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CMC III CAN Bus Unit



7030.030

Montage-, Installations- und Bedienungsanleitung
Assembly and operating instructions

ENCLOSURES

POWER DISTRIBUTION

CLIMATE CONTROL

IT INFRASTRUCTURE

SOFTWARE & SERVICES

FRIEDHELM LOH GROUP



Foreword

EN

Foreword

Dear Customer,

Thank you for choosing our CAN bus unit for CMC III
(referred to hereafter as "CAN bus unit")!

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.

Contents	8	Technical specifications	20
1	Notes on documentation	4	
1.1	CE labelling	4	
1.2	Storing the documents	4	
1.3	Symbols used in these operating instructions	4	
1.4	Associated documents	4	
2	Safety instructions	5	
2.1	General safety instructions	5	
2.2	Service and technical staff	5	
3	Product description	6	
3.1	Function description and components	6	
3.1.1	Function	6	
3.1.2	Components	6	
3.2	Proper use, foreseeable misuse	6	
3.3	Scope of supply	6	
4	Transport and handling	7	
4.1	Transport	7	
4.2	Unpacking	7	
5	Installation	8	
5.1	Safety instructions	8	
5.2	Siting location requirements	8	
5.3	Installation procedure	8	
5.3.1	Installation notes	8	
5.3.2	Installation with the mounting clips provided	8	
5.3.3	Installation with the CMC III mounting unit	9	
5.3.4	Installation on a top-hat rail	10	
5.4	Electrical connection	10	
5.5	Connecting the CAN bus unit	10	
6	Operation	12	
6.1	Activating the CAN bus unit	12	
6.2	Operating and display elements	12	
6.3	LED displays	12	
6.3.1	Multi-LED displays	12	
6.3.2	LED displays on the CAN bus connection	12	
6.3.3	LED displays on the RJ 45 connection for the components	12	
6.4	Acknowledging messages	12	
6.5	Operating the CMC III Processing Unit from the website	13	
6.5.1	Device	13	
6.5.2	VarGat	13	
6.5.3	Fan Control System/fan plate	13	
6.5.4	Switchable plug socket module with cumulative voltage measurement	14	
6.5.5	Plug socket module with individual current measurement per output	16	
6.5.6	PSM busbars with measurement	17	
7	Storage and disposal	19	
7.1	Storage	19	
7.2	Disposal	19	
9	Troubleshooting	21	
10	Customer service addresses	22	

1 Notes on documentation

EN

1 Notes on documentation

1.1 CE labelling

Rittal GmbH & Co. KG hereby confirms that the CAN bus unit 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 operating, installation and maintenance instructions as well as all 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 dangerous 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 Associated documents

- Installation and Short User's Guide
- CMC III Processing Unit/CMC III Processing Unit Compact assembly, installation and operating instructions
- Installation instructions and Short User's Guide for the connected accessories (e.g. PSM busbar 16 A (7856.016)).

2 Safety instructions

2.1 General safety instructions

Please observe the subsequent general safety instructions for the installation and operation of the system:

- Assembly and installation of the CAN bus unit, in particular for wiring with mains power, may only be performed by a trained electrician.
- Please observe the valid regulations for electrical installation in the country in which the CAN bus unit is installed and operated, and the national regulations for accident prevention. Please also observe any company-internal regulations, such as work, operating and safety regulations.
- Use only original Rittal products or products recommended by Rittal in conjunction with the CAN bus unit.
- Please do not make any changes to the CAN bus unit that are not described in this manual or in the associated manuals.
- The operating reliability of the CAN bus unit is only warranted in case of use as intended and according to the rules. The technical data and limit values stated may not be exceeded under any circumstances. In particular, this applies to the specified ambient temperature range and the IP protection category.
- The CAN bus unit must not be opened. The unit 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 the tasks described in the following chapters are performed.

2.2 Service and technical staff

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

3 Product description

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3 Product description

3.1 Function description and components

3.1.1 Function

The CAN bus unit is compatible with the PSM busbar and the PSM modules as well as the FCS Fan Control System. Like the CMC-TC system, these can be connected to the CMC III system. Two cable ducts are available for users who wish to connect these units. The CAN bus unit has an identification that allows it to be detected automatically by the CMC III Processing Unit.



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 of the text passages which only apply for one of the 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 CAN bus unit serves exclusively to integrate PSM busbars, PSM modules and the FCS Fan Control System into the CMC III system. It may only be used together with the CMC III Processing Unit. Any other use is not permitted.

The unit is state of the art and built according to recognised safety regulations. Nevertheless, improper use can present a hazard to 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!

The intended use also includes the observance of the documentation provided and fulfilling 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 the 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

- CAN bus unit
- Accessories provided (fig. 1)
- Installation and Short User's Guide

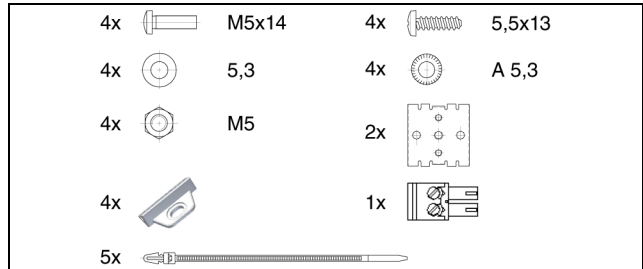


Fig. 1: Accessories provided

4 Transport and handling

4.1 Transport

The unit is delivered in a carton.

4.2 Unpacking

- Remove the unit's packaging materials.



