ZAset

Software for programming ZIEHL-ABEGG devices with MODBUS interface

NETconVis@ZAset Client for visualisation

Manual



Keep for reference!



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1 General notes

1.1 Structure of the operating instructions

Before installation and start-up, read this documentation carefully to ensure correct use! We emphasize that this manual applies to the individual software, and is in no way valid for the devices or the complete system!

Use this manual to work safely with the described software. It contains safety instructions that must be complied with as well as information that is required for failure-free operation of the software.

1.2 Target group

This document addresses persons entrusted with installation and operation of software and who have the corresponding qualifications and skills for their job.

1.3 Exclusion of liability

Concurrence between the contents of these document and the described software has been examined. It is still possible that non-compliances exist. No guarantee is assumed for complete conformity.-To allow for future developments given are subject to alteration. We do not accept any liability for possible errors or omissions in the information contained in data, illustrations or drawings provided. ZIEHL-ABEGG SE is not liable for damage due to misuse, incorrect or improper use.

1.4 Copyright

This document contains copyright-protected information that may only be used in connection with ZIEHL-ABEGG devices. The use and acceptance of this documentation will be considered as acknowledgement thereof by the user.

Violations will be liable to compensation for damages. All rights reserved, including those that arise through patent issue or registration on a utility model.

2 Safety instructions

This chapter contains instructions to prevent personal injury and property damage. These instructions do not lay claim to completeness. In case of questions and problems, please consult our company technicians.

2.1 Intended use

Proper use for the intended purpose is only satisfied when the software is used according to this documentation and compatible devices are used. It must be checked by the user. Any other use above and beyond this is considered not for the intended purpose unless agreed otherwise by contract.

Damages resulting from such unauthorised uses will not be the liability of the manufacturer. The user will assume sole liability.

Use for the intended purpose includes reading this documentation and reading the documentation of devices with which this software is used. Instructions contained therein, especially safety instructions, must be observed. Not the manufacturer, rather the operator of the system is liable for any personal harm or material damage arising from non-intended use.

2.2 Product safety

The software conforms to the state of the art at the time of delivery and is fundamentally considered to be reliable.

However, their incorrect configuration or improper use can lead to a defect in the device and cause further damage!

This also applies for an incorrect connection or connection of devices unsuitable for the software.



2.3 Requirements placed on the personnel / due diligence

Persons entrusted with the software use must have the corresponding qualifcations and skills for this job.

In addition, they must be knowledgeable about the safety regulations, EU directives, rules for the prevention of accidents and the corresponding national as well as regional and in-house regulations.

3 **Product overview**

3.1 Operational area

Software for programming and remote maintenance of ZIEHL-ABEGG devices with MODBUS interface

This software is designed solely for ZIEHL-ABEGG SE devices, which are, for example, the following series: ECblue, Fcontrol Basic, Icontrol Basic.

Exclusion of liability

ZIEHL-ABEGG SE is not liable for damage which may result from use on other platforms!

	Minimum system requirements
Processor	Dual-Core 1.6 GHZ clock frequency
	Microsoft® Windows® XP with Service Pack 3 (32 Bit) or Service Pack 2 (64 Bit)
	Windows Server® 2003 R2 (32 Bit and 64 Bit)
Operating system	Windows 7 (32 Bit and 64 Bit) or Windows 8 (32 Bit and 64 Bit)
	Windows Server 2008 or 2008 R2 (32 Bit and 64 Bit)
RAM	4 GB RAM
Hard disk	100 MB free hard disk
Monitor	Resolution 1024 x 768
.NET Framework	Microsoft .NET Framework 4-Webinstaller package
For NETconVis client for vis	ualisation
Internet Explorer 10 or high	er
Microsoft SQL Server Expre 2014)	ess LocalDB, Microsoft SQL Server Express or Microsoft SQL Server (at least version

3.2 System requirements

4 Download of the ZAset software

The ZAset is available as a free download from our web site. http://controls.ziehl-abegg.com/ZAset/setup/setup.exe



Start setup.exe with a double click.

Select the setup language and follow further instructions.





Select the desired target folder.

Select start menu folder.

Select additional icons.







5 Establish connection.

5.1 Add server.

By clicking the right mouse button on the server icon you go to the context menu, other servers can be added or deleted.



A server can also be added directly by this server icon with the + sign in the menu bar.

The server icon is blue as long as the server is not configured.



With Connect server you open the connection dialog to select an interface.

The server can be disconnected again by Disconnect server.



The two most important connection types are explained below:

- Connection via a Serial Port
- Connection via TCP/IP



5.2 Connection via a Serial Port

Select the appropriate setting for the connection via a serial interface. The currently available interfaces are displayed in the dropdown menu. An interface converter (USB-485 converter) must be connected to show the display for the USB connection.

COM Port	COM Port			
USB Serial Port (CC Kommunikationsans	M3) schluss (CC	DM1)		
Baudrate		Parity	Stop Bits	
19200	•	Even +	One 👻	
Timeout (ms)	Poll in	nterval (ms)		
1000		500	Ok	
	COM Port USB Serial Port (CC Kommunikationsans Baudrate 15200 Timeout (ms) 1000	COM Port USB Serial Port (COM3) Kommunikationsanschluss (CO Baudrate 19200 Timeout (ms) Poll in 1000 Poll in	COM Port USB Serial Port (COM3) Kommunikationsanschluss (COM1) Baudrate 19200 Even Timeout (ms) 1000 500	

The following configuration options are offered for a Serial Port connection.

COM Port	Available interface: e.g. "COM1", "USB"	
Transmission rate	Standard in ZIEHL-ABEGG devices: "19200 "	
Parity	Standard in ZIEHL-ABEGG devices: "Even "	
StopBits	Standard in ZIEHL-ABEGG devices: "One "	
Timeout	Recommended setting: "1000 ms".	
	The smallest possible interval is used with the "Max" option.	
Poll Interval	The interval should be changed to > 100 ms if resource problems or communication problems occur.	

Example for the use of the USB interface



The USB-485 converter is available as an accessory. Type: USB-485-Mini/OP Part.-No. 380065 Included in the scope of delivery: USB cable and CD with USB driver

Alternative: Converter with RJ45 connector and already bridged pin's 7+8 and 3 m cable length for the direct connection of the connection box Type: USB485-CUST Part.-No. 38009





5.3 Connection via TCP/IP

Select the appropriate interface setting for a TCP/IP connection.

Interface	TCP/IP		
Serial Port	IP	Port	
MODBUS TCP/IP	127.0.0.1	502	
MODBUS RTU over TCP/IP			
	Timeout (ms)	² oll interval (ms)	

The following configuration options are offered for a TCP/IP connection.

IP	IP address of the target device (e.g. Gateway)
Port	Port on target device
Timeout	Recommended setting: "1000 ms".
	The smallest possible interval is used with the "Max" option.
Poll Interval	The interval should be changed to > 100 ms if resource problems or
	communication problems occur.

5.4 Checking the connection

A connection is successful when the server icon changes colour to green.

The icon changes to red if a connection is unsuccessful.







By clicking the right mouse button on the server icon, information about the current server status is displayed under Show server message list.

This list shows the last 100 messages.

all one netter one for	נכואות	
13.12.2013 11:32:28: Ve	erbunden COM3	
13.12.2013 11:34:33: DI 13.12.2013 11:34:57: Va	sconnected arbunden COM3	
13.12.2013 11:35:11: Fe	ahler: Timeout ID: 247	
13.12.2013 11:35:12: Fe	shler: Timeout ID: 247	
13.12.2013 11:35:13: Fe	hler: Timeout ID: 247	
vice		

Holding	Stops the message update in the checkbox
Clear list	Deletes all messages
Save list	Saves the messages in a txt file
ОК	Closes the window



5.5 Client add

Activate this function in the server context menu by clicking with the right mouse button to add a new client.



The pool with the available clients is opened.

\$	-	\$	-	Selected client
Data explorer	Dcontrol	Easy ModBus		
9	9			
ECblue Basic	ECblue Basic tabular	Fcontrol / Icontrol	E	Select address
				Start address
Guntin		Name -		247
FUbasic	FUbasic tabular	PMcontrol		Count
-	>			

Select the correct icon for the available device with the left mouse button. This is then displayed on the right as the selected client.

\$		\$	^	Ausgewählter Client
Datei Explorer	Dcontrol	Easy ModBus		- ()
0 -	9)			ECblue Basic
ECblue Basic	ECblue Basic tabellarisch	Fcontrol / Icontrol	=	Adresse wählen
				Start Adresse
FUbasic	FUbasic tabellarisch	PMcontrol		Anzahl 1
-	2			

The correct start address must be entered to make a successful connection. This is set to the highest available address $\boxed{247}$ for the clients at the factory.

