

ctrlX AUTOMATION

First Steps

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DOK-XWORKS-F*STEP*****-QU01-EN-P

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1 About this documentation

Editions of this documentation

Edition	Release date	Notes
01	2020 / 07	First edition

2 Important directions on use

2.1 Intended use

2.1.1 Introduction

Rexroth products are developed and manufactured to the state-of-the-art. The products are tested prior to delivery to ensure operational safety and reliability.

▲ WARNING

Personal injury and property damage by using products incorrectly!

The products may only be used as intended.

Failure to use the products in the intended way may cause situations resulting in property damage and personal injury.

NOTICE

Damages resulting from unintended use

Rexroth as the manufacturer shall not honor any warranty, liability or compensatory claims for damages resulting from unintended use of the products. The user alone shall bear the risks of unintended use of the products.

Before using Rexroth products, make sure that all the prerequisites for an intended use of the products are satisfied:

- Personnel that in any way, shape or form uses Rexroth products must first read and understand the relevant safety instructions and be familiar with their intended use
- Leave hardware products in their original state, i.e., do not make any structural modifications. It is not permitted to decompile software products or alter their source codes
- Do not install damaged or faulty products or put them into operation
- Make sure that the products have been installed as described in the relevant documentation

2.1.2 Areas of use and application

Products of the ctrlX series are suitable for Motion/Logic applications.

NOTICE

Products of the ctrlX series may only be used with the accessories, mounting parts, and other components specified in this documentation. Components that are not expressly mentioned may neither be attached nor connected. The same applies to cables and lines.

Only to be operated with the hardware component configurations and combinations expressly specified and with the software and firmware specified in the corresponding documentations and functional descriptions.

Products of the ctrlX series are suitable for single-axis as well as for multi-axis drive and control tasks. Device types with different equipment and interfaces are available for using the system in specific applications.

Typical applications:

- Handling and assembly systems
- Food and packaging machines
- Printing and processing machines

Controls of the ctrlX CORE series may only be operated under the mounting and installation conditions, in the position of normal use and under the ambient conditions (temperature, degree of protection, humidity, EMC, etc.) specified in the related documentations.

2.2 Unintended use

"Unintended use" refers to using the ctrlX products outside of the above-mentioned fields of application or under operating conditions and technical data other than described and specified in the documentation.

ctrlX products must not be used if they are exposed to following conditions:

- Operating conditions that do not meet the specified ambient conditions. This includes, for example, operation under water, under extreme temperature fluctuations or extreme maximum temperatures
- Applications that have not been expressly authorized by Rexroth

3 Safety instructions

The Safety instructions contained in the available application documentation feature specific signal words (DANGER, WARNING, CAUTION or NOTICE) and, where required, a safety alert symbol (in accordance with ANSI Z535.6-2006).

The signal word is meant to draw the reader's attention to the safety instruction and identifies the hazard severity.

The safety alert symbol (a triangle with an exclamation point), which precedes the signal words DANGER, WARNING and CAUTION, is used to alert the reader to personal injury hazards.

The Safety instructions in this documentation are designed as follows:

▲ DANGER	In case of non-compliance with this safety instruction, death or serious injury will occur.
▲ WARNING	In case of non-compliance with this safety instruction, death or serious injury could occur.
▲ CAUTION	In case of non-compliance with this safety instruction, minor or moderate injury could occur.
NOTICE	In case of non-compliance with this safety instruction, property damage could occur.

4 Overview

The First Steps guides through the commissioning of a ctrlX DRIVEplus single-axis device with an integrated ctrlX CORE control in a few steps. The steps can generally also be applied to other ctrlX CORE device configurations.

Hardware used

The following components are used in the First Steps, see → Chapter 8 “Components used” on page 27



To traverse axes in the First Steps, commission the drive controller ctrlX DRIVEplus.

For more information, refer to the ctrlX DRIVE project planning manual:

DOK-XDRV**-X*****-PRRS

Part number: R911386579



This documentation supplements the “Quick Start Guide / R911403316” provided with each ctrlX DRIVEplus device as product insert.