Note:

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

Polyethylene film (PE film), cardboard.

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



Note:

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

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

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

5.2 Siting location requirements

To ensure the correct function 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

In general, there are several ways of installing the CAN bus unit in an IT enclosure:

1. Installation using the mounting clips provided, possibly also with spring clips for the top-hat rail installation.

2. Installation with the CMC III mounting unit (7030.071).
3. Installation with the CMC III mounting unit, 1 U (7030.070).

5.3.1 Installation notes

- Never fasten the CAN bus unit with the mounting clips provided on only one side of the device! This would cause undesirable vibrations in the device during operation.

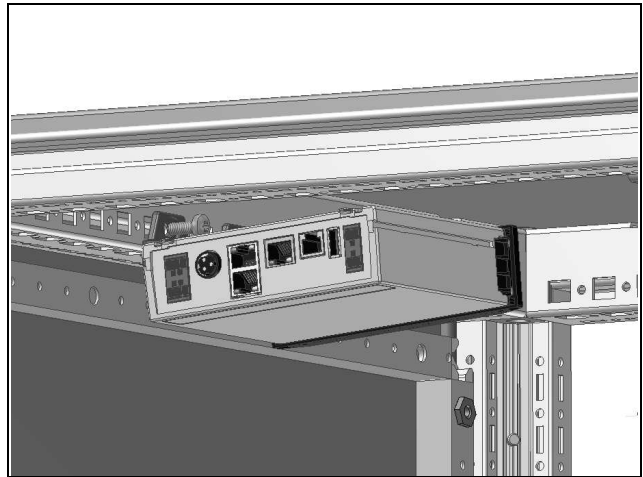


Fig. 2: Faulty installation in the enclosure

- The CAN bus unit 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

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

- Push two mounting clips on each of the side guide rails of the CAN bus unit.

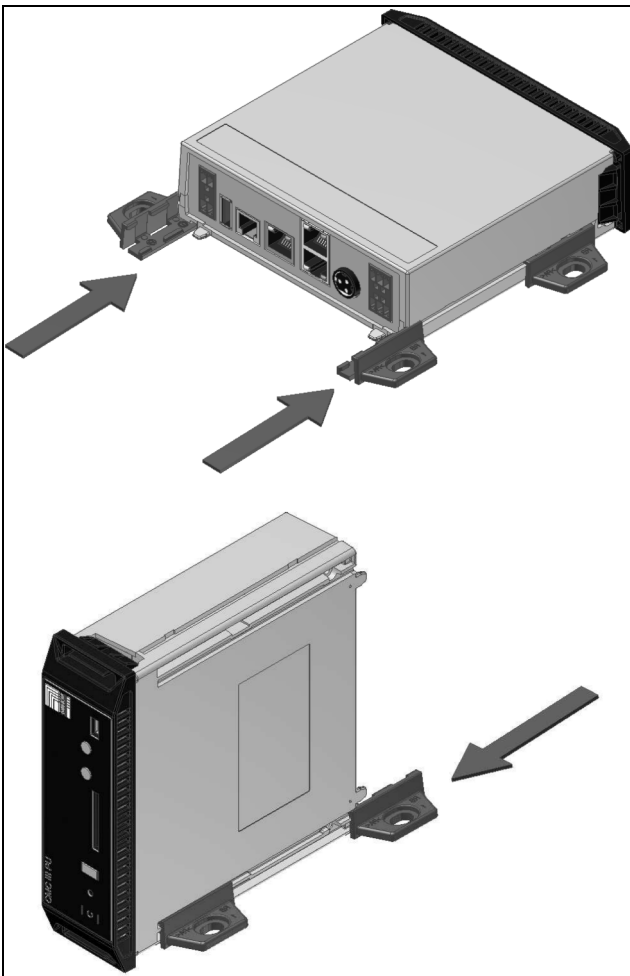


Fig. 3: Sliding on the mounting clips

- Fasten the CAN bus unit with 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 installing the CAN bus unit on the enclosure frame or on a mounting plate (7030.071).
- As a 482.6 mm (19") variant (1 U) for mounting the CAN bus unit and two additional devices (7030.070).

The procedure for installing the CAN bus unit in the two mounting units is identical:

- Push the CAN bus unit as far as possible into the mounting unit until it latches into place.

