Heckner
Electronics



OPERATING INSTRUCTIONS

FOR

KEYPILOT-MANAGER V1.4

AS OF 01/2017

TABLE OF CONTENTS

Page

TABLE OF CONTENTS 2

1. INTRODUCTION 4
   1.1 Warranty 4

2. SYSTEM DESCRIPTION 5
   2.1 Usage 6

3. QUICK START 7

4. EXAMPLE FOR A PLANT CONFIGURATION 7

5. INSTALLATION 8
   5.1 Already installed version 8
   5.2 Removal from version 1.4 on 8
   5.3 Removal before version 1.4 9

6. START PAGE 10
   6.1 Menu Buttons 11
   6.2 Menu Bar 11

7. READING STATIONS PAGE 12
   7.1 Adding a Reading Station 13
      7.1.1 Mandatory Fields 13
      7.1.2 Different Reading Station Types 13
      7.1.3 Level Reading Station 14
   7.2 Editing a Reading Station 14
   7.3 Erasing a Reading Station 15
   7.4 Transferring Configuration 15

8. USER PAGE 16
   8.1 User 17
      8.1.1 Adding a User 17
      8.1.2 Editing User Data 18
      8.1.3 Removing a User 18
   8.2 Key 19
      8.2.1 Adding a Key 19
      8.2.2 Editing a Key 19
      8.2.3 Removing a Key 19
   8.3 User – Key Assignment 20
      8.3.1 Adding an Assignment 20
      8.3.2 Removing an assignment 20

9. AUTHORIZATIONS PAGE 21
   9.1 Add new Authorization 22
   9.2 Editing Authorizations 22
   9.3 Removing an authorization 23

10. READING A PAGE 23
10.1 Reading a Key 24
11. SAVING KEY DATA ON A FILE 25
11.1 Erasing Key Data 25
11.2 Create a Reporting Key 26
12. SETTINGS PAGE 27

1. Introduction

This handbook describes the functions and properties of the KeyPilot-Manager, a software used to generate authorization lists and configurations for the KeyPilot. The described functions are used to program the standalone level and relay type KeyPilot, and to configure the RS232, Profibus and USB type KeyPilot.

National and international specified security and accident prevention rules have to be followed when using KeyPilot.

KeyPilot is not a security component in the sense of the machinery directive.
It must not be directly used to guarantee any safety function, especially when failure or malfunction of the device can endanger the safety of people working around said machinery.

1.1 Warranty

This software is delivered free of charge without any warranty. There are therefore no legal warranty rights for this product.

The user takes the risk and the complete responsibility for choosing the software to obtain expected goals, for the installation and use of the software as well as for the goals achieved by using the software.

Heckner Electronics excludes any warranty about correct execution, about disruptions of any kind or about compatibility with certain hardware or software. Heckner Electronics also excludes non verbal warranties for the software and the accompanying written materials, including warranties for general usability, the suitability for a certain goal and non offence of third party rights.

No liability is assumed for any consequent damages.

2. System Description

The KeyPilot-Manager is used to configure the users and authorizations for each KeyPilot-Reading Station.

The software works under Windows 2000, XP, Vista, 7, 8, 8.1 and Windows 10.

To write on a KeyPilot-Reading Station a Setup Station is used to transfer data to the Setup Key. This Setup Key is then placed on the Reading Station to be programmed. The data contained in the Setup Key is automatically transferred to the Reading Station.

The Setup Station is connected using RS232 or USB interfaces. In case no RS232 interface is available, any RS232 devices can be connected using standard off the shelf USB – RS232 converters.

Name	Description
KeyPilot-Manager	Configuration software to create and manage (virtual) Reading Stations, users and keys
Reading Station	KeyPilot hardware installed on the working location. Once it is programmed, it is the logical interface between the Authorization Key and the hardware to be controlled.
Setup Station	KeyPilot hardware of USB or RS232 type. It is directly contacted by the KeyPilot Manager and is able to import information from the key placed on it, read from it or write to it.
Authorization Key	Type of key which contains an worldwide unique ID. This type of key is assigned to users who through it may or may not obtain authorization on a Reading Station.
Setup Key	Type of key with (large) memory. It is used to transfer the configuration data of the virtual Reading Station onto the KeyPilot Reading Station.
Reporting Key	Type of key which corresponds in hardware to a Setup Key. The difference is set on a flag in the key. Reporting Keys are used to check and read the memory of already configured Reading Stations.

2.1 Usage

KeyPilot is a system to control and identify users of a certain machine or system.

Each key has a worldwide unique ID hard coded by the manufacturer. This ID has 2^{48} different possibilities and cannot be manipulated. Through this ID each key is exclusively identifiable.

By assigning a key to a person the use of said key is exclusively assigned.

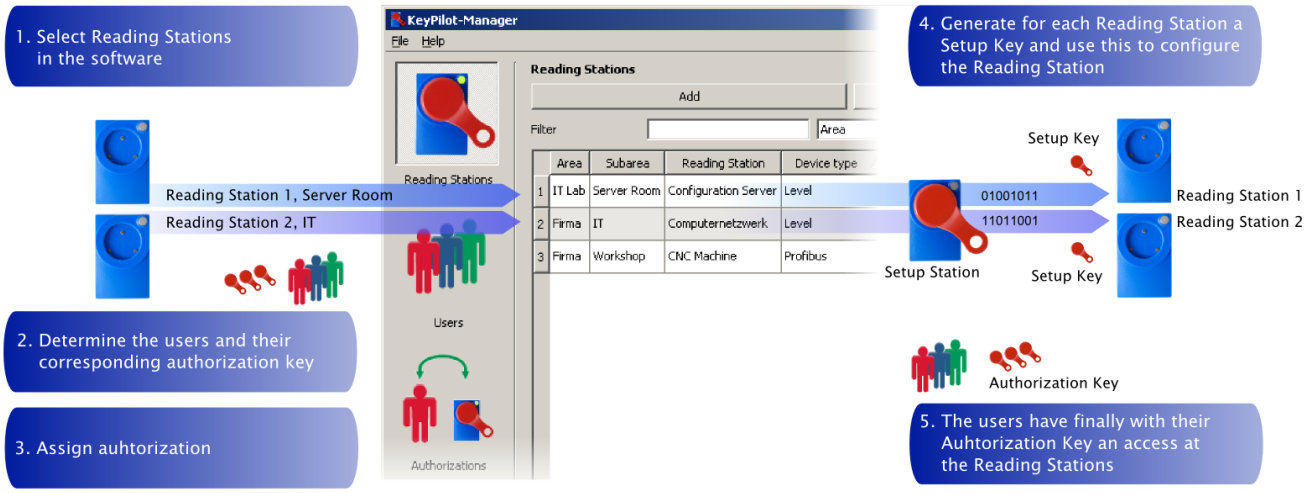
KeyPilot types are divided in two groups based on their interface. The first group comprises the **standalone devices** with relay or level output, where the user recognition and authorization is done in the KeyPilot.

The second group comprises the devices with **communication interfaces**, the ID is sent to a superior control system through this interface. The control system recognizes the user and is able to grant him his individual access.

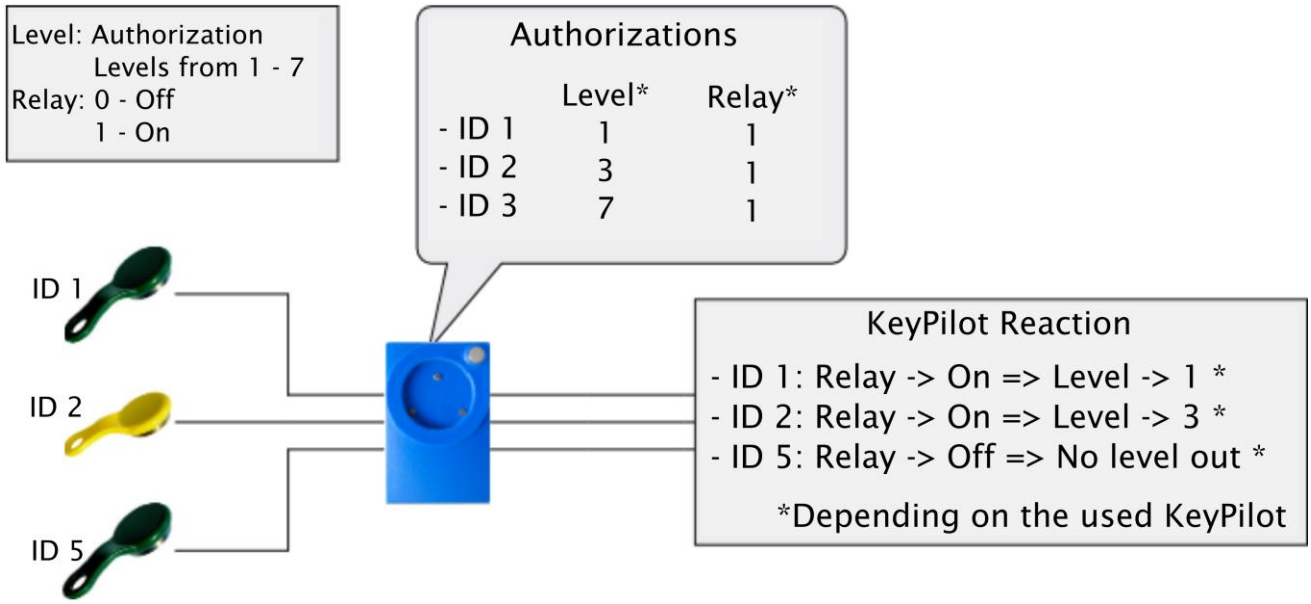
The KeyPilot Manager software allows to configure the bus address on the Profibus KeyPilot, the event mode on the USB KeyPilot and the event mode and baud rate on the RS232 KeyPilot.

