

Axesso System

Access control and
time management
based on the KNX
installation bus

Version 3.1

Installation and system
manual

Revision: 2015-01-30



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This user manual illustrates the installation and commissioning of the Axesso system. It contains detailed technical information, which requires an understanding of KNX and IP. Basic knowledge of the IPAS ComBridge Studio System is also recommended.

Due to future technical developments, the content of the software and manual are subject to change without further notice.

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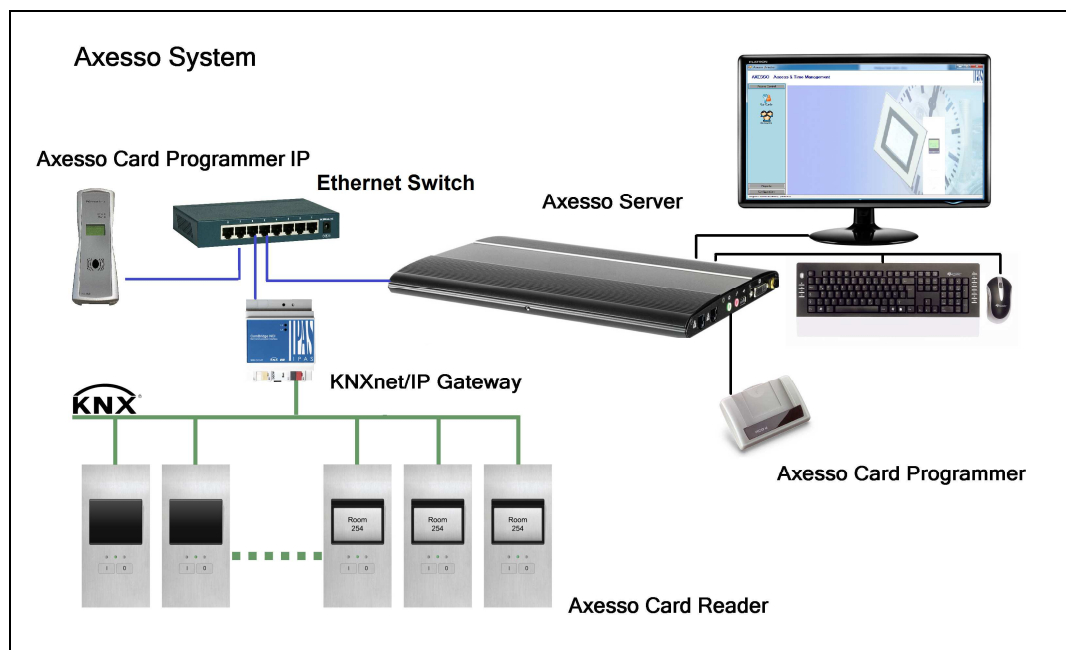
1. Overview and system structure

Thank you very much for choosing IPAS hard and software.

The IPAS **Axesso System** offers a powerful hard and software for access control and time management based on a standardised KNX bus installation. With the rising use of the KNX system, more and more projects integrating all aspects of technical building equipment are possible. Extending the use of this universal infrastructure to the area of access control therefore lies at hand. Ease of installation, manufacturer independence, simple wiring, and widespread programming and commissioning knowledge that have made this system so successful apply to these tasks in the same manner.

1.1. Structure and composition of the Axesso system

The Axesso system principally consists of the Axesso server with the Axesso Director Software and the card readers that are connected to a KNXnet/IP gateway via a KNX installation bus system.

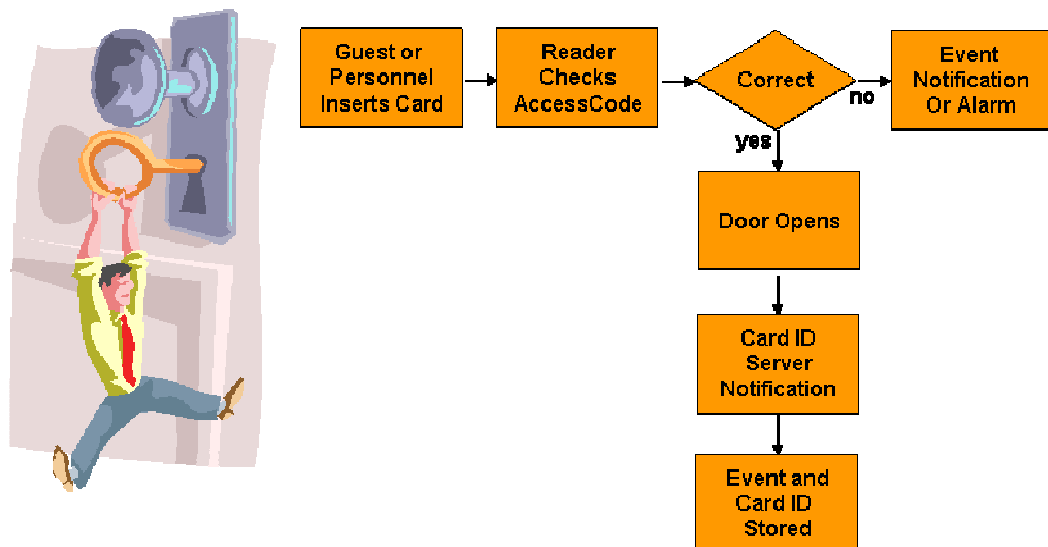


The KNXnet/IP gateway (e.g. IPAS ComBridge NCI) connects the KNX system and the IP (Ethernet) network of the server. The communication between the server software and the readers is hence based on the existing network structures KNX and Ethernet. To program

the cards at least one card programming device is required which is connected to the server and possibly also to the IP network.

1.2. Functioning of the Axesso system

The Axesso readers work autonomously within the KNX system. Once the access cards have been programmed, no server is required for the system's access function. If a card is inserted into the reader, the device compares the access code on the card and the code saved on the reader. If these are the same, the reader will permit access. An additional code (CardID-Code) is sent in encrypted format via the KNX bus for each attempted access. If the Axesso server is connected and active, the Axesso Software generates access reports, alarms and time recording data via this code. Special scenes may also be carried out for individual card holders.

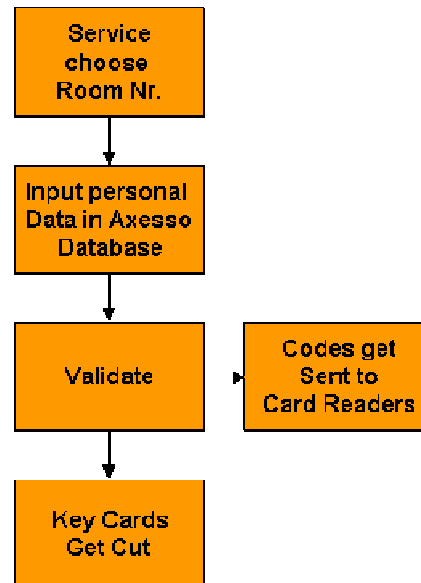


Apart from the card readers, the other central system component is the Axesso Director Software that is pre-installed on the Axesso server. The software offers user administration, the storage of card holder and access data and the generation of alarms and scenes. For the system administrator the Axesso Software provides all the important setting and programming options to commission the system.

However, the software's main task is the generation and programming of access cards via the connected programming device and the sending of access information to the reader that is connected to the KNX.

The first thing to do when programming the cards, is to choose the rooms that are to be accessible to the card holder and if applicable also enter the personal details of the card

holder in the Axesso database. An empty (new or deleted) card is placed upon the connected programming device. After an internal plausibility check, the Axesso Director Software then generates two new codes (Card-ID-Code, Access Code). The access code is sent via the KNXnet/IP gateway to the readers that are connected to the KNX. To avoid misuse, the data transfer is encrypted. At the same time, the programming device programs the Card-ID-Code onto the user's card.

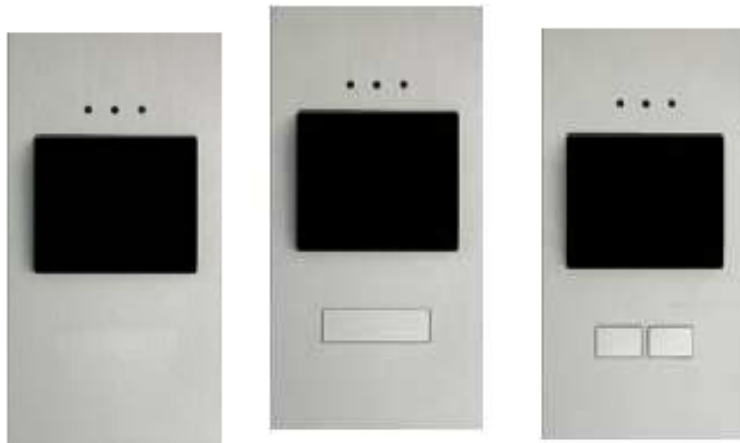


If a card is no longer needed or if a card holder is to be removed from the database, the removal is also done via the Axesso software. Codes are deleted from the connected readers via the KNX bus just as they are when a card is created.

1.3. Card reader functions and versions

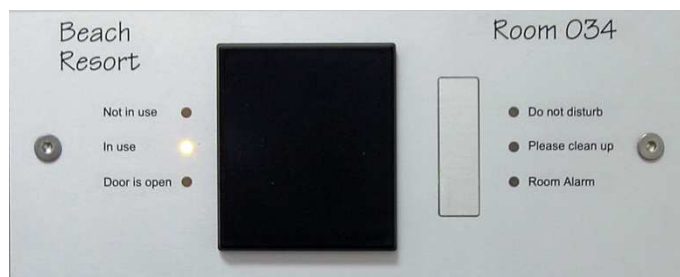
Readers and cards communicate contactless using transponder technology which is based on standards set in the ISO/IEC 14443 A/B. The transmission frequency is 13,56MHz. To enable the card reader to detect and read the card, please hold it less than 2cm away from the front of the reader.

Three device models are available for the card readers: without pushbuttons, with one pushbutton or with two pushbuttons.



The pushbuttons on the device make it possible to perform other KNX functions apart from the access function (e.g. bell button or light control). The functions are determined through the application in the ETS (see below).

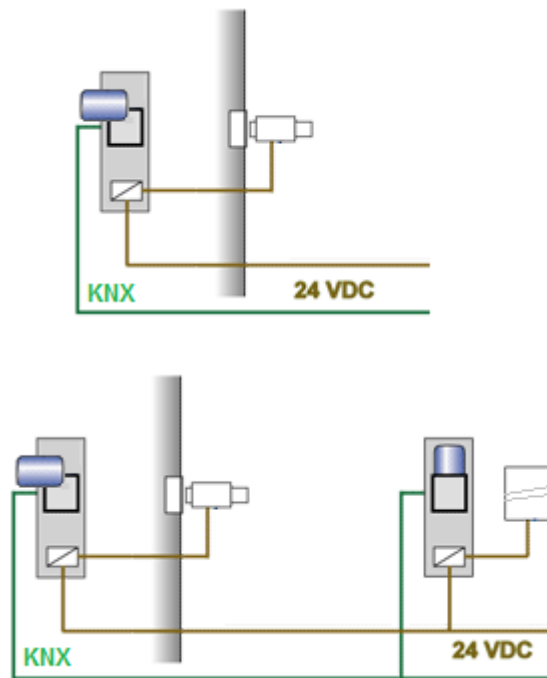
Apart from the devices shown above, there are further transponder reader devices with three additional LEDs for hotel applications (Do Not Disturb, Make Up Room, Room Alarm).



All Axesso card readers have an integrated binary output to activate DC low voltage door openers. When choosing a door opener, please make sure not to exceed the integrated switch contact's maximum current of 1A. In addition to the binary output, all card readers have two binary inputs that can be connected to any potential-free contact (e.g. door contact or card holder in a hotel environment). The function of the contact input can also be set via the parameters in the ETS application.

In addition to the KNX bus power supply, the Axesso card readers also require a low voltage of 8-26VDC. This auxiliary supply is used to supply the device's electronics and to activate the door openers.

The following illustrations show typical connection scenarios:



A standard bus connector (KNX) and a screw clamp with 8 terminals are used to connect the devices. For an exact terminal lay-out, please see the appendix in chapter 5.

All Axesso card readers have an integrated magnet sensor. If a device is removed from its installation box, which is equipped with a security magnet, it will be de-activated immediately. An alarm telegram can also be sent via KNX.

2. Installation and commissioning of the Axesso Server

2.1. Scope of delivery and additional components required

The Axesso Server is a powerful autarkic PC with a Windows operating system. To make the installation and configuration as easy as possible, we deliver the server largely pre-configured. All software components and drivers that are required to operate the system are installed ex works. The delivery package also includes the mains adapter and power lead. **Please make sure that you use the device only with the intended mains adapter.**

To commission and operate the system, you also need a computer keyboard, mouse and monitor. **These components are not part of the delivery package.** Both keyboard and mouse need to be equipped with a USB connector. The monitor is connected via a DVI-I cable (VGA via adapter).



2.2. Connecting the Axesso Server

The Axesso Server is connected via the sockets and plugs on the front ends of the device. On the left front end there are 3 USB ports, the power switch, a RS232 port (not required) and the connector for the power supply of the mains adapter.



The keyboard and mouse should each be connected to a USB socket. The socket for the power supply needs to be connected to the adapter provided.

On the right front end there are connectors for the network, loud speakers, microphone (not required) as well as a further USB connector and the connector for the monitor.



Please connect the monitor via an appropriate monitor cable (you may need to use a VGA adapter) and connect the network to the switch via a suitable patch cable. The actual card programming device should be connected to the USB connector.

When all the connections are in place, switch on the Axesso Server via the power switch.

2.3. Setting up the network connection of the server

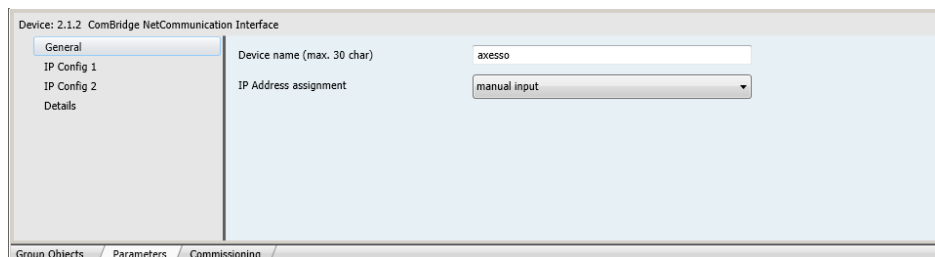
After booting is complete, the server starts with the familiar Windows start-up screen. To operate the Axesso system the server needs to be correctly integrated into the IP network. The default setting of the server is such that an IP address is automatically obtained from an existing DHCP server. Many networks, however, do not provide an DHCP service or an organisation's IT department may proscribe the use of only specific IP addresses. In this case, please set the IP address of the server manually in accordance with the usual Windows procedure. Please discuss the IP configuration with your network administrator or ask your administrator to carry out the configuration.

2.4. Configuring the IP connections of the gateways

The Axesso software communicates with the readers on the KNX bus via a KNXnet/IP gateway. At the IP end, the gateway is connected to the same IP network as the Axesso server (Hub, Switch). At the KNX end, the accessibility of all connected card readers needs to be ensured (possibly via line or area couplers).

Before the Axesso Software is commissioned further, the IP gateway needs to be registered in the Configuration Manager. In relation to the Axesso system, we generally recommend you assign a fixed IP address to the gateway in the ETS. Whilst it is possible and permissible to assign an IP address via a connected DHCP server, this might mean that in case of an interrupted network connection a new and different DHCP address will be assigned, making it necessary to repeat the registration all over again.

