Software EloVision 3

For configuration of Elotech controllers.

ELOTECH
INDUSTRIEELEKTRONIK

Description and operating manual

Features:

- Reading out and storage of the controller configuration including all the texts
- Loading and uploading of controller configuration back to the controller
- Change controller parameters clearly online
- Copy controller parameters zone wise
- Print loaded configuration
- Set controller to factory settings
- Easy input of set values in the visualization window
- Overview of all actual values in the visualization window

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1 Contents

2 Introduction

The software EloVision 3 serves for the configuration of temperature controllers of the company Elotech GmbH, and the visualization of set and actual values.

The controller parameters can be saved in form of XML files. Stored files can be read back and be transferred to other controllers of the same type.

The software was developed for Windows 10.

The actuation of the controller is done via our USB interface adapter USB-RS485-M-R2xxxS or via Ethernet.

It may be necessary to install USB driver for the converter.

The software can only communicate with controllers of the serial R4000 (Ethernet **TCP**) or with controllers with the S option (**RS485**) of the company Elotech. The S-Controller "R2x00-S" must be activated for this communication.

Non-activated controllers with S-option can be licensed later.
See chapter: 8.10 Licensing.

3 Preparation

Installing **Elovision 3**: Run SetupElovision3.exe. The setup menu will copy the necessary files to the Applications folder and creates an entry in the Start menu.

3.1 TCP: Choosing the R4000 - controller IP-Address

The Ethernet connection can be connected via network router or directly between PC ↔ controller.

Connect via router: Please choose a free IP-Address of your network and enter this address into the controller and into the configuration window of EloVision.

Direct Connection: Here you have to choose a fixed IP-address IPV4 for the PC. For example 192.168.100.105. On the controller and in EloVision please enter the default IP-address 192.168.100.100 for example.

3.2 RS485: R2x00-S Identification of the assigned COM port

If you are not sure which COM port has been assigned to the USB-RS232 converter, go to the Windows Device Manager.

Regard under "Ports (COM & LPT)" which COM port will disappear if you remove the converter and returns when you plug in the converter again. "USB Serial Port (COMx)"

Enter the identified port in the COM configuration in EloVision window later.

4 First program start

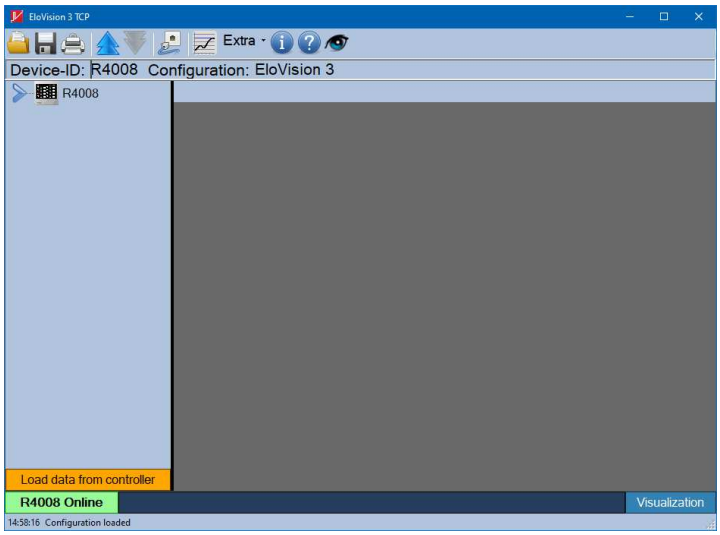
TCP: Connect the R4000 controller with a cat-cable to the network or directly to the PC. Then please start the program EloVision 3, confirm the error message and click on this icon:  .

RS485: Before configuring a controller you have to connect the PC to the supplied RS485 cable.

Supply the temperature controller with the auxiliary power and connect the green connector of the USB cable to the controller terminals 90-96.

The port COM1 to COM255 USB of the installed adapter must be selected.

