

PowerXL DG1 – Firmware Update



Slave Address: 1 COM Port: COM4 Disconnect

Product Name: Eaton VFD Product Code: 0x3000 Serial Number: 2612044184 Cancel

Program	Processor	Memory	Device Rev	File Rev	Program Stat
PowerXL DG1					
<input checked="" type="checkbox"/>	Motor Control Software	DG1 Control Processor	1.02.0000	1.02.0002	25%
<input type="checkbox"/>	DG1 Keypad Processor	DG1 Keypad Processor	1.02.0000	1.02.0000	Code is sam
<input type="checkbox"/>	DG1 Keypad Processor	MCF51AC256B EEPROM	1.02.0000	1.02.0000	Code not pres
<input type="checkbox"/>	DXG-NET-PROFIBUS	Profibus Card Processor	1.06.0005	1.06.0005	Code is sam
<input type="checkbox"/>	DXG-EXT-3DI3DO1T	Option Card 1 Processor	----	1.01.0009	Device not pres
<input type="checkbox"/>	DXG-EXT-1AI2AO	Option Card 2 Processor	----	1.01.0009	Device not pres
<input type="checkbox"/>	DXG-EXT-3RO	Option Card 3 Processor	----	1.01.0009	Device not pres
<input type="checkbox"/>	DXG-EXT-THER1	Option Card 4 Processor	----	1.01.0009	Device not pres
<input type="checkbox"/>	DXG-EXT-6DI	Option Card 5 Processor	----	1.01.0009	Device not pres
<input type="checkbox"/>	DXG-NET-CANOPEN	CANopen Processor	1.05.0005	1.05.0005	Code is sam
<input type="checkbox"/>	DXG-NET-DEVICENET	DeviceNet Processor	----	1.04.0004	Device not pres
<input checked="" type="checkbox"/>	Application Software	Block 0 German Language Pack	1.03.0001	1.03.0003	Queued
<input checked="" type="checkbox"/>	Application Software	Block 1 English Language Pack	1.03.0001	1.03.0003	Queued
<input checked="" type="checkbox"/>	Application Software	DG1 Main Processor	1.03.0001	1.03.0003	Queued
<input type="checkbox"/>	DXG-NET-SWD	SmartWire Card Processor	----	1.01.0009	Device not pres

Level 3	<ul style="list-style-type: none"> 1 – Fundamental – No previous experience necessary 2 – Basic – Basic knowledge recommended 3 – Advanced – Reasonable knowledge required 4 – Expert – Good experience recommended
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Original Application Note

Original document is the German version of this document.

Translation

All non-German language versions of this document are translations of the original application note.

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Subject to alteration.



DANGER!
DANGEROUS ELECTRICAL VOLTAGE!

- Disconnect the power supply of the device.
- Ensure that devices cannot be accidentally restarted.
- Verify isolation from the supply.
- Ground and short-circuit.
- Cover or enclose any adjacent live components.
- Follow the engineering instructions (AWA/IL) for the device concerned.
- Only suitably qualified personnel in accordance with EN 50110-1/-2 (VDE 0105 Part 100) may work on this device/system.
- Before installation and before touching the device ensure that you are free of electrostatic charge.
- The functional earth (FE, PES) must be connected to the protective earth (PE) or the potential equalization. The system installer is responsible for implementing this connection.
- Connecting cables and signal lines should be installed so that inductive or capacitive interference does not impair the automatic control functions.
- Suitable safety hardware and software measures should be implemented for the I/O interface so that an open circuit on the signal side does not result in undefined states.
- Deviations of the mains voltage from the rated value must not exceed the tolerance limits given in the specification, otherwise this may cause malfunction and/or dangerous operation.
- Emergency stop devices complying with IEC/EN 60204-1 must be effective in all operating modes. Unlatching of the emergency-stop devices must not cause a restart.
- Devices that are designed for mounting in housings or control cabinets must only be operated and controlled after they have been properly installed and with the housing closed.
- Wherever faults may cause injury or material damage, external measures must be implemented to ensure a safe operating state in the event of a fault or malfunction (e.g. by means of separate limit switches, mechanical interlocks etc.).
- The used device may have hot surfaces during and immediately after operation.
- Removal of the required covers, improper installation or incorrect operation of motor or device may destroy the device and may lead to serious injury or damage.
- The applicable national safety regulations and accident prevention recommendations must be applied to all work carried on live device.
- The electrical installation must be carried out in accordance with the relevant electrical regulations (e. g. with regard to cable cross sections, fuses, PE).
- Transport, installation, commissioning and maintenance work must be carried out only by qualified personnel (IEC 60364, HD 384 and national occupational safety regulations).
- Installations containing device must be provided with additional monitoring and protective devices in accordance with the applicable safety regulations. Modifications to the device using the operating software are permitted.
- All covers and doors must be kept closed during operation.
- To reduce the hazards for people or equipment, the user must include in the machine design measures that restrict the consequences of a malfunction or failure of the device (increased motor speed or sudden standstill of motor). These measures include: – Other independent devices for monitoring safety related variables (speed, travel, end positions etc.). – Electrical or non-electrical system-wide measures (electrical or mechanical interlocks). – Never touch live parts or cable connections of the device after it has been disconnected from the power supply. Due to the charge in the capacitors, these parts may still be alive after disconnection. Consider appropriate warning signs.