The setting of the new address in the client IO Setup is only saved after a reset by a line voltage interruption.

If there are several devices in the bus connection and these have already been addressed, all clients can be added automatically.



Example:

- 10 devices are addressed, addresses 1 10
- Enter 1 under Start address
- Enter 10 under count

Then the 10 clients with the addresses 1 - 10 are opened automatically.



Attention! The images of the 10 clients are initially exactly overlapped. With the settings under Window, they can be arranged next to each other for example.



With the NETconVis client, the visualisation software can be activated for clean room installations. A licence key is required for this function extension (see chapter Visualisation with NETconVis).

Different devices on one server

If there are different devices on one server or different clients are offered for certain devices, these can be assigned accordingly.

Example: 6 devices are addressed, addresses 1 - 6 Address 1 - 4: ECblue

Address 5 - 6: Fcontrol Basic

Address 1 - 4

\$	-	\$	Selected client
Data explorer	Dcontrol	Easy ModBus	
9	9	=	ECblue
ECblue	ECblue tab	FUbasic	- 784 31
-			Select adress Start adress
			1
FUbasic tab			Count
			4

Address 5 - 6



Renaming a client



To rename or delete a client, select it with a left click and open the context menu with a right click.



5.6 Folder function in TreeView

Further folders can be created under a server folder. Additional clients can then be added in this folder.





5.7 Automatic addressing

All the clients connected to a server can be initialised by carrying out automatic addressing. Provided that the clients support this function and the separate ID line has been wired accordingly.



Attention!

Automatic addressing overwrites any previous addressing! The documentation of the connected devices must be observed!

On the first client that is connected directly to the terminal or the PC, "GND" and "ID1" or "ID2" must be bridged. This is recognised as a result and occupied by address **1**.

For the following clients the connection "ID1" or "ID2" of a client respectively is connected with connection "ID1" or "ID2" of the next client.

The automatic addressing of other clients is initiated by the previous client via this connection.

Example for automatic addressing via USB converter



On the USB-485 converter connection to the terminals: A (D+), B (D-) and GND. Connection of the clients via the terminals: A (D+), B (D-), GND and ID1 / ID2







To start automatic addressing, select this function in the server context menu.

Automatic addressing sequence

Auto addressing	1 Auto addressing	Auto addressing
Status	Status	Status
stand by	Auto addressing is running	10 participants found
Start	Start	Start

Add new clients.



Enter start address and number.





Result

Note the second
e 10 Italiana cy

6 Programming clients

6.1 Safety instructions



Attention!

- Remarksconcerningsafety,installation,connection, programming, etc. must be observed (Assembly instructions or Operating Instructions of the client).
- This software can be used to operate electrical devices remotely which you may not be able to see. Considerable damage could be caused if the necessary knowledge of the connected components is not available and appropriate safety precautions are not taken!
- Make absolutely certain that no one is standing in the danger area and that no unauthorised persons operate the software!

6.2 Procedure

Status and menu groups are displayed for each client. Example: ECblue ID 1 The desired menu group (e.g. Start) can be opened with a left click.



- 1 Command input \triangleq PIN
- 2 Set PIN-Accesslevel





The possible settings are offered in the dropdown menu of the selected function. Example for programming the D1 function



Press the Enter key to save the setting.

6.3 Archiving and copying settings

The settings made for a client can be saved for backup and for transferring to other clients. To do this, open [Start] and select the [Save Parameterset] function and then save the settings as a "csv" file under the desired name.



The saved settings can be reloaded into the client or transferred (copied) to another client. To do this, select the desired client and under Start select the Download Parameterset function.



Attention!

Only change values in the CSV files under Open parameterset] if you know exactly how to use the function!





7 Types of clients

7.1 UniNET, UNIcon MODBUS Master, Fcontrol / Icontrol

The clients UniNET, UNIcon MODBUS Master, Fcontrol / Icontrol are based on the same client and are operated identically.

When selecting one of these clients, the initialisation process is started automatically and the menu system loaded from the ZIEHL-ABEGG device.

This process can last up to a minute, depending on the transfer rate. The shortest transfer rate is achieved using a direct USB connection.

Start the initialization



• In the event of problems during the first initialisation process, the process can be repeated by clicking with right mouse button and selecting "New initialisation".

UniNET ID 247 V:1.2014.0915.1015	0 💌
	New initialization
	-

• After initialisation, the menu and current operating state of the participant are displayed





7.2 EASY MODBUS

The EASY MODBUS client can be used universally. This client can be used to read out any number of different registers.

Name of the register

An individual designation of the register is possible via the column "Alias". Alternatively, previously stored designations can be used.

Alias not labeled

lias Functions	Input register	 Start Adress: 0 Count: 50 	.d	Ho	lding register 🝷	Start Adr	ess: 0 Count: 50	
lient information	Adress	Alias Value	*		Adress	Alias	Value	
Adress	• 0	0	1	F	0		0	
247 Change	1	0			1		0	
/ Input register	2	0			2		0	
	3	2740			3	9	0	
Setting Input register	4	2740	E		4		1	
Holding register	5	2790			5		0	
Setting Holding register	6	2790			6		2790	
Coil register	7	0			7	-	2790	
Setting Coil register	8	0			8		2790	
Sound Conregister	9	0			9		2790	
end Holding register	10	0			10		2790	
dress Value	11	128			11		2790	
47	12	1117			12		500	
egister	13	0			13		500	
Seria	14	2240			14	1	0	
or Help, elect Textbox and press F1	15	2240			15		500	
	16	0			16		0	
	17	0			17		500	
	18	0			18		500	
	19	0			19	1	0	
	20	0			20		1	
	21	0		-	21		16	
					00			

Using the menu item "Alias", it is possible to load or save set designations and formats.

Alias labeled (example with selection Fcontrol)

lias Functions		Input register + S	tart Adress: 0 Count: 34		.:: H	lolding	g register 🕤	Start Adress: 0 Count: 154	
Load alias 🔹 🕨	from file	e	Alias	Value	^		Adress	Alias	Value
Save alias	ZIEHL-/	ABEGG devices	Please select	-	•		0	Menu language	0
247	Change	1 1	Control				1	Reset instruction	0
Input register		2	Contro ECblue Premium				2	Setpoint 1.1	0
C. W. J. J.		3	Measi Icontrol				3	Setpoint 1.2	0
Setting Input re	gister	4	Measuring value Sensor2	2740			4	Control range 1	1
Holding register		5	Setpoint 1	2790			5	Setpoint 2.1	0
Setting Holding	register	6	Setpoint 2	2790	=		6	Setpoint 2.2	50
Coil register		7	Default relativ	0%			7	Control range 2	50
Setting Coil rec	nister	8	modulation relativ	0%			8	Setting internal 1	50
ootanig contro	giotor	9	Manual operation	0			9	Setting internal 2	50
Send Holding register		10	Min speed cut off	0			10	Minimum 1	50
Adress Va	lue	11	Error code	128			11	Maximum 1	50
247		12	Version of program	11,17			12	Minimum 2	500
Hegister	Sand	13	E1 (Temperature sensor)	-274,0°C			13	Maximum 2	500
·	Jenu	14	E2 Temperature sensor)	-50,0°C			14	Manual setting	0
For Help, select Textbox and pr	ess F1	15	E1 (current input)	22,40mA			15	Manual setting mode	500
		16	E2 (current input)	0,00mA			16	Setting external mode	0
		17	E1 (voltag input)	0.00V			17	Mode	500
		18	E2 (voltage input)	0.00V			18	Controller type	500%
		19	E3 (voltage input)	0,00V			19	Reverse control function 1	0
		20	D1 status	0			20	Reverse control function 2	1
		21	D2 status	0			21	Minimum speed cut off	16
		22	D2	0	-		00		



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Configuration of reads

The user can also select which register types should be retrieved from the device.



mined. Setting Input register Setting Input register Holding register Smart Advanced Setting Holding register Start Count Coil register 0 34 Setting Coil register Send Holding register Adress Value 247 Regist 1 Send Ok Cancel For H x and press F1

Only "Start" and the "Number" of the register are deter-

Setting query range "Advanced"

Setting query range "Smart"

Areas can be defined here, each identified with "Start" and "Number".

Setting) Input register	Setting Input register	x
Holding re	egister	Smart Advanced	
Setting I	Holding register ter g Coil register	Start Adress: 0. Count: 34 Start Adress: 20. Count: 30	Start: 20 Count: 30
Adress 247	Value		Add
Register 1 For Help, select Textbo	Send		Ok Cancel

The number of registers per read and write process can be defined via the button for the type of register display.