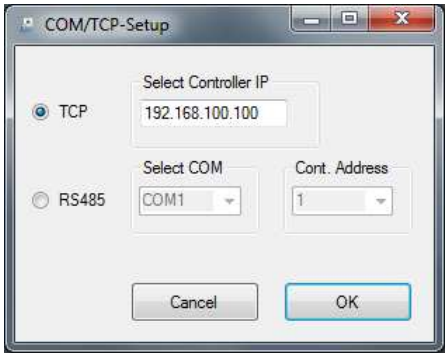
Therefore, please start the program Elovision 3, confirm the error message and click on this icon:  .



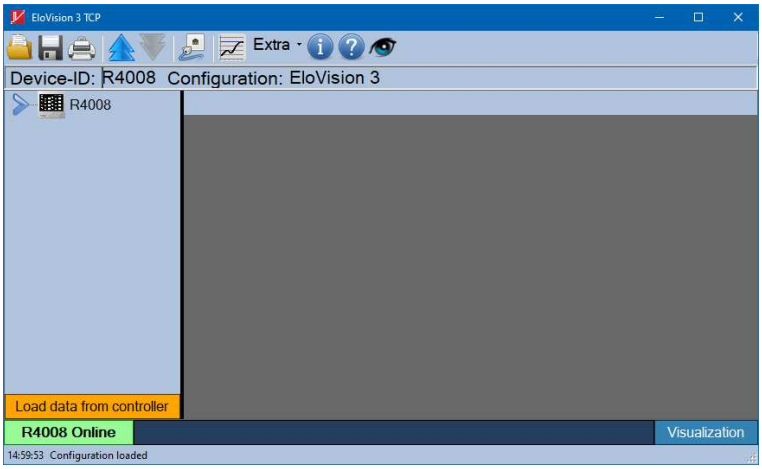
TCP: In the Configuration window, select the radio button TCP and enter the IP address of the controller.

RS485: In the Configuration window, select the radio button RS485 and the required COM port.

Finish the action with OK.



5 Read configuration



Upon successful connection with an unlocked controller, the right-hand window is displayed.

Here as Device ID: the controller type R4008 appears.

By pressing the button "Load data from controller" or by clicking on the button all the parameters can be read from the connected controller.

The transfer duration depends on the zone number and can take several seconds.

The parameter texts are also read. They are read in the selected language of the controller.

After reading all the parameters, the display will change from "Load data from controller" to "Data PC/Controller identical" and the Configuration window is filled with the parameters.

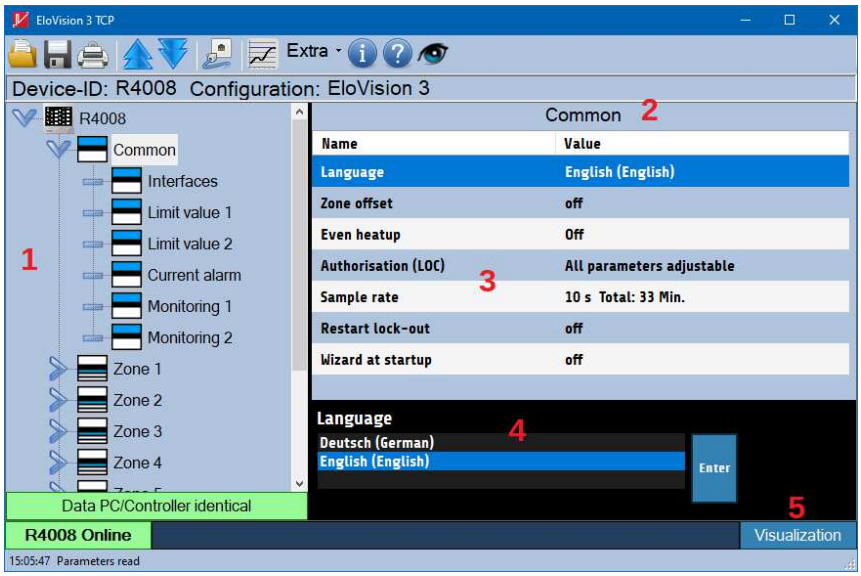
If the Controller is locked, R2408 Online no license will appear at the bottom. In this case you will get automatically into the software licensing window (Licensing) by starting the program. You get to the input window Licensing by clicking on the menu Extra / Licensing too. Not required for R4000.

