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Software Version 04.03.22

Datafox accompanying booklet

Flexible data acquisition with method

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The software accompanying booklet is an addition to the current manuals. It describes new functionality available with this software release.

The following figure shows, for which devices the following section applies – if no additional information is present there.

The affected individual devices are marked using the ☒ symbol.

 PZE V4	 PZE Basic V4	 AE V4	 EVO 4.3 / 4.6	 EVO 2.8 / 3.5	 EVO 5.0	 KYO Inloc / IO Box V4	 Mobil-Box V4	 KYO Oneloc	 KYO Fourloc	 KYO Cenloc	 EVO Intera II	 EVO-IPC
☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒

Content

1.	Introduction	1
1.1.	Overview	1
2.	New "Multiple configurations" transponder method	1
2.1.	General information.....	1
2.2.	Configuration in DatafoxStudioIV	2
2.3.	Restriction of the configurations to be used.....	3
2.3.1.	Settings in the operation for reading ID cards.....	3
2.3.2.	Settings in the operation for writing on ID cards	3
2.3.3.	Settings in access control.....	3
2.4.	Permitted transponder readers.....	4
2.4.1.	Applicability of configurations	4
2.5.	Restrictions	5
2.6.	Notes	5
3.	Datafox RFID-Modul Mifare (DF-R46 MB)	5
4.	EVO Intera II – Extension phg Crypt – protocol	7
4.1.	Support of the SET_UI_EXT command for extended UI control (0x85)	7
4.2.	EVO Intera II MB – Multi-sequence commands for Mifare Desfire	7

1. Introduction

We appreciate your interest in the extended functionality of the new software release.

We aim to provide a quick start into the functional enhancements of firmware version 04.03.21 by providing this document.

The most recent software accompanying booklet was associated to release 04.03.21 – you can access it through the Datafox Website → “Downloads” → “Datafox Software” → “Current Firmware (MasterIV V4)”.


























1.1. Overview

With the latest software, we have been able to further increase the range of functions of the V4 generation of devices.

The most prominent features are:

- [New "Multiple configurations" transponder method](#)
- [Datafox RFID-Modul Mifare \(DF-R46 MB\)](#)
- [EVO Intera II – Extension phg Crypt - protocol](#)
 - [Support of the SET_UI_EXT command for extended UI control \(0x85\)](#)
 - [EVO Intera II MB – Multi-sequence commands for Mifare Desfire](#)

2. New "Multiple configurations" transponder method

 PZE V4	 PZE Basic V4	 AE V4	 EVO 4.3 / 4.6	 EVO 2.8 / 3.5	 EVO 5.0	 KYO Inloc / IO Box V4	 Mobil-Box V4	 KYO Onelec	 KYO Fourloc	 KYO Centloc	 EVO Intera II	 EVO-IPC
												

2.1. General information

With the release of version 04.03.22.01, the new "multi-configuration" transponder procedure is available in the firmware and in DatafoxStudioIV. With the help of the new procedure, badges (transponders) of different procedures can be accessed both in the operation of the devices (field function) and in access control:

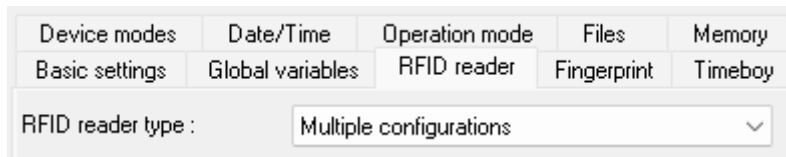
- Up to five different transponder types can be stored in the device configuration.
- These can differ both in the procedure (Mifare Classic, Mifare DESFire, Legic Prime and Legic Advant) and in the access authorizations / applications.

This mixed operation is helpful, for example, when...

