StatLink
Users manual
(C) 2005-2007 Metronic, Sweden

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Introduction in English

About Husdata

Husdata is developing solutions for heating system owners looking for advanced functionality in data collection, presentation and monitoring. This makes it possible to connect your heating system to PC and further on to the Internet. The solutions from Husdata demands more from the users but in return it will give advanced possibilities for individual customisation.

If you do not need the PC connection and instead are looking for a simple alarm and remote control solution with guaranteed uptime then we recommend that you contact your reseller and acquire the heating system manufacturer’s online-system instead.

About the software StatLink

The main functions of StatLink are…

- that with different interfaces and protocols communicate with heating systems.
- that with powerful functionality satisfy advanced users who will make their own homepages, reports, realtime views or external programs to work with the collected information.
- that with integrated monitoring views give the user better understanding of how their heating system and their control logic works.
- to link between your heating system and the Husdata-portal. This makes it very easy to bring your heating system online on the Internet or mobile phone.

Today StatLink has support for the IVT Greenline, Carrier and Autotherm controller of type Rego6xx and Thermia heatpumps with controller of type 501, but other brands and models will be supported in the future. StatLink is a Windows software written to use consume very little system resources. It works with the operating systems Windows 98 and later. Computers should have a Pentium 133 processor or better.

About the Husdata Online portal

The Husdata portal gives you the possibility to reach the collected data from the Internet. You can view the status of the current situation, view historical reports in charts and tables. You can choose to make your information private or share it with other users. Please visit the portal www.husdata.se to find out more about the service.
Introduktion på Svenska

Om Husdata

Husdata tar fram lösningar för värmesystemsinnehavare med avancerade krav på informationsinsamling, presentation, uppföljning och kontroll. Husdata med dess mjukvaror och interface möjliggör anslutning av värmesystemet till PC och sedan vidare till Internet. Lösningarna kräver lite mer av användarna men gengäld medges avancerade möjligheter för individuell behovsanpassning med stor flexibilitet.

Om du inte har något behov av PC anslutning utan istället är ute efter en enkel lösning med garanterad funktion för larm och fjärrstyrning av värmeinställning rekommenderar vi att du kontaktar din återförsäljare för att ansluta dig till tillverkarens egen online-system.

Om programmet StatLink

StatLinks huvuduppgifter är…

- Att via olika interface och protokoll kommunicera med värmesystem
- Att med kraftfulla funktioner tillmötesgå avancerade användare som vill göra egna hemsidor, rapporter, realtidsvyer eller tilläggsprogram för att behandla insamlad information.
- Att med specialfunktioner för individuella värmesystem presentera vyer som på ett översiktligt sätt visar hur reglertekniken arbetar och fungerar.
- Att agera länken mellan ditt värmesystem och Husdata-portalen för att på ett mycket enkelt sätt göra ditt värmesystem online på Internet eller i mobilen.


Om Husdata online tjänst

Husdata tjänsten medger loggning av visning av data insamlat av programmet StatLink. Tjänsten gör att du når som helst, via webben kan kontrollera status på värmesystem din elförbrukning, mm. Du kan välja att behålla informationen för dig själv eller dela med den till andra användare. Idag finns funktioner för loggning av data med visning i olika former av rapporter och diagram.

Var vänlig och besök portalen www.husdata.se för detaljerad information
Installation

StatLink software

Login to Husdata.se with your account and download the latest StatLink setup file. Run the Setup file on your computer. The standard installation directory is C:\StatLink but you can choose another if you want. If you have an older operating system such as Windows 98 or ME and it may be necessary to install the Microsoft XML parser. This can also be found in Husdata downloads.
H10 interface for the IVT Rego 6xx controller

You have to connect the supplied interface between the heat pump and your PC to enable the software to communicate with the Rego controller. The interface has an Optical coupler to cater for galvanic isolation between the heat pump and the PC. This is protecting your equipment from transients caused by thunderstorms or any fault in the electrical network.

**Interface installation**
1. Turn off your heatpump.
2. Open the front of your heat pump.
3. Locate a small green circuit board with a 9-pin connector with the label “Service”
4. Connect the interface to this connector (the circuit board side).
5. Connect the other side to the computers serial port and USB port.
6. Start up your heat pump again.

**Note!**
When communicating with a Rego controller it is best to position the display in the Main menu position (the date and time shows). If you leave the display in the “Info” menu position the Rego is constantly updating the display and this will slow down the link to the PC.

H14 interface for Thermia heat pumps using the 501 controller

You have to connect the supplied interface between the heat pump and your PC to enable the software to communicate with the controller. The interface has an Optical coupler to cater for galvanic isolation between the heat pump and the PC. This is protecting your equipment from transients caused by thunderstorms or any fault in the electrical network.

