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CMC-TC Master II
DK 7320.005

Assembly, Installation and Operation

FRIEDHELM LOH GROUP

A29290 03 IT 74

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Table of Contents

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1 Documentation Notes

The audience for this guide is the technical specialists familiar with the assembly, installation and operation of the CMC-TC Master II.

- You should read this operating guide prior to the commissioning and store the guide so it is readily accessible for subsequent use.

Rittal cannot accept any liability for damage and operational malfunctions that result from the non-observance of this guide.

1.1 Associated Documents

The guides for other CMC-TC components and their safety notes also apply together with this guide.

This guide is also provided as a file on the accompanying CD-ROM:

German: 7320005VXXd.pdf

English: 7320005VXXe.pdf

To view the guide you require the Acrobat Reader program; Acrobat Reader can be downloaded from www.adobe.com

1.2 Retention of the Documents

This guide and all associated documents are part of the product. They must be given to the operator of the unit and must be stored so they are available when needed.

1.3 Used Symbols

The following safety and other notes are used in this guide:

Symbol for a handling instruction:

- This bullet point indicates that you should perform an action.

Safety and other notes:

Danger!
Immediate danger to health and life!

Warning!
Possible danger for the product and the environment!

Note!
Useful information and special features.

2 Safety Notes

Observe the subsequent general safety notes for the installation and operation of the unit:

- Assembly and installation of the CMC-TC Master II, in particular for wiring the enclosures with mains power, may be performed only by a trained electrician. Other tasks associated with the CMC-TC Master II, such as the assembly and installation of system components with tested standard connectors, and the operation and configuration of the CMC-TC Master II may be performed only by instructed personnel.
- Observe the valid regulations for the electrical installation for the country in which the unit is installed and operated, and the national regulations for accident prevention. Also observe any company-internal regulations (work, operating and safety regulations).
- Prior to working at the CMC-TC system, it must be disconnected from the power supply and protected against being switched on again.
- Use only genuine or recommended parts and accessories (see chapter 3.6 Accessories). The use of other parts can void the liability for any resulting consequences.
- Do not make any changes to the CMC-TC Master II that are not described in this guide or in the associated guides.
- The operational safety of the unit is guaranteed only for its approved use. The limit values stated in the technical specifications (see chapter, “12 Technical Specifications”) may not be exceeded under any circumstances. In particular, this applies to the permitted ambient temperature range and to the permitted IP protection category. When used with a higher required IP protection category, the Rittal CMC-TC must be installed in a housing or enclosure with a higher IP protection category.
- The operation of the CMC-TC system in direct contact with water, aggressive materials or inflammable gases and vapours is prohibited.
- In addition to these general safety notes, also observe any special safety notes listed for the specific tasks in the individual sections.

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3 Unit Description

The Multi Control Top Concept Master II computer (subsequently called Master II) is an “intelligent” enclosure monitoring system. It is installed in its own housing on the enclosure and uses the attached network interface to perform the complete physical monitoring of the enclosure, i.e. temperature, humidity, shock, smoke, voltage through to the complete cabinet locking and access control. All this information is transferred with SNMP to the Master II where it can be administered.

3.1 Housing

The CMC-TC Master II is installed in its own housing. The supplied self-adhesive plastic feet can be used to place the device on component shelves. In addition, the two provided top-hat rail brackets with screws can be used to install the device on an existing top-hat rail.

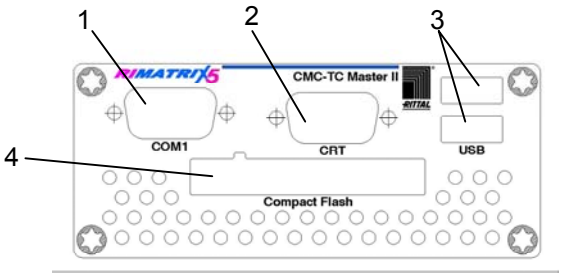

Fig. 1 CMC-TC Master II front side

Key

1 Serial interface (programming)
2 Monitor connection
3 USB connection for camera
4 Serial interface (RS-232 connection)

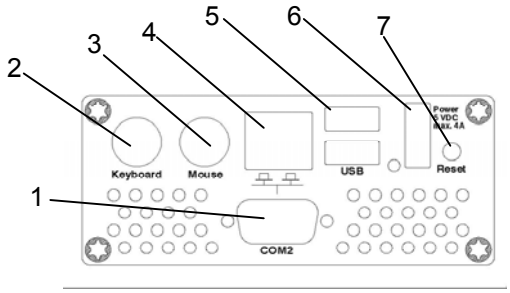

Fig. 2 CMC-TC Master II rear side

Key

1 Serial interface (for future expansions)
2 PS/2 connection for keyboard
3 PS/2 connection for mouse
4 10/100 BaseT network connection
5 USB connection
6 Power supply connection
7 Reset pushbutton

3.2 Power supply

The CMC-TC Master II is supplied with power using the supplied external power pack. The connection cable for the external power pack in various country variants is available as accessory. Choose the variant appropriate for the country-specific regulations. A selection of various connection cables is described in Section 3.6 Accessories.

All connected devices, such as keyboard, mouse and USB cameras, are supplied with power from the CMC-TC Master II.

3.3 Network Properties

The CMC-TC PU has an 10/100BaseT Ethernet network connection supported with the following protocols:

- using RS232 serial interface, e.g. HyperTerminal
- in the Ethernet network, e.g. using TELNET
- SNMPv1, compatible with popular management systems
- TFTP
- HTTP

The network connection is made using a suitable network cable with RJ-45 plug in the existing Ethernet network structure.

The communication is made using a standard browser and is operating-system-independent.

The number of Rittal CMC-TC Processing Units in the network is limited to a maximum of ten, provided adequate free IP addresses are available in the network. This distributed construction allows you to also realise monitoring for enclosure suites without needing any large cabling effort.

The network protocols are used for communication (password query, switching commands, status queries, and alarm signals) between the Rittal CMC-TC Master II, the administrators and the users in the network (network/ internet/ intranet).

The SNMP functionality is also independent of the operating system, only the network management protocol must support SNMP V 1.0. In addition, the Rittal CMC-TC Master II is supporting the Standard-MIB II. The privat MIB is part of the scope of supply. Further information is provided on the supplied CD-ROM (CMC-TC PU II v1_1d.mib).

The private MIB is required for integration in a building management software system. It decodes the transferred trap messages to produce unambiguous messages.

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3.4 System Requirements

- Hardware: PC with serial interface and 10/100 Mbit network card
- Software: operating system (Linux or Windows) Browser (IE 6.0 or equivalent)

3.5 Scope of supply

The unit will be delivered in a packaging unit in fully-assembled state.

- Check the delivered components for completeness.
- Check that the packaging does not show any signs of damage.

Number	Designation
1	CMC-TC Master II with network interface RJ -45 socket (10/100 BaseT)
2	Top-hat rail brackets
1	CD-ROM with software and operating manual
1	Null-modem cable
1	Master II power pack
1	Checklist for commissioning in German/English

Tab. 1 Scope of supply

3.6 Accessories

3.6.1 Required accessories

Depending on the country-specific specifications, you require an appropriate connection cable for the power pack of the CMC-TC PU.

Accessories	Designation	Packs of	Required	Model No.
Connection cable for power pack	Connection cable IEC connector Country version D	1	Yes, 1x for power pack	7200.210
	Connection cable IEC connector Country version GB	1		7200.211
	Connection cable IEC connector Country version F/B	1		7200.210
	Connection cable IEC connector Country version CH	1		7200.213
	Connection cable IEC connector Country version USA/CDN, UL approval FT1/VW1	1		7200.214
	Extension cable IEC connector and socket	1		7200.215
Assembly	Component shelf	1	Optional	7119.400
	Top hat rail (length: 187 mm)	10		2315.000
Connection cable	RJ45 connection cable	1	Yes, 1 x for network connection	7320.472

Tab. 2 Required accessories

3.6.2 Optional accessories

Accessories	Max. required number of items	Model No.
Rittal USB camera	2	on request

Tab. 3 Optional accessories

3.7 Proper use

The Rittal CMC-TC Master II serves as an enclosure monitoring system for the monitoring and administration of various enclosure parameters.

