

## Setting up a DT2011B data Logger with a VW piezometer

When connecting the VW piezometer wires to the data logger, the wires should be connected to the proper terminal positions on the terminal block.

SH – Shield wire

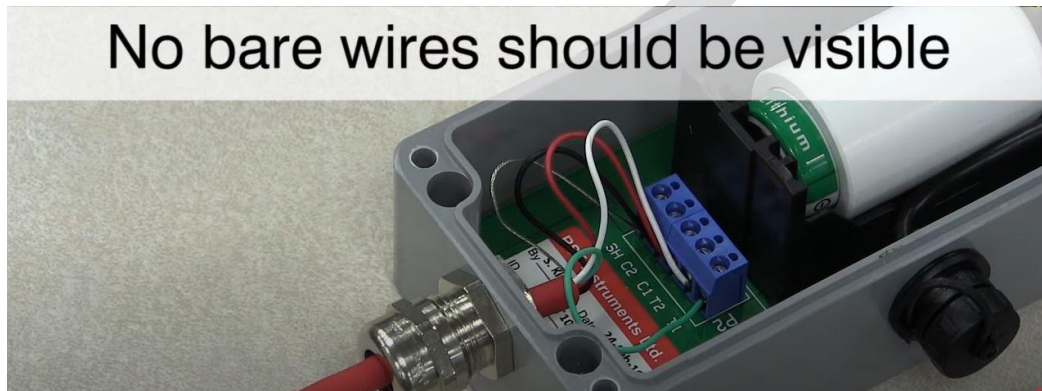
C2 – Black wire

C1 – Red wire

T2 – Green wire

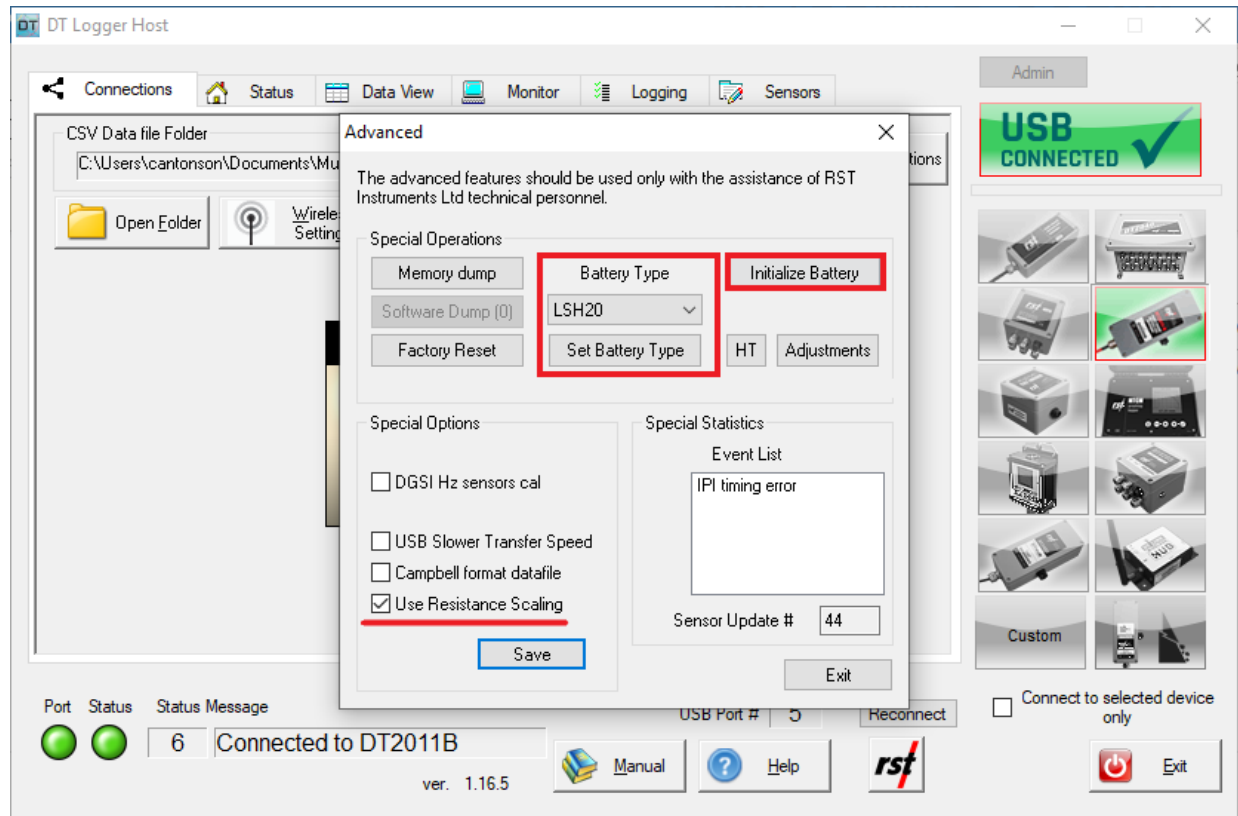
T1 – White wire

There is a Youtube video available <https://www.youtube.com/watch?v=a5hHQaN1Nkl> that demonstrates the process.



