

AwiView 2.0

Read Out Data - Display Data - Visualise Data - Export Data

User's Manual



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Table of Contents

1	Intro	oduc	tion	3
2	Setu	up / I	Installation	4
3	Ger	neral	Operation	7
	3.1	Pro	gram Start and Menu Bar	7
	3.1.	1	Reading in Data into Disk and Memory - Overview	9
	3.1.	2	Get New Data from Device1	0
	3.1.	3	Backup of Device Data 1	0
	3.1.	4	Load Data 1	1
	3.1.	5	Exit Program 1	3
	3.1.	6	Reports 1	4
	3.1.	7	Settings Options 1	4
	3.1.	8	Program Info 1	4
	3.2	Viev	w and Export Data 1	4
	3.2.	1	Info 1	6
	3.2.	2	Meas. Values 1	7
	3.2.	3	Errors 1	9
	3.2.	4	Events 2	20
	3.2.	5	Reports2	!1
	3.2.	6	Plot 2	23
	3.2.	7	Info-Log 2	25
4	Sett	tings	Options 2	26
	4.1	Ger	neral Settings Fehler! Textmarke nicht definier	t.
	4.1.	1	Data Transfer from the Device to the Computer 2	26
	4.1.	2	Data Transfer from the Disk to the Memory 2	29
	4.2	Viev	w Settings	31
	4.3	Dat	a Processing Settings	33

1 Introduction

This document explains how to use AwiView for reading out, displaying, visualising and exporting data from your Awite system.

Data recorded by the recording unit (gas analysis system, biogas plant, AwiComb, AwiECO) is saved in an archive on the built-in Compact Flash Card. This data archive can be copied to and opened on a local computer using the Ethernet interface or direct transmission. AwiView automatically recognizes the system configuration (e.g. existing sensors and measuring points) and adapts the view accordingly. In addition to the measured values it is also possible to display errors and events. To present data more clearly, AwiView offers a number of aggregation options. Data can be directly presented as a graphic display of the measurement history.

Depending on the selected user level (see chapter 4) different features are available. Standard users should retrieve data from the device (see chapter 3.1.2), read in data (chapter 3.1.4) and view data (chapter 0) using the standard settings.

For further processing of your data it is possible to export tables or raw data into a spreadsheet format (like Excel). According to your needs you can also summarize the data in form of reports.

2 Setup / Installation

AwiView is available as a Windows version. You can download the current version at any time from the Downloads area on our website at <u>www.awite.de</u>. Each package contains all the necessary data.

The following files are included:

- executable program file
- HTML files containing relevant information
- language files
- configuration files
- additional library files

After having extracted the files to a specified location you can start the program without having to carry out a full installation.

Windows: Click the executable file *AwiView2.exe*.

If you decide to create a shortcut for the program (e.g. on the desktop for easy access to the program) please make sure that also the execution directory references the AwiView2 program directory. (You can set this in the preferences of the shortcut.)

U Older Windows versions (e.g. Windows NT) can cause disruptions in the communication with the device. For optimal performance you should use Windows XP or higher or an up-to-date Linux operating system with WINE emulator.

The figures in this manual can differ from your AwiView version depending on the AwiView version and the operating system that were used to create them.

When starting up the program for the first time, a menu for choosing the operating language and the device type is displayed. Depending on the choice made, when the program is started the next time the corresponding preferences are used.

💵 Select l	anguage	? ×
	Italiano	
	Magyar	
	Polski	
	Russian	
-	Slovenski	
ŧ	Slovenských	
۲	Português	
		•
Standard	Configuration	
C Serie	s 3	
C Serie	s 6	
C Serie	s 7	
 Serie 	s 8	
Г Кеер	existing config	
	OK Cano	:el

Fig. 1: First program start: Select language

After having selected the language and the device type AwiView has to be restarted for the changes to take effect. On restart the following startup screen in your selected language and the standard connection configuration for your device is displayed.

<u>Changing the language at a later stage</u>: If you want to select a different language at a later stage, simply delete the awiview2.po file in the program directory and restart the program. If you need to keep your current configuration settings, activate the check box *Keep existing config.*

Please note that by default, AWITE gas analysis devices are in the range 192.168.0.x. So make sure that your computer is in the same IP range as the device. Please contact your network administrator or your AWITE representative in order to synchronize your device for the use in an existing network.

3 General Operation

3.1 Program Start and Menu Bar

After starting the program the user interface of AwiView is displayed (Fig. 2):



Fig. 2: Main view → AwiView tab

The pane on the right-hand side contains a short explanation about how to operate the program. In the title bar the currently used version number is displayed, for example: AwiView 2.0.952: AwiView 2.0, based on AwiControl Build 952.

As soon as the program has started up, the following menus are available on the menu bar: *File*, *Reports*, *Options* and *Info*.

