Jan - Mar 2009 • Issue 17

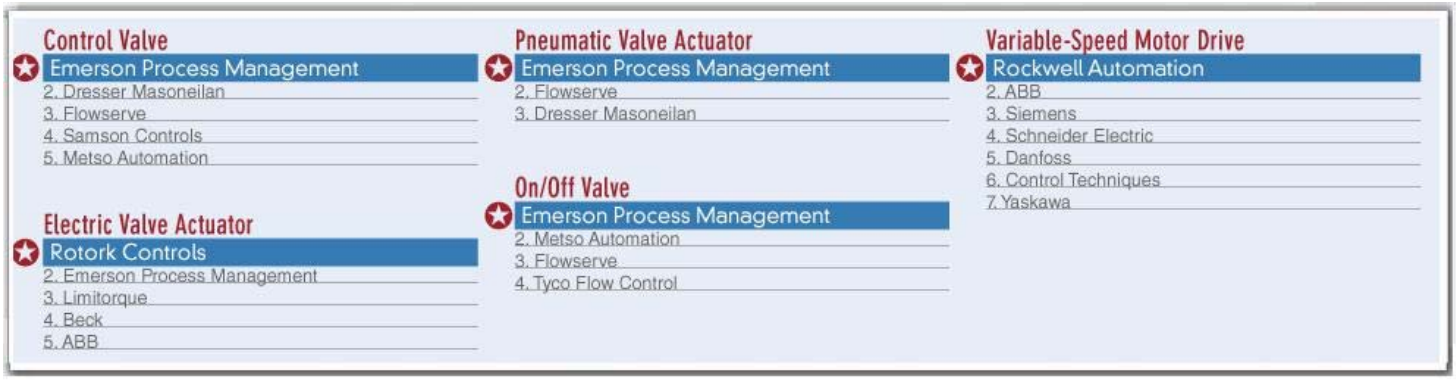
FISHER IN CONTROL

CORPORATE NEWS

Top Ranking for Fisher® Products in Control Magazine

In the 17th Control magazine Readers' Choice Awards, Emerson Process Management came out tops in the control valve and pneumatic valve actuator categories.

This year's event represent unprecedented levels of both breadth and detail. It expressed the brand preferences of more than 1,000 process automation professionals. Those surveyed include the print magazine's U.S.-centric readership as well as subscribers of the international digital media, ControlGlobal.com.



The Final Element

The crucial last link in any automated process control loop is of course the final control element. For the control valve itself, the top spot goes to Emerson Process Management, primarily on the strength of its Fisher Controls brand.

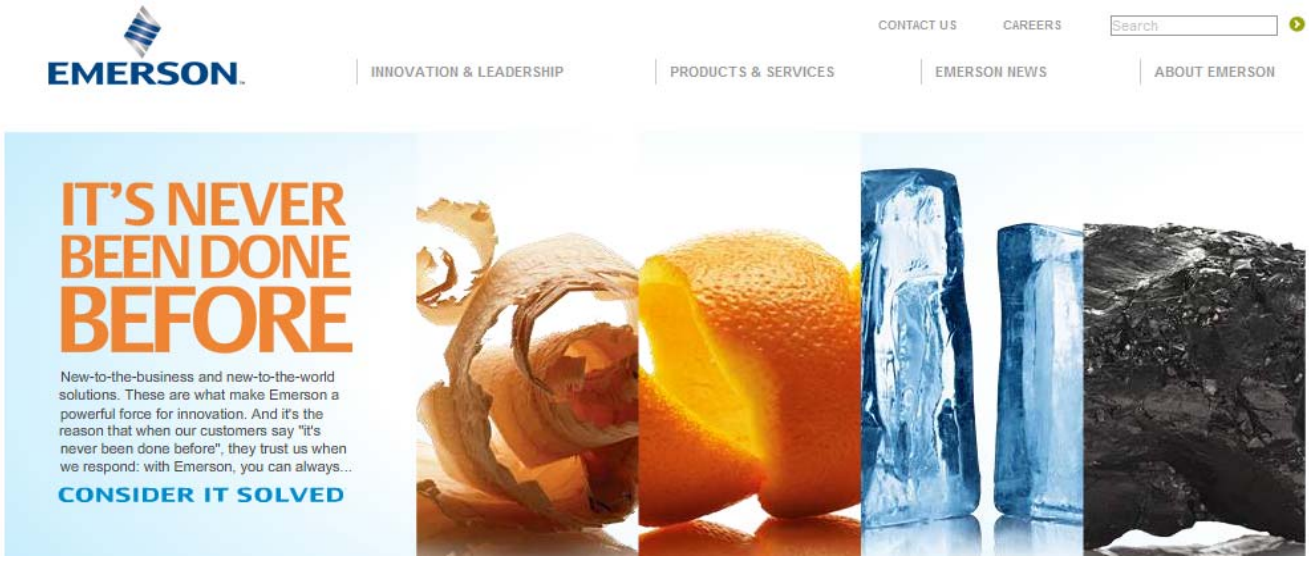
The editor of ControlGlobal said this when he wrote about brands, ''Positive brand values are a real measure of how well the company "walks the walk". Brands are grown, not made, by the people who use the products and those who made them."

