Installation manual SOLARVIEW

Data logger and web-application for Solarmax S – Inverter. Author: Manfred Richter Version 2.8, December 1st, 2009

> http://solarlogger.dyndns.tv http://www.amhamberg.de solarview@amhamberg.de



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Important information before you install

Limitations: The test version will only work for 60 days. The diagrams are showing as well the text "**** unlizenzierte Testversion ****". After the test period you still can log and store the data to the database but you can't visualize them anymore until you have a valid license key.

At the moment up to 9 Solarmax Inverters 2000S, 3000S, 4200S and 6000S are supported. Please follow the installation steps as described in this manual.

Prerequisites: Windows XP Professional with Service Pack 2 or higher. The application does run as well with Windows 2000 Service Pack 4 and Windows 2003 Server SP1 or higher. Please install the Services Packs as required.

Windows 2000 does require as well MDAC 2.8 which can be downloaded from the Microsoft homepage:

http://www.microsoft.com/downloads/details.aspx?displaylang=de&FamilyID=6c050fe3-c795-4b7d-b037-185d0506396c

You need to install as well the Office 2003 Web Components on all systems which can be downloaded as well from the Microsoft homepage:

http://www.microsoft.com/downloads/details.aspx?FamilyId=7287252C-402E-4F72-97A5-E0FD290D4B76&displaylang=de

Download and install *Microsoft Office 2003 Web Components Service Pack 1 (SP1) für 2007 Microsoft Office System.* You can get it directly for your required language from: Download OWC SP1 for Office 2007:

 $\frac{http://www.microsoft.com/downloads/details.aspx?displaylang=de&FamilyID=c815dffa-d5f3-4b71-bf46-13721bd44682$

A working network connection between the PC and the Inverter must exist. To log the Inverter data it is required that the PC and the network are permanently turned on.

Legal liability:

The usage of the Software is on your own risk. The author can't guarantee any function on your system and can't be made responsible for any damage on your PC, network, Inverter or other component. That is as well valid for wrong or not sent alerts via the SolarView Monitor module.

Internet:

It is possible to publish SolarView on the Internet. How that works depends on various factors and is not described in this manual. Keyword for that topic are *Router configuration*, *Dyndns*, publish a *Webserver*, *IIS (Internet Information Server)*

Installation start:

1. IIS (Internet Information Server) installation via Control Panel -> Add/remove programs - > Add/Remove Windows Components. Select Internet-Information Services (IIS):

Assistent für Windo	ws-Komponente	en 👘				X
Windows-Kompo Windows XP-K	onenten Komponenten könn	en hinzugel	ügt bzw. entfe	rnt werden.	Ĩ	Ĩ
Klicken Sie au werden sollen, installiert werde Komponenten:	f die Kontrollkästch Grau gefüllte Kästo m. Klicken Sie auf	en der Kom chen kennz "Details", u	ponenten, die eichnen Komp m die Unterko	hinzugefügt bz onenten, die ni mponenten anz	w. entfernt ur zum Teil zuzeigen.	
🗹 🥌 Interne	t Explorer				0,0 MB	_
🔲 🎀 Interne	t-Informationsdiens	te (IIS)			13,3 MB	
🗌 🚅 Messa	ge Queuing				0,0 MB	_
🗹 🎺 MSN E	xplorer				18,4 MB	-
Beschreibung:	Enthält Web-und FrontPage, Trans Datenbankverbin	l FTP-Unter aktionen, A dungen.	stützung, zusa ctive Server P	mmen mit Unte ages und	rstützung für	
Erforderlicher S Verfügbarer Sp	ipeicherplatz: jeicherplatz:	56,6 I 4572,7 I	MB MB		Details	
			< Zurück	Weiter >	Abbred	chen

2. Click on "Details" and select the following components:

3.

