# FIELDVUE™ DVC6200 Series Digital Valve Controller

A Single Instrument Solution Across Your Facility







# What if you had a single instrument solution that could...

Meet your control valve RELIABILITY needs with solutions and experience? Pages 4–5

Handle the majority of your CONTROL AND SAFETY applications? Pages 6-7

Improve operational PERFORMANCE? Pages 8–9

Increase PRODUCTIVITY and reduce maintenance costs? Pages 10–11

Poor valve reliability or performance can undermine process operations. Are control valves working the way they are supposed to in your facility?

> With FIELDVUE digital valve controllers, we have not only seen a step-change improvement in valve reliability but also in process performance.

Tim Prestifilippo

Instrument & Control Technician Southern Company, USA



# A SINGLE INSTRUMENT SOLUTION **ACROSS YOUR FACILITY.**

A single instrument solution can meet your control valve reliability, performance, and diagnostics needs across your facility. The Fisher® FIELDVUE™ DVC6200 Series digital valve controller is a valve-mounted, microprocessor-based instrument from Emerson that brings intelligence to the entire control valve assembly.

Operations are stretching the limits of their processes, so the FIELDVUE instrument has evolved to meet these needs. Keep your process in control using vital, real-time information about control valve assemblies. Information can be accessed anywhere along the loop. The FIELDVUE instrument is available with either the HART® 5 or 7. WirelessHART, FOUNDATION fieldbus, or PROFIBUS® communication protocol.

### WHAT USERS ARE SAYING ABOUT THE FIELDVUE INSTRUMENT

This technology makes it possible to set a more aggressive loop strategy that, at the same time, is more stable and reliable.

The reliability of the FIELDVUE DVC6200 instrument, plus its on-line monitoring capabilities, enables our operators to avoid manual checks and valve repairs in areas filled with ammonia vapors.

To optimize process control, I start by improving control valve performance. I've made sure that every critical valve has a FIELDVUE controller.



# MEET YOUR CONTROL VALVE RELIABILITY NEEDS WITH SOLUTIONS AND EXPERIENCE.

The FIELDVUE instrument has logged billions of operating hours and has earned high praise from companies that employ its technology to improve plant availability. The FIELDVUE instrument is very robust—units installed over twenty years ago are still performing today.

### Count on proven technology.

A long-time favorite within industry, the FIELDVUE instrument is proven with over 1.5 million instruments installed—the largest installed base available today. It can fit on nearly any control valve regardless of the make, model, or size.

### Linkage-less for more uptime.

A magnet array and Hall Effect sensor are used in the FIELDVUE instrument to detect valve position on slidingstem and rotary control valves. With no linkage to wear, loosen, corrode, or vibrate, it can handle harsh environments and nonstop cycling.

### **Protected components.**

The sealed terminal box isolates field-wiring connections from other areas and keeps water and harsh atmosphere away from internal parts. Electronic components on the printed circuit board are fully encapsulated and isolated from the environment.

### Survival in harsh conditions.

Built for extreme conditions, the FIELDVUE instrument has proven itself by surviving the most difficult process conditions. Product testing includes highly accelerated vibration and temperature testing to help assure reliable performance in your process. Optional stainless steel housing provides extended service life in hostile and corrosive environments.

### **Separate Wiring Compartment**

The sealed terminal box isolates field-wiring connections from other areas of the instrument and keeps water and corrosive process atmosphere away from electronic components.



# **Discover more**

**Just how rugged are FIELDVUE** 

Scan or click the digital valve controllers? Watch some OR code to



### Linkage-Less, Non-Contact Feedback Technology

With no sliding parts to wear, loosen, corrode, or vibrate, a magnet array and Hall Effect sensor are used to detect valve position. This technology provides a robust solution for harsh environments and nonstop cycling.

### **Modular Design Makes Maintenance Quick and Easy**

The master module design allows fast replacement of the I/P converter, relay, gauges, and encapsulated electronics without disturbing the mounting, pneumatic tubing, or field wiring.

### **Position Transmitter**

The optional integral valve position transmitter eliminates the need for a separate valve position transmitter.

> **Encapsulated Electronics**

Electronic circuitry on the printed circuit board is fully encapsulated and isolated from the terminal box, conduit, and plant environment.

### **Integrally Mounted** Gauges

Supply and output gauges are under the cover, fully protected from the environment and against rough handling, helping assure maintenance-free performance.

# HANDLE THE MAJORITY OF YOUR **CONTROL AND SAFETY APPLICATIONS.**

Any host, any valve or actuator—the FIELDVUE instrument can be used in nearly all control valve applications. Benefits may include reduced inventory and training for personnel.

