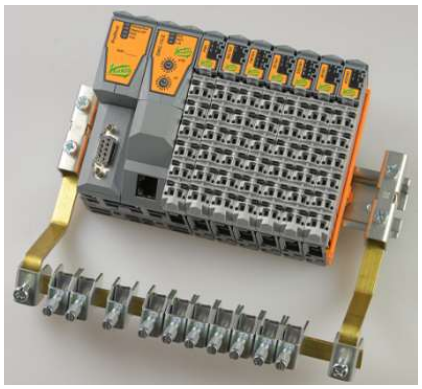
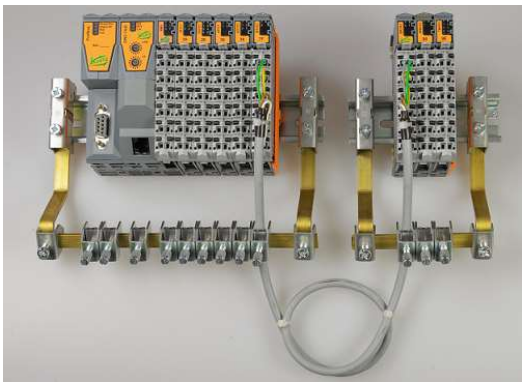
Enhanced System-Manual

T4

since 1933
WEIGHING TECHNOLOGY





DWC-7B

*** SAFETY REGULATIONS ***

Being under voltage the device must not be opened. Danger of electric shock exists. Service works at the weighing equipment are permitted only for qualified personnel. In case of works at conveying lines, all relevant drives have to be switched-off and secured against re-engaging.

The related device/system may only be set-up and operated in connection with this documentation. Start-up and operation of a devices/system may only be carried out by **qualified personnel.** Qualified personnel in terms of safety notes of this documentation are persons being authorized to take into operation, to ground and to label the devices, systems and circuits in accordance with the standards of safety engineering.

Index

Revision list

Revision	Date	Author	Chapter	Description
T4_DWC7B_V02_20_00_en	30.11.2021	Ratzinger		First - Edition

Software indication

These instructions are based on following Software versions:

W.02.20.00 (Weighing system)
P.02.20.00 (Service module)

In course of the technical progress changes can be carried out at the software. At subsequent software versions therefore deviations are possible compared to these instructions.

Operating instructions in German or English are considered as

ORIGINAL INSTRUCTIONS

All other languages are defined as Translations.

KUKLA WAAGENNFABRIK GmbH & Co KG
Stefan-Fadingerstrasse 1-11
A-4840 VOECKLABRUCK

Tel. +43 (0)7672-26666-0

Homepage: www.kukla.co.at
Email: office@kukla.co.at

1 General information on firmware updates

A firmware update is always recommended by the manufacturer if necessary. For this purpose, the manufacturer usually provides a download link for a suitable firmware.

A firmware update without the knowledge of KUKLA is not permitted and is considered improper intervention in the system.

In general, firmware updates are only possible from an ALREADY INSTALLED version 2.20.xx, all older DWC-7B versions can only be updated to the current versions by the manufacturer himself.

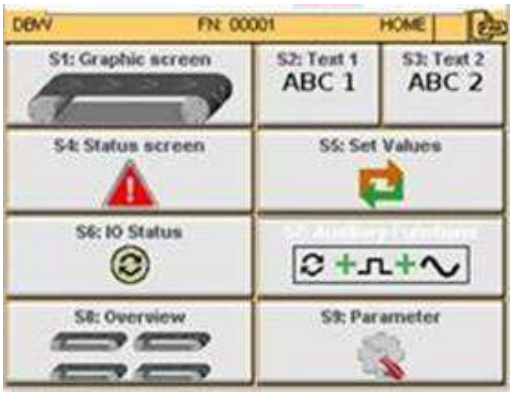
2 Firmware update procedure

The name of the firmware usually contains the exact designation of the version. It should be noted that the middle number for the basic device and the operator panel must always be the same. This is the only way to ensure communication between the basic devices and the operator panel, as only then do the communication protocols match.

For example, a base device in version W 2.20.00 can communicate with a panel in version P 2.20.15 but NOT with version P 2.19.xx.