A use different from that described here is considered to be an improper use. Rittal cannot accept any liability for damage resulting from the improper use or the non-observance of this guide. The guides for the used accessories may apply.

4 Assembly

4.1 Assembly notes

Install the CMC-TC Master II in an enclosure or in a suitable housing system so that it also has additional protection from external effects. Also consider the permitted ambient temperature and humidity operational areas and the application-related required IP degree of protection (see chapter 12, page 26).

Warning!
The "top-hat rail" assembly type is recommended because this attachment form allows the most optimum heat dissipation of the system. This also in-creases the lifetime of the system.

4.2 Assembly on a 2 U Component Shelf

You can assembly the CMC-TC Master II on a component shelf, which, however, is not included in the scope of supply, refer to Section 3.6.1 Required accessories.

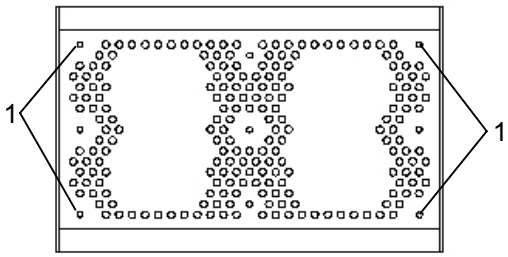

Fig. 3 Assembly of the rubber feet (lower side)

Key

1 Holes for the assembly of the adjustable feet

Screw the supplied adjustable feet to the lower side of the CMC-TC Master II.

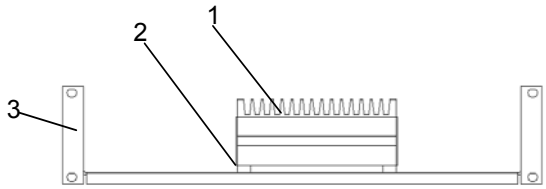

Fig. 4 Assembly on a 2 U component shelf

Key

1 CMC-TC Master II

2 Screwed adjustable feet

3 2 U component shelf with holes, model no. 7119.400

- Place the CMC-TC Master II on the component shelf.

4.3 Installing on a Top-Hat Rail

The CMC-TC Master II can be installed on a normal top-hat rail. For the heat dissipation, the system must have a free space 10 cm above and below and this space may not contain any components. The cooling fins must be arranged vertical.

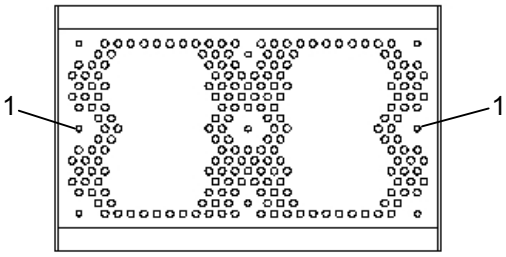

Fig. 5 Installation of the top-hat rail brackets

Key

1 Fastening holes for top-hat rail brackets

- Screw the top-hat rail at the required position in the enclosure.
- Remove the supplied top-hat rail brackets and two screws from the scope of supply.
- Screw the top-hat rail brackets to the lower side of the CMC-TC Master II (see Figure 5).
- Latch the CMC-TC Master II onto the top-hat rail.

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5 Installation

Danger!
The assembly and installation may be performed only by trained specialists.

5.1 Safety and other notes

- The Rittal CMC-TC Master II may be operated only with connected protective earth conductor. The protective earth conductor connection is made by plugging in the IEC connection cable. This requires that the IEC connection cable at the power supply side be connected with the protective earth conductor.
- The electrical connection voltage and frequency must conform to the rated values specified at the rear of the power supply unit and in the technical specifications (see page 26).
- Before commencing work on the Rittal CMC-TC Master II, it must be disconnected from the mains power supply and protected against being reconnected.
- Protect the connection cables using cable ties on the used housing or enclosure.

5.2 Connecting the voltage supply

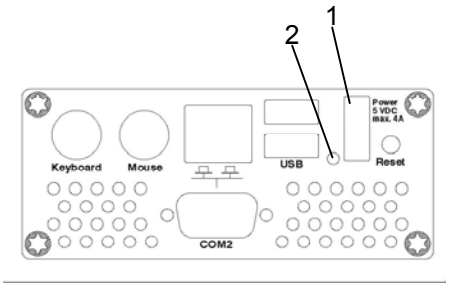

Fig. 6 CMC-TC Master II voltage connection

Key

1 Voltage supply connection

2 Operating LED

You must connect the CMC-TC Master II power pack using the connection cable specified in Section 3.6.1 Required accessories, to the voltage supply.

- Insert the power pack plug in the "Power" socket of the CMC-TC Master II. Ensure that the locking mechanism latches.

The plug latches itself. After being connected to the voltage supply, the CMC-TC Master II automatically begins a boot task that takes approximately three minutes. Once it has completed, the operating LED illuminates orange.

To remove the connection plug, press down the locking mechanism and pull the plug out of the CMC-TC Master II.

5.3 Establishing the Network Connection

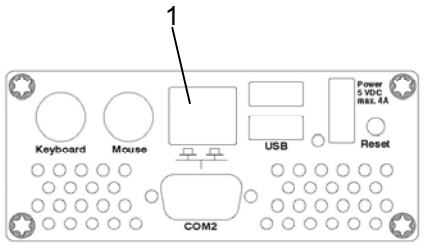

Fig. 7 Establishing the Network Connection

Key

1 Network connection

- Use the RJ45 network cable to connect the CMC-TC Master II with the existing Ethernet network structure.

The network connection is established as soon as the Link LED lights green or orange. In addition, the green Link LED starts to blink when data exchange occurs over the network.

5.4 Connecting the Programming Interface

If you want to configure the CMC-TC Master II, for example, using a notebook, you can connect both devices with each other using the serial interface (COM1).

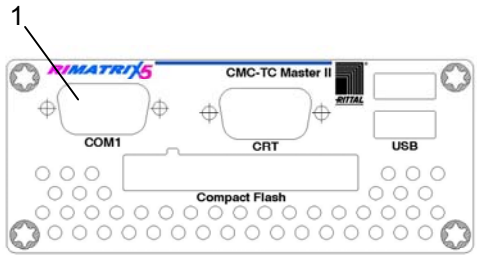

Fig. 8 RS-232 connection

Key

1 Serial interface (RS-232 connection)

- Connect the programming cable (null-modem cable) with the COM1 interface and with the serial interface of your PC.

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6 Commissioning

Once you have assembled the CMC-TC Master II and installed all connections, you must now configure it. You can do this using the serial interface (see Section 5.4 Connecting the Programming Interface) using either the network connection with an internet browser (see Section 7.4 Access Using a Browser) or Telnet (see Chapter 8 Access Using Telnet).

You must first the establish connection to the CMC-TC Master II. This is shown in the following sections using the example of the “HyperTerminal” terminal program that is part of the Microsoft Windows 2000 operating system. The process is similar for other operating systems.

To start “HyperTerminal”, click <Programs> - <Accessories> - <Communication> - <HyperTerminal>

Fig. 9 Enter name and select connection

- Enter name
- Assign symbol for connection

Fig. 10 Establish connection

- Select connection via COM Port
- Click “OK”

The properties of the selected COM ports must be specified once.

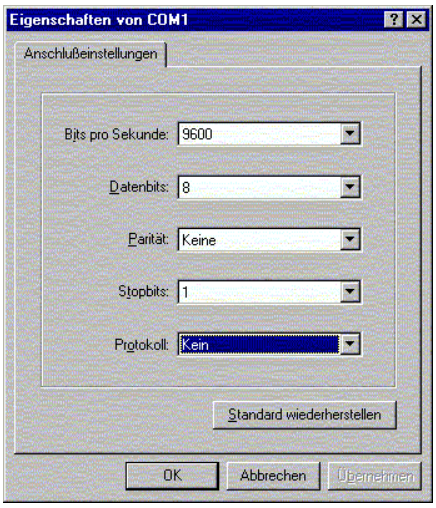

Fig. 11 COM port properties

- Enter the following parameters:
  - Transmission rate: 9600 bits per second
  - Data bits: 8
  - Parity: None
  - Stop bits: 1
  - Protocol: None

To ensure that the data is transferred without error, the standard level range must be observed for the RS-232 interface.

