

# **EN PSM (Power System Module / PCU)**

**DK 7859.212**

**DK 7859.222**

**DK 7859.232**

**DK 7859.215**

**DK 7859.225**

**DK 7859.235**

Assembly, installation and operation





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# 1 Notes on documentation

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## 1 Notes on documentation

These instructions are intended for trained specialists who are familiar with the assembly, installation and operation of the PSM modules.

Read these operating instructions prior to commissioning and be sure to keep them accessible for later use.

Rittal can accept no liability for damage and operating disturbances resulting from non-compliance with these instructions.

### 1.1 Other applicable documents

In addition to these instructions, the instructions of other PSM components and their safety instructions apply.

### 1.2 Storing the documents

These instructions and all other applicable documents constitute an integral part of the product. They must be given to the device operator. The device operator is responsible for the storage of the documents so that they are readily available when needed.

### 1.3 Symbols used

Please note the following safety instructions and other notes in these instructions:

#### Symbol for an instructed action:

The bullet point indicates that you should perform an action.

#### Safety instructions and other notes:



**Danger!**  
**Immediate danger to life and limb!**



**Caution!**  
**Potential threat to the product and the environment.**



**Note!**  
Useful information and special features.

## 2 Safety instructions

Please observe the following general safety instructions when installing and operating the device:

- Only a trained electrician, in particular for the cabling of enclosures with mains power, may perform assembly and installation of the PSM busbar. Other tasks associated with the PSM, such as the assembly and installation of system components with tested standard connectors, and the operation and configuration of the PSM modules may be performed only by instructed personnel.
- Observe the applicable regulations governing electrical installations of the country in which the device is installed and operated as well as national regulations for accident prevention. Also observe company regulations (labour, operating and safety regulations).
- Before performing any cabling work on the PSM system, it must be disconnected from the mains and secured against reactivation.
- Use only genuine or recommended parts and accessories (see Chapter 3.5 Accessories). The use of other parts can void the liability for any resulting consequences.
- Do not make any changes to the PSM system other than those described in these instructions or associated instructions.
- Operational reliability of the device is only guaranteed when used as intended. Under no circumstances may the tolerances specified in the technical specifications (see Chapter 12 Technical specifications) be exceeded. This applies in particular to the permissible ambient temperature range and permitted IP protection category. When used with a higher required IP protection category, the Rittal PSM system must be installed in a housing or enclosure with a higher IP protection category.
- Operating the PSM system when it is in direct contact with water, corrosive substances or flammable gases and vapours is prohibited.
- In addition to these safety instructions, it is imperative that the special safety instructions mentioned for the individual activities in the individual chapters are observed.

### 3 Device description

The PSM is a modular power distribution system that can be snapped into a PSM busbar as appropriate for the requirements. The PSM modules are available in several variants. All modules described in these instructions can be monitored and administered in conjunction with the Rittal CMC-TC. The individual socket inserts can be switched for each module. Because all plug connections are shock-hazard protected, the assembly and disassembly work does not need to be performed by a trained electrician.

#### 3.1 Enclosure



Fig. 1 PSM module, front side

The PSM module is installed in its own aluminium housing. Catches on the outside edges are used to snap into the preinstalled PSM busbar. Each of the equipment slots located on the front side is standardised and made of plastic. The PSM module has a dual 7-segment display on the front side. When this is connected to the Rittal CMC-TC PU II or the external power pack (DK 7201.210), the currently consumed power of the complete module will be displayed. To monitor the individual slots, each of these is equipped with two LEDs that show the power currently being consumed at the slot. The LEDs can change between the colours green, orange and red. The associated limit values can be freely configured using the CMC. The front side also contains two LEDs that indicate the current electric circuit on which the PSM module is being operated.

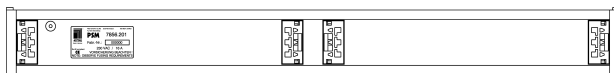


Fig. 2 PSM module, rear side

Various power supply sockets are located on the rear side of the PSM module. The PSM module will be supplied with power when it is snapped into the PSM busbar.

#### 3.2 Power supply

The module will be supplied with power when it is snapped into the PSM busbar. All slots are activated as factory setting. To connect equipment, use the appropriate connection cable described in Chapter 3.5 Accessories.

Power is supplied to the 7-segment display either at the connection to the CMC-TC PU II or from an external power pack (DK 7201.210). A country-specific connection cable is required when the power pack is used (see Chapter 3.5 Accessories).

#### 3.3 Network properties

The connection of an RJ45 network cable to the Processing Unit allows the PSM module to be administered and monitored via a network. Read the

CMC-TC PU II operating instructions for details how this is done.

The following values can be monitored and administered:

- Activation and deactivation of the slots
- Set the lower current limit value for alarming
- Set the upper current limit value for alarming
- Fetch the current power consumption
- Set the limit values of the 3-colour LED power display (green, orange, red)
- Status of the PSM module
- Electric circuit connection (electric circuit 1 or 2)
- Time-controlled activation and deactivation (e.g. reboot the connected equipment)
- Create switching combinations (e.g. various slots will be deactivated in case of a temperature alarm)
- Forward alarm to an SNMP, SMS or e-mail recipient

#### 3.4 Scope of delivery

The unit is supplied in a packaging unit in a fully assembled state.

Please check the scope of delivery for completeness.

Check the packaging carefully for any signs of damage.

Quantity	Designation
1	PSM module
2	1 RJ45 connection cable
1	Operating instructions
1	Commissioning checklist (German/English)

Tab. 1 Scope of delivery

## 3 Device description

EN

### 3.5 Accessories

#### 3.5.1 Required accessories (CMC-TC)

The operation of the PSM module requires a fully-installed PSM busbar provided with power.

You require the following accessories to administer and monitor the PSM module from the network.