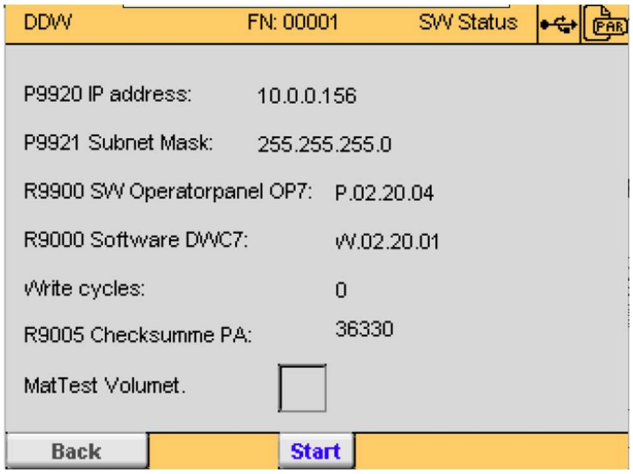
The last two letters describe the fieldbus variant, PB for instance is Profibus.

2.1 Read out the currently installed version



Go to the panel and select ***"S6:IO Status"***

In the next screen select :



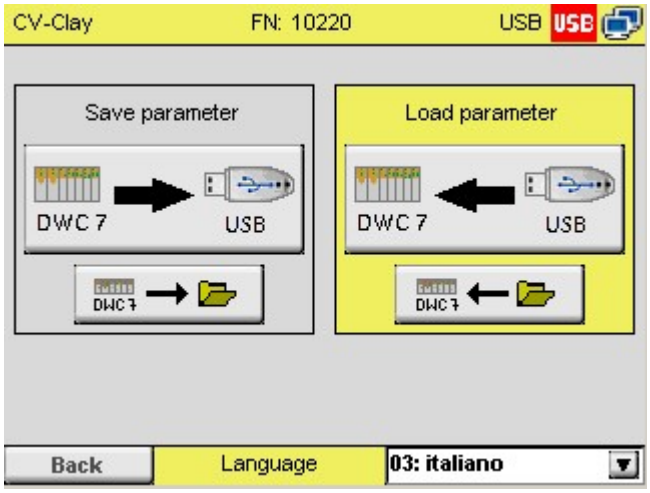
Read only parameter R9900 shows the currently installed version in the OP-7B, R9000 the currently installed firmware in the base unit identified in the top line.

Kukla strongly recommends that both numbers are similar, at least the second number (.20.) must be the same to ensure a communication between panel and base unit

2.2 Preparation works before updating

!	**Ensure a proper 24VDC supply, a power loss during a firmware/operating system update can damage the device permanently** !.

Save the current parameters of the system as described in the T1-Manual in chapter 5.10.2

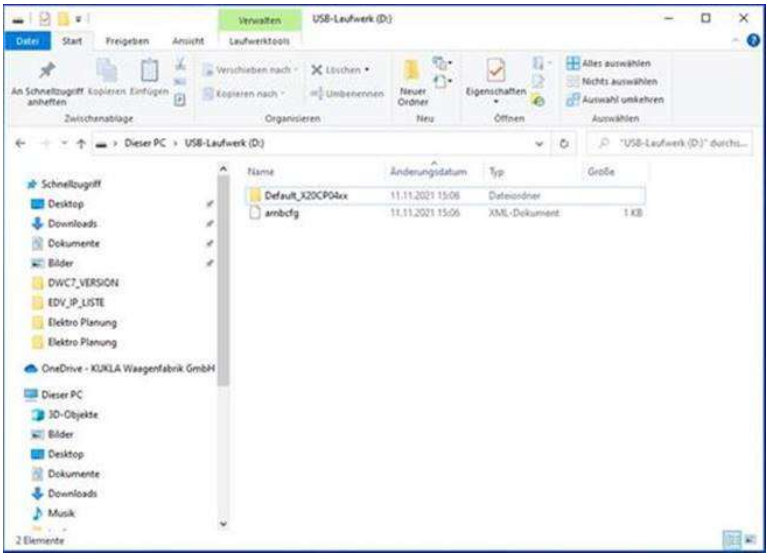


2.3 DWC-7B Base unit firmware update sequence

2.3.1 Download Firmware-Package

The new firmware is usually made available in the correct version by the manufacturer via a download link. This can be done, for example, via an email as shown here.

