

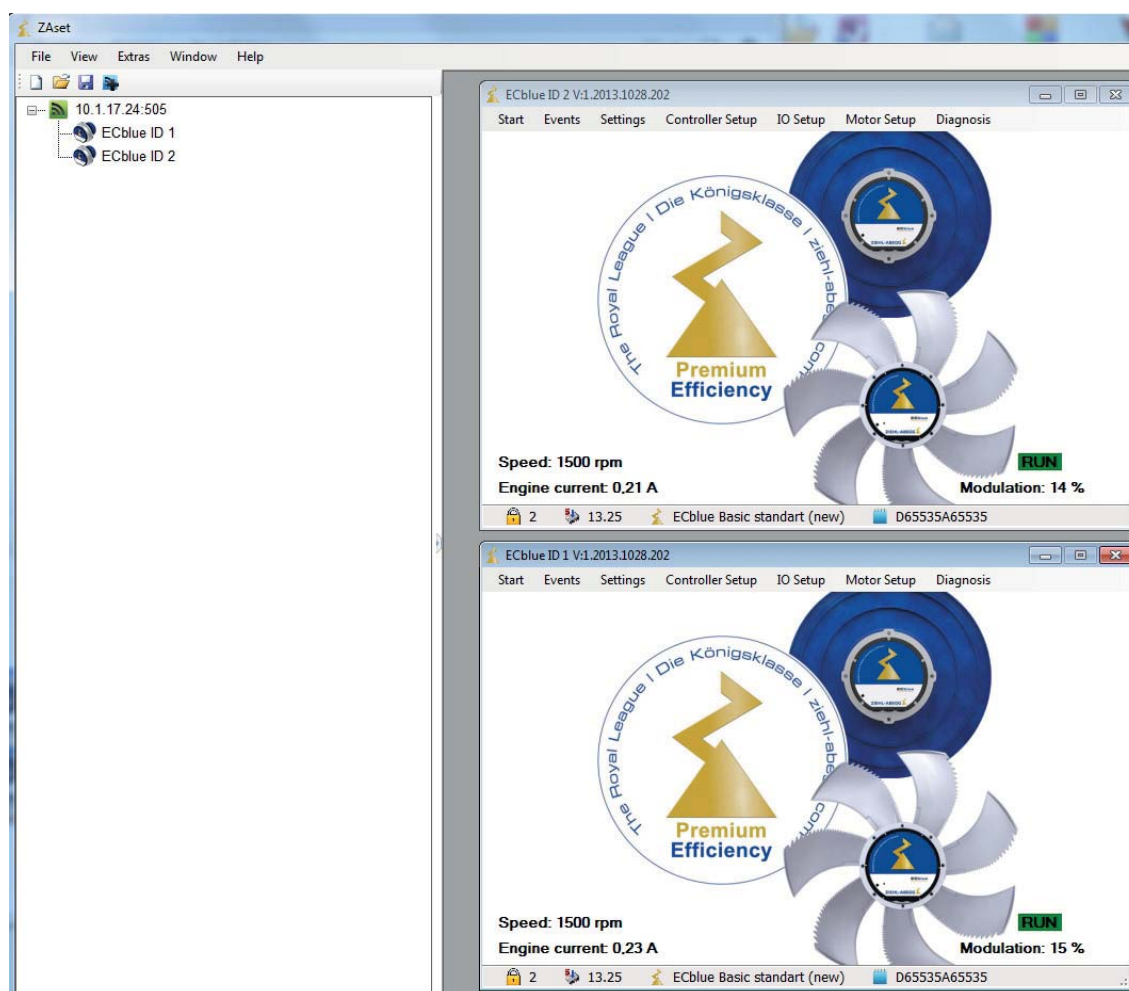
ZAset

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 qualifications 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!

3.2 System requirements

	Minimum system requirements
Processor	Dual-Core 1.6 GHZ clock frequency
Operating system	Microsoft® Windows® XP with Service Pack 3 (32 Bit) or Service Pack 2 (64 Bit) Windows Server® 2003 R2 (32 Bit and 64 Bit) 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 visualisation	
Internet Explorer 10 or higher	
Microsoft SQL Server Express LocalDB, Microsoft SQL Server Express or Microsoft SQL Server (at least version 2014)	

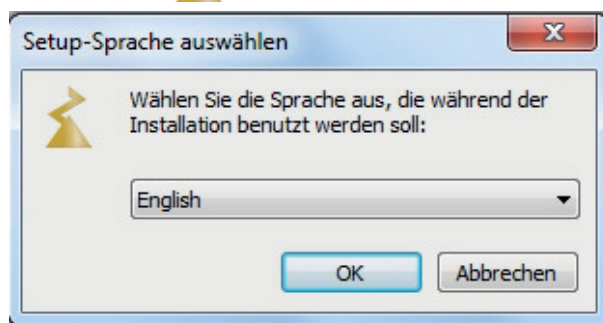
4 Download of the ZAset software

The ZAset is available as a free download from our web site.

<http://controls.ziehl-abegg.com/ZAset/setup/setup.exe>



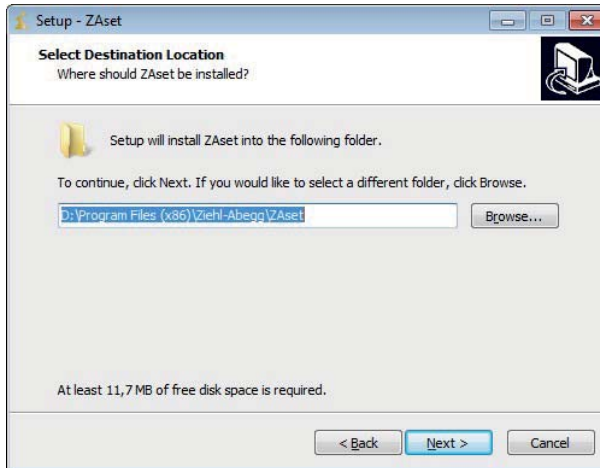
Start setup.exe with a double click.



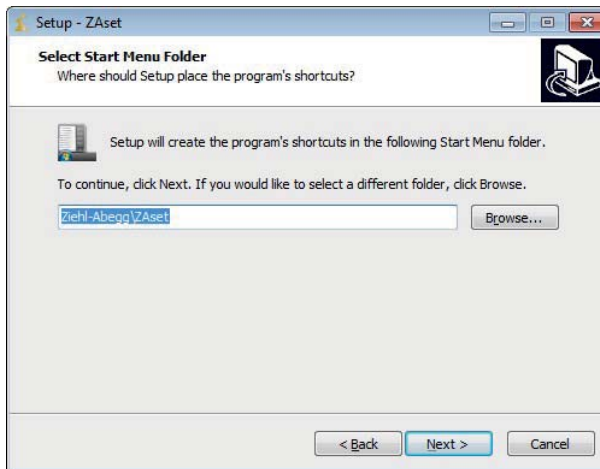
Select the setup language and follow further instructions.



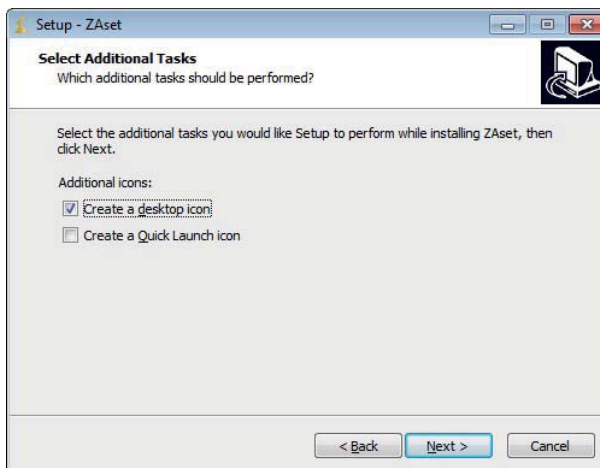
Start ZAsset Setup Wizard.



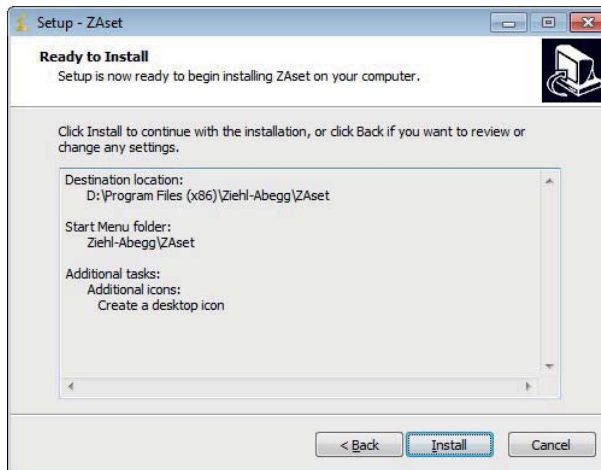
Select the desired target folder.



Select start menu folder.



Select additional icons.



Start setup

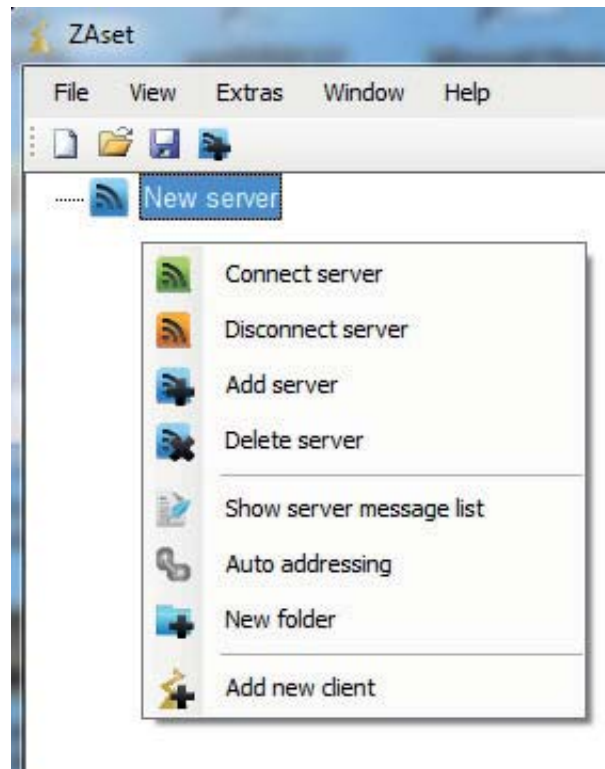



Exit setup

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.

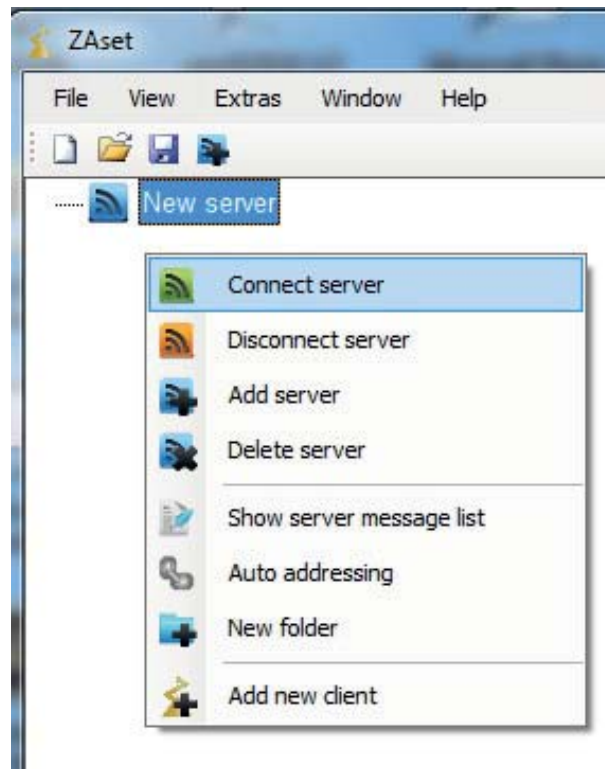


A server can also be added directly by this server icon with the  sign in the menu bar.

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**.

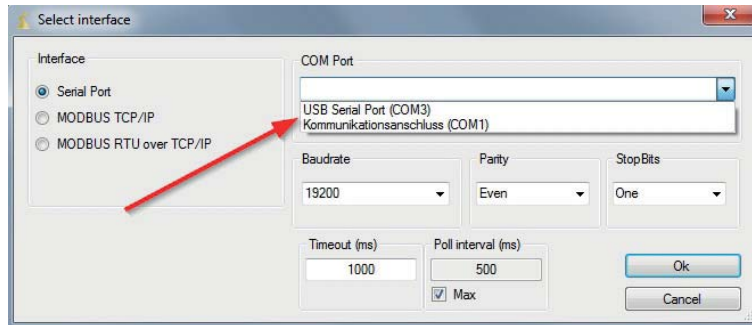


The two most important connection types are explained below:

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

5.2 Connection via a Serial Port

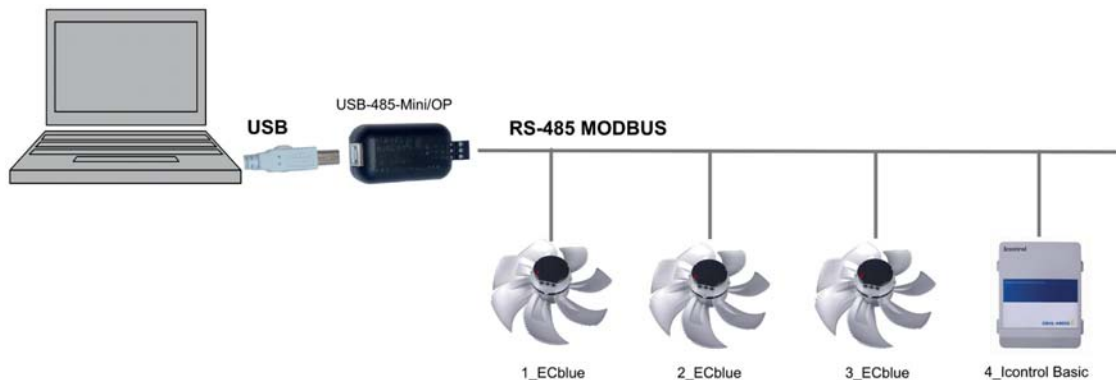
Select the appropriate setting for the connection via a serial interface. The currently available interfaces are displayed in the dropdown menu. An interface converter (USB-485 converter) must be connected to show the display for the USB connection.



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".
Poll Interval	The smallest possible interval is used with the "Max" option. The interval should be changed to > 100 ms if resource problems or communication problems occur.

Example for the use of the USB interface



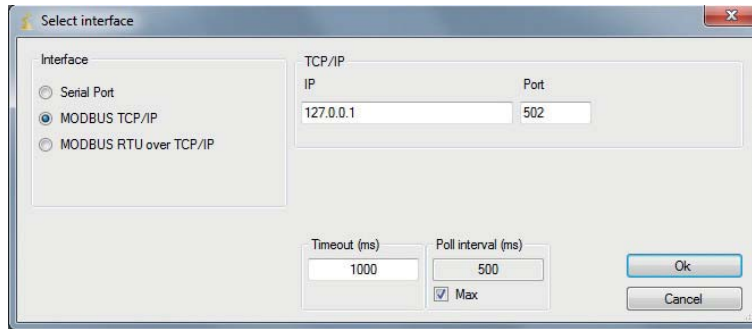
The USB-485 converter is available as an accessory.
 Type: USB-485-Mini/OP
 Part.-No. 380065
 Included in the scope of delivery: USB cable and CD with USB driver

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.



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".
Poll Interval	The smallest possible interval is used with the "Max" option. The interval should be changed to > 100 ms if resource problems or communication problems occur.

5.4 Checking the connection

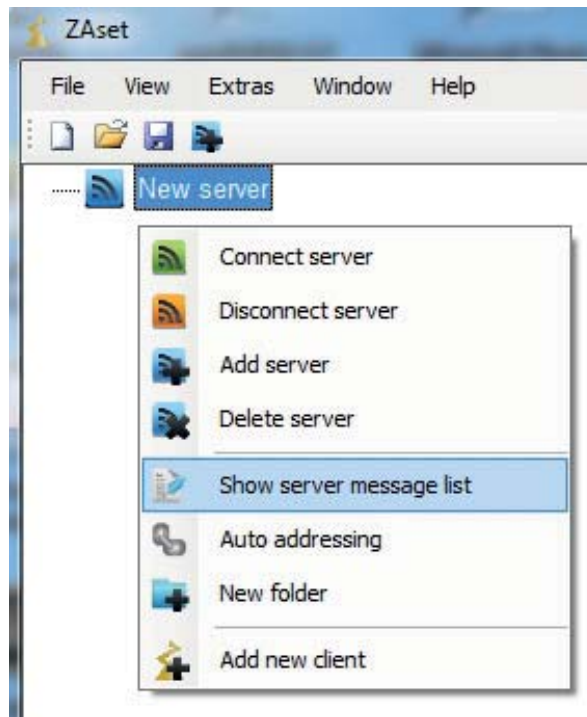
A connection is successful when the server icon changes colour to green.



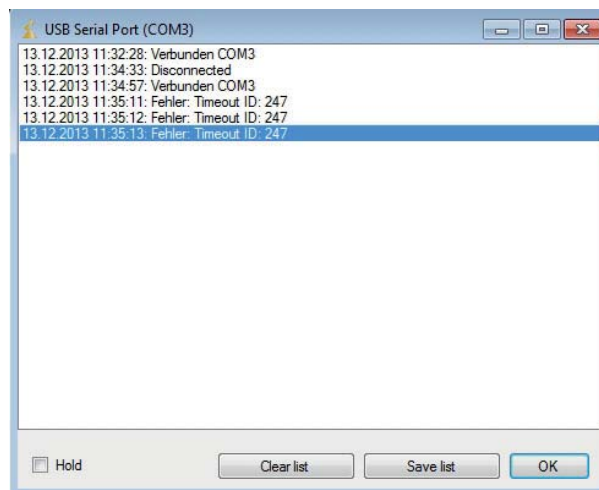
The icon changes to red if a connection is unsuccessful.



