EK280

Description of software update V2.1x - V 2.40 to V2.50
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elster
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1 Software update

How a software update can be carried out may be determined by national law.
If the software update is under calibration lock, (e.g. in Germany), then:
- the software update function must be activated at the beginning, with the calibration lock open (see chapter 1.4).
- the software update function must be deactivated again afterwards (see chapter 1.8)

Important information regarding the software update for the EK280
- The update may be carried out only by a service technician or by a person instructed by Elster (technical staff).
- Depending on national regulations, a calibration official must be at the location.
- The update is possible only via DLMS through the program enSuite (from V3.0.1).
- The update takes about 45 minutes through the OPTO-interface.
- The update reduces the service life of the modem battery of a battery-powered EK280 by approx.12 days.

The archives must be read out prior to a software update, because they will be deleted during the update process.

To accelerate the process, the baud rate of the optical interface can be increased temporarily to 19200 baud.
However this presupposes that the opto-head used supports this baud rate!

For this purpose, change to 19200 at the device in the menu "Serv > Interface > Optical Interface > Bd.S1" .

After the update has been completed, set the baud rate back to 9600 Bd in order to be compatible with different optical heads.

1.1 Checklist

The software update consists of the following steps:

Action	OK?
1. Check compatibility with the installed modem	
2. Read archive + secure any partial parameterization if necessary	
3. Activate software update function (not applicable if software update is not under calibration lock)	
4. Perform software update	
5. Check: Software updates successful	
6. Disable software update function (not applicable if software update is not under calibration lock)	
7. Concluding parameterization	
8. Create new data book if necessary	

1.2 Checking the modem

After firmware version V2.50 of the EK280, some modem types or modem applications are no longer supported. If the installed modem is no longer supported (see list), a change of modem is mandatory and must be scheduled, before the firmware update is carried out.

Device	Modem	Application	Remark	Application supported	Alternative
Internal module	ECM-GW120	TCPServ WipSoft 7.47		yes	
	ECM-GW120	ComFTP 2.02	With EK280 v2.50 internal FTP solution	no	Modem must be replaced !
	ECM-GW120	ComTSC 3.41	Obsolete by 31.12.2016	no	no alternative !
	2G (GPRS) 3G (UMTS) (ublox)			yes	

Device	Modem	Applikcation	Remark	Application supported	Alternative
FE260	M2106B 6.41	all		np	Modem must be replaced
	M2106B 6.55	all		no	Modem must be replaced
	M2106+ V6.57e	ComTCPServ V1.10		yes	
		ComFTP	With EK280 v2.50 internal FTP solution	no	Modem must be replaced
		ComTSC		no	no alternative !
	ECM-GW120	TCPServ WipSoft V7.47		yes	
		ComTCPServ V2.04		yes	
		ComFTP V2.02	With EK280 v2.50 internal FTP solution	no	Modem must be replaced
		ComTSC V3.41	Obsolete by 31.12.2016	no	no alternative !
	2G (GPRS) 3G (UMTS)	-		yes	
	Ethernet (INSYS)	Ethernet		yes	
	Analog modem			yes	
	ISDN-Modem			no	no alternative !
	CL-Board			no	no alternative !
	RS-232/485			yes	

1.3 Reading out data

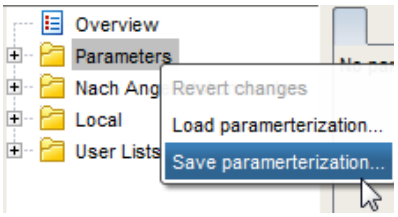
Start the program enSuite and establish a LIS200 connection to the EK280 (see application manual).

1.3.1 Reading out archives

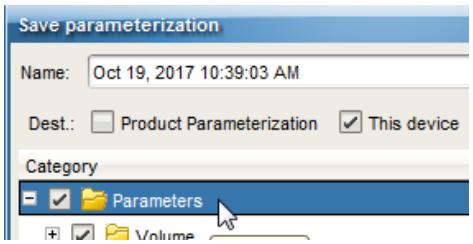
- The reading out of the archives for billing through remote reading of the customer's meter should be done immediately before the update, in order to avoid gaps in the data as much as possible.
- To read the archive in the enSuite-window, click the item "*Read archives*" bottom left.
- Adjust the read-out settings in the "Read Archive" window and activate "*Start readout*".
- Wait until "*Read out archive ended*" appears at the bottom of the "*Output*" window.