Overview on steps

- Installation of the following software tools on the engineering PC:
 - ctrlX WORKS
 - ctrlX I/O Engineering
 - ctrlX PLC Engineering
- Commissioning of the ctrlX CORE control
- Connection of the engineering PC to the ctrlX CORE control
- Opening of the ctrlX CORE web interface and logging in
- Installation of apps on the control
- Configuration of the EtherCAT master on the control
- Configuration of the ctrlX DRIVEplus device as EtherCAT device
- Configuration and commissioning of an axis
- Configuration and commissioning of a kinematics

Start...

- → Chapter 5.1 “Step 1 – Installing ctrlX WORKS on the engineering PC” on page 11
- → Chapter 5.2 “Step 2 – Commissioning a ctrlX CORE ” on page 11
- → Chapter 5.3 “Step 3 – Connecting the ctrlX CORE to the engineering PC” on page 12
- → Chapter 5.4 “Step 4 – Starting ctrlX WORKS ” on page 13
- → Chapter 5.5 “Step 5 – Starting the ctrlX CORE web interface” on page 13
- → Chapter 5.6 “Step 6 – Installing the ctrlX CORE app ” on page 14
- → Chapter 5.7 “Step 7 – Configuring the EtherCAT master” on page 15
- → Chapter 5.8 “Step 8 – Configuring the EtherCAT slave” on page 15
- → Chapter 5.9 “Step 9 – Configuring an axis ” on page 16
- → Chapter 5.10 “Step 10 – Commissioning an axis” on page 18
- → Chapter 5.11 “Step 11 – Configuring a kinematics” on page 19
- → Chapter 5.12 “Step 12 – Commissioning a kinematics” on page 20

5 First Steps

5.1 Step 1 – Installing ctrlX WORKS on the engineering PC

In the first step, the ctrlX WORKS is installed. It is the central ctrlX AUTOMATION software tool. This step provides information on the source of the installation data, how to install and which installation options are relevant.



Reference source

Currently, ctrlX WORKS installation data cannot be downloaded!
Contact your marketing contact if required.

ctrlX WORKS initial installation

Proceed as follows when installing the ctrlX WORKS software for the first time:

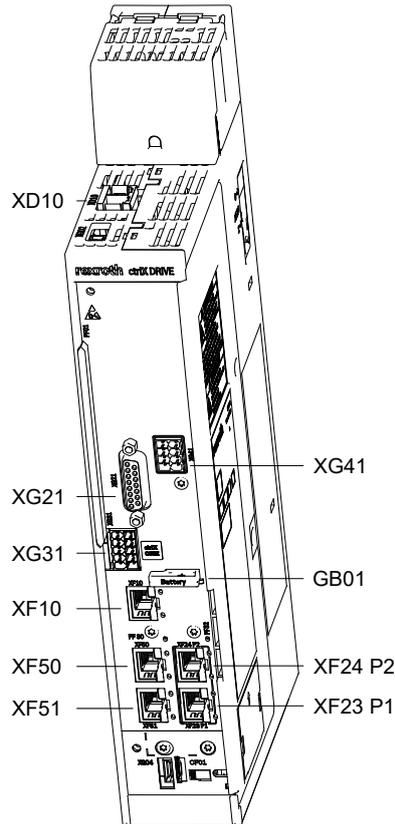
1. To start the installation, execute the ctrlX WORKS setup file “ctrlx-works-xxxx.exe” (admin rights required).
 - ➔ The terms of use of the Bosch Rexroth AG are shown.
2. Please check the terms of use before continuing the installation with “Accept”.
 - ➔ The dialog to select the target installation directory is shown.
3. Enter the directory for the ctrlX WORKS installation and confirm the dialog with “Next”.
 - ➔ The dialog to select the installation options is shown.
4. Select the options to be installed to the PC with ctrlX WORKS.
For an overview on the options, go to → Chapter 9 “ctrlX WORKS – Installation options” on page 29
Confirm your selection with “Next”.
 - ➔ The selected software options are used to determine and to show a list of the required software packages.
5. Start the installation with “Install”
 - ➔ The installation can take some minutes and is shown visually.
The installation result is shown at the end.
6. To close the installation, select “Finish”.