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



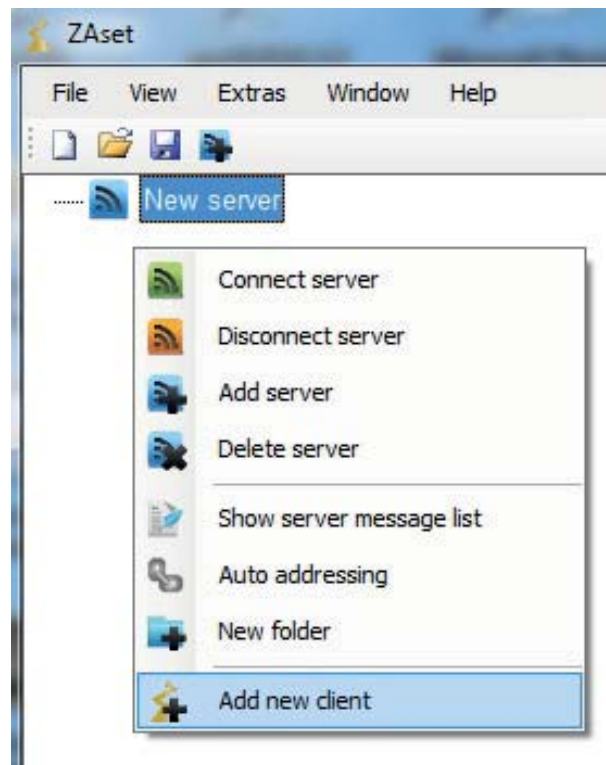
This list shows the last 100 messages.



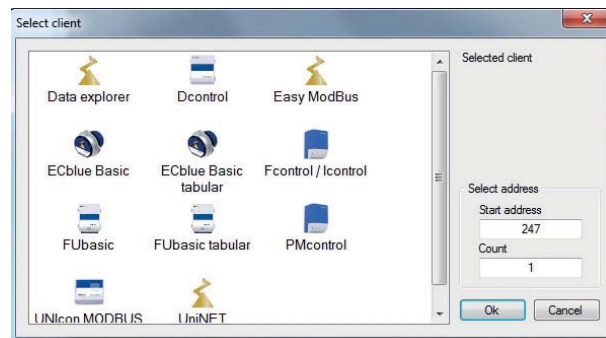
Holding	Stops the message update in the checkbox
Clear list	Deletes all messages
Save list	Saves the messages in a txt file
OK	Closes the window

5.5 Client add

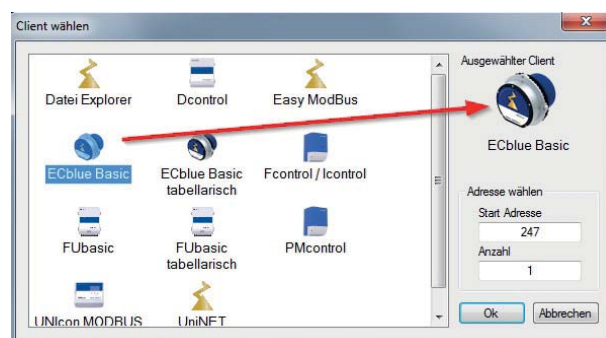
Activate this function in the server context menu by clicking with the right mouse button to add a new client.



The pool with the available clients is opened.



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



The correct start address must be entered to make a successful connection. This is set to the highest available address **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.

ECblue ID 1



ECblue ID 10



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.

<p>NETconVis</p>	<p>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).</p>
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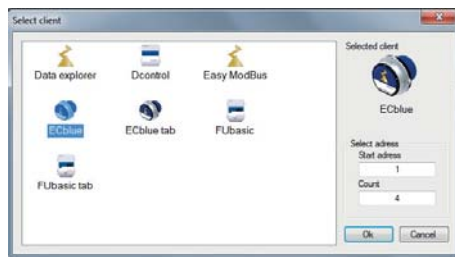
Different devices on one server

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

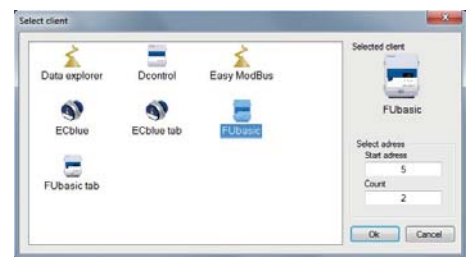
Example:

- 6 devices are addressed, addresses 1 - 6
- Address 1 - 4: ECblue
- Address 5 - 6: Fcontrol Basic

Address 1 - 4



Address 5 - 6



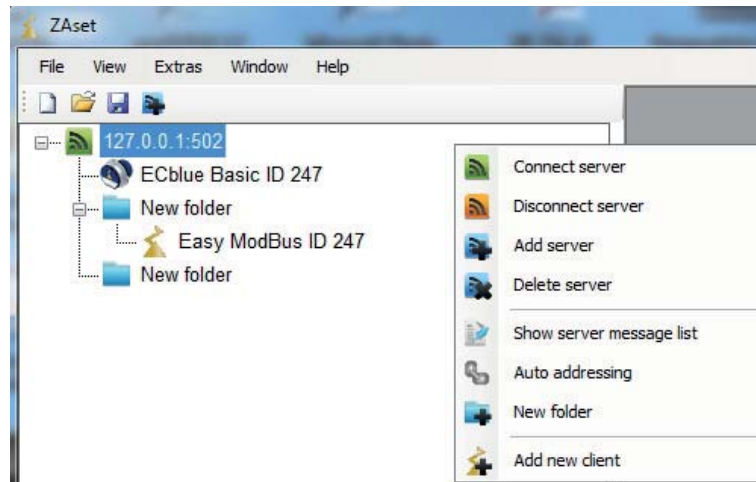
Renaming a client



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!

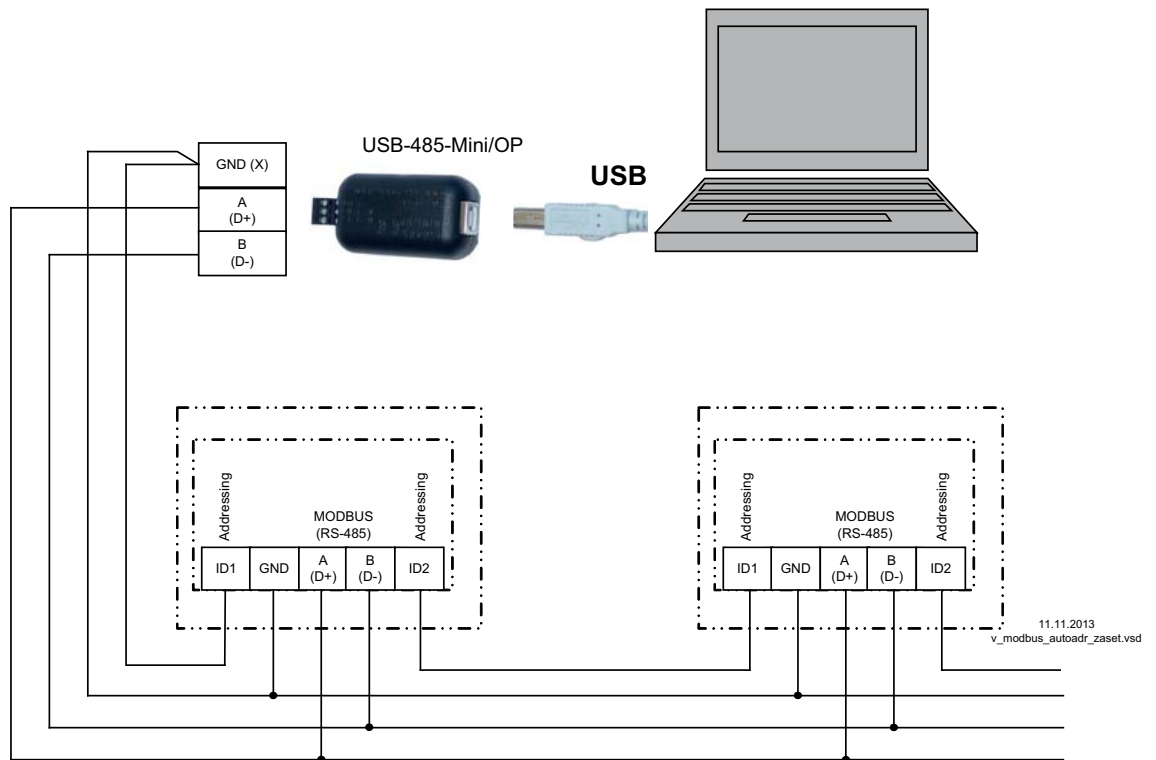
Automatic addressing overwrites any previous addressing!
The documentation of the connected devices must be observed!

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.

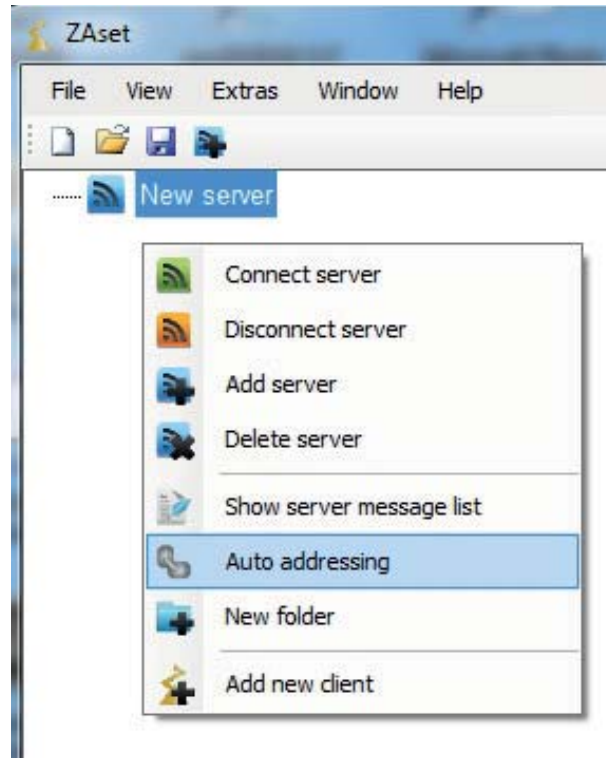
The automatic addressing of other clients is initiated by the previous client via this connection.

Example for automatic addressing via USB converter

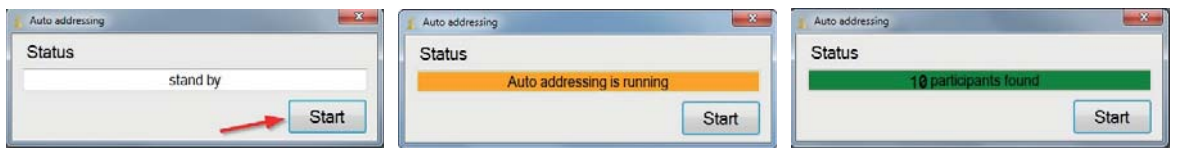


On the USB-485 converter connection to the terminals: A (D+), B (D-) and GND.
Connection of the clients via the terminals: A (D+), B (D-), GND and ID1 / ID2

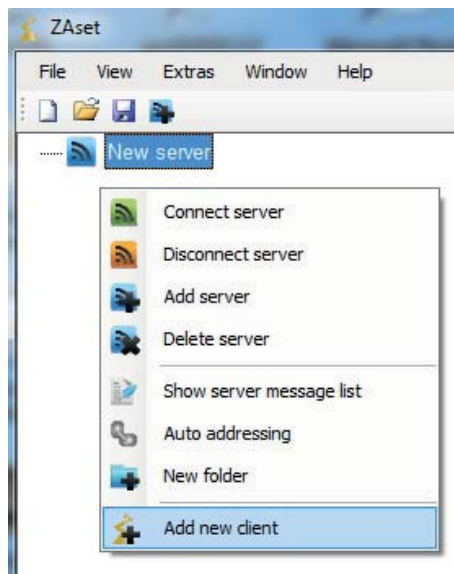
To start automatic addressing, select this function in the server context menu.



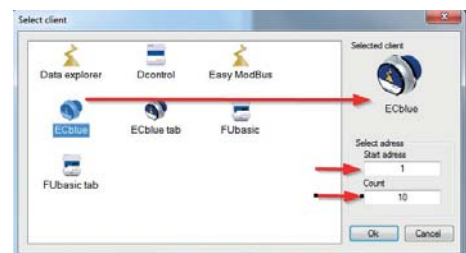
Automatic addressing sequence



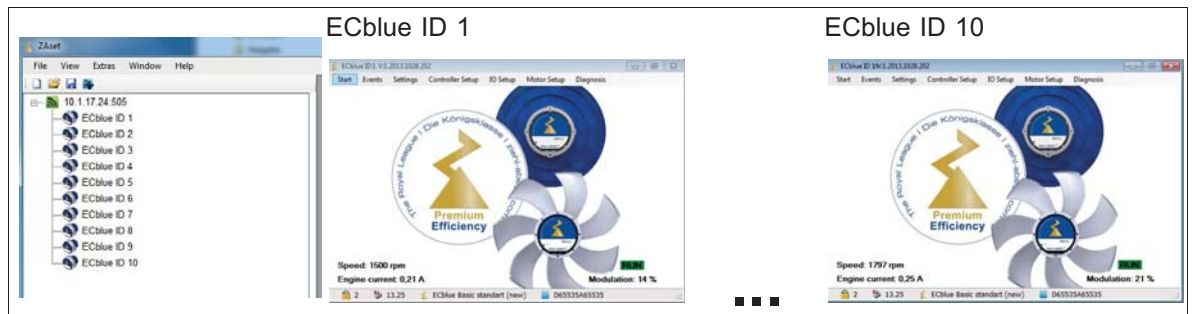
Add new clients.



Enter start address and number.



Result



6 Programming clients

6.1 Safety instructions



Attention!

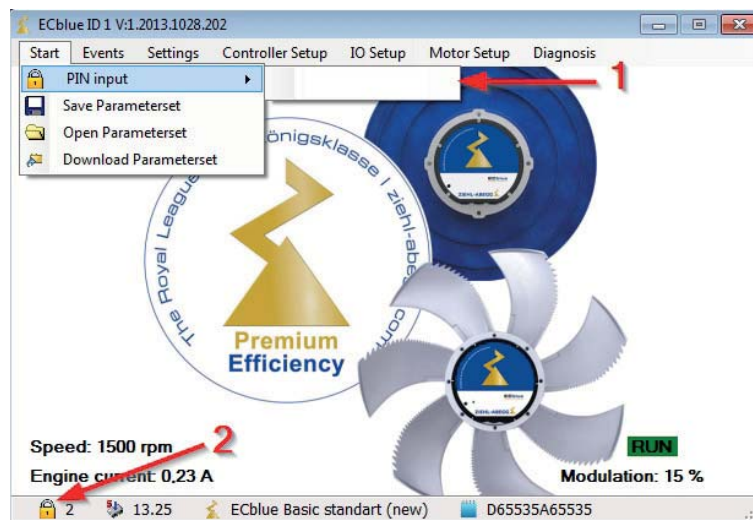
- Remarks concerning safety, installation, connection, programming, etc. must be observed (☞ Assembly instructions or Operating Instructions of the client).
- This software can be used to operate electrical devices remotely which you may not be able to see. Considerable damage could be caused if the 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.

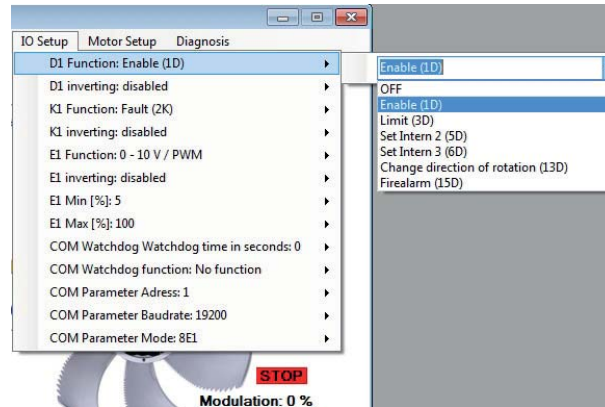
Example: ECblue ID 1

The desired menu group (e.g. Start) can be opened with a left click.



- 1 Command input $\hat{=}$ PIN
- 2 Set PIN-Accesslevel

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

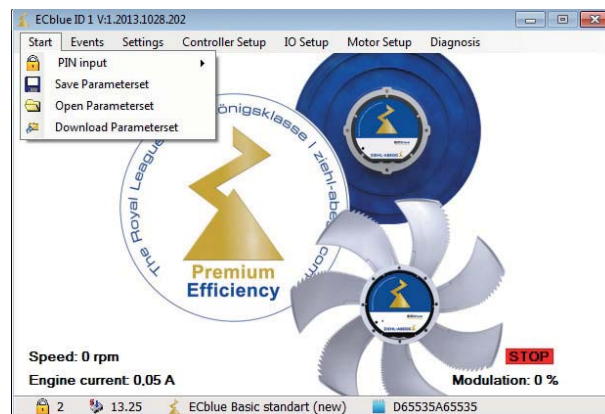


Press the Enter key to save the setting.

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

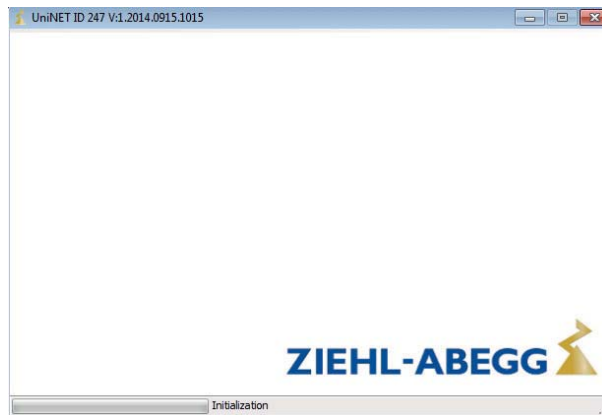
7.1 UniNET, UNIcon MODBUS Master, Fcontrol / Icontrol

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.

