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CMC III door control module



DK 7030.501

Assembly and operating instructions

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IT INFRASTRUCTURE

SOFTWARE & SERVICES

FRIEDHELM LOH GROUP



Preface

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Preface

Dear Customer!

Thank you for choosing our CMC III door control module (referred to hereafter as "door control module")!

We wish you every success.

Yours
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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 door control module is compliant with the EC EMC Directive 2014/30/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 directly 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 and Short User Guide
- CMC III Processing Unit/CMC III Processing Unit Compact assembly and operating instructions
- Installation and Short User Guide for the connected accessories

1.5 Area of validity

This guide applies to software version from V 3.15.80. 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 following general safety instructions for the installation and operation of the system:

- Assembly and installation of the door control module, especially wiring with mains power, may only be performed by a trained electrician.
- Please observe the valid regulations for the electrical installation of the country in which the door control module 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.
- Use only original Rittal products or products recommended by Rittal in conjunction with the door control module.
- Please do not make any changes to the door control module that are not described in this user manual or in the associated assembly and operating instructions.
- The operational safety of the door control module is only warranted if used properly for the intended purpose. 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 door control module must not be opened. It does not contain any parts that need servicing.
- 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 mechanics and electricians.
- Only properly instructed personnel may work on a unit while in operation.

2.3 Safety instructions on the door control module

When operating the door control module, in addition to the general safety instructions, please also observe the following device-specific instructions:

- No extinguisher system should be used in the IT rack. The IT rack loses its protection category as a result of the door kits, and the functions operate counteractively. If an extinguisher system were to be used in the IT rack, the doors would need to be closed, but this cannot be guaranteed in conjunction with the door control module.
- The door control module does **not** monitor the status of the door (open/closed): We recommend installing

access sensors (DK 7030.120) on all doors. The sensors can be connected to the CMC III system and report the status of the doors.

- Make sure there is sufficient distance between the automatically opening doors and other components, so as to prevent the risk of crushing injuries.
- This is particularly true when using your own tasks to open the doors: First, please ensure that the task functions correctly with the doors open. In the event of a malfunction, this will prevent the enclosure doors from buckling due to activation of the door kit extension.
- Take care to ensure that the doors are not closed again until after the malfunction has been rectified (e.g. after adequately lowering the temperature inside the IT rack).
- It must be possible to manually open the doors of the TS IT rack at any time with the aid of a door switch, a door comfort handle or a reader unit. This is not necessary for VX IT doors with ADO (Automatic Door Opening) / vent flaps.
- In the event of a failure in the power supply and deactivation of the magnet door kit or VX IT ADO vent flaps, the doors of the TS IT rack will open automatically. By means of a suitable alarm configuration in the CMC III PU, ensure that the requisite protective measures for the components installed in the IT rack have been initiated.

3 Product description

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3 Product description

3.1 Functional description and components

3.1.1 Function

Doors on IT racks may be opened automatically using the door control module, for example due to an over-temperature in the IT rack or activation of a room extinguisher system. The door control module 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 device consists of a compact plastic housing in RAL 7035 with a ventilated front in RAL 9005.

3.2 Proper use, foreseeable misuse

The CMC III door control module is designed solely for the automated opening of doors on TS IT racks, VX IT doors with ADO / vent flaps. 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 be dangerous. 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

- Door control module
- Accessories supplied loose (fig. 1)
- Installation and Short User Guide

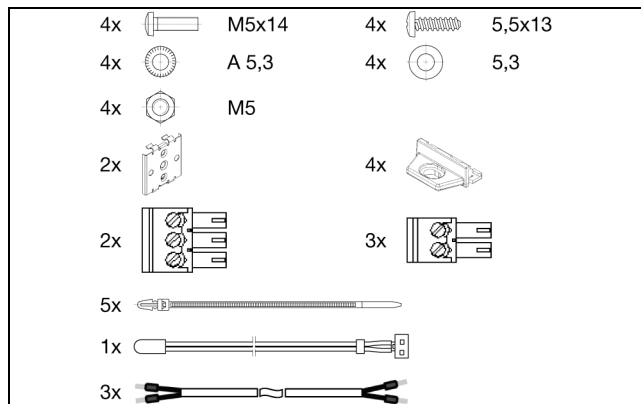


Fig. 1: Accessories supplied loose

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 unit from the PE film.
- Remove the protective film from the front cover of the unit.

5 Installation

5.1 Safety instructions



Warning!

Work on electrical systems or equipment may only be carried out by an electrician or by trained personnel guided and supervised by an electrician. All work must be carried out in accordance with electrical engineering regulations.

The unit may only be connected after the aforementioned personnel have read this information!

Use only insulated tools.

The connection regulations of the appropriate electricity supply company must be followed.

The device is not de-energised until all of the voltage sources have been disconnected!

- Please observe the valid regulations for the electrical installation of the country in which the door control module 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 door control module must be installed in an appropriate housing or in an appropriate enclosure with the required IP protection category.

5.2 Siting location requirements

To ensure correct functioning of the unit, the conditions for the installation site of the unit specified in section 9 "Technical specifications" must be observed.

Electromagnetic interference

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

5.3 Installation procedure

Generally speaking, there are several options for installing the door control module in an IT enclosure:

1. Installation using the mounting clips provided, possibly also with spring clips for top-hat rail installation.
2. Installation with the CMC III mounting unit (DK 7030.071).

3. Installation with the CMC III mounting unit, 1 U (DK 7030.088).

5.3.1 Notes on assembly

- Never secure the door control module using the mounting clips provided on only one side of the device! This would cause undesirable vibrations in the device during operation.

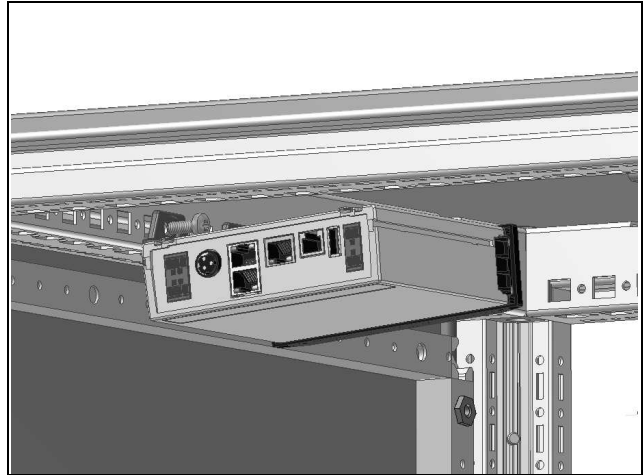


Fig. 2: Incorrect installation in the enclosure

- The door control module must 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 clips provided

Installation with the mounting clips provided in the scope of supply is best done on a mounting plate or on a top-hat rail using the spring clips provided (see section 5.3.4 "Installation on a top-hat rail").

- Slide two mounting clips onto each of the side guide rails of the door control module.