3. Quick Start

This graph helps the user to quickly start using the application by showing the basic set of instructions needed to easily use the KeyPilot Manager.
It is recommended to dedicate some time to understand this graph before going on reading this operating instructions manual.



4. Example for a plant configuration



The Reading Stations have either a relay or a level authorization for the Authorization Keys **ID1, ID2 and ID3**.
The Authorization Key **ID5** has no configured authorization. In this case the Reading Stations ignore the keys signal.

Note: The presented Reading Station represents in this case two different devices!

5. Installation

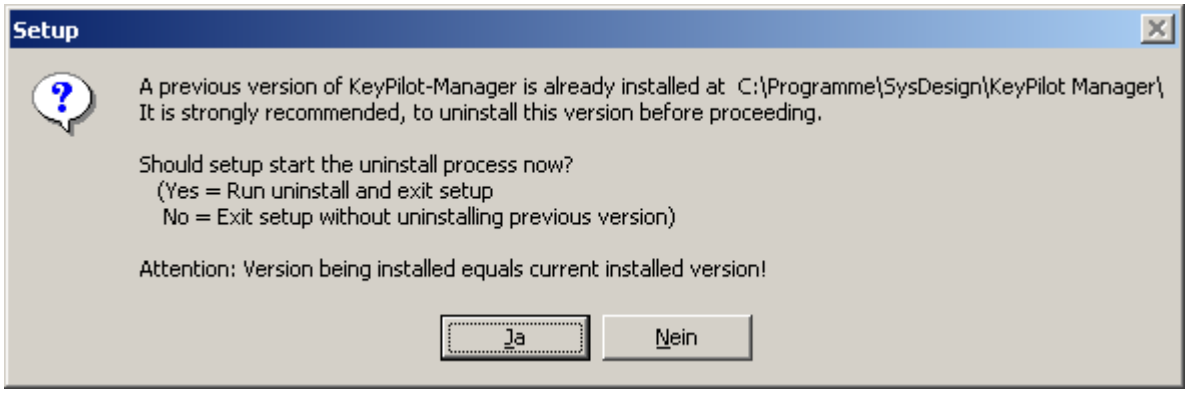
To be able to use the KeyPilot-Manager it has to be installed first. For this purpose start the installation file. The installation process is a normal installation process under the Windows OS, in this case only certain points are highlighted.

5.1 Already installed version

Setup will check at the beginning of the installation if there is an existing KeyPilot-Manager already installed. In case a previous installation exists, it has to be removed first.

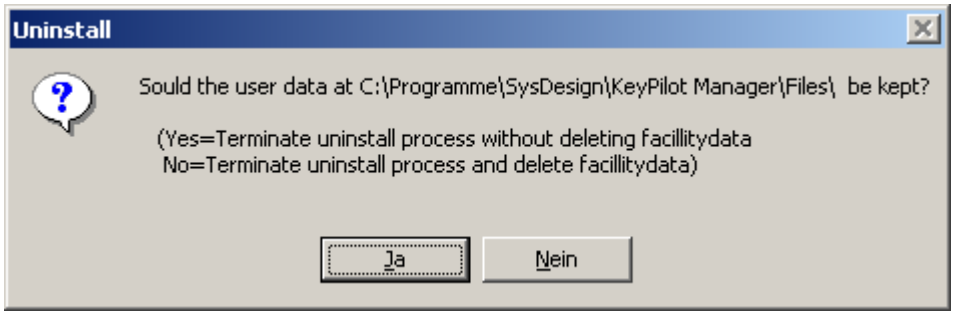
In this case the setup can differentiate between versions before 1.4 and after. Depending on the existing installed version the following dialog window appears:

5.2 Removal from version 1.4 on



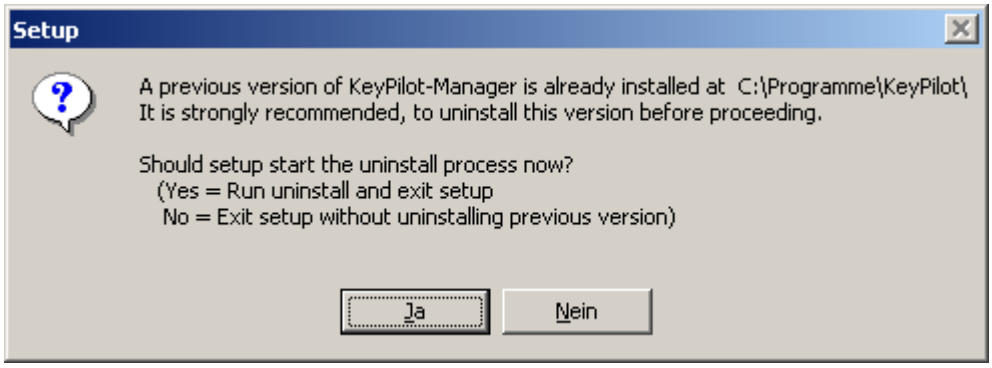
You must accept this dialog window with „Yes“ or remove the existing version manually. Otherwise it will not be possible to install the desired version. The uninstall program starts by accepting the dialog window.

After successfully removing the previous version you will be asked if you would like to keep or erase the existing configuration data.

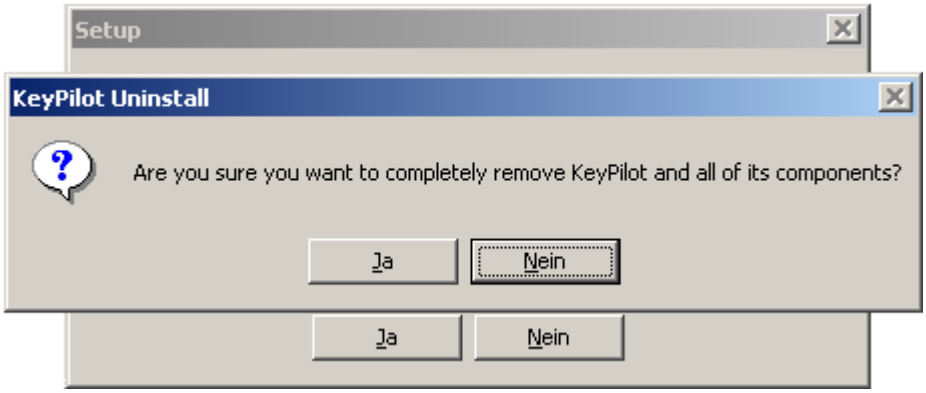


After the removing the older version you have to restart the setup program of the newer version.

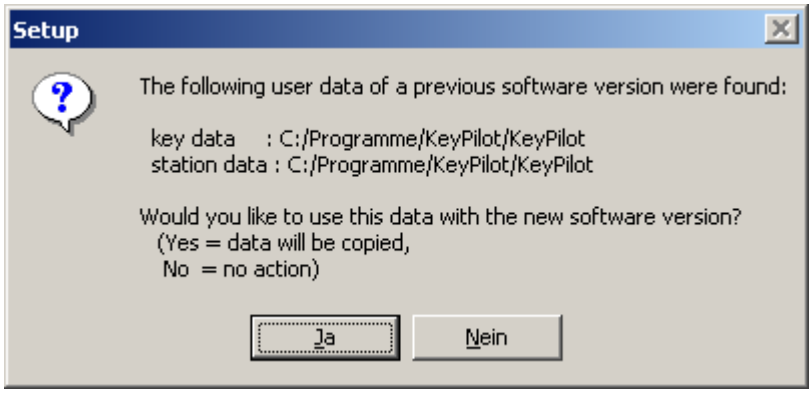
5.3 Removal before version 1.4



If an existing version of the KeyPilot-Manager older than 1.4 is found, it is possible to import the previous data. Accept the dialog with “Yes”