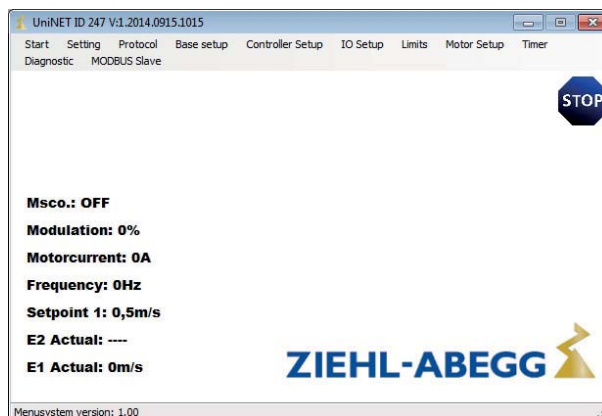
- Start the initialization



- 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”.



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



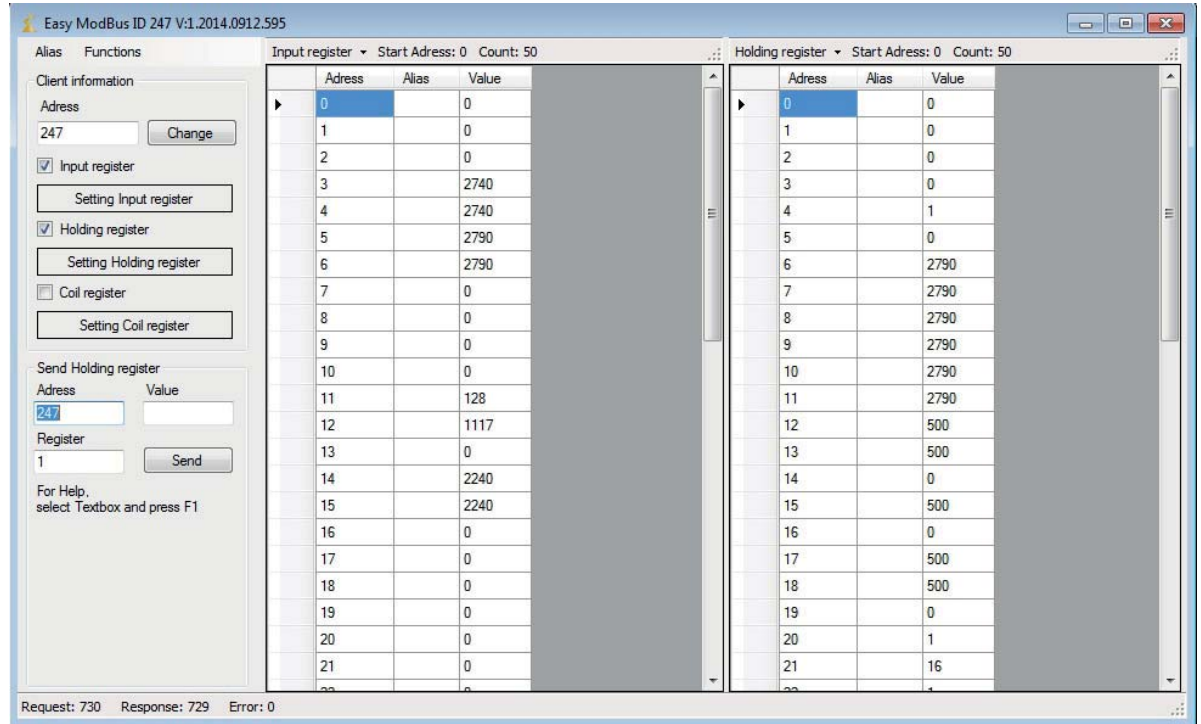
7.2 EASY MODBUS

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

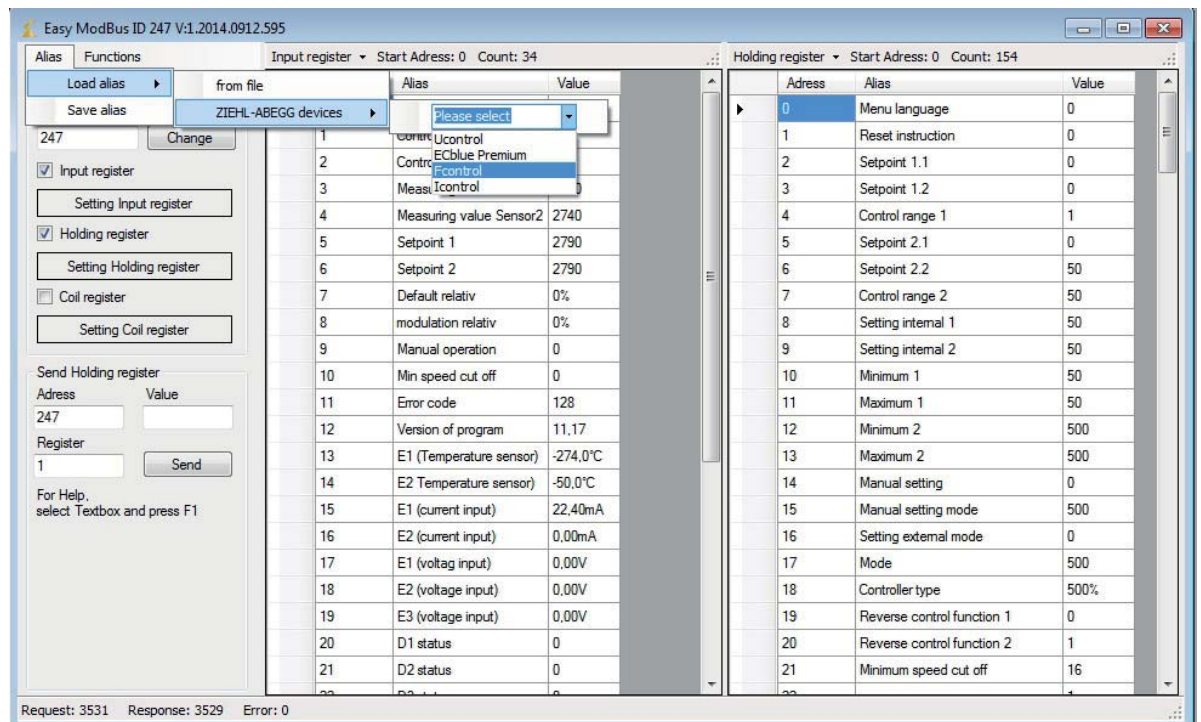
An individual designation of the register is possible via the column “Alias”. Alternatively, previously stored designations can be used.

Alias not labeled



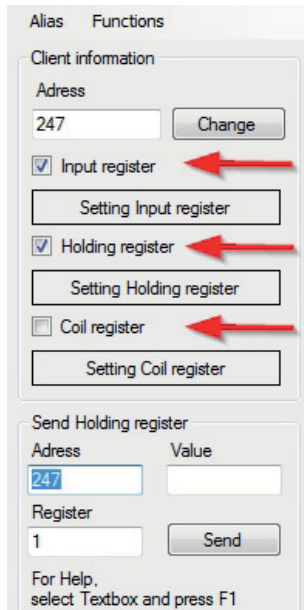
Using the menu item “Alias”, it is possible to load or save set designations and formats.

Alias labeled (example with selection Fcontrol)



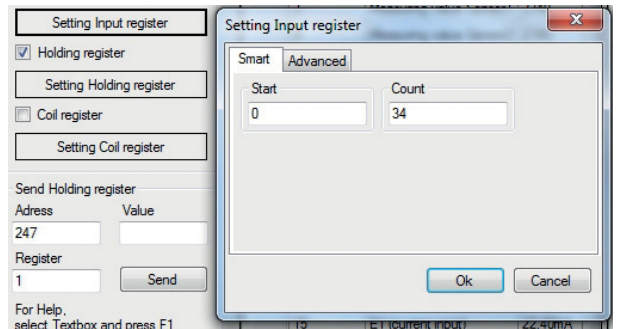
Configuration of reads

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



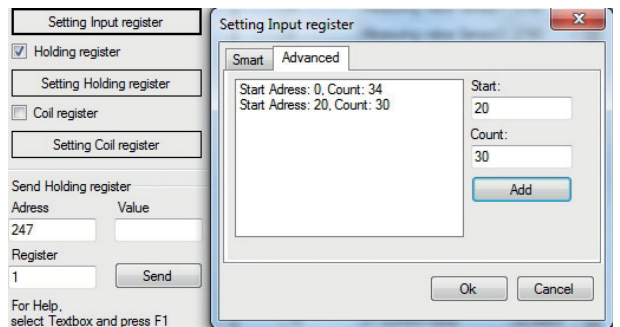
Setting query range “Smart”

Only “Start” and the “Number” of the register are determined.



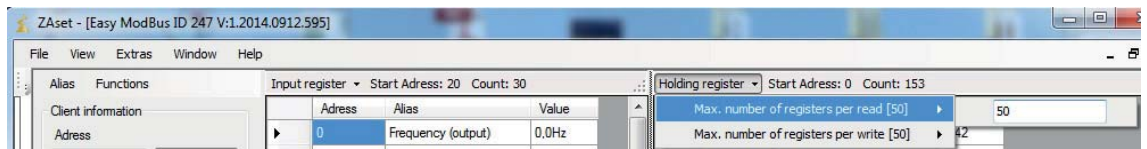
Setting query range “Advanced”

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



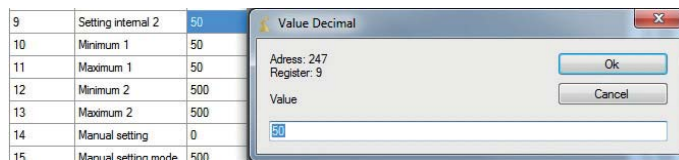
The number of registers per read and write process can be defined via the button for the type of register display.

Number of registers for read and write process



Send values

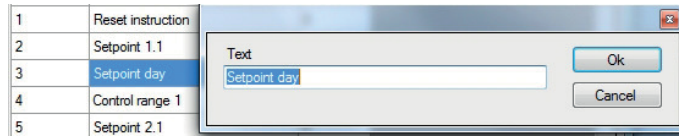
- There are two ways of sending values to the device
 1. Double click on the register value and entry via InputBox



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



Input Alias

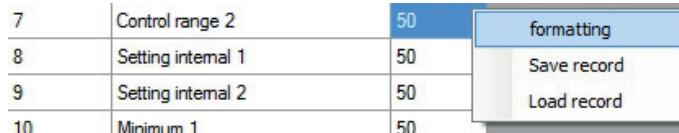


User-defined inputs can be made by double clicking on the alias field.

Formatting values

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

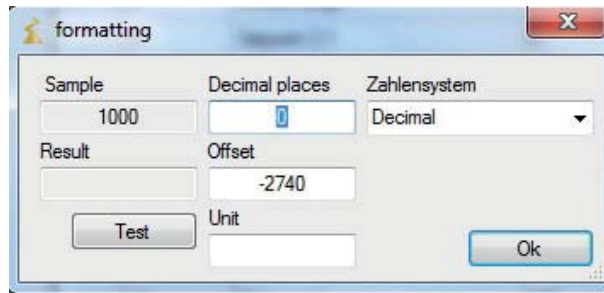
The formatting can be transferred to multiple registers by highlighting these.



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.



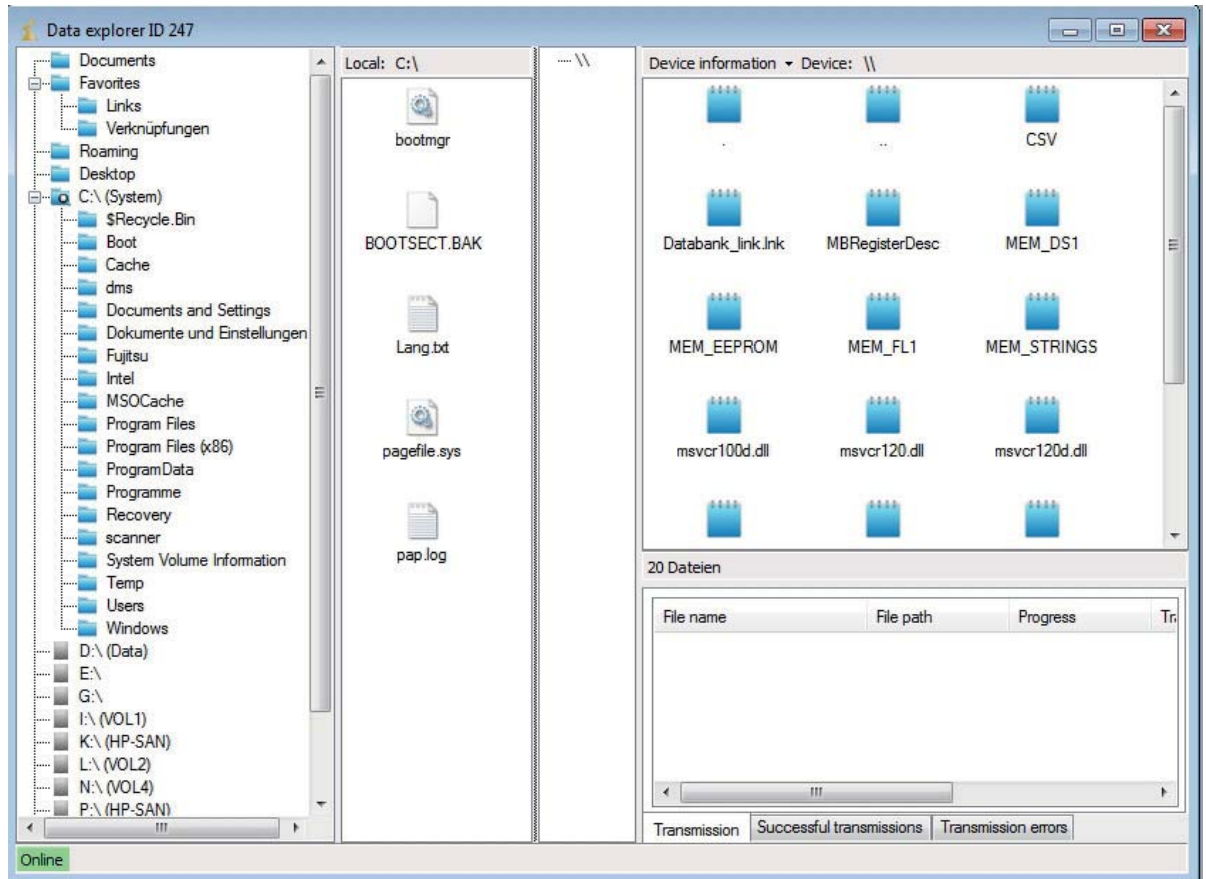
7.3 ZAsset Data explorer

The client ZAsset 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

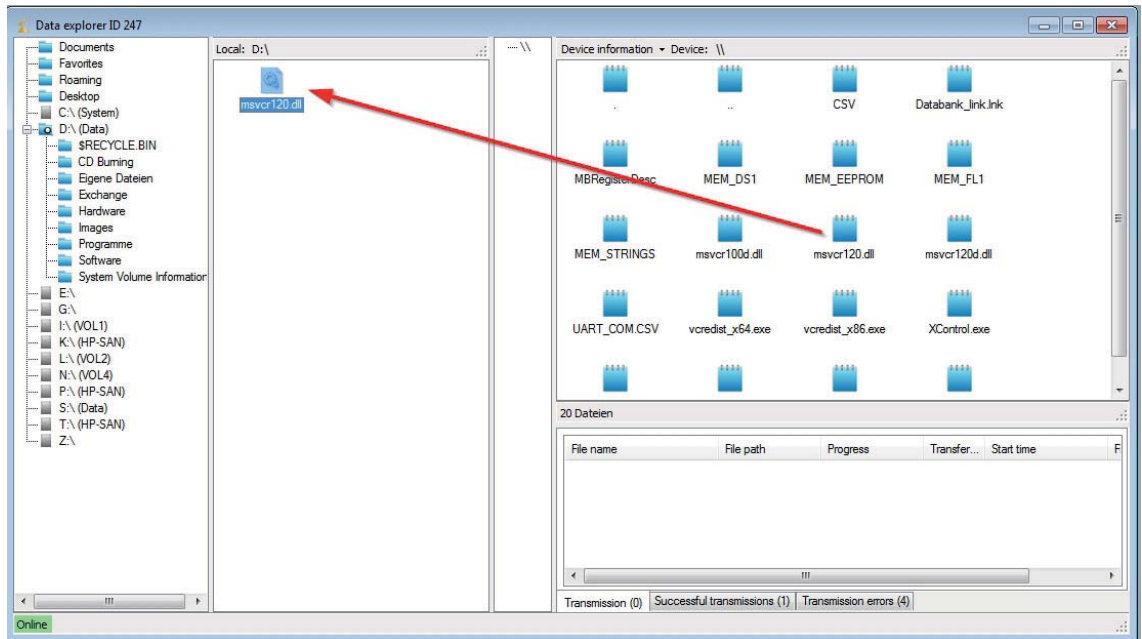


The lower left area of the client shows whether there is a connection to the device.

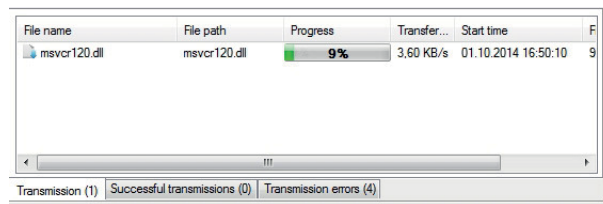
7.3.1 Transfer data

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.