The tool bar offers quick access to the following functions:

- Load data (chapter 3.1.4)
- Settings (chapter 4)
- Info (chapter 0)



Fig. 3: Tool bar for quick access to AwiView functions

<u>Only in the Expert mode</u>: On the AwiView tab you can activate the AutoDownload option by selecting the appropriate check box. The period for the automatic download can be configured in the settings (chapter 4). If you are updating your program, the data from the device is copied to the computer and the AwiView views (tables, graphics, reports,...) are updated.

This option should only be used once the connection to the device, manual data download and local data reading have been tested successfully as the corresponding preferences for the download automation are used without any user queries.

For example, the automatic download proves beneficial for biogas plants, so that always the current values (e.g. of the last 24 hours), graphics (e.g. of the last 48 hours), and reports (of the previous day) are already available for review if the plant data is to be checked or printed on the computer.

3.1.1 Reading in Data into Disk and Memory - Overview

AwiView initially transfers the device memory onto a disk. If there is a large amount of data in the device memory, only a part of the data is loaded into the computer's memory on startup. To avoid long loading times for large amount of data, only part of the whole memory should be displayed at startup (Fig 4). The following settings in AwiView can be used: *path in AwiView*):

• Reading out the device memory:

File \rightarrow Get new data from device (chapter 3.1.2) File \rightarrow Backup data from device (chapter 3.1.3)

• Data that is loaded into the **memory** at startup:

Options \rightarrow Settings \rightarrow General tab \rightarrow Load options (chapter 0)

• Amount of data that is **shown** initially at startup:

Options menu \rightarrow Settings \rightarrow Display tab \rightarrow Standard number of days for display after loading of data (chapter 4.2)



Fig 4: Preferences for transferring and displaying data in AwiView

3.1.2 Get New Data from Device

You can update your local data in the AwiView directory with the current device data (measuring data as well as the current configuration) by selecting *File -> Get new data from device*. If you confirm the following dialog, a connection to the device is established using the predefined AwiView settings (see chapter \Box), the files that need updating are identified and then the local data is updated.

Once the update is complete the dialog for loading the now locally stored data is displayed (see also *File -> Load data* menu option, chapter 3.1.4).

▲ Older devices do not have configured device names. The local data is stored in the defined download directory (by default, this is /data in the AwiView program directory) in the sub-folder awitedevice. If data of more than one Awite device is managed on the same computer, it is necessary to customize the device configuration accordingly. Please contact AWITE.

3.1.3 Backup of Device Data

Using this menu you can perform a complete backup of your data at any time and capture the available device data and configuration settings at a certain moment in time. By selecting *File -> Backup data from device data*, all configuration and archive data is transferred from the device. For this purpose a new directory with the device names and the respective current date is created in the specified download directory.

These files, which are now available locally, can also be loaded and viewed using the *File -> Load data* menu option (see chapter 3.1.3).

In contrast, when using the *Get new data from device* option (see chapter 3.1.2), only the changed data is loaded. In this case no new directory is created but only the locally existing files are updated.

Occasionally backing up data by using *Backup data from device* (chapter 3.1.3) is useful when you want to archive the configuration setup and the data in a separate directory on a date basis.

3.1.4 Load Data

By using the option *File -> Load data* you can read in data from a local data source (such as a local disk or Compact Flash Card in an attached card reader. The following dialog contains a brief description about the current status and the preconfigured root.cfg file (Figure 5?+++).



Fig. 5: Dialog following File \rightarrow Load data

If a different device configuration from the already set configuration should be loaded, this can be chosen in the next dialog by clicking *Select other root.cfg* (Fig. 6).

💷 Open locally			×
GO- ↓ • 6	6-523-672A-7-2012-06-27 ★ config ★	👻 🔯 Suchen	2
🕘 Organisieren 🔻	📰 Ansichten 🔻 📑 Neuer Ordn	er	0
Linkfavoriten Dokumente Zuletzt geän Linkfavoriten Linkfavoriten Linkfavoriten Culetzt geän Musik Weitere Musik Weitere Musik Bilder Config-logfi Bilder B	Name A Anderungsdatum A 1 calib command fuzzy info menu old transfer userconf root.cfg	Typ Größe checkdevice default help logdef missing sched translate users	
		A) ((ITE root of a (root of a)	_
L	pateiname: proot.ctg	AWITE root.crg (root.crg) Öffnen Abbrecher	

Fig. 6: Calling up the root.cfg file under File \rightarrow Load locally

As known from other standard programs you can navigate directories to search and select the *root.cfg* device file. This file is located in the *config* directory in the Awite standard directory structure.

Highlight the *root.cfg* file and click Open.

The default settings are used for the loading process. These can be viewed on the appropriate tab and, if required, adapted for the loading (Fig. 7).

💶 Dialog 🛛 🔹 🗙
Status Load Options
Load Options
Load maximum days 35
Load specified period
Load from date
Load to date
Load maximum KBytes 1000000
✓ Skip loading archives
Archive filters, seperated by comma, e.gevt,_cyc
Use object filter
Object filter, eg: ts_*
Update local data with newest data from device
Select other root.cfg OK Cancel

Fig. 7: Load options in the dialog following File -> Load data

Please refer to the appropriate chapter for the predefined settings (chapter 4) for a detailed description about further settings options.

