



Software Release Documentation MasterIV 04.02, 04.03

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1 Compatibility of Hardware, Software and Firmware Versions

1.1 Scheme for enumerating MasterIV versions

The configuration tool DatafoxStudioIV uses a version scheme 04.yy.zz.
The system is put to use starting with the 4th software generation.

1.2 Structure of the version number

The version number is structured into the following sections:

Product name	XX.	YY.	ZZ.	Build
	Software generation release number	Compatibility	Release number	Patch Level

Note:



The quadruple of software generation, compatibility, release number and patch level are identifying a unique release version number. The build- and version number may be different between Firmware, DatafoxStudioIV and DFComDLL – compatibility is still guaranteed.
Example: Firmware 04.03.00.23 is compatible to DatafoxStudioIV 04.03.01.03 and DFComDLL 04.03.01.03.

- The SOFTWARE GENERATION identifies all versions of software for a specific hardware series.
- The COMPATIBILITY collects versions with equivalent features in functionality. In case of very basic hardware or software changes, this number is increased, e.g. when enhancing access control from version 1 to version 2 or when changing the hardware from V2 to V3 devices.
- The RELEASE NUMBER separates planned functionality upgrades. A feature enhancement creates a new version number, e.g. adding http Level 1 functionality changed 04.03.09.xx to 04.03.10.xx.
- A change in patch level represents an update version corresponding to a bug fix release.

Attention:



When using DatafoxStudioIV, the release number of the Studio and the DFComDLL must match. Using DatafoxStudioIV 04.03.01.xx requires using DFComDLL 04.03.01.xx as well, DatafoxStudioIV 04.03.02.xx would require DFComDLL 04.03.02.xx.

DatafoxStudioIV and the DFComDLL can be used to handle firmware version up to their release number. This means, if you are using firmware releases 04.03.01.xx, 04.03.02.xx and 04.03.03.xx you will need at least DatafoxStudioIV and DFComDLL 04.03.03.xx

1.3 Compatibility between DatafoxStudioIV – DFComDLL – Firmware

DatafoxStudioIV	DFComDLL	Firmware
04.03.00	04.03.00	04.03.00
04.03.01	04.03.01	04.03.00 – 04.03.01
04.03.02	04.03.02	04.03.00 – 04.03.02
04.03.03	04.03.03	04.03.00 – 04.03.03

Please interpret the table above in the following way:

If you are using DatafoxStudioIV version 04.03.02.01 the DFComDLL version has to be 04.03.02.01. You may process Firmware releases 04.03.00.xx up to 04.03.02.xx.

1.4 Compatibility of Hardware versions

This section shows, which firmware versions may be used with hardware versions. The hardware version is included from software release 04.01.xx into the devices and may be accessed using the BIOS dialog from DatafoxStudioIV.

Hardwareversion	Flash Memory	Controller	Firmware version
1.1	ATMEL (AT45DB161)	ATmega128	04.00
1.2 – 1.4	ATMEL (AT45DB161)	ATmega128	04.00 – 04.01
2.0 – 2.1	ATMEL (AT45DB321C/D)	ATmega128	04.01
3.0	ATMEL (AT45DB642D)	ATmega2560	04.02
4.0		ARM Cortex M4	04.03



Attention:

For Hardware revision V4, you may only use firmware versions 04.03. Hardware revision 3.x may not use firmware release 04.03.



Note:

- If an enhancement/change affects both firmware and software, it is categorized as a firmware topic.
- The manual is amended for enhancements and functional changes. Please note, that these changes will be described in a software amendment as well.
- With hardware revision (also called EVO-Line devices), the devices come with a vast set of functions and combinations thereof. Thus not every combination can be tested during the release test – especially not all combinations used by our customers in setups, we do not know. Therefore it is required that every setup is tested prior using it with an updated version of the firmware. Downward compatibility cannot be guaranteed fully. Please inform us should you encounter any problems linked to a firmware update.



2 Release Version 04.02.05

2.1 Released at January 29th 2018 Firmware 04.02.05.58 DatafoxStudioIV 04.03.10.12 DFComDLL 04.03.10.12

Category	Aspect	Type	.XX	Description of enhancement, change or bug fix
Bugfix	TimeboyIV	FW	.58	When showing a message on the Timeboy's display, the last line of the message was not displayed. This error was corrected.
Bugfix	TimeboyIV	FW	.58	Correction concerning the cyclic communication during power saving mode. Diagnosing a powered Timeboy did not work properly before this change.
Bugfix	http Proxy Server	Studio	.11	The system variables assigned to the http proxy configuration was not read correctly from the INI file. This has been corrected now.
Bugfix	Setup Editor	Studio	.10	- Copying and moving entries within the setup tree to an empty chain correct. Here, a crash could occur. - When renaming entries within the setup tree, the DatafoxStudioIV could experience a crash under certain conditions. This has been corrected.
Bugfix	Communication	DLL	.12	When setting a session timeout of 0 using DFComSetCommunicationPasswort, this lead to renegotiation of the communication channel every second. This behaviour has been corrected now.
Bugfix	Logging	DLL	.12	Extracting data records from a DLL log file now takes the Thread-ID and the Process-ID into account.
Enhancement	Bluetooth for Timeboy	FW	.58	Bluetooth is now available for all Timeboys that do not include a Mifare transponder reader.