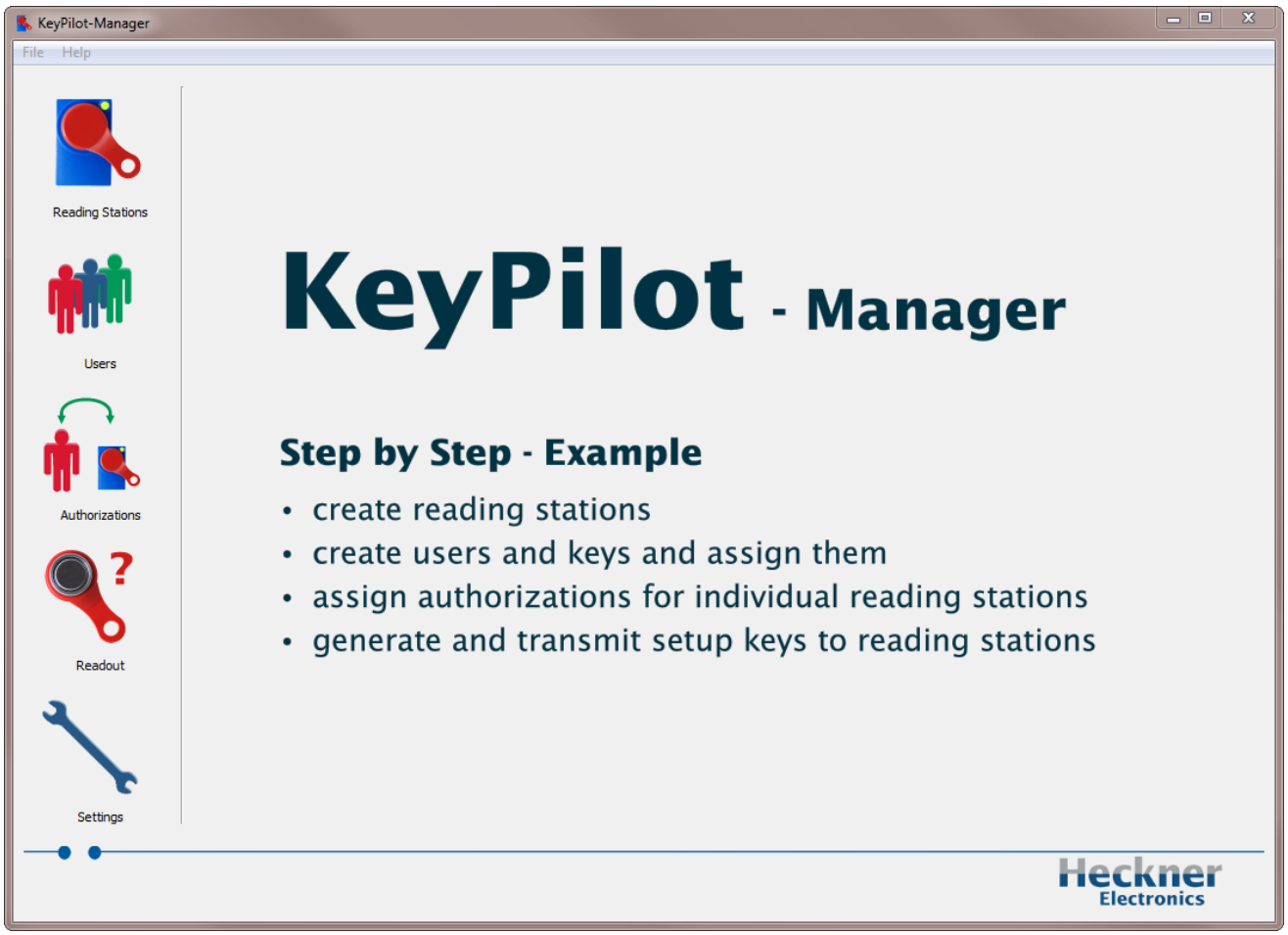


After this the removal software of the older KeyPilot-Manager is started. Complete all the removal steps.



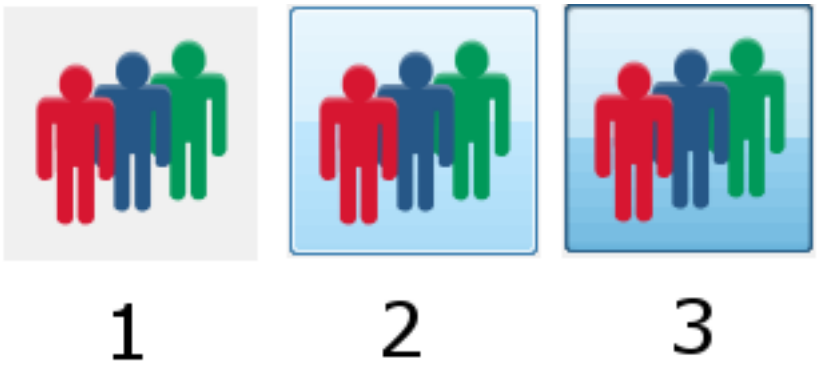
Now it’s possible to import the older configuration data. Choose the desired function and continue with the setup process.

6. Start Page



The start page shows a simple „step by step“ example which serves as help for the program process at each startup.
All functions are available through the upper menu bar (drop-down) and the menu on the left (menu buttons), these are described in the following chapters.

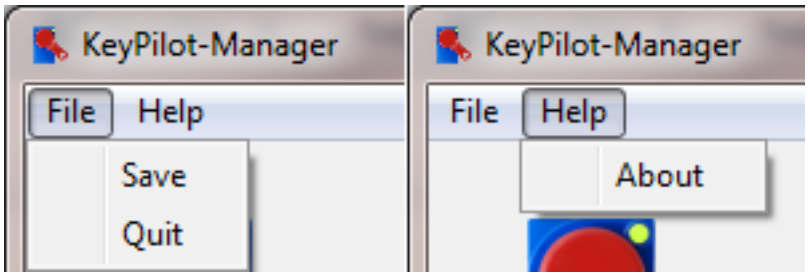
6.1 Menu Buttons



Each menu button has three states:

- Not active / no mouse over (1)
- Mouseover (turns active when clicking with the mouse) (2)
- currently activated menu button (3)

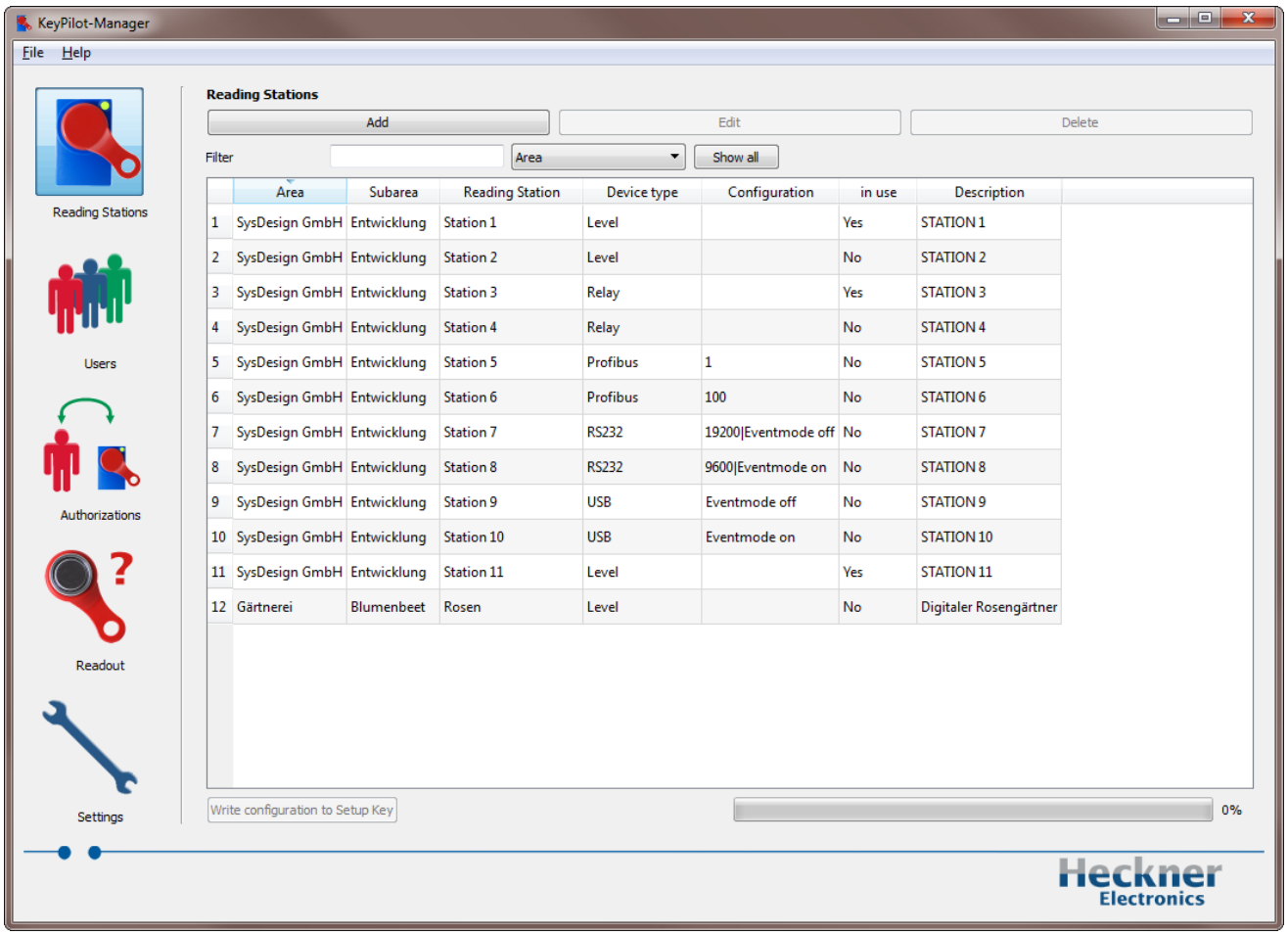
6.2 Menu Bar



Through the menu bar the following functions can be executed:

- Save data (Save)
- Quit program (Quit)
- View information about developers and software (About)

