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Mita-Teknik

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Description

The WP4000 Web Site gives you an easy and fast access to the WP4000 web server. You have the possibility to choose among different web pages with different technical information.

The data presented via the WP4000 Web Site are online data and will not be stored in the database.

The WP4000 Web Site is mostly used by end-users, service and R&D to view simple online data and access the remote display in an alternative way.

Getting data:
You are able to connect online to any controller in order to view data. When you make online connection to a controller you will get a user-friendly entrance menu.

Screen functions:
The WP4000 Web Site gives access to 4 different kinds of screens, entry menu, simple data read out, directory and remote display.

WP4000 Web Site - Entry

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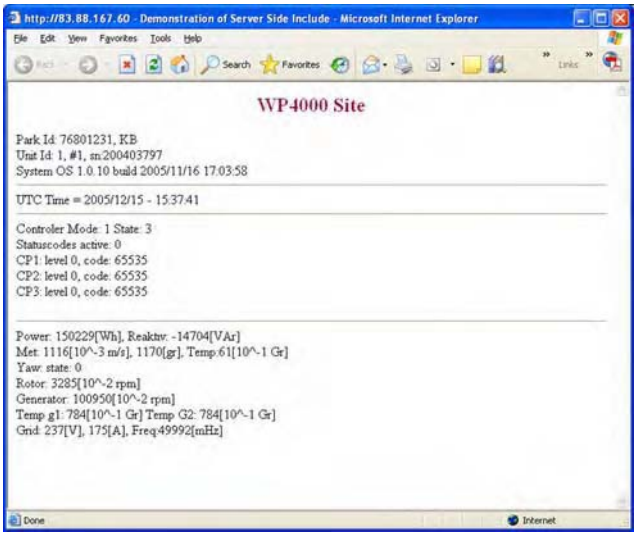
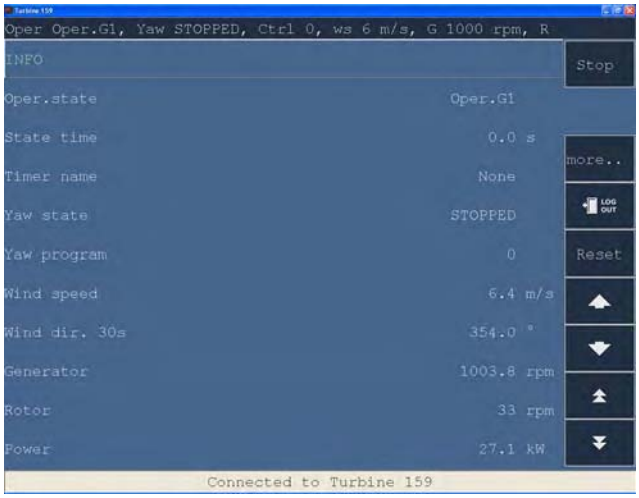
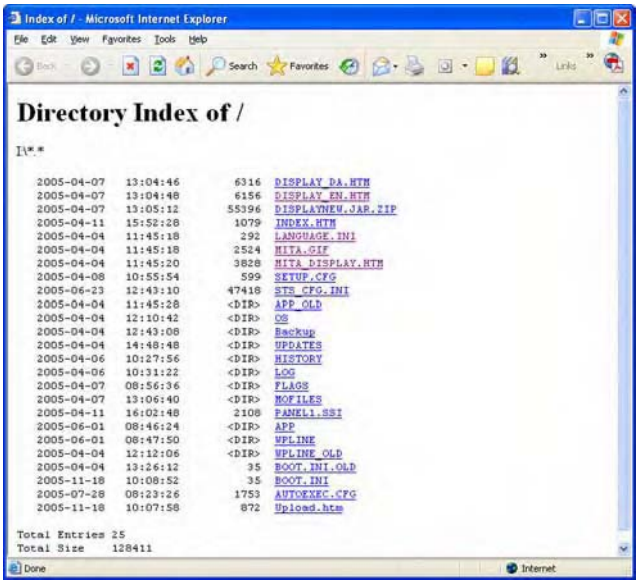
WP4000 Web Site - Simple Data Read Out



WP400 Web Site - Remote Display



WP400 Web Site - Directory



Technical data:
The WP4000 Web Site is available for all WP4000 controllers.

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Ordering data

Current Operation Log	P/N.: 98452000x
Included in the following manufacturer packages:	
Gateway Diagnostics Professional Edition	P/N.:
Gateway Diagnostics Premium Edition	P/N.:
Gateway Diagnostics Enterprise Edition	P/N.:

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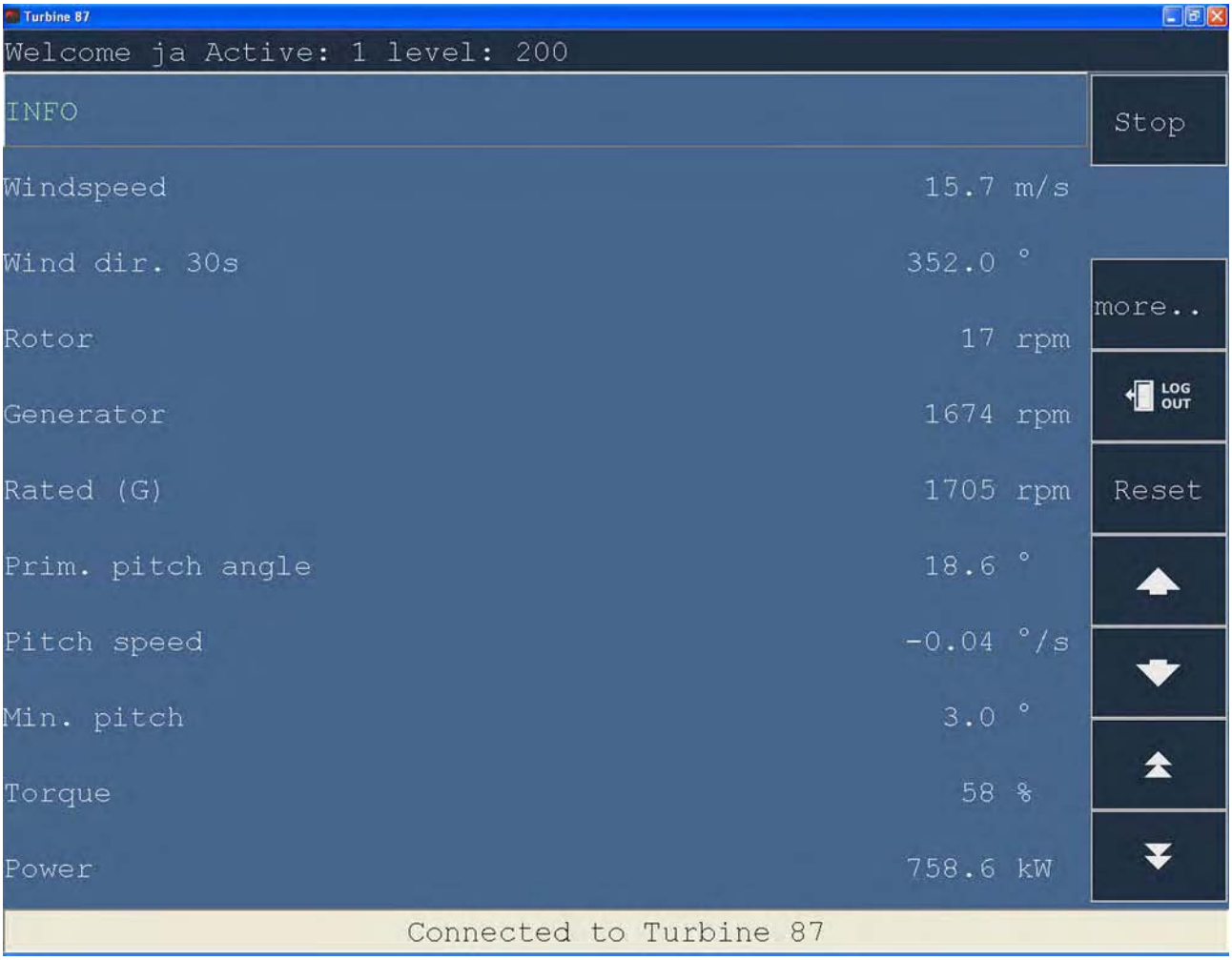

Description

The Remote Display provides a direct way to remote online service and operation of the single machine. Using the Remote Display you are able to do the exact same operations as when you are standing in front of the operation panel in the machine.

The Remote Display gives access to all menues, submenues, data and parameters in the controller. With the right access level the operator is able to start, stop and reset the operation of the machine. In addition the operator can view all parameters and edit the same based on the given access level. The access level secures that unauthorized operation is prevented.

The menu dump function is a standard part of the Remote Display and helps you to create a detailed overview over the contents of menu or submenu.

The Remote Display is mostly used by service departments to handle service and maintenance of the machines and by R&D to make fine-tuning directly connected via a laptop on site or connected online via a remote connection.

Getting data:
You are able to connect online to any controller and *preforme* service and operation provided that you have the right username and password.

Screen functions:
The screen contains a number of self-explanatory buttons like start, stop and reset. The menu dump function allows you to dump the content of a menu or submenu in the database or in a text file. The feature is very helpfull when you need to document eg. settings of the machine or to create an overall overview.

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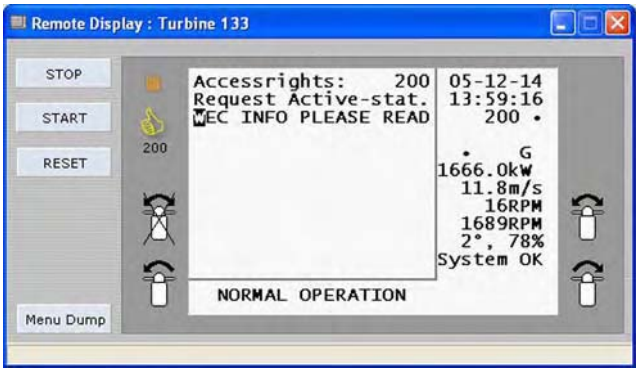
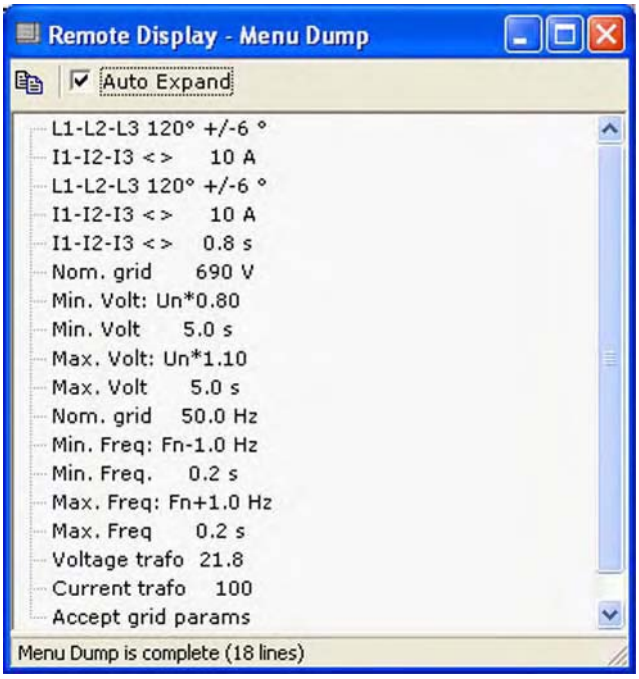
Remote Display - WP3x/ICx

The Remote Display for WP3x/ICx provides you with 11 menu lines combined with actual momentary data which help you to keep track of the operation while making service or fine-tuning. You move around in the menues by using the arrows on the keyboard. To edit parameters simply press the enter key.

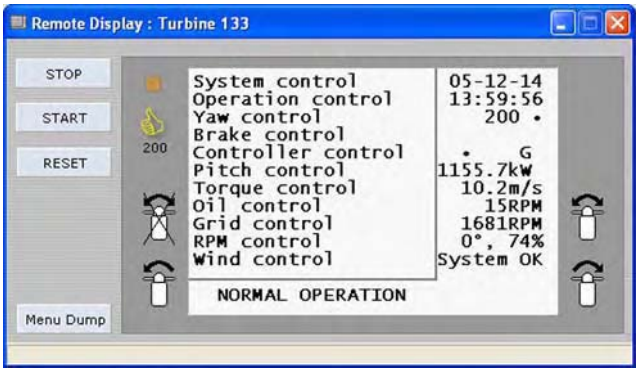
Example of login procedure



Memu Dump Example

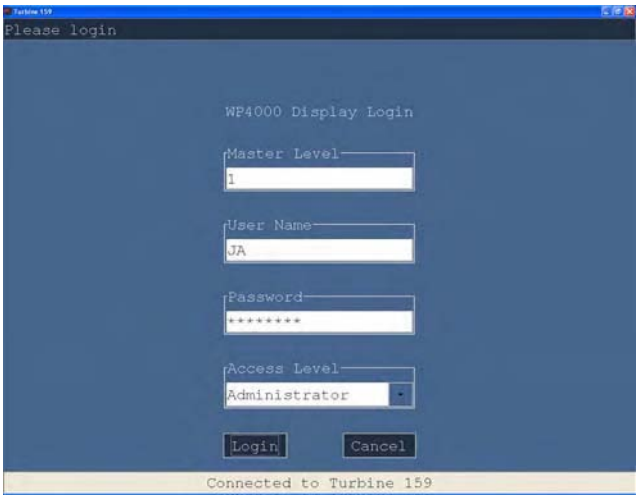


Example of Screen Operation

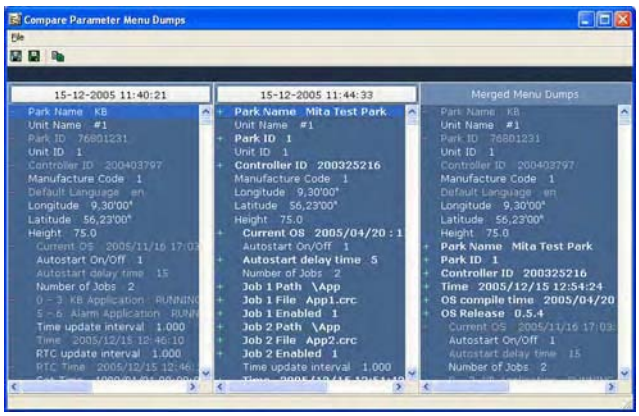


Remote Display - WP4x

Example of login procedure



Memu Dump Example



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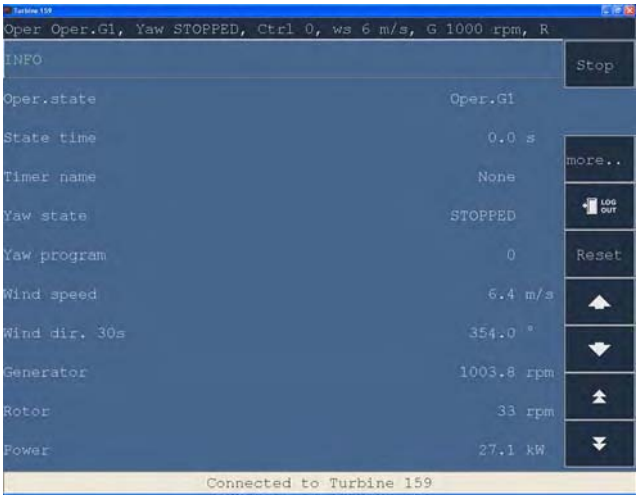
Example of screen operation



The Remote Display for WP4x provides you with 10 menu lines in one screen. WP4x supports multiple remote display screens. This means that you can start more displays for the same machine at the same time, which helps you to keep comprehensive when operating and fine-tuning. You move around in the menues by using the arrows on the keyboard or the mouse. To edit parameters simply press the enter key. Please note that the menu dump function requires the Menu Dump Comparison function.

Technical data:
The Remote Display is available in all WP1000, WP3000, WP3100, IC1000, and WP4000 controllers.

Ordering data

Remote Display (R/W) - WP3xxx/IC	P/N.: 984520001
Remote Display (R/W) - WP4000	P/N.: 984521001

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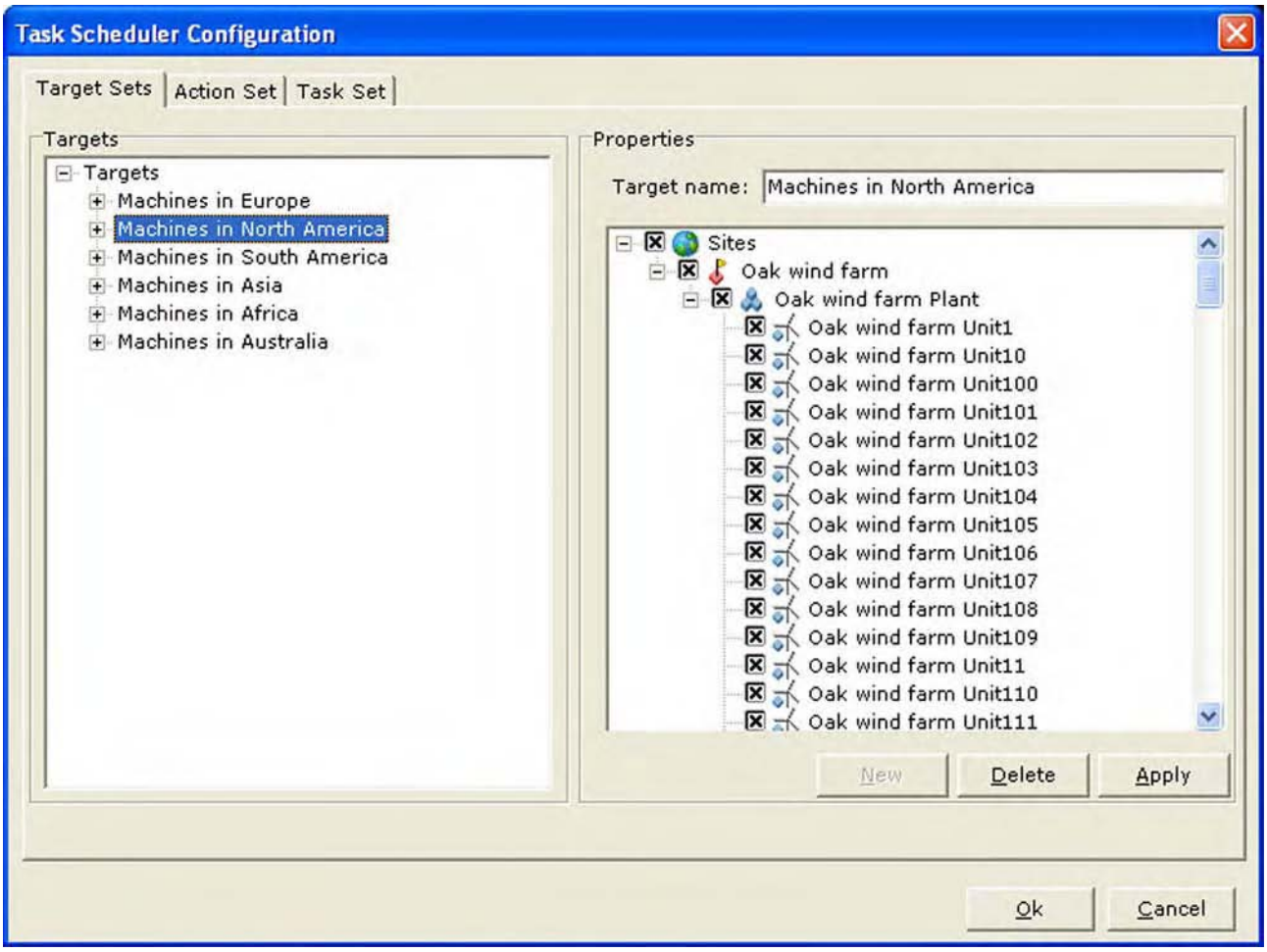

Description

The Task Scheduler provides a simple and easy way to collect and store statistical data from machines. The Task Scheduler runs automatically as a background function in Gateway and helps you generate the data foundation you need to make professional reporting. The stored data can be viewed in the predefine Gateway screens or you can export the data to MS Excel for customized reporting.