Number of registers for read and write process

ZAset - [Easy ModBus ID 247 V:1.2	014.091	2.595]	-					44	
File View Extras Window H	lelp								_ 8
Alias Functions	Inpu	t register 👻	Start Adress: 20 Count:	30	: [Holding register 👻 Start Adress: 0 Count: 153			
Client information	-	Adress	Alias	Value		Max. number of registers per read [50]		50	
Adress	•	0	Frequency (output)	0,0Hz		Max. number of registers per write [50]	۱.	2	

Send values

There are two ways of sending values to the device
 1. Double click on the register value and entry via InputBox

9	Setting internal 2	50	🖌 Value Decimal	×
10	Minimum 1	50		
11	Maximum 1	50	Adress: 247 Register: 9	Ok
12	Minimum 2	500	Volue	Cancel
13	Maximum 2	500	Value	
14	Manual setting	0	50	
15	Manual setting mode	500	1	

2. Single click on the register value and entry via the send menu

Send Holding	g register	- C.	3	Setting Internal 2	JUC
Adress	Value		10	Minimum 1	50
247	50	+	11	Maximum 1	50
Register			12	Minimum 2	500
11	Send		13	Maximum 2	500



Input Alias

1	Reset instruction		
2	Setpoint 1.1	Text	
3	Setpoint day	Setpoint day	Ok
4	Control range 1		Cancel
5	Setpoint 2.1		

User-defined inputs can be made by double clicking on the alias field.

Formatting values

By right clicking on the register value and then on Format, the user can save the formatting for every register value.

The formatting can be transferred to multiple registers by highlighting these.

7	Control range 2	50	formatting
8	Setting internal 1	50	Save record
9	Setting internal 2	50	Load record
10	Minimum 1	50	

The offset can be both positive and negative.

The display can be set to decimal, hexadecimal or binary via the numbers system. The decimal place, offset and unit formats are only available in decimal display format.

The current input can be tested with a sample value via Test.

Sample	Decimal places	Zahlensystem
1000	0	Decimal
Result	Offset	
	-2740	
Test	Unit	



7.3 ZAset Data explorer

The client ZAset File Explorer serves to transfer configuration files and software from a device to a PC or vice versa.

The explorer functions in a similar way to a standard FTP program (file transfer protocol), consisting of a PC side and a device side.

On the left PC side, there is a standard file system structure with folders in a tree view.

On the right side is the device file system, in which the folder contents are displayed. The files on the PC side can be opened using a standard program via double click.



PC file system

Device file system

Connection status

	(HP-SAN)		📕 P:	(HP-SAN)	
4	III	+	•		
Office			0.1		

The lower left area of the client shows whether there is a connection to the device.



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7.3.1 Transfer data

To transfer files from the device to the PC or vice versa, simply drag and drop these to the desired target location.

In this example from the device side to the PC side.



The display of the folder contents can be updated by right clicking on Update.

File name	File path	Progress	Transfer	Start time	F
🗼 msvcr120.dll	msvor120.dll	9%	3,60 KB/s	01.10.2014 16:50:10	9
	Successful transmissions (0)	11 Transmission errors (4	7		•

The current transfer status is shown in the progress display. The transfer can also be cancelled here.



8 NETconVis@ZAset visualisation software



Attention!

This document is aimed at people with a very good knowledge of the system and the components used, who install the visualisation software. Basic setting options are described, which are required for the visualisation configuration.

Following an incorrect procedure may cause serious malfunctioning in the system, and serious problems may occur when restarting correctly.

In order to prevent problems occurring caused by people with insufficient expertise, there is the option of largely limiting user rights. For this purpose, you must take care to observe the chapter Projects/user management!

Depending on the user rights granted, it is your responsibility to provide the visualisation user with the correspondingly adapted documentation so that he/she can safely carry out only the intended tasks.

8.1 Functional description

Software extension for the visualisation of networked fans, e.g. in clean room installations. For this purpose, the fans are integrated into a system drawing as interactive elements. NETconVis@ZAset enables easy programming of individual fans or whole fan groups, with operating states being easily recognizable even in large systems.

Example of the visualisation of a clean room installation



Important features:

- Graphic overview of up to 500 FFUs (filter fan units) spread over several field maps.
- Control and configuration of up to 500 fans directly via NETcon gateway.
- Status monitoring via cyclic reading of fans or other MODBUS nodes, e.g. B-G-028NE or UNIcon MODBUS master.
- Error alarm (visually, e-mail, error logging).
- Grouping and group control
- Timer
- Compatible with Windows 10



Example of clean room installation components





Attention!

The NETconVis@ZAset software is designed for the visualisation of installations with a separately available control system of the fan units.

Alternatively, it is possible to run a system only via a PC with installed NETconVis@ZAset software. But, in this mode of operation, please note that in the event of an error (failure of server, PC, software, connection) the complete system will shut down and controlling the fans cannot be guaranteed. Depending on the configuration of participants, conditions may arise in which automatic restarting cannot be guaranteed if the mains voltage is interrupted.

Exclusion of liability

ZIEHL-ABEGG SE is not liable for damage which may result from operation with the visualisation software!

Requirements for operation of NETconVis@ZAset:

- A licence key must be requested from ZIEHL-ABEGG SE for the use of NETconVis@ZAset.
- As a database for the MDF files (MDF = Master Database Files), a Microsoft SQL Server instance is required.
- The drawings with the interactive fans must be created in SVG (Scalable Vector Graphics) format. For this purpose, you can, for example, use the freely available "Inkscape" program and design the layout individually yourself according to the system conditions.

 \triangleright See the next chapter for a detailed description.



8.2 Set up program

8.2.1 Licence key for NETconVis@ZAset

A licence key must be requested from ZIEHL-ABEGG for the use of NETconVis@Zaset. To process a licence request, ZIEHL-ABEGG requires a system information file; then you will get back the licence key.

Proceed as follows:

▷ Right click on the server icon to open its context menu.



 \triangleright Select "NETconVis" and confirm with the "OK" button or a double-click.

\$	-	\$	Ausgewählter Client
Datei Explorer	Dcontrol	Easy ModBus	
9	9		
ECblue Basic	ECblue Basic tabellarisch	Fcontrol / Icontrol	E Adresse wählen
			Start Adresse
FUbasic(-M)	FUbasic(-M) tabellarisch	NETconVis	Anzahl 1
	\$		
Mcontrol Basic	Protokollierungs	UNIcon MODBUS	+ Ok Abbrech

> Activate the "Licence key" function in the "Start" menu.

File View Extras Window Help	
Beuer Server NETconVis	Start Database Layout New project Load project
	License key Exception handler



- \triangleright Select the "Create" function to request a new licence key.
- \triangleright Search for an already available key via Explorer and activate.

License key	X
Activate license key	
Activate an existing license key for NETconVis	s@ZAset
	Search
Request license key	
mailto_fan-controls-service@ziehl-abegg.com	Create
B505715F-077C-4467-BAE1-40	DA843B4B51D
	Cancel

If "Create" has been selected, a system information file "NETconVisZAset.dat" is produced. Just enter your company name and send the file to: fan-controls-service@ziehl-abegg.com

You will then get back the licence key from ZIEHL-ABEGG by e-mail.

> Store the licence key obtained in the file system and open via "Search".

ctivate license key	
tivate an existing license key for NETconVis@ZA	Aset
	Search
equest license key	
Ito fan-controls-service@ziehl-abegg.com	Create
B505715F-077C-4467-BAE1-4DA84	3B4B51D
	Cancel

▷ Confirm activation with "OK".

In the case of a correct key, the key number is displayed with expiry date and username.



Display in the case of invalid licence key

ense ke	1	2
8	The input is not a valid Base-64 string as it contains a character, more than two padding characters, or an il among the padding characters.	non-base 64 llegal character
		ОК



8.2.2 Create database

For MDF files (MDF = Master Database Files), NETconVis@ZAset requires a separate database, for which a Microsoft SQL Server instance is required.

NETconVis@ZAset can run with various types of databases:

- Database via a local MDF file with an MS SQL Server instance.
- Database via a local MDF file with an MS SQL Server LocalDB instance.
- Database via an MS SQL Server.

Proceed as follows:

 \triangleright Under "Database" menu, open the menu item "Select database".

