rexroth
A Bosch Company

Application Manual

Telegraf App

ctrlX CORE Server Agent for Collecting Data
in the Data Layer 01VRS

R911416836, Edition 02

Liability

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1 About this documentation

Editions of this documentation

Edition	Release date	Note
01	2022-04	First edition Telegraf App version TSA-V-0114
02	2022-08	Revision Telegraf App Version TSA-V-0116

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 its 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:

⚠ 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 Introduction and overview

4.1 Introduction and overview

4.1.1 Telegraf App - Basics

Telegraf App for ctrlX CORE

The ctrlX Telegraf App is an agent to collect, process, aggregate and write metrics. Telegraf is mainly used together with InfluxDB and Grafana in ctrlX CORE.

The ctrlX Telegraf app enables the execution of the console application Telegraf on ctrlX CORE. Telegraf is provided in the Telegraf App.

It is possible to execute several Telegraf instances on ctrlX CORE. The configuration file required to execute Telegraf, data can be created in the ctrlX app.

The configuration file can be edited using an editor.

Introduction

The ctrlX Telegraf app provides the Telegraf application and an editor on ctrlX CORE. It allows to execute Telegraf using a configuration file which is created on App Data and which can be edited in the editor.

One or several Telegraf instances can be started.

By using a template, a configuration file can be created. The configuration syntax and the Input Plugin configuration can be tested prior to starting the Telegraf

Telegraf installation and integration in the ctrlX CORE web interface

The app installation is described in the documentation at ctrlX CORE runtime, refer to the ➦ Web documentation.

By installing the app, the ctrlX CORE web interface is extended by the “Telegraf” node in the ctrlX CORE web interface, see

➦ Telegraf

Licensing

Required license to operate the Telegraf app on a ctrlX CORE control:

Type code	Part number
SWL-XC*-TSA-TELEGRAF*****-NNNN	R911416258

Users and authorizations

The Telegraf user authentication is connected to the ctrlX user management. An authentication (login) at the ctrlX CORE control is required to access the Telegraf app. In the “Users &Authorizations” section, Telegraf-specific authorizations can be specified, controlling the data access to the data layer of the control, refer to the ➦ web documentation.

In case of insufficient authorizations, sporadically no data is displayed or buttons are inactive.

Telegraf plugins

Use this link to access the Telegraf plugins page → ➦ https://docs.influxdata.com/telegraf/v1.20/plugins/

Further information

- Chapter 5.1.1 Window – “Telegraf” on page 13
- Chapter 5.2.1 Dialog – “Create new Telegraf configuration” on page 14
- Chapter 5.3.1 Editor – “Edit Telegraf configuration” on page 14

5 ctrlX UI – Elements

5.1 Windows

5.1.1 Window – “Telegraf”

To configure the Telegraf app, go to the window“Telegraf”.

Related topics:
➦ Information about Telegraf and about the Telegraf app

Call:

ctrlX CORE side navigation *“Telegraf”*

If no Telegraf configuration was created on the control, the button + “Add telegraf configuration” is displayed in the window. After adding a configuration, the command bar and the table including the entry of the connection are displayed on the page.

Elements of the “Telegraf” window

GUI element	Description
Command bar	“[x] item(s)” Number of listed connections
	 Creating a new Telegraf configuration The “Create Telegraf configuration” dialog opens, see ➦ Chapter 5.2.1 Dialog – “Create new Telegraf configuration” on page 14
Table	“Status” Telegraf configuration status
	“Title” Telegraf configuration name
	“State” Telegraf configuration state
	“Actions” Includes buttons to edit or delete a Telegraf configuration. This is only possible in stopped state  “Start” Starting the Telegraf configuration after editing of the configuration has been completed and saved. Several Telegraf instances can be started with different configurations  “Stop” Stopping the Telegraf configuration  “Edit Telegraf configuration”. The Telegraf editor opens, see ➦ Chapter 5.3.1 Editor – “Edit Telegraf configuration” on page 14 

GUI element	Description
	“Diagnostic logbook” Open the diagnostic logbook of the ctrlX device in a new tab. For more information about the diagnostic logbook of the ctrlX device, refer to the following web documentation, see ➦ link “Delete” Deleting the Telegraf configuration

In case of a modified configuration, starting is only possible after saving the configuration.

