Lab View Driver Manual

For Tenney VersaTenn V and Blue M Protouch

Chamber Controllers

By Tidal Engineering Corporation
2 Emery Ave
Randolph, NJ 07869
www.TidalEng.com

Revision Preliminary

Document No. TE1480

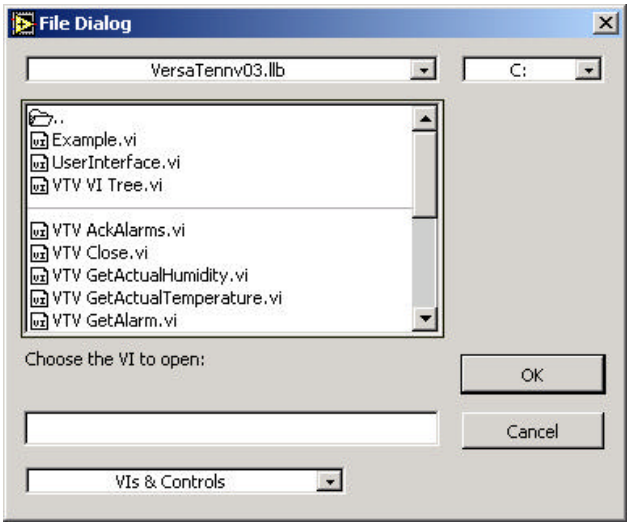
Table of Contents

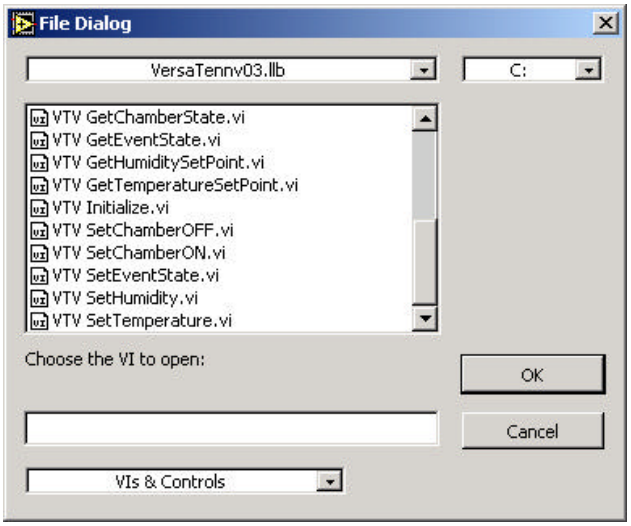
LabVIEW Driver
Tidal Engineering's VersaTenn V Environmental Chamber Controller

1.0 Introduction

The LabVIEW Driver included with the VersaTenn temperature controller provides an easy way to communicate with the instrument over the GPIB and allows for the addition of temperature control capability to any application developed in LabVIEW. The driver was developed in LabVIEW version 5.11 and can be incorporated in any application developed in LabVIEW 5.11 or higher. The driver is a LabVIEW library that contain 18 Virtual Instruments (VIs) that are specifically tailored to work with the VersaTenn V and save many hours of program development time and greatly reduce the cost of adding chamber control to the test development process. The library also includes an example.vi that can be used as a reference to get a quick start.

1.1 LabVIEW Library (VersaTenn.llb)





2.0 LabVIEW Library Contents

The VersaTenn's LabVIEW driver contains the following Vis

2.1 Top Level VIs

- *Example.vi*
- *UserInterface.vi*
- *VTV VI Tree.vi*

2.2 VI's to query state and parameters

- *VTV AckAlarms.vi*
- *VTV GetActualHumidity.vi*
- *VTV GetActualTemperature.vi*
- *VTV GetAlarm.vi*
- *VTV GetChamberState.vi*
- *VTV GetEventState.vi*
- *VTV GetHumiditySetPoint.vi*
- *VTV GetTemperatureSetPoint.vi*