The login window for HyperTerminal appears.

If you do not see the login, press the Enter key on your keyboard once.

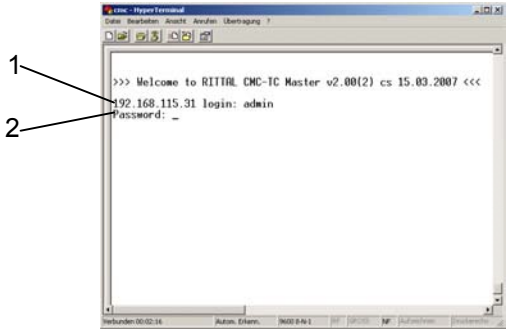

Fig. 12 Login

You must enter your login name (IP address login) and your password here. As supplied, “cmc” is set as default setting for both entries. Press Enter to confirm each of your inputs.

- Enter your login name (IP address login) and your password.
- Press Enter to confirm each of your inputs.

You can change the login name and the password subsequently (see Section 7.3.7 Configuring the Passwords).

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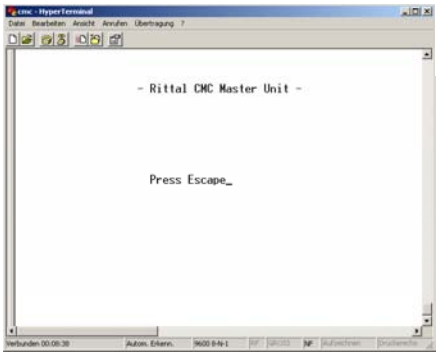

Fig. 13 HyperTerminal start window

Once you have been able to establish the connection to the CMC-TC Master II, the CMC-TC Master II start window appears.

Press the ESC key to reach the CMC-TC Master II configuration menu.

7 Operation

7.1 Becoming Familiar with the Menu Structure

The terminal program menu has the following structure:

1 Network Configuration	
1.1 IP Configuration	1.3 SNMPv1 Access
1.1.1 IP address	1.4 Enable TFTP
1.1.2 IP Subnet Mask	1.5 Read Community
1.1.3 IP Def. Gateway	1.6 Write Community
1.2 Trap Receiver Configuration	1.7 System Name
1.2.1 IP Trap Receiver	1.8 System Contact
1.2.2 Disable	1.9 System Location
1.2.3 IP Trap Receiver	1.A Change User Passwords
1.2.4 Disable	1.A.1 Password of User ´cmc´
1.2.5 IP Trap Receiver	1.A.2 Password of User ´admin´
1.2.6 Disable	1.B Telnet Timeout Minutes
1.2.7 IP Trap Receiver	1.C Enable/Close Telnet
1.2.8 Disable	1.G Activate Actual Values
2 IP Addresses of Devices	
2.1 IP Address of Device 1	2.6 IP Address of Device 6
2.2 IP Address of Device 2	2.7 IP Address of Device 7
2.3 IP Address of Device 3	2.8 IP Address of Device 8
2.4 IP Address of Device 4	2.9 IP Address of Device 9
2.5 IP Address of Device 5	2.A IP Address of Device 10
3 Setup of connected devices	
3.1 Name of the found PU	3.6 Name of the found PU
3.2 Name of the found PU	3.7 Name of the found PU
3.3 Name of the found PU	3.8 Name of the found PU
3.4 Name of the found PU	3.9 Name of the found PU
3.5 Name of the found PU	3.A Name of the found PU

Fig. 14 Menu structure

7.2 Operating Notes

The following sections list as tables all the configuration parameters of the CMC-TC. The basic operation is always the same:

- Navigate within the menu structure using the “up” ↑ and “down” ↓ arrow keys.
- · Scroll in fields with several predefined values using the “left” ← and “right” → arrow keys.
- Enter the required data in fields for text and numeric information from the keyboard.
- You can use the “Esc” key to cancel the inputs.
- Confirm all inputs with the “Return” or “Enter” key.

7.3 Setting the Base Configuration

The base configuration requires only the setting of the network configuration, the alarm relay and the trap receiver. You can make further settings using a browser or Telnet.

7.3.1 Network Configuration

You can use this menu to change your network settings.

Navigation	
Main menu – 1 IP Configuration	
Parameter	**Explanation**
IP Address	Enter your IP address (factory setting 192.168.0.190)
IP Subnet Mask	Enter your IP subnet mask address (factory setting 255.255.255.0)
Default Gateway	Enter the IP for the router (factory setting 0.0.0.0)

To activate the settings, you must activate these entries.

Navigation	
Main menu – D Activate Actual Values	
Parameter	**Explanation**
Activate actual values	Activate new values: select “Yes” and press the “Return” key to accept the settings.

7.3.2 Configuring the Trap Receiver

To receive messages and information, so-called trap messages, from the CMC-TC Master II, the IP address of the console on which a management software system (e.g. HP OpenView) is installed must be entered. The management software must support the SNMP protocol.

Navigation	
Main menu – 2 Trap Receiver Configuration	
Parameter	**Explanation**
IP Trap Receiver	Enter the IP address of the receiver of the messages (factory setting 0.0.0.0)
Disable	Enable or disable the IP trap receiver with the ← (enable) and → (disable) arrow keys.

Enter any additional recipients (maximum four) in the lines provided below.

7.3.3 Configuring the SNMP Access

Management software that supports SNMP (e.g. HP Open View or CMC-TC Manager) can access the CMC-TC Master II via the network.

Navigation	
Main menu – 3 Enable SNMP Access	
Parameter	**Explanation**
Enable SNMP access	Enable or disable the SNMP access with the ← and → arrow keys.

7.3.4 Configuring the TFTP Access

The TFTP access is used exclusively for uploading software updates. It can remain deactivated for normal usage.

Navigation	
Main menu – 4 Enable TFTP	
Parameter	**Explanation**
Enable TFTP	Enable or disable TFTP with the ← and → arrow keys.

7.3.5 Configuring the Read/Write Community

To make the settings for a management software system on the CMC-TC, you must set the community of the Processing Unit and the management software.

Navigation	
Main menu – 5 Read Community / 6 Write Community	
Parameter	**Explanation**
5 Read Community	Set the read community for the trap sending. Press the “Backspace” key to clear the factory setting and then enter the new name.
6 Write Community	Set the write community for the trap sending. Press the “Backspace” key to clear the factory setting and then enter the new name.

EN

7.3.6 Configuring the System Name, Contact and Location

A unique name, a contact address (e-mail) and a location can be entered for the CMC-TC Master II.

Navigation	
Main menu – 7 System Name / 8 System Contact / 9 System Location	
Parameter	**Explanation**
7 System Name	The CMC-TC Master II can be given any name. Press the “Back-space” key to clear the factory setting and then enter the new name.
8 System Contact	Set the contact address (e.g. xyz@rittal.de). Press the “Back-space” key to clear the factory setting and then enter the new name.
9 System Location	Enter the location name. Press the “Back-space” key to clear the factory setting and then enter the new name.

7.3.7 Configuring the Passwords

You can change the passwords of the CMC-TC Master II as required. The associated character length may not exceed 20 characters. Special characters are not permitted.

Navigation	
Main menu – A Change User Passwords	
Parameter	**Explanation**
1 Password of User ´cmc´	Set the password for the ´cmc´ user (max. 20 characters). Press the “Backspace” key to clear the factory setting and then enter the password.
2 Password of User ´admin´	Set the password for the ´admin´ user (max. 20 characters). Press the “Backspace” key to clear the factory setting and then enter the password.

7.3.8 Configuring the Timeout Window

The Telnet Timeout window is used for the automatic logout after a defined time. If, for example, a user has not performed any action on the CMC-TC Master II over a period of five minutes, the user will be logged off automatically.

Navigation	
Main menu – B Telnet Timeout Minutes	
Parameter	**Explanation**
B Telnet timeout minutes	Set the timeout function in minutes. 0 = No timeout 5 = If no changes have been made during the previous five minutes. Press the “Backspace” key to clear the factory setting and then enter the new time.