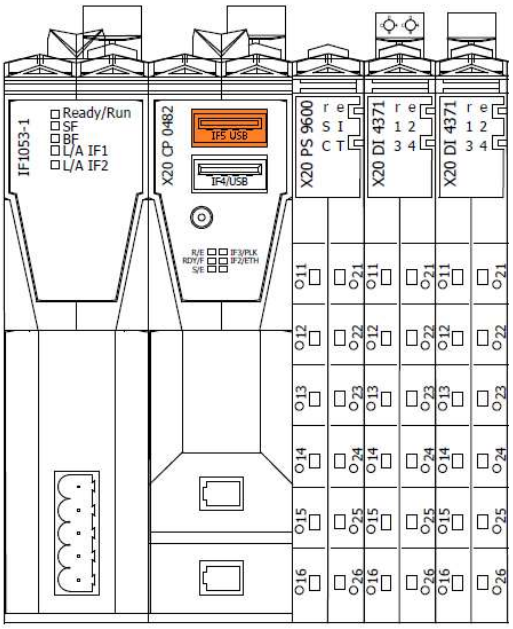
Here is now a download link for our new firmware:
KuklaV02_20_04_PB.zip



Now load the appropriate software and unzip the package onto a standard USB stick.
The USB stick should be of good quality, and it must have at least 16 megabytes of capacity.

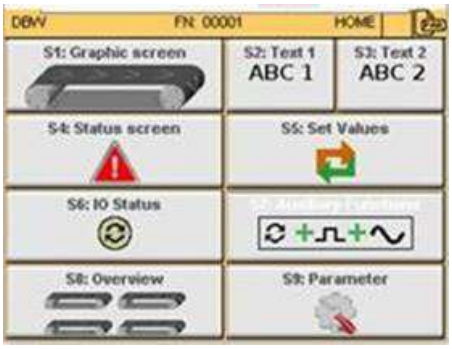
Recommendation for File-system is FAT32,

2.3.2 Connect USB-stick at CPU-Module

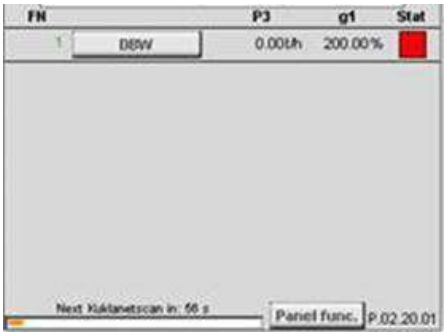


Connect now your prepared USB-stick to the base unit CPU-Modul IF5/USB or alternatively IF4/USB

2.3.3 Initiate Firmware upgrade to CPU memory

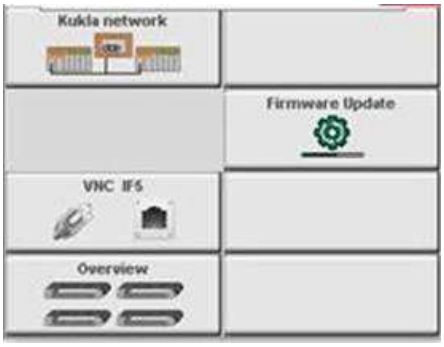


Go to the panel and select ***"S8:Overview"***

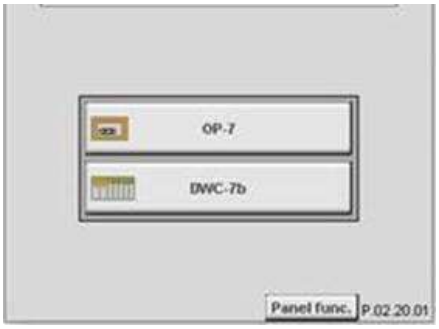


Now you should see a list of all available Base units in the Network

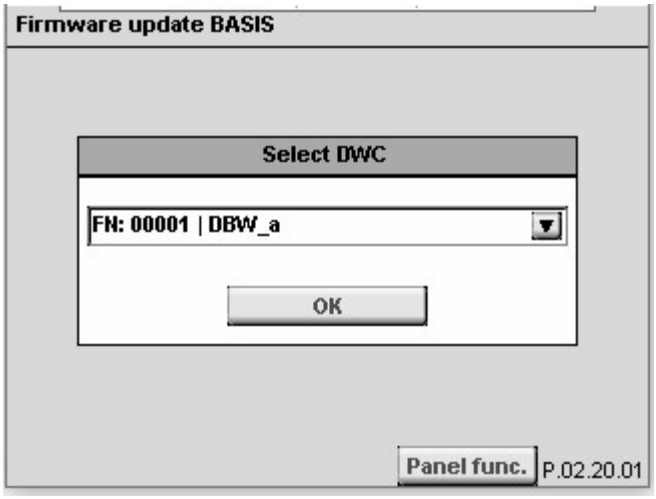
Select the button ***"Panel functions***" at the bottom