Internet-Informationsdienste (IIS)			
Klicken Sie auf die Kontrollkästchen der Komponenten, die hinzugefügt bzw. entfernt werden sollen. Grau gefüllte Kästchen kennzeichnen Komponenten, die nur zum Teil installiert werden. Klicken Sie auf "Details", um die Unterkomponenten anzuzeigen.			
Unterkomponenten von "Internet-Informationsdienste (IIS)":			
🗆 🥘 Dokumentation	3,5 MB	_	
🗆 較 FrontPage 2000-Servererweiterungen	4,1 MB		
🗆 💭 FTP-Dienst (File Transfer Protocol)	0,1 MB		
🗹 🔷 Gemeinsame Dateien 1,0 MB			
□ 📾 SMTP-Dienst 1,1 MB			
🗹 📸 Snap-In Internet-Informationsdienste	1,3 MB		
🗹 💭 WWW-Dienst	2,3 MB	-	
Beschreibung: Verwendet das HTTP-Protokoll, um auf Webclientanfra TCP/IP-Netzwerk zu antworten	gen in einem		
Erforderlicher Speicherplatz: 60,8 MB Verfügbarer Speicherplatz: 4572,7 MB	Details		
ОК	Abbrecher	n	

4. Click "OK" and "Next". After the successful installation you'll find a new folder: "C:\Inetpub" with additional sub folders.

5. Now start the setup SolarView.msi for SolarView, use given settings for the installation (path etc.)

Datalogger - Service configuration

1. Under Start -> Run type in the following command on click OK:

c:\programme\solarview\Datenlogger.exe -install

Ausführe	en e	? X
	Geben Sie den Namen eines Programms, Ordners, Dokuments oder einer Internetressource an.	
Öffnen:	c:\programme\solarview\datenlogger.exe -install	•
	OK Abbrechen Durchsuche	:n

Attention: To uninstall the service you have to use the following command: c:\programme\solarview\Datenlogger.exe –uninstall

2. After successful installation you have to reboot your system. The file C:\Programme\solarview\datenlogger.log contains information about the datalogger-inverter communication.

Configuring Internet Information Server

1. Start ,,c:\programme\solarview\web.exe" and accept the "unzip to folder" – just click ,,Unzip":



2. Open the IIS – console: "Start"->"Settings" -> "Control Panel"->"Administrative tools"-> "Internet Information Services". Right click the "Default web site" and select properties:

🐫 Internet-Informationsdie	nste
Datei Aktion Ansicht ?	
Internet-Informationsdiensta Internet-Informationsdiensta Internet-Informatin	e Computer er) Computer EXPTEST (lokale Im Explorer öffnen Öffnen Durchsuchen Start Beenden Anhalten Neu Alle Aufgaben Umbenennen Aktualisieren Eigenschaften Hilfe

3. In the properties window of the "default web site" select the tab "home directory" and set the "local path" to c:\programme\solarview\web\ using the "browse" button. Click two times OK.

Eigenschaften von Standa	rdwebsite			?	×
Verzeichnissicherheit Website	API-Filter	HTTP-Header Ben ter Basisverzeichnis		utzerdefinierte Fehler Dokumente	
Website 15 Beim Verbinden mit dieser eir eir eir eir Esten Skriptzugriff Lesen Schreiben Verzeichnis durchsuch Anwendungseinstellunger Anwendungsname: Ausgangspunkt: Ausführberechtigungen: Anwendungsschutz: Anwendungsschutz: Anwendungsschutz: Implementation Implementation	API-Filter Ressource soll c nem Verzeichnis ner Netzwerkfreig er Umleitung zu Vinetpub\www. Drdner s Basisve Basisve Basisve Mitt	Basisverz ler Inhalt aus Folg auf diesem Comp gabe auf einem a einem URL oot uchen rzeichnis	eichnis	Dokumente : ar urchsuchen	×
					//.

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4. In the Windows Explorer open the folder "c:\programme\solarview\web\tmp\". Under the menu "tools -> folder options" select the tab "view" to DISABLE the "Use simple file sharing (recommended)" option:

Folder Options
General View File Types
Folder views You can apply the view (such as Details or Tiles) that you are using for this folder to all folders. Apply to All Folders Reset All Folders
Advanced settings:
 Launch folder windows in a separate process Managing pairs of Web pages and folders Show and manage the pair as a single file Show both parts and manage them individually Show both parts but manage as a single file Remember each folder's view settings Restore previous folder windows at logon Show Control Panel in My Computer Show encrypted or compressed NTFS files in color Show pop-up description for folder and desktop items Use simple file sharing (Recommended)
Restore Defaults
OK Cancel Apply

5. Now the permissions for the folder ",tmp" must be set. Right click the folder c:\progamme\solarview\web\tmp\ and select ",Sharing and security":

Name	A	
🚞 imag	jes	
🚞 style	es	
🚞 tmp		
🙆 anla	Offnen	
💽 def.	Explorer	
💽 exp	Suchen	
Afavi	Freigabe und Sicherheit	
🥶 glot 📄 jahr	Senden an 🔹 🕨	
💌 Kale	Ausschneiden	
imor 🔄	Kopieren	
📄 robi	Verknüpfung erstellen	
▶] setv	Löschen	
💌 tagi	Umbenennen	
	Eigenschaften	

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6. Select "Security" and click "add". Type IUSR_"Your workstation name";IWAM_"Your workstation name". The entries must be separated with a semicolon. The "Your workstation name" is a placeholder. The workstation name normally is shown in the "From this location" field.