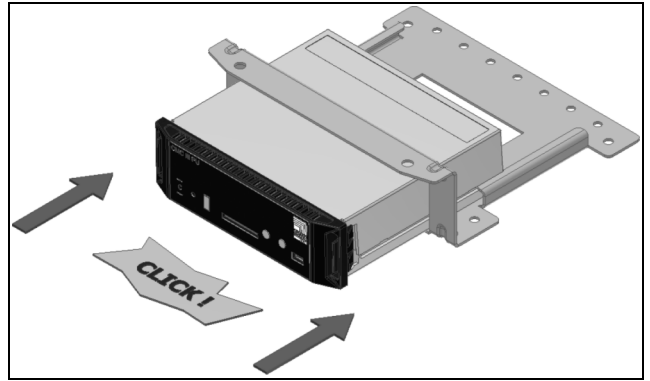


Fig. 4: Push the CAN bus unit into the mounting unit

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

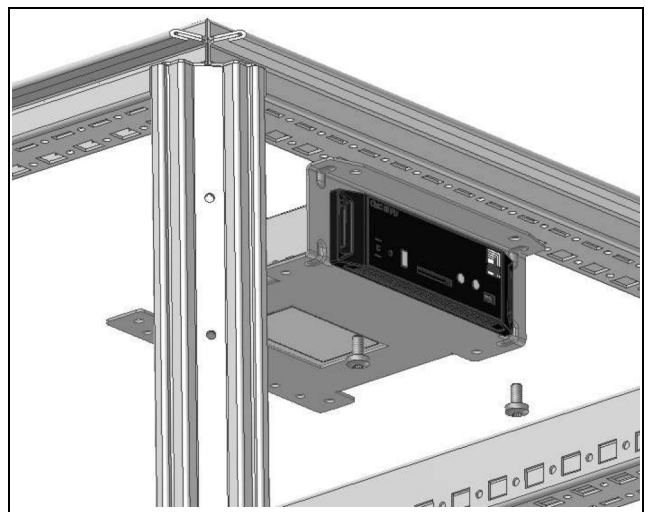


Fig. 5: Fastening the mounting unit to the enclosure frame

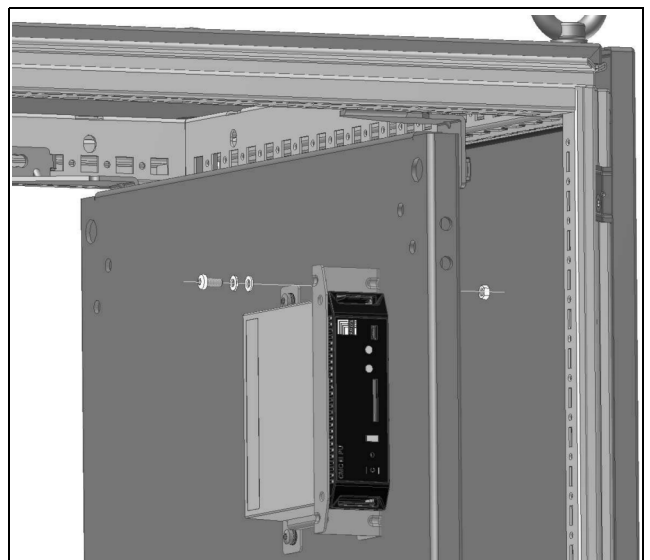


Fig. 6: Fastening the mounting unit to a mounting plate

- Fasten the mounting unit (7030.070) with the screws provided in a free rack-mounting point (1 U) in the IT enclosure.

5 Installation

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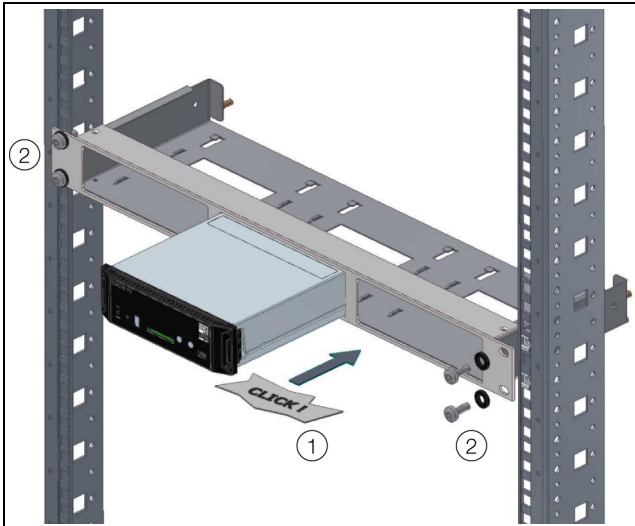


Fig. 7: Fastening the mounting unit in a rack-mounting point

5.3.4 Installation on a top-hat rail

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

- Push a mounting clip on each of the side guide rails of the CAN bus unit.
- Screw a spring clip for the top-hat rail installation onto the mounting clips.
- Place the CAN bus unit with the spring clips on the top-hat rail.

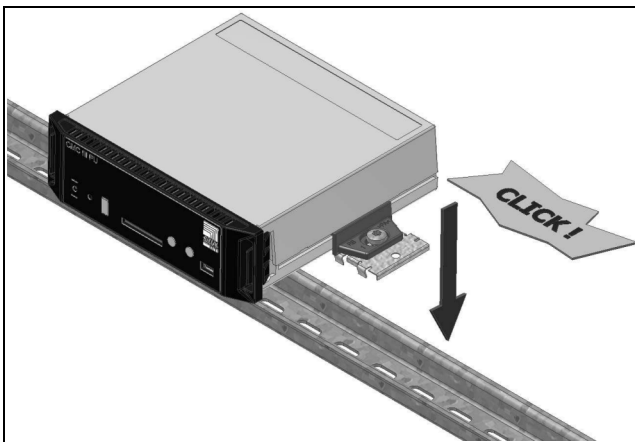


Fig. 8: CAN bus unit mounted on a top-hat rail

5.4 Electrical connection



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

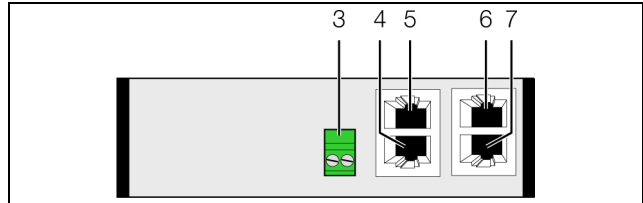


Fig. 9: Rear of the CAN bus unit

Key

- 1 24 V power supply --- (direct connection)
- 2 Connection for PSM busbars, PSM modules or the Fan Control System FCS RJ 45
- 3 Connection for PSM busbars, PSM modules or the Fan Control System FCS RJ 45
- 4 CAN bus connection, 24 V ---
- 5 CAN bus connection, 24 V ---

The CAN bus unit must be connected directly with a CMC III power supply unit (7030.060) using the clamp connectors.

