

ValveLink™ Mobile Software



ValveLink Mobile software lets you configure, calibrate, and troubleshoot FIELDVUE™ DVC6200, DVC6200f, DVC2000, DVC6000, and DVC6000f digital valve controllers using Emerson's AMS Trex™ Device Communicator or an Emerson Field Communicator. See the table below for hardware requirements. Diagnostic and configuration data collected using ValveLink Mobile software can be transferred to ValveLink Solo, ValveLink SNAP-ON™, ValveLink DTM, or ValveLink PLUG-IN for PRM® applications to be analyzed and archived.

Hardware Requirements

AMS Trex Device Communicator	The HART® or FOUNDATION Fieldbus communicator needs to be licensed for ValveLink Mobile software and licensed for HART or Fieldbus communications. Upgrade studio is required to be installed to use the Trex communicator file transfer utility to create export files, which can be imported into ValveLink software.
475 Field Communicator	Easy Upgrade option and System Software Version 3.8 are required to install ValveLink Mobile 5.0. Requires Bluetooth® or an IrDA® interface on the PC to transfer data files. To transfer data files using Bluetooth, the Field Communicator must be ordered with the Bluetooth option. Both HART and FOUNDATION™ fieldbus communications are supported.
Note: Version 5.1 is for the AMS Trex Device Communicator only. The latest version for the Field Communicators is version 5.0.	



AMS Trex Device Communicator



475 Field Communicator

Installation

AMS Trex Device Communicator

ValveLink Mobile is automatically installed and unlocked when the device is registered and ValveLink Mobile is licensed.

Field Communicator

ValveLink Mobile 5.0 is automatically installed when the Field Communicator operating system is updated to System Software Version 3.8 using Easy Upgrade.

Connecting to the Digital Valve Controller

The Trex communicator or Field Communicator may be connected to the loop wiring or directly

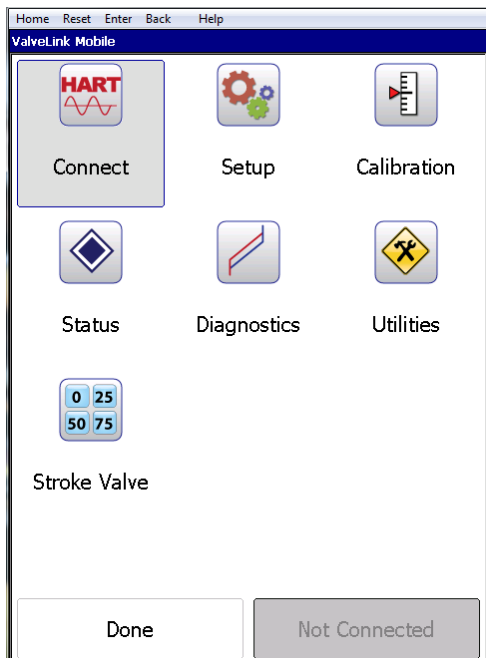
to the digital valve controller. To connect directly to the digital valve controller, attach the clip-on wires to the Loop + and - terminals located in the digital valve controller terminal box.

Launching ValveLink Mobile Software

Select the ValveLink Mobile icon from the main menu to launch the software. Select HART or FOUNDATION Fieldbus communications to start a session.

Establishing a Connection

With ValveLink Mobile software, you can navigate through the menu structure without being connected to a device. This can be used to explore the menu structure, review diagnostic data, or transfer diagnostic data files to a PC while off-line.




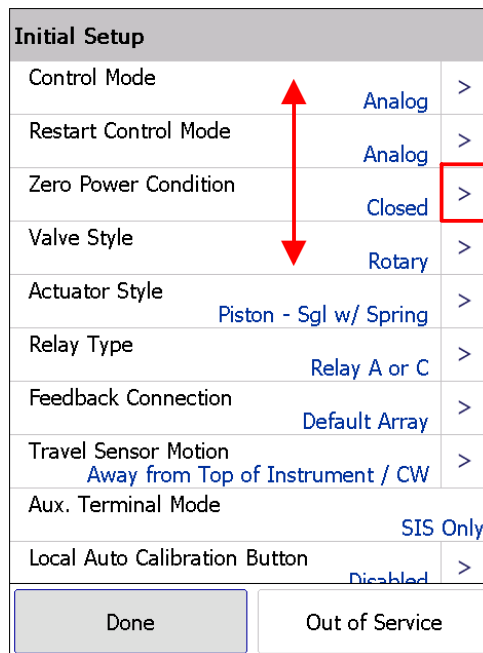
Home Screen

Select the Fieldbus or HART Connect icon from the home screen to communicate with a field instrument.