Juli	Database	🙀 Layouts
	Select da	tabase
	Cleanup	

The possible types of databases are subsequently displayed

Database	
Authentication	
Local MDF file	
Connection settings	
Local MDF file	
$C:\ \ \ \ C:\ \ \ \ \ \ \ \ \ \ \ \ \ \ $	
Create database	Search
Local SQL server version	
Microsoft SQL Server	
Microsoft SQL Server LocalDB	
	OK Abbrechen

Local MDF File

- ▷ If an MS SQL Server is installed on the PC, you can continue directly to create and select the local MDF file.
- If no SQL Server is installed, install the software package "Microsoft SQL Server LocalDB" or "Microsoft SQL Server Express".
 - https://profile.microsoft.com/RegSysProfileCenter/wizard.aspx?wizid=932d09f6-e2d4-429d-bd3e-834adabc4f8f&lcid=1033&ci=51

Restrictions with MS SQL Server Express

- Only one processor or processor core is used.
- The Express Edition uses a maximum 1 GB RAM.
- A database must not exceed 10 GB (in 2008 R1 only 4 GB).

Create local MDF file

Click on the "Create database" button to open the "Save as" window. Then enter storage location and name of the MDF file, confirm with "Save" and complete the creation of the database with "OK".



Search for local MDF file

- You can select an available MDF file via the "Search" button.

Local SQL Server Version

- Set up the version installed on the PC:
- SQL Server
- SQL Server LocalDB Instanz

Authentication	
Local MDF file	
Connection settings	
Local MDF file	
C:\ZAset_Netcon_vis\meine_datenbank.mdf	
Create database	Search
Local SQL server version	
Microsoft SQL Server	
Microsoft SQL Server LocalDB	

SQL Server

- If you are working with an available SQL Server, you must create an empty database on the target server for NETconVis@ZAset.
- Connection settings



- NETconVis@ZAset supports authentication via Windows as well as via SQL Server authentication. The server is entered into the "SQL Server" input box.
- The drop-down box under "Database" displays all the databases to which you have access.

uthentication	
SQL Server	
Connection settings	
Windows authentication	
SQL Server authentication	
Usemame	
Password	
SQL Server	
Search	· · · · · · · · · · · · · · · · · · ·
Database	



Information

NETconVis@ZAset runs exclusively on one database, no further data are stored. Thus, starting the project is possible from different computers.

As a data backup, it is only necessary to secure a database file (mdf).

8.2.3 Clean up database

If necessary, you can delete entries in the database.





Proceed as follows:

▷ Under "Database" menu, open the menu item "Cleanup".

🚖 Start	Database	👔 Layouts
	Select da	tabase
	Cleanup	

The available layouts and protocol entries are subsequently displayed.

Layouts Logs	
☐ 2 mein_layout LIndex 0 15.11.2016 12:02:41 ZA\Sattmann ☐mein_layout LIndex 0 15.11.2016 11:43:12 ZA\Sattmann	
	Cleanup

In the layouts area, all available layouts with their different indices are shown to the user.

- \triangleright Put a tick by the files to be deleted.
- \triangleright Select a whole folder to delete all the entries below it.
- \triangleright Click on the "Cleanup" button and close the window with "OK".

	ogs										
Older than											
Donnerstag	g. 🗾. Deze	ember 2016	•								
	10.11.201	16 13:35:20	Server:	Getrennt						 	1
-											
	14.11.201	16 08:37:59	Fehler:	EXCEPTION	V OB :Gate	way-Zielge	rät reagiert r	hicht ID: S	Э		
	14.11.201	16 08:38:01	Fehler:	EXCEPTION	N 0B :Gate	way-Zielge	rät reagiert r	nicht ID: 1	10		
	14.11.201	16 08:38:02	Fehler:	EXCEPTION	N 0B :Gate	way-Zielge	rät reagiert r	nicht ID: 1	11		
	14.11.201	16 08:38:04	Fehler:	EXCEPTION	N 0B :Gate	way-Zielge	rät reagiert r	hicht ID: 1	14		
	14.11.201	16 08:38:06	Fehler:	EXCEPTION	V OB :Gate	way-Zielge	rät reagiert r	hicht ID: 1	15		
	14.11.201	16 08:38:07	Fehler:	EXCEPTION	N 0B :Gate	way-Zielge	rät reagiert r	nicht ID: 1	16		
	14.11.201	16 08:38:09	Fehler:	EXCEPTION	N 0B :Gate	way-Zielge	rät reagiert r	nicht ID:	13		
	14.11.201	16 08:38:10	Fehler:	EXCEPTION	V OB :Gate	way-Zielge	rät reagiert r	hicht ID:	12		
	14.11.201	16 09:59:24	14.11.2	016 09:59:5	6 Fehler:	Falsche Tr	ansaktionsr	ummer ID): 3		
	14.11.201	16 09:59:25	14.11.2	016 09:59:5	6 Fehler:	Falsche Tr	ansaktionsn	ummer ID): 4		
	14.11.201	16 09:59:26	14.11.2	016 09:59:4	12 Fehler:	Falsche Tr	ansaktionsn	ummer ID	0:6		
	14.11.201	16 09:59:27	14.11.2	016 09:59:4	12 Fehler:	Falsche Tr	ansaktionsn	ummer ID): 2		
	14.11.201	16 09:59:28	14.11.2	016 09:59:4	12 Fehler:	Falsche Tr	ansaktionsr	ummer ID): 1		
	14.11.201	16 09:59:29	14.11.2	016 09:59:4	13 Fehler:	Falsche Tr	ansaktionsr	ummer ID	0:5		
	14.11.201	16 09:59:30	14.11.2	016 09:59:4	13 Fehler:	Falsche Tr	ansaktionsr	ummer ID	0:7		
L	14.11.201	16 09:59:31	14.11.2	016 09:59:4	13 Fehler:	Falsche Tr	ansaktionsn	iummer ID	0:8		
	14.11.201 14.11.201 14.11.201	16 09:59:29 16 09:59:30 16 09:59:31	14.11.2 14.11.2 14.11.2	016 09:59:4 016 09:59:4 016 09:59:4	13 Fehler: 13 Fehler: 13 Fehler:	Falsche Ti Falsche Ti Falsche Ti	ansaktionsr ansaktionsr ansaktionsr	iummer IC iummer IC iummer IC): 5): 7): 8	 ~	

In the "Protocol entries" area, all entries are shown older than the date specified.

8.2.4 Exception-Handler

The "Exception Handler" collects all program errorswhich occur during the visualisation with NETcon-Vis@ZAset.

Proceed as follows to display error messages:

 \triangleright In the "Start" menu, select the menu item "Exception Handler".



- > Click on the list entry in the left column to display the details in the right column.
- \triangleright Click on "Save" to save the currently displayed error message.
- \triangleright Click on "Save all" to save all errors with detailed information.

:11: Login failed for user test'	Zeit: 18.10.2016 15:11:42
. 11. Logii Haleo foi user test.	Exception: Login failed for user 'test'.
	Quelle: .Net SqlClient Data Provider
	StackTrace: bei System.Data.SqlClient.SqlInternalConnectionTdsctor (DbConnectionPoolIdentity identity, SqlConnectionString connectionOptions, SqlCredential credential, Object providerInfo, String newPassword, SecureString newSecurePassword, Boolean redirectedUserInstance, SqlConnectionString userConnectionOptions, SessionData reconnectSessionData, DbConnectionPool pool, String accessToken, Boolean applyTransientFaultHandling) bei System.Data.SqlClient.SqlConnectionFactory.CreateConnection (DbConnectionOptions, DbConnectionPoolKey, poolKey, Object poolGroupProviderInfo, DbConnectionPool pool, DbConnection owningConnection, DbConnectionOptions userOptions) bei System.Data.ProviderBase.DbConnectionFactory.CreatePooledConnection (DbConnectionOptions, DbConnectionFactory.CreatePooledConnection (DbConnectionOptions, UserOptions)
	IDEConnectionPoolKey poolKey, DbConnectionOptions userOptions) bei System.Data.ProviderBase.DbConnectionPool.CreateObject(DbConnection) owningObject, DbConnectionOptions userOptions, DbConnectionInternal oldConnection) bei System.Data.ProviderBase.DbConnectionPool.UserCreateRequest(DbConnection) owningObject, DbConnectionOptions userOptions, DbConnectionInternal oldConnection) bei System.Data.ProviderBase.DbConnectionPool.TryGetConnection(DbConnection) bei System.Data.ProviderBase.DbConnectionPool.TryGetConnection(DbConnection) owningObject, Ulnt32 waitForMultipleObjectsTimeout, Boolean allowCreate, Boolean onlvOneCheckConnection.DbConnectionOptions.userOptions.DbConnectionInternal&

8.3 System layout

8.3.1 Layout creation in SVG format

The system layout in which the fans are visualised via NETconVis@ZAset must be prepared in the form of SVG drawings. For this purpose, you can use the freely available program "Inkscape", for example.





