BCSoft

BCSoft version: 4.0.0 or higher

PC software for burner control units

Operating instructions

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Contents

1 Introduction

1.1 General

The **BCSoft** PC software was developed by Kromschröder to allow service work to be carried out on BCU5xx units quickly and effectively.

The parameterization of the devices can be carried out very conveniently on a PC. The program can be used to provide support for laboratory and service personnel.

1.2 Mode of operation

BCSoft is used to visualize and parameterize Kromschröder devices:

- Display of the operating states of the burner control unit and burner
- Logging of process data
- Parameterization and management of device configurations
- Evaluation of statistics functions

Data is exchanged between the device and **BCSoft** via a PC adapter. The device must be switched on for data to be transferred. Since the data transfer has no effect on operation of the device, process data can be logged with **BCSoft**.

Devices supported:

- BCU570
- BCU560, 565, 580
- FCU500 (Fw03 or higher), FCU505 (Fw03 or higher)
- UVC
- IC40 (new)
- BCU4 2019

PC adapters supported:

- PCO 200 (USB)
- PCO 300 (BT)
- PC opto-adapter (RS232)

2 Installation

2.1 System requirements

A PC must satisfy the following requirements for **BCSoft** to be run on it:

- Windows 10 operating system
- Minimum 8 GB RAM
- Serial COM interface or USB port
- Minimum .NET Framework 4.5

2.2 Connecting the PC adapter

BCSoft can be used with various PC adapters. A different procedure is required depending on the PC adapter used:

PCO 200 (USB):

Connect the adapter to the PC and install the driver if necessary (see PCO 200 operating instructions)

PCO 300 (BT):

Pair the PC and PCO 300 using Bluetooth (see PCO 300 operating instructions)

PC opto-adapter (RS232):

No driver installation is required if the adapter is operated on a serial interface. If the adapter is operated on a USB-RS232 converter, the driver for the USB-RS232 converter must first be installed.

Note:

Refer to the BCSoft CD for installation instructions for the various adapters.

2.3 Software installation

- Connect the PC adapter to a device. Switch on the device.
- Place the installation CD in the CD-ROM drive.
- Open the **BCSoft\SETUP.exe** program on the CD to install it.
- Follow the setup instructions. The software package will now be installed on your PC.
- **BCSoft** asks you to configure the language when you start it for the first time.
- After that you have to configure the interface. For this purpose select the (virtual) serial interface you are using and click on *Accept*. The dialogue closes automatically.
- The communication between **BCSoft** and the connected device will then start automatically. The PC and a connected device will be displayed in the "*Device Search"* window.
- Via button *"Device to Project"* the selected device is transferred into a project. The device is displayed in the *"Topology"* window.
- Double-clicking on the device in the "*Topology"* window will start the visualization of the connected device.
- If a connected device cannot be found, check that the PC adapter between the PC and device has been connected correctly. If no communication is possible despite the PC adapter being connected correctly, check whether the correct (virtual) serial interface has been selected.
- Select the *Options**Interface*\ sub-menu in the *Extras* menu. The interface dialogue will open: Select the (virtual) serial interface you are using and click on *Accept*.
- In the "*Device Search"* window the connected device will be displayed.

3 Operation/Interface

3.1 General

BCSoft can be used in „online“-mode for visualization of connected devices. It can be used in the „offline“-mode to project plants using the catalog.

In the “*Topology”* window the devices can be arranged hierarchical to display the conjunction between the devices.

3.1.1 Online-mode

When it is started, **BCSoft** automatically connects to the last saved interface and attempts to identify a connected device. Detected devices are displayed in the window “Search all devices”, if there are not part of the current project. Via the button “Devices to project” the selected device will be added to the current project.

The Devices of the current project will be displayed as online (green) in the *“Topology”* window.

Information about the connected device type and software version (firmware) will be displayed in the “*Topology”* window.

Visualization of a connected device can be started by double-clicking on the device found in the “*Topology”* window.

3.1.2 Offline-Project planning

The catalog contains different device-types. Via Drag’n Drop devices can be copied in the “*Topology”* window to build a new project or enhance an existing project. During Drag’n Drop a dialog is opened to appoint the device-name and the code-switch (0nly busdevices).

3.2 Menue

There are 4 different menu entries in the **BCSoft** menu bar:

- ***File (3.3)***
- ***Target system (3.4)***
- ***Extras (3.5)***
- ***Display (3.6)***
- ***Help (3.7)***

3.3 File menu

The *File* menu contains the following functions:

- ***New Project(3.3.1)***
- ***Open Project (3.3.2)***
- ***Save Project(3.3.3)***
- ***Save Project as(3.3.4)***
- ***Project properties(3.3.5)***
- ***Print (3.3.6)***
- ***Printer settings (3.3.7)***
- ***Close (3.3.8)***

3.3.1 New Project

The current project will be closed. The Project-properties dialogue opens and a header (XML-file) is created.