A progress bar indicates the current status of the loading process.

3.1.5 Exit Program

You exit the program by selecting File -> Exit.

U This step is also necessary if you want to load a different device configuration and view the data. It is possible to reload more recent data of the current configuration.

3.1.6 Reports

Under the *Reports* menu option (available from user level *Advanced* onwards) you can select report templates or retrieve general information about reports. A common report template, which is compatible with all standard devices, is included in the AwiView package. Refer to chapter 3.2.5 for more information about reports. Please note that for user-defined configurations it might be necessary to use customized report templates. If you require a report template for your device, please contact AWITE.

3.1.7 Settings Options

You can call up the Settings dialog by selecting *Options -> Settings*. In this dialog you can set different parameters concerning device connection, load behaviour, aggregation options and data display. For more information please refer to chapter 4.

3.1.8 Program Info

By choosing *Info -> About AwiView* you can view the program version and the Awite contact information.



Fig. 8: Program information and contact data under the Info -> About AwiView menu option

3.2 View and Export Data

After loading a configuration (see chapter 0 and 4.2) the data is displayed on the different tabs in the main view. The following tabs are available:

- AwiView
- Info (from user level Advanced)
- Meas. Values
- Errors
- Events
- Reports (from user level Advanced)
- Plot

3.2.1 Info

The *Info* tab (Fig. 9, which is available from user level *Advanced* onwards) contains details about the configuration. The level of detail of the view depends on the specified user level (see chapter 4.2).

🖬 AWITE Bioenergie GmbH - AwiView 2.0.952
File Reports Options Info
AwiView Info Meas, Values Errors Reports Events Plot Info-Log
Device information Schedule
Information for device No. 1
Config-ID: 5
Gasmeas-Device (dev_gasm) CFU
Number of total measpoints: 3
• <u>Measpoint 1</u> (m1)
Measpoint 2 (m2) air (mluft)
List of sensors found
Number of total sensors: 4
• <u>Druck</u> (psens) • Senser (U4 (b4)
• <u>Sensor (20)</u>
- <u>bensor H25 to</u> (h2s_to)
List of valves found Number of total valves: 11
Magnetventil 1 (valve1)
Magnetventil2 (valve2) VX3 (VX3)
Magnetventil4 (valve4) • VX5 (VX5)
• <u>VX6</u> (VX6) • <u>Pumpel</u> (pump1)
• Maget (volume) • Maget vertilis (valves) • attralic(v) Eshler (ver, park)
Ready AutoDownload inactive

Fig. 9: Main view \rightarrow Info tab

In addition to the device and configuration identification number details about sensors, valves, counters and archives are shown on this tab. The *Schedule* tab for gas analysis systems contains an overview of the scheduled measurements.

3.2.2 Meas. Values

In this view the measured values of the integrated sensors are shown (Fig. 10). The display of the data depends on the specified settings (see chapter 4.2). The *Time* column contains the date/time of measurement (i.e. the starting time of the measuring interval). By clicking a column heading the table can be re-sorted based on that column.

💶 AWITE Bioenergie GmbH - Awi	i¥iew 2.0.952						_	
File Reports Options Info								
AwiView Info Meas. Values	s Errors Reports	Events Plot	Info-Log					
Select sensor(s):	Inter	val selection 2 🛨	h 0 🛨 n	nin 0 🕂 si	ec ,			
Please select sensor Device-ID: 380 C Measpoint 1		Time	Measpoint 1 Sensor O2 Mean	Measpoint 2 Sensor O2 Mean	air Sensor O2 Mean		-	
Sensor O2 Sensor H25 lo	1	2011-06-06 10:00:00	20.6412	20.6288	20.5727			
- Measpoint 2 - Sensor CH4	2	2011-06-06 08:00:00	7.08481	20.4148	20.4311			
Sensor O2 Sensor H25_lo	з	2011-06-06 06:00:00	20.4728	20.4148	20.3941			
Sensor CH4	4	2011-06-06 04:00:00	20.448	20.4025	20.3674			
Sensor H25_lo	5	2011-06-06 02:00:00	20.4044	20.4044	20.357			
ⁱ Druck	6	2011-06-06 00:00:00	20.3941	20.4168	20.363			
	7	2011-06-05 22:00:00	20.4311	20.4064	20.3507			
	8	2011-06-05 20:00:00	20.3777	20.4025	20.357			
	9	2011-06-05 18:00:00	20.3921	20.4148	20.3941		_	
	10	2011-06-05 16:00:00	20.4435	20.4435	20.363			
	11	2011-06-05 14:00:00	20.439	20.4494	20.4079			
	12	2011-06-05 12:00:00	20.4572	20.4306	20.4099			
	13	2011-06-05 10:00:00	20.4572	20.4326	20.4016			
	14	2011-06-05 08:00:00	20.4572	20.4572	20.4384			
Hold CTRL key for multiple sensors selection	15	2011-06-05 06:00:00	20.4714	20.4591	20.4261			-
From: 04	4.06.11 10:11:21	Refresh vi	ew	Constants of t				
то: ОВ	6.06.11 10:11:21	CSV-Expo	rt	Copy to clipb	bard	<-	·>	
Ready			Auto	ownload inactiv	e			

Fig. 10: Main view → Meas. Values tab

<u>Select sensor(s)</u>: In this field you can select the sensors to be displayed. If you want the data of multiple sensors to be displayed in a table, you can add or delete the desired sensors by holding down the CTRL key.