Accessories	Designation	Packs of	Required	Model no.
CMC-TC components	CMC-TC Processing Unit II	1	Yes	7320.100
	CMC-TC power pack for CMC-TC Processing Unit II	1	Yes	7320.425
	Installation bracket for CMC-TC power pack	1	Yes	4597.000
CMC-TC RJ45 connection cable	Length 0.5 m	1	Yes	7320.470
	Length 2 m			7320.472
	Length 5 m			7320.475
	Length 10 m			7320.481
	Length 15 m			7320.485
Mounting unit or module	Mounting unit	1	Yes, depending on the use	7320.440
	Cable clamp strap for mounting unit	1		7611.000
	Mounting module	1	Yes, depending on the use	7320.450
Connection cable for DK 7320.425 power pack	IEC connector plug connection cable Country variant D	1	Yes, once for the power pack	7200.210
	IEC connector plug connection cable Country variant GB	1		7200.211
	IEC connector plug connection cable Country variant F/B	1		7200.210
	IEC 320 connector connection cable Country variant CH	1		7200.213

	IEC connector plug connection cable Country variant USA/CDN, UL-approval FT1/VW1	1		7200.214
	IEC 320 connector plug and socket extension cable	1		7200.215
Connection cable for equipment	Connection cable C19/C20, 2 m	1	Yes, depending on the use	7200.217
	Connection cable C13/C14, 0.5 m	1		7856.014
	Connection cable C13/C14, 2 m	1		7200.215
	Connection cable country variant (D) earthing contact / C19	1		7200.216
	Connection cable country variant (D) earthing contact / C14	1		7200.210

Tab. 2 Required accessories (CMC-TC)

### 3.5.2 Required accessories (external power pack)

The operation of the PSM module requires a fully-installed PSM busbar provided with power.

You require the following accessories to operate the PSM without monitoring.

Accessories	Designation	Packs of	Required	Model no.
Power pack	Power pack for stand-alone operation	1	Yes	7201.210
	Installation bracket for CMC-TC power pack	1	Yes	4597.000
CMC-TC RJ45 connection cable	Length 0.5 m	1	Yes	7320.470
	Length 2 m			7320.472
	Length 5 m			7320.475
	Length 10 m			7320.481
	Length 15 m			7320.485
Connection cable for DK 7201.210 power pack	IEC connector plug connection cable Country variant D	1	Yes, once for the power pack	7200.210
	IEC connector plug connection cable Country variant GB	1		7200.211
	IEC connector plug connection cable Country variant F/B	1		7200.210
	IEC 320 connector connection cable Country variant CH	1		7200.213
	IEC connector plug connection cable Country variant USA/CDN, UL-approval FT1/VW1	1		7200.214
	IEC 320 connector plug and socket extension cable	1		7200.215
Connection cable for	Connection cable C19/C20, 2 m	1	Yes, depending on	7200.217

equipment	Connection cable C13/C14, 0.5 m	1	the use	7856.014
	Connection cable C13/C14, 2 m	1		7200.215
	Connection cable country variant (D) earthing contact / C19	1		7200.216
	Connection cable country variant (D) earthing contact / C14	1		7200.210

Tab. 3 Required accessories (external power pack)

### 3.6 Proper use

The Rittal PSM module serves as power supply or power distribution system. It can be connected to the Rittal CMC-TC monitoring system.

Any use other than that described here is deemed improper. Rittal cannot accept any liability for damage associated with the failure to observe these instructions! Where applicable, the instructions for any used accessories also apply.

## 4 Assembly

### 4 Assembly

#### 4.1 Notes for the assembly of the CMC-TC PU

Install the CMC-TC PU in an enclosure or in a suitable housing system so that it is also protected from external effects. Also consider not only the permissible ambient temperature and humidity operational areas, but also the application-relevant required IP degree of protection (see CMC-TC PU operating instructions).

#### 4.2 Assembling the CMC-TC

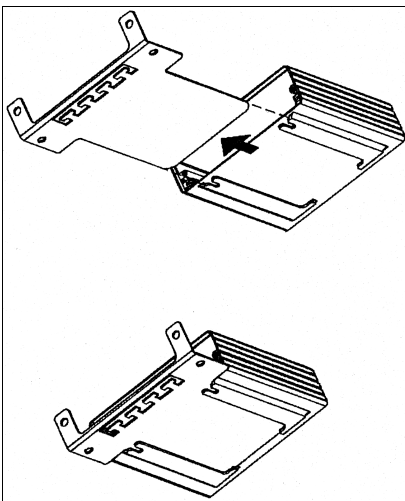


Fig. 3 Assembly with mounting module

Push the CMC-TC PU onto the retaining plate of the mounting module. Ensure that the retaining plate sits between the guide rails of the CMC-TC PU.

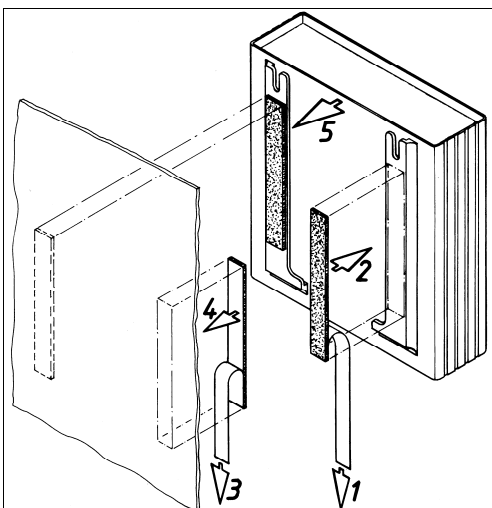


Fig. 4 Assembly with Velcro strips

Remove the protective foil from the supplied Velcro tapes.

Ensure that the adhesive surfaces are free from grease and dust.

