

Rittal  
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**Automatic Door  
Control Unit**

7320.790

**Assembly and operating instructions**

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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 system. 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 problems resulting from non-compliance with these instructions.

### 1.1 CE labelling

The Control Unit satisfies the CE conformity requirements of the EMC Directive 2004/108/EU. The declaration of conformity can be requested from Rittal Service.

### 1.2 Storing the documents

These instructions and all associated documents constitute an integral part of the product. They must be given to the device operator. The operator shall be responsible for storage of the documents, to ensure that they are readily available when needed.

### 1.3 Used symbols and technical terms

The signal word classifies the effects of a danger in case of the non-observance of the safety instructions. A differentiation is made between:

#### – Danger

A dangerous situation for which the failure to comply to this note causes death or severe injury.

#### – Warning

A dangerous situation for which the failure to comply to this note can cause death or severe injury.

#### – Caution

A dangerous situation for which the failure to comply to this note can cause (minor) injuries.

#### – Note

Identification of situations that can cause material damage.

The signal words are shown in the following form in the instructions:

e.g.



#### Signal word!

1. Description of the danger and its effect

2. Description of the behaviour of the user to prevent danger

### 1.4 Other applicable documents

In conjunction with these operating and installation instructions, reference is also made to the operating and installation instructions for the CMC-TC Processing Unit II and to the operating and installation instructions for the products listed in Section 14. Documents are contained on the CD-ROM that accompanies the Processing Unit II.

The appropriate current version can be downloaded as PDF file from the RITTAL homepage <http://www.rittal.com/>.

## 2 Safety instructions

### 2.1 Generally applicable safety instructions

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

- The assembly and the installation of the system, in particular the wiring of enclosures with mains power, may be performed only by a trained electrician.
- Observe the valid regulations for the electrical installation for the country in which the system is installed and operated, and the national regulations for accident prevention. Also observe any company-internal regulations (work, operating and safety regulations).
- Use only original RITTAL products or products recommended by RITTAL in conjunction with this product.
- Do not make any changes to this product other than those described in these or associated operating and installation instructions.
- The operational safety of the product is guaranteed only for its approved use. Under no circumstances should the technical data and the specified limit values be exceeded. This is especially true for the specified ambient temperature and IP protection category.
- The Control Unit must not be opened. The unit does not contain any parts that need servicing.
- Operating the system when it is in direct contact with water, corrosive substances or flammable gases and vapours is prohibited.
- The CMC-TC system must be disconnected from the power supply when the Control Unit is connected with an I/O unit, a Basic CMC or an LCP system.
- Other than these general safety notes, ensure you also observe the specific safety notes when the tasks described in the following chapters are performed.

## 3 Device description

### 3.1 Components and function description

The following components belong to the complete Automatic Door Control system:

Designation	Order number
Automatic Door Control Unit	7320790
Up to four Automatic Door Kits	7320.792, or 7320.795, or 7320.796
Up to four Automatic Door keys	7320.793
Up to four TS 8 comfort handles with door opener function	7320.794
230 V / 24 V power pack with connection cable	7320.725 7200.210
Fastening components in the 19" frame	7320.440
Fastening components in the enclosure frame	7320.450

The Automatic Door Control Unit performs the automatic opening of the rack doors should the cooling system of the racks fail or the rack doors need to be opened because of a smoke alarm and fire extinguishing so that the extinguishing gas entering the room can penetrate the racks.

The Control Unit can activate as many as four Automatic Door Kits for the control of a maximum of four doors where the CMC-TC system can always control two doors using one CMC-TC channel. In addition, four normally-closed contacts are provided that can be assigned individually and connected to their manually initiating keys or other adequate switching elements. The Automatic Door Control Unit receives an identification so it can be automatically detected and set up by the CMC-TC system.

The Automatic Door Kit provides the magnetic locking of the rack doors that is activated by the Automatic Door Control Unit.