Information

For NETconVis@ZAset to be able to recognize the clients in an SVG drawing, a special identification (SVG-ID) of these objects is necessary.

The drawing program (e.g. Inkscape) automatically allocates an identification and designation to each drawing object when creating; you have to rename the identification according to the SVG-ID specification.

Please observe the sequence of MODBUS client IDs, which is automatically produced during automatic addressing according to the installed layout of fans (see chapter "Automatic addressing").





neu.svg - Inkscape Datei Bearbeiten Ansicht Ebene Objekt Pfad Text Eilter Erweiterungen Hilfe 🖹 🎬 🌠 🕹 🕹 🛋 📹 별 패 패 × 598,751 🖗 Y: 307,161 🖗 B: 20,382 🖗 & H: 20,452 🖗 x 💌 코 코 프 1.1.1 150 1, |2501, 1, 1, 1, 1, |3001, 1, 1, 1, 1, |2501, 1, 1, 1, 1, |4001, 1, 450 1500. • × Objekteigenschaften (Umschalt+Strg+O) • 5 4 4 ng: ZA1_NGW_GATEWAY1_3_ECblue-3_ECBLUE . . ner: FFU_3 125 <u>T</u>itel: Beschreibung Đ. . • • . • . Ausblenden Sperre Setzen Interaktivität . . G2 10 . .

Example of a client in the SVG drawing layout

Example of an SVG-ID



Set-up of an SVG-ID

Position	Meaning	Explanation/selection
1	Version	ZA1: ZIEHL-ABEGG, Version 1
		SERIAL: Serial interface, e.g. COM1
2	Type of interface	IP: Connection via TCP/IP
		NGW: Connection via a NETcon gateway
3	Gatewayname	User-defined gateway name (only used in the representation)
4	Client MODBUS ID	1247: MODBUS ID of the terminal
5	Clientname	User-defined client name (only used in the representation)
0		ECBLUE: Device ECblue
6	Equipment	UCONTROL: Device Ucontrol

For the representation of fan units, you can use the forms offered in "Inkscape". We recommend that you represent only the contour of the forms, as then the objects can be defined via the NETconVis@-ZAset program in terms of colour depending on status.







Create form for fan unit with "Inkscape" and place in the drawing.

8.3.2 Import layouts into database

In order to allocate a layout to a project (see following chapter), you must first import the project into the database.

Proceed as follows:

▷ In the "Layouts" menu, select the menu item "New layout".

🚖 Start	📑 Database	🚡 Layouts 📄 Project
		🚉 New layout
		View layouts

▷ Select the desired SVG Drawing via the "Search" button and confirm with "OK".

ath		Search
Filename	my factory	
File extension File creation time	10.09.2015 14:42:55	
		OK Abbrechen



Information

The file name must be unique. If a file with the same name is already available in the database, then it will be stored under the same name with a new index.

The layout with the older index will no longer be available for new projects. The layout with the original index will continue to be used for existing projects.



▷ In the "Layouts" menu, open the menu item "Display layouts" in order to display all available layouts with preview.

ID	Filename	Index	File e	File creation time	Upload	
5	1_mein_lay	0	.svg	09.11.2016 13:33:04	09.11.	
9	BD	0	.svg	14.11.2016 08:35:41	14.11.	
	1_my_layout		.svg	01.12.2016 17:51:21	01.12.	
11	2_my_layout	0	.svg	01.12.2016 17:51:37	01.12.	
12	3_my_layout	0	.svg	01.12.2016 17:51:37	01.12.	
•	j.[11			÷.	
Search						(राग्य ग्राय

8.4 Projects

8.4.1 Create new project

Proceed as follows:

 \triangleright In the "Start" menu, select the menu item "New project".



 \triangleright Under "New project name", enter the name of the new project and confirm with "OK".

All available projects are displayed in the window.



8.4.2 Load existing project

Proceed as follows:

> In the "Start" menu, select the menu item "Load project".

 \triangleright Select project and confirm with "OK".

All available projects are displayed in the window.

1 Projekt No 1 01.12.2016 18:02:28 2 my project 01.12.2016 18:06:09 3 my project 2 01.12.2016 18:07:17	user user user
Search	

The selection can be limited by entering a search text, the search being done via the project name.

8.4.3 Add layout to a project

After importing the layouts into the database, you can add these to a project.

Proceed as follows:

- > Under the "Start" menu, create a new project or load an existing one.
- ▷ In the "Project" menu, select the menu item "Add layout" or click directly on the button with the same designation.



- \triangleright Confirm the selection with "OK".
- \triangleright Limit the selection via "Search" if necessary.
- \triangleright Store layout via "Save" under the path, if necessary.

🚓 Add	layout						×
ID	Filename	Index	File e	File creation time	Upload time	Usemame	
1	1_my_layout	0	.svg	01.12.2016 17:51:21	02.12.2016 08:56:46	user	
2 3	2_my_layout 3_my_layout	0	svg svg	01.12.2016 17:51:37 01.12.2016 17:51:37	02.12.2016 08:56:53 02.12.2016 08:57:00	user user	
Search						Save OK	Cancel

All available layouts are displayed in a list

After a layout has been successfully loaded, all clients (SVG IDs of the objects) and networks found are displayed.

Serial Port MODBUS TCP/IP MODBUS RTU over TCP/IP	IP 10.1.17.24	Port 504		
MODBUS TCP/IP MODBUS RTU over TCP/IP	10.1.17.24	504		
MODBUS RTU over TCP/IP				
	Timeout (ns) 1000	Poll interval (ms) 500 V Max		
		Timeout (ms) 1000	Timeout (ms) 1000 V Max	Timeout (ms) 1000 500 V Max



Information

Before adding the layout, pay attention to the correct IP address and gateway port.

▷ Change address, name and type in the client settings, if necessary.

D GATEWAY1	SVG-ID	
🔁 ZA1_NGW_GATEWAY1_3_ECblue-3_ECBLUE	ZA1_NGW_GATEWAY1_3_ECblue-3_ECBLUE	
🔬 ZA1_NGW_GATEWAY1_4_ECblue-4_ECBLUE	Subnet	
ZA1_NGW_GATEWAY1_1_ECblue-1_ECBLUE	1	
ZA1 NGW GATEWAY1 2 ECblue-2 ECBLUE	Address	
GATEWAY4	3	
	Name	
*	ECblue-3	
	Туре	
	ECblue	
	OK	Abbre



 \triangleright In the "Network" menu, you can activate the display of the clients in the network tree.



The context menu displays the operating state of the respective client

If no server connection exists, an error protocol is created.

		P		
			Navigation	
Fehlerprotokoll (5) Ereig	nisprotokoll (0)			
Zeit kommen	Zeit los	Layout	Gerät	Fehlertext
10.11.2016 13:35:20		1_mein_layout	ECblue-3	Server Getrennt
10.11.2016 13:35:20			ECblue-4	
10.11.2016 13:35:20			ECblue-2	
10.11.2016 13:35:20			ECblue-1	Server: Getrennt
10.11.2016 13:35:16		1_mein_layout	ECblue-1	Server: Getrennt

8.4.4 Project settings

In the "Project" menu you can define under "Settings" which colour the clients are to be represented by depending on their status. This enables fast optical control of the system.

Proceed as follows:

 \triangleright In the "Project" menu, select the menu item "Settings".

🚖 Start 🛛 🔛 Database 🛛 🙀 Layouts	Project
1_my_layout	🙀 Add layout
ø	📋 Settings
	🌲 User management
8	🎯 Mail accounts
	1

▷ Click on the "Select colour" field or click directly on the currently set colour and set the desired colour.





Settings	Farbe 23
Client style	Grundfarben:
Stand by	
Select color	
Transparency	
100000000000000000000000000000000000000	Benutzerdefinierte Farben:
Stop	
🔽 Enable	Farben definieren >>
	OK Abbrechen
Select color	Select color

 \triangleright Set the desired transparency using the slider and confirm with "OK".

Example of status display with colour code assignment

>		Settings			
		Stand by	ок	Error	Mark
•	0	Select color Transparency	Select color Transparency	Select color Transparency	Select color Transparency
⊕ ⊕		Stop I Enable	Speed 0 Enable		
		Select color Transparency	Select color Transparency		
* 111	H				OK Abbrechen

After "OK", the colour setting is accepted.



