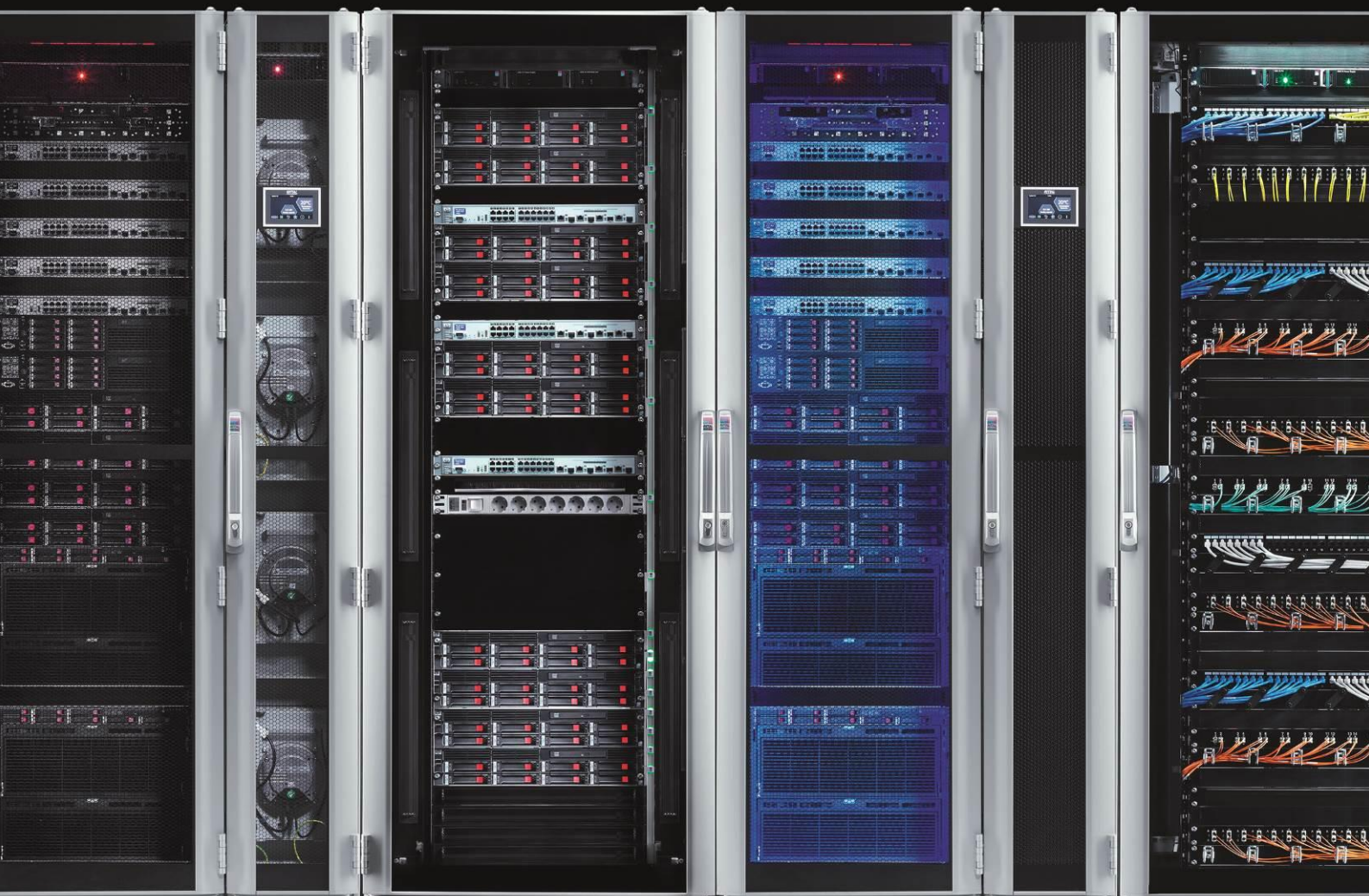


# Rittal – The System.

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## ► Howto – CMC III

Configuration of an ekey-finger scanner through the Wiegand-interface of the Universal sensor



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## Introduction

The Universal sensor of the CMC III supports the Wiegand protocol (56 Bit). With software version 3.13.00\_1, this interface has been optimized for the ekey net-system with an Wiegand-converter. Ekey offers a wide range of finger scanner for access control systems. One of the accessories for their systems is a Wiegand-converter. This converter can be connected to the Universal sensor of the CMC III.