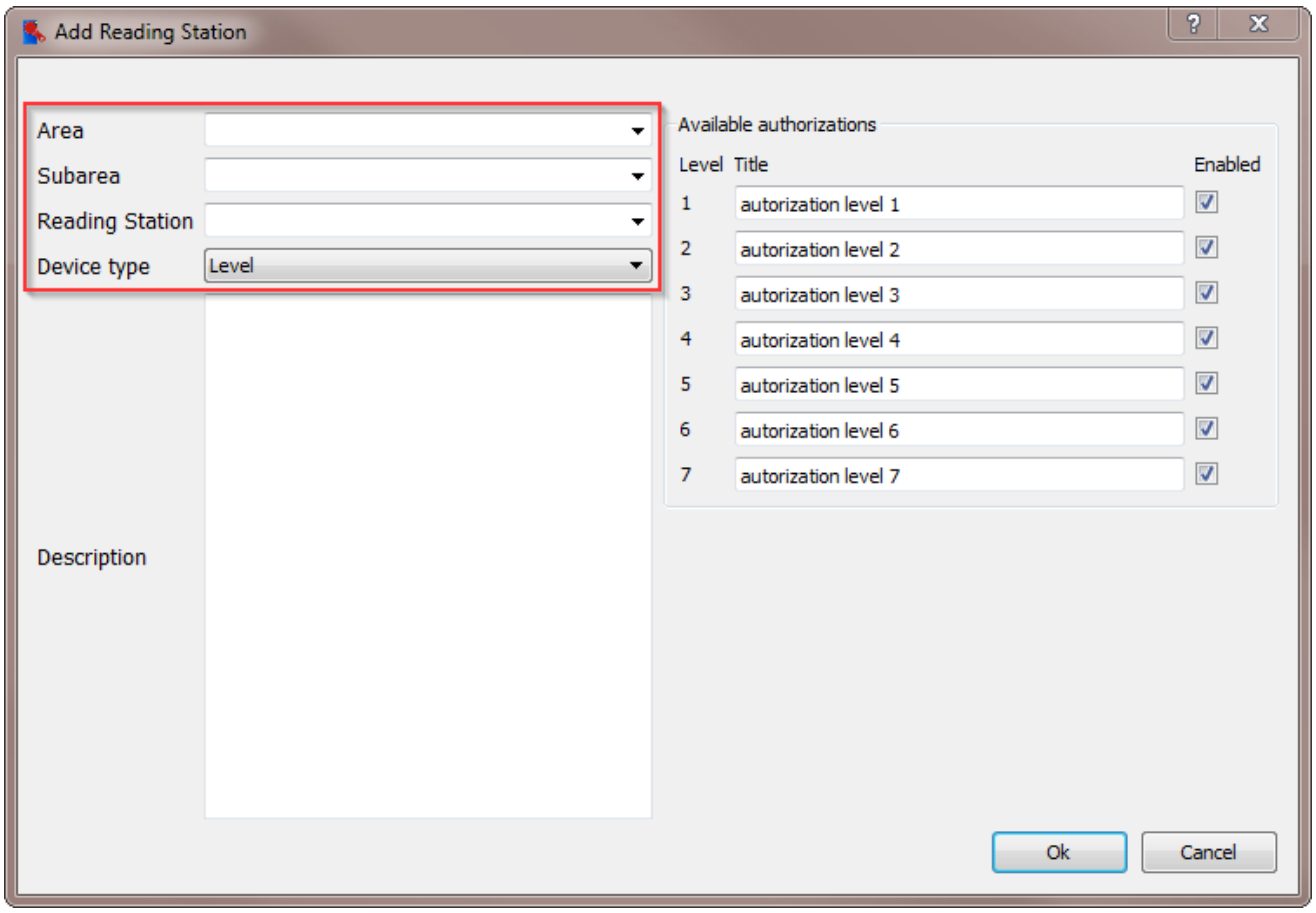
7. Reading Stations Page



	Area	Subarea	Reading Station	Device type	Configuration	in use	Description
1	SysDesign GmbH	Entwicklung	Station 1	Level		Yes	STATION 1
2	SysDesign GmbH	Entwicklung	Station 2	Level		No	STATION 2
3	SysDesign GmbH	Entwicklung	Station 3	Relay		Yes	STATION 3
4	SysDesign GmbH	Entwicklung	Station 4	Relay		No	STATION 4
5	SysDesign GmbH	Entwicklung	Station 5	Profibus	1	No	STATION 5
6	SysDesign GmbH	Entwicklung	Station 6	Profibus	100	No	STATION 6
7	SysDesign GmbH	Entwicklung	Station 7	RS232	19200|Eventmode off	No	STATION 7
8	SysDesign GmbH	Entwicklung	Station 8	RS232	9600|Eventmode on	No	STATION 8
9	SysDesign GmbH	Entwicklung	Station 9	USB	Eventmode off	No	STATION 9
10	SysDesign GmbH	Entwicklung	Station 10	USB	Eventmode on	No	STATION 10
11	SysDesign GmbH	Entwicklung	Station 11	Level		Yes	STATION 11
12	Gärtnerei	Blumenbeet	Rosen	Level		No	Digitaler Rosengärtner

On this page it is possible to add, edit, remove Reading Stations and to transfer them to a Setup Key.

7.1 Adding a Reading Station



The parameters of a Reading Station can be defined here.

7.1.1 Mandatory Fields

The fields marked in red are mandatory. They identify each Reading Station and a combination of data in them can be used only once. It is very useful to deliberate a structure matching the application area before adding the Reading Stations.

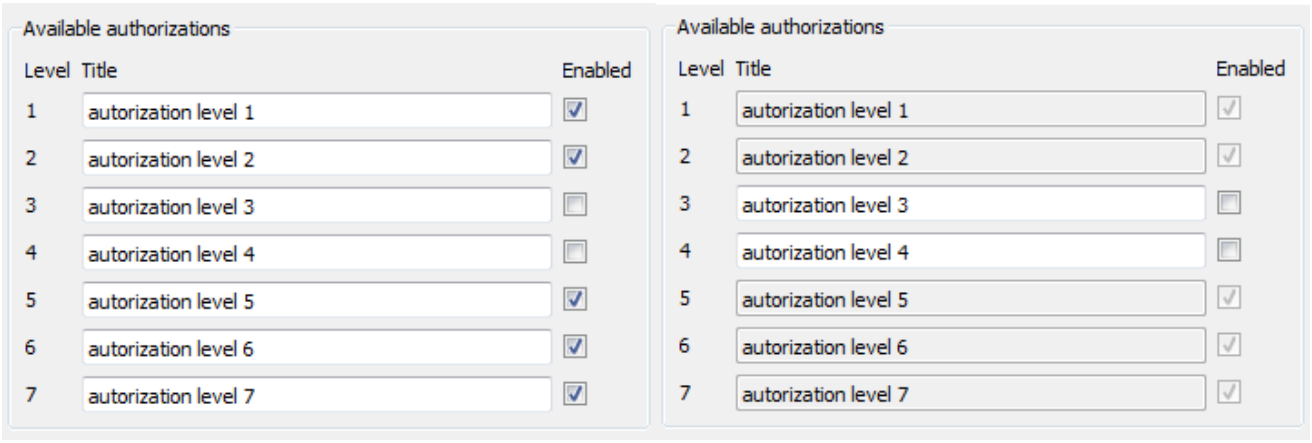
7.1.2 Different Reading Station Types

Depending on the chosen Reading Station type there are different configuration possibilities on the right side:

For the **RS232**, **Profibus** and **USB** types it is possible to configure only device – specific parameters like “Event mode”, “Baud rate” or “Bus address”.

The „Level“ and „Relay“ types have authorization levels, however, “Relay” has only one possible authorization level. The “Level” type is explained in the next chapter.

7.1.3 Level Reading Station

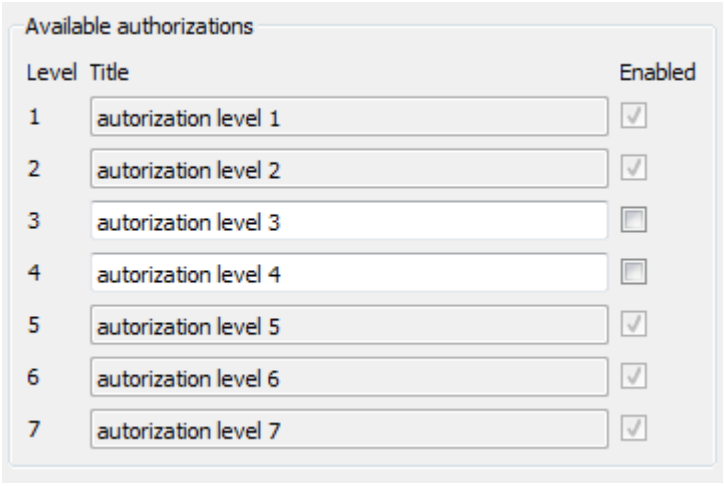


In this detail you see on the **left side** a level type Reading Station that should be added. A level type Reading Station has 7 possible levels. The name for each of these levels can be changed arbitrarily for each level type Reading Station to have a better overview. The “Enabled” attribute indicates if it’s possible to later assign a certain level to any user.