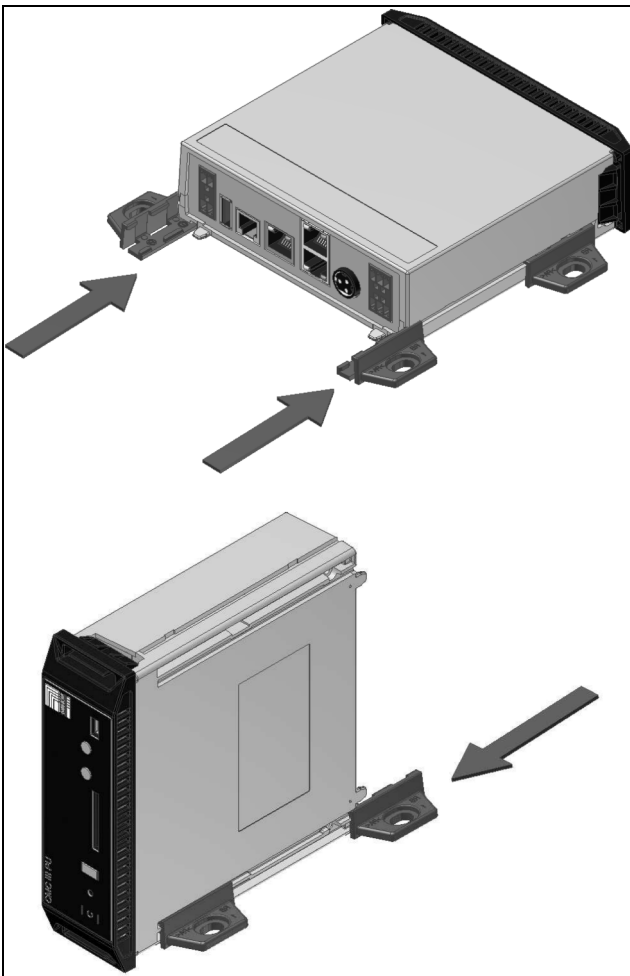


Fig. 3: Sliding on the mounting clips

- Secure the door control module using the screws provided in the scope of supply, e.g. on a mounting plate in the IT enclosure.

5.3.3 Installation with the CMC III mounting unit

The CMC III mounting unit is available in two variants:

- For mounting the door control module on the enclosure frame or on a mounting plate (DK 7030.071).
- As a 482.6 mm (19") variant (1 U) to accommodate the door control module and two additional devices (DK 7030.088).

The procedure for installing the door control module in both mounting units is identical:

- Slide the door control module as far as possible into the mounting unit until it latches into place.

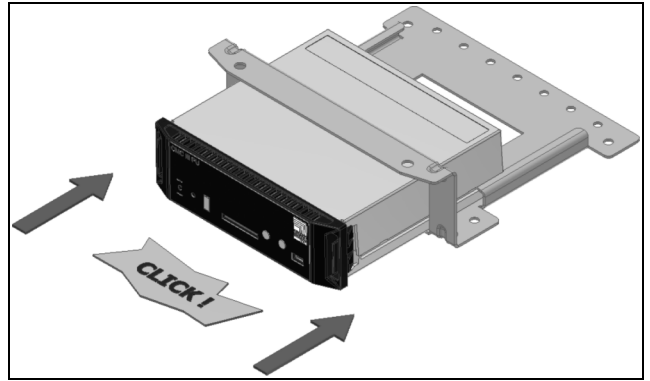


Fig. 4: Slide the door control module into the mounting unit

- Fasten the mounting unit (DK 7030.071) to the enclosure frame or to a mounting plate using the screws provided.

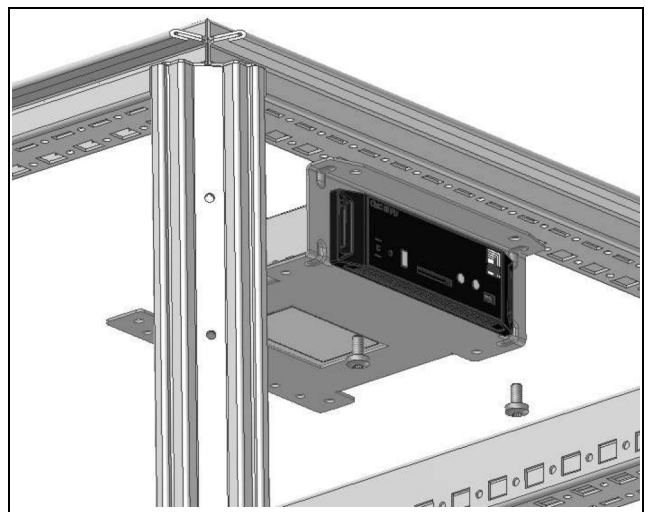


Fig. 5: Fastening the mounting unit to the enclosure frame

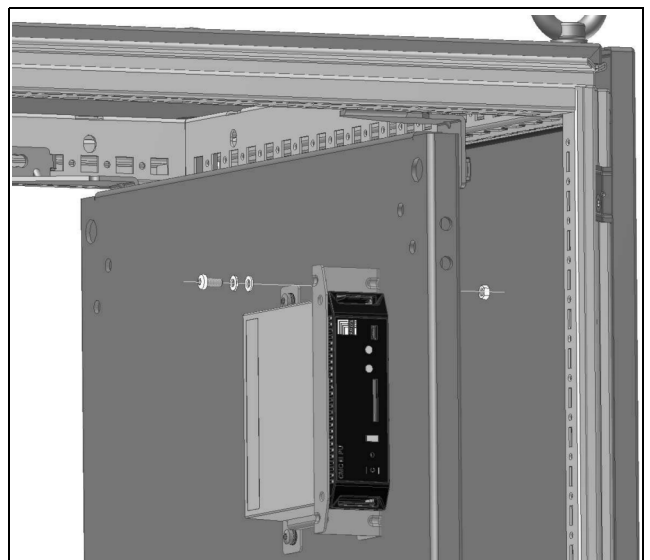


Fig. 6: Fastening the mounting unit to a mounting plate

- Fasten the mounting unit (DK 7030.088) in a free rack-mounting point (1 U) in the IT enclosure using the screws provided.

5 Installation

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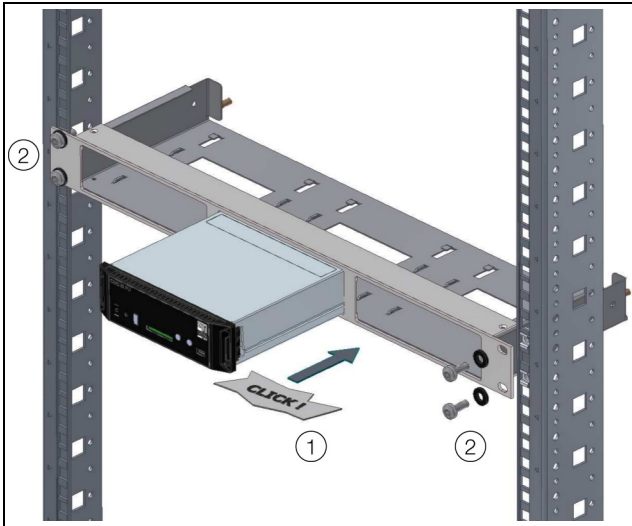


Fig. 7: Fastening the mounting unit in a rack-mounting point

5.3.4 Installation on a top-hat rail

The unit is mounted on a top-hat rail using the mounting clips and spring clips provided.

- Slide a mounting clip onto each of the side guide rails of the door control module (left and right).
- Screw a spring clip for top-hat rail installation onto each of the mounting clips.
- Place the door control module with the spring clips on the top-hat rail.

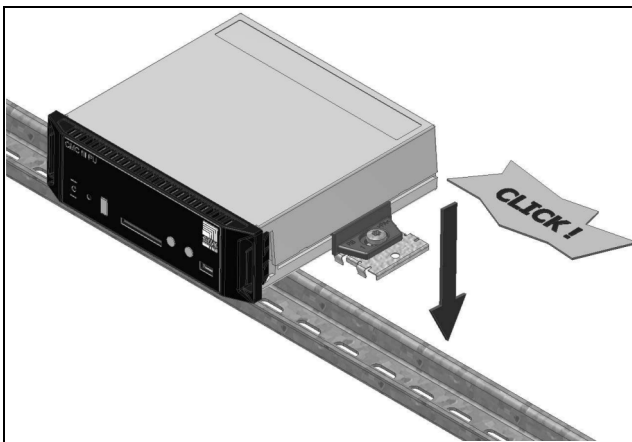


Fig. 8: Installing the door control module on a top-hat rail

5.4 Electrical connection

5.4.1 Details concerning the electrical connection



The device is not de-energised until all of the voltage sources have been disconnected!



