

Monitor - ISSN 1472-0221

The Newsletter for PC-Based Data Acquisition and Control
Issue 207, November 2015

Welcome to Monitor, the data acquisition and control newsletter. Don't forget that you can download our comDebug software from <http://www.windmill.co.uk/jsarrrsrr>. It lets you trouble-shoot serial connections and log data from instruments and devices plugged into the com port.

I hope you find the newsletter useful, but should you wish to remove yourself from our mailing list, 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/monitor207.pdf>.



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Data Acquisition under Windows 10

Web link: <http://www.windmill.co.uk/usb-device-windows8.html>

Microsoft have launched Windows 10 and messages are popping up on computers around the world asking you to upgrade. We are pleased to say that the Windmill data acquisition software works with Windows 10.

One issue you may have if you upgrade to Windows 10 is with data acquisition devices that talk to your computer over USB. You might find, after the upgrade, that Windows cannot find your USB devices. The answer is simply to un-install the device and then re-install.

The procedure is as follows.

1. Un-install your USB device.
2. Disable Driver Signature Enforcement.
3. Re-install the USB device drivers.

For full details of how to do this for both Windows 8 and Windows 10 see <http://www.windmill.co.uk/usb-device-windows8.html>

Can Windmill handle More than 10 Devices?

Question

Hi Windmill team.

I want to create a distribution sorter with decentralised intelligence in the drop stations. Therefore I need to send simple ascii data by rs485 to max. 250 controlled by a micro controller. Can Windmill handle

communications with 250 stations? Or is the connectivity always limited to 10 devices?

Answer

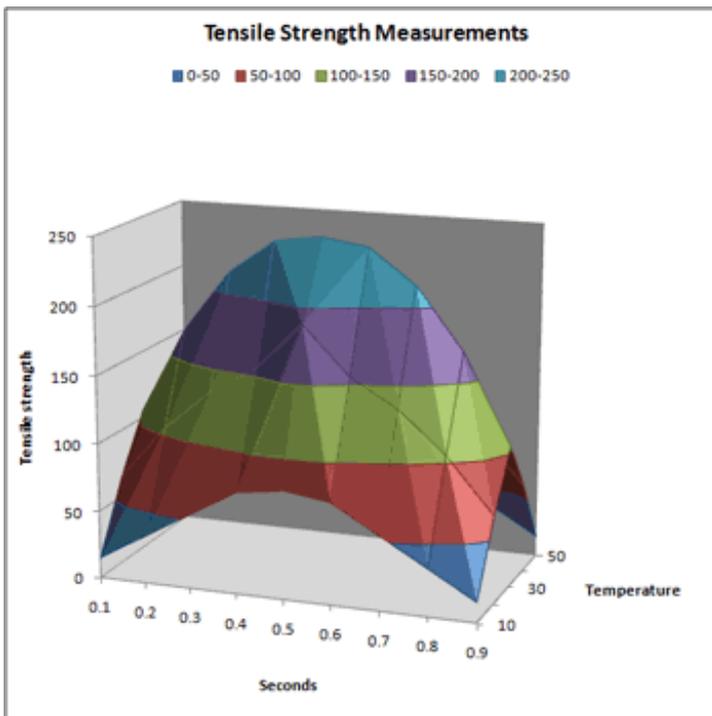
Yes, Windmill can handle communications with 250 stations. It reads data coming through 10 COM ports. This means a maximum of

- Ten RS485 networks with up to 256 devices on each network
- Ten RS232 devices
- Ten RS422 cables with up to ten devices on each cable
- Ten Ethernet networks with many devices on each network

For more information, or if you have a question, contact monitor@windmillsoft.com.

Excel Corner - Carpet and 3D Surface Plots

A carpet plot is a 3-D representation of data. Excel doesn't offer a carpet plot, but there is the option of the similar surface plot.