**Interface installation**
1. Turn off your heatpump.
2. Open the front of your heat pump.
3. Locate the 901 501 controller.
4. Connect the interface to a connector labelled “ext”.
5. Connect the other side to the computers serial port and USB port.
6. Start up your heat pump again.
Connect an Electrical meter with S0-pulse interface
Warning! Husdata is not guaranteeing the functionality for your type of meter.
Also pay attention that the line between the PC and electrical meter is not isolated.
Husdata will not take any responsibility of any damage or problems caused by this type of
connections. All connections to the S0 port is done at your own risk.

If you have an Electrical meter with a S0 connector you have the possibility to connect it to your PC
and enable StatLink to show and store information about the electrical consumption.
You will not need any interface. The cables are connected directly to the pins of the serial port. Up to
two electrical meters can be connected simultaneously.

To be able to connect the meters you must have the skills to handle a solder iron.
Otherwise contact Husdata for assistance of making a special cable for you.

Description of how to connect to the 9-pole D-sub connector.

<table>
<thead>
<tr>
<th>Pin</th>
<th>Meter</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>S0 – Meter for Heatpump</td>
</tr>
<tr>
<td>4</td>
<td>S0 + Meter for Heatpump</td>
</tr>
<tr>
<td>4</td>
<td>S0 + Meter for total house measurement</td>
</tr>
<tr>
<td>6</td>
<td>S0 – Meter for total house measurement</td>
</tr>
</tbody>
</table>

Settings that needs to be performed to enable the meter.

1. Enable the S0 interface by enter the Setup and choose Interfaces.
   Select the interface type S0. You can connect the S0 meter to the same comport as the Rego
   interface.

2. Enable the meters in the Sys_ID table. (Se Appendix A)
   You must also select the correct number of pulses per kWh. This information is usually found
   on the label on your electrical meter.

With the S0-meter connected you will be able to extract the following information.

- Realtime display showed in the EL-Meter and Sensor table views.
  (The intraday kWh and momentarily Power load in Watt)
- Logging to file in selectable intervals. (See Actions and Rapporttemplate chapters)
- Logging to Flatfile DB format for graphical presentation.
- Logging to the husdata portal is not supported in this version of Statlink.

Extending the cable
Probably you will need to extend the cable length. Extensions up to 30-40 meters are normally not
causing any problems. The easiest way to do this is to cut the cable in the middle and reconnect the
wires with the extended cable with some kind of simple connector.
Use a standard 2-pair telephone wire to extend the cable.
Please do not mix up the colours of the wires because it could destroy the interface or serial port.
Users manual

General about settings in StatLink

General setup
All general settings are made through the settings dialogue found under the menu File.

All general settings are stored in the Settings.xml file residing in the StatLink program directory. Please make backup of this file if you are upgrading or re-installing the software. Please see the File menu chapter for more information.

Advanced Setup
Advanced settings such as modifying Sys_ID's and configuring automated Actions is found in the StatLink.ini file. The editor for this file can be reached from the General setup menu.

Storing historical data
There are numerous ways to store information about how your heating system is performing. This chapter is describing how this can be achieved in different ways.

Flat file DB, Store detail data to local disc
The logging format called Flatfile DB is a simple file based database that is used by StatLink to present its line chart diagrams.

The Flatfile DB is enabled by default when StatLink is installed. Here are some options described.

Modify DB settings
Enter the setup menu and select the "DB / Logging" section. Here you can change how often you want to write data. Default is every 2 minutes. Notice that a higher resolution will take more disk space. If you log all temperatures every 2 minutes the DB size will increase approx. 100kB per day or 36Mb per year

Enable / Disable sensors and objects
You can choose which object’s information to store in this log. For that you will have to open and modify the statlink.ini file. Select which sensors you want to log under the section [Sensors]. This is also where you can change the names of the objects if you want. Please see Appendix A for more information.
Storing daily summary to local disc
In different views of StatLink you can view information collected since midnight.
(See the "sensor table" chapter)
StatLink has a flexible way to log this information and both the intervals, contents and formats are
customisable using the Actions and Templates features.

StatLink is preconfigured with an “Action” that is storing Intraday information at 00:00 every night
for longterm reporting/calculation of historical informatino. A new row of data is added in the tab-
separated file “DayRpt.csv” witch can be opened and worked with in MS Excel.

In the StatLink directory there is a template file called “tDayRpt.txt”. The output file is generated from
this template. Edit this file to change the contents and layout of the report.
Please note that all stored information is in Integers and has to be devided by ten to get the correct
information. For example, the temperature 22.7 degrees is stored as the number 227.
Runtime is stored in seconds and electrical consumption i watt hours.

Connection to the Husdata online portal

An easy way to get your information available from the internet is to use the Husdata-online service.
This also makes it possible to compare your information with other users.
You will get your “own” info-page witch easily can be linked to from a mail foot or your own
homepage. överföringen av informationen från StatLink till Husdata portalen sker med FTP.

To get your information in the Husdata-online pages do the following...
1. See to that you have a valid online account at Husdata.se.
2. You must also have a fixed connection to the Internet. (broadband)
3. Enter the setup, section Husdata-Online and type in your provided Username and Password
4. Log in to Husdata.se and select to show your info in public (if you want)
5. Now data should start to show in about ten minutes.