Note:

The CMC III Processing Unit or Processing Unit Compact must contain the software version \geq V 3.15.80. This means that the door control module (DK 7030.501) automatically receives the necessary software update via the PU. This is the only way to guarantee the function of the unit.

Ensure the correct allocation of all components to the front door (door 1 – connections 6, 7 and 11) and rear door (door 2 – connections 5, 8 and 12).

An external signal at the alarm input will always impact both the front door and the rear door.

Via the CMC III PU website, it is possible to configure which door is opened when an admissible access authorisation is entered on a connected CMC III reader unit (transponder card or numerical code) (see section 6.7.1 "KeyPad").

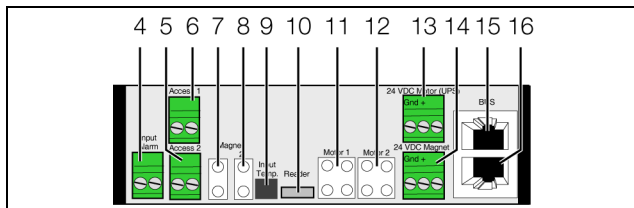


Fig. 9: Rear of the door control module

Key

- 4 Alarm input (floating contact – automatic alarm)
- 5* Connection for door switch (DK 7320.793) or door comfort handle with opener function (DK 7320.794) for door 2 (rear door)
- 6* Connection for door switch (DK 7320.793) or door comfort handle with opener function (DK 7320.794) for door 1 (front door)
- 7 Connection for magnet door kit (DK 7030.240, DK 7030.241 or DK 7030.250), VX IT door with ADO / vent flaps (DK 7030.262/.263/.272/.273/.282/.283) for door 1 (front door)
- 8 Connection for magnet door kit (DK 7030.240, DK 7030.241 or DK 7030.250), VX IT door with ADO / vent flaps (DK 7030.262/.263/.272/.273/.282/.283) for door 2 (rear door)
- 9 External temperature sensor connection
- 10 CMC III reader unit connection (DK 7030.223 or DK 7030.233)
- 11* Door kit extension connection for climate control applications with Liquid Cooling Package (DK 7030.261) for door 1 (front door)
- 12* Door kit extension connection for climate control applications with Liquid Cooling Package (DK 7030.261) for door 2 (rear door)
- 13 24 V --- power supply (direct connection) for operating the motors. Note the wiring of the power packs (see section 5.4.3 "Connecting the door kit extension"), supply redundancy.
- 14 24 V --- power supply (direct connection) for operating the magnets. Note the wiring of the power packs (see section 5.4.2 "Connecting the magnet door kit / VX IT doors with ADO").
- 15 CAN bus connection, 24 V ---
- 16 CAN bus connection, 24 V ---

* Not to be used in conjunction with VX IT doors ADO / vent flaps

■ First, depending on the application, please ensure that all required components (magnet door kit, VX IT doors with ADO / vent flaps, door switch or door comfort handle, CMC III reader unit and door kit extension) have been correctly mechanically fitted on the IT rack as per the corresponding assembly instructions.

5.4.2 Connecting the magnet door kit / VX IT doors with ADO

Provided there is **no** underpressure in the TS IT rack as a result of the installed components, the front and rear door will open automatically when the magnet door kit is deactivated.

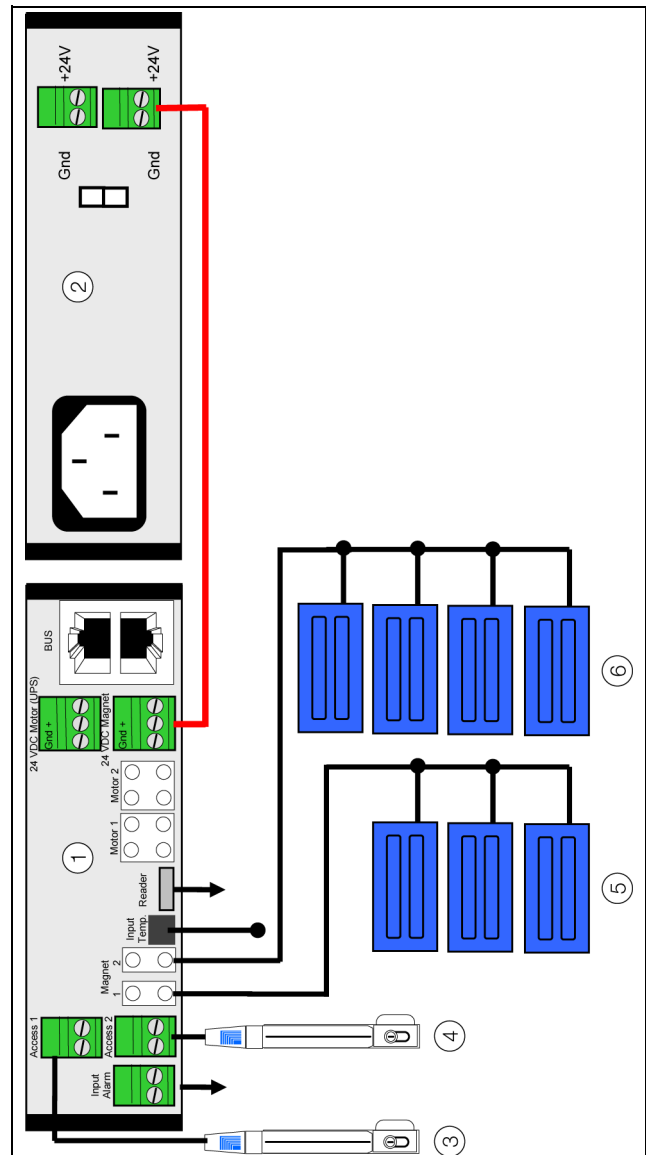


Fig. 10: Connecting the magnet door kit

Key

- 1 Door control module (DK 7030.501)
- 2 Power supply unit (DK 7030.060) for operating the magnets
- 3* Door switch (DK 7320.793) or door comfort handle with opener function (DK 7320.794) for front door
- 4* Door switch (DK 7320.793) or door comfort handle with opener function (DK 7320.794) for rear door
- 5 Magnet door kit (DK 7030.240, DK 7030.241 or DK 7030.250), VX IT door with ADO / vent flaps (DK 7030.262/.263/.272/.273/.282/.283) for door 1 (front door)
- 6 Magnet door kit (DK 7030.240, DK 7030.241 or DK 7030.250), VX IT door with ADO / vent flaps (DK 7030.262/.263/.272/.273/.282/.283) for door 2 (rear door)

* Not to be used in conjunction with VX IT doors ADO / vent flaps

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- Depending on the door type, connect the relevant magnet door kit to the front door (fig. 9, item 7) and the rear door (fig. 9, item 8).
As an option, VX IT doors with ADO / vent flaps can be tied.
- Connect a power supply unit to the power supply connection of the magnet door kit (DK 7030.060) (fig. 9, item 14). Use the same voltage supply for this power supply unit as for the components you wish to protect (e.g. server).
- Use one of the enclosed 2-wire cables for wiring. This cable must not be shortened.
- Connect the external temperature sensor to the door control module connection at the rear (fig. 9, item 9) and route the measuring sensor to the required measuring point.
- Finally, the installed magnet door kit / VX IT doors with ADO for the front door and rear door must be activated on the CMC III PU website (see section 6.6.3 "Door Opening").

