



WebREG manual



Table of Contents

1.	Introduction.....	4
2.	Basic information	4
2.1	Communication with RegSys device	5
3.	User rights and restrictions.....	5
3.1	Usage of WebREG	8
3.2	RegSys firmware versions	8
4.	WebREG functions	10
4.1.1	Panel.....	10
4.1.2	Terminal	11
4.1.3	Parameters.....	12
4.1.4	Firmware	16
4.1.5	Services	16
5.	List of Figures	23
6.	List of Tables	23

1. Introduction

This document contains information about the WebREG software intended for the purpose of access to RegSys device using built-in function of online WinConfig.

2. Basic information

The WebREG software contains the same functions as WinREG and is intended for the telecommunication boards REG-P, REG-PE and REG-PED^{SV} type of TK28-4, TK28-6 and TK102 and RegSys device types of REG-D, REG-DA, REG-DP(A), PAN-D.

The WebREG software is contained in the online WinConfig in above mentioned boards starting from WinConfig v13.0.2 regardless of the installed communication protocol.

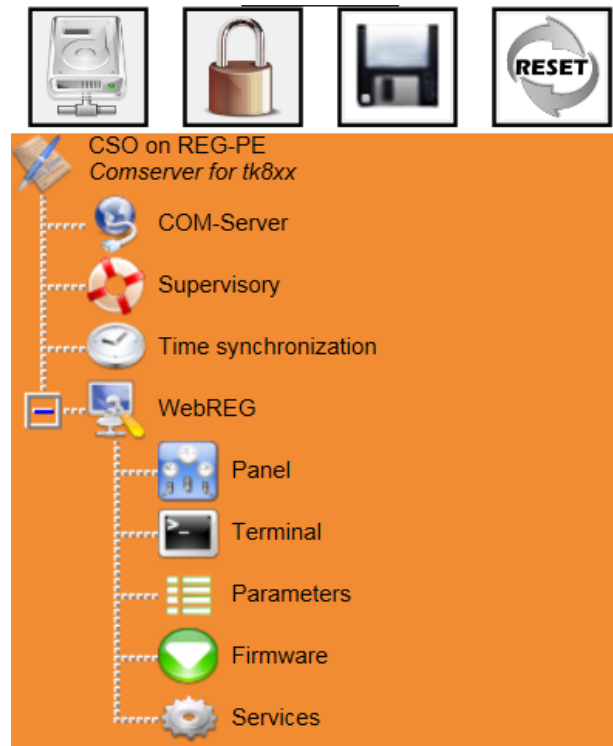


Figure 1: WebREG in online WinConfig

2.1 Communication with RegSys device

WebREG uses the COM3 serial port of telecontrol board connected to the COM1S port of RegSys device. Note that COM1S port is blocked if COM1 port in the regulator front is occupied. WebREG also cannot be used with older type of regulator where COM1S port is not present.

If a 2nd regulator is used in the rack, WebREG can manage it as well using COM1 serial port and COM1S port of the 2nd regulator. This option requires a special rack wiring.

Management of WebREG serial ports can be done in offline and online WinREG.

Serial Ports Settings

Confirm
Reset

Enabled	Usage	Port	TCP port
<input checked="" type="checkbox"/>	Internal device interface	COM2 ▼	
<input checked="" type="checkbox"/>	SCADA protocol interface	COM1 ▼	
<input checked="" type="checkbox"/>	COM-Server serial port	COM3 ▼	5004
<input checked="" type="checkbox"/>	WebREG serial port	COM3 ▼	
<input type="checkbox"/>	WebREG serial port 2	COM1 ▼	

Figure 1: Management of WebREG serial ports

Selection of WebREG serial port can be done in online WebREG, see chapter 3.1.

3. User rights and restrictions

WebREG software takes into account the role-based user rights and restrictions (RBAC) according to the current user logged in the online WinConfig – see Administrator documentation.

If a regulator firmware version with user rights defined by CLIUM definitions is used, then the resulting user rights are **logical AND** of *CLIUM* and *RBAC* definitions – see RegSys documentation. Note that COM1S port of RegSys device is completely blocked for most of unprivileged user groups.

Table 1: WebREG actions-to-role default rights, part 1.

VSA string - mandatory	WebREG actions-to-role default rights									
	Parameters read	Parameters update	Panel - watching	Panel - set key	Terminal read	Terminal update	RGL read	RGL update	LOG read	UTC read
Administrator	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
ControlOperator	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
ProtectionOperator	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
TransmissionEquipmentOperator	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
UPSOperator	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
PDVOperator	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
BMSOperator	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Extern	no	no	no	no	no	no	no	no	no	no
User	yes	no	yes	no	yes	no	yes	no	yes	yes
Manipulator	yes	no	yes	no	yes	no	yes	no	yes	yes
RemoteOperator	no	no	no	no	no	no	no	no	no	no

Table 2: WebREG actions-to-role default rights, part 2.

VSA string - mandatory	WebREG actions-to-role default rights								
	UTC update	Communication read	Communication update	Statistics read	Simulation read	Simulation start	Simulation TapPos	Simulation values	Simulation monitor
Administrator	yes	yes	yes	yes	yes	yes	yes	yes	yes
ControlOperator	yes	yes	yes	yes	yes	yes	yes	yes	yes
ProtectionOperator	yes	yes	yes	yes	yes	yes	yes	yes	yes
TransmissionEquipmentOperator	yes	yes	yes	yes	yes	yes	yes	yes	yes
UPSOperator	yes	yes	yes	yes	yes	yes	yes	yes	yes
PDVOperator	yes	yes	yes	yes	yes	yes	yes	yes	yes
BMSOperator	yes	yes	yes	yes	yes	yes	yes	yes	yes
Extern	no	no	no	no	no	no	no	no	no
User	no	yes	no	yes	yes	no	no	no	yes
Manipulator	no	yes	no	yes	yes	no	no	no	yes
RemoteOperator	no	no	no	no	no	no	no	no	no

Table 3: WebREG actions-to-role default rights, part 3.

