

Foxboro® PST WirelessHART® Monitoring of Safety Valve

The Partial Stroke Testing WirelessHART® monitoring of safety valves is ideal for existing valves that are difficult to access or where wiring installation costs are prohibitive.

Summary

Foxboro® provides Partial Stroke Testing Solutions with SRD991 and SRD960 positioners for Safety Systems and Emergency Shutdown (ESD) applications.

Business Value

With more than 50 years experience in valve positioners, Foxboro offers the most complete line of instrumentation available from pneumatic and analogue devices to the most advanced smart positioners with Hart®, Profibus or Fieldbus communication. The proven reliability and robustness of Foxboro positioners helps to improve process performance, providing predictive maintenance and Advanced Diagnostics.



Benefits

- Easy implementation on existing valves
- Reduced installation cost (no additional cable, no battery)
- Online testing and predictive maintenance with high transfer data rate

About Foxboro® Valve Positioners

Foxboro has been producing On-Off and Modulating Control valve positioners of the highest quality since 1961 while offering the widest range of valve positioners, from pneumatic and analogue devices to the most advanced smart positioners with HART, Profibus or FOUNDATION communication, to work alongside any application in any industry.

One particular application is Partial Stroke Testing. PST is a method where the ESD valve is typically moved 10-20% and returned to its original position in a short period of time. As the most common dangerous failure mode in a static ESD valve is "failure to move," On-line Partial Stroke Testing generated by the smart positioner SRD991 (intrinsic safety application) and SRD960 (Explosion proof application) is the key to safety.

Moreover, the PST positioner can offer operators a tool to enable predictive maintenance on the ESD valves with data history and friction analysis. The test can be easily executed via the FDT/DTM based configuration and diagnostic tool VALcare® and Valve Monitor.

Technical Challenge

In a plant the implementation of PST with a valve positioner onto an existing safety can be a problem at the point of engineering of the wiring. Safety valves can be difficult to access or far away from the control room. In this case, the cost of installation and connecting the device can be extremely costly.

One solution can be physically going to the valve to manually start the PST and retrieve the test data through a personal laptop connected with a Hart modem or through a Hand Held Terminal. However, this situation can be time-consuming and even dangerous when the valve is located in a hard to access area. The challenge is to provide a ready to use solution for PST monitoring using 24 Vdc as supply. Foxboro has worked with the leading WirelessHART companies in the world to provide the most secure and easy to use solution.

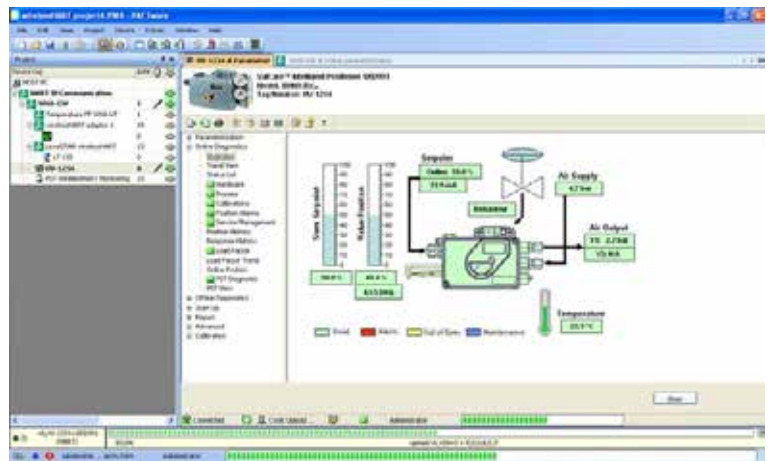
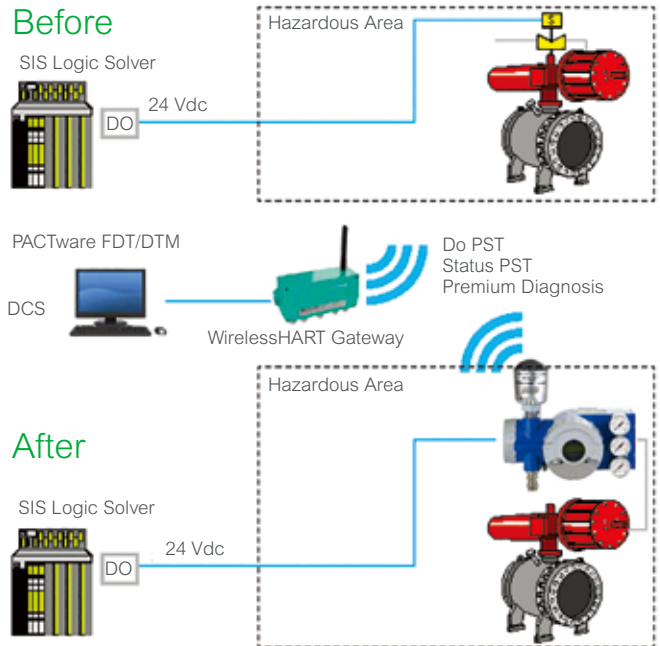
The Foxboro Solution

PST Positioner with WirelessHART

Foxboro provides a complete, flexible and tested solution for PST monitoring with WirelessHART. This solution is based on Valve positioner (SRD991 or SRD960) with a WirelessHART adaptor. The PST valve positioner and WirelessHART adaptor are powered by a 24 Vdc. The PST WirelessHART positioner solution is available in either 'Intrinsically Safe' or 'Explosion proof' types.

The Valve positioner is dedicated only to the monitoring of PST and wirelessly sends all diagnostics and signature to the DCS.

PST WirelessHART can also be installed with a Parallel Solenoid Valve for Emergency Shutdown.



Results

PST monitoring and Predictive Maintenance can be implemented on distant ESD Valves, with a lower cost alternative which is the PST WirelessHART solution. Set up of instruments and wireless network is simply carried out with the existing configuration tool (PACTware,™ HART modem). The reading and the analysis of the positioner data is safely done from the control room and the backup can be achieved automatically.

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