### Inventory reduction.

A single instrument can be used in countless applications and on virtually any valve assembly. Commonality of parts across the FIELDVUE instrument helps you reduce spare parts inventory requirements and associated costs. The optional integral valve position transmitter eliminates the need for a separate valve position transmitter.

### One instrument to learn.

The FIELDVUE instrument meets the requirements of a broad range of applications, which means maintenance training can focus on a single instrument design. Your staff can quickly take advantage of the instrument's versatility, saving training time and expense.

### Easy mounting.

It can be mounted on any actuator or valve assembly. To simplify and speed instrument mounting, short



videos are accessible from a scannable QR code on the side of the FIELDVUE instrument.

### **Broad application.**

Models are available for offshore. compressor antisurge, turbine bypass, natural gas, and Safety Instrumented System applications. Temperature ranges from -52°C to 125°C (-62°F to 257°F) can be accommodated.

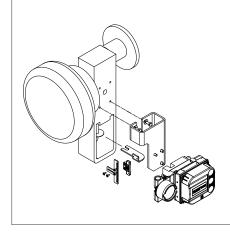
### Hazardous areas, no problem. The FIELDVUE instrument is offered

with CSA, FM, ATEX, and IECEx hazardous area approvals as well as other certifications and approvals. It is also listed in the Lloyd's Register for industrial, marine, and offshore use.

### **Diagnostics without** compromise.

The FIELDVUE instrument provides a high level of diagnostic coverage regardless of the application continuous or abnormal processes; hazardous or standard fluids; large or small valves.





# Fits any existing rotary or sliding-stem valve

Retrofit to Fisher or non-Fisher valves.





# **IMPROVE OPERATIONAL** PERFORMANCE.

Reducing process variability is key to improving product quality. The performance of the FIELDVUE instrument allows for your operation to run closer to setpoint, improving product quality with more accurate control. Using FIELDVUE Performance Diagnostics, valve operation is monitored online to evaluate performance and reliability.

### Accurate and fast response.

The FIELDVUE instrument is paired with Fisher sliding-stem and rotary control valves to achieve precise positioning accuracy and fast response to process changes. They work together to provide superior dynamic performance to help you reduce process variability.

### Improve control.

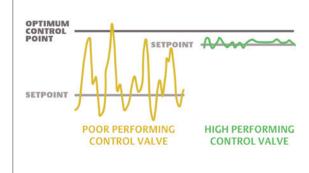
You can mount the FIELDVUE instrument to non-Emerson pneumatic actuators to help improve performance and reliability.

### Where critical loops make a difference.

Users depend on the FIELDVUE instrument in their most critical loops where valve performance impacts the bottom line. It is used every day in critical applications such as: compressor antisurge, basis weight, fermenter backpressure, feedwater recirculation, attemperator spraywater, and main steam pressure control.

The faster and more accurately a valve moves, the greater the impact to the bottom line. The FIELDVUE instrument responds better and achieves higher loop performance and stability thanks to minor loop feedback and the proprietary control algorithm. This unique design maintains superior performance even as the control valve ages.

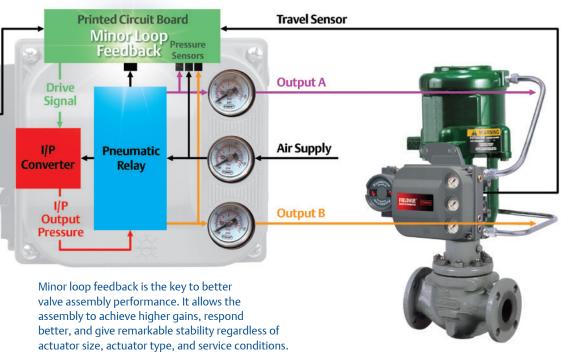




# **Performance**

Control closer to the optimum setpoint with less variability.









# **INCREASE PRODUCTIVITY AND** REDUCE MAINTENANCE COSTS.

The FIELDVUE instrument helps you save time and money. It provides a stream of actionable information that can be used to improve maintenance planning and reduce process downtime.

### Pinpoint problems.

Visual inspection of control valve assemblies is time consuming, may present safety concerns, and might not reveal hidden issues. FIELDVUE diagnostics can pinpoint problems in control valve assemblies that will lead to performance degradation or loss of loop availability. Tests can be performed online with the control valve assembly in-service, with no interference to the process, or offline when the process is shutdown or bypassed.