The holding magnets of the Automatic Door Kit in their active state are supplied with 24 V power. When the command for opening the door is issued, the Automatic Door Control Unit deactivates the magnets and the installed gas pressure dampers open the rack doors.

#### 3.1.1 Automatic Door Control Unit

All inputs and outputs of the Automatic Door Control Unit are located on the rear.

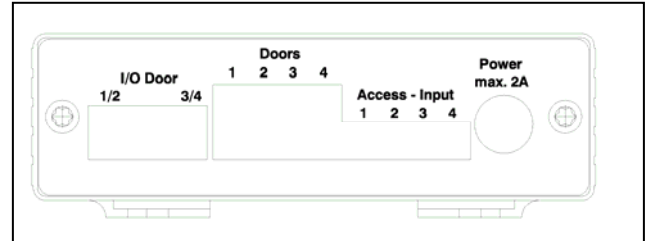


Fig. 1: Automatic Door Control Unit – rear trim panel

#### Legend

- I/O Door 1/2 or 3/4:  
Two RJ12 sockets for connection to an I/O unit of a CMC-TC system.  
The input 1/2 and input 3/4 activates Doors 1 and 2, and Doors 3 and 4, respectively.  
The CMC-TC Processing Unit II can be used to define the appropriate combinations that cause the doors to be opened in an alarm situation.  
The Automatic Door Unit can be activated by a CMC-TC I/O unit in conjunction with a PU II or alternatively by a Basic CMC.
- Doors 1, 2, 3, 4:  
Four terminals for up to four door locks (Automatic Door Kits)  
The following assignment is recommended:  
Door 1: Rack 1 front door  
Door 2: Rack 1 rear door  
Door 3: Rack 2 front door  
Door 4: Rack 2 rear door
- Access – Input 1, 2, 3, 4:  
Four connections for Access Input components.  
A channel for the manual door opening is provided for each door. Automatic Door keys or TS 8 comfort handles with door opener function are connected to open the doors manually.
- Power:  
Connection for the 24 V power supply.

# 4 Assembly and installation

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## 3.2 Proper use

The Automatic Door Control Unit may only be used for the automatic opening of the TS 8 rack doors in an emergency situation. Other applications other than those mentioned in this manual are expressly not permitted.



**Warning!**  
**The system may not automatically activate any door systems that exhibit dangerous door forces that can injure persons in any manner.**  
**Only the RITTAL Automatic Door Kit product may be activated.**

## 3.3 Dimensions

W x H x D: 136 mm x 44 mm x 129 mm

## 3.4 Scope of delivery

1 x	Automatic Door Control Unit
1 x	Assembly, installation and operating instructions
2 x	Nylon tape fastening
2 x	RJ12 connection cable

## 4 Assembly and installation

The Automatic Door Control Unit is installed in a RITTAL TS 8 rack in accordance with the procedure described below.