Attach the Velcro tapes to the CMC-TC PU housing and position the CMC-TC PU at the required attachment location.

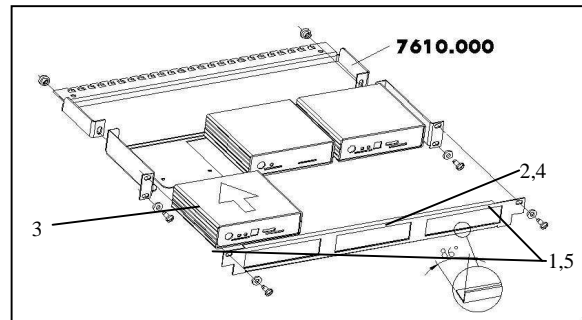


Fig. 5 Assembly in the 1 U mounting unit

1. Remove the two upper screws from the cover.
2. Remove the cover.
3. Push the CMC-TC PU onto the retaining plate of the mounting unit. Ensure that the retaining plate sits between the guide rails of the CMC-TC PU.
4. Replace the cover on the mounting unit.
5. Refasten the cover screws on the 1 U mounting unit.

#### 4.3 Assembly of the PSM module in the PSM busbar



Fig. 6 Assembly of the PSM module in the PSM busbar

Remove the PSM module from the packaging. Decide before the assembly which PSM busbar infeed should supply the module. Snap the PSM module into the busbar as shown in the upper picture.

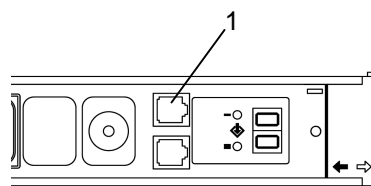


Fig. 7 Insert RJ45 cable

Now remove the supplied RJ45 cable and insert one end of the RJ45 cable in the RJ45 socket (1). To

Active 8-way PSM modules



ensure that the plug has snapped in correctly, listen for the noticeable clicking noise of the RJ45 plug during the insertion.

To remove the plug again, press the latching catch of the RJ45 plug and pull carefully on the plug.

## 4.4 Assembly of the PCU in the 19" level

The Rittal PCU (7859.225 / 7859.235) has the same construction form as the PSM modules other than it has mounting brackets on the sides and its own 1-phase connection cable. This allows the PCU to be mounted directly in the 19" level of the rack.

Turn the mounting bracket to allow the PCU to also be mounted vertically at the 19" level of the rack.

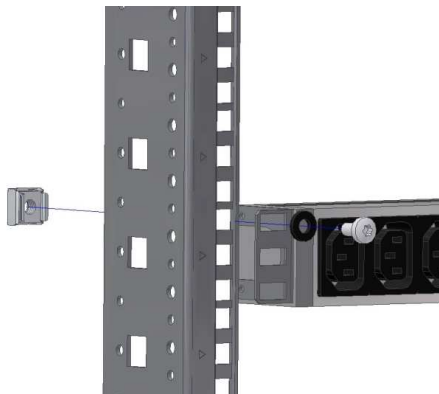


Fig. 8 Assembly of the PCU in the 19" level

## 5 Installation



### Danger!

Properly trained specialists may only perform assembly and installation of the PSM busbar.

### 5.1 Safety instructions and other notes

- The Rittal PSM module may only be operated with PE conductor connection. The PE conductor connection is established when the PSM module is snapped into the PSM busbar.
- The electrical connection voltage and frequency must match nominal values specified in the technical specifications (see Chapter 12 Technical specifications).
- Before working on the Rittal PSM busbar, it must be disconnected from the mains and secured against reactivation.
- Fasten the connection cables with cable ties in the immediate vicinity of the connection of the PSM busbar.
- To prevent losses caused by unnecessary cable lengths, the used cable lengths must not exceed the lengths stated in the technical specifications (see Chapter 12 Technical specifications).

## 6 Operation with power pack

Insert the RJ45 cable in the RJ45 socket of the power pack (7201.210). During the insertion, ensure that you hear the noticeable clicking noise of the RJ45 plug.

To remove the plug again, press the latching catch of the RJ45 plug and pull carefully on the plug.

Insert the country-specific connection cable in the power pack and in a non-switchable PSM module. The display of the PSM module now indicates the electric circuit and "0.0" appears in the display.

Two 3-colour LEDs (green, orange, red), labelled as "I" or "II".

Each of these LEDs flashes appropriately depending on the installation position of the module.

Parameter	Definition
Green	OK
Orange	Warning, fuse activated or mains voltage absent
Red	Maximum or minimum current limit value was undershot or overshot

### 6.1 Connecting further PSM modules (power pack operation)

A maximum of four modules may be connected in series. Snap the module into the PSM busbar as described previously. Insert the RJ45 cable into the free socket of the first module and the other end in the RJ45 socket of the new module. During the insertion, ensure that you hear the noticeable clicking noise of the RJ45 plug.

To remove the plug again, press the latching catch of the RJ45 plug and pull carefully on the plug.

### 6.2 Specifying the current limit value (power pack operation)

You can specify the current limit values for alarms. If these values are undershot or overshot, the 7-segment display will flash and show the actual current value. The button on the PSM module must be used to set the current limit values. Please proceed as follows.

#### 6.2.1 Specifying the lower current limit value (power pack operation)

Press the button for three seconds. An "L" will appear in the display.

Press the button again for three seconds until the digit "0" appears in the display.

Press the button briefly to specify the lower alarm current limit value.

Press the button for three seconds to save the current limit value. An "H" will appear in the display.

Wait a few seconds until the display changes in the status display (actual current value).

#### 6.2.2 Specifying the upper current limit value (power pack operation)

Press the button for three seconds. An "L" will appear in the display.

Press the button briefly once until an "H" appears in the display.