During the configuration operation, the keyboard of the controller is locked. If you try to adjust a value on the controller the display shows "REMO".

In the visualization process window the controller is freely adjustable.

A connected field bus, f. E. Profibus can always write to the Controller, provided that the remote operation is not turned off by the interface parameters of the controller. This can cause error messages when a value written from the PC is not be read back, because it was overwritten by the field bus in the same moment.

6 Configuration window



By clicking on an entry in the tree view **1**, the configuration for the corresponding zone or for the controller common area can be opened. Double-clicking on the text Common or Zone x will take you to the remaining parameters.

Field **2**, shows the actual zone name or the name of the sub folder.

In field **3**, the individual parameters are selected.

They are displayed in field **4**. In this field you can adjust the parameters and save them by pressing Enter. The parameters are transferred directly to the controller.

If other parameters are dependent on the adjusted parameter, the dependent parameters will be reloaded.

In field zone 1 .. n the Copy button, next to the enter button, is available. With this button you can copy all the parameters of the current zone to other zones. The type of sensor (TC/RTD) must be identical between the zones to be copied.

Therefore see also the section Zone „Copy".

By pressing the button visualization **5** you enter the panel Process visualization.

7 Control bar:

7.1 Open Configuration

Reading a saved controller configuration from a XML-file.

7.2 Save Configuration

Save the read controller configuration as an XML file. The configuration name and the names of the zones will be saved too.

7.3 Print Configuration

Print of the loaded parameters with their adjusted values.

7.4 Download Controller Configuration
Transfer all parameters, including texts and values, from the controller to the PC.

7.5 Transfer controller configuration to the controller
Transfer all parameter values from PC to the controller. This works only with compatible controller hardware. With different versions of the software a warning will be displayed. It is the responsibility of the user to transfer the parameter values to the controller anyway. Please check the controller parameters in detail after transferring.

7.6 Configure serial interface
Adjust COM Interface and controller address. The controller and the PC-software are set to address 1 by factory defaults.

7.7 Recording
Recording of the setpoint and current process values and displaying them as graph. A red line at the icon recording shows, that recording is in process.
Please see chapter 10 **Record actual values as graph**.

7.8 Extra
See 8 Extra:.

7.9 Controller information
More detailed information about controller type and software.

7.10 Open this help file

7.11 Turn on controller visualization
Switch from the configuration window to the visualization process - windows.

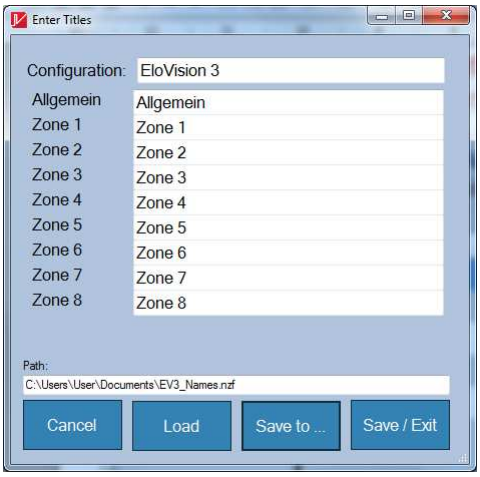
7.12 Turn on configuration window
Switch from the visualization process windows to the configuration window.

8 Extra:

With the pull-down menu Extra you will get to the settings described below.

8.1 Recording
Recording of the setpoint and current process values and displaying them as graph.
Please see chapter 10 **Record actual values as graph**.

8.2 Titles



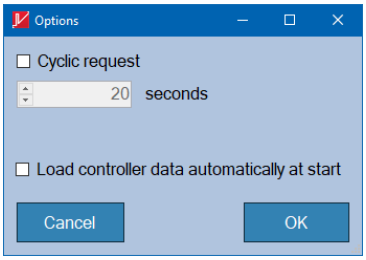
In this form you can change the names for the zones and the configuration name.