### 4.1 Assembly procedure

**Assembly with nylon loop fastening:**

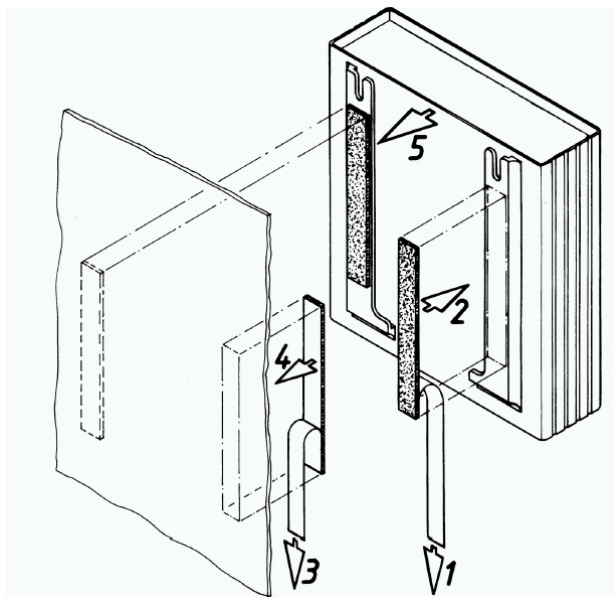


Fig. 2: Nylon loop fastening

### Assembly in the 19" frame with 7320.440:

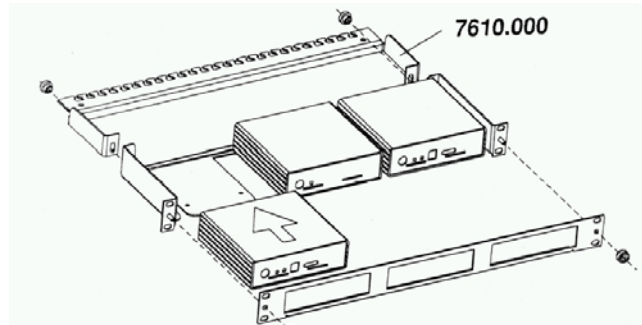


Fig. 3: 19" attachment

### Mounting module with CMC 7320.450

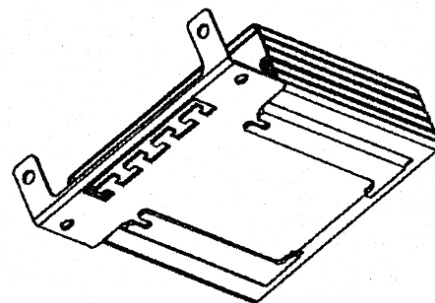
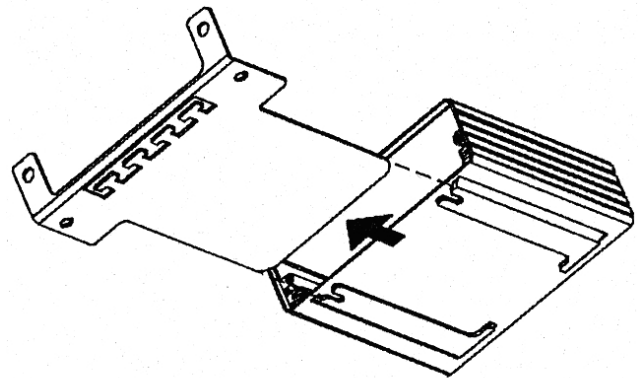


Fig. 4: Enclosure assembly with 7320.450

## 4.2 Installation



**Warning!**  
**The system operates only with safety extra-low voltage.**  
**Under no circumstances may voltages higher than those prescribed be connected to the system. Lethal danger!**

## 4.3 Installation procedure

Once all system components have been installed in accordance with the associated installation instructions, the installation as described below is performed.



**Note!**  
**For the installation, the system must remain disconnected from the power supply for the complete time.**  
**Otherwise defects can occur to the unit.**

### 4.3.1 Automatic Door Control Unit wiring



**Note!**  
**The maximum signal cable length of 6 m must not be exceeded.**

#### Connection of the Automatic Door Control Unit to the CMC-TC I/O unit.

Connect the inputs from Door 1/2 and Door 3/4 with any free port on the CMC-TC I/O unit as shown in Fig. 5. Use the provided RJ12 cable for this purpose.

Door 1/2 to Port 1; Door 3/4 to Port 2

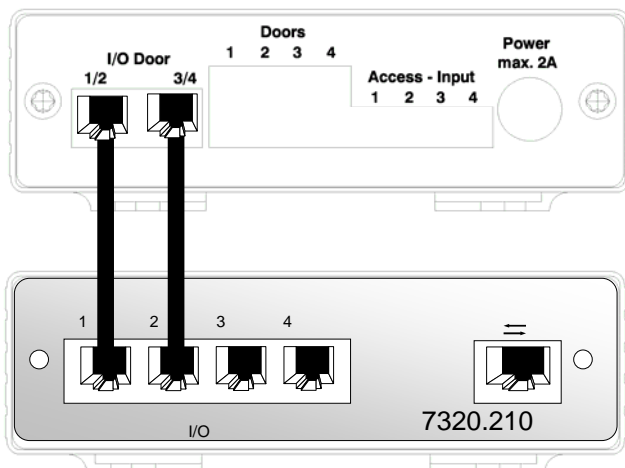


Fig. 5: Connection to the CMC-TC I/O unit

#### Connection of the Automatic Door Control Unit to a Basic CMC or an LCP Plus Control Unit

Connect the inputs from Door 1/2 and Door 3/4 with any free port on the Basic CMC as shown in Fig. 6. Use the RJ12 cable provided for this purpose.

