

Foundation Fieldbus 'Control in the Field'

'Control in the Field' is a key part of process integrity. Field Control keeps the process running, despite loss of visualization, control network, and controller functions. Moreover, with decentralization of control, speed of response is improved.

Summary

Smart positioners from Foxboro have the added benefits from our massive communication capabilities, especially from FOUNDATION™ Fieldbus. This allows us to provide a constantly improved solution regarding process optimization.

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.



About Foxboro Value Positioners

Foxboro® has been producing control valve positioners at the highest quality since 1961 and offers the widest range of valve positioners, from pneumatic and analogue devices to the most advanced smart positioners that will work alongside any application in any industry. Certified to manufacture valve positioners with ATEX, FM, CSA, INMETRO, GOST or NEPSI certification, Foxboro provides solutions for HART, FF H1, Profibus PA communication and SIL3 certified positioners for applications with safety valves. Foxboro has the added benefit gained from our huge communication capabilities, especially with Foundation Fieldbus.

Benefits

- Improved Control Loop Performance and Integrity
- Reduced Loading on DCS/PLC and Network
- Lower Capital and Installation Costs

Technical Challenge

Embedded control functionality in field devices, otherwise known as field control, is one of the key factors for achieving high availability control and is a stepping-stone towards single loop integrity. The premise is simple. With control at the device level, control is truly distributed, and there is truly no single point of failure in the system above the H1 level. If there is a malfunction in the HMI and a loss of visibility into the process, all other components in the system and the control loop will remain unaffected; that includes controllers, intelligent field devices, actuators, positioners, and the network.

In cases where control resides in the DCS, field level control can add another level of redundancy. 'Control in the Field' enables the use of variables from one device into the other or to display a variable on the LCD of another device (like a field indicator).

The Foxboro Solution – Control In The Field

Foxboro has developed FOUNDATION Fieldbus H1 positioners with **PID, AO, 4 DI, DO, IS, OS, AI, MAI** function blocks and LAS functionality. Our Fieldbus positioner now provides state-of-the-art functionality regarding Fieldbus blocks. For instance, with the Output Selector, this positioner is now able to dispatch output to one destination or to another according to a condition value. With this complete range of function block, an enhanced 'Control in the Field' can be implemented. The positioner has successfully passed the latest ITK test 6.01.



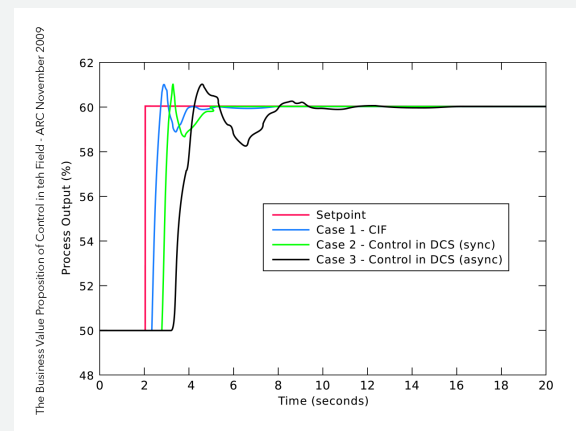
Results

With its enhanced range of function blocks, the Foxboro positioner is a powerful tool for improving the integrity and performance of the process. As a 'Link Master', the positioner can take over from the control system in case of failure. The increased reliability and availability of the process with 'Control in the Field' technology significantly reduces unplanned incidents and provides greater accuracy of control.

In addition, according to the Fieldbus Foundation, 'Control in the Field' has the potential to deliver a 30 percent improvement in control performance with fast, and medium-speed process dynamics. CIF can also provide up to three-times higher control loop availability than a Distributed Control System (DCS).

Additional benefits are:

- Reduced wiring
- Reduced Footprint
- Significantly reduced hardware requirements in the form of I/O and controllers



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