Select now button ***"Firmware update"***

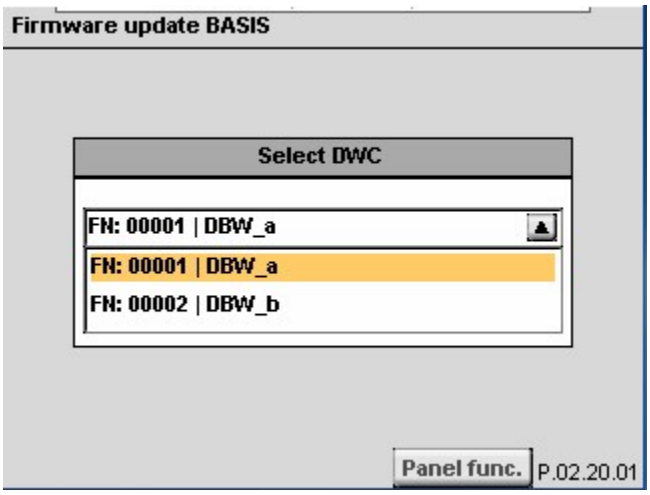


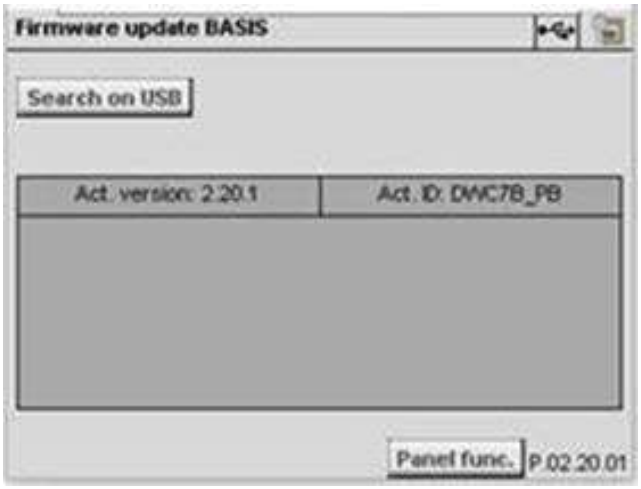
Her is the decision point about the target of the upgrade. The sequence here describes the base unit and the USB-stick is also plugged at the DWC-7B base unit so the button ***"DWC-7b"*** must be pressed.



In the combo box select the line with the device where the USB is plugged in. A selected line is colored in orange.

Confirm finally with "OK" to select which device should get the upgrade.





From now the panel will forwarded all requests to the previously selected base unit.

Press now ***"Search on USB"***

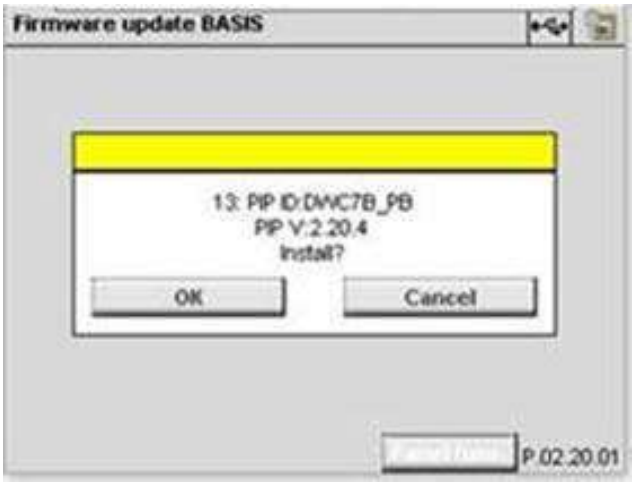
Please note button is still greyed if you have forgotten to plug in the USB-stick or the stick is accidently plugged in at another base unit !

As soon as anew Firmware file is detected a screen like that appears.

Press ***"Start Install"*** to activate Firmware update from version 2.20.1 to 2.20.4 in this example.

Select the tick "Save parameters" if the system should hold the old parameters of the weigh feeder.

Please note due to different data structures we are NOT able to guarantee the full functionality of this option.



This is now the final question to confirm the Firmware upgrade. If necessary, the system also reinstalls the full operating system of the hardware.

The system now copies all the filesnally with ok to write the firmware

PREVENT IN ANY CASE A LOSS OF POWER SUPPLY AS LONG AS THE SYSTEM HAS NOT RESTARTED BY ITSELF !

Typically the upgrade takes between 1 and 5 minutes !

A number counts up to app. 1000 and after app. 1 minute the system restarts automatically.

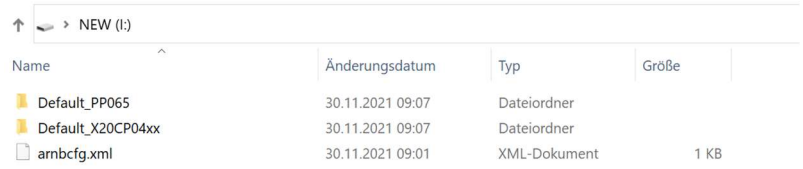
The restart of the CPU is finished when the R/E status indication is static green again.