Door 1/2 to Port 1  
 Door 3/4 to Port 2

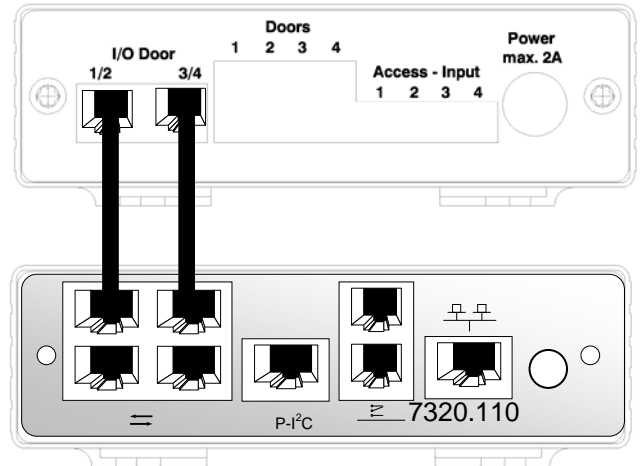


Fig. 6: Automatic Door Control Unit with Basic CMC

#### Connection of the Automatic Door Kits

As many as three holding magnets can be connected to the Door 1-4 outputs.

Connect the Automatic Door Kits as shown in Fig. 7.

- Door 1: Rack 1 front door
- Door 2: Rack 1 rear door
- Door 3: Rack 2 front door
- Door 4: Rack 2 rear door

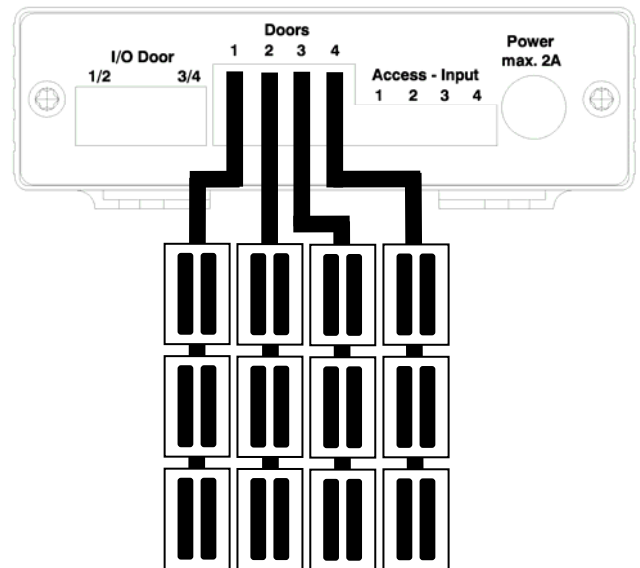


Fig. 7: Connection of the holding magnets of the Automatic Door Kits

# 4 Assembly and installation

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## Connection of the Automatic Door key 7320.793 or alternatively the comfort handle with door opener function 7320.794

Remove the jumpers at the connection terminals Access – Input 1-4.  
Connect the Automatic Door keys as shown in Fig. 8.