Navigation Tips

List controls are scrolled with grab-and-drag input as shown in the list control navigation screen shot.

Once you find a variable that you want to change, you can hit the selection button (>). The selection button may not be visible if you are not connected to a device. Parameters that cannot be changed will have a  symbol next to the selection button. This will usually happen when the instrument mode is In Service for HART devices or AUTO for fieldbus devices.



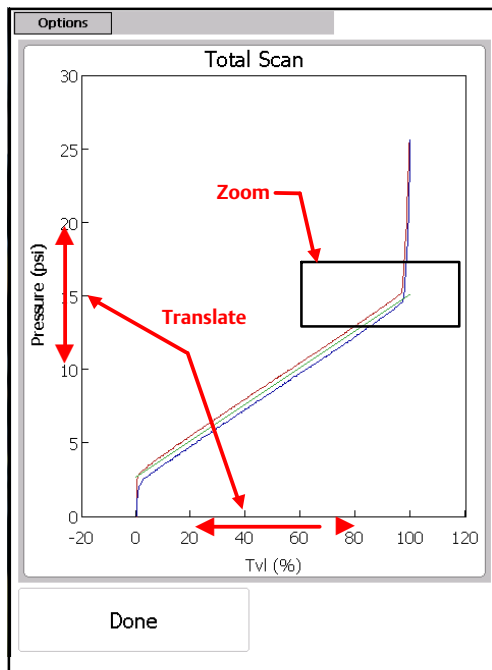
List Control Navigation

The command bar located at the bottom of the screen has two soft keys. The left Done soft key is used to go back one screen. The right soft key displays instrument mode (In Service, Out of Service, or Not Connected for HART devices; AUTO, MAN, OOS, or Not Connected for fieldbus devices). Select this key to change the instrument mode.

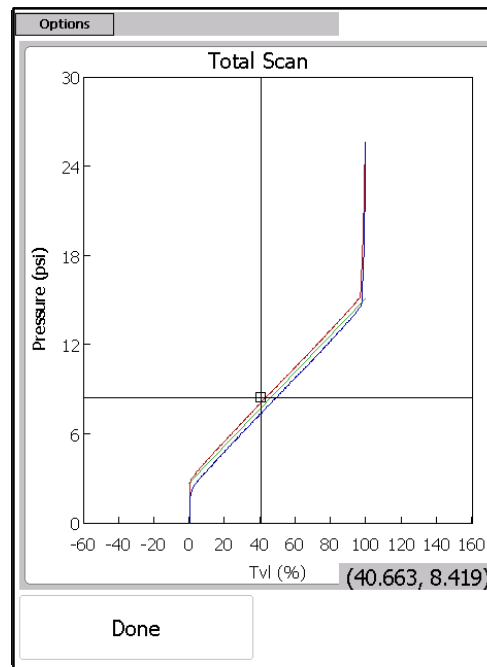
Most tasks will display a green highlighted bar to indicate that the task has completed successfully. For off-line diagnostic tests, wait for the green **Completed** highlight to appear on the graph before moving on to the next task.

Graph Controls

Graphs are displayed in real time or statically after a test has completed. Graph areas can be zoomed in by dragging a selection rectangle around the desired region of interest. Axes can be translated by grabbing the scale and sliding it to the desired position. Zooming and translation are shown in the figure below. To return back to the default view, tap the graph.



Graph Zoom and Translate Controls

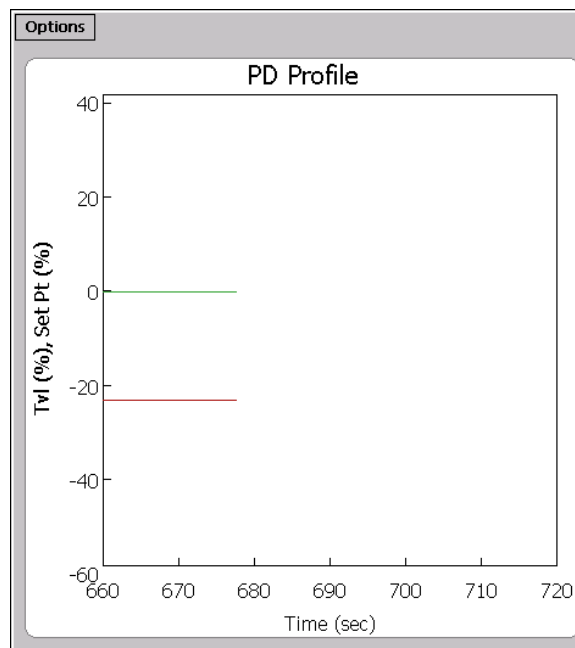


Graph Crosshairs and Coordinates

When graphs are being drawn in real time, you can zoom in on the data or translate the axes. When this occurs, updates to the display will be paused but data will continue to be collected in the background. Tap the graph to restart the real time display.