2.2 Released at September 10th 2018 Firmware 04.02.05.59 DatafoxStudioIV 04.03.11.11 DFComDLL 04.03.11.11

Category	Aspect	Type	.XX	Description of enhancement, change or bug fix
Bugfix	TimeboyIV	FW	.59	Some device showed the behaviour of delayed display switch-on upon the user switch on event. This behaviour could be observed at devices having main communication set to cell phone network and having been pulled from their docking station recently. This behaviour has been corrected.
Enhancement	TimeboyIV	FW	.59	The sys log entry when operating on cell phone network has been enriched by the reception signal strength (which is the current signal strength) and the minimally required signal strength (for a connection to the provider's network).

2.3 Released at November 11th 2018 Firmware 04.02.05.60 DatafoxStudioIV 04.03.11.11 DFComDLL 04.03.11.11

Category	Aspect	Type	.XX	Description of enhancement, change or bug fix
Enhancement	TimeboyIV	FW	.60	Using the script function df(...) now allows to extract a substring from global variables. This is done by adding position information in brackets. ATTENTION: This function is NOT available for TimeboyIV devices equipped with a Mifare Desfire transponder reader.
Enhancement	TimeboyIV	FW	.60	Using a script function, the value of a global variable my now be converted from hexadecimal representation to binary representation and vice versa (HexToBin(...) and BinToHex(...)) ATTENTION: This function is NOT available for TimeboyIV devices equipped with a Mifare Desfire transponder reader.



3 Release Version 04.03.09

3.1 Released at March 16th 2018 Firmware 04.03.09.18 DatafoxStudioIV 04.03.10.12 DFComDLL 04.03.10.12

Category	Aspect	Type	.XX	Description of enhancement, change or bug fix
Bugfix	2D Barcode Reader	FW	.17	The 2D barcode reader sent sporadically 0xFC characters before the transmission of the barcode read. Such a character is being filtered now, additionally the timing when triggering the barcode reader has been optimized, so that the reader has more time for startup.
Bugfix	EVO 3.5	FW	.17	Corrections applied to the display timing to prevent sporadic “white screen” effect.
Bugfix	EVO ZK Leser Plus	FW	.17	The EVO ZK Leser Plus could not be set to use bus address 0. This is possible now.
Bugfix	Flash Reorder	FW	.17	Devices with Atmel Flash (shipped roughly until March 2017) sporadically experienced startup problems after formatting the flash memory. In these conditions the device showed cyclic restarts and has been corrected with the current firmware release.
Bugfix	IO	FW	.17	Computing the signal processing configuration parameter (counter divider, timeout, cycle, ...) for inputs greater than 16 yielded wrong parameters. The firmware now ensures, that these parameters are only taken directly from the setup settings (and not from the system variable section of the flash memory)
Bugfix	Sending SMS	FW	.17	Sending short text messages using a cell phone modem did not work for firmware release 04.03.09.xx for xx < 17 sometimes. The firmware was corrected to ensure that a short text message is being sent properly.
Bugfix	ZK (Access Control)	FW	.17	Changing a door’s mode from blocked access to standard access using a PHG RFID reader lead to this reader not being available for access control until next restart of the master. This behaviour has been corrected in this release.
Bugfix	ZK (Access Control)	FW	.17	In rare conditions, the field function “access control with GV” using an external DataOnCard RFID reader lead to system restart. To trigger this behaviour, the master may not have an AC-bus configured and the DataOnCard RFID reader had to be the only reader in the RD485 bus. This setup is handled correctly now.
Bugfix	http Proxy Server	Studio	.11	The system variables assigned to the http proxy configuration was not read correctly from the INI file. This has been corrected now.
Bugfix	Setup Editor	Studio	.10	<ul style="list-style-type: none"> - Copying and moving entries within the setup tree to an empty chain correct. Here, a crash could occur. - When renaming entries within the setup tree, the DatafoxStudioIV could experience a crash under certain conditions. This has been corrected.
Bugfix	Communication	DLL	.12	When setting a session timeout of 0 using DFComSetCommunicationPasswort, this lead to renegotiation of the communication channel every second. This behaviour has been corrected now.
Bugfix	Logging	DLL	.12	Extracting data records from a DLL log file now takes the Thread-ID and the Process-ID into account.
Enhancement	AE-MasterIV	FW	.17	Analogue input values have not been displayed on then info page of the AE-Master. This has been corrected.
Enhancement	Transponder	FW	.17	Support for the RFID reader PHG Relino B has been added. The Relino B does not provide DataOnCard-functionality currently.
PCN 2017P1	Hardware	FW	.18	Support for the updated LED Backlight module (used for Transponder, Logo, etc.) and new touch screen controller for the EVO 4.3 has been added according PCN Email from September 20 th 2017.