The Task Scheduler can be configured to get any data at any choosen time.

The Task Scheduler is mostly used by operators, manufactures and end-users to collect the necessary data foundation to make performance evaluation and economic reporting. Also the function helps to secure complete operation documentation.

Getting data:
You are able to configure which machines should supply which data, at which time, in which time interval. All data that are connected will be stores in the integrated full scale database.

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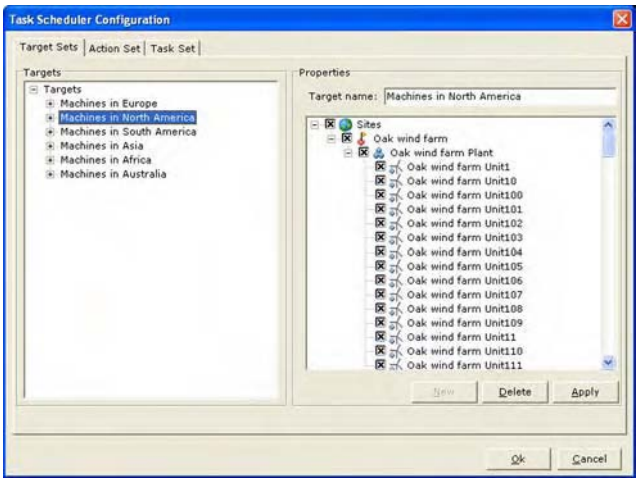
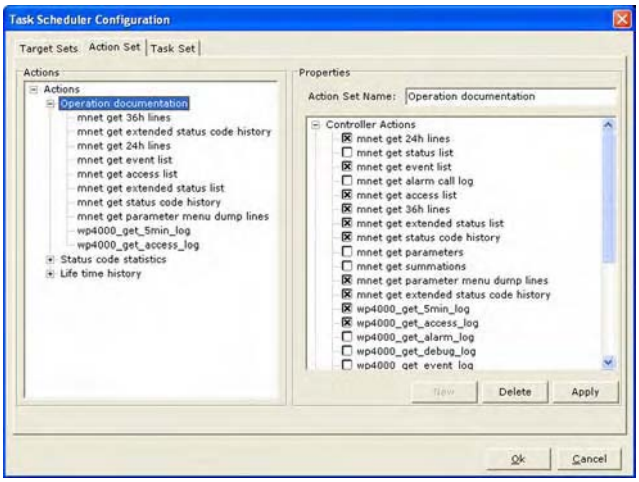
Screen functions:
The Task Scheduler consists of different screens for configuration, and operation surveillance.

Target Set - Configuration:



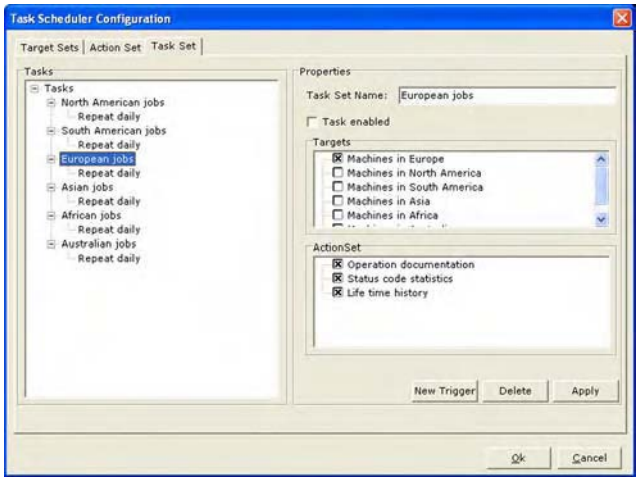
In the target set configuration screen you configure which machines that should deliver data to the database.

Action Set - Configuration:



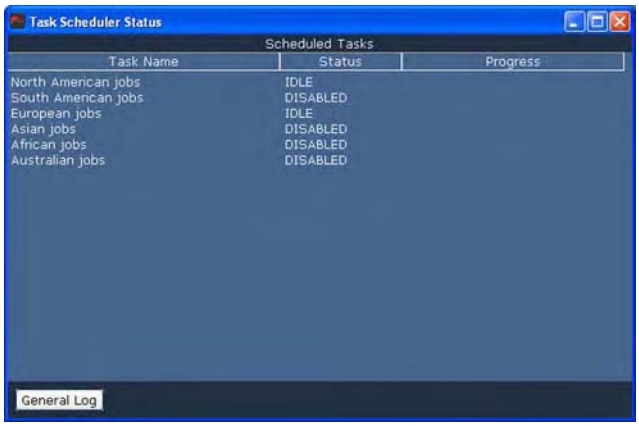
In the action set configuration screen you configure which data that should be collected and stored in the database.

Task Set - Configuration:



In the task set configuration screen you configure the connection between machines and data; additionally you configure connection time and interval.

Task Scheduler Status



The task scheduler status screen gives you an online overview over the actual/current operation of the Task Scheduler.

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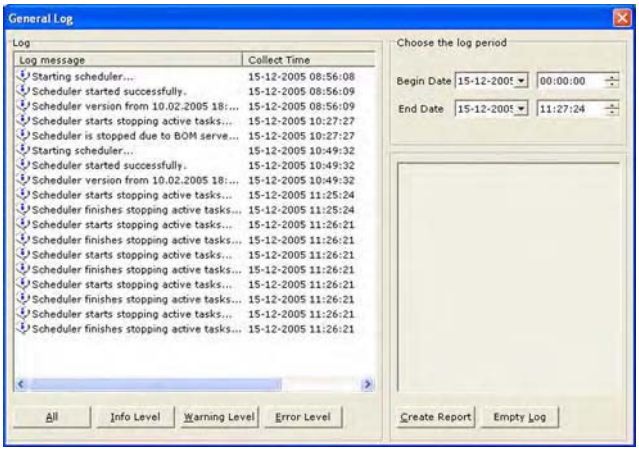
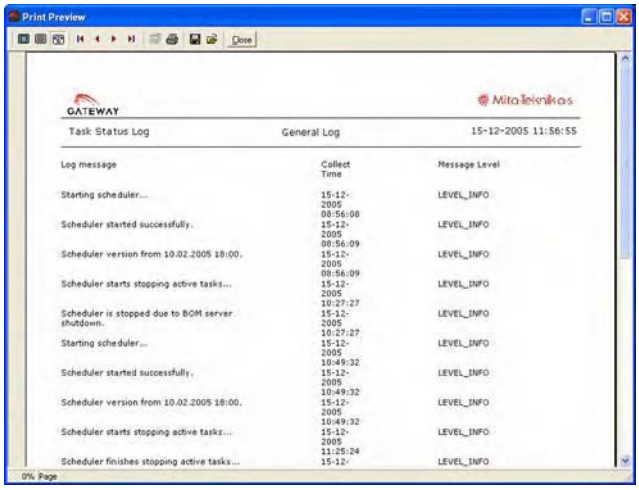
General Log



The general log screen gives you a historical overview over the operation of the Task Scheduler - this helps you to control that all configured functions have been completed.

Task Status Log



The status log function helps you to generate a „written“ over the operation of the Task Scheduler.

Technical data:
The Task Scheduler is available for all WP1000, WP3000, WP3100, IC1000, and WP4000 controllers.

Ordering data

Task Scheduler

P/N.: 984522000

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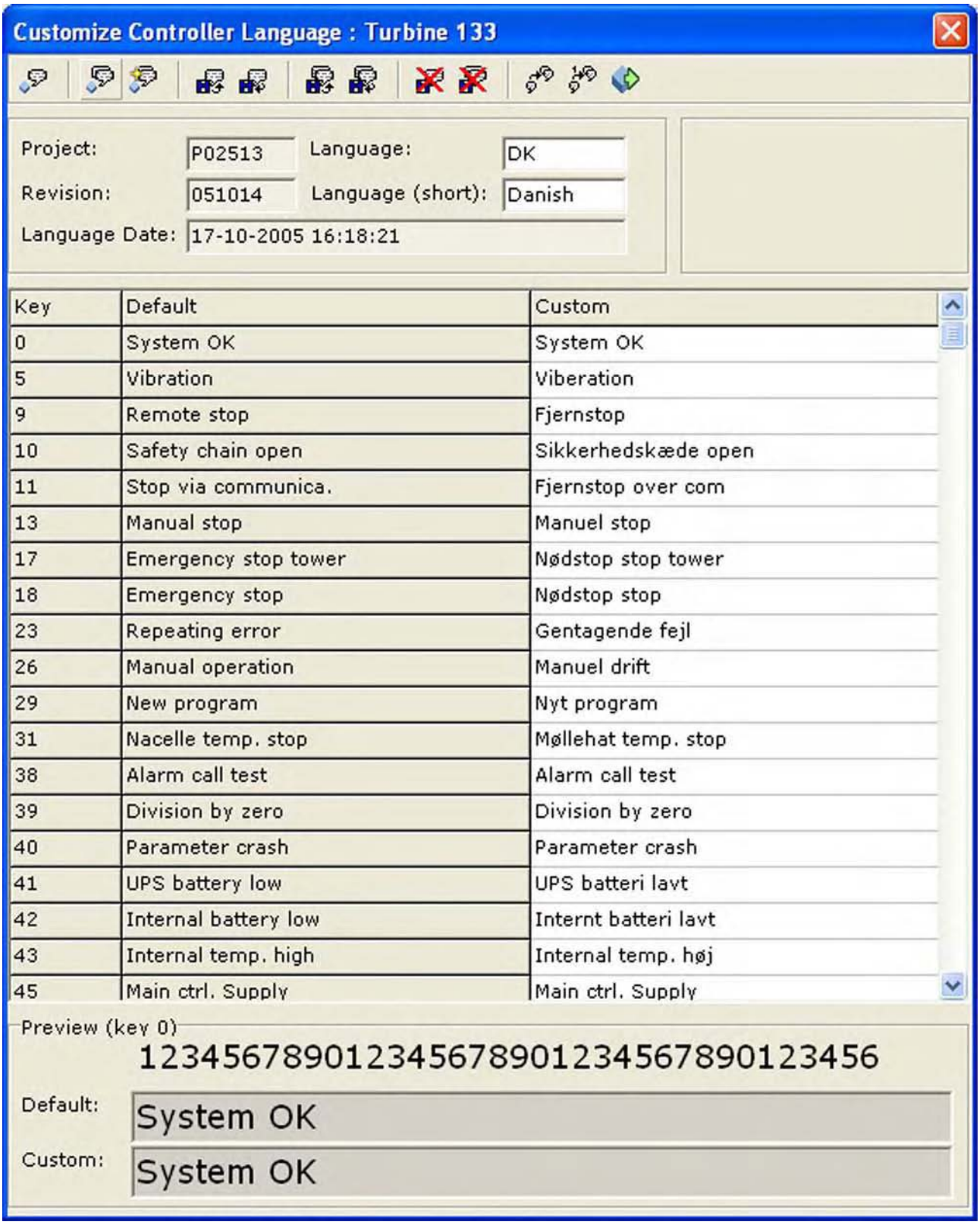

Description

The Customer Language function provides the user with the possibility of generating different languages to be used in the display of the controllers. With this user-friendly function you are able to translate the default operation language into another language or simply to ajust the terminology to fit your needs.

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The Customer Language function provides you with an overview over both the default language and the language you have choosen to generate.

The Customer Language function is mostly used by service departments, project departments and R&D to adapt the operation language of the controller to the local operators and service people.

Getting data:
You are able to connect online to any controller and download the default language as well as a customer language or you can get the data you want from the integrated full scale database. Getting data online or offline is connected with a progress bar placed in the upper right corner which applies the user-friendliness you need to work effectively.

Screen functions:
The screen contain 2 columns. In column one you can freely choose a language which forms the basis for your translation and in column two you can type in your translation either from scratch or with basis in the default language or an earlier translation.

There are different functions included which are very helpfull during your translations work. You can download any default language or customer langauge from a controller, analogous you can upload any customer language to a controller.

You are able to store both default languages and customer languages in the Gateway database and on the other side you are able to retrieve the same from the database.

There is a smart function available for copying the default language into the customer language column, in this way you do not need to start your translation from scratch.

The screen allows you to scroll up and down in order to view all lines.

Technical data:
The Customer Language function is available in all WP3100 and WP4000 controllers.

Ordering data

Customer Language for WP3xxx/ICxxxx	P/N.: 984520014
Customer Language for WP4000	P/N.: 984521017

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Description

The Current Operation screen gives you a simple and user-friendly graphic overview of the actual operation. You have the possibility to see what the single unit is doing at the moment and to compare different operation parameters online. The Current Operation screen can be used for all kinds of units and in order to give a correct presentation, the graphical lay-out has been tailored to single type of unit (wind turbine, weather station, grid station, ect.)

The data presented in the Current Operation screen are online data and will not be stored in the database.

The Current Operation screen is mostly used by end-users, operators, sales- and service departments to view online data and to follow the actual operation. The screen is very effective to present the qualities and performance of the units.

Getting data:
You are able to connect online to any controller in order to view data. When you make online connection to a controller, the connection procedure is shown as a text message in the upper right corner which applies the user-friendliness you need to work effectively.

Screen functions:
The screen contains different online data like production, weather information, grid information, temperature information and mechanical information. The actual configuration of the screen depends on type of controller and application programme.

Technical data:
The Current Operation screen is available for all WP1000, WP3000, WP3100, IC1000, and WP4000 controllers.

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Ordering data

Current Operation for WP3xxx/ICxxx	P/N.: 984520024
Current Operation for WP4000	P/N.: 984521022

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Description

The 5m log screen gives you all the possibilities you need to make professional data analysis, trends and data comparison in order to optimize the operation of the machines.

The data available in the 5m log are analog data stored as average values, minimum values, maximum values and standard deviation in intervals of 5 minutes over the latest 72 hours as a minimum. In the menu of the controller you configure which values should be available for presentation.

The 5m log is often used for performance evaluation of production efficiency, temperature surveillance in cross reference with other operation parameters or simply as operation documentation. The data provides high flexibility and usability.

Getting data:
You are able to connect online to any controller and download the current data or you can get the data you want form the integrated full scale database. Getting data online or offline is connected with a progress bar placed in the upper right corner which applies the user-friendliness you need to work effectively.

Screen functions:
The available data for presentation will be shown as in the left side of the screen. Here you can select or deselect which data to present. To make an easy overview three columns are shown; minimum, average and maximum - this will help you to choose the data to select.

To get a quick view over data a filter function is available in the upper left corner of the screen, here you can choose to filter based on data that have changed,on data that have not changed or all available data.

In the right side of the screen you can choose either graphic or table presentation.

You have a extended print function available for both the graphic view and for the table view.

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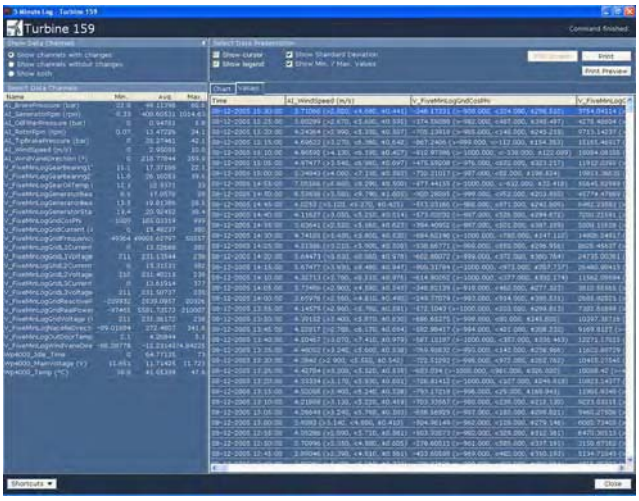
Graphic presentation:

Choosing the graphic presentation provides you with curves for each selected data. You are able to zoom in and out to get a more detailed view of the values. In order to compare and view data you can choose to activate a curser that can scroll left and right while showing the marked values. To keep track of the data you have chosen to view you can activate “Show legend”, this provides color and text explanation at the bottom of the screen.

Table presentation:



Choosing the table presentation provides you with a column for each selected data. In order to view the data you can scroll up and down. Right click provides with an export function to MS Excel.

Technical data:

The 5m log is available in all WP4000 controllers.
The storage capacity in the controllers is 20MB equal to approx. 500 channels stored over 72 hours. Each channel contain 4 columns (average value, minimum, maximum and standard deviation). The 5m log is working as a ring buffer. This means that when the ring buffer is filled up and a new data enters, the oldest data is overwritten.

Ordering data

5 Minute Log for WP4000

P/N.: 984521007

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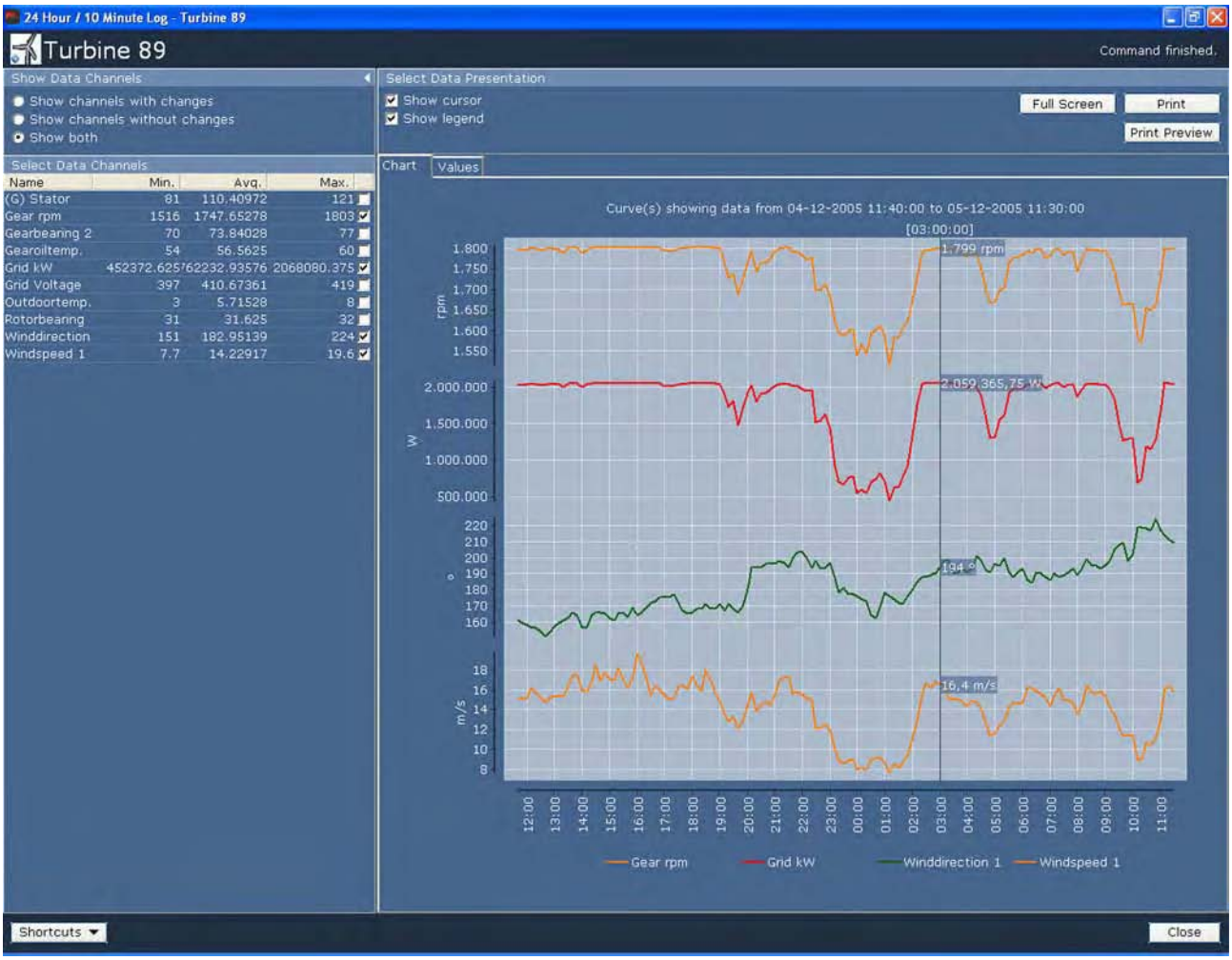

Description

The 24h/10m log screen gives you all the possibilities you need to make professional data analysis and data comparison in order to optimize the operation of the machines.