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

8 NETconVis@ZAsset 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.

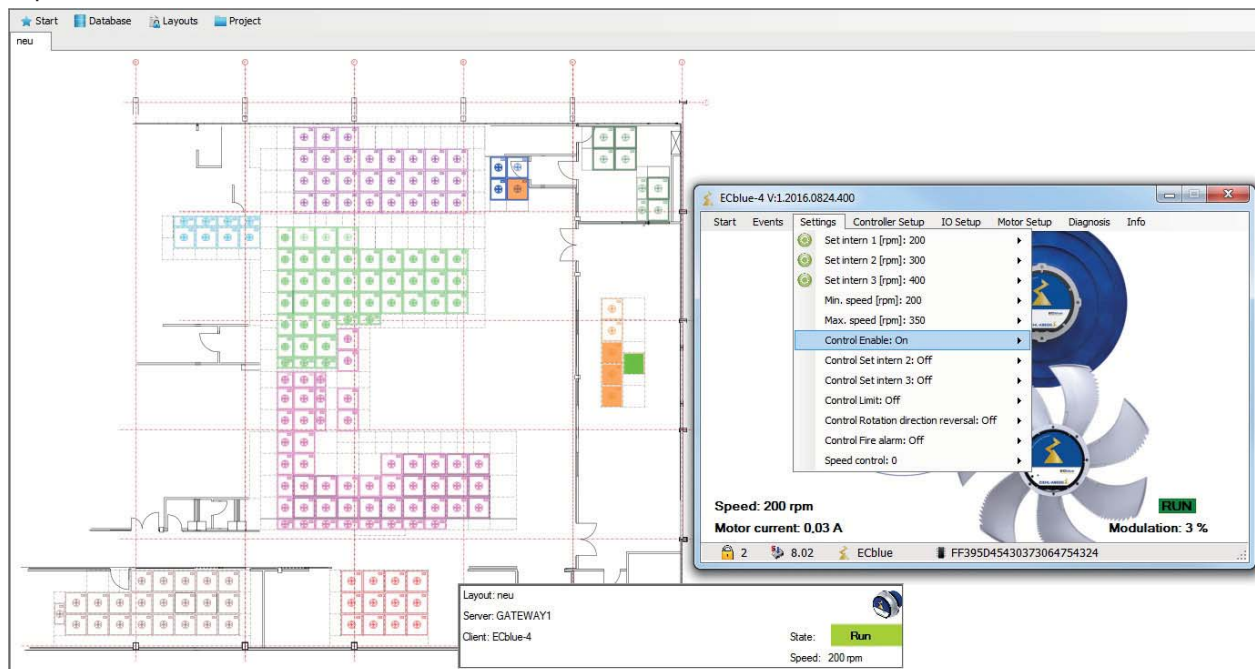
8.1 Functional description

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@ZAsset enables easy programming of individual fans or whole fan groups, with operating states being easily recognizable even in large systems.

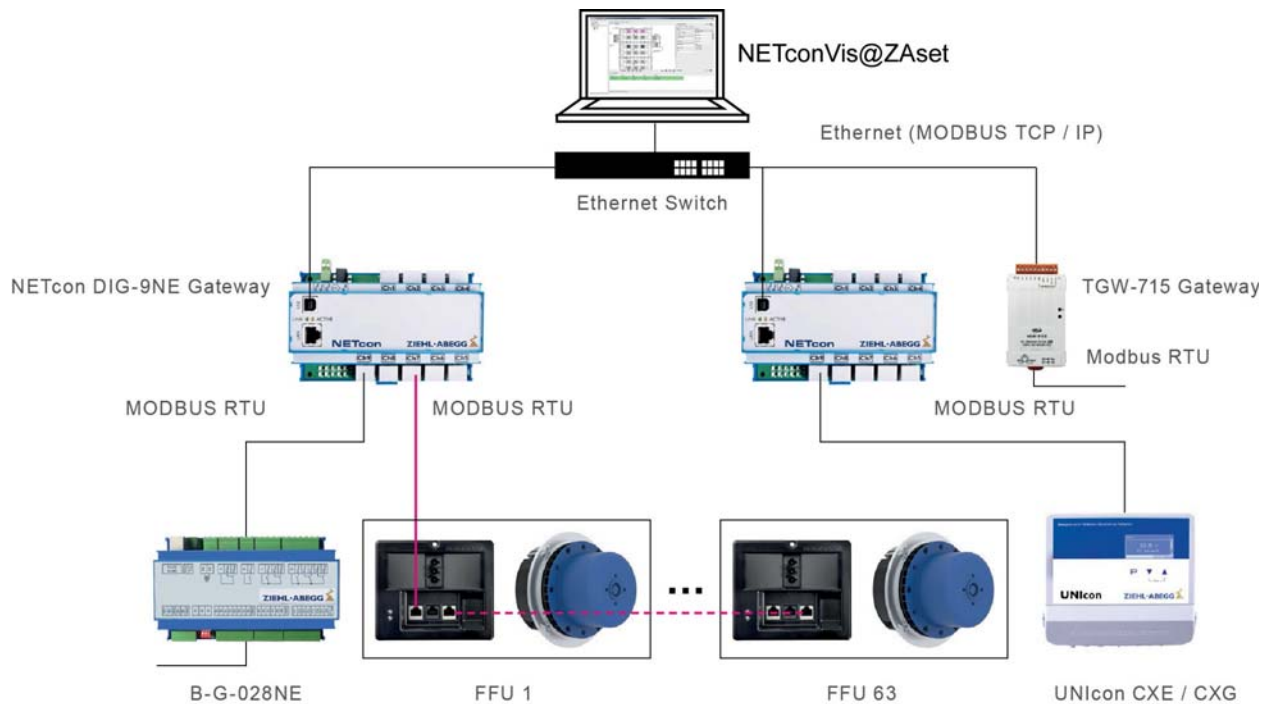
Example of the visualisation of a clean room installation



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@ZAsset 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@ZAsset 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@ZAsset:

- A licence key must be requested from ZIEHL-ABEGG SE for the use of NETconVis@ZAsset.
- 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.

▷ See the next chapter for a detailed description.

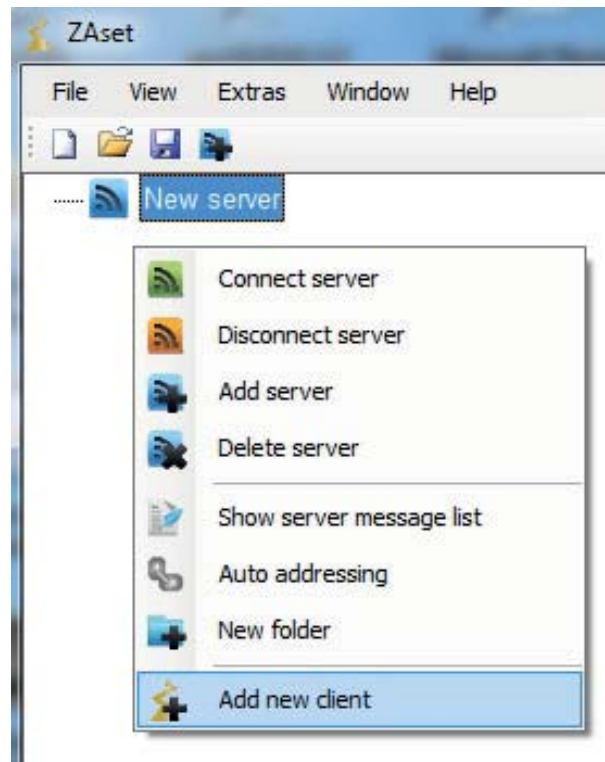
8.2 Set up program

8.2.1 Licence key for NETconVis@ZAsset

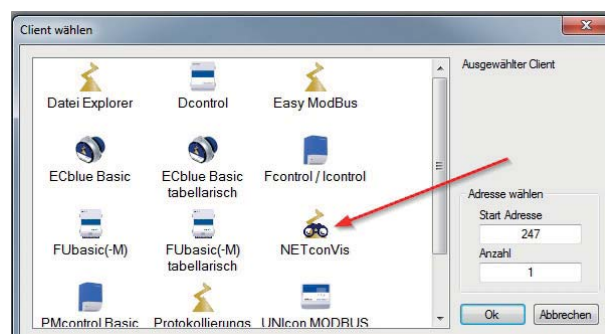
A licence key must be requested from ZIEHL-ABEGG for the use of NETconVis@ZAsset. To process a licence request, ZIEHL-ABEGG requires a system information file; then you will get back the licence key.

Proceed as follows:

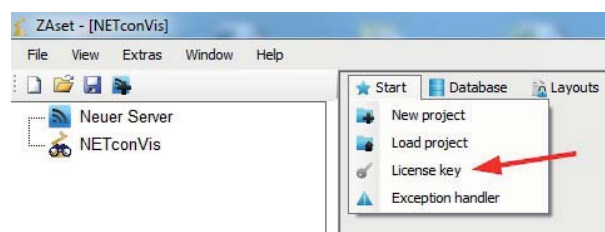
▷ Right click on the server icon to open its context menu.



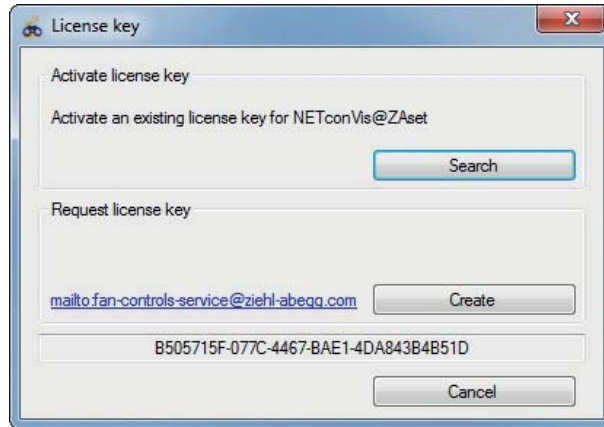
▷ Select "NETconVis" and confirm with the "OK" button or a double-click.



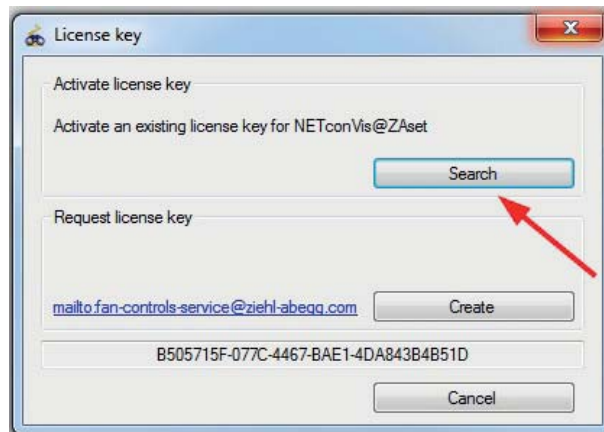
▷ Activate the "Licence key" function in the "Start" menu.



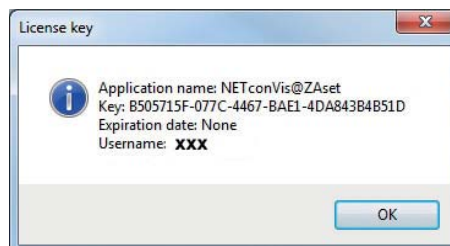
- ▷ Select the "Create" function to request a new licence key.
- ▷ Search for an already available key via Explorer and activate.



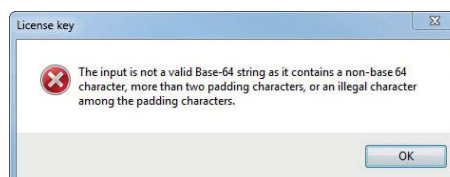
- ▷ If "Create" has been selected, a system information file "NETconVisZAset.dat" is produced. Just enter your company name and send the file to: fan-controls-service@ziehl-abegg.com
You will then get back the licence key from ZIEHL-ABEGG by e-mail.
- ▷ Store the licence key obtained in the file system and open via "Search".



- ▷ 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



8.2.2 Create database

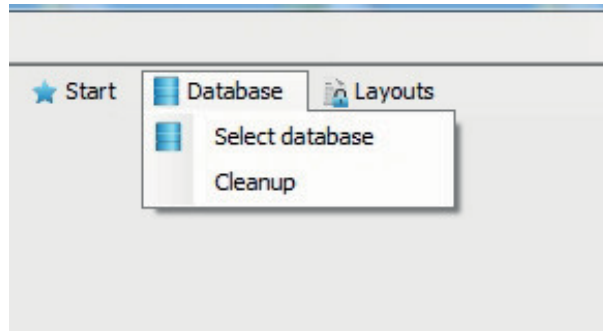
For MDF files (MDF = Master Database Files), NETconVis@ZAsset requires a separate database, for which a Microsoft SQL Server instance is required.

NETconVis@ZAsset can run with various types of databases:

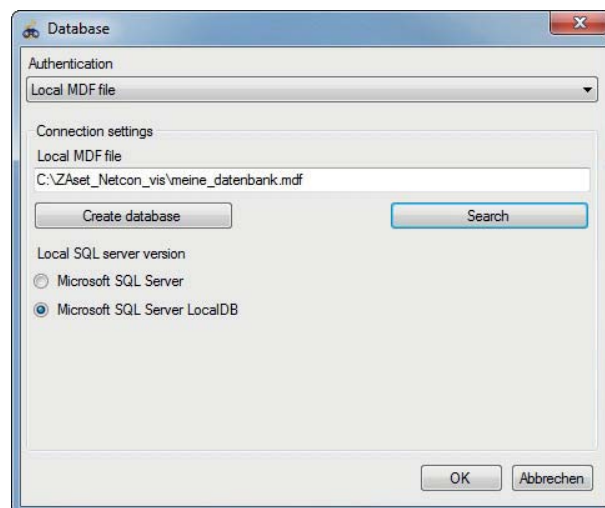
- Database via a local MDF file with an MS SQL Server instance.
- Database via a local MDF file with an MS SQL Server LocalDB instance.
- Database via an MS SQL Server.

Proceed as follows:

- ▷ Under "Database" menu, open the menu item "Select database".



The possible types of databases are subsequently displayed



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-bd3-e-834adabc4f8f&Icid=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

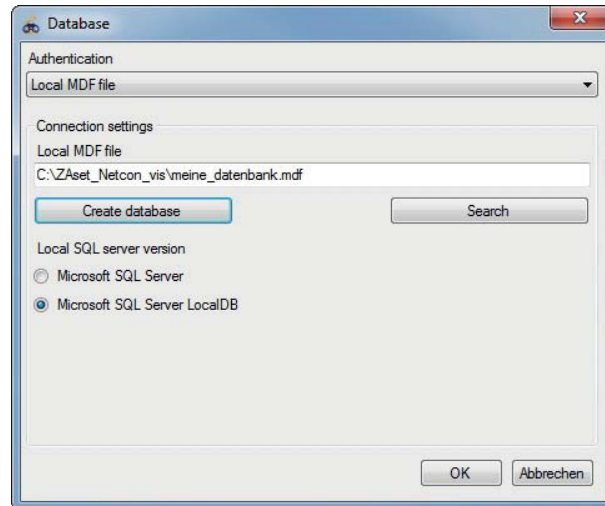
- ▷ Click on the "Create database" button to open the "Save as" window. Then enter storage location and name of the MDF file, confirm with "Save" and complete the creation of the database with "OK".

Search for local MDF file

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

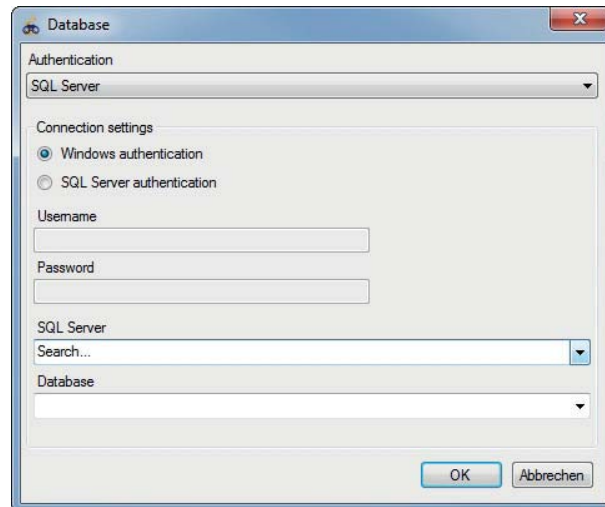
Local SQL Server Version

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

**SQL Server**

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

- NETconVis@ZAsset 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.

**Information**

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

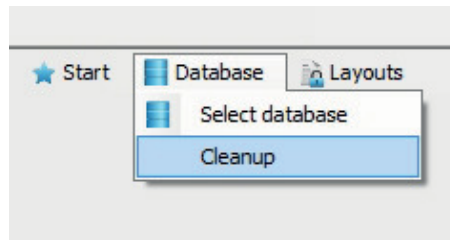
As a data backup, it is only necessary to secure a database file (mdf).

8.2.3 Clean up database

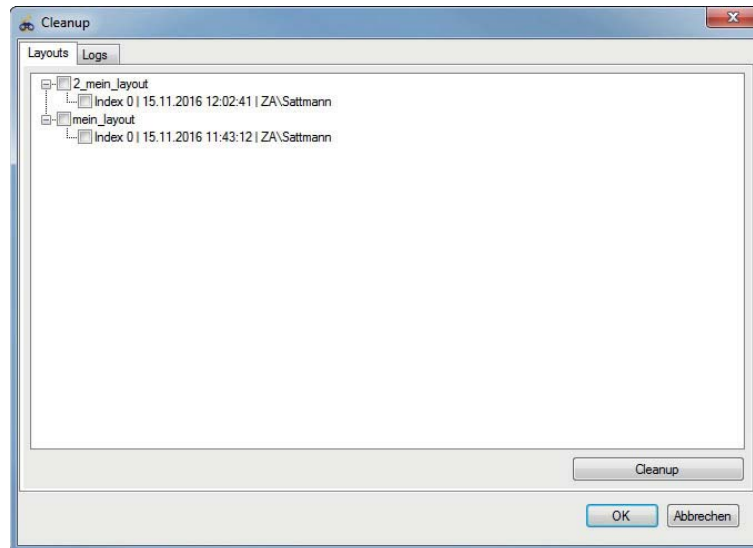
If necessary, you can delete entries in the database.