#### Maintenance ease.

It's simple to rebuild a FIELDVUE instrument in the field or on the bench. Three field-hardened modular components make repair a snap. From the front, modules can be switched without disturbing instrument mounting, air supply tubing, or field wiring. Parts and procedures are common across the DVC6200 Series.

### **Access diagnostics from** almost anywhere.

Configure, calibrate, and diagnose a FIELDVUE instrument from a central location or with portable tools such as ValveLink™ Mobile software. While online and in-service, information is presented in an easy-to-interpret interface that provides actionable recommendations to the user.

### Wireless access to diagnostics.

It can be easy and cost effective to implement HART communication with a legacy control system. Critical diagnostic information can be remotely accessed by adding a 775 Smart Wireless THUM<sup>™</sup> adapter to an existing HART FIELDVUE instrument.

### Integration without hassles.

Connect field devices from many suppliers to your control system seamless integration is essential. The interoperability of the FIELDVUE instrument is tested and certified to conform to HART, FOUNDATION fieldbus, and Profibus standards. Integration testing and certification has been completed by the FDT Group and major control system manufacturers, including Emerson, ABB, Honeywell, Invensys, Kongsberg, Siemens, SUPCON, and Yokoqawa.



Diagnostic tests can be run locally with ease and mobility using the 475 Field Communicator with ValveLink Mobile software, Catwalks. ladders, or other difficult locations no longer present a barrier.

# **Information**

### **Field**

Ruggedized and portable tools enable easy valve setup and troubleshooting in the field. Saved data from ValveLink Mobile can seamlessly transfer to asset management software.



### **Maintenance Shop**

Maintenance personnel use ValveLink diagnostics to assure valve calibration and performance prior to commissioning and during turnarounds. Valve signatures form the basis for future troubleshooting.





Scan or click the QR code to watch the video.

# **Discover More**

Watch how you can replace the instrument module in under five minutes without disturbing stem connections, pneumatic air connections, or field wiring.



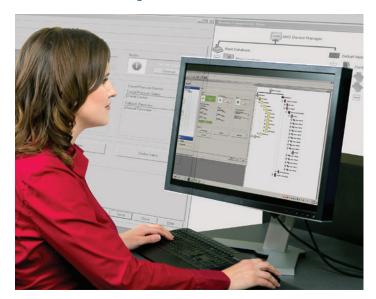
The 775 Smart Wireless THUM adapter allows you to easily and cost-effectively access control valve assembly diagnostics.



# where you are

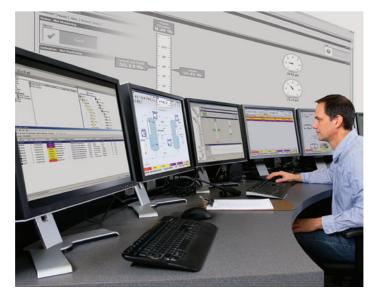
### **Asset Management Console**

Integrate powerful in-service diagnostics for DeltaV<sup>™</sup> and Ovation<sup>™</sup> systems with AMS ValveLink SNAP-ON. FDT technology allows access to ValveLink software diagnostics in non-Emerson hosts.



### **Control Room**

Operators can quickly monitor control valve performance from the safety of the control room. Know the condition of a valve at a glance by checking the dashboard in ValveLink software.



# REAL CHALLENGES, REAL SOLUTIONS.

Read how the FIELDVUE instrument has helped customers improve operational performance, reduce maintenance, and improve reliability. These proven results flyers provide solid, quantifiable results from real customers.



FIELDVUE DVC6200-PD Instruments Automate Startup and Reduce Downtime, Saving a Nuclear Plant \$250,000 per hour.



FIELDVUE DVC6200f Instrument Resists Vibration, Improves Valve Performance at SECCO Complex.







FIELDVUE DVC6200 Instrument Improves Reliability and Monitoring of Critical Valve in Liquid-Ammonia Service.

## ANSWERS TO COMMON USER QUESTIONS.

- I worry about having the proper spares for the wide variety of valve applications in our facility. With the DVC6200 Series, it is possible to cover a majority of applications with a single instrument. The mounting changes from valve assembly to valve assembly. Few spare parts are required, which are common between instruments.
- Valve diagnostics are great, but I can't shut down my process to use them. FIELDVUE instrument users can diagnose, analyze, and trend valve diagnostic data while the valves are in service. You are given a real-time, accurate picture of valve health, not just numbers and graphs, without impacting your process.
- + We can't spend all day in front of a PC, waiting for a problem. Digital valve controllers should tell me when there is a problem. You decide when the FIELDVUE instrument collects diagnostic data. Schedule it to collect data automatically or when triggered by

a certain event. Or configure ValveLink software's Event Messenger feature to email you when a critical problem is detected.