The portal service is constantly under construction and functionality will change in the future.
Reporting

Mail reports
StatLink has the possibility to schedule sending of emails containing reports.
With use of a template-file you configure the layout and contents of the report.
To make this work you must configure your email account settings in StatLink and also configure
“Actions” for an email sending event

Report templates
To setup the layout and contents of the reports you have to configure report templates.
The way this is working is that you enter ”Tags” in the report template in positions where you want
to present the information. When the template I processed by StatLink the tag is replaced by the actual
data for output in the report.
Reports are generated when StatLink I running an ”Action” of type ”Make Report”.
Please see the chapter about Actions for more informataton.

In the StatLink program directory there are some examples of report templates that you can view and
customize for your own needs.

tWebRpt.html An HTML template suitable to use for email reports or presentation on
your homepage.
tCSV.txt An TAB separated template suitable to store data that is importable into
MS Excel.

This is a list of available Tags to use in the report templates.
%Time% Time now (eg. 10:35:55)
%Date% Date now (eg. 2005-01-01)
%YesterDate% Yesterdays date (2005-05-04)
%TotalkWh% Summary of the intraday electrical consumption.
%NewRow% Inserts LF and CR to generate row change.
%Syst_ID_X_Name% Shows the name of an Monitored Object
X=SystID. The table of all SystID’s is found in appendix B.
%Syst_ID_X_Value% Current value in text. (eg. 10.2c, On/Off)
%Syst_ID_X_Sstat1% Intraday statistics, see chapter about the Objects table.
%Syst_ID_X_Sstat2% Intraday statistics, see chapter about the Objects table.
%Syst_ID_X_Sstat3% Intraday statistics, see chapter about the Objects table.
%Syst_ID_X_tValue% Same as above but is presenting numeric values. (102, 1/0)
%Syst_ID_X_tStat1%
%Syst_ID_X_tStat2%
%Syst_ID_X_tStat3%

Example of how you can build an template...
Report generated %Date% %Time%
The Radiator temperature is: %SysID_1_Value%.
The outdoor temperature is: %SysID_2_Value% and the Max temp today are:
%Syst_ID_X_Sstat3%.

The generated report will then look likt this...
Report generated 2005-12-20 13:55
The Radiator temperature is: 33.4c.
The outdoor temperature is: -2.3c and the Max temp today are: 1.2c.

Automated Actions

There is a functionality in StatLink to schedule events called Actions.
Things that can be automated is Sending emails, Take pictures and producing reports.

You set up the Actions under the section [Actions] in the statlink.ini file. Up to 9 Actions can be configured (1-9).

Example of how to use Actions (See Appendix A for more information)

**Action to send an email containing an report of the yesterday data.**
This event will generate a report based on the template "tWebRpt.html" and send it by email at the time 00:00 every day.

Act1-Name=Send Email report every day
Act1-Type=MakeReport
Act1-Input=C:\StatLink\tWebRpt.html
Act1-Interval=00:00
Act1-SendEmail=True

**If you have a Web server and want to publish a page with info.**
This event will generate a report based on the template "tWebRpt.html" and write the result in the file "WebInfo.html" every minute. "Mode=Replace" means that the result file is overwritten every time.

Act2-Name=Generate a web-page every minute
Act2-Type=MakeReport
Act2-Input=C:\StatLink\tWebRpt.html
Act2-Output=C:\StatLink\WebInfo.html
Act2-Mode=Replace
Act2-Interval=1
Act2-SendEmail=False

**If you have a Web server and want to publish a picture of StatLink.**
This event will generate a screenshot of StatLink and write it into the file ScreenShot.jpg every minute. Note that the screen shot function has some limitations. For the screen shot to work, the StatLink software cannot be minimized and no other windows should block the StatLink windows.

Act3-Name=Make screenshot every minute
Act3-Type=MakePicture
Act3-Output=C:\StatLink\ScreenShot.jpg
Act3-Mode=Screenshot
Act3-Interval=1
Act3-JpgQuality=90
**Action to log historical data in Excel importable format.**

This event will generate a report based on the file "tCsv.txt" and write the result into the file "Minutelogg.csv" every minute.

"Mode=Append” means that the result file will not overwritten. Instead it will be appended with new data.

Act4-Type=MakeReport
Act4-Name=Save data to CSV file every minute
Act4-Input=C:\StatLink\tCsv.txt
Act4-Output=C:\StatLink\Minutelogg.csv
Act4-Mode=Append
Act4-Interval=1
**Menues**

**Menu File**

*Settings*
This selection will launch the setup dialogue. Select setup-section by clicking an entry int the list at the right. If you place the mouse pointer over an option text you get additional information of how to use the option.

Here is an overview of available setup options.

