



# DATALOGGERS

## DataHog2 - Setting up a voltage channel for a light sensor

1. These instructions are identical for single ended and differential voltage channels.
  2. Refer to calibration certificate of the light sensor and note the number of millivolts per unit of light (e.g. micromol/m<sup>2</sup>/s, watt/m<sup>2</sup> or lux etc)  
(For example sensor a Skye pyranometer sensor has a calibration figure of 1 mV per 100 watt/m<sup>2</sup>)
  3. Work out the Full Scale Value that needs to be entered in the DataHog logger see also chapters 3.2.10 and 3.2.11 of the manual.
    - A) Choose the Gain for this channel according to the current output at maximum light levels (E.g. a pyranometer sensor will measure a maximum of 1500 watt/m<sup>2</sup> on a sunny day which in the above example is equivalent to an output around 15 mV. A gain of 100 (Gain Code 2) will give a range of 0-20 mV).
    - B) Calculate the Full Scale Value (FSV) as follows:  
$$FSV = [(Sensor\ output\ expressed\ as\ 'watts/m^2\ per\ mV') / Gain] * 2000$$
e.g. for a pyranometer  $FSV = [100\ watts/m^2\ per\ mV / 100] * 2000 = 2000.0$
  4. Enter this Full Scale Value into the DataHog as follows:
    - A) Wake up the DataHog into Main Menu mode
    - B) Choose Option 9 set Ax+B calibration factor
    - C) Choose the software channel to be configured (this is indicated on the logger's Hardware Configuration Certificate)
    - D) Enter the Full Scale Value which has been worked out above.
    - E) Enter the zero offset as 0000
    - F) Enter the sign as +
    - G) If correct, type Y to accept.
  5. Make sure that this software channel is set up with the correct Gain Code as used in the calculation for the Full Scale Value.
    - A) Choose Option A - Set channel configuration.
    - B) Enter the software channel and hardware channel (from the logger's Hardware Configuration Certificate)
    - C) Enter the Gain Code (2 in the above example)
    - D) Enter the Termination Code as 0
    - E) Enter the Scale Code - choose 1 for Ax+B scaling
    - F) If correct, type Y to accept.
  6. It is advisable to check that the changes you have just made are in place before returning the DataHog 2 to logging mode.
    - A) From the Main Menu, choose Option 1 to display the current setup.
- (Continued)

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## **DataHog2 - Setting up a voltage channel for a light sensor (continued)**

- B) Choose '3' to check the  $Ax+B$  Scaling Factors. Your new software channel should be displayed with Full Scale Value and Offset you have entered.
  - C) Choose '0' to check the Gain Code and Scale Code for the software channel you have reconfigured.
  - D) Choose '6' to return to Main Menu
7. If no more changes are to be made, then press ESCAPE to return the DataHog to logging mode.