Select Users or Groups	? ×
Select this object type:	
Users, Groups, or Built-in security principals	Object Types
From this location:	
W03800-CHBS	Locations
Enter the object names to select (<u>examples</u>):	
IUSR_W03800-CHBS;IWAM_W03800-CHBS	Check Names
Adversed OK	Conset

7. Select the two accounts just added and grant "Modify":

tmp Properties						? ×
General Sharing	Security	Web	Sharing	Custon	nize	
Group or user nar	nes:					
🕵 Administrato	rs (W03800	D-CHB	S\Admini:	strators)		
🔹 🧟 Internet Gue	est Account	t (W03	3800-CHB	SNUSR	_W03800	-C
🗾 📓 Launch IIS I	Process Ac	count	(W03800	I-CHBS\	IWAM_W	
Stephene User:	s (W03800	-CHB9	S\PowerL	Jsers)		
SYSTEM						<u>ا</u> لئے
				1		-
Permissions for In	ternet Guer	st	Add.	··	Remov	'e
Account	temet a det	51	Ą	llow	Deny	
Full Control						
Modify				\checkmark		
Read & Execu	te					
List Folder Con	tents					
Head					님	
Coopial Pormia	aiana				H	•
For special permis click Advanced.	sions or for	adva	nced setti	ngs, _	Advance	ed
	0	IK	C	ancel	A	oply

Click OK to accept the modifications.

Parameters of SolarView.INI

1. Now the parameters for the web frontend need to be set using the program "SolarView.INI Einstellungen". Before doing that the "Solar Datenlogger" – service must run.

💋 SolarView.ini - Einstellungen Version 1.0.16
License: 1.2.3.4.5
Count of inverters: 1 inverter aberration: 1,15
Installed Power: 1234 Wp
Database-Pfath: D:\Eigene Dateien\Visual Studio Projects\SolarViewSett
Power deduction: 1,15 % efficiency factor: 90,56 %
Payment: 0,4675 Cent/kWh Average Power
Monthly parts of yearly earning as percentage:
Jan 3,2 Feb 4,85 Mrz 8,25 Apr 10,33 Mar 12,17 Jun 12,58
Jul 13,65 Aug 12,46 Sep 9,65 Ukt 6,37 Nov 3,78 Dez 2,71
Sum:]100
Start time:
Jan 8:00 Feb 8:00 Mrz 7:00 Apr 7:00 Mai 6:00 Jun 6:00
Jul 6:00 Aug 6:00 Sep 7:00 Okt 7:30 Nov 7:30 Dez 8:00
Stop time:
Jan 17:30 Feb 19:00 Mar 20:00 Apr 21:00 Mai 22:00 Jun 22:00
Jul 22:00 Aug 21:00 Sep 20:00 Okt 19:30 Nov 17:30 Dez 17:00
Homepage true: SolarView - Auswertung by Manfred Richter
weather forecast: http://wetterstationen.meteomedia.de/messnetz/forecast/09900
Installation - URL: anlage.htm
ianude: 47.695061 iongitude: 7.62902
time zone:].1 Country: DE
Speichern End
D:\Eigene Dateien\Visual Studio Projects\SolarViewSettings\Solarview.inj

Description of the Parameters:

License: Without a valid license key limitations are active like described at the beginning. A valid license key can be obtained for a usage fee by contacting <u>solarview@amhamberg.de</u>.

Count of inverters: Number of inverters

Inverter aberration: Installed PV power per inverter (kWp * 1000). Additonal inverters can be added with comma separation. Example: 5460,3240,2720

Power deduction = Yearly power deduction in percent. A value of 1.15 (%) equals a generator performance of 80% after 20 years.