Category	Aspect	Type	.XX	Description of enhancement, change or bug fix
Bugfix	Fingerprint	Studio	.11	<ul style="list-style-type: none"> - The dialog for deleting fingerprint template remotely on the device did wrong error handling. This dialog now correctly displays the cause, if removing the fingerprint templates failed. - Checking for fingerprints in the sensor was done wrongly during restore of a fingerprint template backup. This led to fingerprint template not being deleted in previous versions during restore. - The field function "Fingerprint: Finger Administration" used the global variable selected on the last page of the editor. This has been changed to the global variable on the first page of the editor.

3.2 Released at March 22nd 2019

Firmware 04.03.09.20

DatafoxStudioIV 04.03.12.15

DFComDLL 04.03.12.05

Category	Aspect	Type	.XX	Description of enhancement, change or bug fix
Bugfix	Flash Driver	FW	.09.20	Wear-Levelling for the flash memory enhanced, so that flash lifetime does not deteriorate when the device is being used in http/https mode.
Enhancement	Hardware-V4 Devices	FW Studio	.09.20 .12.05	Support for new hardware components added according to PCN 2018-P-02 excluding EVO 3.5 Universal. Please see https://www.datafox.de/dfr/index.php?dir=pcn.2018-2&sort=T&order=D .

4 Release Version 04.03.10

4.1 Released at March 16th 2018

Firmware 04.03.10.10

DatafoxStudioIV 04.03.10.12

DFComDLL 04.03.10.12

Category	Aspect	Type	.XX	Description of enhancement, change or bug fix
Bugfix	2D Barcode Reader	FW	.07	The 2D barcode reader sent sporadically 0xFC characters before the transmission of the barcode read. Such a character is being filtered now, additionally the timing when triggering the barcode reader has been optimized, so that the reader has more time for startup.
Bugfix	Active Mode Failover	FW	.09	With activated NOTIFY option active mode failover did not work properly. The device did not reconnect to the secondary server after a fallback, provided the primary server was not reachable. This behaviour has been corrected.
Bugfix	EVO ZK Leser Plus	FW	.07	<ul style="list-style-type: none"> - The EVO ZK Leser Plus could not be set to use bus address 0. This is possible now. - RFID tags could not be read when a USB cable was attached to the EVO ZK Leser Plus.
Bugfix	Fingerprint optical sensor	FW	.07	<ul style="list-style-type: none"> - Backup and restore of fingerprint templates returned an unknown error in some cases. The error reporting has been corrected. - Enrolling a user with PID 0 lead to all fingerprint templates on the module being erase. Using PID 0 during enrolment is prevented now.
Bugfix	http	FW	.08	With version 04.03.10.07 datasets were not reported correctly using http protocol, provided there were datasets present on the device during system startup. This behaviour has been corrected with 04.03.10.08.
Bugfix	http / Service Mode	FW	.09	Provided an active mode server is configured, this server was not used as a maintenance server in http mode if the setup is erased on the device. This behaviour has been corrected.
Bugfix	Receiving SMS	FW	.07	Short text messages triggering the service mode were not interpreted correctly if the line end style was different than expected. This was corrected.



Category	Aspect	Type	.XX	Description of enhancement, change or bug fix
Bugfix	USB / LAN	FW	.08	With attached USB cable and detached LAN cable starting up USB communication took up to 20 seconds after rebooting the device. This time lag was reduced, so that a device reports quicker to a present USB connection.
Bugfix	ZK (Access Control)	FW	.07	Changing a door's mode from blocked access to standard access using a PHG RFID reader lead to this reader not being available for access control until next restart of the master. This behaviour has been corrected in this release.
Bugfix	Fingerprint	Studio	.11	<ul style="list-style-type: none"> - The dialog for deleting fingerprint template remotely on the device did wrong error handling. This dialog now correctly displays the cause, if removing the fingerprint templates failed. - Checking for fingerprints in the sensor was done wrongly during restore of a fingerprint template backup. This led to fingerprint template not being deleted in previous versions during restore. - The field function "Fingerprint: Finger Administration" used the global variable selected on the last page of the editor. This has been changed to the global variable on the first page of the editor.
Bugfix	http Proxy Server	Studio	.11	The system variables assigned to the http proxy configuration was not read correctly from the INI file. This has been corrected now.
Bugfix	Setup Editor	Studio	.10	<ul style="list-style-type: none"> - Copying and moving entries within the setup tree to an empty chain correct. Here, a crash could occur. - When renaming entries within the setup tree, the DatafoxStudioIV could experience a crash under certain conditions. This has been corrected.
Bugfix	Communication	DLL	.12	When setting a session timeout of 0 using DFCSetCommunicationPasswort, this lead to renegotiation of the communication channel every second. This behaviour has been corrected now.
Bugfix	Logging	DLL	.12	Extracting data records from a DLL log file now takes the Thread-ID and the Process-ID into account.
Enhancement	Fahrzeugdatenlogger (Vehicle Data Logger)	FW	.07	Correction concerning the cyclic communication during power saving mode. Diagnosing a powered Timeboy did not work properly before this change.
Enhancement	GPS-Navi-Mouse	FW	.07	Support for GPS Navi Mouses using a LEA 7 module has been added.
Enhancement	Logging	FW	.09	<ul style="list-style-type: none"> - Logging of time slices for executing an http transaction (log switch HTTP) has been added. If enabled, the starting timestamp (OPEN, ms since system startup), the time used for establishing the connection (ESTABLISHED, ms since OPEN), time used for sending the query (SEND, ms since OPEN), time when receiving the first byte of the answer (RECV, ms since OPEN) and time when closing the connection (CLOSE, ms since OPEN) is logged along with the number of transmitted data PACKETS. - Logging of connection parameters for http transaction (log switch TCP/IP) has been added. Here, Source-IP-Address, Source-Port, Destination-IP-Address and Destination-Port are recorded. - Log texts up to 2000 characters are split into multiple lines in the log now.

