

SIEMENS

Climatix™

Climatix OPC

User Guide

Legal note

Legal note concept

This guide includes notes that must be followed to prevent damage to property. Notes dealing only with damage to property use the signal word NOTE and an exclamation point. They are depicted as follows:

!	NOTICE
	Type and source of hazard Consequences in the event the hazard occurs <ul style="list-style-type: none"> • Measures/prohibitions to prevent the hazard

Qualified personnel

Only qualified personnel may commission the device/system. For our purposes, qualified personnel have the training and experience necessary to recognize and avoid risks when working with this device/system.

Proper use

The device/system described here may only be used on building technical plants and for the described applications only.

The trouble-free and safe operation of the device/system described here requires proper transportation, correct warehousing, mounting, installation, commissioning, operation, and maintenance.

You must comply with permissible ambient conditions. You must comply with the information provided in the Section "Technical data" and any notes in the associated documentation.

Fuses, switches, wiring and grounding must comply with local safety regulations for electrical installations. Observe all local and currently valid laws and regulations.

Exemption from liability

The content of this document was reviewed to ensure it matches the hardware and firmware described herein. Deviations cannot be precluded, however, so that we cannot guarantee that the document matches in full the actual device/system. The information provided in this document is reviewed on a regular basis and any required corrections are added to the next edition.

Software used

ReadmeOSS.htm includes all Open Source Software components used in this product (to include copyright owners and licensing agreements). ReadmeOSS.htm can be viewed:

- By opening the file at the end of the installation routine
- At any time under "Start > Programs > Climatix Suite > OPC > OSS"



Cyber security disclaimer

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1 About this document

1.1 Revision history

Tool version	Document version	Date	Changes	Section
V11.26	c	Current version	Note on periods "." in COM1 and COM2 texts	Object and member selection [→ 12]
			Show and hide child elements	Preparing Config.csv [→ 16]
V11.22	b	2017-02-23	Fully revised edition. New designation: Climatix OPC	
< V11	a	2009...2011	First edition designated as "Remote OPC"	

1.2 Reference documents

Document ID	Title	Topic
SCOPE tool online help	Online help	SCOPE tool help topics
SAPRO tool online help	Online help	SAPRO tool help topics

1.3 Before you start

1.3.1 Target audience

This document targets system integrators:

The target audience is responsible for planning and executing projects with Climatix products.

1.3.2 Definition of terms

Term	Explanation
OPC	Stands for Open Platform Communications
OPC tag	A "tag" corresponds to a data point/member

1.3.3 Trademarks

The table below lists the third-party trademarks used in this document and their legal owners. The use of trademarks is subject to international and domestic provisions of the law.

Trademarks	Legal owner
BACnet™	American National Standard (ANSI/ASHRAE 135-1995)
Google, Google Chrome	Google Inc.
Mozilla Firefox	Mozilla Corporation

All product names listed in the table are registered (®) or not registered (™) trademarks of the owner listed in the table. Pursuant to this reference, we forgo the labeling (e.g. using the symbols ® and ™) of trademarks for the purposes of legibility based on the reference in this section.

2 Climatix OPC Server - Introduction

Climatix OPC server provides OPC integration of Climatix controllers with Ethernet interface (POL6xx controllers). OPC offers the following, general benefits:

- Access to process data, alarm and event messages
- Simple integration of subsystems in a building management system (BMS)
- Easily overcome barriers to communication between software applications and hardware devices.

Server/client structure

We distinguish between servers and clients within an OPC network.

- The OPC server supplies the data
- Data points (OPC tags) can be read and written on the OPC client.

The Data Access Interface (OPC DA) exchanges data between servers and clients.

OPC server as service

The Climatix OPC server operates as a service on a (server) PC.

3 Requirements

- A standard PC is required with one of the operating systems listed below as well as access to a network.
- Supports Climatix POL6xx controllers with Ethernet connection.
- The Climatix OPC server is started as a Windows service.
 - Either automatically at computer start up
 - Or manually by the user
- The user requires administrator rights on the PC.
- Use the TCP-IP LAN connector on the Climatix controller to connect to the Ethernet.

3.1 Technical requirements

The system requirements for operating the Climatix OPC server in a table:

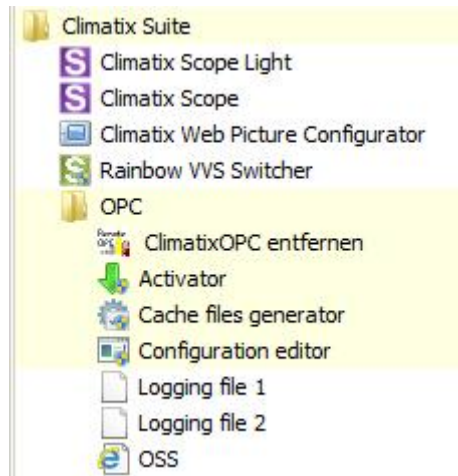
Device	Specification
Hard disk	At least 20 GB of available memory
Ethernet adapter	10Base5, 10Base-T, or 100Base TX adapter supported by one of the operating systems listed below.
Operating systems	Windows 7 Professional (32 bit / 64 bit) with the current service packs
	Windows 10 Professional or Ultimate (32 bit / 64 bit) with the current service packs
	Windows Server 2008, (R2) Standard Edition, (32 bit / 64 bit) with the current service packs
	Newer Windows server versions have not been tested

3.2 OPC license

Ordering	<p>You can order various "size" licenses under order number POL09.00/STD, up to a maximum limit of:</p> <ul style="list-style-type: none"> • 2,000 connected controllers and • 200,000 engineerable data points
Software and license	<p>In addition to the OPC software, you must have a Climatix OPC license to install the server on one computer.</p>
Access point	<p>Please contact your Siemens POC directly to order and transact licensing ("Licensing [→ 11]").</p>

4 Install Climatix OPC

Overview



You receive the following programs after installation:

Program	Description/documentation
Activator	Licensing [→ 11]
Cache files generator	Generate cache files [→ 18]
Configuration editor	Modify notifications during commissioning [→ 26]
Climatix OPC Server	Operates as a Windows service and part of the overall documentation. No user interface.