Press the button again for three seconds until the digits "15" appear in the display.

Press the button briefly to specify the upper alarm current limit value.

Press the button for three seconds to save the current limit value. An "A" will appear in the display.

Wait a few seconds until the display changes in the status display (actual current value).

### 6.2.3 Limit values of the multicolour LED display

If the PSM module or the PCU is operated with power pack, the limit values for which the LEDs of the associated connection change colour cannot be changed. In this case, the default values are retained.

#### Default values:

7859.222, 7859.225:

Up to 2 A: green, up to 5 A: orange, above 5 A: red  
7859.212, 7859.215, 7859.232, 7859.235:

Up to 3 A: green, up to 10 A: orange, above 10 A: red

### 6.3 Assigning PSM module addresses (power pack operation)

Each module must be assigned an address for both stand-alone operation and PSM modules switched in series. Please proceed as follows.

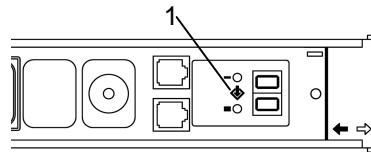


Fig. 9 Assign addresses (power pack operation)

Press the button (1) on the PSM module for three seconds. An "L" will appear in the display.

Then press the button twice briefly. An "A" will appear in the display.

Now press the button for three seconds. A "0" will appear in the display.

Press the button briefly until the address "1" appears in the display.

Press the button for three seconds to save the address. A small rectangle will appear in the display.

Wait a few seconds until the display changes in the status display (actual current value).

Now assign an address to each module as described previously. The second module in the series receives the address "2", etc.

If a module is connected to a different power pack, the address begins with "1" again.

### 6.4 Configuring the display (power pack operation)

The PSM module has an integrated position sensor. This is responsible for the correct reading of the display. The position sensor is activated as factory setting. This means when the PSM module is turned in the PSM busbar (to electric circuit 2), the display is not up but rather down. The display is turned

automatically so that the values can be read optimally.

If the PSM busbar with the PSM modules is mounted in the raised floor, the position sensor does not know how the display should be. It is the same for the horizontal installation of the PCU (7200.001) in the 19" level.

To predefine the position of the display, proceed as follows.

Press the button for three seconds. An "L" will appear in the display.

Press the button briefly twice until a small rectangle appears.

Press the button again for three seconds until the digit "3" appears in the display.

Press the button briefly to select the position of the display.

- Digit "1": If the PSM module with the display is mounted at the top (the black arrow on the PSM module points up).
- Digit "2": If the PSM module with the display is mounted at the bottom (the red arrow on the PSM module points up).
- Digit "3": Position sensor is activated (automatic display position).

Press the button for three seconds to save the current limit value. A "CL" will appear in the display.

Wait a few seconds until the display changes in the status display (actual current value).

## 6.5 Resetting the PSM module to the factory setting (power pack operation)

You can reset the PSM module to the factory setting. All settings, such as current limit values, addresses and position sensor, will be lost. Proceed as follows.

Press the button (1) on the PSM module for three seconds. An "L" will appear in the display.

Then press the button four times briefly. A flashing "CL" will appear in the display.

Now press the button for three seconds. The display will clear for a few seconds and then show the actual current value.

Reconfigure the PSM module.

## 7 Operation with CMC-TC

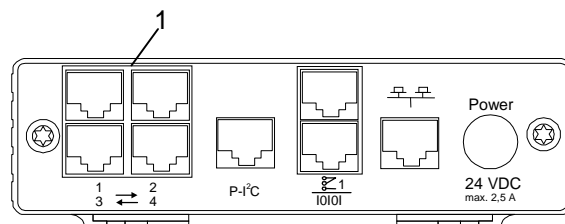


Fig. 10 Connection to the CMC-TC PU II

Insert the RJ45 cable from the PSM module in a free RJ45 socket (1) with the connection identification 1-4. During the insertion, ensure that you hear the noticeable clicking noise of the RJ45 plug.

To remove the plug again, press the latching catch of the RJ45 plug and pull carefully on the plug.

### 7.1 Connecting further PSM modules (CMC-TC operation)

A maximum of four modules of the same type / same article number can be connected to a port of the CMC-TC PU II. The modules are connected successively using the supplied cables. If the length of the RJ45 cable is too short, a commercially available RJ45 patch cable can also be used (no crossover cable).

If you want to connect more than four modules to the CMC-TC PU II, you must use the next free RJ45 socket (1) on the CMC-TC PU II.

Snap the module into the PSM busbar as described previously. Insert the RJ45 cable into the free socket of the first module and the other end in the RJ45 socket of the new module. During the insertion, ensure that you hear the noticeable clicking noise of the RJ45 plug.

To remove the plug again, press the latching catch of the RJ45 plug and pull carefully on the plug.

### 7.2 Assigning PSM module addresses (CMC-TC operation)

Each module must be assigned an address for both stand-alone operation and PSM modules switched in series. Please proceed as follows.

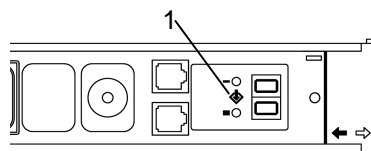


Fig. 11 Assign addresses (CMC-TC)

Press the button (1) on the PSM module for three seconds. An "L" will appear in the display.

Then press the button twice briefly. An "A" will appear.

Now press the button for three seconds. A "0" will appear in the display.

Press the button briefly until the address "1" appears.

Press the button for three seconds to save the address. A small rectangle will appear in the 7-segment display. Now assign an address to each module as described previously. The second module in the series receives the address "2", etc.

If a module is connected to a different socket of the CMC-TC PU II or to a different power pack, the address begins with "1" again.



### Note!

Modules with different type / article numbers cannot be cascaded to a shared connection of the Processing Unit II. Only modules of the same type can be cascaded. For modules of different types, use different connections of the Processing Unit II.

