

Welcome to Monitor. I hope you find it useful - if you wish to download our free data acquisition software please do so from <http://www.windmill.co.uk/jsarrpsrr.htm>. Should you wish to remove yourself from our mailing list however, go to http://www.windmillsoft.com/daqshop/Monitor_Newsletter.html

You can download Monitor as a pdf file from <http://www.windmill.co.uk/monitor/monitor191.pdf>

Any questions, comments or data acquisition stories, get in touch via email, [Twitter](#) or [Google+](#).



Contents

- * [Interfacing a YSI Dissolved Oxygen Meter](#)
- * [Questions on Using Windmill: Location of the Log File](#)
- * [Excel Corner: Sending Keystrokes to Excel](#)
- * [DAQ News Round-up](#)

Interfacing a YSI Dissolved Oxygen Meter

Web link: http://www.windmill.co.uk/driver_ysi.html

Windmill software lets you continually log data from YSI Model 52 Dissolved Oxygen Meters, and other instruments with an RS232 serial port, on a PC running Windows. All data is time-stamped and can be imported into Excel either during or after data collection. Our [Windmill data acquisition software](#) handles up to ten instruments and is currently **reduced from £145 to £50**. Alternatively, as a subscriber you can **download free logging software** (ComDebug) from <http://www.windmill.co.uk/jsarrpsrr.htm>. This lets you log data from one instrument and save it in a text file.



To use Windmill to collect data from a YSI Model 52 Dissolved Oxygen Meter: [download the software](#) then...

1. Run Windmill ComDebug, select Create a new Windmill Instrument File, and enter your balance's communication settings.
2. Run the Windmill DDE Panel, Logger or Chart program to save or display data from your balance.

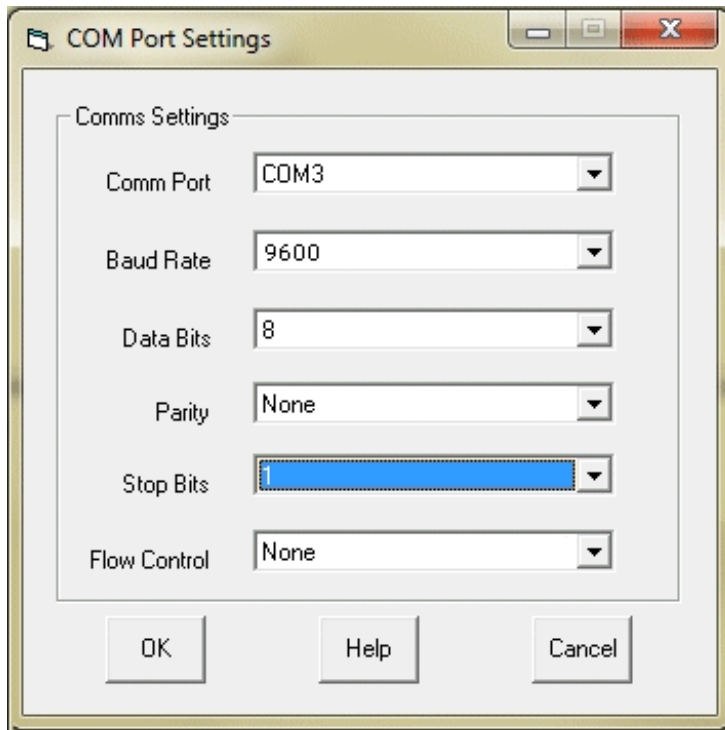
When using the dissolved oxygen meter, make sure you switch to **External Control to activate the RS232 port**.

Using ComDebug to Enter Data about Your YSI Model 52 Dissolved Oxygen Meter

In ComDebug, create a new instrument file and choose serial conversion. Enter your com port settings- these must be the same as your meter uses. The defaults are:

Comm Port: Select the port to which your instrument is connected.

Baud Rate: 9600
Data Bits: 8
Parity: None
Stop Bits: 1
Flow Control: None



Instrument Timing Settings

Now enter your meter's timing settings, for example

Read: in Background
Timeout: 5000 ms
Instrument Idle Time: 500 ms
Data Persistence Time: 2000 ms