2.3 VI's to Set state and parameters

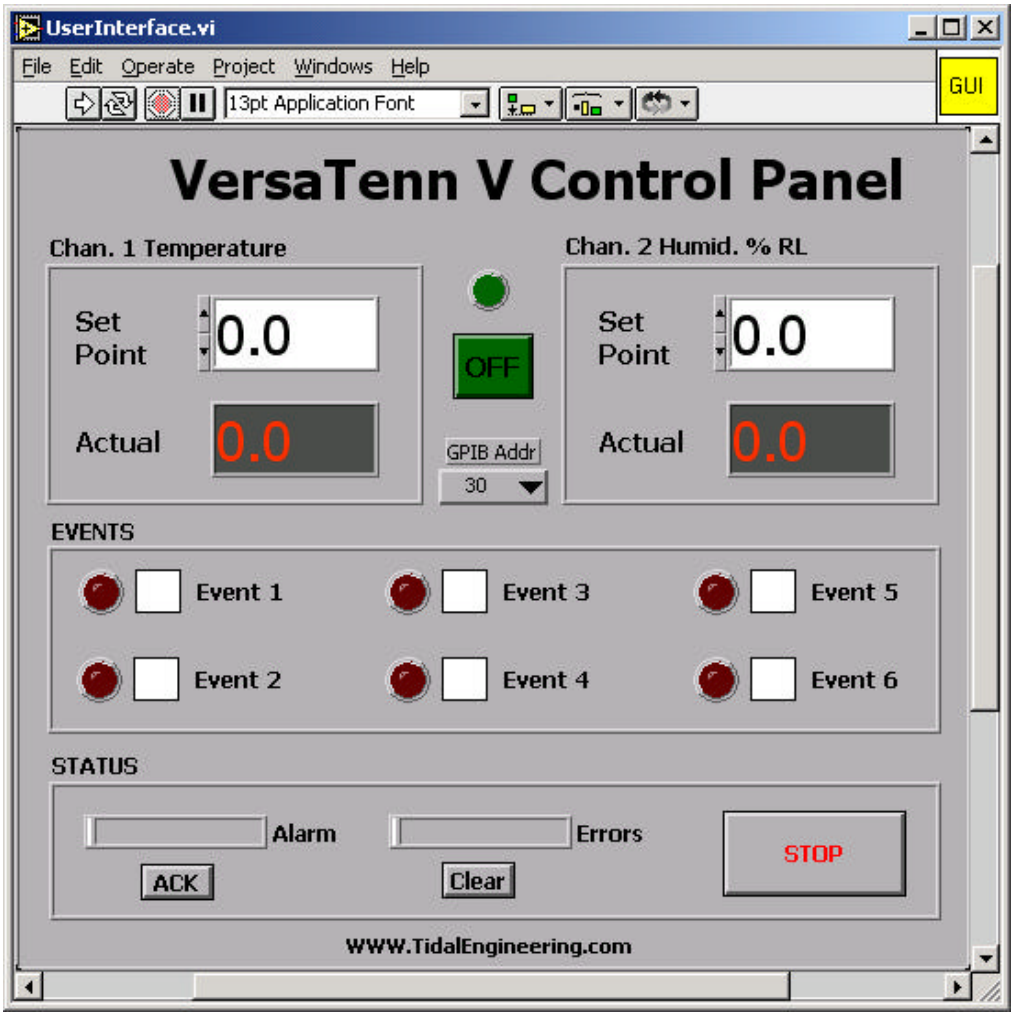
- *VTV SetChamberOFF.vi*
- *VTV SetChamberON.vi*
- *VTV SetEventState.vi*
- *VTV SetHumidity.vi*
- *VTV SetTemperature.vi*