The data available in the 24h/10m log are 10 analog data stored as average values in intervals of 10 minutes over the latest 24 hours. In the menu of the controller you configure which 10 values should be available for presentation.

The 24h/10m log is often used for performance evaluation of production efficiency, temperature surveillance in cross reference with other operation parameters or simply as operation documentation. The data provides high flexibility and usability.

Getting data:
You are able to connect online to any controller and download the current data or you can get the data you want form the integrated full scale database. Getting data online or offline is connected with a progress bar placed in the upper right corner which applies the user-friendliness you need to work effectively.

Screen functions:
The available data for presentation will be shown as in the left side of the screen. Here you can select or deselect which data to present. To make an easy overview three columns are shown; minimum, average and maximum - this will help you to choose the data to select.

To get a quick view over data, a filter function is available in the upper left corner of the screen. Here you can choose to filter based on data that have changed,on data that have not changed or all available data.

In the right side of the screen you can choose either graphic or table presentation.

You have an extended print function available for both the graphic view and for the table view.

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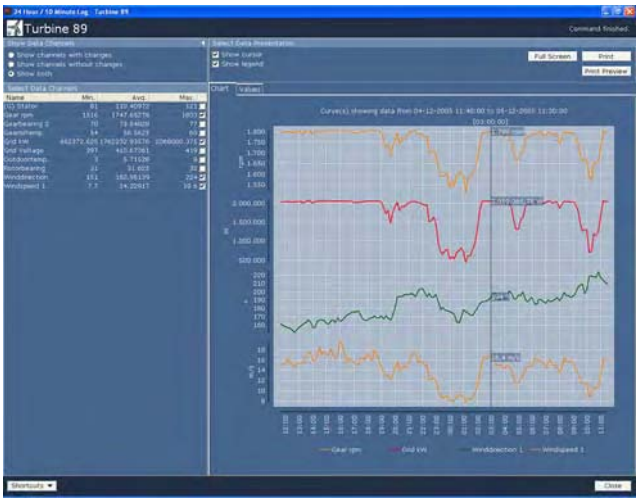
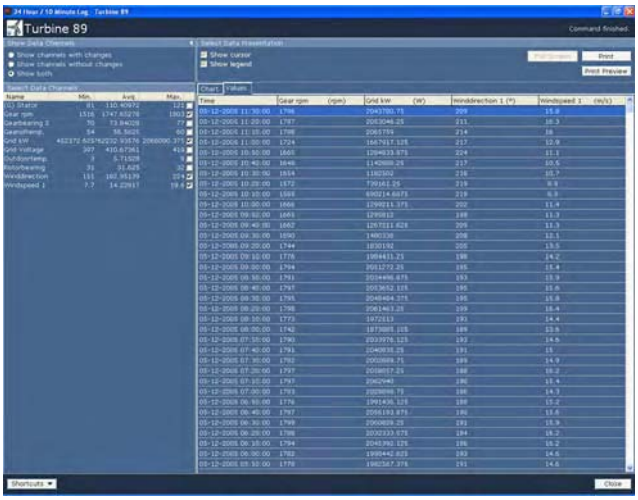
Graphic presentation:



Choosing the graphic presentation provides you with curves for each selected data. You are able to zoom in and out to get a more detailed view of the values. In order to compare and view data you can choose to activate a curser that can scroll left and right while showing the marked values. To keep track of the data you have chosen to view, you can activate “Show legend”, this provides color and text explanation at the bottom of the screen.

Table presentation:



Choosing the table presentation provides you with a column for each selected data. In order to view the data you can scroll up and down. Right click provides with an export function to MS Excel.

Technical data:

The 24h/10m log is available in all WP1000, WP3000, WP3100, IC1000 and IC3000 controllers.

The storage capacity in the controllers are 1440 data arranged as 144 data lines in 10 columns (1 column per. data; average value) working as a ring buffer. This means that when the ring buffer is filled up and a new data enters, the oldest data is overwritten.

Ordering data

24 hours / 10 minutes log for WP3xxx/ICxxx	P/N.: 984520006

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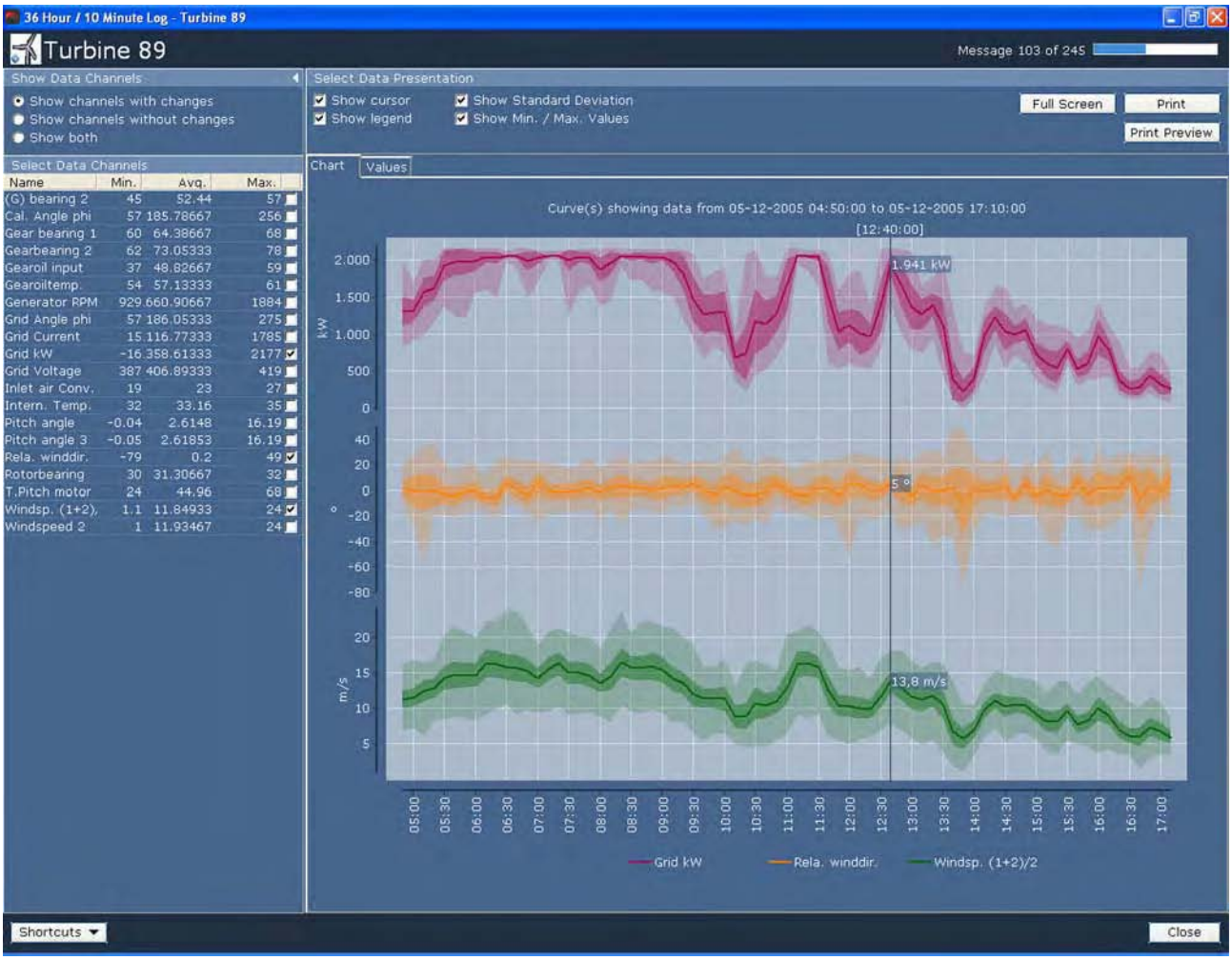

Description

The 36h/10m log screen gives you all the possibilities you need to make professional data analysis, trends and data comparison in order to optimize the operation of the machines.

The data available in the 36h/10m log are 20 analog data stored as average values, minimum values, maximum values and standard deviation in intervals of 10 minutes over the latest 36 hours. In the menu of the controller you configure which 20 values should be available for presentation.

The 36h/10m log is often used for performance evaluation of production efficiency, temperature surveillance in cross reference with other operation parameters or simply as operation documentation. The data provides high flexibility and usability.

Getting data:
You are able to connect online to any controller and download the current data or you can get the data you want form the integrated full scale database. Getting data online or offline is connected with a progress bar placed in the upper right corner which applies the user-friendliness you need to work effectively.

Screen functions:
The available data for presentation will be shown as in the left side of the screen. Here you can select or deselect which data to present. To make an easy overview three columns are shown; minimum, average and maximum - this will help you to choose the data to select.

To get a quick view over data, a filter function is available in the upper left corner of the screen. Here you can choose to filter based on data that have changed, on data that have not changed or all available data.

In the right side of the screen you can choose either graphic or table presentation.

You have a extended print function available for both the graphic view and for the table view.

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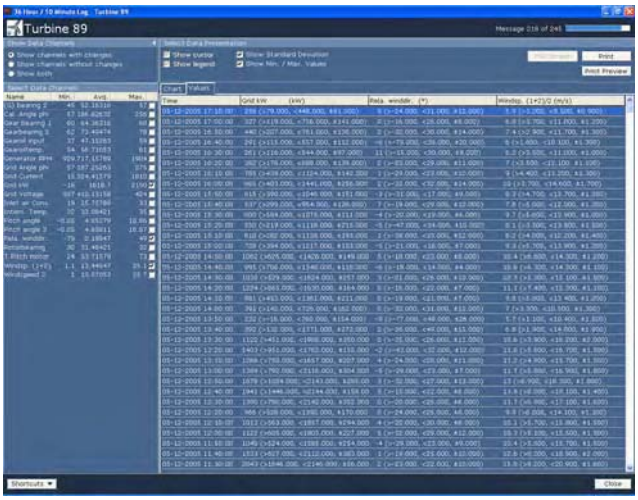
Graphic presentation:

Choosing the graphic presentation provides you with curves for each selected data. You are able to zoom in and out to get a more detailed view of the values. In order to compare and view data you can choose to activate a curser that can scroll left and right while showing the marked values. To keep track of the data you have chosen to view you can activate “Show legend”, this provides color and text explanation at the bottom of the screen.

Table presentation:



Choosing the table presentation provides you with a column for each selected data. In order to view the data you can scroll up and down. Right click provides with an export function to MS Excel.

Technical data:

The 36h/10m log available in all WP3100 and IC1000 weather station controllers.

The storage capacity in the controllers is 17,280 data arranged as 216data lines in 80 columns (4 columns per. data; average value, minimum, maximum and standard deviation) working as a ring buffer. This means that when the ring buffer is filled up and a new data enters, the oldest data is overwritten.

Ordering data

36 hours / 10 minuts log for WP3xxx/ICxxx	P/N.: 984520007

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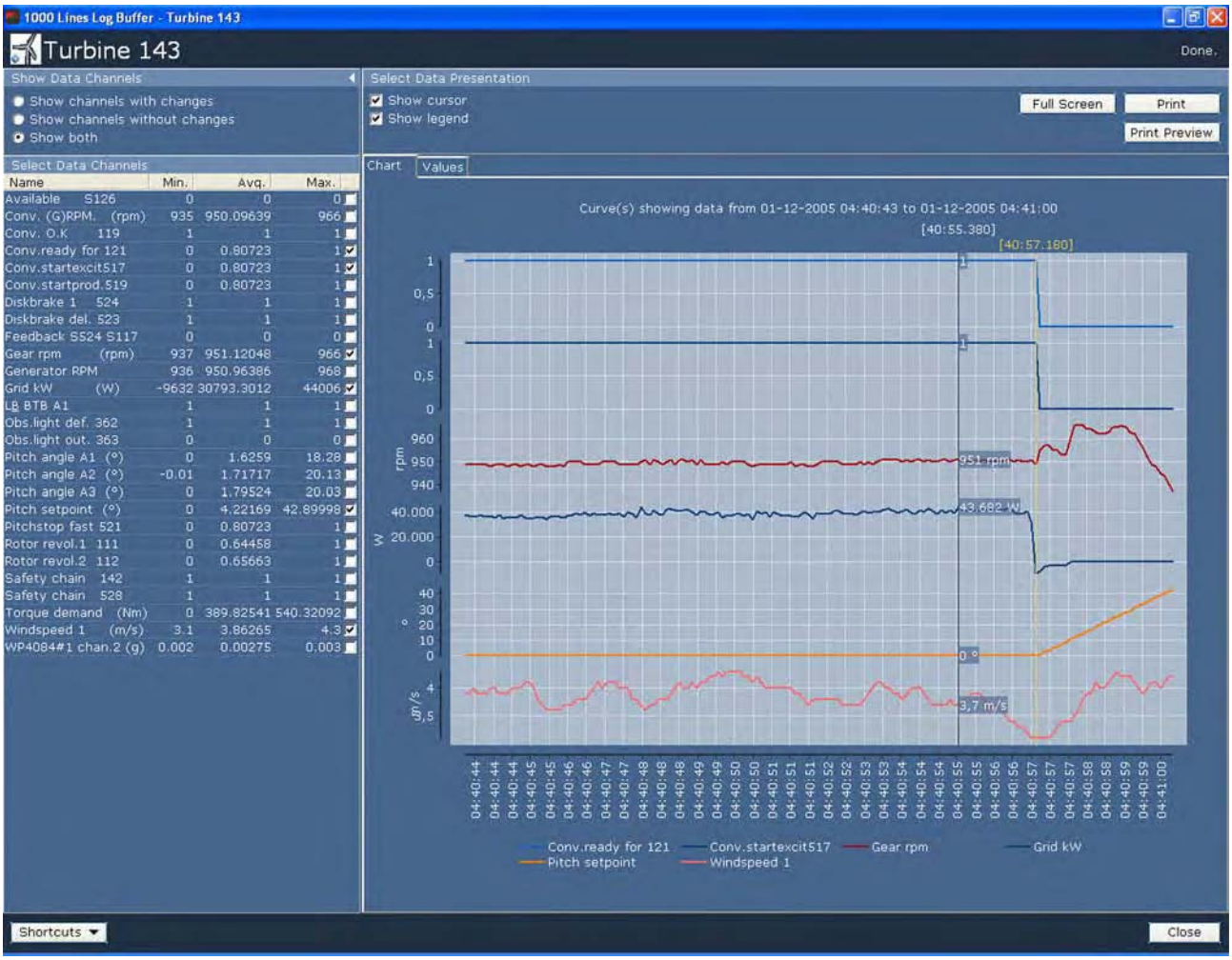


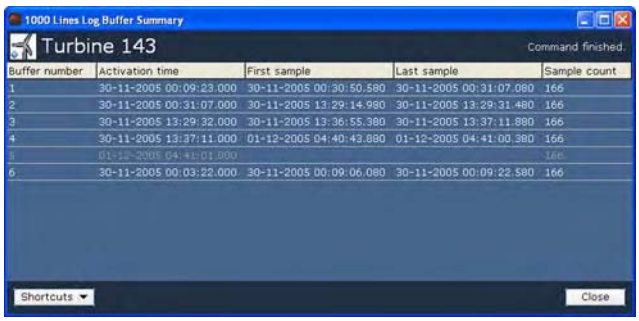
Description

The 1000L Log screen gives you all the possibilities you need to make professional performance optimization, to make detailed software module evaluation and to make effective error handling in order to maximize availability and earnings of the machines.

The 1000L Log works like an advanced oscilloscope with 11 analog channels and 16 digital channels. The log is very flexible and user-friendly. Via the menu in the controller you can configure each channel and the setup of the oscilloscope function itself. You can decide the trigger condition yourself based on an event or changning digital signals.

The 1000L Log is mostly used by service and development departments for detailed and professional error handling and continuous system improvement. During type approval processes the 1000L Log can be used to analyse and document the complete systems.

Getting data:



You are able to connect online to any controller and download the stored logs or you can get the data you want from the integrated full scale database. Getting data online or offline is connected with a progress bar placed in the upper right corner which applies the user-friendliness you need to work effectively.

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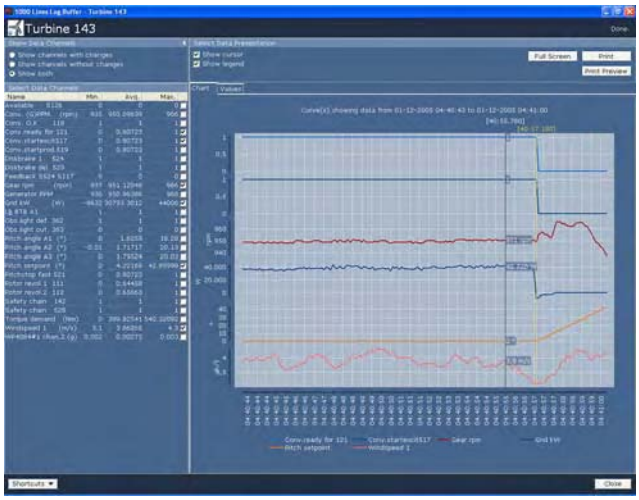
Screen functions:
The available data for presentation will be shown as in the left side of the screen, here you can select or deselect which data to present. To make an easy overview three columns are shown; minimum, average and maximum - this will help you to choose the data to select.

To get a quick view over data a filter function is available in the upper left corner of the screen, here you can choose to filter based on data that have changed,on data that have not changed or all available data.

In the right side of the screen you can choose either graphic or table presentation.

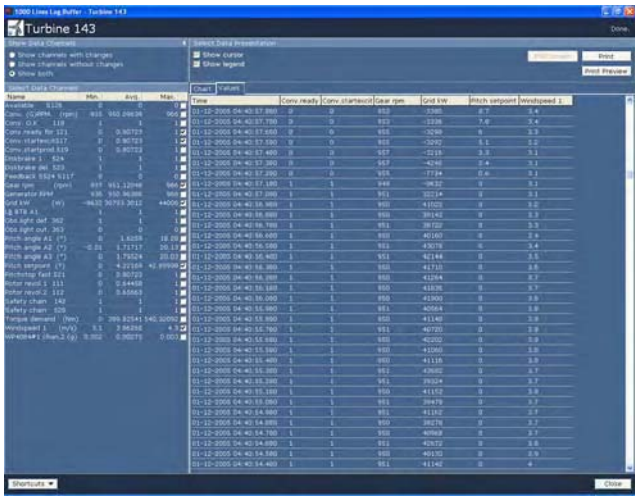
You have a extended print function available for both the graphic view and for the table view.

Graphic presentation:



Choosing the graphic presentation provides you with curves for each selected data. You are able to zoom in and out to get a more detailed view of the values. In order to compare and view data you can choose to activate a curser that can scroll left and right while showing the marked values. The trigger of the log is shown as a single vertical line marked with a timestamp. To keep track of the data you have chosen to view you can activate “Show legend”, this provides color and text explanation at the bottom of the screen.

Table presentation:



Choosing the table presentation provides you with a column for each selected data. In order to view the data you can scroll up and down. Right click provides with an export function to MS Excel.

Technical data:
The 1000L Log available in all WP1000. WP3000, WP3100, IC1000 and IC500 controllers.
The storage capacity in the controllers is 27,000 data arranged as 1000 data lines each containing 27 columns (1 column with time stamp, 11 colums with analog data and 16 colums with digital data). The 1000 lines can be used as one single log or be divided in to up to 10 single buffers. The 1000L log function working as a ring buffer. This means that when the selected number of buffer have been filled up, the function will over write the oldest buffer and start the succession again.