### 7.3 Configuring the display (CMC-TC operation)

The PSM module has an integrated position sensor. This is responsible for the correct reading type of the display. The position sensor is activated as factory setting. This means when the PSM module is turned in the PSM busbar (to electric circuit 2), the display is not up but rather down. The display is turned automatically so that the values can be read optimally.

If the PSM busbar with the PSM modules is mounted in the raised floor, the position sensor does not know how the display should be. It is the same for the horizontal installation of the PCU (7200.001) in the 19" level.

To predefine the position of the display, proceed as follows.

Press the button for three seconds. An "L" will appear in the display.

Press the button briefly twice until a small rectangle appears.

Press the button again for three seconds until the digit "3" appears in the display.

Press the button briefly to select the position of the display.

- Digit "1": If the PSM module with the display is mounted at the top (the black arrow on the PSM module points up).
- Digit "2": If the PSM module with the display is mounted at the bottom (the red arrow on the PSM module points up).
- Digit "3": Position sensor is activated (automatic display position).

Press the button for three seconds to save the current limit value. A "CL" will appear in the display.

Wait a few seconds until the display changes in the status display (actual current value).

### 7.4 Resetting the PSM module to the factory setting (CMC-TC operation)

You can reset the PSM module to the factory setting. All settings, such as current limit values, addresses and position sensor, will be lost. Proceed as follows.

Press the button (1) on the PSM module for three seconds. An "L" will appear in the display.

Then press the button four times briefly. A flashing "CL" will appear in the display.

Now press the button for three seconds. The display will clear for a few seconds and then show the actual current value.

Reconfigure the PSM module.

### 7.5 Defining the PSM module on the CMC-TC PU II (CMC-TC operation)

When power is present at the PSM module and an address has been assigned, it will be detected automatically by the CMC-TC PU II.

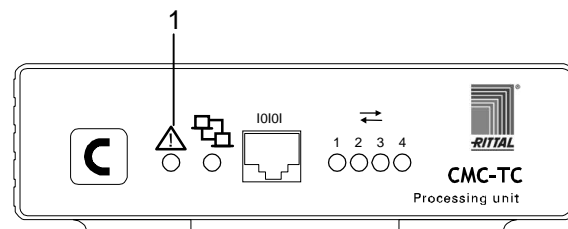


Fig. 12 PSM module detection

#### Legend

1 Alarm LED

During the detection of the PSM module, the alarm LED begins to flash alternately red, yellow and green. Continue to press the C key on the front side of the CMC-TC PU II until the alarm LED illuminates green continually.

## 8 Browser monitoring (as of SW 2.45)

Open your browser in the usual manner. Enter in the address line the IP address of the CMC-TC Processing Unit. The login window will appear.

### 8.1.1 Login

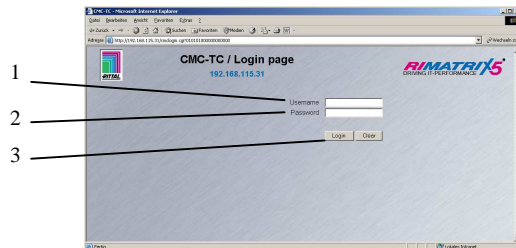


Fig. 13 Login window

#### Legend

- 1 Username
- 2 Password
- 3 Login or Clear button

Enter in the login window the http user name and the http password of the Processing Unit.

Factory setting:

Username: admin  
Password: admin

To confirm the input, click the Login button. To clear the input, click the Clear button.

### 8.1.2 Main page view

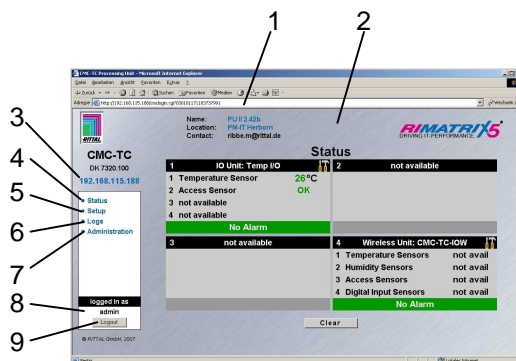


Fig. 14 CMC-TC main page view

#### Legend

- 1 Address bar
- 2 Status window  
As shown above
- 3 IP address of the Processing Unit
- 4 Link to the main page view
- 5 Setup link
- 6 Alarm and event logging link
- 7 Administration link
- 8 Username
- 9 User logout

### 8.1.3 General overview (status window)

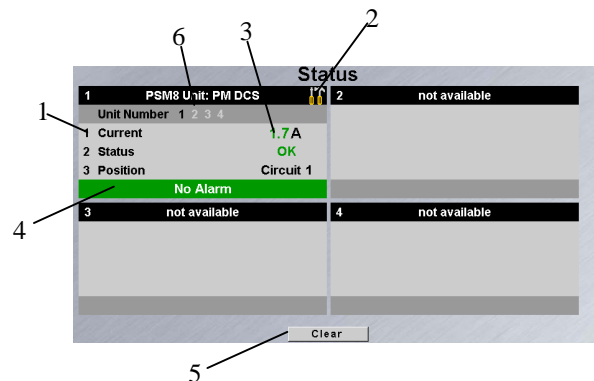


Fig. 15 Sensors overview

#### Legend

- 1 Connection number and sensor name
- 2 Link for configuring the sensor
- 3 Status display of the sensor
- 4 Warning or alarm status of the sensor  
Green: No warning / no alarm  
Yellow: Warning  
Red: Alarm (incorrect operation)
- 5 Acknowledging events  
Click the Clear key to start timeouts, configuration changes or refresh of all connected sensors. This re-rolls the CMC-TC PU and the web page will be re-built.
- 6 Connected PSM modules  
Black digits: Status display of the called PSM module  
White digits: Connected PSM module  
Grey digits: Unavailable or not connected PSM modules