5.4.3 Connecting the door kit extension

When using a climate control application such as a Liquid Cooling Package, an underpressure will be created in the TS IT racks which prevents the doors from being opened in isolation. In such cases, the additional door kit extension is used, and presses against the door of the TS IT rack from the inside with the aid of a spindle.

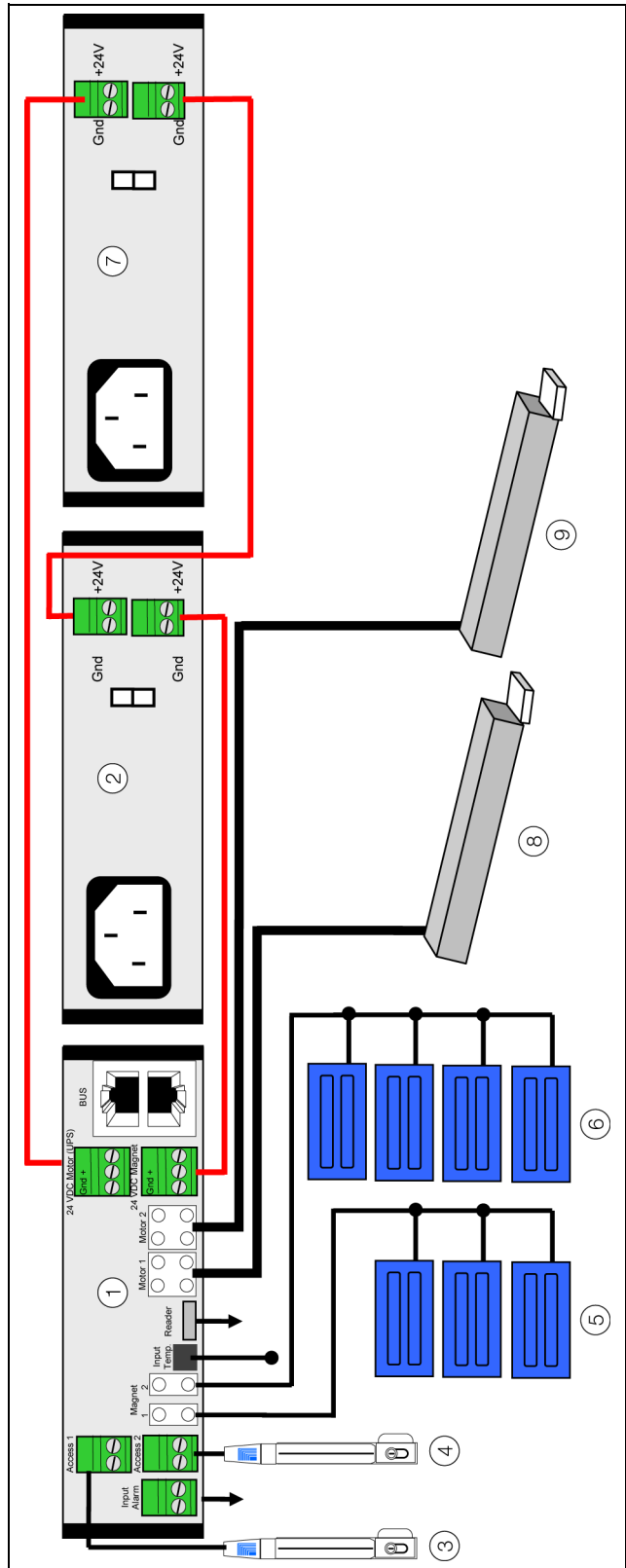


Fig. 11: Connecting the door kit extension

Key

- 1–6 see fig. 10
- 7 Power supply unit (DK 7030.060) for operating the spindles
- 8 Door kit extension (DK 7030.261) for front door
- 9 Door kit extension (DK 7030.261) for rear door

- First, carry out all the operations to connect the magnet door kit (see section 5.4.2 "Connecting the magnet door kit / VX IT doors with ADO").
- Connect the door kit extension to the front door (fig. 9, item 11) and the rear door (fig. 9, item 12).
- Connect a further power supply unit to the power supply connection of the door kit extension (DK 7030.060) (fig. 9, item 14).
- If an A+B power supply is operated in the IT enclosure for the servers, one power supply unit must be connected to supply circuit A and one to supply circuit B.
- Once again, use one of the enclosed 2-wire cables for wiring. This cable must not be shortened.
- Next, join the two power supply units together using the unused connections on the power supply (fig. 11).
- Once again, use one of the enclosed 2-wire cables for wiring. This cable must not be shortened.
- Finally, the installed door kit extension for the front door and rear door must be activated on the CMC III PU website (see section 6.6.3 "Door Opening").

5.4.4 Optional add-on components

- If applicable, connect e.g. the signal output of a fire alarm system or building control system to the alarm input (fig. 9, item 4).
- If applicable, connect a door switch or door comfort handle with opener function for manual opening of the front door (fig. 9, item 6) and rear door (fig. 9, item 5).
- If applicable, as an alternative to a door switch or door comfort handle with opener function for access control, connect a suitable CMC III reader unit (coded lock or transponder reader) for manual opening of the doors (fig. 9, item 10).

5.4.5 Connecting the door control module

Generally speaking, it is possible to operate the door control module without a CMC III Processing Unit (see section 6.5 "Operation of the door control module without a CMC III Processing Unit"). In such cases, the operations to connect the door control module outlined below are not required.

- Using a CAN bus connection cable, connect the door control module to a CAN bus interface of the CMC III Processing Unit or the neighbouring component in the CAN bus (fig. 9, item 15).

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

- DK 7030.090 (length 0.5 m)
- DK 7030.091 (length 1 m)
- DK 7030.092 (length 1.5 m)
- DK 7030.093 (length 2 m)
- DK 7030.480 (length 3 m)
- DK 7030.490 (length 4 m)
- DK 7030.094 (length 5 m)
- DK 7030.095 (length 10 m)

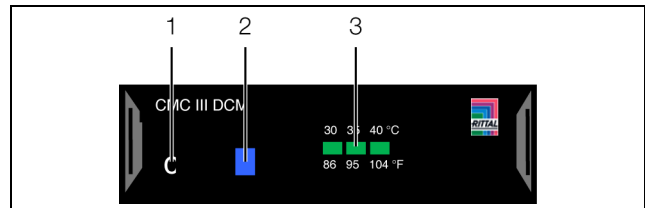


Fig. 12: Front of the door control module

Key

- 1 "C" button for acknowledging messages
- 2 Multi-LED for status display
- 3 LEDs for target/limit display (30 °C, 35 °C, 40 °C)

The unit software is updated, if necessary, following connection. The status LED of the door control module shows a continuous blue light 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 update of the unit is complete when the following conditions have been fulfilled:

1. The LEDs on the CAN bus connection of the unit are green.
2. The multi-LED of the unit behind the front panel flashes blue and also green or red, depending on the status of the unit.

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 door control module.

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 door control module flashes blue continuously.

- Press the "C" button 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 CAN bus LEDs

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

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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 door control module

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

6 Operation



Note:

For operation, the door magnets (door kits) and the VX IT doors with ADO / vent flaps must be treated in the same way; both systems operate with magnetic locks. For VX IT doors with ADO, only the vent flaps are opened.

6.1 Activating the door control module

Once the electrical connection has been established, the door control module will start automatically (see section 5.4 "Electrical connection"). Separate activation is not required.