Efficiency factor = The calculated efficiency rating of your power station. Depends on parameters like roof pitch, geografic direction etc. Nomally you get this information from your fitter during the planning phase.

Monthly part of yearly earnings: Monthly part of total earings in percent for January, February, March..., the sum must be 100%. Exact values for your location can be calculated using the web page <u>PVGIS</u> (http://re.jrc.ec.europa.eu/pvgis/apps3/pvest.php). **Payment**: electric power selling price in Euro cent per kWh.

Database path: Database path. Normally you don't need to change that. **Start time**: Start time for the daily diagramms per month (January, February ... till December)

Stop time: Stop time for the daily diagramms per month (January, February ... till December)

Homepage title: Homepage title showed in your Internet – Browser.

Weather forecast: Link to a weather forecast service. E.g.

 $\underline{http://wetterstationen.meteomedia.de/messnetz/eu_d.html}$

Average power: If activated the average power of the last 5 minutes is used to display **Installation URL** = Link to the description of your power station (by deleting this Parameter the link won't be shown on your SolarView Homepage. The settings in the example "anlage.htm" can be modified. You need to open the file

c:\progamme\solarview\web\anlage.htm for instance using Notepad. You can also replace the picture by using your own with the same name and format:

c:\progamme\solarview\web\images\anlage.jpg

You can also point here to another homepage.

latitude, longitude, time zone = Geographical coordinates to calculate sunrise and sunset for you location. Values can be calculated here: <u>http://www.amhamberg.de/Standort.shtml</u> Country =

Modifying the labels

By adding/replacing the following parameters in file c:\programme\solarview.ini the labels can be adjusted to display it in another language:

German default labels:

[Language]
1_MomentaneWerte=Momentane Werte
l_rel_abs_Leistung=rel./abs. Leistung
1_WRTemperatur=WR-Temperatur
1_Status=Status
1_SolarMaxTyp=Solarmax - Typ
1_Tagesverlauf=Tagesverlauf
1_Ertrag=Ertrag
1_Umsatz=Umsatz
1 spezifischerFrtrag-spezifischer Frtrag

1_MaximalLeistung=Maximale Leistung
1_CO2Bilanz=Bilanz (vermieden)
l_Soll=Soll
1_Ist=Ist
1_Aufgang=Aufgang
1_Hoechststand=Höchststand
1_Untergang=Untergang
1_Stunden=Stunden
¹ WechselrichterDetails=Wechselrichter - Details
1 Summe=Summe
Details=Details
Leistung=Leistung
l Zeit=Zeit
1 Werte=Werte
1 Heute=Heute
_ I Gesamt=Gesamt
DetailWerteAnzeigen=Detailwerte anzeigen
DetailWerteAusblenden=Detailwerte ausblenden
l Vergleich=Vergleich
I Anlage=Anlage
1 Wettervorhersage=Wettervorhersage
1_ErwarteterErtrag=ErwarteterErtrag
1 SollAbsolut=Soll (absolut)
I IstAbsolut=Ist (absolut)
SollRelativ=Soll (relativ,
I IstRelativ=Ist (relativ,
Tage=Tage
1 MonatsVerlauf=Monatsverlauf
_ 1 Erreicht=Erreicht
_ 1 Erwartet=Erwartet
[–] l Nebeneinander=Nebeneinander
_ l Uebereinander=Übereinander
GesamtVerlauf=Gesamtverlauf
[–] Standardansicht=Standardansicht
French labels proposal:
· · · · · · · · · · · · · · · · · · ·

[Language] l_MomentaneWerte=Production en temps réel l_rel_abs_Leistung=Rendement rel./abs. l_WRTemperatur=Température onduleur l_Status=Status