2.4 OP-7B and OP-G firmware update sequence

2.4.1 Download Firmware-Package

The new firmware is usually made available in the correct version by the manufacturer via a download link. This can be done, for example, via an email as shown here.

Here is now a download link for our new firmware:
KuklaV02_20_04_PB.zip



Now load the appropriate software and unzip the package onto a standard USB stick.
The USB stick should be of good quality, and it must have at least 16 megabytes of capacity.

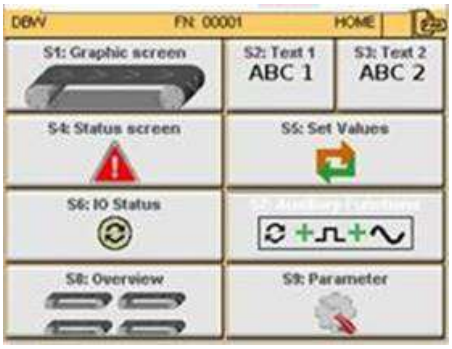
Recommendation for File-system is FAT32,

2.4.2 Connect USB-stick at the operator panel

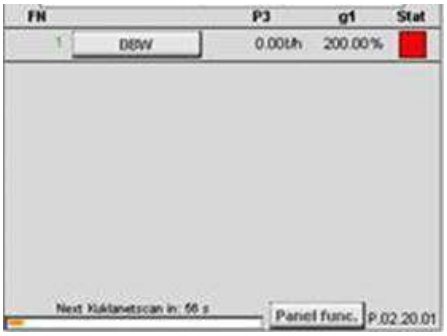
Connect now your prepared USB-stick at one of the USB plugs. It does not matter which one is used.

Just in case if an old USB-Licence doungle (small USB-Stick with orange cap) it can be removed. Versions beginning V2.20.00 upwards do not need the licence stick anymore.

2.4.3 Initiate Firmware upgrade to CPU memory

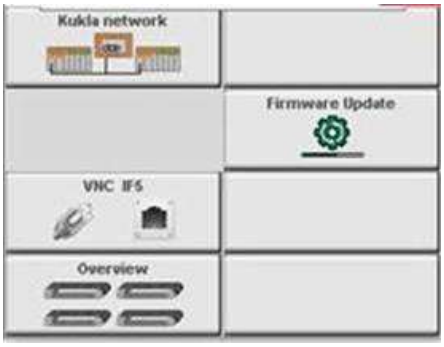


Go to the front of the panel and select ***"S8:Overview"***

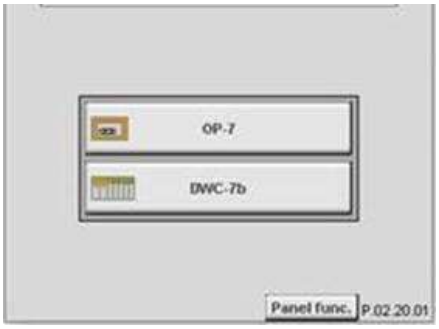


Now you should see a list of all available Base units in the Network

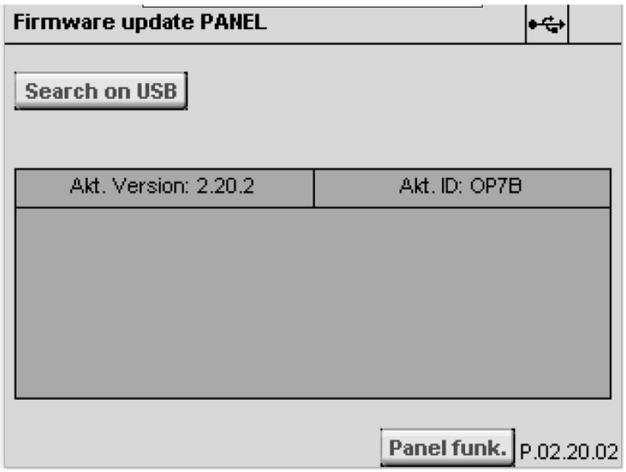
Select the button ***"Panel functions***" at the bottom