- Connect the 24 V output (direct connection) of the power supply unit with the corresponding connection on the CAN bus unit (fig. 9, item 3).
- Note the pin allocation of the connection on the CAN bus unit (see also the device labelling).

Pin	Signal
Pin 1 (left)	+24 V ---
Pin 2 (right)	GND

Tab. 1: Pin allocation on the CAN bus unit



Note:

The above designations "left" and "right" apply when the device is viewed from the rear (fig. 9).

- Also observe the pin allocation of the power pack (7030.060). This is contained in the associated documentation.

5.5 Connecting the CAN bus unit

- Connect one of the following components to the appropriate connection (fig. 9, item 4).
 - FCS fan control system (7320.810)
 - FCS fan plate DC (7858.488)
 - PCU 8-way (7200.001)
 - PCU C13/earthing-pin LED 6-way (7859.215)
 - PCU C13 LED 8-way (7859.225)
 - PCU C13/19 LED 6-way (7859.235)

- Active PSM C13 8-way (7856.201)
- Active PSM C13/earthing-pin 6-way (7856.203)
- Active PSM C13/19 6-way (7856.204)
- Active PSM C13/earthing-pin LED 6-way (7859.212)
- Active PSM C13 LED 8-way (7859.222)
- Active PSM C13/19 LED 6-way (7859.232)
- PSM busbar 16 A (7856.016)
- PSM busbar 32 A (7856.003)
- PSM measuring module 16 A (7856.019)

■ If necessary, connect another component to the second, free interface of the CAN bus unit (fig. 9, item 5).



Note:

When cascading PSM modules, every module must be assigned a unique bus address via the local 7-segment display (see the assembly, installation and operating instructions for the PSM modules).

Every connected component is automatically identified by the CAN bus unit. After connecting the components, the status display of the multi-LED at the front of the CAN bus unit changes accordingly. The LED display on the RJ 45 connection for the components also changes (see section 6.3.3 "LED displays on the RJ 45 connection for the components").

■ Use a CAN bus connection cable to connect the CAN bus unit to a CAN bus interface on the CMC III Processing Unit or the neighbouring component on the CAN bus (fig. 9, item 6).

The following CAN bus connection cables from the CMC III accessories range can 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)

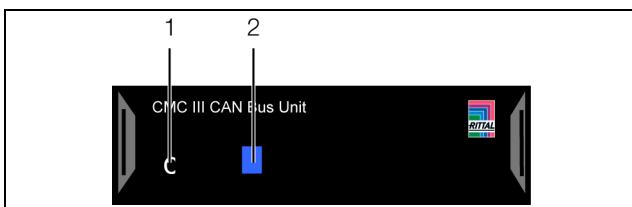


Fig. 10: Front of the CAN bus unit

Key

- 1 "C" button for acknowledging messages
- 2 Multi-LED for status display

The unit software is updated, if necessary, after being connected. The status LED of the CAN bus unit glows blue throughout the entire update process and also flashes purple while the unit itself is being updated. 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 light green.
2. The multi-LED of the unit behind the front panel flashes blue and green, yellow or red, depending on the condition 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 CAN bus unit.

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 CAN bus unit 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:

For a list of all of the multi-LED displays, see section 6.3.1. "Multi-LED displays".

The multi-LED behind the unit's front panel flashes green – yellow. This indicates that a new component has been found by the CAN bus unit.

- Press the "C" button on the CAN bus unit and hold it down for approx. 3 seconds until the LED briefly lights up white and then goes out briefly. The Processing Unit recognises the CAN bus unit again.
- Press the "C" key on the CMC III Processing Unit again (an initial audio signal will sound) and keep it pressed for approx. 3 seconds until a second audio signal is heard.

6 Operation

6.1 Activating the CAN bus unit

Once the electrical connection has been established, the CAN bus unit starts automatically (see section 5.4 "Electrical connection"). Separate activation is not required.

6.2 Operating and display elements

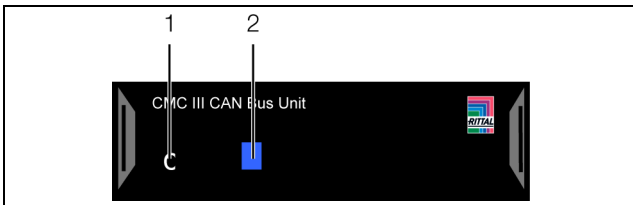


Fig. 11: Front of the CAN bus unit

Key

- 1 "C" button for acknowledging messages
- 2 Multi-LED for status display

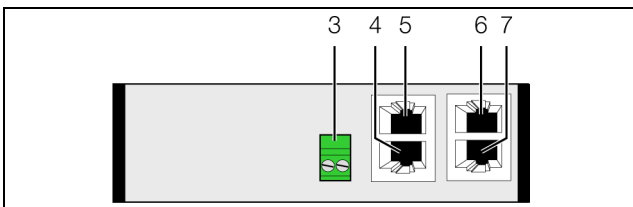


Fig. 12: Rear of the CAN bus unit

Key

- 1 24 V power supply --- (direct connection)
- 2 Connection for PSM busbars, PSM modules or the Fan Control System FCS RJ 45
- 3 Connection for PSM busbars, PSM modules or the Fan Control System FCS RJ 45
- 4 CAN bus connection, 24 V ---
- 5 CAN bus connection, 24 V ---

6.3 LED displays

A multi-LED for the status display is integrated into the front of the CAN bus unit (fig. 11, item 2). Additional LEDs are also located on the rear of the CAN bus connection (fig. 12, items 6 and 7) and on the connection for the components (fig. 12, items 4 and 5).