5.2 Step 2 – Commissioning a ctrlX CORE

After “ctrlX WORKS” has been installed in step 1, the power supply is connected and the “ctrlX CORE” control is commissioned in this step.

Information on the control connections

If the “ctrlX DRIVEplus” device is designed with the ctrlX CORE, the control is supplied internally with the required operating voltage via the 24 V input of the “ctrlX DRIVEplus”. All relevant connections of the ctrlX CORE control are located on the front panel of the device.



XD10 24 V connection point (voltage supply for “ctrlX DRIVEplus” and ctrlX CORE)

XF10 ctrlX CORE engineering port (HMI)

XF50 ctrlX CORE field bus (Ethercat)

XF51 ctrlX CORE is not assigned

Commissioning the control

- ➔ Connect the XD10 connection point of the “ctrlX DRIVEplus” device to a suitable 24 V supply. For specifications on the voltage supply, refer to the “ctrlX DRIVEplus” project planning manual.
 - ➔ When the 24 V supply is applied to the connection point, the control is started. The startup can take a moment (ca. 2 minutes).

5.3 Step 3 – Connecting the ctrlX CORE to the engineering PC

After the control has been commissioned in step 2, the control and the engineering PC are connected in this step (network connection).

Setting up a connection

- ➔ Connect the engineering port (XF10) of the control to the network input of the engineering PC
 - ➔ The control logs into the network configuration of the engineering PC automatically



The control can also be integrated into an existing network. Note that the control and the engineering PC have to be in the same subnet. Otherwise, the control is not displayed in ctrlX WORKS.

5.4 Step 4 – Starting ctrIX WORKS

After the control has been connected to the engineering PC in step 3, this step describes the ctrIX WORKS start and includes a brief overview on the interface.

Starting ctrIX WORKS

- To open ctrIX WORKS, go to the Windows start menu on the engineering PC.
- ➔ The ctrIX WORKS start page opens.

Brief overview on ctrIX WORKS

The side navigation is located at the left edge of the screen. It is used to navigate in ctrIX WORKS.

The product banner in the upper screen half informs on the ctrIX WORKS properties and can be hidden if required.

The section below the product banners shows the available controls in a table. The table provides different specifications and commands on the respective control:

- “Name”
Name of the control or link to open the ctrIX CORE web interface
- “State”
Connection status of the control:
 - Online = Web server of the control can be reached
 - Offline = The control can be reached
- “Type”
Control type (virtual or real)
- “IP Addresses”
IP address of the control
- “Actions”
The possible actions of the control type are listed.

5.5 Step 5 – Starting the ctrIX CORE web interface

After “ctrIX WORKS” has been started in step 4 and the control is shown in the interface, the ctrIX CORE interface is opened in this step. It is used to continue the project planning of the control.



Recommended browser:

- Google Chrome
- Mozilla Firefox

Opening the ctrIX CORE

1. ➤ To start the ctrIX CORE web interface, select the control name highlighted in blue in the ctrIX WORKS control overview.
 - ➔ The standard web browser of the engineering PC opens and information is given on an unknown certificate. The security warning depends on the browser used.
2. ➤ Show the advanced dialog (e.g. "Details" in Microsoft Edge or "Advanced" in Mozilla Firefox).
3. ➤ Open the ctrIX CORE site (e.g. with "Go on to the Webpage (not recommended)" or "Proceed ... (unsafe)").
 - ➔ The login window of the ctrIX CORE web interface opens.

4.  Log in with the control account already installed by default:

- **Username:** `boschrexroth`
- **Password:** `boschrexroth`

Select “General Terms of Use” and confirm the login via the button “Login”.