4.1 OPC "Core Components"

The OPC "Core components" (server or clients) must be installed on the target computer prior to installing the Climatix OPC server. The latest version of the OPC core components can be downloaded from the OPC Foundation website.

Link: www.opcfoundation.org/

Hint

On the OPC website, enter "Core components" in the search mask. You quickly find the download for your system.

Version	Status	Description	Release Date (YYYY-MM-DD)	Download
3.0.106	Release	x64 Installer (*.msi) (.NET 4.5) (Signed)	2016-06-07	Download
3.0.106	Release	x86 Installer (*.msi) (.NET 4.5) (Signed)	2016-06-07	Download
3.0.106	Release	x66 Merge Module (*.msm) (Signed)	2016-06-07	Download
3.0.106	Release	x64 Merge Module (*.msm) (Signed)	2016-06-07	Download

4.2 Climatix dependencies

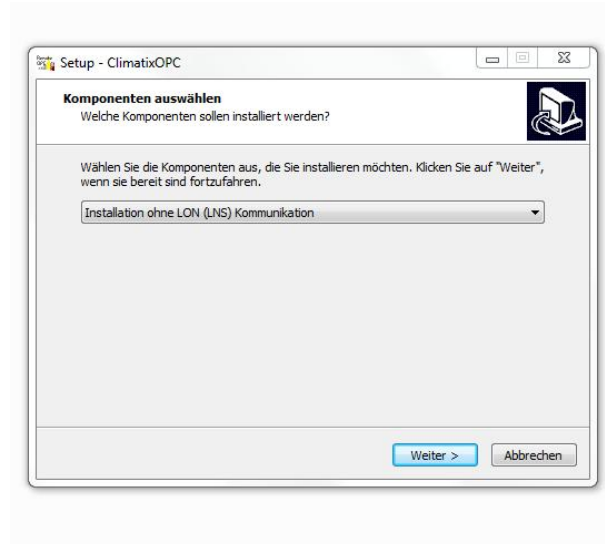
Dependencies are supplied with the actual Climatix OPC software. They must be installed in advance. Dependencies are software components by Microsoft.

Double-click Climatix_Dependencies_nnn.exe and follow the instructions.

4.3 OPC software installation

- The Climatix OPC server is supplied as a setup file.
- At a minimum, you must disable older versions of the Climatix OPC servers (operating as a service) on the target computer before installing the Climatix OPC server software.
- We recommend uninstalling the existing server.

Double-click ClimatixOPC_nnn.exe and follow the instructions.



4.4 Climatix OPC and SCOPE on one PC

The simplest use case is to install Climatix OPC on a separate PC prepared exclusively for OPC functionality.

We recommend the following installation sequence if Climatix OPC and the SCOPE tool must be installed on the same PC:

1. Climatix OPC
2. SCOPE tool
3. ClimatixOPC_Settings_nnn.exe *

* ClimatixOPC_Settings_nnn.exe is supplied with the OPC software and need only be run once. ClimatixOPC_Settings_nnn.exe does not have a user interface.

Technical background

SCOPE behaves differently if the SCOPE tool is installed on the same PC as Climatix OPC as it does on an individual installation.

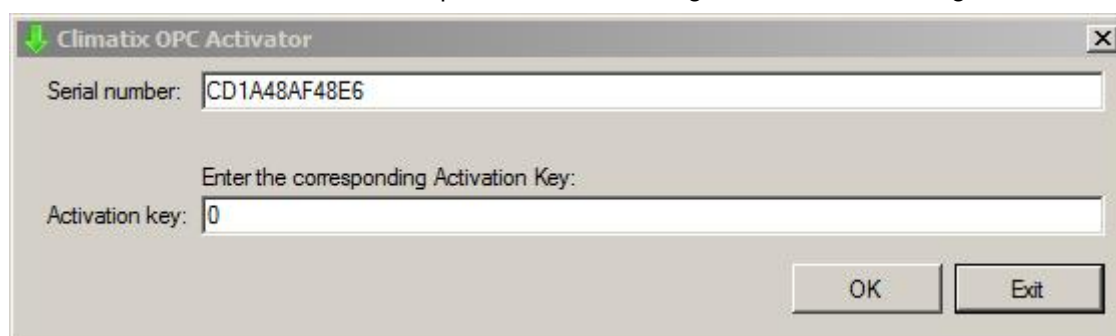
ClimatixOPC_Settings_nnn.exe adapts to ensure both programs can operate.

5 Licensing

The Climatix OPC server requires a license to connect to the Climatix controllers. The license applies to **one** PC.

Proceed as follows to license the software:

- ▷ The Climatix OPC software is installed on the target PC.
- ▷ You want to license your Climatix OPC server.
- 1. On the target PC, go to "Start > Programs > Climatix Suite > OPC > Activator".
 - ⇒ The "Activator" generates a single, valid "Serial number" based on the parameters of the target PC hardware configuration.



- 2. Copy the "Serial number" and send it to the Siemens access point described under "OPC license [→ 8]". Indicate the OPC license order number.
- 3. Siemens returns the suitable "Activation key" after further clarification of the billing modalities.
- 4. Reopen the "Activator" and enter the received "Activation key" and confirm with OK.
 - ⇒ Your Climatix OPC server is licensed.

Invalid "Activation key"

The OPC server shuts down after the demo mode expires without a valid activation key. The reason is entered in the log file: "LicenseViolation ==> NO VALID ACTIVATION KEY FOUND!".