3.3.2 Open Project

This menu item opens an existing project file.

3.3.3 Save Project

This menu item saves the current project in a project file.

3.3.4 Save Project as

This menu item saves the current project in a new project file.

3.3.5 Project properties

This menu item opens a dialogue to describe the project (Header XML-file).

3.3.6 Print

When this menu item is selected, the currently active window in **BCSoft** is printed out.

3.3.7 Printer settings

A printer can be selected in this menu.

3.3.8 Close

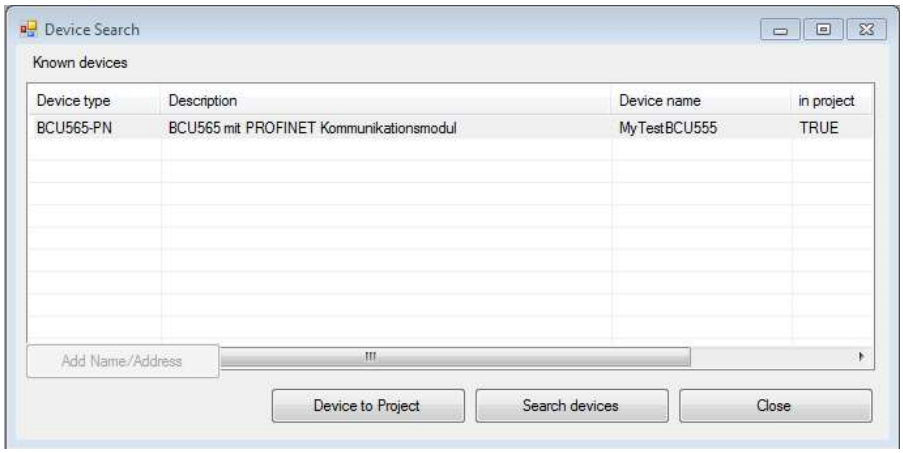
This menu item closes **BCSoft**.

3.4 Target system

This menu contains functions to get access to all connected devices.

3.4.1 Search all devices

This menu opens the *„Device Search“* window. All detected devices are displayed. Via this window detected devices can be transferred into a project.



3.5 Extras menu

Various functions are available in the *Extras* menu:

- ***Select language (3.5.1)***
- ***Temperature unit (3.5.2)***
- ***New login (3.5.3)***
- ***Options\Interface (3.5.4)***

3.5.1 Select language

The language in which **BCSoft** is to be operated can be set using this menu item. The following languages are available:

- **German**
- **English**

3.5.2 Temperature unit

Via this menu item the temperature unit is selected. This selected temperature-unit is used for process-values and parameters of the FCU. This central selection is used for all visualized FCUs. The following units are available:

- **°C (Celsius)**
- **°F (Fahrenheit)**
- **K (Kelvin)**

3.5.3 New login

Via this menu item the user role in **BCSoft** can be changed. The current user role is displayed in **BCSoft.**

The following user roles are available in **BCSoft**:

- *Operator* (read-only access to all parameters and statistics). No passcode required.
- *Service* (like *Operator*, but also authorized to write parameters and reset statistics). Passcode: BCU
- *Project-Manager* (like *Service*, but also authorized to write network settings). Passcode: admin

If an invalid passcode is entered, **BCSoft** will automatic revert to the role *Operator*.

3.5.4 Options\Interface

BCSoft supports the ChipCom protocol. This menu item enables you to set the interface you wish to use.

The following settings can be made:

- *Serial Interface (communication via* PCO200, PCO300 or PC-Opto-Adapter*)*
- *Ethernet (communication via busmodul)*
- *Offline (no communication)*

If PCO 200 is used, the virtual serial interface must be set in *Com port*.

If a PC opto-adapter is used, the serial interface must be set in *Com port*.

If a PC opto-adapter is connected to a USB RS232 converter, the serial interface of the converter must be set in *Com port*.

If PCO 300 is used, the virtual serial interface of the PCO 300 must be set in *Com port*.

Refer to the operating manual for further instructions about the PCO 300.

When the protocol settings have been made, click on *Accept*.

The dialogue closes automatically.

3.6 Display menu

Via this menu the display of BCSoft can be configured.

3.6.1 Show Topology

This Option opens/closes the Topology window.

3.6.2 Show Topology left

This option configures the side on which the Topology window is displayed.

3.6.3 Show catalog

This Option opens/closes the catalog window.

3.6.4 Telegram monitor

This menu item is used to open the *Telegram monitor* window. The communication between the PC software and connected device is visualized in this window.

This window has a menu which can be opened by right-clicking on it. This allows you to specifically monitor a telegram for diagnostic purposes:

Click on *Clear* to delete the entire contents of the *Telegram monitor* window.