➔ The ctrlX CORE web interface of the control is started.



For a brief overview on the ctrlX CORE web interface, go to: ➔ Chapter 6 “ctrlX CORE basics” on page 23

5.6 Step 6 – Installing the ctrlX CORE app

After the control has been connected in step 5, the apps can now be installed on the control.

Information on the ctrlX app concept

Upon delivery, only system apps to operate the control are installed on a ctrlX CORE control.

As for a “smart device”, the functionality of the control can be extended by installing apps and the requirement of the automation project can be modified. The Rexroth “Online store” provides apps for different functions, refer to ➔ Chapter 7 “Rexroth – “Online store”” on page 25.

To supplement the “Online store”, the ctrlX CORE web interface provides the “Local storage”. To directly store apps on the control, go to the “Local storage”. Thus, apps can also be installed if there is no internet connection to the Online store.



The Rexroth Online store is currently designed and not yet available!

For apps, contact your Rexroth marketing contact.

The app is provided as data packet. Save the data packet locally on your engineering PC. The data packet is required in the following steps for installation purposes on the control.

First Steps – Required apps

To execute the First Steps, the following apps have to be installed on the control. For more ordering information, refer to ➔ Chapter 8 “Components used” on page 27

App name	Function	Identification in the app packet
“EtherCAT Master app”	EtherCAT Master functionality to communicate to the drive or the bus periphery	<code>rexroth-ethercatmaster_<Version>_arm64.snap</code>
“Motion App”	Motion functionality to configure and control axes and kinematics	<code>rexroth-motion_<Version>_arm64.snap</code>
“PLC App”	PLC functionality	<code>rexroth-plc_<Version>_arm64.snap</code>
“OPC UA Server App”	OPC UA server functionality to exchange data	<code>rexroth-ethercatmaster_<Version>_arm64.snapopcuaserver</code>

Installing an app

1.  In the ctrlX CORE web interface, navigate to the window “*Settings* → *Apps*”
 - ➔ The “Apps” window opens and shows the tab “Installed”.
2.  Go to tab “Local storage”
 - ➔ Upon the initial commissioning, there are no apps in the “Local storage”
3.  To load the apps to the “Local storage”, select the button .
 - ➔ A file explorer opens.
4.  In the file explorer, navigate to the app data packet and select the app to be loaded to the “Local storage” (ID in the previous table)
5.  Confirm the dialog with “Open”.
 - ➔ The app is loaded to the “Local storage” of the engineering PC and shown in the table.
6.  To install the app on the control from the “Local storage”, select the button “Install”.
 - ➔ The app is installed on the control and confirmed by a message.
7.  Perform steps 3 to 6 for all required apps.

5.7 Step 7 – Configuring the EtherCAT master

After the required apps have been installed on the control in step 6, the EtherCAT master is configured in the ctrlX CORE web interface.

Configuring the EtherCAT master

1.  After installing the EtherCAT Master app, configure and enable the EtherCAT master on the control.

In the ctrlX CORE side navigation, navigate to the window “*EtherCAT* → *Configuration*”.
2.  In the “Configuration” window, click on the button  to add the EtherCAT master.
 - ➔ The dialog “Add EtherCAT-Master” opens.
3.  Keep the default settings in the input fields “Name” and “Port” and confirm the dialog with “OK”.
 - ➔ The EtherCAT master is added and shown in the table.
4.  To save the configuration permanently on the control, i.e. also after switch-off, go to the window “Configurations” in the side navigation and select the button “Save” .
 - ➔ A notification confirms that the configuration was saved.

5.8 Step 8 – Configuring the EtherCAT slave

After the EtherCAT master has been configured on the control in step 7, the ctrlX DRIVEplus is configured as EtherCAT slave in this step.