1.3.2 Secure partial parameterization

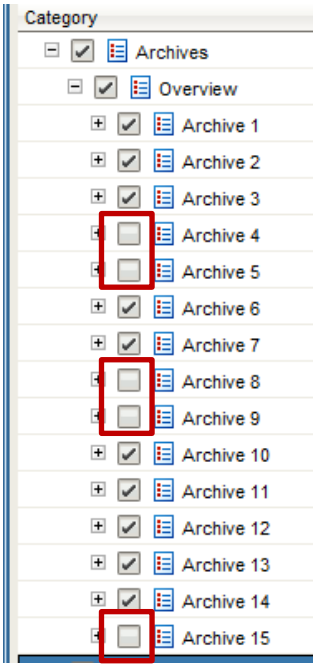
- The reading of the partial parameterization must take place with the calibration lock opened.
- Activate the item "*Parameterize online*" at the bottom left of the enSuite-window.
- To read out the partial parameterization in the enSuite-window, activate the item "*Save parameterization*" in the context menu with the right mouse button:



- Complete backup of the parameterization carried out by checking the box "*Parameter*":
  Make sure that the box "*This device*" is checked.



- Deselect following selection at
  "Archive" → "Overview":
  → *"Archive 4" (Log book)*,
  → *"Archive 5" (Audit trail)*,
  → *"Archive 8" (Update archive)*,
  → *"Archive 9" (Certification data log)* and
  → *"Archive 15" (Flexible archive 15)*,
  because these archives can't be written and from version V2.50 on the archive 15 is now used as the trace archive.



- Confirm with "*OK*" and wait until "*Device parameterization has been saved*" is displayed in the bottom corner of the "*Output*" window.

1.4 Activation of software update function[1]

This point does not apply if the software update has not been locked through the calibration lock.

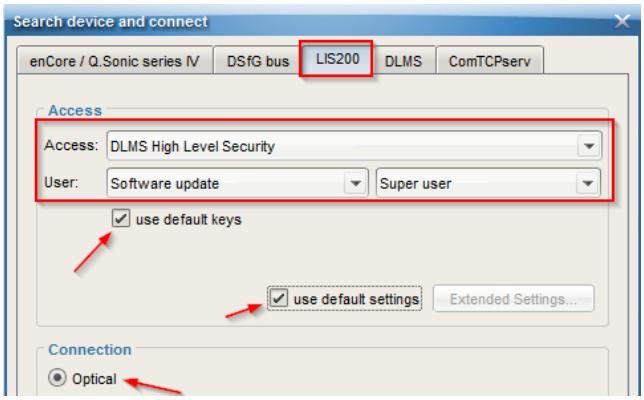
- To activate the software update function, open the calibration lock as described in the EK280 operating instructions
- Send the parameter file "***EK280 - Activate software update_(*).wpp*** "[2] to the EK280 (see application manual)
- The software update can now be carried out according to chapter 1.5

1.5 Performing software updates

- Save the new software file (file extension "*.SDMv2") with a self-defined path on your computer

The new software file is only available from the home page of the manufacturer.

- Press the "*Break connection*" icon ( ) to exit the LIS-200 connection to the EK280. A "DLMS" connection to "Software Update" will then be established
- Press the "*Search device...*" icon
- In the window "*Find and connect device*" select the register "*LIS200*"
- Select the following link: ***"Access"*** → ***"DLMS high level security"***, ***"User"*** → "***Software update***", "***Super user***":



- Make sure that "***Use default key***" and "***Use default setting***" are checked.
- Select the connection "*Optical*" and press "*OK*".
- Wait until "*Connection established*" is displayed in the bottom corner of the "*Output*"-window.
- To update, activate the menu item "*Software configuration*" in the bottom left of the enSuite-window, (see ❶ in the note below).
- In the record sheet "*Software*" under "*Search in...:*"select the path for the saved software file via the symbol "**...**" ❷
- Activate the switch "*Search software modules…*" ❸
- In the column "replace with …", click on the displayed value, in order to open the pull-down menu and to select the desired software version (here: **V2.50** (Elster)) ❹
- Activate the button "*Carry out firmware changes*" ❺ and confirm inquiry with "*Yes*".