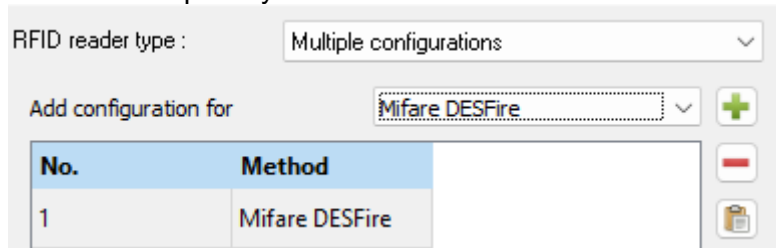
- ... the ID cards of all employees in larger facilities are to be gradually replaced by others.
- ... different companies are located in one building, each of which has its own ID cards.

2.2. Configuration in DatafoxStudioIV

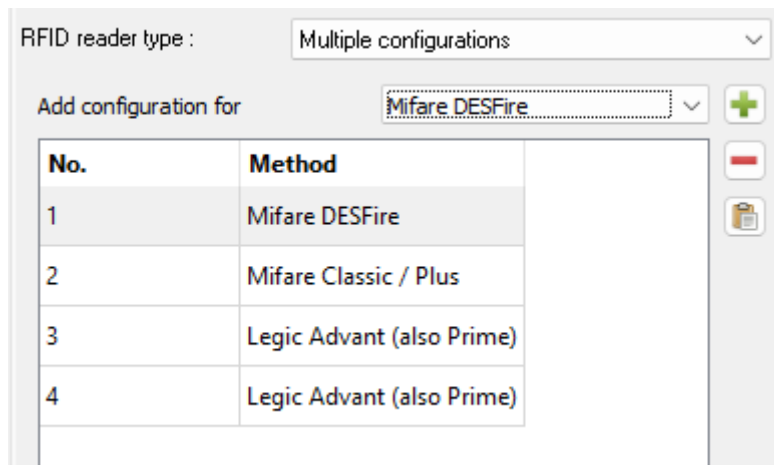
As usual, this new transponder method can be set under the "RFID reader" tab.



In the settings screen, the configurations can be added after preselecting the transponder type using the button with the plus symbol:



A separate dialog is opened by double-clicking or by pressing the pencil icon after selecting the transponder type. The structure in the configuration dialog that opens corresponds to the respective transponder type. Up to five configurations can be created in this way. A possible arrangement of the configurations could look as follows:



The numbering displayed next to it determines the order in which the configurations are applied to the badge - first no. 1, then no. 2, etc.

As soon as a configuration has been successfully applied, no further attempts are made on the stored badge and the read data is accepted.

Before a configuration is applied to a badge, the type of badge and the selected transponder type are compared with each other. This means that only those configurations whose types match are applied to a badge.

Example: A DESFire badge is held in front of the transponder reader. This is only processed if a DESFire configuration is also available. If this is not the case, the badge is ignored. Otherwise, the existing DESFire configurations are tried through until one could be applied or all have been tried.



Note:

When creating the configurations according to a desired sequence, certain properties of the badges should be considered. As each attempt to apply a configuration to a badge takes time, the booking time may vary depending on the properties of a badge. Appropriate tests should be carried out in advance with the ID cards to be used to optimize the order of the configurations if necessary.

Example: If Legic Prime and Legic Advant badges are used, care should be taken when creating the configurations to ensure that the global settings are selected appropriately. If, for example, an attempt is made to work with a Prime ID card using a search string and the configuration for Legic Advant is tried first and then the configuration for Prime, it will take around four seconds before the second configuration can be used due to the first failure. This is due to the properties of the transponder reader and its waiting times in the event of unsuccessful attempts.

2.3. Restriction of the configurations to be used

To cover different use cases, individual configurations can be (de)activated both in operation (per field function) and in access control. This option further increases flexibility.

2.3.1. Settings in the operation for reading ID cards

The previously created configurations for the corresponding field function can be selected in the "Advanced" tab.

Input Advanced Jumps

Approved sources of input

Keyboard, Automatic

Barcode or By button

RFID reader (Option) Additional

Anzuwendende Konfigurationen

1. Mifare Desfire

2. Mifare Plus

3. Legic Advant

4. Legic Advant

5. Unused

2.3.2. Settings in the operation for writing on ID cards

In the field function that can be used to write to ID cards, the configurations to be used can be selected as in section [2.3.1](#).