Configuring the EtherCAT slave

1.  The “ctrlX I/O Engineering” tool is used for the configuration. It was installed in step 1.
Refer to  Chapter 5.1 “Step 1 – Installing ctrlX WORKS on the engineering PC” on page 11
To open the “ctrlX I/O Engineering”, go to the ctrlX CORE side navigation and then to the window “Automation”.
➔ The “Automation” window shows the widget “EtherCAT”.
 2.  Select the link “I/O Engineering” in the widget.
➔ The tool “ctrlX I/O Engineering” opens.
device tree is shown at the left edge of the screen.
The device tree contains three objects in its initial state:
 - : Project node
 - : Control node
 - : EtherCAT master node
 3.  Select the EtherCAT master node and right-click to open its context menu.
 4.  Execute the command “Scan For Devices...”.
➔ The dialog “Bus scan” opens and shows all slaves available at the bus.
 5.  To apply the found slaves to the project, select the button  and confirm the dialog using the button “Apply”.
➔ The EtherCAT slave is added to the device tree below the EtherCAT master node.
 6.  Apply and enable the field bus configuration to the control. Select the button  in the command bar.
➔ The field bus configuration is applied to the control and the bus is switched to the “OP” state.
 If there are more components at the bus such as a bus coupler, execute the command “Scan For Devices...” a second time. The modules connected to the bus coupler are then detected at the bus and can be applied to the configuration.:
 7.  Save the configuration to ctrlX I/O Engineering via the button .
 8.  The EtherCAT configuration is only saved temporarily after these steps. To save this configuration remanently on the control, i.e. also after switch-off, go to the window “Configurations” in the side navigation and select the button “Save” .
➔ A notification confirms that the configuration was saved.

5.9 Step 9 – Configuring an axis

After the EtherCAT master has been created in step 8 and the ctrlX DRIVEplus has been configured as EtherCAT bus device via the “ctrlX I/O Engineering”, an axis is configured in this step and coupled with ctrlX DRIVEplus.

Configuring an axis

The axes are configured via the “Motion App” installed on the control is step 6, refer to  Chapter 5.6 “Step 6 – Installing the ctrlX CORE app ” on page 14..

1.  In the ctrlX CORE side navigation, navigate to the window “Motion – Axis Configuration”.
➔ The current Motion operating state and the configured axes are displayed in the “Axis Configuration” window.
 No axis is configured in the initial state.:

2. Adding an axis

To add an axis, select the button .

 The Motion has to be in the operating state “[Configuration]”. If the Motion is in the “[Running]” state, stop it first via the button .

➔ The dialog “Add Axes” opens.

3. Axis names can be defined in the “Add Axes” dialog. The axis names cannot be changed anymore.

Confirm the dialog with “OK”.

➔ The axis is added to the configuration and shown in the table with the “Disabled” state.

4. Defining axis limit values

The following limit values are preset after creating the axis:

Limit value	Preselected values	
Position	Min. -1000 units	Max. 1000 units
Velocity	Neg 1000 units/s	Pos. 1000 units/s
Acceleration	2000 units/s ²	
Deceleration	2000 units/s ²	
Jerk Acceleration	4000 units/s ³	
Jerk Deceleration	4000 units/s ³	

To adapt the limit values to the application, select the button .

➔ The tab “Limits” opens.

5. Enter the valid limit values for the axis into the tab “Limits” and close the dialog using the button .

➔ The settings are applied to the axis.

6. Assigning an axis profile

Assign an axis profile to the control. To assign a profile, select the button .

Enter the address of the EtherCAT device to be linked (ctrlX DRIVE / type Servodrive_over_EtherCat).

 Determine the address via the “ctrlX I/O Engineering” or the EtherCAT status in the ctrlX CORE web interface (default = 1001, if ctrlX DRIVE is the only device):

➔ After the ctrlX DRIVE has been assigned, a dialog opens to assign the input/output variables for the axis.

7. Select the respective device variable for each axis profile

● **Inputs:**

- position = AT.Position_feedback_value_1
- statusword = AT.Power_supply_status_word

● **Outputs:**

- controlword = MDT.Master_control_word
- position = MDT.Position_command_value

To confirm the assignment, select the button “Assign” and exit the dialog with the Button “Cancel”.