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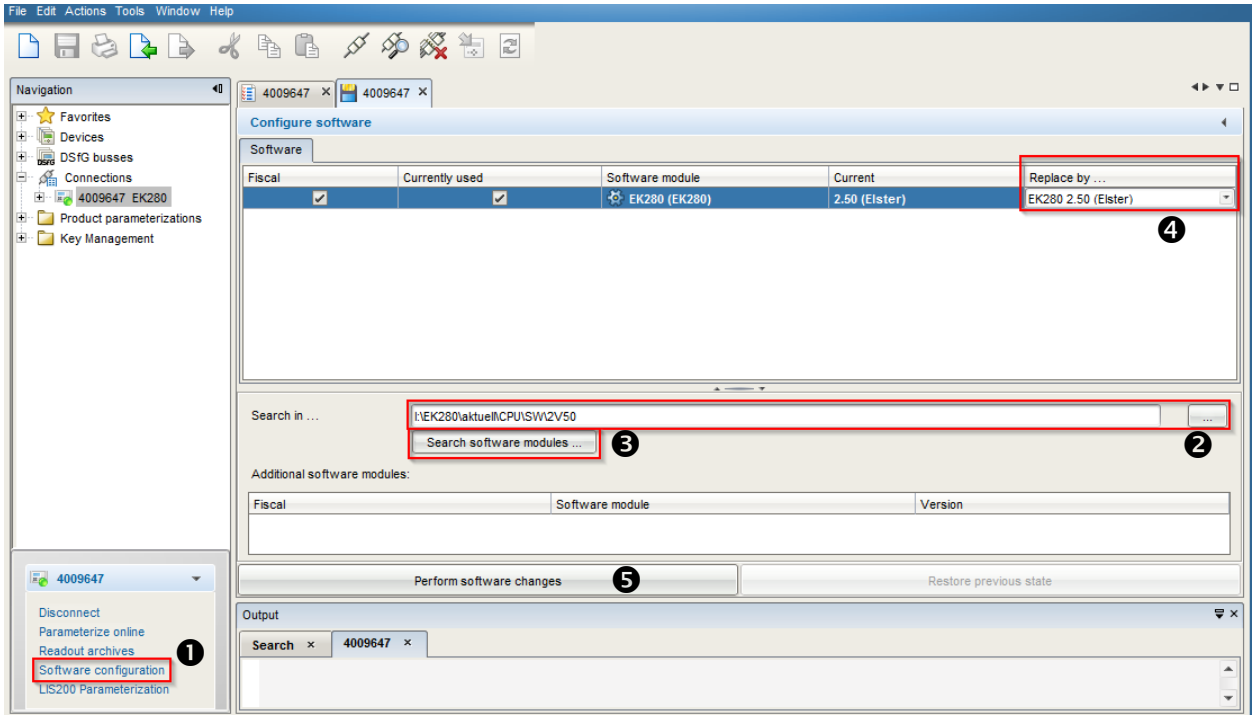
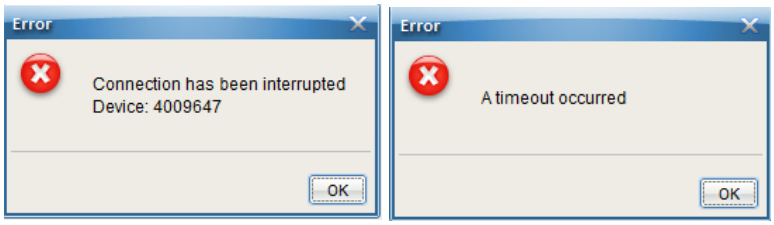
1 This point must be carried out as per the currently applicable calibration law in Germany.