7.3.9 Configuring Telnet Access

Telnet provides the same administrative rights as those using the serial interface. If Telnet access is not wanted, you can deactivate it.

Navigation	
Main menu – C Enable/Close Telnet	
Parameter	**Explanation**
C Enable / Close Telnet	Enable or disable Telnet with the ← and → arrow keys.

7.3.10 Saving and Activating the Settings

To accept and save all changes and network settings, the network interface must be restarted.

Navigation	
Main menu – D Activate Actual Values	
Parameter	**Explanation**
D Activate actual values	Perform restart (Yes) or do not perform restart (No) using the ← and → arrow keys.

7.3.11 Entering the Processing Units to be Monitored

You must enter in the master the Processing Unit to be monitored. This is done as follows:

Navigation	
Main menu – 2 IP Addresses of Devices	
Parameter	**Explanation**
1-10 IP address of device 1 - 10	Enter the IP addresses to be monitored by the CMC-TC Master II. Press the “Backspace” key to clear the factory setting and then enter the new IP address.

7.3.12 Access to the Entered Processing Units

By selecting the individual Processing Units, you can access directly from the CMC-TC Master II to the Telnet menu of the Processing Unit in order to customise it to the system or to configure it.

Navigation	
Main menu – 3 Setup of Connected Devices	
Parameter	**Explanation**
1-10 entered Processing Units	Select the Processing Unit that you want to access. Select it with the arrow keys or with the numeric block. Press the Enter key to confirm.

7.4 Access Using a Browser

Open your Web browser as usual. Enter the IP address of the CMC-TC Master II in the address field and start building the page.

7.4.1 Login

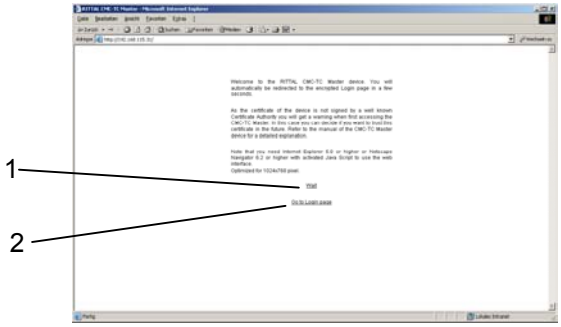

Fig. 15 Login window

Key

1 Wait

2 Go to the login page

- Click “Go to Login Page”

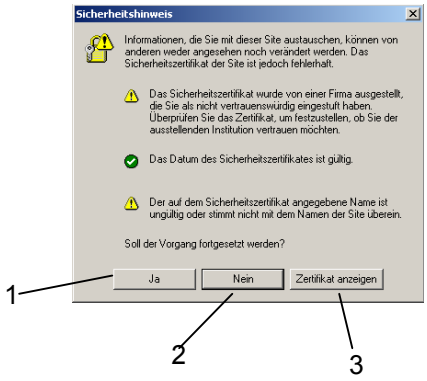

Fig. 16 Windows security notification

Key

1 Yes

2 No

3 Display certificate

- A security notification appears. You can confirm this by clicking the “Yes” button.

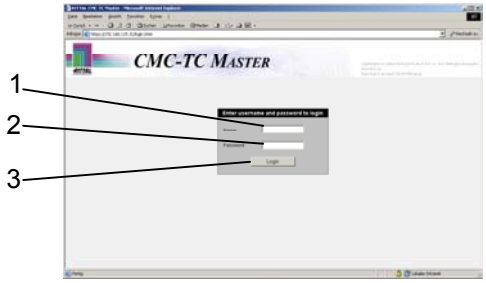

Fig. 17 Windows security notification

Key

1 Name (factory setting: admin)

2 Password (factory setting: admin)

3 Login button

- Enter your user name and your password in the appropriate fields. To confirm, click the Login button. (Factory setting: name and password: admin)

7.4.2 Main Page View

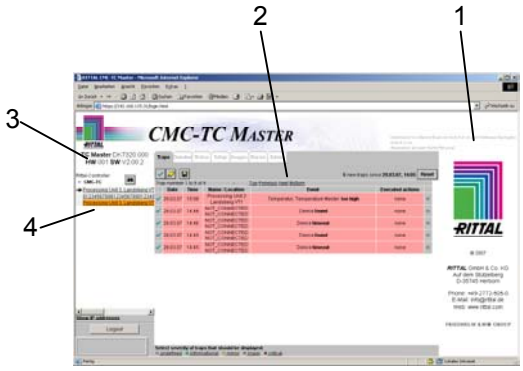

Fig. 18 Main page view

Key

1 Company logo, contact address and video frame

2 Main window

3 CMC-TC Master II hardware and software version

4 Logged in CMC-TC Processing Units

7.5 Base Settings

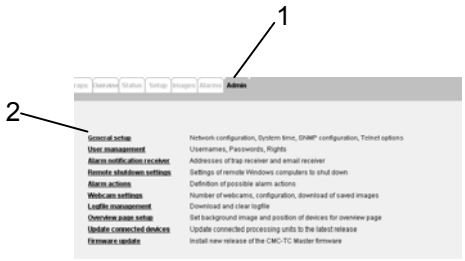

Fig. 19 Main settings

Key

1 Admin
You can use this link to make all main settings.

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2 General setup: set the network configuration, system time, SNMP configuration and Telnet options.
User management: user names, passwords and access rights.
Alarm notification receiver: IP addresses of the trap and e-mail recipients.
Remote shutdown settings: shutdown Windows systems.
Alarm actions: define possible alarm actions.
Webcam Settings: number, configuration of the Web cameras; download saved images.
Logfile management: download and delete the log file.
Overview page setup: add background image; position the Processing Units for the background image.
Update connected devices: update the attached Processing Units.
Firmware update: update the CMC-TC Master II.

7.5.1 General Setup

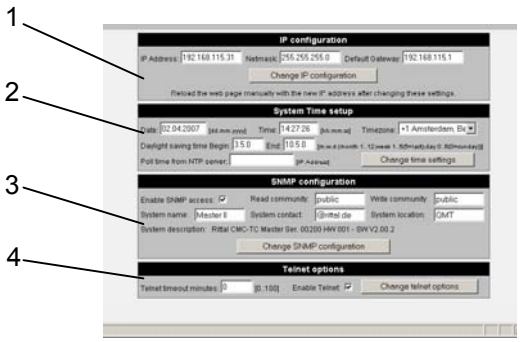

Fig. 20 General setup window

Key

1 IP configuration
2 System time setup
3 SNMP configuration
4 Telnet options

Navigation	
General Setup – IP Configuration	
Parameter	**Explanation**
IP Address	Currently entered IP address. To change the address, click in the field and press the Backspace key to clear the IP address. Enter the new IP address.
Netmask	Currently entered network mask. To change the address, click in the field and press the Backspace key to clear the network mask. Enter the new network mask.
Default Gateway	Currently entered gateway. To change the address, click in the field and press the Backspace key to clear the gateway. Enter the new gateway.

Note!
Once the IP configuration has been completed, you must click the Change IP Configuration button. This accepts the changes. To access the master again, you must login with the new IP address using your browser.

Navigation	
Admin – General Setup – System Time Setup	
Parameter	**Explanation**
Date	Currently entered date. To change the date, click in the field and press the Backspace key to clear the date. Enter the new date. Ensure the correct input format is used.
Time	Currently entered time. To change the address, click in the field and press the Backspace key to clear the time. Enter the new time. Ensure the correct input format is used.
Time zone	Currently entered time zone. To change time zone, click the scroll field and set your current time zone.
Daylight saving time Begin/End	Currently entered daylight-saving time begin/end. Enter the appropriate begin for the daylight saving.
Poll time from NTP server	If you use an NTP server, you can enter the IP address of the NTP server here.

Note!
Once the system time setup has been completed, you must click the Change Time Settings button. This accepts the changes.

Navigation	
Admin – General Setup – SNMP Configuration	
Parameter	**Explanation**
Enable SNMP access	You give here the master access to SNMP, the SNMP protocol in the network. To do this, check the appropriate field.