The 1000L log is very flexible and you as user have many possibilities to configure e.g.:

- Numbers of buffers (between 1 and 10)
- Type of analog value attached to a channel
- Type digital value attached to a channel
- Post sample interval 100mS up to xxS
- Pre sample interval 100mS up to xxS
- Digital sampling on high signal selectable per channel
- Digital sampling on low signal selectable per channel

Ordering data

1000 Line Log - WP3xxx/ICxxx	P/N.: 984520005

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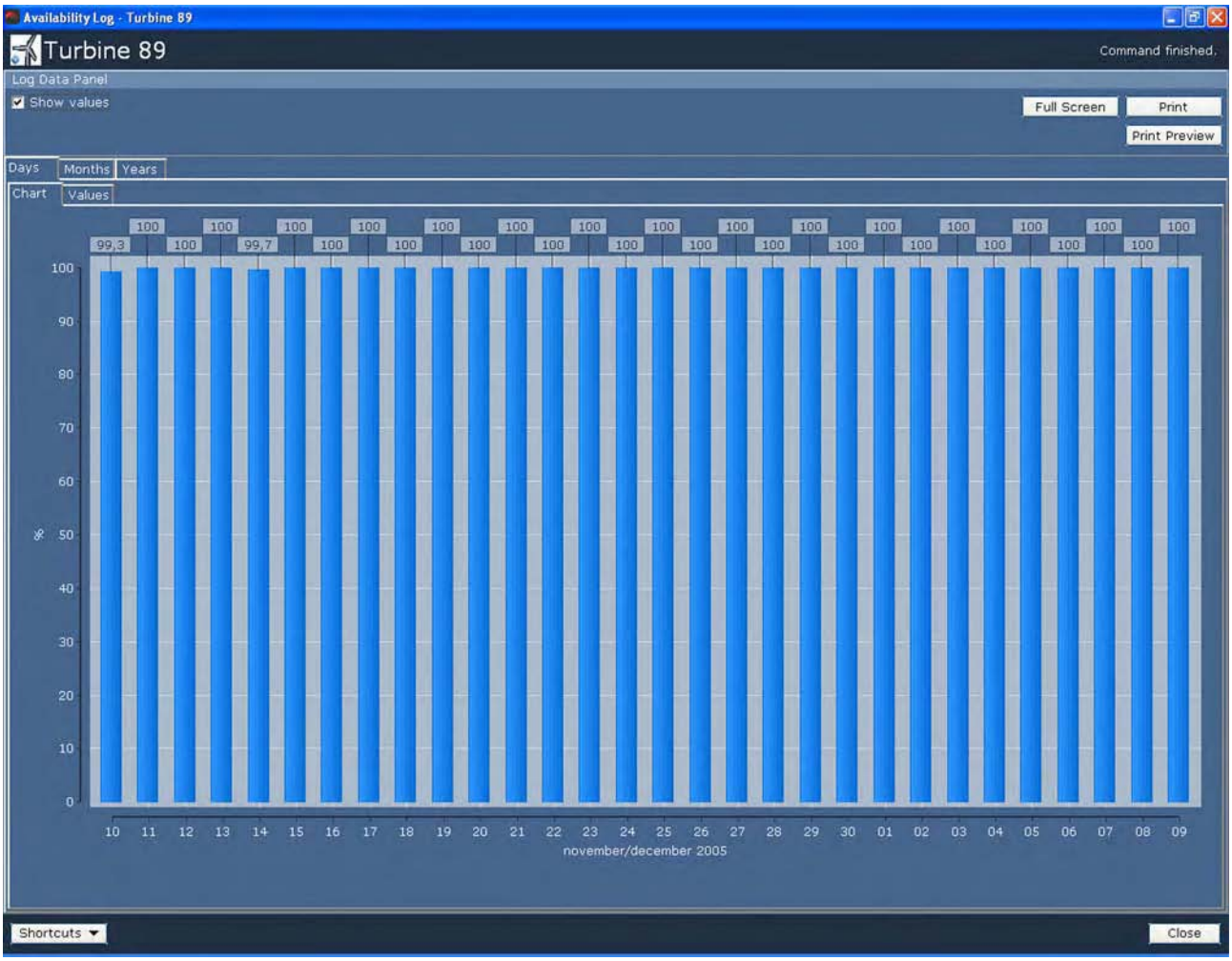

Description

The Availability Log gives you a very user-friendly overview over the availability of the single machine. Using the Availability Log you are able to evaluate and measure the total performance and reliability.

The Availability Log provides you with an overview of daily, monthly and yearly availability.

The Availability Log is often used by end-users, operators, manufactures and investors to evaluate machine reliability combined with service performance and service reaction time. Many contracts include requirements for a certain level of availability and with the Availability Log function follow up is easy and simple.

Getting data:
You are able to connect online to any controller and download the stored logs or you can get the data you want form the integrated full scale database. Getting data online or offline is connected with a progress bar placed in the upper right corner which applies the user-friendliness you need to work effectively.

Screen functions:
The screen always starts with an overview of the daily availability data. You can toggle between the daily view, the monthly view and the yearly view on the available vanes. In addition you have the possibility to toggle between graphic or table presentation.

To read out the specific value on each bar, you can activate „Show Values“ in the upper left corner of the screen.

You have a extended print function available for both the graphic view and for the table view.

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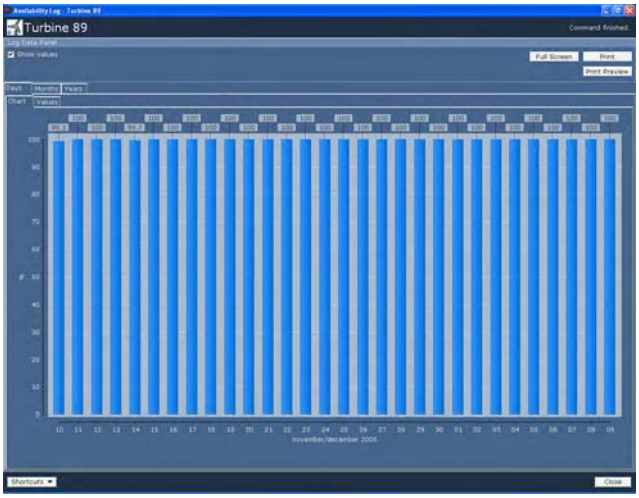
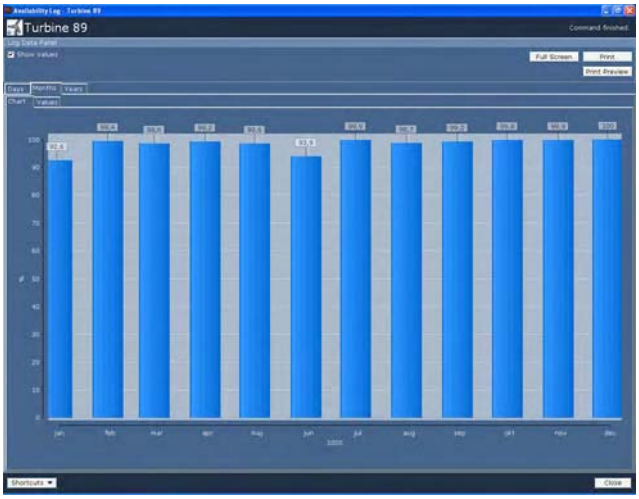
Daily Graphic View :



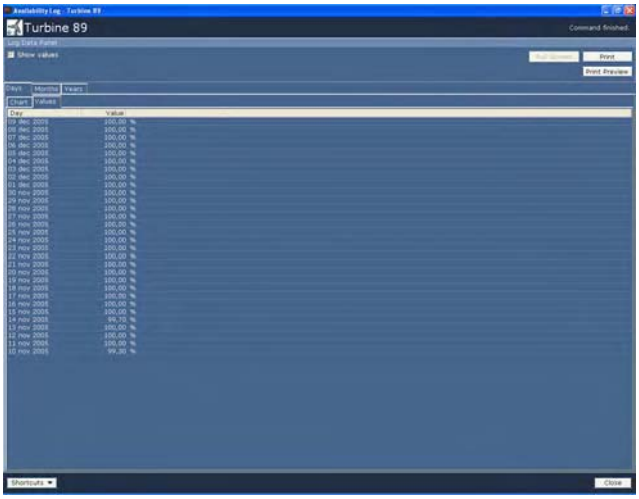
The daily graphic view provides you with a availability result shown as a bar per day for the latest month.

Monthly Graphic View:



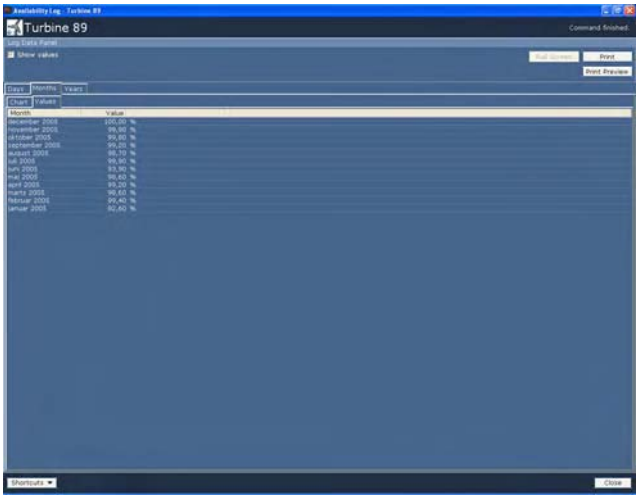
The monthly graphic view provides you with a availability result shown as a bar per month for the latest 12 month.

Daily Table View:



The daily table view provides you with a availability result shown as a line per day for the latest month. Right click provides you with an export function to MS Excel.

Monthly Table View:



The daily table view provides you with a availability result shown as a line per month for the latest 12 month. Right click provides with an export function to MS Excel.

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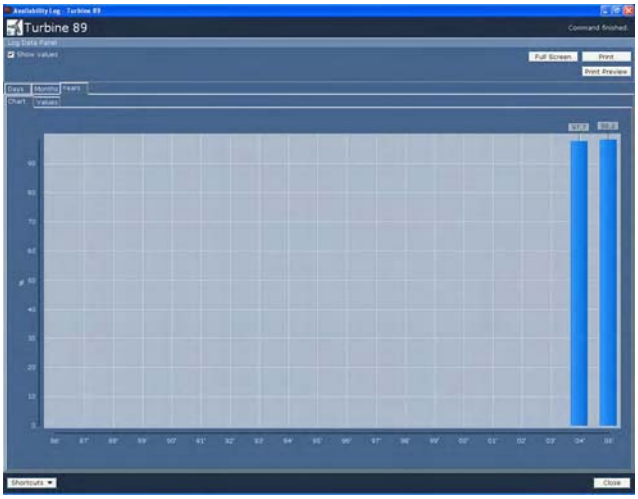
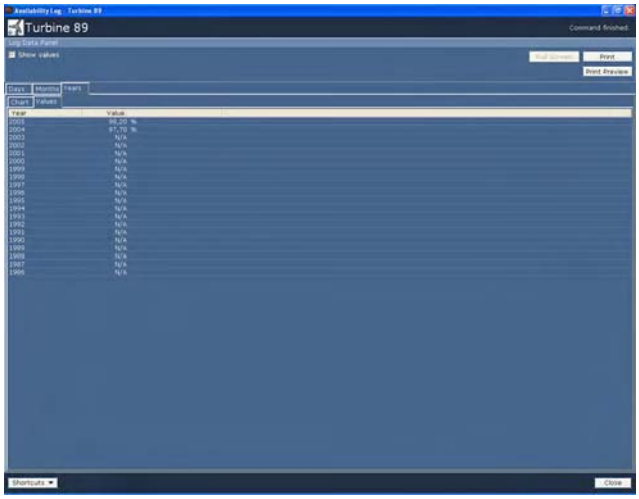
Yearly Graphic View:



The yearly graphic view provides you with an availability result shown as a bar per year for the latest 20 years.

Yearly Table View:



The yearly table view provides you with an availability result shown as a line per year for the latest 20 years. Right click provides with an export function to MS Excel.

Technical data:
The Production Overview Log is available in all WP3100 and WP4000 controllers.

The controllers store daily availability for the latest 30 days, monthly availability for the latest 12 month and yearly availability for the latest 20 years and for WP4000 for the latest 30 years.

Ordering data

Availability log for WP3xxx/ICxxxx	P/N.: 984520025
Availability log for WP4000	P/N.: 984521023

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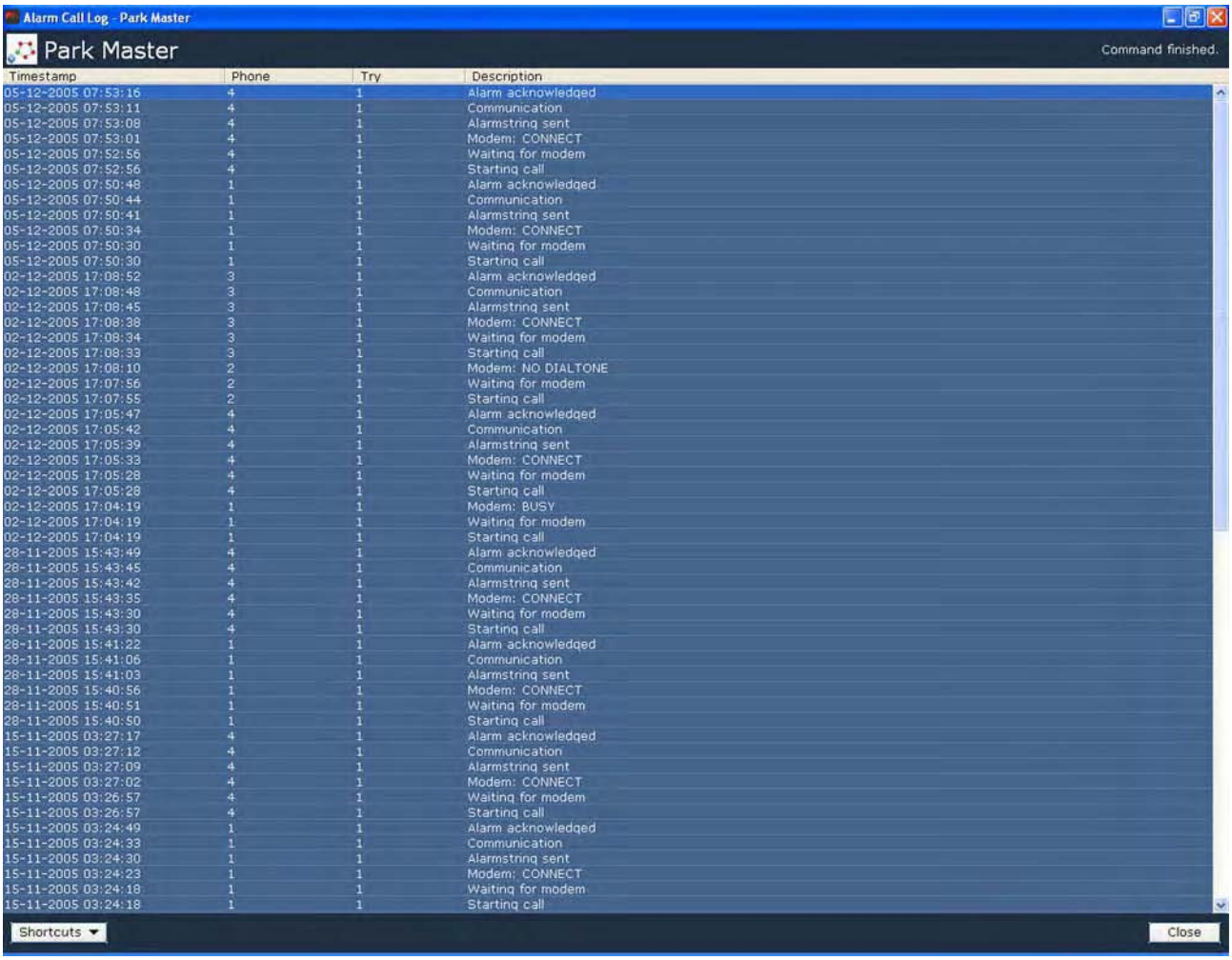

Description

The Alarm Call Log gives you a user-friendly overview over outgoing communication activities from the single machine. The Alarm Call Log makes you capable of traceing problems and errors regarding outgoing communication and thereby limit trouble-shooting time. This easy and simple way to analyse and solve communication problems gives you more time to concentrate your efforts on other important issues.

The Alarm Call Log register every single event related to outgoing communication like; modem initialization, call activation, connection established, data exchange, data reception acknowledgment, modem status, number of calls and identification of recipient. The log can be more or less detailed dependent on your setup in the controller.

The Alarm Call Log is mostly used by operators and service departments to expose communication problems between the machines and the operation office. The log makes it possible to trace exactly where a possible problem accures when the machine generates an outgoing call.

Getting data:
You are able to connect online to any controller and download the stored logs or you can get the data you want from the integrated full scale database. Getting data online or offline is connected with a progress bar placed in the upper right corner which applies the user-friendliness you need to work effectively.

Screen functions:
The screen contains a number of lines depending on type of controller and 4 columns. You have one column as a time stamp representing the exact set time for an event, one column showing which telephone number that have been used, one column showing the number of attempt to the single telephone number and one column showing a clear text explaining the event.

You have a extended print function available.

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Technical data:
The Alarm Call Log is available in all WP1000, WP3000, WP3100, IC1000 and WP4000 controllers.

The reserved storage capacity for the Access Log in WP1000, WP3000, WP3100 and IC1000 are 100 data lines each containing 4 columns (one column with activation time stamp, one column with telephone number (referring to setup in controller), one column with numbers of call attempts, one column with clear text).

The reserved storage capacity for the Event Log in WP4000 is 2MB equal to more than 25.000 data lines each containing 4 columns (one column with activation time stamp, one column with telephone number (referring to setup in controller), one column with numbers of call attempts, one column with clear text).

The Access Log function is working as a ring buffer. This means that when the ring buffer is filled up and a new data enters, the oldest data is overwritten.