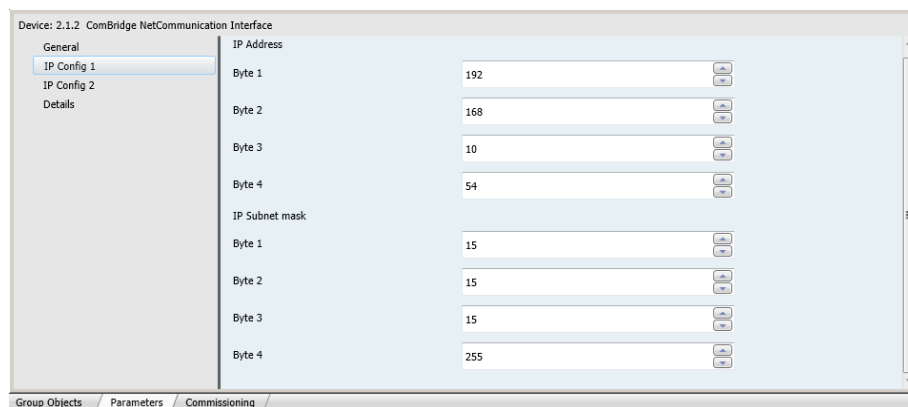
If, as recommended, a fixed IP address is used, the gateway needs to be set first to manual IP assignment. In the example of the IPAS ComBridge NCI gateway the settings are performed in the device's ETS parameters:



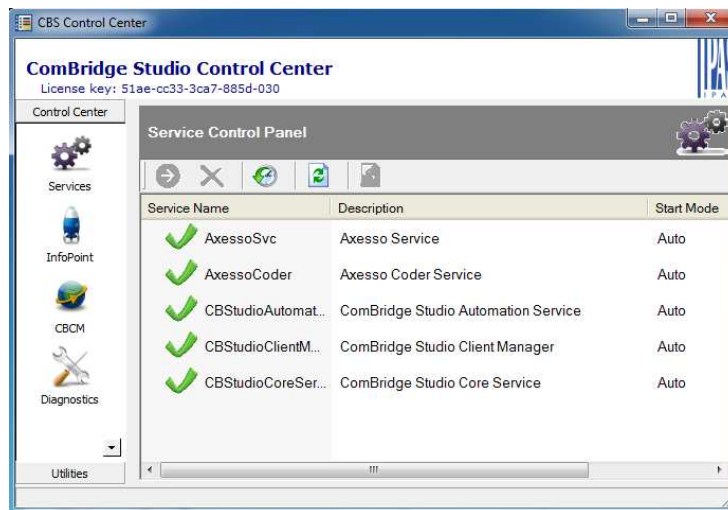
In the example the chosen name **Device Name** axesso has been assigned in the ETS.

Attention: Please do not use spaces as part of the device name!

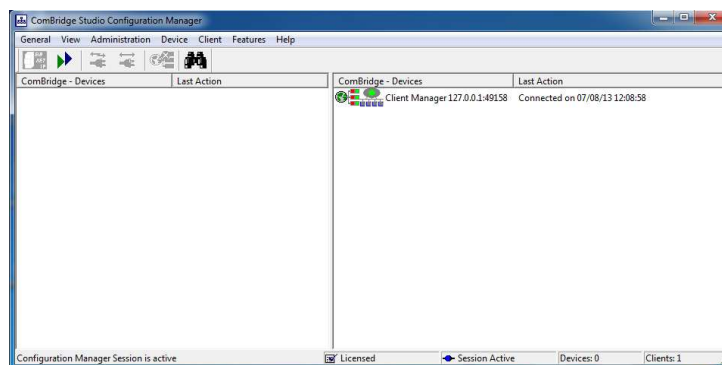
When assigning a fixed IP address please make sure that the chosen address is within the permitted range. Please do coordinate the address assignment with the responsible network administrator. The following example shows the address setting 192.168.10.54 for the IPAS gateway in the ETS:



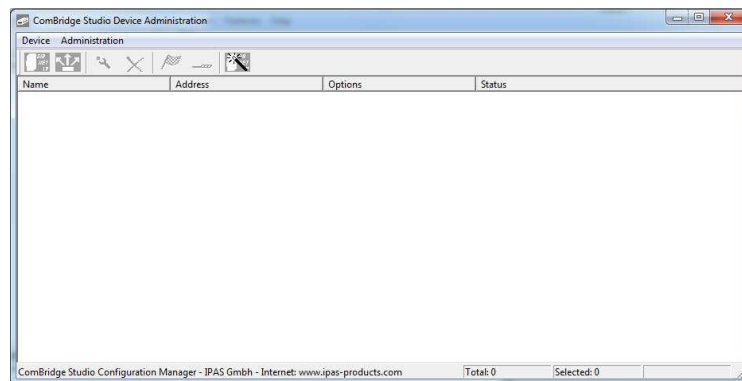
If the gateway settings have been configured in the ETS and loaded onto the device, the gateway can be registered in the Configuration Manager via the CBS Control Center. Start the Control Center via the corresponding ICON on the Axesso Server. Please remember to start the program with administrator rights.



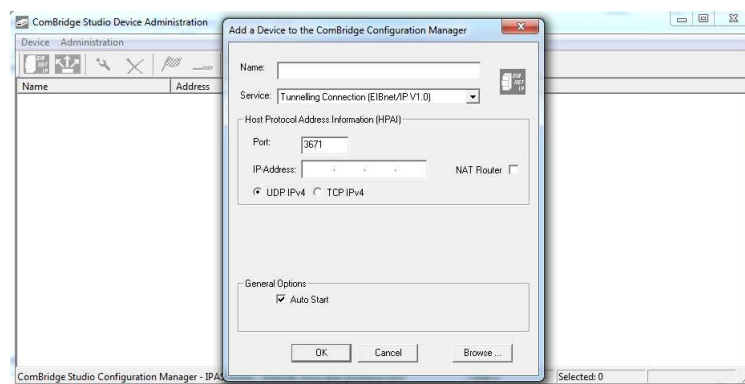
Now open the ComBridge Configuration Manager (CBCM) by clicking on the CBCM symbol in the Control Center.



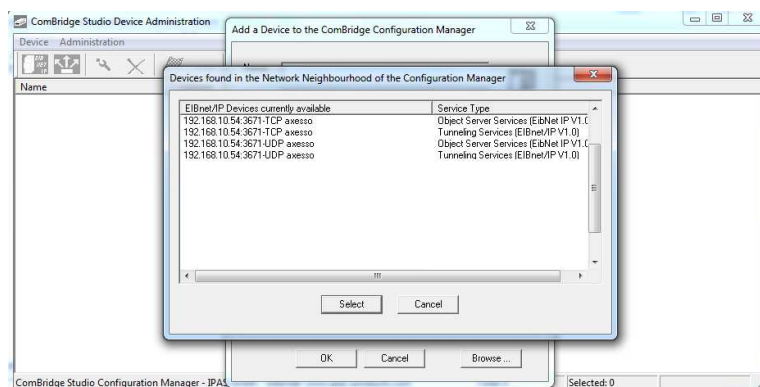
The field on the right hand side of the *Configuration Manager* shows the services connected to the system (Standard: Client Manager). On the left hand side the connected gateways are displayed. To add the Axesso IP gateway, please click on the **Devices** button in the top left hand corner. The **Device Administration** window appears.



A further click on the **Add-Device** button at the top left opens the Device Editor window.

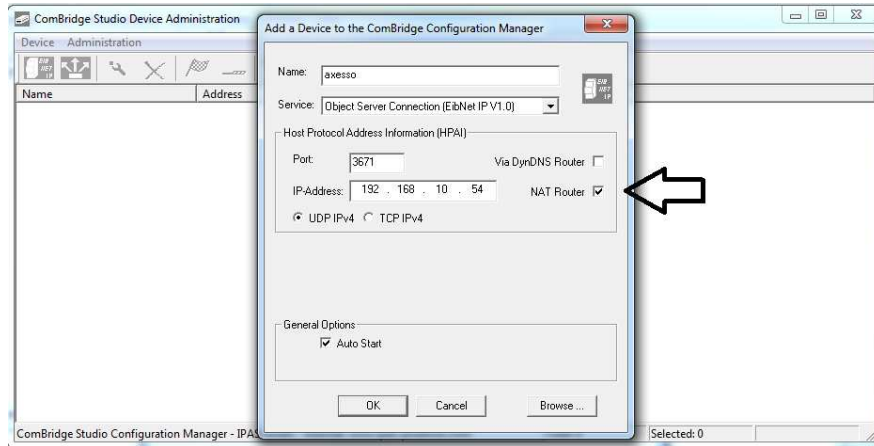


This window is used to either manually set the details of the IP gateway that is used for the connection (see ComBridge Studio Manual) or to search for the IP gateways that are connected to the network via the *Browse* button. The search brings up all IP devices that are connected to the network with their set IP address and the device name that has been configured in the ETS.



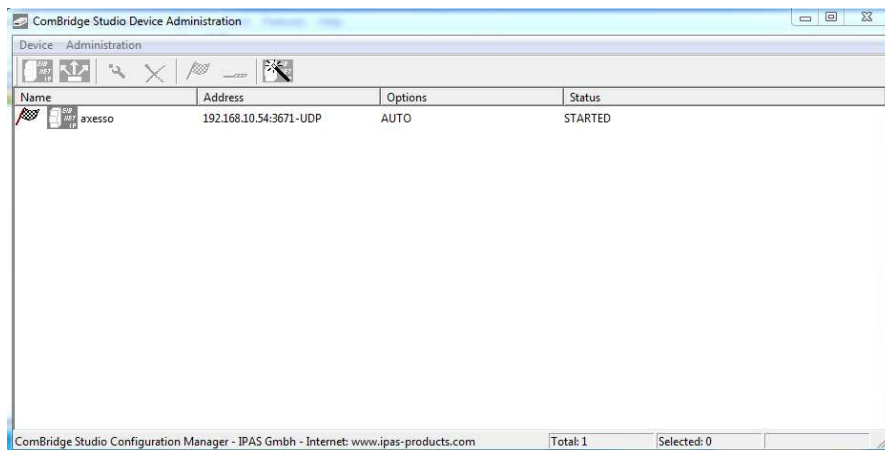
If an IPAS gateway is used for the IP connection, please note that every IPAS gateway allows several connection types, which will be displayed simultaneously in the browse window (e.g. NCI 4 connection types, WCI 2 connection types). For the Axesso

application, please use the UDP connection via the Object Server Service. Once the appropriate connection has been selected and confirmed via the Select button, the device details are automatically inserted into the **Device Editor**.



Before you confirm your entries in the window with OK, you must tick the NAT Router box.

The connected gateway is then displayed in the gateway list in the **Device Administration** window.



The flag in front of the gateway name in the list symbolises a successful connection. The windows for the Configuration Manager can now be closed one by one.

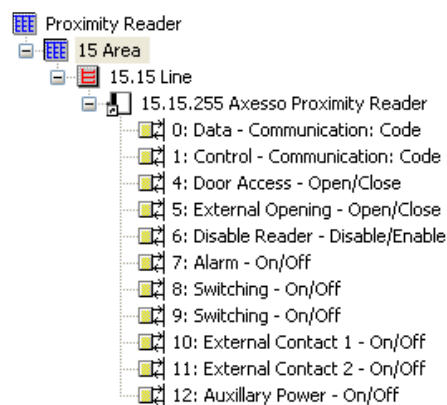
2.5. Commissioning the readers in the ETS

In order to commission and configure the Axesso readers, application programs are available for the ETS (from version ETS-3 upwards).

To commission the transponder readers, please use application:

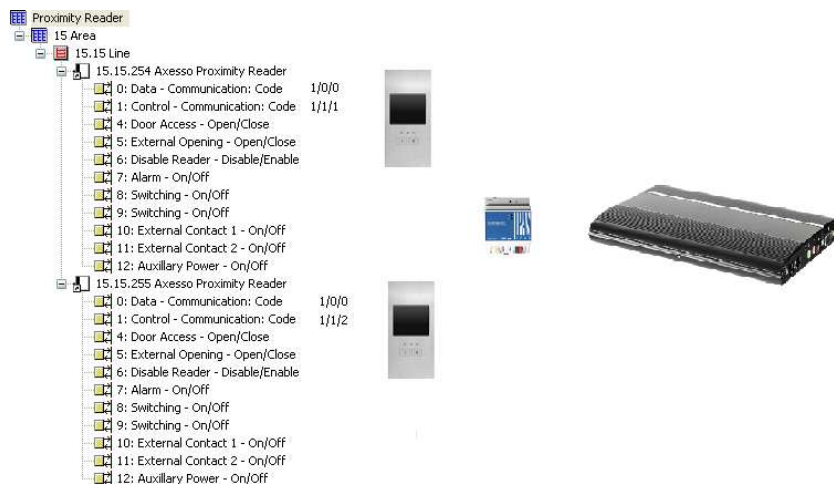
3707-ProxReader-01-0101

The Axesso Server software and the readers communicate via two 14Byte long communication objects of type EIS 16. Within the application programs, object numbers 0 and 1 are reserved for the communication.



When a room is accessed, object number 0 called "Data" is used to transmit the CardID to the server software for identification purposes (reports, time management). Object number 1 "Control" is used for the bi-directional data and command exchange (including programming of the AccessCode) between readers and software. In order to ensure that the system functions properly, both objects need to be linked with group addresses. To transmit data within the communication object types, an encryption algorithm is available in the Axesso System.

When linking the group addresses, it is important to ensure that the data object of all readers used in the system is linked to the same group address whilst the control objects of the individual readers should be linked with different group addresses. For example:



Additional parameters and objects are available in the application program for configuration and additional functions. Apart from the objects for data exchange with the software that were described above, the following communication objects are available:

Obj. 4: Door Access – Open/Close

The card reader sends a 1 Bit open telegram via this object when a valid card is placed in front of/ into the reader. After a configurable time period the object is changed to closed and re-sent. The object reacts in response to the internal binary output on the card reader. It can be connected directly if a switch actor (instead of the internal contact) is used to control the door opener.

Obj. 5: External Opening – Open/Close

This object is used to initiate the opening of the binary contact in the card reader via a 1-telegram to the KNX bus. The duration of the opening can be configured just as the opening with a valid card.

Obj. 6: Disable Reader – Disabled/Enabled

This object can be used to disable the reader via the KNX bus. A disabled reader remains inactive even if a card is valid. A permanently red LED on the reader indicates that it has been disabled. The reader is only active again once it has been enabled via a 0 telegram.

Obj. 7: Alarm – On/Off

An alarm telegram (1-telegram) is sent via this object if an unauthorised removal of the reader from its mounting box is attempted (magnet switch). The alarm can be used, for example, to activate an alarm bell or switch on the main lights.

Obj. 8: Switching – On/Off

A switch telegram (depending on the chosen function) is sent via this object when the right-hand (or central) pushbutton is pressed.

Obj. 9: Switching – On/Off

A switch telegram (depending on the chosen function) is sent via this object when the left-hand pushbutton is pressed.

Obj. 10: External Contact 1 – On/Off

A switch telegram is sent via this object if a connected external contact is activated.

Obj. 11: External Contact 2 – On/Off

A switch telegram is sent via this object if a connected external contact is activated.

Obj. 12: Auxiliary Power – On/Off

A 1-telegram is sent via this object when the required auxiliary power (12V / 24V) is missing from the card reader. Once the power is connected again, the object is re-sent with value 0.

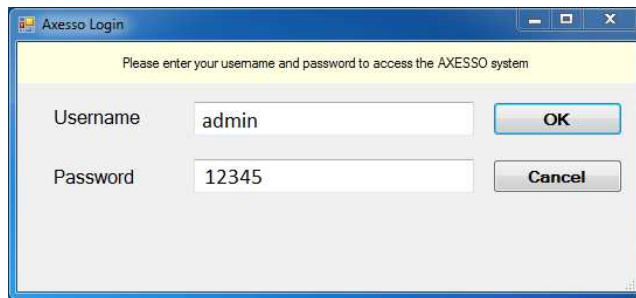
2.6. Setting the communication parameters in the Axesso Software

Once the readers have been configured and commissioned with ETS, the communication parameters as well as the rooms and card readers need to be set up in the Axesso Server Software.

