Should I Buy a Paperless Chart Recorder?

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Companies today face a growing number of challenges: reducing the total cost of ownership (TCO) of their assets, improving efficiency and controlling quality. As these needs increase, companies must deal with the growing amount of information needed to make informed decisions. In order to quickly extract information that is valuable to a user from this sea of data, recorders need to be intelligent. This means they need to have advanced information processing, communications capabilities and useful software.

Most digital recorders on the market today are not just digital versions of paper recorders, but are now more aptly considered networked recording stations. As this suggests, it allows information from monitored equipment in the field to be connected to a network where a plant manager has many options in managing his or her data. This technology had faced resistance initially but is being much more widely accepted. However, there are still many holdouts. In most cases, the argument for continuing to use a paper recorder in a process because a regulation or auditing agency such as Nadcap, MIL or SAE requires a paper record is quickly dwindling. Most of these agencies have modified their regulations to allow for electronic records and now prefer this technology.

Paper chart recorders have been the only effective method of recording process data for years. Since this was the most reliable method for collecting data, multiple processes were instituted and many inconveniences were put up with to collect, monitor and store this data. During a process run, an operator would need to make periodic trips to the process to verify the operation of the recorder. The chart would need to be checked to ensure that there was enough paper to finish the batch or that it had not jammed. The recorder pens and ribbon were checked to verify there was plenty of ink. If the ink ran out or the paper jammed during a critical batch run, the work could have to be re-run or scrapped. These rounds by the operator were absolutely necessary to ensure the integrity of the batch. In the data collection process, an operator would make trips to the process and bring back the chart paper with the process results. A location is now needed to store the chart paper. If the company operation is large, this archive could become quite significant over time. If a particular chart is needed for an audit, searching the archive could be a painful process. In addition to these inconveniences, there are the ongoing costs of replacing chart paper and pens and ribbon. We are all familiar with these facts.

A digital recorder replaces the paper with a color LCD display. This display can be configured to imitate traditional strip charts or circular charts or can display the data in custom formats. This could include a numerical display, bar graphs, logarithmic displays, on-off data, annunciator-type display or a variety of custom displays. The point is the user can configure the display to suit their needs. Periodic rounds are no longer necessary as the process can be monitored from a central location via a network connection. No pen, paper or ribbons to worry about. Trouble with the process can be reported to the operator via e-mail or on his text-based phone. Recorder data or batch files can be easily stored to a memory card in the recorder or to a data server somewhere on the network. These archive files take up virtually no space and can be kept for years without degradation. Finding a particular batch record is as simple as a search on the archive drive. Clearly, this is the desired method to collect data.

What to Look for When Buying a New Paperless Recorder:

- A package that will allow the configuration of the recorder from a PC. This configuration file should be easily saved for later use.
- A viewer package that will allow a user to view the recorders secure record files.
- A remote-control package that will allow users to install new configurations to the recorders, enter batch data and manage data files from a remote location.
- A logging package that will allow data from multiple recorders to be collected in a single package.
  - This logging package allows management to see the entire operation at a glance and allows them to create reports from the data collected. A remote logging package is a plus as it allows management who may not be in the proximity of the shop to access data being collected by the logging package.
- Third-party software should be easily integrated to work with the recorder. Most software packages use some type of open protocol such as Modbus, Modbus/TCP or OPC. Checking your new recorder for this type of connectivity compatibility first will ensure that you do not spend a fortune later in custom software. Some examples of third-party packages you may be interested in would be Wonderware, Iconics, OSI PI, SpecView or Kepware.

The DAQSTATION is currently Yokogawa's flagship paperless recorder product that takes advantage of rapidly changing networking and Internet technology. Network functionality is what differentiates the DAQSTATION from conventional recorders.

*The entire Article can be found **here***