VSA string - mandatory	WebREG actions-to-role default rights								
	I/O map read	I/O map update	Basic values read	Basic values update	Auto/man read	Auto/man update	Time update	Features read	Features update
Administrator	yes	yes	yes	yes	yes	yes	yes	yes	yes
ControlOperator	yes	yes	yes	yes	yes	yes	yes	yes	yes
ProtectionOperator	yes	yes	yes	yes	yes	yes	yes	yes	yes
TransmissionEquipmentOperator	yes	yes	yes	yes	yes	yes	yes	yes	yes
UPSOperator	yes	yes	yes	yes	yes	yes	yes	yes	yes
PDVOperator	yes	yes	yes	yes	yes	yes	yes	yes	yes
BMSOperator	yes	yes	yes	yes	yes	yes	yes	yes	yes
Extern	no	no	no	no	no	no	no	no	no
User	yes	no	yes	no	yes	no	no	yes	no
Manipulator	yes	no	yes	no	yes	no	no	yes	no
RemoteOperator	no	no	no	no	no	no	no	no	no

Table 4: WebREG actions-to-role default rights, part 4.

VSA string - mandatory	WebREG actions-to-role default rights				
	RAM read	RAM backup	RAM restore	Firmware update	UDM update
Administrator	yes	yes	yes	yes	yes
ControlOperator	yes	yes	yes	yes	yes
ProtectionOperator	yes	yes	yes	yes	yes
TransmissionEquipmentOperator	yes	yes	yes	yes	yes
UPSOperator	yes	yes	yes	yes	yes
PDVOperator	yes	yes	yes	yes	yes
BMSOperator	yes	yes	yes	yes	yes
Extern	no	no	no	no	no
User	yes	no	no	no	no
Manipulator	yes	no	no	no	no
RemoteOperator	no	no	no	no	no

3.1 Usage of WebREG

Default serial port of WebREG is COM3. If a user needs to use COM1, selection can be done by clicking the *WebREG* node in the tree in left part of screen and selecting COM1 using the *Serial port* combo box.

User can select serial port of telecontrol board where the desired regulator is connected and continue using WebREG. The baud rate of communication with RegSys device can be also done using the corresponding combo box.

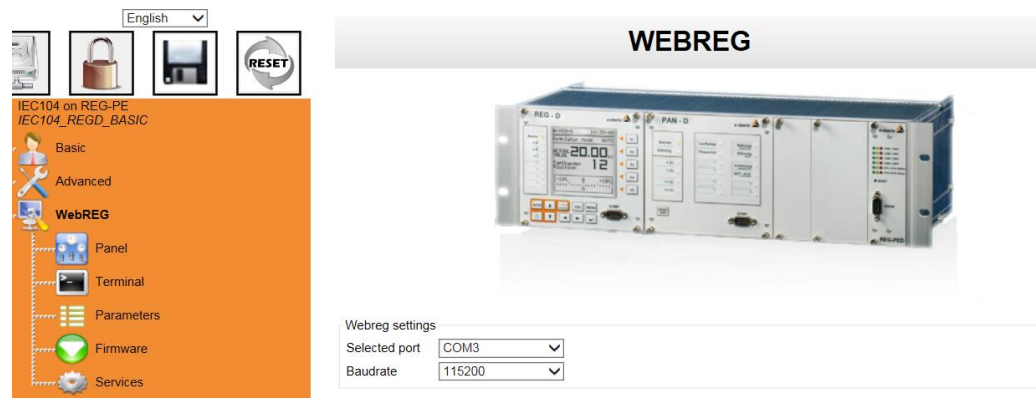


Figure 2: WebREG – selection of serial port

3.2 RegSys firmware versions

The WebReg software uses corresponding structure of parameters for different versions of RegSys firmware. The structures are defined for firmware versions 1.99 to 2.27 for devices REG-D/DA and PAN-D and 2.6.03 for REG-DP. The REG-D/DA device equipped with Coldfire processor uses versions 3.22 to 3.27.

If the regulator firmware version with CLIUM definitions is used (versions 2.28 or 3.28) then 2.27 or 3.27 version structures are used. Note that COM1S port of RegSys device is completely blocked for most of unprivileged user groups defined by CLIUM definitions.

Notes and Limitations

- **DOM storage** enabled is required for functionality of serial ports switching using Internet Explorer.