To do this, please start the Axesso Director Software that is pre-installed on the server by double-clicking on the corresponding ICON

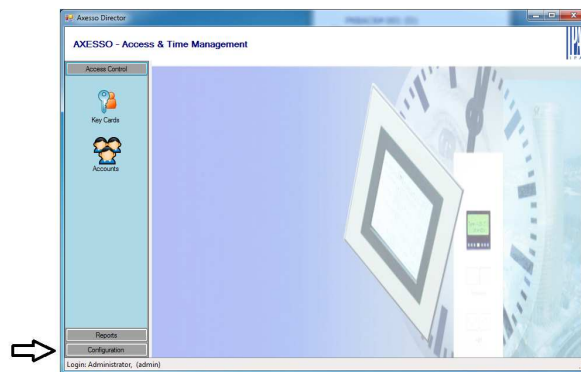


The program automatically responds with the log-in-screen:

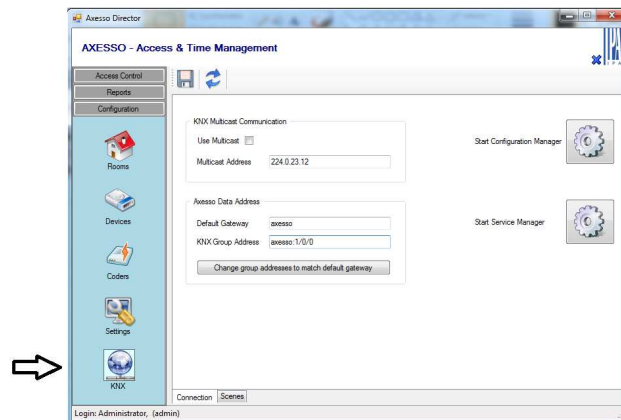


The first time, please log in as administrator with the default user name “**admin**” and the password “**12345**”. (User name and password can be subsequently changed and new users with new passwords can be created.)

If the log-in was successful, the Axesso Director starts with the following screen at Access Control level:



To set the communication parameters, please change to the Configuration level by pressing the corresponding button in the bottom left-hand corner and select KNX:



Please set the gateway and the corresponding group address that are to be used for the communication in the field "Axesso Data Address". The group address has to be in the following format: **<Device Name Gateway>:<Group Address>**.



For the chosen example this would be:

Number	Name	Object Function	Descript...	Group Addresses	Leng...	C	R	W	T	U
0	Data	Communication: Code		1/0/0	14 Byte	C	R	-	T	-
1	Control	Communication: Code		1/0/1	14 Byte	C	R	W	T	-
4	Door Access	Open/Close			1 bit	C	R	-	T	-
5	External Opening	Open/Close			1 bit	C	-	W	T	-
6	Door Reader	Disable/Enable			1 bit	C	-	W	T	-
13	Auxiliary Power	On/Off			1 bit	C	R	-	T	-

The device name of the gateway arises from the setting in the parameters of the KNXnet/IP gateway. The group address arises from the common group address for all

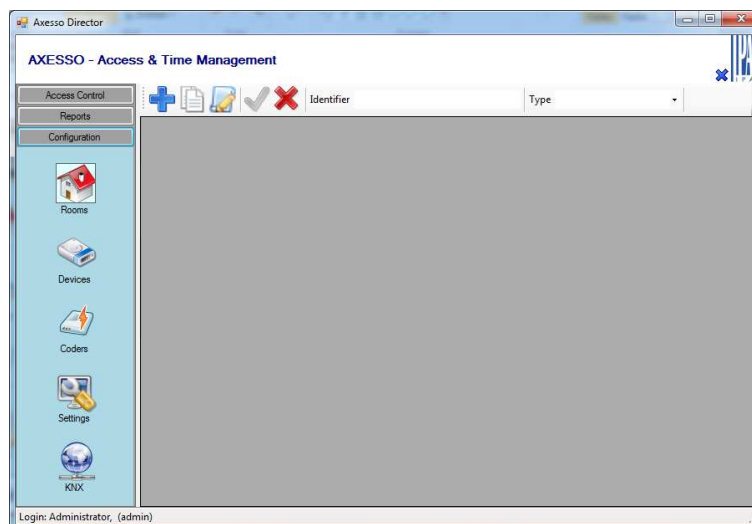
objects number 0 in the connected readers. When displaying the group address, please choose the three-step display format. Use “/” as a separator as usual. Do not insert any spaces between the device name, the “.” character and the group address.

After entering the Axesso Data Address, please confirm your entry by pressing the **Save**


Data button  in the top bar. Use the **Reload Data** button  to cancel an entry and restore the previous setting. **Please remember to re-start the AxessoSVC Service after changing the Data Address. This can be done either by re-starting the computer or manually through the Service Manager.**


2.7. Setting up rooms in the Axesso Software


The next step is to set up the existing rooms in the software. Please change to the **Rooms** page to do so.




You need to set up all the individual rooms that are to be part of the system. For identification and classification purposes, the fields Identifier and Type are available for each room.

To add a new room, please press the **New Room Record** button . Enter the **identifier** (name) of the new room and select the corresponding room type from the **Type** field. Use the tick box **Is Public Area** to determine whether the access is to an area that is open to the public. Once you have completed your entries, please press the **Apply Room**

Modification  button to save the details. You can also copy a previously created

room. To copy, please use the **Copy Selected Room** button . The entries are automatically entered into the top bar and can now be modified. After modification, please

press the **Apply Room Modification**  button. If you would like to cancel an entry,

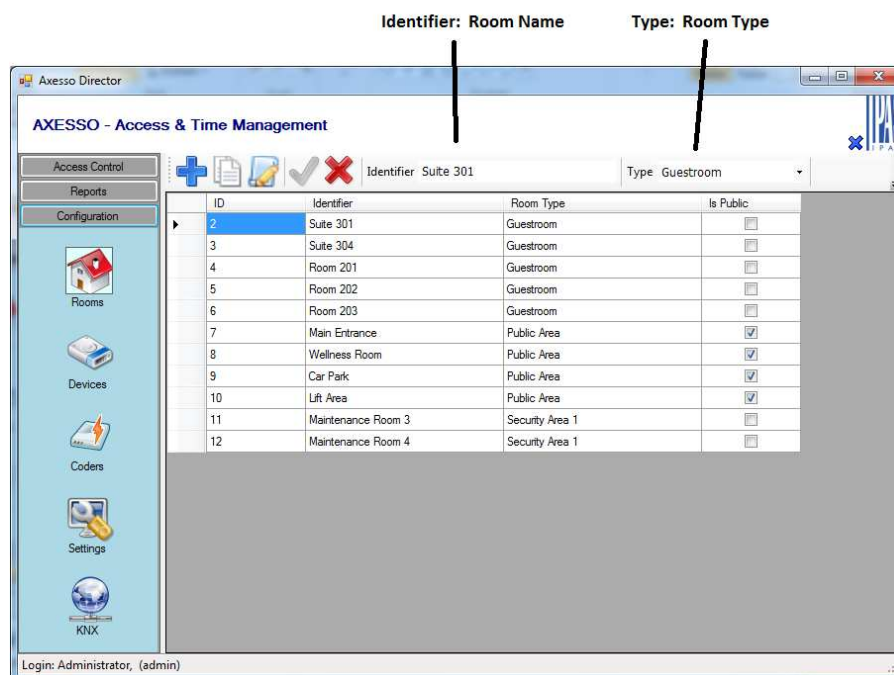
simply press the **Cancel Edit Mode** button . To change an existing entry, use the

Edit Selected Room button .

Press the **Remove Room** button  to delete a previously saved room.

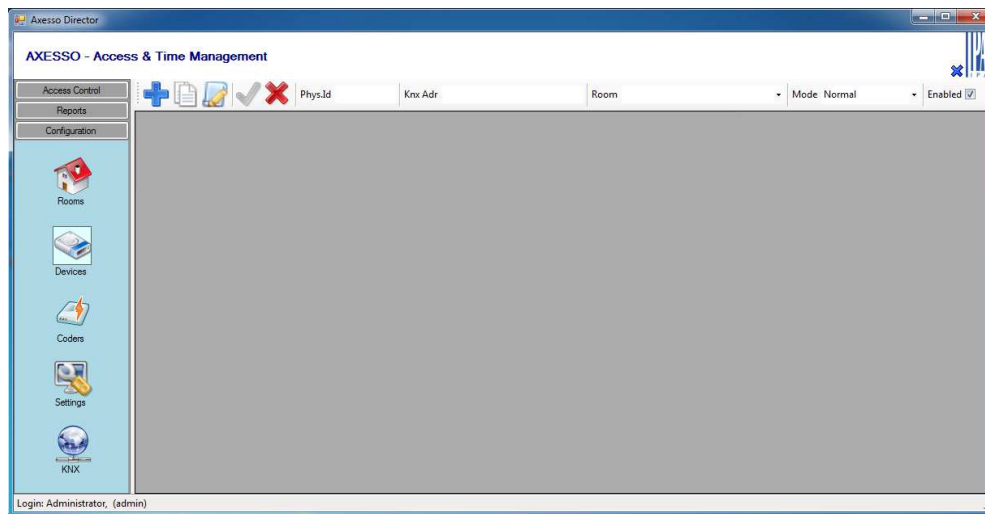
Please set up all required rooms.


For example:




2.8. Setting up readers in the Axesso Software

Once all the required rooms have been created, you can set up the card readers in the software, which will be used to access the rooms. For this purpose please change to the Devices page.

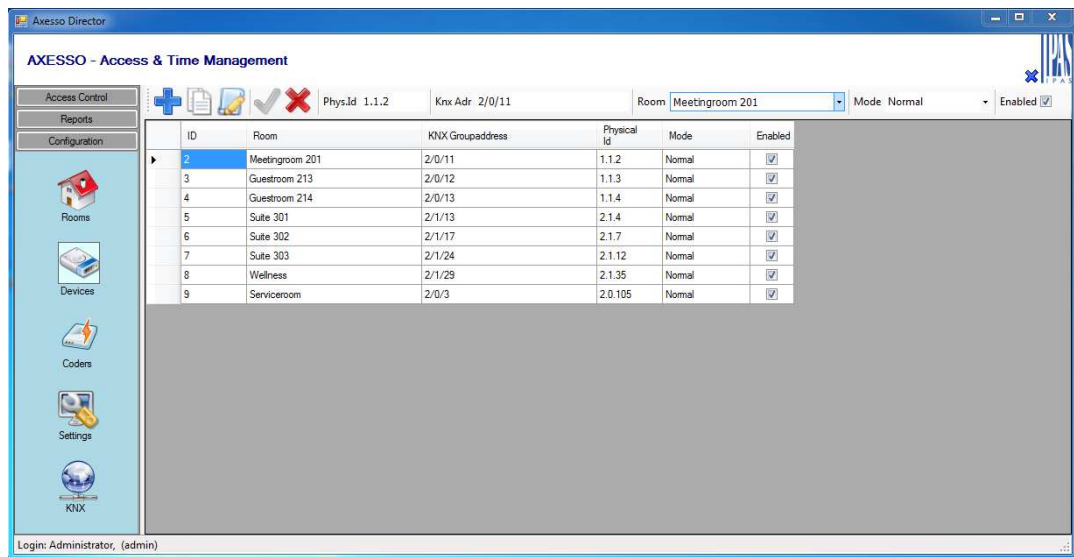


Please use the  button to add card readers (**New Device Record**).

To set up the readers, please choose the room that you want to assign a reader to from the **Room** field on the right. Then set the physical address and the group address (incl. Gateway Device Name) and confirm your entries by pressing the **Apply Device**

Modification  button. Please remember that physical addresses are entered in the usual format BB.LL.TT without spaces. The group address entry refers to the control object (Nr. 1) of each reader. Use **Mode** to select whether the reader should also be used for time recording (Incoming, Reader). You can also temporarily disable a reader by un-ticking the Enabled box.

When assigning the readers, please remember that several readers can be assigned to one room (several entries or card reader and card holder in hotel applications → see below). When access to the room is enabled for a user, the access codes are automatically programmed onto all readers for the room. The following example shows a usual device page:



The buttons

Copy Device



Edit Device Data



Remove Device



Cancel Edit Mode



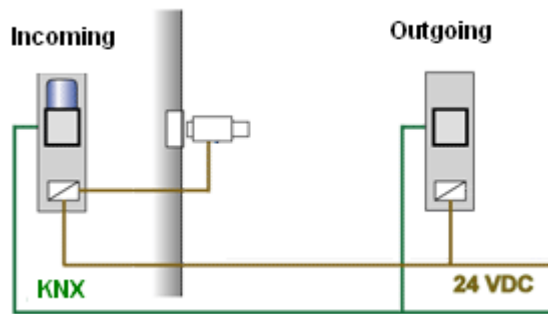
are used analogously to the room pages.

After the communication parameters have been set, the rooms created and the card readers set up, the Axesso System is in principle ready for operation.

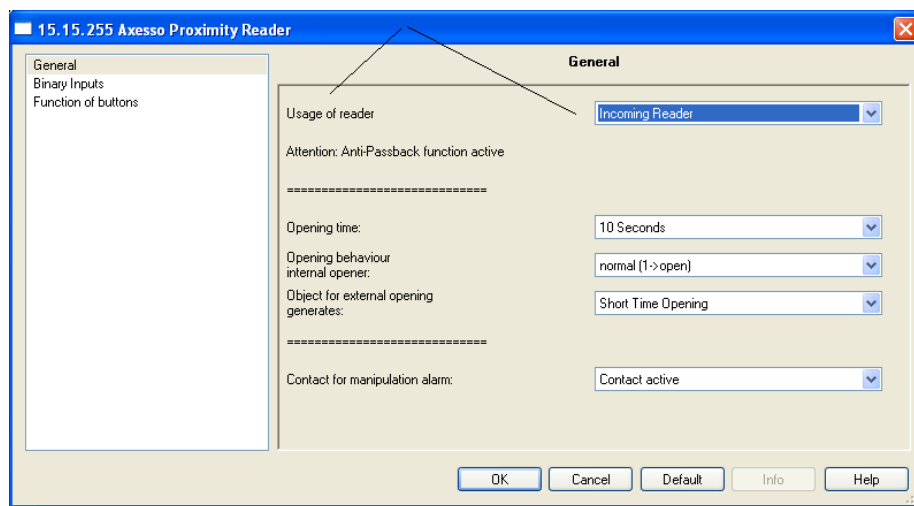
2.9. Anti-passback function of the Axesso System

If the system is used for the main entries of larger buildings or premises, it makes sense to activate the anti-passback function of the readers at the entries and exits. In this case the card can only be used for one entry. After the incoming reader has been activated, the card is blocked for further entries. Only once the exit reader has been passed, the card is ready for the next entry. This function is used particularly in combination with turnstiles or similar entry systems. It ensures that a card is not used by several people by passing it across the turnstile.

Of course the anti-passback function can only be used sensibly when both incoming and outgoing readers are installed.



Whether a reader is used for entry or exit is determined in the ETS parameters of the device.



2.10. Using IP card programming devices

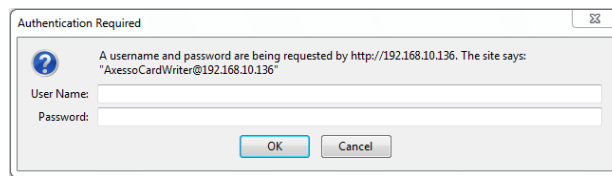
The access details on a new card are programmed with the Axesso Card Programmer. In addition to the programming devices that are directly connected to the Axesso Server, devices with an IP connection are also available.



To use the programming device, simply plug it into the power supply with the supplied mains adapter and connect it to the IP network that links the Axesso Server with the IP gateway via a standard patch cable. The sockets for both the patch cable and the mains adapter are located on the front side of the device.

By default, the device has the fixed IP address **192.168.1.134**. If you switch on the power supply, the current IP address is displayed for 30 seconds. You can change the IP configuration via the website. To enable the change, please use, at least temporarily, the same IP range 192.168.1.xxx.

Access to the website is password-protected. After loading the IP address in the browser, the log-in window appears first.