<u>The time fields "From" and "To":</u> These fields indicate the start and the end time of the period to be displayed in this table. If the period is changed manually, you have to re-build the view by selecting *Refresh view*.

- <u>Interval selection</u>: Here you can set the underlying time interval for the table creation. By default, the mean value of the values saved at the corresponding sensor in this time interval is determined. Other methods of summarizing single values in the set intervals are available in this view in the user level *Expert* on the right hand side. A time interval of 0 prevents summarizing the values and provides the single measured values for the selected sensors.
- <u>Refresh view:</u> The table is recreated. If the given period, the view options or the sensor selection is changed, this has to be done manually as creating a table can take a long time depending on the settings, time period and used hardware.
- <u>CSV-Export</u>: The currently displayed table is exported as a .csv file. In the dialog that follows you can choose a directory and enter a file name. .csv files can be read in using several other programs (e.g. MS Excel or Open Office Calc).
- <u>Copy to clipboard</u>: The currently displayed table is copied to the clipboard. With this option, exchanging data with other programs becomes considerably easier. The table is transferred to the clipboard, and the full-stop (.) is automatically replaced by a comma (,). The data can now be directly inserted into other applications (e.g. into a spreadsheet) via the clipboard.
- <- / ->: Using the arrow buttons you can scroll backward or forward in time. By doing so the table is updated according to the specified preferences.

3.2.3 Errors

In this table errors are listed according to the filter settings (Fig. 11) that were selected in the *Settings* dialog (see chapter 4). The options at the bottom of this tab are used in the same way as the ones on the *Meas. Values* tab (see chapter 3.2.2).

🔜 A	WITE Bioenergie Gml	oH - Awi	i¥iew 2.0.952			⊐×
		0				
A	viView Info Mea	is. Values	s Errors	Reports Events Pla	ot Info-Log	
Er	rors in selected timespar	1:			Filter: H25	
Γ	Time	Event	Error source	Error Message		
1	2011-06-01 11:21:41	Come	Sensor H2S_lo	Sensor has no signal! (20)		
2	2011-06-03 16:44:47	Come	Sensor H2S_lo	Sensor defective (58)		
3	2011-06-01 11:53:09	Come	Sensor H2S_lo	Sensor has no signal! (20)		
4	2011-06-03 17:15:39	Come	Sensor H25_lo	Sensor defective (58)		
						_
Fr	om: 01.06.11 09:3	9:47	Refresh v	iew	Copy to dipboard <>	
То	06.06.11 09:3	9:47	CSV-Exp	ort	, ,	
teadγ	,				AutoDownload inactive	

Fig. 11: Main view \rightarrow Errors tab

In the *Filter* field the view can be reduced to required objects that contain the filter expression in the object or display name. The view is refreshed after clicking the *Refresh view* button. The use of a filter is useful when working with complex systems with many objects and longer observation periods.

3.2.4 Events

On the *Events* tab (Fig. 12) the events recorded by the device (occurrence of an error, confirmation of an error, measurement, switching...) are listed according to the filter settings (see chapter 4.2). The options at the bottom of this tab are used in the same way as the ones on the *Meas. Values* tab 3.2.2).

AWITE Bioenergie GmbH - AwiView 2.0.952													
AwiVi	ew Info Meas.	Values	Errors	Reports Ever	nts	Plot Info-L	.og						
Event	s in selected timespan:					Filte	er:						
	Time	Archiv	Event	Detail	Place	PlaceName	Info	Value	Object	ObjectName	Signal		-
1	2011-06-05 12:00:03	arc_std	Status	remove Condensate				1					
2	2011-06-06 10:12:24	arc_std	Status	post empty				1					
3	2011-06-06 10:12:23	arc_std	Status	Emptiing bag				1					
4	2011-06-06 10:11:22	arc_std	Status	Flushing				1					
5	2011-06-06 10:10:49	arc_std	Status	Measuring				1					
6	2011-06-06 10:09:49	arc_std	Status	Flushing				1					
7	2011-06-06 10:09:13	arc_std	Status	Measuring				1					
8	2011-06-06 10:08:42	arc_std	Status	Sucking in				1					
9	2011-06-06 10:08:40	arc_std	Status	remove Condensate				1					
10	2011-06-06 10:08:39	arc_std	Status	post empty				1					
11	2011-06-06 10:08:37	arc_std	Status	Emptiing bag				1					
12	2011-06-06 10:07:36	arc_std	Status	Flushing				1					
13	2011-06-06 10:07:02	arc_std	Status	Measuring				1					
14	2011-06-06 10:06:01	arc_std	Status	Flushing				1					
15	2011-06-06 10:05:26	arc_std	Status	Measuring				1					
16	2011-06-06 10:04:25	arc_std	Status	Sucking in				1					
-													
From: To:	06.06.11 10:12:	20 💌 26 💌	CSV-	Export Copy to clip	oboard	<-					->	,	
	,												
idy 🗌							Auto	Downloa	ad inactive	•			

