Connecting Dendrometer to Data Loggers

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Requirements and Data conversion

The dendrometer needs a differential, or a single-ended logger channel and a known excitation voltage (Vex).
0.5<Vex< 10 V DC
The output is Vout
0<=Vout<=Vex

Time of excitation ca. 100 mS
The result in µm=Vout/Vex*C
C is a constant.

For dendrometer types DD-S, DD-S2, DD-L, DR, DV, DC1, DRO, DDW, DRW
C=11000
For dendrometer types DF, DC2
C=15000
For dendrometer Type DC3, DD-L2, DR2, DF2
C=25400
For dendrometer Type DC4, DF3
C=50800

Connection

Single-ended Voltage

Cable Color	Input Port
Yellow	H (Vout +)
Green	GND (Vout -)
Brown	Vex
White	GND
Black	GND

Differential Voltage

Cable Color	Input Port
Yellow	H (Vout +)
Green	L (Vout -)
Brown	Vex
White	GND
Black	GND

Power Consumption

The internal resistance of dendrometers is 10 or 20 KOhms, depending on the respective model.

If Vex = 5 V, and excitation time=0.1 second. The sensor energy consumption for one measurement is at maximum 69.4 nWh.