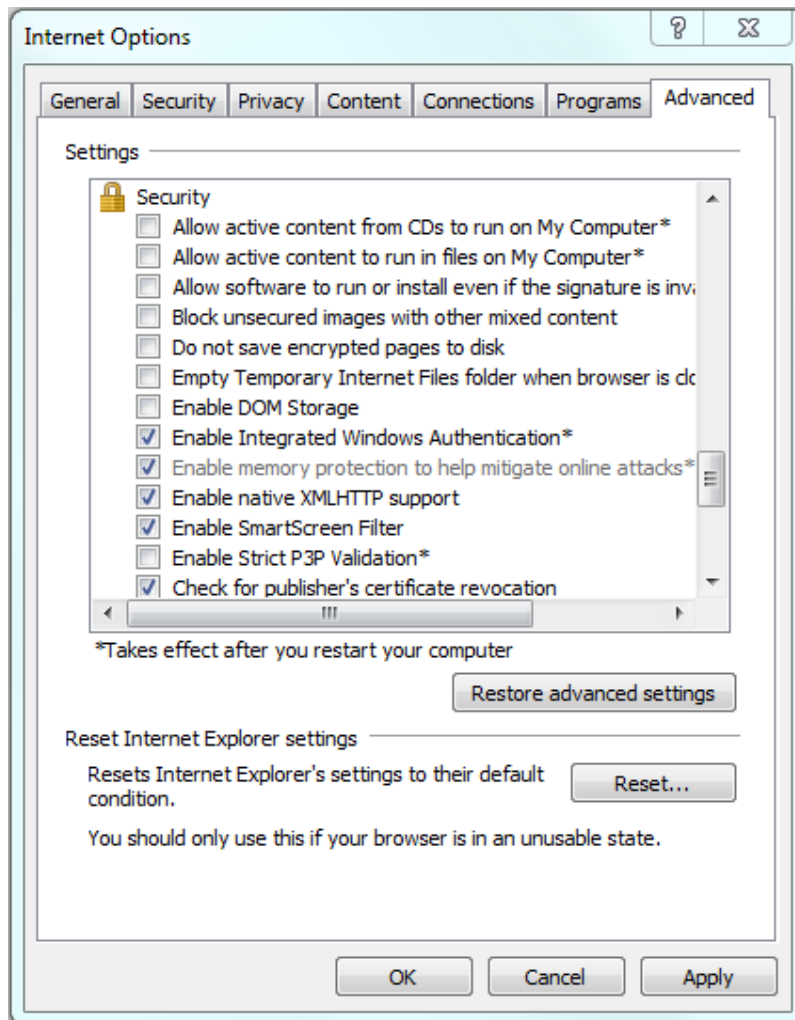


Figure 3: Setting of DOM storage

- The WEB server present on the telecontrol board has limited performance not suitable for connection to more than 1 regulator at the same time. Therefore it is strongly recommended to avoid more WebREG connections at the same time.

4. WebREG functions

Usability of WebREG functions depends on the version of RegSys firmware. Older versions of RegSys firmware will probably limit some WebREG functions.

4.1.1 Panel

The *Panel* tool shows RegSys panel with appropriate buttons and corresponding functionality. User can use this tool in the same way as the original RegSys hardware panel.

Usability of *Panel* buttons and functions depends on current user role and corresponding rights. Buttons and functions can be limited in the case of unprivileged user.

To operate the virtual panel buttons use mouse click or move focus by *Tab* key and press *Enter* key.

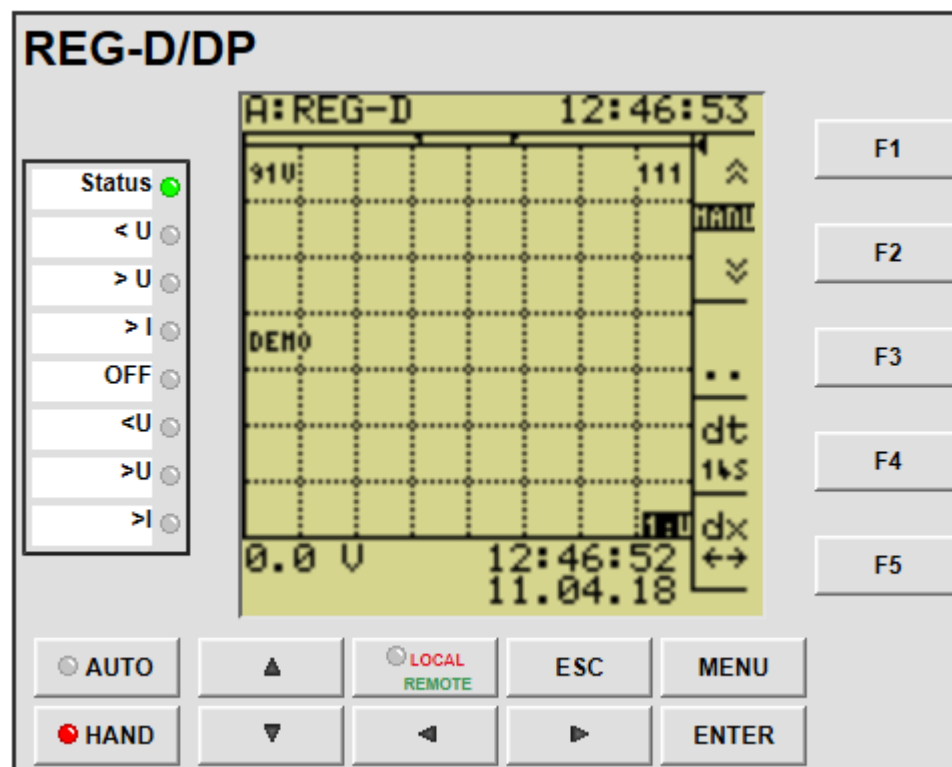


Figure 4: WebREG – Panel tool



The usage of panel buttons can be logged to syslog. This functionality requires correct setting of syslog parameters in the Supervisory page in online WinConfig.