Client State	Explanation
Stand By	No communication to the client.
ОК	There is no error on the client side, there is communication and enable has been granted. Also in the case of no enable existing, if you activate no separate colour for this operating state under the "Stop" setting. Also in the case of "0" speed, if you activate no separate colour for this operating state under the "0 speed" setting.
Err	Client reports an error.
Marking	Client is selected and its operating state is displayed
Stop	Optional colour must be activated by placing a tick. The client has no approval (e.g. switching off via digital input or under client settings "Bit control approval: OFF")
Speed 0	Optional colour must be activated by placing a tick. In the case of enable existing and "0" speed (no malfunction).

Status of colour code assignment



Information

Pay attention to clear colour differentiation between error messages and operating state messages.

8.4.5 User management

NETconVis@ZAset supports the management of different users with different rights. As soon as a user has been created, an administrator also has to be defined.

In the menu item "User management", you can create new users and maintain the rights.

Proceed as follows:

▷ In the "Project" menu, select the menu item "User management".

🚖 Start 🛛 📘 Database	🙀 Layouts	P	Project
1_my_layout			Add layout Settings
		*	User management
		0	Mail accounts

▷ Click on the "New user" field to add a new user to the list.

New user		
New user	User ID	
	-1	
	Usemame	
	New user	
	Password	
	Default user Administrator User rights View Navigation View log Edit event Smart edit Edit	
	I	Cancel





- \triangleright Make the following entries:
 - User name: Name of user
 - Password: Allocation of a user password
 - Standard user option: This user is always given first for selection. In the case of automatic user switching, it is always switched to this user.
 - Administrator option: This user has all rights.

 \triangleright Possible user rights:

- View: representation of layouts.
- Navigation: User can change between layouts.
- Display protocol: The error and event protocol is displayed to the user.
- Process event: User may define events and actions.
- Smart settings: User may open the Smart settings.
- Process: User may make all settings in the project.

You can carry out user switching in the "Start" menu, to do so proceed as follows:

 \triangleright In the "Start" menu, select the menu item "User switching".

* 5	Start 📘 Database	Layouts	Project
	New project		
	Load project		
8	Switch user		
6	License key		
	Exception handler		

▷ Select the desired user, enter his/her password and log in with "OK".

Password	
Show character	

8.4.6 Mail Acccounts

You can set up an e-mail account in order to be automatically notified in the case of system malfunctioning.

Proceed as follows:

▷ In the "Project" menu, select the menu item "Mail Accounts".

🚖 Start 🛛 📔 Database 🛛 👔 La	outs 📄 Project
1_my_layout	Add layout Add layout Settings User management
	Mail accounts



- Mail accounts

 Mail accounts

 SMTP server name

 Enable SSL

 Server port

 Z5

 Use default credentials

 Credentials

 Username

 Password

 Sender information

 Sender address
- ▷ Right click in the left white field to open the central management of "Mail Accounts".

Settings

- SMTP server name: Name or IP address of the host for SMTP transactions.
- Activate SSL: Use SmtpClient Secure Sockets Layer (SSL) to encrypt the connection.
- Server port: Port for SMTP transactions
- Use standard login information: For authentication on the SMTP server the current Windows login is used.
 - User name: User name for the server login.
 - Password: Password for the specified user.
- Dispatch information: Name of the sender
- Dispatch address: E-mail address of the sender



8.5 Visualisation and operation via ZAset NETconVis



8.5.1 Explanation of the screen view

- 1. Start menu: Manage projects and request licence key
- 2. Database menu: Create and manage database for ZAset NETconVis
- 3. Layouts menu: Import system layouts into database and manage
- 4. Project menu: Allocate a layout to a project, manage status colour settings, user and e-mail accounts
- 5. Network menu: Representation of networks and clients
- 6. Groups: creation of groups and allocation of clients
- 7. Event/action: Create and activate events and actions
- 8. Information on the selected client
- 9. Navigation in the layout

Navigation is also possible via the mouse wheel and the arrow keys on the keyboard.

10. Enlarge layout display: +, minimise layout display: -, normal view 100 %: 0

Zoom is also possible via the mouse wheel and key combination of Ctrl+minus sign and Ctrl+plus sign 11. Error protocol: Errors that occur are logged

- 12. Event protocol: Events and actions are logged
- 13. Right click to open context menu

Separate window: Open layout as a copy in a separate window Remove: Remove layout from project



8.5.2 Function menu: Network

In the "Network" menu, you can display network components and layouts of the project. If networks exist in several layouts, these are shown repeatedly in the corresponding layouts.

Proceed as follows:

 \triangleright Open the "Network" menu on the right.



Clients with a communication error are displayed in red.

Deactivated clients are displayed in **amber** (see client context menu).

> Open context menu for **client** with a right click to make the following settings:

- "Expand all" => tree view
- "Hide all" => tree view
- "Rename" => client
- "Deactivate" => client. Deactivated clients are no longer read cyclically.



> Open context menu for **server** with a right click to make the following settings:

- "Disconnect" => server
- "Expand all" => tree view
- "Hide all" => tree view
- "Rename" => server



8.5.3 Function menu: Groups

In the "Groups" menu, you can combine several clients in a group. Clients (members) of a group can, for example, be controlled in parallel with the same default value.

Through grouping, a clearly arranged management system can also be achieved for large systems with a lot of clients.

Proceed as follows:

 \triangleright Open the "Groups" menu on the right.

 \triangleright Select the "New group" field and enter the name of the group in the next window.

New group	Groups	Network 🔮	
Edit group	S.	•]
New group		<u></u>	
Please insert a gr	oup name	OK	
3			

> With a single click, mark the client in the layout in colour, and with a double-click accept into the group.



Dash In the case of several groups, select the desired group in the drop-down menu.



When selecting the group, the members of the group are marked in colour.



 \triangleright Open the setting via the client or Smart Control with a double-click on a member of the group.



> Select the desired setting option via the client or Smart Control.

ECblue-2 V:1.2016.0824.400		Smart control	Smart Control		- 0	53
Start Events Settings Controller Setup 10 Setup Motor Setup Depo	info	Set Intern 1 [rpm]: 700 Set Intern 2 [rpm]: 200 Set Intern 3 [rpm]: 400 Min. speed [rpm]: 100 Min. speed [rpm]: 500 Apply to group Max. speed	Enable: On Speed control: Set Speed control: 0 Layout: 1_my_layout Server: GATEWAY1 Clert: ECblue-2	intern 1 State: Speed	Ra 500 rpm Close	
Speed: 500 rpm Motor current: 0,04 A	RUN Modulation: 4 %					

▷ Delete a group member with a right-click if necessary.

New group	Groups			
Edit group	My group	p		
-	0	0		
ECblue-3	ECblue-1	ECblue-2	🙀 Delete	

> Rename or delete groups if necessary, to do so select "Process group" field.

		Network
New group	Groups	
Edit group	🙀 Delete	
é)	Rename	
ECblue-3	ECblue-1 ECblue-2	

 \triangleright With a click on the network arrows (on the right) show or hide the network menu.

Network hidden

- New group	Groups		Network 😌	P Netw
👄 Edit group	My grou	p	•	prk
ECblue-3	ECblue-1	EColue-2		🖞 Groups
				O Event/Action



Network shown

198		-97	
<i>(</i>)		á)	
Edit group	My on	NID	•
- New group	Group	15	Network
GATE	WAY2		
T-O E	Cblue-1		
GATE	WAY4		E
	Chlue-2		
	Cblue-4		
	Cblue-3		
Ġ 🔊 GATE	WAY1		
	ıt		
F	FU-12		
ON F	FU-13		
	FU-15		

Example of control of two groups with three fans each



Group 1_ FFU-1, FFU-2, FFU-3 Group 2_ FFU-4, FFU-5, FFU-6

Click on one group member and select setting option, e.g. via Smart Control.
 Put a tick by the "Accept for group" field if the default is to be made for the whole group.

Example of enable: From the whole group.

 Vorgabe Intern 1 [1/m Vorgabe Intern 2 [1/m Vorgabe Intern 3 [1/m Min. Drehzahl [1/min]: Max. Drehzahl [1/min]: 	in]: 200 in]: 280 in]: 400 100 : 500	Freigabe: Aus Drehzahlsteur Drehzahlsteur	; ermodus: Vorgabe Intern 1 erung [1/min]: 0
Für Gruppe übernehmen ▼ 1_Gruppe_3_FFUs	Layout: mein_layout_ Server: GATEWAY1 Client: FFU-2	6_FFUs	Status: Stopp Drehzahl: 0 U/min Schließen 🔰
		R	

The group member who the settings are made under is coloured blue.

ZAset



Information

In order, e.g. for a default value to have an effect on all the clients of a group, you must make the same basic settings for each client.

For example, if all the clients of a group are to follow the "Set Intern 1" setting, you must programme the "speed control mode" to "Set Intern 1" for each client in the controller set-up.