For the configuration options available for DataOnCard and writing fingerprint templates, the configurations are still set using the drop-down box

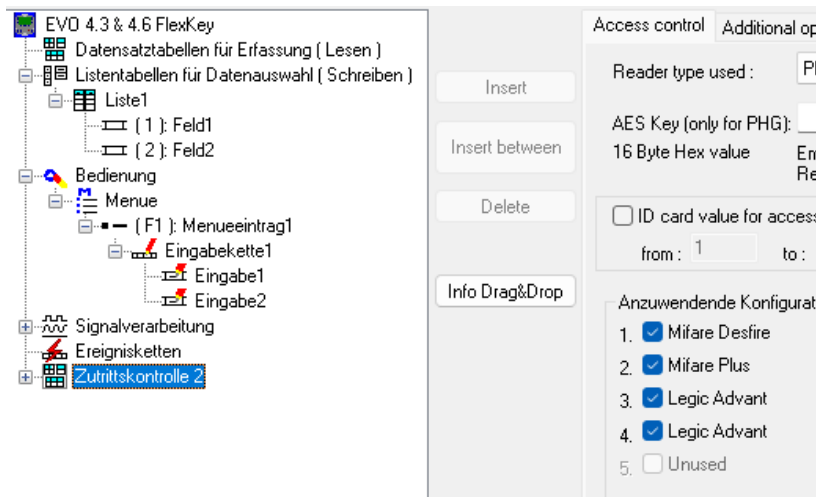
Write ID card value

RFID reader configuration : 1. Mifare DESFire

With the "Multiple configurations" transponder type, the transponder configuration set will be the first to be applied to the transponder held. If this cannot be applied successfully, the configurations are tried in ascending order as described in section [2.2](#) (e.g. first no. 1, then no. 2, etc.).

2.3.3. Settings in access control

In access control, this setting option can be found under the "Access control" tab.



Note:

As already explained in Chapter [2.2](#) Configuration in DatafoxStudioIV, each attempt to apply a configuration to a badge takes some time. This is particularly noticeable with the readers in the access bus. Therefore, only those configurations should be selected that are also required in this context to avoid unnecessary waiting times when booking at the access readers.

2.4. Permitted transponder readers

The new "multi-configuration" transponder method can be used with the following transponder readers in the terminals or access readers:

- DF-R43 Mifare,
- DF-R43 Legic,
- DF-R44 Multi-HF (but not with EVO Agera),
- DF-R46 MB.

The assignment of the transponder readers to the terminals or access readers can be found in the [RFID info sheet](#).

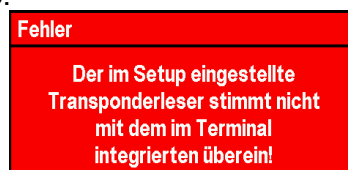


Attention:

When downgrading the firmware to a version lower than 04.03.22, it must be noted that the DF-R43 Mifare / Legic transponder readers may still retain read configurations and therefore the reading behaviour may differ compared to other devices with these transponder readers.

2.4.1. Applicability of configurations

The transponder readers listed above (DF-R43 Mifare, DF-R43 Legic, ...) may process different types of transponders. Depending on which configurations are available to the terminals or access readers, they may or may not be able to process the badges. If no usable configuration is available to a terminal at all, the following error message is displayed after starting the setup:



If there is no configuration for an access reader, it is permanently switched to red.

Examples:

The error message would appear if a terminal with an installed DF-R44 Multi-HF (which can only process Mifare ID cards) only has configurations of the "Legic Advant (also Prime)" reading method available.

In this case, Mifare access readers would be permanently switched to red. In this state, the access readers do not process any badges. For example, this would be the case for an access reader with an installed DF-R43 Mifare and with the "Legic Advant (also Prime)" reading method configurations.