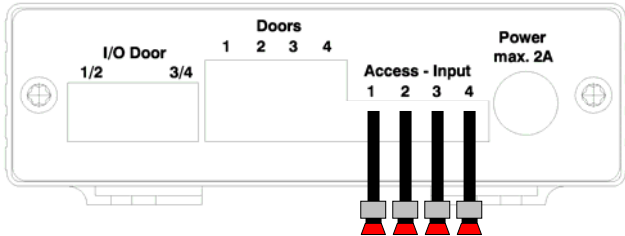


Fig. 8: Connection of Automatic Door keys

The keys can be placed anywhere. We recommend that the keys are placed where they are easily accessible provided there is no danger of them being activated inadvertently. The maximum cable lengths must not be exceeded.

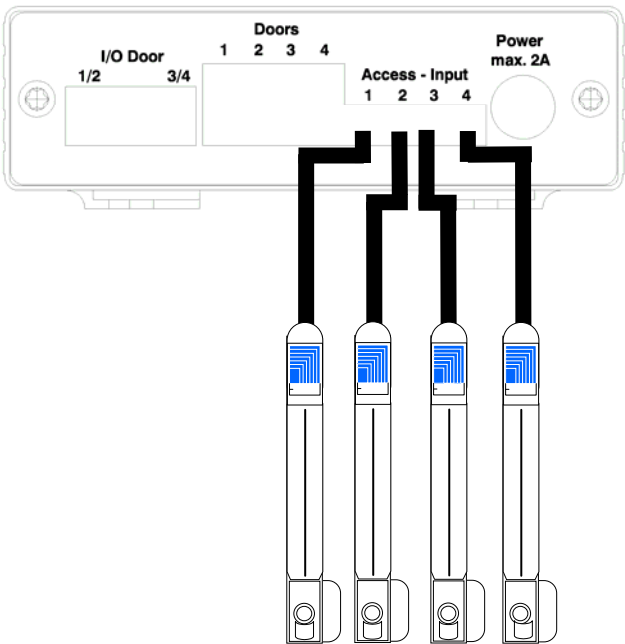


Fig. 9: Automatic Door Control Unit with TS 8 comfort handle with door opener function

## Connection of the 24 V power supply

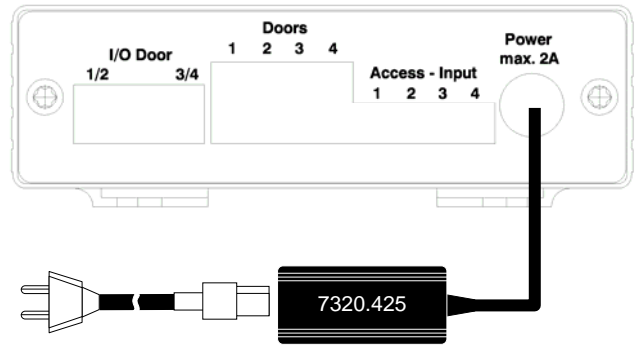


Fig. 10: 24 V power supply



**Note!**  
We recommend that the doors are monitored with access sensors (7320.530) because the Automatic Door Control Unit does not provide this function.

## 4.3.2 Installation guidelines



### Note!

The installation guidelines described below are based on a risk analysis for the Automatic Door Control system and must always be observed in order to ensure the highest possible functional reliability not only in normal operation but also in a fault situation.

**1st The Automatic Door Control system must be compatible to the controlling system should the power fail.**

If the Automatic Door Control system is used in combination with an LCP system, both systems must be connected to the same power supply. If the fan motors of a connected 3-phase LCP system are connected to a phase, the power supply of the Automatic Door Control system must be connected to the same phase as the fan motors. If the Automatic Door Control system is controlled from a Processing Unit, both systems must be connected to the same power supply.

**2nd The rack doors must always be able to be opened manually at anytime using an Automatic Door key or TS 8 comfort handle with door opener function.**

Please always install one of the named options.

**3rd Rack doors must not open inadvertently.**

If the 24 V power supply to the Automatic Door Control Unit fails, the rack doors will open. Use the alarm configuring of the PU II or the Basic CMC to ensure that in this case all required protective measures are initiated for the installed server systems.

**4th Rack doors must not remain closed in a fault situation.**

The connected controller must be configured so that the relevant alarms are signalled and manual intervention is possible.