Ordering data

Alarm Call Log for WP3xxx/ICxxx	P/N.: 984520012
Alarm Call Log for WP4000	P/N.: 984521011

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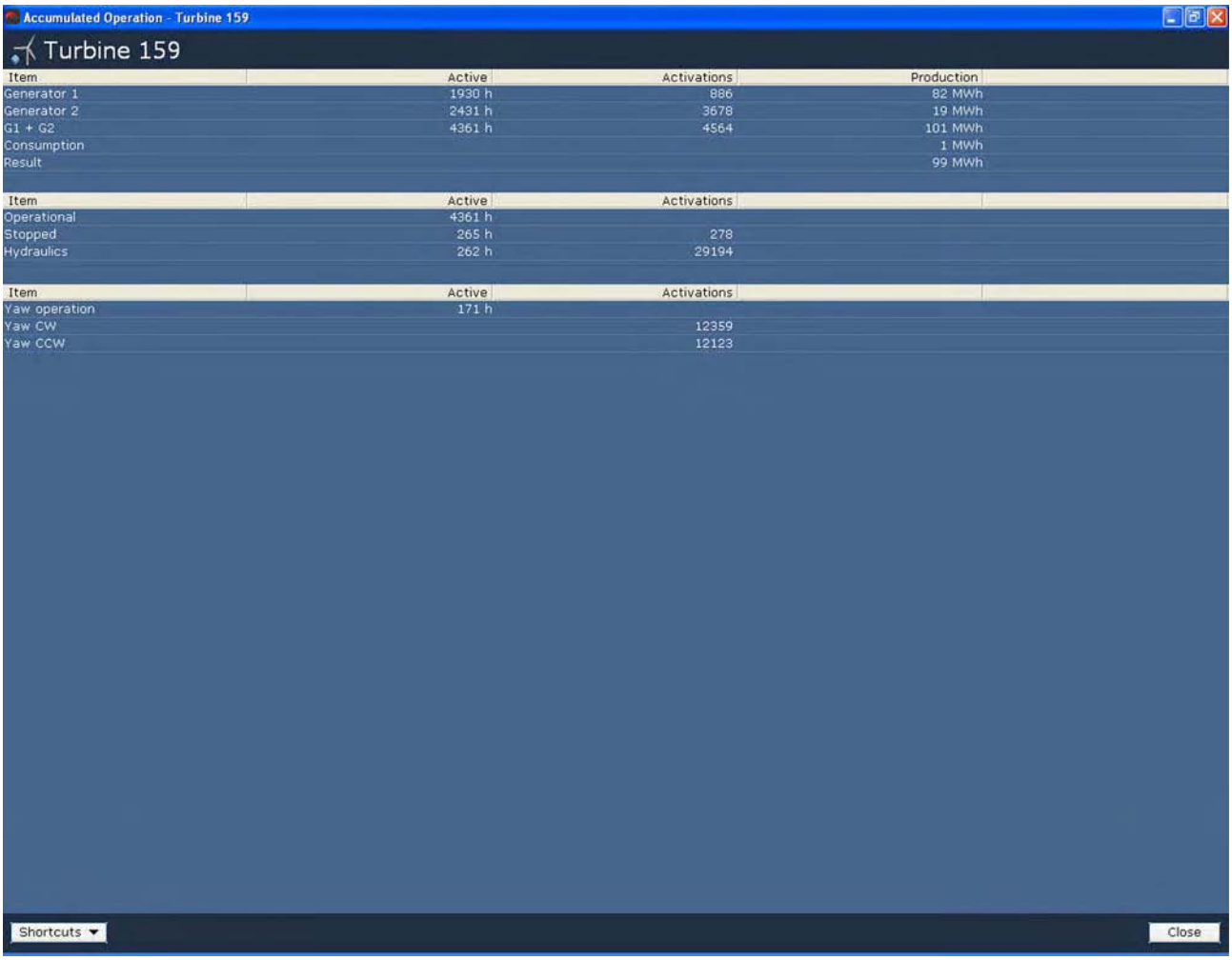

Description

The Accumulated Operation screen gives you a simple and user-friendly overview of historical production and operation data. At any time you can connect to the single wind turbine to present a momentary picture of the life time operation parameters.

The data presented in the Accumulated Operation screen are online data and will not be stored in the database.

The Accumulated Operation screen is mostly used by end users, operators, sales- and service departments to follow up on the wear and service intervals.

Getting data:
You are able to connect online to any controller in order to view data. When you make online connection to a controller, the connection procedure is shown as a text message in the upper right corner which applies the user-friendliness you need to work effectively.

Screen functions:
The screen contains different online data like total production, total operation of the generator system, total operation of the yaw system and total operation of the hydraulic and brake system. The available data on the screen depends on type of controller and application programme.

Technical data:
The Current Operation screen is available for all WP1000, WP3000, WP3100, IC1000, and WP4000 controllers.

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Ordering data

Accumulated Operation data for WP3xxx/ICxxx	P/N.: 984520027
Accumulated Operation data for WP4000	P/N.: 984521025

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Description

The Access Log gives you a simple and user-friendly historical overview of users and operators that have had access to the single machine. The Access Log makes you capable of traceing the precise time interval where users/ operators have had access to the system - without regard whether the user/operator is online or onsite. The log is a part of the life time documentation of the machine.

The Access Log register every time a user/operator takes access to a machine regardless of the access method is onsite or online. When online connection is used the dongle number of the connecting programme is recorded. Taking access with or without active rights records the user name and the allowed access level.

The Access Log is mostly used by operators and service departments to document service and maintenance of the machine. The log makes it possible to trace which user/ operator have made changes to the machine and at which time - this means complete traceability.

Getting data:
You are able to connect online to any controller and download the stored logs or you can get the data you want from the integrated full scale database. Getting data online or offline is connected with a progress bar placed in the upper right corner which applies the user-friendliness you need to work effectively.

Screen functions:
The screen contain a number of columns information about the action of the user/operator. The actual configuration of the screen depends on type of controller.

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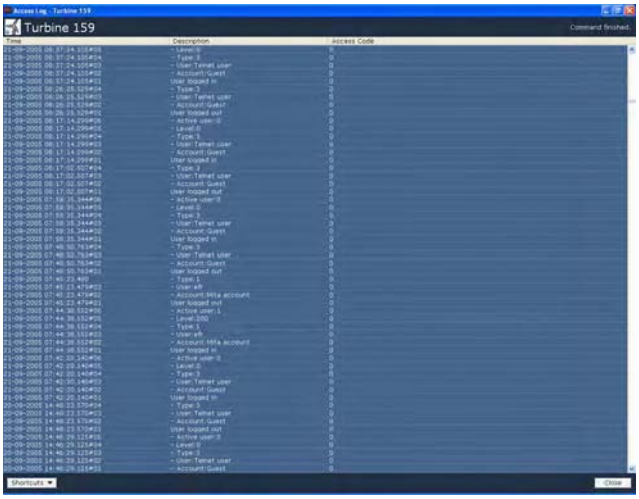
Access Log - WP3x/ICx

The Access Log for WP3x/ICx provides you information in 5 columns: time stamp, text description, actual access level used, user name and System ID. System ID is used only when the user takes online access for recording of the dongle number. The screen allows you to scroll up and down in order to view all lines. Right mouse click provides with an export function to MS Excel.

Access Log - WP4x



The Access Log for WP4x provides you information in 3 columns: time stamp, access code (identification number of action), and a clear text description. The screen allows you to scroll up and down in order to view all lines. Right mouse click provides with an export function to MS Excel.

You have an extended print function available.

Technical data:
The Access Log is available in all WP1000, WP3000, WP3100, IC1000 and WP4000 controllers.

The reserved storage capacity for the Access Log in WP1000, WP3000, WP3100 and IC1000 are 100 data lines each containing 5 columns (one column with activation time stamp, one column with text description, one column with actual access level, one column with user name and one column with System ID).

The reserved storage capacity for the Event Log in WP4000 is 2MB equal to more than 25.000 data lines each containing 3 columns (one column with activation time stamp, one column with access code, and one column with a clear text description).

The Access Log function is working as a ring buffer. This means that when the ring buffer is filled up and a new data enters, the oldest data is overwritten.

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Ordering data

Access Log for WP3xxx/ICxxx	P/N.: 984520013
Access Log for WP4000	P/N.: 984521013

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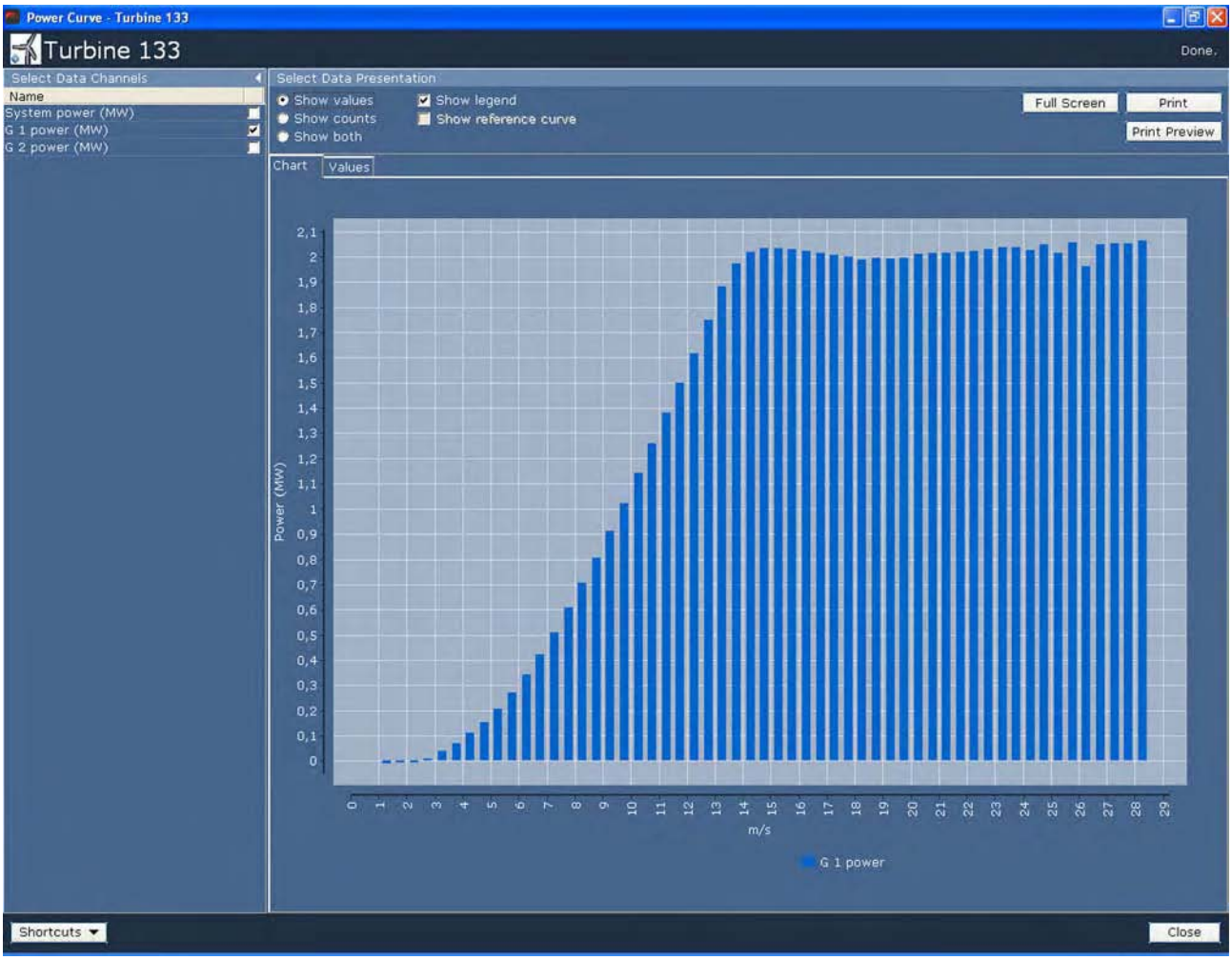

Description

The Power Curve screen gives you all the possibilities you need to make professional evaluation of the machine performance. Fully logged data in the Gateway database optimization work easy.

The data available in the Power Curve are wind speed intervals in combination with production. Power Curve data can include data from more generator windings together with a system power curve that takes active status codes into consideration. In the controller the sample rate can be adjusted. To be able to verify the accuracy of the data, also number of times in the single wind speed interval are stored. The data are available as life time data.

The Power Curve is often used as a documentation tool by operators, investors and end-users. Different departments at manufacturers use the Power Curve in order to optimize the performance of the machine. Service departments often use the Power Curve to measure the requirement for blade clearning.

Getting data:
You are able to connect online to any controller and download the current data or you can get the data you want from the integrated full scale database. Getting data online or offline is connected with a progress bar placed in the upper right corner which applies the user- friendlyness you need to work effectively.

Screen functions:
The available data for presentation will be shown as in the left side of the screen. Here you can select or deselect which data to present.

To get a quick view over data a filter function is available in the upper left corner of the screen. Here you can choose to filter based on kW, on counts or on both. Some controllers also support minimum, maximum and standard deviation.

In the left side of the screen you can choose either graphic or table presentation.

You have an extended print function available for both the graphic view and for the table view.

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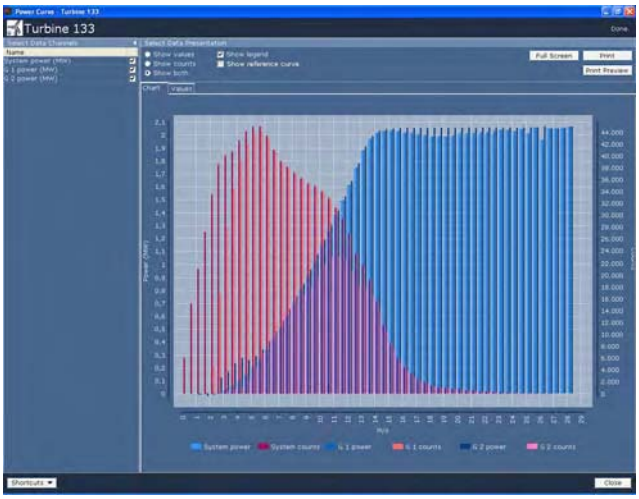
WP3x/ICx Graphic View :

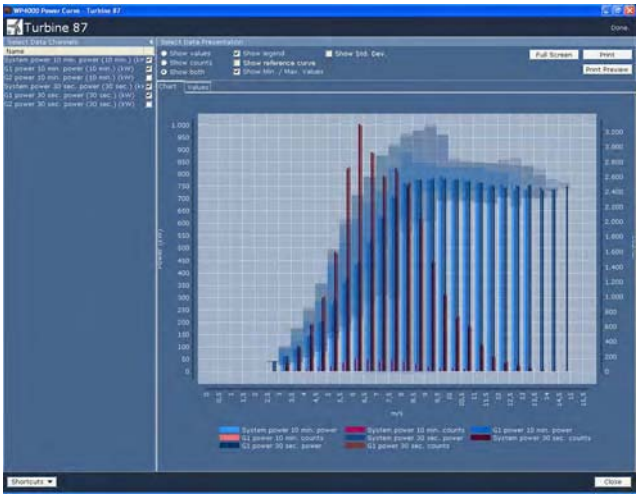
Choosing the graphic presentation provides you with bars for each selected data. To keep track of the data you have choosen to view, you can activate „Show legend“, this provides color and text explanation at the bottom of the screen.

WP3x/ICx Table View:



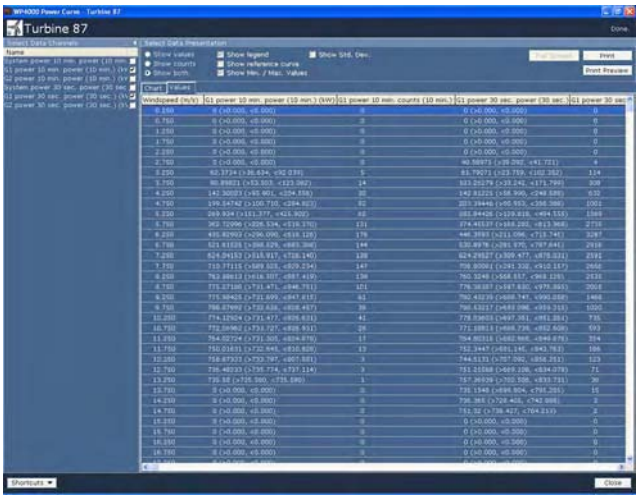
Choosing the table presentation provides you with a column for each selected data. In order to view the data you can scroll up and down. Right click provides with an export function to MS Excel.

WP4x Graphic View:



Choosing the graphic presentation provides you with bars for exact selected data. To keep track of the data you have choosen to view, you can activate „Show legend“, this provides color and text explanation at the bottom of the screen.

WP4x Table View:



Choosing the table presentation provides you with a column for each selected data. In order to view the data you can scroll up and down. Right click provides with an export function to MS Excel.

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Technical data:

The Power Curve is available in all WP1000, WP3000, WP3100, IC1000 and WP4000 controllers.

The Power Curve is *storaged* as life time data and the sample rate and extent of data depends on type of controller.

The sample rate in WP1000, WP3000, WP3100 and IC1000 can be adjusted to 1 second, 30 second or 10 minuts. The data stored are production in kW and counts in connection with wind speed for G1, G2 and system. The data will be continuously summed up over the life time and as a super user you are able to reset the data according to you choice.

In WP4000 the sample rate is fixed to 30 seconds and 10 minuts. The data stored are production i kW and counts in connection with wind speed for G1, G2, system. In WP4000 the data logging is extended to include minimum, maximum and standard deviation. The data will be continuously summed up over the life time and as a super user you are able to reset the data according to you choice.

Ordering data

Power Curve for WP3xxx/ICxxxx	P/N.: 984520004
Power Curve for WP4000	P/N.: 984521004

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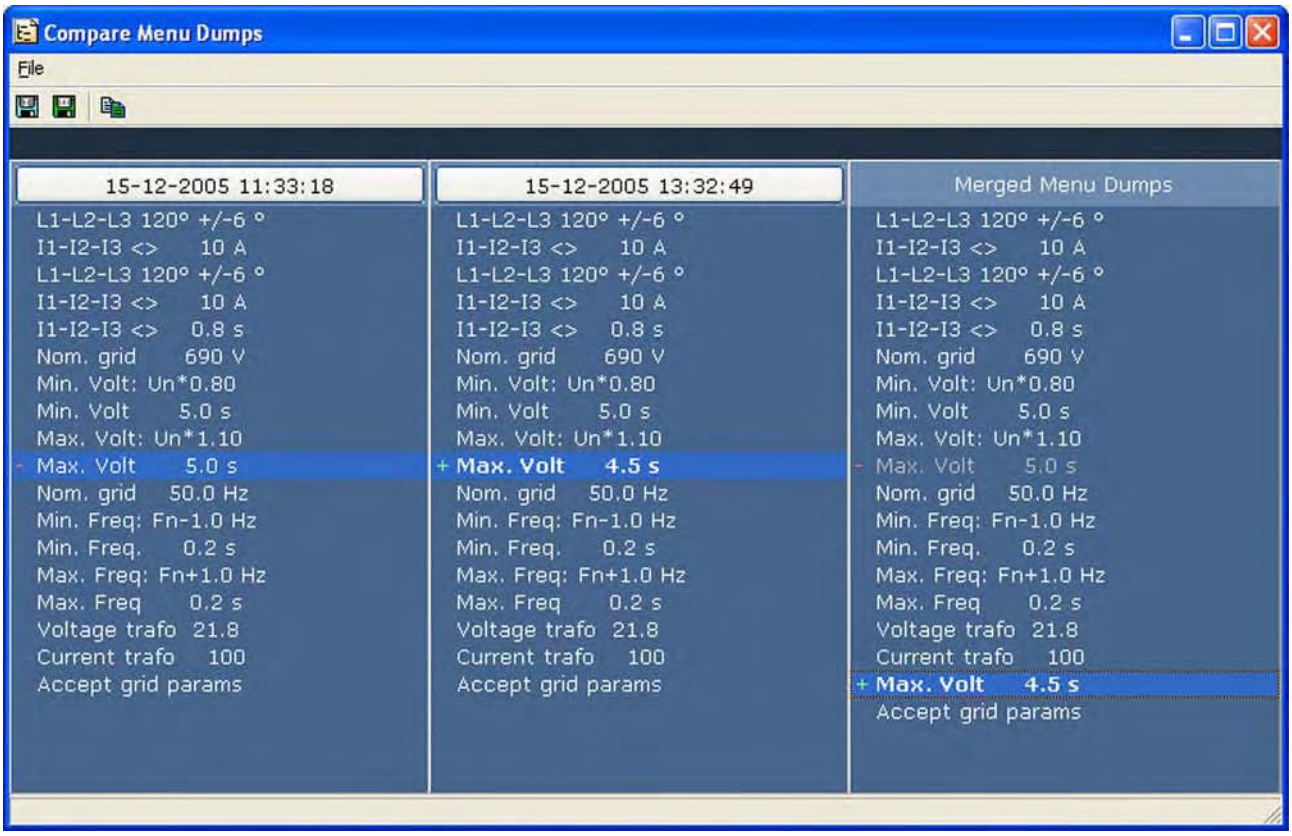

Description

The Menu Dump Comparison provides an simple and easy way to compare two sets of data. You can use the Menu Dump Comparison function to compare data from two different machines and thereby identify any differences in configuration and setup. It will help you to keep track of your documentation and to the settings in the single machine.

