

ctrlX WORKS

Basic System

WRK-V-0120

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DC-AE/PAD-SYS (MiSc)/(PiaSt)

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| 02 | 2022-07 | ctrlX WORKS Version WRK-V-0116 |
| 03 | 2022-12 | ctrlX WORKS Version WRK-V-0118.1 |
| 04 | 2022-12 | ctrlX WORKS Version WRK-V-0118.1 Revision |
| 05 | 2023-01 | ctrlX WORKS Version WRK-V-0118.2 Revision |
| 06 | 2023-03 | ctrlX WORKS Version WRK-V-0120 Revision |
| 07 | 2023-06 | ctrlX WORKS Version WRK-V-0120.2 Revision |
| 08 | 2023-07 | ctrlX WORKS Version WRK-V-0120.4 Revision |
| 09 | 2023-08 | ctrlX WORKS Version WRK-V-0120.5 Revision |
| 10 | 2023-12 | ctrlX WORKS Version WRK-V-0120.8 Revision |
| 11 | 2024-02 | ctrlX WORKS Version WRK-V-0120.10 Revision |
| 12 | 2024-04 | ctrlX WORKS Version WRK-V-0120.11 Revision |
| 13 | 2024-10 | ctrlX WORKS Version WRK-V-0120.12 Revision |
| 14 | 2025-04 | ctrlX WORKS Version WRK-V-0120.15 Revision |

2 Important information

2.1 Product information

For the latest information on our products, go to ➔ <https://www.boschrexroth.com>.

For current security advisories, please refer to ➔ <https://psirt.bosch.com/security-advisories/>

2.2 Notes for the update installation of WRK-V-0120



It is not possible to update installations based on WRK-V-0118 and older to WRK-V-0120. Please always perform a new installation for WRK-V-0120.

2.3 Information on the WRK-V-0118 update installation



Installations based on WRK-V-0116 and older cannot be updated anymore to the release WRK-V-0118. This is caused due to changes made in the architecture of the CoDeSys software. Always perform a new installation for the release WRK-V-0118.

2.4 Information on the WRK-V-0116 update installation



Note: The update installation of WRK-V-0116 release candidates did not work reliably and an error was reported. However, this is not the case for the previous versions WRK-V-0112 and WRK-V-0114. Thus, remove the preliminary WRK-V-0116 version from your PC and execute the installation.

2.5 Notes on app updates on ctrlX CORE Virtual

2.5.1 Updating the apps on the ctrlX CORE Virtual from WRK-V-0112

The setup ctrlX WORKS provides a new device ctrlX CORE Virtual compatible with the current version, including the current system apps. To convert an existing application to this version, proceed as follows:

Execute the following steps in the described sequence:

1. ➤ Backup the current control data in ctrlX CORE via the button in the header (from XCR-0110) in the "Manage app data" window.
2. ➤ Save all available configurations by highlighting the respective configuration in the list and click on the button .
3. ➤ Create a new ctrlX CORE Virtual in ctrlX WORKS in the "Devices" window.
4. ➤ Install the application apps in ctrlX CORE. Click on "Service".
 - First install all application apps via the button "Install from file"
 - Highlight all application apps and confirm them in the following file drop-down box. Subsequently, these apps are bundled and transmitted to the control via **Install**
 - Wait until loading is completed
 - Now press the button "Update all apps". The apps are installed
 - Click on "Operating". The control is ready for operation again
5. ➤ Change to the window "Manage app data" via the button in the header and load the relevant backups and configurations. The update is completed.
6. ➤ Please verify that all data has been applied.

For more information, refer to the chapter ➔ [Configurations – Introduction](#), ctrlX CORE Runtime, Application Manual.

3 WRK-V-0120.15

3.1 New functions

3.1.1 ctrlX CORE Virtual

Feature 1020347: Provision of ctrlX CORE Virtual for Patch 23.03.11

The image matching ctrlX CORE Runtime Patch RM 23.03.11 for ctrlX CORE Virtual is integrated in the ctrlX WORKS setup and is available for selection when creating a virtual control.

3.2 Notes on the use and known restrictions

3.2.1 ctrlX PLC Engineering

Bug 199551: Engineering PC – Sporadically high system load due to ctrlX PLC Gateway

Description

Sporadically, the ctrlX PLC Gateway generates a high system load on the Engineering PC.

Bug 346362: CXA_OpcUaClient – Download required when removing function blocks

Description

If the function block instances are removed using an “online change”, it can sporadically result in not releasing all resources again as for a dynamic memory. UA client instances client instances are also retained and are not deleted.

Workaround

If function block instances are removed, subsequently execute a complete download. Consequently, resources as well as a previously created UA client instance are deleted again.

Bug 454480: ctrlX PLC/IO Engineering does sporadically not start anymore after installing a CoDeSys Professional package

Description

After installing a CODESYS Professional Package (e.g. GIT Support), a message is displayed on some PCs, informing the user about the missing codemeter software components. Consequently, the software cannot be started anymore.

Workaround

For information about the solution to the problem, please contact your Bosch Rexroth service partner.

Bug 583808: PROFINET communication via PLC AddOn not stable

Description

During the operation of the PROFINET AddOn on a ctrlX CORE device, a cyclic communication interruption occurs. The logger displays the message "AR Consumer DHT Expired". It does not matter whether the ctrlX CORE device is running as a PROFINET control or as a PROFINET device.

Bugfix

The Linux Kernel 6.1 included in version 2.6 provides a new IP stack. This means that the error does not occur anymore. The functionality is only available from version 2.6.

Bug 697076: ctrlX PLC Engineering/ctrlX IO Engineering: Window is not displayed after starting the software

Description

Especially when changing monitors/resolution, the I/O or PLC Engineering might be opened and displayed in the taskbar, but the window is not visible.

Workaround

1.  Click on the taskbar with the mouse.

2. ➤ Place the cursor on the icon in the taskbar.
 - ➔ The preview window is displayed above the icon.
3. ➤ Move the cursor to the preview window using the mouse and right-click.
 - ➔ The context menu opens.
4. ➤ Select the "Maximize" command to display the window in full screen mode or the "Move" command to move the window back into the visible area.

Bug 725531: ctrlX PLC Engineering: Error message "Object reference not set to an instance of an object" following changes in the PLC program

Description

Sporadically, the error message "Object reference not set to an instance of an object" is displayed in ctrlX PLC Engineering in the following context:

1. ➤ First, changes were made in the PLC program (e.g. library manager) and then the "Clean all" command was executed.
2. ➤ The "Generate code" command was then called or a download to the control was initiated.

Workaround

Exit ctrlX PLC Engineering and restart the software.

Bug 771554: ctrlX PLC Engineering: Online change

Description

If recipes or SFC are used in the PLC program, the following problem can occur:

Initial situation: PC1 and PC2 are operated in different networks.

An application is transferred from PC1 to control A. The associated PLC project is stored on a drive that can be accessed from PC1 and PC2. If the project is now opened by PC 2 and it is tried to log in to control A, a message is reported stating that an online change is required. The same problem also occurs if a project archive is exchanged between PC1 and PC2.

Bug 888670: Intellisense error in ST editor

Description

The user expects that after entering a point (e.g. a structure variable) in the ST editor with the help of the Intellisense functionality, the underlying elements are displayed for selection and subsequent insertion.

However, the Intellisense functionality is not activated in the following known constellations:

- Variables in method calls.
- Variables in TypeCast functions.

Furthermore, there may also be other constellations in which the Intellisense functionality does not become active during input.

Bug 925283: ctrlX PLC Engineering or ctrlX IO Engineering does not start if the Federal Information Processing Standard (FIPS) is activated in Windows

Description

If the option "System cryptography: FIPS-compliant algorithm for encryption, hashing and signature" is enabled in the Windows security guidelines, a message is displayed when ctrlX PLC Engineering or ctrlX IO Engineering is started that the associated profile is invalid and the associated application is closed.

Workaround

To be able to start ctrlX PLC Engineering or ctrlX IO Engineering, you only have the option "System cryptography: Use FIPS-compliant algorithm for encryption, hashing and signature" in the Windows security policies.

3.2.2 ctrlX I/O Engineering

Bug 697076: ctrlX PLC Engineering/ctrlX IO Engineering: Window is not displayed after starting the software

Description

Especially when changing monitors/resolution, the I/O or PLC Engineering might be opened and displayed in the taskbar, but the window is not visible.

Workaround

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Workaround

To be able to start ctrlX PLC Engineering or ctrlX IO Engineering, you only have the option "System cryptography: Use FIPS-compliant algorithm for encryption, hashing and signature" in the Windows security policies.

4 WRK-V-0120.12**4.1 New functions****4.2 Resolved defects and modifications****4.2.1 ctrlX PLC Engineering**

Bug 830189: Offline import of EtherCat configuration fails if the name of a device starts with "_"

Description

When creating a EtherCAT configuration in ctrlX I/O Engineering in which devices are configured with "_" as the first character in the name, the import into the ctrlX PLC Engineering project fails.

Bug 846289: Project synchronization fails with substituted drive**Description**

If a project was stored on a substituted drive, project synchronization could not be performed.

Bug 863239: Read-only project file is displayed as changed in the control after logging in to the associated project**Description**

If a read-only project is opened, e.g. from a version control system, for which a boot project has already been created on the control, a change is displayed for the project after logging in, even though there are no differences.