More information are available at:
http://www2.emersonprocess.com/siteadmincenter/PM%20Articles/Control0901_RChoice.pdf

FISHER®

EMERSON. Process Management

Emerson launches new 2009 global advertising campaign



Called "'It's Never Been Done Before', the campaign promises a show of a bolder and more exciting approach using Emerson's signature style of fresh, vibrant colors, unexpected visuals and music.

Said Emerson Chief Marketing Officer Kathy Button Bell, **"'It's Never Been Done Before' delivers on the promise that Emerson is a powerful force for innovation."** It shows the results of Emerson's fantastic work across a multitude of industries to create new-to-the-business and new-to-the-world solutions. And in a world of uncertainty, it reinforces the message that Emerson has the answers to not only sustain customers but help grow their businesses in surprising new ways."

Emerson wins major order for Saudi Olefin project including the largest ever 42 inch Fisher® Antisurge valve to be built !

Fisher® Optimised Antisurge Valves selected for best-in-class reliability, fine control, fast stroking and easy tuning for critical applications

Emerson has been awarded an order for the installation of technologically advanced Fisher® control valves at the Saudi Kayan petrochemical complex in Al Jubail industrial city, Saudi Arabia. For the project, Emerson will supply 780 Fisher digital control valves including the largest 42 inch Fisher antisurge valve ever to be built.

Scheduled for operation in 2010, and with an annual production capacity exceeding six million metric tons of (petro) chemical products, the Saudi Kayan Petrochemical Company, an affiliate of the Saudi Basic Industries Corporation (SABIC), is one of the major suppliers in the petrochemical industry.

The use of high performance valves in critical applications is significant to the profitability of a plant. Fisher digital valves will enable predictive monitoring of the processes and digital valve performance, supporting proactive maintenance that addresses problems before they become issues that affect plant performance. Superior dynamic performance of the five metre, 11,000 kilogram large valve with Fisher® optimized technology will help ensure a smooth startup for the plant in 2010.

This largest-ever Fisher FB valve will be used in the Cracked Gas Compressor-1st stage to provide surge protection, high reliability, tight control, fast stroking, and easy tuning. The anti-surge valve features high-seal graphite packing to eliminate fugitive emissions, Whisper III trim to reduce noise and vibration, a cushioned actuator, Fisher FIELDVUE® DVC6000 Series-PD instrument, and Optimised Digital Valve (ODV) technology to provide fast-stroking with controlled deceleration, high resolution, and minimal overshoot. There are twelve valves of various sizes with Optimised Digital Valve (ODV) technology in the order.

