

RSskaner / RSmonitor Software for Machine Monitoring System

Application

The Rsskaner / RSmonitor software is designed to monitor, visualize, diagnose and record data acquired from rotating machines equipped with TNC2000 system incorporating VMSH modules and/or PW display panel.

While the RSskaner is intended to provide continuous acquisition and analysis of data from the measurement modules and logging of system data and events, the RSmonitor, when used with the RSskaner, enables data visualisation and diagnostics.

Description

The RSskaner is installed in a monitoring station (industrial computer); communication with the measurement modules is accomplished via RS485 interface using ModBus RTU protocol.

The RSmonitor can be started directly from the monitoring station. The user may select up to nine screens to present data of measurements carried out by the system (system sensors, VMSH measurement modules, PW display panels and monitoring station with preinstalled RSskaner). For network configurations, the RSmonitor can be started from a workstation (a PC), where both the monitoring station and the workstation are interconnected within a user's intranet.

Data from measurements are presented in numerical form on synoptic screen fields, the number and attributes of which for each individual screen are defined by the user. A special mode allows the user to view data as run-time graphs or signal amplitude spectra acquired from relative and absolute vibration measurement modules; additionally, for relative vibration measurement modules, the orbit can be visualized.

Data can be presented both in real time (ON-LINE) and OFF-LINE using the historical data stored in the data base. The software allows both ON-LINE and OFF-LINE tracking and viewing of events recorded by the RSskaner. Typically, such events may include exceeding the limit values and alarms or other system events, such as setup changes, measurement line malfunction or system interrupts.

In order to start using the system, it should be configured first from RSskaner level.

The user needs to define the number and type of measurement modules (SLAVE); then, registers and their destination within given measurement module shall be defined.



register	A/C	value	unit	register name	alarm-	alert-	alert+	alarm+
4					0	0	0	0
5			mm/sec	AZVamp	0	0	0	0
6					0	0	0	0
7					0	0	0	0
8				AZVpha	0	0	0	0
9					0	0	0	0
10					0	0	0	0
11			mm/sec	AVZvrms	0	0	12	14
12			mm/sec	AVZvrms alert	0	0	0	0
13			mm/sec	AVZvptop	0	0	0	0
14			mm/sec	AVZvrms alarm	0	0	0	0
15					0	0	0	0

Specifications

ENVIRONMENTAL

Monitoring station:

Operating system: Win98, Win2000, WinNT

Hardware: Pentium II or newer, 512MB RAM, 5GB free hard disk space, 19" colour monitor, CD-RW drive, WatchDog, RS485 interface card, network card

Work station:

Operating system: Win98, Win2000, WinNT

Hardware: Pentium II or newer, 128 RAM, 50MB free hard disk space, 19" colour monitor, CD-RW drive, network card, colour printer

Examples of screens and selected windows are shown below:

Measurement list: add/remove measurement

- slave/register
 - Alarm -
 - Alert -
 - Alert +
 - Alarm +
- Absolute Vibration 7
 - AV7Vms
 - AV7Vms alert
 - AV7Vms alarm
 - AV7Vms alert
 - AV7Vms alarm
 - AV7Hms
 - AV7Hms alert
 - AV7Hms alarm
- Eccentricity
 - ECC rms
 - ECC alert
 - ECC alarm
 - ECC temp. gap
- Axial Position 1
 - AP1 alarm -
 - AP1 alert -
 - AP1 alarm+
 - AP1 alert+
- Axial Position2 RelativeExp HP
 - AP2 alarm -
 - AP2 alert -
 - AP2 alert+
 - AP2 alarm+
- RelativeExp MP RelativeExp LP
 - RE-HP alert-
 - RE-HP alert+
 - RE-HP alarm-
 - RE-HP alarm+

Buttons: Add, Remove, add clock, add list of events, OK, Cancel

System configuration

number of slave (measurements modules): 12
 from list of 114 measurements (registers) chosen: 97
 transmission speed: 115200 baud, estimated loop time: 1800mscc

database size: 2456 database index: 2456
 events log size: 200000 events log index: 109775
 write unconditional at: 2 hours

