

Supplement to HART[®] Communicating Fisher[®] FIELDVUE[®] Instrument Instruction Manuals

Using FIELDVUE[®] Instruments with the Smart HART[®] Loop Interface and Monitor (HIM)

Fisher[®] FIELDVUE[®] instruments can be used in conjunction with a HART[®] interface module, such as the Smart HART Loop Interface and Monitor (HIM) from Moore Industries, to provide additional diagnostic coverage. Installed transparently across the 4-20 mA instrument loop, the HIM receives the HART digital process data and converts the digital information into up to three scalable, isolated analog (4-20 mA) process signals and two relay outputs that are readily accepted by an existing control system, such as a DCS or PLC. For additional information on the HIM, refer to HIM Smart HART Loop Interface and Monitor Instruction Manual, 224-778-00, or the Moore Industries web site, at www.miinet.com.

The relay outputs are configurable within the HIM and can be used to indicate instrument status and detailed alert information. For example, when a DVC6000 SIS Series digital valve controller in a Safety Instrumented System (SIS) application instructs the safety valve to move during the partial stroke test, the HART interface module receives the digital signal representing valve position. The HIM reads this signal, and, depending on the Fail Safe mode, energizes a relay at a configured trip point (such as 90%). The relay output is sent to the control system verifying the desired position has been achieved.

When the digital valve controller instructs the valve to return to the open position, the HIM energizes a second relay when the valve is fully open. This allows the control system to verify and report that the valve is fully reopened and the test is complete. Depending on how the HIM is wired to the control system, the relay outputs may be normally open (NO) or normally closed (NC) contacts. In this example, the relay outputs are configurable in the HIM, and do not reflect the status byte configuration in the FIELDVUE instrument.



Figure 1. Moore Industries HART[®] Loop Monitor

Additionally, the discrete relay output could also be used for various other alerts generated by the DVC6000 SIS, such as “Diagnostics in Progress,” “Valve Stuck Alert” etc.

The HIM operates from an external 24 volts DC \pm 10% voltage source and connects to the 4-20 mA control signal lines.

The HIM requests information from the FIELDVUE instrument. The FIELDVUE instrument responds by sending the appropriate data. Figure 2 shows a typical installation of a FIELDVUE instrument with the HIM. The HIM is not recommended for FIELDVUE instrument applications involving split ranging.



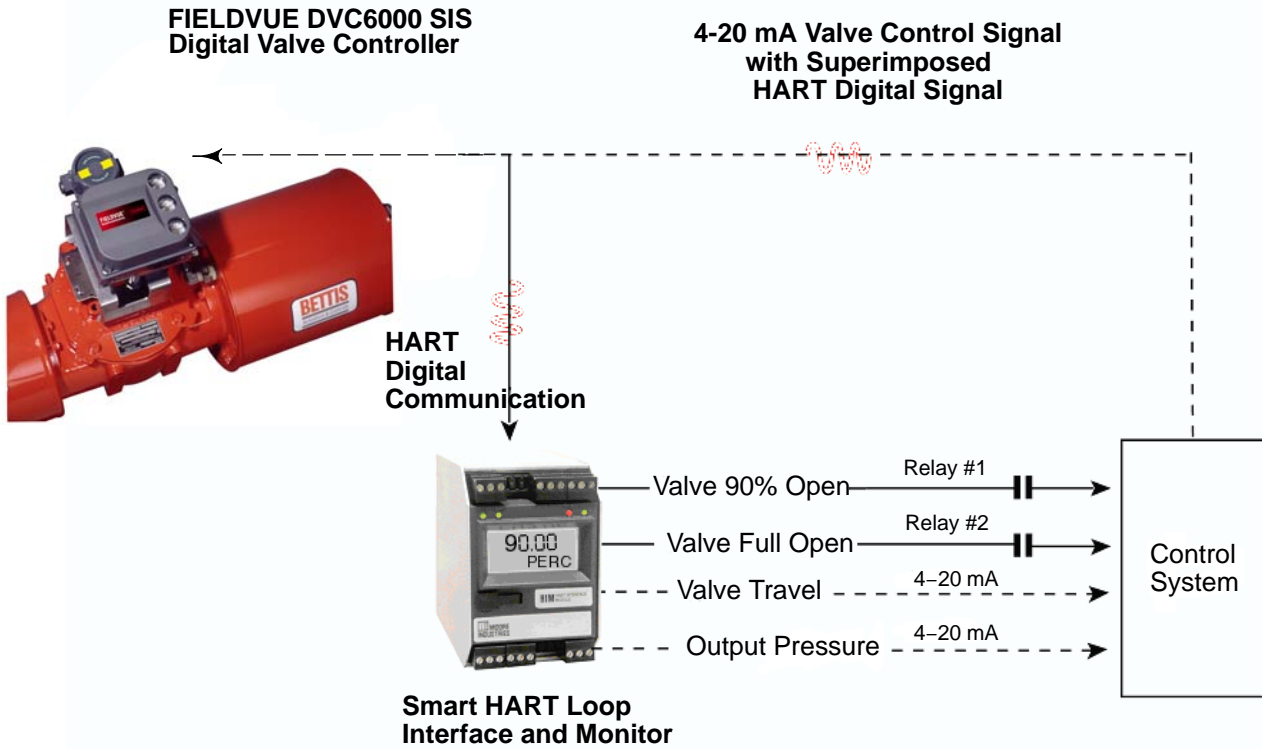


Figure 2. FIELDVUE® DVC6000 SIS Series Digital Valve Controller Installed with a Moore Industries HART® Loop Monitor