Read community	Password assignment for SNMP commands. You specify here the password that the Master should use to access the Processing Units. The passwords must be identical on the CMC-TC Master and on the Processing Unit. To change the password, click in the field and press the Backspace key to clear the input. Enter the new password.
Write community	Password assignment for SNMP commands. You specify here the password that the Master should use to access the Processing Units. The passwords must be identical on the CMC-TC Master and on the Processing Unit. To change the password, click in the field and press the Backspace key to clear the input. Enter the new password.
System name	You can give the CMC-TC Master II a unique name should you use several CMC-TC Masters.
System contact	Enter the contact e-mail address of the person responsible for the system. To change the password, click in the field and press the Backspace key to clear the input. Enter the new e-mail address.
System location	To quickly find the Master in the data centre, you can enter the location. To change the password, click in the field and press the Backspace key to clear the input. Enter the new location.
System description	These fields show the description, the serial number, the hardware version and the software version of the device. These details are important when support is requested.

Note!
Once the SNMP configuration has been completed, you must click the Change SNMP Configuration button. This accepts the changes.

Navigation

Admin – General Setup – Telnet Options	
Parameter	**Explanation**
Telnet timeout minutes	Enter here how long the Telnet access should be retained while no further input is being made (0 = no timeout, 100 = timeout after 100 minutes). To change the password, click in the field and press the Backspace key to clear the input. Enter the new time.
Enable Telnet	If you want to block the access via Telnet, activate the checkbox.

Note!
Once the Telnet options have been completed, you must click the Change Telnet Options button. This accepts the changes.

7.5.2 Creating Users and Assigning Rights

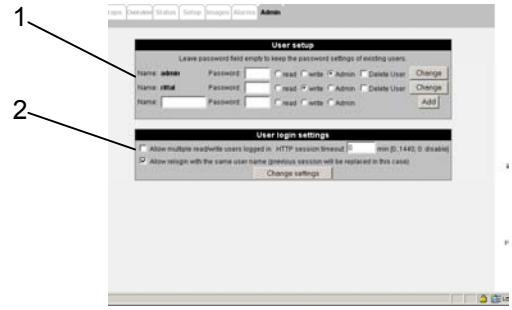

Fig. 21 User management

Key

1 User setup: create users and assign rights

2 User login settings: login settings

Navigation	
Admin – User Management – User Setup	
Parameter	**Explanation**
Name	Enter the name of the user or the user group.
Password	Enter the password for the user or user group (special characters not permitted).
Read	If a user should have only read rights, click in the area of the read function.
Write	If a user should have read and

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	write rights, click in the area of the write function.
Admin	If a user should have all rights, click in the area of the Admin function.
Delete user	To delete a user from the list, activate the “Delete User” checkbox.

Note!
Once the User setup has been completed, you must click the Change button. This accepts the changes.

Navigation	
Admin – User Management – User Login Settings	
Parameter	**Explanation**
Allow multiple read/write users logged in	If two users with read and write should be able to access the Master, activate the checkbox.
HTTP session timeout	You can specify how long each user is allowed to remain logged in to the CMC-TC Master II. To do this, click in the Window, press the Backspace key to clear the previous setting and enter the required time interval. The time is specified in minutes.
Allow relogin with the same user name	If a logged in user does not logoff from CMC-TC Master II, but only closes the browser window, the user can login again from a workplace with his/her user account. To allow this capability, activate the checkbox.

Note!
To save the settings, you must click the Change Settings button.

7.5.3 Entering the Alarm Recipient

The CMC-TC Master II can send alarms to receiver stations using SNMP. A maximum of four different receiver stations can be specified. In addition, a maximum of four different e-mail addresses for alarm forwarding can be specified.

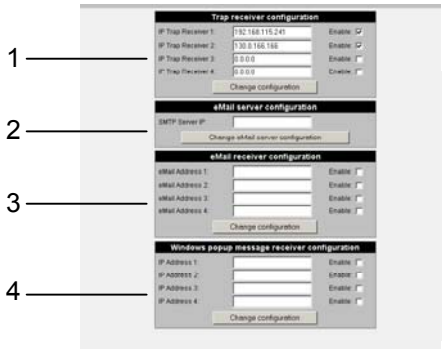

Fig. 22 Alarm notification receiver

Key

1 Trap receiver configuration
2 E-mail server configuration
3 E-mail receiver configuration
4 Windows popup message receiver configuration

Navigation	
Admin – Alarm Notification Receiver – Trap Receiver Configuration	
Parameter	**Explanation**
IP trap receiver 1 - 4	Enter the IP address of the alarm receiver. If this IP address is to receive alarms, activate the Enable checkbox.

Note!
To save the settings, you must click the Change Settings button.

Navigation	
Admin – Alarm Notification Receiver – E-mail Server Configuration	
Parameter	**Explanation**
SMTP Server IP	Enter the IP address of the e-mail server.

Note!
To save the settings, you must click the Change E-mail Server Configuration button.

Navigation	
Admin – Alarm Notification Receiver – E-mail Receiver Configuration	
Parameter	**Explanation**
E-mail address	Enter the e-mail address of the

1 - 4	recipient. If this recipient is to receive e-mails, activate the Enable checkbox.

Note!
To save the settings, you must click the Change E-mail Server Configuration button.

Navigation	
Admin – Alarm Notification Receiver – Windows Popup Message Receiver Configuration	
Parameter	**Explanation**
IP address 1 - 4	Enter the IP address of the recipient who in the case of an alarm is to receive a popup window. If this recipient is to receive a popup window, activate the Enable checkbox.

Note!
To save the settings, you must click the Change Configuration button.

7.5.4 Settings for a Shutdown

You can shutdown the computer should an alarm be issued.

Fig. 23 Remote shutdown setup

Key

1 Configuration window for a shutdown

Navigation	
Admin – Remote Shutdown Settings – Create New Shutdown Setting	
Parameter	**Explanation**
Shutdown type	Select whether the computer has Windows or a Linux as operating system.
Description	Enter a description of the shutdown.
IP address	Enter the IP address of the computer to be shutdown.
User name	Enter the user name of the person logged in on the computer.
User password	Enter the password of the computer for which you have entered the user name.
Domain name	Enter the domain in which the computer is located.
Delay time	Enter a delay time (in seconds) after which the computer should be shutdown after the Shutdown command has been entered.
Message	Enter a message to be displayed in the popup window when the computer is shutdown.
Force closing of applications	If running programs should be closed when a Shutdown command is issued, activate the checkbox.

Note!
To save the settings, you must click the Change Configuration button.

Fig. 24 Shutdown overview window

Key

1 Description of the shutdown configuration

As shown above, you can now see the configuration for a Shutdown command.

- Click “Delete” to delete the configuration.
- To change the configuration, click “Change”.
- To test a shutdown, click “Test”.

7.5.5 Configuring Alarm Actions

You can configure various alarm actions on the CMC-TC Master II. To do this, click the “Create a new alarm action” link.

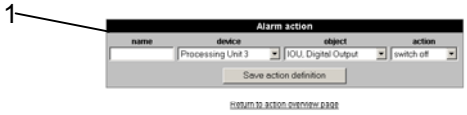

Fig. 25 Alarm action configuration

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Key

1 Configure alarm action

Navigation	
Admin – Alarm Actions – Create New Alarm Action	
Parameter	**Explanation**
Name	Select a name for the alarm action.
Device	Click the pulldown menu and select the unit that is to perform an alarm action.
Object	Click the pulldown menu and select the sensor that is to perform an alarm action.
Action	Click the pulldown menu and select the action the sensor is to perform for an alarm.

Note!
To save the settings, you must click the Save Action Definition button.

The overview window now shows the alarm configuration. To change, delete or perform the action, proceed as follows.

Fig. 26 Alarm action overview window

Key

1 Description of the alarm action configuration

- Click “Delete” to delete the configuration.
- To change the configuration, click “Change”.
- To disable the alarm action, click “Disable”. To enable the alarm action, click “Enable”.

7.5.6 Webcam Setup

A maximum of two USB Webcams can be connected to the CMC-TC Master. Only Rittal-approved Webcams may be used. To setup the Webcams, proceed as follows.