### 8.1.4 Monitoring using the browser

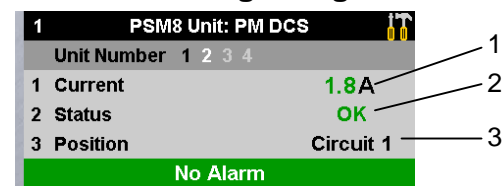


Fig. 16 PSM module overview

- Current: Display of the actual current value of the equipment attached to the active PSM (server, etc.)
- Status: Indicates whether the entered current limit value is observed. A message will be issued if the limit value is undershot or overshoot.
- Position: Indicates at which electric circuit the module is connected (for the redundant supply of the PSM busbars)

## 8 Browser monitoring (as of SW 2.45)

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### 8.2 Individual current measurement

The PSM/PCU bars have their own current measurement for each switch output.  
The two LEDs integrated in the associated sockets indicate the status of the switch output:

- **LEDs off:** Relay output switched off
- **LEDs flashing green:** Relay output switched on / 'Low' current limit value undershot
- **LEDs green:** Relay output switched on / current consumption 'OK'
- **LEDs orange:** Relay output switched on / 'Warning' current limit value overshoot
- **LEDs red:** Relay output switched on / 'High' current limit value overshoot

Figure 17 shows an example overview page with three installed modules in various installation positions.

Switched on relay outputs are also shown blue on the web page.

The individual currents of the individual relay outputs are shown as Tooltip when the mouse cursor is moved over the associated socket symbol.

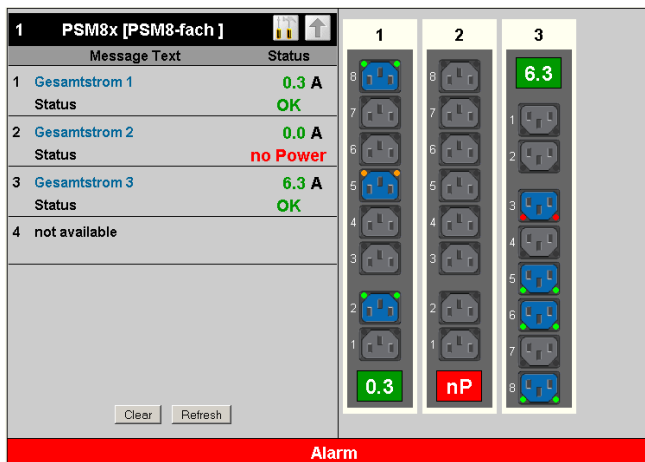


Fig. 17 Overview page

An orange LED indicates a 'warning' at relay output 1/5. The red LEDs indicate that relay output 3/3 has an alarm (overcurrent).

### 8.2.1 Setup settings

Ten sensor values, ten output values and ten measured values can be configured for each connected module.

Ten tabs can be selected for each module, where tabs 1 – 8 concern the settings for each individual port, tab 9 concerns the settings for the current measurement and tab 10 concerns the positioning or the orientation of the module in the PSM busbar.

### 8.2.2 Equipment settings

Tabs 1..8 are used to display or set the eight (or six) current measurement values of a module.

These pages can be used to set the delay value of the output. This delay value acts only when the output is switched off, i.e. this output will be switched on again after the delay time has expired.

The 'Combinations' button can be used to set the links for each relay output.

'Switch Output' can be used to switch the relay output.

Figures 18 to 20 show examples of the relay outputs in various states.

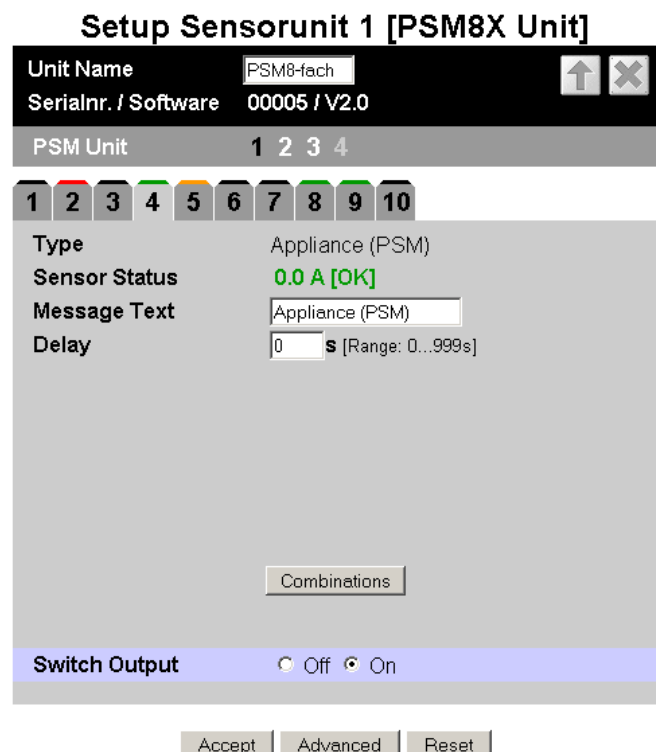


Fig. 18 Consumer 4 switched on and 'OK' status

### Setup Sensorunit 1 [PSM8X Unit]

Unit Name  ↑ ×

Serialnr. / Software 00005 / V2.0

PSM Unit **1** 2 3 4

1 2 3 4 5 6 7 8 9 10

Type

Sensor Status **0.3 A [Warning]**

Message Text

Delay  s [Range: 0...999s]

Switch Output ☐ Off ☒ On

Fig. 19 Consumer 5 switched on and 'Warning' status

### Setup Sensorunit 1 [PSM8X Unit]

Unit Name  ↑ ×

Serialnr. / Software 00005 / V2.0

PSM Unit **1** 2 3 4

1 2 3 4 5 6 7 8 9 10

Type

Sensor Status **6.0 A [Too High]**

Message Text

Delay  s [Range: 0...999s]

Switch Output ☐ Off ☒ On

Fig. 20 Consumer 2 switched on and 'Too High' status

The 'Advanced' button can be used to switch to a second settings page (see Fig. 21). This page can be used to set the 'High', 'Warning' and 'Low' set-points for each of the eight (six) relay outputs. Settings for the alarm type and the alarm recipients can also be made.