➔ The configured axis is in the state “Disabled”.

8.  Switch the Motion mode to the [Running] state using the button .
 - ➔ The Motion switches to the [Running] state.
9.  To save the axis configuration remanently on the control, i.e. also after switch-off, select the button  (Save axis/kinematics configuration) at the end.
 - ➔ A notification confirms that the configuration was saved.

5.10 Step 10 – Commissioning an axis

After an axis has been created in step 9 and ctrlX Drive has been assigned, the axis is commissioned in this step.

Commissioning an axis

1.  In the ctrlX CORE side navigation, navigate to the window *“Motion – Axis Commissioning”*.
 - ➔ The Motion operating state can be commanded, axes selected, their motion values defined and traversed via a jog command in the “Axis Commissioning” window.
2.  **Selecting the axis**
 If only one axis was configured, it is already shown in the table.
 If multiple axes are configured, one axis has to be selected for commissioning. In the “Axis” table column, click on the button  and select the axis.
 - ➔ The axis is shown in the table.
3.  **Selecting the Motion mode**
 To switch the Motion to the [Running] state, go to the command bar and select the button .
 - ➔ The Motion is switched to the “[Running]” state.
 - ➔ The selected axis is in the “Disabled” state.
4.  **Enabling an axis**
 Switch the axis to the “ON (AF)” operating mode using the button .
 - ➔ The button  is green and the axis is in the “STANDSTILL” state.
 - ➔ The axis can now be traversed.

WARNING

The following actions cause machine motions. Take all required measures to avoid personal injury or machine damages!

5.  **Traversing an axis in jog mode**
 The axis can be traversed with “Jog ”  and . It depends on the specified parameters.
 - ➔ The axis changes its position along the specified JOG increments
6.  **Moving an axis to a certain position**
 In the window, toggle to the tab “Positioning”.
 Enter the position and the respective parameters for velocity, acceleration, etc.
 To move the axis to the requested position, select the button .
 To stop the motion at any time, select the button .
 - ➔ The axis is in the “DISCRETE MOTION” state during the traversing motion.

5.11 Step 11 – Configuring a kinematics

After the axis has been traversed in step 10, a kinematics is configured in this step. See the example “Cartesian X-Y-Z”.

The kinematics is configured via the “Motion App” installed on the control in step 6, refer to ↗ Chapter 5.6 “Step 6 – Installing the ctrlX CORE app ” on page 14.

Prerequisites

Three axes are required for the example kinematics “Cartesian X-Y-Z”

Step 9 describes the configuration of the required axes, refer to ↗ Chapter 5.9 “Step 9 – Configuring an axis ” on page 16

Alternatively, create additionally required axes also after creating a kinematics when assigning the axes under “Axis name” using the button .

Configuring kinematics

1.  In the ctrlX CORE side navigation, navigate to the window “Motion → Kinematic Configuration”.

➔ The current Motion operating state and the configured kinematics are displayed in the “Kinematic Configuration” window.

 No kinematics is configured in the initial state.:

2.  **Adding a kinematics**

To add a kinematics, select the button .

 The Motion has to be in the operating state “[Configuration]”. If the Motion is in the “[Running]” state, stop it first via the button .

➔ The dialog “Add Kinematics” opens and the Motion is in the [Configuration] state.

3.  In the “Add Kinematics” dialog, enter a name for the kinematics, e.g. “CartesianXYZ”.

 The name cannot be changed later on!:

Select the kinematic type “cartesian” and confirm with the button .

➔ The kinematics is created and shown in the “Kinematics” table.

4.  **Assigning axes to kinematics**

Assign three configured axes to three kinematic axes (X-Y-Z) in the following steps.

In the table column of the kinematics, click on the button .

➔ The dialog “Assign axis to [name]” opens.