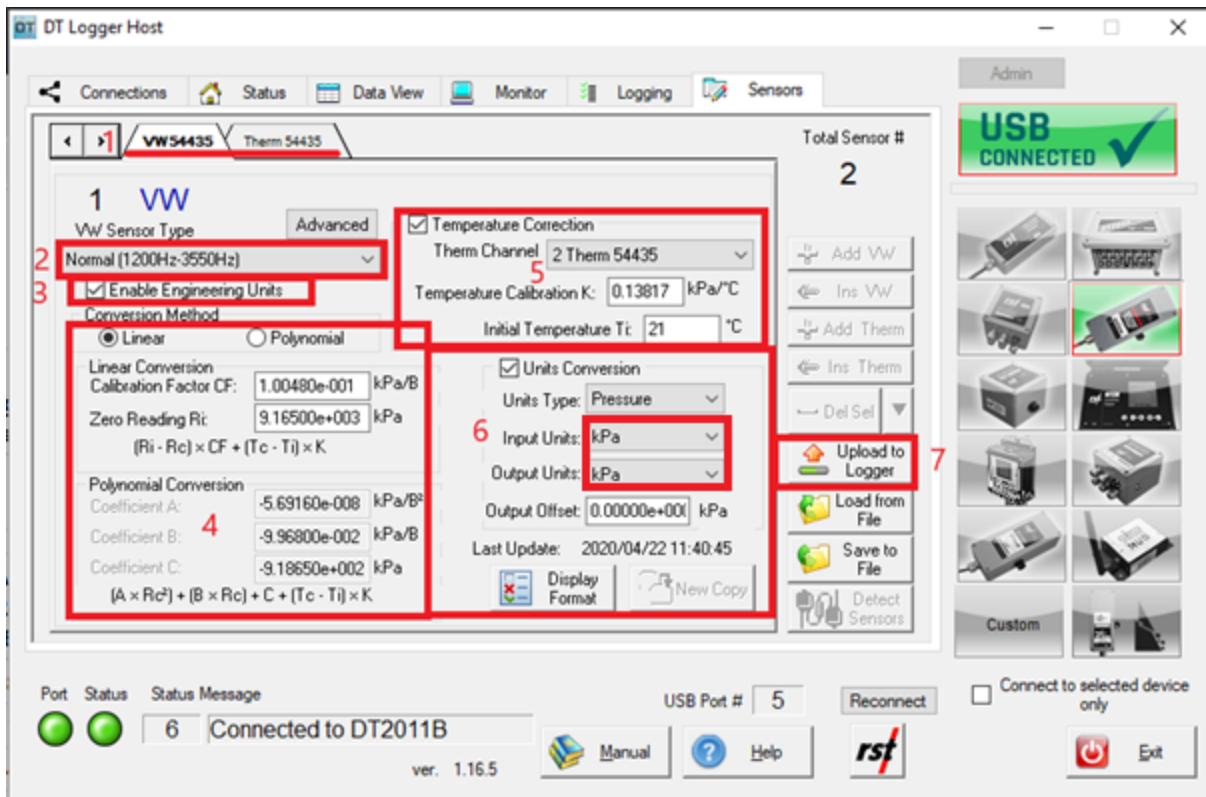
- 1) Connect to the DT2011B Data Logger with DT Logger Host Software. On the Connections tab, choose Options>Advanced to set the battery type and initialize the battery. This should also be done when the battery is changed. Check the Use Resistance Scaling box. **Make sure to remove the battery tab from the data logger before leaving the site as the data logger will run off the power supplied by the USB cable until it is disconnected.**

