

DAN SYSTEM CALIBRATION PROCEDURE

BACKGROUND

Any single probe connected to a Data Acquisition Networks Pty Ltd (DAN) system is able to measure one variable. Many different types of probes may be connected in order to measure a range of variables. While each probe used may be stable, it is wise to make calibration checks regularly. Depending on the variable being measured and the type of probe utilised, the time between calibration checks is best determined in practice by noting the degree of drift encountered between checks. The greater the drift, the more regular checks should be conducted.

In order to calibrate the system, or to check the calibration of the system, the DAN product has an inbuilt simple procedure as detailed below.

REQUIREMENTS

The materials required in order to conduct a complete calibration process are:

At least one sample of the variable being measured by that probe which is at a known value and within the normal range being measured by the probe being calibrated – preferably at a level being normally measured. (e.g an ice slurry which represents 0 DegC for refrigerated areas) Where practical, two samples are ideal, the second being at another value but still within the probe range.

BEFORE ATTEMPTING TO CALIBRATE ANY SYSTEM, ENSURE THAT THE SYSTEM IS TURNED ON AND THAT ANY SLEEP CYCLE AND ALARMING HAS BEEN DE-ACTIVATED.

PROCEDURE

STEP 1: Utilising an independent and calibrated measuring device, confirm the value of the standard medium (or mediums) to be measured by the probe.

STEP 2: Place the probe into the first medium of known value at the lower end of the range. Leave the probe in this solution for a minimum of 5 minutes to normalize and then call for instantaneous data from the system. Confirm that the data has been received by the web site, and if activated, by nominated mobile phone.

STEP 3: Ensure the probe is cleaned before proceeding to the next step.

STEP 4: Place the probe into the second medium of known value at the upper end of the range. Leave the probe in this solution for a minimum of 5 minutes to normalize and then call for instantaneous data from the system. Confirm that the data has been received by the web site and if activated by the nominated mobile phone.

STEP 5: Log onto the device on the DAN website and under the tab 'Search' enter the 'Data Search' mode. Request 'Instantaneous' data together with 'BINARY DATA' to be searched and activate the search. Note the search results and note the results for the times STEPS 2 & 4 were conducted, note down both the value reading and the binary reading (a number between 0 & 1023).

If the values presented are sufficiently close to the values of the known medium, there is no need to continue past this step. Should the values be unsatisfactory, continue to step 6.

STEP 6: Return to the 'Main Index' and under the tab 'Additional' enter the 'Calibration' mode. Under the 'Calibration' tab, note the relevant input being calibrated (1 to 6).

STEP 7: Input the results noted from the search of instantaneous data together with the known data. E.g. for the lower point (CALIBRATION POINT 1) enter the known value of the medium measured in 'Y' and the corresponding binary number as 'X'. Repeat for the upper value point. Submit the data and confirm 'OK'. Value is now calibrated.

NOTE:

When calibrating a system where values being monitored vary little in comparison to the range, one measurement is usually sufficient to calibrate the system. E.g where temperature is being monitored for refrigeration, calibrating once with an ice slurry medium representing 0 DegC is usually sufficient.