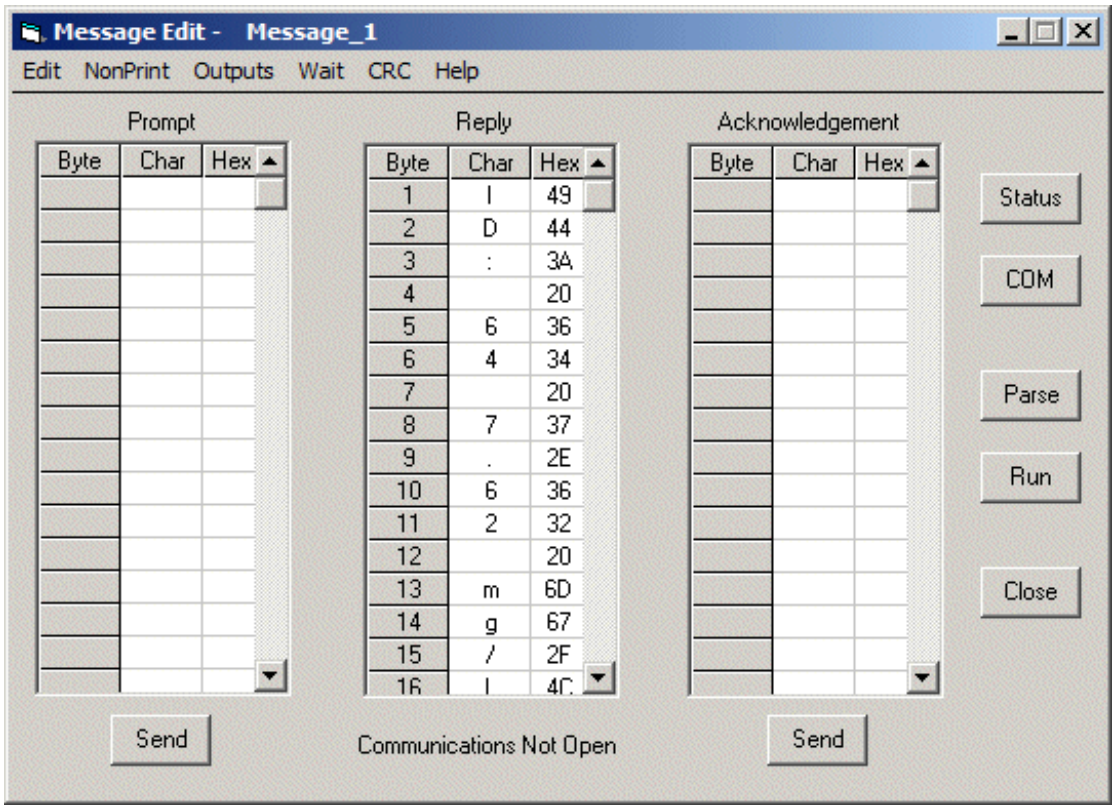
Format of Data sent by the Dissolved Oxygen Meter

You can now enter instructions to retrieve data messages from the meter. Choose to edit Message_1.

The meter sends a reading to the PC as a line of ASCII characters, about once a second. It will look something like this, where <cr> is a carriage return.

```
ID: 64 7.62 mg/L 83.9 % 20.0 C S= 0.0 03/19/90 02:06<cr>
```

Go to ComDebug's Message Screen you should see a reading from the meter.

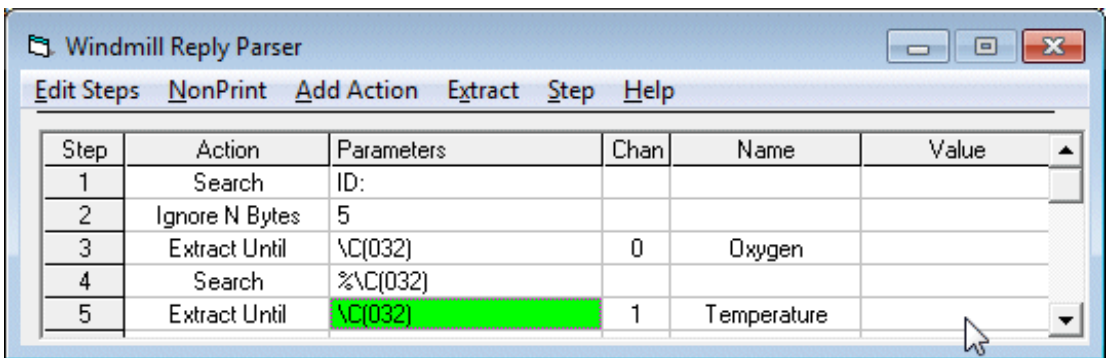


Click the Parse button and enter instructions to extract the data from the balance's reply.

Example prompt command:	Not needed.
Example data string:	ID: 64 7.62 mg/L 83.9 % 20.0 C S= 0.0 03/19/90 02:06<cr>
Data format:	ASCII
Example parsing to extract dissolved oxygen:	Search ID: Ignore 5 Extract Until space

This uses the Search to locate the start of the message, that is ID:. It then ignores the next 5 characters and extracts the dissolved oxygen reading. Name a channel in which to save the data.

You can also extract the temperature reading by Searching for % and extracting until space.



Other Instruments

For example settings for other RS232, RS485 and Modbus instruments see http://www.windmill.co.uk/serial_driver.html

If you've used Windmill please send us your settings so we can help others quickly start collecting data. Just email your *.imd file to monitor@windmillsoft.com. Thanks.