Further information

- ➦ Chapter 4.1 Introduction and overview on page 11
- ➦ Chapter 5.2.1 Dialog – “Create new Telegraf configuration” on page 14
- ➦ Chapter 5.3.1 Editor – “Edit Telegraf configuration” on page 14

5.2 Dialogs

5.2.1 Dialog – “Create new Telegraf configuration”

Dialog to create a new Telegraf configuration. Close the dialog using the icon ✕.

Call:

ctrlX CORE side navigation *“Telegraf ”* → +

Elements of the dialog “Create new Telegraf configuration”

GUI element	Description
“Title”	Telegraf configuration name
“Configuration template”	Selecting the configuration template • empty, e.g. no inputs and outputs • demo, e.g. trigs demo inputs and inflxuDB V2 output • ctrlx, e.g. ctrlX data layer sse input and influxDB V2 output • full, e.g. complete inputs and outputs

Click on OK to create the Telegraf configuration. When clicking on Cancel, the Telegraf configuration is not created and the dialog is closed.

Further information

- ➦ Chapter 4.1 Introduction and overview on page 11
- ➦ Chapter 5.1.1 Window – “Telegraf” on page 13
- ➦ Chapter 5.3.1 Editor – “Edit Telegraf configuration” on page 14

5.3 Editors

5.3.1 Editor – “Edit Telegraf configuration”

Editing the Telegraf configuration

The properties of the Telegraf configuration can be edited in the “Telegraf” window, after adding a new configuration via the button. Close the window via icon.

Call:

ctrlX CORE side navigation *“Telegraf”* →

Elements of the “Edit Telegraf configuration” editor

GUI element	Description
Command bar	“Save Telegraf configuration” Saving the Telegraf configuration in ctrlX configuration
	“Start” Start measurement “Stop” Stopping the measurement
	“Open "Diagnostic log" window” The “diagnostic log” is displayed in the opening window. The “diagnostic log” can be deleted using . Close the window using .
Table	Telegraf configuration The Telegraf configuration is displayed in the table and can be edited

As for all Telegraf plugins, configure the ctrlX Data Layer SSE Input Plugin using a TOML file.

For a complete description of the TOML configuration, refer to the README of the ctrlX Data Layer Input Plugin:

➦ ctrlX Data Layer Input Plugin

Further information

- ➦ Chapter 4.1 Introduction and overview on page 11
- ➦ Chapter 5.1.1 Window – “Telegraf” on page 13
- ➦ Chapter 5.2.1 Dialog – “Create new Telegraf configuration” on page 14