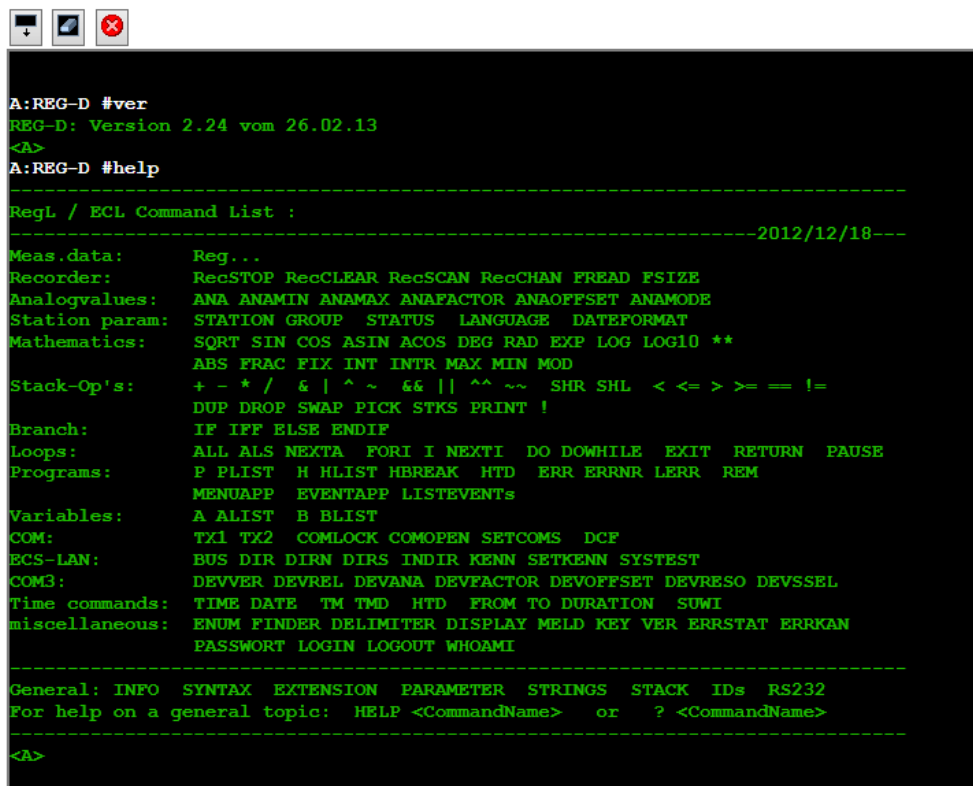
4.1.2 Terminal

The Terminal tool allows user to use command line communication with RegSys device using the programming language REG-L with the same functionality as in the case of serial connection via COM 1 port in the RegSys front panel.

To address another RegSys device connected to ELAN use its name in the command line.

Example:

B:ver



```

A:REG-D #ver
REG-D: Version 2.24 vom 26.02.13
<A>
A:REG-D #help
-----
RegL / ECL Command List :
-----2012/12/18---
Meas.data:      Reg...
Recorder:      RecSTOP RecCLEAR RecSCAN RecCHAN FREAD FSIZE
Analogvalues:  ANA ANAMIN ANAMAX ANAFACOR ANAOFFSET ANAMODE
Station param: STATION GROUP  STATUS  LANGUAGE  DATEFORMAT
Mathematics:   SQRT SIN COS ASIN ACOS DEG RAD EXP LOG LOG10 **
              ABS FRAC FIX INT INTR MAX MIN MOD
Stack-Op's:   + - * / & | ^ ~ && || ^^ ~~ SHR SHL < <= > >= == !=
              DUP DROP SWAP PICK STKS PRINT !
Branch:       IF IFF ELSE ENDIF
Loops:        ALL ALS NEXTA FORI I NEXTI DO DOWHILE EXIT RETURN PAUSE
Programs:     P PLIST H HLIST HBREAK HTD ERR ERRNR LERR REM
              MENUAPP EVENTAPP LISTEVENTs
Variables:    A ALIST B BLIST
COM:          TX1 TX2 COMLOCK COMOPEN SETCOMS DCF
ECS-LAN:     BUS DIR DIRN DIRS INDIR KENN SETKENN SYSTEST
COM3:        DEVVER DEVREL DEVANA DEVFACTOR DEVOFFSET DEVRESO DEVSEL
Time commands: TIME DATE TM TMD HTD FROM TO DURATION SUMI
miscellaneous: ENUM FINDER DELIMITER DISPLAY MELD KEY VER ERRSTAT ERRKAN
              PASSWORT LOGIN LOGOUT WHOAMI
-----
General: INFO SYNTAX EXTENSION PARAMETER STRINGS STACK IDs RS232
For help on a general topic: HELP <CommandName> or ? <CommandName>
-----
<A>

```

Figure 5: WebREG – Terminal tool

The icons above the terminal window allow user to resize, clear and cancel/erase buffers of the terminal tool.

4.1.3 Parameters

The Parameters tree branch of WebREG allows user to modify RegSys parameters and parametrize individual SW components. Actual state of RegSys device parameters has to be read from device before modifications can be done. The parameters can be sent back to device when desired modifications were done. Parameters are always read/sent all together only in one block. The WebREG tool allows also saving/reading the block of parameters in a file in the local PC.





Read from device

```
Time until High Speed Switching Backward [s] O.K
Limit Inhibit Low [%] O.K
Time until Inhibit Low [s] O.K
Limit Undercurrent [%] O.K
Limit High Speed Switching Forward [%] O.K
Time until High Speed Switching Forward [s] O.K
LDC-Parameter X [Ohms] O.K
LDC-Parameter R [Ohms] O.K
Setpoint Value 1 [V] O.K
Setpoint Value 2 [V] O.K
Setpoint Value 3 [V] O.K
Setpoint Value 4 [V] O.K
Setpoint Adjustment with < > Keys [%] O.K
Manual(H) / Automatic O.K
Hand/Auto remains unchanged after reset (Self-Conduct) O.K
Transformer Mounting Voltage O.K
Transformer Mounting Current O.K
Tap position indication O.K
Device Name O.K
Setpoint Tolerance 1 O.K
Setpoint Tolerance 2 O.K
Setpoint Tolerance 3 O.K
Setpoint Tolerance 4 O.K
Way of Current Influence O.K
Creeping Net Breakdown
```

Cancel

Figure 1: Reading of RegSys device parameters

Parameters are divided to several groups according to their purpose and destination. *Grayed* parameters are not available in the current configuration.





   

All parameters are default, read device before making changes!