4.2 Released at April 13th 2018

Firmware 04.03.10.12

DatafoxStudioIV 04.03.10.12

DFComDLL 04.03.10.12

Category	Aspect	Type	.XX	Description of enhancement, change or bug fix
Bugfix	BIOS	FW	.12	<ul style="list-style-type: none"> - Displaying the IP-Adresse of the Active-Mode Server corrected. Instead of the primary server's IP address, the address of the secondary server was display in LAN mode. - Fixes configuring the LAN parameters in the BIOS: <ul style="list-style-type: none"> o During device startup changing of a network setting resulted in a device restart. o During normal operation, changing a network setting resulted in device restart if no LAN cable was connected.
Bugfix	Fingerprint line sensor	FW	.11	Disrupting influence on the line sensor caused by RFID readers operating at 13,56 MHz (Mifare or NFC) suppressed.

4.3 Released at May 9th 2018

Firmware 04.03.10.13

DatafoxStudioIV 04.03.10.12

DFComDLL 04.03.10.12

Category	Aspect	Type	.XX	Description of enhancement, change or bug fix
Bugfix	Fingerprint line sensor, Biokey	FW	.13	In versions 04.03.10.xx, the setting of the parameters of the fingerprint line sensor by the setup file was only accepted after a restart of the device. Changes to the parameters during operation therefore had no effect. Modified parameters for the fingerprint sensor are now applied each time the setup file is loaded.
Bugfix	EVO 4.3, Display	FW	.13	Due to pixel errors in the display of the Evo4.3, the control of the display has been further optimized.
Enhancement	http	FW	.13	The http-accept string has been extended by "application/x-www-form-urlencoded", it is now completely: "Accept: application/x-www-form-urlencoded, text/html\r\n".

4.4 Released at May 18th 2018

Firmware 04.03.10.14

DatafoxStudioIV 04.03.10.12

DFComDLL 04.03.10.12

Category	Aspect	Type	.XX	Description of enhancement, change or bug fix
Bugfix	Fingerprint optical sensor	FW	.14	Devices using the Saturn Fingerprint sensor did not start correctly using firmware 04.03.10.13.
Enhancement	http	FW	.14	The host header now includes the server's port (see RFC2616 section 14.23)

4.5 Released at June 13th 2018

Firmware 04.03.10.15

DatafoxStudioIV 04.03.10.12

DFComDLL 04.03.10.12

Category	Aspect	Type	.XX	Description of enhancement, change or bug fix
Bugfix	Digital inputs	FW	.15	The anti-beat threshold was roughly a factor five to large.
Bugfix	EVO 4.3	FW	.15	Pressing a touch key repetitively (e.g. during scrolling a list) could lead to a wrong touch key being reported.
Bugfix	EVO ZK Leser Plus	FW	.15	Entering a PIN is now possible fluidly again. With previous version sometimes a key press was lost.
Bugfix	WIFI	FW	.15	In active mode communication the other server configuration was used. This could lead to not establishing an active mode connection, e.g. if not alternate server was configured.
Bugfix	Product/IP protection	FW	.15	If the product / IP protection is active when a device tries to establish a connection in active mode, this is possible only when the DLL's channel was preconfigured with the password. Now the connection can be established – it is sufficient if the password is assigned after establishing the connection before the first data packet is exchanged.
Enhancement	ZK-Knoten	FW	.15	PCB Version 1.3 is now supported. A downgrade to earlier firmware releases that 04.03.10.15 is not possible
Enhancement	Hardware	FW	.15	PCB Version 4.7 is now supported. This PCB is used for devices EVO 4.3, AE-Master, PZE-Master and FlexMaster. A downgrade to earlier firmware releases that 04.03.10.15 is not possible.