This names can be saved to new file by clicking "Save to...".

Clicking the knob "Save/Exit" will save the names to the file, which is listed in the field "path". Already saved names can be restored by clicking the button "Load".

The last names will be automatically loaded at the next start of EloVision 3.

8.3 Options



The values of the current selected zone can be reloaded cyclically.

For switching on the cyclically reading please check the check box. You can change the cycle time in the field below.

By checking the check box "Load controller automatically at start", EloVision will load the controller data every time you start EloVision.

8.4 Language

Switching of the user language to English or German. The language will only be changed after restart of the program.

8.5 Controller - Info

More detailed information about controller type and software.

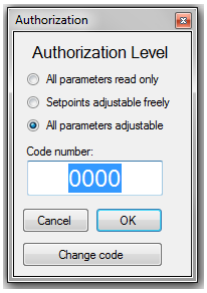
8.6 Process visualization

Switch from the configuration window to the visualization process windows.

8.7 Configuration

Switch from the visualization process window to the configuration window.

8.8 Authorization



Opens the window to the user "*Authorization Level*".

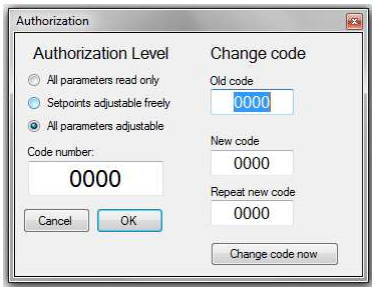
The authorization level can be changed to:

- All parameters read only: No parameters can be changed.
- Set point adjustable freely: In the visualization window, all settings are possible. Configuration parameters are locked.
- All parameters adjustable: All parameters are adjustable.

The authorization level can be changed only if the correct unlock code is entered. The unlock code for changing the rating level consists of 4 characters and is installed by

default in the "0000".

8.8.1 Change of the activation code:



Press the code button "*Change code*". The window expands. The old code and 2 times the new code must be entered. Press the "*Change code now*".

8.9 Factory setting

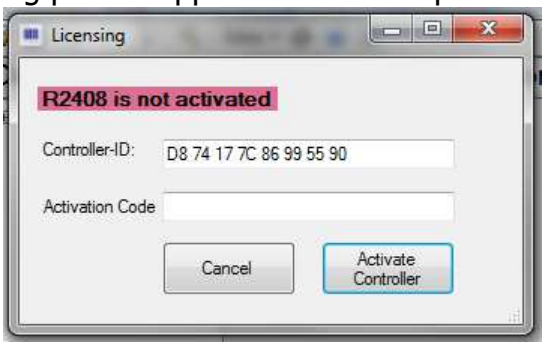
Opens the window "Factory setting".

The "Factory setting" sets all the parameters of the controller back to the Elotech - factory state.

8.10 Licensing

Open licensing window to activate the controller.

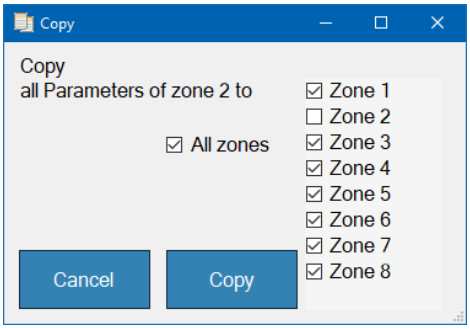
When an unlicensed Controller is connected, following picture appears: To unlock please transmit the Controller - ID (here: 60 40 31 70 77 D8 DE 76) and the device - id (in this case R2408) to Elotech. You will receive an unlock code. Please enter the unlock code in the field below and press *Activate Controller*.



! If a registration trial was made with the wrong unlock code, the Controller must be switched off before the next attempt.