6.2 Operating and display elements

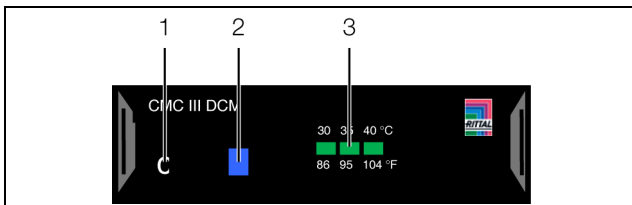


Fig. 13: Front of the door control module

Key

- 1 "C" button for acknowledging messages
- 2 Multi-LED for status display
- 3 LEDs for target/limit display (30 °C, 35 °C, 40 °C)

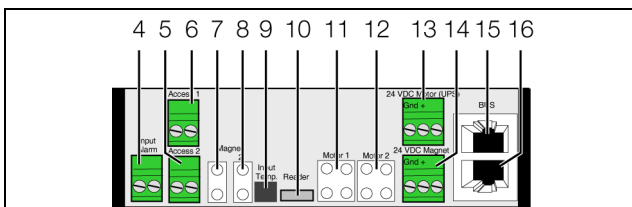


Fig. 14: Rear of the door control module

Key

- 4 Alarm input (floating contact – automatic alarm)
- 5* Connection for door switch (DK 7320.793) or door comfort handle with opener function (DK 7320.794) for door 2 (rear door)
- 6* Connection for door switch (DK 7320.793) or door comfort handle with opener function (DK 7320.794) for door 1 (front door)
- 7 Connection for magnet door kit (DK 7030.240, DK 7030.241 or DK 7030.250), VX IT door with ADO / vent flaps (DK 7030.262/.263/.272/.273/.282/.283) for door 1 (front door)
- 8 Connection for magnet door kit (DK 7030.240, DK 7030.241 or DK 7030.250), VX IT door with ADO / vent flaps (DK 7030.262/.263/.272/.273/.282/.283) for door 2 (rear door)
- 9 External temperature sensor connection
- 10 CMC III reader unit connection (DK 7030.223 or DK 7030.233)
- 11* Door kit extension connection for climate control applications with Liquid Cooling Package (DK 7030.261) for door 1 (front door)
- 12* Door kit extension connection for climate control applications with Liquid Cooling Package (DK 7030.261) for door 2 (rear door)
- 13 24 V power supply (direct connection) for operating the motors. Note the wiring of the power packs (see section 5.4.3 "Connecting the door kit extension"), supply redundancy.
- 14 24 V power supply (direct connection) for operating the magnets. Note the wiring of the power packs (see section 5.4.2 "Connecting the magnet door kit / VX IT doors with ADO").
- 15 CAN bus connection, 24 V
- 16 CAN bus connection, 24 V

- 12* Door kit extension connection for climate control applications with Liquid Cooling Package (DK 7030.261) for door 2 (rear door)
- 13 24 V power supply (direct connection) for operating the motors. Note the wiring of the power packs (see section 5.4.3 "Connecting the door kit extension"), supply redundancy.
- 14 24 V power supply (direct connection) for operating the magnets. Note the wiring of the power packs (see section 5.4.2 "Connecting the magnet door kit / VX IT doors with ADO").
- 15 CAN bus connection, 24 V
- 16 CAN bus connection, 24 V

* Not to be used in conjunction with VX IT doors ADO / vent flaps

6.3 LED displays

A multi-LED for status display (fig. 13, item 2) and the LEDs for displaying the target/limit temperature (fig. 13, item 3) are integrated into the front of the door control module. Further LEDs are located at the rear on the CAN bus connection (fig. 14, items 15 and 16).

6.3.1 Multi-LED displays

The multi-LED indicates the status of the door control module and the connected components.

Colour	Status
Green	When the measured value changes, or cyclically every 5 seconds.
Purple	A door control module software update is being carried out.
Blue	Communication via the CAN bus.
Red	At least one component has been removed or can no longer be accessed (status "Lost").

Tab. 1: Multi-LED flashing codes

6.3.2 LED displays for target/limit display

When operating the door control module **without** a CMC III Processing Unit, the set temperature limit at which the doors should open can be read from the target/limit value display LEDs. The LEDs are only illuminated in setting mode (see section 6.5 "Operation of the door control module without a CMC III Processing Unit").

6.3.3 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 (continuous light)	Communication via the CAN bus possible.

Tab. 2: LEDs on the CAN bus connection

Colour	Status
Red (flashing)	Transmission error.

Tab. 2: LEDs on the CAN bus connection

6.4 Acknowledging messages

There are generally three ways of acknowledging messages:

1. By briefly pressing the "C" button on the door control module. This confirms all alarm messages simultaneously.
2. By selecting a message with the right mouse button in the message display and clicking on the "Acknowledge Alarm" or "Acknowledge Devices" entry with the left mouse button in the context menu. If an alarm message has been selected, "Acknowledge Alarm" only confirms the currently selected message. If a message concerning a configuration change has been selected, "Acknowledge Devices" confirms all related messages jointly.
3. By clicking with the right mouse button on a component entry in the configuration area and clicking with the left mouse button on the "Acknowledge Alarms" or "Acknowledge All Devices" entry in the context menu. This can be used to confirm pending alarm messages for that particular component or all configuration changes.

6.5 Operation of the door control module without a CMC III Processing Unit

If the door control module is not connected to a CMC III Processing Unit, the door may also be opened automatically by means of suitable settings directly on the door control module. Here, the operator may choose between three target/limit temperatures: 30 °C, 35 °C and 40 °C.

- Press the "C" button on the door control module and hold it down for approx. 3 seconds until all three LEDs for the target/limit value display on the front are permanently illuminated.

The door control module is now in setting mode.

- Briefly press the "C" button until only the LED for the required target/limit temperature is illuminated.

If the "C" button is not pressed for more than 3 seconds, the currently set target/limit temperature will be accepted and the LED is extinguished.



Note:

If the door control module is connected to a CMC III Processing Unit, only the settings made via the website will be valid. In other words, any set/limit temperature that is set directly on the device will not be evaluated.

Furthermore, automatic opening of the doors may be activated via the alarm input. For this purpose, no further configuration is required after connecting a suitable signal.



Note:

The alarm input is configured as standard for connection of a normally closed contact, i.e. "0: Alarm / 1: OK". It is not possible to change this configuration without a CMC III Processing Unit.

6.6 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-DCM" 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 door control module (**Device Rights** button) and the alarm messages (**Alarm Configuration** button).

The **Observation** tab is used to configure all settings for the door control module, such as the limit values for warning and alarm messages. The following settings may be made at the individual levels:

- "Device" level: General settings concerning the door control module.
- "Temperature" level: Limits of the external temperature sensor.
- "Door Opening" level: Settings for the built-in components such as door magnets / VX IT doors with ADO, spindles etc., and for opening the doors
- "KeyPad" level: Settings for a connected door handle.

Only editable parameters are described in the following sections 6.6.1 "Device" to 6.7.1 "KeyPad". There are also display values that provide information.

6.6.1 Device

General settings for the door control module are configured at the "Device" level.

Parameter	Explanation
Description	Individual description of the door control module.
Location	Installation location of the door control module

Tab. 3: Settings at "Device" level

Parameters providing detailed information about the door control module, such as its software and hardware versions, are also displayed. It is advisable to have such

information to hand, particularly in order to ensure fast troubleshooting of queries with Rittal.

6.6.2 Temperature

Settings for the temperature sensor connected directly to the door control module are configured at the "Temperature" level.

