

ValveLink™ Mobile Software

ValveLink Mobile software provides the capability to set up, calibrate, and troubleshoot HART® communicating FIELDVUE™ DVC6200, DVC6000, and DVC2000 digital valve controllers using an Emerson Field Communicator or PDA. See the table below for hardware requirements. Data collected in the field using ValveLink Mobile software can be transferred to ValveLink Solo, AMS ValveLink SNAP-ON™, ValveLink DTM, or ValveLink PLUG-IN for PRM® applications to be analyzed and archived.

Hardware Requirements

475 Field Communicator	Easy Upgrade option is required to load ValveLink Mobile software (if not already preloaded) or to install updates. Requires a Bluetooth® or an IrDA® interface on the PC to transfer valve data files. To transfer data files using Bluetooth, the 475 Field Communicator must be ordered with the Bluetooth option.
375 Field Communicator	512 MB (minimum) or 1 GB memory card and Easy Upgrade option are required to load ValveLink Mobile software or install updates. Requires an IrDA interface on the PC to transfer valve data files.
PDA	PDA (or smartphone) with Windows Mobile® 5 or 6.x. Requires a Bluetooth HART modem. Bluetooth interface or USB data cable is required on the PC to transfer valve data files.



475 Field Communicator



PDA with Bluetooth HART Modem



Installation

Field Communicator

Easy Upgrade is used to install ValveLink Mobile software on Field Communicators. Refer to the table on the front cover for requirements.

PDA

1. Use a USB data cable to connect your PDA to your PC.
2. Establish a connection to your mobile device using Microsoft® ActiveSync® 4.5 (Windows® XP) or Windows Mobile Device Center 6.1 (Windows Vista®, Windows 7). These programs can be downloaded from the following web site:

<http://www.microsoft.com/windowsphone/en-us/apps/65-downloads.aspx>.

3. Run VLMobile Setup.exe from your PC to install ValveLink Mobile software on your mobile device.

Pairing a Bluetooth HART Modem to your PDA

1. Turn on the Bluetooth HART modem.
2. Turn on the Bluetooth radio on your PDA.
3. From the Wireless Manager on your PDA, select Bluetooth Setting and add a new device.
4. Select the Bluetooth HART modem from the list and enter the HART modem passcode, which can be found in the modem instruction

manual. The default passcode for the MACTek® Bluetooth modem is *mactek*.

5. Find the COM ports selection. Assign the modem to an **Outgoing** COM port (e.g., COM6).

Once the modem and the mobile device are paired you will not need to perform this procedure again.

Connecting to the Digital Valve Controller

The Field Communicator or Bluetooth HART modem may be connected to the 4-20 mA 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

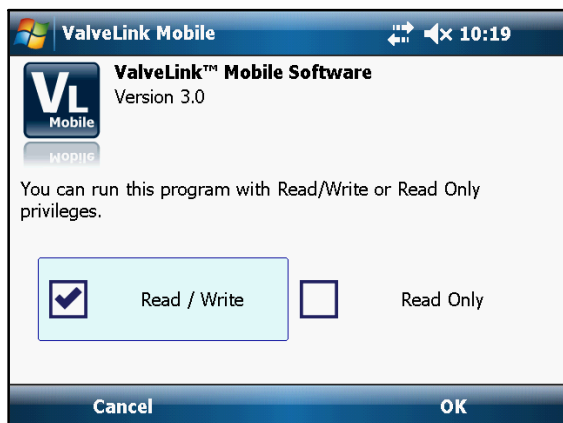
Field Communicator

Select the ValveLink Mobile icon from the main menu to launch the software.

PDA

On a Windows Mobile Device, select *Start > Programs > ValveLink Mobile* to launch the software.

Starting ValveLink Mobile Software

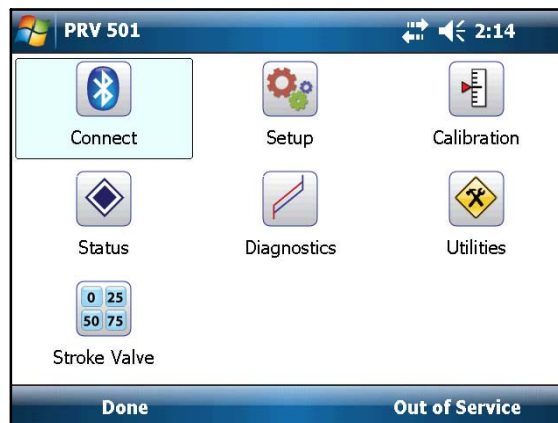


Startup Screen

ValveLink Mobile software can be run with Read/Write or Read Only privileges. Read/Write gives you access to all functionality in ValveLink Mobile software.

Select Read Only to view device parameters, download the current instrument configuration, or monitor device variables using Status or PD diagnostics. You cannot change the instrument mode, run calibration or Setup Wizard when Read Only has been selected.