### Setup Sensorunit 1 [PSM8X Unit]

Unit Name  ↑ ×

Serialnr. / Software 00005 / V2.0

PSM Unit **1** 2 3 4

1 2 3 4 5 6 7 8 9 10

Type

Sensor Status **0.3 A [OK]**

Message Text

Setpoint High  A [Range: 0...16A]

Setpoint Warning  A [Range: 0...16A]

Setpoint Low  A [Range: 0...16A]

Alarm Relay ☐ Disable ☒ Enable

Alarm Beeper ☐ Disable ☒ Enable

Alarm Reset ☒ Automatic ☐ Manual

Trap Receiver ☒ 1 ☒ 2 ☒ 3 ☒ 4/Log

Scheduled Alarm Off ☐ 1 ☐ 2 ☐ 3 ☐ 4

Send SMS  [Format: 1&2&3&4]

Send eMail  [Format: 1&2&3&4]

Fig. 21 Setting of the 'Advanced' parameters

## 8 Browser monitoring (as of SW 2.45)

EN

### 8.2.3 Current measurement settings

Tab 9 shows the total current ('Current PSM') and the overall status of each module (see Fig. 22). This page can be used to set the 'High', 'Warning' and 'Low' setpoints for the complete module.

Settings for the alarm recipient and the alarm type can also be made here.

**Setup Sensorunit 1 [PSM8X Unit]**

Unit Name: PSM8-fach  
SerialNr. / Software: 00005 / V2.0

PSM Unit: 1 2 3 4

1 2 3 4 5 6 7 8 9 10

Type: Current (PSM)  
Sensor Status: 0.3 A [OK]  
Message Text: Gesamtstrom 1  
Setpoint High: 13.0 A [Range: 0...16A]  
Setpoint Warning: 7.0 A [Range: 0...16A]  
Setpoint Low: 0.0 A [Range: 0...16A]  
Alarm Relay: ☐ Disable ☒ Enable  
Alarm Beeper: ☐ Disable ☒ Enable  
Alarm Reset: ☒ Automatic ☐ Manual  
Trap Receiver: ☒ 1 ☒ 2 ☒ 3 ☒ 4/Log  
Scheduled Alarm Off: ☐ 1 ☐ 2 ☐ 3 ☐ 4  
Send SMS: [Format: 1&2&3&4]  
Send eMail: [Format: 1&2&3&4]

Accept Reset

Fig. 22 Total current settings

### 8.2.4 Installation position

Tab 10 shows the installation position ('Position PSM') of the module (see Fig. 23).

**Setup Sensorunit 1 [PSM8X Unit]**

Unit Name: PSM8-fach  
SerialNr. / Software: 00005 / V2.0

PSM Unit: 1 2 3 4

1 2 3 4 5 6 7 8 9 10

Type: Position (PSM)  
Sensor Status: Circuit 2  
Message Text: Position (PSM)  
Trap Receiver: ☒ 1 ☒ 2 ☒ 3 ☒ 4/Log  
Scheduled Alarm Off: ☐ 1 ☐ 2 ☐ 3 ☐ 4  
Send SMS: [Format: 1&2&3&4]  
Send eMail: [Format: 1&2&3&4]

Accept Reset

Fig. 23 Installation position settings

### 8.2.5 Log entries

An entry for each status change (e.g. switch, warning, alarm, etc.) is made in the 'Alarm Log'. The example in Fig. 24 shows which entries are made for switching and overshooting or undershooting the setpoints for individual consumers.

Alarm Log	
08.10.2009 / 11:39:14	8 x C13[01]05], Appliance 1.5: OK
08.10.2009 / 11:38:19	8 x C13[01]05], Appliance 1.5: Too High
08.10.2009 / 11:38:01	8 x C13[01]14], Appliance 2.4: Off
08.10.2009 / 11:37:35	8 x C13[01]12], Appliance 2.2: Too Low
08.10.2009 / 11:37:23	8 x C13[01]12], Appliance 2.2: Warning
08.10.2009 / 11:36:45	8 x C13[01]05], Appliance 1.5: Warning
08.10.2009 / 11:33:10	8 x C13[01]05], Appliance 1.5: OK
Delete	

Fig. 24 Entries for various states



## 8.2.6 Configuring the active PSM

Navigation	
Main menu – Status – Click 1st current	
Parameter	Definition
1...n	Connection number of the sensor.
Type	Sensor type. Will be detected automatically.
Sensor Status	Sensor status. Green = OK, red = alarm.
Message Text	Message text included when a warning/alarm message is sent. Enter here a designation that uniquely identifies your sensor, e.g. "Current Rack 1".
Setpoint High	Current limit which when overshoot causes an alarm message to be issued.
Setpoint Low	Current limit which when undershoot causes an alarm message to be issued.
Delay	Time in seconds that specifies how long the socket should remain switched on.
Relay Output	Off = manual activation of the PSM module; On = manual deactivation of the PSM module.
Accept	Accept the changes.
Reset	Reset all entries that have not yet been saved by clicking the "Accept" button.