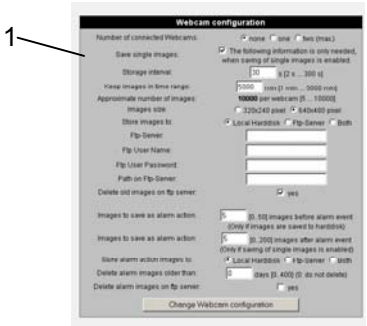

Fig. 27 Webcam configuration

Key

1 Overview window for the Webcam configuration

Navigation	
Admin – Webcam Settings – Webcam Configuration	
Parameter	**Explanation**
Number of connected Webcams	Enter the number of connected USB Webcams.
Save single images	Save the single images. Activate the checkbox here to save images on the Master.
Storage interval	Enter the storage interval for the images.
Keep images in time range	Enter here how long the images should remain saved on the hard disk.
Approximate number of images	The calculated value of the images stored on the hard disk.
Images size	Select the image size.
Store images to	Select on which storage the images are to be stored.
FTP server	Enter the IP address of the FTP server. Required only when images are to be stored on an FTP server.
FTP user name	Enter the user name for the FTP server.
FTP user password	Enter the password for the FTP server.
Path on FTP server	Define the path in which the images are to be saved.
Delete old images on FTP server	Activate the checkbox when the stored images on the FTP server are to be deleted.
Images to save as alarm action	You can specify here how many images prior to an alarm are to

(before)	be saved.
Images to save as alarm action (after)	You can specify here how many images after an alarm are to be saved.
Store alarm action images to	You specify here where the alarm images are to be stored.
Delete alarm images older than	You specify here after how many days the alarm images are to be deleted.
Delete alarm images on FTP server	If you also want the alarm images on the FTP server to be deleted, activate the checkbox.

Note!
To save the settings, you must click the Change Webcam Configuration button.

7.5.7 Creating Image Archives and Store Externally

Stored images can be saved in an archive on the Master. You can then save the archive on an external storage medium. To do this, proceed as follows.

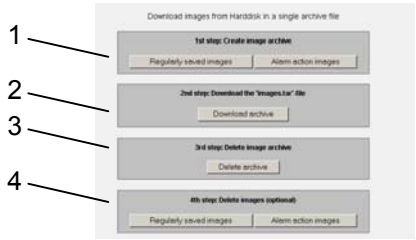

Fig. 28 Create and store image archive

Key

1 Create image archive
2 Download the image archive
3 Delete the image archive
4 Delete non-archived images (optional)

- Select which type of images is to be packed in an archive: regular images or alarm images. The packing can take several minutes.
- Now click “Download archive”. The archive will be loaded from the master.
- Use a Zip program to open the “image.tar” file. You now see the individual downloaded images of the archive.
- To delete the archive, click “Delete archive”. This deletes the archive on the Master.
- Optionally, you can select which images that have not yet been archived are to be deleted. Click either the “Regularly saved images” or the “Alarm action images” button.

7.5.8 View, Store and Delete Log File

Each alarm is stored in a logfile. Proceed as follows to store an alarm:

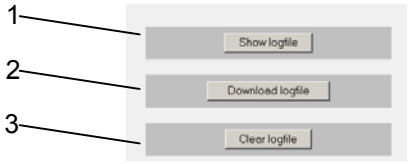

Fig. 29 Create and store image archive

Key:

1 Create image archive
2 Download the image archive
3 Delete the image archive

Navigation	
Admin – Log file Management	
Parameter	**Definition**
Show logfile	To view the stored events, click “Show log file”. Click the “Go Back” link to go back one step.
Download log file	To store the log file, click “Download log file”. You will now be requested to store the text file. To do this, click “Save”. Specify in which path the file is to be stored.
Clear log file	To delete the log file, click “Clear logfile”.

7.5.9 Configuring the Overview Window

You can upload any background image for the overview window to the CMC-TC Master II. You can then position the Processing Units appropriately. To do this, proceed as follows:

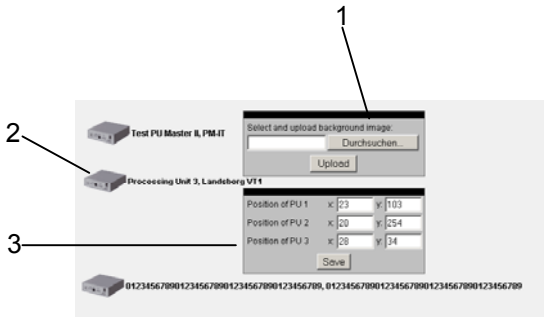

Fig. 30 Configure overview window

Key:

1 Upload background image
2 Processing Unit representation
3 Position window for the Processing Unit

- To upload a background image to the CMC-TC Master II, click “Find”. Select the path and

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the image that you want to use as background image.

- Then click “Upload”. After the upload, the image appears in the Overview window.
- You can position the Processing Units as required. Click with the left-hand mouse key once on the Processing Unit and drag the Processing Unit to the required position. Alternatively, you can enter the values for the x- and y-position in the fields. Once you have entered all values for the position, click “Save”.

7.5.10 Updating Processing Units

You can use the Master to update the logged in Processing Units. If a software update has been made to the CMC-TC Master, the new software for the Processing Units is also stored on the Master. To update the logged in Processing Units, proceed as follows:

Fig. 31 Update the Processing Units

Key:

1 Upload background image

The Update column shows for which Processing Unit an update is available. Click “Update” to provide the Processing Unit with the new software update.

7.5.11 Updating CMC-TC Master II

Updates for the Master II will be regularly available in the Internet.

Look regularly on the page: http://www.rimatrix5.com/downloads_se.htm and check your CMC-TC master software. To load the update to the Master, proceed as follows:

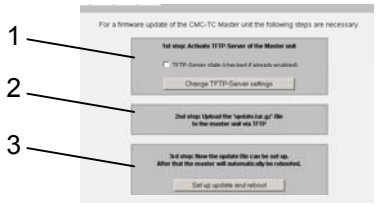

Fig. 32 Update CMC-TC Master II

Key:

1 Activate CMC-TC Master TFTP server

2 Information window for the upload

3 Start installation and perform restart

Navigation	
Admin – Firmware Update	
Parameter	**Definition**
Activate TFTP server of the Master unit	Activate the checkbox in 1st Step. Then click “Change TFTP-Server Settings”.
Upload the "update.tar.gz" file to the master unit via TFTP	Now use TFTP to load the firmware update to the CMC-TC Master II. **tftp-i 192.168.30.100 put update.tar.gz**
3rd step:...	Click “Setup” and reboot. The firmware update will now be installed on the CMC-TC Master II on the Master. Once the installation has completed, the CMC-TC Master performs a reboot.

7.6 Configuring Alarm Conditions

You can create an alarm condition for each sensor status. For example, a computer should perform a shutdown when a temperature sensor issues an alarm. To do this, proceed as follows:

Fig. 33 Alarm condition overview

Key:

1 Alarm condition

2 Link to create a new condition

Navigation	
Alarms	
Parameter	**Explanation**
Create a new alarm condition	Click the “Create a new alarm condition” link.

Fig. 34 Setup alarm condition

Key:

1 Select the condition

2 Add “And” or “Or” function and time window

3 “Save and continue” button

Navigation	
Alarms – Alarm Condition	
Parameter	**Explanation**
Logic	And-Or operation (appears only when an extended condition has been selected).
Device	Select the Processing Unit on which the sensor is logged in.
Unit	Select the sensor unit to which the sensor is connected.
Sensor	Select the sensor.
State	Select the status of the sensor.
Remove	To remove the condition, click “Remove”.
Add combination	To link the condition with several sensors, click the “Add combination” button.
Add time limit	You can define a time window in which the condition is to be performed or disabled.
Save and continue...	To save and store the condition, click “Save and continue”.

Navigation	
Alarms – Alarm Condition – Alarm Notification	
Parameter	**Explanation**
Alarm name	Assign the alarm condition a name (e.g. Shutdown).
Show in traplist	Activate the box when the alarm condition is to be shown in the traplist.
Trap severity	Select the priority of the trap (it will be marked with a coloured point in the traplist).
Insert to logfile	Activate the box when the message is to appear in the logfile.
Send to trap receiver	Activate the box to indicate which trap receiver should receive a message.
Send e-mail to receiver	Activate the box to indicate which receiver should receive an e-mail.
Send popup message to	Activate the box to indicate which receiver should receive popup message.
Save and continue...	To save and store the condition, click “Save and continue”.