The following settings are made in the dialog:

- “Axis meaning”
Selecting the axis meaning or the kinematic axis (X-Y-Z)
- “Axis direction”
Specifying the traversing direction (“Positive” / “Negative”)
- “Axis name”

Selecting the axis to be assigned to the respective kinematic axis

5.  In the input field “Axis name”, click on the button  and select the axis to be assigned to the kinematic axis “X”.

Select the button  to save the settings

6.  Repeat the steps for the kinematic axes “Y” and “Z”

7. To save the kinematic configuration permanently on the control, i.e. also after switch-off, select the button (Save axis/kinematics configuration).
 - ➔ A notification confirms that the configuration was saved.
8. Select the button to switch the Motion to the [Running] mode.
 - ➔ After the configuration, the Motion is in the [Running] state.

5.12 Step 12 – Commissioning a kinematics

After a kinematics has been created in step 11 and the kinematic axes have been assigned, the kinematics is commissioned in this step.

Commissioning the kinematics

1. In the ctrlX CORE side navigation, navigate to the window *“Motion → Kinematic Commissioning”*.
 - Another option is to navigate to the window *“Kinematic Commissioning”*: Go to the window Kinematic Configuration and select the button .:
 - ➔ The Motion operating state can be commanded, kinematics selected, their motion values defined and traversed via a jog command or a position specification in the *“Kinematic Commissioning”* window.
2. **Selecting the kinematics**
 If only one kinematics was configured, it is already shown in the table.
 If multiple kinematics are configured, one kinematics has to be selected for commissioning. In the *“Kinematics”* table column, click on the button and select the kinematics.
 - ➔ The kinematics is shown in the table.
3. **Selecting the Motion mode**
 To switch the Motion to the [Running] state, go to the command bar and select the button .
 - ➔ The Motion is switched to the *“[Running]”* state.
 - ➔ The selected kinematics is in the *“Disabled”* state.
4. **Enabling a kinematics**
 To switch the kinematics into the *“ON (AF)”* operating mode, select the button . To enable the axis group of the kinematics, select the button .
 - ➔ The button and the are highlighted in green and the kinematics is in the *“STANDBY”* state.
 - ➔ The kinematics can now be traversed.

⚠ WARNING The following actions cause machine motions. Take all required measures to avoid personal injury or machine damages!
5. **Traversing single axes (coordinate) in jog mode**
 The axes can be traversed separately for the requested coordinate via *“Jog”* and . It depends on the specified parameters.
 - ➔ The axis for the selected coordinate changes its position by the specified JOG increments

6. Moving all axes to certain positions in the coordinate system

In the window, toggle to the tab “Positioning”.

Enter the requested positions for the respective coordinate and parameters for velocity, acceleration, etc.

To move the axes to the requested positions in the coordinate system, select the button .

To stop the motion of all axes at any time, select the button .

➔ The kinematics is in the “MOVING” state during the traversing motion.

6 ctrIX CORE basics

This chapter provides a brief overview on the sections of the ctrIX CORE web interface relevant to execute the First Steps.

Side navigation

The “side navigation” is at the left edge of the screen and used to navigate in the ctrIX CORE web interface. The installation of additional apps adds additional entries to the side navigation, e.g. “Motion” or “PLC”.

Side navigation	Function
“Automation”	Central navigation site that visualizes all installed apps as “Widgets”. Depending on the app, the operating state is shown in the Widget. Links are provided to directly reach the app site and the software tools if available.
“Configurations”	Used to manage configurations. All project data of the control/apps is saved to a configuration. The “Default” configuration is already installed upon delivery.
“Settings→ Apps”	Used to manage apps on the control (installation, update, disabling, uninstallation). Go to the Local storage or to the Online store to install additional apps on the control.
“PLC”	Optional: “PLC app” Shows the active PLC applications on the control.
“Motion”	Optional: “Motion app” Used to configure axes and kinematics and for commissioning (jog mode).
“EtherCAT”	Optional: “EtherCAT Master app” Used to configure the EtherCAT Master on the control.

