



DATALOGGERS

DataHog2 - setting up Full Scale Values for Digital Channels

The DataHog 2 can be set up to download measurements as raw data or as scaled data in the user's preferred engineering units. Measurements are always stored as raw data in the DataHog's memory and calculated into units, if required, at the time of downloading. So if the full scale value is changed at any time, the entire memory will be recalculated using the new values at the next data offload.

To enter a new full scale value, choose 'Option 9 - Enter AX+B calibration factors' from the DataHog's Main Menu (see Chapter 3.2.10 in the DataHog 2 manual also). Enter the software channel number you wish to configure and you will see a submenu displayed.

Item c) in this menu corresponds to digital channels with hardware channel numbers 48-53. The Full Scale Value for raw data (counts) is 19,000. To convert raw count values to the preferred units simply multiply the 'unit per pulse' by 19,000 (see examples below).

REMEMBER - VALUES NEED TO BE ENTERED AS 5 DIGITS PLUS A DECIMAL POINT - LEADING ZEROS CANNOT BE USED.

1. WINDSPEED SENSORS

This example illustrates use with the Vector Instruments A100R anemometer which gives 1 pulse per 1.25 metres windrun (nominal, each sensor is individually calibrated and supplied with a certificate).

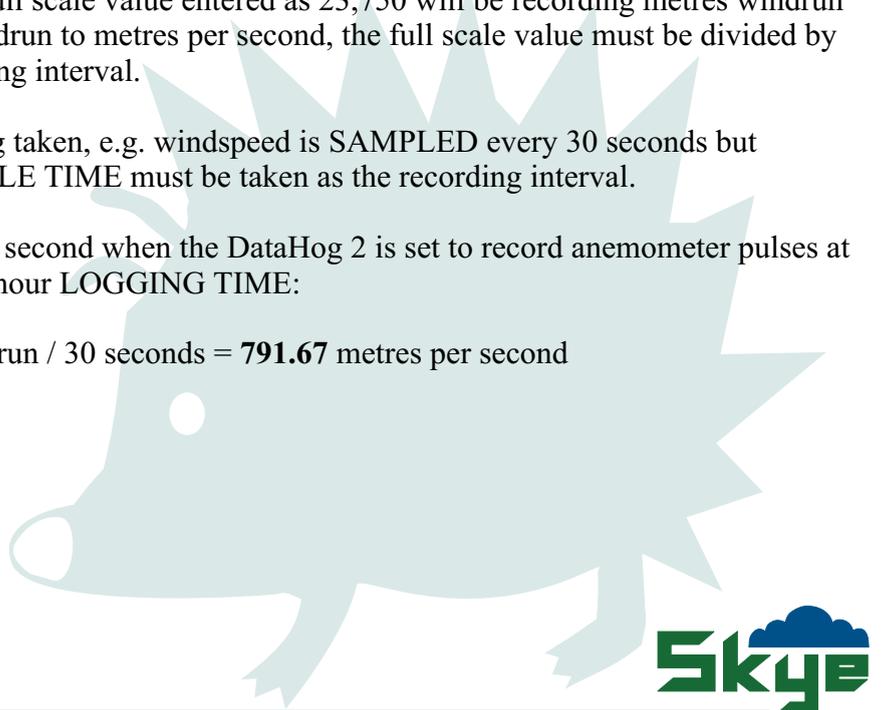
Therefore Full Scale Value = 1.25 metres x 19,000 = **23750.** metres windrun

Measurements downloaded with the full scale value entered as 23,750 will be recording metres windrun per recording interval. To convert windrun to metres per second, the full scale value must be divided by the number of seconds in each recording interval.

NOTE - if averaged readings are being taken, e.g. windspeed is SAMPLED every 30 seconds but LOGGED every hour, then the SAMPLE TIME must be taken as the recording interval.

e.g. to record windspeed in metres per second when the DataHog 2 is set to record anemometer pulses at 30 seconds SAMPLING TIME and 1 hour LOGGING TIME:

Full scale value = 23,750 metres windrun / 30 seconds = **791.67** metres per second



DataHog2 - setting up Full Scale Values for Digital Channels (cont)

2. RAINGAUGE

This example illustrates use with Environmental Measurements ARG 100 tipping bucket raingauge, which has a pulse of nominally 0.2 mm per tip. (See actual calibration figure per tip written inside each raingauge).

Therefore Full Scale Value = 0.2 mm x 19,000 = **3800.0** mm

NOTE - it is not advisable to use low sampling times to average rainfall readings, as low rainfall periods may average out below the resolution of the datalogger and produce a zero reading. It is more usual to make the SAMPLE and LOGGING TIMES identical so that a total amount of rainfall is recorded, rather than an average figure.

e.g. to set the DataHog 2 up to record total rainfall in mm per hour, set the full scale value to 3800.0 as above (adjusted for the individual raingauge calibration) and set SAMPLE TIME to 1 hour and also LOGGING TIME to 1 hour.

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