- **General**
  - **Common**
    Select the Volt and Fuse to get correct calculation och power consumption.
  - **Email**
    Select options for outgoing email used in actions for report sendings. Normally you don’t have to fill in the username and password

- **Interfaces**
  - **Interface 1**
    Select the type of interface and assign it to a Com-port. H10 Rego6xx, H14 Thermia.
  - **Interface 2**
    Select the type of interface and assign it to a Com-port. S0 can be assigned to the same Com-port as H10 or H14 interfaces.

- **Log / DB**
  - **Flat file DB**
    See Flat file DB chapter. DB Used for line diagrams.

- **Husdata Online**
  - If you have an active account on the Husdata Online system you can enable it here. Enter the username and password you got from Husdata.

- **Automated Actions**
  - See chapter ”Automated Actions” for more info

- **Sensor Settings**
  - See chapter ”Automated Actions” for more info

- **Pulse Views**
  - **Pulse view 1**
    A Pulse view is a realtime view of your heating system or other environment. You can design your own Pulse view or modify the current. See the the “Pulse view designer” chapter for more info
  - **Pulse view 2**
    Up to two views can be configured

**Reset stat**
Every midnight the Intraday statistics is automatically reset. Here you can manually reset the statistics for the day.

**Exit**
Exit from StatLink
Menu Actions

In this menu you can manually run your configured actions. This is useful to verify that your emails are sent or reports are generated as expected.

Rego Dashboard

The Rego Dashboard is only available when a Rego6xx interface is enabled. This view is presenting specific information and functions of this controller.
The view has 2 tabs.

- The tab “Control Curve”

This is a graphical presentation of how the controlcurve is set up in your Rego. Together with historical logging and line diagrams you are equipped with a powerful tool to optimise your heat pump.

Depending on if you have a Room sensor or not you must enable or disable it to get the correct presentation of the curve. Please see the Appendix C of how to do this.

“Read REGO settings” button
If you have made changes in the Rego settings when StatLink is running you should press this button to re-read the settings from the controller for correct presentation of the curve.

“Refresh view” button
This is redrawing the graph. This is also performed automatically every 30 sec.

”Track movement” checkbox
If you want to track how the control point and curve are moving during time, select this box.

”Show with Room sensor influence” checkbox
If this is selected, the curve position will be influenced by the room temp, as it is actually done in the controller.
- The tab Remote display
  In this tab you can perform remote control of the Rego-display from StatLink and also get an overview of the indicator lamps. The remote control can sometimes feel slow. This is a normal condition and caused by limitations in the Rego controller.

  You navigate in the menus by clicking on the three buttons below the display. Use the two arrowed buttons to "turn" the knob.
  The button "Refresh" has to be used in some situations. The display is automatically refreshed every time you push any of the buttons. If you save a setting the text "Saving..." is displayed and then you have to click on the "Refresh" button to be able to see the text that is coming up afterwards.

  An alternative to click on the buttons to navigate is to use your numeric key pad instead. Below is a list of the keys to use.
  4 = Menu button left
  5 = Menu button center
  6 = Menu button right
  1 = Turn the knob left
  2 = Refresh
  3 = Turn the knob right

  Notice!
  When you enter the remote display tab, all other readings from the Rego is halted. As long as you are working in this tab no logging will be done. To avoid the scenario where you forget the tab in that position, the Rego Dashboard view will return to the Control curve tab after 2 minutes of inactivity.

  On the Rego control-panel at your heatpump you can hold down the left button for some seconds to enter the Service menus. This is not possible to do from the remote display. You must enter these menus by pressing the button at your physical heatpump.
Monitored Objects Table

This is a view showing all the enabled objects. The view is showing both current status and accumulated intraday information.

Description of the columns.
ID       The SysID of the sensor or object.
Source   The source of the data
Name     The name of the object (Changeble under the [Sensors] section of statlink.ini)
Type     Type of object / data
Value    Current value / status of the object
Changed  The time the object has changed value or state
Stat1-3  Accumulated intraday statistics. See table below

<table>
<thead>
<tr>
<th>Type of object</th>
<th>Stat1</th>
<th>Stat2</th>
<th>Stat3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temp</td>
<td>Average temp</td>
<td>Max temp</td>
<td>Min temp</td>
</tr>
<tr>
<td>Status</td>
<td>El consumpt. in kWh</td>
<td>Run time</td>
<td>Status changes</td>
</tr>
<tr>
<td>EL-Meter</td>
<td>Acc. kWh</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Electrical Meter

This view is only visible and usable if you have electrical meters connected via the S0 pulse interface and the interface enabled. The view will show intraday electrical consumption in kWh and current power outage in Watt. Up to 2 meters can be used at the same time.

Events
This view is showing the time and info of the last 30 status changes of all objects.

Reports

Line diagram

To view the stored data in line charts select the menu Reports and option Line diagram. Now a selector dialog is shown. Please select all objects to include and the period of time.

Click on "Generate" and then chart will be displayed.
For zoom, hold the Right mouse button while moving the mouse right or left.
For move in time, hold the Left mouse button while moving the mouse right or left.
**Pulse views**

The Pulse view gives you a realtime picture with information from different objects. It is fully editable with the possibility to Add, Remove, Rename and change properties of all the displayed objects. You can even replace the background picture and create your complete personalized view from scratch.