Crosshairs can be displayed by selecting the directional pad (up, down, left, right arrows) “Enter” or Checkmark key until the crosshairs appear. Crosshairs can be moved by grabbing and dragging any point on the screen. X-Y coordinates are displayed in the lower right corner. To clear the crosshairs, press the directional pad “Enter” or Checkmark key again.

PD graphs can display up to four variables on two graphs. The second graph can be viewed by grabbing a graph anywhere except the y-axis scale and sliding the display up or down. Alternatively, graphs can be moved by pressing the up or down directional pad arrow keys.



PD Real Time Graphs

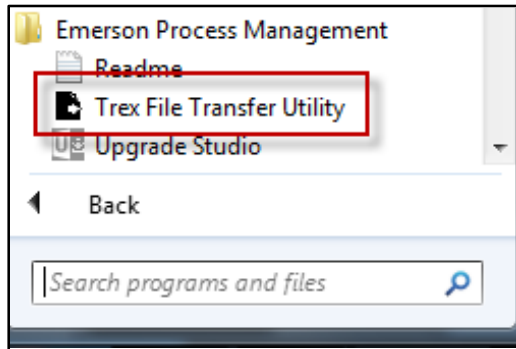
ValveLink Mobile File Transfer on AMS Trex Device Communicator

Connect your Trex communicator to the PC you wish to export the files to with the USB connection.

Note

Ensure ValveLink Mobile software is closed and will not be accessed for the entirety of this transfer.

Navigate to Trex File Transfer Utility on the PC.

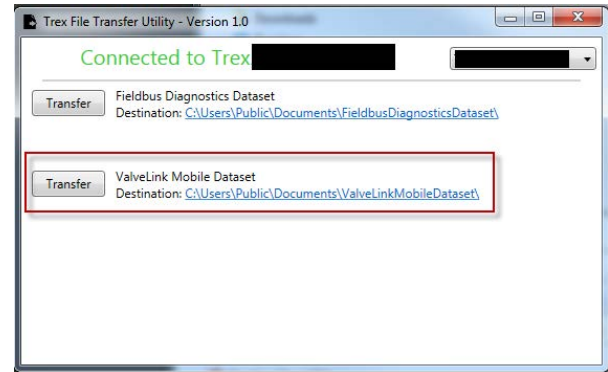


Note

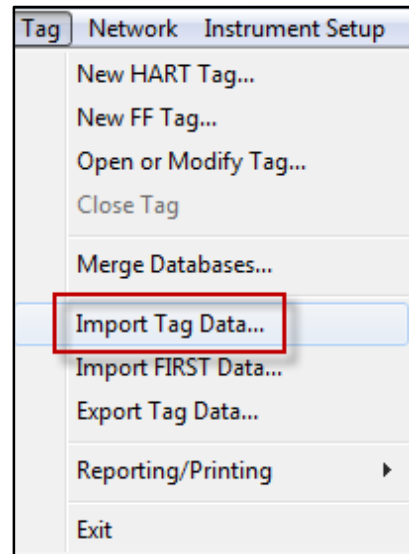
Upgrade Studio must be installed from the Trex installation CD before you can transfer files from the Trex.

Click the Transfer button next to ValveLink Mobile Dataset.

These .exp files can then be individually imported into ValveLink software.



Transfer ValveLink Mobile Dataset



Note

This process does not delete the files from the Trex communicator. Files must be deleted from the ValveLink Mobile application, at Utilities > Data Set Explorer.

Menu Structure



CONNECT

Connect is the starting place for establishing communications with a FIELDVUE instrument. Select Connect to access valve tag, last calibration date, and other relevant connection information. For fieldbus devices, the instrument must be at a permanent address to connect and change parameters.



SETUP



Setup Wizard

Use the Setup Wizard to guide you through initial instrument setup and calibration. All fields must be filled in before you can select **Apply** to download settings to the instrument. The instrument mode must be **Out of Service** (HART) or **MAN** (fieldbus) before the Setup Wizard can download parameters to the instrument.



Detailed Setup



Initial Setup

Fundamental instrument parameters, such as Zero Power Condition. Once these have been established, they generally do not need to be changed.



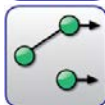
Tuning

Parameters for tuning travel and pressure servo controllers.



Response

Parameters for configuring rate limits, input filter time constant, and input characteristic.



Travel / Pressure Control

Parameters for configuring cutoffs, travel limits, and pressure fallback.



Alerts

Parameters for enabling alerts and setting alert thresholds. Alert states can be viewed using **Status**.



