Monitor - ISSN 1472-0221
The Newsletter for Data Acquisition and Control
Issue 291 May 2023

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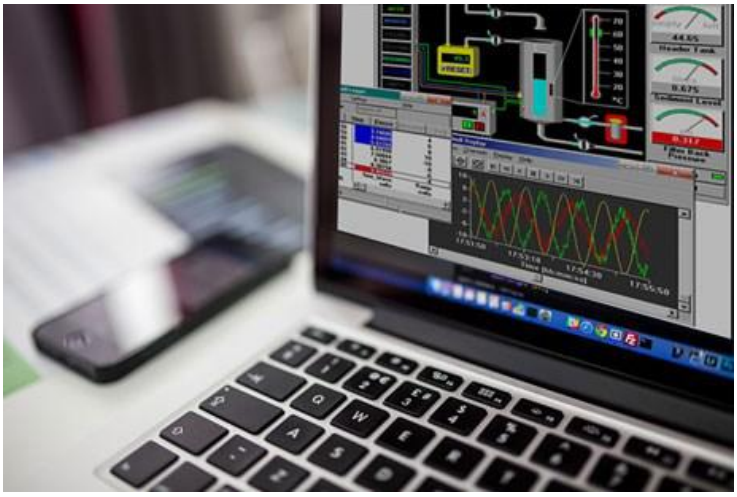
https://www.windmill.co.uk/monitor/monitor291.pdf.

Contents

How to choose data acquisition equipment

When choosing a data acquisition and control system, you'll consider the obvious features such as number and type of inputs and outputs, communications used, sampling speeds and so on. However, less attention is often paid to features that make the system easier to use, more functional and that bring the overall cost down.



Analysis of Data

- Can the data be analysed and compared in real-time with the raw data? This is particularly useful in applications where raw data needs to be processed and then compared with some standard values in pass/fail applications.
- Can the saved data be automatically archived in a logical, easily accessible, way? This aids the procurement of historic data when accountability is needed, for example if failures occur after production.
- Is the data suitable for input into a Statistical Process Control procedure? Used in PID (proportional, integral, derivative) applications to control a process depending on the relationships with raw data values.

Automation

- Can the tests or experiments be automated - improving repeatability?
- Can the system not only log data unattended, but also detect and shut down if any problems are detected?
- Can reports be generated directly from the software? This often leads to more accurate data as it eliminates the risk of transcription or typographical errors.

*

Pitfalls

When considering all the requirements for your data acquisition system, it is important not to get bogged down with unnecessary details. There are a few common pitfalls that you should be aware of.

1. Having a large committee of people involved in the decision making process can blur the ultimate goal of the system. As a first step compose a list of requirements and priorities, and refer to this throughout the process.
2. Not seeing the hardware and software as intrinsically linked, and assigning a separate hardware and software specialist that have little or no contact with one another. A demand in one area is generally linked to the other. It may also produce difficulties if any problems arise, as the technical support will need to know how the hardware and software behave together.
3. Trying to choose hardware and software without a clear understanding in your own mind of exactly what is required is also a problem. Telling the manufacturer exactly what you have at the moment, what you will need from the system, and any long-term future requirements will make the whole process much easier. Trying to work it out as you go along and moving the goal posts half way through, will almost certainly lead to failure.
4. Choosing a manufacturer that doesn't offer comprehensive technical support is another obvious pitfall. If you need to change your set-up, or if someone else takes over the project, adequate technical support can be invaluable. The same is true of course if any failures occur with the system.
5. Finally don't eliminate equipment that doesn't contain every single feature that everyone working on the project needs at the moment, or would like to have in the future. Manufacturers can never design a system that will please everybody, all the time. So unless you want a complete custom solution, which is potentially very costly, trying to find some middle ground is usually the best way to avoid shutting out solutions that are otherwise well suited to the application.

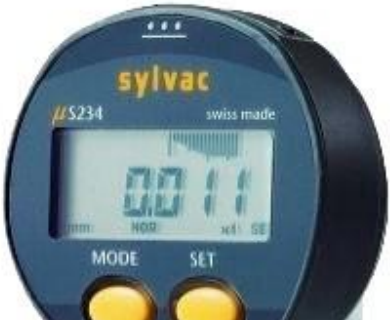
The aim is to obtain a system that doesn't just put data on a screen for you, but gives a complete solution to make your process more accurate, reliable and efficient.

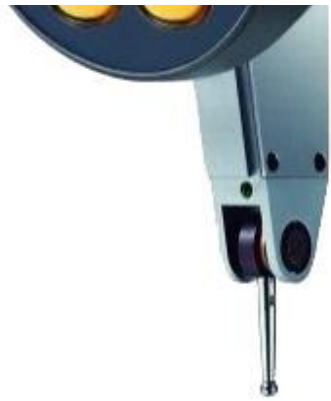
For more on choosing a data acquisition system, contact sales@windmill.co.uk or see https://www.windmillsoft.com/

Your DAQ Questions Answered: Logging data from Sylvac dial guages

Question

> "*We are a construction material testing laboratory. We are trying to find out a suitable data acquisition device and software for our lab testing facilities. Could you please tell me if Microlink 751: Multi-Function Data Acquisition and Control unit could be used for sylvac digital dial gauges? And what's its cost?* "





Answer

A Microlink 751 lets you

- measure temperature, strain, pressure, voltage and current through 16 analogue input channels
- Switch up to 32 digital outputs
- Monitor up to 32 digital inputs
- Count events with up to 8 counters

However, you can acquire data from a Sylvac digital dial gauge with just our **free Windmill software**! You will need a special lead to connect the Sylvac to your computer. Full information is at https://www.windmill.co.uk/sylvac.html

Email monitor@windmillsoft.com for the Windmill download link.

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