Click on *Start* to start displaying telegrams.

Click on *Stop* to stop displaying telegrams.

Click on *Save* to save the entire contents of the *Telegram monitor* window.

3.6.5 Autostart: Telegram-monitor

Via this option you can configure, whether the telegram-monitor opens automatically after start.

3.6.6 Tile

Open windows are arranged using this menu item.

3.7 Help menu

This menu contains information about the manufacturer and the software version.

3.7.1 Kromschroeder-Homepage

This menu item opens the Kromschroeder-Homepage with the installed Browser.

3.7.2 Mail to Kromschroeder

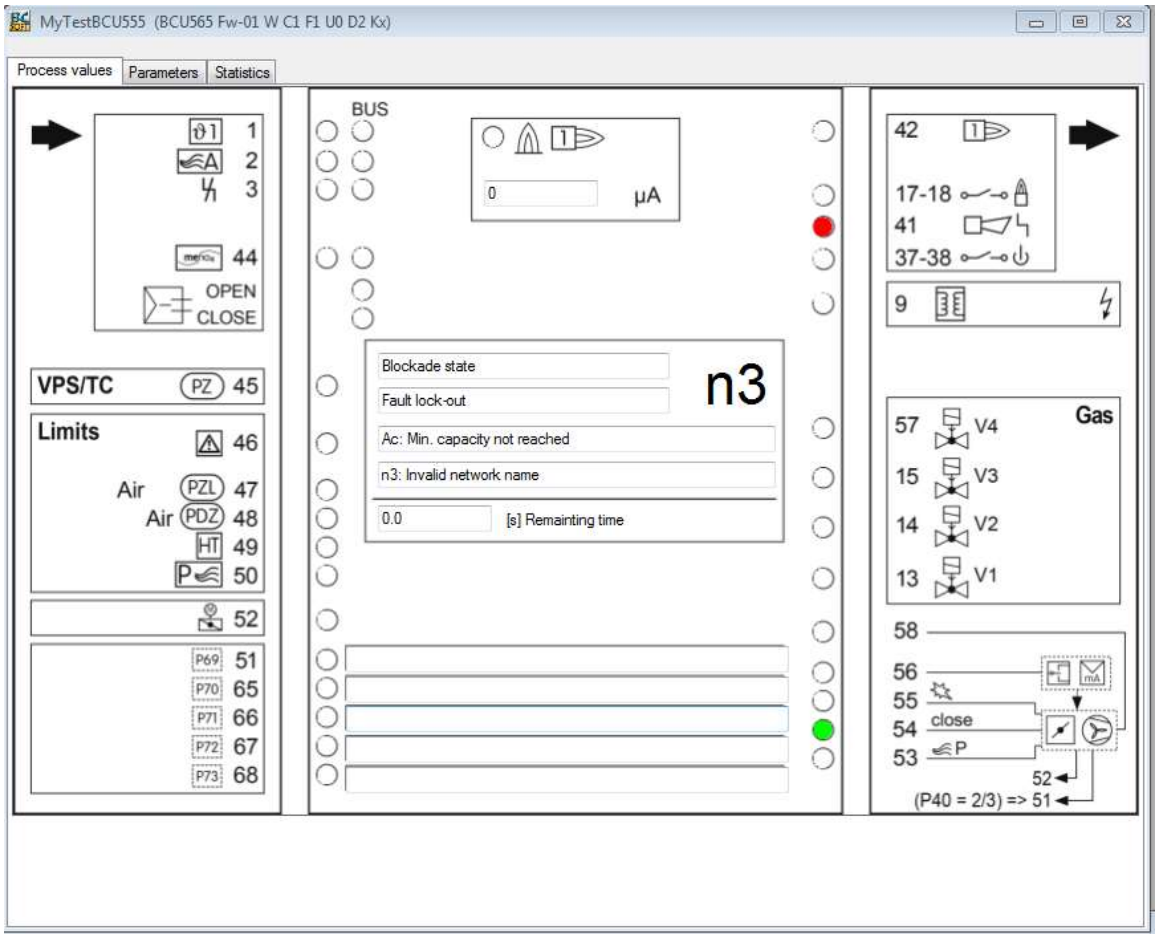
This menu item opens the installed Mailprogram.

3.7.3 About

This window contains information about the **BCSoft** version. If you have any questions to the manufacturer about **BCSoft**, you should always quote the version of the software you have installed.

4 Device visualization

A connected device is visualized in a device-specific window.



Clicking on *Read* enables the current data to be read from the device.

To change parameters, select the required parameter using the keyboard or mouse and then edit it.

When you move the mouse cursor onto the editing field for a parameter, the parameter limits are displayed.

Click on *Write* (3.5.3) to enter changed parameters into the device.

After making changes, always check that the parameters have been saved correctly in the device by reading them again.

Remember that the parameterization will affect the safe functioning of your system.