Disclaimer

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1 General

The device software of the DG1 can be updated to a newer version or downgraded to an old one. Both is done via the so-called firmware update tool.

2 Connecting the Drive to a PC

1. Remove the front cover.
2. Connect the programming cable to terminals 25 and 26.

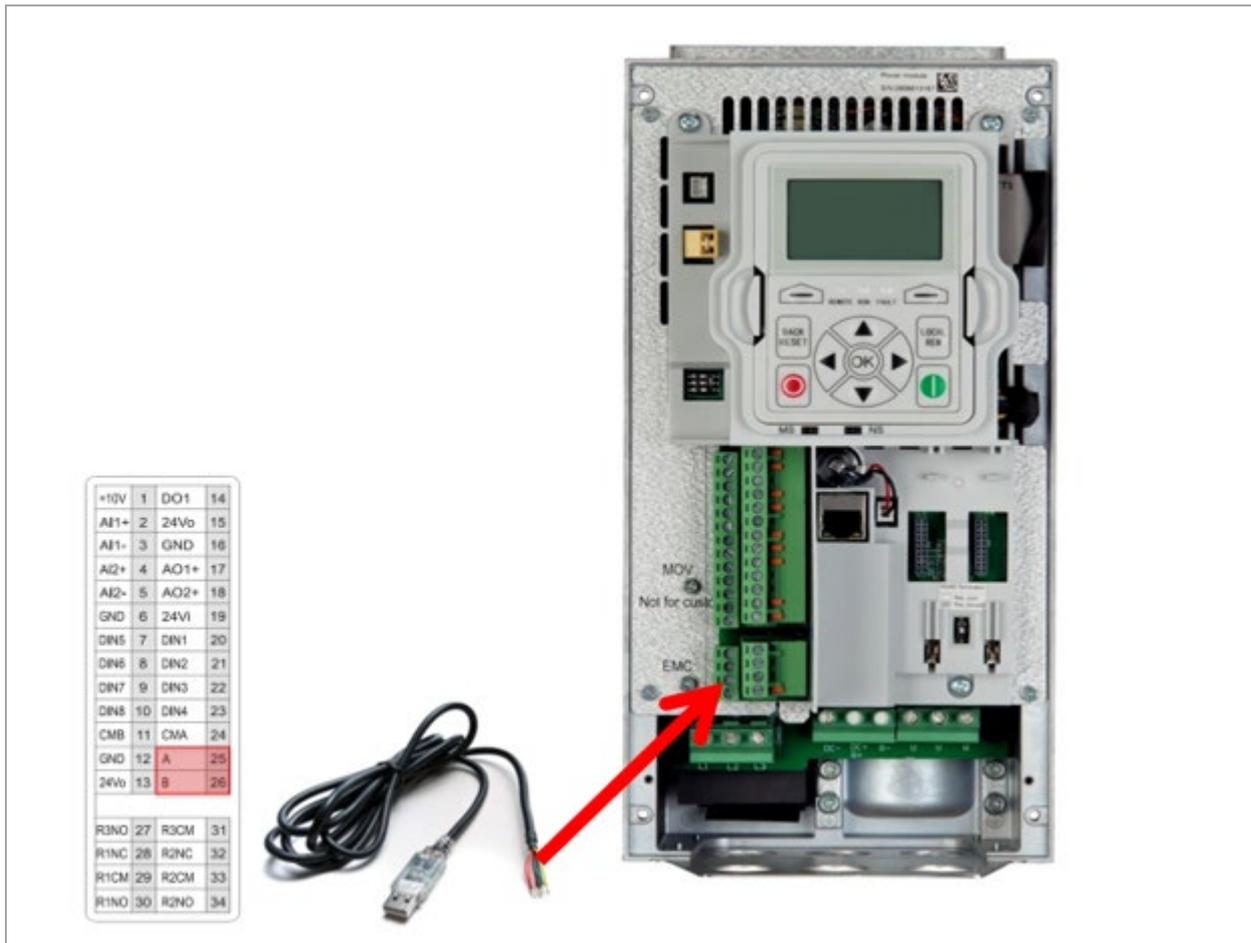


Abbildung 1: Connecting the programming cable

3 Apply main voltage

Start the drive by applying the main voltage. Depending on frame size:

230V AC → single phase: L1(L)/L3(N)

400V AC → three phase: L1/L2/L3

4 Firmware Upgrade

1. First download the desired firmware package from the Eaton website and unzip the file.



Abbildung 2: Firmware package

2. Open the Firmware Upgrade Tool.



Abbildung 3: Firmware Upgrade Tool

3. Select the previously downloaded firmware package from your directory by clicking "Browse".

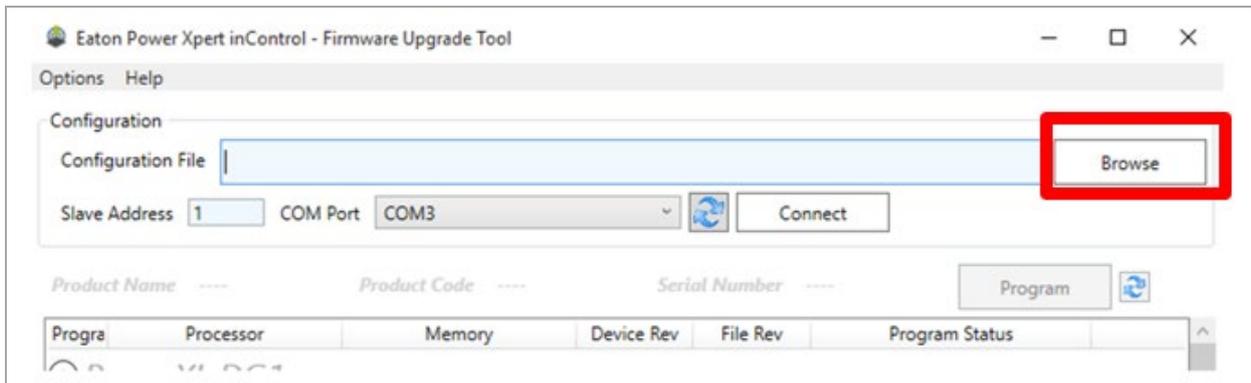


Abbildung 4: Power Xpert inControl Software

4. Select the file "DG1_C0033".

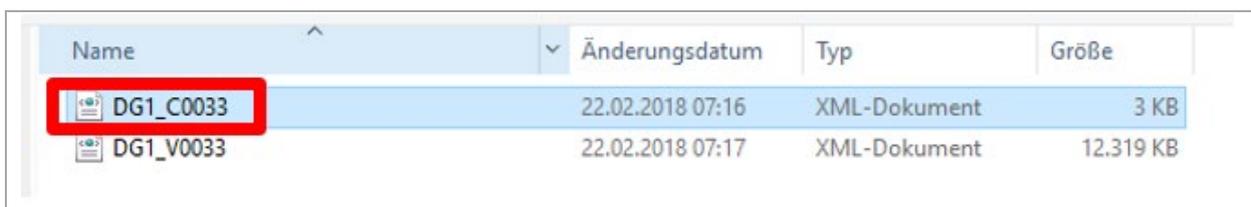


Abbildung 5: DG1_C0033

5. Check the cable connection and the COM port in the Windows Device Manager.

