an operation or procedure.

1.4 Other applicable documents

- Installation Guide and Short User's Guide
- CMC III Processing Unit/CMC III Processing Unit Compact assembly and operating instructions

1.5 Area of validity

This guide applies to software version V3.15.00.

This documentation shows the English screenshots.

The descriptions of individual parameters on the CMC III PU website likewise use English terminology.

Depending on the set language, the displays on the CMC III PU website may be different (see assembly and operating instructions for the CMC III processing unit).

2 Safety instructions

2.1 General safety instructions

Please observe the general safety instructions below when installing and operating the system:

- Use only original Rittal products or products recommended by Rittal in conjunction with the smoke alarm.
- Please do not make any changes to the smoke alarm that are not described in this user manual or in the associated assembly and operating instructions.
- The operational safety of the smoke alarm is only warranted in case of use as intended and according to the rules. The technical specifications and limit values stated must not be exceeded under any circumstances. In particular, this applies to the specified ambient temperature range and IP protection category.
- The smoke alarm housing may only be opened in order to reset it by briefly disconnecting the sensor from the base.
- Operating the system in direct contact with water, aggressive materials or inflammable gases and vapours is prohibited.
- Other than these general safety instructions, ensure you also observe the specific safety instructions when carrying out the tasks described in the following chapters.

2.2 Operating and technical staff

- The mounting, installation, commissioning, maintenance and repair of this unit must only be performed by qualified, trained personnel.
- Only properly instructed personnel may work on the unit while in operation.

3 Product description

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3 Product description

3.1 Functional description and components

3.1.1 Function

The smoke alarm is an optical smoke detector with a measurement chamber that detects any smoke occurring at the installation site and on the connected CMC III PU. The smoke alarm has an identifier that allows it to be detected automatically by the CMC III PU.



Note:

In the following text, the designation "CMC III Processing Unit" refers to both the "CMC III Processing Unit" and also the "CMC III Processing Unit Compact". All text passages which only apply to one of these two variants are labelled accordingly.

3.1.2 Components

The unit consists of a compact plastic housing with ventilation holes.

3.2 Proper use, foreseeable misuse

The CMC III smoke alarm must only be used for detecting smoke in an IT rack and sending an alarm to the connected CMC III PU. It must only be used together with the CMC III PU. Any other use is not permitted.

The unit is state of the art and built according to recognised safety regulations. Nevertheless, improper use can pose a threat to the life and limb of the user or third parties, or result in possible damage to the system and other property.

Consequently, the unit must only be used properly and in a technically sound condition! Any malfunctions which impair safety should be rectified immediately. Follow the operating instructions!

Proper use also includes the observance of the documentation provided and compliance with the inspection and maintenance conditions.

Rittal GmbH & Co. KG is not liable for any damage which may result from failure to comply with the documentation provided. The same applies to failure to comply with the valid documentation for any accessories used.

Inappropriate use may result in danger. Inappropriate use includes:

- Use of impermissible tools.
- Improper operation.
- Improper rectification of malfunctions.
- Use of accessories not approved by Rittal GmbH & Co. KG.

3.3 Scope of supply

- CMC III smoke alarm
- Accessories provided (fig. 1)
- Installation Guide and Short User's Guide

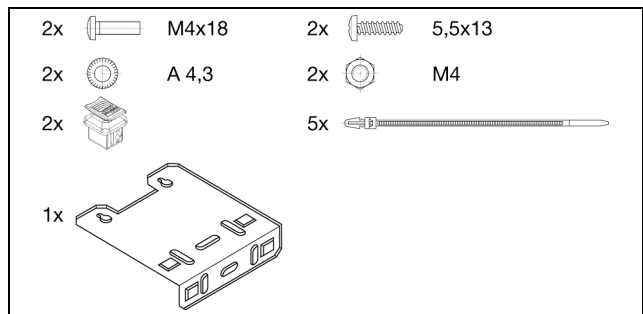


Fig. 1: Accessories supplied loose

4 Transport and handling

4.1 Transport

The unit is delivered in a cardboard box.