Authentication Required

A username and password are being requested by http://192.168.10.136. The site says:
"AxessoCardWriter@192.168.10.136"

User Name:

Password:

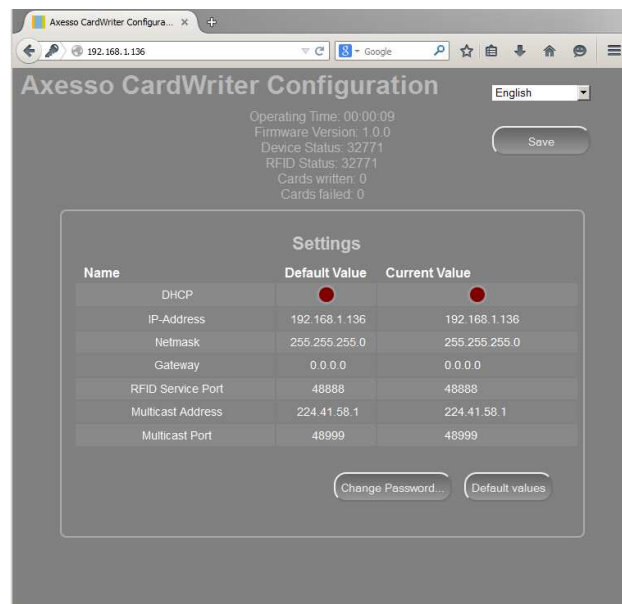
OK Cancel

By default, the access details are the following:

User: admin

Password: 12345

Once the password has been entered correctly, the following configuration page opens:



Axesso CardWriter Configuration

Operating Time: 00:00:09
Firmware Version: 1.0.0
Device Status: 32771
RFID Status: 32771
Cards written: 0
Cards failed: 0

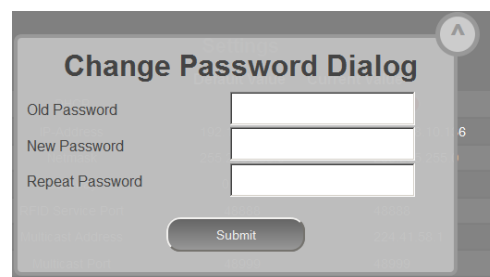
Save

English

Name	Default Value	Current Value
DHCP		
IP-Address	192.168.1.136	192.168.1.136
Netmask	255.255.255.0	255.255.255.0
Gateway	0.0.0.0	0.0.0.0
RFID Service Port	48888	48888
Multicast Address	224.41.58.1	224.41.58.1
Multicast Port	48999	48999

Change Password... Default values

The IP settings can now be edited and changed in the right-hand column "Current Value". The field for DHCP can also be clicked on and changed. A red dot means "no DHCP", a green dot means "DHCP enabled". Use the "Save"-Button to load the new data onto the device. After a reboot the device is operational again. The access password can also be changed via the website. If you press the "change password" button, a new window appears to set the password.



Change Password Dialog

Old Password

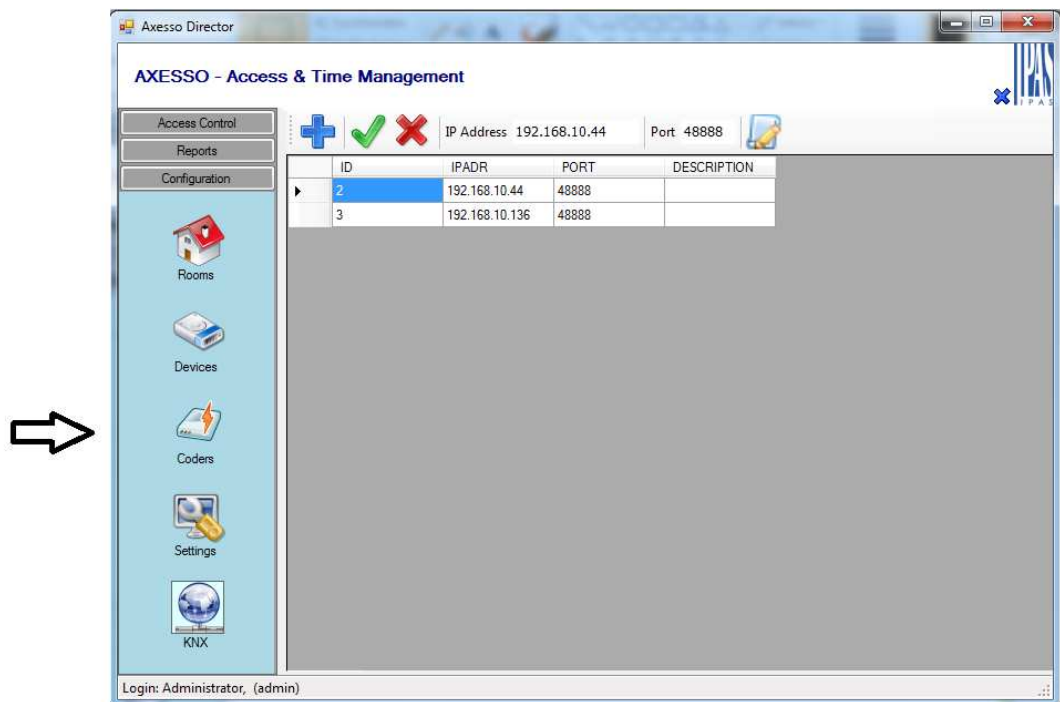
New Password




Repeat Password


Submit

Please make a note of the new password as a reset is only possible through a firmware update.

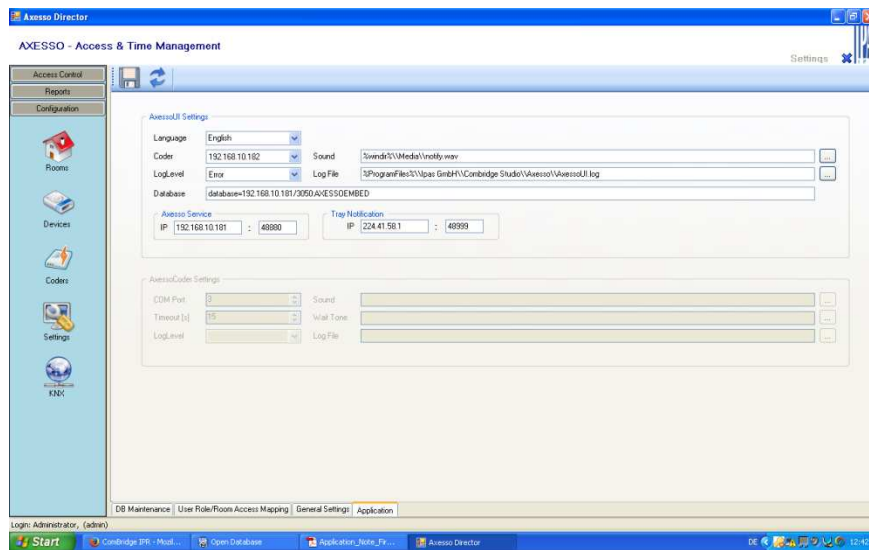
Once the IP settings for all required card programming devices are done, the readers need to be registered with the Axesso server. For the registration, please go to the configuration level and select coder.



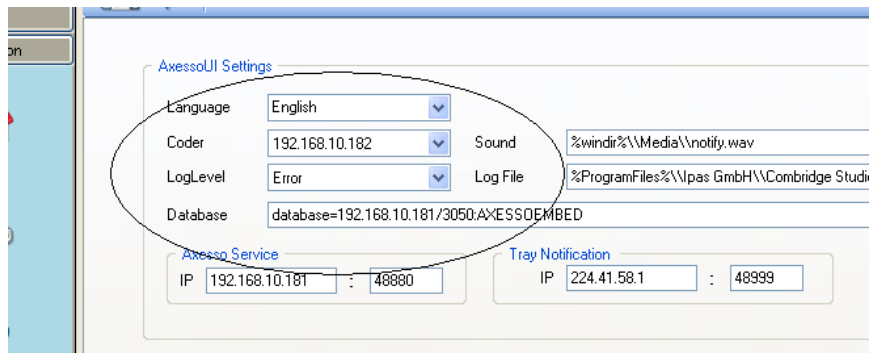
To add a new room, please press the **New Coder Record** button . Enter the **IP address** and **port number** of the card programming device. You may also add a description text via the **Edit Description** button . Press the **Apply Modification** button  to save the details.

If you would like to delete an already existing programming device, simply use the **Delete Coder** button .

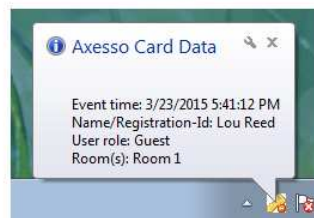
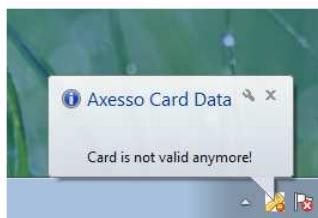
Once set up in the Coder menu, the programming devices are ready to be used at the corresponding work station. Please remember that each work station (Axesso Server and each Axesso Client) can only be assigned one reader. To assign the readers, please go to the Application folder in the Settings menu.



Under the Coder setting for each client, you can set the coder you wish to use to program the respective client.

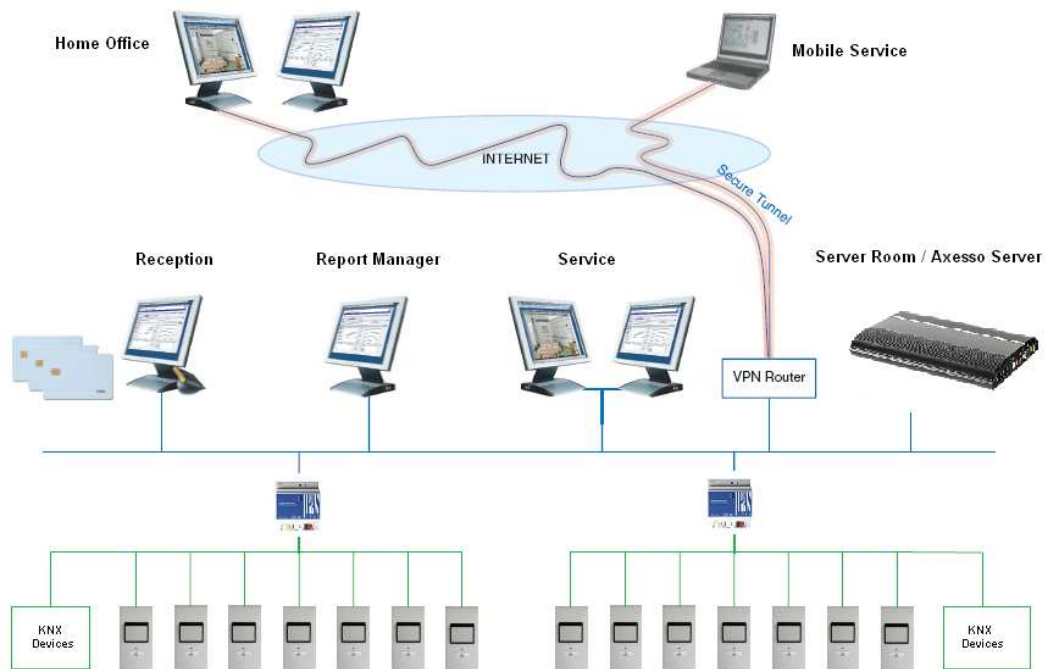


Once all settings are completed and the connections active, the card programming devices are operational. If you place a card onto one of the programming devices, an info window appears a few seconds later in the bottom right-hand corner of the screen showing the status of the card.



2.11. Using the Axesso Software from additional operator stations

The concept of the Axesso software makes it possible to use the software from additional operator stations. This way the Axesso Server with the sensitive card holder information can be installed for example in a safe server room whilst the operator stations used to generate the cards or to administer and generate reports can be set up locally for the respective service or administration employees. The additional software package Axesso Client has to be installed for each operator station. Please remember that the Axesso Client Software is only available for computers with a Microsoft operating system (Windows 7, Windows 8 are required). The Axesso Client software accesses the server via the IP network.



3. Operation and function of the Axesso Director software

The Axesso server with the Axesso Director software is the central component within the Axesso access control and time management system. The software fulfils the following tasks which are described in detail in the next chapters:

- Setting up and administering users and generators of access cards
- Communication with connected readers, downloading access codes
- Creating scenes that are assigned to card holders
- Overview of access data and alarms as well as generating reports

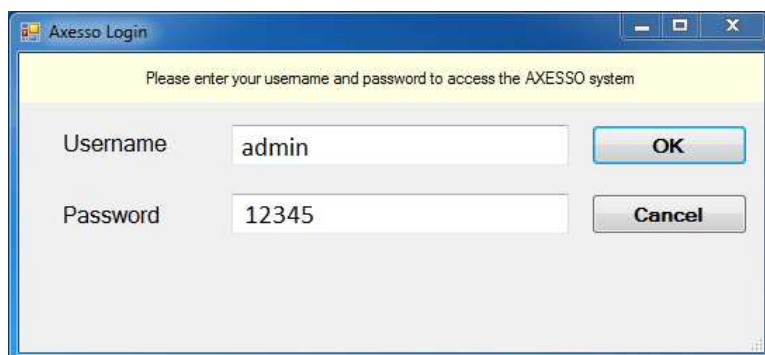
For the system administrator there are further requirements that are covered by the software:

- Commissioning the system, setting up rooms and readers
- Creating scenes
- Database maintenance and administration

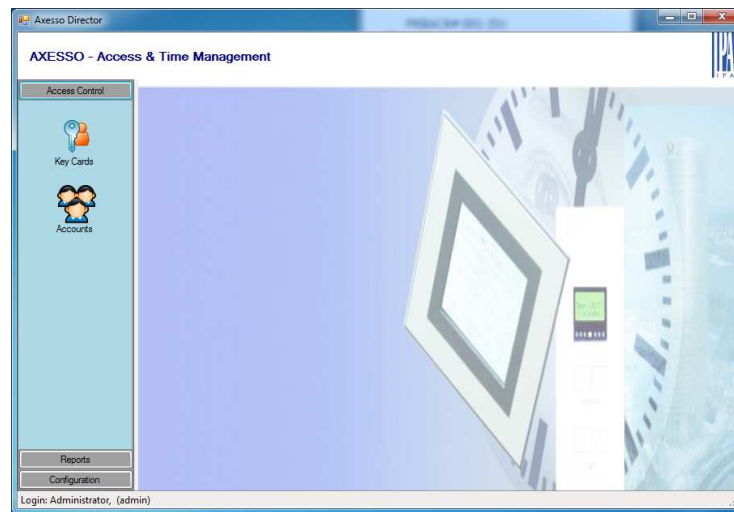
The Axesso Director software is completely pre-configured on the Axesso Server. Double-click on the corresponding ICON on the desktop to start the software.



After the start the software's login screen appears in the browser window.

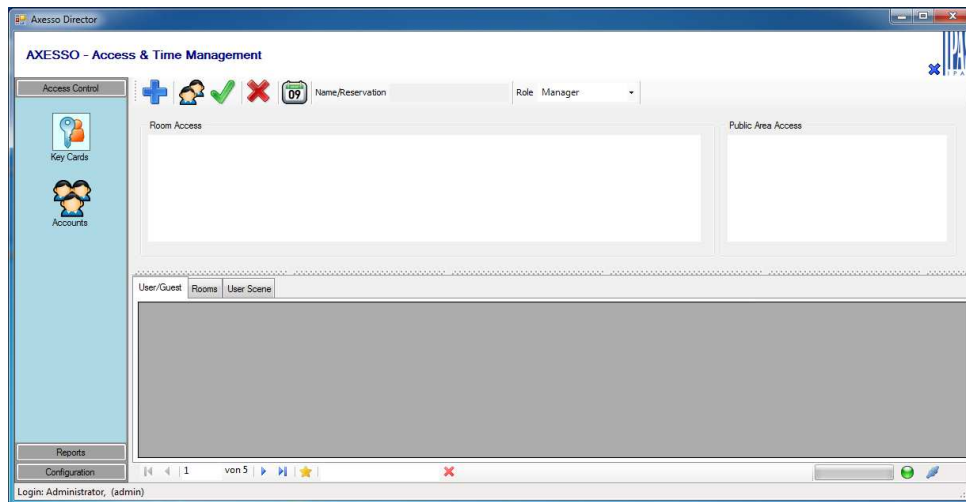


Once you have logged in using the user name and password assigned by the system administration, the software opens the following start-up screen.

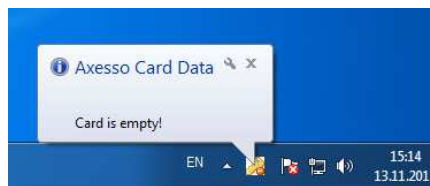


3.1. Setting up new card holders and generating access cards

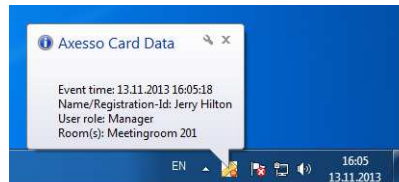
Go to **Key Codes** on the **Access Control** level to set up new card holders and to create and delete cards.