- **Viewer**
  If you put the mouse pointer over an object it will show additional information with intraday statistics. To show a line diagram with the last 24 hours of historical data, click on an object. If nothing happens while clicking an object it is because the object is not enabled for logging to the Flat file DB. See the Appendix A for more information.

- **Editor**
  To enter the editor you just double click anywhere on the Pulse picture. Now a blow dot is shown at every editable object. To change properties of an object, click on the blue dot. To add a new object you right-click anywhere in the picture.

**Properties box**
- **Button – Move**
  Click on this and place the object with the left mouse-button. When you are done you exit the move mode with the right mouse button
- **Button - Delete this**
  Will delete the selected object
- **Button - Delete all**
  Will delete all objects from the view
- **Button - Ok**
  Confirm changes
- **Button - Cancel**
  Cancel changes

- **Field 1**
  Enter the name / display text for the object
- **Field 2**
  Select type of object (see table below)
- **Field 3**
  Option 1 for the object (see table below)
- **Field 4**
  Option 2 for the object (see table below)
- **Field 5**
  Option 3 for the object (see table below)
- **Bind to SysID**
  Enter SysID number to bind this object to (see Monitored Objects table view)

**Table of object types and properties**

<table>
<thead>
<tr>
<th>Name</th>
<th>Describe</th>
<th>Option1</th>
<th>Option2</th>
<th>Option3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temperature</td>
<td>Small box showing temp.</td>
<td>Show text</td>
<td>Trend arrow</td>
<td></td>
</tr>
<tr>
<td>Pump</td>
<td>Animated pump symbol</td>
<td>Show text</td>
<td>Flow dir.</td>
<td></td>
</tr>
<tr>
<td>Compressor</td>
<td>Animated compressor symbol</td>
<td>Show text</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Heater</td>
<td>Animated additional heater symbol</td>
<td>Show text</td>
<td>Step 1, 2</td>
<td></td>
</tr>
<tr>
<td>Switch valve</td>
<td>Animated switch valve symbol</td>
<td>Show text</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Label</td>
<td>Text label</td>
<td>Font size</td>
<td>Style</td>
<td>Text colour</td>
</tr>
<tr>
<td>Info display</td>
<td>Special inform display for Rego</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Power display</td>
<td>Intraday kWh, Watt and Amp disp</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Led LED</td>
<td>Status indicator</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

To exit the Edit mode, just double click on the picture again.

**Notice**

Remember to enable the Object you want to show in the Pulse view in the statlink.ini. The Power display is showing the intraday accumulated electrical consumption and also the power (watt) and load (amp). These values are based on how much power each object consumes. To give the correct information, this must be altered to suite your heat pump model in the [Sensors] section of statlink.ini. See appendix A.
Trouble shooting

Tracelogs
In your StatLink software directory it resides a directory called *TraceLogs*. In case of some error, StatLink stores information in trace filer. If you encounter problems with your StatLink software, please check the trace files for any explanation of the reason to the problem. If you want to change the trace log level, please see Appendix A.

Support
If you need any help, please send a mail to info@husdata.se or enter the www.husdata.se portal and leave a message via the contact form. We will do our best to help you get started. You can also try getting help from other Husdata users through the support forum found at www.husdata.se/forum.asp
Appendix A – Options for the Statlink.ini file

[Tracing]
TraceLogLevel=Error
  Description: When set it stores trace information for troubleshooting in <progdir>\Tracelogs\ directory. Review the log files for errors whenever you experience any problem.
  Valid settings: Error, <nothing>

[Actions]
Replace X with the number of your configured Action (1-9)

ActX-Name=
  Description: Your description of this action. This text will show up in the “actions” menu in the application and also in trace-logs.
  Valid settings: <Any text>

ActX-Type=
  Description: The type of action. Select if you want to generate a report file based on a template or if you want to generate a picture.
  Valid settings: MakeReport and MakePicture

ActX-Input=
  Description: Here you enter the full path and filename to the template file used in MakeReport Type. This is not used in MakePicture Type.
  Valid settings: <Path\File>, Ex. C:\StatLink\Template.txt

ActX-Output=
  Description: Here you enter the full path and filename to the generated report or picture file. This is used in both MakePicture and MakeReport Type.
  Valid settings: <Path\File>, Ex. C:\StatLink\Report.html

ActX-Mode=
  Description: This is the mode selection for the selected Type.
  Valid settings:
  If MakeReport Type:
    Replace (Will replace the current rpt file)
    Append (Will append data to the current rpt file)
    New (Will create a new file name every time)
  If MakePicture Type:
    Screenshot (Will take picture of StatLink main window)

ActX-Interval=
  Description: This is the run interval for the action.
  Valid settings:
  <num> in Minutes. Ex. 5= Will run action every 5 minutes.
  <time> in HH:MM. ex. 09:55=Will run action at 09:55 every day.