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- 2) If desired, change the header to the serial number of the piezometer that is connected or to the preferred description.
  - Use Normal (1200Hz-1550Hz) sweep settings.
  - Check Engineering Units and choose the Linear or Polynomial Method (chosen by the operators preference) these values are on the Calibration Record for the piezometer. The C value is calculated using the initial B Unit, Temperature and Barometric readings taken before the piezometer is installed.
  - Check the Temperature Correction box and input the values from the calibration record for the piezometer.
  - Choose the Units Conversion box and choose your preferred units, Input Units are the designated units noted on the Calibration Record (kPa or MPa), but Output Units can be chosen by the operator.

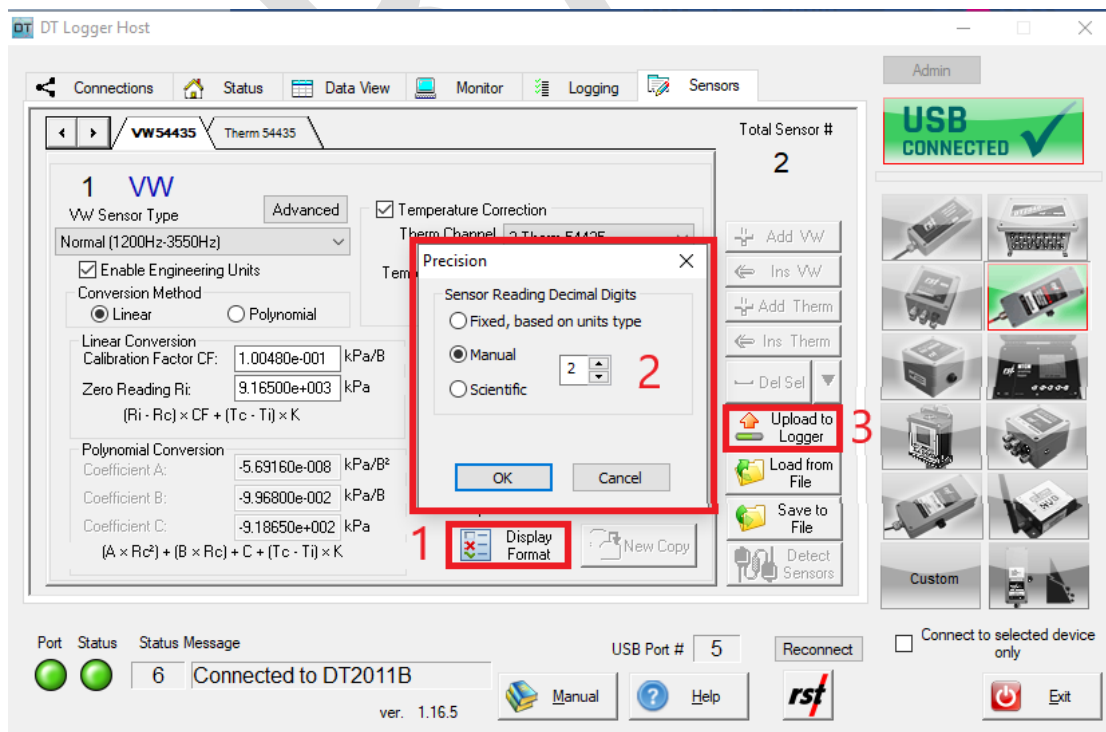
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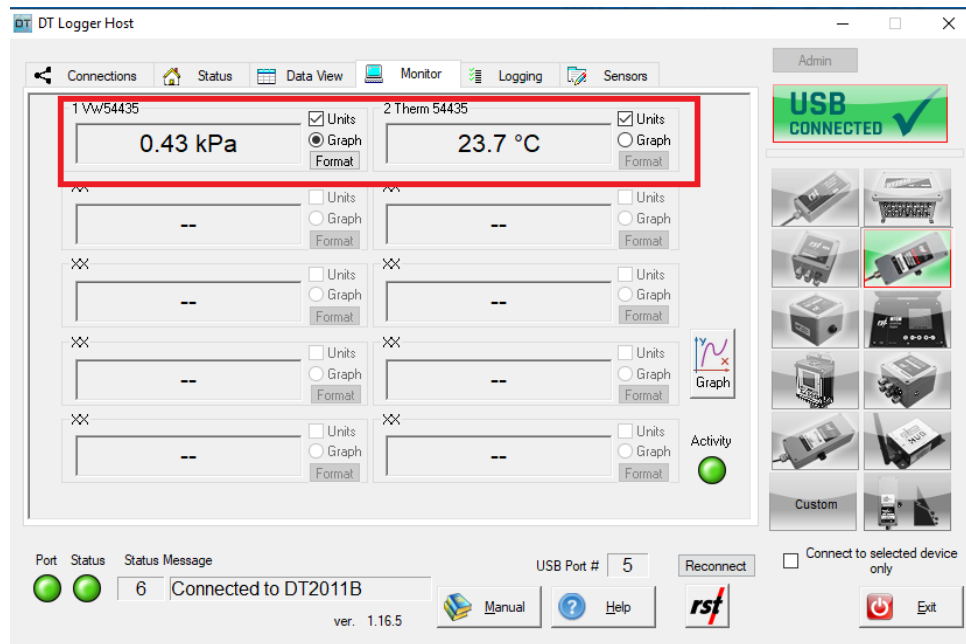
( kPa )	( B units )	( B units )	( B units )	( kPa )	( % FS )	( kPa )	( % FS )
0.0	8808	8809	8809	0.2	0.05	0.1	0.02
70.0	8115	8115	8115	69.9	-0.04	69.9	-0.03
140.0	7418	7418	7418	139.9	-0.03	140.0	-0.01
210.0	6720	6721	6721	210.0	-0.01	210.1	0.01
280.0	6023	6024	6023	280.1	0.01	280.1	0.02