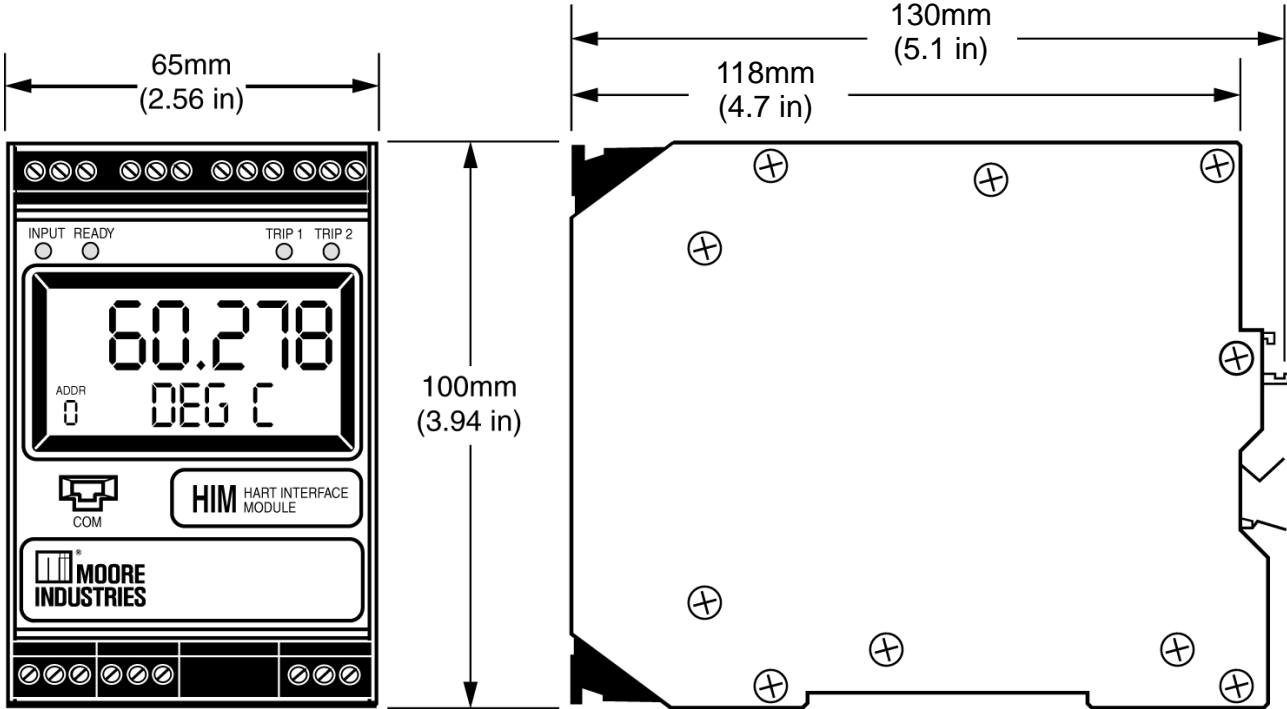
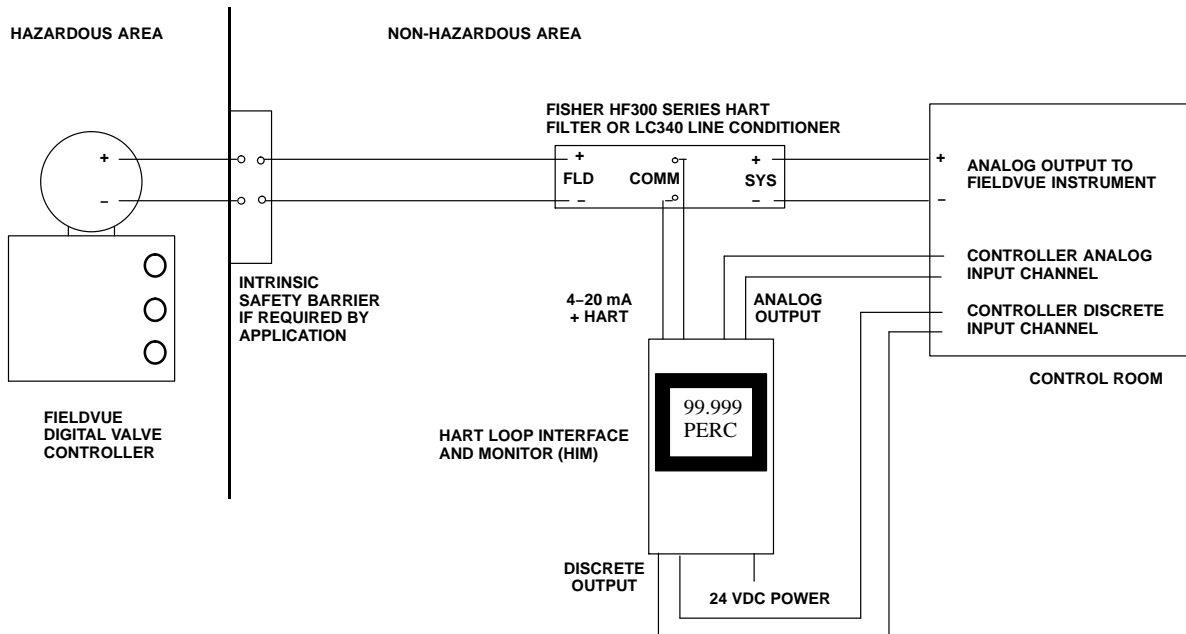


Figure 3. HIM HART® Loop Monitor Dimensions



NOTE:
REFER TO SMART HART LOOP INTERFACE AND MONITOR USERS' MANUAL
224-778-00 AVAILABLE FROM MOORE INDUSTRIES FOR MORE DETAILED
WIRING INFORMATION.