- Our old control system has analog I/O. I'm not going to see the benefit of a digital valve controller. You can experience the benefits of the FIELDVUE instrument regardless of the age of the control system. Real-time information, including alerts and performance trending, can be presented to operations without changing control system I/O. Smart Wireless THUM adapters make it convenient to bring critical valve data to a central point within the facility.
- + I don't want to buy new asset management software just to communicate with my digital valve controller.

ValveLink software integrates into existing asset management software and communicates with all FIELDVUE instruments. It has been tested and approved by most control system manufacturers, including Emerson, ABB, Honeywell, Invensys, Kongsberg, Siemens, SUPCON, and Yokogawa.

- My safety valves are too complex. How can I simplify? In a single device, you can accomplish safety demand, partial stroke, and position transmitter functions. The DVC6200SIS instrument is SIL3 capable and provides the safety shutdown function as a type A device. This can eliminate the need for hardware redundancy. The position transmitter is also SIL certified and is power independent of the positioner loop.
- We have valve assemblies from several manufacturers, not just Emerson. Can we really standardize on the DVC6200 Series?

The FIELDVUE instrument has been mounted on every major control valve and actuator assembly, regardless of manufacturer not just Emerson.

It's cumbersome to carry a PC into a process environment. Our technicians need simple, rugged tools for setup and calibration.

Fisher ValveLink Mobile software makes setup and calibration easy. It goes where you go—no PC required. Installed on your 475 Field Communicator, you can take it into hazardous areas where your FIELDVUE instrument is located.



## **KEY SPECIFICATIONS.**

Specification	DVC6200 HART	DVC6200f and DVC6200p FOUNDATION fieldbus and PROFIBUS
Input	Analog input signal: 4–20 mA DC, nominal; split ranging available. Minimum voltage available at instrument terminals must be 10.5 VDC for analog control, 11 VDC for HART communication.	Voltage Level: 9 to 32 volts. Maximum Current: 19 mA. Reverse Polarity Protection: Unit is not polarity sensitive. Termination: Bus must be properly terminated per ISA SP50 guidelines.
Electrical Classification	Hazardous Area Approvals:  ■ CSA: Intrinsically Safe, Explosion-proof, Division 2, Dust Ignition-proof  ■ FM: Intrinsically Safe, Explosion-proof, Non-Incendive, Dust Ignition-proof  ■ ATEX: Intrinsically Safe, Flameproof, Type n  ■ IECEx: Intrinsically Safe, Flameproof, Type n  Electrical Housing:  ■ CSA: Type 4X, IP66  ■ FM: Type 4X, IP66  ■ ATEX: IP66  ■ IECEx: IP66  Other certifications are available. Contact your Emerson sales office for specific classification/certification information.	Hazardous Area Approvals:  ■ CSA: Intrinsically Safe, FISCO, Explosion-proof, Division 2, Dust Ignition-proof  ■ FM: Intrinsically Safe, FISCO, Explosion-proof, Non-Incendive, Dust Ignition-proof  ■ ATEX: Intrinsically Safe, FISCO, Flameproof, Type n  ■ IECEx: Intrinsically Safe, FISCO, Flameproof, Type n  Electrical Housing:  ■ CSA: Type 4X, IP66  ■ FM: Type 4X, IP66  ■ ATEX: IP66  ■ IECEx: IP66  Other certifications are available. Contact your Emerson sales office for specific classification/certification information.
Supply Pressure	Maximum: 10.0 bar (145 psig) or maximum pressure rating of the actuator, whichever is lower	
Temperature Limits	-40 to 85°C (-40 to 185°F) -52 to 85°C (-62 to 185°F) with extreme temperature option -52 to 125°C (-62 to 257°F) with remote mount option	
Available Mounting	■ Sliding-stem linear applications ■ Rotary shaft applications ■ Integral mounting to Fisher rotary actuators ■ Integral mounting to the Fisher GX control valve and actuator system ■ IEC 60534-6-1, IEC 60534-6-2, VDI/VDE 3845, and NAMUR standards ■ Remote mount	
Options	■ Extreme temperature ■ Remote mount ■ Stainless steel ■ Low-bleed relay ■ Integral 4-20mA position transmitter¹ ■ Integral switch¹ ■ Natural gas certified, single seal device ■ Constructions to meet US Environmental Protection Agency emissions requirements²  ¹The electronic output is configurable as either the position transmitter or the switch ²New Source Performance Standards Subpart OOOO, EPA-HQ-QAR-2010-0505	<ul> <li>Extreme temperature</li> <li>Remote mount</li> <li>Stainless steel</li> <li>Low-bleed relay</li> <li>Natural gas certified, single seal device</li> <li>Constructions to meet US Environmental Protection Agency emissions requirements<sup>2</sup></li> <li><sup>2</sup>New Source Performance Standards Subpart OOOO, EPA-HQ-QAR-2010-0505</li> </ul>
System Integration Technology	eDDL, FDT/DTM, AMS Device Manager SNAP-ON, PRM Plug-In	
Instrument Certification	HART Communication Foundation HART 5 and 7	Fieldbus Foundation PROFIBUS International