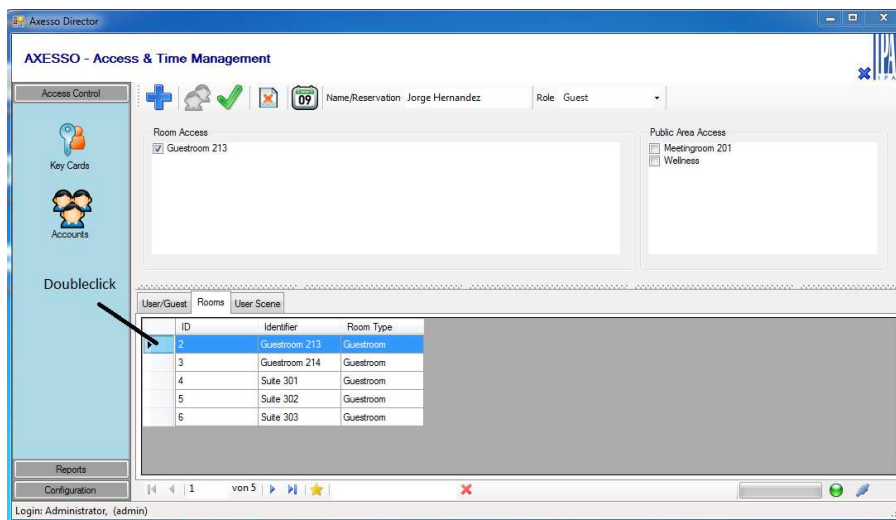
If you would like to create a card holder and an access card, please place an empty card onto the device's contact surface. The software checks whether the card is empty and the following information appears in the bottom right-hand side corner of the screen:




If the card has already been programmed, the card holder's details are displayed in this window:



Use the **Prepare New Key Card**  button to create a new entry. After pressing the button, please enter the name or the reservation number of the card user into the corresponding field. If you want to classify the card user, you can assign the entry to a specific user group (**User Role**). You can now select all rooms that you want the card holder to be able to access. To select one or several standard rooms, please click on the first cell for each room in the room list.



You can add public rooms by ticking the boxes on the right-hand side of the screen. Once all settings are complete and the rooms have been assigned, press the **Apply**

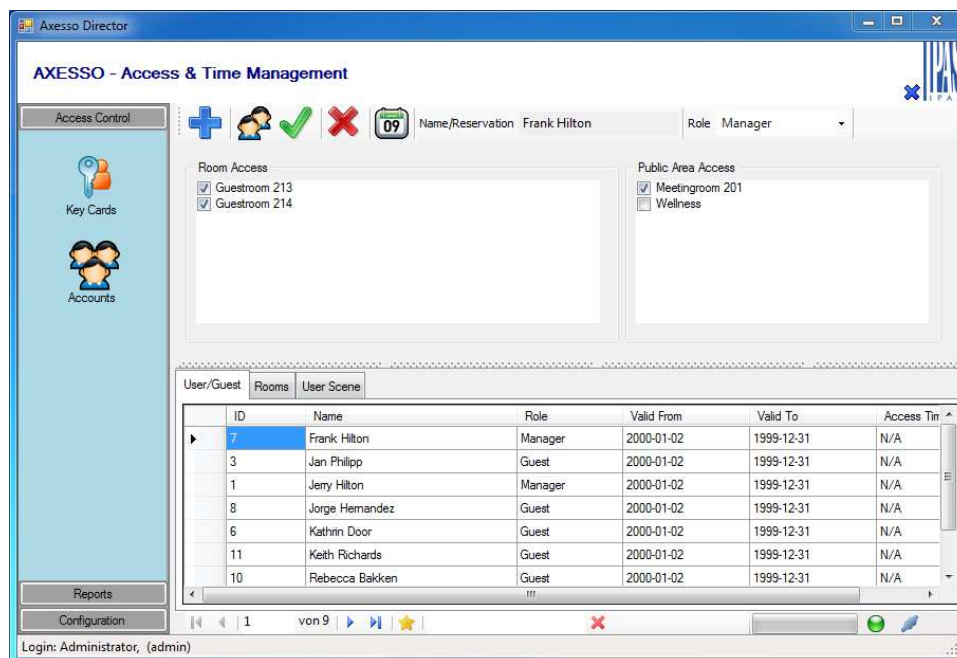
Modification button  to confirm your settings. Access and cardID code will now be written onto the card that is placed on the programming device. At the same time the software programmes the access codes onto the connected card readers. Whilst the

readers are being programmed, a progress bar shows the status of the programming process.

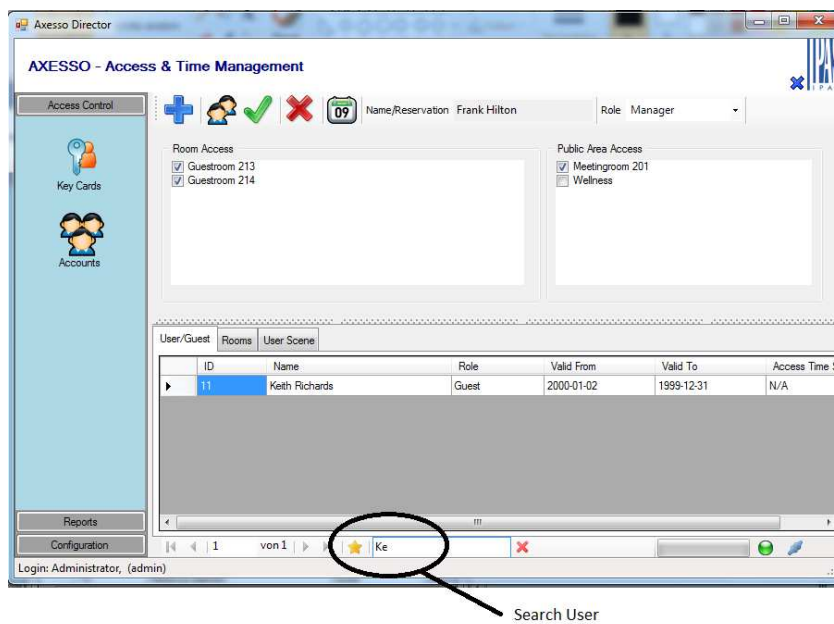
Once the programming process has been completed successfully, the access details are saved both on the card and the card reader. The programmed card now allows access to the corresponding rooms.

3.2. Search functions for users and cards

The previous chapter focused on setting up card holders and the corresponding cards. Change to the tab **User/Guests** in the **Key Cards** view to display all users that have been created in alphabetical order.

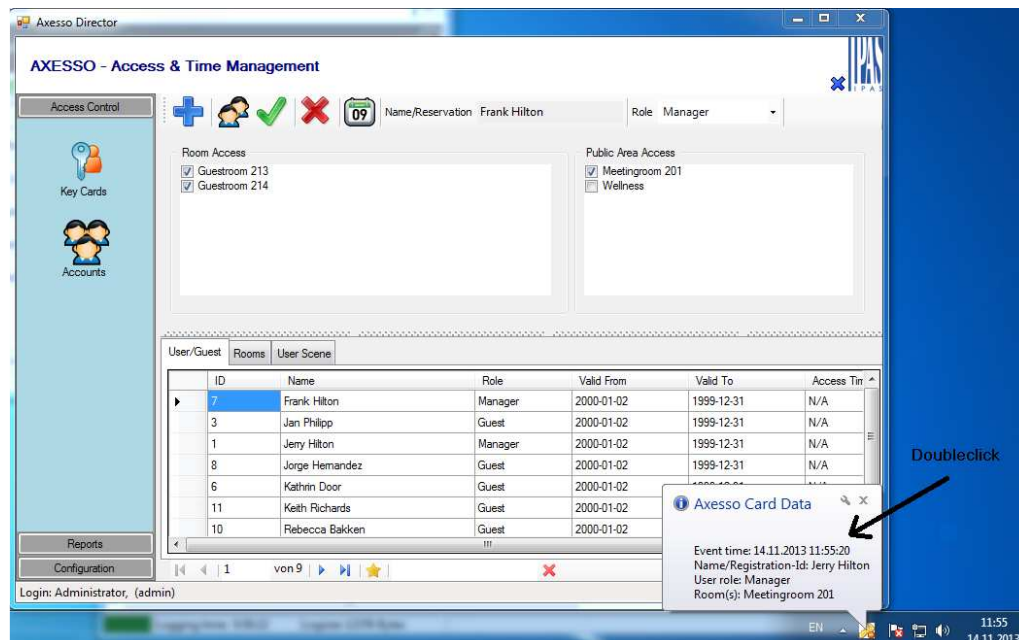


If you would like to search for an existing user in the database, use the search function **Search User** at the bottom of the window. Enter the first letters of a name to reduce the number of entries. Only matching entries will be displayed.

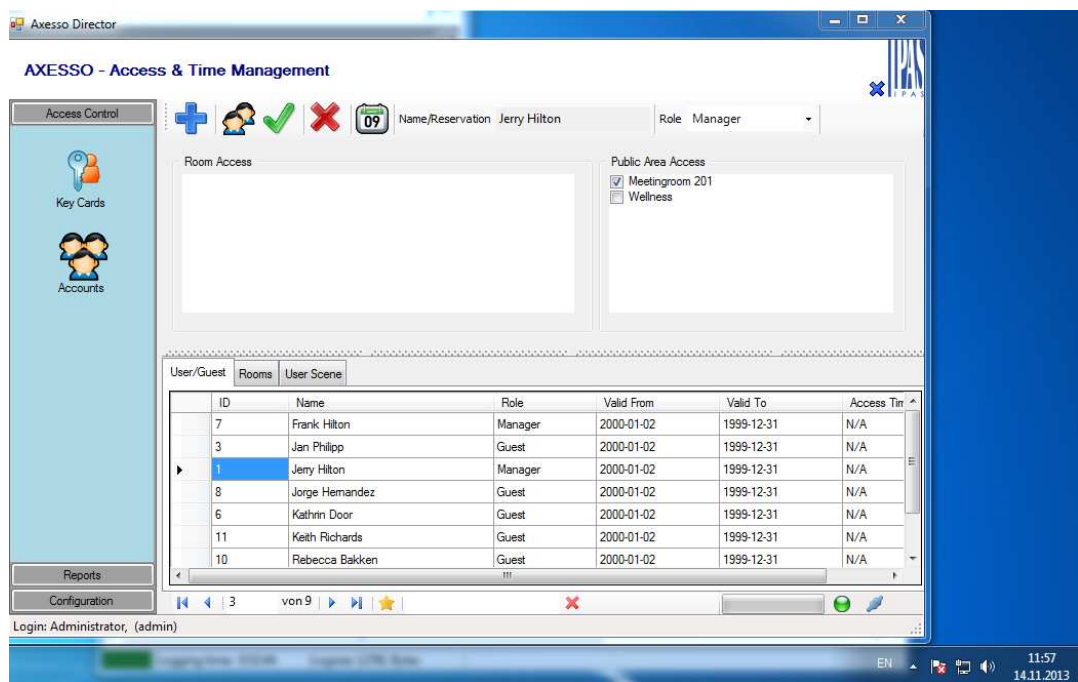


To search for a string of characters or part of a name you can use the % operator. % replaces previous characters (e.g. a first name). This means that in the above example you could search for the surname by entering "%Richards".

If you place a card onto the connected card programming device, a window appears briefly in the bottom right-hand corner, which shows the card details.



If you double-click on the window, the card holder is selected and the details appear in the entry fields at the top whilst the window disappears automatically.




The user that corresponds to the card can thereby be selected quickly and easily.

3.3. Changing card holder details

If you would like to change the details of a card holder or extend the card holder's access rights (access to additional rooms), you can make these changes also on the Key Cards screen.

If you have the card holder's card at hand, place it onto the connected programming device. The software recognises the card holder and displays the holder's details in the window at the bottom. Double-click on the window to automatically select the user. The window disappears.

You can now directly make the required room changes. You can delete previously assigned rooms by removing the tick and add new standard rooms through a double-click on the first cell of a room in the room list. Press the **Apply Modifications** button  to change the entries both in the database and in the card readers.

Data can also be modified without the existing card. You can search for and select the user whose details you would like to change via the software's search function (see above).

Once the details have been changed, press the **Apply Modifications** button



3.4. Cancelling access cards

To cancel a card, place it onto the programming device. The software recognises the card holder and the window with the card holder's details appears. If you double-click on the window the user is automatically selected and the window disappears. Pressing the



Remove User button removes the access codes from the readers and deletes the card content. The card now has no longer access to the rooms.

The card holder's details remain in the database and can be analysed via reports. Only the system administrator can remove the card holder's details completely from the database (see chapter 4.2).

Access details can also be deleted without placing the card onto the programming device. In this case, select the user via the search function and press the **Remove User** button



. In this case the card still exists and is not empty. It still contains the programmed access codes. However, as the codes have been removed from the readers, the card no longer has any access function.

3.5. Generating identical card copies for a user

In some cases, a user may require several functionally identical cards. A second card can

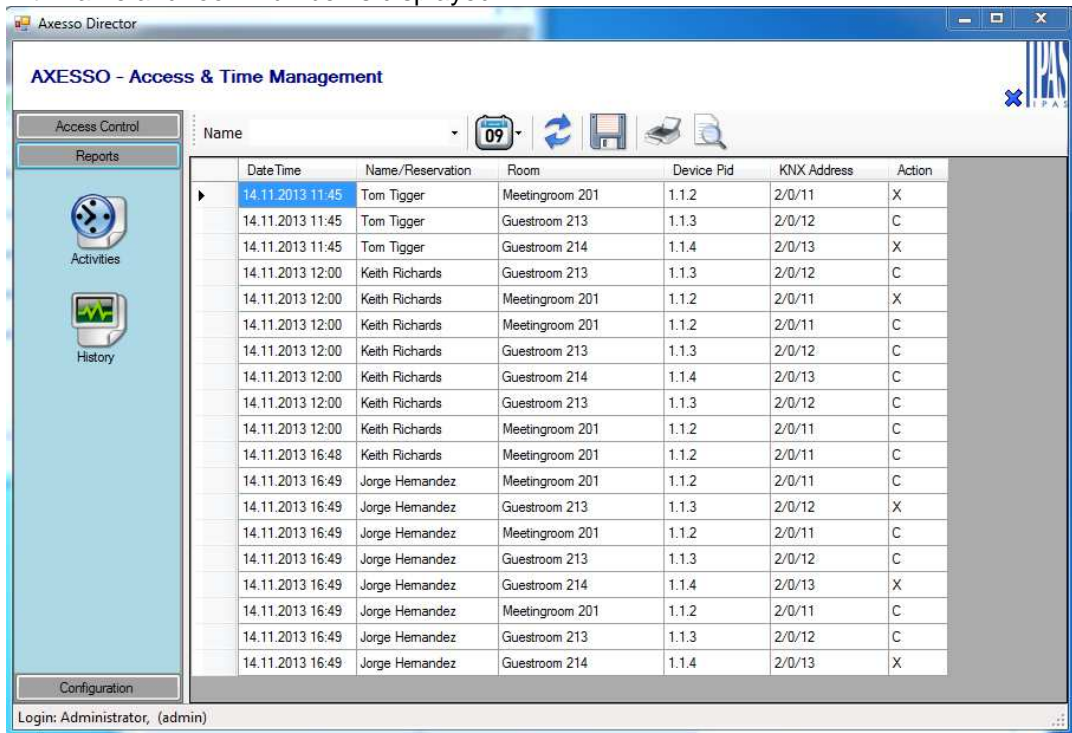


easily be created via the **Duplicate Keycard** button. Once the first card has been created (see above), simply place another empty card onto the programming device. Use the search function to select the right user and press the **Duplicate Keycard** button. This creates a second card identical to the first one. Please remember that when a card is cancelled, the copy also becomes invalid.