Figure 4. Example HIM Smart HART® Loop Interface and Monitor Installation with a FIELDVUE® Digital Valve Controller

Installation Considerations

The HIM design allows two different DIN-rail mounting options:

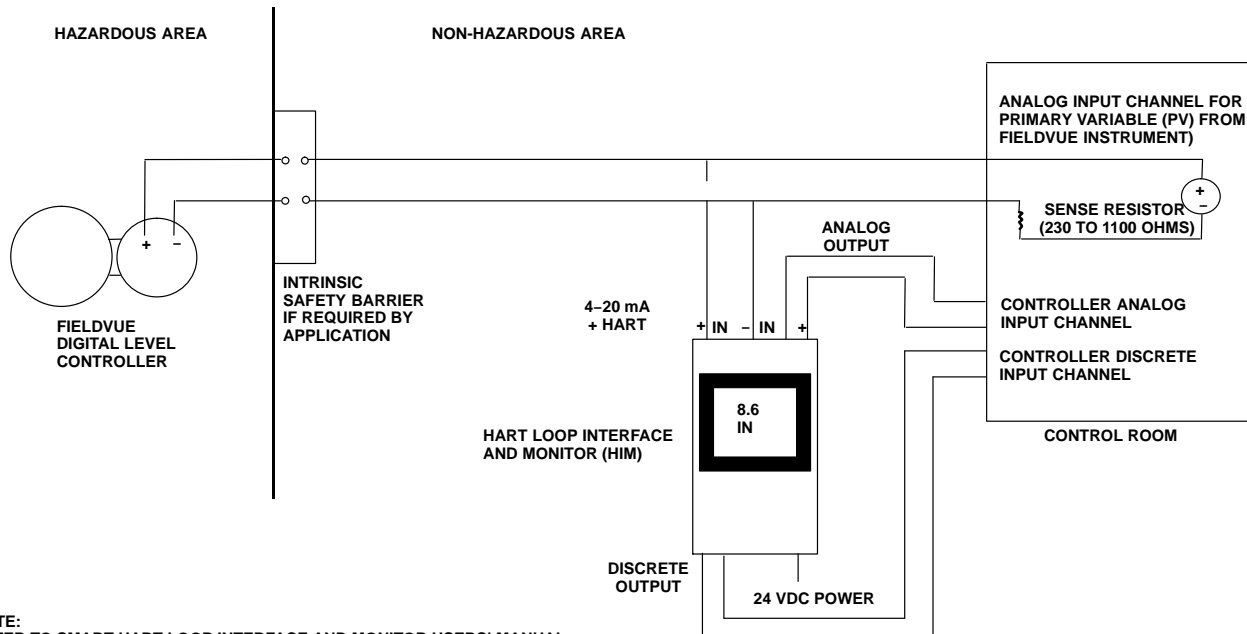
- 32mm (EN50035) G rail
- 35mm (EN50022) top hat rail

The HIM dimensions are shown in figure 3.

Figure 4 shows the proper installation of a FIELDVUE digital valve controller with the HIM. The schematic depicts a Fisher HF340 HART filter in the loop when the digital valve controller is operating with a 4-20 mA control signal. If the digital valve controller is operating from a 24 volt DC source, a Fisher LC340 line conditioner is substituted for the HART filter. The necessity of a HART filter for 4-20 mA operation depends upon the control system; the

HIM does not add a requirement for a filter. Refer to the appropriate FIELDVUE instrument instruction manual for detailed installation instructions. For instructions on installing the HART filter, refer to the HF300 Series instruction manual. For instructions on installing the LC340 line conditioner, refer to the LC340 Line Conditioner instruction manual.

In addition to performing the designed function, the filter or line conditioner also provides a convenient method for connecting field wiring between the control system, the signal converter, and the FIELDVUE instrument. If no filter or conditioner is required, the HF341 communication tap is available. This device provides the connection convenience but without filter action (straight-through). When a DLC3010 digital level controller is used with the HIM, a HART filter or line conditioner is not required (see figure 5). However, the HF341 communication tap may be used for connection convenience.



NOTE:
REFER TO SMART HART LOOP INTERFACE AND MONITOR USERS' MANUAL
224-778-00 AVAILABLE FROM MOORE INDUSTRIES FOR MORE DETAILED
WIRING INFORMATION.

IN ORDER TO MEET THE HART LOOP IMPEDANCE REQUIREMENT, THERE
MUST BE BETWEEN 230 AND 1100 OHMS IN SERIES WITH THE VOLTAGE
SOURCE.

Figure 5. Example HIM Smart HART® Loop Interface and Monitor Installation with a FIELDVUE® Digital Level Controller

HIM Configuration

The HIM Operating Parameters can be configured using HIM PC Configuration Software. The software is composed of the following sections as shown in figure 6.

1. HIM Status and Information Section The left side of the screen includes seven boxes that display the different settings of the attached HIM.

Program Status—Displays the activity of the connected HIM. It indicates if the unit is Idle, Uploading, Downloading, Monitoring or Searching.

HIM Device Info—Displays the individual characteristics of the attached HIM, such as its identity, hardware and software revisions, and the last date that the device was configured.

HIM Tag—A phrase used to identify the HIM.

HIM Device Status—Displays functioning of the HIM. OK is displayed if it is operating normally, otherwise an error message is displayed.

HIM Displayed Data—This shows what appears on the display at the front of the HIM. This information is programmed on the Display page.

Progress—This bar stays in motion any time the HIM is monitoring, uploading or downloading.

Communication Status—Monitors the PC software's ability to communicate with the HIM.

2. HART/Display/Alarms/Analog Outputs/ Custom Curve/Scaling Tabs Clicking these tabs brings up the corresponding page on the right side of the screen. Each page permits setting up the appropriate part of the HIM's configuration. Refer to the HIM users manual for more details. For recommended application guidelines see table 1.

After making the necessary configuration changes on each page, click the Quick Set button to send entered values to the HIM.

