

Calibration of Analog Input Channels

This Application Note explains the procedure to calibrate TESLA's analog input channels (applies to all products in the TESLA family including TESLA 2000, TESLA 3000 and TESLA 4000)

Materials or equipment needed to calibrate channels:

- TESLA 2000/3000/4000
- Analog Input Modules (Voltage and Current)
- Relay test set
- PC running TESLA Control Panel

Gather materials and connected properly as indicated by ERLPhase instruction manuals.

Open TESLA Control Panel and open the the Utilities section, as shown below:

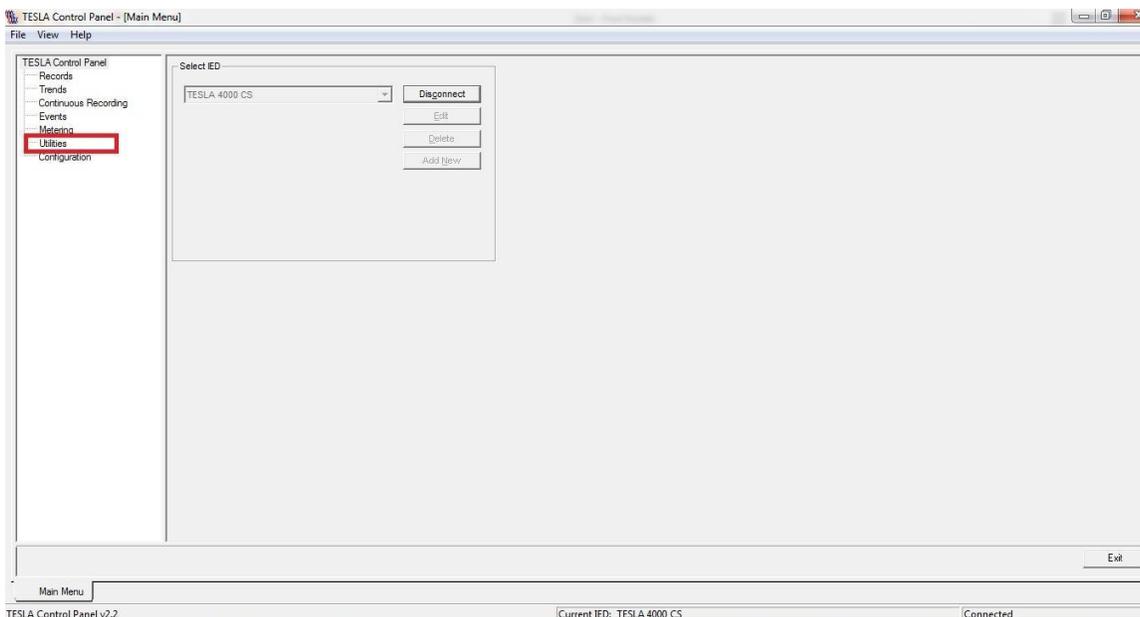


Figure 1 - TESLA Control Panel Main Menu

After clicking “Utilites” the user will be prompted for a password, which requires either the Change or Service password in order to change parameters for the calibration of the Analog Input Channels. If the passwords have not been changed then the user can use either the password “change” or “service”.