Questions on Using Windmill: Location of Log File

Question:

My log files are being saved to c:/. Please would you also give me instructions on how to locate the destination folder somewhere else?

Answer

There are two ways to set where Windmill Logger saves data files.

1. Enter the full directory path into Logger's Data File box. This works for the current session.
2. Use the ConfIML program to change the working data directory. This then becomes the default location for all future data files. (Although can be over-ridden with Logger's Data File box.)

For more information on Windmill Logger visit <http://www.windmill.co.uk/logger.html> or contact sales@windmill.co.uk.

Excel Corner: Sending Keystrokes to Excel

We have published many articles on acquiring data in real-time in Excel (archived at <http://www.windmill.co.uk/excel/excel-tips.html>), but Windmill can also send keystrokes. It does this with the Test Sequence program, which is packaged with Enhanced Windmill or available from <http://www.windmillsoft.com/daqshop/test-control.html>

Test Sequence interprets a file of commands and controls hardware and software accordingly. It can send a sequence of keystrokes to any other Windows software, including Excel. The command to do this is very simple:

SendKeys Microsoft Excel, Key string

The key string parameter works as follows.

To send normal keyboard characters just type them in, eg abc

To specify that Shift, Ctrl or Alt should be held down while another key is pressed, use the +, ^ or % characters respectively. These keys only affect the character immediately after them. To affect more characters enclose them in brackets. For example, to hold Alt down while S is pressed, use %S. To hold Alt down while F and O are pressed, use %(FO). To hold Alt down while F is pressed, and released while O is pressed, use %FO.

To specify repeating keys use, for example, {a 12}. This is equivalent to pressing the 'a' key 12 times.

To specify +, ^, %, () and {} as actual characters, enclose them in braces as in the table below.

To specify keys that represent actions rather than characters, see the following table.

Key	Code
Backspace	{BS}
Break	{BREAK}
Caps Lock	{CAPSLOCK}
Clear	{CLEAR}
Del	{DEL}
Down Arrow	{DOWN}
End	{END}

Enter {ENTER}
Escape {ESC}
Help {HELP}
Home {HOME}
Insert {INSERT}
Left Arrow {LEFT}
Num Lock {NUMLOCK}
Page Down {PGDN}
Page Up {PGUP}
Right Arrow {RIGHT}
Scroll Lock {SCROLLLOCK}
Tab {TAB}
Up Arrow {UP}
F1 {F1}
F2 {F2}
etc to
F16 {F16}
+ {+}
^ {^}
% {%}
~ {~}
{ {}
) {)}
{ {}
} {}
[{}
] {}

Test Sequence is bundled free with [Enhanced Windmill](#), or is currently [reduced to £50](#) when purchased as an add-on to the normal Windmill package.

DAQ News Round-up

Welcome to our round-up of the data acquisition and control news. If you would like to receive more timely DAQ news updates then follow us on [Twitter](#) - [@DataAcquisition](#) or [Google+](#) - <https://plus.google.com/10707268302549663022/>

Sensors watch for Red Tides

An array of sensors are watching for harmful red tides in the Gulf of Maine. Red tides are toxic and can cause paralytic shellfish poisoning. The sensors transmit information, nearly in real-time, back to shore.

Source: SCUBA News

<http://news.scubatravel.co.uk/sensors-red-tides.html>

Polite Drones avoid Collisions

A University of Sheffield team have programmed flying robots to 'politely' fly past each other without colliding. The learning process the robots use is similar to when two people meet in the street and need to get round each other.

Source: Sheffield University

<https://plus.google.com/>

Hackers reverse-engineer NSA's spy tools

A team of radio signal hackers has used an NSA manual to build the agency's spy tools, so that we can start to protect against them.

Source: Wired

<http://www.wired.co.uk/>

Artificial sunlight tool helps to test the properties of solar cells

Researchers have developed a laser-based instrument that generates artificial sunlight to help test solar cell properties and find ways to increase their efficiency.

Source: The Engineer
<http://www.theengineer.co.uk/>

Lithium Sulfur: A Battery Revolution on the Cheap?

Whip together an industrial waste product and a bit of plastic and you might have the recipe for the next revolution in battery technology.

Source: NIST
<http://www.nist.gov/>

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For previous issues by subject see <http://www.windmill.co.uk/monitorindex.html>

FREE DATA ACQUISITION SOFTWARE

As a thank you for subscribing we offer you the ComDebug data logging and Com port troubleshooting software for free. Log data over RS232, RS422, RS485 or Modbus. Also included is a free month's trial of the Windmill 7 logging, charting and control programs.

SUBSCRIBING OR CANCELLING SUBSCRIPTION Visit
<http://www.windmill.co.uk/newsletter.html> and add or remove your e-mail address.

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