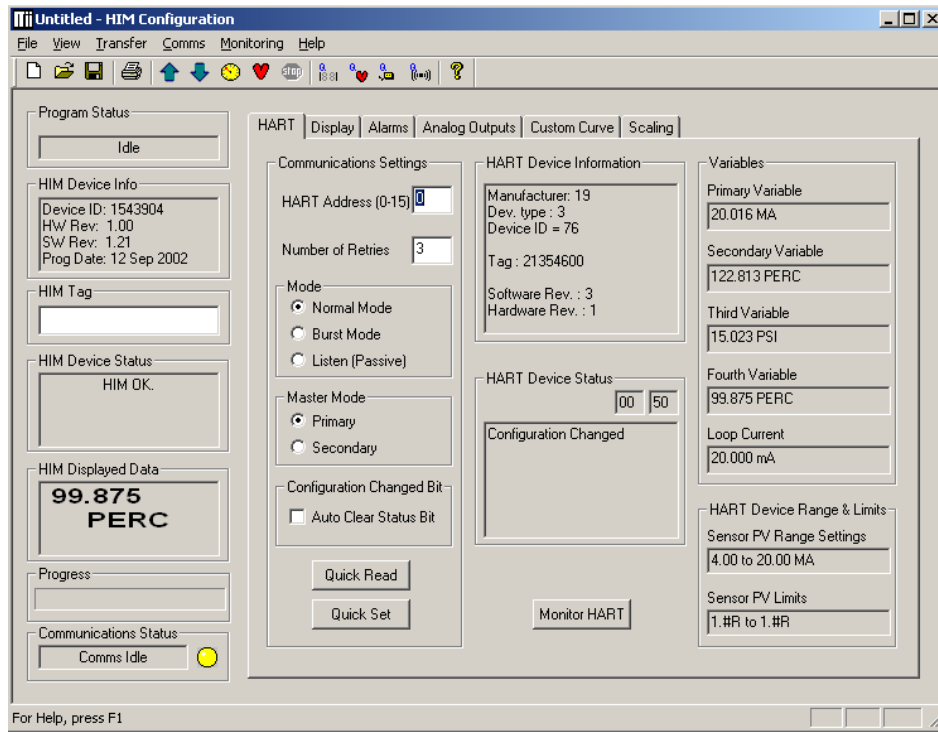


Figure 6. The HART[®] Menu Sets the HART Communications Parameters Using the HIM PC Configuration Software

Table 1. HIM Application Guidelines

Page	HIM Output	Parameter	DVC5000		DVC6000 / DVC2000		DVC6000 SIS	DLC3010	
Hart	Mode	---	Normal	Burst	Normal	Burst	Normal	Normal	Burst
	Master Mode	---	Primary	---	Primary	---	Primary	Primary	---
	HART Address	---	0	---	0	---	0	0	---
Display	Display Source	---	FV	PV	FV	FV	FV	PV	PV
	Custom Label	---	PERC	PERC	PERC	PERC	PERC		
Alarm	Alarm 1	User's Choice, See tables 5 and 6	Field Device Fault Alarm – Device Malfunction	Field Device Fault Alarm – Device Malfunction	Field Device Fault Alarm – Device Malfunction	Field Device Fault Alarm – Device Malfunction	Trip Alarm Low FV 91%	User's Choice	User's Choice
	Alarm 2	User's Choice, See tables 5 and 6	Field Device Fault Alarm – More Status Available ⁽²⁾	Field Device Fault Alarm – More Status Available ⁽²⁾	Field Device Fault Alarm – More Status Available ⁽²⁾	Field Device Fault Alarm – More Status Available ⁽²⁾	Trip Alarm High FV 99%	User's Choice	User's Choice
	Delay and Fail Safe	---	Set Delay to 0 and Select Fail Safe Alarm	Set Delay to 0 and Select Fail Safe Alarm	Set delay to 0 and Select Fail Safe Alarm	Set Delay to 0 and Select Fail Safe Alarm	Set Delay to 0 and Select Fail Safe Alarm	User's Choice	User's Choice
Analog Outputs ⁽¹⁾	AO1	---	FV ⁽³⁾	FV ⁽³⁾	FV ⁽³⁾	FV ⁽³⁾	FV	SV	SV
	AO2	---	SV	SV	SV	SV	See table 2	TV ⁽⁴⁾	TV ⁽⁴⁾

1. We recommend the HIM unit with 2 Analog Outputs and 2 Discrete Outputs.
 2. While Status Available is the recommended selection for Alarm 2, any of the Field Device Fault Alarms may be selected. Refer to tables 5 and 6.
 3. See selection display in figure 10 for Fail Mode options.
 4. This variable is suggested if an RTD is installed with the DLC3010 digital level controller for the purpose of monitoring process temperature.

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Table 2. FIELDVUE® DVC6000 and DVC2000 Digital Valve Controller Command 3 Variables Sent to the HIM^(1,2)

Variable Name	Range	Units	HIM Variable ⁽³⁾
Loop Current (control signal)	4-20 mA or 0 to 100% depending on instrument configuration	mA or %	PV
Set Point	0 to 100	%	SV
Output Pressure ⁽⁴⁾	0 to full rated supply pressure	psi, kPa, or bar	TV
Travel	0 to 100	%	FV

1. For other FIELDVUE instruments, see the appropriate instruction manual See table 3 for DLC3010 digital level controller Command 3 Variables.
 2. Instrument level AC does not support HART Command 3 or Burst Mode communications.
 3. PV=primary variable; SV=secondary variable; TV=third variable; FV=fourth variable
 4. DVC6000 can be configured for either Supply or Output Pressure. DVC6000 instrument level HC does not provide Supply Pressure.

Table 3. FIELDVUE® DLC3010 Digital Level Controller Command 3 Variables Sent to the HIM

Variable Name	Range	Units	HIM Variable ⁽¹⁾
Analog Current (Command from Transmitter firmware)	4-20 (3.7-22.5)	mA	AO
PV = one of: Level, Interface Level or Density Per measurement mode	Lower Sensor Limit – Upper Sensor Limit	PV Units Codes ⁽²⁾	PV
Electronics Temperature	(3)	Temperature Units Code ⁽²⁾	SV
Process Temperature (if RTD is installed)	(3)	Temperature Units Code ⁽²⁾	TV

1. PV=primary variable; SV=secondary variable; TV=third variable.
 2. See table 4.
 3. The range limits that are checked in the determination of status bit 1 (Non-PV out of limits) are the user-definable Electronics temperature and Process temperature Hi and Lo alarm thresholds. These alarms must be enabled in the DLC3010 digital level controller for their status to be reported in status bit 1. The electronics temperature algorithm intrinsic output could read -273° C or some indeterminate high value in a sensor failure. The process temperature algorithm output limits are -220 to 620° C, based on a valid RTD range from 10 to 320 ohms.