Establishing a Connection



Home Screen

Field Communicator

Select Connect from the home screen.

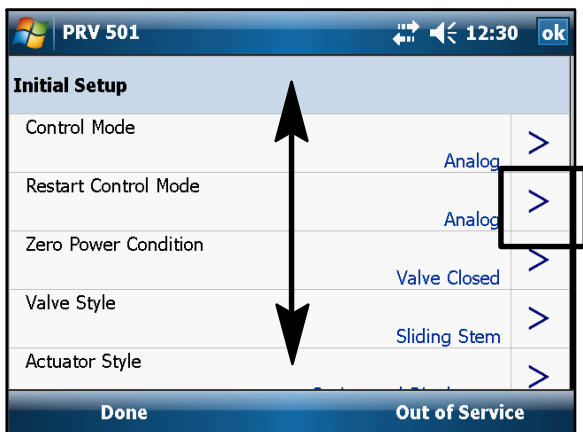
PDA


1. Turn on the Bluetooth HART modem and the Bluetooth radio on your mobile device.
2. Select Connect > Change > Bluetooth COM Port. Set the COM port as defined in the pairing process above, e.g., COM6.
3. Select Connect.

ValveLink Mobile software will remember the last successful connection and you will not have to set the COM port again.

Navigation Tips

List controls are scrolled with grab-and-drag input from a stylus or finger as shown in the screen shot below.



Once you find a row 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  next to the selection button. These will usually be displayed when the instrument mode is In Service.

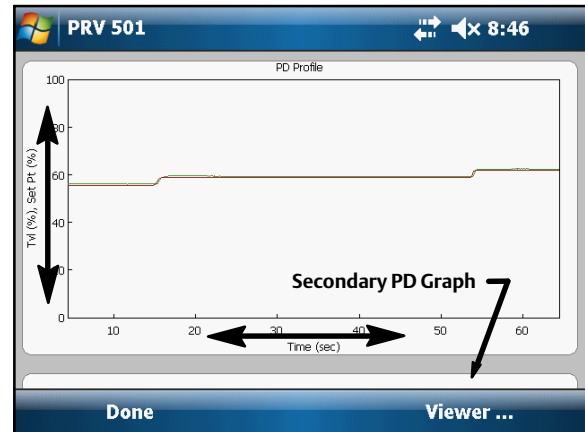
The command bar located at the bottom of the screen has two soft keys. The left *Done* soft key is used to go back one screen. The right soft key displays instrument mode (In Service, Out of Service, or Not Connected). Select this key to change instrument mode.

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 test.

Graph Controls

Graphs are displayed in real time or statically after a test has completed. When zooming or translating graphs, data will be collected in the background but updates to the display will be paused. Tap to restart display updates.

Axes may be translated by grabbing an axis scale and sliding it to the desired position as shown in the figure below.



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 graphs up or down.

Graphs can be zoomed in by using a stylus to draw a selection band around the desired area. Tap on the screen to reset.

Crosshairs can be displayed by selecting the directional pad (up, down, left, right arrows) *Enter* key until the coordinates appear.

Other Information

Bluetooth

Bluetooth communications are generally robust, but the radio signal can be absorbed by water.

The most likely sources of water are your hand and people that might be between the Bluetooth radios. Some PDAs have the Bluetooth radio antenna where you put your hand, which can interfere with the signal.

ValveLink Mobile Software Menu Structure



CONNECT

Connect is the starting place for establishing communications with a FIELDVUE instrument. Select connect to access the HART tag, last calibration date, and other relevant connection information.



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 set Out of Service before the Setup Wizard can download parameters to the instrument.



Detailed Setup

Detailed Setup is used to manually set instrument parameters.



Initial Setup

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



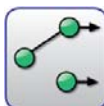
Tuning

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 state is unknown)
-  Alert OFF
-  Alert not read (alert state is unknown)

Device Info Tab Shows HART tag, firmware revision, device ID, last calibration date, etc.



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 set Out of Service. Total Scan tests are used to estimate friction, bench set, and seat load.



Step Response

Four preconfigured step tests are available. These are off-line tests that must be run with the instrument mode set Out of Service.



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 - 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 set In Service. PD Traces are especially useful for tracking down limit cycles or other unusual or inconsistent behavior.



UTILITIES



Data Set Explorer

Select Data Set Explorer to view all diagnostic data by tag. Navigating to the data will allow it to be viewed or deleted.



Wireless File Transfer

Wireless File Transfer allows you to transfer data sets or communication logs to a desktop computer using IrDA or Bluetooth.

Wireless File Transfer combines selected tag data into one `VLMobile.exp` file that can be 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*. If the desktop software requires a passcode, use `0000` (all zeros).



Toggle Burst Mode

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



Instrument Upgrades



Instrument Level StepUp

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



HART Revision

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



Instrument Family

Select DVC6000 for devices with a potentiometer feedback sensor or DVC6200 for devices with a magnetic array feedback sensor.



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.

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