Fisher valves with FIELDVUE digital valve controllers are key components of Emerson's PlantWeb® digital plant architecture that networks process automation systems and instrumentation to provide efficient operations and predictive technology - driven maintenance for process facilities worldwide.

Emerson's Fisher Digital Valve Controller voted best product of the year by China industry professionals

Magazine survey names Fisher FIELDVUE DVC2000 best in category

***Control Engineering China* magazine** named the Fisher FIELDVUE digital valve controller the Best Product of the Year 2008 based on its survey of readers. The DVC2000 digital valve controller was awarded distinction in the process sensor and instrument products category in the magazine's third annual competition. The DVC2000 scored higher than 101 products from 62 other companies to win the coveted award.

The FIELDVUE instrument was recognized for its excellent and reliable performance by end users, educational institutes and industry professionals in engineering, plant operations, research and development and other technical areas. These users were asked to enter the name of the best provider in each category.

"We are delighted with this recognition of our digital valve controller by process industry professionals in China," said Jin Yang spokesperson of Emerson Process Management. "It confirms the success of our efforts to develop and deliver a product with the features and performance that our customers want."

The Fisher FIELDVUE digital valve controller is one of Emerson's intelligent technologies that power the company's PlantWeb® architecture - a digital automation solution that networks intelligent field devices and sensors throughout plants to monitor asset and process performance, delivering predictive information for use by maintenance and operations to reduce shutdown and improve overall plant operating efficiency.

Control Engineering China (www.cechinamag.com) is one of China's leading industry publication and online sources for engineering, operations and management professionals worldwide, and is focused on automation, control and instrumentation in the process industry.

View press release here:
http://www.emersonprocess.com/home/news/pr/901_dvc.html

Emerson CEO Dave Farr praises Emerson's Fisher Valve and Valve Automation Campus in China

David N. Farr, Chairman, CEO and President of Emerson, paid his second visit to the Wuqing campus in Tianjin, China on March 6, 2009 together with Steve Pelch (Vice President, Emerson), Sara Bosco (President, Asia Pacific, Emerson), Sabee Mitra (President, Emerson Process Management Asia Pacific), Jennie Li (Director, Government & Corporate Relations), Tom Ruddock (Vice President & General Manager, Valve and Valve Automation-AP) and Jeffrey Gan (Vice President, AP Operations & General Manager, Fisher China). Mr. Farr visited the whole Wuqing campus of Fisher Control Valve and Valve Automation, which includes different functionalities of manufacturing, engineering and shared services.

He was impressed and complimented on the expansions and many improvements the Wuqing site has made. After the visit, Mr. Farr wrote to Terry Buzbee (President of Fisher, "Steve and I had an excellent and enjoyable visit to your Wuqing facility today. It has really progressed well on all fronts - engineering, shared services, and manufacturing. It has come a long way from my visit just 2 years ago – nice going to you and your entire team."

Said Mr Farr, "I was truly impressed with your engineering work, and the support and insights of your global engineering efforts... I appreciate you opening the doors to my visit, and for making this place grow and prosper. Well done and tell your team they should be proud of their accomplishments and their strong, young organization."

Emerson introduces rotary Control-Disk™ valve with double the control range for better throttling performance

Fisher® Control-Disk valve's throttling range is up to two times larger than any other butterfly valve

Emerson introduces the Fisher® Control-Disk™ valve. The new Control-Disk valve offers excellent throttling performance and is ideal for applications that involve fast processes and varying pressure drops, such as in the hydrocarbon, refining, chemical, pulp and paper, and metals and mining industries.

The Control-Disk valve's wide control range is twice that of traditional butterfly valves for better adherence to set point. This improved capability allows control closer to the target set point regardless of process disturbances, which results in a reduction in process variability.

The Control-Disk valve is reliable and has low maintenance requirements for high plant availability, especially when it is paired with a Fisher spring-and-diaphragm actuator and FIELDVUE digital valve controller. This assembly can capture and deliver diagnostic data to AMS ValveLink® software, providing an accurate picture of valve, actuator, and digital valve controller performance. This makes it a core component of PlantWeb® digital plant architecture.