Fig. 12: Main view \rightarrow Events tab

In the *Filter* field the view can be reduced to required objects that contain the filter expression in the object or display name. The view is refreshed after clicking the *Refresh view* button. The use of a filter is useful when working with complex systems with many objects and longer observation periods.

3.2.5 Reports

On the *Reports* tab data can be summarized in customizable periods. This can be used for creating a short summary or an operations diary. In order to display reports you need report templates. These templates are created based on the configuration of the AWITE device and the individual requirements of the operator. You can find a separate template for gas analysis systems and for biogas plant in the *template* sub-directory.

e Reports Options Info									
created ST Jul 12 at 11:40:41 Onr.									
Meas. Point 1	Mean	Minimum	Maximum	Unit					
CH4	0	0	0	%					
C02				%					
H25				ppm					
02	20.4	20.3	20.4	%					
Meas. Point Air	Mean	Minimum	Maximum	Unit					
CH4	0	0	0	%					
C02				%					
H25				DDM					
02	20.4	20.3	20.4	%					
Pressure	Mean	Minimum	Maximum	Unit					
Pressure	961.1	958.2	962.6	mbar					
rom: 05.08.11 00:00:00	_		<- Day ->	<- Month ->					
06.06.11 00:00:00		resh view	<- Week ->	<- Interval ->					
У		AutoDownload inact	ive						



Select File: Here you can load a report template for display.

<u>Save report:</u> The current report view is saved in html format using the following standard dialog (Fig. 14). The file name is automatically suggested based on the selected report period. The saved reports can later be opened in a browser and printed, if required.

💶 Save actual report view as html	? ×
Look in: 📔 Z:\awite\data\temp\schlattmann\AwiView_Win32_2.0\reports 💽 😋 🕤	📑 📰 🔳
My Computer schlattmann	
File name: report-110604_000000-110605_000000.html	Save report
Files of type: *.html *.htm	Cancel

Fig. 14: Save Reports dialog

Print Plot: The currently displayed report is printed using a standard print dialog.

- <u>Day:</u> The required period can be changed going forward and backward on a day-to-day basis. The period is set from 00:00 to 00:00 the following day.
- <u>Week:</u> The required period can be changed going forward and backward on a week-toweek basis. The period is set from Monday, 00:00, to Monday, 00:00, of the following week.
- <u>Month</u>: The required period can be changed going forward and backward on a monthto-month basis. The period can be set from the 1st of the month, 00:00, to the 1st of the of the following month, 00:00.
- <u>Interval</u>: The required period can be set going forward and backward in the From and To fields depending on the defined interval.

3.2.6 Plot

On the *Plot* tab data from different sectors can be directly visualised and the selected data can be exported as a .csv file. In the left selection pane the loaded device is displayed as a tree structure according to the configured measuring points and sensors (Fig. 15).



Fig. 15: Main view → Plot tab

If you highlight a sensor in this view, the corresponding data is shown in the plot on the right-hand side. By holding down the CTRL key you can add more sensors to the graphic. Using the buttons at the bottom right of the pane you can easily set the start and end times of the plot. The buttons in the middle of the pane can be used to move the window.

<u>"From" and "To"</u>: specify the given period relevant for the graphic.

- <u>Export selection</u>: The raw data (of the selected sensors in the given time period) currently displayed in the graphic is exported in a table as a .csv file for further processing in a spreadsheet.
- <u>Auto scale:</u> If this check box is selected, the axes are adapted according to the occurring data. For example, if for a methane sensor data occurs between 50% and 55%, this area is enlarged. If *Auto scale* is not selected, the scaling of the axes is based on the sensor configuration (e.g. for a methane sensor from 0 to 100%).
- <u>Show legend</u>: If this option is selected, a legend is shown to the right of the graphic. If this option is not selected, the available space is used up completely by the graphic.

Print Plot: The currently displayed plot is printed using a standard print dialog.

3.2.7 Info-Log

On the *Info-Log* tab program specific information, like the communication with the AWITE device during the data transfer, is logged. On this tab you can view the status, progress and possible errors (Fig. 16).