350.0	5327	5327	5327	350.0	0.01	349.9	-0.02
Max. Error (%):				0.05	0.03		
Linear Calibration Factor:			CF =	1.0048E-01 kPa/B unit			
Temperature Correction Factor:			Tk =	1.3817E-01 kPa/°C rise			
Polynomial Gage Factors:							
A =		-5.6916E-08 kPa/(B unit) <sup>2</sup>		B =		-9.9680E-02 kPa/B unit	
						C =	
						kPa	
Pressure is calculated with the following equations:							
Linear:		P = CF(L <sub>0</sub> - L) - Tk(T <sub>0</sub> - T) + (S <sub>0</sub> - S)					
Polynomial:		P = A(L <sup>2</sup> ) + B(L) + C - Tk(T <sub>0</sub> - T) + (S <sub>0</sub> - S)					
Users must establish site zero readings for calculation purposes							
Polynomial C = - [A(L <sub>0</sub> <sup>2</sup> ) + B(L <sub>0</sub> )]							
L <sub>0</sub> , L = initial (installation) and current readings, in B units							
T <sub>0</sub> , T = initial (installation) and current temperature, in °C							
S <sub>0</sub> , S = initial (installation) and current barometric pressure readings, in kPa							
B units = B scale output of VW 2102, VW 2104, VW 2106 and DT 2011 readouts							
B units = Hz <sup>2</sup> /1000      ie: 1700 Hz = 2890 B units							
			Date	VW Reading	Temperature	Baro	
			(dd/mm/yy)	(B units)	(°C)	(mbar)	
Shipped Zero Readings:			13-Nov-18	8810	20.2	1029.0	

