

# PLC App

PLC Runtime Environment for ctrlX CORE

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# 1 About this documentation

## Editions of this documentation

Edition	Release date	Notes
01	2020-06	First edition Release date for PLC app version PLC-V-0102 and PLC-V-0104
02	2020-12	Release date for PLC app version PLC-V-0106 Revision: <ul style="list-style-type: none"><li data-bbox="699 607 1337 640">• <a href="#">Chapter 5.2.1 “Window – “PLC” ” on page 11</a></li><li data-bbox="699 645 1382 678">• <a href="#">Chapter 6 “Related documentation” on page 13</a></li></ul>

## 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 damage to property due to incorrect use of products!**

The products may only be used as intended.

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

##### **NOTICE**

**Damages resulting from unintended use**

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

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

- 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 source codes
- Do not install damaged or defective products or commission them
- It has to be ensured 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 must 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 areas of application:

- Building automation
- IoT and Security Gateway or Device
- Handling & Robotic

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 areas 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. Operation under water, under extreme temperature fluctuations or under extreme maximum temperatures is prohibited
- 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:

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





## 4 Introduction and overview

### 4.1 PLC App – Basics

#### Introduction

Install the app “PLC App” to provide a PLC runtime environment to the ctrlX CORE control.

The control receives its "PLC functionality".

The ctrlX PLC Engineering tool is used for the project planning of the PLC application. The tool is included in the ctrlX WORKS installation.

#### PLC App license

The following license is required to operate the PLC App:

Type code	Part number
SWL-XC*-PLC-PLC*****-BANN	R911397817

#### Function

The “PLC Runtime” is based on the PLC runtime system CoDeSys Control V3. If it is perfectly integrated into the ctrlX CORE system environment, it processes the programmed IEC 61131-3 codes and debugs the ctrlX PLC Engineering.

#### Further information

- [Chapter 5.2.1 “Window – “PLC” ” on page 11](#)

10 **PLC App PLC Runtime Environment for ctrlX CORE**  
PLC App – Basics

## 5 ctrlX UI – Elements

### 5.1 Navigation

#### 5.1.1 Side navigation – PLC App

Install the “PLC” app on the control and the following entries are added to the ctrlX CORE side navigation.

##### Side navigation – “PLC”

In the side navigation, the entry “PLC” is added. Select this entry to go to the window “Status”. Information on projected PLC applications is provided, see [↗ Chapter 5.2.1 “Window – “PLC” ” on page 11.](#)

##### Side navigation – “Automation”

The window “Automation” shows the tile “PLC”. Go to the tile to retrieve information on the operating state of the PLC application. Select the links to directly navigate to the window “Status” or to open the ctrlX PLC Engineering to edit the PLC application.

### 5.2 Windows

#### 5.2.1 Window – “PLC”

##### Prerequisite:

The “rexroth-plc” app is installed on ctrlX CORE.

##### Call:

ctrlX CORE side navigation “PLC → Status”

##### Function:

Window “PLC” lists the PLC applications currently configured on the control. A table is used to represent the applications. Apart from the state of the respective PLC application, each table entry contains Buttons to start, stop or reset the application. Thus, the operating state of the relevant application can be controlled irrespective of the configuration software ctrlX PLC Engineering.







Currently, one PLC application is supported on the control! Parallel operation of several PLC application is currently being developed.

The following PLC application variants are not supported:

- Device application
- Child application

##### Elements of the “PLC” window

GUI element	Description
Command bar “PLC”	The command bar includes buttons to control the operating state of the PLC application. <b>Prerequisite:</b> At least one of the listed applications has to be selected in the selection box <input checked="" type="checkbox"/> .
Table “PLC”	Selection box <input checked="" type="checkbox"/> = The PLC application is selected. Control the operating state of the selected application in the command bar via buttons  ,  and  .

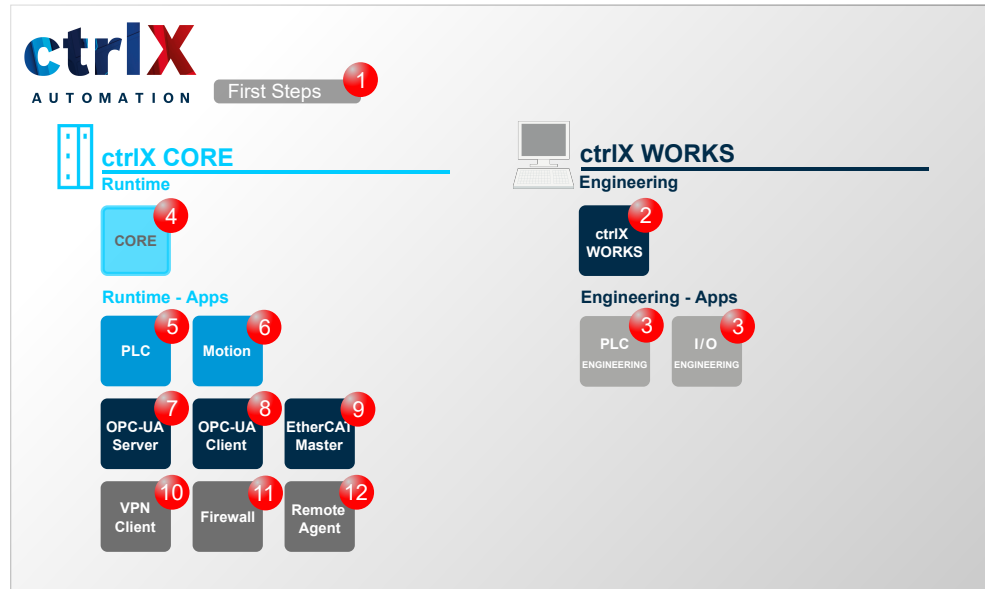
GUI element	Description
	<p>Table column “Name” (name of the PLC application)</p> <p>Table column “State” (status of the PLC application)</p> <ul style="list-style-type: none"> <li>● “STOP” = PLC application is stopped</li> <li>● “RUN” = PLC application is started</li> </ul> <p>Table column “Action”:</p> <p>Buttons to control the operating state:</p> <ul style="list-style-type: none"> <li>● ▷ = Starting the PLC application</li> <li>● □ = Stopping the PLC application</li> <li>● ⌛ = Reset of the PLC application: <ul style="list-style-type: none"> <li>- Reset warm</li> <li>- Reset cold</li> <li>- Reset origin</li> </ul> </li> </ul>
Button “ctrlX PLC Engineering”	<p>Start the tool to program the integrated PLC via</p> 