Engineering Units

Use Engineering Units to set instrument units. The display of operational parameters in ValveLink Mobile will be consistent with units configured in the instrument.



Write Protection

Used to enable or disable Write Protection in the instrument. When enabled, Write Protection prevents configuration and calibration changes to the instrument.



Save Detailed Setup

Save Detailed Setup is used to save a record of all device parameters. Saved data can be viewed in Data Set Explorer.



Spec Sheet

Reference list detailing valve body, actuator, and trim construction. Used to provide context for diagnostics.



CALIBRATION



Auto Travel

Auto Travel provides guided procedures for calibrating travel control and pressure fallback.







Manual Travel

Manual Travel provides guided procedures for manually calibrating travel feedback. Parameters for pressure fallback can be manually set in Detailed Setup.



STATUS

-
- Monitor Tab** Displays operating parameters, such as input current, travel, and supply pressure.
- Alerts Tab** Summarizes instrument alert states:
-  Alert ON
 -  Alert not enabled
 -  Alert OFF
 -  Alert not read
- Device Info Tab** Shows tag, firmware revision, device ID, etc.
- Save Data Tab** Save status monitor information. Results can be viewed in Data Set Explorer or transferred to desktop computer using Wireless File Transfer.



DIAGNOSTICS



Total Scan

Pressure versus travel, travel versus time, and pressure versus time graphs are available using Total Scan. This is an off-line test that must be run with the instrument mode **Out of Service (HART)** or **MAN (fieldbus)**. Total Scan tests are used to estimate friction, bench set, and seat load.



Step Response



Stroking Time

Response to target set point values of 0%, 100%, and 0%. Used to estimate the time required to fully open and fully close a valve.



25% Step Study

Dynamic response to target set point values of 0%, 25%, 50%, 75%, 100%, 75%, 50%, 25%, and 0%. Used to check linearity.



Large Step Study

10%, 20%, ..., 80% steps from a baseline of 10%. Used to assess stability of valves with complex accessory configurations.



Performance Step Test

Bidirectional steps with amplitudes of 0.25%, 0.5%, 1%, 2%, 5%, and 10%. Used to estimate valve dead band and dynamic response.



PD One Button

Preconfigured, on-line diagnostic tests for identifying faults. Must be run with the instrument mode set **In Service**.



PD Traces

Real time traces of any device variable. Must be run with the instrument mode **In Service** for HART devices. PD traces can be run in **MAN** or **AUTO** for fieldbus devices. PD Traces are especially useful for tracking down limit cycles or other atypical behavior.



UTILITIES



Data Set Explorer

Select Data Set Explorer to view all diagnostic data by tag.



Wireless File Transfer (475 Field Communicator only)

Wireless File Transfer combines selected tag data into a single *VLMobile.exp* file that can be transferred to a desktop computer using IrDA or Bluetooth and imported into ValveLink.

Most desktop Bluetooth software will guide you through the file transfer process. However, if you have the Microsoft Bluetooth software stack on your desktop, you will need to enable file transfer services before you can send a file. To do this, right mouse click on the Bluetooth logo in your icon tray and select *Receive a File* before transferring data. If the desktop software requires a passcode, use 0000 (all zeros).



Fieldbus Tools



Set Device Address

Used to define a permanent or temporary address for the instrument. Device parameters can only be changed when the device is at a permanent address. Use a temporary address to initialize an address on a host system.



Set Device Tag

Sets device tag.



Set Output Block

Used to define an analog or discrete set point source.



Restart

Reboots the microprocessor. This function does not change device parameters.



Device List

Scans and displays all device tags and addresses on a segment. The device list can be displayed without being connected to a specific instrument.



Block Modes

Displays resource, transducer, AO, and DO block modes.



HART Tools



Toggle Burst Mode

Select Toggle Burst Mode to temporarily disable burst communications. This will improve speed and reduce communication errors.



HART Revision

If supported, HART Revision can be used to set HART 5 or HART 7 communications protocol in the instrument.



Instrument Family

For DVC6200 instruments, select DVC6000 for devices with a potentiometer feedback sensor or DVC6200 for devices with a magnetic array feedback sensor.



Instrument Level StepUp

Instrument Level StepUp is used to change the diagnostic tier in the instrument with a device specific 15 digit code.



About

About displays standard software identification information.



STROKE VALVE

Stroke Valve is a routine for moving a valve to 0%, 25%, 50%, 75%, and 100% lifts or by jogging the valve up or down in 2% increments from any starting point.

Notes

This version of ValveLink Mobile software does not provide power to the instrument through the Trex communicator.

PDA/Windows Mobile devices are no longer supported with ValveLink Mobile software.

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