4.2 Unpacking

- Remove the packaging materials from the unit.



Note:

After unpacking, the packaging materials must be disposed of in an environmentally friendly way. They consist of the following materials:

Polyethylene film (PE film), cardboard.

- Check the unit for any damage that may have occurred during transport.



Note:

Damage and other faults, e.g. incomplete delivery, should be reported immediately, in writing, to the shipping company and to Rittal GmbH & Co. KG.

- Remove the protective film from the unit.

5 Installation

5.1 Safety instructions

- Please observe the valid regulations for installation in the country in which the smoke alarm is installed and operated, and the national regulations for accident prevention. Please also observe any internal company regulations, such as work, operating and safety regulations.
- The technical specifications and limit values stated must not be exceeded under any circumstances. In particular, this applies to the specified ambient temperature range and IP protection category.
- If a higher IP protection category is required for a special application, the smoke alarm must be installed in an appropriate housing or in an appropriate enclosure with the required IP protection category.



Note:

If the housing of the CMC III smoke alarm is opened, please be very careful not to touch the circuit board of the smoke alarm with your hands, as this may damage the sensor.

5.2 Siting location requirements

To ensure proper functioning of the unit, the conditions for the installation site of the unit specified in section 8 "Technical specifications" must be observed.

Electromagnetic interference

- Interfering electrical installations (high frequency) should be avoided.

5.3 Installation procedure

5.3.1 Notes on assembly

- It is vital to ensure that the smoke alarm is always assembled with the sensor head pointing downwards. In any other position, there is no guarantee that smoke will be detected.
- The smoke alarm must also be positioned so that it is ventilated with an adequate amount of air and the ventilation slots are not covered.

5.3.2 Installation with the mounting plate provided

The smoke alarm is installed using the mounting plate provided.

- Release the smoke alarm sensor head from the base. To do so, hold the base, twist the sensor head, and pull it off the base in a downward direction.

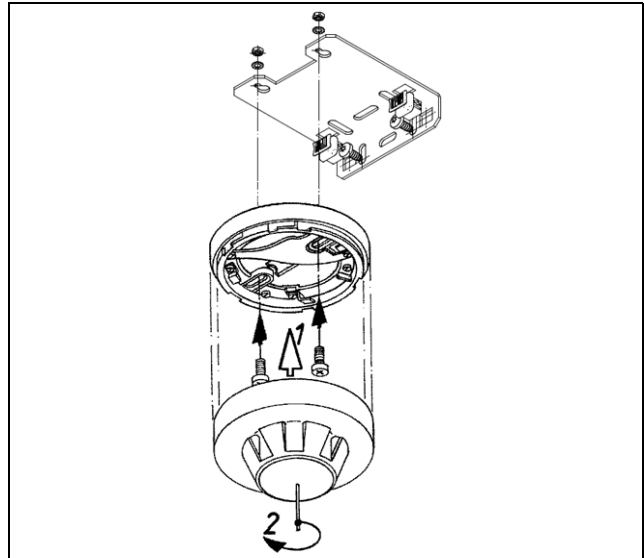


Fig. 2: Installing the smoke alarm

- Attach the base to the mounting plate using the M4 x 18 screws provided.
- Replace the sensor head onto the base and secure it by twisting until it locks home.
- Secure the mounting plate to the enclosure frame with the sensor head pointing downwards using the M6 x 16 screws or clamps.

5.4 Connecting the smoke alarm

The CAN bus connection supplies the smoke alarm with the necessary operating voltage. There is no need to connect a separate power supply unit.