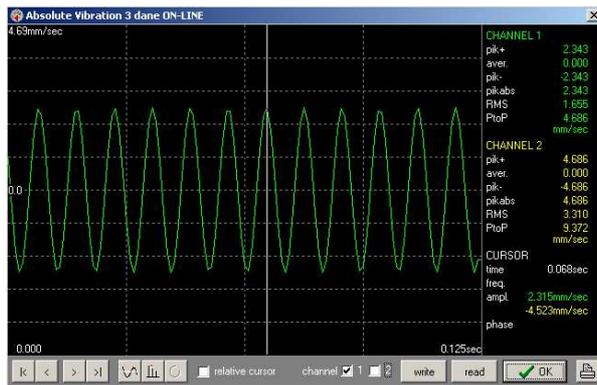
number of measurements (registers) on this screen: 23
 number of screens: 3
 placement of register at the screens:

slave	register	screen: 1	2	3	4	5	6	7	8	9
Absolute Vibration 1	Rotating speed	•	•	•						
Absolute Vibration 1	A1Vamp									
Absolute Vibration 1	A1Vpha									
Absolute Vibration 1	A1Vrms									
Absolute Vibration 1	AV1Vrms alert									
Absolute Vibration 1	AV1Vrms alarm									
Absolute Vibration 1	A1Hamp									
Absolute Vibration 1	A1Hpha									
Absolute Vibration 1	AV1Hrms									
Absolute Vibration 1	AV1Hrms alert									
Absolute Vibration 1	AV1Hrms alarm									

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RS monitor ver. 1.70

Buttons: OK



OFF-LINE events

date	source/register	value	event
01-02-2002 10:52:06	Absolute Vibration 7	1.53mm/sec	Alert exceeding
01-02-2002 10:52:08	Absolute Vibration 7	1.53mm/sec	Alert exceeding
01-02-2002 10:52:08	Absolute Vibration 1	1.95mm/sec	Alert exceeding
01-02-2002 10:52:10	Absolute Vibration 1	1.40mm/sec	Alert exceeding
01-02-2002 10:52:10	Absolute Vibration 1	1.40mm/sec	Alert exceeding
01-02-2002 10:52:12	Absolute Vibration 1	1.40mm/sec	Alert exceeding
01-02-2002 10:52:12	Absolute Vibration 1	1.40mm/sec	Alert exceeding
01-02-2002 10:54:16	S Y S T E M		Skansen stop
01-02-2002 10:54:22	S Y S T E M		Configuration write
01-02-2002 10:54:26	S Y S T E M		Configuration write
01-02-2002 10:54:32	S Y S T E M		Skansen start up
01-02-2002 10:56:24	Absolute Vibration 6		Data requested
01-02-2002 11:00:44	S Y S T E M		Skansen stop
01-02-2002 12:09:02	S Y S T E M		RSkansen CLDSE
01-02-2002 15:47:36	S Y S T E M		RSkansen START UP
01-02-2002 15:47:36	S Y S T E M		Data base init
01-02-2002 15:47:36	S Y S T E M		Data base opening
01-02-2002 15:47:36	S Y S T E M		Configuration read
01-02-2002 15:47:36	S Y S T E M		Skansen start up
01-02-2002 15:47:36	Absolute Vibration 1		NO connection!
01-02-2002 15:47:36	Absolute Vibration 2		NO connection!
01-02-2002 15:47:36	Absolute Vibration 3		NO connection!
01-02-2002 15:47:36	Absolute Vibration 4		NO connection!
01-02-2002 15:47:36	Absolute Vibration 5		NO connection!
01-02-2002 15:47:36	Absolute Vibration 6		NO connection!
01-02-2002 15:47:36	Absolute Vibration 7		NO connection!

Buttons: k, <<, <, >, >>, refresh, date search, event search, OK