9 Zone „Copy"

Press the button "Copy" in the zone configuration window to open the following window:

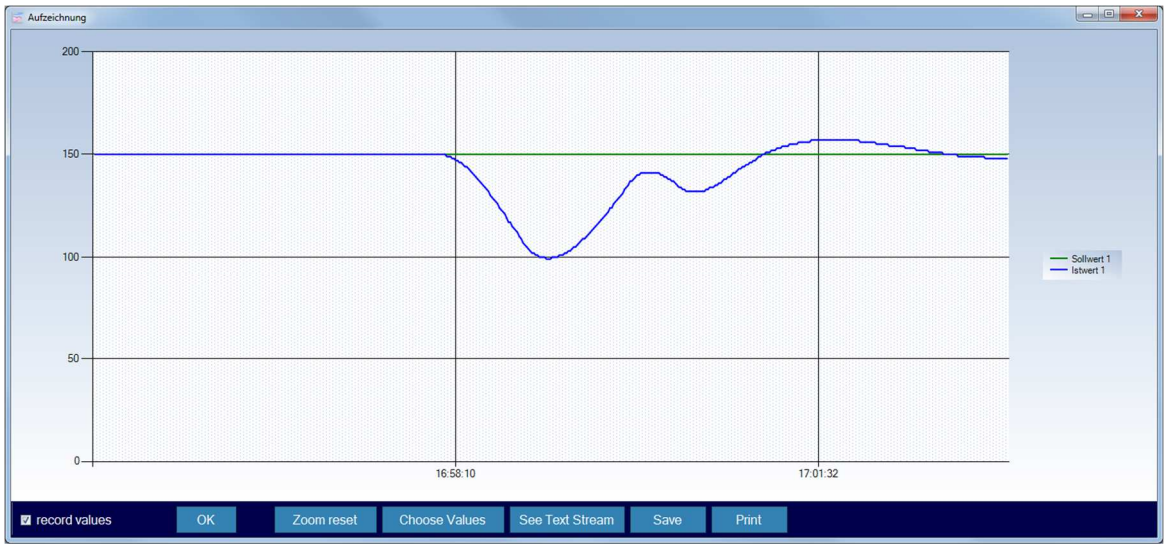


In this window, the selected zone can be copied to one or several zones of the same type*.

Only for S-Controller: Same type zones are zones that are set via the parameter *"sensor mix RTD/ TC"* on the same type of sensor.

10 Record actual values as graph

In this window, the temperature profiles of the recorded zones can be displayed as line diagram.



The operation runs through the controls at the bottom of the screen.

10.1 Check-box *record values*

The check-box *record values* turns the recording on or off. If the check mark is not set, no data for the graphic output in this image will be recorded.

10.2 Button *OK*

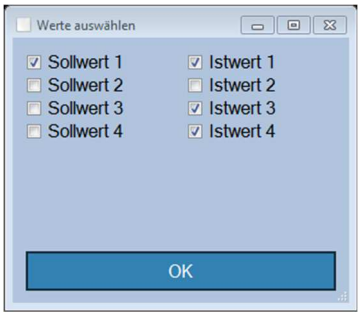
Click OK to close the window.

10.3 Button *Zoom reset*

With the help of the mouse, you can use the left button to draw a frame over a part of the graphic. After releasing the mouse button, this sub-area is zoomed. By pressing the button *zoom reset*, you get the image before zooming.

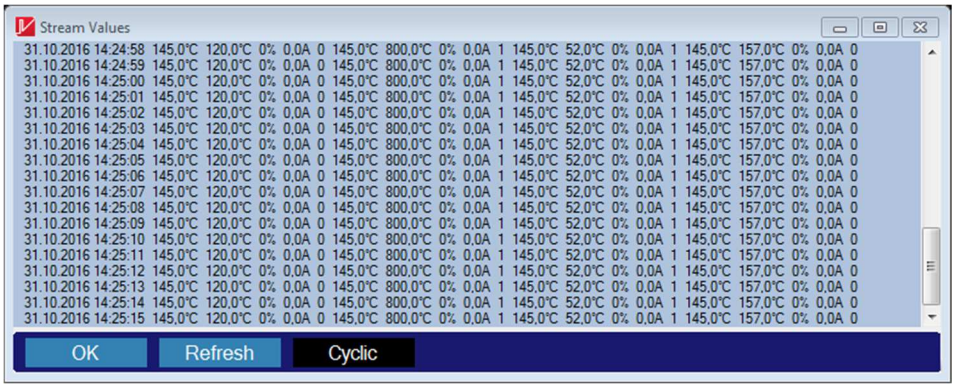
10.4 Button *Choose Values*

The *Choose Values* button takes you to the corresponding window. Here you can select the desired setpoints and actual values for the diagram via checkboxes.