Select now button ***"Firmware update"***



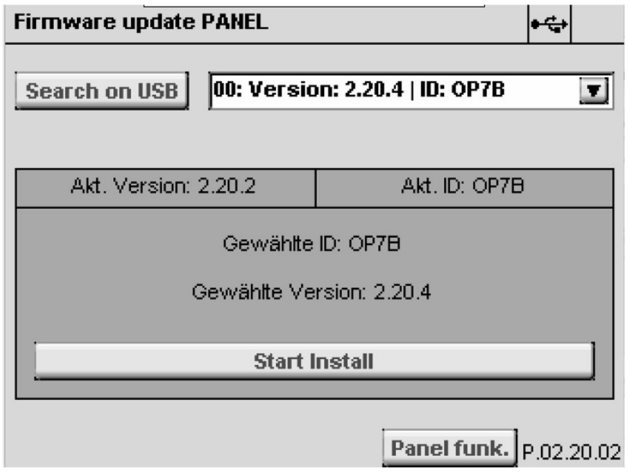
Her is the decision point about the target of the upgrade. The sequence here describes the operator panel update and the USB-stick is also plugged at the OP-7B base uni So the button ***"OP-7"*** must be pressed.



From now the panel will forwarded all requests to the previously selected base unit.

Press now ***"Search on USB"***

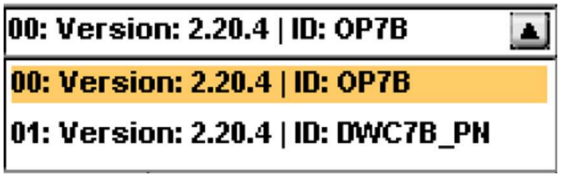
Please note the search button is still greyed if you have forgotten to plug in the USB-stick or the stick is accidently plugged in at another base unit !

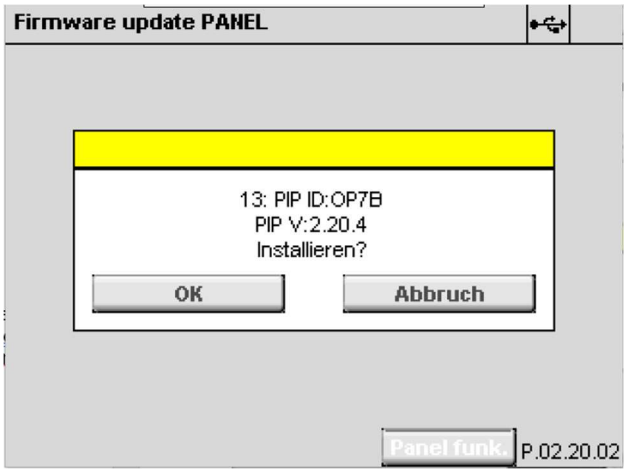


As soon as anew Firmware file is detected a screen like that appears.

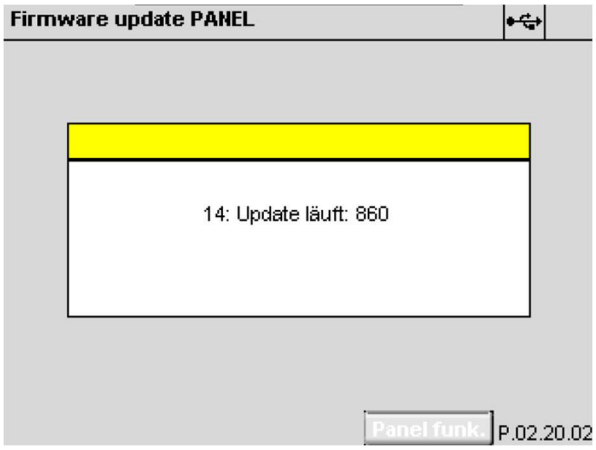
Press ***"Start Install"*** to activate Firmware update from version 2.20.2 to 2.20.4 in this example.

Please note, if your USB-stick has stored firmware for the base unit too you MUST select the line with "ID:OP7B" in the combo box !!!





This is now the final question to confirm the Firmware upgrade. If necessary, the system also reinstalls the full operating system of the hardware.

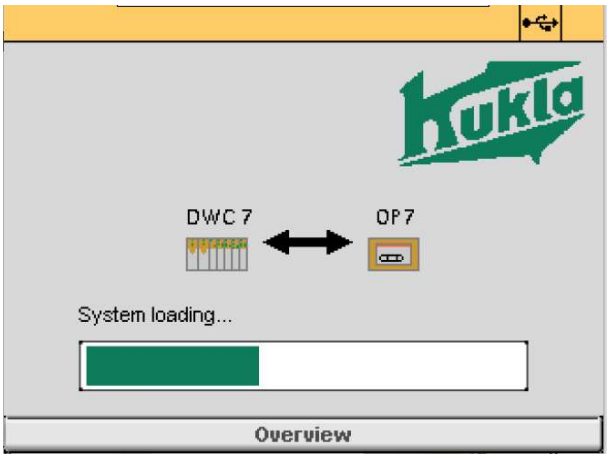


The system now copies all the files finally with ok to write the firmware

PREVENT IN ANY CASE A LOSS OF POWER SUPPLY AS LONG AS THE SYSTEM HAS NOT RESTARTED BY ITSELF !