System
Basic Values
Current Influence
Parallel Operation
Tap Changer
Configuration
Functions
Limits
I/O Functions
Analogue I/O
Recorder
REG-L
Three Winding
Logmask
SCADA
I/O Mapping (COM 3)
Time
Expert Parameters

Figure 2: RegSys device parameters

The following icons is generally used in RegSys parameters and also in other functions:

-  Reading data from REGSys device
-  Writing data to RegSys device
-  Opening data file
-  Saving data file

4.1.3.1 Examples of RegSys device parameter groups

Station ID	A:
Device Name	REG-D
Configuration ELAN right	2W+/62K5
Configuration ELAN left	2W+/62K5
Configuration COM 1	ECL/115200/P-/RTS
Configuration COM 2	ECL/115200/PE/H-
Serial Number	0901xxxx-111.71xx
Group	REG
COM 3	19200

Features

FEATURE BOOTLOAD = 1

Figure 3: Parameters – System

Bandwidth [%]	2	%
Time Factor	1	
Setpoint Value 1 [V]	101	V
Setpoint Value 2 [V]	103	V
Setpoint Value 3 [V]	100	V
Setpoint Value 4 [V]	100	V
Setpoint Tolerance 1	100	
Setpoint Tolerance 2	102	
Setpoint Tolerance 3	100	
Setpoint Tolerance 4	100	
Trend Memory [s]	0	s

Figure 4: Parameters – Basic values

Setpoint Adjustment with < > Keys [%]

Creeping Net Breakdown

Creeping Net Breakdown Lock Time [min] min

Creeping Net Breakdown Time Slice [s] s

Voltage Breakdown Number of Tap Changes

Language

Block with I

Up/Down Relay Pulse Time [s] s

Set Point Adjustment by binary Inputs

Rolling screens after [min] min

Time of Rolling screens [s] s

Figure 5: Parameters – Functions

Time	
UTC Time Zone	<input type="text" value="0"/>
UTC: Automatic Summertime Adjustment	<input type="text" value="0"/>
UTC: Hemisphere	<input type="text" value="0"/>

Figure 6: Parameters – Time

4.1.4 Firmware

The WebREG branch Firmware can be used for updating the firmware in RegSys device. The help file can be transferred to RegSys device as well. Only *.smot files can be used for updating.



Figure 7: Firmware

The following message appears if a user tries to send an unsigned file:

ERROR,Verify failed: Verification Failure

Figure 8: Error message if sending a unsigned file

4.1.5 Services

The Services tree branch allows user to change individual RegSys parameters without necessity to read/write the entire block of parameters.

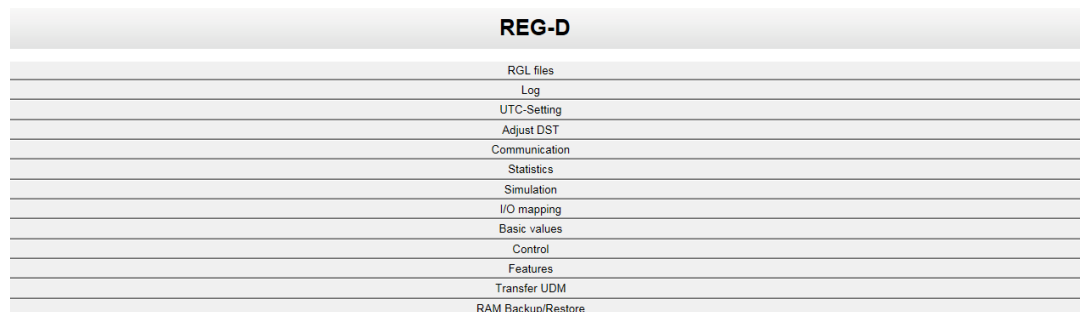


Figure 9: Services

The *RGL files* tool allows user to manage the RGL program files in RegSys device:

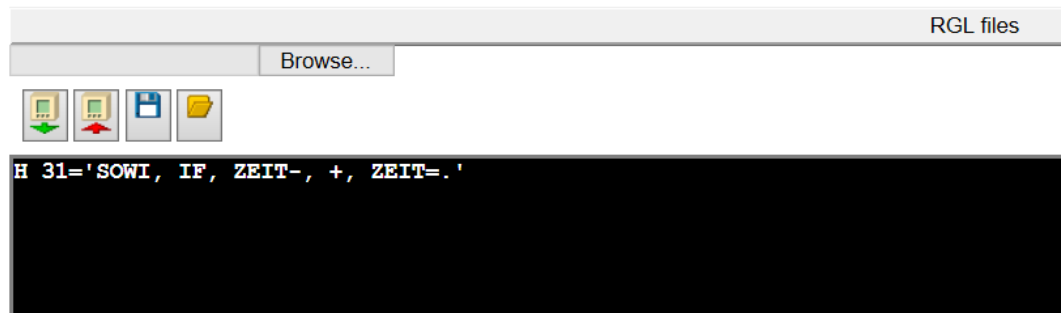


Figure 10: Services – RGL files

Note: the RGL files have to be UTF-8 coded.

The *Log* files can be also read from the RegSys device and saved to file in local PC :