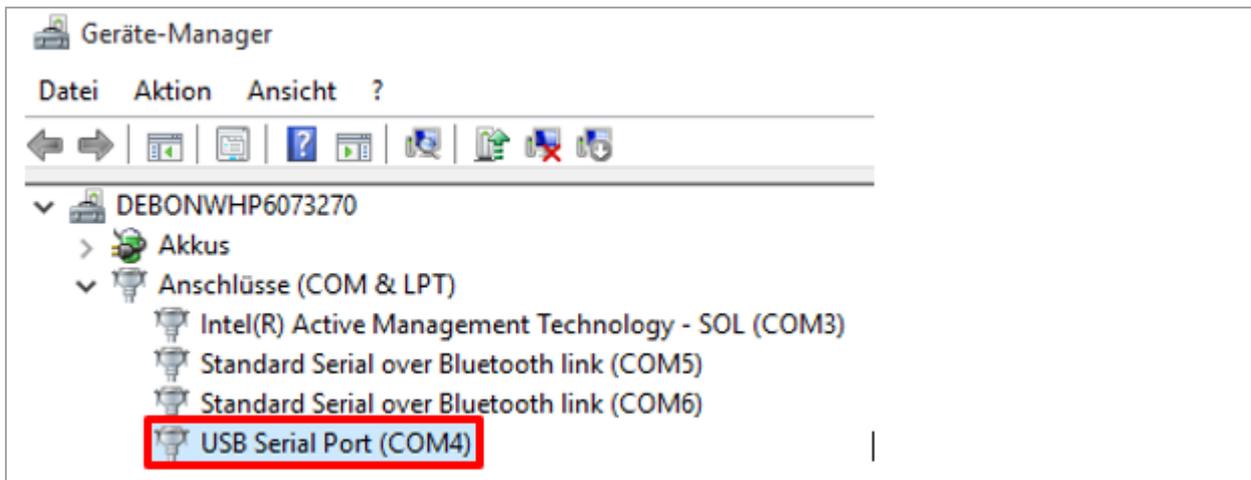


Abbildung 6: Device Manager

- Enter "1" for "Slave Address" and select the COM port.

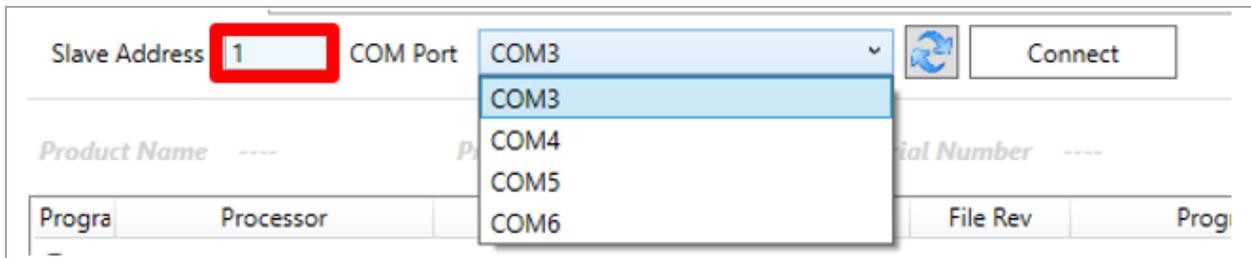


Abbildung 7: Settings

- Establish the connection via "Connect".

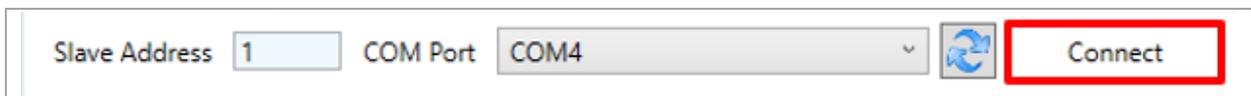


Abbildung 8: Establish connection

- After the firmware has been detected, a dialog for confirming the firmware package is displayed. The tool automatically sets check marks once the version differences have been detected.

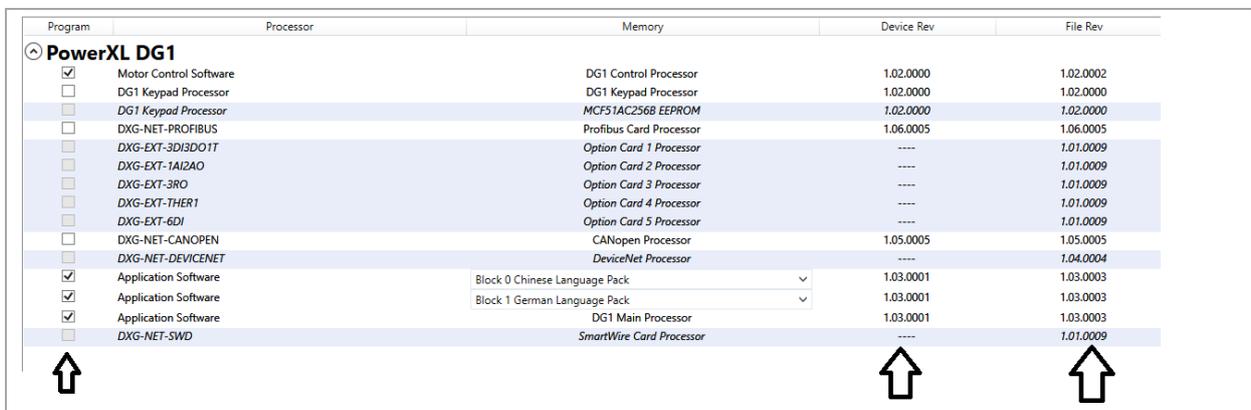


Abbildung 9: Update process

- Choose „Block 0“ for german and „Block 1“ for english.