4.3 Notes on the use and known restrictions

4.3.1 ctrlX PLC Engineering

Bug 199551: Engineering PC – Sporadically high system load due to ctrlX PLC Gateway**Description**

Sporadically, the ctrlX PLC Gateway generates a high system load on the Engineering PC.

Bug 346362: CXA_OpcUaClient – Download required when removing function blocks**Description**

If the function block instances are removed using an “online change”, it can sporadically result in not releasing all resources again as for a dynamic memory. UA client instances client instances are also retained and are not deleted.

Workaround

If function block instances are removed, subsequently execute a complete download. Consequently, resources as well as a previously created UA client instance are deleted again.

Bug 454480: ctrlX PLC/IO Engineering does sporadically not start anymore after installing a CoDeSys Professional package**Description**

After installing a CODESYS Professional Package (e.g. GIT Support), a message is displayed on some PCs, informing the user about the missing codemeter software components. Consequently, the software cannot be started anymore.

Workaround

For information about the solution to the problem, please contact your Bosch Rexroth service partner.

Bug 583808: PROFINET communication via PLC AddOn not stable**Description**

During the operation of the PROFINET AddOn on a ctrlX CORE device, a cyclic communication interruption occurs. The logger displays the message "AR Consumer DHT Expired". It does not matter whether the ctrlX CORE device is running as a PROFINET control or as a PROFINET device.

Bugfix

The Linux Kernel 6.1 included in version 2.6 provides a new IP stack. This means that the error does not occur anymore. The functionality is only available from version 2.6.

Bug 697076: ctrlX PLC Engineering/ctrlX IO Engineering: Window is not displayed after starting the software**Description**

Especially when changing monitors/resolution, the I/O or PLC Engineering might be opened and displayed in the taskbar, but the window is not visible.

Workaround

1. ➤ Click on the taskbar with the mouse.
2. ➤ Place the cursor on the icon in the taskbar.
 - ➔ The preview window is displayed above the icon.
3. ➤ Move the cursor to the preview window using the mouse and right-click.
 - ➔ The context menu opens.
4. ➤ Select the "Maximize" command to display the window in full screen mode or the "Move" command to move the window back into the visible area.

Bug 725531: ctrlX PLC Engineering: Error message "Object reference not set to an instance of an object" following changes in the PLC program**Description**

Sporadically, the error message "Object reference not set to an instance of an object" is displayed in ctrlX PLC Engineering in the following context:

1. ➤ First, changes were made in the PLC program (e.g. library manager) and then the "Clean all" command was executed.
2. ➤ The "Generate code" command was then called or a download to the control was initiated.

Workaround

Exit ctrlX PLC Engineering and restart the software.

Bug 771554: ctrlX PLC Engineering: Online change**Description**

If recipes or SFC are used in the PLC program, the following problem can occur:

Initial situation: PC1 and PC2 are operated in different networks.

An application is transferred from PC1 to control A. The associated PLC project is stored on a drive that can be accessed from PC1 and PC2. If the project is now opened by PC 2 and it is tried to log in to control A, a message is reported stating that an online change is required. The same problem also occurs if a project archive is exchanged between PC1 and PC2.

Bug 888670: Intellisense error in ST editor**Description**

The user expects that after entering a point (e.g. a structure variable) in the ST editor with the help of the Intellisense functionality, the underlying elements are displayed for selection and subsequent insertion.

However, the Intellisense functionality is not activated in the following known constellations:

- Variables in method calls.
- Variables in TypeCast functions.

Furthermore, there may also be other constellations in which the Intellisense functionality does not become active during input.

Bug 925283: ctrlX PLC Engineering or ctrlX IO Engineering does not start if the Federal Information Processing Standard (FIPS) is activated in Windows

Description

If the option "System cryptography: FIPS-compliant algorithm for encryption, hashing and signature" is enabled in the Windows security guidelines, a message is displayed when ctrlX PLC Engineering or ctrlX IO Engineering is started that the associated profile is invalid and the associated application is closed.

Workaround

To be able to start ctrlX PLC Engineering or ctrlX IO Engineering, you only have the option "System cryptography: Use FIPS-compliant algorithm for encryption, hashing and signature" in the Windows security policies.

4.3.2 ctrlX I/O Engineering

Bug 697076: ctrlX PLC Engineering/ctrlX IO Engineering: Window is not displayed after starting the software

Description

Especially when changing monitors/resolution, the I/O or PLC Engineering might be opened and displayed in the taskbar, but the window is not visible.

Workaround

1. ➤ Click on the taskbar with the mouse.
2. ➤ Place the cursor on the icon in the taskbar.
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 - ➔ The context menu opens.
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Bug 925283: ctrlX PLC Engineering or ctrlX IO Engineering does not start if the Federal Information Processing Standard (FIPS) is activated in Windows

Description

If the option "System cryptography: FIPS-compliant algorithm for encryption, hashing and signature" is enabled in the Windows security guidelines, a message is displayed when ctrlX PLC Engineering or ctrlX IO Engineering is started that the associated profile is invalid and the associated application is closed.

Workaround

To be able to start ctrlX PLC Engineering or ctrlX IO Engineering, you only have the option "System cryptography: Use FIPS-compliant algorithm for encryption, hashing and signature" in the Windows security policies.

5 WRK-V-0120.11

5.1 New functions

5.1.1 Update ctrlX CORE Virtual

Description

The image version for the ctrlX CORE Virtual has been updated to version 1.20.13.

6 WRK-V-0120.10

6.1 Resolved defects and modifications

6.1.1 ctrlX PLC Engineering

Bug 764136: CXA_OpcUaClient.library: Mapping to PLC variables of type WSTRING is not supported

Description

If the read/write blocks were used to read nodes of data layer type STRING that were mapped to a PLC variable of type WSTRING, the blocks returned the error "ErrorErrorDataLayerDL_UNSUPPORTED".

Bugfix

Thanks to a conversion, it is now possible to map data layer variables of type STRING to PLC variables of type WSTRING.

Bug 776405: ctrlX PLC Engineering: Compiler error "Null reference exception" when using the data type ANY in methods

Description

If the type "ANY" was used in a method in a library project, this resulted in the error message "Internal Error: SystemNullReferenceException: The object reference was not set to an instance. for 3S CoDeSys.Compiler 35190.Phase...".

Bug 789413: OverviewAxes visualization: "PLCOpen" status is not displayed correctly

Description

The "PLCOpen" status was not displayed correctly in the OverviewAxes visualization. By moving a single axis, its PLCOpen state was to be changed from "STANDSTILL" to "DISCRETE_MOTION". In the current visualization, however, only the "PLCOpen" status of the first axis was displayed for all other axes.

Bugfix

After updating the CXA_MotionInterfaceUser to version 1.20.1.7, the PLCOpen status of the axes is displayed correctly on the OverviewAxes page of the visualization. If, for example, only one axis is activated, only the PLCOpen status of the corresponding axis changes to "STANDSTILL".

6.1.2 ctrlX I/O Engineering

Bug 767997: ctrlX I/O Engineering crashes when importing the ESI file (FileVersion: 6)"

Description

During the installation of the latest version (FileVersion: 6) of the Beckhoff ESI file "Beckhoff EL1xxx.xml", a stack overflow of ctrlX I/O Engineering occurred. Depending on the number of elements to be imported, the error also occurred when importing other device description files.

6.2 Notes on the use and known restrictions

6.2.1 ctrlX PLC Engineering

Bug 199551: Engineering PC – Sporadically high system load due to ctrlX PLC Gateway

Description

Sporadically, the ctrlX PLC Gateway generates a high system load on the Engineering PC.

Bug 346362: CXA_OpcUaClient – Download required when removing function blocks

Description

If the function block instances are removed using an "online change", it can sporadically result in not releasing all resources again as for a dynamic memory. UA client instances client instances are also retained and are not deleted.

Workaround

If function block instances are removed, subsequently execute a complete download. Consequently, resources as well as a previously created UA client instance are deleted again.

Bug 454480: ctrlX PLC Engineering sporadically does not start anymore after installing a CoDeSys Professional package

Description

After installing a CODESYS Professional Package (e.g. GIT Support), a message is displayed on some PCs, informing the user about the missing codemeter software components. Consequently, the software cannot be started anymore.

Workaround

For information about the solution to the problem, please contact your Bosch Rexroth service partner.

Bug 583808: PROFINET communication via PLC AddOn not stable

Description

During the operation of the PROFINET AddOn on a ctrlX CORE device, a cyclic communication interruption occurs. The logger displays the message "AR Consumer DHT Expired". It does not matter whether the ctrlX CORE device is running as a PROFINET control or as a PROFINET device.

Workaround

Start the field bus configuration editor for the PROFINET control and increase the communication watchdog for each PROFINET device that displays the error "AR Consumer DHT Expired". We recommend a setting higher than 80 ms.

Bug 697076: ctrlX PLC Engineering/ctrlX IO Engineering: Window is not displayed after starting the software**Description**

Especially when changing monitors/resolution, the I/O or PLC Engineering might be opened and displayed in the taskbar, but the window is not visible.

Workaround

1. ➤ Click on the taskbar with the mouse.
2. ➤ Place the cursor on the icon in the taskbar.
 - ➔ The preview window is displayed above the icon.
3. ➤ Move the cursor to the preview window using the mouse and right-click.
 - ➔ The context menu opens.
4. ➤ Select the "Maximize" command to display the window in full screen mode or the "Move" command to move the window back into the visible area.