The Menu Dump Comparison takes two menu dumps and make a comparison - the result is shown on the screen

The Menu Dump Comparison is mostly used by service departments and R&D to verify the settings in different machines. When you use the Menu Dump Comparison you can in seconds analyse the setup differences on two different machines or on the same machine on two different dates and times. The included report tool helps to secure complete documentation.

Getting data:
You are able to connect online to any controller to dump a certain menu or submenu, the dumped data are stored in the integrated full scale database. To run a comparison you simply select two different dumps from the database and it will run automatically.

Screen functions:
The screen contain 3 columns, in the first column you can select menu dump number one from the database and in the second column you can select menu dump number two from the database. When you have selected two dumps in column one and two, the third column gives the comparison result.

The screen allows you to scroll up and down in order to view all lines and a click on Create Comparison Report in the upper right corner provides with an export function to MS Excel. The same function is an extended print function .

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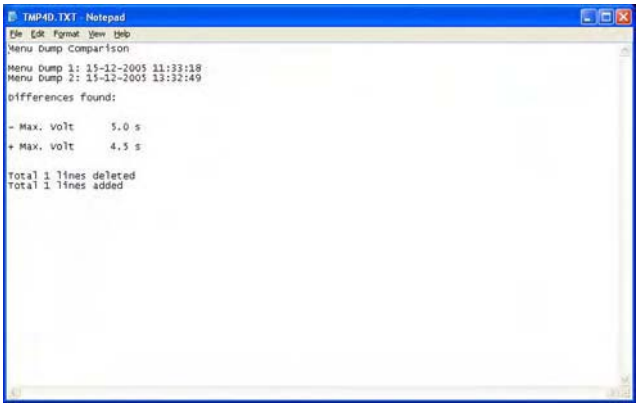
Menu Dump Comparison Report:



Technical data:
The Task Scheduler is available for all WP1000, WP3000, WP3100, IC1000, and WP4000 controllers.

Ordering data

Menu Dump Comparison for WP3xxx/ICxxx	P/N.: 9845200xx

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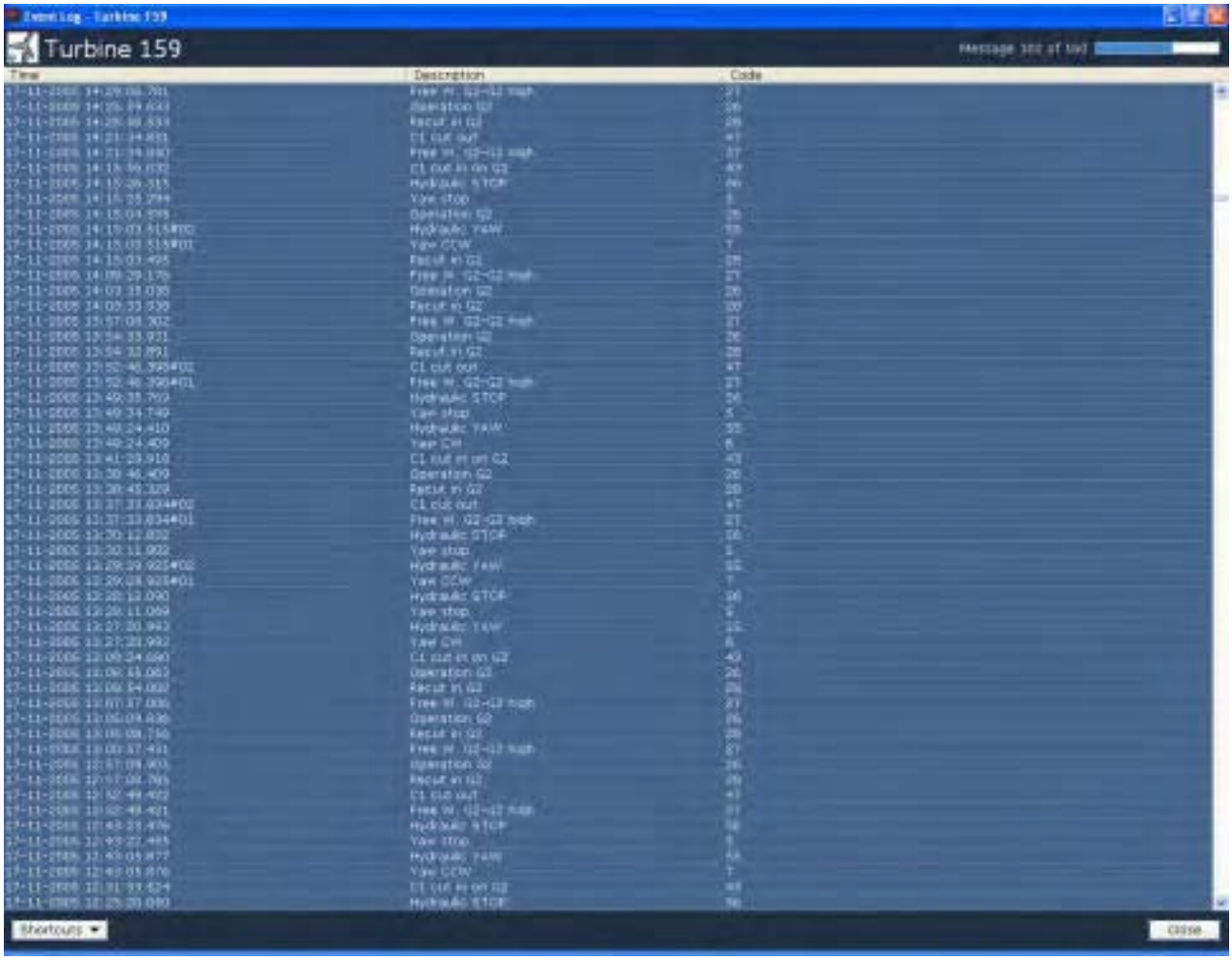

Description

The Event Log gives you a simple and user-friendly historical overview of programme modules and status codes that have been active in the single machine. The Event Log makes you capable of traceing which programme modules and events that have occured back in time and thereby secure the nessary documentation for professional condition monitoring and error handling.

Normally application programmes are state based, where each state has its own number and name. The Event Log continuously log any change in state (programme module) together with status codes that have been activated.

The Event Log is mostly used by R&D and service departments to document the operation of the machine and to analyse errors and thereby optimize availability.

Getting data:
You are able to connect online to any controller and download the stored logs or you can get the data you want from the integrated full scale database. Getting data online or offline is connected with a progress bar placed in the upper right corner which applies the user-friendliness you need to work effectively.

Screen functions:
The screen contain a number of lines depending on type of controller and 3 columns. Column one is a time stamp representing the exact set time of a change in state or activation of a status code, column 2 shows the state/status code number (identification) and colum 3 shows a clear text in order to understand the occured event.

The screen allows you to scroll up and down in order to view all lines and a Right mouse click provides with an export function to MS Excel.

You have a extended print function available.

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Technical data:
The Event Log is available in all WP1000, WP3000, WP3100, IC1000, and WP4000 controllers.

The reserved storage capacity for the Event Log in WP1000, WP3000, WP3100 and IC1000 is 100 data lines each containing 3 columns (one column with activation time stamp, one column with state/status code identification number and one column with a clear text).

The reserved storage capacity for the Event Log in WP4000 is 4MB equal to more than 50.000 data lines each containing 3 columns (one column with activation time stamp, one column with state/status code identification number and one column with a clear text).

The Event Log function is working as a ring buffer. This means that when the ring buffer is filled up and a new data enters, the oldest data is over written.

Ordering data

Event Log for WP3xxx/ICxxx	P/N.: 984520010
Event Log for WP4000	P/N.: 984521009

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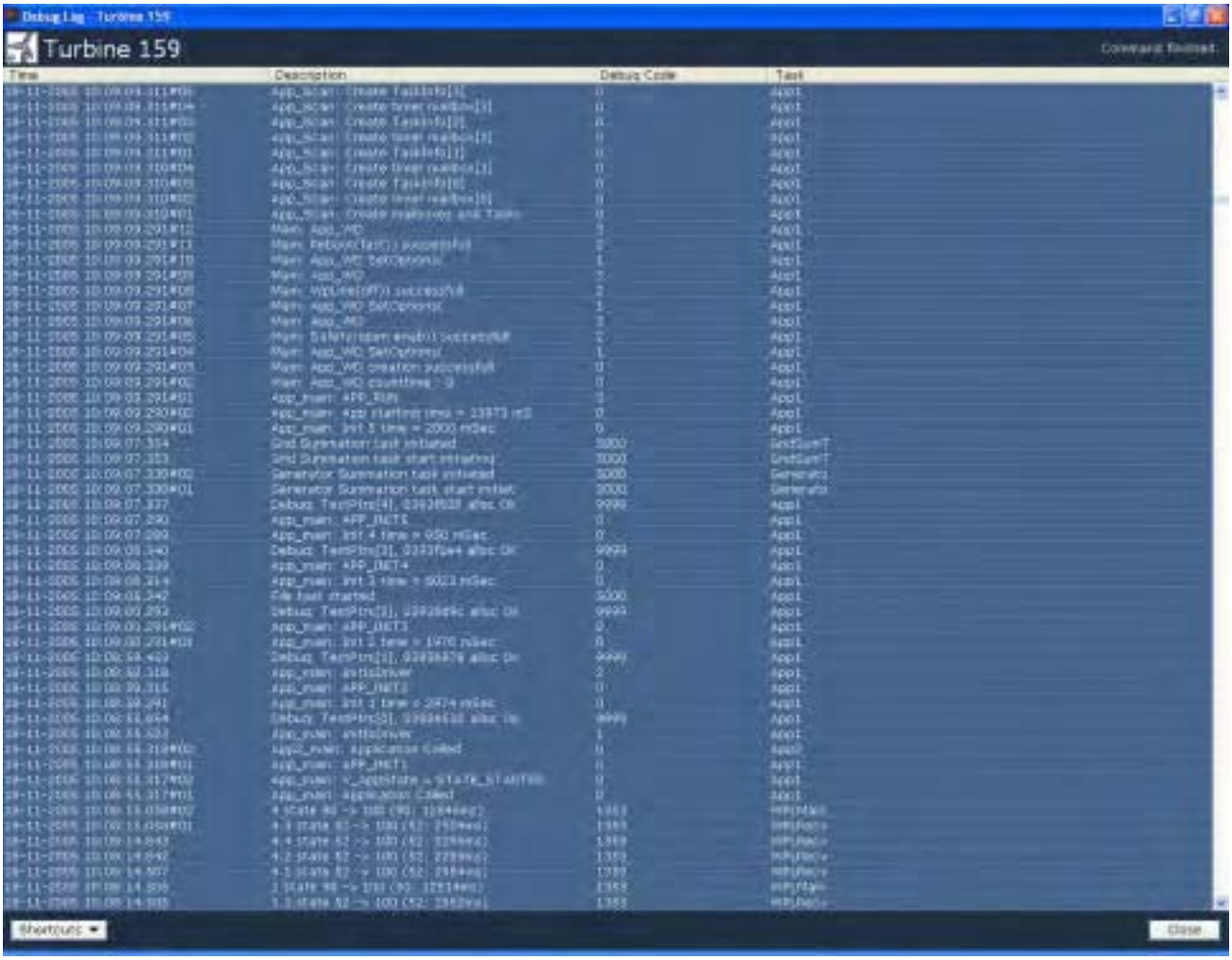

Description

The Debug Log gives you a detailed and user-friendly historical overview over events that have accured internally in the application programmes of the controller. The log makes you capable of traceing which programme parts/ modules that have occured back in time and thereby secure the nessary documentation for professional error handling and programming.

The operative system of the controller is a real time multi tasking system that handle many different tasks and events, each task has its own number and name. The System Log continuously log any change for later review.

The Debug Log is mostly used R&D to document programme routines and in connection with own programming,

Getting data:
You are able to connect online to any controller and download the stored log or you can get the data you want from the integrated full scale database. Getting data online or offline is connected with a progress bar placed in the upper right corner which applies the user-friendliness you need to work effectively.

Screen functions:
The screen contain 4 columns. Column one is a time stamp representing the exact set time of a change in state or activation of a status code, column 2 shows a clear text in order to understand the occured event, column 3 shows the state/status code number (identification) and colum 4 shows a clear text giving the type of occured event.

The screen allows you to scroll up and down in order to view all lines and a Right mouse click provides with an export function to MS Excel.

You have an extended print function available.

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Technical data:
The Debug Log is available in all WP4000 controllers.

The reserved storage capacity for the Debug Log in WP4000 is 2MB equal to more than 25,000 data lines each containing 4 columns (one column with activation time stamp, one column with a clear text for event identification, one column with state/status code identification number and one column with a clear text for type of event).

The Debug Log function is working as a ring buffer. This means that when the ring buffer is filled up and a new data enters, the oldest data is overwritten.

Ordering data

Debug log for WP4000	P/N.: 984521016

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Description

The Production Overview Log gives you a very user-friendly overview over the production result from a single machine. Using the Production Overview Log you are able to evaluate and measure the total performance of the single machine compared to the theoretical calculations.

The Production Overview Log provides you with an overview of daily, monthly and yearly production.

The Production Overview Log is mostly used by operators, manufactures and end-users to evaluate performance, to measure production and to generate economic reports. Often the users store the data every day as documentation and for lifetime reporting.

Getting data:
You are able to connect online to any controller and download the stored logs or you can get the data you want form the integrated full scale database. Getting data online or offline is connected with a progress bar placed in the upper right corner which applies the user-friendliness you need to work effectively.

Screen functions:
The screen always starts with an overview of the daily production data. You can toggle between the daily view, the monthly view and the yearly view on the available vanes. In addition you have the possibility to toggle between graphic or table presentation.

To read out the specific value on each bar, you can activate „Show Values“ in the upper left corner of the screen.

You have a extended print function available for both the graphic view and for the table view.

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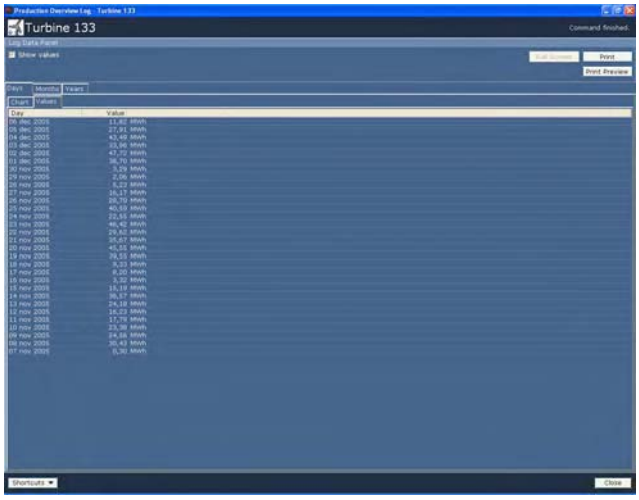
Daily Graphic View :

The daily graphic view provides you with a production result shown as a bar per day for the latest month.

Monthly Graphic View:

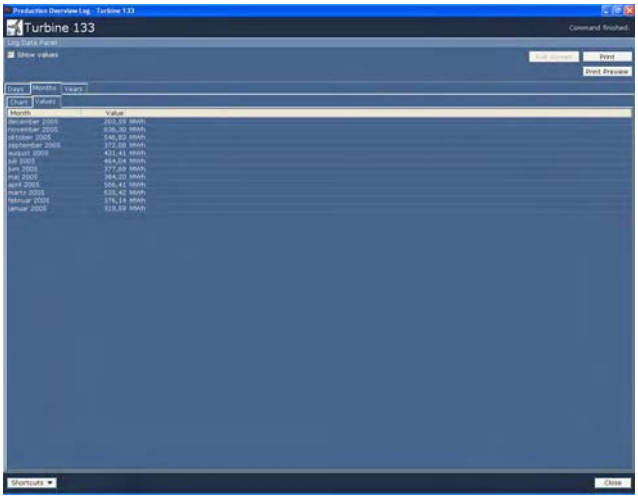
The monthly graphic view provides you with a production result shown as a bar per month for the latest 12 month.

Daily Table View:



The daily table view provides you with a production result shown as a line per day for the latest month. Right click provides with an export function to MS Excel.

Monthly Table View:



The daily table view provides you with a production result shown as a line per month for the latest 12 month. Right click provides with an export function to MS Excel.

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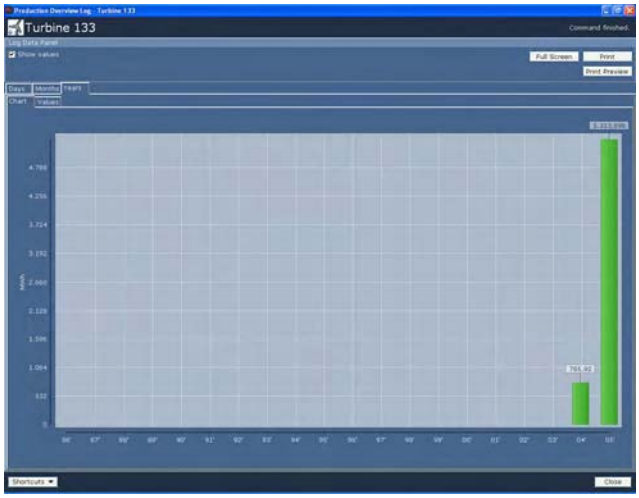
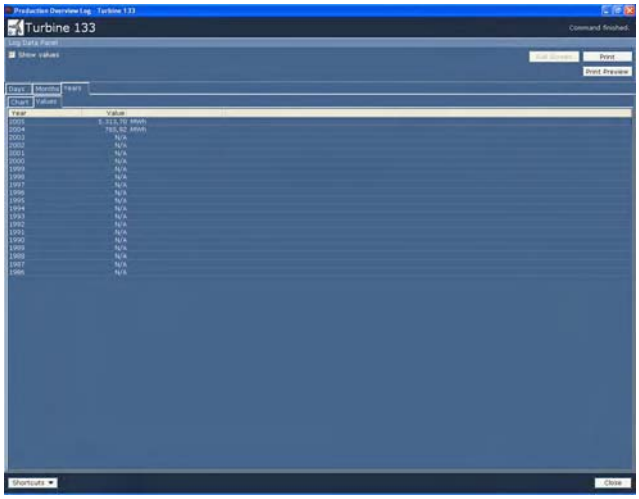
Yearly Graphic View:



The yearly graphic view provides you with a production result shown as a bar per year for the latest 20 years.

Yearly Table View:



The yearly table view provides you with a production result shown as a line per year for the latest 20 years. Right click provides with an export function to MS Excel.

Technical data:
The Production Overview Log is available in all WP1000. WP3000, WP3100, IC1000, and WP4000 controllers.

The controllers store daily production for the latest 30 days, monthly production for the latest 12 month and yearly production for the latest 20 years; for WP4000 for the latest 30 years. In addition to the strorage of production in kWh, also consumption in kWh, production in KVArh and consumption in KVArh is stored, but not presented.