The following how-to describes, which components are needed to combine both systems and how they have to be connected and configured.

## The Wiegand-protocol

The Wiegand protocol manages the transmission of access codes between two systems over a 3-wired connection. Through this protocol, systems from different vendors can transmit information about access authorizations between each other.

If a reader with a Wiegand-interface is connected to the CMC III, a code can be transmitted from the reader to the CMC III. This code can be used for the access control function of the CMC III, f.e. to open electromechanical handles (and doors of a rack).

Detailed information about the Wiegand-protocol can also be found on Wikipedia:

[http://en.wikipedia.org/wiki/Wiegand\\_interface](http://en.wikipedia.org/wiki/Wiegand_interface)

## Hardware components

From CMC III, the following components are needed:

Art. Nr.	Quantity	Description
7030.000	1	CMC III Processing Unit
7030.060	1	CMC III power pack
7030.070	1	CMC III mounting unit 19"
7030.080	1	CMC III programming cable
7030.190	Z	CMC III Universal sensor
7030.200	X	CMC III CAN-Bus Access
7320.721	X	Master-Key comfort handle (el.-mag.)
7030.092	Y	CAN-Bus connection cable 1,5 m (other length possible)
7200.210	1	Connection cable D/F/B

From ekey, the following components are needed:

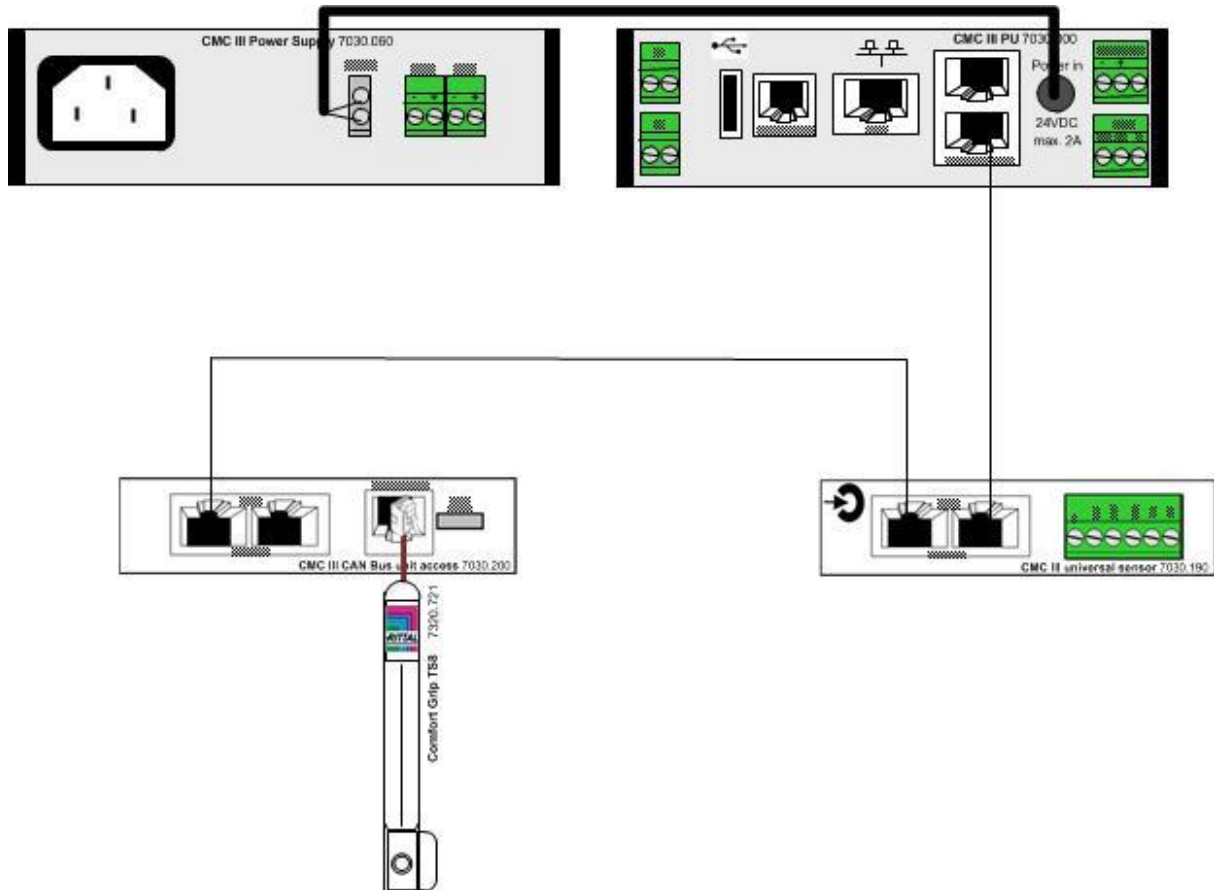
Art. Nr.	Quantity	Description
diverse	Z	ekey net finger scanner
100669	Z	ekey net CV WIEG
100340	Z	ekey net CV LAN
Included	Z	Power pack