🗙 AWITE Bioenergie GmbH - AwiView 2.0.730 [®]
Datei Berichte Optionen Info
AwiView Info Messwerte Fehler Ereignisse Berichte Graph Info-Log
00001: Skip Directories String: /bin
00002: FTP Backup mode: 0> Fetch data
00003: Connecting to the device
00004:please wait 00005: Stort in ETECtote of root of a CatFile: The connection is closing down, but it is not yet closed
00005. Statup FTPState of foot.cig GetFile. The connection is closing down, but it is not yet closed.
00007: GetFile URL: ftp://192.168.0.38/part1/awite/config/root.cfg
00008: Trying to connectplease wait
00009: SUCCESS:GetFile(): Connection to the device established
00010: Trying to loginplease wait
00011: SUCCESS:GetFile(): Login to the device succeeded
00013: SUCCESS:GetFile(): Getting file succeeded
00014: Closing connection
00015: SUCCESS:GetFile(): Closing connection
00016: SUCCESS: root.cfg wurde gefunden und lokal gespeichert
00017: Local download sub dir is set to: /home/schlattmann/source/awiview2/Hydrogenia
00019: SUCCESS: Temp. local root deleted
00020: retrieving list of files to downloadplease wait!
00021: remote backup location: 192.168.0.38/part1/awite/
00022: local backup location: /home/schlattmann/source/awiview2/Hydrogenia
00023: Dateispider wird jetzt gestartet. Bitte warten
00024: Remote URL: http://192.168.0.38/part1/awite/
00025. Local directory statt. //fome/schlattmain/source/awiview2/mydrogenia
00027: Pendina directories: 1
00028: Current directory: /part1/awite/
00029: Current remote directory /part1/awite/ will be added to directory list
00030: Current local directory /home/schlattmann/source/awiview2/Hydrogenia/part1/awite/ will be created
UUUJ1: Directory processed.
Detainsides wird istat asstantet. Ditta warten
Dateispider wird jetzt gestartet. Bitte warten

Fig. 16: Main view \rightarrow Info-Log tab

4 Settings Options

You can open the *Settings* dialog by choosing *Options -> Settings*. In this dialog you can specify various settings, aggregation options and data filter. The options can be found on three different tabs.

If you click *Save default preferences* the current preferences are saved and will be available at the next startup of the program. By clicking *OK* the current settings are accepted as is but are not saved. If you click *Cancel* any possible changes are discarded (Fig. 17).

Save derault preierentes as Load preierentes	Save default preferences	Save preferences as	Load preferences		ОК	Cancel
--	--------------------------	---------------------	------------------	--	----	--------

Fig. 17: Save default preferences, Save preferences as, Load preferences, OK and Cancel

With Save preferences as you can save the current settings under any name. Later you can retrieve the settings by using *Load Preferences*.

4.1 General Settings

Under Options \rightarrow Settings \rightarrow General tab the following settings are available:

- for the data transfer from the Awite device to a computer (row 1 to 4), and for the
- type and amount of data that is loaded into the computer's memory at startup of AwiView (Fig. 10).

4.1.1 Data Transfer from the Device to the Computer

The first 4 rows offer settings for updating local data or performing a data backup (Fig. 10). These settings can only be modified if the user level is set to *Expert*.

<u>URL: Root.cfg</u>: This is the location of the root.cfg file on the Awite device (incl. IP). The standard setting is 192.168.0.37/part1/awite/config/root.cfg and normally does not need to be changed.

<u>URL: Backup:</u> This is the backup location on the Awite device (incl. IP). All subdirectories of the specified location are considered during the backup of the device data. The standard setting is *192.168.0.37/part1/awite/* and normally does not need to be changed.

🛄 Dialog		? X			
General Load options	View Data processing				
Connection Data					
	These options only can be edited if the view level was set and confirmed to Expert				
URL: Root.cfg	192.168.0.37/part1/awite/config/root.cfg				
URL: Backup	192.168.0.37/part1/awite/				
User	awiuser				
Pwd	•••••				
Skip directories during download /bin,/tmp,/temp,/pics,/sounds					
Directory filters, seperated by comma, e.g. /bin,/temp File check time offset [s]					
Local Settings					
Default download directory	Browse Z:/awite/data/temp/schlattmann/AwiView_Win32_2.0\data\/				
Explicit download sub direc	pry				
Default root.cfg directory	Browse No directory selected				
Set root.cfg-directory after transfering data to download destination directory					
-Additional Settings					
Decimal Point					
	1				
Save default preferences	ave preferences as	OK Cancel			

Fig. 18: Options menu \rightarrow Settings \rightarrow General tab

<u>User:</u> Normally does not need to be changed.

This is the user name that is necessary for logging on to the system. Normally the standard setting is used. If your device has a special configuration that requires changing the user name, this name has to be entered here each time the device is connected. Changing the password is normally not necessary.

<u>Pwd:</u> Normally does not need to be changed.

This is the user password that is necessary for logging on to the system. The same comments as for <u>User</u> apply. Changing the password is normally not necessary.

