



POWER CONVERSION AND INSTRUMENTATION SOLUTIONS FOR OVER 50 YEARS

## WDE series PowerTap™ Quick-Start Guide

### System Requirements

- Windows XP, Vista or 7
- Microsoft Office Excel version 2007 or above
- USB2+ port
- X86 Processor, Pentium 4 or above.
- 3Gb RAM
- Installation files require 10Mb disk space

### Installation

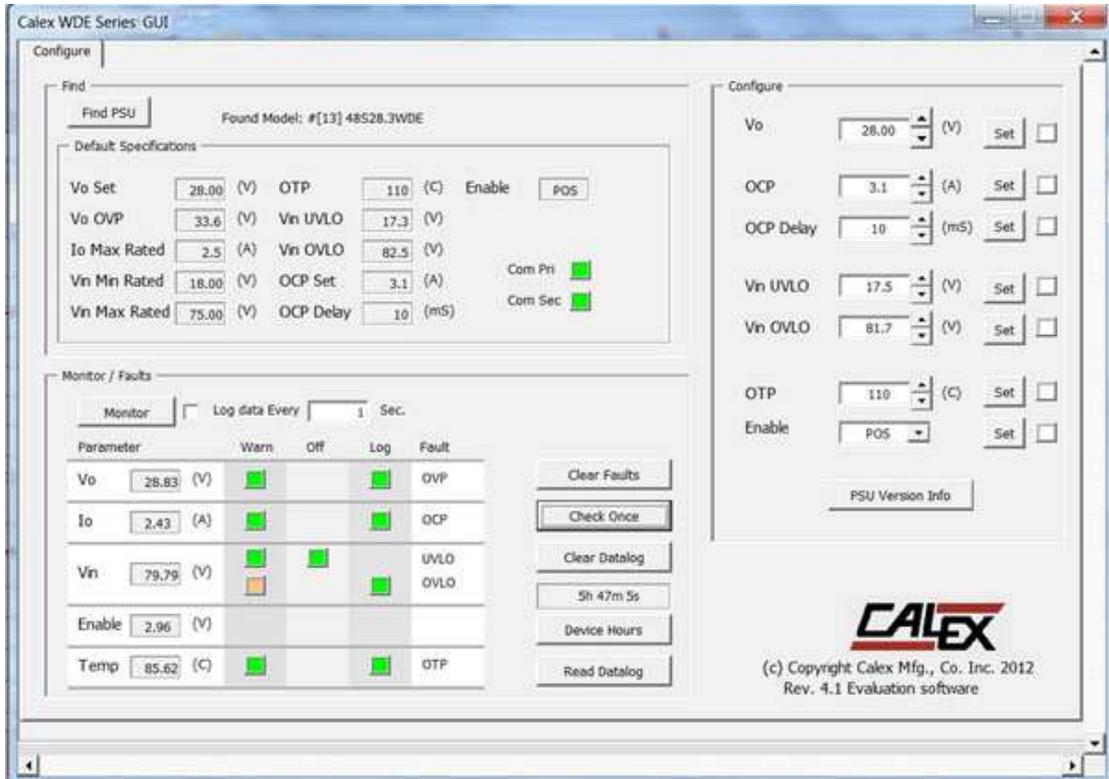
- 1) Do not connect the USB cable initially.
- 2) Download the installation software from secure server <https://www.calex.com/software>
- 3) Unzip the installation file to a folder on your computer (e.g. Desktop).
- 4) Click 'Setup'
- 5) Read / accept end user license agreement.
- 6) Check that DC/DC and USB to FT2232H Mini Module are correctly inserted in Demo PCB. Micro USB port aligned facing outwards.
- 7) Power demo board / DC/DC from input supply sockets provided.
- 8) Connect the USB cable from the demo board to the computer.
- 9) Check that 2 Indicator LEDs 'INPUT POWER' and '3.3V PWR' are on.
- 10) The USB driver should identify itself and finalize installation automatically.
- 11) Open the Spreadsheet File 'Calex\_PowerTap.xlsm' from the 'Calex PowerTap' desktop shortcut.
- 12) This file contains Macros for the USB driver and GUI automation.
- 13) If Macros are not enabled in Excel they can be enabled with Excel > Options > Trust Centre > Trust Centre Settings > Macro Settings = Enable All Macros.
- 14) In the Excel File click 'Open Configuration GUI'
- 15) Click 'Find PSU'
- 16) Both 'Com Pri' and 'Com Sec' GUI indicators should turn green indicating communication to primary and secondary circuits is established.