Note that changes to the PC hardware configuration may invalidate the activation key. In this case, request a new activation key.

6 Preparing Climatix OPC

6.1 Application-side

6.1.1 Object and member selection

The following files can be processed to reduce the number of data points for the OPC server:

- ObjLang.csv (Object language)
- MemLang.csv (member language)

In the CSV table (always with the same set up), columns D and E are available for deselecting (by deleting) the data points.

- Column D: COM1 (0x4000)
- Column E: COM2 (0x4001)



NOTICE

- Note the prior selection in the Config.csv (see "Preparing Config.csv [→ 16]"), where a module makes the preselection COM1, COM2 or application language.
- In Scope, for OPC object mapping, ensure that the texts for COM1 and COM2 do not have periods. A period is interpreted as "End". The object is not displayed.

Object selection (example)

A	B	C	D	E	F
0x1003 0xC56A39DD	0x1100	Heating			
0x1012 0xC56AE07F	0x1100	HeatingReg	HeatingReg		Heat
0x1003 0xC56AE6CA	0x1100	HMI_Switch			
0x1012 0xC56AA581	0x1100	HMISwitchFunc		HMISwitchFunc	Function
0x1003 0xC56A003D	0x1100	HeatRecovery			
0x1012 0xC56A16CF	0x1101	HRC*Dmpr*Plade*Wat	HRC*Dmpr*Plade*Wat		Rot-VVX* Återluft*PI...
0x1003 0xC56AD159	0x1100	HRC_Eff			

Column content

Column	Description
A	Type and instance (ID)
B	Object name of the member or virtual member
C	Object type application name
D	COM1 language 0x4000 In the example, 2 objects are "enabled" for the server
E	COM2 language 0x4001 In the example, 1 object is "enabled" for the server
F	The following columns as of this point contain HMI languages

Member selection
(example)

A	B	C	D	E
0x1012	0x1000	FullSize		
0x1012	0x1001	DynamicSize		
0x1012	0x1100	ObjectName		
0x1012	0x1101	StatusText		
0x1012	0x0000	UserAccess	UserAccess	
0x1012	0x0001	HighLimit	HighLimit	
0x1012	0x0002	Setpoint	Setpoint	

Column content

Column	Description
A	Object type setpoint ENUM 0x1012
B	All members of the object type
C	Corresponding member name (application name)
D	COM1 language 0x4000 In the example, members 0, 1, and 2 are "enabled" for the server
E	COM2 language 0x4001

Explanation

- In the example, members 0, 1 and 2 from **all** setpoint enumerations (0x1012) of the application are "enabled"
- For object types with numerous members, any such selection can have considerable influence on the number of OPC tags.












6.1.2 COV optimization

Optimizing the COV threshold, especially in the event of a large number of OPC tags, can significantly reduce CPU load. Settings are available in the registry and on individual objects.

Presettings in the registry

Presettings in the registry are located in the following path:

- HKEY_LOCAL_MACHINE\SOFTWARE\SBT\ClimatixOPC
- HKEY_LOCAL_MACHINE\SOFTWARE\WOW6432Node\SBT\ClimatixOPC (für X64-Maschinen)

Name	Typ	Daten
 (Standard)	REG_SZ	(Wert nicht festgelegt)
 ActivationKey	REG_SZ	0
 CachePath	REG_SZ	CacheFiles
 ConfigFile	REG_SZ	Config.csv
 Cov1	REG_SZ	0.0001
 Cov10	REG_SZ	0.001
 Cov100	REG_SZ	0.1
 Cov1000	REG_SZ	0.3
 Cov10000	REG_SZ	1.0
 CovOther	REG_SZ	3.0
 CovPath	REG_SZ	Cov

Example of reading

- A member has a value range of 0...5. The COV threshold is preset to 0.0001
- A member has a value range of up to 5,000. The COV threshold is preset to 0.3

Object settings on the OPC client

The COV threshold can be individually modified in the OPC client object tree (to write members).

All COVs in a COV folder (C:\Program Files (x86)\SBT\ClimatixOPC\Cov) are saved as xxx_CovValueTable.txt if the server service stops.

```

Datei Bearbeiten Format Ansicht ?
0x1023 0x3C53F277 5.000000 2.000000 0
0x1003 0x3C533ACD 0.099900 0.099900 0
0x1023 0x3C533ACD 0.600000 1.000000 1
0x1003 0x3C53E3DF 0.099900 0.099900 0
0x1023 0x3C53635E 5.000000 2.000000 0
0x1023 0x3C53533D 5.000000 2.000000 0
0x1023 0x3C535E69 5.000000 2.000000 0
0x1003 0x3C53E492 0.099900 0.099900 0
0x1003 0x3C538EE6 0.099900 0.099900 0
0x1023 0x3C538EE6 3.000000 2.000000 0
0x1003 0x3C534FAB 0.099900 0.099900 0
0x1023 0x3C534FAB 3.000000 2.000000 0
0x1003 0x3C536516 0.099900 0.099900 0
0x1023 0x3C536516 3.000000 2.000000 0
    
```

Explanation of the columns

The line entries consist of (from left to right):

- Object type
- Object ID
- COV1 threshold
- COV2 threshold
- Flag

The modified COV thresholds flag is set to "1" to activate the new settings at the next server start up.

Alternative procedure

As an alternative to the OPC client, COV thresholds can be entered directly in the file xxx_CovValueTable.txt.

Read priority

The server start up is as follows:

1. Read the presettings from the registry.
2. Overwrite the presettings with the modified COV thresholds where the flag = 1.

6.2 On the OPC tool side

6.2.1 Preparing Config.csv



The file described below is located at "C:\Program Files (x86)\SBT\ClimatixOPC".