Parameter	Explanation
DescName	Specific description of the temperature sensor.
Offset	Offset value via which the measured temperature can be adjusted.
SetPtHigh-Alarm	Upper temperature limit which triggers an alarm message when exceeded.
SetPtHigh-Warning	Upper temperature limit which triggers a warning message when exceeded.
SetPtLow-Warning	Lower temperature limit which triggers a warning message when undercut.
SetPtLow-Alarm	Lower temperature limit which triggers an alarm message when undercut.
Hysteresis	Percentage deviation above or below the temperature limit required for a status change (refer to the assembly, installation and operating instructions for the CMC III Processing Unit).

Tab. 4: Settings at "Temperature" level

The following parameters are also displayed for the temperature sensor:

Parameter	Explanation
Value	The currently measured temperature value adjusted by the offset value.
Status	Current status of the sensor with reference to the limits.

Tab. 5: Displays at "Temperature" level



Note:

If the value "0" is entered for all limit values at "Temperature" level, the status of the integrated temperature sensor is always "OK".



Note:

The settings at "Temperature" level only apply to alarm and warning messages from the temperature sensor. They have no effect on the opening of the doors if a specific temperature is exceeded.

6.6.3 Door Opening

Settings for automatic and manual opening of the doors and the connected components are configured at "Door Opening" level.

"Automatic" level

This level is comprised of three further sub-levels, at which parameters may be set for automatic door opening.



Note:

In addition to the options for automatic door opening via the temperature and the alarm input described below, the status of another variable may also be used with the aid of tasks.

"Temperature" sub-level

The parameters for opening the door via the external temperature sensor are set at this level. To this end, you may configure the following parameters:

Parameter	Explanation
DescName	Individual description of the temperature sensor in relation to automatic door opening.
SetPtHigh-Alarm	Upper temperature limit at which automatic door opening is activated when exceeded.
Hysteresis	Percentage deviation below the temperature limit required for a status change (refer to the assembly, installation and operating instructions for the CMC III Processing Unit).

Tab. 6: Settings at "Temperature" level

The following parameters are also displayed for the temperature sensor:

Parameter	Explanation
Value	Currently measured temperature adjusted by the offset value. The offset value is entered at the "Temperature" level (see section 6.6.2 "Temperature").
Status	Current status of the temperature sensor with reference to door opening.

Tab. 7: Displays at "Temperature" level



Note:

If you do not require automatic door opening via a temperature limit, the external temperature sensor may be removed from the door control module, or the upper temperature limit set e.g. to the maximum admissible temperature of 80 °C.

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Sub-level "Input Alarm"

The parameters for opening the door via the alarm input are set at the "Input Alarm" level. The following parameters may be set:

Parameter	Explanation
DescName	Specific description of the alarm input.
Command	Command for manually activating door opening via the website. "Unlock": Activation of door opening (deactivation of the magnet door kit and activation of the door kit extension).
Logic	Switch logic of the alarm input. The relevant setting must be selected depending on the type of signal used: "0: OK / 1: Alarm": Normally open contact "0: Alarm / 1: OK": Normally closed contact
Delay	Time delay until the doors are opened when an alarm is active.

Tab. 8: Settings at "Input Alarm" level

The following parameters are also displayed at this level:

Parameter	Explanation
Value	Current value of the alarm input (0 or 1).
Status	Current status of the alarm input with due regard for the delay value and configured logic.

Tab. 9: Displays at "Input Alarm" level

Sub-level "Automatic Alarm"

The status of the door control module with reference to an automatic alarm is output at this level. This status may be polled e.g. via tasks.



Note:

If a task is used, door opening is dependent on other devices, variables, power supply, settings and/or cabling. This increases the risk of a system failure.

The following parameters may be set:

Parameter	Explanation
DescName	Individual description of the automatic alarm of the door control module.

Tab. 10: Settings at "Automatic Alarm" level

The following parameters are also displayed at "Automatic Alarm" level:

Parameter	Explanation
Status	Current status of the door control module with reference to an automatic alarm.

Tab. 11: Settings at "Automatic Alarm" level



Note:

If the status at "Automatic Alarm" level changes, door opening is always carried out for both the front and rear door (depending on the actual components connected and activated on the website).

"Manual Front" level

Settings for manual opening of the front door are configured at this level or the sub-level "Input Access Front". The following parameters may be set:

Parameter	Explanation
DescName	Individual description of the magnet door kit for the front door.
Command	Command to be executed for the magnet door kit. The following commands are supported: "Lock": Activation of the magnet door kit. "Unlock": Deactivation of the magnet door kit. "Delay": Deactivation of the magnet door kit for the period stored in the "Delay" field.
Logic	Switching logic of the magnet door kit. "0: Off / 1: On": Setting if there is no door handle installed. "0: On / 1: Off": Setting if there is a door handle (normally closed contact) installed.
Delay	Period of time for which the magnet door kit changes its status. Once this period has elapsed, the magnet door kit will return to its original status.

Tab. 12: Settings at "Manual Front" level

The following parameters are also displayed at this level:

Parameter	Explanation
Value	Current value of the input for the front door handle (0 = handle open or no handle connected, 1 = handle closed).
Status	Current status of the magnet door kit with due regard for the delay value and configured logic.

Tab. 13: Displays at "Manual Front" level

**Note:**

If the magnets of the door kit are manually deactivated with a switch or via the Web interface to open the door, the door kit extension will not be automatically deactivated, but will remain in the starting position. Depending on the application, therefore, it may be necessary to pull sharply on the door in order to actually open it.

"Manual Rear" level

Settings for manual opening of the rear door are made at this level or the sub-level "Input Access Rear", analogous to the "Manual Front" level.

**Note:**

The above commands for the magnet door kit on the front door or rear door may also be executed via tasks. In this regard, please note that as with manual deactivation via the website or a door handle, any installed door kit extension will **not** be activated.

"Supply" level

At this level and the sub-levels "Supply Magnet" and "Supply Motor", settings are configured for the power supply to the magnet door kit and door kit extension.

"Supply Magnet" sub-level

The following parameters may be configured at this level:

Parameter	Explanation
DescName	Specific description of the power supply to the magnet door kit.

Tab. 14: Settings at "Supply Magnet" level

The following parameter is also displayed at this level:

Parameter	Explanation
Status	Current status of the power supply to the magnet door kit. "OK": Power supply OK. "Alarm": Power supply defective or not available.

Tab. 15: Display at "Supply Magnet" level

"Supply Motor" sub-level

At this level, analogous to the "Supply Magnet" level, settings are configured for the power supply to the door kit extension.

6.7 Testing the settings

Once the configuration is complete, it is vital to perform a visual inspection and a function check of all components and settings (see section 7 "Maintenance"). This is

the only way to ensure that the doors will open as required in case of an alarm, and that the interplay between the magnet door kit and door kit extension will not cause damage to the TS IT rack.

"Front Door" level

At this level, those components which are actually connected to the front door (magnet door kit and/or door kit extension) are activated. If a component is not connected to the front door, the corresponding entry must be deactivated here in order to avoid malfunctions and misconfigurations.

**Note:**

If a connected component is **not** activated here, it will not be triggered in the event of an automatic alarm, and the door will therefore not open.

"Front Door Magnet" sub-level

The following parameters may be configured at this level:

Parameter	Explanation
DescName	Individual description of the magnet door kit for the front door.
Connected	Select whether or not a magnet door kit is installed on the front door. "Yes": Magnet door kit is installed. "No": No magnet door kit installed.

Tab. 16: Settings at "Front Door Magnet" level

"Front Door Motor" sub-level

The following parameters may be configured at this level:

Parameter	Explanation
DescName	Individual description of the door kit extension for the front door.
Connected	Select whether or not a door kit extension is installed on the front door. "Yes": Door kit extension is installed. "No": No door kit extension installed.