6.3.1 Multi-LED displays

The multi-LED indicates the status of the CAN bus unit and the connected components.

Colour	Status
Cyclic green – yellow	At least one new component has been detected (status "Detected").
Alternating red – blue	At least one component has been removed or can no longer be accessed (status "Lost").

Tab. 2: Multi-LED flashing codes

Colour	Status
Blue	All connected components have the status "OK".
Purple	A CAN bus unit software update is being carried out.

Tab. 2: 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 (continuously lit)	Communication via the CAN bus possible.
Red (flashing)	Transmission fault.

Tab. 3: LEDs for the CAN bus connection

6.3.3 LED displays on the RJ 45 connection for the components

There is a green and an orange LED on the RJ 45 connection. These display the status of the communication with the connector components.

Colour	Status
Green (flashing)	Communication via the interface possible.
Orange (flashing)	Transmission fault.

Tab. 4: LEDs on the interface for the components

6.4 Acknowledging messages

There are three general ways of acknowledging messages:

1. By briefly pressing the "C" button on the CAN bus unit. 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" confirms only 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 Alarm" or "Acknowledge 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 Operating the CMC III Processing Unit from the website

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

- First select the "CMCIII-GAT" 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 CAN bus unit (**Access Rights** button) and the alarm messages (**Alarm Configuration** button).

All settings for the CAN bus unit and the connected accessories are made in the **Observation** tab, such as limits for warning and alarm messages. The "Device" level enables you to configure all of the general settings which apply to the CAN bus unit. The "VarGat" level enables you to acknowledge the status messages for the CAN bus unit. The parallel levels depend on the accessories connected.

In the following sections 6.5.1 "Device" and 6.5.5 "Plug socket module with individual current measurement per output", 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 CAN bus unit are configured at the "Device" level.

Parameter	Explanation
Description	The specific description of the CAN bus unit.
Location	Installation location of the CAN bus unit

Tab. 5: Settings in the "Device" level

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

6.5.2 VarGat

On the "VarGat" level the general settings for the gateway are configured and configuration changes to the CAN bus unit acknowledged.

Parameter	Explanation
Description	Specific description of the gateway.

Tab. 6: Settings in the "VarGat" level

Parameter	Explanation
Command	As an alternative to pressing the "C" button on the CAN bus unit, selecting the "Confirm" entry enables a newly connected component to be acknowledged (see section 5.5 "Connecting the CAN bus unit").

Tab. 6: Settings in the "VarGat" level

The following parameters are also displayed for the gateway:

Parameter	Explanation
Status	Actual status of the gateway.

Tab. 7: Displays in the "VarGat" level

6.5.3 Fan Control System/fan plate

The following description refers to the following components:

- FCS fan control system (7320.810)
- FCS fan plate DC (7858.488)

"Unit" level

You can configure the following parameters in the "Unit" level:

Parameter	Explanation
DescName	Individual description of the components connected to the CAN bus unit.
Command	As an alternative to pressing the "C" button on the connected component, selecting the "Confirm" entry enables a status change to be acknowledged (registering or de-registering the temperature sensor or a fan on the FCS).

Tab. 8: Settings in the "Unit" level

The following parameters are also displayed on the "Unit" level:

Parameter	Explanation
Unit type	Type of CMC-TC unit utilised.
Software Revision	Displays the software version of the CMC-TC unit utilised.
Serial Number	Displays the serial number of the CMC-TC unit utilised.
Status	Current status of the CMC-TC unit.

Tab. 9: Displays in the "Unit" level

"Temperature" level

The settings for the temperature are configured on the "Temperature" level.

6 Operation

EN

Parameter	Explanation
DescName	Specific description of the temperature.
Setpoint	The setpoint for the temperature to be controlled.

Tab. 10: Settings in the "Temperature" level

The following parameters are also displayed on the "Temperature" level:

Parameter	Explanation
Value	Currently measured temperature value.
Status	The current status with regard to the temperature value.

Tab. 11: Displays in the "Temperature" level

"PWM" level

The description of the fan speed can be modified on the "PWM" level.

Parameter	Explanation
DescName	Specific description of the fan speed.

Tab. 12: Settings in the "PWM" level

The following parameters are also displayed on the "PWM" level:

Parameter	Explanation
Value	Current speed of the fans as a % of the maximum speed.
Status	The current status with regard to the fan speed.

Tab. 13: Displays in the "PWM" level

"Fan1" to "Fan6" levels

The descriptions of the corresponding fans can be modified on the levels "Fan1" to "Fan6".

Parameter	Explanation
DescName	Specific description of the corresponding fan.

Tab. 14: Settings in levels "Fan1" to "Fan6"

The following parameters are also displayed on the levels "Fan1" to "Fan6".

Parameter	Explanation
Status	Current status of the respective fan. "n.a.": no fan connected. "Error": Fan is faulty. "OK": no fault.

Tab. 15: Displays in levels "Fan1" to "Fan6"



Note:

If a fan is connected, then it must be confirmed in the Fan Control System FCS (see section 6.5.3 "Fan Control System/fan plate", "Unit" level, "Command" parameter).