10.5 Button *See Text Stream*

This button opens the *Stream Values* window. The read-out setpoint and actual values with time stamps are output in this window. Pressing the Cyclic button stops the continuous updating of the table. Repeated key press switches on the automatically update. The values obtained in the meantime are added with. No entries are lost when the *Cyclic* button is disabled.
If the update is deactivated, the characters of the table can be selected and simply copied for further processing.



The Refresh button generates a one-time update.

The OK button closes the window *Stream Values*.

10.6 Button *Save*

With this key, the recorded setpoint / actual values can be written as an XML file.

10.7 *Button Print*

The graphic can be output to a printer by pressing the button *Print*.

11 Process visualization

In the window "*process visualization*" appears a view of all zones of the controller.

Press the button **1** here: "Zone 1" switches the zone off or on.

In the field Process **2**, the current value of the zone is displayed.

In Field **3**, the set point 1 can be changed. Send to controller by pressing Enter.

The heating current and the output level will be shown at **4**.

The Button **5** *Opt* starts optimization. *Clr* acknowledges pending alarms.

The current status of the zone is shown in the list **6.**

The button **7**, opens the zone configuration window for each zone.

The knob **8** changes into the general Configuration window.

By pressing the push button "set point 2" **9**, the second set point for the controller is switched on.

Please note: For switching a zone to set point 2, the zone parameter value "setpoint 2" may not be set to "OFF".

11.1 More information about the fields:

1 The switched-off zones are indicated by the dark blue button and the gray actual value. OFF is shown at the set point display.

2 At a sensor fault the process value is colored red. With a sensor failure, the measuring range end is displayed. At a sensor short-circuit the measuring range start.

3 If the number in the field Set is not selected, this field displays the current set point. While the focus is on the Set field, the set point is not updated. Type in a new value and press Enter to transmit a new set point to the controller. Invalid set points are acknowledged with an error message.

4 The actual values of the heating current (option) and the output ratio

5 Press the button "Opt" to start the optimization of the zone. Occurred errors can be acknowledged by pressing the button "Clear". The two buttons "alarm 1" and "alarm 2" are used to display the active zone alarms. The alarms 1 and 2 are additionally shown as a short text in the list **6**.

6 The status list displays messages, warnings and alarms to the appropriate zone.

"Status OK"	Everything OK, no special function is active.
"Optimization active"	The zone is in self-tuning mode (adaptation)
"Ramp active"	Ramp function is active
"Set point 2 active"	Zone controls to set point 2
"Off"	The zone is off
"Offline"	Controller is not connected
"Optimization error"	The optimization was terminated prematurely
"Sensor error"	Sensor break or short circuit
"SSR short circuited"	Only for current sensing: A continuous current flow was detected (failure of the semiconductor switch, SSR not separated)
"System error"	Can be reset with the button "Clear".
"Limit value 1: "	Limit monitoring 1 active
"Limit value 2: "	Limit monitoring 2 active
Depending on the alarm configuration an additional information appears:	
"Temp overflow"	Temperature alarm limit exceeded
"Temp OK"	Temperature within the tolerance band
"Temp Low"	Temperature alarm limit dropped below
"Temp Out"	Temperature tolerance band exceeded
"Current High"	Current alarm limit exceeded
"Current Low"	Current alarm limit dropped below

7 The opening window is a part of the Configuration window. If the parameter values from the controller have not been read, it takes longer when you open the zone configuration window for the first time.