Typically the upgrade takes between 1 and 5 minutes !

A number counts up to app. 1500 and after app. 2 minutes the system restarts automatically.



The restart of the CPU is finished when the green progress bar has reached the end.

3 Hardware Upgrade DWC-7A to DWC-7B

If you have an old DWC-7A hardware (delivered typically before 2018) please contact KUKLA for a hardware upgrade for the CPU, power module PM2 and the backplane behind.
All old IO-cards and the fieldbus module installed in old DWC-7A devices are usable in the newer DWC-7B design too. The internal firmware of the IO-cards will be automatically upgraded as soon as the new DWC-7B CPU module is starting up first time.

Kukla strongly recommends to upgrade the base unit before the operator panel. Only in this order it is possible to save the current parameter set for later use.

3.1 Procedure for replacement at DWC-7B base unit

1. Save parameters as .csv file on USB
2. Disconnect all grey plugs from the device
3. Open ALL the orange clamps at the top of the device
4. Remove the whole controller from the rail inside of the box or cabinet
5. If installed remove the fieldbus controller to the front by pushing the orange button at the top
6. Remove the 7A-CPU by pushing the orange button at the top
7. Remove the PM1 power module to the front by pushing the grey triangle button
8. Remove the Backplane-Module by pushing it behind the IO-Module block
9. Install the new EMPTY 7B backplane
10. Install the whole module back at the rail and close ALL orange rail brackets
11. Plug in the NEW PM2 power module
12. Plug in the new 7B-CPU (with 2 USB plugs at the top of the front) left of the new power module
13. Plug in the Fieldbus Module or the protection cover on the left side of the CPU
14. Reconnect all grey plugs exceptionally the plug at PM2
15. Connect the Patch cable for the connection to the OP at IF2 at the new DWC-7B CPU module
16. Connect the fieldbus connection if a fieldbus module is installed
17. Connect grey plug for 24VDC power supply at PM2 module
18. Watch R/E-LED until it is static green, first startup can take up to 3 minutes due to internal upgrades
19. Reload parameters from CSV-File if necessary (update operator panel to do this)

Do not forget to upgrade the operator panel OP-7B or OP-K too.

3.2 Procedure for replacement at operator panel OP-7B

1. Disconnect the 24VDC plug at the operator panel
2. Find the MMC card slot at the top of the OP-7A and move the orange lever to the battery door side
3. Lift the old MMC-card out by pushing down the small button next to the MMC-card
4. Install the new 7B- MMC card carefully by pushing down without big force
5. Reconnect 24VDC plug
6. Operator panel restarts 1-3 times depending on the internal operating system
7. Finally, the system will scan the network for available base units and show all devices

4 System Dump at DWC-7B devices

The DWC-7B has integrated a very complex hardware and diagnostic system. In case of unclear problems KUKLA needs access to these diagnostic data's via a so called "SystemDump-File".

The following sequence explains how a customer can read out this information's to be able to transfer it to KUKLA

Contact KUKLA before you start this work. Based on experience for unclear problems check first that all modules are plugged properly. Check also that your X2X-link cable is approved by KUKLA if your system is installed as decentral solution.

4.1 Download System Dump

Step 1:

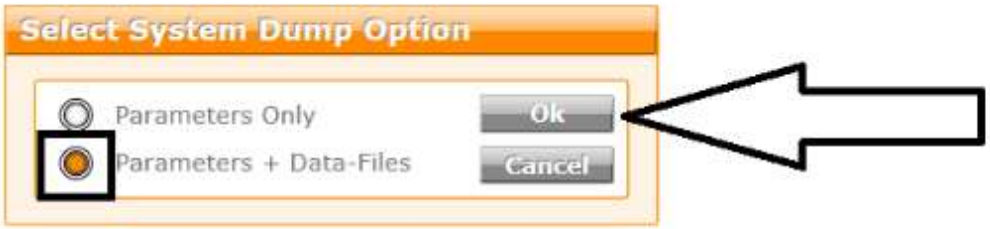
Connect your PC/Laptop with a Patch-cable to the KUKLA Ethernet Port at the CPU
(CPU IP Subnet e.g. 10.0.1.39 / check parameter ***"P1030 DWC-7 IP Address"*** first and use this number)

