

Soniclean Machine Reporting System (MRS)

User Manual



For Soniclean irrigators and washers fitted with the optional MRS module.

Safety Precautions

Network cable connection

Use only the network cable supplied by Soniclean to connect an MRS system to a local network. The network connector on the MRS machine is rated at IP67 to preserve the IP67 rating of the Soniclean ultrasonic cleaner.

Table of Contents

1. Introduction	1
2. Web Interface	3
2.1. Information section	3
2.2. Data access section	4
2.3. Configuration section	8
2.4. Diagnostics page	9
3. Data handling	11
3.1. Logging memory capacity	11
3.2. Saving logged data	11
3.3. Emailing data	12
3.4. Viewing saved data	12
4. Network Hardware and Configuration	13
4.1. Hardware	13
4.2. Ethernet	13
4.3. Default Configuration	13
5. Machine display messages	15
5.1. Rtc	15
Appendix A. Further Enquiries	17

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1. Introduction

The Machine Reporting System (MRS) is an optional feature available for selected Soniclean ultrasonic cleaners.

The MRS collects information about each clean process carried out in the Soniclean ultrasonic cleaner. The stored data is retained when the machine has the power removed. The data can be viewed using any web browser running on a computer that has network access to the cleaner. The data reported depends on the machine model and configured features.

Each cleaning process is allocated a unique clean number. No two processes will ever have the same clean number which allows for unambiguous tracking of clean processes. Some information is available as soon as a clean process has started while other details can only be provided after the process completes. Processes which have not yet completed or were interrupted (as a result of a power failure for example) will be reported as incomplete.

This manual documents only the MRS functionality. It should be read in conjunction with the User Manual supplied with the machine.

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2. Web Interface

The MRS information is presented using a web interface. This can be accessed using any browser running on a computer or device which has network connectivity to the ultrasonic cleaner with MRS. To access the information, use the URL

<http://ADDRESS>

where ADDRESS is replaced with the network address of the MRS machine. When shipped ADDRESS is set to 192.168.1.249 but this can be changed to suit the local network (see section 2.3, “Configuration section”). If the default address is in use, the URL to use will be

<http://192.168.1.249>

The interface’s main menu page has been divided up into three sections: Information, Data access and Configuration.

2.1. Information section

Information

General information about the machine is provided by this section.

Value	Description
Model number	The model number of the machine
Serial number	The serial number of the machine (Soniclean Pty Ltd S/N)
Power cycles	The number of times the machine has been powered up
Logging memory capacity	The number of logging entries available
Cleans in memory	The current number of cleans stored in memory
Machine owner	The name of the owner of this machine (owner's field)
Machine name	The name allocated to this machine (owner's field)
Machine ID number	0
DHCP in use	The current network configuration
Current IP address	
Current netmask	
Current gateway	

2.2. Data access section

Browse

This provides a summary report of all cleans currently stored by the MRS with the most recent clean at the top. Prior to the list of cleans, the machine's identity is displayed. The following information is then listed for each clean.

Machine Clean Number	A unique number for this clean. Clicking on the clean number links to a full report for that clean.
Clean start time	Date and time the clean started.
Clean end time	Date and time the clean ended.
Status	Status of the clean.

The "Browse" function is intended to provide an overview of cleans carried out by the machine. It provides basic information about each clean and provides a link allowing more detailed information to be displayed for selected cleans. If all available data for every clean is desired it is more efficient to use the "View a table" item instead.

View a table

This item will display data for all cleans currently stored by the MRS. If a large number of cleans have been stored it may take a while to completely display all the data. If the data report is to be saved for archival purposes then the browser must be allowed to download all the cleans before saving. The table ends with a copyright message at the bottom of the page, so the presence of this can be taken as an indication that all the data has been downloaded. In addition, most browsers indicate when a page is still loading. For hints about saving the data please refer to section 3.2 ("Saving logged data").

The report values show what parameters were used and the completion status for each clean process. Other values in the report provide an indication of how well the machine functioned during each clean process. The data available for inclusion in the report depends on the machine model and any optional features fitted. As a result, some data fields listed below are only present in the reports from certain machines.

Time stamping and status of clean

Field	Description
Start time	Date and time the clean started. International date format is used.
End time	Date and time the clean ended. International date format is used.