Selecting the Fisher Control-Disk valve couldn't be easier. It is available for shipment in two weeks, and valve selection and sizing are simple procedures. As a direct replacement valve, existing piping can be used. The new Control-Disk valve meets API, ASME and EN standards, making it suitable for use in all world areas.

The valve body meets PN 10 through PN 40, CL150, and CL300 ratings. Face-to-face and raised-face dimensions meet EN 593, API 609, and MSS-SP68 standards.

Line centering clips provide for versatility to mount and align the same wafer style valve body in different piping configurations (ASME and EN ratings).

For additional information on the rotary Control-Disk valve, go to: www.emersonprocess.com/Fisher or contact a local Fisher sales office.

The new 2009 Fisher Asia Pacific training brochure and calendar

Fisher Education Program for 2009

Month/Course	1300	1350	1400	1751	1752	1759	7036	Product Fundamental	SS School
Duration days	4 1/2	4	5	2	3	2	3	3	4
October									
November	Indonesia			Singapore	Singapore		Singapore	Malaysia	
December	Singapore/ Manila		China	Malaysia	Malaysia				
January									
February		China							
March				China	China	Malaysia			
April									
May	Malaysia/ Taiwan	Taiwan	Malaysia	Singapore	Singapore	China	Malaysia		China
June			Malaysia			Singapore	Singapore		
July	Thailand			Malaysia	Malaysia				Singapore
August	Singapore	Singapore	Indonesia			Malaysia	China	China	
September	Indonesia	China		China	China	China		Malaysia	

Courses highlighted in red are only for Internal
Courses highlighted in black are open to customers' participation and customers are encouraged to do so.

Note : The schedule is prepared taking into account the needs of students and faculty. However, the schedule may change due to unforseen reasons. Before the start of any training, an invitation letter will be sent to communicate the actual training date.

Registration : To register for a course, call Vinodkumar at (65) 67708558 or email to vinodkumar.krishnan@emerson.com

Course 1300 Control Valve Engineering I School
Course 1350 Advanced Control Valve Engineering II School
Course 1400 Valve Technician I
Course 1751 Fundamentals of FIELDVUE® Digital Instruments and the 375 HART® Communicator
Course 1752 AMS® ValveLink® and Diagnostics for FIELDVUE Operations
Course 1759 AMS ValveLink and Diagnostics for FIELDVUE Data Interpretation
Course 7036 Foxboro™ Fieldbus Digital Valve Controllers
SS School Severe Service

You can view the e-brochure and training schedule at: http://www.ap.emersonprocess.com/Divisions/valves/

Tackle training challenges and upgrade your product knowledge and technical skills with Fisher control valve training. The training is open to customers as well.

For more information, call (65) 67708558 or email your enquiries to: Vinodkumar.Krishnan@emerson.com.

Lock-in-last strategy: Old Problem, New Solutions

There are many applications which require a valve assembly to remain in the position it was prior to a specific control system failure (lock-in-last position). Currently, the FIELDVUE instrument on its own is not able to meet this requirement. However, this requirement can be achieved by utilizing an array of accessories as recommended by IM Supplement Form 5805.

Figure 1 shows the current recommended strategy that maintains a valve assembly in its lock-in-last fail state when either there is a loss of adequate supply pressure and/or loss of loop power.

- Upon the loss of supply pressure, the set point of the switching valve 164A is exceeded and the switching valves trips, locking the assembly in the last condition.

- Upon the loss of the loop current, the relay of the Pheonix Contact switch opens. This cuts power to the solenoid valve, causing it to trip, the supply pressure is exhausted to atmosphere, simulating a loss of supply air.

Strategy recommended in Figure 1 is used in Power Industries where external 24 V power is available for the solenoid valve and Pheonix Contact switch. However, for other industries, this could present additional hardware and wiring costs.