4.6 Released at August 10th 2018

Firmware 04.03.10.17

DatafoxStudioIV 04.03.10.12

DFComDLL 04.03.10.12

Category	Aspect	Type	.XX	Description of enhancement, change or bug fix
Bugfix	DLL Communication	FW	.17	A query for devices in the access control bus resulted in an error, if devices were connected that had not been configured as readers with the access control lists. Now the status is being reported correctly.
Bugfix	Docking V2	FW	.17	If the docking station V2 is operated in "V1 compatibility mode", main communication RS232 or RS485 was not possible. This is now possible with 04.03.10.17.
Bugfix	WLAN	FW	.17	A safe-guard function for restarting the WIFI communication could be triggered by day light saving and clock adjustments over the network. Now, a monolithic clock is used, so that adjustments to the clock will not trigger the safe-guard any more, which could lead to tearing down the WIFI communication temporarily.
Bugfix	EVO ZK-Leser Plus	FW	.17	The warning message shown when the transponder configuration mismatches the built-in transponder reader was truncated and only partly readable. The text has now been adjusted for the display.
Bugfix	EVO ZK-Leser Plus	FW	.17	If the BIOS was entered while a warning message was being displayed, this message was not displayed after leaving the BIOS. The device thus suggested to be operative, although the warning's reason was not seen to. Now, the warning message is reissued, should to condition still be present when leaving the BIOS menu.
Bugfix	Fingerprint optical sensor	FW	.17	Sensors running the new firmware „DG_DF_06“ had problems when providing data for the fingerprint template backup operation. The issue is now corrected.
Bugfix	Systemvariables	FW	.17	Changes to system variables are now logged into the system logfile.
Enhancement	LAN	FW	.17	Upon transfer of the network configuration settings, the settings are now applied without a reboot. Previously, the device had to be restarted in order to apply the changes to the network configuration.
Bugfix	WIFI	FW	.17	The DNS query buffer could be overrun when querying long hostnames, which lead to a reboot of the device. The buffer has now been adjusted to match the hostname's length correctly.
Bugfix	IO-Modul	FW	.17	The communication with Datafox IO modules was possible only for devices, which had internal digital inputs. With this fix, no internal IOs are required to operate the IO module.
Bugfix	Touch	FW	.17	While collecting data for the touch screen statistics, the presence of the touch screen configuration was not checked. This is now checked, so that a missing touch screen configuration will not lead to a device reboot.
Bugfix	LAN	FW	.17	If the LAN cable was unplugged during a data transaction, the connection was closed after the TCP timeout only. With release 04.03.10.17, pending connections are terminated immediately uptime removing the LAN cable.

4.7 Released at August 28th 2018

Firmware 04.03.10.18

DatafoxStudioIV 04.03.10.12

DFComDLL 04.03.10.12

Category	Aspect	Type	.XX	Description of enhancement, change or bug fix
Bugfix	BIOS	FW	.18	When leaving the BIOS menu the device restarts, provided the communication method was set to http / WIFI and these settings have not been changed.

Category	Aspect	Type	.XX	Description of enhancement, change or bug fix
Bugfix	Fingerprint line sensor	FW	.18	When verifying against fingerprint templates stored on an RFID transponder, the verification did not identify the first finger if two finger templates were stored on the transponder. This behaviour has now been corrected.
Bugfix	Show a message at device	FW	.18	A device with activated screen blanker did not activate the display to show a message received through SendMessage. Now the screen is activated in order to display the message.

4.8 Released at October 18th 2018

Firmware 04.03.10.19

DatafoxStudioIV 04.03.10.12

DFComDLL 04.03.10.12

Category	Aspect	Type	.XX	Description of enhancement, change or bug fix
Enhancement	EVO IPC Startup Behaviour	FW	.19	The start-up behaviour of the IPC is now configurable by a system variable. To change the start-up behaviour, please use the BIOS dialog of a DatafoxStudioIV 04.03.12.02 or newer. This version is available for download at https://www.datafox.de/dfr/index.php?dir=studio&sort=T&order=D .
Enhancement	Logging Cell phone network	FW	.19	When activated, the log switch „communication / mobile phone parameters“ adds the state changed of the cell phone modem to the system log.
Enhancement	Logging Access Control	FW	.19	When activated, the log switch „Application / Access control“ adds state changed of the access control module to the system log.
Bugfix	EVO 4.3 / Display	FW	.19	We have received isolated observations of an EVO 4.3 showing orange areas on the screen, typically when activating a touch key. These case have been corrected by adjusting the display timing.
Bugfix	EVO Agera (former EVO ZK Leser Plus)	FW	.19	An EVO Agera access control RFID reader reading a sector from a Mifare RFID transponder returned the transponder's serial number. This behaviour has been corrected.
Bugfix	Fingerprint line sensor	FW	.19	The fingerprint implementation could leak memory, provided the sensor did store finger templates of a different size than configured in the setup. This leak has been fixed. Please remind the warning issued by the DatafoxStudioIV when changing the fingerprint template format!
Bugfix	EVO IPC	FW	.19	Sending values of global variables from the embedded processor to the PC component resulted in no data being sent. This has been corrected.
Bugfix	LAN	FW	.19	An error in the network stack could lead to a memory leak – provided DHCP was activated. This leak occurred when either unplugging the network cable or plugging the USB cable. Especially unstable network connection thus lead to loosing small portions of memory repetitively, resulting in display errors or a rebooting device. This memory leak has been corrected.
Bugfix	Cell phone network	FW	.19	The timing for accessing the SIM card has been adjusted, since we observed, that there is an increasing amount of “slow” SIM cards appearing in the market. These card need more time for starting the authentication application than specified.
Bugfix	Access control	FW	.19	<ul style="list-style-type: none"> The timing for accessing access control (AC) readers on the AC bus has been adjusted. This change resulted from an increasing amount of “autobaud” readers appearing in the field, that try to guess the busses baud rate rather than having switches to set it. The observation was readers creating an AC state 18 when guessing the wrong baud rate and being reconfigured. The timing for cyclically accessing the AC readers in the bus has been adjusted. The timing problem was the root cause for readers disconnecting from the AC bus and blinked for roughly a minute after that. This problem was observed mainly when Legic RFID readers were attached to the bus.