### ADDITIONAL RESOURCES.

### **Educational Services.**

Emerson instructor led courses, e-learning offerings, and "live" virtual classes are designed to help you run your plant operations with greater workforce effectiveness. Whether vou are looking for specific industry application expertise or product knowledge, we have courses to help you engineer, operate, maintain, and manage industrial process control devices and systems to achieve peak plant and process performance.

We encourage you to use our website as a resource for announcements on new online offerings, current listing of courses with dates, locations, and information on all of our worldwide training centers, www.EmersonProcess.com/ Education

#### Fisher.com

Looking for additional documentation on the FIELDVUE instrument? Want to learn how to mount it? Scan or



click this QR code to find links to videos, product documentation, device descriptions, and valve diagnostics information.

### Lifecycle Services.

The way you manage key production assets, like control valves, directly affects your plant's efficiency, reliability, and profitability. Emerson's Fisher Services provides trusted expertise for reliability-centered control valve maintenance and repair.

Whether you're starting or commissioning a process, scheduling diagnostics and repair, or planning a turnaround with upgrades to optimize and extend your plant's lifecycle, our network of owned and authorized service centers around the world provide effective maintenance through a network of experienced, highly skilled technicians when and where vou need them.

To help you maintain your plant's efficiency and reliability, Fisher Services uses only certified OEM parts and assemblies sourced through local inventories, regional parts distribution centers, and Quick Ship facilities to deliver unmatched response to customer needs.

With Emerson's Fisher Services as your trusted partner, you can realize the true potential of your Fisher and non-Fisher control valves throughout their lifecycle.







Scan or click the OR code to watch the video.

# Discover more

Learn about how you can extend the life of your facility using Lifecycle Services from Emerson.

### COMPARISON CHECKLIST.

Just how well does your current instrument compare? Here is a recap of the advantages that the FIELDVUE DVC6200 Series instrument brings to you and your facility:

- Meet your control valve reliability needs with solutions and experience
- + Handle the majority of your control valve applications
- Improve operational performance
- Increase worker productivity and reduce maintenance costs
- Linkage-less, non-contact feedback for all types of control valve assemblies
- Stem position transmitter option
- Severe service options
- + Human-centered design user interfaces
- + Online, in-service diagnostics with analysis
- Field upgradeable firmware and diagnostic tiers
- Separate wiring compartment with encapsulated electronics

### FIELDVUE DVC6200 Series Instrument







http://www.Twitter.com/FisherValves



http://www.YouTube.com/user/FisherControlValve



http://www.LinkedIn.com/groups/Fisher-3941826

To find the Fisher sales contact in your area, scan or click the QR code.



© 2014 Fisher Controls International LLC. All rights reserved.

Fisher, FIELDVUE, ValveLink, THUM, DeltaV, and Ovation are marks owned by one of the companies in the Emerson Process Management business unit of Emerson Electric Co. Emerson Process Management, Emerson, and the Emerson logo are trademarks and service marks of Emerson Electric Co. All other marks are the property of their respective owners.

The contents of this publication are presented for informational purposes only, and while every effort has been made to ensure their accuracy, nothing herein is to be construed as a warranty or guarantee, express or implied, regarding the products or services described herein or their use, performance, merchantability or fitness for a particular purpose. Individual results may vary. All sales are governed by our terms and conditions, which are available upon request. We reserve the right to modify or improve the designs or specifications of our products at any time without notice. Responsibility for proper selection, use and maintenance of any product or service remains solely with the purchaser and end user.

**Emerson Process Management** Marshalltown, Iowa 50158 USA Sorocaba, 18087 Brazil Chatham, Kent ME4 4QZ UK Dubai, United Arab Emirates Singapore 128461 Singapore www.Fisher.com