ActX-JpgQuality=
  This setting is valid if using the MakePicture Type.
  Select file size and quality of the saved Picture, Jpg file.
  Valid settings: 1 – 100. (100 produce the best quality)

ActX-SendEmail=
  This setting is valid if using the MakeReport Type. If set to True, it will send the generated report as an email.
  Valid settings: True or False
[Sensors]

TEMPERATURES--------
SysID_1=Radiator Retur GT1,True,True,0
SysID_2=Ute GT2,True,True,0
SysID_3=Varmvatten GT3,True,True,0
SysID_4=Framledning Rad GT4,False,False,0
SysID_5=Rum GT5,True,True,0
SysID_6=Hetgas GT6,True,True,0
SysID_7=Värmebärare Ut GT8,True,True,0
SysID_8=Värmebärare In GT9,True,True,0
SysID_9=Köldbärare In GT10,False,False,0
SysID_10=Köldbärare Ut GT11,True,True,0
SysID_11=Varmvatten GT3x,False,False,0

Description: Here you setup the temperature sensors.
Pos1: The name wich can be changed.
Pos2: Select if the sensor is Enabled (visible)
Pos3: Select of you want to log this sensor to “LocalLog”
Pos4: Integer number to calibrate temperature input.
   Ex. 0=No adjustment, 55=Add 5.5 degrees,
   -102=subtract 10.2 degrees.

STATUS----------
SysID_12=Köldbärarpump P3,True,False,106
SysID_13=Kompressor,True,False,2200
SysID_14=Tillskott steg 1,True,False,3000
SysID_15=Tillskott steg 2,True,False,6000
SysID_16=Radiatorpump P1,True,False,55
SysID_17=Värmebärarpump P2,True,False,46
SysID_18=Växelventil VXV1,True,False,0
SysID_19=Summa larm,True,False,0

Description: Here you setup the status sensors.
Pos1: The name witch can be changed.
Pos2: Select if the object is Enabled (visible)
Pos3: Select of you want to log this sensor to “LocalLog”

EL-METERS---------
SysID_510=EL-Värmepump,True,True,16,1000
SysID_520=EL-Total,True,True,16,1000

Description: Here you setup the electrical meters (S0 interface)
Pos1: The name of the meter.
Pos2: Select if the meter is Enabled
Pos3: Select of you want to log this meter to “LocalLog”
Pos4: Ampere of your fuses in series with the Meter
Pos5: Number of pulses per kWh on the meter
## Appendix B – Table of Monitored Objects and their SysID’s