Bug 725531: ctrlX PLC Engineering: Error message "Object reference not set to an instance of an object" following changes in the PLC program**Description**

Sporadically, the error message "Object reference not set to an instance of an object" is displayed in ctrlX PLC Engineering in the following context:

1. ➤ First, changes were made in the PLC program (e.g. library manager) and then the "Clean all" command was executed.
2. ➤ The "Generate code" command was then called or a download to the control was initiated.

Workaround

Exit ctrlX PLC Engineering and restart the software.

Bug 766126: ctrlX PLC Engineering: Error message in case of port forwarding "The gateway entered into the project does not exist"**Description**

If the address of the control is entered manually into the "Communication" tab with port forwarding, e.g. 127.0.0.1:8443, the error message "The gateway entered into the project does not exist..." is displayed and logging in fails.

Workaround

Execute the "Scan network" command and select the IP address of the control.

It can also be adjusted manually:

Open the "Edit communication ports" dialog in the "Communication" tab under "Device -> Options" and enter the ports manually. Logging in is then possible.

Bug 771554: ctrlX PLC Engineering: Online change**Description**

If recipes or SFC are used in the PLC program, the following problem can occur:

Initial situation: PC1 and PC2 are operated in different networks.

An application is transferred from PC1 to control A. The associated PLC project is stored on a drive that can be accessed from PC1 and PC2. If the project is now opened by PC 2 and it is tried to log in to control A, a message is reported stating that an online change is required. The same problem also occurs if a project archive is exchanged between PC1 and PC2.

6.2.2 ctrlX I/O Engineering

Bug 697076: ctrlX PLC Engineering/ctrlX IO Engineering: Window is not displayed after starting the software

Description

Especially when changing monitors/resolution, the I/O or PLC Engineering might be opened and displayed in the taskbar, but the window is not visible.

Workaround

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2. ➤ Place the cursor on the icon in the taskbar.
 - ➔ The preview window is displayed above the icon.
3. ➤ Move the cursor to the preview window using the mouse and right-click.
 - ➔ The context menu opens.
4. ➤ Select the "Maximize" command to display the window in full screen mode or the "Move" command to move the window back into the visible area.

6.2.3 ctrlX WORKS

Bug 689159: ctrlX WORKS update installation is not completed

Description

Typically, a ctrlX WORKS installation takes a maximum of 30 minutes. Sporadically an error occurs during the installation that prevents completion of the installation. However, the installation display continues to run without canceling the installation.

Workaround

If the installation is not completed after 30 minutes, open the log file with the latest date in the directory C:\ProgramData\Rexroth\PackageManager\Logs. Here you can also find a message with the installation errors. Complete the installation via the Task Manager and execute a restart.

7 WRK-V-0120.8

7.1 Resolved defects and modifications

7.1.1 ctrlX PLC Engineering

Bug 485758: ctrlX PLC Engineering/ctrlX IO Engineering: Online help not available via F1

Description

When trying to open the help associated with the current window/dialog via the F1 key, a message was displayed stating that the associated help was not available.

Bug 560475: ctrlX PLC Engineering: Command "Scanning application" sporadically causes an exception

Description

Depending on the application, executing the command **View** → **Settings, Memory reserve for online change** → **Scanning application** caused a sporadic exception.

Bug 652969: ctrlX PLC Engineering: Project update is not saved with active simulation

Description

If a project with activated simulation, that had been created with a previous version, had been opened in ctrlX PLC Engineering 1.20 and converted to the current version, this update was not saved. When the project had been opened the next time, an update was required again.

Bug 663992: Error when handling GVL names together with brackets

Description

If parentheses were used in the ST-editor together with the name of a "Global Variable List" (e.g. [myGVL.]), the variables in the list could not be selected. The "lamp symbol" was displayed instead indicating an undefined variable.

Bug 686273: ctrlX PLC Engineering: GUID error after "Clean all"

Description

If the "Clean all" command was executed and the library manager was open at the same time, a GUID object error was displayed sporadically.

Bug 688955: Library CXA_MotionInterface: Inputs for GearInPos are not scanned cyclically

Description

The input variables OutputRevolution, InputRevolution and Fineadjust of GearInPos and GearInVel were not scanned cyclically if the variable arAxisCtrl_gb[].Admin.Config.EnableCyclicScanning was set to TRUE.

Bugfix

The input variables OutputRevolution, InputRevolution and Fineadjust can be scanned cyclically, as defined for GearInPos and GearInVel.

Bug 711342: Available PROFINET device real-time data is sporadically not recognized when reading the configuration

Description

Although the Data Layer contained the real-time data for the PROFINET device, the data was sporadically not detected in the selection list of available channels in ctrlX PLC Engineering.

Bug 718357: ctrlX PLC Engineering: Library documentation is not displayed

Description

The detail and documentation view windows in the library manager do not work correctly anymore after changing the focus to another library or selecting it in the library manager.

Bug 718527: ctrlX PLC Engineering: Settings for bus update on device node DataLayer_Realtime are reset after a program change

Description

Following the program changes, the value for the bus update on the DataLayer_Realtime device node was reset to "Use settings of higher-level device".

Bug 725555: Changes to the "Project synchronization" settings are not saved in the project

Description

If changes were made to the project synchronization settings and the project was closed, the changes were not applied.

Bug 727014: ctrlX PLC Engineering: Crash dialog when the control is restarted during project synchronization**Description**

If the project synchronization is enabled, the project data is compared after the application download. If the control was restarted while the adjustment was still active, the ctrlX PLC Engineering crashed.

Bug 735237: ctrlX PLC Engineering: Error message "C0367: Internal error 2 impedes online change!..."**Description**

Depending on the respective PLC program, the error "C0367: Internal error 2 impedes online change!..." is displayed after the changes. An online change was not possible anymore. A download was required to load the program.

Bug 740038: Incorrect placeholder resolution for library 3SLicense.library**Description**

After converting a PLC project to a new version, the placeholder for the library 3SLicense.library was sporadically set incorrectly. The cause was usually a faulty conversion of the compiler.

Bug 755166: Logging in to control fails although no change was made**Description**

It was not possible to log into a running PLC application, as changes were reported even though no changes were made before. Differences were also not displayed when comparing the project to the running application. This mainly occurred together with PLC projects on which several users were working simultaneously or when the same project was loaded to multiple controls.

Bugfix

The cause of the malfunction was that the parameters of the device node, e.g. IP address or serial number of the control, were incorrectly evaluated during the download for comparison of the project and the boot application. These parameters have no effect and are no longer considered.

7.2 Notes on the use and known restrictions

7.2.1 ctrlX PLC Engineering

Bug 199551: Engineering PC – Sporadically high system load due to ctrlX PLC Gateway**Description**

Sporadically, the ctrlX PLC Gateway generates a high system load on the Engineering PC.

Bug 346362: CXA_OpcUaClient – Download required when removing function blocks**Description**

If the function block instances are removed using an "online change", it can sporadically result in not releasing all resources again as for a dynamic memory. UA client instances client instances are also retained and are not deleted.

Workaround

If function block instances are removed, subsequently execute a complete download.

Consequently, resources as well as a previously created UA client instance are deleted again.

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Workaround

Start the field bus configuration editor for the PROFINET control and increase the communication watchdog for each PROFINET device that displays the error "AR Consumer DHT Expired". We recommend a setting higher than 80 ms.

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1. First, changes were made in the PLC program (e.g. library manager) and then the "Clean all" command was executed.
2. The "Generate code" command was then called or a download to the control was initiated.

Workaround

Exit ctrlX PLC Engineering and restart the software.

Bug 766126: ctrlX PLC Engineering: Error message in case of port forwarding "The gateway entered into the project does not exist"**Description**

If the address of the control is entered manually into the "Communication" tab with port forwarding, e.g. 127.0.0.1:8443, the error message "The gateway entered into the project does not exist..." is displayed and logging in fails.

Workaround

Execute the "Scan network" command and select the IP address of the control.

It can also be adjusted manually:

Open the "Edit communication ports" dialog in the "Communication" tab under "Device -> Options" and enter the ports manually. Logging in is then possible.

Bug 771307: Visualization OverviewAxes: "PLCOpen" status is not displayed correctly**Description**

The "PLCOpen" status is not displayed correctly in the OverviewAxes visualization. By moving a single axis, its PLCOpen state is to be changed from "STANDSTILL" to "DISCRETE_MOTION".

In the current visualization, however, only the "PLCOpen" status of the first axis is displayed for all other axes.

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If recipes or SFC are used in the PLC program, the following problem can occur:

Initial situation: PC1 and PC2 are operated in different networks.

An application is transferred from PC1 to control A. The associated PLC project is stored on a drive that can be accessed from PC1 and PC2. If the project is now opened by PC 2 and it is tried to log in to control A, a message is reported stating that an online change is required. The same problem also occurs if a project archive is exchanged between PC1 and PC2.

7.2.2 ctrlX I/O Engineering

Bug 574944: ctrlX I/O Engineering: When opening an old project on the control, existing device descriptions might be overwritten without prompt**Description**

Prerequisite:

The project is saved on the control and the "Device description files and libraries" are enabled.

If the control opens an older project (e.g. after an update), the included description files are installed without prompt. Thus, newer releases might be overwritten. An unexpected behavior can be caused for certain devices.

Workaround

The corresponding device description files have to be reinstalled and the devices have to be updated in the project.