Clean status	<p>The reason the clean ended:</p> <ol style="list-style-type: none"> 1. Finished: the clean finished correctly 2. Cancelled by user: the operator cancelled the clean 3. Incomplete: either the clean is still in progress or the clean did not complete because of a power outage 4. Error – [error]: the error described in the square bracket caused this clean to abort.
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Fill information: the values used for the fill

Field	Description
Machine fill number	The number of this fill (batch number). This represents the total number of fills that this machine has completed.
Clean number in this fill	The number of this clean for this particular fill. This number is useful to show how many clean processes have occurred since the machine was last filled. The clean number should not be confused with the unique clean ID number.
Drain time	For models that use a timed drain (non pumped models), this value indicates the draining time in minutes.
Fill temperature (°C)	Program value F ^o .nn. For models that have a cold and hot water inlet, this is the temperature setting used to fill the machine. The following are the possible fill temperatures: <ol style="list-style-type: none"> 1. Cold 2. Warm 3. Hot
Fill soap percent	Program value SP.nn, the percentage of soap used for the fill
Post-fill degas time	The number of minutes used for degassing the filled tank. A 0 value indicates there was no degassing.
Pre-clean test time	The number of seconds that the 'TEST' process is run for when the 'TEST' key is pressed.

Program values used by this clean

Field	Description
Irrigator used by default	Program value Id.nn: irrigate used by default. This shows the default power up state of the Irrigate process.
Irrigator used in clean	Indicates if the Irrigate process was used for this clean.

Cleaning time	Program value Ct.nn: the number of minutes this clean was programmed to run for.
Power pattern	Program value PO.nn: ultrasonic cleaning pattern. The values are interpreted as follows. <ol style="list-style-type: none"> 1. Low 2. Medium 3. High 4. 25% duty 5. 50% duty 6. 75% duty
Irrigate temperature	Program value F ^o .nn. For models that have a cold and hot water inlet, this is the temperature setting used during irrigation. The following values are the possible fill temperatures. <ol style="list-style-type: none"> 4. Cold 5. Warm 6. Hot
Clean soap percent	Program value SP.nn, the percentage of soap used for the Irrigate process.
Irrigate rest bursts	Program value Ir.nn: irrigate rest bursts

Ambient temperature at start of clean

Field	Description
Ambient temperature at start (°C)	This is the ambient temperature (external to machine) recorded at the start of a clean process.

Average values recorded during the clean

Field	Description
Average mains current (A)	This is the average mains current used by the ultrasonic system during a clean process. The result will be affected by the programming of the Power pattern.
Average ultrasonic activity	This sensor value is an indication of the ultrasonic activity over the clean process. The value is the average over the complete clean process and is scaled from 0 to 10.

Lid lift count	For models that have a lid that is manually lifted and lowered by the operator, this is a count of the number of times the lid was lifted during a clean process. If the start and finish time of a clean process appears to be longer than the programmed clean time then it is possible the lid was left in the upright position for considerable time.
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Data recorded at the start and end of the clean

Field	Start	End
Ultrasonics driver temperature (°C)	Records the temperature of the ultrasonic driver at the start of a clean process.	Records the temperature of the ultrasonic driver at the end of a clean process.
Tank temperature (°C)	Records the temperature of the tank (water) at the start of a clean process.	Records the temperature of the tank (water) at the end of a clean process.
Ultrasonic frequency (kHz)	Records the notional ultrasonic at the start of a clean process.	Records the notional ultrasonic frequency at the end of a clean process.

Minimum and Maximum values observed during the clean

Field	Minimum	Maximum
Ultrasonics driver temperature (°C)	Records the minimum temperature of the ultrasonic driver sensed during the clean process.	Records the maximum temperature of the ultrasonic driver sensed during the clean process.
Tank temperature (°C)	Records the minimum temperature of the tank (water) sensed during the clean process.	Records the maximum temperature of the tank (water) sensed during the clean process.
Ultrasonic frequency (kHz)	Records the minimum ultrasonic frequency during the clean process.	Records the maximum ultrasonic frequency during the clean process.
Mains voltage (V)	Records the minimum mains voltage during the clean process.	Records the maximum mains voltage during the clean process.

Erase

This option allows all cleans currently stored by the MRS to be deleted. This is normally used after the logged reports have been safely saved to a computer or other storage system. To delete all logged cleans the password must be entered before clicking on the “Clear memory” button.

Erasing data should only be carried out a time when the machine is not being used for cleaning as any clean process that may have just been started will also be erased without ever having been downloaded for archival purposes.