<table>
<thead>
<tr>
<th>SysID</th>
<th>Source</th>
<th>Type</th>
<th>Name English</th>
<th>Name Swedish</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Rego6xx</td>
<td>Temp</td>
<td>Radiator Return GT1</td>
<td>Radiator Retur GT1</td>
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<tr>
<td>2</td>
<td>Rego6xx</td>
<td>Temp</td>
<td>Outdoor GT2</td>
<td>Ute GT2</td>
</tr>
<tr>
<td>3</td>
<td>Rego6xx</td>
<td>Temp</td>
<td>Hot water GT3</td>
<td>Varmvatten GT3</td>
</tr>
<tr>
<td>4</td>
<td>Rego6xx</td>
<td>Temp</td>
<td>Shunt, flow GT4</td>
<td>Framedning GT4</td>
</tr>
<tr>
<td>5</td>
<td>Rego6xx</td>
<td>Temp</td>
<td>Room GT5</td>
<td>Rum GT5</td>
</tr>
<tr>
<td>6</td>
<td>Rego6xx</td>
<td>Temp</td>
<td>Compressor GT6</td>
<td>Metgas GT6</td>
</tr>
<tr>
<td>7</td>
<td>Rego6xx</td>
<td>Temp</td>
<td>Heat fluid Out GT8</td>
<td>Värmebärare Ut GT8</td>
</tr>
<tr>
<td>8</td>
<td>Rego6xx</td>
<td>Temp</td>
<td>Heat fluid In GT9</td>
<td>Värmebärare In GT9</td>
</tr>
<tr>
<td>9</td>
<td>Rego6xx</td>
<td>Temp</td>
<td>Cold fluid In GT10</td>
<td>Köldbärare In GT10</td>
</tr>
<tr>
<td>10</td>
<td>Rego6xx</td>
<td>Temp</td>
<td>Cold fluid Out GT11</td>
<td>Köldbärare Ut GT11</td>
</tr>
<tr>
<td>11</td>
<td>Rego6xx</td>
<td>Temp</td>
<td>Hot water (ext. tank) GT3x</td>
<td>Varmvatten (ext. tank) GT3x</td>
</tr>
<tr>
<td>12</td>
<td>Rego6xx</td>
<td>Status</td>
<td>Ground loop pump P3</td>
<td>Köldbärarpump</td>
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<tr>
<td>13</td>
<td>Rego6xx</td>
<td>Status</td>
<td>Compressor</td>
<td>Kompressor</td>
</tr>
<tr>
<td>14</td>
<td>Rego6xx</td>
<td>Status</td>
<td>Additional heat step 1</td>
<td>Tillskott steg 1 (3kW)</td>
</tr>
<tr>
<td>15</td>
<td>Rego6xx</td>
<td>Status</td>
<td>Additional heat step 2</td>
<td>Tillskott steg 2 (6kW)</td>
</tr>
<tr>
<td>16</td>
<td>Rego6xx</td>
<td>Status</td>
<td>Radiator pump P1</td>
<td>Radiatorpump P1</td>
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<tr>
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<td>Rego6xx</td>
<td>Status</td>
<td>Heat carrier pump P2</td>
<td>Värmebärarpump P2</td>
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<tr>
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<td>Status</td>
<td>Three-way valve VXV1</td>
<td>Växelventil VXV1</td>
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<td>GT1 On Value</td>
<td>GT1 tillslagstemp</td>
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<td>GT1 Target value</td>
<td>GT1 börvärde</td>
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<td>Control</td>
<td>GT1 Off value</td>
<td>GT1 frånslagstemp</td>
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<td>23</td>
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<td>GT3 tillslagstemp</td>
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<td>GT3 börvärde</td>
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<td>GT3 Off value</td>
<td>GT3 frånslagstemp</td>
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<td>Control</td>
<td>GT4 Target value</td>
<td>GT4 börvärde</td>
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<td>Rego6xx</td>
<td>Control</td>
<td>Add. heat power in %</td>
<td>Tillskott i procent</td>
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<td>28</td>
<td>Rego6xx</td>
<td>Control</td>
<td>Add. heat timer in sec</td>
<td>Tillskottstimer</td>
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<td>Rego6xx</td>
<td>Settings</td>
<td>Heat curve</td>
<td>Värmekurva</td>
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<td>Settings</td>
<td>Heat curve fine adj.</td>
<td>Värmekurva finjustering</td>
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<td>Rego6xx</td>
<td>Settings</td>
<td>Indoor temp setting</td>
<td>Innetemp</td>
</tr>
<tr>
<td>32</td>
<td>Rego6xx</td>
<td>Settings</td>
<td>Curve infl. by in-temp</td>
<td>Rumsgivarpåverkan</td>
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<td>Rego6xx</td>
<td>Settings</td>
<td>Adj curve at 20° out</td>
<td>Knäcka vid 20° ut</td>
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<tr>
<td>34</td>
<td>Rego6xx</td>
<td>Settings</td>
<td>Adj curve at 15° out</td>
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<td>Adj curve at -40° out</td>
<td>Knäcka vid -40° ut</td>
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<td>Settings</td>
<td>Adj curve at -45° out</td>
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</tr>
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<td>Adj curve at -50° out</td>
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<td>Settings</td>
<td>Adj curve at -55° out</td>
<td>Knäcka vid -55° ut</td>
</tr>
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<td>49</td>
<td>Rego6xx</td>
<td>Settings</td>
<td>Adj curve at -60° out</td>
<td>Knäcka vid -60° ut</td>
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<td>Settings</td>
<td>Adj curve at -65° out</td>
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<td>Adj curve at -70° out</td>
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<td>Rego6xx</td>
<td>Settings</td>
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<td>Knäcka vid -75° ut</td>
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<td>Rego6xx</td>
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<td>Adj curve at -80° out</td>
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<td>Rego6xx</td>
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<td>Adj curve at -85° out</td>
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<td>Adj curve at -120° out</td>
<td>Knäcka vid -120° ut</td>
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<td>Adj curve at -125° out</td>
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<td>Rego6xx</td>
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<td>Adj curve at -130° out</td>
<td>Knäcka vid -130° ut</td>
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<td>Adj curve at -135° out</td>
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<td>Rego6xx</td>
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<td>Adj curve at -145° out</td>
<td>Knäcka vid -145° ut</td>
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<td>Settings</td>
<td>Adj curve at -150° out</td>
<td>Knäcka vid -150° ut</td>
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<td>Rego6xx</td>
<td>Settings</td>
<td>Adj curve at -155° out</td>
<td>Knäcka vid -155° ut</td>
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<td>69</td>
<td>Rego6xx</td>
<td>Settings</td>
<td>Adj curve at -160° out</td>
<td>Knäcka vid -160° ut</td>
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<tr>
<td>70</td>
<td>Rego6xx</td>
<td>Settings</td>
<td>Adj curve at -165° out</td>
<td>Knäcka vid -165° ut</td>
</tr>
</tbody>
</table>

| 510 | S0 | El-Meter | Heatpump meter |
| 520 | S0 | El-Meter | Total meter |
Appendix C – Special considerations for different models of heatpumps.

IVT Greenline C- Series versus E- series

The C-Series has an internal warm water tank and the E-Series has an external. Therefore the sensors have to be configured correctly for the software to work properly. Also to show correct info in the Pulse view you must change the SysID for the Hot water temp display. Please see then Pulse view chapter how to edit the view.