l_SolarMaxTyp=Solarmax - Modele l_Tagesverlauf=Journalier 1_Ertrag=Production l_Umsatz=Gain 1_spezifischerErtrag=Production spécifique 1_MaximalLeistung=Production maximum 1 CO2Bilanz=Bilan 1 Soll=Prod. totale attendue 1 Ist=Rdt Prod. réelle/attendue l_Aufgang=Lever du soleil 1 Hoechststand=Apogée l_Untergang=Coucher du soleil l_Stunden=Ensoleillement l_Sonnenlauf=Ephémerides l_WechselrichterDetails=Onduleurs - Détails 1 Summe=Somme 1 Details=Détails l_Leistung=Puissance 1_Zeit=Temps 1 Werte=Exporter vers Excel 1 Heute=Aujourd'hui 1 Gesamt=Annuel 1_DetailWerteAnzeigen=Production (détail) l_DetailWerteAusblenden=Production en kW l_ertragsKalender=Production jour/jour l_Vergleich=Comparaison l_Anlage=Installation l_Wettervorhersage=Prévision météo 1_ErwarteterErtrag=Production attendue 1 SollAbsolut=Attendu (abs.) 1 IstAbsolut=Rdt Prod. réelle/attendue (abs.) 1 SollRelativ=Attendu (rel., 1 IstRelativ=Rdt Prod. réelle/attendue (rel., 1 Tage=Jour 1 MonatsVerlauf=Production mensuelle 1 Erreicht=Produit 1_Erwartet=Attendu l_Nebeneinander=Juxtaposé 1_Uebereinander=Superposé 1 Jahr=Annee 1_JahresUebersicht=Production annuelle 1 ErreichterErtrag=Production effective 1 GesamtVerlauf=Gesamtverlauf 1 Standardansicht=Vue standard 1_VergleichenMit=Comparer avec

After changing a parameter the "world wide web publishing service" must be restarted.

To change the labels to English for the SolarViewSettings.exe program replace (if it already exist) or add (if it does not exist) the following parameters to the [Language] section of the solarview.ini file:

pb_cancel=End Frame Stopzeiten=Stop time: Frame Startzeiten=Start time: frame_Monatsanteile=Monthly parts of yearly earning as percentage: chk_PAC=Average Power Label1=License: Label2=Count of inverters: Label3=Installed Power: Label4=Database-Path: Label5=Power deduction: Label6=efficiency factor: Label9=Payment: Label14=Homepage title: Label15=Weather forecast: Label16=Installation - URL: Label17=latitude: Label18=longitude: Label19=time zone: Label20=inverter aberration: Label21=Sum: Label22=Country:

Data logger Parameters:

1. After the installation the program "Datenlogger.ini Einstellungen" can be started:

💋 Datenlogger.ini - Einstel	ellungen Version 1.0.22
Count Inverter: 1	1
total installed power: 1	1234
IP - Adress Inverter:	solarlogger.dyndns.tv
Port Inverter: 1	12345
freq. of measurment:	5000 ms Network-Timeout: 3000 ms
Database-Path: D:\Eige	ene Dateien/Visual Studio Projects/DatenLogger
Web directory-Path: D:\Eige	ene Dateien/Visual Studio Projects/DatenLogger
Inverter-aberration:	1,0078 log connection errors
Startzeiten: Jan ginn Feb ginn M	Mrz 7-00 Apr 7-00 Mai 6-00 Jun 6-00
	Gep 7-00 Okt 7-30 Nov 7-30 Dez 8-00
Jan 17:30 Feb 19:00 M	Mrz 20:00 Apr 21:00 Mai 22:00 Jun 22:00
Jul 22:00 Aug 21:00 S	Sep 20.00 Okt 19:30 Nov 17:30 Dez 17:00
Cal-Man Manhar	
activate alerting	send dayly report 🛛 🔽
Start-Offline - Offset: 120	min Stop-Offline - Offset: 120 min
Recipient: manfred@amh	hamberg.de;kurt@amhamberg.de
Sender: blablabla@aml	nhamberg.de
SMTP-Server: smtp.1und1.de	e POP3-Server: pop3.1und1.de
POP3-Auth	hentication required to send emails:
POP3-Account: asdfasdf	POP3 - Passwort: **********
Banner	
Line 1: Solaranlage Familie	create banner
Line 2: 1234 kWh in Wohnor	attach banner
Line 3: am Netz seit 22.07.20	
	Speichern Beenden
D:\Eigene Dateien\Visual Studio Pr	rojects\DatenLoggerSettings\Datenlogger.ini

Count Inverter: The number of inverters connected to the system **Total installed power:** The sum of your installed PV capacity in kWp * 1000. **IP-Adress Inverter:** The IP address of your Inverter. Attention, leading zero's must be omitted: NOT 192.168.001.052 **But 192.168.1.52**

Port Inverter: The inverter port (Standard is 12345)

Freq. of measurement: Interval to query the Solarmax Inverter. The example shows 5000 milli seconds. Every 5 minutes the average power value will be written into the database.