Proceed as follows:

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

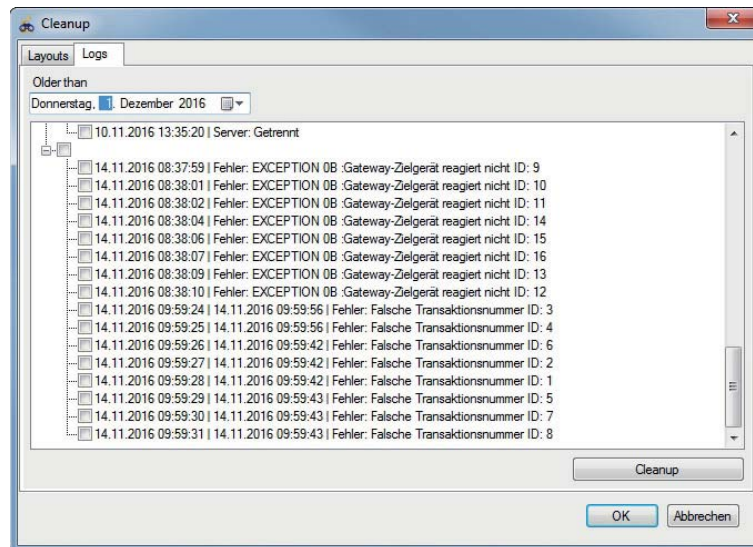


The available layouts and protocol entries are subsequently displayed.



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

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



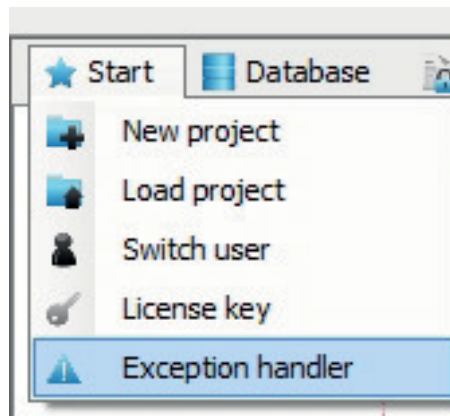
In the "Protocol entries" area, all entries are shown older than the date specified.

8.2.4 Exception-Handler

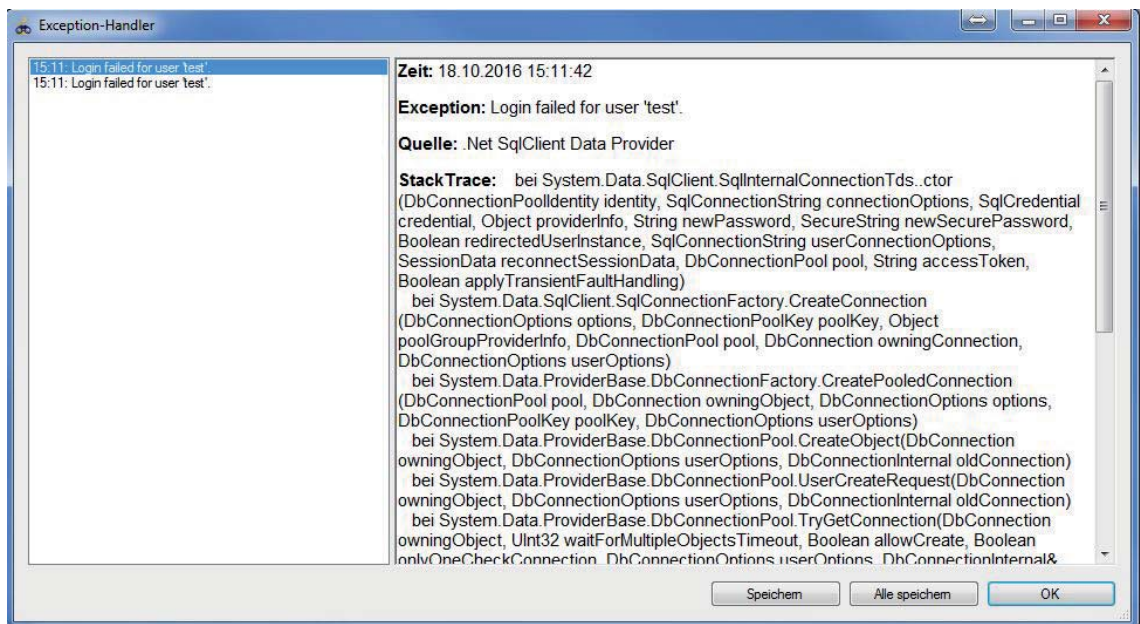
The "Exception Handler" collects all program errors which occur during the visualisation with NETconVis@ZAset.

Proceed as follows to display error messages:

- ▷ 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.
- ▷ Click on "Save" to save the currently displayed error message.
- ▷ Click on "Save all" to save all errors with detailed information.



8.3 System layout

8.3.1 Layout creation in SVG format

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



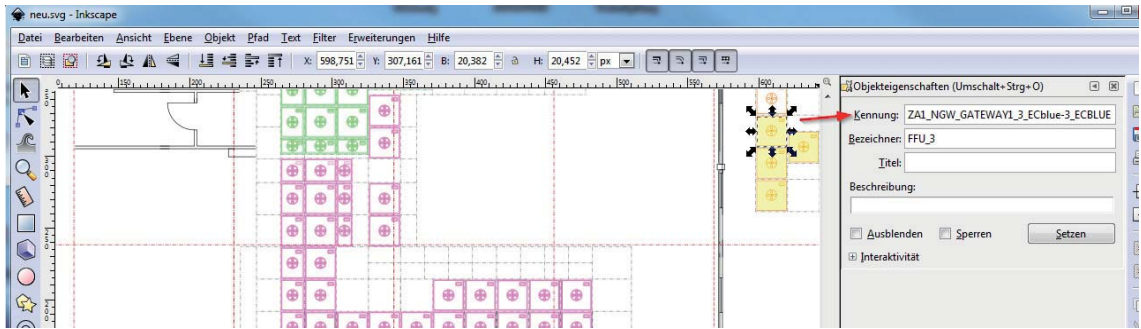
Information

For NETconVis@ZAsset 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").

Example of a client in the SVG drawing layout



Example of an SVG-ID

ZA1_NGW_GATEWAY1_3_ECblue-3_ECBLUE

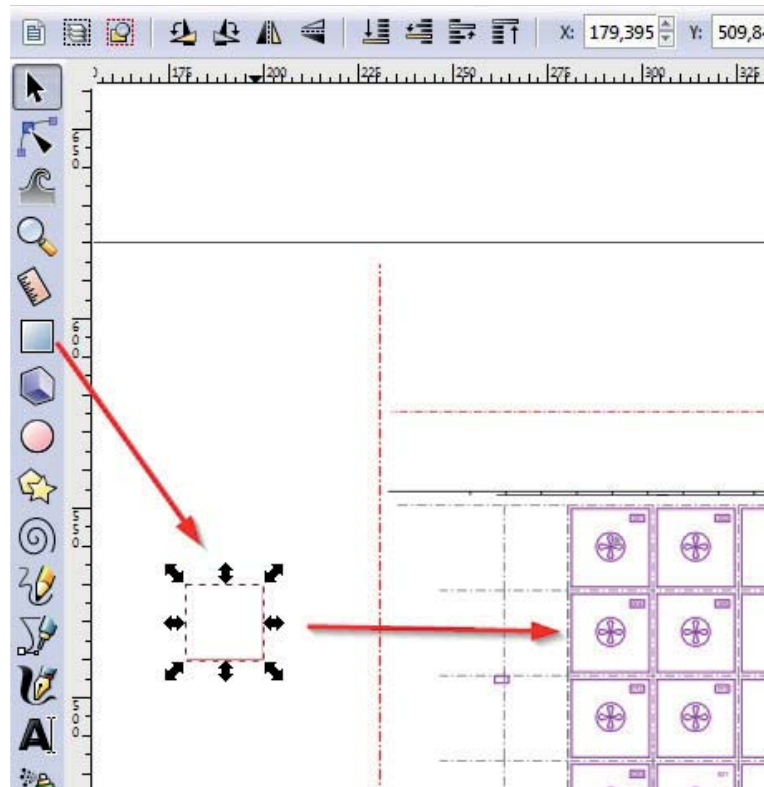
① ② ③ ④ ⑤ ⑥

Set-up of an SVG-ID

Position	Meaning	Explanation/selection
1	Version	ZA1 : ZIEHL-ABEGG, Version 1
2	Type of interface	SERIAL : Serial interface, e.g. COM1 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	1...247 : MODBUS ID of the terminal
5	Clientname	User-defined client name (only used in the representation)
6	Equipment	ECBLUE : Device ECblue 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.

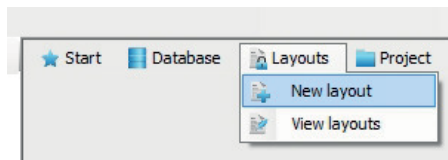


8.3.2 Import layouts into database

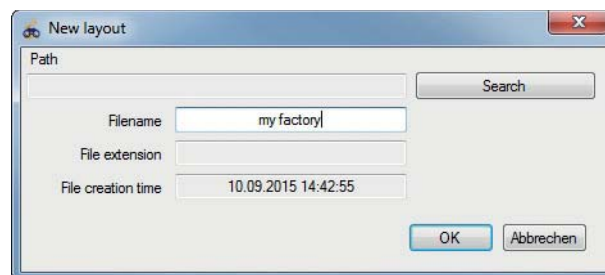
In order to allocate a layout to a project (see following chapter), you must first import the project into the database.

Proceed as follows:

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



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

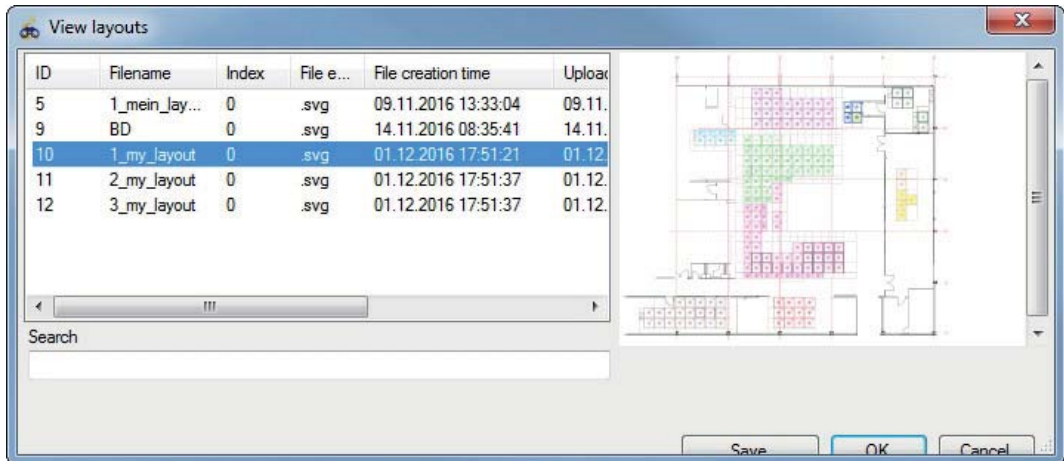


Information

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.

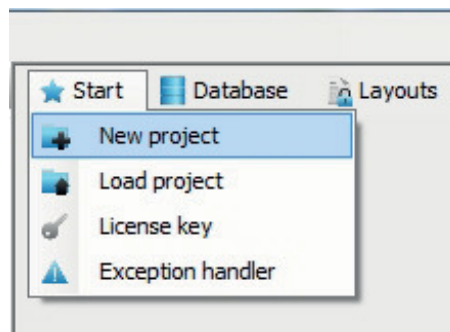


8.4 Projects

8.4.1 Create new project

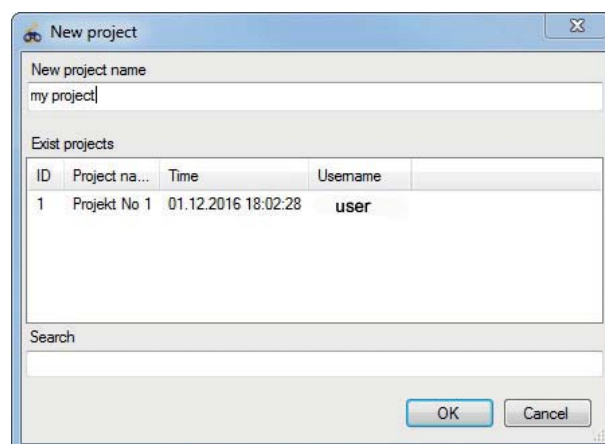
Proceed as follows:

▷ In the "Start" menu, select the menu item "New project".



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

All available projects are displayed in the window.

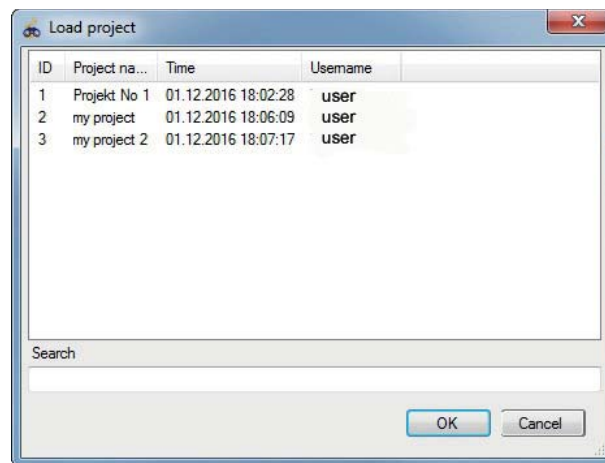


8.4.2 Load existing project

Proceed as follows:

- ▷ In the "Start" menu, select the menu item "Load project".
- ▷ Select project and confirm with "OK".

All available projects are displayed in the window.



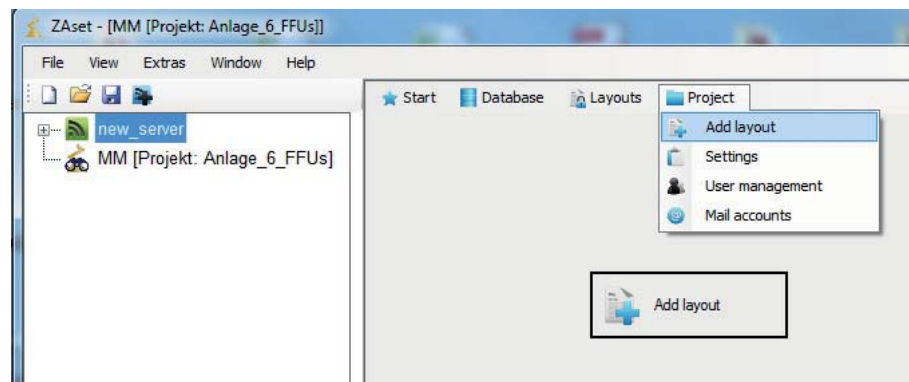
The selection can be limited by entering a search text, the search being done via the project name.

8.4.3 Add layout to a project

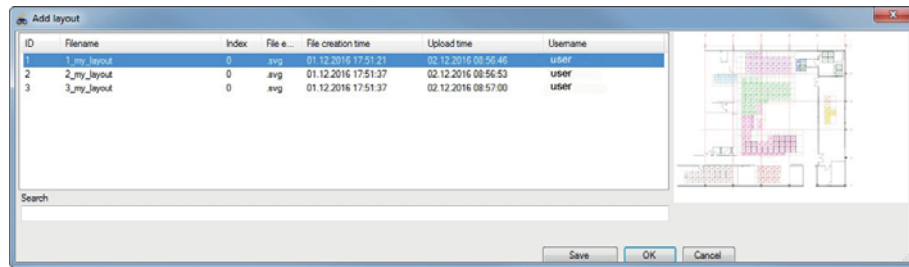
After importing the layouts into the database, you can add these to a project.

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.

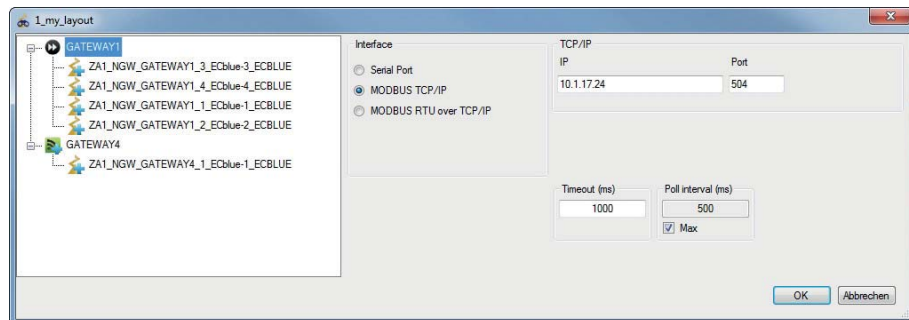


- ▷ Confirm the selection with "OK".
- ▷ Limit the selection via "Search" if necessary.
- ▷ Store layout via "Save" under the path, if necessary.