**To ensure the continuing correct functioning of the system, the correct functioning of the Automatic Door Control system must be checked in its full scope once after successful installation and then in regular time intervals.**

## 5 Commissioning and configuration

After the successful installation and the connection to the mains voltage, the Automatic Door Control system must be configured. This is done from the Processing Unit website as shown in Fig. 11.

Fig. 11: Automatic Door Control System website

### Legend

- Output status: Current status of the door opening magnets.
- Message text: Specific text.
- Delay: Power-on delay for the door opening magnets.
- Time-out: Definition of the state the Automatic Door Control system should assume after switch-off and -on.
- Trap receiver: Activation of up to three SNMP trap messages.
- Send SMS, send e-mail: Activation of SMS and e-mail messages in a fault situation.
- Switch output: Activation/deactivation of the door opening magnets.
- Accept: Confirmation of the configuration input.
- Reset: Reset the configuration to the default values.
- Combinations: Calling the "Combinations" menu. See Fig. 12.

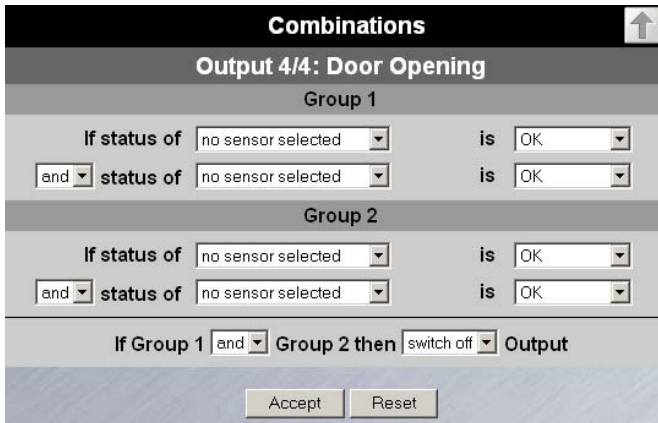


Fig. 12: Combinations website

Combinations can be used to combine the status of the connected sensors and group them to form dedicated status messages.

## 6 Operation

The Automatic Door Control Unit does not have any control elements.

### 6.1 Display elements

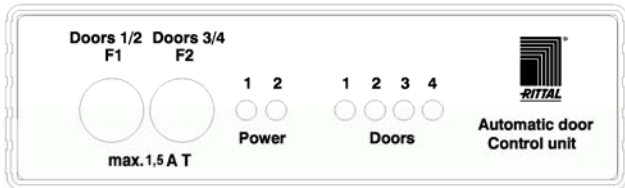


Fig. 13: Automatic Door Control Unit – display elements

#### Legend

The following display elements are located on the front of the Automatic Door Control Unit:

- Doors 1/2 F1:  
1.5 A miniature fuse, 20 mm slow for Automatic Door Kits 1 and 2.
- Doors 3/4 F1:  
1.5 A miniature fuse, 20 mm slow for Automatic Door Kits 1 and 2.
- Power 1:  
Automatic Door Kit 1/2 switched on/off.
- Power 2:  
Automatic Door Kit 3/4 switched on/off.
- Doors 1, 2, 3, 4:  
Automatic Door Kits are activated/deactivated. The doors can be closed. The display is not affected by operating the Automatic Door keys or the TS 8 comfort handle.

### 6.2 Error messages

All error messages are issued from the Processing Unit or the Basic CMC.

## 7 Fault and remedial action

Malfunction	Remedy
Doors cannot be closed	Check the miniature fuses in the Automatic Door Control Unit
	Check the power supply of the Automatic Door Control Unit
	Check alarm messages and "Combinations"
	Check the plugs at the "Access Units" inputs and the "Doors" outputs
Doors remain closed in the "Open" system status	Check the cabling, in particular the connection cable from the Processing Unit or the LCP Controller to the Automatic Door Control Unit.