6 Related documentation

6.1 Overview

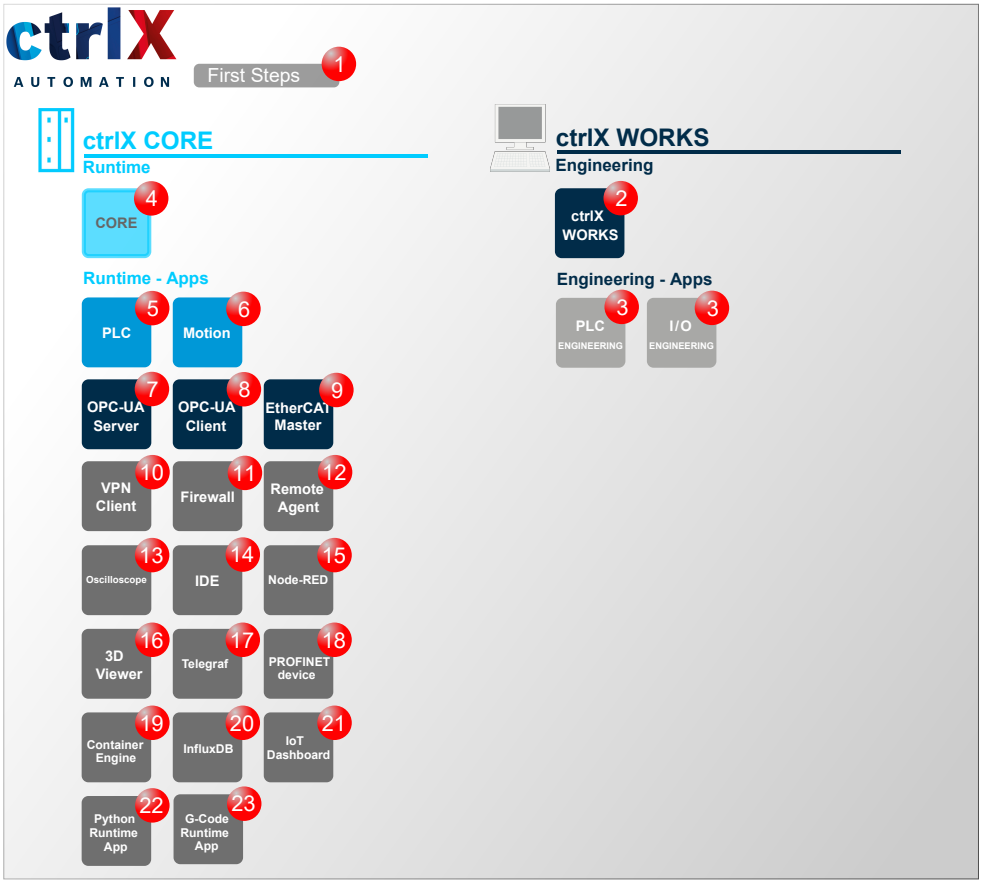

Fig. 1: Overview on further documentations

6.2 ctrlX AUTOMATION

No.	Documentation
1	**ctrlX WORKS First Steps 01VRS** Quick Start Guide ➦ Web documentation link Ordering information: • DOK-XWORKS-F*STEP**V01-QURS-EN-P • R911403760

6.3 ctrlX WORKS

No.	Documentation
2	**ctrlX WORKS Basic System 01VRS** Application Manual ➦ Web documentation link Ordering information: • DOK-XWORKS-********V01-APRS-EN-P • R911403761
3	**ctrlX PLC Engineering - PLC Programming System 01VRS** Application Manual ➦ Web documentation link Ordering information: • DOK-XPLC**-ENG*****V01-APRS-EN-P • R911403764
3	**ctrlX PLC Engineering - PLC Libraries 01VRS** Reference ➦ Web documentation link Ordering information: • DOK-XPLC**-LIBRARY*V01-RERS-EN-P • R911403766

6.4 ctrlX CORE

Nr.	Dokumentation
4	**ctrlX CORE - Runtime 01VRS** Application Manual ➦ Web documentation link Ordering information: • DOK-XCORE*-BASE****V01-APRS-EN-P • R911403768
	ctrlX CORE - Nodes of the Data Layer 01VRS Reference ➦ Link zur Web-Dokumentation Bestellinformationen: • DOK-XCORE*-BASE*DL*V01-RERS-EN-P • R911420072
	ctrlX CORE - Diagnostics 01VRS Reference ➦ Web documentation link Ordering information: • DOK-XCORE*-DIAG****V01-RERS-EN-P • R911403770

6.5 ctrlX CORE Apps

Nr.	Dokumentation
5	**PLC App - PLC Runtime Environment for ctrlX CORE 01VRS** Application Manual ➦ Web documentation link Ordering information: • DOK-XCORE*-PLC*****V01-APRS-EN-P • R911403787
6	**Motion App - Motion Runtime Environment for ctrlX CORE 01VRS** Application Manual ➦ Web documentation link Ordering information: • DOK-XCORE*-MOTION**V01-APRS-EN-P • R911403791
7	**OPC UA Server App - OPC UA Server for ctrlX CORE 01VRS** Application Manual ➦ Link zur Web-Dokumentation Ordering information: • DOK-XCORE*-OPCSERV*V01-APRS-EN-P • R911403778
8	**OPC UA Client App - OPC UA Client for ctrlX CORE 01VRS** Application Manual ➦ Web documentation link Ordering information: • DOK-XCORE*-OPCCLIENV01-APRS-EN-P • R911403781
9	**EtherCAT Master App - EtherCAT Master for ctrlX CORE 01VRS** Application Manual ➦ Web documentation link Ordering information: • DOK-XCORE*-ETHERCATV01-APRS-EN-P • R911403773
10	**VPN Client App - Remote Support Software for ctrlX CORE 01VRS** Application Manual ➦ Web documentation link Ordering information: • DOK-XCORE*-VPN*****V01-APRS-EN-P • R911403775
11	**Firewall App - Security Functions for ctrlX CORE 01VRS** Application Manual ➦ Web documentation link Ordering information: • DOK-XCORE*-FIREWALLV01-APRS-EN-P • R911403783