3) If desired, click in the Display Format button to choose the decimal digits.

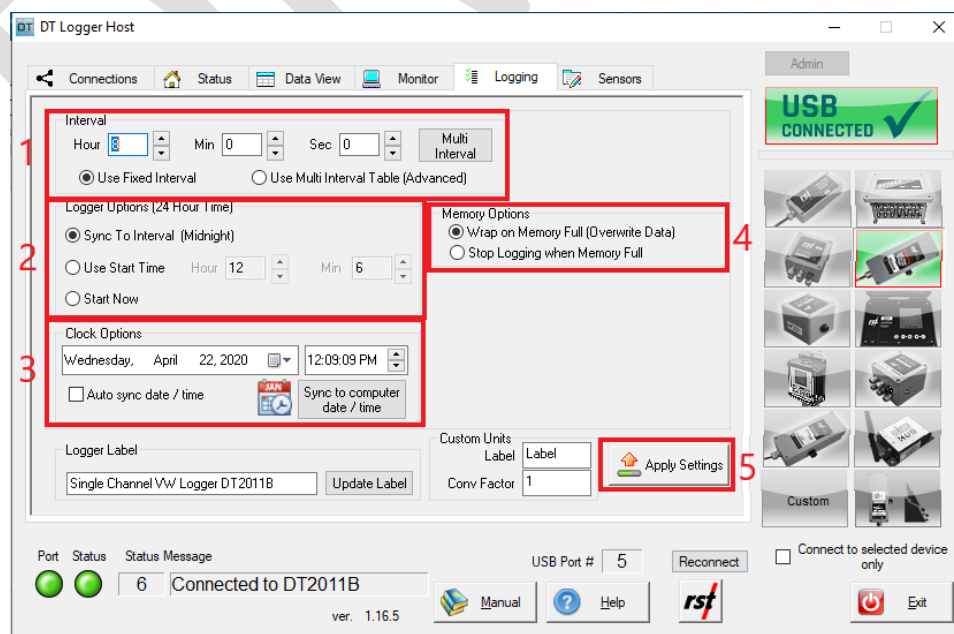


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- 4) To check the current readings, go to the Monitor tab and wait for it to update.