The quantity of the components (here declared with X, Y and Z) depends on the structure of the whole system and the infrastructure. If only one central reader is used, you only need one ekey net finger scanner and one CMC III Universal sensor (Z = 1). If more than one readers are used, the quantity has to be raised accordingly. The number of readers and the number of finger scanners is independent from each other.

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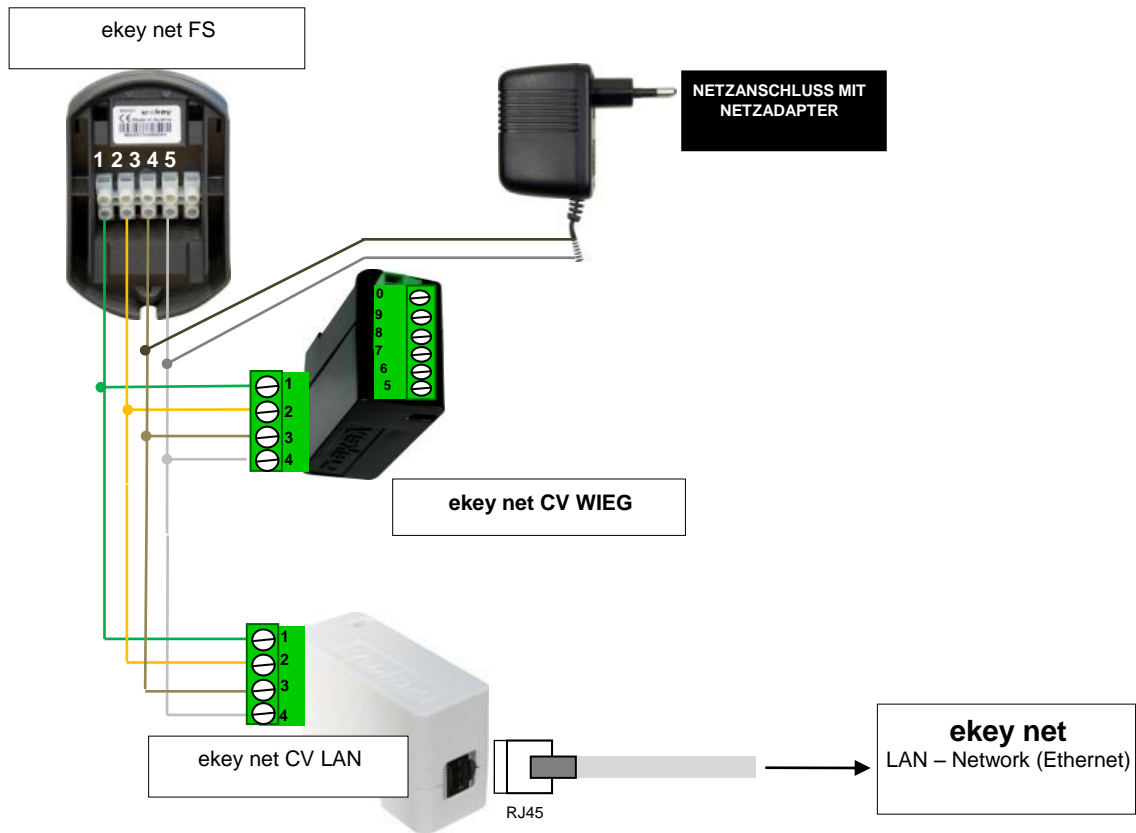
## Cabeling of the systems