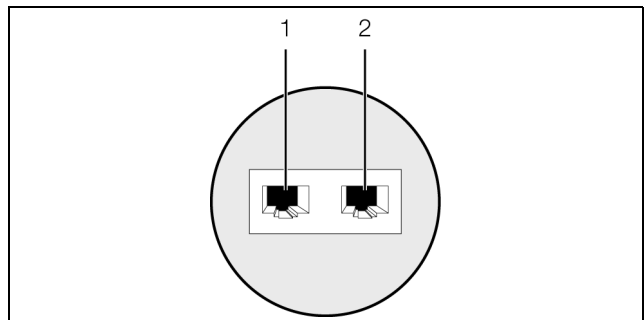


Fig. 3: Rear of the smoke alarm

Key

- 1 CAN bus connection, 24 V
- 2 CAN bus connection, 24 V

- Use a CAN bus connection cable to connect the smoke alarm to a CAN bus interface on the CMC III Processing Unit or the neighbouring component on the CAN bus (fig. 3, item 1).

The following CAN bus connection cables from the CMC III accessories range may be used:

- 7030.090 (length 0.5 m)
- 7030.091 (length 1 m)
- 7030.092 (length 1.5 m)
- 7030.093 (length 2 m)

- 7030.480 (length 3 m)
- 7030.490 (length 4 m)
- 7030.094 (length 5 m)
- 7030.095 (length 10 m)

The smoke alarm software is updated, if necessary, after connection. The status LED of the smoke alarm glows blue throughout and also flashes purple during the entire update process.

In addition, the status LED of the CMC III Processing Unit flashes white and a corresponding message appears on the website.



Note:

No settings can be modified as long as the update process is running.

The smoke alarm update is complete when the following conditions have been fulfilled:

1. The LEDs on the CAN bus connection of the smoke alarm show green.
2. The multi-LED of the smoke alarm flashes blue and also green or red, depending on the status of the smoke alarm.

Further components are connected as a daisy chain.

- If necessary, connect another component (e.g. another sensor type) to the second, free CAN bus interface of the smoke alarm (fig. 3, item 2).

Status change display:

- The two green and the two red CAN bus LEDs on the CAN bus connection flash.
- The multi-LED of the Processing Unit flashes continually in the sequence green – yellow – red.
- The multi-LED of the smoke alarm flashes blue continuously.
- Press the "C" key on the CMC III Processing Unit (an initial audio signal will sound) and keep it pressed for approx. 3 seconds until a second audio signal is heard.



Note:

See section 6.3.1 "Multi-LED displays" for a list of all of the multi-LED displays.

Status change display on the multi-LED of the Processing Unit

- Continuous green light: All devices connected to the CAN bus have the status "OK".
- Continuous orange light: At least one device connected to the CAN bus has the status "Warning".
- Continuous red light: At least one device connected to the CAN bus has the status "Alarm".

Status change display on the multi-LED of the smoke alarm

- Continuous blue flashing: Communication via the CAN bus.
- Green flashing: When the measured value changes, or at least every 5 seconds.

Status change display on the CAN bus LEDs

- Continuous green LEDs: CAN bus status "OK".
- Continuous red LEDs: CAN bus status defective.

6 Operation

6.1 Activating the smoke alarm

After connecting the smoke alarm to the CMC III Processing Unit using a CAN bus connection cable, the smoke alarm will activate automatically (see section 5.4 "Connecting the smoke alarm"). Separate activation is not required.

6.2 Operating and display elements

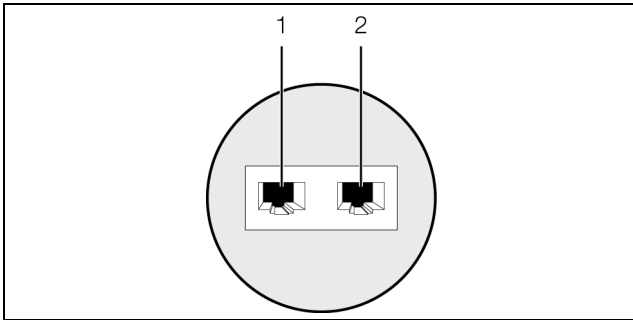


Fig. 4: Rear of the smoke alarm

Key

- 1 CAN bus connection, 24 V ---
- 2 CAN bus connection, 24 V ---

6.3 LED displays

A multi-LED for the status display is integrated into the rear of the smoke alarm.