Ordering data

Production Overview Log for WP3xxx/ICxxxx	P/N.: 984520023
Production Overview Log for WP4000	P/N.: 984521021

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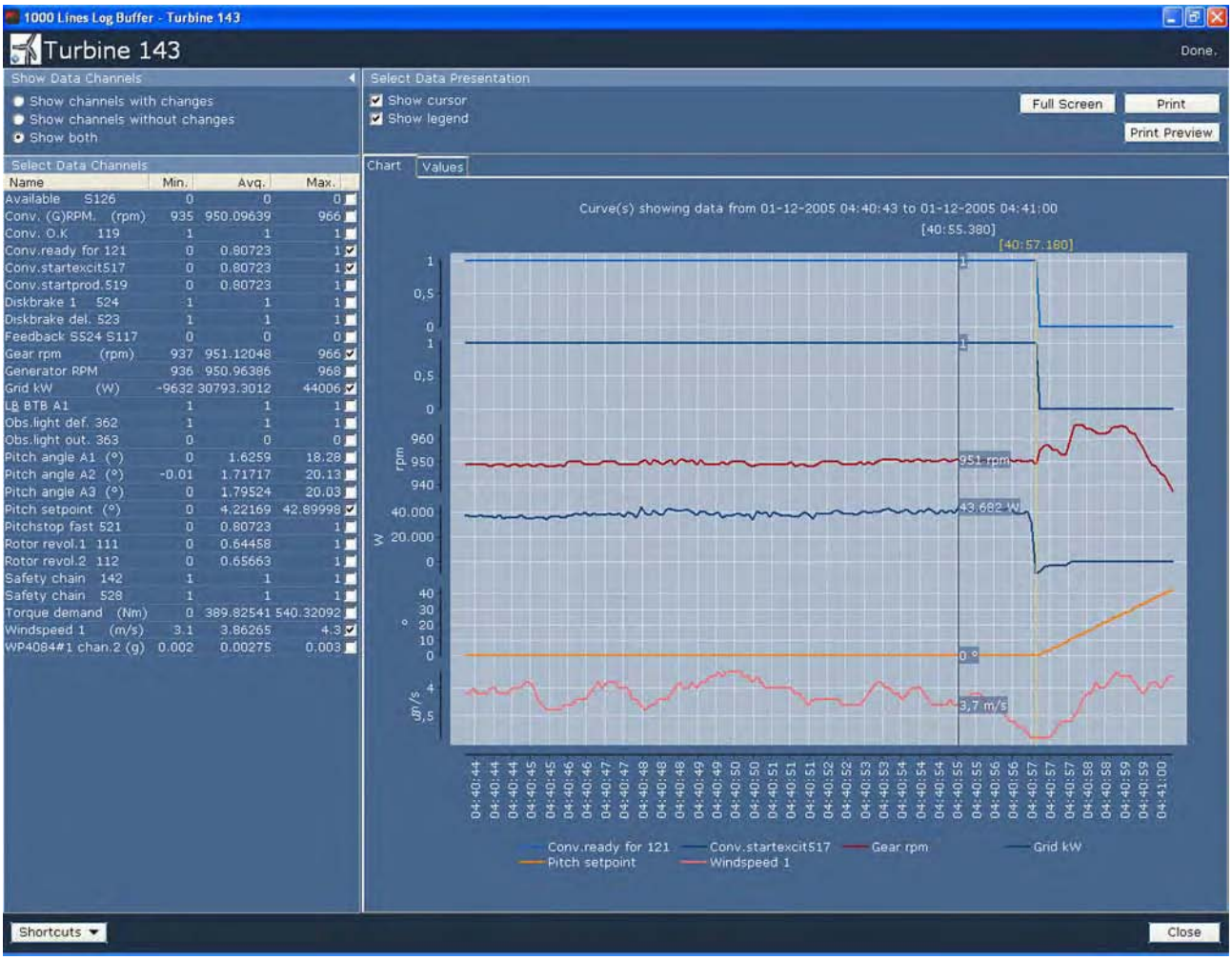


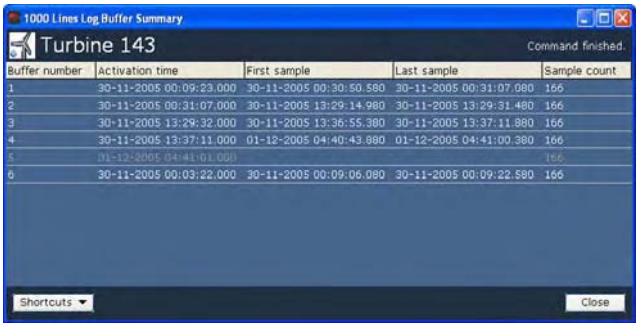
Description

The Trigger Log screen gives you all the possibilities you need to make professional performance optimization, to make detailed software module evaluation and to make effective error handling in order to maximize availability and earnings of the machines.

The Trigger Log works like an advanced oscilloscope including a number of analog channels and a number of digital channels. The scan rate is event based and identical with the scan/circle time of the application programme. The log is very flexible and user-friendly, via the menu in the controller you can configure each channel and the setup of the oscilloscope function itself. You can decide the trigger condition yourself based on an events or changing digital signals.

The Trigger Log is mostly used by service and development departments for detailed and professional error handling and continuous system improvement. During type approval processes the Trigger Log can be used to analyse and document the complete systems.

Getting data:



You are able to connect online to any controller and download the stored logs or you can get the data you want from the integrated full scale database. Getting data online or offline is connected with a progress bar placed in the upper right corner which applies the user-friendliness you need to work effectively.

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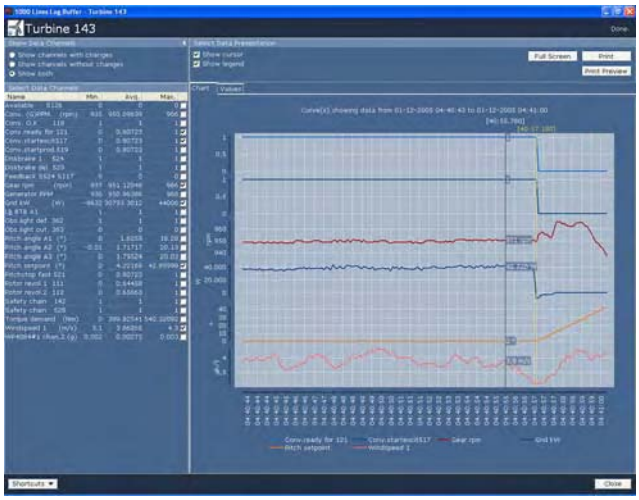
Screen functions:
The available data for presentation will be shown as in the left side of the screen, here you can select or deselect which data to present. To make an easy overview three columns are shown; minimum, average and maximum - this will help you to choose the data to select.

To get a quick view over data a filter function is available in the upper left corner of the screen, here you can choose to filter based on data that have changed,on data that have not changed or all available data.

In the right side of the screen you can choose either graphic or table presentation.

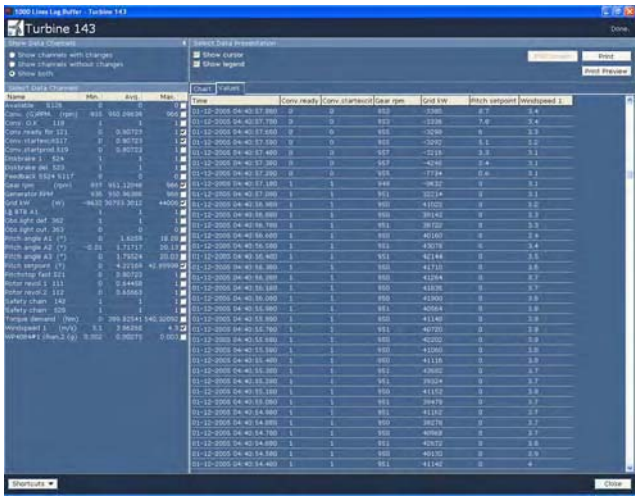
You have a extended print function available for both the graphic view and for the table view.

Graphic presentation:



Choosing the graphic presentation provides you with curves for each selected data. You are able to zoom in and out to get a more detailed view of the values. In order to compare and view data you can choose to activate a curser that can scroll left and right while showing the marked values. The trigger of the log is shown as a single vertical line marked with a timestamp. To keep track of the data you have chosen to view you can activate “Show legend”, this provides color and text explanation at the bottom of the screen.

Table presentation:



Choosing the table presentation provides you with a column for each selected data. In order to view the data you can scroll up and down. Right click provides with an export function to MS Excel.

Technical data:
The Trigger Log is available in all WP4000 controllers.

The storage capacity can be configured upto 10MB of data. The Trigger Log function works as a ring buffer. This means that when the ring buffer is filled up and a new data enters, the oldest data is overwritten.

The Trigger Log is very flexible and you -as a user - have different possibilities to configure eg.:

- Trigger conditions
- Pre storage capacity before a trigger
- Post storage capacity after a trigger

Ordering data

Trigger log for WP4000

P/N.: 984521006

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Description

The System Log gives you a detailed and user-friendly historical overview over events that have accured internally in the operative system of the controller together with extended information related to logging of status codes. The log makes you capable of traceing which programme parts/ modules that have accured back in time and thereby secure the necessary documentation for professional error handling and programming.

The operative system of the controller is a real time multi tasking system that handle many different tasks and events, each task has its own number and name. The System Log continuously log any change for later review.

The System Log is mostly used by service departments to document the operation of the machine and to analyse errors and thereby optimize availability. R&D also use the log for documention of the operation and as a tool in connection with owne programming,

Getting data:
You are able to connect online to any controller and download the stored log or you can get the data you want from the integrated full scale database. Getting data online or offline is connected with a progress bar placed in the upper right corner which applies the user-friendliness you need to work effectively.

Screen functions:
The screen contains 4 columns. Column 1 is a time stamp representing the exact set time of a change in state or activation of a status code, column 2 shows a clear text in order to understand the accured event, column 3 shows the state/status code number (identification) and column 4 shows a clear text giving the type of occured events.

The screen allows you to scroll up and down in order to view all lines and a Right mouse click provides with an export function to MS Excel.

You have a extended print function available.

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Technical data:
The System Log is available in all WP4000 controllers.

The reserved storage capacity for the System Log in WP4000 is 4MB equal to more than 50,000 data lines each containing 4 columns; one column with activation time stamp, one column with a clear text for event identification, one column with state/status code identification number and one column with a clear text for type of event.

The System Log function is working as a ring buffer. This means that when the ring buffer is filled up and a new data enters, the oldest data is overwritten.

Ordering data

System Log for WP4000	P/N.: 984521015

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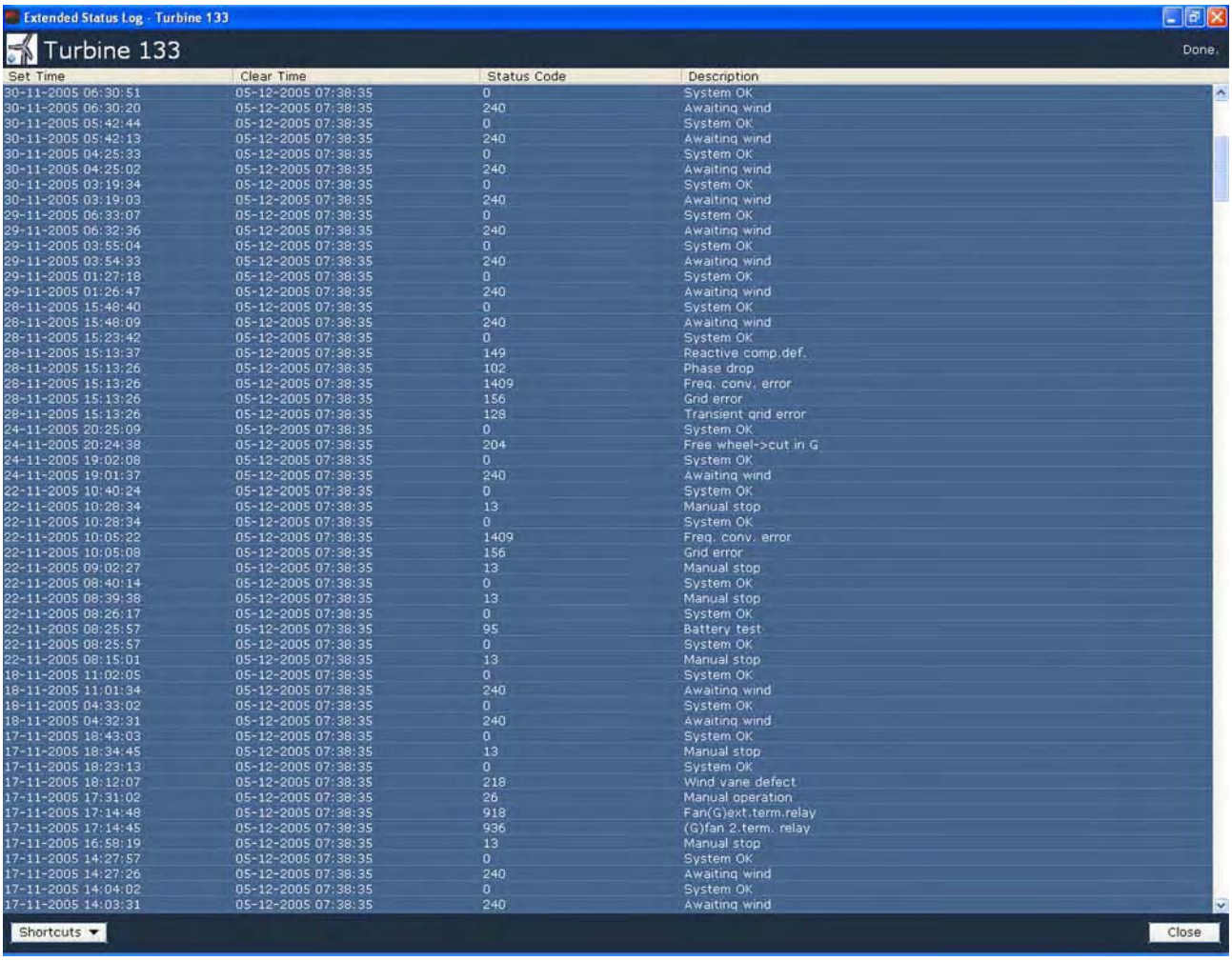

Set Time	Clear Time	Status Code	Description
30-11-2005 06:30:51	05-12-2005 07:38:35	0	System OK
30-11-2005 06:30:20	05-12-2005 07:38:35	240	Awaiting wind
30-11-2005 05:42:44	05-12-2005 07:38:35	0	System OK
30-11-2005 05:42:13	05-12-2005 07:38:35	240	Awaiting wind
30-11-2005 04:25:33	05-12-2005 07:38:35	0	System OK
30-11-2005 04:25:02	05-12-2005 07:38:35	240	Awaiting wind
30-11-2005 03:19:34	05-12-2005 07:38:35	0	System OK
30-11-2005 03:19:03	05-12-2005 07:38:35	240	Awaiting wind
29-11-2005 06:33:07	05-12-2005 07:38:35	0	System OK
29-11-2005 06:32:36	05-12-2005 07:38:35	240	Awaiting wind
29-11-2005 03:55:04	05-12-2005 07:38:35	0	System OK
29-11-2005 03:54:33	05-12-2005 07:38:35	240	Awaiting wind
29-11-2005 01:27:18	05-12-2005 07:38:35	0	System OK
29-11-2005 01:26:47	05-12-2005 07:38:35	240	Awaiting wind
28-11-2005 15:48:40	05-12-2005 07:38:35	0	System OK
28-11-2005 15:48:09	05-12-2005 07:38:35	240	Awaiting wind
28-11-2005 15:23:42	05-12-2005 07:38:35	0	System OK
28-11-2005 15:13:37	05-12-2005 07:38:35	149	Reactive comp.def.
28-11-2005 15:13:26	05-12-2005 07:38:35	102	Phase drop
28-11-2005 15:13:26	05-12-2005 07:38:35	1409	Freq. conv. error
28-11-2005 15:13:26	05-12-2005 07:38:35	156	Grid error
28-11-2005 15:13:26	05-12-2005 07:38:35	128	Transient grid error
24-11-2005 20:25:09	05-12-2005 07:38:35	0	System OK
24-11-2005 20:24:38	05-12-2005 07:38:35	204	Free wheel->cut in G
24-11-2005 19:02:08	05-12-2005 07:38:35	0	System OK
24-11-2005 19:01:37	05-12-2005 07:38:35	240	Awaiting wind
22-11-2005 10:40:24	05-12-2005 07:38:35	0	System OK
22-11-2005 10:28:34	05-12-2005 07:38:35	13	Manual stop
22-11-2005 10:28:34	05-12-2005 07:38:35	0	System OK
22-11-2005 10:05:22	05-12-2005 07:38:35	1409	Freq. conv. error
22-11-2005 10:05:08	05-12-2005 07:38:35	156	Grid error
22-11-2005 09:02:27	05-12-2005 07:38:35	13	Manual stop
22-11-2005 08:40:14	05-12-2005 07:38:35	0	System OK
22-11-2005 08:39:38	05-12-2005 07:38:35	13	Manual stop
22-11-2005 08:26:17	05-12-2005 07:38:35	0	System OK
22-11-2005 08:25:57	05-12-2005 07:38:35	95	Battery test
22-11-2005 08:25:57	05-12-2005 07:38:35	0	System OK
22-11-2005 08:15:01	05-12-2005 07:38:35	13	Manual stop
18-11-2005 11:02:05	05-12-2005 07:38:35	0	System OK
18-11-2005 11:01:34	05-12-2005 07:38:35	240	Awaiting wind
18-11-2005 04:33:02	05-12-2005 07:38:35	0	System OK
18-11-2005 04:32:31	05-12-2005 07:38:35	240	Awaiting wind
17-11-2005 18:43:03	05-12-2005 07:38:35	0	System OK
17-11-2005 18:34:45	05-12-2005 07:38:35	13	Manual stop
17-11-2005 18:23:13	05-12-2005 07:38:35	0	System OK
17-11-2005 18:12:07	05-12-2005 07:38:35	218	Wind vane defect
17-11-2005 17:31:02	05-12-2005 07:38:35	26	Manual operation
17-11-2005 17:14:48	05-12-2005 07:38:35	918	Fan(G)ext.term.relay
17-11-2005 17:14:45	05-12-2005 07:38:35	936	(G)fan 2.term. relay
17-11-2005 16:58:19	05-12-2005 07:38:35	13	Manual stop
17-11-2005 14:27:57	05-12-2005 07:38:35	0	System OK
17-11-2005 14:27:26	05-12-2005 07:38:35	240	Awaiting wind
17-11-2005 14:04:02	05-12-2005 07:38:35	0	System OK
17-11-2005 14:03:31	05-12-2005 07:38:35	240	Awaiting wind

Description

The Status Code Log gives you a simple and user-friendly historical overview of status codes that have been active in the single machine. The Status Code Log makes you capable of traceing events that have occured back in time and thereby secure the necessary documentation. It also helps you to plan the collection of other types of data from the machine.

The Status Code Log is mostly used by operators and manufactures to document the general operation of the machine and to make overall performance evaluation of all machines monitored by the SCADA system. Based on the logged data you can among other things make top 10 lists.

Getting data:
You are able to connect online to any controller and download the stored logs or you can get the data you want from the integrated full scale database. Getting data online or offline is connected with a progress bar placed in the upper right corner which applies the user-friendlyness you need to work effective.

Screen functions:
The screen contain a number of columns, starting with a time stamp representing the exact set time of an event, the next column is only relevant for WP3100 and WP4000 and shows another time stamp of the exact reset time of an event, column 3 and 4 shows the status code number (identification), and column 4 shows a clear text in order to understand the occured event.

The screen allows you to scroll up and down in order to view all lines and a Right mouse click provides with an export function to MS Excel.

You have a extended print function available.

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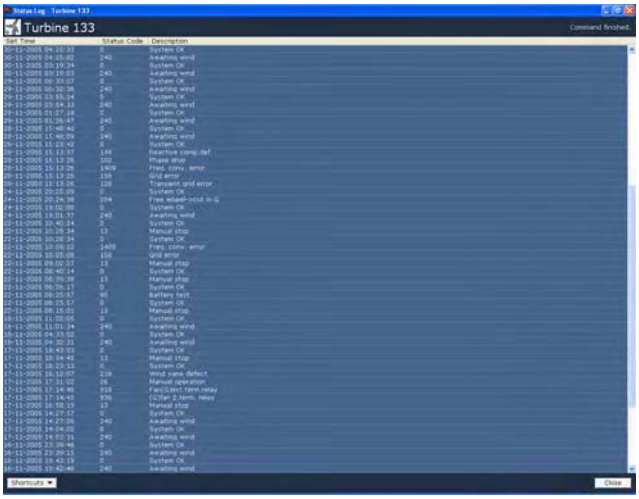
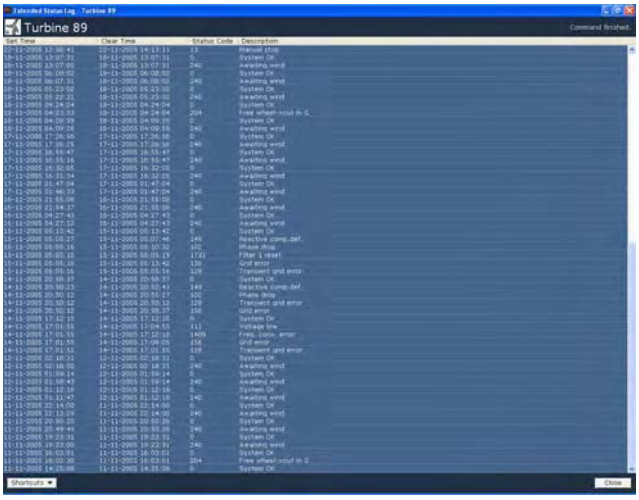
Status Code Log - Standard:



The standard Status Code Log shows a time stamp for activation of the event, status code identification number and a clear text explaining the meaning of the status code.