NetworkTimeout: Time to wait to connect to the Solarmax Inverter. Example: 3000 milli seconds

Database-Path: Path to the SolarView database "solar.mdb". Normally you don't need to change this setting.

Web directory-Path: The entry path for the web application. Normally you don't need to change this setting.

Startzeiten and **Stopzeiten:** The data logger starts and ends data logging at the given time depending on the month. You should set the time to start logging short before the Inverter starts in the morning and short after it stops in the evening. Best is to use 15 minutes steps.

Language: Select the language in which you like to get the inverter status if there is an alert

To change the labels of the DatenloggerSettings.exe you can add the following labels (or replace if already exit) in the section "[Language]" of the file datenlogger.ini.

Label0=Count Inverter: Label1=total installed power: Label3=IP - Adress Inverter: Label4=Port Inverter: Label5=freq. of measurment: Label7=Network-Timeout: Label9=Database-Path: Label10=Web directory-Path: Label11=Inverter-aberration: Label36=Start-Offline - Offset: Label38=Stop-Offline - Offset: Label40=Recipient: Label41=Sender: Label42=SMTP-Server: Label43=POP3-Server: Label44=POP3-Account: Label45=POP3 - Passwort: Label46=Line 1: Label47=Line 2: Label48=Line 3: chk attachbanner=attach banner chk banner=create banner chk_AlarmierungEin=activate alerting chk TagesBerichtSenden=send dayly report chk requireAuthentication=POP3-Authentication required to send emails: chk_ReportConnectionErrors=log connection errors Label14=Language

To modify the language of the report and alert email you can add or replace if it already exist the following parameters in the [language] section of the file datenlogger.ini

1_TagesErtraege=Earning today 1 Ertrag=earning l_Maximalleistung=Max. Power 1_Summe=Sum 1_AuflaufendeErtraege=accrual earnings 1 DiesesJahr=this year 1 ThisMonth=this month 1 Gesamt=Total 1 Summen=Summary 1 TagesBerichtVom=SolarView Monitor – Daily report 1_EmailTestError=Error while sending eMail: 1_EmailTestSuccess=eMail successfully sent. 1_Error=Error 1_Warning=Warning 1 found=found 1 NichtErreichbar=Can't connect to inverter!

The parameters MonthsJSPath and Days_HistPath are based on the Webverzeichnis-Pfad and can't be changed via the user interface. Every evening at the stop time the files months.js and days_hist.js are generated You can use that files for automatic updated for other web services like for instance <u>www.sonnenertrag.eu</u>.

SolarView – Monitor:

Alarmierung aktivieren: The data logger does read the error log of the inverters. In case of an error an email alert can be sent out. For that the following parameters must be configured.

Tagesbericht senden: When the data logger stops in the evening an email with the daily earnings can be sent out.

Start-Offline-Offset and **Stop-Offline-Offset:** If the data logger is unreachable (offline) the error log can't be read. There are various root causes for that (network problems, not enough sun radiation etc.). To avoid false positive alerts (e.g. because of sun radiation during morning and evening hours) an offset can be defined. An offset of 120 (minutes) means that e.g. in December (Start=8:00, Stop=17:00) the offline monitoring will start only at 10:00am and stops already at 15:00 pm. The two parameters are only affecting offline errors. If the inverter is reachable and other errors occur an alert will be send out between e.g. 8:00 and 17:00.

Empfänger: Valid recipient SMTP address for the error and daily earnings email. Additional recipient SMTP addresses must be separated with a semicolon

Absender: Valid sender SMTP address. Only one address is allowed.

SMTP-Server: Server name (smarthost) which is used to send the emails. Contact your email service provider for details.

POP3-Server, -Account, -Passwort: The server name, account and password which is used to receive emails. Some email service providers require POP3 authentication before you are able to use their SMTP server to send emails.

Whether sending emails does work after configuration can be tested with the following command:

Start -> Run: Type the following command and click OK:

c:\programme\solarview\Datenlogger.exe -testemail

After a successful send you'll get a few minutes later a test email. If you don't get one you probably need to verify the configuration (you should got an error message while sending the email) or check your Anti-SPAM configuration.

Banner:

It is possible to create a banner which is updated every 5 minutes during logging hours and can be reached via the URL <u>http://domainname.tld/tmp/banner.png</u> (domainname.tld is the name of your SolarView – Homepage on the Internet, e.g.

http://solarlogger.dyndns.tv/. The banner can be modified by changing the 3 lines "Zeile1", "Zeile2" und "Zeile3" and need to be activated be enabling "Banner erzeugen".