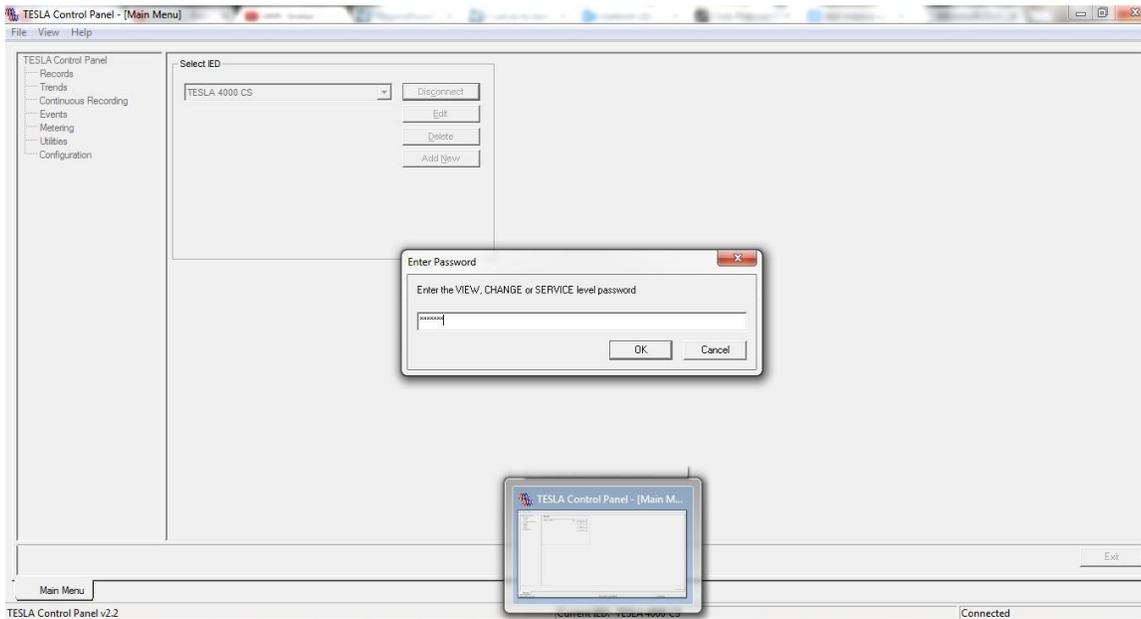


Figure 2 - Utilities Selected - Prompt for Password

Next, the user must click the “Analog Input Calibration” tab. This is where the channels will be calibrated for correct metering and usage (see below):

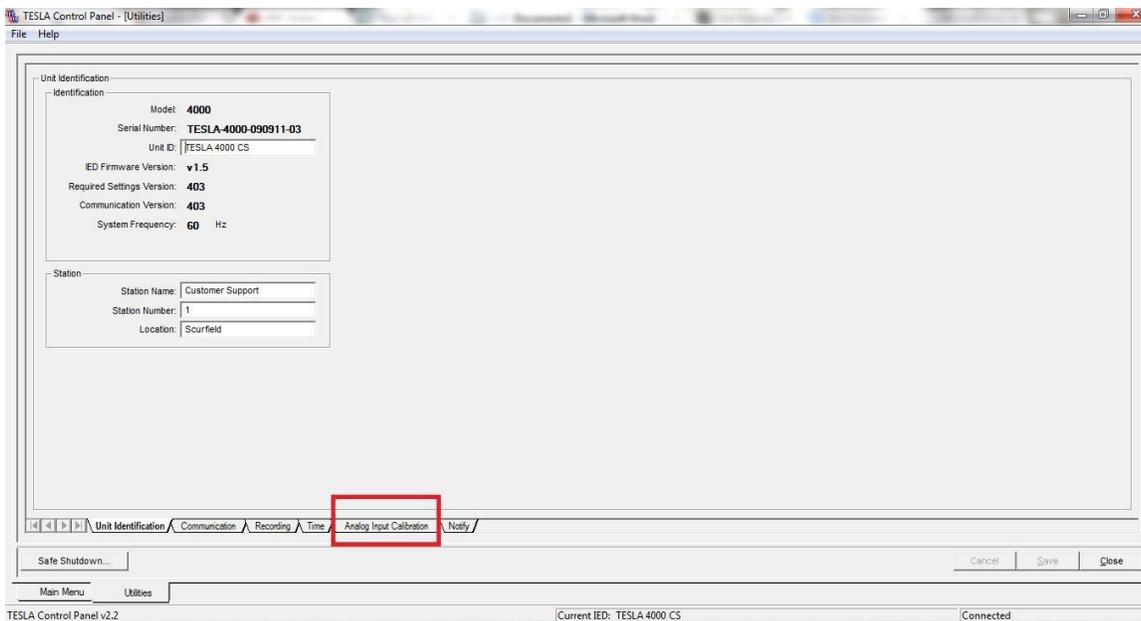


Figure 3 - Analog Input Calibration Tab

In order to make a successful calibration, the user must previously have a Configuration File already loaded with settings for analog inputs into the TESLA (so the Analog Input Calibration section can indicate which channels will be calibrated).

Once in the Analog Input Calibration screen, the user will be shown the channels that are currently configured in the TESLA.

For voltage calibration, the user will enter a desired voltage, within the range specified by the TESLA. It is possible to calibrate multiple voltages, provided that the test set allows the injection to multiple inputs. The figure below shows a typical input of 69 volts, which would be the voltage output of a typical PT.

Depending on the configuration file within the unit, this is where the TESLA will assign the voltage range for the unit to be calibrated; it will depend solely on the transformer's output ratio for each channel.