Navigation	
Alarms – Alarm Condition – Alarm Notification Alarm Actions	
Parameter	**Explanation**
No action selected	Select an alarm action from the pulldown menu.
Add another action	Select this button when an additional alarm action is to be performed.
Save settings	Click the “Save settings” button to save the setting.
Cancel	Click the “Cancel” button to clear the alarm action.

To change the conditions, proceed as follows:

Fig. 35 Overview of the new alarm condition

Key:

1 Alarm condition overview

As Figure 35 shows, the new alarm condition is now shown in the overview. If you want to correct or delete this alarm condition, you see on the right-hand side of the alarm condition various links in the alarm conditions overview. Proceed as follows:

Navigation	
Alarms	
Parameter	**Explanation**
Name: "delete" link	Click this link to delete the condition.
Condition: "change" link	Click this link to change the sensor or the sensors.
Notification: "change" link	Click this link to change the notifications.
Action: "change" link	Click this link to change the performed action.

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7.7 Configuring the Webcam Images

To display, download or delete recorded images, proceed as follows:

Fig. 36 Webcam images overview

Key:

1 Configure the saved Webcam images

Navigation	
Images – Images Actions	
Parameter	**Explanation**
Time range	Specify in which time window you want to see, download or delete the images.
Images type	Specify whether you want to see the regularly saved or the images for alarms.
Webcam to use	Select whether you want to see only the images of Webcam 1 or 2 or the images of both Webcams at the same time.
Show images	View all images stored on the CMC-TC Master II hard disk.
Download images	Download the images not contained in an archive.
Delete images	Delete the images not contained in an archive.

7.8 Setup for Logged In Processing Units

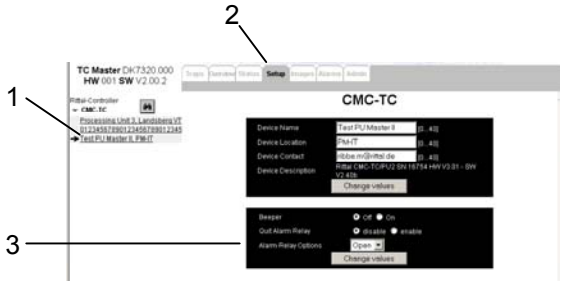

Fig. 37 Setup overview

Key:

1 Logged in Processing Units

2 “Setup” tab

3 Configuration menu of the Processing Unit

You can directly access and configure the logged in Processing Units. To do this, proceed as follows:

- Click in the left-hand frame of the browser window (Figure 37, item 1) on the link of the Processing Unit (this is then marked with an arrow).
- Then click the “Setup” tab and proceed as follows:

Navigation	
Setup	
Parameter	**Explanation**
Device name	Enter here the name of the Processing Unit.
Device location	Enter here the location.
Device contact	Enter here the contact address of the responsible person.
Device description	Device description (this information is important for support and complaints).
Change values	Click “Change values” to accept the settings.

The Processing Unit also has an integrated beeper and an alarm relay.

Navigation	
Setup	
Parameter	**Explanation**
Beeper	Select whether or not for an alarm the Processing Unit should issue an acoustic signal.
Quit alarm relay	Select whether or not the relay should shutdown automatically after an acknowledge.
Alarm relay options	Specify whether the alarm relay contact in the initial state (no alarm) should be open or closed or the relay shutdown.
Change values	Click “Change values” to accept the settings.

Scroll further down. You now see the units and the sensors connected to the Processing Unit.

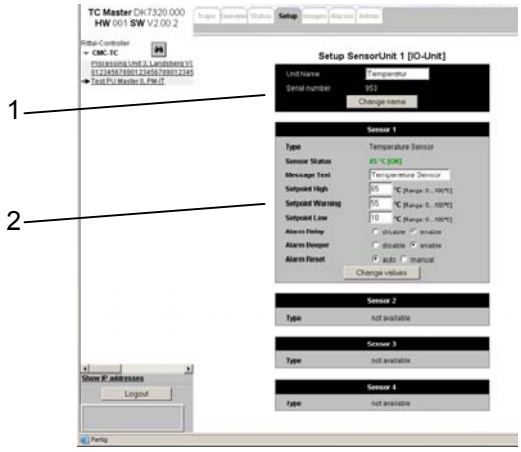

Fig. 38 Sensor units settings overview

Key:

1 Name of the sensor unit

2 Sensor settings

- Configure the sensor units and sensors as required.
- After each setting change, click “Change values” or “Change name”.

7.9 Displaying the Status of the Logged In CMC-TC Processing Units

You can view the status for each logged in Processing Unit.

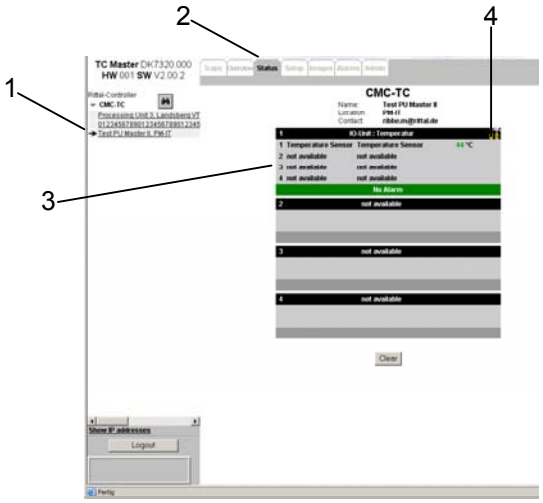

Fig. 39 Sensor units status overview

Key:

1 Logged in Processing Units

2 “Status” tab

3 Overview of the connected sensor units

4 Link to the Setup menu

You can directly access the logged in Processing Units and view the current status. To do this, proceed as follows:

- Click in the left-hand frame of the browser window (Figure 39, item 1) on the link of the Processing Unit (this is then marked with an arrow).
- Then click the “Setup” tab (2).

You now see the logged in Processing Unit with its sensor units and their connected sensors.

- If you want to reconfigure the sensors, click the tool icon (4) to immediately display the Setup menu (see Section 7.8 Setup for Logged In Processing Units)

7.10 Overview Menu

The overview menu displays all logged in Processing Units at once. If no alarm is present, the colour of the Processing Unit colour changes depending on the alarm state (see following table).

Colour	Status
Green	OK
Yellow flashing	Warning
Red flashing	Alarm
Red-yellow flashing	Sensor Unit can no longer be reached; the configuration has been changed.

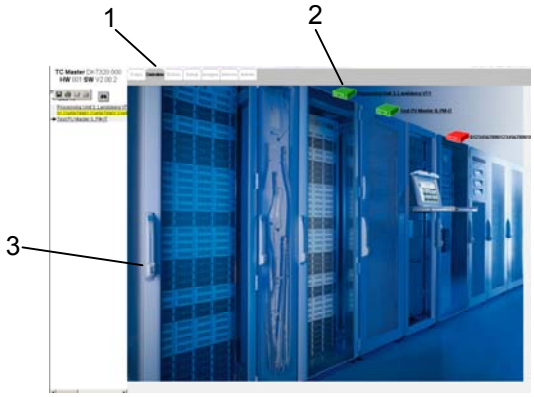

Fig. 40 Logged in Processing Units overview window

Key:

1 “Overview” tab

2 Logged in Processing Unit

3 Background image

To create this overview window, you must make the settings as described in Section 7.5.9 Configuring the Overview Window.

You can directly display the status of the associated Processing Unit with a mouse-click (see Section 7.9 Displaying the Status of the Logged In CMC-TC Processing Units).

7.11 Administering Trap Messages

The CMC-TC Master II can receive traps from all logged in Processing Units. This requires that the CMC-TC Master II has been entered as trap receiver with the Processing Unit. The individual sen-

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sors must be set so that a trap message can be issued when a status change occurs. To configure the traps for the sensors, consult the Processing Unit operating guide.