### **The Demo board / GUI is now operational**

In the event that the installation fails see notes on troubleshooting at the end of this document



## GUI Functions



The 'Find PSU' button is used to identify the connected converter and loads the 'default' factory settings into the table. These settings are always the same. After clicking 'Find PSU' the indicators 'Com Pri' and 'Com Sec' show that the GUI and converter have established communications. The secondary connection 'Com Sec' controls the set-point of the output voltage only.

### Section 2 – 'Monitor'

Clicking 'Check Once' will read the Vo, Io, Vin, Enable and Temperature values of the converter. In addition it reads the fault and warning status of these parameters. There are 3 types of indicators;

- **Warn** – Visible indicator that parameter is near shut-down limits. No action taken by converter
- **Off** – Indicates that the units input voltage is too low (shut-down)
- **Log** – A fault event has occurred. The unit has logged 10 samples of each monitored parameter after the fault occurred, with a time spacing for 2mS per monitored parameter.
  - The internal Data log can store up to 64 such critical fault events, time-stamped on a first-in / last-out rollover basis.



- **Clear Faults** – Clears fault indicators in the GUI and associated fault registers within the converter
- **Device Hours** – Reads the Lifetime that the unit has been operational for (powered-on).
  - Note that although timer is recording with seconds resolution the non-volatile 'device hours' memory is updated with the time-stamp once per hour only.
- **Read Datalog** – Reads back any faults that were recorded by the converter and puts the data in the 'Datalog' spreadsheet for analysis. The data is time-stamped according to operating lifetime.
- **Monitor** – Updates the monitored parameters every 2 seconds (or slower). The check-box allows the option to store monitored data in the 'Datalog' spreadsheet. e.g. for longer term monitoring in 'life- test', 'soak-test' or engineering evaluation in final product / application.

### Section 3 – 'Configure'

This section allows the user to vary the parameters;

- **Vo** - Output voltage set-point.
- **OCP** – Over current protection inception current
- **OCP Delay** – How long to delay before triggering an OCP fault. For example a longer delay may be desirable for starting into a highly capacitive load.
- **Vin UVLO** – Input under-voltage shut-down inception
- **Vin OVLO** – Input over-voltage shut-down inception
- **OTP** – Over temperature protection inception
- **Enable** – Allows changing of the logic polarity of the enable pin.
- **Set** - The settable parameters are limited within ranges which can be supported by the standard product. The buttons marked 'Set' program the associated parameters in non-volatile memory.



## Troubleshooting:

USB Modem:

If the FTDI ([www.ftdichip.com](http://www.ftdichip.com)) modem is correctly installed it should be visible as "USB Serial Converter A" & "USB Serial Converter B" under Control Panel > Device Manager > Universal Serial Bus Controllers.

If not visible you should attempt unplug and reinsert the modem to reinstall again. Failing this attempt a reinstall of the software from set-up.

The FTDI windows modem drivers may also be downloaded from the website [www.ftdichip.com](http://www.ftdichip.com).

Calex API:

The calex API called "cal\_xp009.dll" (009 number incremented for later versions) is intended for installation in the windows system directory.

The system directory is "windows/System32" for 32 bit systems and "windows/SysWow64" for 64 bit systems.

If the file is not present in the appropriate directory then it may be copied directly to the directory from the install package folder "calex API".