Step 2:

Set your local Ethernet-Port to an address in the same range (e.g 10.0.1.99 , SubnetMask 255.255.0.0) and test the connection with a ping to the CPU (ping 10.0.1.39)

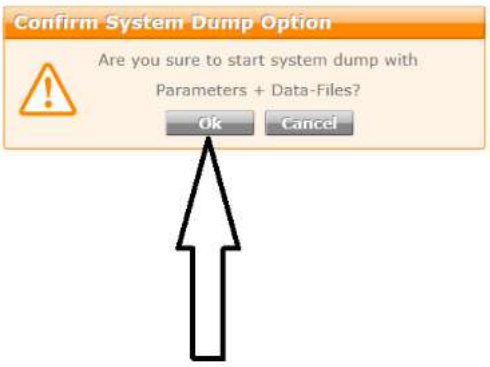
Step 3:
Open Internet browser (e.g. InternetExplorer or Chrome) and open "`10.0.1.39/sdm`" in command line

Step 4:
Select the orange “System Dump” in the center and start to download (Parameters+DataFiles) with OK



Step 5:

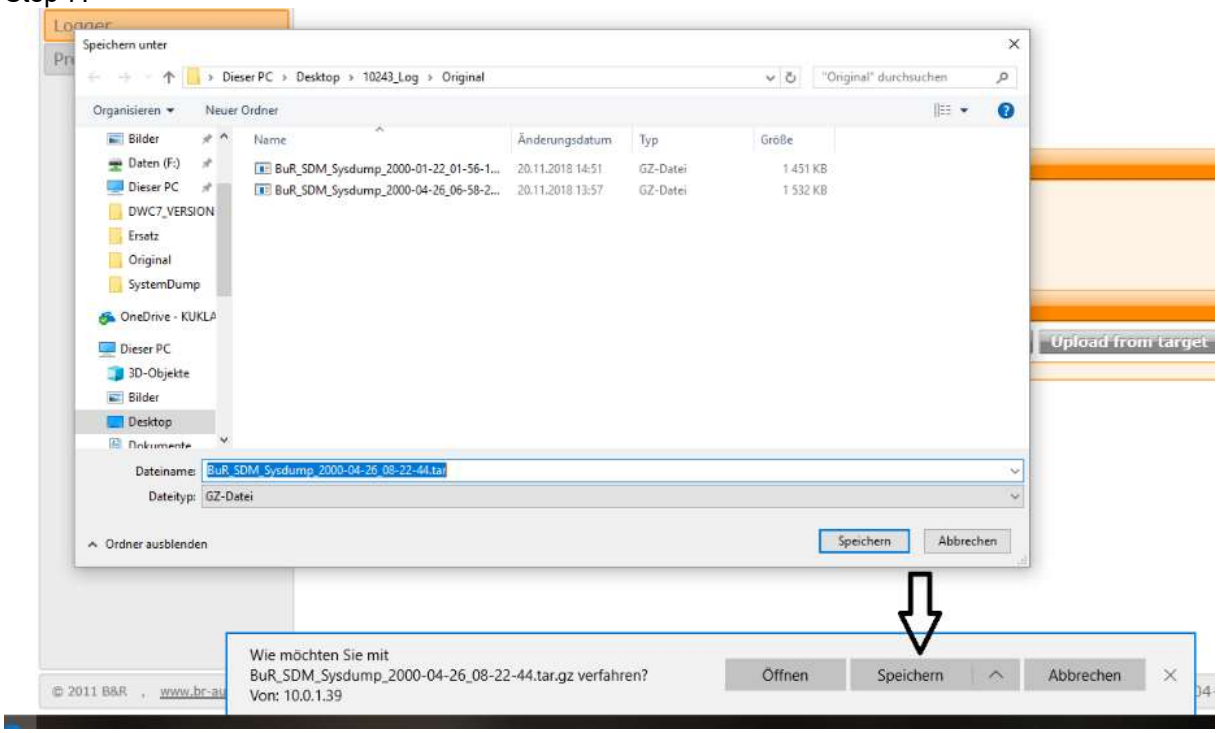
Confirm System Dump with Ok



Step 6:

Select “Upload from target”

Step 7:



Save the file to the local file system and send it to KUKLA (hotline@kukla.co.at) with your comment. Add your parameter .csv or at least your fabrication number.

Step 8:

Do not forget to connect the Operator Panel after you have disconnected the PC/laptop !

5 Further Documentation

Documentation DWC-7 weighing system

Document	Short description	Target group
T1_DWC7B_V02*	Standard operating manual	Operating and maintenance personnel