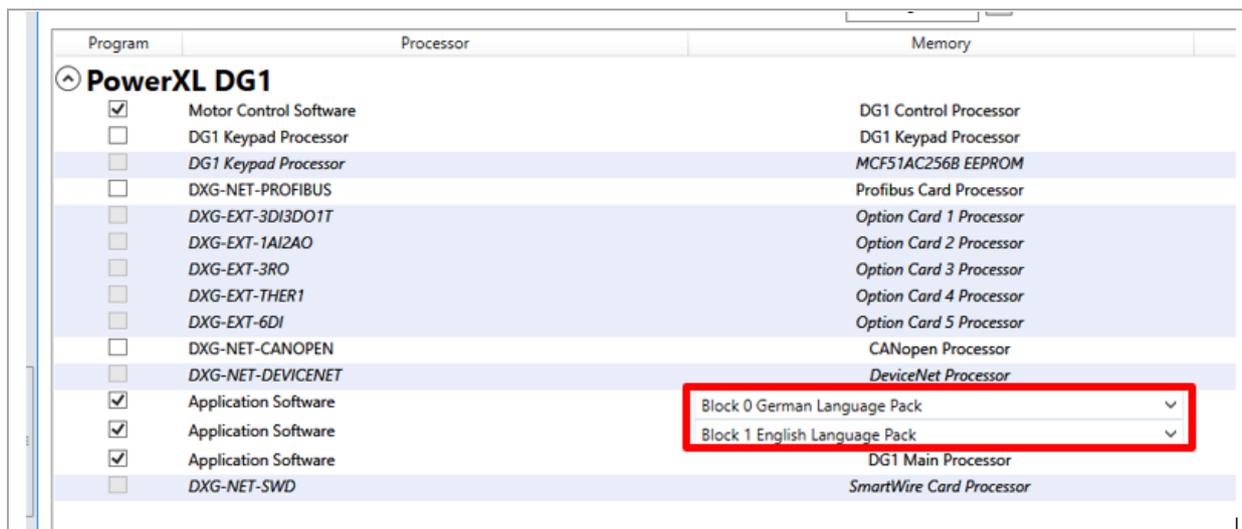


Abbildung 10: Update process

10. Confirm the selection with „Program“.

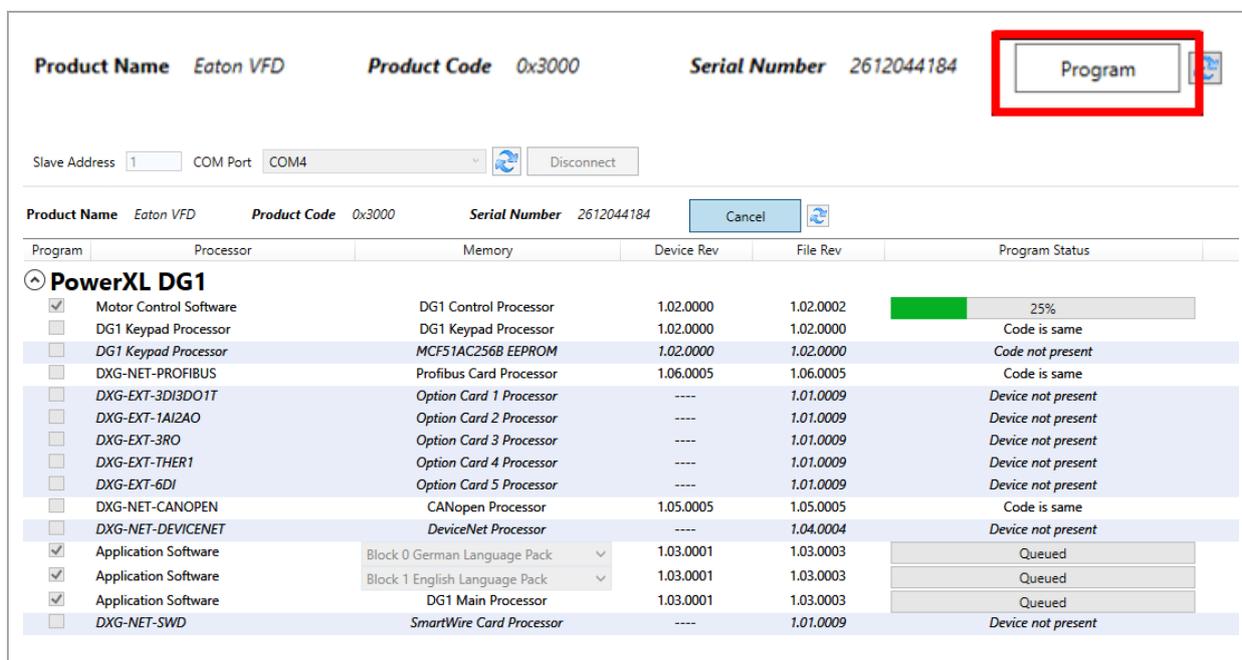


Abbildung 11: Confirming

11. Verify that the update has been completed correctly. ("Programming Success - Verification OK"). If "Verification OK" appears, select "Disconnect". If "Failed" appears, repeat the update process or contact After Sales Service.

Slave Address	1	COM Port	COM4	Disconnect		
Product Name	Eaton VFD	Product Code	0x3000	Serial Number	2612044184	Program
Program	Processor	Memory	Device Rev	File Rev	Program Status	
PowerXL DG1						
<input type="checkbox"/>	Motor Control Software	DG1 Control Processor	1.02.0002	1.02.0002	Programming Success - Verification OK	
<input type="checkbox"/>	DG1 Keypad Processor	DG1 Keypad Processor	1.02.0000	1.02.0000	Code is same	
<input type="checkbox"/>	DG1 Keypad Processor	MCF51AC256B EEPROM	1.02.0000	1.02.0000	Code not present	
<input type="checkbox"/>	DXG-NET-PROFIBUS	Profibus Card Processor	1.06.0005	1.06.0005	Code is same	
<input type="checkbox"/>	DXG-EXT-3DI3DO1T	Option Card 1 Processor	----	1.01.0009	Device not present	
<input type="checkbox"/>	DXG-EXT-1AI2AO	Option Card 2 Processor	----	1.01.0009	Device not present	