Programming the HART Parameters

Click the HART tab to display the page for entering HART parameters. Normal or Burst are the most common choices for Mode (see figure 6). In Normal mode, the HIM polls the HART instrument twice per second, with a command 3 and receives the dynamic variables from the FIELDVUE instrument. Table 2 shows the variables contained within the

Table 4. FIELDVUE® DLC3010 Digital Level Controller Units Selectable for Variables

VARIABLE	CODE	UNITS
Level or Interface Level	44	Feet
	45	Meters
	47	Inches
	48	centimeters
	49	millimeters
Density	90	Specific Gravity Units
	91	grams / cubic centimeter
	92	Kilograms / cubic meter
	93	Pounds / gallon
	94	Pounds / cubic feet
	95	grams / milliliter
	96	Kilograms / liter
	97	grams / liter
	98	Pounds / cubic inch
Temperature	32	Centigrade
	33	Fahrenheit

command 3 message and the corresponding HIM assignments for each. In Burst mode, the monitored HART instrument is programmed to continuously send a command 3 message. The HIM receives the same information. Note that if Burst mode is selected the data will not be sent during any diagnostic tests run with AMS® ValveLink® Software. Table 1 includes recommendations on using Burst Mode.

Note

For SIS applications, set the HIM mode to Normal.

The HIM can be configured to operate as either a Primary or Secondary Master. The recommendation is to set the HIM Master Mode to Primary and configure any other HART device in the loop as a Secondary Master.

The HART Address is the address of the FIELDVUE instrument that the HIM is monitoring. Typically the address is 0.

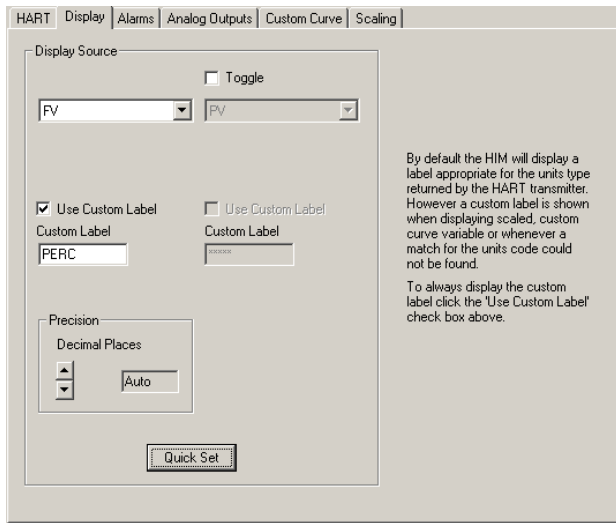


Figure 7. Click the Display Tab to Configure the HIM's Display Parameters

Programming the Display Function

Click the Display tab (figure 7) to access the page for configuring the HIM's LCD display. To program the Display parameters, change the settings in the Display Source box. To display valve travel, enter FV in this box. If using the HIM with a DVC5000 Series digital valve controller in Burst mode, enter PV.

To indicate that the valve travel is in percent, enter PERC for the custom label. Only alphanumeric characters (A–Z and 1–0) may be entered for the custom label.

Programming the Alarms Parameters

Click the Alarms tab to configure the programmable alarms (see figure 8). The two alarms energize two relays within the HIM. Alarm 1 is associated with relay 1, Alarm 2 is associated with relay 2. Depending on the Fail Safe selection, the relay will be either energized or de-energized when the alarm is active.

The relays can be configured to respond to various inputs. Depending on the application, these relays can be used in a number of different ways, or they

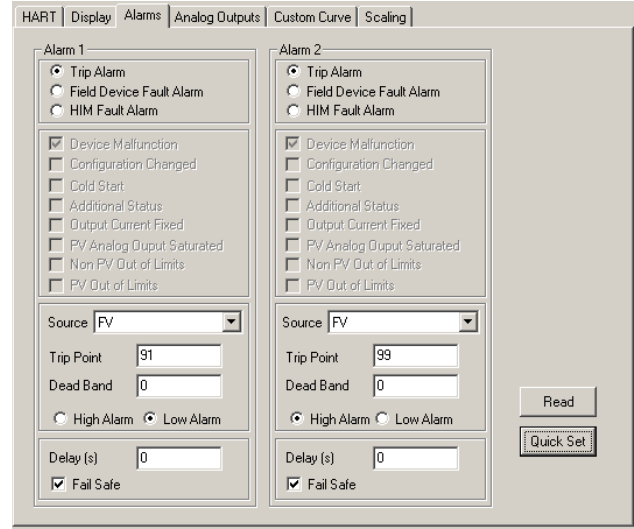


Figure 8. Click the Alarms Tab to Configure the HIM's Alarm Relay Parameters

may not be used at all. For more detailed information on the HIM refer to the Smart HART® Loop Interface and Monitor Users' Manual 224-778-00, available from Moore Industries.

If Trip Alarm is selected, the HIM monitors the source variable and the alarm is active either when the variable exceeds the Trip Point, if High Alarm is selected, or when the variable falls below the Trip Point, if Low Alarm is selected. The Deadband indicates how far past the trip point the variable has to go before the alarm condition returns to normal.

Field Device Fault Alarm, if selected, monitors the FIELDVUE instrument. This fault alarm will trip depending on the status of any of eight malfunctions. The recommended selection for this alarm is Device Malfunction. With Device Malfunction selected, the alarm will be active whenever a hardware error or failure in the connected FIELDVUE instrument is detected.

In most situations, any of the malfunctions under the Field Device Fault Alarm can be chosen for Alarm 2. For more detailed information on these malfunctions, refer to table 5.

The Delay box lets you specify how long (in seconds) the alarm condition needs to exist before the alarm trips. When Fail Safe is checked, the relay is de-energized when the alarm is active. When Fail Safe is not checked, active alarms energize the relay.