Banner example

Data import

There is a tool available to import data. You can download it from <u>http://www.amhamberg.de/downloads/editvalues.msi</u>. Please read carefully the instructions which are available after the installation in a readme.txt file.

Special Configuration

It is possible to query additonal Solarmax inverters even if they are not connected via RS485 with the first one. For that it is required to create a second instance of Datenlogger as followed: Create a new folder, for instance c:\programme\solarview\ZweiteInstanz\

Stop the service "Solar Datenlogger" and copy the files **datenlogger.exe** and **datenlogger.ini** folder **c:\programme\solarview\zweiteInstanz**. Now edit the new **c:\programme\solarview\zweiteInstanz\datenlogger.ini** and modify/add the following settings in section [Settings]:

In the example it is assumed that a second inverter is connected to first inverter via RS485 and a third one is again directly connected to the ethernet network. The first Datenlogger – Service is already working. The IP address of the third inverter is 192.168.1.53

New parameters are: Instanz=1 ErsterWR=3

This parameter to modify: **RemoteHost=192.168.1.53**

Depending on your configuration you might need to change this as well: RemotePort=12345 WRAnzahl=1

Attention: The inverters connected to the ethernet must have the Device ID 1 assigned! Invertes connected via RS485 will get DeviceID 2,3.... You can query up to 9 inverts in total. The RemoteHost-IP must be different from the one in the first inverter but the port can be the same. Other parameters doesn't need to be modified but you must ensure that the database path is the same as in the original datenlogger.ini.

Explanation: The first inverter chain is queried by the first data logger service. Here you don't need to change anything. The 3rd inverter connected to the ethernet will be queried with the additonal datalogger service instance. The Parameter **ErsterWR=3** means that the 3rd inverter becomes No. 3 in the database (but the physical device address must be 1). The Parameter **Instanz=1** is required to create an additional service instance. To create the additional instance open Start->Run and tpye in:

c:\programme\solarview\zweiteInstanz\datenlogger.exe -install

(Important – the path to the additional directory must be used)

You will find now an additonal "**Solar Datenlogger 1**" service in the services applet of your control panel which can be started now.

Directory structure example:

🔄 C:\Programme\Datenlogger Datei Bearbeiten Ansicht Favoriten Extras -🤇 Zurück 👻 Suchen Ordner 123 30 9 Adresse 🛅 C:\Programme\Datenlogger \rightarrow • Größe Typ Ordner × Name Geändert am 🔁 ZweiteInstanz Dateiordner 21.01.2009 22:32 🕀 🚞 Inetpub . 💋 Datenlogger.exe 220 KB Anwendung 17.01.2009 16:12 🗄 🛅 Logfiles 🎐 datenlogger.ini Konfigurationseinst... 17.01.2009 15:53 2 KB 🖃 🛅 Programme 🗐 Datenlogger.log 23 KB Textdokument 21.01.2009 17:30 🛅 CHAT 💋 Datenlogger Settings.exe 23.12.2008 11:35 68 KB Anwendung 🛅 ComPlus Applications 🗒 ST6UNST.LOG 08.07.2008 16:55 🗆 🗁 Datenlogger 3 KB Textdokument 🔊 vbSendMail.dll 136 KB Programmbibliothek 05.09.2003 20:11 🛅 ZweiteInstanz 🗄 🛅 DIRECTX C:\Programme\Datenlogger\ZweiteInstanz 🛅 DynDNS Updater Favoriten Datei Bearbeiten Ansicht Extras 7 🛅 FrontPage Express 표 🛅 Gemeinsame Dateien 🤇 Zurück 👻 🧲 Ð Suchen Ordner -표 🛅 InstallShield Installation Adresse 🛅 C:\Programme\Datenlogger\ZweiteInstanz 🕀 🛅 Internet Explorer 🗄 🛅 Logitech Name Größe Typ Geändert am 🛅 Messenger ZDatenlogger.exe 220 KB Anwendung 17.01.2009 16:12 🖽 🛅 microsoft frontpage ቅ datenlogger.ini Konfigurationseinst... 17.01.2009 15:53 2 KB 표 🛅 Microsoft Office DatenloggerSettings.exe 68 KB Anwendung 23.12.2008 11:35 🖽 🛅 Microsoft Visual Studio 🗄 🚞 movie maker 🗄 🚞 msn 🗄 🛅 msn gaming zone

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Nur die Datei c:\Programme\solarview\ZweiteInstanz\datenlogger.ini muss angepasst werden.