Once the CMC-TC Master II and the Processing Units have been set up, you will receive a trap message for each sensor status change.

To administer the trap messages on the CMC-TC Master II, proceed as follows:

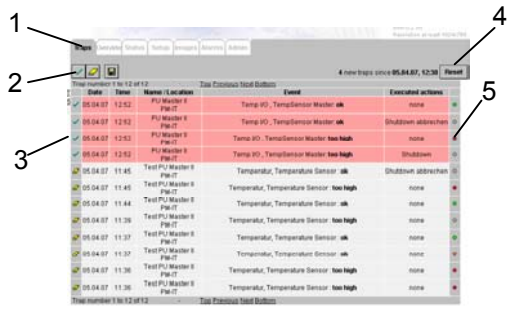

Fig. 41 Trap messages overview

Key:

1 "Traps" tab

2 Acknowledge, delete and store the trap messages

3 Marking of the trap messages

4 Reset button for all trap messages

5 Priority of the trap message

Figure 41 shows the trap messages of the individual sensors and alarm actions. The traplist shows the following: the date and the time of the trap message; the name and the location of the Processing Unit that issued the alarm; the error message of the sensor that issued an error message; the action performed by this error message; the colour points show the priority of the error message.

Newly-entered trap messages are marked red. If the green tick on the trap message is clicked, the background becomes grey and the eraser icon appears. This means that this message can be deleted. As for an eraser, clicking the icon deletes the message.

You can also acknowledge and delete all messages at once. Click the green tick (2). All messages switch from red to grey. Click the eraser (2) icon to delete all messages.

You can store the traplist of your computer. Click the diskette icon (2). You will now be requested to select a store location and to store the traplist. The traplist is saved as text file.

All trap messages are counted from a specific time. You can reset this counter by clicking "Reset". This resets the counter to zero and updates the time. The counter restarts counting from this time.

You have defined in Section 7.6 Configuring Alarm Conditions, the priority of the individual messages. These messages will now be displayed in the traplist (see Figure 41, step 5).

8 Access Using Telnet

You can also configure the CMC-TC Master II using Telnet. This requires that you have used the terminal program to permit access using Telnet (see Section 7.3.9 Configuring Telnet Access).

8.1.1 Login Using Telnet

The following section describes the access using Telnet under Windows.

a. Open the input prompt and enter the command: telnet <IP-address>.

b. Confirm with Enter or Return.

c. Enter for "Login" the Telnet login (factory setting: ´cmc´). Confirm with Enter or Return.

d. Enter for "Password" the Telnet password (factory setting: `cmc`). Confirm with Enter or Return.

8.1.2 Telnet Main Menu

After the login by Telnet, the same main menu as for access using HyperTerminal appears. Because all procedures are similar, refer to Chapter 7 Operation.

8.2 Error Messages

Operating LED off

Cause	Correction
Power pack not connected	Connect power pack.
Power pack defective	Replace the defective power pack with an operational one.
Voltage supply missing	Establish the voltage supply.

Link/Traffic LED off

Cause	Correction
Network connection missing	Connect RJ-45 network cable.
Incorrect IP address	Check the IP address.
Incorrect subnet mask	Check the subnet mask.
Incorrect gateway address	Check the gateway address.

No access authorisation via Telnet

Cause	Correction
Telnet access for the CMC-TC Master II disabled	Use the HyperTerminal to activate the Telnet access.

Incorrect IP address entered	Check the IP address.
Incorrect username entered	Check the username.
Incorrect password entered	Check the password.

No access authorisation via browser

Cause	Correction
Incorrect username entered	Check the username.
Incorrect password entered	Check the password.

No access authorisation via HyperTerminal

Cause	Correction
Incorrect username entered	Check the username.
Incorrect password entered	Check the password.

No settings can be made from the browser

Cause	Correction
Web access set only to read authorisation	From the Web Access menu item use HyperTerminal or Telnet to set the access authorisation.

SNMP traps are not sent

Cause	Correction
The entries for the read and write authorisation (read and write community) are not set correctly	Use HyperTerminal or Telnet to compare the read and write authorisation with the management software.
Trap receivers have not been entered	Check the trap receivers.

9 Maintenance and Cleaning

The Rittal CMC-TC Master II is a maintenance-free system. The housing does not need to be opened for the installation or during operation.

Note!

Opening the housing or any accessory components will void any warranty and liability claims.

9.1.1 Cleaning

Warning!

Danger of damage!
Do not use any aggressive substances, such as white spirit, acid, etc., for cleaning because such substances can damage the unit.

Use a slightly moistened soft cloth to clean the housing.

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10 Storage and Disposal

10.1.1 Storage

If the device is not used for a longer period, we recommend that the device is disconnected from the mains power supply and is protected from dampness and dust.

Further information concerning the operating conditions is contained in the technical specifications.

10.1.2 Disposal

Because the CMC-TC Master II consists primarily of the housing and PCB, the unit must be disposed of through the electronic waste recycling system when it is no longer required.

11 Customer Service

If you have any technical questions or questions concerning our product spectrum, contact the following service address:

Tel.: +49 (0)2772/505-1855
http://www.rittal.com
E-Mail: info@rittal.de

Note!

To allow us to process your enquiry quickly and correctly, please always specify the article number in the subject line for e-mails.

Further information and the current operating guides and updates of the Rittal CMC-TC are available for download under Security on the Rimatrix5 homepage.

12 Technical Specifications

Designation	CMC-TC
Housing	
Housing type	Aluminium housing
Height	65 mm
Width	150 mm
Depth	175 mm
Weight without packaging	approx. 0.6 kg
Potential equalisation	- [1)]
Earthing	- [1)]
Protection category	IP 20 to EN 60529
Interfaces	
Serial interface	2 x RS232 interface (D-Sub9)
Network interface	1 x RJ-45 socket (10/100 BaseT)
LED display	1 x operating light (rear side)
USB connection	2 x front side, 2 x rear side
VGA connection	1 x VGA connection (front side)
PS/2 connection	2 x PS/2 connection for keyboard and mouse (rear side)
Operational area	
Temperature	+5 to +35 °C +41 to +95 °F
Humidity	5 – 95 %
Storage temperature	-20 to +70 °C -4 to +158 °F
Rated voltage	1 x 5 V DC 6 A SELV
Fuse	Miniature fuse T2A, 250 V, UL approval
Network	1 x RJ-45 socket (Ethernet, 10/100 BaseT), shielded
Protocols	
Verfügbare Protokolle	- TCP/IP - SNMP V1.0 (incl. MIB II) - TELNET - FTP - HTTP

Technical Specifications

[1)] Not required because safety extra-low voltage 5 V DC

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13 Technical Glossary

CMC-TC

CMC-TC (Computer Multi Control - Top Concept) is a Rittal product used to monitor network enclosure components.

GSM card

A GSM card is a telephone card for a mobile telephone.

Internet browser

An internet browser can be used to display html pages (and pages that conform to a similar standard). In the case of CMC-TC PU, they can be configured using a user interface displayed with an Internet browser.

Link

A link causes a jump to another Internet page or establishes a connection between two Internet pages.

Mac address

The MAC address is a unique combination of alphabetic characters and digits assigned to a network interface. One of its uses is to identify a network interface in a network.

MIB (Management Information Base)

The MIB was developed to fetch and change network elements. The MIB II was defined in the RFC 1213. Some manufacturers define their own MIBs that provide information about the special properties of their product. The MIBs are registered for the OID with the IANA (Internet Assigned Numbers Authority). Once an object has been assigned to an OID, the meaning can no longer be changed. There also cannot be any overlapping with other OIDs.

SMS service number

This is a telephone number that the telephone provider makes available for sending SMS messages.

SNMP (Simple Network Management Protocol)

The SNMP is a simple network management protocol based on TCP/IP. It was developed to monitor network components on a central management station.

Telnet

Telnet is a protocol for guest access to a remote server. The Telnet program provides the required client functions of the protocol.

Trap

Trap is the sending of SNMP messages.

Trap Receiver

The trap receiver is the receiver of SNMP messages.

Web access

The Web Access is used to define the access possibility via the Internet.