If the data is accidentally deleted then it may still be able to be recovered by other methods not available through the web interface. Please contact Soniclean Pty Ltd if this situation occurs (fees may apply). The machine should be switched off to prevent any further cleans overwriting the deleted data.

2.3. Configuration section

The configuration page is used to set up the MRS for a user's environment. It includes machine identification fields, the password required to clear memory, the ability to set the date and time, and details about the network setup.

Set the date and time

This allows the date and time to be set. The date and time is used to indicate when a clean is done.. Enter the required date and time values. To change information in this section the password must be entered before clicking on the "Set time" button.

The clock does not support automatic daylight saving adjustment. To avoid confusion caused by missed daylight savingchanges it is recommended that the time not be changed for daylight saving.

Set the password

Enter the current password and the required new password. The new password must be entered twice to ensure it is being set to the intended value. If the current password is not known the configuration details can be reset by the user: refer to section 4.3 ("Default Configuration").

The password may use any alphanumeric characters and contain up to 31 characters. The password is case sensitive. If you are having problems with passwords being rejected check if "Caps lock" is enabled on the keyboard.

Configure

The Configure page is used to customise the MRS configuration to suit the user's environment. To change information in this section the password must be entered before clicking on the "Configure machine" button.

The following items can be set using this page.

Value	Description
Machine owner	The name of this machine's owner. Up to 31 alphanumeric characters are allowed.
Machine name	A name which identifies this machine. Up to 31 alphanumeric characters are allowed.
Machine ID number	An identification number for this machine. Up to 31 alphanumeric characters are allowed.
Use DHCP	Check this box if the network configuration is to be obtained automatically. This will require that a DHCP server is on the network. If DHCP is used it is recommended that the same IP address always be provided for the MRS. This makes it easier for users to access the MRS as the address must be known: see section 2 ("Web Interface").
IP address	Configured IP address of this machine. If DHCP is off this item specifies the IP address the MRS will use.
Netmask	Configured network mask of this machine. If DHCP is off this item specifies the netmask to be used by the MRS.
Gateway (0.0.0.0 for none)	Configured gateway address of this machine. If DHCP is off then and a gateway address is required, this item can be used to provide it. If no gateway is needed use a value of "0.0.0.0" (four zeros).

2.4. Diagnostics page

The MRS has a special page that reports on the current low level operations within the machine. The link for this page must be entered into the URL location bar of a browser: it is not included in the main menu as it is intended for use by service personnel. If ADDRESS is the address assigned to the machine, the diagnostic page can be displayed via the URL

http://ADDRESS/cgi-bin/hw_status.cgi

The data for this page is updated at 1 second intervals but the page must be manually reloaded to see the updated values. This page may be emailed back to Soniclean using the method described in section 3.3 ("Emailing data").

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3. Data handling

3.1. Logging memory capacity

The maximum capacity of the MRS storage can be found on the “Information” page as described in section 2.1 (“Information section”). The standard amount of memory provided will allow several hundred cleans to be logged. Additional storage can be fitted if more capacity is required. Please contact Soniclean to enquire about this (fees apply).

MRS has been designed with the intention that the administrator of the cleaner will download the data at intervals that suit their purposes. The administrator can then erase the data in the MRS.

If the data is not downloaded and saved before the storage capacity is reached, any new clean records will overwrite the oldest record.

3.2. Saving logged data

After the clean data has been shown in a web browser it can be saved for future reference. The exact method of doing this is dependent on the browser in use. It is recommended that a consistent file naming convention be adopted so the data can be tracked easily.

The method described below gives one possible approach.

1. Create a different directory (folder) for each machine. The name could consist of the machine model and serial number. For example: “S2800-04-0000”.
2. Save the file into the directory (folder) that was created for this machine. The file name could consist of the model or serial number and the current date. An example file name may be

S2800-04-0000-051104.dat

The “S2800-04-0000” portion identifies the machine while “051104” the date the data was saved (the 5th of November 2004 in this case).

Saving the data is achieved by saving the clean data web page. Most browsers allow either the saving of the page data in isolation (“HTML”) or a complete set of files required to view the page in a browser. If the intent is to simply preserve the data only the HTML need be saved. If however there is a need to view the page in a browser at a later date then the page should be saved as a “Complete Webpage” instead.

The following section describes the save process for Firefox. Other browsers will be very similar.