File handling

- The comma separated Config.csv can be edited in Excel, but must be saved as a CSV file.
- You can separate the values with semicolons or tabs if Unicode format is required.

Function

The file includes:

- A list of controllers linked to the OPC server:
It connects to all controllers on the list once the server starts up.
- Control parameters:
The server creates the parameters for the data points and starts I/O communication with all available controllers.
- You must restart the server for the changes to take effect.

A	B	C	D	E	F	G	H	I	J
POL687_3422F3	Master_010	TCP	0x4000	MemLang.csv	22	OPC	Auth	Yes	# COM1 language
POL687_3422F4	Master_011	TCP	0x4000	MemLang.csv	22	Master	Auth	Yes	# COM1 language
POL687_3422F5	Master_012	TCP	0x4000	MemLang.csv	22	-	Auth	No	# COM1 language
POL687_3422F6	Master_013	TCP	0x4001	MyMemLang.csv	22	-	-	No	# COM2 language
POL687_3422F7	Master_014	TCP	0x4001	MyMemLang.csv	22	-	-	No	# COM2 language
POL687_3422F8	Master_015	TCP	-1	ShortMem.csv	22	-	-	-	# default language
POL687_3422F9	Master_016	TCP	-1	ShortMem.csv	22	-	-	-	# default language
-	-	-	-	-	-	-	-	-	-
POL687_FF4006	Slave_01	TCP	-1	SlaveMem.csv	22	-	-	-	# the pure slave

Column content

Column	Description
A	Controller IP address or domain name
B	Technological connection name. The name is used for the output in the log file
C	<ul style="list-style-type: none"> TCP = TCP/IP connection USB = USB connection
D	The language used in the object description: <ul style="list-style-type: none"> -1 = Default language 0x4000 = COM1 language 0x4001 = COM2 language
E	Name of the "member" file for the controller
F	Target communications ID: <ul style="list-style-type: none"> 22 = POL687.xx 23 = POL63x.xx 28 = POL6x8.xx
G	Optional prefix for cache files: <ul style="list-style-type: none"> The technological connection name normally forms the prefix for the cache files Can be edited here to use the same cache file sets for various controllers with the same application
H	Authentication for the connection. Up to VVS10, optional. As of VVS11, mandatory
I	Switch parameter (Yes, No). Show/hide child elements if the parent element is hidden. Yes or [empty]: Child elements are displayed under the first visible 'grandparent' element (see Explanation).
J	Comment

SCOPE, data point browser	Column I: Yes or [empty]	Column I: No
<p>Dyn - (aoUnit) + AnaObj - (aoHierarchy) + BinObj - (aoHierarchy) + MulObj - (aoHierarchy) Settings - (aoHierarchy) [highlighted] - AnaStart - (aoSetptValue) - AnaStep - (aoSetptValue) - Pause - (aoSetptMultistate) - Reset - (aoSetptMultistate) - TBCH - (aoSetptValue)</p>	<p>Dyn + Pause + TBCH + AnaStep + AnaStart + Reset + AnaObj + BObjCOM1 + MulObj + DiagnosticDiagnostic</p>	<p>Dyn + AnaObj + BObjCOM1 + MulObj + DiagnosticDiagnostic</p>

Explanation of column I (Yes/No)

- In the controller mapping file, the translation for the hierarchy element "Settings" was deleted from COM 1.
- The corresponding lines in OPC Config.csv for the example above:


```
139.16.11.210;OPC10No;TCP;0x4000;MemLang23.csv;23;;;No;
139.16.11.210;OPC10Yes;TCP;0x4000;MemLang23.csv;23;;;Yes;
```
- The setting "Yes" or [empty] appends the aoSetpt object below the next node, here aoUnit "Dyn".
- The setting "No" no longer displays all elements below the hidden object "Settings".

6.2.2 Generate cache files

Cache/configuration files

3 cache/configuration files must be available for each of the controllers connected to the Climatix OPC server:

- [Prefix]_TypeInfo.bin
- [Prefix]_TypeDesc.bin
- [Prefix]_ObjData.bin



The "cache" files read out the configurations and are therefore referred to as configuration files.

- The cache files include selected data points from a controller application
- The selection of/restriction to controller data points is defined by the language selection. See "Object and member selection [→ 12]".
- The corresponding cache files must also be deleted and set up anew if the application changes.
- The standard path for the cache files is located in the installation path **C:\Program Files\SBT\ClimatixOPC\CacheFiles**

Prefixes

- You can set the prefix for the cache file for each connection in the Config.csv (see "Preparing Config.csv [→ 16]").
- This permits different controllers to use the same set of cache files.

Standard prefix (different applications)

Example for standard prefix for a "POL687_0204DA" controller:

- POL687_0204DA_TypeInfo.bin
- POL687_0204DA_TypeDesc.bin
- POL687_0204DA_ObjData.bin

Modified prefix (same application)

Example for a modified prefix on a large project with lots of controllers, but the same application:

- myProject_TypeInfo.bin
- myProject_TypeDesc.bin
- myProject_ObjData.bin

Generating cache files

The cache file generate must generate cache files if none are available for the configured controllers. We recommend "pinging" the connection to each directly connected controller.