3.6. Axesso Software protocol function

In addition to managing users and creating cards and access codes, the Axesso Director Software is also used to record events. For this purpose, the two options **Activities** and **History** are available in the **Reports** view.

If you select the **Activities** element, a chronologically ordered list of all access attempts with name and room number is displayed

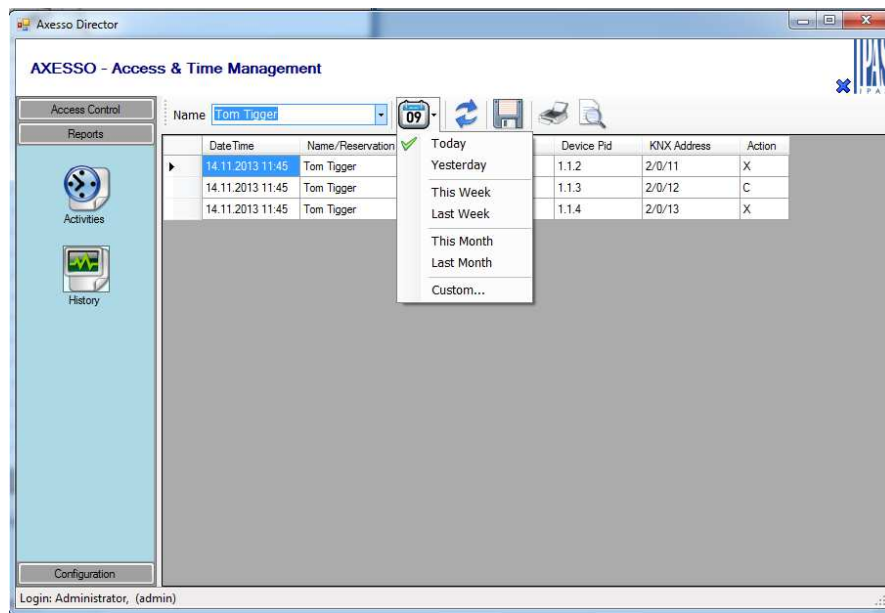


Date/Time	Name/Reservation	Room	Device Pid	KNX Address	Action
14.11.2013 11:45	Tom Tigger	Meetingroom 201	1.1.2	2/0/11	X
14.11.2013 11:45	Tom Tigger	Guestroom 213	1.1.3	2/0/12	C
14.11.2013 11:45	Tom Tigger	Guestroom 214	1.1.4	2/0/13	X
14.11.2013 12:00	Keith Richards	Guestroom 213	1.1.3	2/0/12	C
14.11.2013 12:00	Keith Richards	Meetingroom 201	1.1.2	2/0/11	X
14.11.2013 12:00	Keith Richards	Meetingroom 201	1.1.2	2/0/11	C
14.11.2013 12:00	Keith Richards	Guestroom 213	1.1.3	2/0/12	C
14.11.2013 12:00	Keith Richards	Guestroom 214	1.1.4	2/0/13	C
14.11.2013 12:00	Keith Richards	Guestroom 213	1.1.3	2/0/12	C
14.11.2013 12:00	Keith Richards	Meetingroom 201	1.1.2	2/0/11	C
14.11.2013 16:48	Keith Richards	Meetingroom 201	1.1.2	2/0/11	C
14.11.2013 16:49	Jorge Hernandez	Meetingroom 201	1.1.2	2/0/11	C
14.11.2013 16:49	Jorge Hernandez	Guestroom 213	1.1.3	2/0/12	X
14.11.2013 16:49	Jorge Hernandez	Meetingroom 201	1.1.2	2/0/11	C
14.11.2013 16:49	Jorge Hernandez	Guestroom 213	1.1.3	2/0/12	C
14.11.2013 16:49	Jorge Hernandez	Guestroom 214	1.1.4	2/0/13	X
14.11.2013 16:49	Jorge Hernandez	Meetingroom 201	1.1.2	2/0/11	C
14.11.2013 16:49	Jorge Hernandez	Guestroom 213	1.1.3	2/0/12	C
14.11.2013 16:49	Jorge Hernandez	Guestroom 214	1.1.4	2/0/13	X

Login: Administrator, (admin)

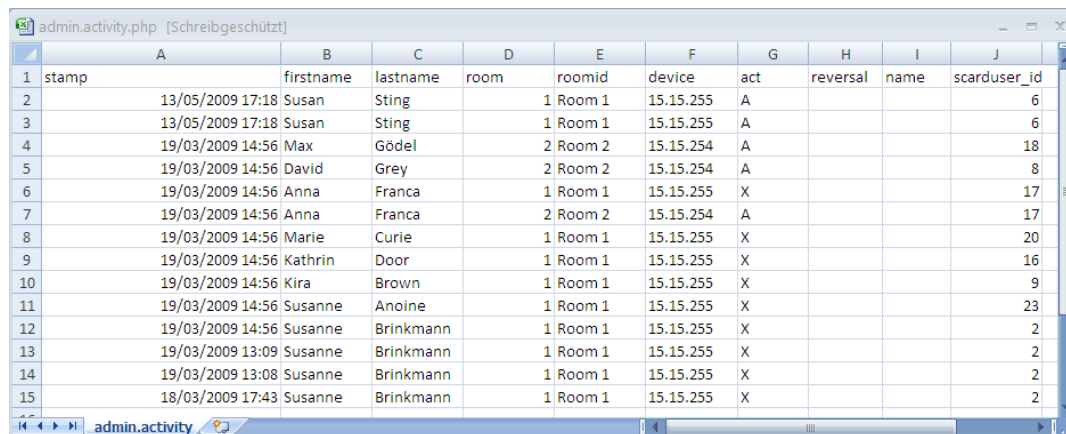
The list makes it possible to reconstruct at what time a card holder opened a specific door or tried to operate a card reader for a room to which he did not have access. The letter “C” indicates that the access was successful. “X” means that the card was used for a reader for which it did not have access rights.

The displayed list can be limited to certain users or time periods via the **SEARCH** function.





The entire activity list can be exported into a Microsoft EXCEL table via the **csv Export**

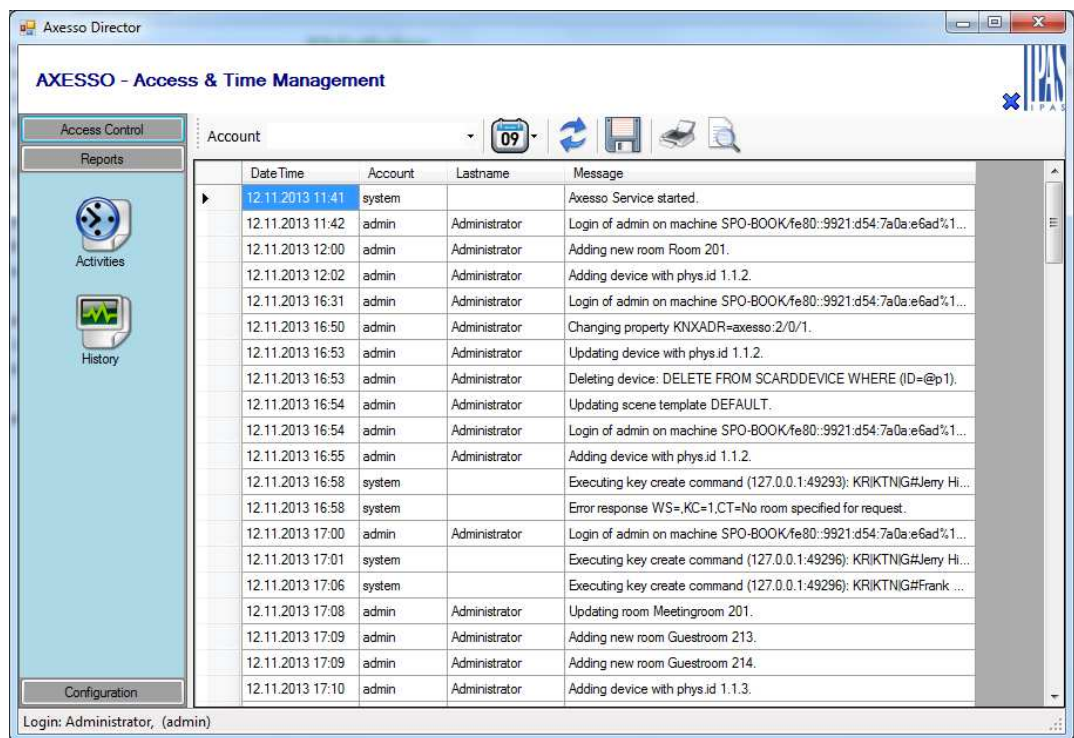
button .



	A	B	C	D	E	F	G	H	I	J
1	stamp	firstname	lastname	room	roomid	device	act	reversal	name	scarduser_id
2		13/05/2009 17:18	Susan	Sting	1 Room 1	15.15.255	A			6
3		13/05/2009 17:18	Susan	Sting	1 Room 1	15.15.255	A			6
4		19/03/2009 14:56	Max	Gödel	2 Room 2	15.15.254	A			18
5		19/03/2009 14:56	David	Grey	2 Room 2	15.15.254	A			8
6		19/03/2009 14:56	Anna	Franca	1 Room 1	15.15.255	X			17
7		19/03/2009 14:56	Anna	Franca	2 Room 2	15.15.254	A			17
8		19/03/2009 14:56	Marie	Curie	1 Room 1	15.15.255	X			20
9		19/03/2009 14:56	Kathrin	Door	1 Room 1	15.15.255	X			16
10		19/03/2009 14:56	Kira	Brown	1 Room 1	15.15.255	X			9
11		19/03/2009 14:56	Susanne	Anoine	1 Room 1	15.15.255	X			23
12		19/03/2009 14:56	Susanne	Brinkmann	1 Room 1	15.15.255	X			2
13		19/03/2009 13:09	Susanne	Brinkmann	1 Room 1	15.15.255	X			2
14		19/03/2009 13:08	Susanne	Brinkmann	1 Room 1	15.15.255	X			2
15		18/03/2009 17:43	Susanne	Brinkmann	1 Room 1	15.15.255	X			2

Use the **Print** button  to send the list to a connected printer. To generate a preview, please press the **Print Preview** button .

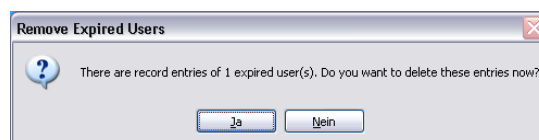
Apart from recording the data of the connected card readers, the **Axesso Director** also protocols any work carried out within the software. The corresponding list can be displayed via the **History** tab.



The **History** view can be used to display, for example, which user account has created a new card or card reader.

3.7. Semi-automatic deletion of card holder details (“Reminder function”)

For data protection reasons it may be necessary to delete the details of some users after a certain time period. For this purpose the software offers a “reminder function“. This function reminds the operator of data which have been stored on the database for longer than the allowed storage period. By default this function only applies to card holders in the user groups **Visitor** and **Guest**. The pre-set time period, after which a reminder is created, is 30 days. If the software recognises during login that the database contains card holders in the **Visitor** or **Guest** group who were set up more than 30 days ago, a reminder window appears.



If you confirm the notification by pressing the “yes” button, all details that belong to the user (personal details and activities) are removed from the database. If the “expired” user

still has a valid card, this needs to be cancelled first on the **Key Cards** screen (see chapter 3.5) before a selection is possible.

The reminder function for automatic deletion is only meant to help the operator. The details that are to be deleted need to be confirmed manually by selecting them individually.

Please remember to comply at all times with country-specific data protection requirements. The software operator has to ensure that all legal requirements are met and needs to instruct the operating personnel accordingly.

4. Additional Axesso Software functions for the system administrator

In addition to the user functions, the Axesso Director Software also contains important functions for the system administrator.

The functions for communication, room and reader set up, that are necessary for commissioning, were already explained in detail in chapters 2.4 to 2.6. The following chapters therefore only focus on the additional settings that are accessible to the system administrator.

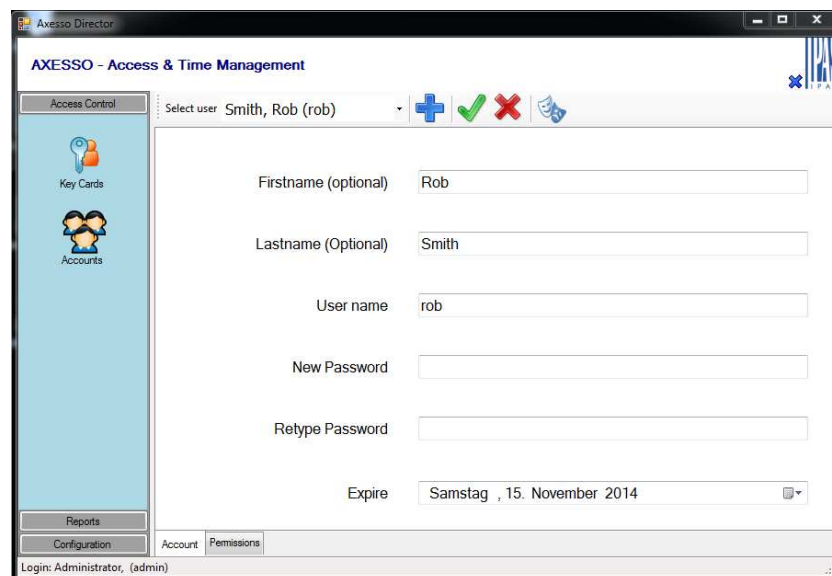
4.1. Setting up additional operators and creating passwords

By default, the Axesso Software is installed for use by two operators: Administrator and PMS (Property Management System Manager). Initially the log-in user names and passwords for the two standard users are:

Administrator Username: admin Password: 12345

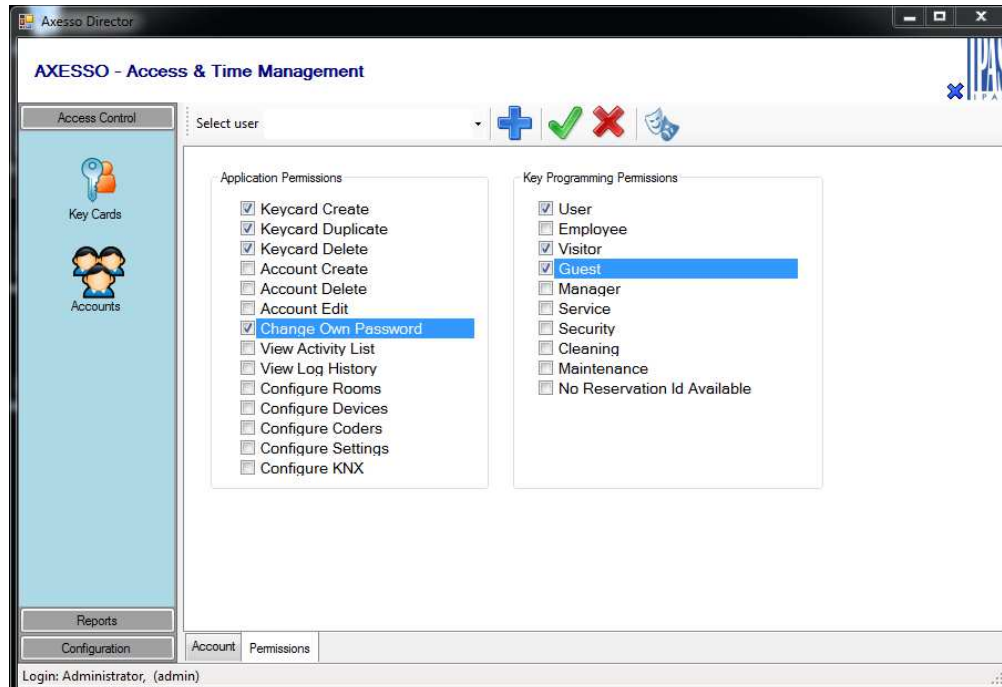
PMS Username: pms Password: 11111


The user name is case sensitive. To create further users and to modify and delete existing users, please go to the **Accounts** view.



Press the **New Account** button to add a new user account. Use the form to enter first and last name (optional) as well as username and password. Use the **Expire** field to

determine if and when the user account should expire automatically. Change to the **Permissions** tab at the bottom of the page, to enter detailed user rights for each user account.