The CMC III has to be wired as follows:



## Howto – Configuration of an ekey-finger scanner through the Wiegand-interface of the Universal sensor

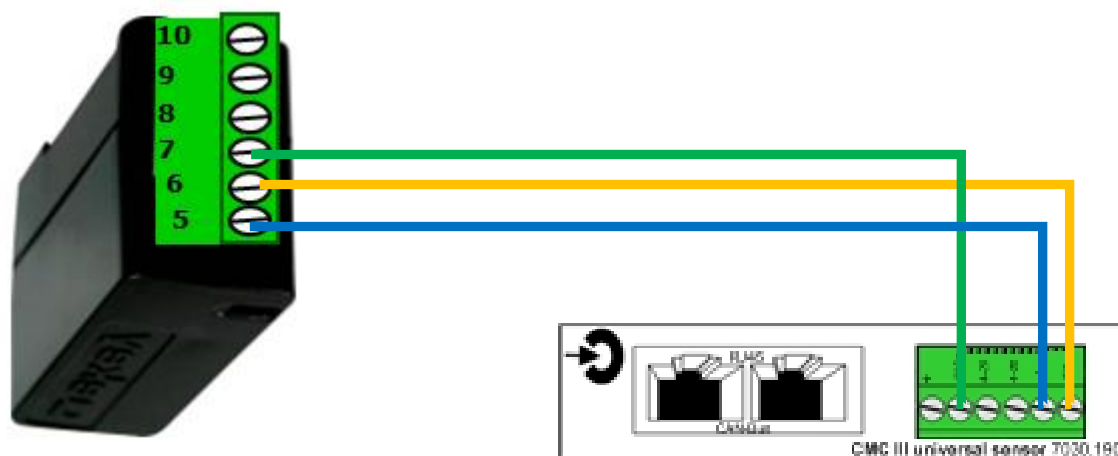
The ekey net system has to be wired as follows:





## Howto — Configuration of an ekey-finger scanner through the Wiegand-interface of the Universal sensor

The connection between CMC III Universal sensor and ekey net CV WIEG has to be done by a 3-wired cable:

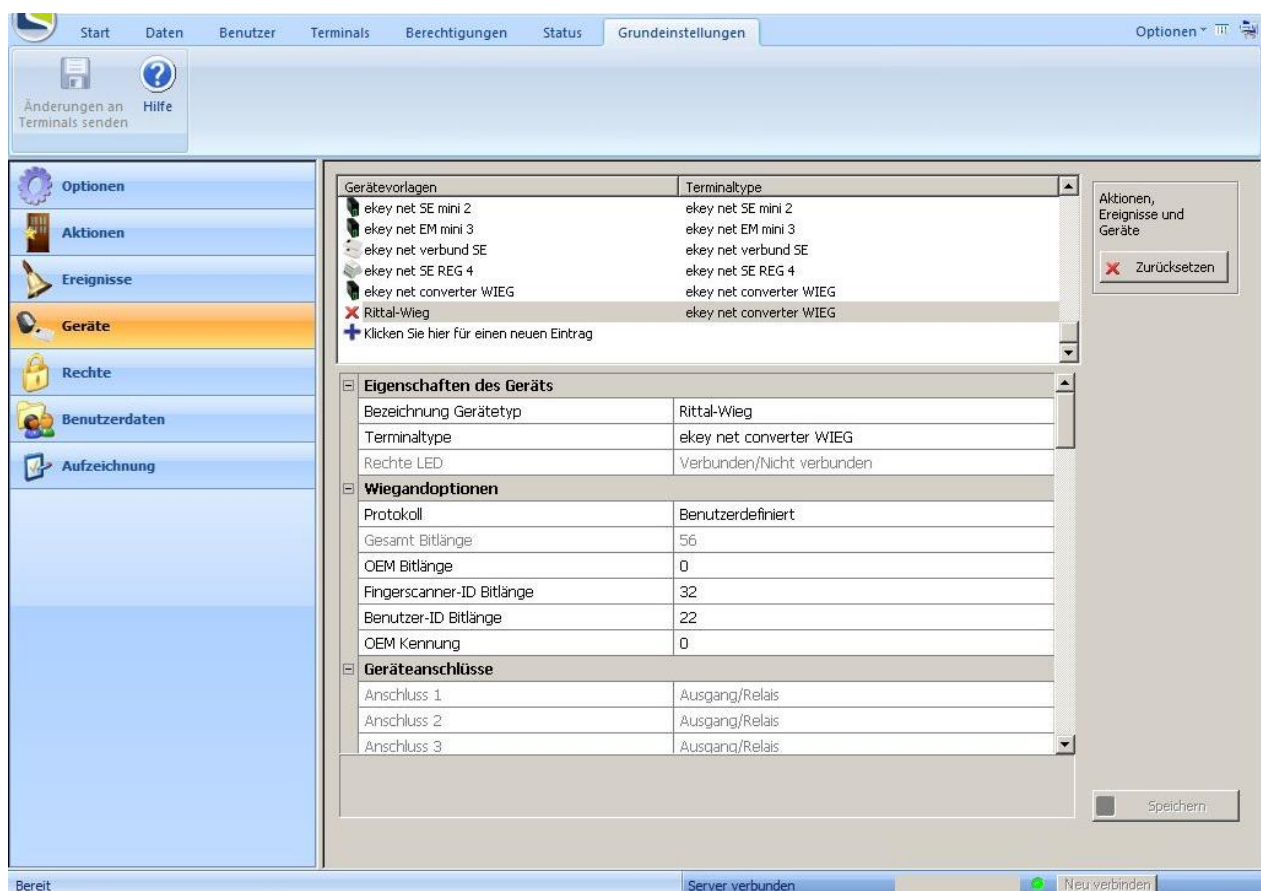


ekey net CV WIEG	CMC III Universal sensor
5	5
6	6
7	2

## Configuration

Both systems must be configured for the connection. First of all the ekey net system has to be configured according to the ekey net manual. This manual can be downloaded from the ekey homepage (<http://www.ekey.net/downloads/cat/Anleitungen>). In the following, only the Rittal-specific configuration of the ekey system is described.

Go in the Main configuration to the point “devices”. Configure a new device and define a name for it, f.e. “Rittal-Wieg”. Click on this new device and open in the configuration area below the point “Wiegand options”. As “Protocol” choose “User defined”. As OEM bit length and recognition configure “0”. As „finger scanner ID bit length“ choose the value „32“ and as „User ID bit length“ choose the value “22”. The point “total bit length” should now have the value “56”.