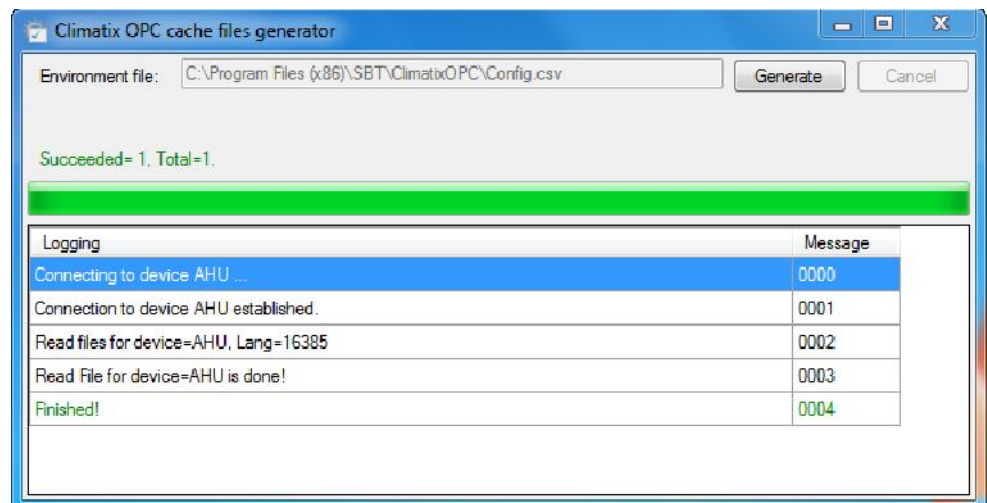
The generator automatically regenerates existing, but not up-to-date cache files.

Proceed as follows:

1. Go to "Start > Programs > Climatix Suite > OPC" and select the "Cache files generator".
2. Click "Generate".
 - ⇒ The generator connects to each controller included in the configuration file and checks whether the cache files are available and up-to-date. The corresponding files are generated if the cache files are unavailable or do not match the current application.
3. You can "Cancel" an on-going generation process.
 - ⇒ Cache file are available. The Climatix OPC server can be started.

Example

All cache files were successfully generated.



7 Start OPC server

Prerequisite

You must have administrator rights on the target PC for the following settings.

- The Climatix OPC server is started as a Windows service.
- The service operates in the background without visualization on the user interface.
- OPC clients can connect to the server as soon as the server service is running.



Stop the OPC clients first and then the OPC server.

Automatically start the OPC server

1. Go to "Start > Control Panel > Administrative Tools > Services".
2. Right-click the ClimatixOPC service and select Properties.

Bluetooth-Unterst...	Die Erkennung und Zuordnung von Remot...	Manuell	Lokaler Dienst
BranchCache	Mit diesem Dienst werden Netzwerkinhalte...	Manuell	Netzwerkdienst
ClimatixOPC	Climatix OPC Server	Gestartet	Manuell Lokales System

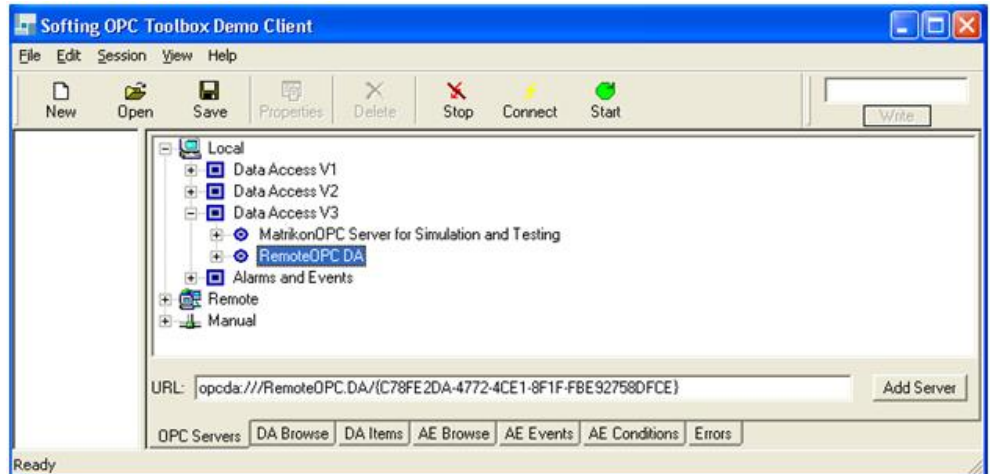
3. Change the startup type to "Automatic".

8 Display on an OPC client

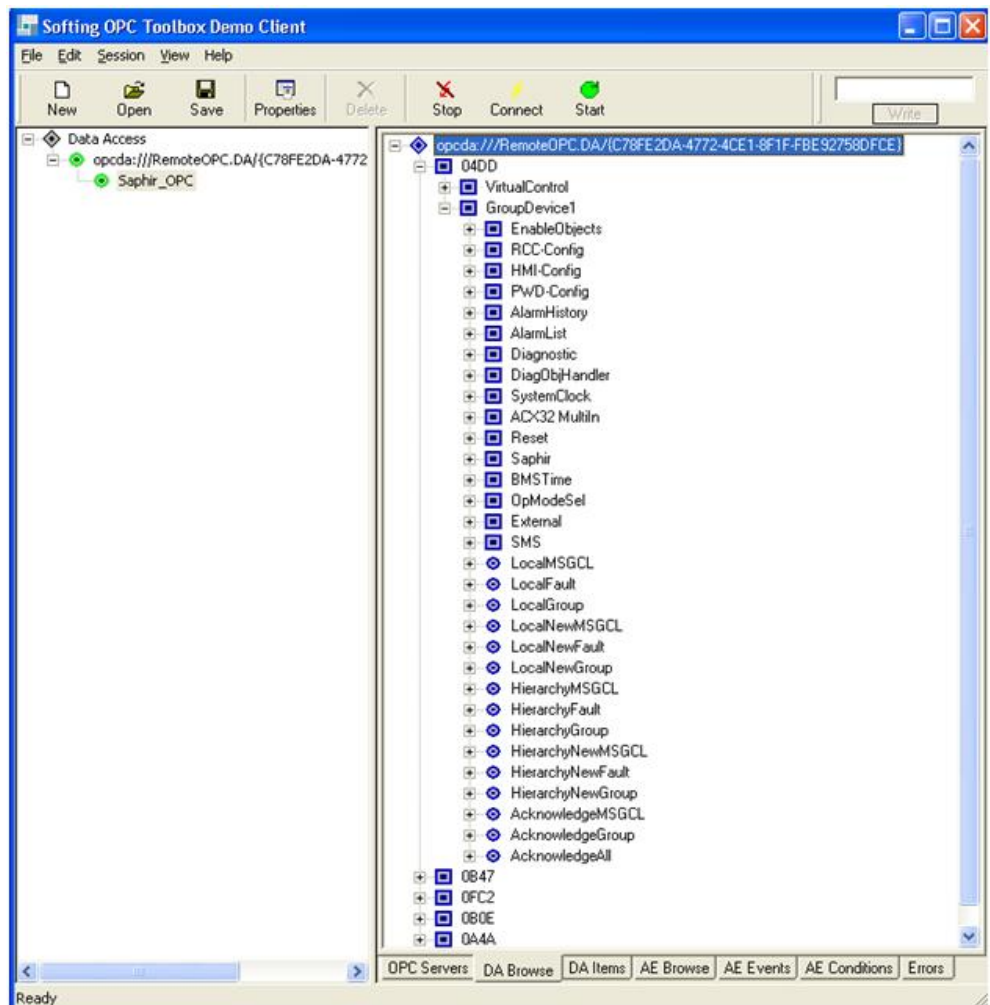
The number of clients that can log onto a Climatix OPC server is **not** limited, but rather is oriented solely on computer performance. Of course, as a rule, only one client (SCADA System) is ever logged onto the server. To date, a maximum of three OPC client accesses to one Climatix OPC server was tested.

