B-NIMIS MC-PI Software
Release Notes – Firmware 1.3.1

Product family	B-NIMIS MC-PI
Release date	16.02.2023
Info-No.	
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Concerned products		
Description	**Item-no.**	**Change valid as of version**
B-NIMIS MC-PI	S-01030301-xxxx S-01030302-xxxx	

Main Subject

General release of Target Package MC-PI 1.3.1.0 and Firmware MC-PI 1.3.1 (SP18 Patch 4)

— Runtime system version: CODESYS 3.5 SP18 Patch 4
— Device description for B-NIMIS MC-PI SoftMotion Control 1.3.1.0
— Berghof System Library for Raspberry Pi (BghSystemRaspberry) 1.0.0.0

NOTE: For all Berghof CODESYS V3 PLC Systems the Target Package and Firmware are interdependent.

Changes for Firmware MC-PI and Target MC-PI

Firmware for PLC and device description package for CODESYS Programming System

Firmware 1.3.1 - changes to 1.2.2

NOTE: Firmware version 1.3.0 was not released

Bugfixes:
- BUG#4242: [BACNET] Wrong path to BACnet config file
- BUG#4248: [WEBBROWSER] Default state of webbrowser should be disabled
  due to possible task jitter and CPU load

Features:
- FEAT#4224: [SYSTEM] Support for MC-PI Plus devices
- FEAT#4231: [USERSPACE] Update of sqlite library
- FEAT#4232: [RUNTIME] Integration CODESYS Gateway 3.5.18.40
- FEAT#4233: [RUNTIME] Integration CODESYS Runtime 3.5.18.40
- FEAT#4236: [RUNTIME] Additional links to cdc_acm char devices
- FEAT#4189: [SECURTIY] IPTables support added
- FEAT#4245: [LICENSE] Licensing of OPCUA Client should be possible
- FEAT#4246: [LICENSE] Licensing of OPCUA PubSub should be possible
- FEAT#4231: [SYSTEM] Update of sqlite library to version 1.1.1t

Target 1.3.1.0 - changes to 1.2.2.0

NOTE: Target version 1.3.0.0 was not released

Bugfixes:
- BUG#4237: [RUNTIME] Wrong placeholder to SysEthernet

Features:
- BUG#4234: [TARGET] Integration CODESYS Runtime 3.5.18.40

Changes for Berghof System Library for Raspberry Pi (BghSystemRaspberry)

Library for access to system-related functions of MC-PI Firmware

BghSystemRasberry Library 1.0.0.0

NOTE: BghSystemRaspberry Library 1.0.0.0 is the first released version.

Bugfixes:

Features:

Common compatibility information

Changing the firmware of the PLC may imply a change of the CODESYS runtime version. When you change the CODESYS runtime version for an existing PLC application, you have to consider some compatibility issues. In the following paragraphs some compatibility topics are outlined.

Two use cases have to be considered:

— The source code compatibility of your PLC application to the target description and the referenced libraries in the CODESYS development system.
— The binary compatibility of your compiled application on the PLC to the CODESYS runtime integrated into the firmware of the PLC.

Compatibility of source code

If you want to use a feature or a bug fix which is released with a new CODESYS version, you have to migrate your PLC application to a new CODESYS version and a new target description for the PLC. This may be complex, because you might have to update some CODESYS components like fieldbus stacks (CANopen, EtherCAT, …), libraries and other items.
Be aware that this migration can't be undone by the CODESYS "undo" functionality.
Therefore, the advice "**Make a backup of your project before you begin!"**

Depending on how big the version jump is, the effort may vary:

— Changing to a different CODESYS version (e.g. CODESYS 3.x to CODESYS 3.y) may cause severe compatibility issues, because version changes are allowed to be incompatible.
— Changing to a different CODESYS Service Pack (e.g. CODESYS 3.x SP1 to CODESYS 3.x SP1) can be incompatible, but is mostly recognized to be compatible. Some changes might be needed.
— Changing to a different CODESYS Patch (e.g. CODESYS 3.x SP1 Patch 1 to CODESYS 3.x SP1 Patch 2) should be compatible.

For more information please contact 3S-Smart Software Solutions GmbH (support@codesys.com)

Compatibility of binaries

The compatibility of binaries is divided into the following topics:

— When you load your PLC application on a firmware with a different CODESYS runtime version as referenced by the target description in your PLC application project file.
— When you want to change the firmware on the PLC without changing the compiled PLC application binaries on it. This means you don't generate your boot project using CODESYS and download it to the PLC with the new firmware.
— When you deploy a PLC application with the help of the 'Package Update' feature of the PLC (plcapplication.tgz). This way a binary image of a compiled PLC application is transferred from one PLC to a different one.

In all cases the binary files on the PLC may have been generated for a different CODESYS runtime version as the version they will be loaded and run on. Therefore, the binary files may be incompatible!

ATTENTION! The 'Backup&Restore' feature of the Berghof PLCs does no version check of the binary PLC application and the CODESYS runtime version. You have to take care of it! One simple and reliable solution for field updates is to tie your PLC application and the PLC firmware version together and update both in one step.

Compatibility with hardware

The firmware advancement focuses on device revisions which are shipped in between the last two years. Therefore, a firmware version is only tested and released for devices which are not older than two years (based on the release date of the firmware). Older devices will most likely work without restrictions, but Berghof doesn't ensure this.
Due to the technical progress, it may happen, that older device revisions are no longer supported by the new firmware. Improvements or changes that causes an incompatibility with older hardware will be listed in this document.

Disclaimer

— Be aware, that a firmware update bears the risk of damaging the device! Due to the fact, that a firmware update must run in various, very different configurations and environments an error in the update procedure cannot be completely excluded.
— New firmware versions may contain undiscovered errors, even after our rigorous tests. Before starting an application in combination with a new firmware, you are obligated to perform sufficient tests of your own in a safe environment.

Copyright and final clause

Legal disclaimer

The content of this document has been verified for conformity with the described hardware and software. However, it is impossible to check the contents against all realized variations of hardware. As a result, we cannot be held responsible if the content is not fully compliant. The information given in this document is updated regularly and any corrections will be reflected in future versions.

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