Figure 2 shows an alternative strategy using i2P-100 transducer in a split range mode, sharing the loop power with the DVC2000. The valve assembly operates when the loop current is above 12mA (12 to 20mA). When the current drops below 12mA, the output from i2P-100 starts to drop causing the SMC valve to trip. The supply air from the 164A switching valve is exhausted and the valve assembly is locked in position. DVC2000 requires a minimum voltage of 9V while the i2P-100 unit requires 4V. For this alternative to work, the control system needs to provide a compliance voltage of 13V.

Figure 3 shows another alternative using a reverse acting 846 connected in series with the DVC2000. The valve assembly works as per normal when the loop current is above 4mA (4 to 20mA). When there is a loss of loop current, the output from the 846 reaches its maximum tripping the FESTO air-piloted switching valve and exhaust the supply air from the 164A, locking the valve assembly in its last position. For this alternative to work, the control system needs to provide a minimum of 15 V (6V for 846, and 9V for DVC2000). A device to boost the voltage may be necessary if the system power is insufficient.

All the three alternative solutions have been set up in the Perfomance Loop for demonstration to customers.

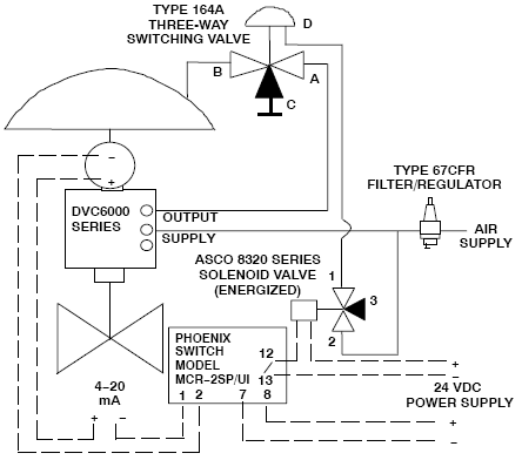


Figure 1. Lock-in-Last on Loss of Loop Currentand/or Supply Pressure for an Assembly with a Single-Acting Actuator

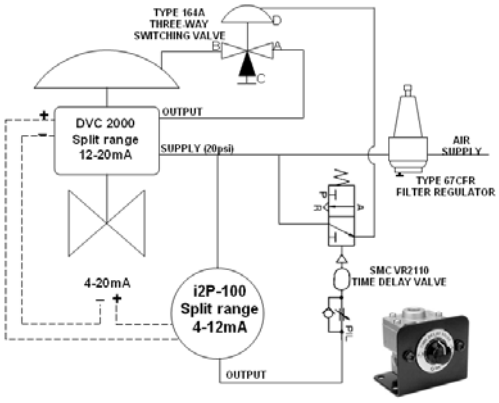


Figure 2. Lock-in-Last strategy without external 24 V power supply, using split range method with i2P-100.

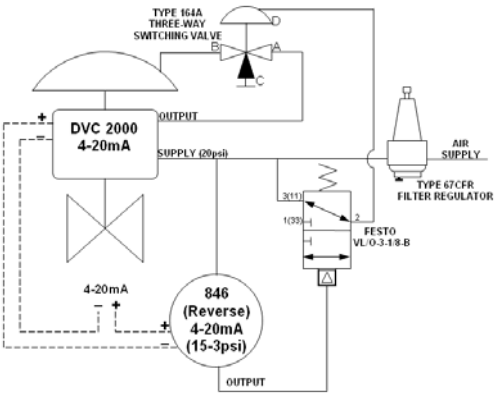


Figure 3. Lock-in-Last strategy without external 24 V power supply, using reverse action 846.

Demo on FOUNDATION™ fieldbus Safety Instrumented functions

Safety Instrumented System (SIS) demo for HART devices have been available in the Performance Loop since 2006. But many customers implementing FOUNDATION fieldbus (FF) technology in their Basic Process Control System (BPCS) have been asking about availability of SIS for FF technology.