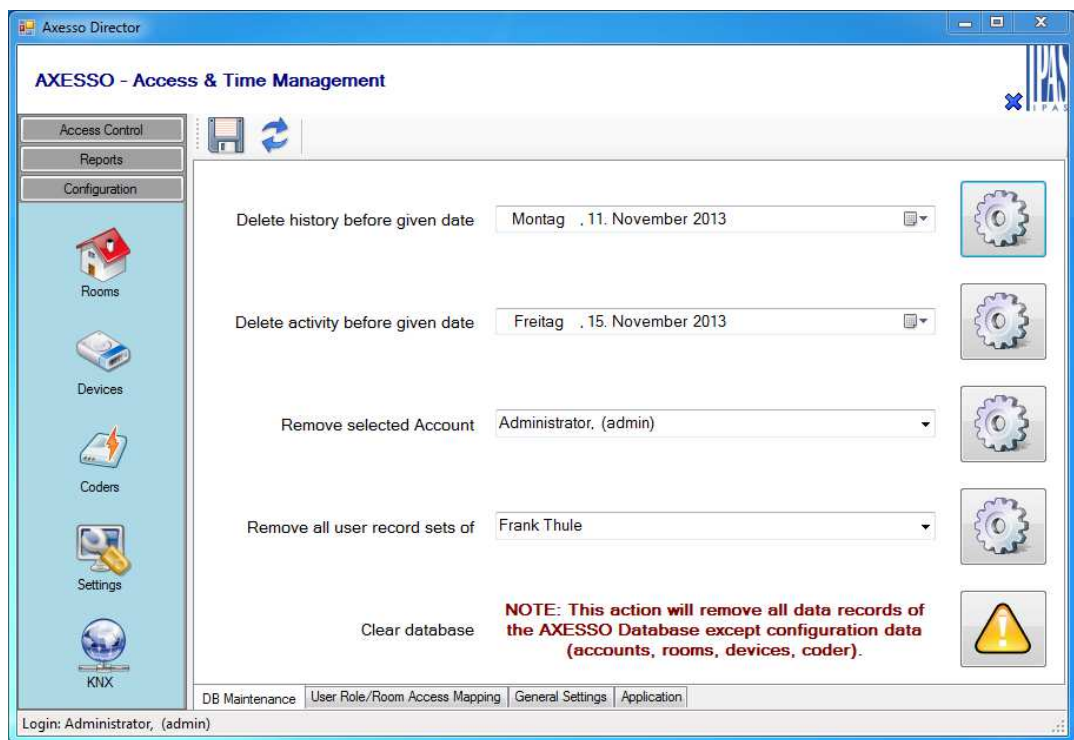
In the example above, the user is only able to create, duplicate and delete user, visitor and guest cards. Any changes need to be confirmed by pressing the **Apply** button .

4.2. Removing operators, card holders and activities from the database

With the Axesso Director Software the system administrator has additional options to remove card holders and activities from the current database. To do so, the administrator has to open **Settings** on the **Configuration** screen and then select the register **DB**



Maintenance. To carry out functions on this page, please use the appropriate button.



Use the first function to delete all history entries, i.e. actions performed within the software, up to a certain date.

Function 2 makes it possible to delete all activities up to a selected date.

The third function is used to individually remove any user account

Use function 4 to remove all activities of a particular card holder. **Attention: These functions only delete entries from the database. They do not render the corresponding cards invalid. Please make sure that the cards are deleted first (see chapter 3.5).**

Especially in systems that are used by a large number of users, the activity list can become very large. To reduce the amount of data, you can delete the activities up to a specific date thereby reducing the overall data volume. Use functions 1 and 2 for this purpose.

4.3. Data storage and backups

As with all IT systems, it is strongly recommended to regularly create backups of card holder and access data and archive them. To create a backup of the Axesso database,

use the **Backup database** button . The backup files are stored in the directory `C:\Programme\IPAS GmbH\ComBridge Studio Web\AxessoWeb\backup\db` under the name `axessodb<date><time>.fbk`.

Please remember that all data (card holders and activities) is backed up. This particularly applies to data in the user group **Visitor**. Should the country-specific data protection laws only permit a temporary storage of user data, the software operator needs to ensure that the backup files are deleted accordingly.

For security reasons the restoration of the database from the backup files cannot be performed on the Axesso Web surface. Please use File Explorer to create a copy of the required file (usually the one with the latest date) from the backup directory

C:\Programme\IPAS GmbH\ComBridge Studio Web\AxessoWeb\backup\db. Rename the copied file as `axessodb.fbk`. Then change to the directory C:\Programme\IPAS GmbH\ComBridge Studio Web\AxessoWeb\bin and use a double click to start the file `restore.bat`. The current database is automatically replaced by the backup data.

4.4. Complete clearance of the database

If you would like to completely remove all activity and history entries as well as card holders from the current database, use the **Clear Database** function.

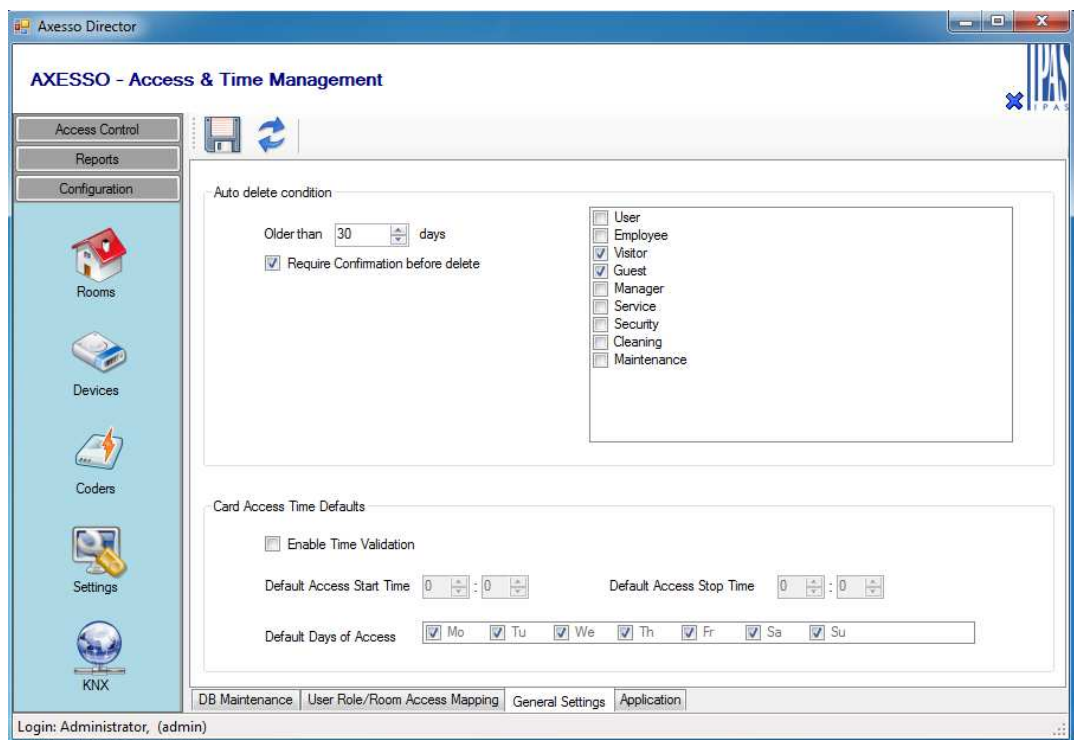
Attention: Please remember that again only the entries in the database are deleted.

The function does not render the corresponding cards invalid. Please make sure that the cards are deleted first.

4.5. Setting the expiry time for semi-automatic deletion

Chapter 3.7 focused on the “reminder function” and the semi-automatic deletion of card holders and activities in the user groups **Visitor** and **Guests**. By default the time period after which a reminder is generated is 30 days.

Depending on a country's or system operator's data protection requirements other time periods can be set. Go to **Settings** under the **General Settings** tab on the **Configuration** screen to set the required period.



You can also use this page to enable automatic deletion of entries without prior acknowledgement and confirmation by the user and you can extend automatic removal to include other types of card holders (**User Role**).

5. Using Axesso in hotel applications

The IPAS Axesso system is particularly suitable for hotel applications where contactless transponder cards are used to access and activate individual hotel rooms.

5.1 Special card reader versions

A special version of the Axesso card reader and Axesso card holder are available for the hotel environment. (Order number 3708-162-01)



The hotel card reader is usually mounted horizontally. This makes it easier to engrave additional information such as hotel name or room number. In addition to the usual three LEDs showing the status of the card reader, the hotel card reader offers 3 further LEDs to display the room status. Three options are available: "Do not disturb", "Please clean up" and "Room alarm". In addition, the hotel card reader also has a large button normally used as a bell. (The reader can also be supplied without the bell if preferred).

To activate a guest room in a hotel, an Axesso hotel card holder is available. (Item number 3708-162-02).

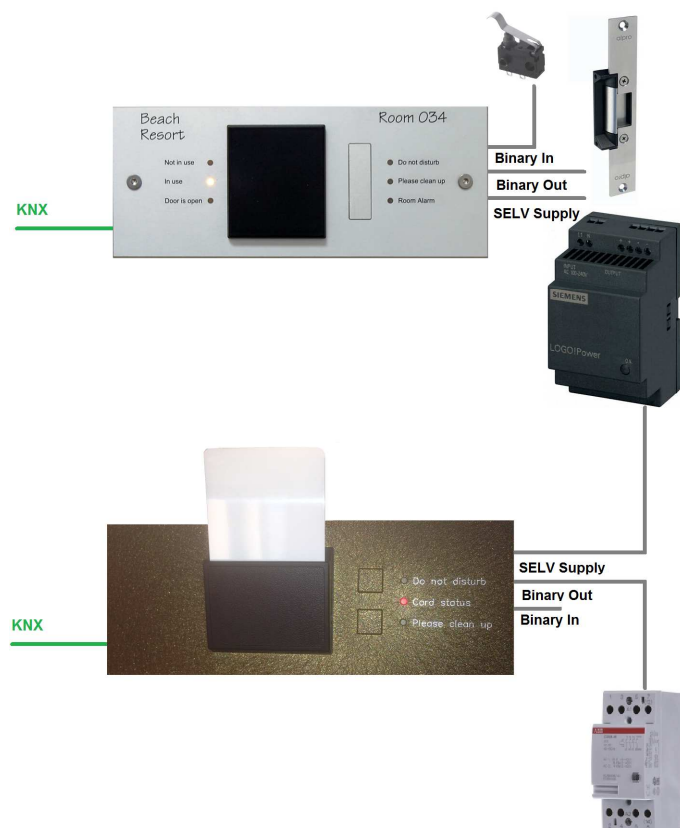


Like the card reader, the card holder is mounted horizontally. To activate the room (i.e. to switch on lights, air conditioning, power supply, etc.), the card can be inserted into the card

slot at the top of the plastic holder. The card holder checks the card details. It is not possible to activate the switch with any other card but the hotel card. The middle one of the three LEDs signals the status of the card. If no card has been inserted, the LED remains switched off. If a valid card has been inserted and the room is activated, the LED turns to green. If the card is invalid, the LED turns red. The card holder has two buttons to enable or disable the functions “Do not disturb” and “Please clean up”. An LED next to the button shows the respective status.

5.2 Connection and use of inputs and outputs in a hotel room

In a typical hotel room, the card reader and card holder are usually connected as shown in the image below.



As for all Axesso card readers, both devices are connected to the KNX installation bus and an external auxiliary supply of DC 8-26V. Usually the card reader output triggers the electronic door opener. You should therefore select an auxiliary supply that meets the requirements of the door opener (**Attention: AC openers cannot be used!**). As the door opening signal is also available as a KNX communication object, the door opener can also be controlled via a KNX switch actuator.

In addition to the binary output, the card reader also has two binary inputs. If you use input 1 to monitor a door contact at the entry door, unauthorised opening of the door can trigger an alarm (see application program description).

The card holder also has a binary output. This can be used to activate the power supply in a hotel room via an installation relay if a valid card is inserted. Of course, this can also be done via KNX and a switch actuator. The binary inputs of the card holder can also be used to make contact information (for example, windows or balcony doors) available on the KNX.

5.3 Function of the application program for hotel card readers and card holders

The hotel card reader is programmed in the ETS with either the application program 3708-ProxReaderHotel-01-0130 or 3708-ProxReaderHotel-01-0130-0B. All functions can be programmed with these application programs and the required communication objects linked.

The principal function of the reader is as follows:

If a valid card (code and validity period correct) is held in front of the reader, the output for the door opener is activated and the corresponding communication object sent. If the card is a guest card, access is granted immediately, independent of the current room status. If the card is a valid service staff card and the room is not in use (no card internally in the card holder), access is also granted immediately. If the room is in use (card inserted in the card holder), the service card will only allow access if the bell button has been pressed first. If the room is in use and "Do not disturb" has been selected, the bell will not be activated and the service card will not permit access. If the room is in use and the current status is "Do not disturb", cards which have been set up as manager, security personnel or maintenance staff cards will always allow access: the bell is automatically activated but access is only possible after a configurable time period has expired.

To activate the bell, a KNX communication object is sent when the bell button is pressed (pressing the button sends 1, releasing the button sends 0). If the room is active (card is inserted internally in the reader) and "Do not disturb" has been selected, the bell object is disabled and will not be sent to the bus.

In addition to the door opener object, the reader sends a 1 Byte value object (0..255) to the bus each time the room is accessed. The value can be configured via parameters. The object can be used, for example, to set dimmable lights to a defined value or to trigger a scene when the room is activated. In addition to the fixed value object, the reader can also

send specific card scenes, which are saved on the card itself, to the bus (see chapter above).

Both inputs for binary contacts can send the status of a contact to the bus. Contact input 1 also offers a special feature: If the input is used to monitor the door contact of the access door (configurable via parameters), an alarm function is available. If the reader detects that the contact is activated and no valid card has been placed in front of the reader first (e.g. if the door is opened by force), it changes into alarm status and sends an alarm telegram. To prevent an alarm from being sent when leaving the room, this function is disabled for a configurable time period after taking the card out of the card holder.

Like all Axesso card readers, the hotel card reader also has an integrated magnet switch that sends an alarm object to the bus and disables the reader as soon as it is taken out of the mounting box.

To program the hotel card holder in the ETS, use the application program 3708-ProxHolderHotel-02-0126.

The card holder activates the room after a valid card has been inserted. Unlike with the card reader, only the correct card code matters for the validity of the card. The card holder does not check validity period of the card. The room can be activated either through direct control of an installation relay with the integrated binary output or via a KNX object. After the card has been taken out of the reader, a delay occurs before everything is switched off. The delay time can be set as a parameter. The card holder sends a 1 Byte value object (0..255) to the bus when the card is inserted and when the card is taken out of the holder. The values can be set via parameters. The object can be used to set dimmable lighting to a defined value or to trigger a scene when activating or leaving the room. In addition to the fixed value object, the reader can also send specific card scenes, which are saved on the card itself, to the bus (see chapter above).





























The status of the room (e.g. "Do not disturb") which is set on the card holder, is transmitted to the card reader via an object. If the card is removed, the status of the room is automatically re-set to "Room not in use".

Both inputs for binary contacts can send the status of the binary contact to the bus.

A special feature is available for use of the buttons by service staff. If a service card is inserted in the holder and both buttons are pressed and held down simultaneously, all three LEDs light up at the same time and the object "Service completed" is sent to the bus. The reception or administration is thereby informed about the status of the cleaning process.