8.5.4 Function menu: Event/action

NETconVis@ZAset works with events and actions, and you can allocate several actions to each event.



Information

This description is aimed at users with a good knowledge of the MODBUS RTU protocol. MODBUS RTU communication details are not part of this document.

8.5.4.1 Create event



Information

Events are carried out (trigger actions) if a certain defined state occurs in the system (event triggered). If the state reoccurs, the event is repeated.

Proceed as follows:

- ▷ Open "Event/action" menu on the right.
- \triangleright Select "New event" field.
- \triangleright Enter the name of the event in the next window and confirm with "OK".

Event	Hide events 🔁
New event Event	ent type
	*
	<
Name	
Name Please insert a event name	OK Cancel

- \triangleright Select the event created in the drop-down menu.
- ▷ Select "Delete" event, "Rename" event or "New event" if necessary.

🛶 New event 🛛 🙀 Delete	🐢 Rename	-	Netwo
My event	 Event type 		rk .
Enable		•	Grou
			ps o
			/ Ever
			IC/HCC
			101



▷ Select desired Event type "Read MODBUS register" or "Time event" in the drop-down menu.

Event (1) / My eve	nt	Hide events 🙆 🖕
🛖 New event 🛛 🙀 De	elete 🔉 Rename	etwor
My event	Event type	*
Enable	Read MODE Time event	BUS register

- > Tick "Enable" to activate an event. Only if it is ticked, is the event monitored!
- \triangleright Remove "Enable" tick to deactivate the event.
- \triangleright Accept change of approval status with the then additionally appearing "Save" field.

Event (11) / Time Event	👴 Rename	Hide events 🕞 🎭
Time Event	 Event type 	*
Enable Time event	Time event	• Groups
09:53:25		O Event/Action

Event type: Read MODBUS register

This event reads a MODBUS register comparing it to a reference value. The event supports only the individual value query of a MODBUS ID in an existing subnet, with coil, input and holding register being supported.

My event	Event type
C Enable	Read MODBUS register
Single value Groups Subnet MODBUS address 0	Register offset 0 Register decimal 0 Register multilplier 0
Register type	Register divisor
Register address 0	Compare Compare larger
Register masking 0x0 Value	Compare equal
0	



Register-Offset	Adds a fixed value	
Register of decimal places	Formats the "Register Offset" value with the specified decimal places	
Register multiplier	Multiplies the "Register Offset" value with a fixed value	
Register divisor	Divides the "Register Offset" value by a fixed value	
Comparison	States when the result should be regarded as "true"	
	Comparison - greater: true if the actual value is greater than the adjusted setpoint	
	Comparison - same: true if the actual value is the same as the adjusted setpoint	
	Comparison - smaller: true if the actual value is smaller than the adjusted setpoint	
Individual value <-> groups	Here only individual value setting possible	
Subnet	In the case of individual value: Gateway in which the client is located	
MODBUS Address	In the case of individual value: Client address	
Register-Type	Input register	
	Holding register	
	Coil Register	
Register address	Address of register	
Register masking	The masking enables a bitwise AND operation of the raw value	
	Example: 0101 AND 0011 = 0001	
Value	Setpoint for the comparison (formatted)	

Setpoint setting for register comparison

The raw value is formatted in the following sequence:

- 1. Masking
- 2. Offset
- 3. Multiplier
- 4. Divisor
- 5. Decimal places

Event type: Time event

The time event is triggered at the time stated, the current system time being used as a reference.

My event	Event type	
🗹 Enable	Time event	•
Time event		
12:01:53	A	



8.5.4.2 Create action



Information

Actions for a certain event are performed once only when a certain state arises. If an error occurs in an action, this action is not repeated.

Proceed as follows:

 \triangleright In the event field, show entry field for actions through "Show actions".



- \triangleright Select "New action" field.
- \triangleright Enter the name of the action in the next window and confirm with "OK".

vent (1) / My event	Show events 😌 🧏
ction (0)	Hide actions 😝 🖉
• New action	type
Name	
Please insert a action name	OK Cancel



- \triangleright Select the action created in the drop-down menu.
- > Select "Delete" action, "Rename" action or "New action" if necessary.

Aktion (1) / Meine Aktion	Aktionen ausblenden 😈	werk :
Meine Aktion	Aktionstyp	Grup
🔽 Freigabe	Schreiben MODBUS Register 🔹	pen
Einzelwert Gruppen Subnet		Ereignis/
MODBUS Adresse		Aktior

▷ Select desired action type "Write MODBUS register" or "Send mail" in the drop-down menu.

Event (1) / My event	Show events 😜	S N
Action (1) / my action	Hide actions 😌	etwork
🖕 New action 🛛 🙀 Delete 🛛 👧 Re	ename	-
my action	 Action type 	Group
🔽 Enable	Write MODBUS register 🔹	N O
Single value Groups	Write MODBUS register Send mail	9 Eve
Subnet		nt/Ao
•		tion
MODBUS address		-
0		

 \triangleright Tick "Enable" to activate an action.

- \triangleright Remove "Enable" tick to deactivate the action.
- \triangleright Accept change of approval status with the then additionally appearing "Save" field.

Event (1) / My event	Show events 😧 🖕
Action (1) / my action	Hide actions 😌 👯
🛅 Save 👍 New action 🙀 Delete 🕟 Rena	me 🔬
my action Action type	Groups
Enable Write MOD	BUS register 🔻 🕤 💽
Single value Groups	Ever
Subnet	nt/Action
MODBUS address	
0	



ZAset

Action type: Write MODBUS register

Writes a value in the specified MODBUS register of a MODBUS ID or group, with the coil and holding register being supported.

my action	Action type
Enable	Write MODBUS register
Single value Groups	
Subnet	
MODBUS address	•
0	
Register type	
Register address	
0	
Register masking	
0x0	
Value	
0	

Settings

Individual value	
Subnet	Gateway in which the client is located
MODBUS Address	Client-Address
Group	
Group	Set desired group in the drop-down menu
Register-Type	Holding register
	Coil Register
Register address	Address of register
Register masking	The masking enables a bitwise AND operation of the raw value. I.e. the register to be written is first read from the device, then masked, added to the value and then written.
	Example: 0101 AND 0011 = 0001
Value	Setpoint for the comparison (formatted)





ZAset

Action type: Send mail

For automatic e-mails to able to be sent, you must first set up an e-mail account (see chapter "Mail Accounts").

Proceed as follows:

> SMTP server name: Set previously defined e-mail server in the drop-down menu.

- \triangleright Address: Right click in the white field and enter the e-mail address under "New".
- \triangleright Enter your subject and message according to individual requirements.

Event (1) / My event		Show events 😌
Action (2) / my action	🐢 Rename	Hide actions 😧 🖁
my action	 Action type 	Ę
Enable	Send mail	
SMTP server name		¢
	🔶 New)
Subject		
Message		



8.5.5 Setting via Smart Control

There are two options for the visualisation of operating states and for setting individual clients. The option via "Smart Control " is described below.

Proceed as follows:

> Move the mouse cursor over a client, a separate window will open with the following information:

- Layout designation
- Server Name
- Client Name
- Status: In process or stop
- Speed or fan level (according to device type)



▷ Click on a client, this is marked in colour and both setting options are displayed.

- 1. Client (for operation see chapter "Add client")
- 2. Smart Control



 \triangleright Double click on Smart Control

With Smart Control you can make the most important settings for a client and accept these for the whole group

Set intern 1 [rpm]: 100 Set intern 2 [rpm]: 280 Set intern 3 [rpm]: 400 Min. speed [rpm]: 200 Max. speed [rpm]: 500		 Enable: On Speed control: Se Speed control [rp 	et intern 1 om]: 0	
Apply to group	Layout: BD Server: GATEWAY2 Client: FFU-5		State: Speed:	Run 200 rpm
			(Close 🄰

The available settings are device-dependent





ZAset

- \triangleright Click on desired parameter, make the setting and confirm with "OK".
- ▷ If the settings for a whole group are to be accepted, first tick the "Accept for group" and then make the settings.

Set intern 1 [rpm]: 100		Enable: On			[On
Set intern 2 [rpm]: 280		Speed control: Se	et intern 1		Off
Set intern 3 [rpm]: 400 Min. speed [rpm]: 200 Max. speed [rpm]: 500		Speed control [rp	m]: 0		On
Apply to group	Layout: BD		State:	Run	
	Client: FFU-5		Speed:	200 rpm	
			C	lose 🐹	

8.5.6 Protocols

8.5.6.1 The error protocol

The error protocol documents all errors occurring in the networks. It documents when the error occurred and when the error no longer exists. In addition, the layout concerned, the client concerned and error text are documented.