Example

Example for softing OPC test client:



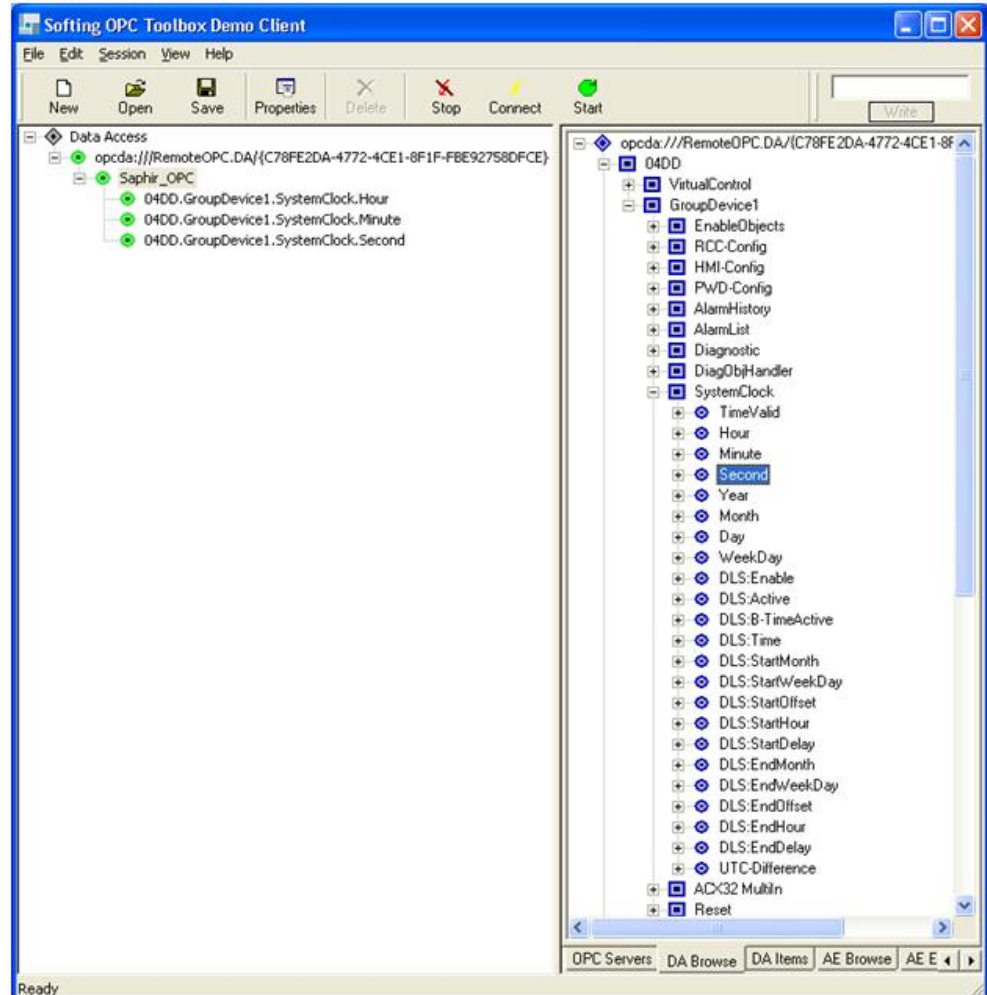
In this example, the OPC client searches for local DataAccess V3 servers. The Climatix OPC server is also displayed.



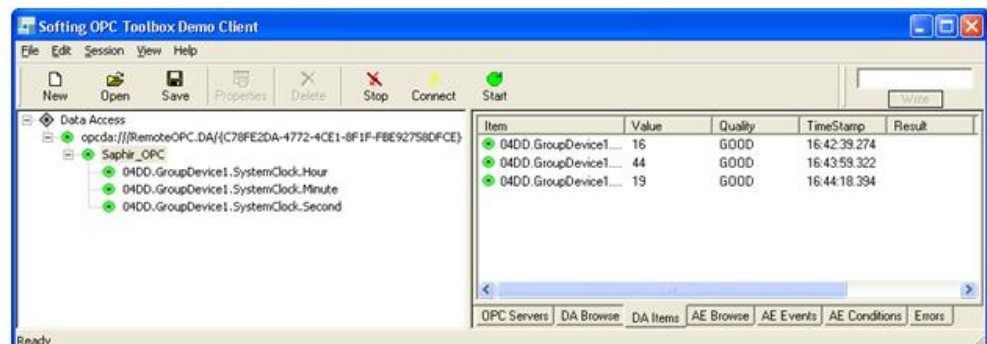
The Climatix OPC server was selected.