<input type="checkbox"/>	DXG-EXT-3RO	Option Card 3 Processor	----	1.01.0009	Device not present	
<input type="checkbox"/>	DXG-EXT-THER1	Option Card 4 Processor	----	1.01.0009	Device not present	
<input type="checkbox"/>	DXG-EXT-6DI	Option Card 5 Processor	----	1.01.0009	Device not present	
<input type="checkbox"/>	DXG-NET-CANOPEN	CANopen Processor	1.05.0005	1.05.0005	Code is same	
<input type="checkbox"/>	DXG-NET-DEVICENET	DeviceNet Processor	----	1.04.0004	Device not present	
<input type="checkbox"/>	Application Software	Block 0 German Language Pack	1.03.0003	1.03.0003	Programming Success - Verification OK	
<input type="checkbox"/>	Application Software	Block 1 English Language Pack	1.03.0003	1.03.0003	Programming Success - Verification OK	
<input type="checkbox"/>	Application Software	DG1 Main Processor	1.03.0003	1.03.0003	Programming Success - Verification OK	
<input type="checkbox"/>	DXG-NET-SWD	SmartWire Card Processor	----	1.01.0009	Device not present	

Abbildung 12: Update completed

5 Resetting to default settings

Reset all parameter to the factory settings by proceeding as follows:

Parameters → Basic Settings → System → Parameter Sets (P21.1.3)

Then select “Reload defaults”.