Skip directories during download: Normally does not need to be changed.

If this check box is selected, the device does not download the directories stated in the adjacent line. If there is more than one directory, these are separated by a comma. Depending on the device configuration the directory structure may vary. For example, if binary program files within the directory structure on the device are located in the */bin* directory, these files do not need to be downloaded for data viewing and you can avoid the download by using this option.

Default download directory:

Here you can specify the standard directory for data downloads. If no directory is defined, a *data* sub-folder within the AwiView program directory is used as the default folder. You can also select a directory by clicking the *Browse* button. In the selected directory the data of the device(s) are stored in various sub-directories.

Explicit download sub directory:

For the data download of a device a sub-directory is created in the selected standard download directory based on the configured project name. If no project name was specified in the device, the *awitedevice* sub-directory is created and used for download. If this directory name should not be used, this setting allows you to specify an explicit directory name.

Default root.cfg directory:

Here you can specify the default folder for the local *root.cfg* file. This directory is called when opening local data. Here you should set the local path to the *root.cfg* file so that in the *Load data* dialog you only need to click *OK*.

Set root.cfg-directory after transferring data:

If this check box is selected, the default *root.cfg* directory is set for the local *root.cfg* file (but not saved yet, this can only be done after the data download in the *Save preferences* dialog, if required).

Decimal Point:

Here the decimal separator can be set, which for example is used when creating table views or .csv files.

Texteditor:

Using this setting you can select a text editor to be used to view configuration files from the *Info* view.

4.1.2 Data Transfer from the Disk to the Memory

If you want to retrieve older data than the currently loaded data, you need to exit the program. After that the loading process can be started using the new settings (see also 3.1.4 Exit Program).

Under *Load options* you specify the data, which is loaded for viewing into the memory in AwiView.

- Load maximum days: Based on the latest event the data from a specified number of days is considered during the loading process. You use this setting in order to shorten the loading process and to reduce the memory requirement. The optimal setting varies depending on the user's needs, the equipment of the device and the PC used for displaying the data.
- <u>Load maximum bytes:</u> This setting allows you to specify the maximum memory space to be used. If the maximal allowable memory requirement of an archive is reached, a further loading of data from this archive is prevented.
- <u>Load specified period</u>: If the check box is not selected, the most up-to-date data is loaded (see *Load maximum days*). If the check box is selected, data from a specified period is loaded. This is particularly helpful if you want to view older archive data (e.g. biogas plant from January to December 2005).

<u>Load from date</u>: Start time and date, if <u>Load specified period</u> is selected. <u>Load to date</u>: End time and date, if <u>Load specified period</u> is selected.

📰 Dialog	? ×			
General Load options view Data processing	1			
Load maximum days 35 🚊 d				
Load maximum bytes 1000000 🕂 K (*1000) Archive filters, seperated by comma, e.gevt, _cyc]_evt				
Load from date				
Load to date				
Check for FTP Updates on loading data				
Enable automatical data download after program start				
every 3,00 * hours				
Enable automatical update of views after auto download				
Enable automatical report creation after auto download				
☐ Days				
☐ Weeks				
☐ Months				
Save default preferences Save preferences as Load preferences				

Fig. 19: Options menu \rightarrow Settings \rightarrow Load options tab

- <u>Skip loading archives:</u> If this check box is selected, the archives specified in the following archive filter line are not loaded. If there is more than one archive, these are separated by a comma. Depending on the device configuration the archive names may vary. By default, archive files that contain events are identified with *arc_evt* plus a consecutive file number. If this data is to be excluded during the loading process, you need to enter the archive filter line _*evt*. Excluding archives can help to prevent unnecessary loading and table creation processes und to save memory space.
- <u>Use object filter</u>: If this check box is selected then during load operations only objects are loaded into the memory that meet the filter criteria (e.g. ts_* loads all temperature sensors).
- <u>Check for FTP Updates on loading data:</u> If this check box is selected, prior to the local loading process the device is queried for new data, i.e., an update of the local data is automatically carried out. For this to happen the device has to be

connected to the network. For the connection the settings on the General tab are used.

- <u>Enable automatical data download after program start:</u> After the program start the automation for the data download is activated. In the number field the download interval (in hours) can be specified. The interval is also used if the download automation is activated manually (only available in *Expert* mode).
- <u>Enable automatical update of views after auto download:</u> If this option is activated, the views after the data download are updated based on the periods set on the *View* tab. For example, this way the graphic of gas production and CH₄ concentration of the last 24 hours is always available for viewing.
- <u>Enable automatical report creation after auto download:</u> After the download it is checked if a new report (month/day/week) needs to be created. If the report is created it is automatically saved. Selecting this option only makes sense if there are report templates available. Report templates need to be customized to the plant configuration. Please contact AWITE if you are interested in the automatic report creation.

4.2 View Settings

On the *View* tab you can specify the type and amount of data that should be shown at startup of the program.