The server is displayed on the left side of the client. Selecting the server also creates a group.

On the right side of the client, you can see in this example five controllers with the technological names 04DD, 0B47, 0FC2, 0B0E, and 0A4A. Controller 04DD is expanded.



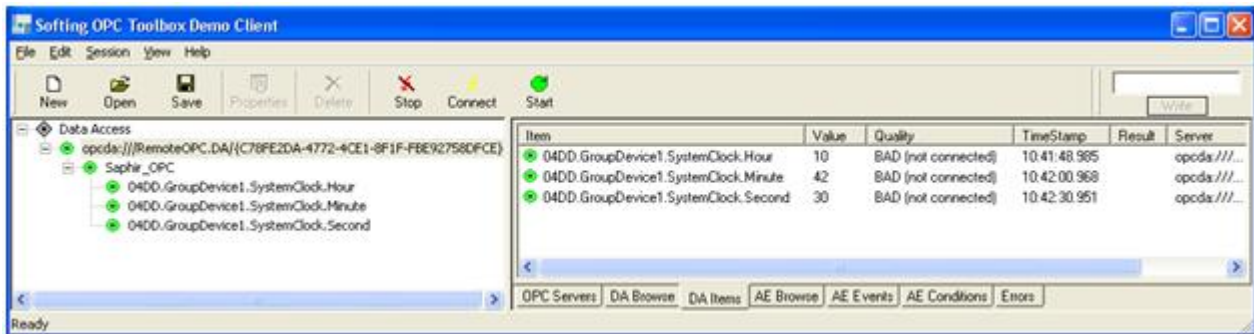
Clients normally allow the user to select individual or all data points on a level. In this example, the system clock OPC tags are selected.



DA Item view The data is updated and the corresponding state is displayed in the "Quality" column.



The state in the "Quality" column changes to "Uncertain" after a brief time if the connection is interrupted to the controller.



The status changes exclusively to "BAD (not connected)" after a few seconds of no connection.

9 Appendix

9.1 Optimize client polling

Measures that you can take on the client

- Access on OPC tags on the client that are needed for displays and/or intervention.
- The start-up time is highly dependent on the Client polling cycle and the COV thresholds.
- A more optimum start-up time can be achieved when the client has a long polling cycle (e.g. 5 seconds or higher) during registration. The value can be, for example, 2 seconds during normal operation.

Background start-up time

The server queries all values at startup: It reads the values from the controller while the client simultaneously polls the server (with the COVs).

Most OPC clients permit setting the polling cycle.

9.2 Diagnosis using the log file

Log file

The log file "ClimatixOPC-1.log" opens at OPC server startup.

Among other items, the log file displays the server version and offers information on the controllers to be connected as well as connection status.

- The log file is available at "Start > Program > Climatix Suite > OPC > Logfile"
- A text editor can open the file

```

I U1 2988 13-09:25:17.401 Main INFO Siemens Building Technologies
I U1 2988 13-09:25:17.401 Main INFO Version V6.46
I U1 2988 13-09:25:17.401 Main INFO Main Thread ID=0x0bac started
I U1 2040 13-09:25:17.401 Init INFO Init thread ID=0x07f8 started
I U1 2040 13-09:25:17.417 Init Connection repetition:
I U1 2040 13-09:25:17.417 Init Repetition delay:
I U1 2040 13-09:25:17.417 Init Auto connection timeout: 60 ses
I U1 2040 13-09:25:17.417 Init Used Trace Name: 1200 sec
I U1 2040 13-09:25:17.417 Init Used Language: 1 = Technological Name
I U1 2040 13-09:25:17.417 Init Used Language: Default
I U1 2040 13-09:25:17.417 Init RCC to handle: WiGa_0FC2 found, set to index 0, modem link 0
I U1 2040 13-09:25:17.417 Init Used Language: Default
I U1 2040 13-09:25:17.417 Init RCC to handle: ACX32_0A4A found, set to index 1, modem link 0
I U1 2040 13-09:25:17.417 Init Used Language: Default
I U1 2040 13-09:25:17.417 Init RCC to handle: ACX32_0B0E found, set to index 2, modem link 0
I U1 2040 13-09:25:17.417 Init Used Language: Default
I U1 2040 13-09:25:17.417 Init RCC to handle: ACX32_040D found, set to index 3, modem link 0
I U1 2040 13-09:25:17.417 Init Used Language: Default
I U1 2040 13-09:25:17.417 Init RCC to handle: ACX32_0B47 found, set to index 4, modem link 0
I U1 2040 13-09:25:17.417 Init Connect directly: WiGa_0FC2
I U1 1248 13-09:25:17.526 CALLBACK INFO: ObjHandler::OnComConnection: state=COM CONNECTED
I U1 2988 13-09:25:17.526 Connect INFO: WiGa_0FC2
I U1 2988 13-09:25:19.558 load. ObjHdl Instance created: WiGa_0FC2
I U1 2988 13-09:25:19.558 WM INFO: WiGa_0FC2 Cache files available!
I U1 2040 13-09:25:19.558 Init Connect directly: ACX32_0A4A
I U1 3592 13-09:25:19.605 CALLBACK INFO: ObjHandler::OnComConnection: state=COM CONNECTED
I U1 2988 13-09:25:19.605 Connect INFO: ACX32_0A4A
I U1 2988 13-09:25:21.652 load. ObjHdl Instance created: ACX32_0A4A
I U1 2988 13-09:25:21.652 WM INFO: ACX32_0A4A Cache files available!
I U1 2040 13-09:25:21.652 Init Connect directly: ACX32_0B0E
I U1 3592 13-09:25:21.699 CALLBACK INFO: ObjHandler::OnComConnection: state=COM CONNECTED
I U1 2988 13-09:25:21.699 Connect INFO: ACX32_0B0E
I U1 2988 13-09:25:23.761 load. ObjHdl Instance created: ACX32_0B0E
I U1 2988 13-09:25:23.761 WM INFO: ACX32_0B0E Cache files available!
I U1 2040 13-09:25:23.761 Init Connect directly: ACX32_040D
I U1 3592 13-09:25:23.808 CALLBACK INFO: ObjHandler::OnComConnection: state=COM CONNECTED
I U1 2988 13-09:25:23.808 Connect INFO: ACX32_040D
I U1 2988 13-09:25:25.839 load. ObjHdl Instance created: ACX32_040D
I U1 2988 13-09:25:25.839 WM INFO: ACX32_040D Cache files available!
I U1 2040 13-09:25:25.839 Init Connect directly: ACX32_0B47
I U1 3592 13-09:25:25.902 CALLBACK INFO: ObjHandler::OnComConnection: state=COM CONNECTED
I U1 2988 13-09:25:25.902 Connect INFO: ACX32_0B47
I U1 2988 13-09:25:27.933 load. ObjHdl Instance created: ACX32_0B47
I U1 2988 13-09:25:27.933 WM INFO: ACX32_0B47 Cache files available!
I U1 2988 13-09:25:29.074 WM INFO: reportStatusToSCMgr, hdl=0015F170, st=4.
I U1 2988 13-09:25:29.074 WM INFO: Server successfully started! (2)
I U1 2040 13-09:25:29.074 Init INFO: No incoming Modem calls accepted!
I U1 2040 13-09:25:29.074 Init INFO: Init thread ID=0x000007f8 terminated (exit 0)