Status Code Log - Extended:



The standard Status Code Log - Extended shows a time stamp for activation of the event, time stamp for deactivation of the event, status code identification number and a clear test explaining the meaning of the status code. This extended feature is avalible in WP3100 and WP4000.

Technical data:
The Status Code Log is available in all WP1000, WP3000, WP3100, IC1000, WP4000 controllers.

The reserved storage capacity for the Status Code Log in WP1000, WP3000 and IC1000 are 100 data lines each containing 3 columns; 1 column with activation time stamp, 1 column with status code identification number and 1 column with a clear text.

The reserved storage capacity for the Status Code Log in WP3100 are 100 data lines each containing 4 columns; 1 column with activation time stamp, 1 column with deactivation time stamp, 1 column with status code identification number and 1 column with a clear text.

The reserved storage capacity for the Status Code Log in WP4000 is 4MB equal to more than 50.000 data lines each containing 4 columns; 1 column with activation time stamp, 1 column with deactivation time stamp,1 column with status code identification number and 1 column with a clear text.

The Status Code Log function is working as a ring buffer. This means that when the ring buffer is filled up and a new data enters, the oldest data is overwritten.

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Ordering data

Status Code Log for WP3xxx/ICxxxx	P/N.: 984520008
Status Code Log for WP4000	P/N.: 984521008

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Status Code	Description	Active	Count	Last Active	Clear Time	Total Active Time
0	System OK	False	1405	12-12-2005 08:24:30	12-12-2005 08:24:30	5611.09[h]
5	Vibration	False	1	01-09-2005 10:01:43	06-12-2005 05:32:11	0.00[h]
7	Turbine is serviced	False	10	31-08-2005 12:12:24	06-12-2005 05:32:11	0.00[h]
10	Safety chain open	False	63	05-12-2005 07:40:35	06-12-2005 05:32:11	53.39[h]
11	Stop via communica.	False	0	-	06-12-2005 05:32:11	0.26[h]
13	Manual stop	False	93	06-12-2005 05:31:01	06-12-2005 05:32:11	143.97[h]
16	Emer.stop cont.panel	False	3	27-02-2005 18:14:53	06-12-2005 05:32:11	0.00[h]
23	Repeating error	False	9	23-09-2005 18:07:15	06-12-2005 05:32:11	0.05[h]
26	Manual operation	False	77	05-12-2005 07:39:28	06-12-2005 05:32:11	0.52[h]
29	New program	False	0	-	06-12-2005 05:32:11	0.00[h]
30	Nacelle temp.	False	0	-	06-12-2005 05:32:11	0.00[h]
31	Nacelle temp. stop	False	0	-	06-12-2005 05:32:11	0.00[h]
38	Alarm call test	False	5	14-02-2005 13:49:50	06-12-2005 05:32:11	2.67[h]
39	Division by zero	False	0	-	06-12-2005 05:32:11	0.00[h]
40	Parameter crash	False	0	-	06-12-2005 05:32:11	0.00[h]
42	Internal battery low	False	0	-	06-12-2005 05:32:11	0.00[h]
43	Internal temp. high	False	0	-	06-12-2005 05:32:11	0.00[h]
45	Main ctrl. Supply	False	33	22-10-2005 06:26:33	06-12-2005 05:32:11	52.38[h]
47	Supply 156/157	False	0	-	06-12-2005 05:32:11	0.00[h]
48	Supply 248/249	False	0	-	06-12-2005 05:32:11	0.00[h]
49	Internal 15V supply	False	0	-	06-12-2005 05:32:11	0.00[h]
50	Slave watchdog	False	0	-	06-12-2005 05:32:11	0.00[h]
51	DSP watchdog	False	0	-	06-12-2005 05:32:11	0.00[h]
57	Batt. voltage stop	False	7	27-02-2005 09:20:10	06-12-2005 05:32:11	16.16[h]
62	Int.battery low sub1	False	0	-	06-12-2005 05:32:11	0.00[h]
73	Power-up relay	False	0	-	06-12-2005 05:32:11	0.00[h]
92	Emer. stop nacelle	False	0	-	06-12-2005 05:32:11	0.00[h]
95	Battery test	False	13	12-12-2005 08:22:07	12-12-2005 08:24:30	0.39[h]
99	Parkmasterstop	False	0	-	06-12-2005 05:32:11	0.00[h]
100	Repeated grid error	False	3	19-06-2005 17:11:25	06-12-2005 05:32:11	0.61[h]
102	Phase drop	False	225	28-11-2005 15:13:26	06-12-2005 05:32:11	8.87[h]
103	Vector surge	False	56	12-02-2005 14:09:29	06-12-2005 05:32:11	3.17[h]
110	Voltage high	False	0	-	06-12-2005 05:32:11	0.00[h]
111	Voltage low	False	17	14-11-2005 14:56:06	06-12-2005 05:32:11	0.13[h]
118	Park overproduction	False	0	-	06-12-2005 05:32:11	0.00[h]
120	Frequency high	False	16	22-10-2005 04:17:36	06-12-2005 05:32:11	0.20[h]
121	Frequency low	False	50	08-11-2005 13:29:35	06-12-2005 05:32:11	0.90[h]
128	Transient grid error	False	258	28-11-2005 15:13:26	06-12-2005 05:32:11	0.00[h]
130	L1-L2-L3 120°	False	0	-	06-12-2005 05:32:11	0.00[h]
134	Critical frequency	False	0	-	06-12-2005 05:32:11	0.00[h]
135	EU-stop	False	0	-	06-12-2005 05:32:11	0.00[h]
149	Reactive comp.def.	False	172	28-11-2005 15:13:37	06-12-2005 05:32:11	0.73[h]
150	Trafo switch tripped	False	0	-	06-12-2005 05:32:11	0.00[h]
151	MV transm.tripped	False	0	-	06-12-2005 05:32:11	0.00[h]
156	Grid error	False	194	28-11-2005 15:13:26	06-12-2005 05:32:11	15.72[h]
200	Outdoor temp. low	False	0	-	06-12-2005 05:32:11	0.00[h]
201	Outdoor temp. high	False	0	-	06-12-2005 05:32:11	0.00[h]
202	Wind < power	False	0	-	06-12-2005 05:32:11	0.00[h]
203	Wind > power	False	2	27-10-2004 16:42:30	06-12-2005 05:32:11	21.69[h]
204	Free wheel->cut in G	False	98	09-12-2005 06:01:31	09-12-2005 06:02:02	0.85[h]
205	Tower resonance time	False	9	15-08-2005 13:44:01	06-12-2005 05:32:11	0.07[h]
206	Ice warning	False	1	25-10-2004 14:03:18	06-12-2005 05:32:11	0.00[h]
210	Anemom. iced over	False	7	27-02-2005 17:51:59	06-12-2005 05:32:11	24.24[h]
213	Extreme gust	False	4	14-11-2005 18:44:23	06-12-2005 05:32:11	0.10[h]

Description

The Status Code Summation gives you a simple and user-friendly historical overview of how frequent status codes have been activated in the single machine. The Status Code Summation is the background information for the availability and the data makes you capable of detailed availability analysis.

The Status Code Summation is mostly used by operators and manufactures to document the general operation of the machine and to secure the necessary availability background documentation . Based on the logged data you can among other things make top 10 lists in order to decide service priority.

Getting data:
You are able to connect online to any controller and download the stored logs or you can get the data you want form the integrated full scale database. Getting data online or offline is connected with a progress bar placed in the upper right corner which applies the user -friendlyness you need to work effective.

Screen functions:
The screen contain a number of columns, starting with a status code number, the next column shows a clear text in order to understand the status code, the next column shows whether the status code is active or inactive, the next column shows how many times the status code was active, the next column is a time stamp for the latest activation of the status code, the next column is only relevant for WP3100 and WP4000 and shows another time stamp of the exact reset time of a status code and the last column shows the total time of activation for the status code.

The screen allows you to scroll up and down in order to view all lines and a Right mouse click provides with an export function to MS Excel.

You have an extended print function available.

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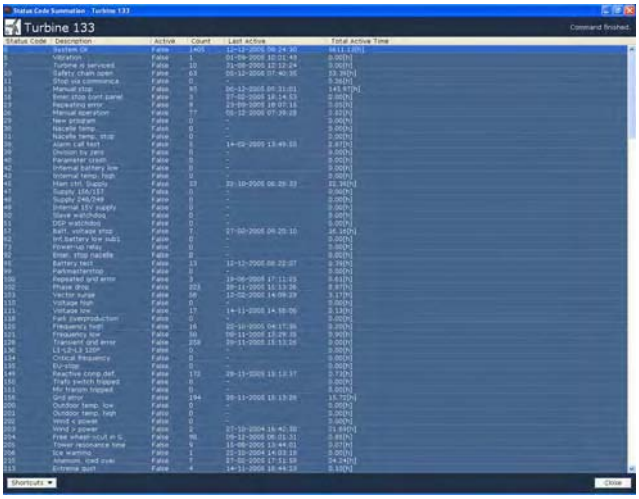
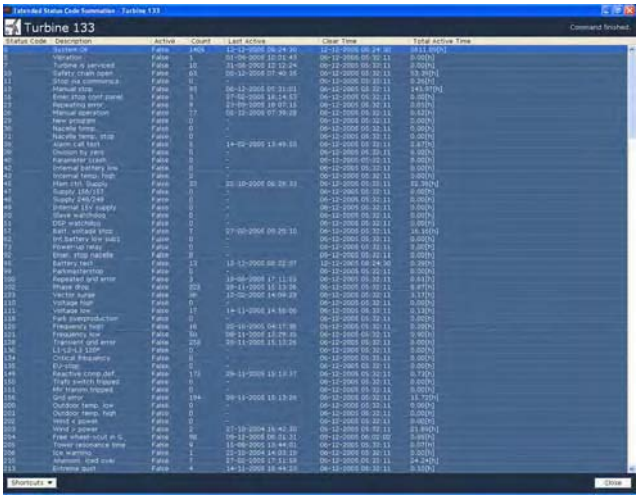
Status Code Summation - Standard:



The standard Status Code Summation shows a status code number, a clear text, whether the status code is active or inactive, number of activations, time stamp for the latest activation and the total time of activation.



Status Code Summation - Extended:

The standard Status Code Summation shows a status code number, a clear text, whether the status code is active or inactive, number of activations, time stamp for the latest activation and the total time of activation. This extended feature is avalible in WP3100 and WP4000.

Technical data:
The Status Code Log is available in all WP1000, WP3000, WP3100, IC1000, WP4000 controllers.

The storage is lifetime based and for WP1000, WP3000 and IC1000 6 columns are available; 1 column with status code number, 1 column with clear text, 1 column with status, 1 column with number of activations, 1 column with timestamp for the latest activation and 1 column with total time of activation.

The storage is lifetime based and for WP3100 and WP4000 7 columns are available; 1 column with status code number, 1 column with clear a text, 1 column with status, 1 column with number of activations, 1 column with timestamp for the latest activation, 1 column with timestamp with latest reset time and 1 colulm with total time of activation.

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Ordering data

Status Code Summation for WP3xxx/ICxxxx	P/N.: 984520011
Status Code Summation for WP4000	P/N.: 984521010

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Description

The Wind Rose Log gives you an overall view of the production in connection with wind speed and wind direction. With this screen you are able to make a professional site evaluation and to compare actual data with the original feasibility study. The log is also very useful for general site optimization.

With basis in the wind direction the Wind Rose Log stores the energy of the wind, how many times the wind was active in a certain direction, the average production in kW per wind direction, and the average wind speed per wind direction. The data are available on a daily level, monthly level, yearly level and lifetime level.

The Wind Rose Log is often used for site and performance evaluation by the manufacturer, operators and end-users. The data available provides you with a high flexibility to select your own interval and thereby customize the reports.

Getting data:
You are able to connect online to any controller and download the current data or you can get the data you want form the integrated full scale database. Getting data online or offline is connected with a progress bar placed in the upper right corner which applies the user-friendliness you need to work effectively.

Screen functions:
The available data for presentation will be shown as in the left side of the screen, here you can select or deselect which data to present. To make an easy overview average values are shown for all data - this will help you to choose the data to select.

In the upper right corner the report time interval is shown, as a user you can select the report interval yourself.

In the left side of the screen you can choose either graphic or table presentation.

You have an extended print function available for both the graphic view and for the table view.

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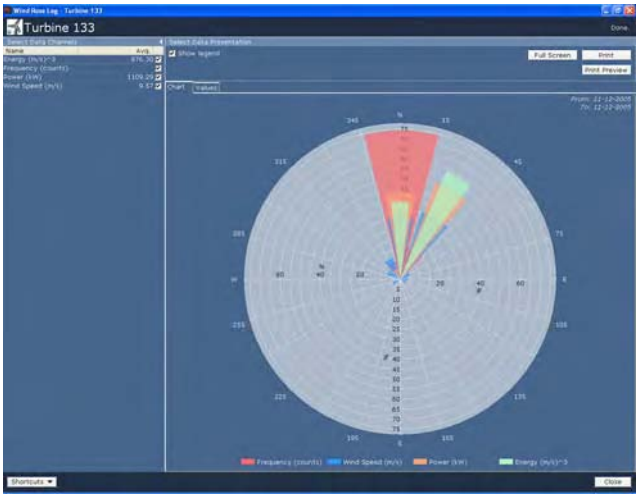
Daily Graphic View :

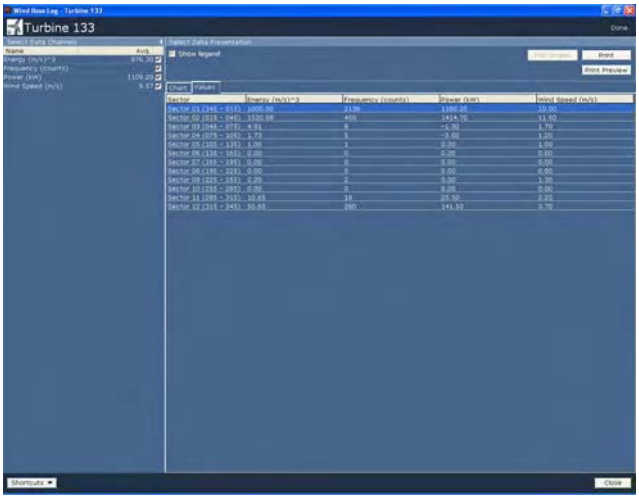


The daily graphic view provides you with a report showing data for the selected day.

Monthly Graphic View:

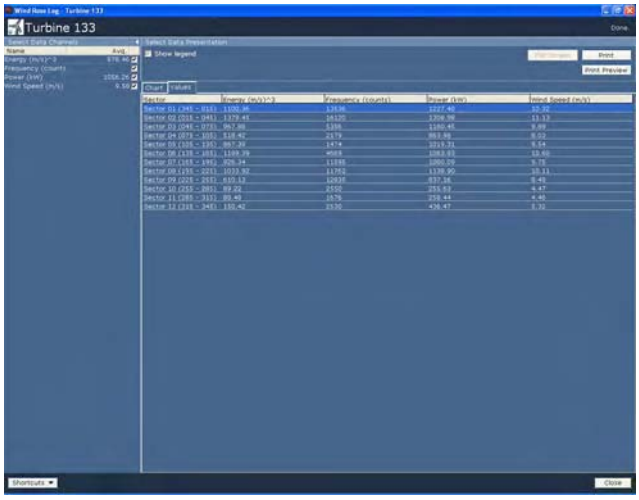
The monthly graphic view provides you with a report showing data for the selected month.

Daily Table View:



The daily table view provides you with a line per sector for the selected day. Right click provides with an export function to MS Excel.

Monthly Table View:



The daily table view provides you with a line per sector for the selected month. Right click provides with an export function to MS Excel.

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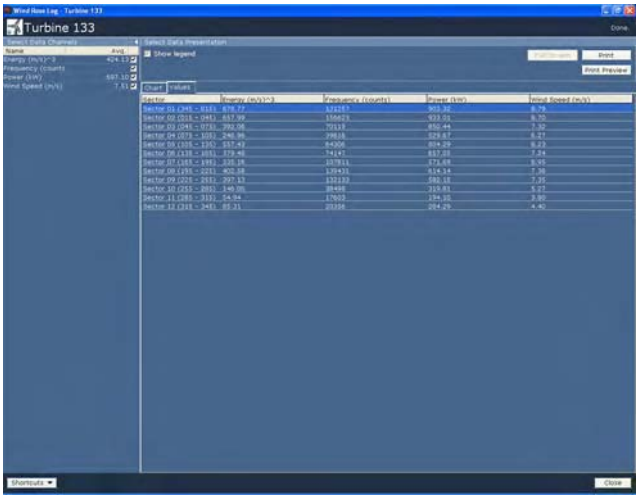
Yearly Graphic View:

The yearly graphic view provides you with a report showing data for the selected year.

Total Graphic View:

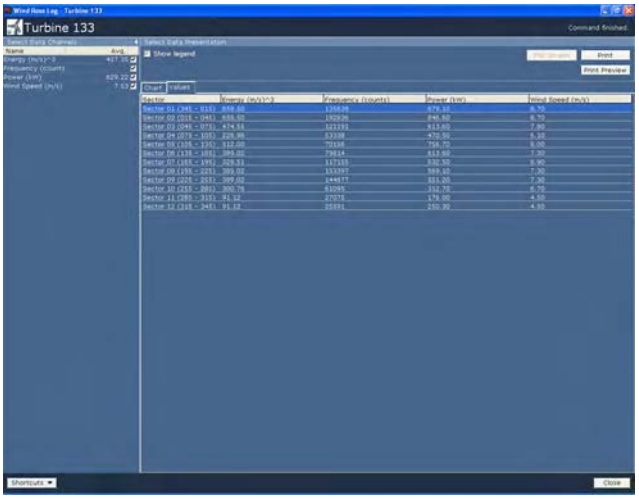
The total graphic view provides you with a report showing data for the total lifetime.

Yearly Table View:



The yearly table view provides you with a line per sector for the selected year. Right click provides with an export function to MS Excel.

Total Table View:



The total table view provides you with a line per sector for the total lifetime. Right click provides with an export function to MS Excel.

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Technical data:
The Wind Rose Log is available in all WP4000, WP3100 and IC1000 weather station controllers.
The Wind Rose Log is stored in the lifetime structure, which means storage of all data per day for the latest 30 days, storage of all data per month for the latest 12 month, storage of all data per year for the latest 20 years (30 years for WP4000) , and storage of all data for total lifetime.The data storage is working as a ring buffer. This means that when the ring buffer is filled up and a new data enters, the oldest data is overwritten.
With basis in 12 different wind sectors the Wind Rose Log stores 4 different types of data; energy of the wind, number of counts in the single wind sector, average production in kW in the single wind sector, and average wind speed in the singel wind sector.

Ordering data

Wind Rose Log for WP3xxx/ICxxxx	P/N.: 984520026
Wind Rose Log for WP4000	P/N.: 984521024

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