

# TESTEQUITY

## ***LabVIEW Drivers for TestEquity Chambers***

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These files provide the ability to communicate with the Watlow F4 Controller used on TestEquity chambers using National Instruments LabVIEW over the RS-232 interface.

### **Preparation**

#### **Baud Rate**

TestEquity configures the F4 Controller with a baud rate of 9600. The program and computer's serial port must be configured to match the baud rate of the F4 Controller. Alternatively, the F4 Controller can be re-configured for 19200 baud in its Setup Menu.

#### **Cabling**

The serial port on the chamber is a DB-9 connector. It is wired to accommodate a "Null-Modem without Handshaking, DTE-DTE Connection" (pins 2 and 3 swapped).

#### **Security**

These LabVIEW Drivers are written to work only with Watlow F4 Controllers that are configured for TestEquity chambers. If the F4 Controller is not configured correctly the following error message will be displayed:

Non-TestEquity instrument detected. This driver will only work with properly configured TestEquity equipment.

Older TestEquity chambers will require additional setup parameters to be entered in the F4 Controller. If you get the above error message with an older TestEquity chamber, contact Chamber Technical Support at [www.testequity.com/contact](http://www.testequity.com/contact) . You will need to provide your company name, chamber model and serial number to obtain instructions on how to enter the additional setup parameters. These drivers will NOT work with Model 105 chambers that have the Series 96 Controller.

### **Executable VI Front Panel Files**

The \*.exe files are executable VI Front Panels which demonstrate the driver library functions. "TestEquity Temperature Test Panel" has only temperature functions. "TestEquity Temperature & Humidity Test Panel" additionally includes humidity functions that are only applicable for TestEquity Model 1007H and 1207C chambers.

These Executable VI Front Panels require LabVIEW Runtime 7.1 to be installed. If LabVIEW Runtime 7.1 is already installed, then you can launch the executables with no additional installation. Otherwise, install from the setup.exe file in either the "T Only Installer" (for temperature-only) or "T&H Installer" (for temperature and humidity) folder.

## VI Functions

The following chamber-related functions are available:

Write Temperature Set Point  
Read Temperature Set Point  
Read Actual Chamber Temperature

Write Humidity Set Point  
Read Humidity Set Point  
Read Actual Chamber Humidity

Write configuration for °C or °F  
Read configuration for °C or °F

Write On or OFF condition for Digital Outputs (Events) 1 through 7  
Read On or OFF condition for Digital Outputs (Events) 1 through 8  
(Note: Digital Output 8 is configured for compressor control and is read-only)

Write Date and Time to real-time clock  
Read Date and Time from real-time clock

## Driver Library File

File “TestEquityF4.llb” contains the LabVIEW VI library. You can use them to create your own custom measurement and control system.

## Credits

These LabVIEW files were developed for TestEquity by LabVIEWexpert.com. LabVIEWexpert.com is a leading National Instruments Alliance Member, supplying custom test software solutions to hundreds of customers worldwide. The company consistently provides “Low Risk Software Solutions to High Stakes Automation”. If you would like assistance with your LabVIEW project, please visit them at [www.LabVIEWexpert.com](http://www.LabVIEWexpert.com).

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