

Replacement of Fisher™ FIELDVUE™ DVC6200 Digital Valve Controllers (Firmware 6 and Older) with DVC6200 (Firmware 7)

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Management of Change

Management of Change (MOC) is a procedure used to proactively manage changes that can potentially affect safety or general procedure within a process plant. Product changes often have a significant impact on plant efficiency throughout the transition period. In lieu of the complexity of completing an MOC approval process, this MOC Guide has been developed to prevent delays and difficulties while ensuring a successful product change.

Background

In order to continue to increase the usefulness and value of the Fisher FIELDVUE DVC6200 and DVC6200 SIS digital valve controllers, additional features and functions have been implemented within the electronics firmware (FW). These additions include field diagnostic alert categories, ramped cut-off, smarter response alerts, solenoid valve testing (DVC6200 SIS), and enhancements to partial stroke testing (DVC6200 SIS).

This MOC Guide is not intended to be used as a standalone document. It must be used with the following documents, as applicable:

For the Fisher FIELDVUE DVC6200 instrument:

Instruction Manual for the DVC6200 HW2 Digital Valve Controller ([D103605X012](#))

Instruction Manual for the DVC6200 HW1 Digital Valve Controller ([D103409X012](#))

For Fisher FIELDVUE DVC6200 SIS instrument:

Safety Manual for the DVC6200 SIS Digital Valve Controller ([D103601X012](#))

Instruction Manual for the DVC6200 SIS Digital Valve Controller ([D103557X012](#))

Contained in the following sections are design comparisons between the DVC6200 instrument (FW7) and legacy DVC6200 instrument (FW6 and older). These comparisons demonstrate how the design of technologies allows users to efficiently transition to new, more reliable Fisher products.

Question and Answer Checklist

- 1 Q:** Does the proposed modification cause any changes to the piping and instrumentation diagram (P&ID)?

A: No.
- 2 Q:** Does the proposed modification change process chemistry, technology, or operating and control philosophies?

A: No.

- 3** Q: Have the operating and design limits of the proposed modification changed?
A: No.
- 4** Q: Have the codes and standards to which the new equipment has been designed changed?
A: No.
- 5** Q: Does the proposed modification change the Hazardous Electrical Area classification?
A: No.
- 6** Q: Does the proposed modification change existing or create new demands for battery backup or other power supply redundancy or reliability?
A: No.
- 7** Q: Does the proposed modification introduce new equipment that needs to be operated and, has a new operations list been stated?
A: No.
- 8** Q: Does the proposed modification introduce new equipment items that require spare parts, training manuals, maintenance procedures, or training to teach the maintenance department how to maintain them?
A: No.
- 9** Q: Does the proposed modification change the spares for existing pieces of equipment?
A: Yes. If the user wishes to utilize DVC6200 instrument (FW7) functionality, spare units should be inspected and upgraded to FW7, as applicable.
- 10** Q: Does the proposed modification introduce new equipment items that require periodic predictive maintenance?
A: No.

Comparison of Instruments with FW7 to Instruments with FW6 and Older

Hardware Changes – None

Hazardous Area Approval Changes – None

Diagnostic Capability Changes and Enhancements

DVC6200 and DVC6200 SIS instruments with FW7 implement the following diagnostic enhancements and changes:

Table 1. FIELDVUE DVC6200 Instrument Level Diagnostic Capabilities

Capability	Instrument Level					
	Auto Calibration (AC)	HART Communicating (HC)	Advanced Diagnostics (AD)	Performance Diagnostics (PD)	Safety Instrumented System (SIS)	Optimized Digital Valve (ODV)
Field Diagnostic Alerts (NE107)		✓	✓	✓	✓	✓
HART 7 Burst		✓	✓	✓	✓	✓
Actuator Over-Pressure Protection		✓	✓	✓	✓	✓
Supply Pressure High / Low Alert		✓	✓	✓	✓	✓
No Pressure Fallback if Supply Pressure is Low		✓	✓	✓		✓
Ramped Cut-Off		✓	✓	✓	✓	✓
On-Board Alert Record Streaming		✓	✓	✓	✓	✓
Concurrent Batch Runner		✓	✓	✓	✓	✓
“Output Circuit Communication Failure” Alert change to “Output Circuit Error”		✓	✓	✓	✓	✓

Alert Record Exceptions (Avoids Alert Flooding)		✓	✓	✓	✓	✓
Option to Trip and Latch When Valve Position Crosses a Travel Threshold		✓	✓	✓	✓	✓
Partial Stroke Test Enhancements	Instrument Level					
	Auto Calibration (AC)	HART Communicating (HC)	Advanced Diagnostics (AD)	Performance Diagnostics (PD)	Safety Instrumented System (SIS)	Optimized Digital Valve (ODV)
Independently Selectable Partial Stroke Test Ramp Rates					✓	✓
“PST Pressure Limit” Change to “Outgoing Pressure Threshold”					✓	✓
Short Duration PST Partial Stroke Routine Option					✓	✓
“Valve Stuck Alert” Change to “PST Abnormal”					✓	✓
“PST Pass” Temporary Alert					✓	✓
Configurable “PST Prohibited” Alert					✓	✓
Configurable “PST Abort”					✓	✓
PST History Datasets					✓	✓

PST Automatic Test Interval Excessive Test Prevention					✓	✓
Stroke Performance Record					✓	✓
Solenoid Valve Testing Using DVC6200 SIS to Pulse Solenoid Valve					✓	✓
Auto and Smart Auto Reset Option with LCP100					✓	

Required Updates to User Interface When Upgrading to DVC6200 Instruments with FW7

In order to utilize the diagnostic features in DVC6200 instruments with FW7, an upgrade to Fisher ValveLink™ Software 13.2 and to the DD is required for both HART 5 and 7 device revisions:

Table 2. Device Description Requirements

HART Communication Protocol	DVC6200 FW6	DVC6200 FW7
HART 5	Device Revision 1, DD Rev 4	Device Revision 1, DD Rev 7
HART 7	Device Revision 2, DD Rev 5	Device Revision 3, DD Rev 1

Conclusion

The Fisher FIELDVUE DVC6200 digital valve controller continues to be the most reliable digital valve controller in production. The design philosophy allows the user the flexibility to transition to the current DVC6200 instrument firmware, avoiding lengthy MOC approval documents.

Please refer to the Fisher FIELDVUE DVC6200 digital valve controller product bulletins, quick start guide, and instruction manuals, available from your local [Emerson sales office](#), for complete features.



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