The parameters set can also be saved in a file (4.3).

4.1 List of device-specific windows

Depending on the device type and construction stage of the connected device, the display will contain tabs for process values, parameters and statistics.

4.1.1 BCU 5xx:

- ***Process values (4.2.1)***
- ***Parameters Burner (4.2.6)***
- ***Parameters Limits (4.2.8)***
- ***Parameters Air control (4.2.7)***
- ***Parameters TC (4.2.10)***
- ***Parameters Common (4.2.11)***
- ***Operator statistics (4.2.2)***
- ***Statistics All (4.2.3)***
- ***Fault history (4.2.5)***
- ***Statistics Power module (4.2.4)***
- ***Hardware parameters (4.2.12)***

4.1.2 FCU 5xx:

- ***Process values (4.2.1)***
- ***Parameters Limits (4.2.8)***
- ***Parameters Temperature supervision (4.2.9)***
- ***Parameters Air control (4.2.7)***
- ***Parameters TC (4.2.10)***
- ***Parameters Common (4.2.11)***
- ***Operator statistics (4.2.2)***
- ***Statistics All (4.2.3)***
- ***Fault history (4.2.5)***
- ***Statistics Power module (4.2.4)***
- ***Hardware parameters (4.2.12)***

4.1.3 UVC:

- ***Process values (4.2.1)***
- ***Parameters Limits (4.2.8)***
- ***Hardware parameters (4.2.12)***
- ***Operator statistics (4.2.2)***
- ***Statistics All (4.2.3)***
- ***Fault history (4.2.5)***
- ***Flame history (4.2.13)***

4.2 Tabs

The various functions of the devices are divided into tabs.

4.2.1 Process values

This tab displays the current status of the device. The status of all inputs and outputs and analogue values are displayed and updated constantly for this purpose. In addition, the current program status and, if a fault has occurred, a fault message will be displayed.

The data displayed is continually updated as long as the tab remains active.

4.2.2 Customer/Operator statistics

This tab contains the statistical data saved in the device relating to the number of faults which have occurred, the operating hours and the operating cycles.

Click on the *Read* button to read and display the statistical data for the connected device.

Clicking on the *Reset* button resets the number of faults which have occurred and the number of operating cycles to 0.

4.2.3 Statistics (overall)

This tab, together with the Customer/Operator statistics tab, contains the statistical data saved in the device relating to the total number of faults which have occurred, the operating hours and the operating cycles.

Click on the *Read* button to read and display the statistical data for the connected device.

The statistical data cannot be reset.

4.2.4 Statistics Power module

The statistical data stored in the device for the number of operating cycles by the power module are display in this tab.

Click on the *Read* button to read and display the statistical data for the connected device.

The operating cycle counter cannot be reset.

4.2.5 Fault history

This tab contains the fault history saved in the device. The last 10 faults are displayed with a time stamp.

Click on *Read* to read and display the fault history for the connected device.

Clicking on *Reset* resets the history.

4.2.6 Parameters Burner

The parameters for the burner (safety parameters and parameters which are not relevant to safety) can be managed and edited in the tabs.

Before entering the parameters, the user is asked to enter the PIN.

4.2.7 Parameters Air control

The parameters for air control/air valve and air flow monitoring can be managed and edited in this tab.

Before entering the parameters, the user is asked to enter the PIN.

4.2.8 Parameters Limits

Parameters for the limits can be managed and edited in this tab.

Before entering the parameters, the user is asked to enter the PIN.

4.2.9 Parameters Temperature supervision (FCU 5xx)

Parameters for temperature monitoring can be managed and edited in this tab. Depending on the device's range of functions, the tab is displayed and hidden dynamically by the system.

Before entering the parameters, the user is asked to enter the PIN.

4.2.10 Parameters TC

The parameters for the TC can be managed and edited in this tab. Depending on the device's range of functions, the tab is displayed and hidden dynamically by the system.

Before entering the parameters, the user is asked to enter the PIN.

4.2.11 Parameters Common

Parameters for general configuration can be managed and edited in this tab.

Before entering the parameters, the user is asked to enter the PIN.

4.2.12 Hardware parameters

Hardware parameters can be managed in this tab.

These parameters have been fixed by Kromschröder and characterize the device's properties.

4.2.13 Flame history (UVC)

This tab contains the flame history saved in the device. The chronological trend of the flame signal is displayed.

Click on *update* to read and display the flame history for the connected device.

4.3 Saving and loading data records

4.3.1 Parameter file

The parameters can be saved as a parameter file. Click on *Save* for this purpose.

A parameter file can be loaded into the appropriate tab by clicking on *Load* to transfer it into the device if necessary.

4.3.2 Protocol file

Use the *Protocol file Save in the main menu* to save the parameters and statistical data in a file. Additional information can be attached to the file using an entry mask.