On the **right side** you see a level type Reading Station which is already in use and has to be edited. By “already in use” is meant that there are already assigned users to that particular station. As soon as a Reading Station (Level/Relay) is in use, it’s no longer possible to change the name or the “Enabled” attribute of the active authorization levels. New or unused authorization levels however can be edited and/or activated.
In the above example levels 3 and 4 were not activated, in this case they are editable and can later be transferred and added to the system.

7.2 Editing a Reading Station

Using the „Edit“ button it is possible to edit the highlighted Reading Station.
Bear in mind that the stations of type “Level” and “Relay” can only be edited when the Reading Station is not already in use.



7.3 Erasing a Reading Station

Using the „Delete“ – Button the highlighted Reading Station can be deleted.

> Bear in mind that deleting a Reading Station will result in the loss of the assigned authorization information.

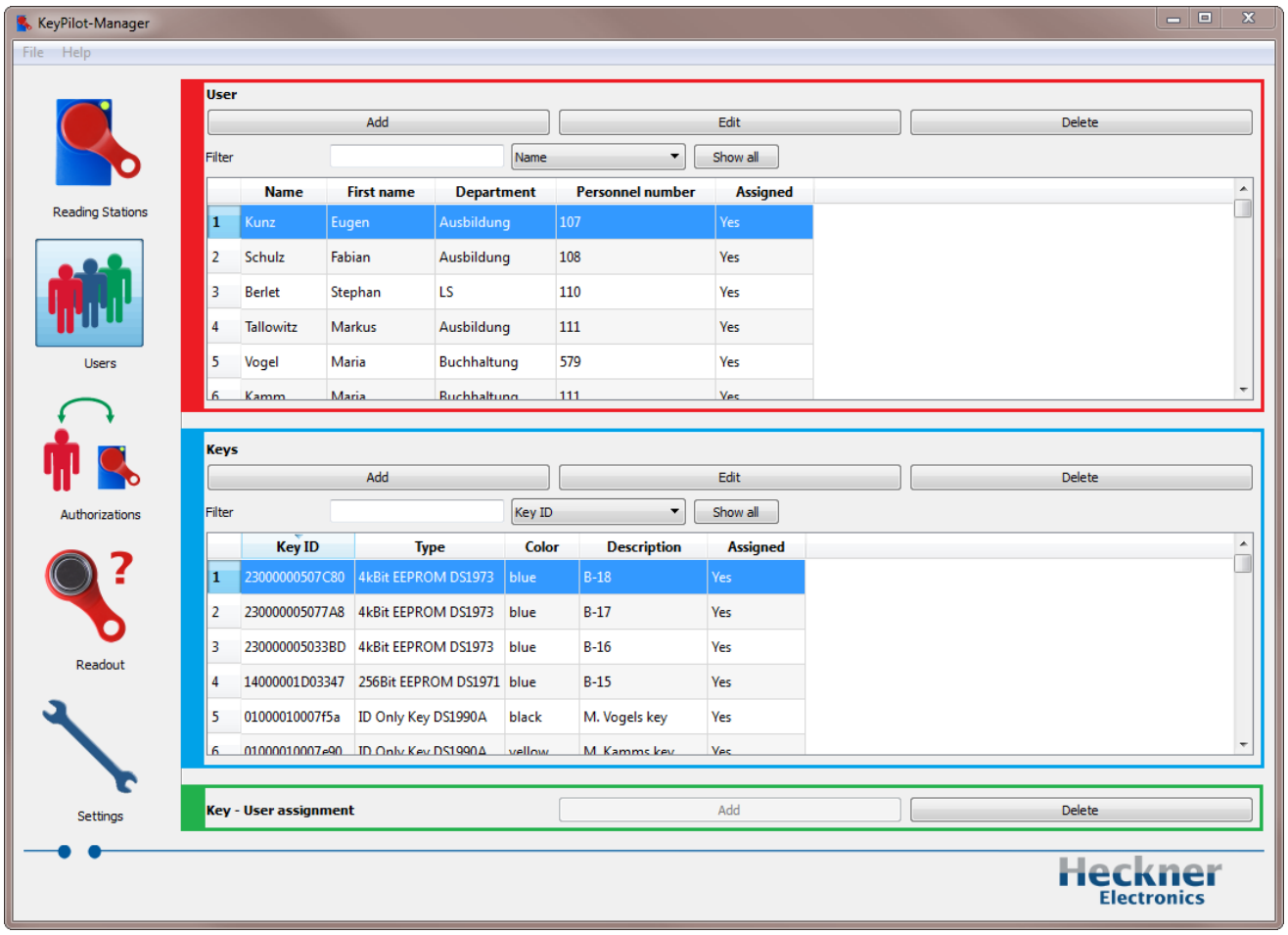
7.4 Transferring Configuration

Using this function it is possible to transfer and write the configuration on a Setup Key.



First chose the desired **Reading Station**. Afterwards place the Setup Key on the active Setup Station and click on “Write configuration to setup key”.

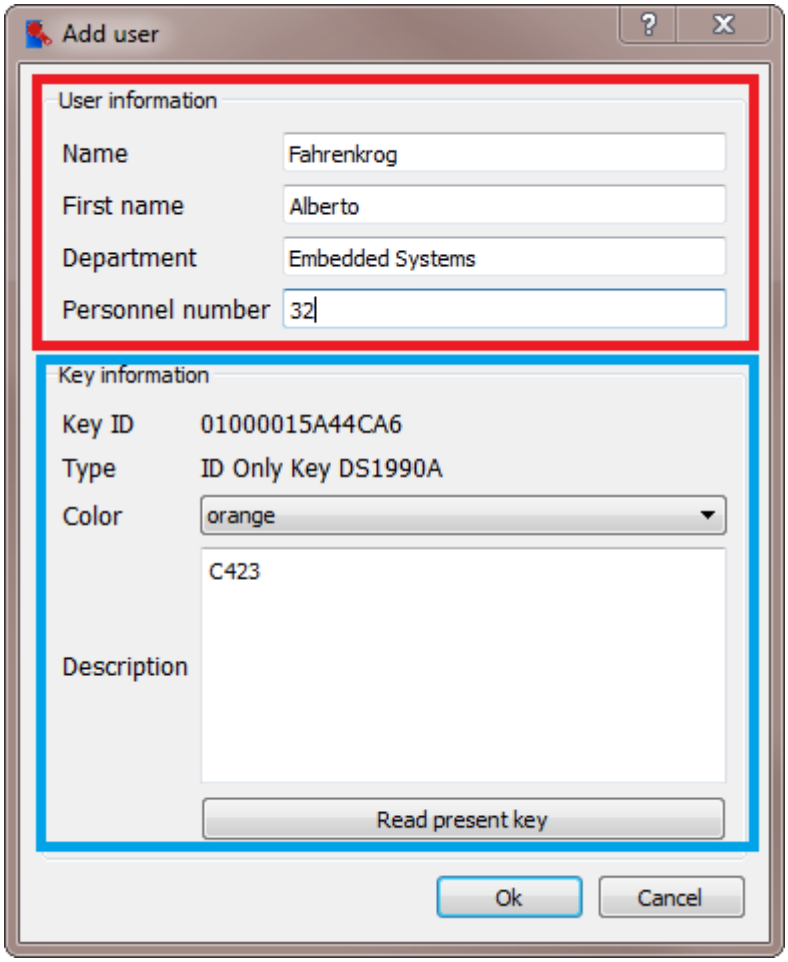
8. User Page



This Menu consists of three parts. In the upper area (**red**) **Users** are added, and in the middle area (**blue**) **Keys** are added. In the lower area (**green**) **Users and Keys are assigned to each other**.

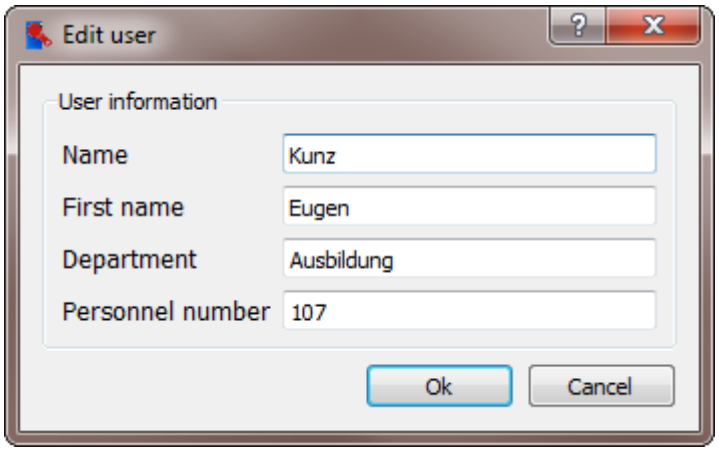
8.1 User

8.1.1 Adding a User



In the dialog window „Add User“ it is possible to create users without (red frame) or with (blue frame) a key assignment.
An immediate key assignment **is not necessary**. It is possible to add a user without any key assignment and later assign the key to said user.
Notice that there are **no mandatory fields** on this dialog windows – a meaningful and unique assignment of values is recommended.
“Double” users are accepted by the system, but a unique authorization identification later in the process can become very complicated/impossible.

