

## Monitor - ISSN 1472-0221

The Newsletter for PC-Based Data Acquisition and Control  
Issue 223, March 2017

Welcome to Monitor, the data acquisition and control newsletter. Thanks for subscribing. Don't forget that you can download our data logging and troubleshooting software, ComDebug, from <http://www.windmill.co.uk/comDebug/comdebug.zip>.

You can download this issue of Monitor as a pdf file from <http://www.windmill.co.uk/monitor/monitor223.pdf>.



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### Your Data Acquisition Questions Answered: How Can I download just the ComDebug software?

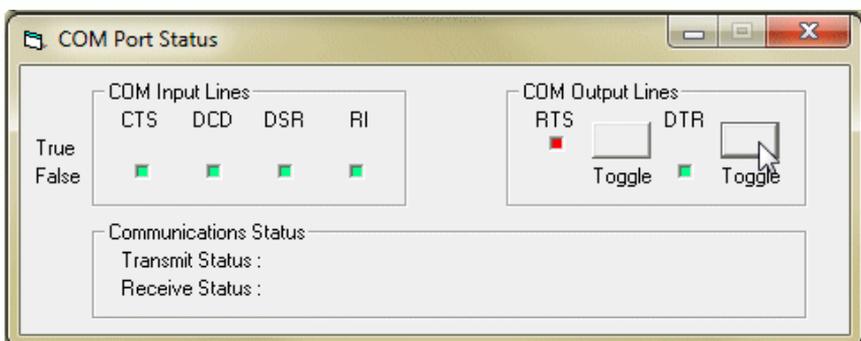
Weblink: <http://www.windmill.co.uk/serial.html>

#### Question

I deleted my free trial by mistake and now can't re-install it. Is there a way to just install the ComDebug program? That's all I want to try.

#### Answer

ComDebug, the data logging and COM port trouble-shooting software costs our subscribers nothing and never expires. It works with devices which communicate over RS232, RS422, RS485, Modbus and TCP/IP. You can download a copy of ComDebug on its own from <http://www.windmill.co.uk/comDebug/comdebug.zip>



For more information on ComDebug see <http://www.windmill.co.uk/serial.html>. Any questions or comments email [monitor@windmillsoft.com](mailto:monitor@windmillsoft.com).

*"Your software works great; it's the only package that allows me to set the DTR line low...required by the TI*

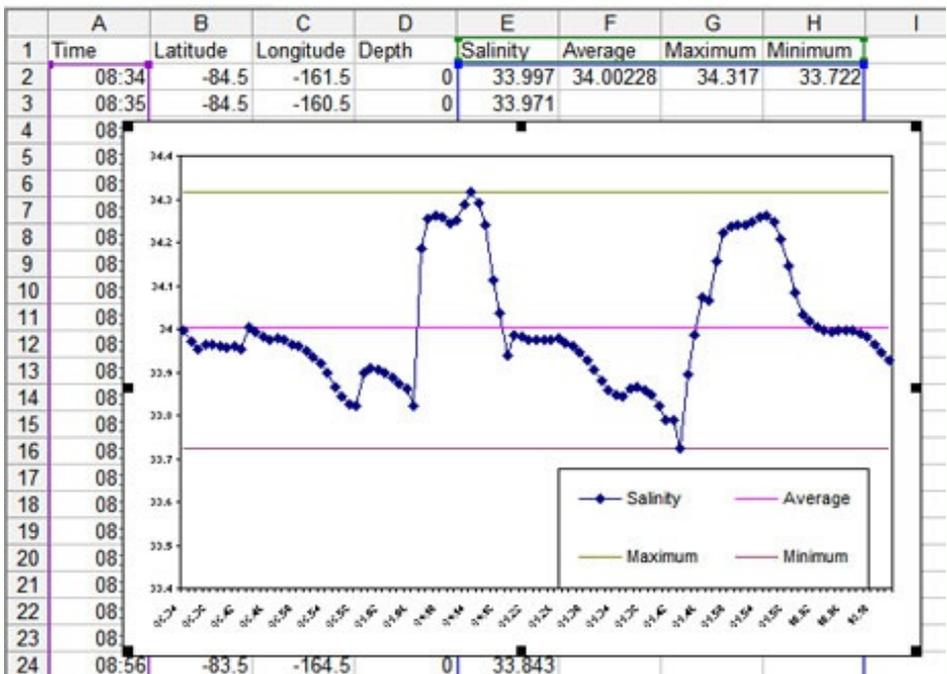
(Texas Instruments) development board configuration."  
R E Rogers

"Really useful tool. We have been using it to get familiar  
with quite a huge set of devices."  
Graz

"Outstanding little tool! Best freebie I've ever seen!"  
J Franks, Industrial Control Engineer

## Excel Corner: Adding average, maximum and minimum levels to your Excel chart

A reader this month wanted to know how to add average, maximum and minimum horizontal lines to his Excel chart.



1. In the headings row of your spreadsheet type Average, Maximum and Minimum into the three columns to the right of the data.
2. In the first data row, use =Average, =Max and =Min to calculate the average, maximum and minimum values for the data.
3. Scroll down to the last data row and do the same.
4. Draw your line chart as normal.
5. Make sure Excel interpolates the empty cells - drawing a line between points. For older versions of Excel, from the Tools menu select Options and Chart and choose to plot empty cells as interpolated. For later versions right click the chart, choose Select Data then "Connect Data Points with Line" in the Hidden and Empty Cells setting.

For more **Excel charting tips** see <http://www.windmill.co.uk/excel/>

## 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](#).

### **Sonic cyber attack shows security holes in accelerometer sensors**

Sound waves could be used to hack into critical sensors in a broad array of technologies including automobiles, medical devices and the Internet of Things. The new work calls into question the longstanding computer science tenet that software can automatically trust hardware sensors, which feed autonomous systems with fundamental data they need to make decisions.

Source: University of Michigan

<http://ns.umich.edu/>

### **Rampaging IoT Global Market to Gain \$37 Billion by 2021**

Sensors are often the critical end point or starting point for IoT communications. Emerging technology shaped by new requirements for IoT applications will create new product categories or revitalise existing products through adaptations, says BCC Research.

Source: bcc research

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

### **First tests on fuel-cell powered passenger train**

Alstom have successfully performed the first test run at 80 km/h of the world's only fuel cell passenger train. The zero-emission train is silent and only emits steam and condensed water.

Source: NPL

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

### **Flexible sensor detects different types of touch**

Researchers have developed a bendable, stretchable, transparent sensor that could have a wide range of applications in wearable electronics.

Source: University of British Columbia

<http://news.ubc.ca/>

### **Quantum Computers May Have Higher Speed Limits Than Thought**

How fast will a quantum computer be able to calculate? While fully functional versions of these long-sought technological marvels have yet to be built, one theorist at the National Institute of Standards and Technology has shown that, if they can be realised, there may be fewer limits to their speed than previously put forth.

Source: NIST

<https://www.nist.gov/>

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\* For more articles see <http://www.windmill.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 [\\_\\_\\_\\_\\_](#)

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