2 The asterisk * stands for a small letter indicating the version of the file, e.g. "a".



- The software update will run automatically. This will take approx.10–20 minutes, depending on the speed of the optical interface.
- After the transfer and checking of the file, the EK280 restarts and in doing so interrupts the optical connection to enSuite. This is normal and both of the following two messages can therefore be confirmed with "*OK*":



- The new software will be activated automatically in the EK280. While doing so, several procedures will be executed in the EK280 and shown in the display (duration: approx. 6 minutes).
- The display will then switch to the "Main" display and the EK280 is ready for operation again!

1.6 Concluding parameterization

Set up an LIS200 connection to the EK280.

1.6.1 Basic parameterization

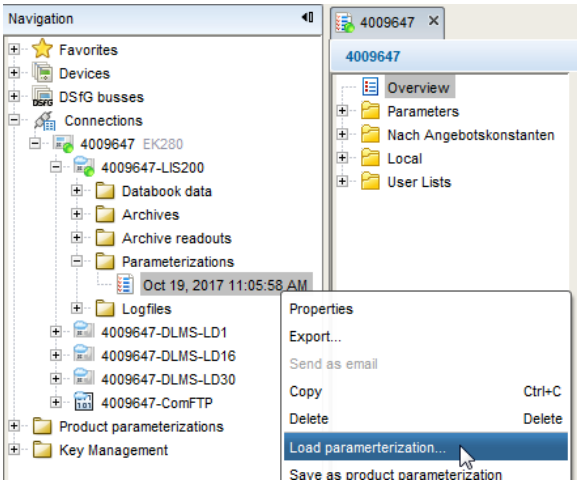
This point is only relevant if the original firmware version of the EK280 is older than V2.30. The parameterization file is to be obtained exclusively from the manufacturer.

- Save the parameterization file under a self-defined path on your computer
- The basic parameterization must be carried out with the calibration lock open.
- Press *"Send parameter file*"
- At top right, press "*Open...*"
- Using the button *"File System"* navigate into the local directory in which the parameter file **BasicParameterization_EK280_2v50.WPP** has been saved, press on "*OK*" and then on "*Start*".

With this basic parameter settings, all the device settings are reset to the factory settings and the EK280 acts like a brand new device.

1.6.2 Partial parameterization

- The partial parameterization must take place with the calibration lock open.
- Select the stored parameterization of your device, use the right mouse button and press *"Load the parameterization*"



- Place a checkmark at "*Parameter*" (see ❶) and wait until the automatic check finishes and then press "*OK*".

- Carry out manual check of the parameterization. Due to the stored parameterization, the basic parameterization is subsequently partly overwritten. Therefore, inspect all entries marked in green and check them for correctness.

- After successful manual verification, press the "*Transfer changes to device*" icon in the upper corner of the enSuite window.

If flexible archives 11, 12, 13 or 14 were used for special applications, do the following:

- In enSuite, switch to the "*Change archive structure*" view and check the status of configuration. If necessary, the archives are marked with a status other than "0 : Archive structure enabled"
- Check the sizes of archive 11,12, 13 or 14 and alter them if the reported total storage requirement is greater than 100%
- Now press the button "*Check new configuration*" and then "*Use new configuration*"

If a high frequency output is used, check the adjustment and frequency values and change them if required.

1.6.3 Loading WPP file (only for EK280 after original version ≥ V2.30)

This point is only relevant if the original firmware version of the EK280 is newer or equal to V2.30.

- Ensure that the calibration lock of the EK280 is open.
- Send the following parameter file to the EK280:

  EK280_Update-WPP_V23x_V240 to V250_en_b.wpp

- Delete the status register via enSuite under "*Parameterize online*" in the left selection window under "*Overview*" or via the context button directly on the EK280.

1.6.4 Device time

After a successfully completed firmware update, the time on the EK will be approximately 1-2 minutes slow.

- Switch to enSuite to view "*Overview*" and check the current time of the EK
- To correct the time, press the button "*Set to PC time..."*
- The time on the EK is synchronized with your computer's time; therefore pay attention to the exact time of your computer.

1.7 Check: Software update successful

1.7.1 Checking the software version and the checksum

Comparison of device software version and the checksum on the device with the information given in the certificate.