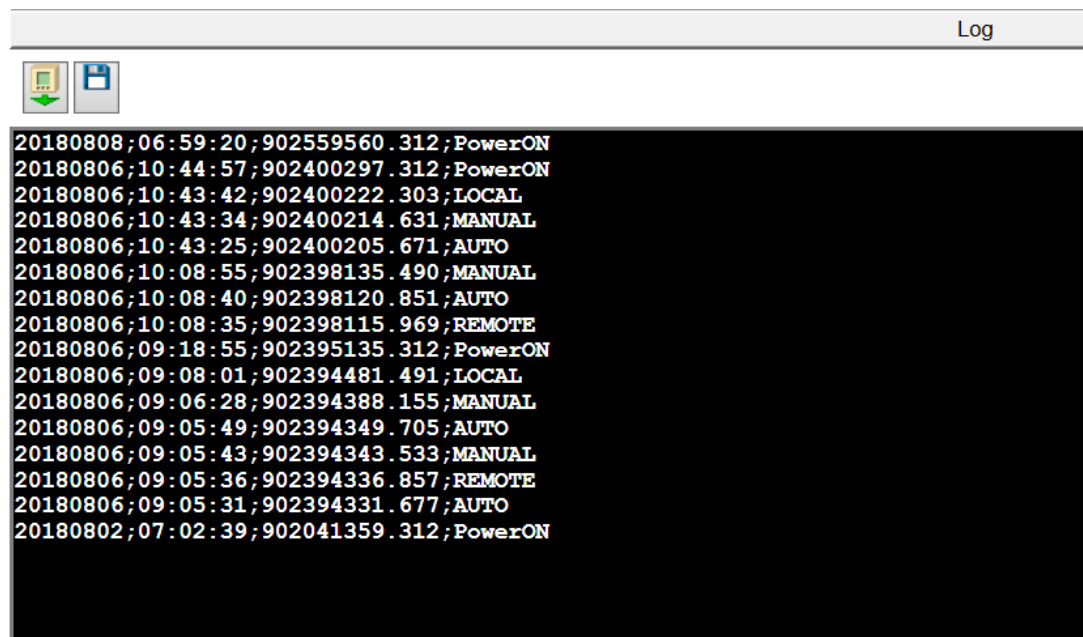
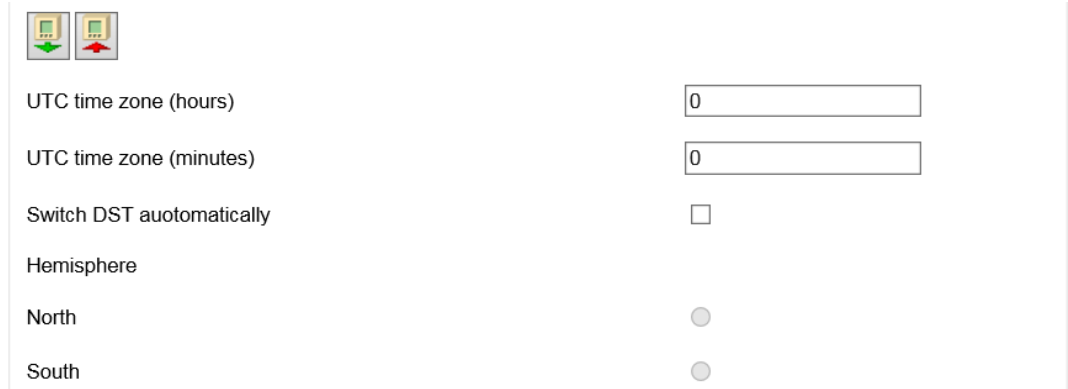


Figure 11: Services – Log

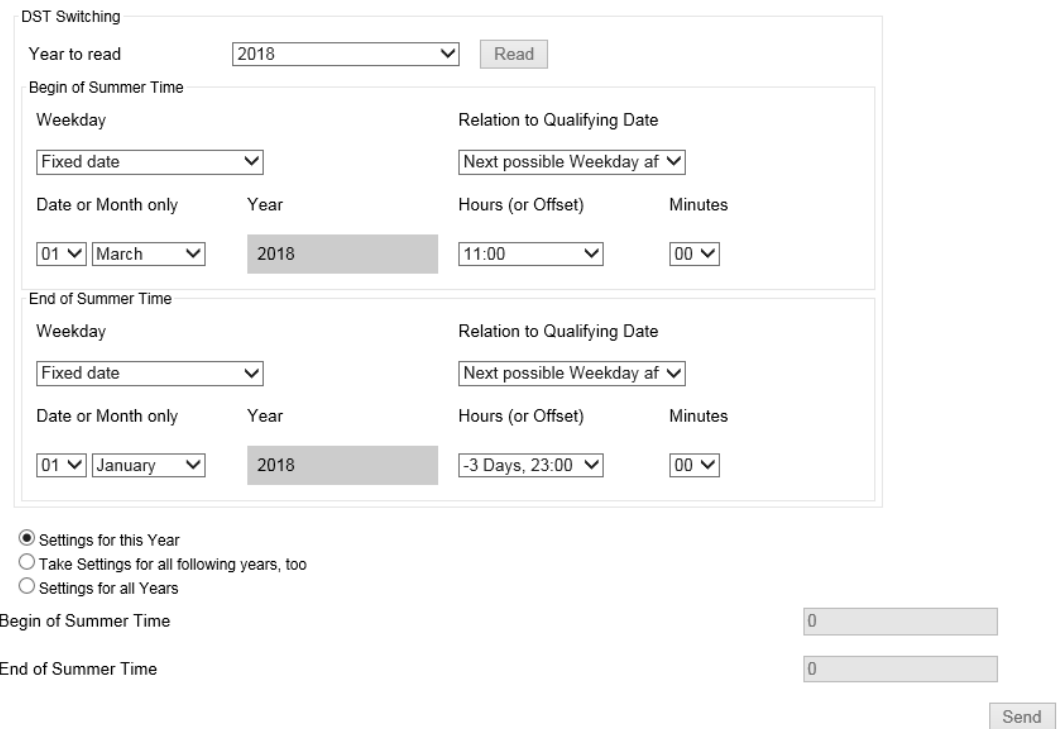
The tab *UTC-Setting* and *DST* allow user to to define rules for daylight saving time and the time zone setting.