Bug 697076: ctrlX PLC Engineering/ctrlX IO Engineering: Window is not displayed after starting the software**Description**

Especially when changing monitors/resolution, the I/O or PLC Engineering might be opened and displayed in the taskbar, but the window is not visible.

Workaround

1. ➤ Click on the taskbar with the mouse.
2. ➤ Place the cursor on the icon in the taskbar.
 - ➔ The preview window is displayed above the icon.
3. ➤ Move the cursor to the preview window using the mouse and right-click.
 - ➔ The context menu opens.
4. ➤ Select the "Maximize" command to display the window in full screen mode or the "Move" command to move the window back into the visible area.

Bug 767997: ctrlX I/O Engineering crashes when importing the ESI file "Beckhoff EL1xxx.xml (FileVersion: 6)"**Description**

When installing the latest version (FileVersion: 6) of the Beckhoff ESI file "Beckhoff EL1xxx.xml", a stack overflow of ctrlX I/O Engineering occurs.

Workaround

Please use an older version of that file. The use of the file based on FileVersion 4 has been proved to work. Compared to FileVersion 6, only one new device is missing.

7.2.3 ctrlX WORKS

Bug 689159: ctrlX WORKS update installation is not completed**Description**

Typically, a ctrlX WORKS installation takes a maximum of 30 minutes. Sporadically an error occurs during the installation that prevents completion of the installation. However, the installation display continues to run without canceling the installation.

Workaround

If the installation is not completed after 30 minutes, open the log file with the latest date in the directory C:\ProgramData\Rexroth\PackageManager\Logs. Here you can also find a message with the installation errors. Complete the installation via the Task Manager and execute a restart.

8 WRK-V-0120.5

8.1 New functions

8.1.1 ctrlX CORE Virtual

Feature 704579: ctrlX CORE Virtual update

The included base image for ctrlX CORE Virtual has been updated to version XCR-V-0120.9.

8.2 Notes on the use and known restrictions

8.2.1 ctrlX PLC Engineering

Bug 199551: Engineering PC – Sporadically high system load due to ctrlX PLC Gateway

Description

Sporadically, the ctrlX PLC Gateway generates a high system load on the Engineering PC.

Bug 346362: CXA_OpcUaClient – Removing function blocks always requires a download

Description

If the function block instances are removed using an online change, it can sporadically result in not releasing all resources again as for a dynamic memory. UA client instances are also retained and are not deleted.

Preliminary solution

If function block instances are removed, subsequently execute a complete download. Resources as well as a previously generated UA client instance is deleted again.

Bug 454480: ctrlX PLC Engineering sporadically does not start anymore after installing a CoDeSys Professional package

Description

After installing a CODESYS Professional Package (e.g. GIT Support), a message is displayed on some PCs, informing the user about the missing codemeter software components. Consequently, the software cannot be started anymore.

Workaround

For information about the solution to the problem, please contact your Bosch Rexroth service partner.

Bug 560475: ctrlX PLC Engineering: Command "Scanning application" sporadically causes an exception

Description

Depending on the application, executing the command **View → Settings, Memory reserve for online change → Scanning application** can cause a sporadic exception.

Bug 688955: CXA_MotionInterface: Inputs for GearInPos are not scanned cyclically

Description

In the Motion interface, there is the possibility to configure whether the input should be scanned cyclically or not. (arAxisCtrl_gb[].Admin.Config.EnableCyclicScanning). The values for OutputRevolution, InputRevolution and Fineadjust are not sampled cyclically.

Workaround

Change the input values "OutputRevolution", "InputRevolution" and "Fineadjust" and then reset the function from "False" to "True".

8.2.2 ctrlX I/O Engineering

Bug 574944: ctrlX I/O Engineering: When opening an old project on the control, existing device descriptions might be overwritten without prompt

Description

Prerequisite:

The project is saved on the control and the "Device description files and libraries" are enabled.

If the control opens an older project (e.g. after an update), the included description files are installed without prompt. Thus, newer releases might be overwritten. An unexpected behavior can be caused for certain devices.

Workaround

The corresponding device description files have to be reinstalled and the devices have to be updated in the project.

8.2.3 ctrlX WORKS

Bug 689159: ctrlX WORKS update installation is not completed

Description

Typically, a ctrlX WORKS installation takes a maximum of 30 minutes. Sporadically an error occurs during the installation that prevents completion of the installation. However, the installation display continues to run without canceling the installation.

Workaround

If the installation is not completed after 30 minutes, open the log file with the latest date in the directory C:\ProgramData\Rexroth\PackageManager\Logs. Here you can also find a message with the installation errors. Complete the installation via the Task Manager and execute a restart.

9 WRK-V-0120.4

9.1 Resolved defects and modifications

9.1.1 ctrlX PLC Engineering

Bug 634071: CXA_OpcUaClient.library: UA_Connect reports F10000015

Description

The FB UA_Connect sporadically reported error F10000015 when establishing a connection.

Bug 670154: Opening of files with extension .projectarchive faulty

Description

Opening a file with the extension .projectarchive by double-clicking in the Windows Explorer may not have been performed with the assigned version of ctrlX PLC Engineering.

Bug 674594: ctrlX PLC Engineering: Simulation device is not installed**Description**

In the ctrlX WORKS 1.20.2 installation, the device description for the simulation device was not installed. After selecting the simulation in a ctrlX PLC Engineering project, an error was reported that the device description file for the simulation device is not installed.

Bug 676162: ctrlX PLC Engineering reports invalid user and invalid password**Description**

When trying to log in to the control, this attempt was rejected. An error dialog was incorrectly displayed indicating an invalid user and/or password.

Bug 689529: Project synchronization: Option "Boot application"**Description**

For the project synchronization the option was missing that when creating the boot project, a synchronization of the project data is performed.

9.2 Notes on the use and known restrictions

9.2.1 ctrlX PLC Engineering

Bug 199551: Engineering PC – Sporadically high system load due to ctrlX PLC Gateway**Description**

Sporadically, the ctrlX PLC Gateway generates a high system load on the Engineering PC.

Bug 346362: CXA_OpcUaClient – Removing function blocks always requires a download**Description**

If the function block instances are removed using an online change, it can sporadically result in not releasing all resources again as for a dynamic memory. UA client instances are also retained and are not deleted.

Preliminary solution

If function block instances are removed, subsequently execute a complete download. Resources as well as a previously generated UA client instance is deleted again.

Bug 454480: ctrlX PLC Engineering sporadically does not start anymore after installing a CoDeSys Professional package**Description**

After installing a CODESYS Professional Package (e.g. GIT Support), a message is displayed on some PCs, informing the user about the missing codemeter software components. Consequently, the software cannot be started anymore.

Workaround

For information about the solution to the problem, please contact your Bosch Rexroth service partner.

Bug 560475: ctrlX PLC Engineering: Command "Scanning application" sporadically causes an exception**Description**

Depending on the application, executing the command **View → Settings, Memory reserve for online change → Scanning application** can cause a sporadic exception.

Bug 688955: CXA_MotionInterface: Inputs for GearInPos are not scanned cyclically**Description**

In the Motion interface, there is the possibility to configure whether the input should be scanned cyclically or not. (arAxisCtrl_gb[].Admin.Config.EnableCyclicScanning). The values for OutputRevolution, InputRevolution and Fineadjust are not sampled cyclically.

Workaround

Change the input values "OutputRevolution", "InputRevolution" and "Fineadjust" and then reset the function from "False" to "True".

9.2.2 ctrlX I/O Engineering

Bug 574944: ctrlX I/O Engineering: When opening an old project on the control, existing device descriptions might be overwritten without prompt**Description**

Prerequisite:

The project is saved on the control and the "Device description files and libraries" are enabled.

If the control opens an older project (e.g. after an update), the included description files are installed without prompt. Thus, newer releases might be overwritten. An unexpected behavior can be caused for certain devices.

Workaround

The corresponding device description files have to be reinstalled and the devices have to be updated in the project.

9.2.3 ctrlX WORKS

Bug 689159: ctrlX WORKS update installation is not completed**Description**

Typically, a ctrlX WORKS installation takes a maximum of 30 minutes. Sporadically an error occurs during the installation that prevents completion of the installation. However, the installation display continues to run without canceling the installation.

Workaround

If the installation is not completed after 30 minutes, open the log file with the latest date in the directory C:\ProgramData\Rexroth\PackageManager\Logs. Here you can also find a message with the installation errors. Complete the installation via the Task Manager and execute a restart.

10 WRK-V-0120.2

10.1 New functions

10.1.1 ctrlX PLC Engineering

Feature 466591: CXA_Datalayer: Access functions for Data Layer realtime area

In the CXA_Datalayer library, access functions to the Data Layer realtime areas are made available now below the Datalayer_RT folder.

10.2 Resolved defects and modifications

10.2.1 ctrlX PLC Engineering

Bug 608311: ctrlX PLC Engineering: Subsequent activation of project synchronization does not transmit any files to control

Description

If the "project synchronization" had been activated after saving and transmitting the project to the control, it had been impossible to transmit the corresponding project files to the control because it was not possible anymore to execute the "Save" command.

Bug 635767: ctrlX PLC Engineering/ctrlX IO Engineering: Impossible to open dialog for project synchronization

Description

It had been impossible to open the project synchronization dialog if the online connection to the configured control was missing.