8.1.2 Editing User Data



Since all user data is independent of the software logic and are used only as an overview tool, it is possible to change this data anytime.
We recommend the following procedure:

- go to the Users page
- chose a user from the table
- click on „Edit“ on the „User“ table

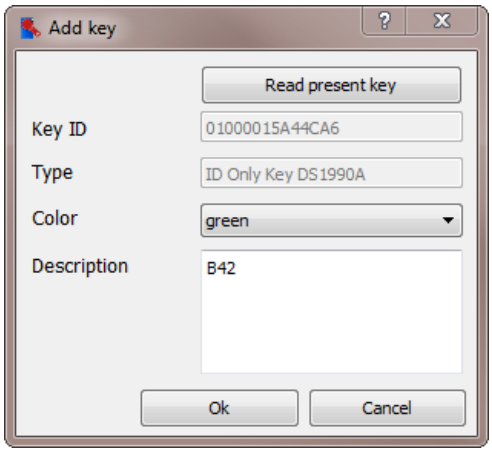
8.1.3 Removing a User

To remove a user follow these steps:

- go to the Users page
- chose a user from the table
- click on „Delete“ on the „User“ table
- confirm the security dialog

8.2 Key

8.2.1 Adding a Key



In the dialog window „Add key“ it is possible to add new KeyPilot keys into the system. Follow these steps:

- go to the Users page
- click on „Add“ on the „Keys“ table
- place a KeyPilot Authorization Key on the active KeyPilot Setup Station
- click on „Read present key“
- confirm with „Ok“

Adding a description as well as adding a color are used to maintain a better overview, these steps however are not mandatory.

8.2.2 Editing a Key

On the dialog window „Edit key“ it is possible to add/change the description and color at a later point.

Follow these steps:

- go to the Users page
- select a key from the table
- click on „Edit“ on the „Keys“ table

8.2.3 Removing a Key

To remove a key, follow these steps:

- go to the User page
- select a key from the table
- click on „Delete“ on the „Keys“ table
- confirm the security dialog

8.3 User – Key Assignment

8.3.1 Adding an Assignment

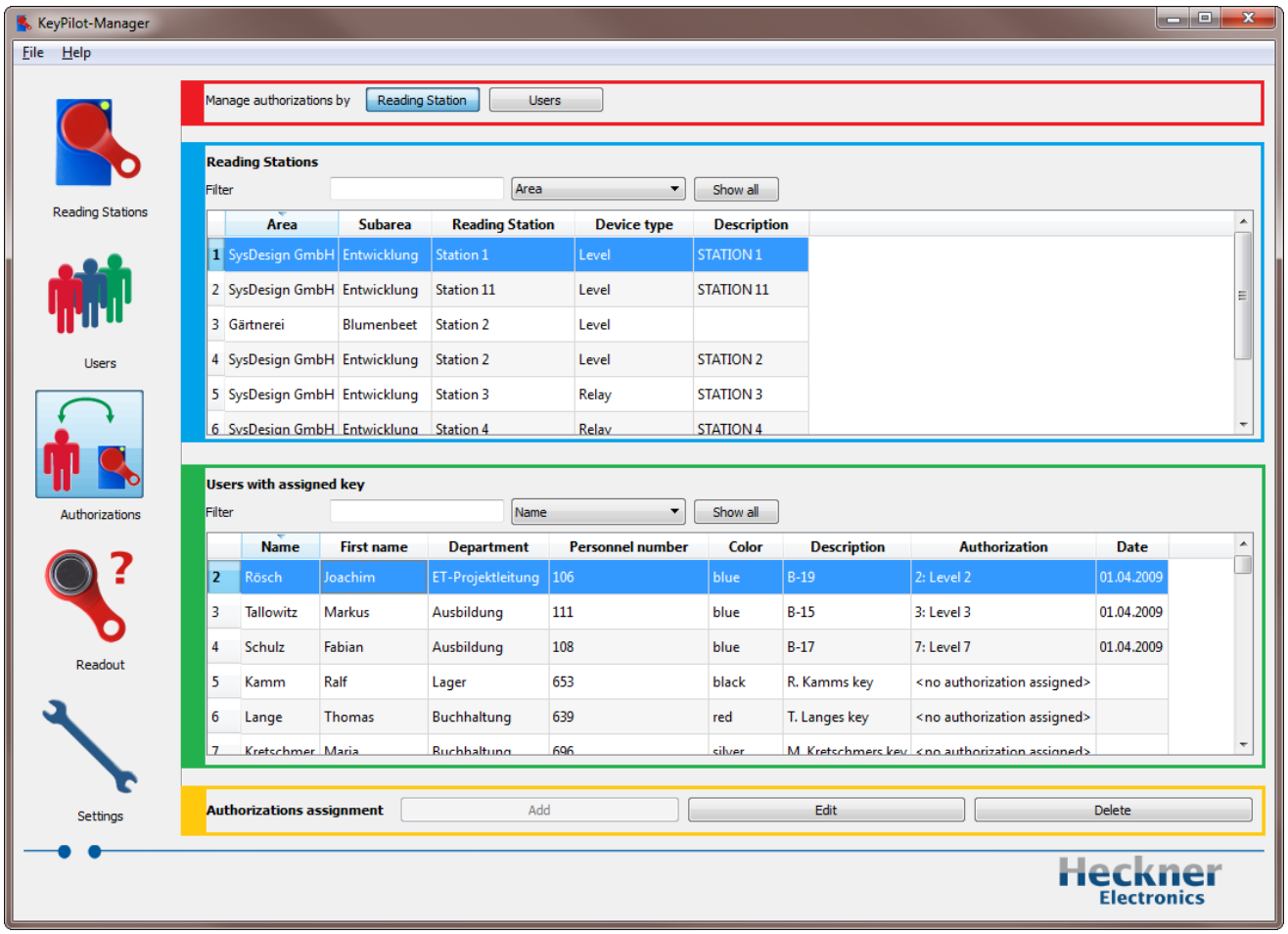
To give a certain user at some point in time an authorization for a Reading Station, he must have access to a KeyPilot Authorization Key.
To achieve that, follow these steps

- go to the Users page
- select a user from the page
- chose the key to be assigned to said user
- click on „Add“ in the partial area „Key – User Assignment“

8.3.2 Removing an assignment

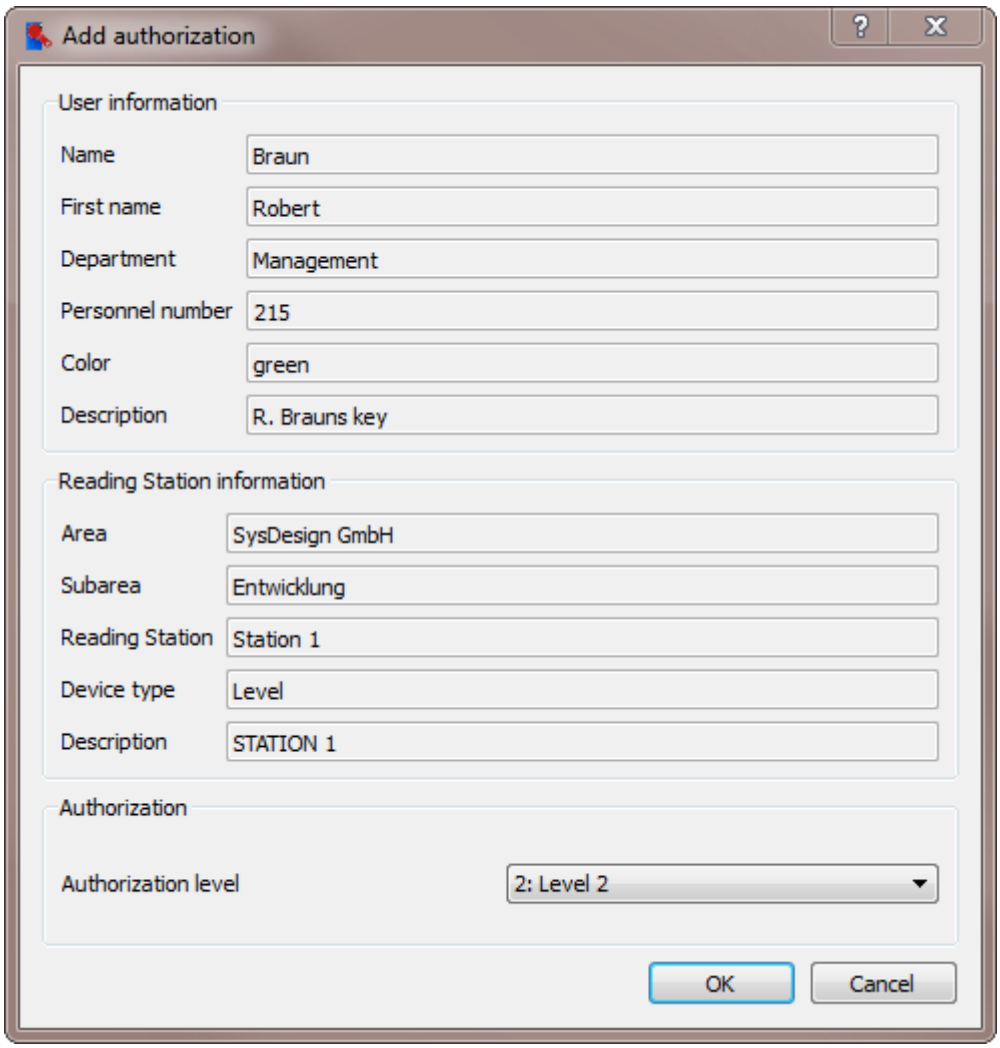
To delete or remove a User – Key assignment, you can either choose the user end or the key end. The corresponding counterpart will be highlighted automatically.
Click on “Delete” in the partial area “Key – User Assignment”.