The screenshot shows the 'UTC-Setting' configuration interface. At the top left, there are two small icons representing time zones. Below them, the following settings are visible:

- UTC time zone (hours): 0
- UTC time zone (minutes): 0
- Switch DST automatically:
- Hemisphere: North (selected with a radio button), South (unselected)

Figure 12: Services – UTC-settings

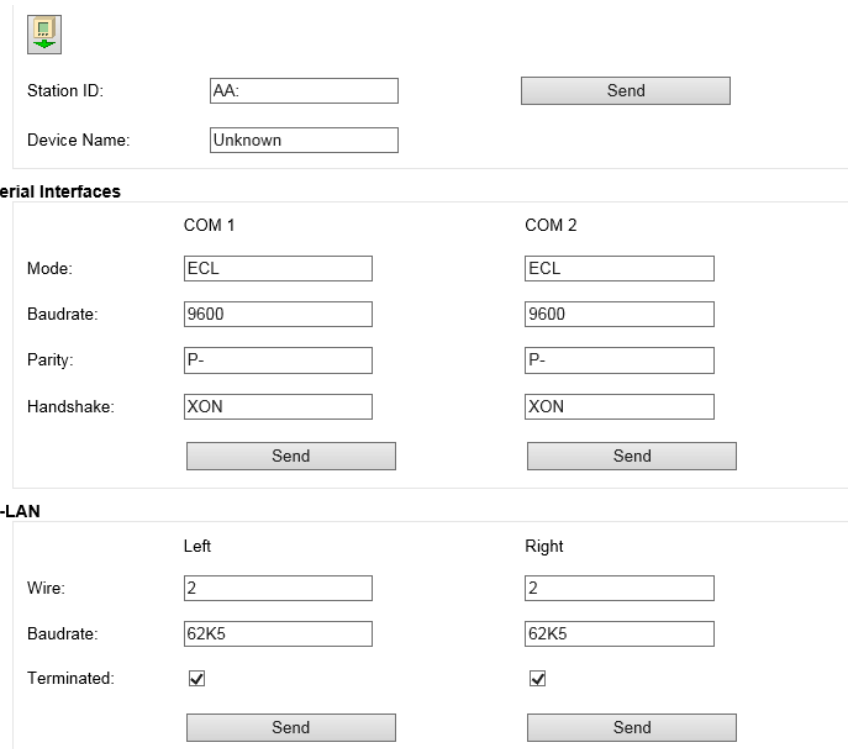


The screenshot shows the 'DST Switching' configuration interface. It includes the following sections and controls:

- DST Switching**: A section header.
- Year to read**: A dropdown menu set to '2018' and a 'Read' button.
- Begin of Summer Time**:
 - Weekday**: Fixed date (selected).
 - Relation to Qualifying Date**: Next possible Weekday af (selected).
 - Date or Month only**: 01 (selected), March (selected).
 - Year**: 2018 (highlighted).
 - Hours (or Offset)**: 11:00 (selected).
 - Minutes**: 00 (selected).
- End of Summer Time**:
 - Weekday**: Fixed date (selected).
 - Relation to Qualifying Date**: Next possible Weekday af (selected).
 - Date or Month only**: 01 (selected), January (selected).
 - Year**: 2018 (highlighted).
 - Hours (or Offset)**: -3 Days, 23:00 (selected).
 - Minutes**: 00 (selected).
- Settings for this Year**: Selected with a radio button.
- Take Settings for all following years, too**: Unselected.
- Settings for all Years**: Unselected.
- Begin of Summer Time**: 0
- End of Summer Time**: 0
- Send**: A button at the bottom right.

Figure 13: Services - Adjust DST

The Communication tab allows modifying of serial communication setting and other parameters:



Station ID:

Device Name:

Serial Interfaces

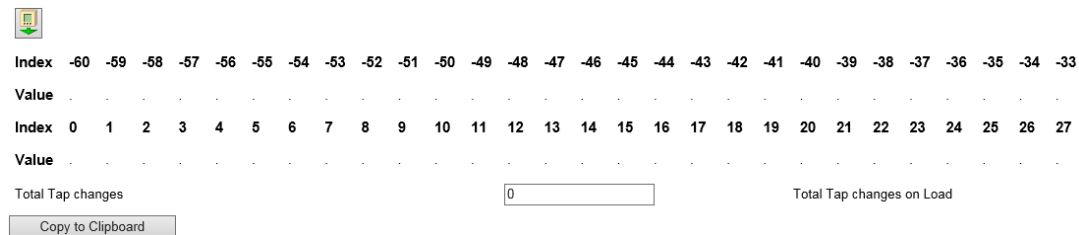
	COM 1	COM 2
Mode:	<input type="text" value="ECL"/>	<input type="text" value="ECL"/>
Baudrate:	<input type="text" value="9600"/>	<input type="text" value="9600"/>
Parity:	<input type="text" value="P-"/>	<input type="text" value="P-"/>
Handshake:	<input type="text" value="XON"/>	<input type="text" value="XON"/>
	<input type="button" value="Send"/>	<input type="button" value="Send"/>

E-LAN

	Left	Right
Wire:	<input type="text" value="2"/>	<input type="text" value="2"/>
Baudrate:	<input type="text" value="62K5"/>	<input type="text" value="62K5"/>
Terminated:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	<input type="button" value="Send"/>	<input type="button" value="Send"/>

Figure 14: Services – Communication

The statistics of RegSys device can be read out and displayed in the *Statistics* tab:



Index	-60	-59	-58	-57	-56	-55	-54	-53	-52	-51	-50	-49	-48	-47	-46	-45	-44	-43	-42	-41	-40	-39	-38	-37	-36	-35	-34	-33
Value
Index	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
Value

Total Tap changes Total Tap changes on Load

Figure 15: Services – Statistics

The Simulation tab enables remote control of the REG-D™ simulation mode:

Figure 16: Services – Simulation

In the tab I/O Mapping assignment of the BIN-D and ANA-D expansion modules to the inputs and relays of the REG-D™ can be made/changed:

Figure 17: Services – I/O mapping

The values of setpoints can be entered in the *Basic values* tab:

Figure 18: Services – Basic values

Switching auto/man and setting of device time can be done in Control tab:



Auto/man

Auto

Set time
Time: 31.05.2018 12:33:27

Set time

REG-D(A)