**Further information**

- [➔ Chapter 5.1.1 “Side navigation – PLC App ” on page 11](#)

## 6 Related documentation

### Overview



### 6.1 ctrlX AUTOMATION

No.	Documentation
1	<p><b>ctrlX AUTOMATION First Steps</b> Quick Start Guide  <a href="#">➔ Link to web documentation</a>                      Ordering information:</p> <ul style="list-style-type: none"> <li>• DOK-XWORKS-F*STEP*****-QURS-EN-P</li> <li>• R911403760</li> </ul>

### 6.2 ctrlX WORKS

No.	Documentation
2	<p><b>ctrlX WORKS</b> Application Manual  <a href="#">➔ Link to web documentation</a>                      Ordering information:</p> <ul style="list-style-type: none"> <li>• DOK-XWORKS-*****-APRS-EN-P</li> <li>• R911403761</li> </ul>
3	<p><b>ctrlX PLC Engineering – I/O Engineering</b> Application Manual  <a href="#">➔ Link to web documentation</a>                      Ordering information:</p> <ul style="list-style-type: none"> <li>• DOK-XPLC**-ENGINEERING-APRS-EN-P</li> <li>• R911403764</li> </ul>

No.	Documentation
3	<p><b>ctrlX PLC Engineering Library</b> Reference Book</p> <p><a href="#">↗ Link to web documentation</a></p> <p>Ordering information:</p> <ul style="list-style-type: none"> <li>• DOK-XPLC**-LIBRARY****-RERS-EN-P</li> <li>• R911403766</li> </ul>

### 6.3 ctrlX CORE

No.	Documentation
4	<p><b>ctrlX CORE Runtime</b> Application Manual</p> <p><a href="#">↗ Link to web documentation</a></p> <p>Ordering information:</p> <ul style="list-style-type: none"> <li>• DOK-XCORE*-BASE*****-APRS-EN-P</li> <li>• R911403768</li> </ul>
	<p><b>ctrlX CORE Diagnostics</b> Reference Book</p> <p><a href="#">↗ Link to web documentation</a></p> <p>Ordering information:</p> <ul style="list-style-type: none"> <li>• DOK-XCORE*-DIAG*****-RERS-EN-P</li> <li>• R911403770</li> </ul>

### 6.4 ctrlX CORE Apps

No.	Documentation
5	<p><b>PLC App</b> Application Manual</p> <p><a href="#">↗ Link to web documentation</a></p> <p>Ordering information:</p> <ul style="list-style-type: none"> <li>• DOK-XCORE*-PLC*****-APRS-EN-P</li> <li>• R911403787</li> </ul>
6	<p><b>Motion App</b> Application Manual</p> <p><a href="#">↗ Link to web documentation</a></p> <p>Ordering information:</p> <ul style="list-style-type: none"> <li>• DOK-XCORE*-MOTION*****-APRS-EN-P</li> <li>• R911403791</li> </ul>
7	<p><b>OPC-UA Server App</b> Application Manual</p> <p><a href="#">↗ Link to web documentation</a></p> <p>Ordering information:</p> <ul style="list-style-type: none"> <li>• DOK-XCORE*-OPCUA*SERV*-APRS-EN-P</li> <li>• R911403778</li> </ul>

No.	Documentation
8	<p><b>OPC-UA Client App</b> Application Manual  <a href="#">➔ Link to web documentation</a>                      Ordering information:</p> <ul style="list-style-type: none"> <li>● DOK-XCORE*-OPCUA*CLIEN-APRS-EN-P</li> <li>● R911403781</li> </ul>
9	<p><b>EtherCAT Master App</b> Application Manual  <a href="#">➔ Link to web documentation</a>                      Ordering information:</p> <ul style="list-style-type: none"> <li>● DOK-XCORE*-ETHERCAT***-APRS-EN-P</li> <li>● R911403773</li> </ul>
10	<p><b>VPN Client App</b> Application Manual  <a href="#">➔ Link to web documentation</a>                      Ordering information:</p> <ul style="list-style-type: none"> <li>● DOK-XCORE*-VPN*****-APRS-EN-P</li> <li>● R911403775</li> </ul>
11	<p><b>Firewall App</b> Application Manual  <a href="#">➔ Link to web documentation</a>                      Ordering information:</p> <ul style="list-style-type: none"> <li>● DOK-XCORE*-FIREWALL ***-APRS-EN-P</li> <li>● R911403783</li> </ul>
12	<p><b>Remote Agent App</b> Application Manual  <a href="#">➔ Link to web documentation</a>                      Ordering information:</p> <ul style="list-style-type: none"> <li>● DOK-XCORE*-REMOTE*AG**-APRS-EN-P</li> <li>● R911403785</li> </ul>





## 7 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](mailto:service.svc@boschrexroth.de)

Internet: [↗ http://www.boschrexroth.com](http://www.boschrexroth.com)

Additional information on service, repair (e.g. delivery addresses) and training can be found on our internet sites.

### Service worldwide

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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