4.9 Released at November 30th 2018 Firmware 04.03.10.20

DatafoxStudioIV 04.03.12.05

DFComDLL 04.03.12.05 [PCN2018P2]

Category	Aspect	Type	.XX.XX	Description of enhancement, change or bug fix
Change	Device names	Studio	.12.00	The access control devices have been rebranded as the KYO family.
Change	Initialisation DLL	DLL	.12.05	The order in which the DFCom.ini is located by the DLL has been changed. Please see DLL documentation for details.
Change	Windows Support	Studio	.12.02	Support for Windows XP has been dropped.
Enhancement	Hardware-V4 Devices	FW Studio	.10.20 .12.05	Support for new hardware components added according to PCN 2018-P-02 . Please see https://www.datafox.de/dfrc/index.php?dir=pcn.2018-2&sort=T&order=D .
Enhancement	EVO 4.3	FW	.10.20	A vertical offset for the touch screen can now be configured. This offset applies to the keyboard area of the touchscreen only. To change this offset, please use the BIOS dialog at User Settings -> Touch -> Layout -> Offset. With this option a translation resulting from operating the device at an angle different than 90° can be compensated.
Enhancement	HTTP	Studio	.12.05	The maximum length of the HTTP send string has been increased from 39 to 63 characters.
Enhancement	IPC Fingerprint	FW Studio	.10.20 .12.02	Support for the optical fingerprint sensor has been added. Configuration and field functions for using the fingerprint sensor has been added for ICPs.
Enhancement	IPC Startup Behaviour	FW Studio	.10.20 .12.02	Power-On behaviour of the IPC may now be configured.
Enhancement	2D barcode scanner	FW	.10.20	Added support for replacement type EM3296 of the 2D barcode scanner.
Bugfix	KYO Oneloc (former ZK Knoten)	FW	.10.20	When being restarted the KYO Oneloc could interfere with the bus communication during start up. This behaviour has been corrected.
Bugfix	LAN	FW	.10.20	The LAN stack is being restarted when no communication was observed for a substantial time. This mechanism did observe ARP, UDP and TCP/IPv4 traffic but did not take ICMP traffic into account. ICMP traffic was added now and will thus prevent the automatic LAN restart.
Bugfix	RFID	FW	.10.20	There was a timeout included into the restart of the transponder module. This restart could block the user's flow of operation, so that the device reacted slowly. This timeout has been corrected.
Bugfix	Setup	Studio	.12.04	The Datafox Studio allowed to branch to 13 of the 15 possible input chains only. This has now been corrected.

4.10 Released at January 07th 2019

Firmware 04.03.10.21

DatafoxStudioIV 04.03.12.05

DFComDLL 04.03.12.05

Category	Aspect	Type	.XX.XX	Description of enhancement, change or bug fix
Bugfix	Barcode scanner	FW	.10.21	When integrating the EM3296 barcode scanner in 04.03.10.20, the support for 1D barcode scanners was broken. This has been corrected.
Bugfix	http	FW	.10.21	<ul style="list-style-type: none"> The computation of checksums used in http API Level 0 had a defect that could lead to computation of wrong checksums. This has been corrected. Setting up a service mode connection with activated communication encryption did not work – this problem has been corrected.



4.11 Released at March 22nd 2019

Firmware 04.03.10.22

DatafoxStudioIV 04.03.12.β5

DFComDLL 04.03.12.05

Category	Aspect	Type	.XX	Description of enhancement, change or bug fix
Bugfix	Flash Driver	FW	.10.22	Wear-Levelling for the flash memory enhanced, so that flash lifetime does not deteriorate when the device is being used in http/https mode.

5 Release Version 04.03.11

5.1 Released at April 27th 2018

Firmware 04.03.11.01

DatafoxStudioIV 04.03.11.02

DFComDLL 04.03.11.02

Type	Aspect	Comp.	.XX	Description of Change or Bugfix
Enhancement	Communication	FW	.01	TLS is now available for mobile communication using GRPS (LAN was available with 04.03.11.00, WIFI is still pending)
Bugfix	Communication	FW	.01	chunked-encoding in http/https communication is now processed correctly
Bugfix	Communication	FW	.01	Main communication using WIFI and RS485 is available again. This has been disabled with 04.03.11.00.