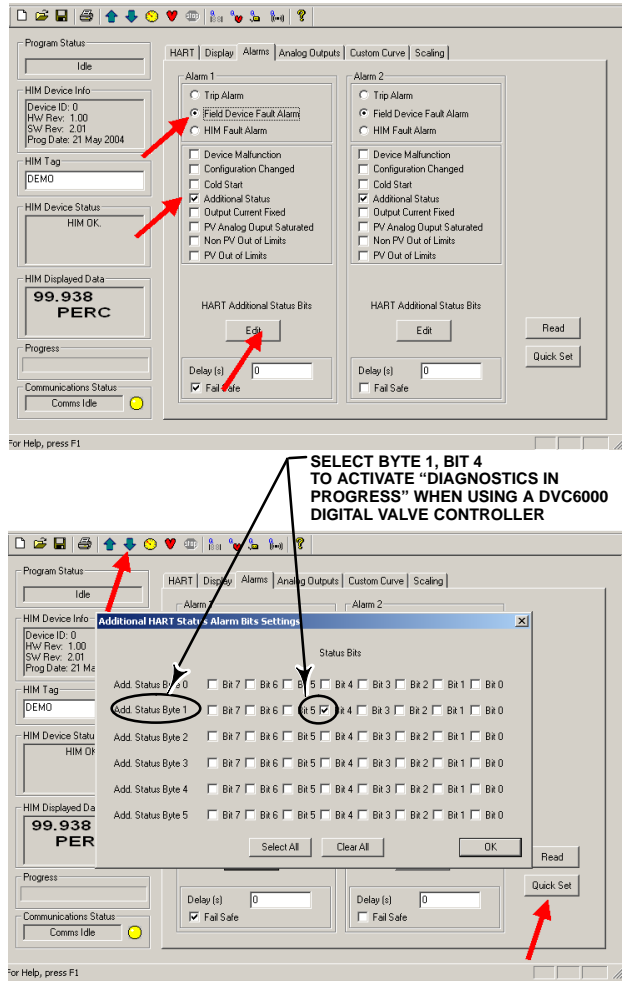


Figure 9. Setting the Field Device Fault Alarm

Programming the Alarms Parameter for a DVC6000 SIS Series Digital Valve Controller

For SIS applications, set Alarm 1 as a Trip Alarm. Select FV as the source and Low Alarm. If the partial stroke test is for 10% travel, a trip point of 91% is suggested to indicate when the valve is at 90% travel.

Select Trip Alarm for Alarm 2. Select FV as the Source, and High alarm. A suggested Trip Point might be 99% to indicate when the valve is fully open.

Table 5. Field Device Fault Alarm; Malfunctions (refer to figure 9)

Malfunction	Relay Trips Whenever:
Device Malfunction	it detects that a hardware error or failure has occurred in the HART device.
Configuration Changed	it detects that a connected HART device has had its configuration changed
Cold Start	it detects that the power to the HART device is interrupted, or during a HART Master Reset or Self Test Command.
Additional Status	the connected HART device reports a condition requiring HART Command #48, (Read Additional Information), indicating that the instrument needs attention from a device with full HART command capability.
Output Current Fixed	the HIM detects that the connected HART device's output is no longer responding to changes in its input, and is being held at a predefined level.
PV Analog Output Saturated	it detects that both its analog and digital representations of the Primary Variable are outside rated operating limits, and no longer reflect the true sensor input.
Non-PV Out of Limits	one of the HART ancillary variables (second, third, or fourth), is operating outside the limits that can be effectively measured.
PV Out of Limits	the HART Primary Variable is operating outside the limits that can be effectively measured ⁽¹⁾ .
1. This malfunction does not cause a relay trip in the DLC3010 digital level controller when firmware 8 is being used.	

Additional HART Status Alarm Bits Settings for DVC6000 SIS and DVC6000 Series Digital Valve Controllers

Refer to table 6 for a complete listing of alerts available from DVC6000 SIS and DVC6000 Series digital valve controllers.

These alerts are available by checking the "Field Device Fault Alarm" as shown in figure 9, selecting "Additional Status, and then clicking on "Edit".

For DVC6000 SIS applications the following status bits are beneficial:

- "Diagnostic in Progress" (Additional Status Byte 1, Bit 4)—Indicates that the Partial Stroke Test is in progress. Refer to figure 9.

The alert "Diagnostics in Progress" provides an additional advantage, enabling a PLC to record the partial stroke test when it begins.

- "Valve Stuck Alert" (Additional Status Byte 3, Bit 6)—The digital valve controller's indication that it is unable to move the valve to the desired travel target.

Should the valve be found in the stuck condition, a "Valve Stuck Alert" provides valuable information for plant operators/technicians.

Table 6. Additional HART® Status Alarm Bits Settings Available From the FIELDVUE® DVC6000 and DVC6000 SIS Digital Valve Controller (refer to figure 9)