All available layouts are displayed in a list

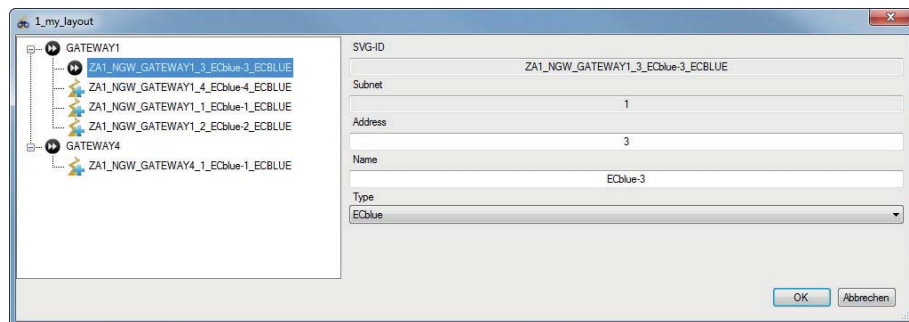
After a layout has been successfully loaded, all clients (SVG IDs of the objects) and networks found are displayed.



Information

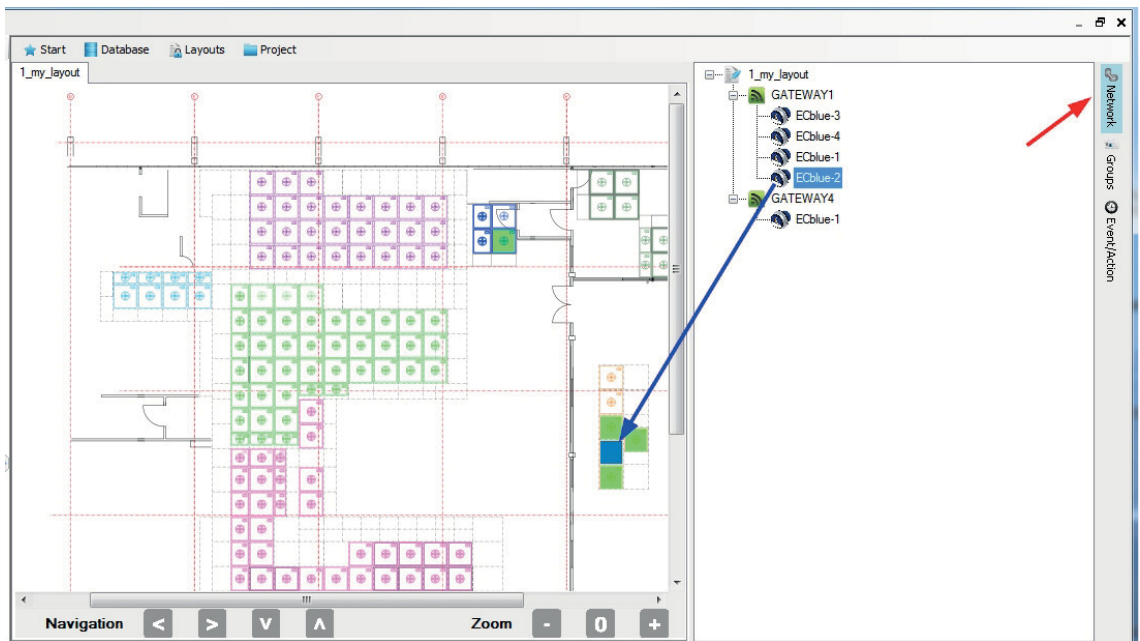
Before adding the layout, pay attention to the correct IP address and gateway port.

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

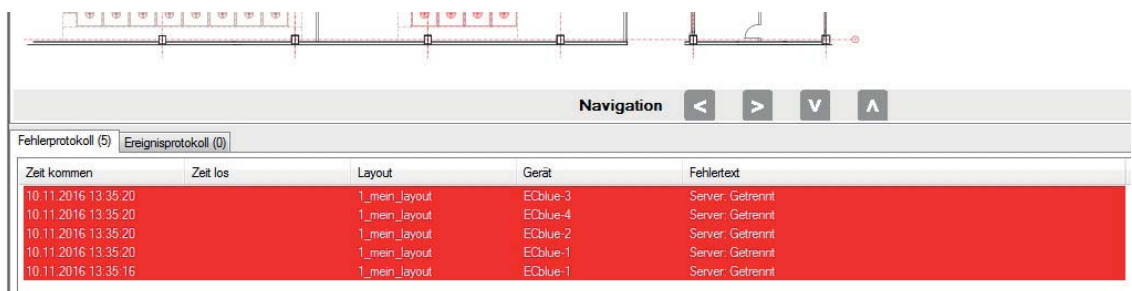


▷ In the "Network" menu, you can activate the display of the clients in the network tree.

The context menu displays the operating state of the respective client



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

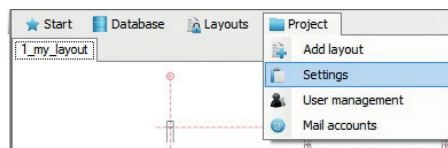


8.4.4 Project settings

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.

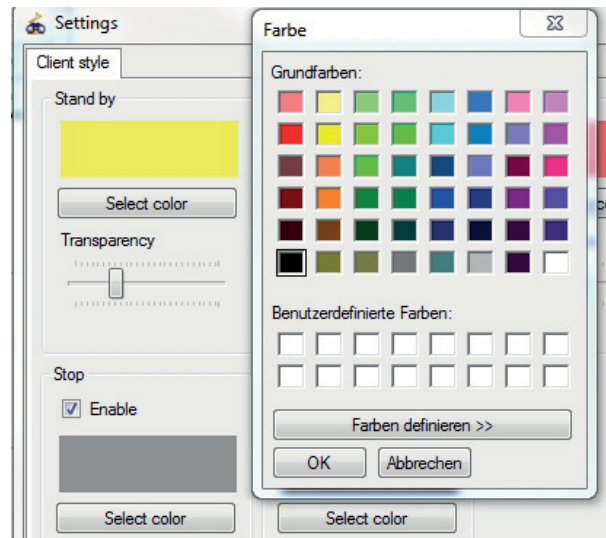
Proceed as follows:

▷ In the "Project" menu, select the menu item "Settings".

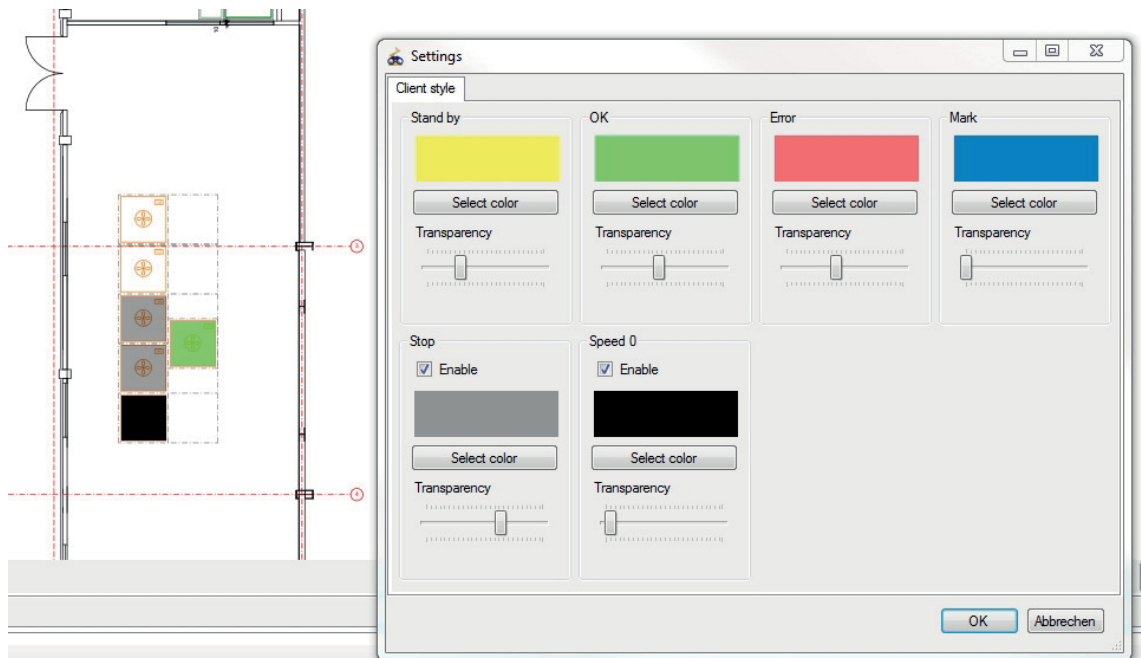


▷ Click on the "Select colour" field or click directly on the currently set colour and set the desired colour.

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



Example of status display with colour code assignment



After "OK", the colour setting is accepted.

Status of colour code assignment

Client State	Explanation
Stand By	No communication to the client.
OK	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).



Information

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

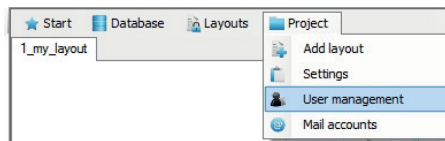
8.4.5 User management

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.

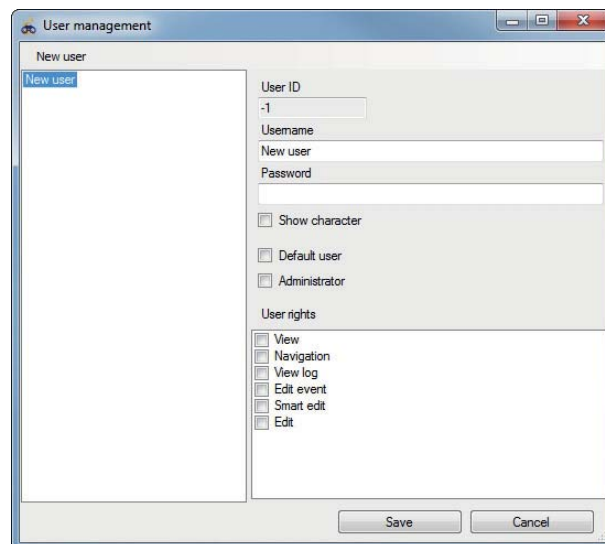
In the menu item "User management", you can create new users and maintain the rights.

Proceed as follows:

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



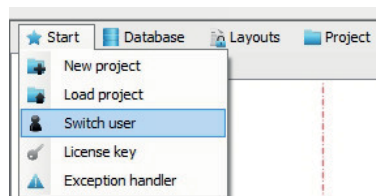
▷ Click on the "New user" field to add a new user to the list.



- ▷ 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.
- ▷ 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:

- ▷ In the "Start" menu, select the menu item "User switching".



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

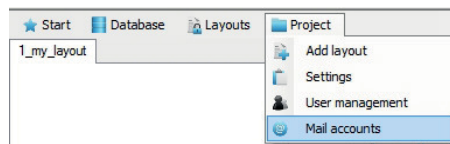


8.4.6 Mail Accounts

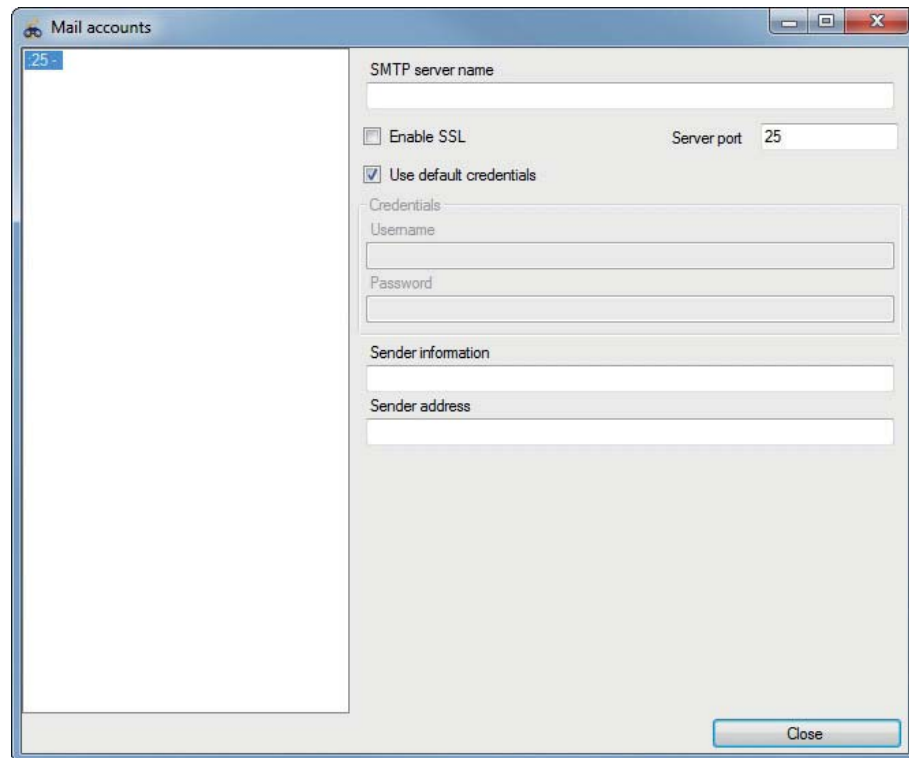
You can set up an e-mail account in order to be automatically notified in the case of system malfunctioning.

Proceed as follows:

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



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

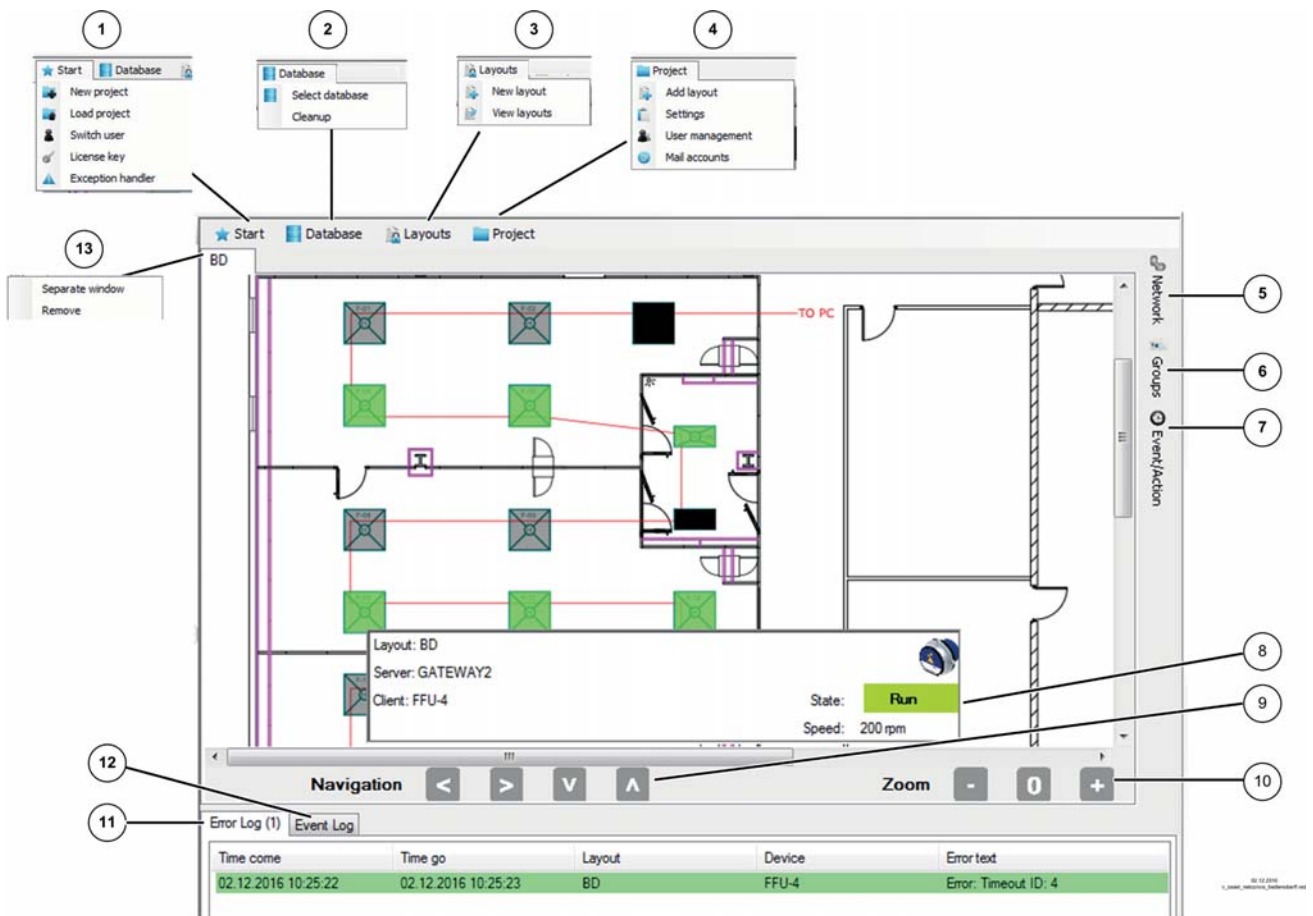


Settings

- SMTP server name: Name or IP address of the host for SMTP transactions.
- Activate SSL: Use Smtplib 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 ZAsset NETconVis

8.5.1 Explanation of the screen view



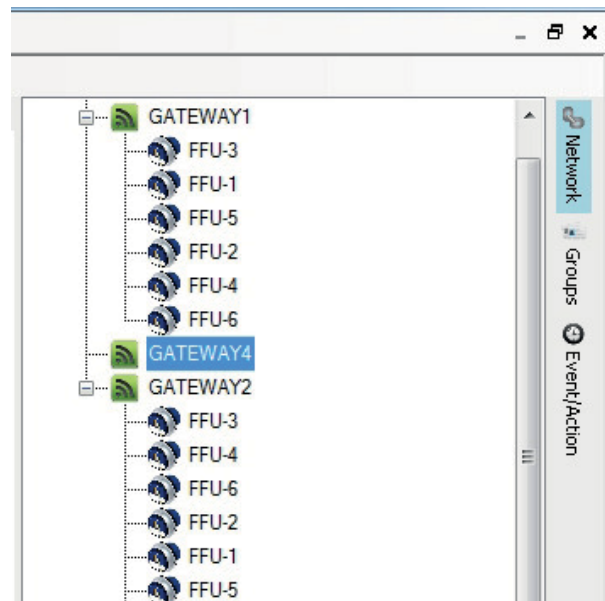
1. Start menu: Manage projects and request licence key
2. Database menu: Create and manage database for ZAsset NETconVis
3. Layouts menu: Import system layouts into database and manage
4. Project menu: Allocate a layout to a project, manage status colour settings, user and e-mail accounts
5. Network 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:

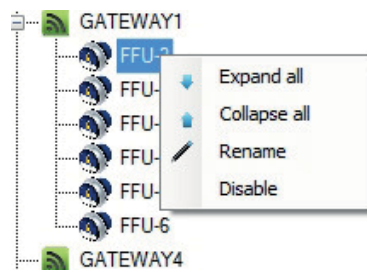
- ▷ Open the "Network" menu on the right.