Back to step 5 → Chapter 5.5 “Step 5 – Starting the ctrIX CORE web interface” on page 13

7 Rexroth – “Online store”



The Online store is currently being developed!
Contact your marketing contact if required.

Back to app installation → ➔ Chapter 5.6 “Step 6 – Installing the ctrIX CORE app ” on page 14

8 Components used

>> Being prepared <<

Component	Brief description	Type code	Part number

Back to overview → ↪ “Hardware used” on page 9

9 ctrIX WORKS – Installation options

Customized installation

In the ctrIX WORKS installation setup, determine the functions and tools to be installed

To execute the First Steps with a real control, at least one of the following options is required:

- ctrIX WORKS
- ctrIX PLC Engineering
- ctrIX I/O Engineering

ctrIX WORKS installation options

Option	Function
ctrIX WORKS	ctrIX WORKS is the basic installation and cannot be deselected
ctrIX CORE Virtual	ctrIX WORKS option to emulate the ctrIX CORE control hardware. Note: The ctrIX CORE Virtual emulation is not allowed for real-machine operations!
ctrIX PLC Engineering	Engineering tool for the PLC programming of the ctrIX CORE control hardware.
ctrIX I/O Engineering	Engineering tool to configure the ctrIX CORE control hardware.
ctrIX DRIVE Engineering	Engineering tool to commission, diagnose and service the ctrIX DRIVE hardware

Back to installation → ↪ “ctrIX WORKS initial installation” on page 11

10 Related documentation

10.1 ctrlX WORKS

Type	Part number	Description
DOK-XWORKS-F*STEP*****-QURS-EN-P	R911403760	ctrlX WORKS First Steps Quick Start Guide
DOK-XWORKS-*****-APRS-EN-P	R911403761	ctrlX WORKS Basic System Application Description

10.2 ctrlX CORE

Type	Part number	Description
DOK-XCORE*-BASE*****-APRS-EN-P	R911403768	Basic System CORE <ul style="list-style-type: none"> • Data Layer + Nodes • Using diagnostics
DOK-XCORE*-DIAG*****-RERS-EN-P	R911403770	Diagnostic messages

10.3 ctrlX CORE Apps

Type	Part number	Description
DOK-XCORE*-ETHERCAT***-APRS-EN-P	R911403773	EtherCat Master
DOK-XCORE*-PLC*****-APRS-EN-P	R911403787	Core PLC Runtime
DOK-XCORE*-MOTION*****-APRS-EN-P	R911403791	MOTION App, Motion kernel, interface
DOK-XCORE*-VPN*****-APRS-EN-P	R911403775	VPN
DOK-XCORE*-OPCUA*SERV*-APRS-EN-P	R911403778	OPC-UA Server
DOK-XCORE*-OPCUA*CLIEN-APRS-EN-P	R911403781	OPC-UA Client
DOK-XCORE*-REMOTE*AG**-APRS-EN-P	R911403785	Remote Agent
DOK-XCORE*-NODE*RED***-APRS-EN-P	R911403789	Node Red
DOK-XCORE*-FIREWALL***-APRS-EN-P	R911403783	Firewall

10.4 ctrlX PLC Engineering

Type	Part number	Description
DOK-XPLC**-ENGINEERING-APRS-EN-P	R911403764	PLC Programming System
DOK-XPLC**-LIBRARY*****-RERS-EN-P	R911403766	Libraries

11 Service and support

Our worldwide service network provides an optimized and efficient support. Our experts offer you advice and assistance should you have any queries. You can contact us **24/7**.

Service Germany

Our technology-oriented Competence Center in Lohr, Germany, is responsible for all your service-related queries for electric drive and controls.

Contact the **Service Hotline** and **Service Helpdesk** under:

Phone: **+49 9352 40 5060**

Fax: **+49 9352 18 4941**

E-mail: **↗ service.svc@boschrexroth.de**

Internet: **↗ <http://www.boschrexroth.com>**

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Outside Germany, please contact your local service office first. For hotline numbers, refer to the sales office addresses on the internet.

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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