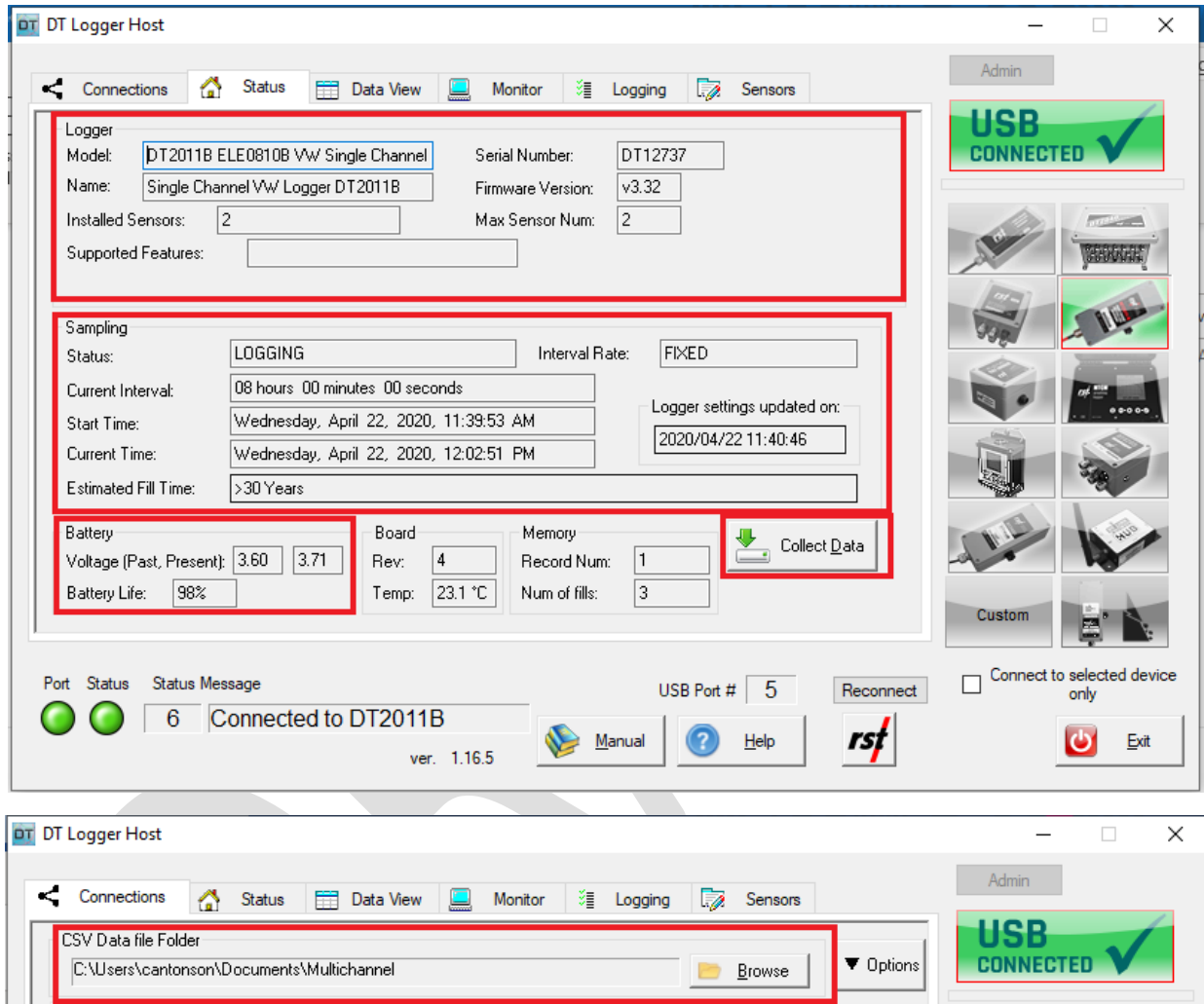


- 5) To set the data logger collection interval, go to the Logger tab.
- Set the preferred interval
  - Choose the start time for the data logger to collect the first reading. (it is a good idea to take some preliminary readings at 1 minute intervals to verify it is working correctly. Sync to Interval will start the data logger at midnight. The operator can choose a specified Start Time or Start Now.
  - The clock can be synced to the computer or manually set.
  - Memory Options will allow the data logger to overwrite older data or stop when it is full.
  - For any changes to be programmed, the operator must press the Apply Settings button.



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- 6) When logging onto the data logger, the Status screen is the first to appear. It will display programmed information and show the current state of the data logger and battery information. To download the data from the data logger, click on the Collect Data button. The data is stored in the directory designated in the Connections tab, this can be changed by the operator.



Make sure the data logger enclosure is water tight before leaving the site! Preforming these tasks below will help protect your data logger.

When the data logger is completely setup, make sure that the cable gland is tightened securely, and the cable gland body is properly secured to the enclosure.

Always make sure the USB connection cover is installed after collecting data.

Tighten all 4 lid screws evenly.

Make sure the antenna or the antenna seal is properly tightened to the enclosure.