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



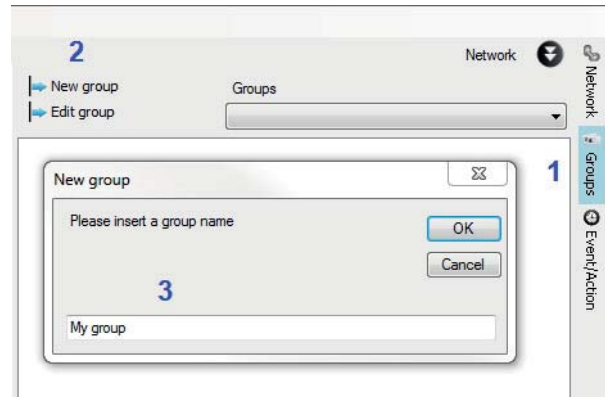
8.5.3 Function menu: Groups

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.

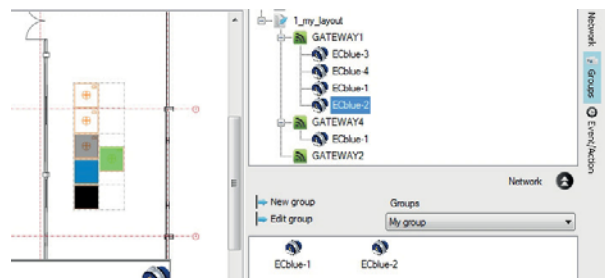
Through grouping, a clearly arranged management system can also be achieved for large systems with a lot of clients.

Proceed as follows:

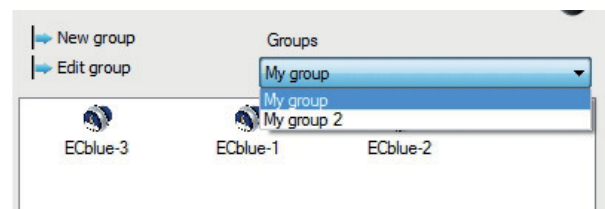
- ▷ Open the "Groups" menu on the right.
- ▷ Select the "New group" field and enter the name of the group in the next window.



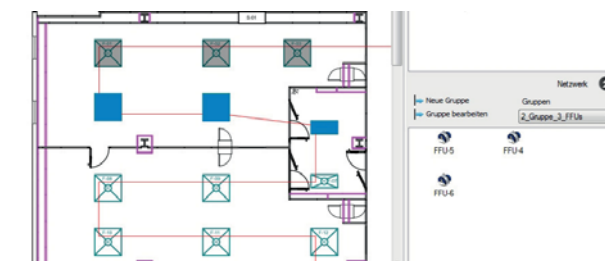
- ▷ With a single click, mark the client in the layout in colour, and with a double-click accept into the group.



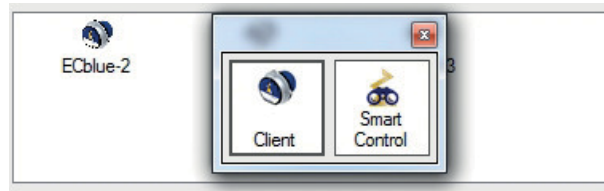
- ▷ In the case of several groups, select the desired group in the drop-down menu.



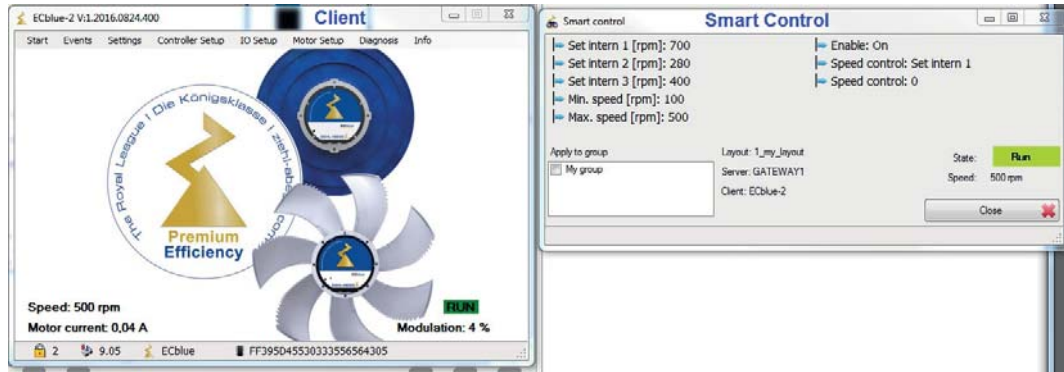
When selecting the group, the members of the group are marked in colour.



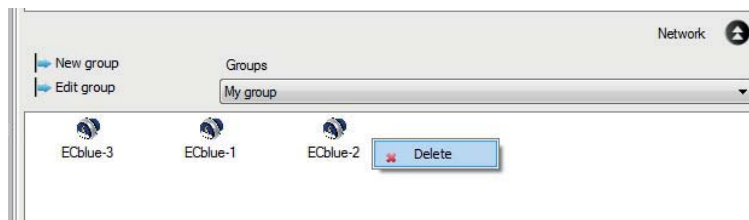
- ▷ Open the setting via the client or Smart Control with a double-click on a member of the group.



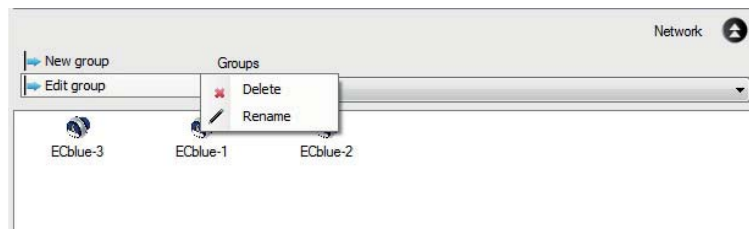
- ▷ Select the desired setting option via the client or Smart Control.



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

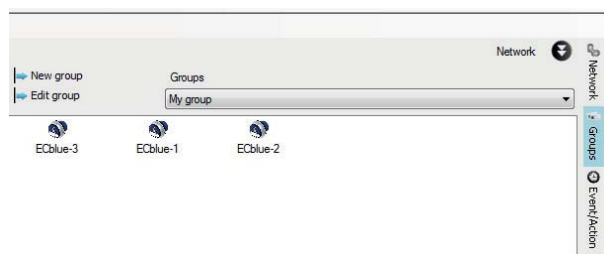


- ▷ Rename or delete groups if necessary, to do so select "Process group" field.

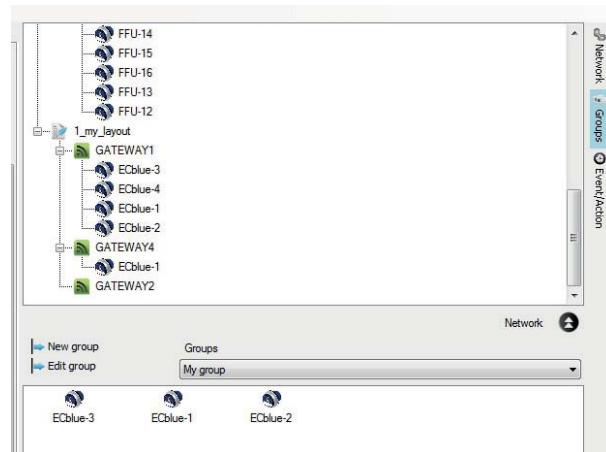


- ▷ With a click on the network arrows (on the right) show or hide the network menu.

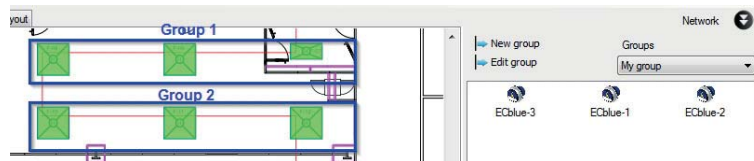
Network hidden



Network shown



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.

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



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

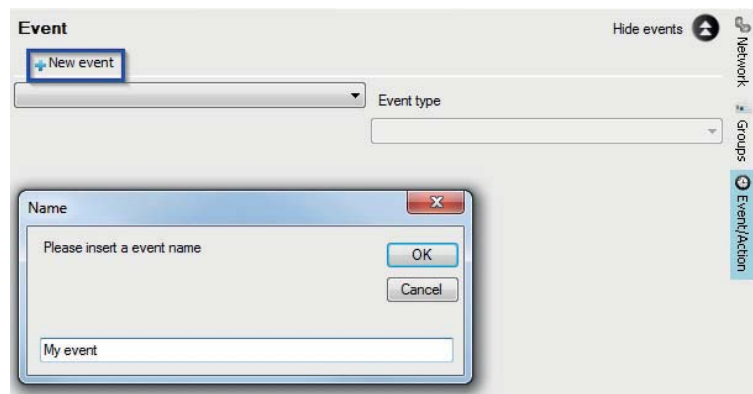


Information

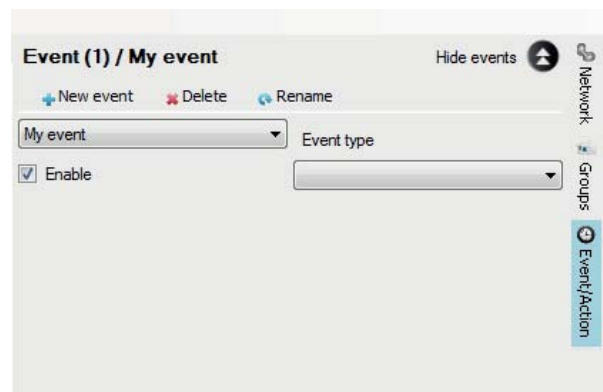
Events are carried out (trigger actions) if a certain defined state occurs in the system (event triggered). If the state reoccurs, the event is repeated.

Proceed as follows:

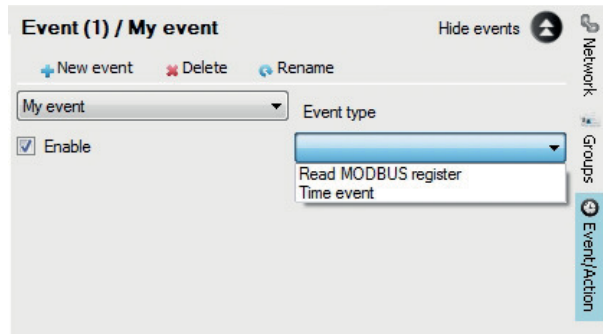
- ▷ Open "Event/action" menu on the right.
- ▷ Select "New event" field.
- ▷ Enter the name of the event in the next window and confirm with "OK".



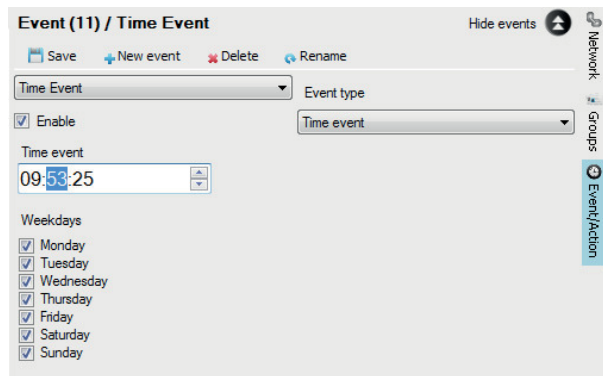
- ▷ Select the event created in the drop-down menu.
- ▷ Select "Delete" event, "Rename" event or "New event" if necessary.



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

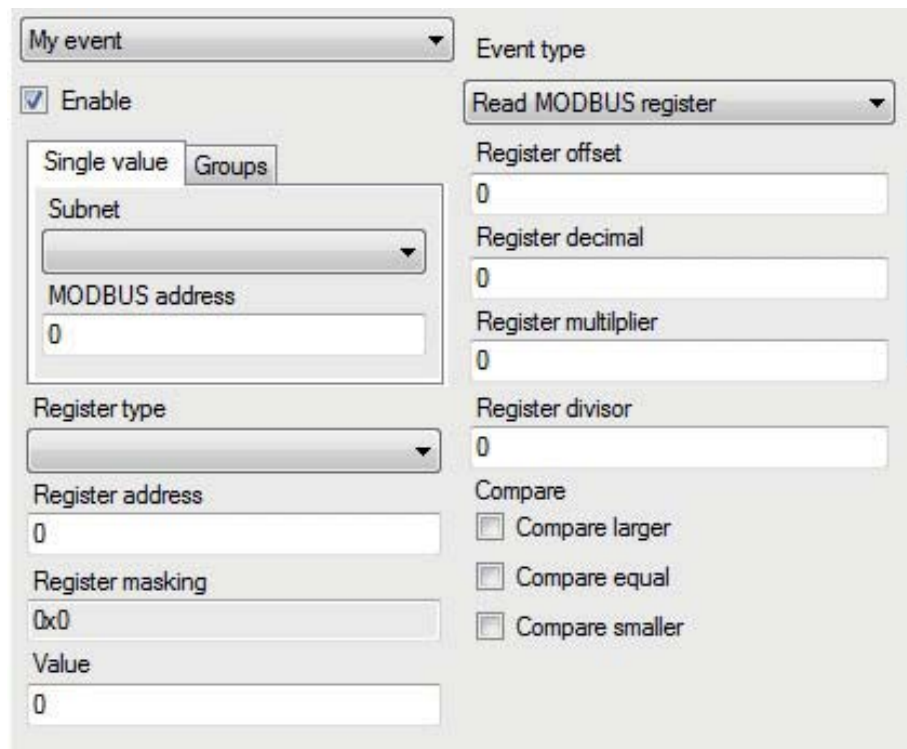


- ▷ Tick "Enable" to activate an event. Only if it is ticked, is the event monitored!
- ▷ Remove "Enable" tick to deactivate the event.
- ▷ Accept change of approval status with the then additionally appearing "Save" field.



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.



Setpoint setting for register comparison

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)

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.

The screenshot shows a configuration window for an event. At the top left, there is a dropdown menu labeled 'My event'. To its right is the label 'Event type' above another dropdown menu currently set to 'Time event'. Below these is a checked checkbox labeled 'Enable'. At the bottom, there is a text input field labeled 'Time event' containing the time '12:01:53'.

8.5.4.2 Create action

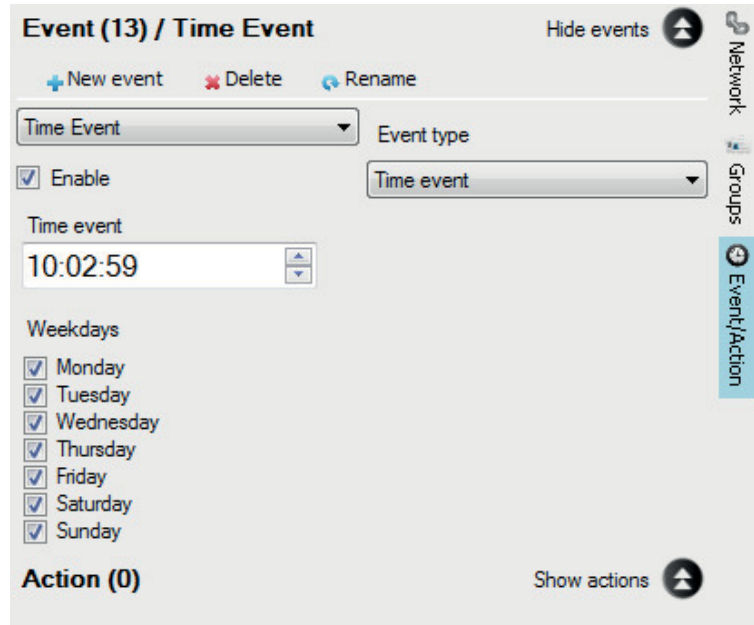


Information

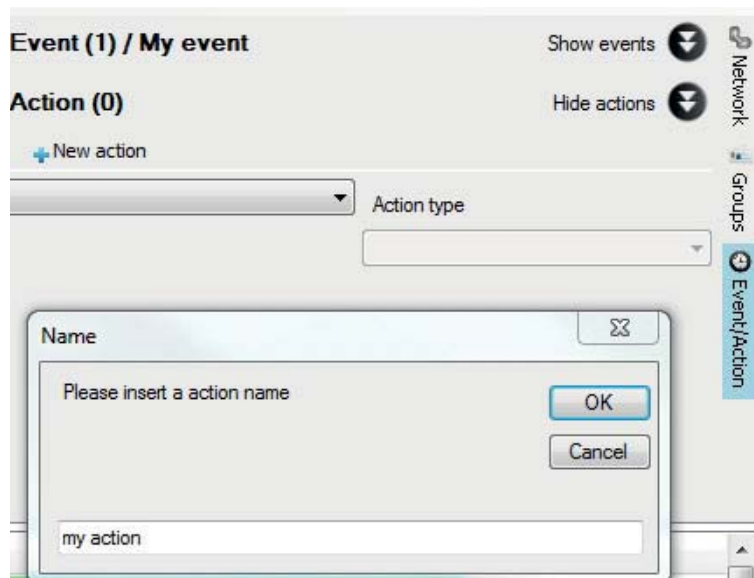
Actions for a certain event are performed once only when a certain state arises. If an error occurs in an action, this action is not repeated.