2.4 VI's to start and end GPIB communication

- *VTV Initalize.vi*
- *VTV Close.vi*

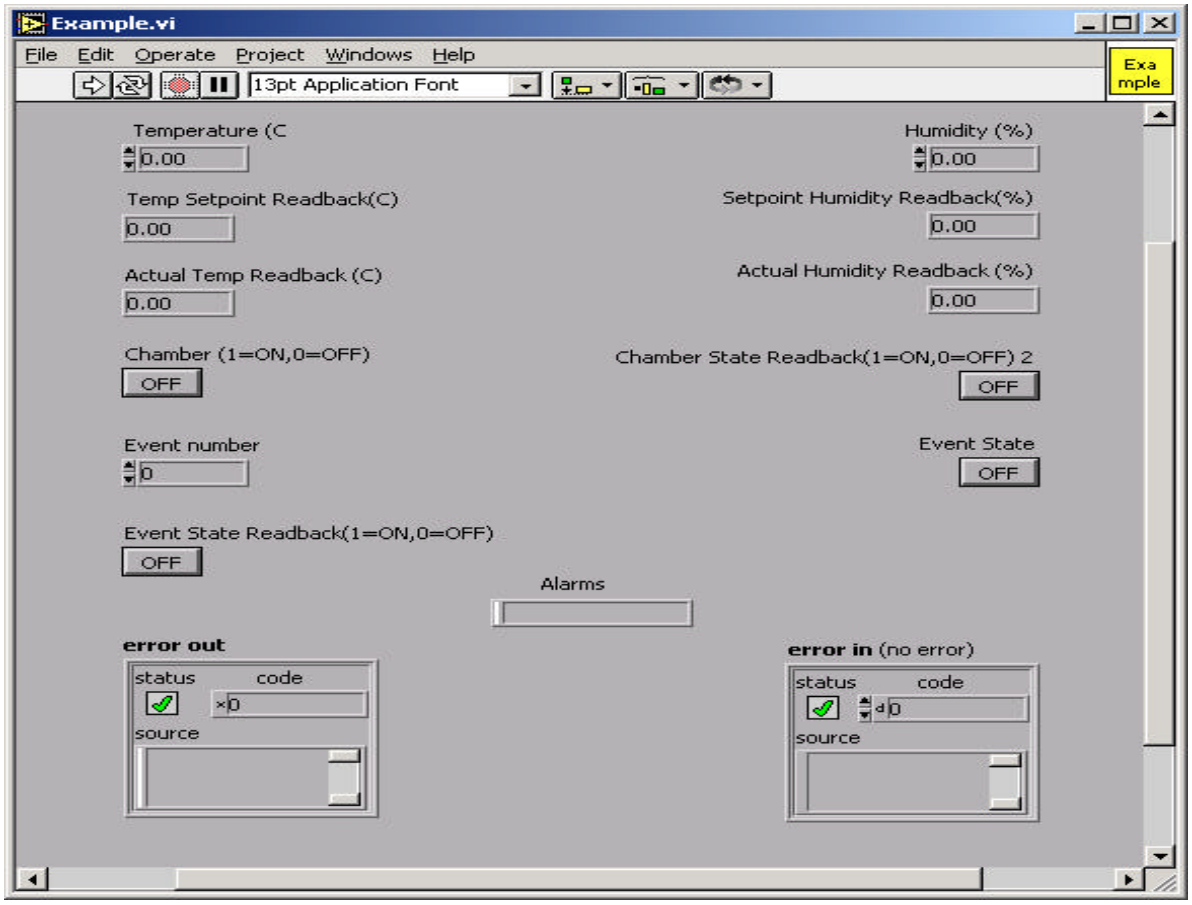
3.0 The User Interface.vi

The User Interface.vi allows you to quickly connect the VersaTenn to the GPIB and verify communication and perform some basic temperature settings.



4.0 A Simple Example

The VIs provided in the LabVIEW driver (VersaTenn.llb) can be incorporated in test programs to develop custom temperature control application.



Panel View

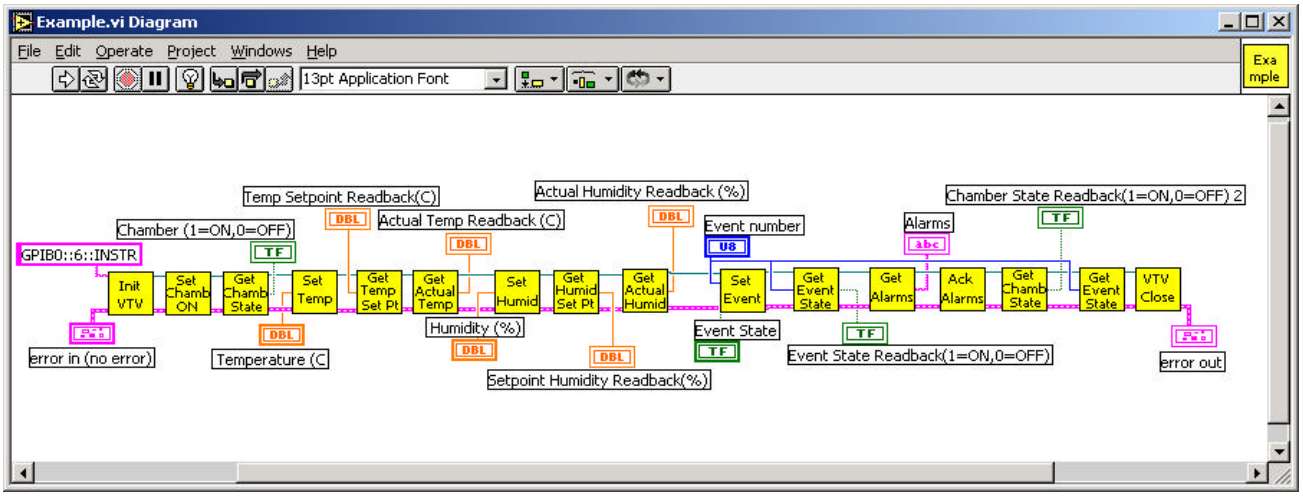


Diagram View

To create an application the user must begin with the ***VTV_Initalize.vi*** and specify the GPIB address (GPIBx::y::INSTR). The x represents the board number of the GPIB card installed in the PC and y represents the actual address of the VersaTenn temperature controller. The application must close the Visa Session, to avoid any memory related issues, by using the *VTV_Close.vi* . The other VIs can be used to customize the test application.

5.0 VersaTenn LabVIEW Driver Specifications

Computer
- *Intel Pentium or Equivalent processor*

Operating System
- *Windows 95/98/2000 or NT*

Software
- *NI LabVIEW 5.11 or higher*

Virtual Instruments
- *Includes 18 VIs*

Deliverable Items
- *3.5 inch disk with VersaTenn.llb*
- *Documentation*

Ordering Information
- *Part Name – VersaTenn V Labview Driver*
- *Part Number - TE1438*