Nr.	Dokumentation
12	**Remote Agent App - ctrlX Device Portal Connection for ctrlX Devices 01VRS** Application Manual ➥ Web documentation link Ordering information: • DOK-XCORE*-REMOTE**V01-APRS-EN-P • R911403785
13	**Oscilloscope App - Oscilloscope Function for ctrlX Devices 01VRS** Application Manual ➥ Web documentation link Ordering information: • DOK-XCORE*-OSCI****V01-APRS-EN-P • R911409806
14	**IDE App - Integrated Development Environment 01VRS** Application Manual ➥ Web documentation link Ordering information: • DOK-XCORE*-IDE*****V01-APRS-EN-P • R911410625
15	**Node RED App - Graphic Programming for ctrlX CORE 01VRS** Application Manual ➥ Web documentation link Ordering information: • DOK-XCORE*-NODERED*V01-APRS-EN-P • R911403789
16	**3D Viewer App - Browser-based 3D Kinematic Simulation for ctrlX CORE 01VRS** Application Manual ➥ Web documentation link Ordering information: • DOK-XCORE*-3D*VIEW*V01-APRS-EN-P • R911416124
17	**Telegraf App - Server Agent for Collecting Data in the Data Layer 01VRS** Application Manual ➥ Web documentation link Ordering information: • DOK-XCORE*-TELEGRAFV01-APRS-EN-P • R911416836
18	**PROFINET Device App - PROFINET Device for ctrlX CORE 01VRS** Application Manual ➥ Web documentation link Ordering information: • DOK-XCORE*-PROFINETV01-APRS-EN-P • R911417857

Nr.	Dokumentation
19	**Container Engine App - Use of Docker® Images on ctrlX CORE 01VRS** Application Manual ➦ Web documentation link Ordering information: • DOK-XCORE*-DOCKER**V01-APRS-EN-P • R911417855
20	**InfluxDB App - Influx Database Connection for ctrlX CORE 01VRS** Application Manual ➦ Web documentation link Ordering information: • DOK-XCORE*-INFLUX**V01-APRS-EN-P • R911418738
21	**IoT Dashboard App - Data Visualization in Dynamic, Interactive Dashboards 01VRS** Application Manual ➦ Web documentation link Ordering information: • DOK-XCORE*-GDB*****V01-APRS-EN-P • R911420426
22	**Python Runtime App - Python Runtime Environment for ctrlX CORE 01VRS** Application Manual ➦ Link zur Web-Dokumentation Ordering information: • DOK-XCORE*-PYR*****V01-APRS-EN-P • R911420430
23	**G-Code Runtime App - G-Code Interpreter for ctrlX CORE 01VRS** Application Manual ➦ Link zur Web-Dokumentation Ordering information: • DOK-XCORE*-GCO*****V01-APRS-EN-P • R911420428

7 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**.

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**
Email:	➦ service.svc@boschrexroth.de
Internet:	➦ 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)

8 Glossary

Aggregator plugin
Creating aggregated metrics (e.g. mean value, min., max., etc.).

Input Plugin
Collecting metrics of the system, services or APIs of third party providers.

Output plugin
Write metrics to different targets

Plugin
A plugin is a software program which can be accessed by other software applications to extend their functionality.

These software applications access plugins by means of interfaces defined by the manufacturer.

There are four types of plugins in Telegraf: Input plugins, processor plugins, aggregator plugins, output plugins.

Processor plugin
Transforming, decorating and/or filtering metrics

Server Sent Event (SSE)
Server-Sent Events is a Server-Push technology allowing a client to receive automatic updates by a server via an HTTP connection. The technology describes how a server can initiate a data transfer to clients as soon as an initial client connection has been established.

Telegraf
Telegraf is a plugin-controller server agent to collect and send metrics and events of databases, systems and IoT sensors.

Telegraf is an Open Source project operated by the software producer Influxdata.

https://www.influxdata.com/time-series-platform/telegraf/

https://github.com/influxdata/telegraf

Telegraf is a console application.

TOML file format
TOML is a file format for configuration files. The Telegraf configuration is described in TOML file format.

The TOML syntax primarily consists of key = “value” pairs, [section names] and # comments.

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