Proceed as follows:

 \triangleright Click on an entry to highlight the client in the layout in colour.

	1	lavigation	< > V	۸	
Error Log (27) Event Log (0)				
Time come	Time go	Layout	Device		Error text
02.12.2016 11:34:33	02.12.2016 11:35:26	BD	FFU-5		Error: Timeout ID: 5
02.12.2016 11:34:31	02.12.2016 11:35:25	BD	FFU-1		Error: Wrong transaction id ID: 1
02.12.2016 11:34:30	02.12.2016 11:35:25	BD	FFU-2		Error: Timeout ID: 2

 \triangleright Double click on the entry to open the setting options for the client.

Time come	Time go	Layout		Device	Error text	
02.12.2016 11:34:45	02.12.2016 11:35:25	BD		FFU-4	Error: Timeout ID: 4	
02.12.2016 11:34:44	02.12.2016 11:35:25	BD		FFU-3	Error: Timeout ID: 3	
02.12.2016 11:34:38		BD		FFU-6	Error: Timeout ID: 6	
		1_my_layout		x		
		BD	-			
		1_my_layout	6			
			9			

 \triangleright Click on any entry to open the context menu.

Time come	Time go	Layout	Device	Error text
02.12.2016 11:34:33	02.12.2016 11:35:26	BD	FFU-5	Error: Timeout ID: 5
02.12.2016 11:34	20 10 0016 11:35:25			Error: Wrong transaction id ID: 1
02.12.2016 11:34 The Dele	ete 16 11:35:25	BD	FFU-2	Error: Timeout ID: 2
02.12.2016 11:34 🎭 Sav	e 16 11:35:25	BD	FFU-6	Error: Timeout ID: 6
02.12.2016 11:34 🚍 Hist	tory 16 11:35:25	BD	FFU-4	Error: Timeout ID: 4
02 12 2016 11:34	16 11-35-25	BD	FEU-3	Error: Timeout ID: 3





- ▷ Select desired category under "Delete":
 - All: Delete all entries in the protocol
 - Selected: Delete all marked entries in the protocol
 - All good ones: Delete all entries where an error no longer occurs

-	Delete	•	All
7	Save	•	Selected
	History		All good

 \triangleright Select desired category under "Save":

- All: Save all entries in the protocol
- Selected: Save all marked entries in the protocol

-	Delete	•	FFU-6
7	Save	•	All
	History		Selected

 \triangleright Open table with all error messages under "History" and save if necessary.

TimeStamp_come	TimeStamp_go	Message	MemberName	MemberType	MemberUserName	MemberAdd	
02.12.2016 11:34	02.12.2016 11:35	Error: Timeout ID: 6	FFU-6	0	FFU-6	6	
02.12.2016 11:34	02.12.2016 11:35	Error: Timeout ID: 4	FFU-4	0	FFU-4	4	
02.12.2016 11:34	02.12.2016 11:35	Error: Timeout ID: 3	FFU-3	0	FFU-3	3	
02.12.2016 11:34	02.12.2016 11:35	Error: Timeout ID:	FFU-12	0	FFU-12	12	
02.12.2016 11:34	02.12.2016 11:35	Error: Timeout ID:	FFU-13	0	FFU-13	13	
02.12.2016 11:34	02.12.2016 11:35	Error: Timeout ID:	FFU-16	0	FFU-16	16	
02.12.2016 11:34	02.12.2016 11:35	Error: Timeout ID:	FFU-15	0	FFU-15	15	
02.12.2016 11:34	02.12.2016 11:35	Error: Timeout ID:	FFU-14	0	FFU-14	14	



Information

Deleting error messages only affects the display, the entries are preserved in the database (see chapter "Clean up database").



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8.5.6.2 The event protocol

The event protocol documents all events, the execution of subsequent actions and whether the events and actions led to an error.

All events and actions are documented with a time stamp. If an error occurs in the event or action, the error text is also included in the documentation.

Proceed as follows:

 \triangleright Click on any entry to open the context menu.

Error Log Event Log (34)				
Time	Туре	Event/Action Type	Name	Error
02.12.2016 13:48:00	Event	Read MODBUS register	My event	Error: EXCEPTION 0B :Gat
02.12.2016 13:47:58	Event	Read MODBUS register	My event	Error: EXCEPTION 0B :Gat
02.12.2016 13:47:5 🧠	Delete 🕨	Read MODBUS register		Error: EXCEPTION 0B :Gat
02.12.2016 13:47:5 👞	Save +	Read MODBUS register	My event	Error: EXCEPTION 0B :Gat
02.12.2016 13:47:5z	Even	Read MODBUS register	My event	Error: EXCEPTION 0B :Gat
02 12 2016 13:47:50	Event	Read MODBUS register	My event	Error: EXCEPTION 0B 'Gat

 \triangleright Select desired category under "Delete":

- All: Delete all entries in the protocol
- Selected: Delete all marked entries in the protocol

-	Delete	•	All
*	Save	•	Selected

- ▷ Select desired category under "Save":
 - All: Save all entries in the protocol
 - Selected: Save all marked entries in the protocol



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9 Managing projects

9.1 Saving and loading projects

The settings (server connections, created clients and their settings) made with the program can be saved as a project file [*.portproj].

To do this, open File and select the save function or use the save icon in the menu bar (shortcut Ctrl+S).



File	View	Extras	W
	New	Strg+N	
B	Open		×
	Startup	project	٠
	Save	Strg+S	
	Close		

A saved project can be opened again by File.

After opening, you must confirm the setup of the server connections.



File	View Extras	Window	Help
1	New Strg+N		
3	Open 💊	1 1	ZAset_save_projekt_1.portproj
•	Startup project		
	Save Strg+S		
	Close		

The server must be reconnected after a voltage interruption!

9.2 Autostart Project

A project can be started automatically at program start of the ZAset software. To do this, set the desired file that was saved previously under Set autostart project.

ile	View	Extras	Win	dow Help
) N	ew	Strg+N		
3 0	pen	Strg+O	- 1	
St	artup	project	•	
Sa	ve	Strg+S		Set autostart project
C	050			Clear autostart projekt

After the program start, you must merely confirm the setup of the server connections. The selected Autostart project can be removed again under Clear autostart project.



10 View

10.1 On-Screen-Keyboard

A virtual keyboard for touch screen devices can be faded in via Display on-screen keyboard.



11 Extras / Options

File	View	Extras	Window He
	Option		
		Sh	ow error list
		Cł	eck for updates

The following settings can be made under Extras / Options: Language Updates Proxy

11.1 Setting language

Select language with a left click and confirm with OK.



11.2 Setting updates

If no automatic updates are wanted, the function "Use automatic update" can be deactivated.

ption			×
Language	Updates	Proxy	
Use Use	automatic u	pdate	
Automat Update	ic update - URL		
Use star	ndard		
Use :	standard	Test connection	
			Ok Cancel

An alternative update path can be saved under "Update URL". The connection to the update server is checked with the Test connection button. Please check the proxy settings if there are problems with the test.

11.3 Setting proxy

The program uses the system proxy settings as standard. Any settings can be saved to the proxy after deactivating the "Use system proxy settings" menu item.

anguage Updates	Proxy	
🔽 Use proxy		
Use system prox	y settings	
- Use system proxy se	ettings	
Proxy		Proxy port
Usemame		
		16
Password		
Domain		
		Ok Cancel

All settings are saved encrypted.



12 Enclosure

12.1 Function extension and version of software

Version	Date	Function from new version
1.2016.1021.3261	21.11.2016	Addition of Client NETconVis

 \triangleright For version display, see "Help" menu under "Info..."



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12.3 Manufacturer reference **((**

Our products are manufactured in accordance with the relevant international regulations. If you have any questions concerning the use of our products or plan special uses, please contact:

ZIEHL-ABEGG SE Heinz-Ziehl-Straße 74653 Künzelsau Telephone: +49 (0) 7940 16-0 Telefax: +49 (0) 7940 16-504 info@ziehl-abegg.de http://www.ziehl-abegg.de

12.4 Service information

If you have any technical questions while commissioning or regarding malfunctions, please contact our technical support for control systems - ventilation technology.

phone: +49 (0) 7940 16-800 Email: fan-controls-service@ziehl-abegg.de

Our worldwide contacts are available in our subsidiaries for deliveries outside of Germany, see www.ziehl-abegg.com.

If you make returns for inspections or repairs we need certain information in order to facilitate focused trouble shooting and fast repair. Please use our repair ticket for this. It is provided to you after you have consulted our support department.

In addition, you can download it from our homepage. Support - Downloads - General documents.