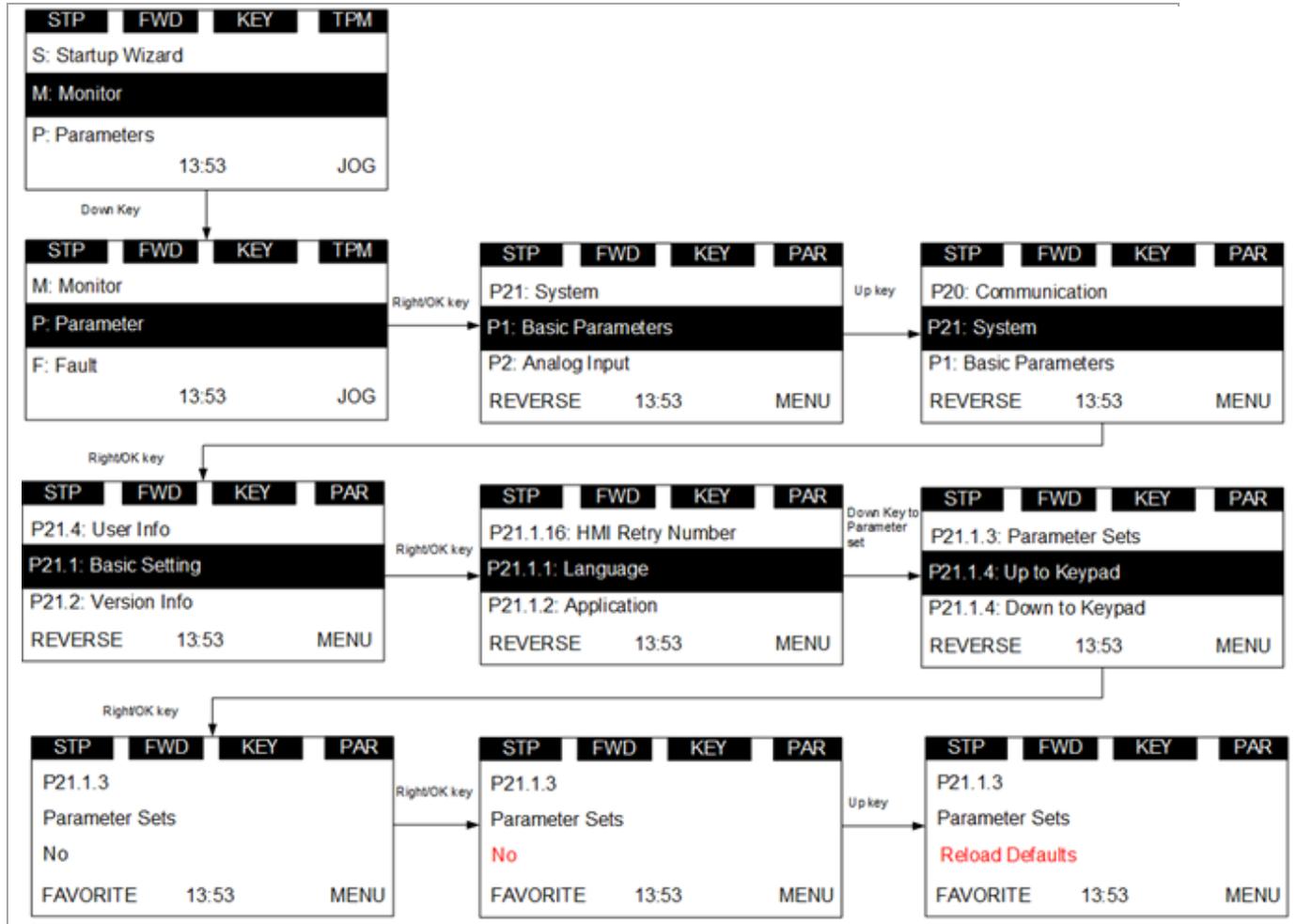


Abbildung 13: Parameter reset

Now the firmware update is completed. You can disconnect the programming cable, remove the power connector and reattach the front cover.