```

Log file content

- Server version
- The individual controllers are listed under their "technical names"
- Information on cache files and connection status
- The message "Server successfully started" indicates that the server is operational.
- Each entry in the log file has a timestamp.

Example

Information on change to connection state during operation.

```

I U1 2876 13-10:22:03.679 KeepAlive2 ERROR WiGa_0FC2, type=1, dir=0.
I U1 2876 13-10:22:03.679 KeepAlive2 ERROR WiGa_0FC2, type=2, dir=0.
I U1 2184 13-10:22:03.679 CALLBACK INFO: ObjHandler::OnComConnection: state=COM DISCONNECTED
I U1 4712 13-10:22:03.679 ReconnThr Try to reconnect ObjHandler::OnComConnection: state=COM DISCONNECTED
I U1 2184 13-10:22:03.679 CALLBACK INFO: WiGa_0FC2
I U1 2184 13-10:22:03.679 ReconnThr Try to reconnect ObjHandler::OnComConnection: state=COM DISCONNECTED
I U1 4712 13-10:22:03.679 ReconnThr Try to reconnect ObjHandler::OnComConnection: state=COM DISCONNECTED
I U1 4348 13-10:22:03.694 CALLBACK INFO: WiGa_0FC2
I U1 2184 13-10:22:08.771 CALLBACK INFO: ObjHandler::OnComConnection: state=COM CONNECTED
I U1 4712 13-10:22:08.771 Connect INFO: WiGa_0FC2
I U1 4348 13-10:22:08.771 Connect INFO: WiGa_0FC2
I U1 4712 13-10:22:08.802 ReconnThr Reconnected WiGa_0FC2

```

In the example, the controller WiGa_0FC2 is disconnected from the LAN and then reconnected.

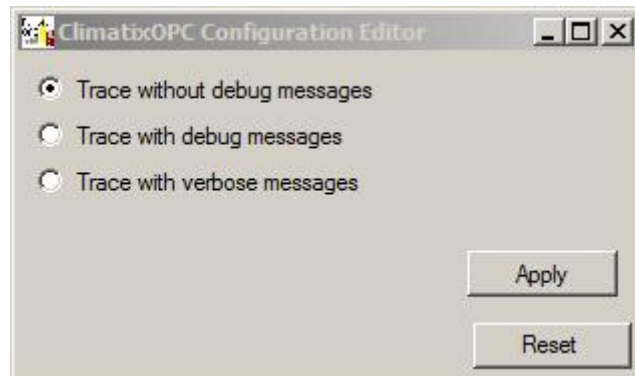
Reasons

The "KeepAlive" function monitors the connection state of all controllers during operation. The server attempts to reconnect if disconnected (Example: The connection plug on the RJ45 is unplugged or the controller is switched off). The example above displays the messages by the log file.

9.3 Modify notifications during commissioning

Configuration editor

Events can be tracked in the log file using the Configuration editor, for example, to modify analysis during commissioning. The setting is available at "Start > Programs > Climatix Suite > OPC > Configuration editor".



- The first settings is the default event tracking
- The other settings can be used to analyze connection problems.



During normal operation, the event tracking file should run without debug messages to avoid slowing down the server.

Retart communications with "Reset"

You can restart communications without closing the OPC server with "Reset" if too many faults occur.

9.4 Communication

The "Rainbow Communication Components" are saved in the files in **%windir%\Temp\Rainbow**.

It offers an alternative for analyzing problems: Either as part of a more in-depth analysis or to review error messages not listed in the ClimatixOPC-Logfile.

You can also use the "Wireshark" protocol analyzer to identify problems on the network

Issued by
Siemens Switzerland Ltd
Building Technologies Division
International Headquarters
Gubelstrasse 22
CH-6300 Zug
+41 58 724 2424
www.siemens.com/buildingtechnologies

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