5.2 Released at July 3rd 2018

Firmware 04.03.11.02

DatafoxStudioIV 04.03.11.09

DFComDLL 04.03.11.09

Type	Aspect	Comp.	.XX	Description of Change or Bugfix
Bugfix	Communication	FW	.02	Http-Request-Headers for HTTPS-Exchanges now contain „GET https://...“ instead of „GET http://...“.
Enhancement	Communication	FW	.02	HTTPS using WIFI is now available.
Enhancement	Communication	FW	.02	The http communication mode („com.http“) allows now the follow settings: 0=off, 1=http und 2=https. This mode may now be changed directly using the devices' BIOS.
Enhancement	Communication	FW	.02	To support reverse proxies using SNI, the system variables „com.http_mode[0:1].tls.sni_mode“ have been added.
Enhancement	Communication	FW	.02	The system variable „http.flags“ has been added. The decimal number stored here is interpreted bitwise: <ul style="list-style-type: none"> - Bit 0: Suppress sending the Port along with the HOST-Header. If this bit is not set, the server's destination port is sent. - Bit 1: Actively close a http/1.1 session for a requested service mode connection.
Enhancement	Communication	FW	.02	Support for sending POST requests alternatively for GET requests has been added. This can be activated by starting the „com.http_mode[0:1].send“ system variable with POST as prefix instead of GET.
Enhancement	Communication	FW	.02	Experimental support for validating a certificated validity-period added.
Enhancement	WIFI	FW	.02	The WPA-PSK2 can now be supplied directly in the BIOS using the touch screen virtual keyboard (requires a touchscreen device with HardwareIV)



5.3 Released at August 14th 2018

Firmware 04.03.11.03

DatafoxStudioIV 04.03.11.11

DFComDLL 04.03.11.11

Type	Aspect	Comp.	.XX	Description of Change or Bugfix
Bugfix	BIOS	FW	.03	The server port is now correctly displayed in the user section of the BIOS menu.
Bugfix	EVO 4.3 / AE Master	FW	.03	A message sent through SendMessage (or http) was shown in the wrong layout. This led to not all text lines being readable by the user.
Bugfix	Fingerprint line sensor	FW	.03	Verification with two fingers stored on an RFID tag now works correctly. Matching of the first finger templated yielded an error internally, which has been corrected.
Bugfix	Optical fingerprint sensor	FW	.03	Support for new firmware DG_DF_06 on the optical fingerprint sensor has been added. Additionally the fingerprint module firmware release DG_DF_04 was obsolete for the optical fingerprint sensor, since creating a backup of the fingerprint template data would not work reliably on sensors running this firmware. The firmware will generate a warning message if you have such a sensor in your devices at startup time and prompt you for updating the firmware on the sensor module.
Bugfix	Send-Message Delay	FW	.03	Sending a message to device (either by SendMessage (DLL) or df_message (http)) resulted in showing the message for a duration longer than specified. It could happen, that the message was removed from the screen only by a user interaction. This behaviour has been corrected.
Bugfix	WIFI	FW	.03	Checks for buffer overruns during list data download in http mode have been added. These could occur during periods with high system load and lead to incorrect list data being available at the device – typically the list then was rejected. Should a buffer overrun happen now, the WIFI receive bandwidth is reduced for list data transfer. The WIFI processing task then is restarted and an entry (WIFI: RECEIVE BUFFER OVERFLOW) is added to the system log.
Change	Display	FW	.03	The display did not light up again on an incoming SendMessage command, should the energy settings have activated the screen blanker before.
Enhancement	BIOS (WIFI)	FW	.03	The BIOS menu now allows entering the PSK for a WPA2 connection – a device with a touch screen is required for this. Upon successfully establishing a connection to the access point, the WIFI configuration on the device may be updated according to the connection's parameters.
Enhancement	Hardware support	FW	.03	Support for EVO 3.5 Universal has been added. According to PCN 2018-01 support for ZK Knoten V1.3 and Kombi-PCB V4.7 (affecting the devices PZE Master, AE Master and EVO 4.3) was added.
Enhancement	List processing	FW	.03	A processing error of list data is now written to the device's system log as „LINE <Line-Number, Content read>“ always..
Enhancement	Passive mode	FW	.03	In passive mode, a service mode connection can now be established as it was possible while GRPS (Service-SMS) or http (df_service) communication only in previous firmware versions. For this, you may set the system variable <code>com.passive_mode.service</code> to „1,<Host>[,<Port>]“. Should you omit host and/or Port in this process, the settings associated to the primary active mode server are being used.
Enhancement	System variables	FW	.03	Changes to system variables are now recording and added to the device's system log.
Enhancement	Updates for WIFI module and optical fingerprint sensor module	FW	.03	Datafox devices contain modules, which typically run a special firmware version for themselves. For the WIFI module (RS9110) and the optical fingerprint sensor this firmware can now be exchanged. Datafox Studio provides the menu entry “Configuration -> Update for module (*.iff)” for this purpose – which requires at least firmware version 04.03.11.03. Should you require to use a specific firmware release on the device but want to change a module's firmware, you may downgrade the device firmware after having programmed the modules using the firmware 04.03.11.03. The module firmware is not affected by the downgrade. However, please keep in mind that we cannot guarantee that every old device firmware release works properly with every combination of module firmware. A change of (parts of) software on the device always requires your test of the system. The following firmware module updates are available: - Optical fingerprint sensor