Byte Number, Bit Number	Firmware 2, 3, 4, 5, & 6	Firmware 7	
Add. Status Byte 0	Byte 0, Bit 7	Program Memory Fail	Flash ROM Alert
	Byte 0, Bit 6	No Free Time	No Free Time
	Byte 0, Bit 5	A/D Reference Fail	A/D Reference Fail
	Byte 0, Bit 4	Drive Current Readback Fail	Drive Current Readback Fail
	Byte 0, Bit 3	Critical NVM Alert	Critical NVM Alert
	Byte 0, Bit 2	Temperature Sensor Fail	Temperature Sensor Fail
	Byte 0, Bit 1	(Any) Pressure Sensor Fail	(Any) Pressure Sensor Fail
	Byte 0, Bit 0	Position Sensor Fail	Position Sensor Fail
Add. Status Byte 1	Byte 1, Bit 7	Alert Event Record not empty	Alert Event Record not empty
	Byte 1, Bit 6	Dynamic Bypass enabled	Reserved
	Byte 1, Bit 5	Calibration in Progress	Calibration in Progress
	Byte 1, Bit 4	Diagnostics in Progress	Diagnostics in Progress
	Byte 1, Bit 3	Reverted to Pressure Control	Pressure Control Active
	Byte 1, Bit 2	Custom Characterization	Reserved
	Byte 1, Bit 1	Input Characterization	Reserved
	Byte 1, Bit 0	Auto Cal in Progress	Auto Cal in Progress
Add. Status Byte 2	Byte 2, Bit 7	PWB set to "Multi-Drop"	PWB set to "Multi-Drop"
	Byte 2, Bit 6	Non-critical NVM Alert	Non-critical NVM Alert
	Byte 2, Bit 5	Cycle Counter Alert	Cycle Counter Alert
	Byte 2, Bit 4	Travel Accumulator Alert	Travel Accumulator Alert
	Byte 2, Bit 3	Time Invalid	Time Invalid
	Byte 2, Bit 2	Alert Event Record Full	Alert Event Record Full
	Byte 2, Bit 1	Instrument failed, shut down	Offline/Failed Alert
	Byte 2, Bit 0	Auxiliary Input Alert	Auxiliary Input Alert
Add. Status Byte 3	Byte 3, Bit 7	Not used	Diagnostic Data Available
	Byte 3, Bit 6	Valve "Stuck" Alert	Valve Stuck or Pressure/Travel Obstructed
	Byte 3, Bit 5	Supply Pressure Alert	Supply Pressure Low Alert
	Byte 3, Bit 4	Pressure Deviation Alert	Pressure Deviation Alert
	Byte 3, Bit 3	Not used	Locked in Safety Alert
	Byte 3, Bit 2	Power Starvation	Power Starvation
	Byte 3, Bit 1	Integrator Saturated High	Integrator Saturated High
	Byte 3, Bit 0	Integrator Saturated Low	Integrator Saturated Low
Add. Status Byte 4	Byte 4, Bit 7	Travel Alert 1 Low	Travel Alert Low
	Byte 4, Bit 6	Travel Alert 2 Low	Travel Alert Low Low
	Byte 4, Bit 5	Travel Alert 1 High	Travel Alert High
	Byte 4, Bit 4	Travel Alert 2 High	Travel Alert High High
	Byte 4, Bit 3	Travel Deviation Alert	Travel Deviation Alert
	Byte 4, Bit 2	Travel Limit/Cutoff High	Travel Limit/Cutoff High
	Byte 4, Bit 1	Travel Limit/Cutoff Low	Travel Limit/Cutoff Low
	Byte 4, Bit 0	Drive Signal Alert	Drive Signal Alert
Add. Status Byte 5	Byte 5, Bit 7	Not used	Not used
	Byte 5, Bit 6	Not used	Not used
	Byte 5, Bit 5	Not used	Not used
	Byte 5, Bit 4	Not used	Not used
	Byte 5, Bit 3	Not used	SIS Panel Comm Err
	Byte 5, Bit 2	Not used	Not used
	Byte 5, Bit 1	Not used	Not used
	Byte 5, Bit 0	Not used	Not used

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For DVC6000 (non-SIS) applications the following status bits are beneficial:

- “Travel Deviation Alert” (Additional Status Byte 4, Bit 3)—The Travel Deviation Alert must be configured as “Enabled” in the DVC6000 Series digital valve controller before use. When enabled, this alert checks the difference between the travel target and the actual travel. If the difference exceeds the Travel Deviation Alert Point for more than the Travel Deviation Time, the Travel Deviation Alert is set.

- “Drive Signal Alert” (Additional Status Byte 4, Bit 0)—The Drive Signal Alert must be configured as “Enabled” in the DVC6000 before use. When enabled, this alert indicates that the digital valve controller has generated the maximum or minimum drive signal for an excessive amount of time, but the valve is not responding. It also indicates a healthy digital valve controller unsuccessfully struggling to overcome a valve/actuator problem.

- “Alert Event Record not Empty” (Additional Status Byte 1, Bit 7)—The Alert must be enabled to record the desired alert categories. Configurable valve alerts need to be enabled as well. This alert indicates that the Alert Record has been populated with at least one event.

Programming the Alarms Parameters for a DLC3010 Digital Level Controller

If using the HIM with a DLC3010 digital level controller the alarms can be configured to monitor one or more of the bits in the HART status word, or they may be set up as Trip Alarms to locally monitor the PV, SV or TV by setting appropriate trip points in the HIM.

When using the DLC3010 digital level controller in a high temperature installation, monitoring the electronics temperature may be useful as temperatures above 85°C (185°F) will damage the transmitter. Set the digital level controller electronics temperature Hi alarm trip point at 80°C (176°F), enable the alarm, and set up one of the HIM alarms to monitor the Field Device HART Status Bit 1 (Non-PV out of limits).

If the maximum recommended process temperature for a spring of its respective material is exceeded, the 249 torque tube can incur excessive permanent drift. If the process RTD is installed and configured, the digital level controller can monitor this

Table 7. Additional HART® Status Alarm Bits Settings Available From FIELDVUE® DLC3010 (refer to figure 9)

Add. Status Byte 0	Byte 0, Bit 7	Not Used
	Byte 0, Bit 6	Not Used
	Byte 0, Bit 5	Torque Tube A/D Outside Limits
	Byte 0, Bit 4	Hall Sensor Drive Current Outside Limits
	Byte 0, Bit 3	Reference Voltage Outside Limits
	Byte 0, Bit 2	NVM Write Count Limit Exceeded
	Byte 0, Bit 1	Processing Cycle Free Time Exhausted
	Byte 0, Bit 0	Process Temperature Sensor Resistance Outside Limits
Add. Status Byte 1	Byte 1, Bit 7	PV Above User-Specified HI Limit
	Byte 1, Bit 6	PV Above User-Specified HI-HI Limit
	Byte 1, Bit 5	PV Below User-Specified LO Limit
	Byte 1, Bit 4	PV Below User-Specified LO-LO Limit
	Byte 1, Bit 3	Process Temperature Above User-Specified HI Limit
	Byte 1, Bit 2	Process Temperature Below User-Specified LO Limit
	Byte 1, Bit 1	Electronics Temperature Above User-Specified HI Limit
	Byte 1, Bit 0	Electronics Temperature Below User-Specified LO Limit

temperature. In the digital level controller configure the Process Temperature Hi alarm to trip when the torque tube material operating limit is exceeded. Field Device HART Status Bit 1 would then be set if the process temperature exceeds the respective limit.