6.5.4 Switchable plug socket module with cumulative voltage measurement

The following description refers to the following components:

- PCU 8-way (7200.001)
- Active PSM C13 8-way (7856.201)
- Active PSM C13/earthing-pin 6-way (7856.203)
- Active PSM C13/19 6-way (7856.204)

The settings for the connected components are configured on the "PSM_P1_1" level. You can choose between two display options:

- Tree view: This allows targeted and fast access to individual parameters.
- Graphical display: This provides a rapid overview of all of the parameters of the components.

If, after selecting the "PSM_P1_1" level, the lower-level "Unit", "Plug 1", etc. entries are displayed (fig. 13, item 1), switch to the graphical display as follows:

- Click the coloured "graph" symbol after the "PSM_P1_1" entry, which resembles a stylised bar graph (fig. 13, item 2).

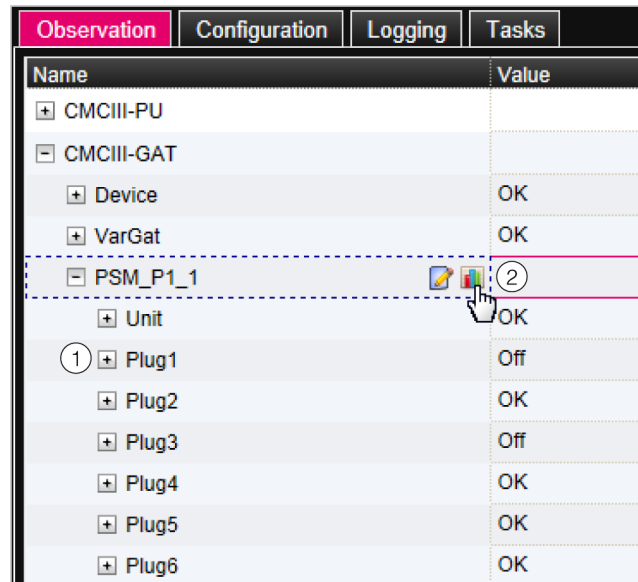


Fig. 13: Tree view

The display switches to the graphical display (fig. 14). All of the current switching states can be modified and viewed at a glance.

In addition, you also obtain an overview of the status of the components, which are colour-coded (fig. 14, item 2):

- Green: OK
- Red: Alarm

If, after selecting the "PSM_P1_1" level, the graphical display is preselected, you can switch to the tree view as follows:

- Click the grey-scale "graph" symbol after the "PSM_P1_1" entry (fig. 14, item 1).

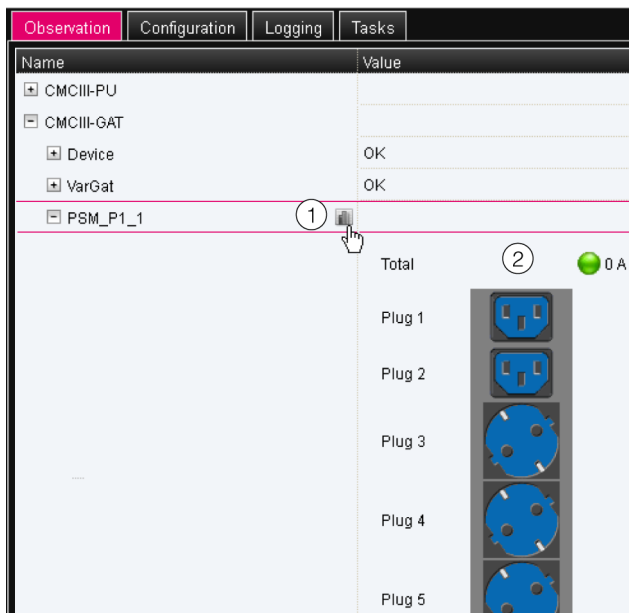


Fig. 14: Graphical display

The display changes to the tree view (fig. 13) and you can access the specific individual settings.

Proceed as follows to modify the settings when using the graphical display:

- Move the mouse cursor in the table to the corresponding output for which you want to change the settings (fig. 14, item 2).

An "Edit" symbol appears and the mouse pointer changes to a "Hand" symbol.

- Click the "Edit" symbol.
The "Write Values" dialogue with the parameters of the selected output appears.

The following descriptions assume that you have selected the tree view.

"Unit" level

You can configure the following parameters in the "Unit" level:

Parameter	Explanation
DescName	Specific description of the components utilised.

Tab. 16: Settings in the "Unit" level

Parameter	Explanation
SetPtHigh-Alarm	Upper limit of the current; an alarm message is output if this is exceeded.
SetPtLow-Alarm	Lower limit of the current; an alarm message is output if this is fallen below.

Tab. 16: Settings in the "Unit" level



Note:

If the value "0" is entered for all limit values at the "Unit" level, the status of the current is always "OK".

The following parameters are also displayed on the "Unit" level:

Parameter	Explanation
Unit type	Type of component utilised.
Software Revision	Displays the software version of the component utilised.
Serial Number	Displays the serial number of the component utilised.
Mounting Position	Display the infeed for the busbar used.
Value	Current current.
Status	Current status of the component.