Saving data using Firefox

1. Right click anywhere in the web page which is not a link.
2. Choose “Save Page As...” from the context menu which pops up.
3. If necessary, browse to the location where files are to be saved.
4. In the drop down control above the buttons in the lower right of the dialog box, choose how to save the data:

- i. Web Page, Complete

Select this option if the data is to be loaded into a web browser in the future and it is desired that it appear exactly as it does when accessed from the MRS. In addition to the HTML page, additional files needed to render the web page will be stored in a subdirectory (subfolder) with the same name stem as the HTML file.

- ii. Web Page, HTML only

If the data file is being saved only for later analysis, choose this option. This saves only the page’s HTML file. This file can still be loaded by a browser but its appearance will be different (graphical elements will be missing for example).

5. Enter a suitable name to use for the saved data file.
6. Click “Save”.

This process can also be used to save information from the diagnostic page as described in section 2.4 (“Diagnostics page”).

3.3. Emailing data

Any page saved following the steps described in the previous section can be sent as an attachment via email. This may be requested by Soniclean to assist with fault diagnosis. If the page was saved as “Web Page, Complete”, only the HTML file needs to be sent in this scenario.

3.4. Viewing saved data

A saved data page will consist of a HTML file and (if “Web Page, Complete” was chosen) a directory containing graphics for that page. To view this in a browser at a later date, simply click on the HTML file. This should open a browser and display the file.

4. Network Hardware and Configuration

4.1. Hardware

The machine is supplied with an Ethernet cable that has an IP68 connector on one end designed to connect to the MRS machine. The other end is terminated with a standard RJ45 plug for connection to a wired Local Area Network (LAN). In most cases this will be through a wall socket. However, a desktop network switch could be used instead, which provides one way to connect the MRS to a computer without using a LAN.

A MRS machine can also be connected directly to a laptop or desktop PC using a so-called crossover cable. Please contact Soniclean if this is required.

4.2. Ethernet

The MRS is equipped with a 10 Mbps ethernet interface. Only IPv4 is supported. Each machine is assigned a unique MAC address.

4.3. Default Configuration

Password

The default password is “password”. If the password has been lost then the default password and IP addresses will need to be set from the operator’s terminal on the machine. See the “Resetting Network Configuration and Password” section below for more information.

IP Addresses

The machine may be delivered with IP settings configured for the customer if arrangements have been made beforehand. If not then the machine will normally be delivered with the following IP settings.

IP Address: 192.168.1.249
Network Mask: 255.255.255.0
Gateway: 192.168.1.1

Resetting Network Configuration and Password

If the network configuration of the machine is not known or the password has been lost, these can reset to the factory default values.

1. Turn the machine’s mains supply off at the wall outlet.

2. While pressing and holding the “Up” and “Down” keys, switch the machine’s mains power on at the wall socket. When the machine is heard to beep, release the keys.
3. After the machine lights up the display and signs on with the version number a “IP-?” prompt will appear.
4. Press the Enter key to reset the network configuration and password to factory defaults. The display will change to “OFF”.
5. Turn the machine’s mains supply off at the wall socket and wait at least 15 seconds before turning the machine on again.
6. The next time the machine is started the default network configuration and password will be in use.

5. Machine display messages

The machine may display messages during the start up process immediately after being turned on which are specifically related to the Machine Reporting System.

5.1. Rtc

A flashing “rtc” message will be displayed if the Real Time Clock (RTC) date/time in the MRS is considered invalid. This may be caused by the machine having not being used for a long period of time.

The operator should alert the administrator of the system that this message has occurred so the date and time can be reset using the web interface as described in section 2.3 (“Configuration section”). When the date and time has been reset the machine should be powered down. After waiting 15 seconds, switch the machine back on and confirm that the “rtc” message is not shown. If “rtc” is still reported it is likely that the clock’s backup battery is exhausted and needs replacing. Please contact Soniclean to arrange for a service so this can be done.

WARNING: when the “rtc” message appears the operator has the option to press the “Enter” key to ignore the message. If this is done the MRS will continue to store clean data but the time and date associated with the records will not be accurate.

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Appendix A. Further Enquiries

Technical Support

Nominated Service Provider

or

Soniclean Pty Ltd

+61 8 8234 8398

Sales Enquiries

Soniclean Pty Ltd

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To arrange a service, contact our Customer Care Team on +61 8 8234 8398.

All services are provided subject to our Standard Service Terms and Conditions.

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