The good news is that Fieldbus Foundation has announced the release of Safety Instrumented Functions (SIF) Final Specs and Development Tools in Jan 2009. The SIF protocol is TUV approved to meet the requirement of IEC61508 up to Safety Integrity Level (SIL) 3. DVC6000f SIS would be available in 2010, but in the meantime, demo has been set up in the Performance Loop using DVC6000f PD.

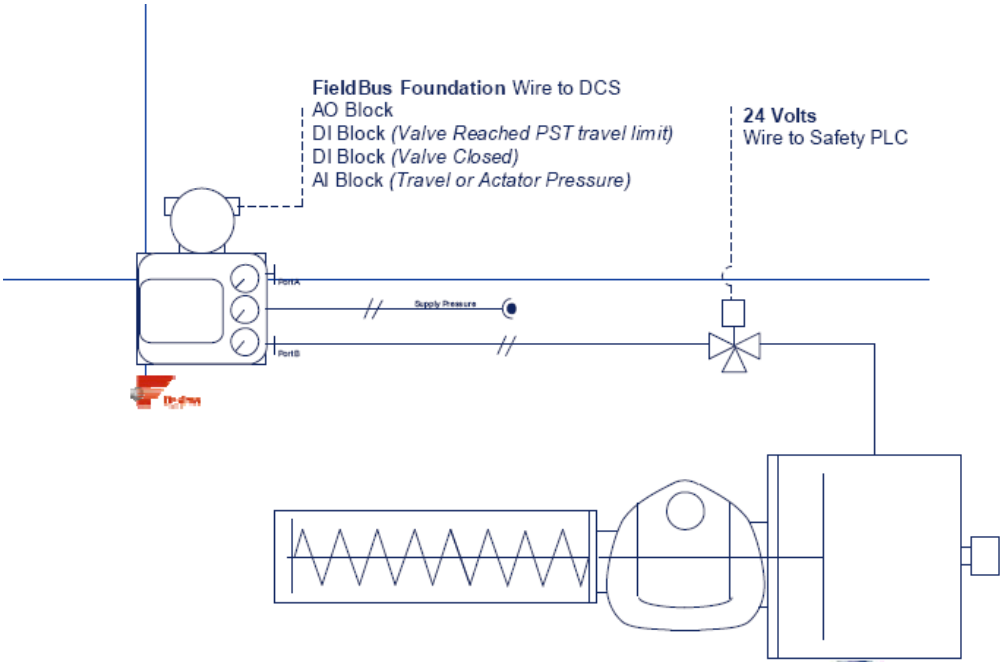


Figure 1. Setup for DVC6000f PD for Partial Stroke Test

Figure 2. PST test initiated by DCS captured on AMS ValveLink

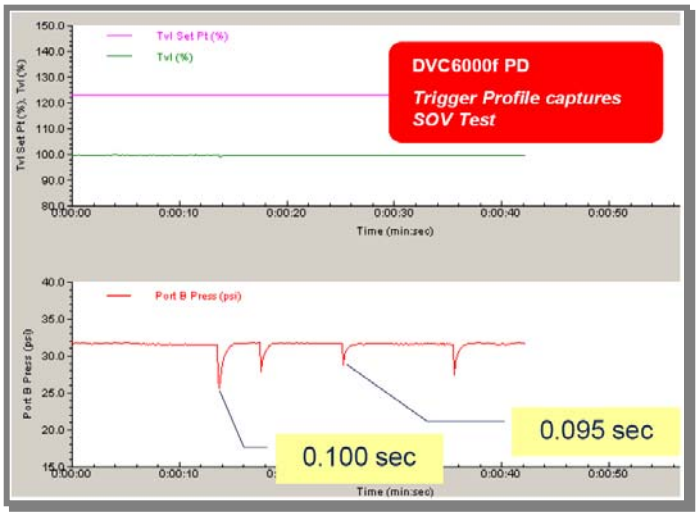


Figure 3. SOV test captured by Trigger Profile

Demo on FOUNDATION™ fieldbus Safety Instrumented functions … continues

This setup has the capability to perform online partial stroke testing by configuring the logic within the DeltaV system. It also allows the monitoring of the solenoid valve health status. Triggered Profile will also be captured within the DVC if there are changes in pressure port A & B and travel movement as well as during safety demand. In the event of segment or device failure, spurious trip can be prevented as Relay C is used in this case. The full features within DVC6000f

PD can be used to better demonstrate the SIS solutions for a shutdown valve.