Bug 646192: ctrlX PLC/ctrlX IO Engineering: File import reports "Resolving missing add-ons"

Description

The import of a file failed in ctrlX PLC Engineering or ctrlX IO Engineering. The footer displayed the message "Resolving missing add-ons". The program ran in an infinite loop and had to be terminated via the Task Manager.

Bug 652969: ctrlX PLC Engineering: Project update is not saved with active simulation

Description

If a project with activated simulation, that had been created with a previous version, had been opened in ctrlX PLC Engineering 1.20 and converted to the current version, this update was not saved. When the project had been opened the next time, an update was required again.

Bug 654596: ctrlX PLC Engineering: Impossible to communicate with control

Description

In an existing project, the communication settings were not applied if, for example, the address or the name of the target device had been changed.

Bug 657647: ctrlX PLC Engineering/ctrlX IO Engineering: Double-clicking the project archive opens empty project

Description

If a project archive file had been selected with a double click in the Windows Explorer, an empty project was subsequently opened in the corresponding Engineering.

Bug 659484: ctrlX PLC Engineering: Impossible to communicate with control if configured PLC gateway not available anymore**Description**

The PLC gateway settings are saved in the project. If a project in ctrlX PLC Engineering had been opened on another PC, on which the configured PLC gateway did not exist, it had then been possible to establish a connection to the control, but logging in was not possible.

10.2.2 ctrlX CORE Virtual**Bug 569647: Windows freezes when starting a ctrlX CORE Virtual with Intel Efficient-Cores****Description**

When starting a ctrlX CORE Virtual with Intel "Efficient-Cores", the Windows operating system sometimes froze. This problem could only be resolved by restarting the entire system.

10.3 Notes on the use and known restrictions**10.3.1 ctrlX PLC Engineering****Bug 266045: ctrlX PLC Engineering – Call hierarchy without content****Description**

If an access violation occurs in an externally implemented library function during the program processing, the call list is sporadically empty.

Bug 346362: CXA_OpcUaClient – Removing function blocks always requires a download**Description**

If the function block instances are removed using an online change, it can sporadically result in not releasing all resources again as for a dynamic memory. UA client instances are also retained and are not deleted.

Preliminary solution

If function block instances are removed, subsequently execute a complete download. Resources as well as a previously generated UA client instance is deleted again.

Bug 454480: ctrlX PLC Engineering sporadically does not start anymore after installing a CoDeSys Professional package**Description**

After installing a CODESYS Professional Package (e.g. GIT Support), a message is displayed on some PCs, informing the user about the missing codemeter software components. Consequently, the software cannot be started anymore.

Workaround

For information about the solution to the problem, please contact your Bosch Rexroth service partner.

Bug 536504: ctrlX PLC Engineering: Error message "No device responds to scan request"**Description**

No connection to the control could be set up after entering the IP address via the CoDeSys communication dialog at the device node. A connection attempt is acknowledged with the error message "No device responds to scanning request".

Workaround

Right-click at the device node to open the "Communication settings" dialog and set up the connection to the control. Subsequently, the connection to the control is possible.

Bug 560475: ctrlX PLC Engineering: Command "Scanning application" sporadically causes an exception

Description

Depending on the application, executing the command **View → Settings, Memory reserve for online change → Scanning application** can cause a sporadic exception.

10.3.2 ctrlX I/O Engineering

Bug 574944: ctrlX I/O Engineering: When opening an old project on the control, existing device descriptions might be overwritten without prompt

Description

Prerequisite:

The project is saved on the control and the "Device description files and libraries" are enabled.

If the control opens an older project (e.g. after an update), the included description files are installed without prompt. Thus, newer releases might be overwritten. An unexpected behavior can be caused for certain devices.

Workaround

The corresponding device description files have to be reinstalled and the devices have to be updated in the project.

11 WRK-V-0120**11.1 New functions****11.1.1 ctrlX PLC Engineering**

Feature 348528: Managing ctrlX CORE Virtual controls via ctrlX WORKS

Description

The user always used to require a ctrlX WORKS setup to install the version of ctrlX CORE Virtual included in the setup. Now, different versions of the virtual control can be created via base images in the device overview in ctrlX WORKS.

Feature 537998: ctrlX PLC Engineering: Revision of the communication settings

Description

A new tab is available on the device node for managing communication settings of the ctrlX CORE control. The node is synchronized to the ctrlX CORE properties. The original tab was removed.

Feature 561898: ctrlX PLC Engineering/ctrlX IO Engineering/ PLC App: CoDeSys 3.5.19.0 integration

Description

The software versions

- ctrlX PLC Engineering 1.20
- ctrlX IO Engineering 1.20
- PLC App 1.20

were converted on the basis of CoDeSys Service Pack 3.5.19.0.

Feature 567048: ctrlX PLC API/ctrlX IO API extensions

Description

The ctrlX PLC API has been extended by the following functions:

- Setting the library category in the project information
- Running the "Create runtime system files" command

Executing operations via ctrlX PLC API and ctrlX IO API is now also possible "silently". ctrlX PLC and ctrlX IO Engineering are not visible anymore during the execution.

Feature 567962: Preparing the license dongle for ctrlX CORE controls

Now, it is possible to create a ctrlX CORE dongle with the desired licenses via ctrlX WORKS (Settings → Licenses dialog). If a ctrlX CORE license dongle is detected when ctrlX WORKS is started on the PC, licenses for a ctrlX CORE control can be transferred to this dongle.

11.2 Resolved defects and modifications

11.2.1 ctrlX PLC Engineering

Bug 557798: ctrlX PLC Web UI: Reset operations cause the control to crash

Description

If PLC real time data was declared in the PLC program, reset operations via the Web UI of the control caused a crash of the control.

11.3 Notes on the use and known restrictions

11.3.1 ctrlX PLC Engineering

Bug 266045: ctrlX PLC Engineering – Call hierarchy without content

Description

If an access violation occurs in an externally implemented library function during the program processing, the call list is sporadically empty.

Bug 346362: CXA_OpcUaClient – Removing function blocks always requires a download

Description

If the function block instances are removed using an online change, it can sporadically result in not releasing all resources again as for a dynamic memory. UA client instances are also retained and are not deleted.

Preliminary solution

If function block instances are removed, subsequently execute a complete download. Resources as well as a previously generated UA client instance is deleted again.

Bug 454480: ctrlX PLC Engineering sporadically does not start anymore after installing a CoDeSys Professional package

Description

After installing a CODESYS Professional Package (e.g. GIT Support), a message is displayed on some PCs, informing the user about the missing codemeter software components. Consequently, the software cannot be started anymore.

Workaround

For information about the solution to the problem, please contact your Bosch Rexroth service partner.

Bug 536504: ctrlX PLC Engineering: Error message "No device responds to scan request"**Description**

No connection to the control could be set up after entering the IP address via the CoD-eSys communication dialog at the device node. A connection attempt is acknowledged with the error message "No device responds to scanning request".

Workaround

Right-click at the device node to open the "Communication settings" dialog and set up the connection to the control. Subsequently, the connection to the control is possible.

Bug 560475: ctrlX PLC Engineering: Command "Scanning application" sporadically causes an exception**Description**

Depending on the application, executing the command **View → Settings, Memory reserve for online change → Scanning application** can cause a sporadic exception.

Bug 569647: Windows freezes when starting a ctrlX CORE Virtual with Intel "Efficient-Cores"**Description**

When starting a ctrlX CORE Virtual with Intel "Efficient-Cores", the Windows operating system sporadically freezes. This problem can only be resolved by restarting the entire system.

Workaround

If this happens on your PC, you can disable these "Efficient-Cores" in the BIOS as a workaround.

11.3.2 ctrlX I/O Engineering

Bug 574944: ctrlX I/O Engineering: When opening an old project on the control, existing device descriptions might be overwritten without prompt**Description**

Prerequisite:

The project is saved on the control and the "Device description files and libraries" are enabled.

If the control opens an older project (e.g. after an update), the included description files are installed without prompt. Thus, newer releases might be overwritten. An unexpected behavior can be caused for certain devices.

Workaround

The corresponding device description files have to be reinstalled and the devices have to be updated in the project.

12 WRK-V-0118.2

12.1 New functions

12.1.1 ctrlX PLC Engineering

Feature 596862: Software updated to CoDeSys 3.5.18.40

Description

The software was updated to CoDeSys version 3.5.18.40. A reinstallation of ctrlX WORKS is required.

12.2 Resolved defects and modifications

12.2.1 ctrlX PLC Engineering

Bug 573894: When logging in, a dialog "At least one I/O channel exists multiple times ..." is called incorrectly

Description

The dialog device- "At least one I/O channel exists multiple times ..." was called as soon as an EtherCAT device contained the same name for multiple I/O channels.

Bug 582307: ctrlX PLC Engineering: Changed library parameters are ignored

Description

If the initial values of library parameters were changed in ctrlX PLC Engineering, the changed parameters were not accepted and reset to the initial value. The error occurred only if the library was also referenced subordinatedly by other libraries.

Bug 584502: Optional ECAD add-on causes stack overflow when renaming the device

Description

With an installed ECAD add-on a stack overflow was reported in ctrlX PLC Engineering or ctrlX IO Engineering when trying to rename a device in the project tree. Subsequently, Engineering was closed.

Bug 587532: Login required although the project has been synchronized

Description

If project synchronization is enabled (PC <-> ctrlX), the files of the translation information are zipped and stored on the control. An incorrect file size was detected when retrieving the project from the control. If the files are unzipped during retrieval, the size did not match the original file anymore. Therefore, logging in without downloading was not possible.