6.3.1 Multi-LED displays

The status of the smoke alarm can be read on the multi-LED.

Colour	Status
Green	When the measured value changes, or at least every 5 seconds.
Purple	A smoke alarm software update is being carried out.
Blue	Communication via the CAN bus.
Red	The smoke alarm has "alarm" status.

Tab. 1: Multi-LED flashing codes

6.3.2 LED displays on the CAN bus connection

A red and a green LED are located on the CAN bus connection. They display the status of the CAN bus.

Colour	Status
Green (steady light)	Communication via the CAN bus possible.
Red (flashing)	Transmission error.

Tab. 2: LEDs on the CAN bus connection

6.4 Operation

Once the smoke alarm has been tripped, it will need to be reset. This requires the following actions:

- First, allow the smoke to dissipate completely, to avoid re-activating the smoke alarm.
- Disconnect the power supply to the sensor head by releasing it from the base (twist and then pull off downwards).
- Wait for at least one second, then push the sensor head back onto the base and lock it into position by twisting.

6.5 Operating via the CMC III Processing Unit website

After logging on to the CMC III Processing Unit, the web interface for operating the device is displayed.

- First select the "CMCIII-SMK" entry in the navigation area.

Similar to the CMC III Processing Unit, the Configuration tab can be used to individually configure the access rights for the smoke alarm (**Device Rights** button) and the alarm messages (**Alarm Configuration** button).

The **Observation** tab is used to configure all of the settings for the smoke alarm, such as the time delay for changing the status message.

In the following sections 6.5.1 "Device" to 6.5.2 "Smoke", only those parameters which you can modify are described. There are also display values that provide information.

6.5.1 Device

General settings for the smoke alarm are configured at the "Device" level.

Parameter	Explanation
Description	Specific description of the smoke alarm.
Location	Installation location of the smoke alarm.

Tab. 3: Settings at "Device" level

In addition, parameters that provide detailed information about the smoke alarm, such as the software and hardware version, are also displayed. You should have such information available, in particular to permit fast troubleshooting of queries with Rittal.

6.5.2 Smoke

General settings for the smoke alarm are configured at the "Smoke" level.

Parameter	Explanation
DescName	Specific description of the smoke alarm.
Delay	Time delay after which the status message changes.

Tab. 4: Settings at "Smoke" level

The following parameters are also displayed for the smoke alarm:

Parameter	Explanation
Value	Currently measured smoke level (0 = no smoke/OK, 1 = smoke/alarm).
Status	Current status of the sensor, taking account of the time delay.

Tab. 5: Settings at "Smoke" level

7 Storage and disposal

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7 Storage and disposal

7.1 Storage

If the device is not used for a long period, Rittal recommends that it be disconnected from the mains power supply and protected from damp and dust.

7.2 Disposal

Since the smoke alarm consists mainly of the "housing" and "circuit board" parts, the device must be passed on to the electronic waste recycling system for disposal.

8 Technical specifications

Technical specifications		CMC III smoke alarm
Model No.		7030.400
Height x diameter (mm)		50 x 100
Operating temperature range		+5°C...+45°C
Storage temperature		-45°C...+85°C
Operating humidity range		5%...95% relative humidity, non-condensing
Protection category		IP 30 to IEC 60 529
Measurement technique		Silicon PIN photodiode/GaAs infrared LED
Inputs and outputs	CAN bus (RJ 45)	2 x
Operation/signals	LED display	OK/Alarm/CAN bus status

Tab. 6: Technical specifications

9 Customer service addresses

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9 Customer service addresses

For technical queries, please contact:

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