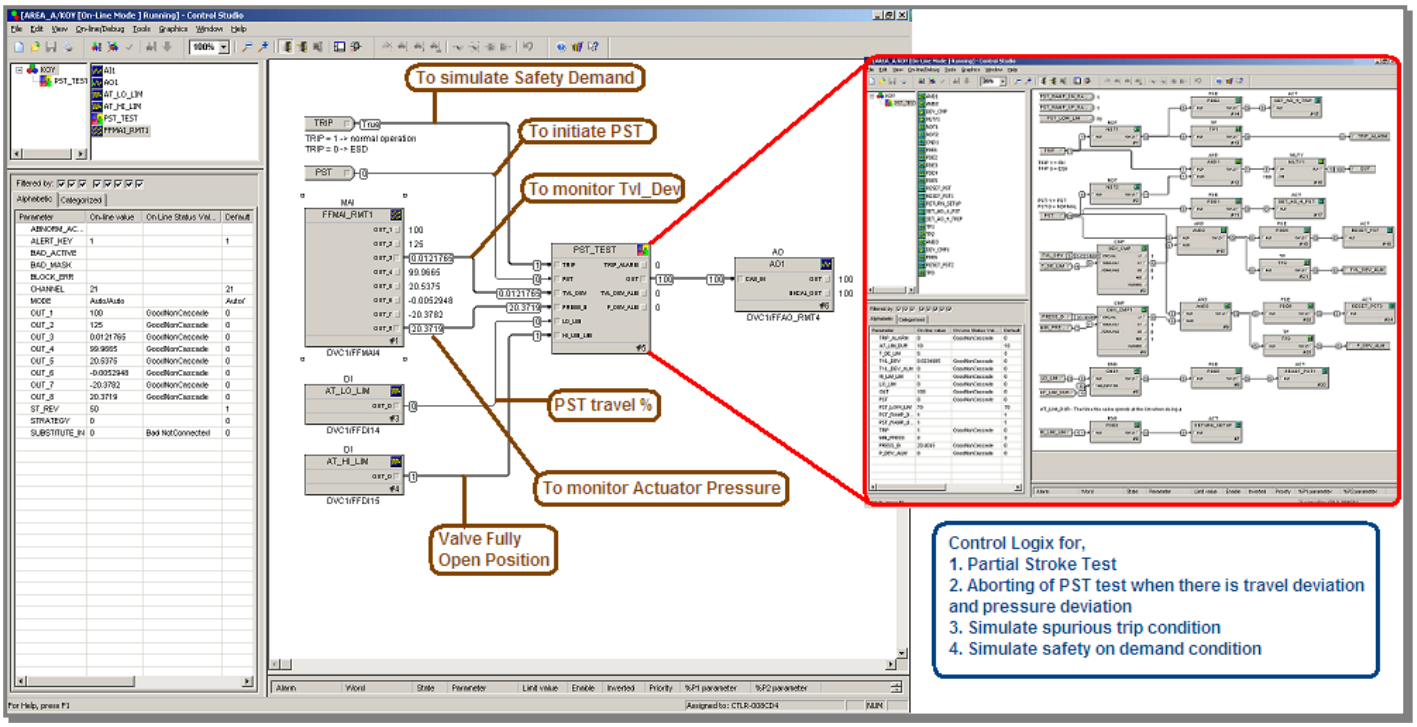


Figure 4. DelaV™ control strategies for SIF demo