Bug 596787: ctrlX PLC Engineering: Precompilation reports an error although the project can subsequently be compiled successfully

Description

When opening existing projects in ctrlX PLC Engineering, errors were reported during precompilation. When double-clicking on the error, the user is not guided to the position in the PLC program. If the project was subsequently compiled with "Generate code", these errors were no longer reported.

12.2.2 ctrlX DRIVE Engineering

Bug 579208: ctrlX DRIVE Engineering cannot be operated anymore after opening the system report via CoE connection

Description

If the user was connected via CoE to a ctrlX DRIVE in ctrlX DRIVE Engineering and opened a dialog to create a system report, ctrlX DRIVE Engineering freezes and cannot be operated anymore. An application restart might have been required.

12.3 Notes on the use and known restrictions

12.3.1 ctrlX PLC Engineering

Bug 145831: Tray symbol for the ctrlX PLC Gateway symbol is flashing

Description

The tray symbol for the ctrlX PLC Gateway symbol is flashing.
The functionality is not impaired.

Bug 266045: ctrlX PLC Engineering – Call hierarchy without content

Description

If an access violation occurs in an externally implemented library function during the program processing, the call list is sporadically empty.

Bug 346362: CXA_OpcUaClient – Removing function blocks always requires a download

Description

If the function block instances are removed using an online change, it can sporadically result in not releasing all resources again as for a dynamic memory. UA client instances are also retained and are not deleted.

Preliminary solution

If function block instances are removed, subsequently execute a complete download.
Resources as well as a previously generated UA client instance is deleted again.

Bug 454480: ctrlX PLC Engineering sporadically does not start anymore after installing a CoDeSys Professional package

Description

After installing a CODESYS Professional Package (e.g. GIT Support), a message is displayed on some PCs, informing the user about the missing codemeter software components. Consequently, the software cannot be started anymore.

Workaround

For information about the solution to the problem, please contact your Bosch Rexroth service partner.

Bug 536504: ctrlX PLC Engineering: Error message "No device responds to scan request"

Description

No connection to the control could be set up after entering the IP address via the CoDeSys communication dialog at the device node. A connection attempt is acknowledged with the error message "No device responds to scanning request".

Workaround

Right-click at the device node to open the "Communication settings" dialog and set up the connection to the control. Subsequently, the connection to the control is possible.

Bug 560475: ctrlX PLC Engineering: Command "Scanning application" sporadically causes an exception**Description**

Depending on the application, executing the command **View → Settings, Memory reserve for online change → Scanning application** can cause a sporadic exception.

Bug 569647: Windows freezes when starting a ctrlX CORE Virtual with Intel "Efficient-Cores"**Description**

When starting a ctrlX CORE Virtual with Intel "Efficient-Cores", the Windows operating system sporadically freezes. This problem can only be resolved by restarting the entire system.

Workaround

If this happens on your PC, you can disable these "Efficient-Cores" in the BIOS as a workaround.

12.3.2 ctrlX I/O Engineering

Bug 574944: ctrlX I/O Engineering: When opening an old project on the control, existing device descriptions might be overwritten without prompt**Description**

Prerequisite:

The project is saved on the control and the "Device description files and libraries" are enabled.

If the control opens an older project (e.g. after an update), the included description files are installed without prompt. Thus, newer releases might be overwritten. An unexpected behavior can be caused for certain devices.

Workaround

The corresponding device description files have to be reinstalled and the devices have to be updated in the project.

13 WRK-V-0118.1

13.1 New functions

13.1.1 ctrlX PLC Engineering

Feature 146941: CXA_Utilites is extended by trigonometric functions**Description**

The function blocks ML_DegToRad and ML_RadToDeg are added to CXA_Utilites.

Feature 435182: ctrlX WORKS Installation: Changes in the release WRK-V-0118**Description**

Modifications:

- The ctrlX PLC Engineering and the ctrlX I/O Engineering were updated to the CoDeSys release 3.5.18.30
- Update capability of ctrlX WORKS Installation:
 - Installations based on WRK-V-0116 and older cannot be updated anymore to the release WRK-V-0118. This is caused due to change made in the architecture of the CoDeSys software. Always perform a new installation for the release WRK-V-0118!

For information on the modularization in

CoDeSys, go to: ➔ https://help.codesys.com/webapp/_cde_codesys_modularization;product=codesys;version=3.5.17.0

- The update capability depends on the profile used. A profile defines a set of plug-in components and their versions that can be linked when starting ctrlX PLC or ctrlX IO Engineering. The profile is deployed via the respective ctrlX WORKS installation.
To avoid software incompatibilities, install a new profile in a separate folder. Thus, a replacement or parallel installation for a new ctrlX WORKS version is always required in future.
- Opening existing projects:
When opening an existing project, ctrlX PLC Engineering or ctrlX IO Engineering check which profile was used for the application. If an installation supporting this profile is detected, it is provided for further editing.
The options "Cancel" or "Update to the current profile" can also be used. A backup copy of the project is created before the update. The project is then updated to the current device and library versions, but not yet saved. If the project is then saved, it cannot be opened anymore with the installation used originally.
- Add-on installer replaces Package Manager:
 - The add-on installer is now use to install CoDeSys. This replaces the Package Manager
 - The add-ons **CODESYS Library Documentation Support** and **Bosch Rexroth AG Ecad** are part of the installation and can subsequently be added via the add-on installer.

Feature 447412: PLC app supports the target device ctrlX CORE X7**Description**

Apart from the ctrlX CORE derivatives based on ARM64 (X2, X3, X3 plus and ctrlX DRIVE plus) and the ctrlX CORE Virtual, the PLC app is now also available on the target platform ctrlX CORE X7. To program in the ctrlX PLC Engineering, two devices are provided depending on the processor platform:

- ctrlX CORE ARM64: ctrlX CORE X2, X3, X3 plus and ctrlX DRIVE plus
- ctrlX CORE x64: ctrlX CORE X7 and ctrlX CORE Virtual

Feature 457224: ctrlX PLC/IO API: RM 22.11 extensions**Description**

Extensions:

- The ctrlX IO API provides the functionality via the schema ScanAndMergeDeviceJob to execute the command "Scanning devices..." at the EtherCAT master node
- Start the command "Add all instance paths" via the ctrlX PLC API
- There is write access now to the element "Documentation" via ctrlX PLC API

Feature 504455: PLC method call: Parameter of the type ENUM**Description**

Parameters of the type ENUM can now also be specified via the Data Layer when calling PLC methods.

Feature 504463: PLC method call: Transfer of arrays as parameters**Description**

Parameters of the type "Array of" can now also be specified via the Data Layer when calling PLC methods. Only IEC basic data types are permitted.

13.1.2 ctrlX I/O Engineering**Feature 154633: ctrlX I/O Engineering: Improvement when scanning devices****Description**

Scanning EtherCAT devices was improved at multiple locations:

- Modular devices can be scanned individually in an existing configuration
- When using modular devices with plug-in slots, errors were output during scanning. Merging the others was often not possible. When scanning modular slaves directly, the modules are shown correctly and they are compared, but merging is not possible
- The representation and handling of not installed ESI files was improved

Feature 514136: ctrlX I/O Engineering: Editing variable names**Description**

Variable names of the EtherCAT master displayed in the Data Layer can now be adjusted in the I/O Engineering.

13.2 Resolved defects and modifications**13.2.1 ctrlX PLC Engineering****Bug 275968: Visualization template "Cartesian XY diagram" cannot be used****Description**

Multiple exceptions were reported when using the visualization template "Cartesian XY diagram". The template could not be used.

Bug 392007: Net Base Services: Async task is not set up again after reset**Description**

If the function block AsyncProperty from the Net Base Services library is used, an asynchronous task is created when the PLC program is downloaded. This was not generated anymore after a reset (cold/warm) and asynchronous editing was thus not possible anymore.

Bug 458941: ctrlX WORKS installation on the Microsoft Windows server requires multiple hours**Description**

A ctrlX WORKS installation on the Microsoft Windows server can require multiple hours. This depends on the number of registered users.

Bug 539374: Command "Publishing all methods..." reports errors**Description**

After executing the command "Publishing all methods...", an assertion error occurred.

Bug 551932: ctrlX PLC API: Sporadic error when calling the "Add all instance paths"**Description**

Errors occurred sporadically when calling the "Add all instance paths" via the ctrlX PLC API.

Bug 557545: MC_ReadAtualTorque cannot be used in CXA_PLCOpen**Description**

As the Torque mode was not yet available for the ctrlX CORE Motion, the result of MC_ReadAtualTorque was always zero in CXA_PLCOpen.

Bugfixing

As the Torque mode is not yet available, MC_ReadAtualTorque was removed from CXA_PLCOpen.

13.2.2 ctrlX I/O Engineering

Bug 314259: Scanning devices shows errors for the plug-in slots of the FSoE devices**Description**

After scanning the field bus configuration, error icons were shown for the subordinate slots of the FSoE devices.

Bug 507325: If the control is in "SERVICE" state, unexpected behavior occurs during scanning or during the configuration download**Description**

If the control is in "SERVICE" state, the EtherCAT master state remains frozen. This means, there was not reaction to a topology change or to state switching. Consequently, no (new) devices were found during scanning and the configuration download could be canceled with errors.