Tab. 17: Displays in the "Unit" level

"Plug 1" level

You can configure the following parameters in the "Plug 1" level:

Parameter	Explanation
DescName	Specific description of output 1.
Relay	Assign a switching command for output 1: "On": The output is switched on. "Off": The output is switched off. "Off 10s": The output is switched off 10 seconds. "Off 30s": The output is switched off 30 seconds. "Off 60s": The output is switched off 60 seconds.
Grouping	The group number to which output 1 is assigned.

Tab. 18: Settings in the "Plug 1" level

Assigning an output to a group enables other outputs (including different components) to be switched in the same manner by switching one single output e.g. via the website or with one single task (see the assembly, installation and operating instructions for the CMC III Process-

6 Operation

ing Unit). As a result, it is neither necessary to switch each of these outputs individually, nor must a separate task be created for every single one of these outputs.

The following parameters are also displayed on the "Plug 1" level:

Parameter	Explanation
Status	Current status of output 1.

Tab. 19: Displays in the "Plug 1" level

"Plug 2" to "Plug 6" level

The settings for the outputs 2-6 are configured on the levels "Plug 2" to "Plug 6". The representations completely match those for "Plug 1" (see section "Plug 1" level").

6.5.5 Plug socket module with individual current measurement per output

The following description refers to the following components:

- PCU C13/earthing-pin LED 6-way (7859.215)
- PCU C13 LED 8-way (7859.225)
- PCU C13/19 LED 6-way (7859.235)
- Active PSM C13/earthing-pin LED 6-way (7859.212)
- Active PSM C13 LED 8-way (7859.222)
- Active PSM C13/19 LED 6-way (7859.232)

The settings for the connected components are configured on the "PSM_P2_4" level.

Here it is also possible to switch between a tree and a graphical display (see section 6.5.6 "PSM busbars with measurement").

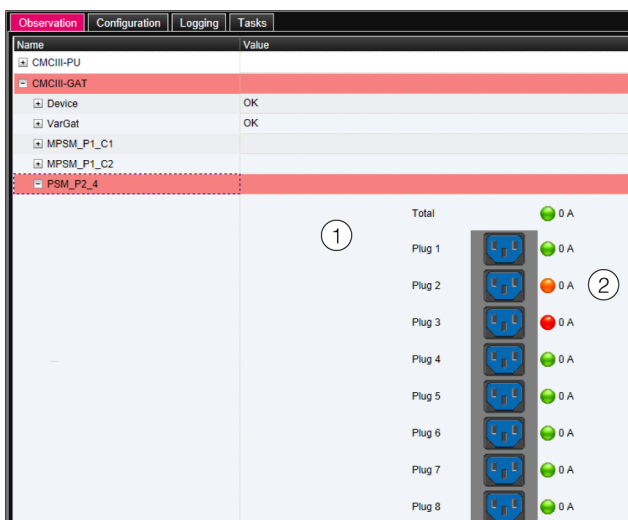


Fig. 15: Graphical display with status display

The graphical display (fig. 15, item 1) allows you to view all of the current switching states at a glance and modify them.

In addition, you also obtain an overview of the status of every output, which are colour-coded (fig. 15, item 2):

- Green: OK

- Yellow: Warning
- Red: Alarm
- Black: The output is switched off.

The following descriptions assume that you have selected the tree view.

"Unit" level

You can configure the following parameters in the "Unit" level:

Parameter	Explanation
DescName	Specific description of the components utilised.
SetPtHigh-Alarm	Upper limit of the current; an alarm message is output if this is exceeded.
SetPtHigh-Warning	Upper limit of the current; a warning message is output if this is exceeded.
SetPtLow-Alarm	Lower limit of the current; an alarm message is output if this is fallen below.

Tab. 20: Settings in the "Unit" level



Note:

If the value "0" is entered for all limit values at the "Unit" level, the status of the current is always "OK".

The following parameters are also displayed on the "Unit" level:

Parameter	Explanation
Unit type	Type of component utilised.
Software Revision	Displays the software version of the component utilised.
Serial Number	Displays the serial number of the component utilised.
Mounting Position	Display the infeed for the busbar used.
Value	Current current.
Status	Current status of the current for the infeed utilised.

Tab. 21: Displays in the "Unit" level

"Plug 1" level

You can configure the following parameters in the "Plug 1" level:

Parameter	Explanation
DescName	Specific description of the voltage of output 1.

Tab. 22: Settings in the "Plug 1" level

Parameter	Explanation
SetPtHigh-Alarm	Upper limit of the current of output 1; an alarm message is output if this is exceeded.
SetPtHigh-Warning	Upper limit of the current of output 1; a warning message is output if this is exceeded.
SetPtLow-Alarm	Lower limit of the current of output 1; an alarm message is output if this is fallen below.
Relay	Assign a switching command for output 1: "On": The output is switched on. "Off": The output is switched off. "Off 10s": The output is switched off 10 seconds. "Off 30s": The output is switched off 30 seconds. "Off 60s": The output is switched off 60 seconds.
Grouping	The group number to which output 1 is assigned.

Tab. 22: Settings in the "Plug 1" level

**Note:**

If the value "0" is entered for all limit values at the "Plug 1" level, the status of the current is always "OK".

Assigning an output to a group enables other outputs (including different components) to be switched in the same manner by switching one single output e.g. via the website or with one single task (see the assembly, installation and operating instructions for the CMC III Processing Unit). As a result, it is neither necessary to switch each of these outputs individually, nor must a separate task be created for every single one of these outputs.

The following parameters are also displayed on the "Plug 1" level:

Parameter	Explanation
Value	Current current of output 1.
Status	Current status of output 1.