Tab. 17: Settings at "Front Door Motor" level

"Rear Door" level

At this level, analogous to the "Front Door" level, those components which are actually connected to the rear door (magnet door kit and/or door kit extension) are activated.

6.7.1 KeyPad

The settings for a connected coded lock and/or transponder reader are configured at "KeyPad" level.

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Parameter	Explanation
DescName	Specific description of the coded lock or transponder reader used.

Tab. 18: Settings at "KeyPad" level

The following parameter is also displayed for the coded lock/transponder reader:

Parameter	Explanation
Status	Indicates whether a coded lock or transponder reader has been connected (active) or is not connected (inactive).

Tab. 19: Displays at "KeyPad" level

Access authorisation settings can be made in the "Security" group box under the **Configuration** tab after selecting the "Processing Unit" component in the navigation area. The exact procedure is described in the assembly, installation and operating instructions of the respective reader unit (coded lock or transponder reader).

7 Maintenance

A visual inspection and a functional check must be carried out at regular intervals, at least once a month. This will prevent:

- Doors / flaps from becoming stuck and impossible to open.
- Magnets from sticking to the contact plates, preventing the door from being released.
- Doors from not closing (completely) due to dirty magnets.
- The spindles in the door kit extension from failing to extend.
- The doors not being able to open due to a fault in the power supply, such as a defect in the UPS, power supply units, cables or connectors.
- Contradictory programming preventing the doors from opening.

The more regularly checks are carried out, the more reliable the system will be.

7.1 Visual inspection

- Carry out a visual inspection to verify that:
 - All connectors are securely plugged in.
 - None of the cables used show signs of damage.
 - The magnets and the contact plates are exactly aligned with one another when the door is closed.
 - All contact plates (top, centre and bottom) are pressed firmly against the magnets, so that the doors securely close the TS IT rack.
 - All components are free from dust and dirt.
 - There is no visible moisture on the components.
 - The operating range (e.g. temperature and humidity) stipulated in the technical specifications (see section 9 "Technical specifications") is adhered to.
- Replace any defective components with identical new ones.

7.2 Function test

- Perform a function test to ensure that:
 - It is possible to open the doors with a door switch, a door comfort handle or a reader unit.
 - After the door is closed, all contact plates are reliably in contact with the magnets.
 - The doors / flaps open automatically when a corresponding alarm is triggered (with or without door kit extension).
 - The doors cannot be closed again until the activated alarm has been resolved.
 - The doors open automatically when the power supply fails.
 - The UPS, if connected, functions correctly in the event of a power supply failure.
- In particular, please test **all** stored alarms for opening the doors **separately**.
- For activating the alarm via a smoke detector: Perform the test using a suitable test gas.

- For activating the alarm via a fire extinguisher system: Block the fire extinguisher system before activating the alarm, to prevent the extinguisher gas from escaping.

8 Storage and disposal

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8 Storage and disposal

8.1 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.

8.2 Disposal

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

9 Technical specifications

Technical specifications		CMC III door control module
Model No.		DK 7030.501
W x H x D (mm)		138 x 40 x 132
Operating temperature range		0 °C...+55 °C
Storage temperature		-45 °C...+85 °C
Operating humidity range		5%...95% relative humidity, non-condensing
Protection category		IP 30 to IEC 60 529
Number of CAN bus connections		2
Number of connections for components		1
Operation/signals	LED display	OK/Warning/Alarm/CAN bus status

Tab. 20: Technical specifications

10 Customer service addresses

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10 Customer service addresses

For technical queries, please contact:

Tel.: +49(0)2772 505-9052

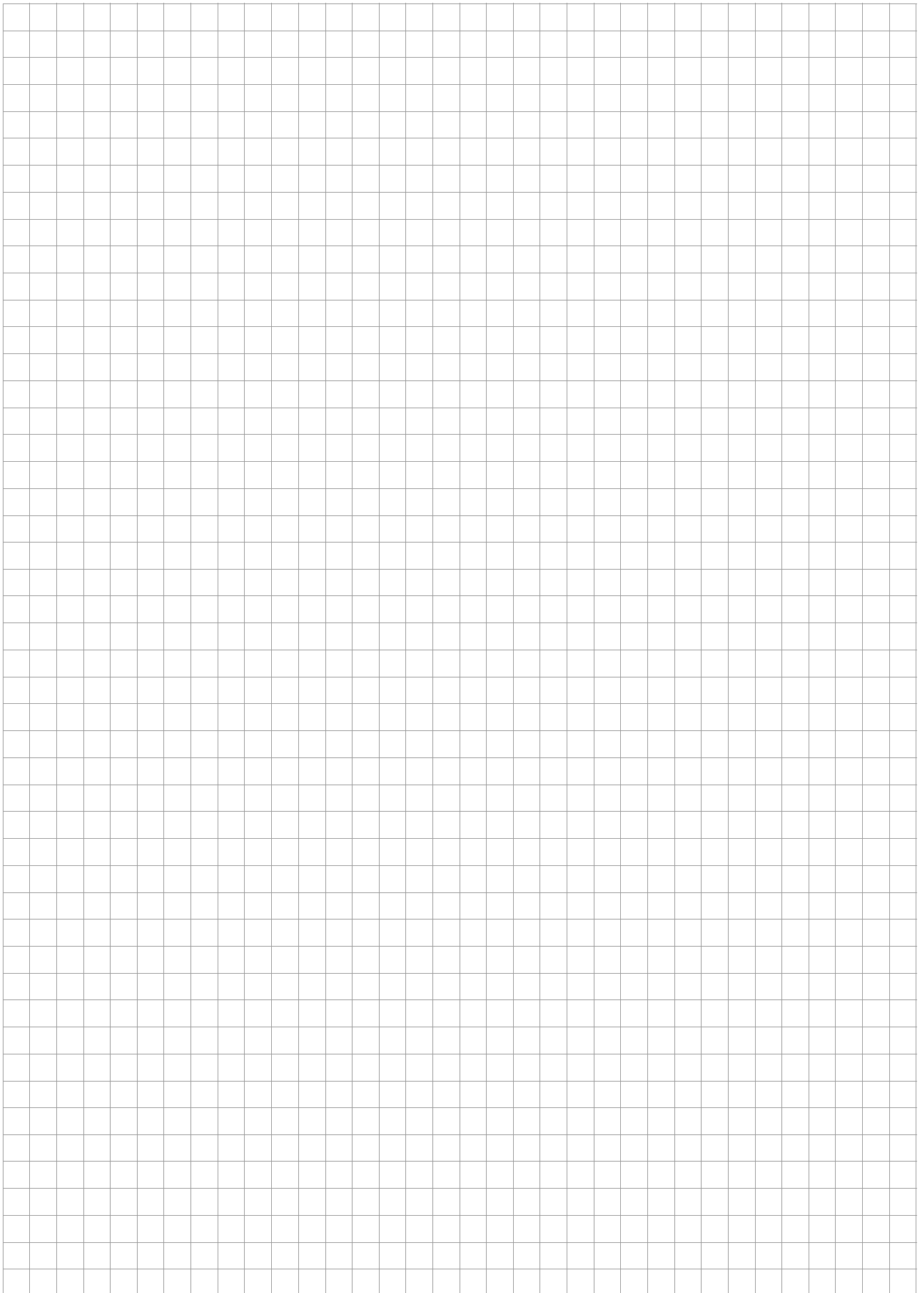
E-mail: info@rittal.de

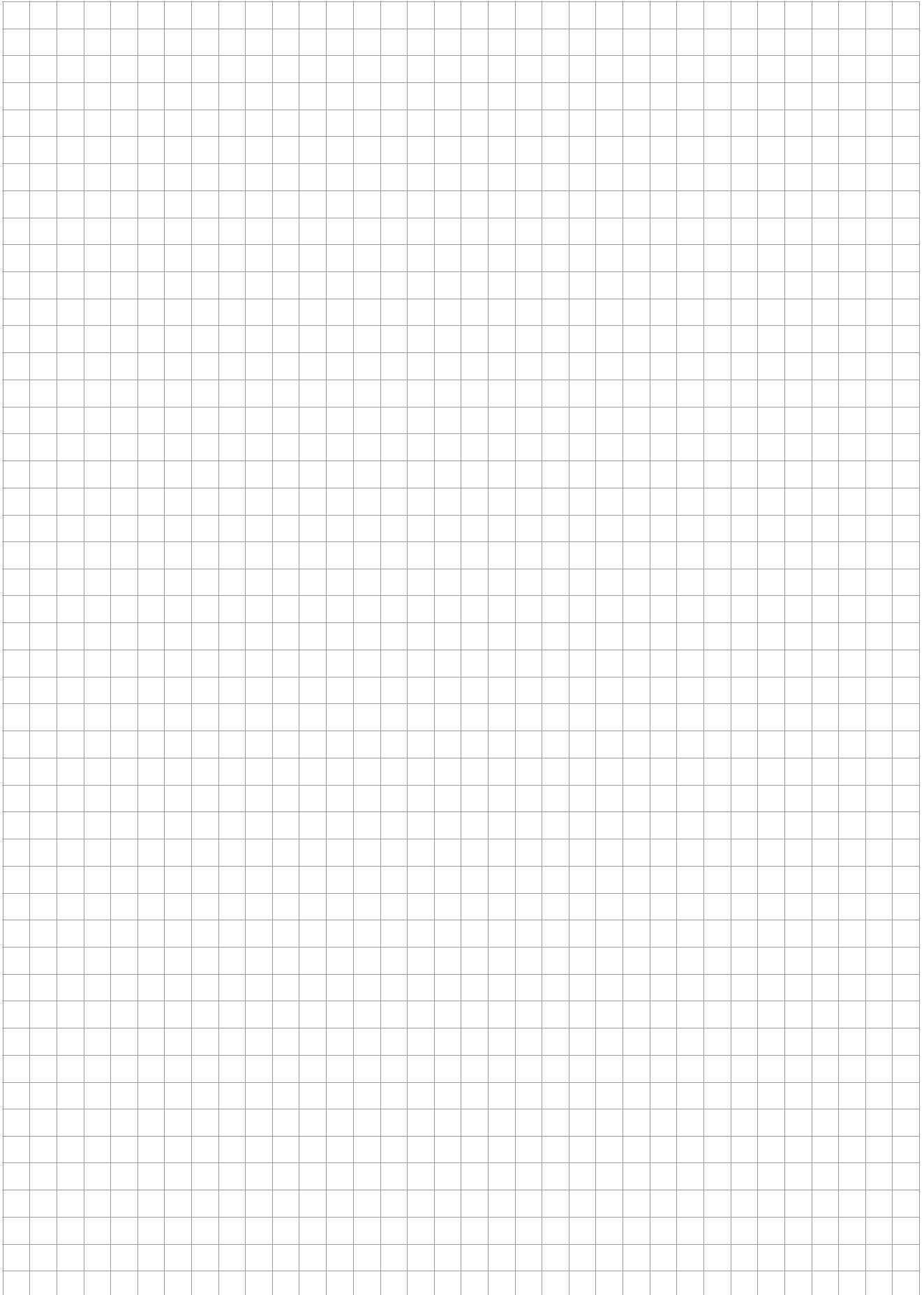
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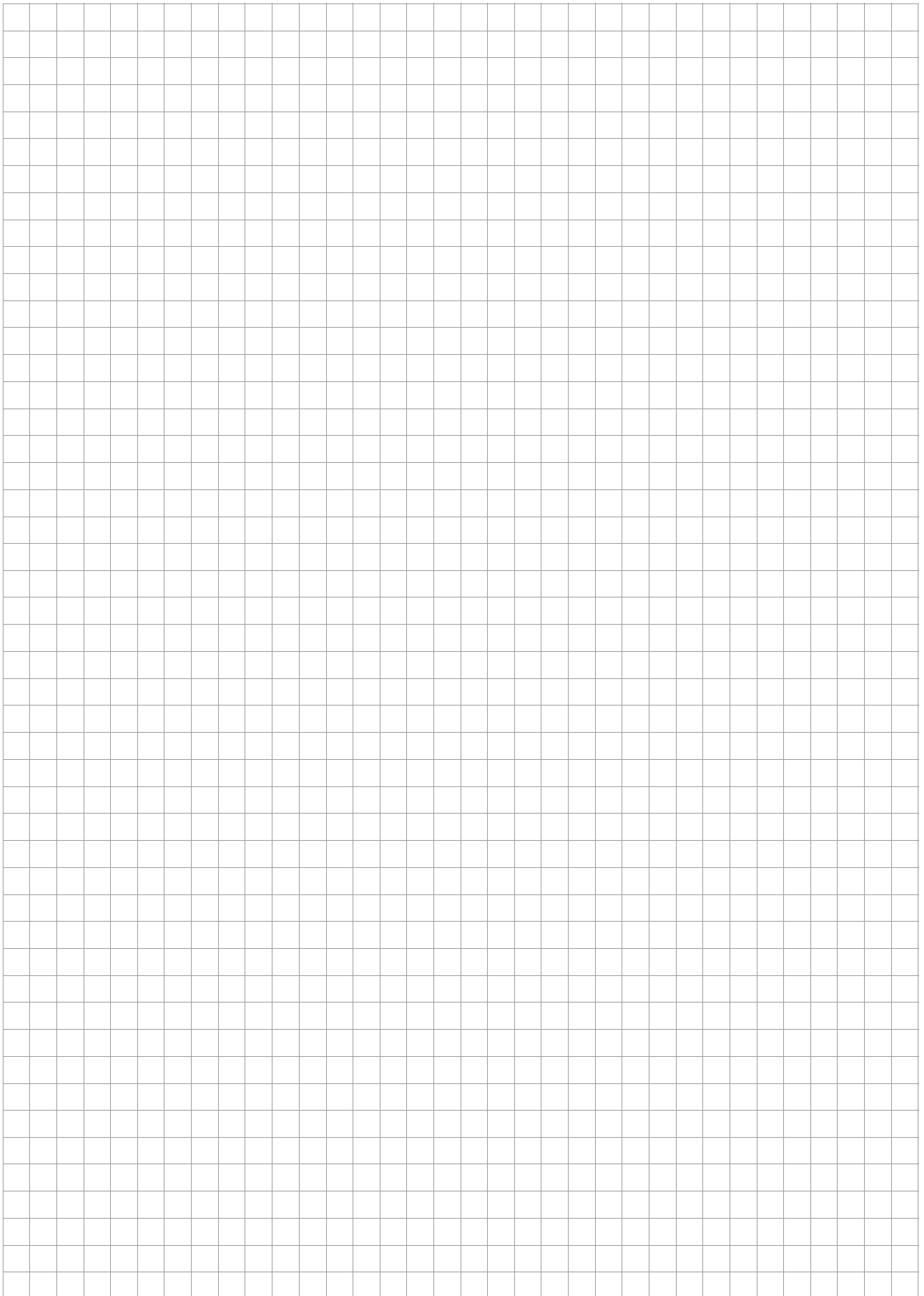
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