SV: Data Logger installed for NVE at Engabreen, Northern Norway

Oddvar Haga <oddvar.haga@it-as.no>

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To:Lefeuvre Pierre-Marie <pmle@nve.no>;

Hi.

The problems you faces is not due to the data logger.
The program sets the delays between each measurement in the loop.
The total delay is 62s. That why you only get 2 min. interval.
It's possible to adjust this.

It has to be some delay's due to the settling time of the sensors.

It's a common interface for all sensors, the signal is switched into the interface via multiplexer.

This means that the sensor is activated each time it is connected to the interface.
When it's connected it waits 8s to stabilize the signal before reading.
After reading it waits 1s. (this can be removed)

The 8s period might be reduced, I do not know how much before it affects the readings.

The execution time of the program can be set to 60s or less. Depending on the total delay.

We can do the modifications of the program.

Best regards
Oddvar Haga
Sales manager
Instrumenttjenesten AS
Frederik A. Dahls vei 20
1430 Ås, Norway
+47 93213707 / +47 64949840
www.it-as.no

-----Opprinnelig melding-----
Fra: Lefeuvre Pierre-Marie [mailto:pmle@nve.no]
Sendt: 6. november 2012 16:47
Til: itas

Emne: Data Logger installed for NVE at Engabreen, Northern Norway

Hi,

I contact you regarding a datalogger from your institute that has been installed at Engabreen for NVE (Norges Vassdrags og Energidirektorat) in 1993 and then replaced between 2007-2009. I am seeking some information about how it has been built because we have been facing some issues of not getting data when the sampling rate of the datalogger was lower than 2 min.

To explain a bit more the set up, A data logger was installed in a subglacial laboratory located in a tunnel underneath the glacier Engabreen (with direct power supply) and the latter is used to record measurements from 6-7 pressure sensors that are placed at the glacier bed. Those instruments are quite distant from the datalogger (several tens of meters - maximum 40m) and it has been assumed that data could not be retrieved fast enough because it was taking too long for the signal (excitement) to come back from each pressure sensors to the data logger before the datalogger starts a new loop.

The minimum sampling rate,for the loop (going through the 7 sensors), which seems to work is two minutes. Considering the fact that the speed propagation of electromagnetic wave in a typical coaxial cable is 66% of speed light, the signal should be able to do 7 * 100m (for example) *2 (back and forth) in less than a second. I therefore do not understand how we are stuck with a minimal sampling rate of 2 min. Do you know how this could happen? I wonder if this is due to the datalogger.

Pierre-Marie Lefeuvre
NVE

email: pmle@nve.no