13.3 Notes on the use and known restrictions

13.3.1 ctrlX PLC Engineering

Bug 145831: Tray symbol for the ctrlX PLC Gateway symbol is flashing**Description**

The tray symbol for the ctrlX PLC Gateway symbol is flashing.
The functionality is not impaired.

Bug 266045: ctrlX PLC Engineering – Call hierarchy without content**Description**

If an access violation occurs in an externally implemented library function during the program processing, the call list is sporadically empty.

Bug 346362: CXA_OpcUaClient – Removing function blocks always requires a download**Description**

If the function block instances are removed using an online change, it can sporadically result in not releasing all resources again as for a dynamic memory. UA client instances are also retained and are not deleted.

Preliminary solution

If function block instances are removed, subsequently execute a complete download.

Resources as well as a previously generated UA client instance is deleted again.

Bug 454480: ctrlX PLC Engineering sporadically does not start anymore after installing a CoDeSys Professional package

Description

After installing a CODESYS Professional Package (e.g. GIT Support), a message is displayed on some PCs, informing the user about the missing codemeter software components. Consequently, the software cannot be started anymore.

Workaround

For information about the solution to the problem, please contact your Bosch Rexroth service partner.

Bug 536504: ctrlX PLC Engineering: Error message "No device responds to scan request"

Description

No connection to the control could be set up after entering the IP address via the CoDeSys communication dialog at the device node. A connection attempt is acknowledged with the error message "No device responds to scanning request".

Workaround

Right-click at the device node to open the "Communication settings" dialog and set up the connection to the control. Subsequently, the connection to the control is possible.

Bug 560475: ctrlX PLC Engineering: Command "Scanning application" sporadically causes an exception

Description

Depending on the application, executing the command **View → Settings, Memory reserve for online change → Scanning application** can cause a sporadic exception.

Bug 560888: Value change of library parameters is not applied if the library is not included as subordinate library

Description

If library parameters are changed via the dialog in the library manager, they are not applied if the library is immediately included there and subordinately as well via another library.

13.3.2 ctrlX I/O Engineering

Bug 574944: ctrlX I/O Engineering: When opening an old project on the control, existing device descriptions might be overwritten without prompt

Description

Prerequisite:

The project is saved on the control and the "Device description files and libraries" are enabled.

If the control opens an older project (e.g. after an update), the included description files are installed without prompt. Thus, newer releases might be overwritten. An unexpected behavior can be caused for certain devices.

Workaround

The corresponding device description files have to be reinstalled and the devices have to be updated in the project.

13.3.3 ctrlX DRIVE Engineering

Bug 579208: ctrlX DRIVE Engineering cannot be operated anymore after opening the system report via CoE connection

Description

If the user is connected via CoE with a ctrlX DRIVE in ctrlX DRIVE Engineering and opens a dialog to create a system report, ctrlX DRIVE Engineering freezes and cannot be operated anymore. Thus, an application restart might be necessary.

Workaround

When using the ctrlX DRIVE Engineering from the installation ctrlX WORKS 01V18.1, opening a system report via the CoE connection is not possible anymore. If the functionality is required, use ctrlX DRIVE Engineering 01V20.2.

14 WRK-V-0116

14.1 New functions

14.1.1 ctrlX PLC Engineering

Feature 320385: ctrlX PLC Engineering/ctrlX IO Engineering: Assigning an equipment ID to devices

Description

For clear identification of devices in ctrlX PLC Engineering or ctrlX IO Engineering in the project, an ID can be saved in the device-specific dialog properties in the equipment ID (BMK) tab. This ID can also be read or written via the REST API in ctrlX PLC Engineering or ctrlX IO Engineering. When using this functionality, first install the Bosch Rexroth AG Ecad 1.0.0.0.package via the Package Manager in ctrlX PLC Engineering. During the installation, select the option ctrlX PLC as well as ctrlX IO.

Feature 424126: ctrlX PLC API: Online functions

Description

The following is available via the REST API of ctrlX PLC Engineering:

- Communication settings configuration
- Logging in or logging out
- Start and stop of individual applications
- Reset operations

Feature 433461: ctrlX PLC API: Access to PLC settings

Description

Access function are available via the REST API of ctrlX PLC Engineering. PLC settings can be read and written via the REST API in the access functions.

Feature 433498: ctrlX PLC API: Reading and writing the memory reserve for online change

Description

Access functions for reading and writing the memory reserve for online change via REST API are available via the REST API of ctrlX PLC Engineering.

Feature 435301: ctrlX PLC API: Supporting the CoDeSys import/export format**Description**

Previously, only the PLCopen impor/export format is supported via the ctrlX PLC API. There are restrictions regarding certain program parts. Consequently, visualizations could not be handled. The CoDeSys format does not have any restrictions regarding any program parts. Import and export operations can now also be executed via the ctrlX PLC API.

Feature 440732: ctrlX PLC Engineering: Trend recording**Description**

The trend recording functionality is now available in the ctrlX CORE PLC app.

Feature 440733: ctrlX PLC Engineering: Alarm configuration**Description**

The alarm configuration functionality is now available in the ctrlX CORE PLC app.

Feature 449812: ctrlX PLC Engineering: Mapping PLC variables in the Data Layer realtime**Description**

ctrlX PLC Engineering now provides mechanisms to map PLC variables as inputs or outputs in the realtime Data Layer of the ctrlX CORE control. The user first has to create Global Variable Lists (GVL) containing data to be replaced. These GVLs can be attached as I/O node at the DataLayer_Realtime node below a so-called DataLayerOwner. The data exchange is processed by an I/O driver.

14.2 Resolved defects and modifications

14.2.1 ctrlX PLC Engineering

Bug 257691: ctrlX I/O Engineering – 'Update Device...' for drive devices XMD and XCD generates incorrect configuration data**Description**

The individual axes were handled like separate devices for XMD and XCD devices. When executing the 'Update Device...' command for the first axis, the device description file of the second axis was applied. Thus, the configuration was incorrect.

Bug 341829: ctrlX PLC Engineering: Exceptions after changes in the task group tab**Description**

If a project was closed immediately after a change in the task group tab, an exception occurred.

Bug 459109: Insufficient diagnostics in case of incorrect password when establishing the communication**Description**

If an incorrect password was entered when establishing a connection, the control returned the diagnostics "No device found during the network scan". The user did not receive any information about the actual problem.

Bug 471355: Changing the initialization value for structures requires PLC program cleansing**Description**

If the initialization value of a structural element was changed, the new value did not become active with the download of the application.

Bug 481872: ctrlX PLC Engineering: Incorrect project synchronization after the communication was interrupted**Description**

A project storage was opened by the control in ctrlX PLC Engineering and is changed on the Engineering PC. If the change could not be transferred (e.g. due to an incorrect communication connection), the project was overwritten without query with the project that has previously been changed on the Engineering PC upon opening the project after restoring the connection.

Bug 482337: Libraries and device description files are not synchronized even though the option is set**Description**

Sporadically, libraries and device description files are not synchronized with the control via project synchronization.

Bug 502037: S20-EC-BK only switches to Pre-OP**Description**

The S20-EC-BK bus coupler only switches to Pre-OP and could not be switched to OP. Reason: an incorrect device description file for this device.

Bugfix

A new device description file is provided for the S20-EC-BK bus coupler in ctrlX IO Engineering WRK-V-0116.

Please open the project in ctrlX IO Engineering and check the device versions at the device node of the configured S20-EC-BK bus coupler in the information tab. The description field has to contain the following entry: EtherCAT Slave imported from Slave XML: S20-EC-BK_024.xml Device:

1. ➤ If the entry exists, transmit the field bus configuration to the ctrlX CORE control again.
2. ➤ Otherwise, the file was sporadically overwritten by extracting of a project archive. Please load the device description file via <https://www.boschrexroth.com/de/at/produkte/produktgruppen/elektrische-antriebe-und-steuerungen/e-a/s20-ip20-/feldbuskoppler/s20-ec-bk> in the download area and install the file in ctrlX IO Engineering via the Tools menu → device repository. Subsequently, transmit the field bus configuration to the ctrlX CORE control again.

Bug 503876: Installing ctrlX Works in directories with spaces is not possible**Description**

If ctrlX WORKS is not installed below C:\Programs or C:\Program Files and if the installation directory contains spaces, a message box is displayed upon the next ctrlX PLC Engineering or ctrlX IO Engineering start, indicating that one or several plugins could not be loaded.

14.3 Notes on the use and known restrictions

14.3.1 ctrlX PLC Engineering

Bug 145831: Tray symbol for the ctrlX PLC Gateway symbol is flashing**Description**

The tray symbol for the ctrlX PLC Gateway symbol is flashing.

The functionality is not impaired.

Bug 199551: Engineering PC – Sporadically high system load due to ctrlX PLC Gateway**Description**

Sporadically, the ctrlX PLC Gateway generates a high system load on the Engineering PC.

Bug 266045: ctrlX PLC Engineering – Call hierarchy without content**Description**

If an access violation occurs in an externally implemented library function during the program processing, the call list is sporadically empty.

Bug 346380: CXA_OpcUaClient – Calling UA_Connect in several tasks causes incorrect behavior**Description**

If several UA_Connect are called in two IEC tasks, this can result in incorrect behavior.

Reason: the global administrative structure that is not protected semaphores.

Preliminary solution

Programming of the UA_Connect function block should always be executed in a single IEC task, if possible.