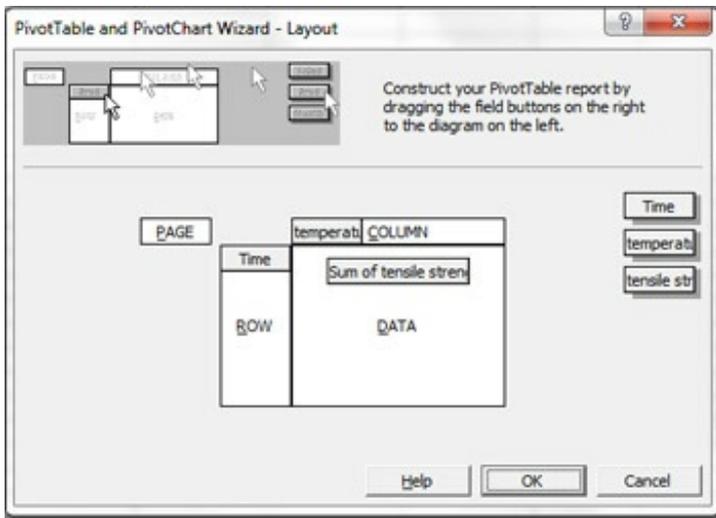


The colours and patterns in a surface chart indicate areas that contain the same range of values.

The chart above plots tensile strength against time and temperature. Another example might be a depth chart plotted from a table of data with longitude values in the first column, latitude values in the top row and depth values in the interior of the table.

Whilst Windmill will collect all these values, the table it saves has time in the first column and readings in subsequent columns. You can use a Pivot table to convert this to the sort of table you can use for a surface plot.

To do this select the data, then, from Excel's Data menu, choose the Pivot table option. Keep clicking Next until you reach the Layout option.



Drag Time to the Row area, Temperature to the Column area and Depth (sum) to the Data area. Click Finish.

You can now create a surface plot from this table. Right click the table and select Pivot Chart. A column chart will be created. Right-click on this, choose Chart Type and select Surface.

Further Reading

For more [Excel charting tips](http://www.windmill.co.uk/excel/excel-charting.html) see <http://www.windmill.co.uk/excel/excel-charting.html>. If you have a question on using Excel please contact monitor@windmillsoft.com

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 grab our [rss feed](#).

Data shared from 1,900 sensors in the Gulf of Mexico to be quality assured

Nineteen thousand sensors collect data in the Gulf of Mexico every day, feeding it back to researchers around the world. But how do the people putting the data to work judge the accuracy and reliability of the information they're using? A new project will develop the tools to gather data about the sensors so that end users know where the information came from and how it was collected.

Source: SCUBA News

<http://news.scubatravel.co.uk/>



Silicon 2.0 promises superpowered chips and solar cells

Silicon is in such demand that you'd be forgiven for thinking its position at the top of the pile was untouchable. But its status owes more to the fact that it is the second most abundant element on the planet than to

its performance. Crucially, silicon's atomic structure limits its ability to conduct electricity. And that holds back computer processing speeds and the efficiency of solar panels. If electronic devices are to get faster, cheaper and more compact at the rate we've come to expect, silicon as we know it needs to be shown the door.

Source: New Scientist

<https://www.newscientist.com/>

Graphene detector monitors all forms of light

A team of researchers from Germany and the US have developed a graphene-based light detector that is capable of reacting very quickly to light with varying wavelengths and forms.

Source: New Scientist

<http://www.techtimes.com/>

New system for monitoring health of assistance dogs

Researchers from North Carolina State University have developed technology that enables visually impaired people to monitor the vital signs of their dogs.

Source: NC State News

<https://news.ncsu.edu/>

A printable, flexible, lightweight temperature sensor

A University of Tokyo group has developed a flexible, lightweight sensor that responds rapidly to tiny thermal changes in the range of human body temperature. This sensor is expected to find healthcare and welfare applications in devices for monitoring body temperature, for example of newborn infants or of patients in intensive care settings.

Source: Eureka Alert

<http://www.eurekaalert.org/>

Understanding thermal performance of buildings

The National Physical Laboratory and Building Research Establishment are investigating discrepancies between new in-situ techniques for measuring the thermal performance of brick walls and the values obtained from calculations based on long-established reference values for building materials.

Source: NPL

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

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For previous issues by subject see

<http://www.windmill.co.uk/monitorindex.html>

DOWNLOAD DATA ACQUISITION SOFTWARE

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

<http://www.windmill.co.uk/jsarpsrr.htm>

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