Proceed as follows:

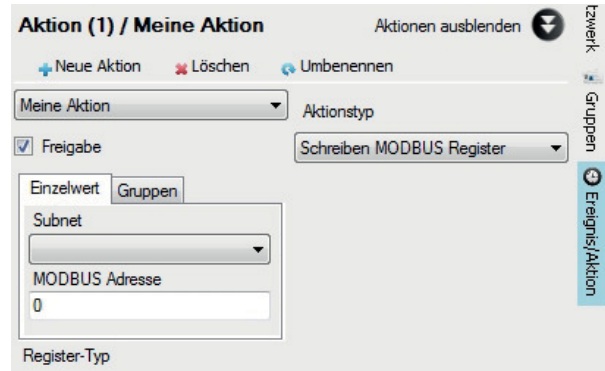
- ▷ In the event field, show entry field for actions through "Show actions".



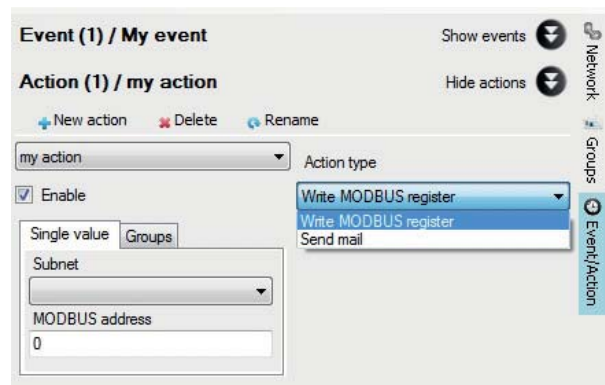
- ▷ Select "New action" field.
- ▷ Enter the name of the action in the next window and confirm with "OK".



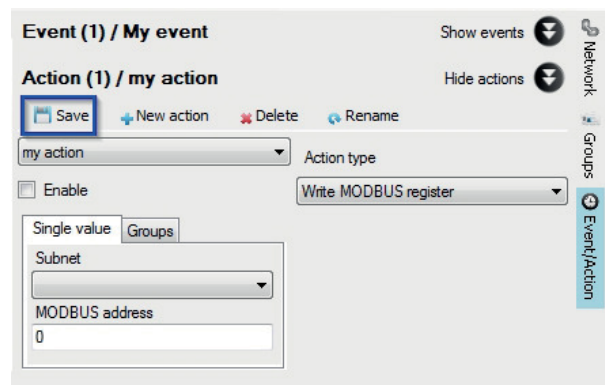
- ▷ Select the action created in the drop-down menu.
- ▷ Select "Delete" action, "Rename" action or "New action" if necessary.



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



- ▷ Tick "Enable" to activate an action.
- ▷ Remove "Enable" tick to deactivate the action.
- ▷ Accept change of approval status with the then additionally appearing "Save" field.



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.

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)

Action type: Send mail

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

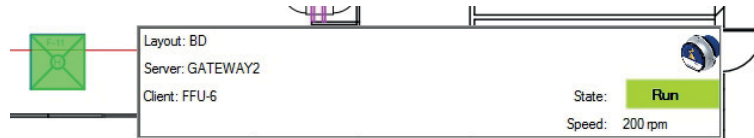
The screenshot shows a configuration window for an event. At the top, it says "Event (1) / My event" with a "Show events" dropdown. Below that, "Action (2) / my action" is shown with a "Hide actions" dropdown. There are three buttons: "+ New action", "Delete", and "Rename". A dropdown menu shows "my action". To the right, "Action type" is set to "Send mail". There is a checked "Enable" checkbox. Below that is a dropdown for "SMTP server name". The "Address" field is empty and has a "+ New" button. Below the address field are "Subject" and "Message" text input fields. On the right side, there is a vertical sidebar with "Network", "Groups", and "Event/Action" (which is highlighted).

8.5.5 Setting via Smart Control

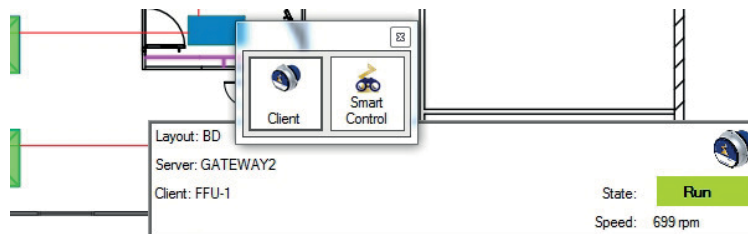
There are two options for the visualisation of operating states and for setting individual clients. The option via "Smart Control" is described below.

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)

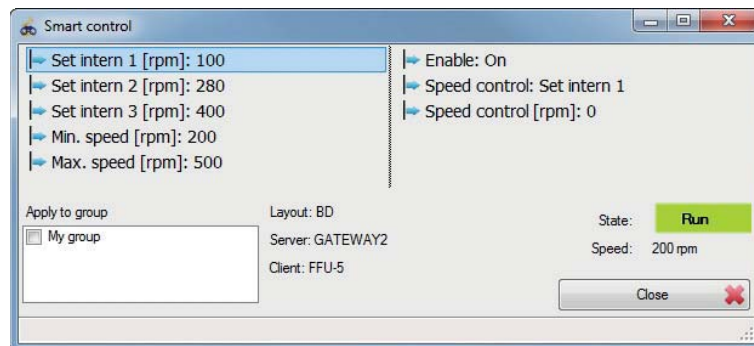


- ▷ Click on a client, this is marked in colour and both setting options are displayed.
 1. Client (for operation see chapter "Add client")
 2. Smart Control



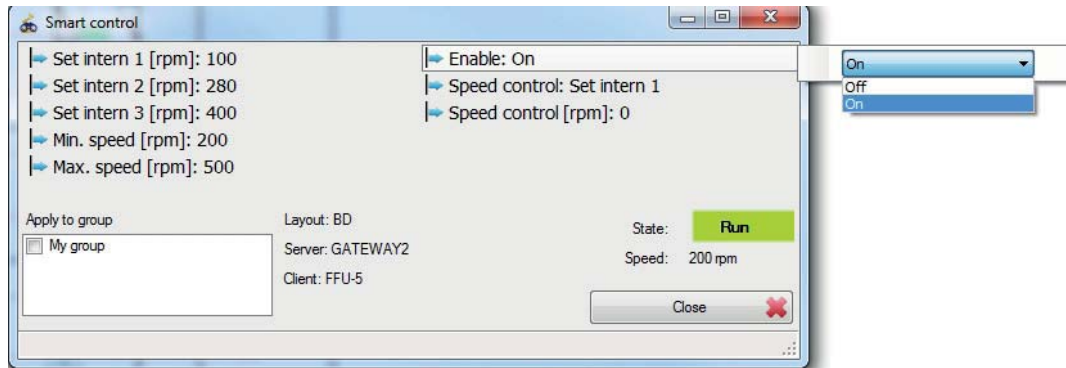
- ▷ Double click on Smart Control

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



The available settings are device-dependent

- ▷ 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.



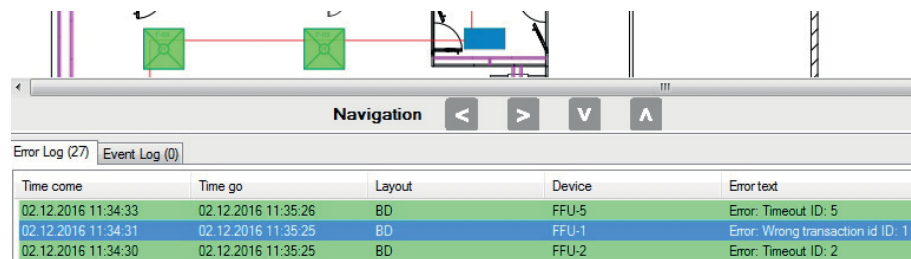
8.5.6 Protocols

8.5.6.1 The error protocol

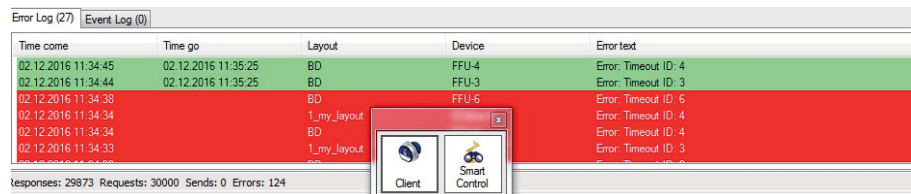
The error protocol documents all errors occurring in the networks. It documents when the error occurred and when the error no longer exists. In addition, the layout concerned, the client concerned and error text are documented.

Proceed as follows:

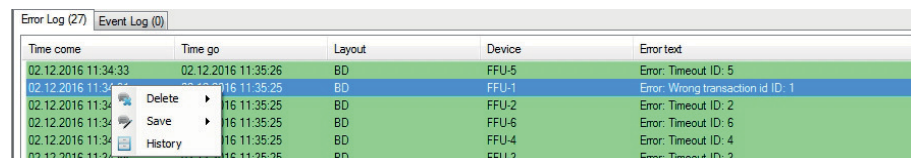
- ▷ Click on an entry to highlight the client in the layout in colour.



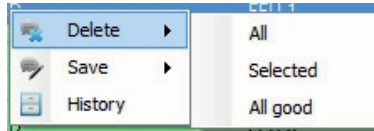
- ▷ Double click on the entry to open the setting options for the client.



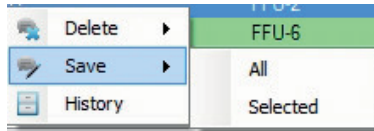
- ▷ Click on any entry to open the context menu.



- ▷ 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



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



- ▷ 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").

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:

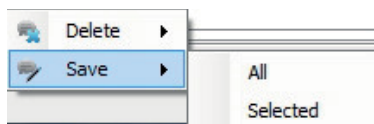
▷ Click on any entry to open the context menu.

Time	Type	Event/Action Type	Name	Error
02.12.2016 13:48:00	Event	Read MODBUS register	My event	Error: EXCEPTION 08: Gat...
02.12.2016 13:47:58	Event	Read MODBUS register	My event	Error: EXCEPTION 08: Gat...
02.12.2016 13:47:5	Event	Read MODBUS register	My event	Error: EXCEPTION 08: Gat...
02.12.2016 13:47:5	Event	Read MODBUS register	My event	Error: EXCEPTION 08: Gat...
02.12.2016 13:47:52	Event	Read MODBUS register	My event	Error: EXCEPTION 08: Gat...
02.12.2016 13:47:50	Event	Read MODBUS register	My event	Error: EXCEPTION 08: Gat...

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



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

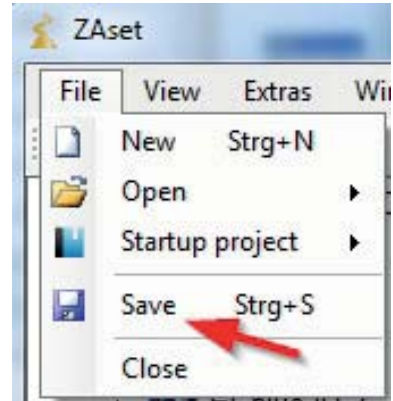
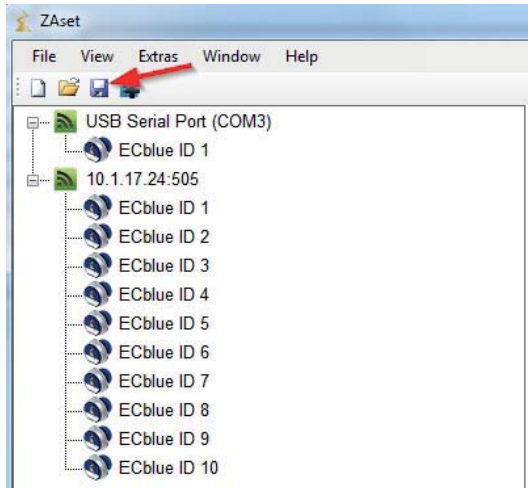


9 Managing projects

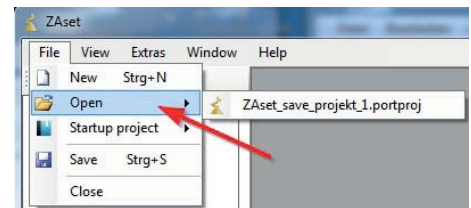
9.1 Saving and loading projects

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`).



A saved project can be opened again by File. After opening, you must confirm the setup of the server connections.

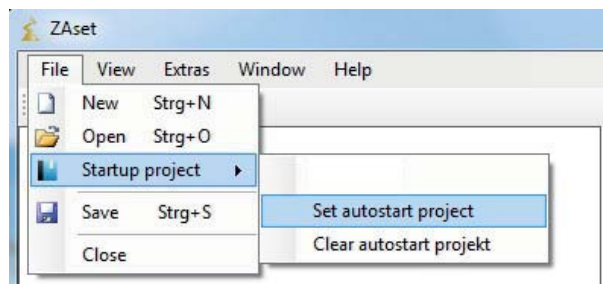


The server must be reconnected after a voltage interruption!

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`.

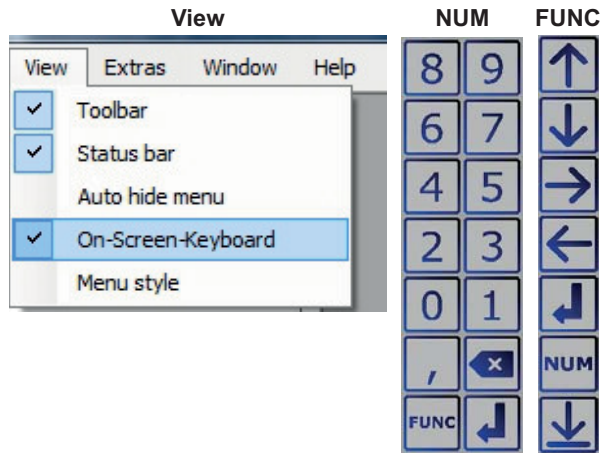


After the program start, you must merely confirm the setup of the server connections. The selected Autostart project can be removed again under `Clear autostart projekt`.

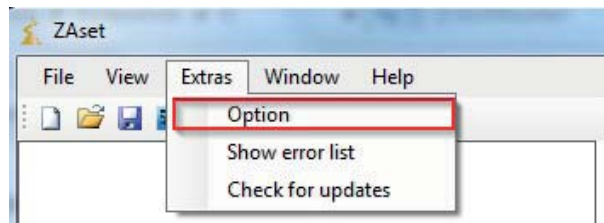
10 View

10.1 On-Screen-Keyboard

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



11 Extras / Options



The following settings can be made under Extras / Options:

- Language
- Updates
- Proxy

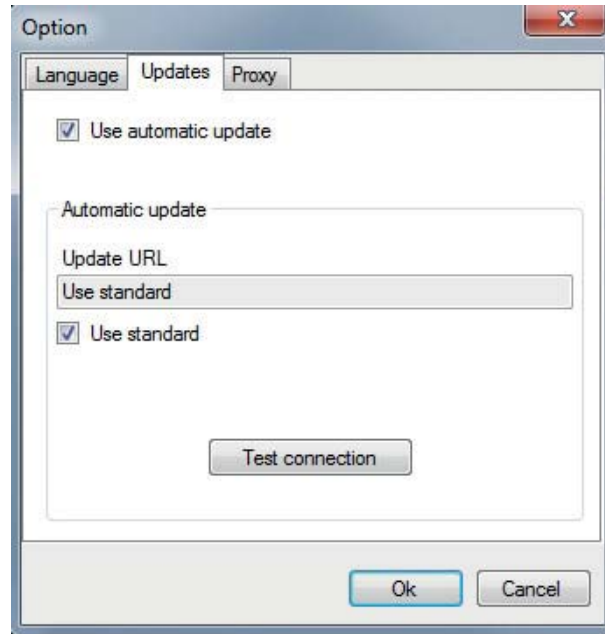
11.1 Setting language

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.



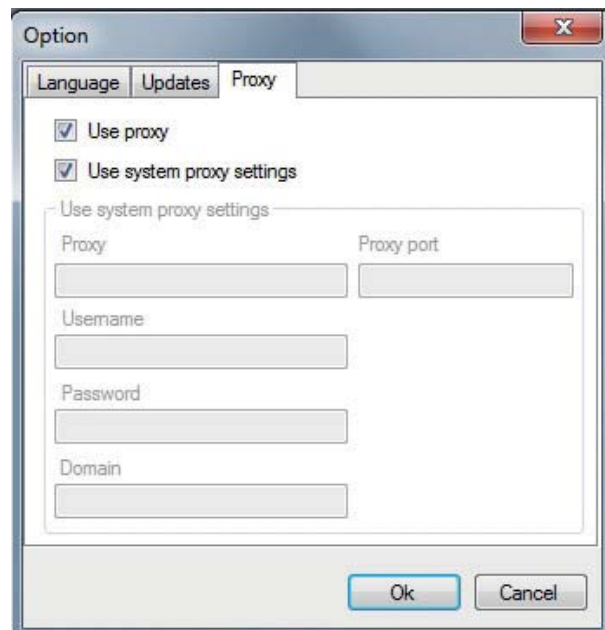
An alternative update path can be saved under “Update URL”.

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.



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

▷ 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.