If this is not possible, use the program code to ensure that all UA_Connect of the first IEC task have been executed successfully before the UA_Connect of the following IEC task are executed.

Bug 419616: ctrlX PLC Engineering/ctrlX IO Engineering: Error during initialization of the frame window**Description**

An error box is displayed after ctrlX WORKS, ctrlX PLC Engineering or ctrlX IO Engineering have been started. This is an indication for the fact that an opt file could not be loaded.

Workaround

The information in the error box refers to an opt file. Via the Windows file Explorer, navigate to the displayed directory and manually delete the opt file. Subsequently, the software start should be possible again.

Bug 454480: ctrlX PLC Engineering does sporadically not start anymore after installing a CoDeSys Professional package**Description**

After installing a CODESYS Professional Package (e.g. GIT Support), a message is displayed on some PCs, informing the user about the missing codemeter software components. Consequently, the software cannot be started anymore.

Workaround

For information about the problem solution, please contact your Bosch Rexroth service partner.

15 WRK-V-0114.1

15.1 New functions

15.1.1 ctrlX PLC Engineering

Feature 280304: ctrlX PLC API: Access to dialog Project settings - User and groups

Description

The ctrlX PLC API provides function to access the *"Project settings → Users and groups"* dialog via the UsersAndGroupsEditor scheme.

Feature 301334: ctrlX PLC Engineering: Revision of the dialog to configure the Data Layer realtime data

Description

The dialog "Edit → Online from ctrlX CORE..." at the DataLayer_Realtime device node was edited. Apart from the access to the previously available EtherCAT Data Layer real-time data, all other real-time channels can now be accessed from the PLC program.

Feature 319323: ctrlX PLC API/ctrlX IO API: Error message "501 NotImplemented"

Description

The error message "501 NotImplemented" was returned when accessing elements which are not supported by the ctrlX PLC API or ctrlX IO API.

Feature 319392: ctrlX PLC API/ctrlX IO API: Online status test

Description

The "Device" scheme provides the "isOnline" element to check the online status of the current project.

Feature 320026: ctrlX PLC API/ctrlX IO API: Access functions for device repository

Description

Functions to read out the device repository as well as for installation and uninstallation of device description files are available via the ctrlX PLC API or ctrlX IO API.

Feature 320124: ctrlX PLC API/ctrlX IO API: Selecting the new device version

Description

To select the latest available version of a device, the "DeviceInfo" scheme was extended. If no explicit version number was entered in the element "version", the newest device was selected.

Feature 320452: ctrlX IO/ctrlX PLC API: Description of I/O channels

Description

The "ChannelInfo" scheme was extended by the "description" element. Thus, there is the option to provide a description for I/O channels.

Feature 328698: PLC library explorer CXAC_Licensing

Description

The CXAC_Licensing library is now available in the new ctrlX PLC Engineering library. This library provides functions to access the license management of ctrlX CORE in the PLC program.

Feature 400474: ctrlX PLC Engineering: Mapping the PLC licenses to the "Status" tab

Description

In case of an online connection, the dialog in the "Status" tab at the device node of the control now displays information about the available PLC licenses and the PLC licenses required for the current PLC program.

Feature 406799: Integration CoDeSys 3.5.17.30

Description

The ctrlX PLC Engineering programming software and ctrlX I/O Engineering as well as the PLC App have been updated to the CoDeSys release version 3.5.17.30. To create libraries, the CODESYS Library Documentation Support 4.1.1.0 package is required which is also provided.

15.2 Resolved defects and modifications

15.2.1 ctrlX PLC Engineering

Bug 407467: ctrlX PLC: Information about the use of task groups with CORE setting FixedPinned

Description

"FixedPinned" setting: All tasks are connected to a processor core. The runtime system decides which processor core is affected (default setting Core 2). If a task group was assigned to a certain Core and was subsequently reset to "FixedPinned", the task groups remained on the previously set Core.

Following a restart, a task group with the setting "FixedPinned" always ran to Core 2.

Bug 435923: CXA_OpcUaClient library: UA_Connect returns incorrect output values, if the OPC UA Client app is not installed

Description

If the UA_Connect function block is executed in the CXA_OpcUaClient library, the outputs ErrorID ErrorDataLayerDL_TIMEOUT and ErrorString returned "Datalayer: timeout occurred during datalayer access" if the OPC UA Client app was not installed or disabled.

Bugfix

The ErrorID output returns the enumeration value "ErrorAppOpcUaClientNotInstalled" and the ErrorString output returns the "Please check the installation of App OPC UA Client" string.

Bug 442025: CXA_OpcUaClient: Application download completed with error BadInvalidState 0x80AF0000

Description

If the application was downloaded to the control, the error message BadInvalidState was sporadically entered in the error memory if the application was in state RUN.

Bug 446911: CXA_EthercatMaster results in a PLC crash in simulation mode

Description

When using function blocks of the CXA_EthercatMaster library, the control crashed in the simulation mode during login.

Bug 458755: CXA_OpcUaClient.library: UA_ConnectionGetStatus returns "GetData returns NULL-POINTER"**Description**

During reading of the connection status, the error output "GetData returns NULL-POINTER" occurred sporadically.

Bugfix

If a zero pointer is returned during internal reading, the read request is repeated and the function block does not go into error state. If a zero pointer is also returned upon the third read attempt, the function block goes into error state.

Bug 459122: ctrlX PLC Engineering: Execution time of command "Go to definition" sporadically takes too long**Description**

Depending on the number of libraries in the library manager, calling the "Go to definition" sporadically takes very long.

Bug 459124: Slow response of ctrlX PLC Engineering in case of an opened library manager**Description**

If many libraries are used in a PLC project, ctrlX PLC Engineering only responds very slowly in case of actions in the library manager.

15.3 Notes on the use and known restrictions

15.3.1 ctrlX PLC Engineering

Bug 145831: Tray symbol for the ctrlX PLC Gateway symbol is flashing**Description**

The tray symbol for the ctrlX PLC Gateway symbol is flashing.
The functionality is not impaired.

Bug 199551: Engineering PC – Sporadically high system load due to ctrlX PLC Gateway**Description**

Sporadically, the ctrlX PLC Gateway generates a high system load on the Engineering PC.

Bug 266045: ctrlX PLC Engineering – Call hierarchy without content**Description**

If an access violation occurs in an externally implemented library function during the program processing, the call list is sporadically empty.

Bug 346380: CXA_OpcUaClient – Calling UA_Connect in several tasks causes incorrect behavior**Description**

If several UA_Connect are called in two IEC tasks, this can result in incorrect behavior.

Reason: the global administrative structure that is not protected semaphores.

Preliminary solution

Programming of the UA_Connect function block should always be executed in a single IEC task, if possible.

If this is not possible, use the program code to ensure that all UA_Connect of the first IEC task have been executed successfully before the UA_Connect of the following IEC task are executed.

Bug 395616: Creating compiled libraries is not possible**Description**

As of now, the CODESYS Library Documentation Support package is not provided anymore in the ctrlX WORKS Installation. Unfortunately, creation of compiled libraries is thus prevented.

Preliminary solution

The CODESYS Library Documentation Support is available and can be post-installed via the Package Manager in ctrlX PLC Engineering.

Bug 419616: ctrlX PLC Engineering/ctrlX IO Engineering: Error during initialization of the frame window**Description**

An error box is displayed after ctrlX WORKS, ctrlX PLC Engineering or ctrlX IO Engineering have been started. This is an indication for the fact that an opt file could not be loaded.

Workaround

The information in the error box refers to an opt file. Via the Windows file Explorer, navigate to the displayed directory and manually delete the opt file. Subsequently, the software start should be possible again.

Bug 454480: ctrlX PLC Engineering does sporadically not start anymore after installing a CoDeSys Professional package**Description**

After installing a CODESYS Professional Package (e.g. GIT Support), a message is displayed on some PCs, informing the user about the missing codemeter software components. Consequently, the software cannot be started anymore.

Workaround

For information about the problem solution, please contact your Bosch Rexroth service partner.

Bug 459109: Insufficient diagnostics in case of incorrect password when establishing the communication**Description**

If an incorrect password was entered when establishing a connection, the control returns the diagnostics "No device found during the network scan". The user does not receive any information about the actual problem.

15.3.2 ctrlX I/O Engineering

Bug 257691: ctrlX I/O Engineering – 'Update Device...' for drive devices XMD and XCD generates incorrect configuration data**Description**

The individual axes are handled like separate devices for XMD and XCD devices in the I/O configuration. When executing the 'Update Device...' command for the first axis, the device description file of the second axis is applied. Thus, the configuration is incorrect.

Preliminary solution

The XMD and XCD devices have to be deleted and created again in the existing project.

The devices have to be reconfigured/re-parameterized.

16 Service and support

Our worldwide service network provides an optimized and efficient support. Our experts provide you with advice and assistance. You can contact us **24/7**.

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Preparing information

To be able to help you more quickly and efficiently, please have the following information ready:

- Detailed description of malfunction and circumstances
- Type plate specifications of the affected products, in particular type codes and serial numbers
- Your contact data (phone and fax number as well as your e-mail address)

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Bosch Rexroth AG
Bgm.-Dr.-Nebel-Str. 2
97816 Lohr a.Main
Germany
Tel. +49 9352 18 0
Fax +49 9352 18 8400
www.boschrexroth.com/electrics