## 8 Inspection and maintenance

### 8.1 Inspection

The system must be checked regularly for its complete correct functioning. RITTAL recommends a regular function test when required, but not in intervals longer than one year.

### 8.2 Maintenance

The system does not require any maintenance.

### 8.3 Software updates

At the time of performing the installation, check that the Processing Unit, the Basic CMC and the LCP controller have the latest software version.

## 9 Storage and disposal

Please dispose of as electronic scrap and observe the country-specific regulations.

## 10 Technical specifications

Designation	Automatic Door Control Unit
<b>Enclosure</b>	
Housing type	Plastic coating with metal trim
Height	1 U (44.5 mm)
Width	136 mm
Depth	129 mm
Weight without packaging	approx. 0.6 kg
Potential equalisation	- <sup>1)</sup>
Earthing	- <sup>1)</sup>
Protection category	IP 40 according to EN 60529
<b>Interfaces</b>	
LED display	2x, Power Control 4x, Doors Status
Door outputs	4x, max. 24 V DC, 400 mA
Normally closed contacts	4x, max. 30 V DC, 1 A
<b>Operational area</b>	
Temperature	+5° to +45°C +42° to +113°F
Humidity	5 – 95%
Storage temperature	-20° to +60°C -4° to +140°F
Rated voltage	1 x 24 V DC, 2.0 A SELV
Fuses	1.5 A miniature fuse, slow, UL approval
CMC-TC connection	2 x RJ-12 sockets
<b>Maximum cable length</b>	
CU to I/O unit	10 m, after consultation with Rittal, up to 50 m, UL approval
CU to Basic CMC	10 m, after consultation with Rittal, up to 50 m, UL approval
CU to LCP Plus	10 m, after consultation with Rittal, up to 50 m, UL approval

<sup>1)</sup> Not required because 24 V DC safety extra-low voltage

## 11 Spare parts

Miniature fuses, type 5 x 20 mm, 1.5 A slow.  
The product will be replaced in case of an Automatic Door Control Unit defect.

## 12 Wiring diagrams

A Word template for creating circuit diagrams can be downloaded from the RITTAL homepage [www.rittal.com](http://www.rittal.com). This template allows all products of the CMC-TC system to be represented and integrated in circuit diagrams.

## 13 Glossary

CMC: Computer Multi Control  
CMC-TC: Computer Multi Control – Top Concept  
CU: Control Unit (Automatic Door Control Unit)  
PU II: Processing Unit II

## 14 Customer service addresses

If you have technical questions, or questions regarding our product range, please contact the following service contact:  
Tel.: +49 (0)2772/505-1855  
<http://www.rittal.com>  
E-mail: [info@rittal.de](mailto:info@rittal.de)



Schaltschrank-Systeme  
Industrial Enclosures  
 Coffrets et armoires électriques  
 Kastsystemen  
 Apparatskåpssystem  
 Armadi per quadri di comando  
 Sistemas de armarios  
インダストリアル エンクロージャー



Stromverteilung  
Power Distribution  
 Distribution de courant  
 Stroomverdeling  
 Strømfördelning  
 Distribuzione di corrente  
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分電・配電システム



Elektronik-Aufbau-Systeme  
Electronic Packaging  
 Electronique  
 Electronic Packaging Systems  
 Electronic Packaging  
 Contenitori per elettronica  
 Sistemas para la electrónica  
エレクトロニクス パッケージシステム



System-Klimatisierung  
System Climate Control  
 Climatisation  
 Systemklimatisering  
 Systemklimatisering  
 Soluzioni di climatizzazione  
 Climatización de sistemas  
温度管理システム



IT-Solutions  
IT Solutions  
 Solutions IT  
 IT-Solutions  
 IT-lösningar  
 Soluzioni per IT  
 Soluciones TI  
ITソリューション



Communication Systems  
 Communication Systems  
 Armoires outdoor  
Outdoor-behuizingen  
 Communication Systems  
 Soluzioni outdoor  
 Sistemas de comunicación  
コミュニケーションシステム

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