Type	Aspect	Comp.	.XX	Description of Change or Bugfix
				<ul style="list-style-type: none"> o DG_DF_06 (this firmware replaces DG_DF_04 and should be used instead of the older firmware) - WIFI Module RS9110 <ul style="list-style-type: none"> o Firmware 4.5.5 (supports 802.11 b, g and 802.11n in single stream mode) o Firmware 4.5.6 (supports 802.11 b, g – 802.11n is not supported by this firmware release)
Enhancement	HTTPS	FW	.03	Experimental support for client certificates. You may use client certificates with firmware version 04.03.11.03. To enable this function, you have to upload the client's certificate as "client.cert" and the corresponding private key as "client_key.cert" into the device. The device's system logfile may include a new entry "SECURE, NO CLIENT-CERTIFICATE AVAILABLE.", that will inform you on the client certificate being available or not: <ul style="list-style-type: none"> - If the entry is present in your device's logfile, the device may not have a client.cert / client_key.cert files or they failed during evaluating them. - If the entry is not present, the device uses the client certificate. Note: We will rename the "client_key.cert" to "client.key" with the final, non-experimental version.

5.4 Released at August 30th 2018

Firmware 04.03.11.04

DatafoxStudioIV 04.03.11.11

DFComDLL 04.03.11.11

Type	Aspect	Comp.	.XX	Description of Change or Bugfix
Bugfix	http Service Mode	FW	.04	Initiating a service mode connection during communication using the cell phone network and http only work, if the device's main communication has been changed temporarily to USB or active mode.
Bugfix	http / Cell phone network	FW	.04	If the cell network modem was actively sending a dataset using http and being reset simultaneously, there have been spurious constellation when the modem did not return to service properly afterwards. A workaround for this behaviour has been added.

5.5 Released at February 8th 2018

Firmware 04.03.11.07

DatafoxStudioIV 04.03.12.05

DFComDLL 04.03.12.06 [PCN2018P2]

Type	Aspect	Comp.	.XX.XX	Description of Change or Bugfix
Bugfix	http	FW	.11.07	<ul style="list-style-type: none"> • The computation of checksums used in http API Level 0 had a defect that could lead to wrong checksums. This has been corrected. • Setting up a service mode connection with activated communication encryption did not work – this problem has been corrected.
Bugfix	List data handling	FW	.11.07	Adding lines to an empty, sorted list caused the device to restart, or an inconsistent list, so that list lines were 'lost'. This has been corrected.
Bugfix	KYO Oneloc	FW	.11.07	Using the KYO Oneloc as a door module could lead to blocking the access control bus temporarily during a restart. This behaviour has now been corrected.
Bugfix	EVO ZK Leser Plus (EVO Agera) / Legic	FW	.11.07	If the EVO Agera was equipped with a Legic RFID reader, only the transponder's serial number could be read. Applying the configuration sent for reading and writing different transponder sections has been corrected now.
Bugfix	EVO 4.3 / Display	FW	.11.07	The headline of a SendMessage() command was displayed twice. This behaviour has been corrected, so that the headline is only show once.
Bugfix	LAN	FW	.11.07	The LAN stack is being restarted when no communication was observed for a substantial time. This mechanism did observe ARP, UDP and TCP/IPv4 traffic but did not take ICMP traffic into account. ICMP traffic was added now and will thus prevent the automatic LAN restart.



Type	Aspect	Comp.	.XX.XX	Description of Change or Bugfix
Bugfix	RFID	FW	.11.07	There was a timeout included into the restart of the transponder module. This restart could block the user's flow of operation, so that the device reacted slowly. This timeout has been corrected.
Enhancement	Barcode scanner	FW	.11.07	Integration of new 2D barcode scanner module EM3296
Enhancement	IPC Startup Behaviour	FW	.11.07	Power-On behaviour of the IPC may now be configured.
Enhancement	IPC Fingerprint	FW	.11.07	The IPCs may now be equipped with an optical fingerprint sensor. Since Datafox is currently not providing a software for enrolling fingers directly on the IPC, the template have to be created externally and then be transferred to the fingerprint sensor through the embedded device. This can be done using the DatafoxStudioIV or the communication DLL.
Enhancement	Hardware-V4 Devices	FW Studio	.11.06 .12.05	Support for new hardware components added according to PCN 2018-P-02 . Please see https://www.datafox.de/dfrc/index.php?dir=pcn.2018-2&sort=T&order=D .

5.6 Released at March 22nd 2019

Firmware 04.03.11.08

DatafoxStudioIV 04.03.12.05

DFComDLL 04.03.12.05

Category	Aspect	Type	.XX	Description of enhancement, change or bug fix
Bugfix	Flash Driver	FW	.11.08	Wear-Levelling for the flash memory enhanced, so that flash lifetime does not deteriorate when the device is being used in http/https mode.