Note

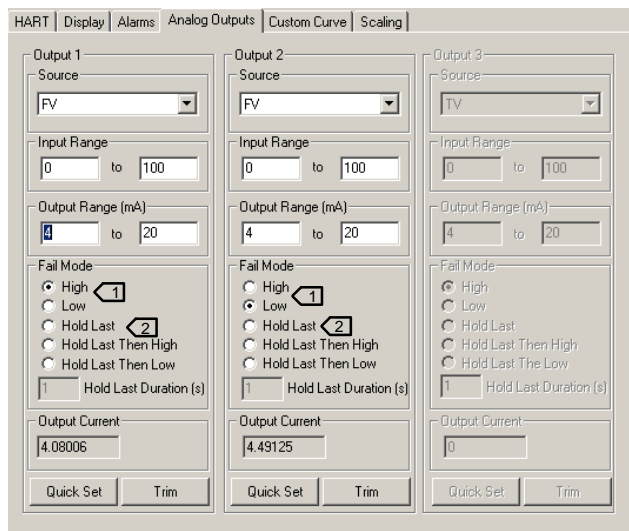
Because the long term effects of the two conditions differ, it may be advantageous to monitor the Electronics Temperature and the Process Temperature separately, using individual Trip Alarms in the HIM. Using the Field Device Fault Alarm setting will not allow the system to distinguish between these two conditions, since either or both will set Status Bit 1.

Additional HART Status Alarm Bits Settings for a DLC3010 Digital Level Controller

In the DLC3010 HART implementation of additional status only bytes 0 and 1 contain information. These bytes are returned in the HART command #48 response.

Refer to table 7 for a complete listing of alerts available from the DLC3010 digital level controller.

These alerts are available by checking the “Field Device Fault Alarm” as shown in figure 9, selecting “Additional Status, and then clicking on “Edit”.



NOTE:
 [1] IF USING THE HIM TO REPLACE TRI-LOOP FUNCTIONALITY, SELECT HIGH OR LOW FAIL MODE, DEPENDING UPON REQUIREMENT.
 [2] HOLD LAST MAY BE APPROPRIATE, DEPENDING ON THE PROCESS, BUT VISIBILITY OF THE TRUE DIGITAL VALVE CONTROLLER OUTPUT IS LOST WHEN THIS OPTION IS SELECTED.

Figure 10. Click the Analog Output Tab to Configure the HIM's Analog Output Parameters

Programming the Analog Outputs Parameters

Click the Analog Outputs tab to view this page. When the HIM Mode is set to Normal, Analog Output 1 (figure 10) is typically used to indicate Travel. See tables 2 and 3 for other values that may be indicated.

If using a DVC6000 SIS, enter FV for the Source to indicate valve travel. For travel, the Input Range is typically 0 to 100% and the Output Range is 4 to 20 milliamps.

If HART communication is lost, the HIM outputs, based on the Fail mode configuration in the Analog Output menu, will go to their set value. If the Fail mode is set to HIGH, the analog output will be approximately 23.6 mA. If the Fail mode is set to LOW, the analog output will be approximately 3.6 mA.

Related Fisher® Documents

- Bulletin 11.2:DLC3000 – Fisher® FIELDVUE® DLC3000 Series Digital Level Controllers (D102727X012)
- Fisher® FIELDVUE® DLC3000 Series Digital Level Controllers Instruction Manual (D102748X012)
- Fisher® FIELDVUE® DLC3000 Series Digital Level Controllers Quick Start Guide (D103214X012)
- FIELDVUE® DVC5000 Series Digital Valve Controllers Instruction Manual

Note

The DVC5000 digital valve controller is obsolete. Contact your Emerson Process Management sales office if a copy of this instruction manual is needed.

- Bulletin 62.1:DVC6000 – Fisher® FIELDVUE® DVC6000 Series Digital Valve Controllers (D102758X012)
- Fisher® FIELDVUE® DVC6000 Series Digital Valve Controllers Instruction Manual (D102794X012)
- Fisher® FIELDVUE® DVC6000 Series Digital Valve Controllers Quick Start Guide (D102762X012)
- Bulletin 62.1:DVC6000 SIS—Fisher® FIELDVUE® DVC6000 SIS Series Digital Valve Controllers for Safety Instrumented System (SIS) Solutions (D102784X012)
- Fisher® FIELDVUE® DVC6000 SIS Series Digital Valve Controllers for Safety Instrumented System (SIS) Solutions Instruction Manual (D103230X012)
- Supplement to Fisher® FIELDVUE® DVC6000 SIS Series Digital Valve Controllers for Safety Instrumented System (SIS) Solutions Instruction Manual—Control and Safety Valve Diagnostics Unleashed: Enable Valve Alert Reporting on Non-Smart Communicating Systems (D103395X012)

FIELDVUE[®] Instruments

- Fisher[®] FIELDVUE[®] DVC6000 SIS Series Digital Valve Controllers for Safety Instrumented System (SIS) Solutions Quick Start Guide (D103307X012)

- Bulletin 62.1:DVC2000 – FIELDVUE[®] DVC2000 Series Digital Valve Controllers (D103167X012)

- Fisher[®] FIELDVUE[®] DVC2000 Series Digital Valve Controllers Instruction Manual (D103176X012)

- Fisher[®] FIELDVUE[®] DVC2000 Series Digital Valve Controllers Quick Start Guide (D103203X012)

- Bulletin 62.1:HF300 – Fisher[®] FIELDVUE[®] HF300 Series HART[®] Filters (D102796X012)

- Fisher[®] FIELDVUE[®] HF300 Series HART[®] Filters Instruction Manual (D102796X012)

- Fisher[®] FIELDVUE[®] LC340 Line Conditioner instruction manual (D102797X012)

Note

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