PAN-D

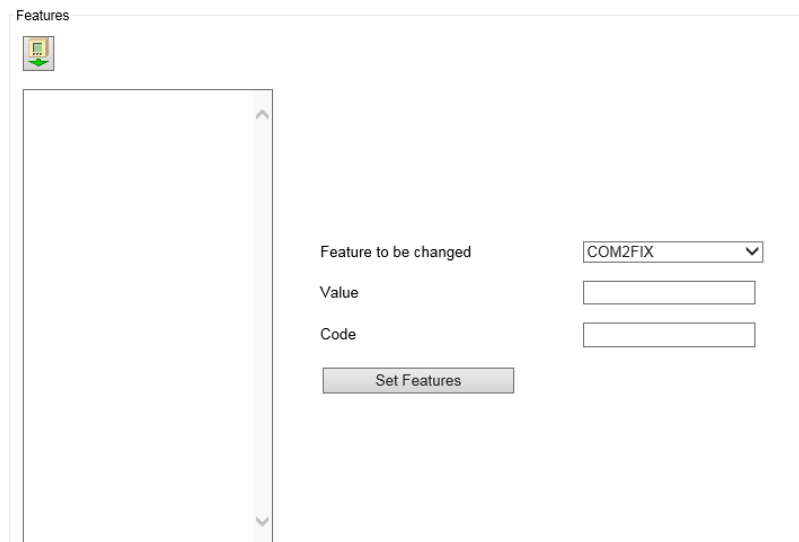
REG-DP(A)

PQI-D

EOR-D

Figure 19: Services – Control

Reading and setting of *Feature* can be done in Features tab:



Features

Feature to be changed

Value

Code

Figure 20: Services – Features

The SUDM (User Defined Menu) files can be also transferred to RegSys device using the same tool. The SUDM files can be applied in the case of RegSys firmware version 2.27 or newer. Space character is forbidden in the SUDM file name.

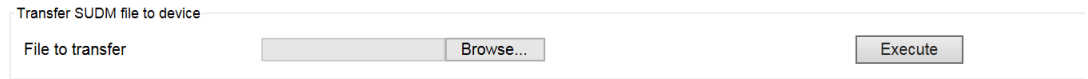


Figure 21: Services – RAM Backup/Restore

The RAM Backup/Restore functions allow user to Backup/Restore parameters in the flash memory of the RegSys device. WebREG automatically ensures switching on and off the bootloader as RAM operations take action in the bootloader mode.

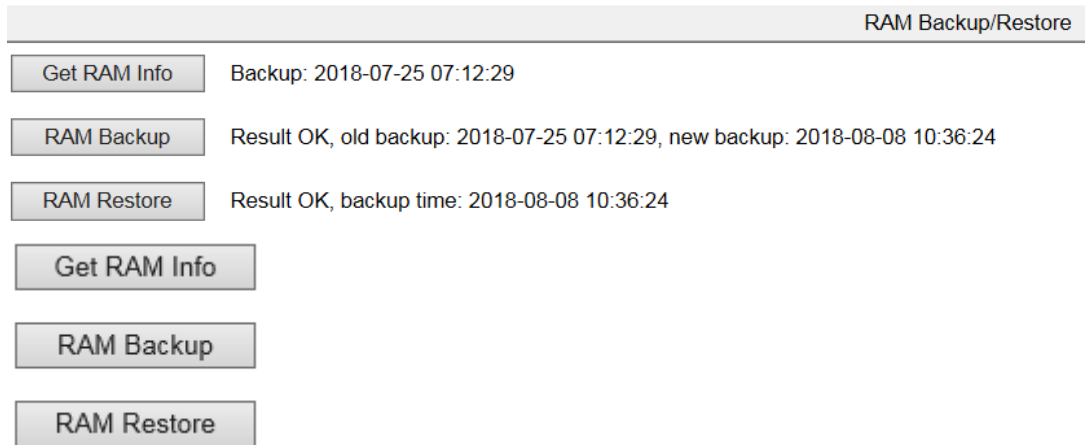


Figure 22: Services – RAM Backup/Restore

5. List of Figures

Figure 1:	WebREG in online WinConfig	4
Figure 1:	Management of WebREG serial ports	5
Figure 2:	WebREG – selection of serial port	8
Figure 3:	Setting of DOM storage	9
Figure 4:	WebREG – Panel tool	10
Figure 5:	WebREG – Terminal tool.....	11
Figure 1:	Reading of RegSys device parameters	12
Figure 2:	RegSys device parameters	13
Figure 3:	Parameters – System	14
Figure 4:	Parameters – Basic values	14
Figure 5:	Parameters – Functions	15
Figure 6:	Parameters – Time	15
Figure 7:	Firmware.....	16
Figure 8:	Error message if sending a unsigned file	16
Figure 9:	Services	16
Figure 10:	Services – RGL files.....	17
Figure 11:	Services – Log.....	17
Figure 12:	Services – UTC-settings	18
Figure 13:	Services - Adjust DST.....	18
Figure 14:	Services – Communication.....	19
Figure 15:	Services – Statistics	19
Figure 16:	Services – Simulation	20
Figure 17:	Services – I/O mapping	20
Figure 18:	Services – Basic values	20
Figure 19:	Services – Control	21
Figure 20:	Services – Features	21
Figure 21:	Services – RAM Backup/Restore.....	22
Figure 22:	Services – RAM Backup/Restore.....	22

6. List of Tables

Table 1:	WebREG actions-to-role default rights, part 1.	6
Table 2:	WebREG actions-to-role default rights, part 2.	6
Table 3:	WebREG actions-to-role default rights, part 3.	7
Table 4:	WebREG actions-to-role default rights, part 4.	7

We take care of it.

Notes

We take care of it.

A. Eberle GmbH & Co. KG

Frankenstraße 160
D-90461 Nuremberg
Germany

Tel.: +49 (0) 911 / 62 81 08-0
Fax: +49 (0) 911 / 62 81 08 96
E-Mail: info@a-eberle.de

<http://www.a-eberle.de>

Creation Date: 2018-02-15 Release Date: 2019-04-08

Copyright 2019 by A. Eberle GmbH & Co. KG
Subject to change without prior notice.