6 Firmware Upgrade for optional cards

1. Connect the optional module to one of the expansion slots.

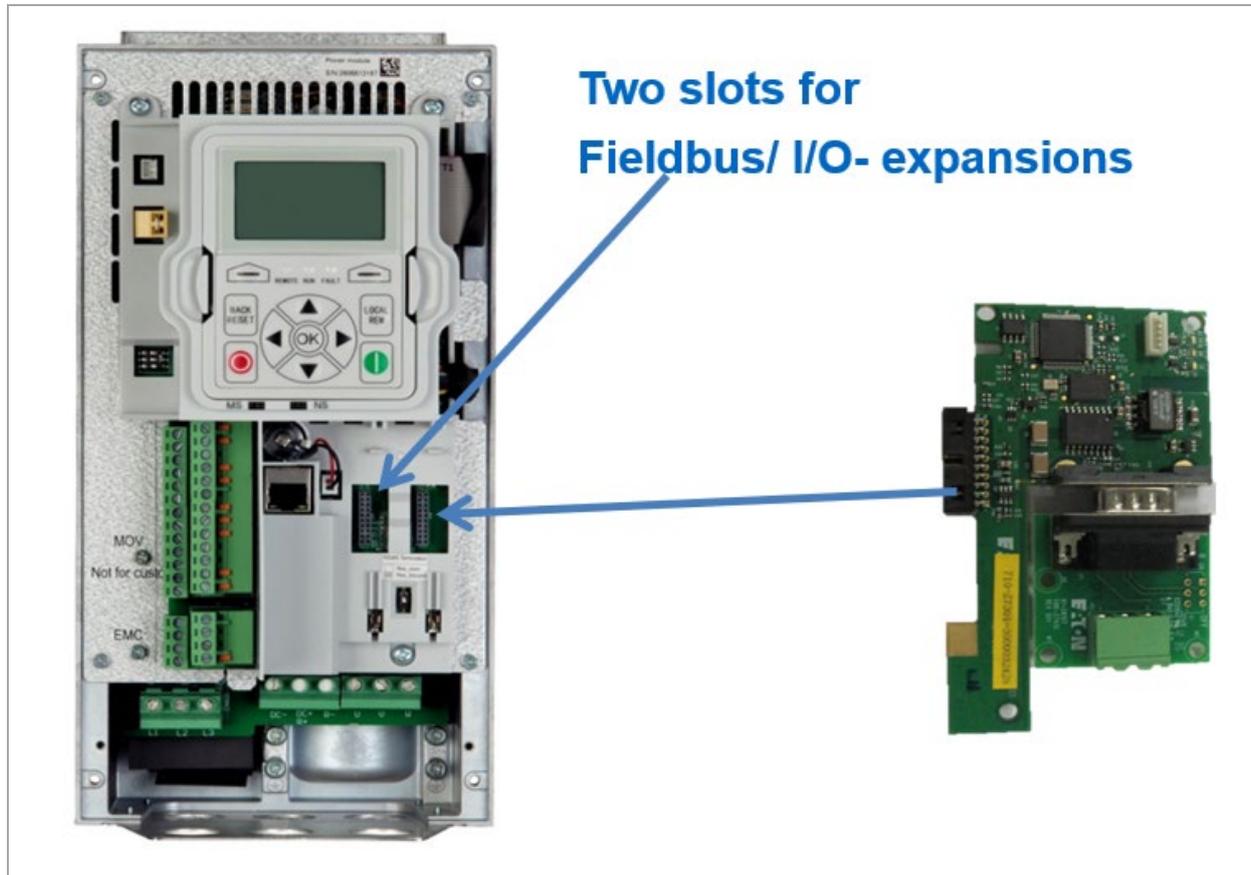


Abbildung 14: Installing expansions

2. Follow the steps 2.1 to 4.8.
3. Confirm the selection with „Program“.



Abbildung 15: Confirming the selection

4. Check the update version of the board. If "Code is same" appears, no update needs to be performed here.

Progra	Processor	Memory
PowerXL DG1		
<input type="checkbox"/>	Motor Control Software	DG1 Control Processor
<input type="checkbox"/>	DG1 Keypad Processor	DG1 Keypad Processor
<input type="checkbox"/>	<i>DG1 Keypad Processor</i>	<i>MCF51AC256B EEPROM</i>
<input checked="" type="checkbox"/>	DXG-NET-PROFIBUS	Profibus Card Processor
<input type="checkbox"/>	<i>DXG-EXT-3DI3DO1T</i>	<i>Option Card 1 Processor</i>
<input type="checkbox"/>	<i>DXG-EXT-1AI2AO</i>	<i>Option Card 2 Processor</i>
<input type="checkbox"/>	<i>DXG-EXT-3RO</i>	<i>Option Card 3 Processor</i>
<input type="checkbox"/>	<i>DXG-EXT-THER1</i>	<i>Option Card 4 Processor</i>
<input type="checkbox"/>	<i>DXG-EXT-6DI</i>	<i>Option Card 5 Processor</i>
<input checked="" type="checkbox"/>	DXG-NET-CANOPEN	CANopen Processor

Abbildung 16: Check the version

- Click „Disconnect“ to disconnect the communication again.

If the drive now remains in "Loader Mode", a connection should be established again via "Connect" and then disconnected again via "Disconnect".

If the drive is still in "Booth Loader Mode" and the "Startup Wizard" does not appear, please contact After Sales Service.

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Eaton Industries GmbH
Hein-Moeller-Str. 7- 11
D-53115 Bonn

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