Tab. 23: Displays in the "Plug 1" level

"Plug 2" to "Plug 8" levels

The settings for the outputs 2-8 are configured on the levels "Plug 2" to "Plug 8". The representations completely match those for "Plug 1" (see section **"Plug 1" level**).

6.5.6 PSM busbars with measurement

The following description refers to the following components:

- PSM busbar 16 A (7856.016)
- PSM busbar 32 A (7856.003)
- PSM measuring module 16 A (7856.019)

The settings for the for the infeed 1 of the components utilised are configured on the "MPSM_P1_C1" level.

Here it is also possible to switch between a tree and a graphical display (see section 6.5.6 "PSM busbars with measurement").

To change the setting values for the three phases L1, L2 and L3 in the selected tabular representation, proceed as follows:

- Move the mouse cursor in the table to the column header for which you want to change the settings. An "Edit" symbol appears and the mouse pointer changes to a "hand" symbol.
- Click the "Edit" symbol. The "Write Values" dialogue with the parameters of the selected phase appears.

**Note:**

You cannot make any changes to the higher-level parameters for the "Infeed 1" unit in the tabular representation.

The following descriptions assume that you have selected the tree representation.

"Unit" level

You can configure the following parameters in the "Unit" level:

Parameter	Explanation
DescName	Specific description of the components utilised.

Tab. 24: Settings in the "Unit" level

The following parameters are also displayed on the "Unit" level:

Parameter	Explanation
Unit type	Type of component utilised.
Software Revision	Displays the software version of the component utilised.
Serial Number	Displays the serial number of the component utilised.

Tab. 25: Displays in the "Unit" level

The following parameters are also displayed in the associated sublevels for infeed 1:

6 Operation

Parameter	Explanation
Energy	Total energy value of infeed 1.
Power	Total power of infeed 1.
Frequency	Frequency of infeed 1.

Tab. 26: Displays in the associated sublevels

"Phase 1" level

You can make changes for the voltage and the current of the phase L1 in the "Phase 1" level of infeed 1.

"Voltage" sublevel

Parameter	Explanation
DescName	Individual description of the phase L1 voltage.
SetPtHigh-Alarm	Upper limit of the voltage of phase L1 for which an alarm message is issued if exceeded.
SetPtLow-Alarm	Lower limit of the voltage of phase L1 for which an alarm message is issued if fallen below.

Tab. 27: Settings in the "Voltage" level



Note:
If the value "0" is entered for all limit values at the "Phase 1" level, the status of the voltage is always "OK".

The following parameters are also displayed for the voltage value of phase L1:

Parameter	Explanation
Value	Actual voltage value of phase L1.
Status	Current status of the voltage for phase L1.

Tab. 28: Displays in the "Voltage" level

"Current" sublevel

Parameter	Explanation
DescName	Individual description of the phase L1 current.
SetPtHigh-Alarm	Upper limit of the current of phase L1 for which an alarm message is issued if exceeded.
SetPtLow-Alarm	Lower limit of the current of phase L1 for which an alarm message is issued if fallen below.

Tab. 29: Settings in the "Current" level



Note:
If the value "0" is entered for all limit values at the "Current" level, the status of the current is always "OK".

The following parameters are also displayed for the current value of phase L1:

Parameter	Explanation
Value	Actual current value of phase L1.
Status	Current status of the current for phase L1.

Tab. 30: Displays in the "Current" level

The following parameters are also displayed for phase L1 in the associated sublevels:

Parameter	Explanation
Power	Current electrical power.
Energy	Current energy consumption.

Tab. 31: Displays in the "Phase 1" level



Note:
You can make the same settings for phases L2 and L3 in the appropriate levels as for phase L1.

Settings for infeed 2 are performed at the "MSP-M_P1_C2" level. The representations completely match those for infeed 1.

7 Storage and disposal

7.1 Storage

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

7.2 Disposal

Since the CAN bus unit 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

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8 Technical specifications

Technical specifications		CAN bus unit for CMC III
Model no.		7030.030
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 or components		2
Operation/signals	LED display	OK/Warning/Alarm/CAN bus status

Tab. 32: Technical specifications

9 Troubleshooting

Under certain circumstances components may not be correctly registered with the CAN bus unit. In this case, the CAN bus unit's internal memory must be reset.

- Disconnect the CAN bus connecting cable for the CMC III Processing Unit from the CAN bus unit.
The external voltage supply to the CAN bus unit can remain connected, as can the components connected to the CAN bus unit.
- Press and hold the "C" button on the front of the CAN bus unit.
- Reconnect the CAN bus connecting cable for the CMC III Processing Unit to the CAN bus unit and continue to hold down the "C" button.
The CAN bus unit starts and the multi-LED lights up white once or twice.
- Release the "C" button when the multi-LED for the CAN bus unit flashes blue.
After several seconds, the multi-LED behind the unit's front panel flashes green – yellow. This indicates that a new component has been found by the CAN bus unit.
- Press the "C" button on the CAN bus unit and hold it down for approx. 3 seconds until the LED briefly lights up white and then goes out briefly.
The Processing Unit recognises the CAN bus unit again.
- Press the "C" key on the CMC III Processing Unit again (an initial audio signal will sound) and keep it pressed for approx. 3 seconds until a second audio signal is heard.

10 Customer service addresses

EN

10 Customer service addresses

For technical queries, please contact:

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

E-mail: info@rittal.com

Homepage: www.rittal.com

For complaints or service requests, please contact:

Tel.: +49(0)2772 505-1855

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