🔜 Dialog	? X			
General Load options View Data processing				
Load Options				
Load maximum days 35 🚊 d	✓ Skip loading archives			
Load maximum bytes 1000000 🛨 K (*1000)	Archive filters, seperated by comma, e.gevt, _cyc _evt			
Load specified period Load to date	Use object filter			
Check for FTP Updates on loading data				
 Enable automatical data download after program start every 3,00 hours Enable automatical update of views after auto download Enable automatical report creation after auto download Days Weeks Months 				
Save default preferences Save preferences as	ences OK Cancel			

Fig. 20: Options menu \rightarrow Settings \rightarrow View tab

- <u>View level</u>: When you use this setting, the level of detail of some views varies (e.g. display of the device info). The predefined setting *Standard user* is sufficient for users who simply want to load and view data. Some settings options can only be modified as an *Expert*.
- <u>View options:</u> With *Time offset view* you can specify a time (in hours), which is added when displaying the time in order to allow a conversion to different time zones.
- <u>Reports</u>: The left and right delimiters specify the variable identifier in report templates. This setting is only relevant if user-defined report templates are used. Generally, it does not need to be changed.

The default template directory is the directory that is used when opening report templates. The default reports directory is the directory which is opened when saving reports. <u>Error filter:</u> The selected error types are listed in the error table, the other types are hidden.

<u>Event filer</u>: The selected event types are listed in the event table, the other types are hidden. Events that can occur depend on the type of the device (not every device generates events of all types).

4.3 Data Processing Settings

On the *Data processing* tab (Fig. 21) you can specify settings for the processing of data. You can display data as raw data but in view of certain questions it can also make sense to aggregate the original data based on selected criteria.

📰 Dialog	? X			
General Load options View Data processing	1			
Load Options				
Load maximum days 35 🛨 d 🔽 Skip loading archives				
Load maximum bytes 1000000 🚊 K (*1000) Archive filters, seperated by comma, e.gevt,_cyc _evt				
Load from date				
Load specified period Load to date				
Check for FTP Updates on loading data				
Enable automatical data download after program start				
every 3,00 ÷ hours				
Enable automatical update of views after auto download				
Enable automatical report creation after auto download				
☐ Months				
Shun default preferences				

Fig. 21: Options menu \rightarrow Settings \rightarrow Data processing tab

<u>Time span data aggregation</u>: Number of hours of a time period to be observed. If "0" is set, the data is not aggregated but the raw data is displayed individually (tables can become very large using this setting).

For example, if "1" is used, data from all sensors within one 1-hour interval is aggregated in one table row.

- <u>Aggregation preview</u>: Maximum number of hours up to which further values are searched for if no value is found within the set interval or if a value of the adjacent interval should be used for the data aggregation. This can be useful if you want to fill fields in tables. If "0" is set, only the data from the interval is used.
- <u>Force midnight synchronization</u>: If the check box is selected, the starting time of the given period is adjusted to show an interval limit of 00:00. This allows you to create hourly values, which start right on the hour without you having to manually adjust the given period to the full hour. It is also possible to aggregate daily data in combination with a 24-hour interval.
- <u>Data aggregation method</u>: All values in the specified time interval (see Fig. 15, B) or of the overlapping ranges specified in the preview (Fig. 15, A and C) of a sensor are aggregated using the selected method and make up the displayed tabular value. This setting can only be modified as an *Expert user*.
 - a) Mean: determine the average value
 - b) Standard deviation: calculate the standard deviation
 - c) *Minimum*: smallest value in the time interval
 - d) Maximum: highest value in the time interval
 - e) Difference: difference between the last and the first value. The specified overlapping range is taken into account. Counter readings that are logged with a short time lag can be recorded using an appropriate setting.
 - f) Quantity: number of present values in the time interval
 - g) *First value*: first value in the time interval and in the specified overlapping range (if required)
 - h) *Last value*: last value in the time interval and in the specified overlapping range (if required)
 - i) *Weighted mean begin*: time-weighted average in the interval (B). Values are interpreted as the start of a change in state. Depending on the setting the



overlapping range (A and C) is taken into account for determining the weighted average (Fig. 22).

Fig. 22: Data aggregation \rightarrow Weighted mean begin

j) Weighted mean middle: time-weighted average in the interval (B). The values considered for time weighting are the average of two adjacent points. Depending on the setting the overlapping range (A and C) is taken into account for determining the weighted average (Fig. 23).



Fig. 23: Data aggregation \rightarrow Weighted mean middle

k) Weighted mean end: time-weighted average in the interval (B). Values are interpreted as the end of a change in state. Depending on the setting the overlapping range (A and C) is taken into account for determining the weighted average (Fig. 24).



Fig. 24: Data aggregation \rightarrow Weighted mean end

- In Expert mode you can specify the above stated methods settings for summarizing data directly in the table containing the measured values in the then displayed selection *Methods*.
- In the current AwiView version the summary interval (e.g. for displaying daily mean values) can be directly set in the table with the measured values.