9. Authorizations Page



This menu consists of four areas. In the first area (**red**) it is possible to choose the **reference point** where the data can be changed. The active button indicates which table is show in the upper area (**blue**) – in the present example Reading Stations. This is necessary because the lower area (**green**) shows only properties, which are selected **depending on the reference point in the upper area (red)**.
Through combinations in the blue and green area it's possible to use the bottom area (**yellow**). In this area authorizations are assigned, edited or removed.

9.1 Add new Authorization



To add a new authorization on a Reading Station follow these steps:

- change into the „Authorizations“ menu
- choose the Reading Station to which you want to assign an authorization
- choose a user who has no authorization assigned
- click in the „Authorizations assignment“ area the „Add“ button
- choose one of the available authorization levels and confirm with „Ok“

9.2 Editing Authorizations

To edit an authorization follow these steps:

- change into the „Authorizations“ menu
- choose the Reading Station in which you want to edit an authorization
- choose the user whose authorization you wish to edit

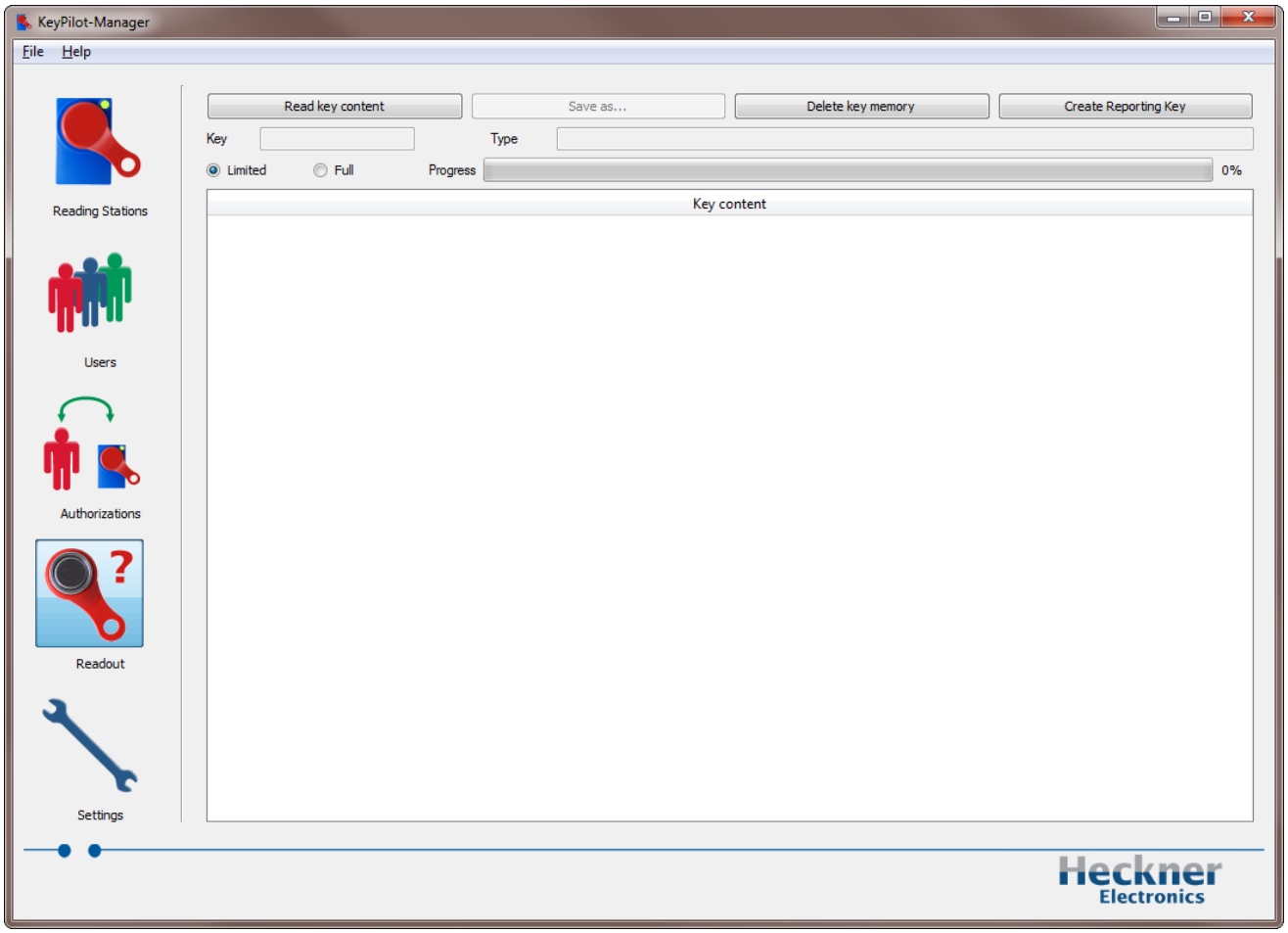
- click in the „Authorizations assignment “ area the „Edit“ button
- choose one of the available authorization levels and confirm with „Ok“

9.3 Removing an authorization

To remove an authorization from a Reading Station follow these steps:

- change into the „Authorizations“ menu
- choose the Reading Station from which you want to remove an authorization
- choose the user whose authorization you wish to remove
- click on “Delete” and confirm with „Ok“

10. Reading a Page



In this menu you can:

- read the Key ID
- read the Key type
- read the memory content of a Setup Key
- save the read data in a separate file

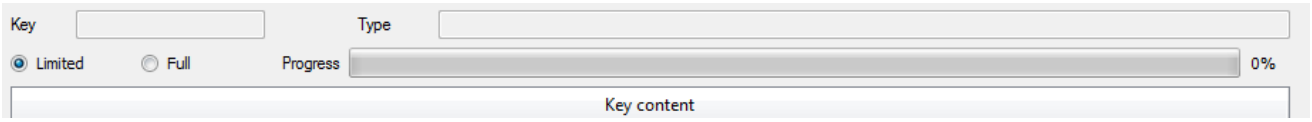
10.1 Reading a Key

To read a key follow these steps:

- change into the „Readout“ Menu
- place the key to be read on the active KeyPilot
- click on „Read key content“

Please note, that some **Authorization Keys have no memory**. If you read out such an Authorization Key, the information displayed will **only** be the **ID and the type**.
On a **Setup Key** the **content of its memory** will be displayed on the “Key Content” table, which you are able to save as a separate file.

10.1.1.1 Read Attributes



There are two ways of reading the key data:

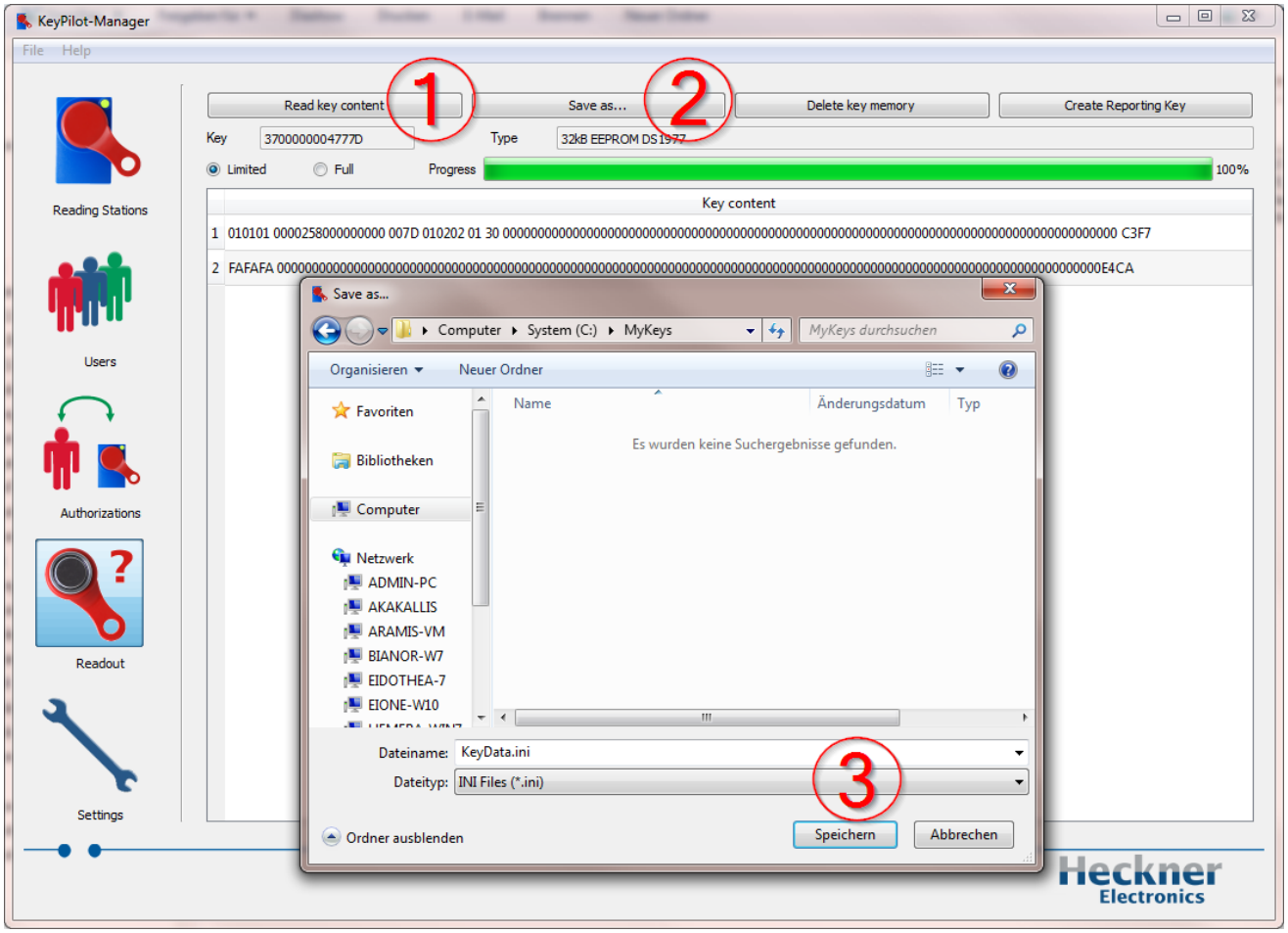
- **Limited**

With this option active the key memory is read **only until the end marker**. Data which may be stored after this marker are not read or displayed. Such data can appear when a Setup Key was used for different Reading Stations, and the current data set is shorter than the previous one.

- **Full**

To read out the complete memory content of a Setup Key choose this option. Here, all possible **end markers are ignored** and the key is read until the end of the memory area.

11. Saving Key Data on a File



To save the key data of a Setup Key into a separate file, follow these steps:

- change into the „**Readout**“ menu
- place the key you want to read out on the active station
- click on „Read key content“ **(1)**
- click on „Save as…“ **(2)**
- choose your desired save folder/filename and confirm with „Save“ **(3)**

11.1 Erasing Key Data

To erase the content of a Setup Key follow these steps:

- change into the „**Readout**“ menu
- place the key you want to read out on the active station
- click on „Delete key memory“

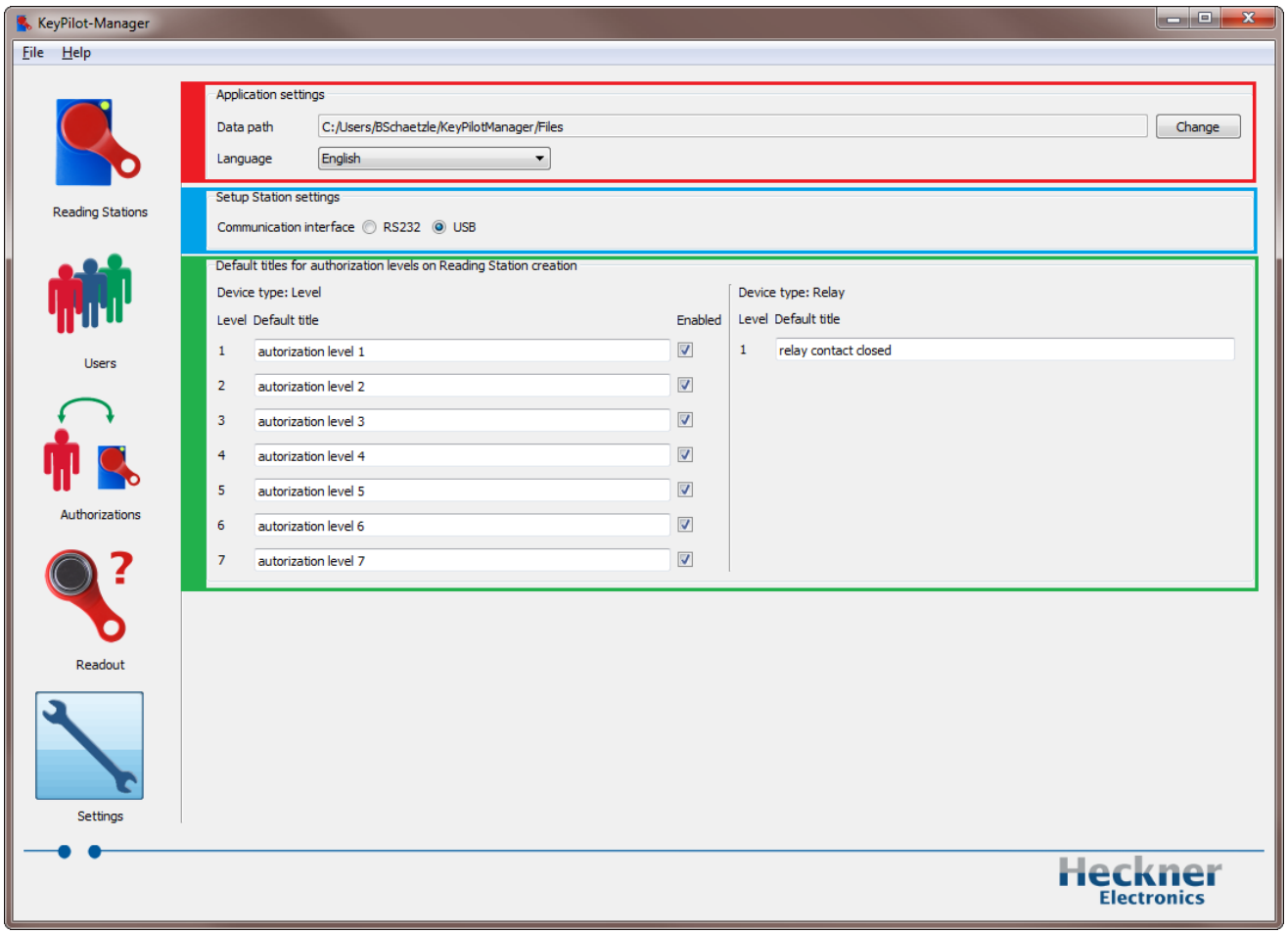
11.2 Create a Reporting Key

A Reporting Key can be used to copy the memory content of a Reading Station into a Key with memory. To achieve this a Setup Key is used, which will be completely erased and then receives a command to read data from the Reading Station.

Follow these steps:

- change into the „**Readout**“ menu
- place the key you want to use as Reporting Key on the active station
- click on „Create reporting key“

12. Settings Page



This menu presents the basic configuration of the system. It is divided in three sectors.

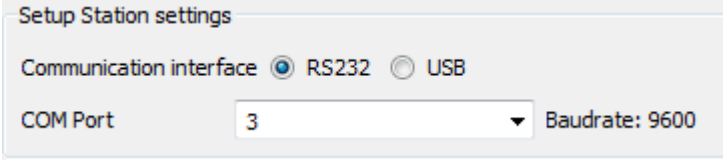
- **Application settings**

The data path shows the folder on which user defined data is stored as well as read from.

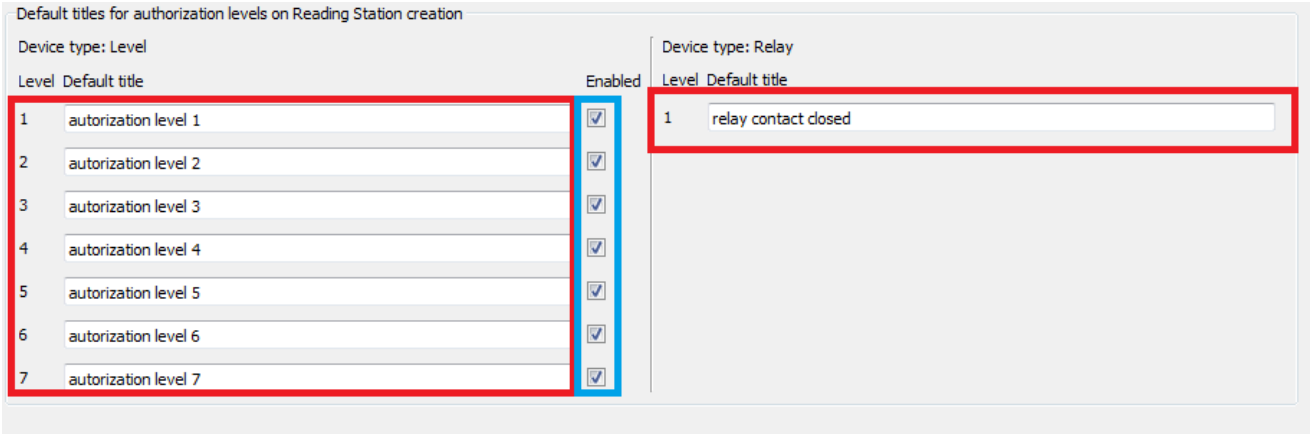
On the language configuration you can choose the KeyPilot – Managers language

- **Setup Station settings**

Here you can choose, which KeyPilot you want to use for configuration. When using a RS232 – KeyPilot note that the communication port must also be configured:



- **Default titles for the authorization levels when placing a Reading Station**



Here you can define the **default titles (red)** for a Reading Station. These values are displayed when creating a new Reading Station as **default values**.
Furthermore, it is possible to preset the "**Enabled**" (**blue**) attribute for a Level – Reading Station.