Navigation	
Main menu – Status – Click 2nd status	
Parameter	Definition
1...n	Connection number of the sensor.
Type	Sensor type. Will be detected automatically.
Sensor Status	Sensor status. Green = OK, red = alarm.
Alarm Relay	Alarm relay should switch (enable) or not switch (disable) for warning/alarm.

Alarm Beeper	Beeper should sound (enable) or not sound (disable) for warning/alarm.
Alarm Reset	Warning/alarm should be acknowledged automatically (Auto) or must be acknowledged by the operator (Manual).
Trap Receiver	Set at which of the entered trap receivers the warning/alarm messages should be sent.
Scheduled Alarm Off	Set which alarm configuration should be switched on or off. The individual functions can be defined from the "Setup – Timer" menu item.
Send SMS	You can enter a maximum of four mobile telephone numbers that you entered previously for Setup – SMS-Unit; each number is separated with the "&" character (e.g. 1&2&3&4).
Send eMail	You can enter a maximum of four e-mail addresses that you entered previously for Setup – eMail (SMTP); each address is separated with the "&" character (e.g. 1&2&3&4).
Accept	Accept the changes.
Reset	Reset all entries that have not yet been saved by clicking the "Accept" button.

Navigation	
Main menu – Status – Click 2nd status	
Parameter	Definition
1...n	Connection number of the sensor.
Type	Sensor type. Will be detected automatically.
Sensor Status	Sensor status. Green = OK, red = alarm.
Trap Receiver	Set at which of the entered trap receivers the warning/alarm messages should be sent.
Send SMS	You can enter a maximum of four mobile telephone numbers that you entered previously for Setup – SMS-Unit; each number is separated with the "&" character (1&2&3&4).

## 9 Maintenance and cleaning

EN

Send eMail	You can enter a maximum of four e-mail addresses that you entered previously for Setup – eMail (SMTP); each address is separated with the "&" character (e.g. 1&2&3&4).
Accept	Accept the changes.
Reset	Reset all entries that have not yet been saved by clicking the "Accept" button.

### 9 Maintenance and cleaning

The Rittal PSM module is a maintenance-free system. The housing does not need opening for installation or operation.



#### Note!

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

#### 9.1.1 Cleaning



#### Caution!

##### **Danger of damage!**

**Do not use aggressive substances such as cleaner's naphtha, acids, etc., for cleaning the device as they may cause damage!**

To clean the housing, use a damp cloth.

## 10 Storage and disposal

### 10.1.1 Storage

If the device is not used over a longer period, we recommend that you disconnect the device from the mains and protect it against moisture and dust.

Further information about the operational conditions is contained in the technical specifications.

### 10.1.2 Disposal

Because the PSM module consists mainly of the housing and circuit board components, when the device is no longer needed, it must be disposed of according to the regulations governing the recycling of electrical equipment.

## 11 Customer service

If you have technical questions, or questions regarding our product range, please contact the service address as follows:

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

<http://www.cmc-tc.com>

E-mail: [info@rittal.com](mailto:info@rittal.com)



#### Note!

In order that we can answer your queries fast and accurately, in your e-mails, always enter the item number in the subject row.

Further information and the current operating instructions and updates of the Rittal CMC-TC can be downloaded from the Security section of the Rima-trix5 homepage.

## 12 Technical specifications

Designation	PSM module (7859.212)
Designation	PSM module (7859.222)
Designation	PSM module (7859.232)
<b>Enclosure</b>	
Housing type	Aluminium, anodised, plastic caps
Height	500 mm
Width	50 mm
Depth	45 mm
Weight without packaging	Approx. 0.5 kg
Earthing	Yes
Protection category	IP 20 acc. to EN 60529
<b>Operational area</b>	
Temperature	+5°C to 45°C +41°F to 113°F
Moisture	5% to 95% relative humidity, non-condensing
Storage temperature	-20°C to 60°C -4°F to 140°F
Voltage range	1-phase, 110-230 VAC, 50/60 Hz
Max. current	10-16 A for 230 VAC, 10-15 A for 110 VAC, depending on the country variant, refer to the rating plate
Max. start-up current	25 A per slot for Ohmic load, 4 seconds for 10% ED
Max. switching load	4000 VA per slot
Thermal protection	16 A at 25°C; refer to the rating plate for the bus-bar! Derating factor 0.55 at 55°C housing temperature

Technical specifications (7859.212, 222, 232)

<b>Designation</b>	<b>PCU module (7859.215)</b>
<b>Designation</b>	<b>PCU module (7859.225)</b>
<b>Designation</b>	<b>PCU module (7859.235)</b>
<b>Enclosure</b>	
Housing type	Aluminium, anodised, plastic caps
Height	1 height unit, 44.45 mm
Width	482.6 mm (19")
Depth	45 mm
Weight without packaging	approx. 0.5 kg
Earthing	Yes
Protection category	IP 20 acc. to EN 60529
<b>Operational area</b>	
Temperature	+5°C to 45°C +41°F to 113°F
Moisture	5% to 95% relative humidity, non-condensing
Storage temperature	-20°C to 60°C -4°F to 140°F
Voltage range	1-phase, 110-230 VAC, 50/60 Hz
Max. current	10-16 A for 230 VAC, 10-15 A for 110 VAC, depending on the country variant, refer to the rating plate
Max. start-up current	25 A per slot for Ohmic load, 4 seconds for 10% ED
Max. switching load	4000 VA per slot
Thermal protection	16 A at 25°C; refer to the rating plate for the busbar! Derating factor 0.55 at 55°C housing temperature
Connection	Wieland GST18, 3-pole with appropriate adapter

Technical specifications (7859.215,225,235)

## 13 Technical glossary

### CMC-TC

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

### 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.

### 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.

### PSM

PSM (Power System Module) is a modular socket strip that can be populated according to customer requirements. It consists of a busbar in which the individual PSM modules can be snapped in.

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**14 Notes****EN**