<table>
<thead>
<tr>
<th>C-Series</th>
<th>E-Series</th>
</tr>
</thead>
<tbody>
<tr>
<td>SysID_3=Hot water GT3,**True,**True,0</td>
<td>SysID_3=Hot water GT3,**False,**False,0</td>
</tr>
<tr>
<td>SysID_11=Hot water GT3x,**False,**False,0</td>
<td>SysID_11=Hot water GT3x,**True,**True,0</td>
</tr>
<tr>
<td>Pulse view editor: Bind to SysID = 3</td>
<td>Pulse view editor: Bind to SysID = 11</td>
</tr>
</tbody>
</table>

Room sensor

If you have a room sensor installed you should enable it in StatLink.
SysID_5=Room GT5,**True,**True,0

If you **don’t** have a room sensor it should be disabled.
SysID_5=Room GT5,**False,**False,0

Also remember to add or remove then temperature object in your Pulse view.
Appendix D – Software version history

1.1.6 2006-01-29
- AutoStart option i statlink.ini tillagt
- Möjlighet att kalibrera temp sensor output i statlink.ini tillagt
- Lagt till tag "%TotalkWh%" för rapportmall, för att kunna rapportera dagens totala elförbrukning.
- Elmätare visar nu även Ampere
- Temp displayer i Rego Dashboard visar nu trend med pilar.
- Data som sänds till Husdata portalen innehåller nu även driftstider och StatLink versionsnummer.

1.1.7 2006-03-02
- Ny Elpatrondisplay (som nu fungerar)
- Utökat info i vyn för reglerkurva samt fixat en felaktig kurvposition vid rumsgivarpåverkan.
- Möjlighet att Dashboard visas automatiskt vid prg start. Se appndx A
- StatLink kan nu automatiskt synka Din dators klocka med Husdata systemet för korrekt timing i loggarna. Se ”HusData-ClockSyncGMT” inställningen.
- Direktlogin i portalen från ”show” menyn, med flera länkar.
- Ändrat amperemätaren till att visa en fas istället för alla 3 summerat
- Fixat så att StatLink hanterar utlänska datumformat korrekt.
- Fixat så att om en status ”sensor” loggas till Lämpömittari format så loggas det inte som 0 eller 10 längre utan som 0 eller samma värde som objektets SysID. Detta för tydligare avläsning i linjediagrammen.
- Ett antal mindre buggar fixade

1.2.0 2006-04-10
- Felvisning i display när tillskott 1 och 2 är aktivt fixat.
- Fixat så att rapportfiler kan sparas med olika namn varje dag (Mode=New).
- Fixat så att backup tas på Intraday var 5:e minut samt att gårdagens data inte kan läsas in.
- Ny option i ”Control curve” där du kan välja om kurvan ska visa med eller utan påverkan av rumsgivare.
- Man kan nu ange säkringsstorleken för sin värmepump statlink.ini. Utökat Elmätaren med en grafisk mätare som visar hur nära man ligger till säkringensmaller...
- Implementerat stöd för att läsa av elmätare med S0 utgång.

1.2.1 2006-09-27
- The Bug causing the software not starting properly when an unexpected shutdown has occured has been fixed.
- Splash box removed as it has caused start up problem.
- Implemented step one in a new, safer, less bandwidth demanding way of transferring stat-data to the portal. This is done to enable mobilephone / modem use.
- Changed the Remote Display and removed buttons who didn’t work.
- Average temp calculation is enhanced and now corrected.
- New Option in Statlink.ini English=True changing the language to english, False = Swedish.
- New “Tag” for Report templates ”NewRow”

1.2.2 2006-09-27
- The Bug causing the software not starting properly when an unexpected shutdown has occured has been fixed.
2.0.0 2006-12-22
- Added option Email:SMTP_Port
- Automatic version check and info when starting Statlink if Husdata online is enabled.
- Corrected Ampere meter for Norwegian electrical system (See NetVolt setting)
- If you set an object in statlink.ini to false it will now be disabled complete instead of just hidden as it was previous.
- Moved most of the settings from Statlink.ini to an internal settings dialogue.
- Removed Process view from Rego Dashboard
- Added a separate Pulse view function with built in editor.
- Added built in Line chart functionality.

2.0.2 2006-12-30
- Fixed problem with path to Pulse view pictures
- Removed Disable option from interface setup
- Enhanced text positioning in Pulse views
- Fixed overflow problem showing line diagrams with much data.
- Remake of legend view in Line diagram.
- Automatic selection of Decimal or Puncture as decimal separator for Linegraph.
- Show Warning of no data in Linegraph
- Object in Pulse view clickable, Linegraph will show.
- New Pulse view object, Status LED and new Room picture.
- Installation package does not have any Setyp.xml file included. Defaults is used.

2.1.0
- Added support for Thermia interface
- Corrected text colour error in pulse view
- Corrected problem with min/max values if object don’t change for the whole day.