- Navigate with the cursor in the register "*Serv.*" to *"Identification" > "Volume Converter" > "Vers"* or "Chk"
- The checksum *"Chk"* can be recalculated for verification purposes by pressing the ENTER button.

1.7.2 Checking the entries in the update archive

Attempted or performed updates of the device software are recorded in an archive (see also application manual).
The content of the update archive can be shown in the display of the device via the path *"Serv." > "Archive" > "Update-Archive"* .

The update archive is not a flexible archive and is fixed at 20 entries (no ring memory)

1.7.2.1 Archive structure of the update archive

Pos.	Address	Short name	Description	Retrievable [1]
1	01:01F8	GONo	Global serial number	S
2	08:0A20	AONo	Archive-Serial number	A + S
3	01:0400	Time	Time stamp	A + S
4	02:0197	NVers	New software version	A + S
5	01:0198_1	SigRL	Signature of the new version Low Part – Part "R"	A + S
6	01:0198_2	SigRH	Signature of the new version High Part – Part "R"	A + S
7	02:0198_1	SigSL	Signature of the new version Low Part – Part "S"	A + S
8	02:0198_2	SigSH	Signature of the new version High Part – Part "S"	A + S
9	08:0811	User	Access profile and user (separated by a semicolon)	A + S
10	08:0812	Result	Entry of the results of the software updates	A + S
11	08:0A21	Check	Checksum verification ("CRC OK" or"Error")	A + S

[1] The values can be retrieved in accordance with the information in the table via D = display and/or I = interface.

1.8 Deactivation of the software update function

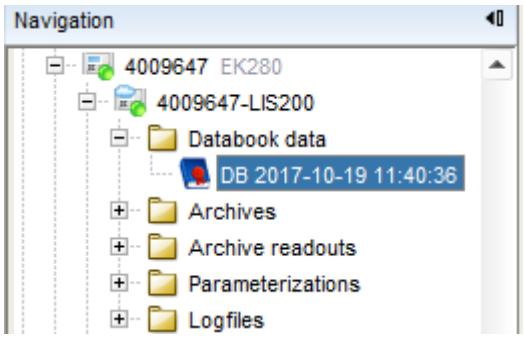
Depending on national regulations, it is necessary to place the software update function under calibration lock again.

This point does not apply if the software update has not been locked through the calibration lock.

- To deactivate the software update function, open the calibration lock as described in the EK280's operating instructions.
- Start the program enSuite and establish a **LIS-200-connection !** to the EK280.
- Send the parameter file "*EK280 - Deactivate software update_(*)"* [3] to the EK280.

1.9 Create and print out new data book

- Depending on the legal requirements, the data book may need to be re-created.
- Enter the head data (company name, address, etc.) under "*Extras*" → "*Options*" → "*Data book settings*" and, if necessary, select a company logo (JPG/BMP), which is to be displayed in the data book.
- Under "*Parameterize online*" in the left selection window, go to "*Parameter*" → "*Data book*".
- Check **all** entries in the individual lists.
- The SW update should be recorded under the "*Measures carried out*".
- Select the function "*Generate data book*" in the selection window.
- Select the desired header data and the desired language.
- By using "*OK*" all entries are read out (approx. 1 minute) and stored in the database.
- The data book is displayed and can be saved via a PDF printer if necessary.
- You can generate the data book later as well in the office and print it out on a printer.
  In this way, all "old" data books can be also be re-created and printed out at any time.
- To do this, select the desired data book under the navigation window "*Devices*" → "*The requested device*" → "*Serial-no-LIS200*" → "*Data book data*" and the corresponding output:



- Press the icon "*Disconnect*" ( )

1.10 Set baud rate back to default settings

- If you have changed the speed of the optical interface for the update, you should reset it to the factory setting 9600 Bd for reasons of compatibility.
  Under "*Admin*" → "*Interfaces*" → "*Optical Interface*" change the baud rate Bd.S1 to "*9600 Bd*".

1.11 Final work

- Close the calibration lock and if required, the administrator lock!
- **Software successfully updated!**

[3] The asterisk * stands for a small letter indicating the version of the file, e.g. "a".