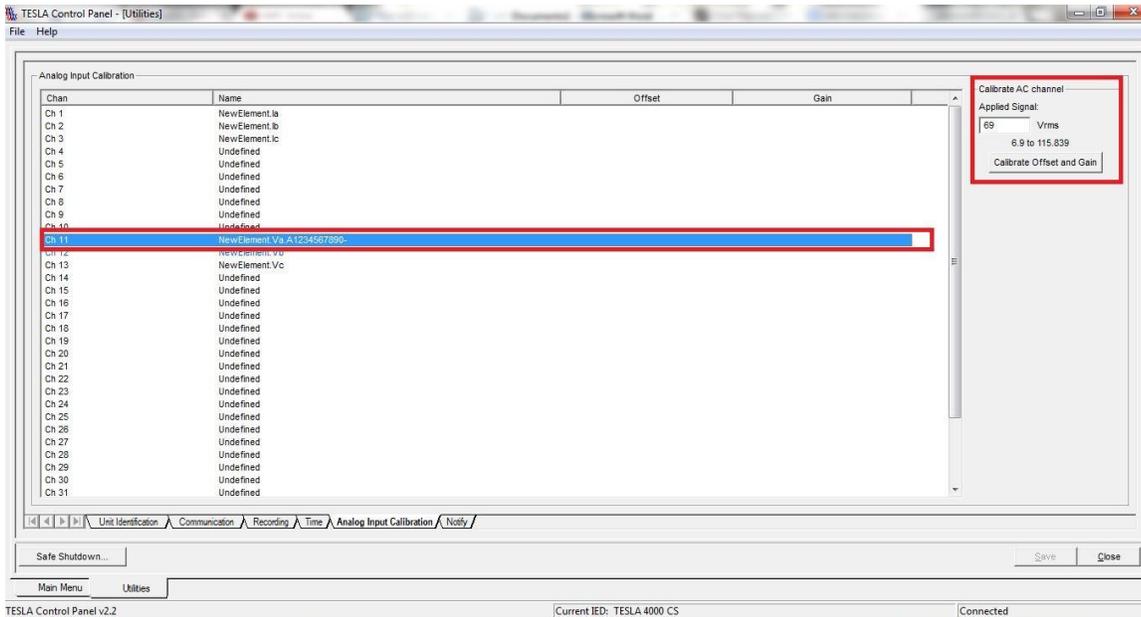


Figure 4 - Analog Channel Under Calibration for Voltage

Follow a similar procedure to calibrate the current channels, except instead of an input of voltage it will be of current (see below):

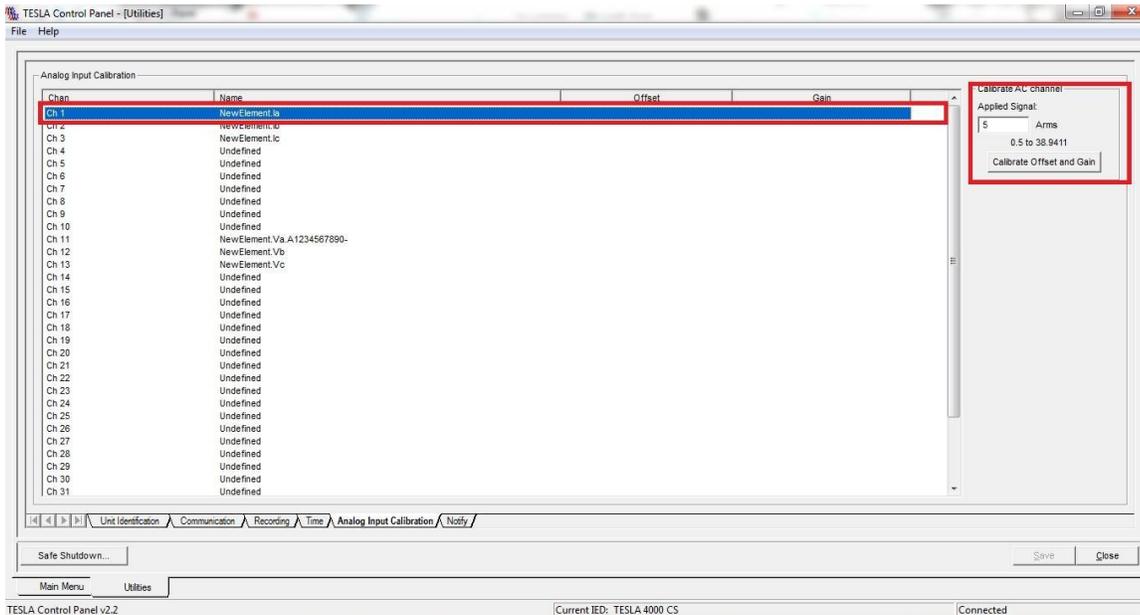


Figure 5 - Analog Channel Under Calibration for Current

After clicking on the “Calibrate Offset and Gain” button, the corresponding analog input is calibrated, provided the TESLA is detecting the presence of the corresponding signal. Once the process is completed for the selected channel, the two columns on the right of the channels with the heading “Offset” and “Gain” will appear with an “Ok” in each column, successful calibration.