Example how to query multiple inverters connected to Ethernet.

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Finishing the installation

To verify whether everything works as expected you can check the display of your inverter. Every view seconds you should see a "C" in the upper middle.

Potential issues

There are several sources for issues. For instance the network connection is broken or other applications (e.g. MaxTalk) are already connected to the inverter. **Inverters can only be connected to one application.**

Verify the IP, Port and Device addresses stored in your inverter. Changing that addresses require a restart of the inverter!

You can do a basic network check using the command line tool "Ping": Open, Start -> Run" and type in CMD. Click OK. Type into the window "Command Prompt" which just had opened the command

```
PING <</IP-Address of the inverter>>, for instance PING 192.168.1.52
Now you should see someting similar:
```

```
C:\Programme\Support Tools>ping 192.168.1.52
Ping wird ausgeführt für 192.168.1.52 mit 32 Bytes Daten:
Antwort von 192.168.1.52: Bytes=32 Zeit=1ms TTL=100
Antwort von 192.168.1.52: Bytes=32 Zeit<1ms TTL=100
Antwort von 192.168.1.52: Bytes=32 Zeit<1ms TTL=100
Antwort von 192.168.1.52: Bytes=32 Zeit<1ms TTL=100
Ping-Statistik für 192.168.1.52:
    Pakete: Sent = 4, Received = 4, Lost = 0 (0% Lost),
Ca. Zeitangaben in Millisek.:
    Minimum = 0ms, Maximum = 1ms, Mittelwert = 0ms</pre>
```

No pakets must be lost (The IP – Adresse 192.168.1.52 is only an example and must be replaced by the one of your inverter!)!

You can also try MaxTalk (Download <u>http://www.solarmax.com</u>). But you can use only one application – either MaxTalk or Solarview – Datenlogger.

Problems with the Internet Information Server

XP's IIS (Internet Information Server) does support 5 simultanious connections. If the limit has been reached (because for instance a search machine does index your web page) the page might become inaccessible. To avoid that it is possible to reduce certain timeout values: Reduce the connection timeout from 900 to e.g. 90 seconds and enable the http Keep-Alive. Open Start -> Control Panel -> System -> Internet Information Services -> right click the "Default Web Page" and select Properties.

🐫 Internet-Informationsdienste _ 🗆 🗙 Datei Aktion Ansicht ? ← → 🔃 😫 😫 🖳 💂 ▶ ■ Ⅱ 🝓 Internet-Informationsdienste Computer Lokal Version Stat 🗐 🚇 SOLAR (lokaler Computer) IIS V5.1 💭 SOLAR (lokaler Computer) Ja 📄 🧰 Websites Eigenschaften von SolarView ? × 🗄 🤬 SolarView 🗄 🚞 FTP-Sites HTTP-Header Benutzerdefinierte Fehler ASP.NET Servererweiterungen 🗄 🏷 Virtueller Standardserver für Website ISAPI-Filter Basisverzeichnis Dokumente Verzeichnissicherheit Identifikation der Website SolarView Beschreibung: (Keine zugeordnet) IP-Adresse: -Erweitert... 80 TCP-Anschluss: Verbindungen 90 Sekunden Verbindungstimeout: ☑ HTTP-Verbindung aufrechterhalten (HTTP-Keep-Alive aktivieren) Protokollierung aktivieren Aktives Protokollformat: Eigenschaften... W3C-erweitert • • IP Addre Managem e. Remote Des ΟK Übernehmen Hilfe Abbrechen എ

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Check as well c:\programme\solarview\web\robots.txt that it contains exactly this text:

User-agent: * Disallow: /

Important is the "/"!

The standard for concurrent connections is set to ten in the XP Pro IIS. Per user 2 connections are opened by default. If you like increase that (max is 40) you can run the following command in a command box:

Uninstall SolarView:

Stop the Datenlogger – service. Under Start-> Run type in the following command and click OK

C:\programme\solarview\datenlogger.exe -uninstall

Now you can unistall the application as usual via "add/remove programs" in the control panel of your PC.