2.5. Restrictions














This chapter explains which functions are **not** available with the "Multiple configurations" transponder method.

- The processing of **Mifare DESFire ID cards with Random UID** is not supported by the DF-R43 Legic module.
- The distinction between **Mifare Plus SL1** and **Mifare DESFire** is not possible with the DF-R43 Legic module. Which configuration is used must be checked in advance.
- Multiple configurations with the **EVO Agera** is not supported in access control, the reader is permanently set to red for clarification - bookings on this access reader are therefore not processed.
- In general, **U&Z radio modules** are not supported because, among other things, the reading of Mifare Classic ID cards is not supported by the Legic version of the U&Z modules and the functionality of this new transponder method is also difficult to apply to the U&Z radio modules.
- **Reading and writing of fingerprint templates** via the DF-R43 Legic / Mifare and DF-R46 MB transponder readers is not yet supported. This restriction will be removed in a future firmware version.


2.6. Notes

- The functionality of the adjustable procedures in the "Multiple configurations" method is identical to the individually adjustable types - regarding the read and the write behaviour.
- Adjustments to transponder values that are set in a field function or in access control are applied to each transponder value. For example, **all transponder values** are then cut according to the set scheme. This must be considered when editing the setup.















3. Datafox RFID-Modul Mifare (DF-R46 MB)


 PZE V4	 PZE Basic V4	 AE V4	 EVO 4.3 / 4.6	 EVO 2.8 / 3.5	 EVO 5.0	 KYO Inloc / IO Box V4	 Mobil-Box V4	 KYO Onelec	 KYO Fourloc	 KYO Centloc	 EVO Intera II	 EVO-IPC
✗	✗	✗	✗	✗	✗	✗	✗					✗

As of this version, the new Datafox RFID module DF-R46 MB is supported. The module can read from and write to both Mifare Classic and Mifare DESFire ID cards. Due to direct integration of the reader hardware into the main PCB, the reader module of the DF-R44 could be removed resulting a price reduction of one third at same functionality.

Note:  Details of the devices in which the new reader can be used and which processes are supported can be found in the [RFID info sheet](#).

4. EVO Intera II – Extension phg Crypt – protocol


Note:  These changes are only relevant if the EVO Intera II has been integrated at protocol level, not in conjunction with the Datafox access controllers.

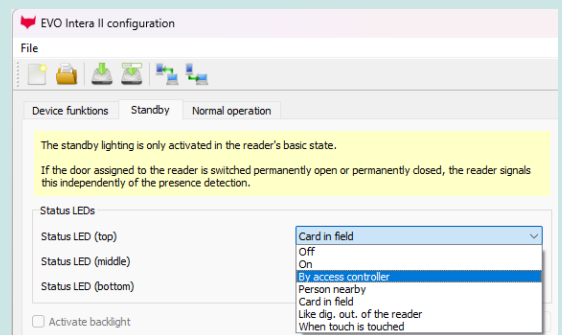
4.1. Support of the SET_UI_EXT command for extended UI control (0x85)

The new EVO Intera II firmware can now also use the SET_UI_EXT command for extended activation of the LEDs / buzzer:

In contrast to the SET_USER_INTERFACE command (0x55), the LEDs can be controlled in any combination here, and RGB values can also be transferred.

The length of the command is dynamic and depends on the number of LEDs concerned. For each LED, the number, the control byte and the control time are sent to the controller for each LED, with the individual sequences being placed one after the other accordingly. Several channels can also be set simultaneously; the bits set in the UI channel byte indicate the corresponding channels affected.

Note:  If the controller sends the SET_UI_EXT command, it is necessary for the affected LED to be controlled "by (the) access controller" in the EVO Intera II configuration.



4.2. EVO Intera II MB – Multi-sequence commands for Mifare Desfire

Like the other EVO Intera II models, the EVO Intera II MB now supports the multi-sequence commands for writing (0x57 0x12) and reading (0x47 0x12) Mifare Desfire ID cards. This means that larger amounts of data can be transferred without the need to log in to the card again.