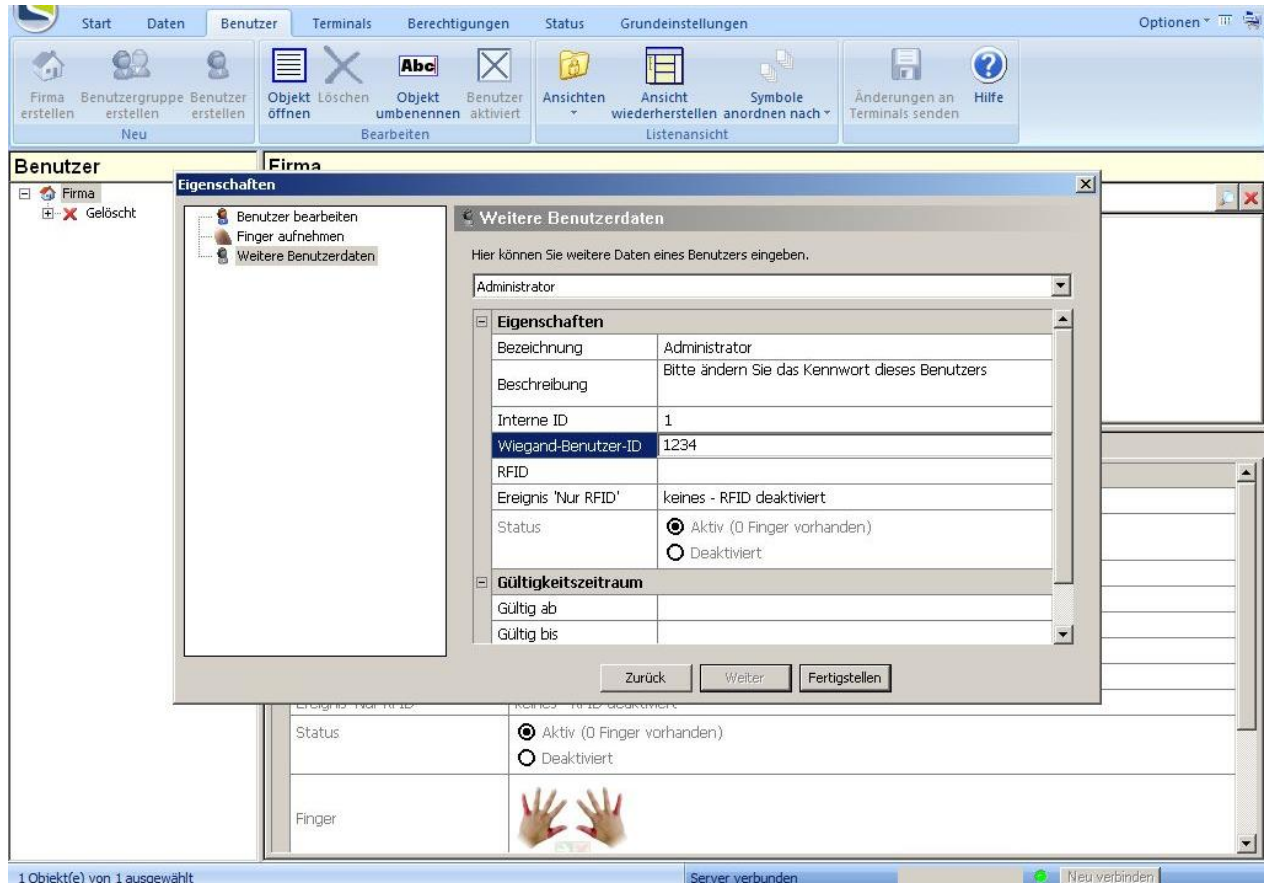


Configure now the ekey net CV WIEG with this new device according to the ekey net manual.

After configuring the interface, the user configuration has to be changed. Go to the tab “Users”. You have to configure a Wiegand-ID for every user, which should be able to open the door. This Wiegand-ID will be transmitted from the ekey net system to the CMC III and can be configured in the “Access Configuration” as allowed card code.



The CMC III system only uses 20 bit of the user ID and ignores 2 bit (2 MSB). Because of this, the defined User-ID should not be longer than 20 bit, so the value here should not be higher than 1048576. An automatic error check is not implemented, so you have to be careful here.



It is also possible to define optional an ID for every finger scanner. If this ID is used, you can define in the CMC III „Access Configuration“ with which finger scanner which door can be opened. This ID must be defined in the cconfiguration of each finger scanner and should not be longer than 32 bit.

After configuring all necessary points in the ekey net system, the Wiegand-Codes must be integrated in the CMC III system. Therefor open the “Access Configuration” in the general CMC III configuration. Press the Button “new” for a new entry.

Define this new entry as „Card“ and type in the User-ID, which had been defined in the ekey system for this user. If an additional finger scanner ID has been defined, be careful that this ID also has to be part of the code. In this case, the code is created with the finger scanner ID, 2 ignored bits and the User-ID.

Example: If you define a User-ID „1234“ and no finger scanner ID, the code „1234“ can be copied directly into the Access Configuration of the CMC III. But if you configure additionally

a finger scanner ID “7”, the Code “29361362” has to be typed in. This code results from the bit code “1110000000000010011010010”:

„111“ = finger scanner-ID „7“

„0000000000010011010010“ = 2 ignored bits plus 20 bit User-ID „1234“

Choose now a user on the CMC III system and the doors, which should be opened with this finger scan.

After this, the configuration is finished and the system can be tested.

**Note:**

At the moment, the ekey net system sends the Wiegand-ID two times. When a door is opened with the finger scanner, a doubled logging entry is generated due to the double sending of the code. But this behaviour has no impact on the door opening function of the system.

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