5.4 Communication objects in the application program for hotel card readers

The application program 3708-ProxReaderHotel-01-0130 offers 29 KNX communication objects:

	0	Data	Communication: Code	14 Byte	C	R	-	T	-
	1	Control	Communication: Code	14 Byte	C	R	W	T	-
	2	Time	Time	3 Byte	C	-	W	T	U
	3	Date	Date	3 Byte	C	-	W	T	U
	4	Door Access	Open/Close	1 bit	C	R	-	T	-
	5	Set Value	Value/Scene	1 Byte	C	R	-	T	-
	6	External Opening	Open/Close	1 bit	C	-	W	-	-
	7	Disable Reader	Disable/Enable	1 bit	C	-	W	T	-
	8	Alarm	On/Off	1 bit	C	R	-	T	-
	9	Switching Bell	On/Off	1 bit	C	-	-	T	-
	11	External Contact 1	On/Off	1 bit	C	R	-	T	-
	12	External Contact 2	On/Off	1 bit	C	R	-	T	-
	13	Auxiliary Power	On/Off	1 bit	C	R	-	T	-
	14	Additional LED	Value/Scene	1 Byte	C	-	W	-	-
	15	Alarm LED	On/Off	1 bit	C	-	W	-	-
	16	Card Scene 1	Temperature	2 Byte	C	-	-	T	-
	17	Card Scene 2	Temperature	2 Byte	C	-	-	T	-
	18	Card Scene 3	Value	1 Byte	C	-	-	T	-
	19	Card Scene 4	Value	1 Byte	C	-	-	T	-
	20	Card Scene 5	Value	1 Byte	C	-	-	T	-
	21	Card Scene 6	On/Off	1 bit	C	-	-	T	-
	22	Card Scene 7	On/Off	1 bit	C	-	-	T	-
	23	Card Scene 8	On/Off	1 bit	C	-	-	T	-
	24	Card Scene 9	On/Off	1 bit	C	-	-	T	-
	25	Card Scene 10	On/Off	1 bit	C	-	-	T	-
	26	Card Scene 11	On/Off	1 bit	C	-	-	T	-
	27	Card Scene 12	On/Off	1 bit	C	-	-	T	-
	28	Card Scene 13	On/Off	1 bit	C	-	-	T	-

Obj. 0: Data – Communication: Code

This object is used to communicate between the card reader and the Axesso Server Software. When a room is accessed, the Card ID to identify the card is passed on to the Server Software. The object has to be linked to the same group address for all card readers and card holders that are connected to the system (see software description above).

Obj. 1: Control – Communication: Code

This object is used for the bi-directional data and command exchange between readers and software. For example, when a new access code is programmed, data is exchanged via this object in an encrypted format. The object is linked to one group address which is different for all available readers and holders (see software description above).

Obj. 2: Time – Time

Transmits the time for time-dependent cards to the card reader. After a bus voltage re-set, the object is automatically queried once and then sets the internal clock. Please remember that there are no more queries after this. As the precision of the internal clock within a card reader is limited, please make sure that the timer in the KNX system sends the correct time to the bus every hour.

Obj. 3: Date – Date

Transmits the current date for time-dependent cards to the card reader. After a bus voltage re-set, the object is automatically queried once. The date is not tracked internally. It is assumed that the KNX timer sends the date as well as the time every hour to the bus.

Obj. 4: Door Access – Open/Close

If a valid card is placed in front of the card reader, the reader sends a 1Bit “Open” telegram. After a configurable time period, the object is re-set to “Close” and sent again. The object thereby reacts according to the card holder’s internal binary output and can also be directly connected if a switch actuator (instead of the internal contact) is to be used to control the door opener.

Obj. 5: Set Value – Value/Scene

The card reader sends a 1Byte telegram when a valid card is placed in front of the reader. The value can be used to trigger a scene or to set the lighting to a certain level.

Obj. 6: External Opening – Open/Close

Initiates the opening of the card reader’s binary contact via a 1-telegram on the KNX bus. The duration of the opening is configurable.

Obj. 7: Disable Reader – Disabled/Enabled

Disables the reader via the KNX bus. A disabled reader remains inactive even if a card is valid. A permanently red LED on the reader shows that it is disabled. The reader will only function again after it has been enabled through a 0 telegram

Obj. 8: Alarm – On/Off

Immediately sends an alarm telegram (1 telegram) if the reader is removed from its flush-mounting box without authorisation (magnet switch). The alarm can be used to activate, for example, an alarm sound or to switch on the central lights.

Obj. 9: Switching Bell – On/Off

Sends a switch telegram for the bell if the bell button is pressed.

Obj. 11: External Contact 1 – On/Off

Sends a switch telegram if a connected external contact is triggered.

Obj. 12: External Contact 2 – On/Off

Sends a switch telegram if a connected external contact is triggered.

Obj. 13: Auxiliary Power – On/Off

Sends a 1-telegram if the required auxiliary power (8-26 VDC) is interrupted. Once the auxiliary power is available again, the object is sent with the value 0.

Obj. 14: Additional LED – Scene

Controls the additional LEDs on a hotel card reader or makes the room status available to the reader. The individual object values have the following meaning:

- : Value 0 → Room not in use, all LEDs off
- Value 1 → Room in use, all LEDs off
- Value 2 → Please clean up room, yellow LED in the middle On
- Value 3 → Room alarm, red LED at the bottom blinking
- Value 4 → Room not in use, do not disturb, red LED at the top On
- Value 5 → Room in use, do not disturb, red LED at the top On

Obj. 15: Alarm LED – On/Off

Activates the alarm status of the reader and switches the alarm LED on and off via a 1Bit telegram.

Obj. 16, 17: Card Scene – Temperature

Sends a temperature or other 2 Byte value to the bus if a valid card is placed in front of the reader. The value sent corresponds to the value saved on the card during programming.

This makes it possible to send individual, card-specific values.

Obj. 18, 19, 20: Card Scene – Value

Sends a 1Byte value to the bus if a valid card is held in front of the reader. The value sent corresponds to the value saved on the card during programming. This makes it possible to send individual, card-specific values.

Obj. 21, 22, 23, 24, 25, 26, 27, 28: Card Scene – On/Off

Sends a 1 Bit value to the bus if a valid card is held in front of the reader. The value sent corresponds to the value saved on the card during programming. This makes it possible to send individual, card-specific values.

5.5 Communication objects in the application program for hotel card holders

The application program 3708-ProxHolderHotel-02-0126 offers 24 KNX communication objects:

0	Data	Communication: Code	14 Byte	C	R	-	T	-
1	Control	Communication: Code	14 Byte	C	R	W	T	-
2	Room Active	On/Off	1 bit	C	R	-	T	-
3	Set Value	Value/Scene	1 Byte	C	R	-	T	-
4	Service Active	On/Off	1 bit	C	R	-	T	-
5	Disable Reader	Disable/Enable	1 bit	C	-	W	T	-
6	Scene / Roomsta...	Value	1 Byte	C	-	W	T	-
7	External Contact 1	On/Off	1 bit	C	R	-	T	-
8	External Contact 2	On/Off	1 bit	C	R	-	T	-
9	Auxiliary Power	On/Off	1 bit	C	R	-	T	-
10	Additional LED	Value/Scene	1 Byte	C	-	W	-	-
11	Alarm LED	On/Off	1 bit	C	-	W	-	-
12	Card Scene 1	Temperature	2 Byte	C	-	-	T	-
13	Card Scene 2	Temperature	2 Byte	C	-	-	T	-
14	Card Scene 3	Value	1 Byte	C	-	-	T	-
15	Card Scene 4	Value	1 Byte	C	-	-	T	-
16	Card Scene 5	Value	1 Byte	C	-	-	T	-
17	Card Scene 6	On/Off	1 bit	C	-	-	T	-
18	Card Scene 7	On/Off	1 bit	C	-	-	T	-
19	Card Scene 8	On/Off	1 bit	C	-	-	T	-
20	Card Scene 9	On/Off	1 bit	C	-	-	T	-
21	Card Scene 10	On/Off	1 bit	C	-	-	T	-
22	Card Scene 11	On/Off	1 bit	C	-	-	T	-
23	Card Scene 12	On/Off	1 bit	C	-	-	T	-
24	Card Scene 13	On/Off	1 bit	C	-	-	T	-

Obj. 0: Data – Communication: Code

This object is used to communicate between the card holder and the Axesso Server Software. When a room is activated, the Card ID to identify the card is passed on to the Server Software. The object has to be linked to the same group address for all card readers and card holders that are connected to the system (see software description above).

Obj. 1: Control – Communication: Code

This object is used for the bi-directional data and command exchange between card holders and software. For example, when a new access code is programmed, data is exchanged via this object in an encrypted format. The object is linked to one group

address which is different for all available readers and holders (see software description above).

Obj. 2: Room Active – On/Off

If a valid card is inserted in the card holder, the holder sends a 1Bit “On” telegram via this object. Once the card has been removed the object is reset to “Off” after a time delay and sent again. The delay time is configurable via parameters. The object thereby reacts according to the card holders internal binary output and can also be directly connected if you would like to use a switch actuator (instead of the internal contact) to activate the room.

Obj. 3: Set Value – Value/Scene

The card reader sends a 1Byte telegram via this object, when a valid card is inserted in the card slot or when it is taken out.

The configurable values can be used to trigger a scene or to set the lighting to a certain level.

Obj. 4: Service Active – On/Off

Sends a 1-telegram to the KNX bus if a valid service card is inserted and both buttons are pressed and held down simultaneously. The telegram can be used to inform the reception or administration staff that service has been completed and that the room is available again.

Obj. 5: Disable Reader – Disabled/Enabled

Disables the card holder via the KNX bus. A disabled holder remains inactive even if a card is valid. A permanently red LED on the holder shows that it is disabled. The holder will only function again after it has been enabled through a 0 telegram

Obj. 6: Scene/Room Status – Value

Transmits the room status to the bus or changes the room status LEDs on receipt of an object once a valid card is inserted or when a button on the holder is pressed. The individual object values have the following meaning:

- : Value 0 → Room not in use, all LEDs off
- Value 1 → Room in use, all LEDs off
- Value 2 → Please clean up room, yellow LED at the bottom On
- Value 3 → Room alarm, red LED On
- Value 4 → Room not in use, please do not disturb, red LED at the top On
- Value 5 → Room in use, do not disturb, red LED at the top On

Obj. 7: External Contact 1 – On/Off

Sends a switch telegram if a connected external contact is triggered.

Obj. 8: External Contact 2 – On/Off

Sends a switch telegram if a connected external contact is triggered.

Obj. 9: Auxiliary Power – On/Off

Sends a 1-telegram if the required auxiliary power (8-26 VDC) is interrupted. Once the auxiliary power is available again, the object is sent with the value 0.

Obj. 10: Additional LED – Scene

Controls the LEDs on a hotel card holder. The individual object values have the following meaning:

- : Value 0 → Room not in use, all LEDs off
- Value 1 → Room in use, all LEDs off
- Value 2 → Please clean up room, yellow LED in the middle On
- Value 3 → Room alarm, red LED at the bottom blinking
- Value 4 → Room not in use, please do not disturb, red LED at the top On
- Value 5 → Room in use, do not disturb, red LED at the top On

Obj. 11: Alarm LED – On/Off

Activates the alarm status of the reader and switches the alarm LED on and off via a 1Bit telegram.

Obj. 12, 13: Card Scene – Temperature

Sends a temperature or other 2 Byte value to the bus if a valid card is inserted in the holder. The value sent corresponds to the value saved on the card during programming. This makes it possible to send individual, card-specific values.

Obj. 14, 15, 16: Card Scene – Value

Sends a 1Byte value to the bus if a valid card is inserted in the card holder. The value sent corresponds to the value saved on the card during programming. This makes it possible to send individual, card-specific values.

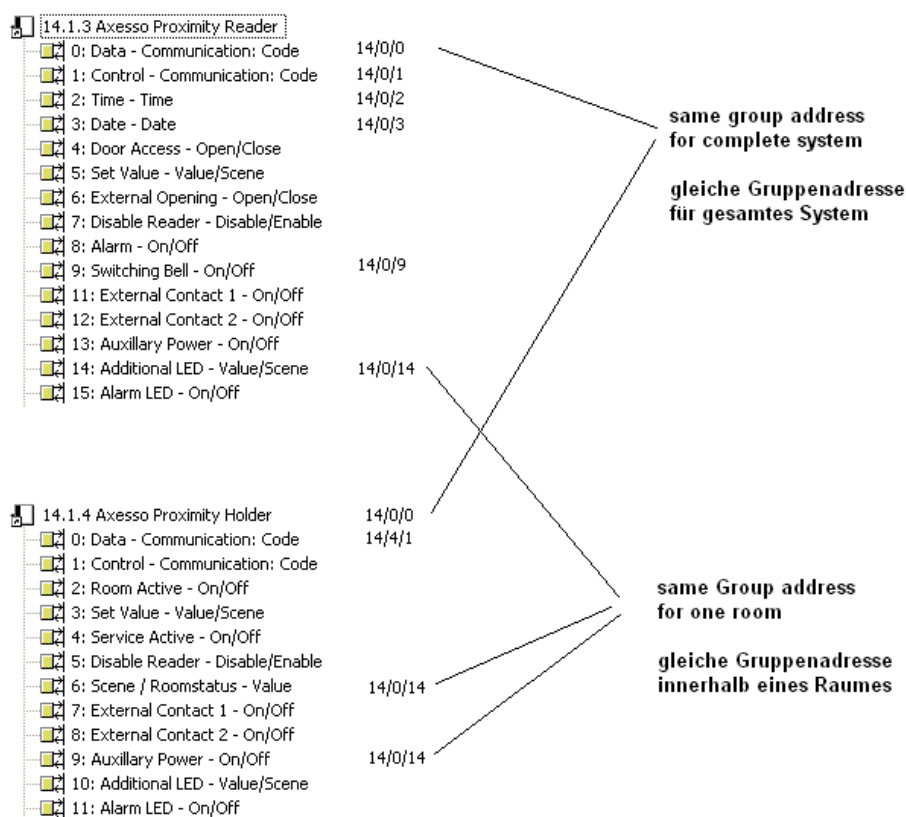
Obj. 17, 18, 19, 20, 21, 22, 23, 24: Card Scene – On/Off

Sends a 1 Bit value to the bus if a valid card is inserted in the holder. The value sent corresponds to the value saved on the card during programming. This makes it possible to send individual, card-specific values.

5.6 Assigning group addresses for hotel card reader and card holder

When assigning group addresses to the communication objects of the card reader, please remember that object 0 contains a joint group address (see above). This applies to all card readers and card holders in the system.

The status of the room is exchanged via object 14 of the card reader and objects 6 and 10 of the card holder. Please link the same group address for one room.

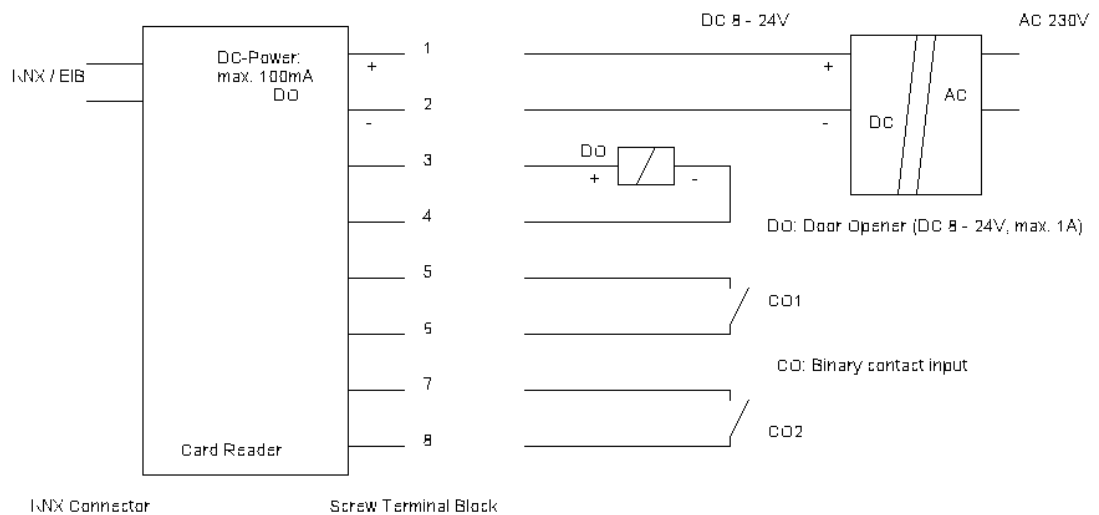


6. Appendix

6.1. Diagram for the connection of card readers

The following diagram shows the connection of the card readers. The readers are connected via a bus connector (KNX) on the back and via a screw block with 8 terminals.

Axesso Reader Connection Sheet



6.2. Technical Support

For all problems and questions that could not be solved through chapter 5.1, please contact the IPAS GmbH technical support at support@ipas-products.com.