STARTING AND DOWNLOADING YOUR CAVE CLIMATE LOGGER

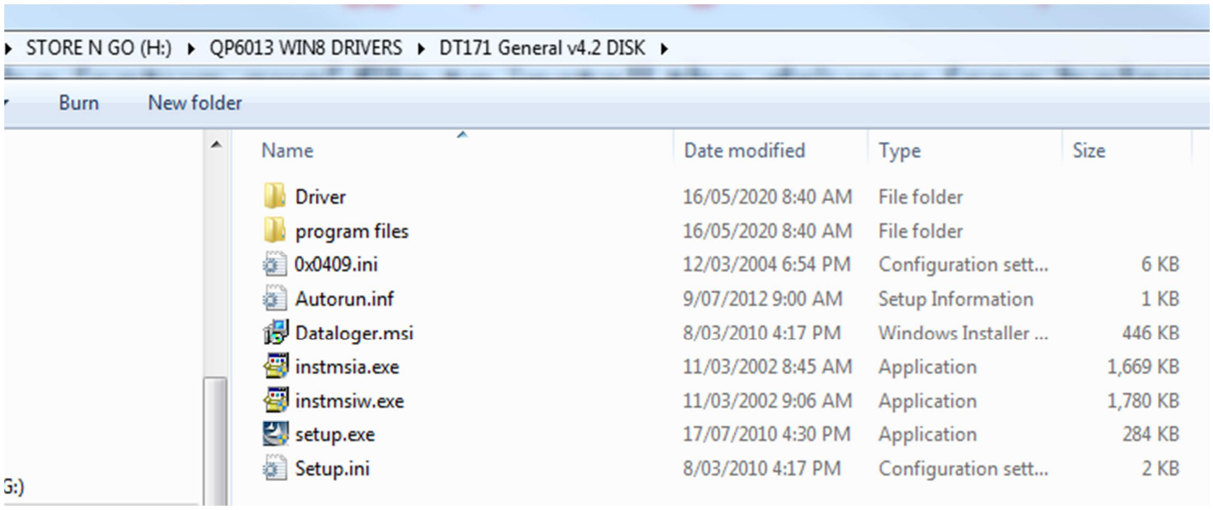
Here are your temperature and relative humidity loggers. They have their batteries already inserted and have been calibrated. They are currently turned off. To start the loggers, you need to program them.

Please remove the loggers, manual and CD from the plastic casing. Keep the box and casing in case you want to return a logger for new batteries, re-calibration or replacement.
All of this might be complex for some but there are people who can help.

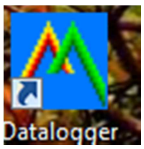
STARTING THE LOGGERS

Plug in a logger into a USB port. It must be a Windows based computer
The next step is to install the logger software on the computer. There is a CD version, and we have copied that onto the flash drive for anyone without a CD drive on their computer. If using the flash drive we recommend copying the software to your hard drive. There are two different folders, one for Windows 10, and one for all earlier operating systems (Windows 7, XP etc). Copy BOTH folders onto your computer for Windows 10 and only copy the WIN8 drivers folder for Window 7 etc computers.

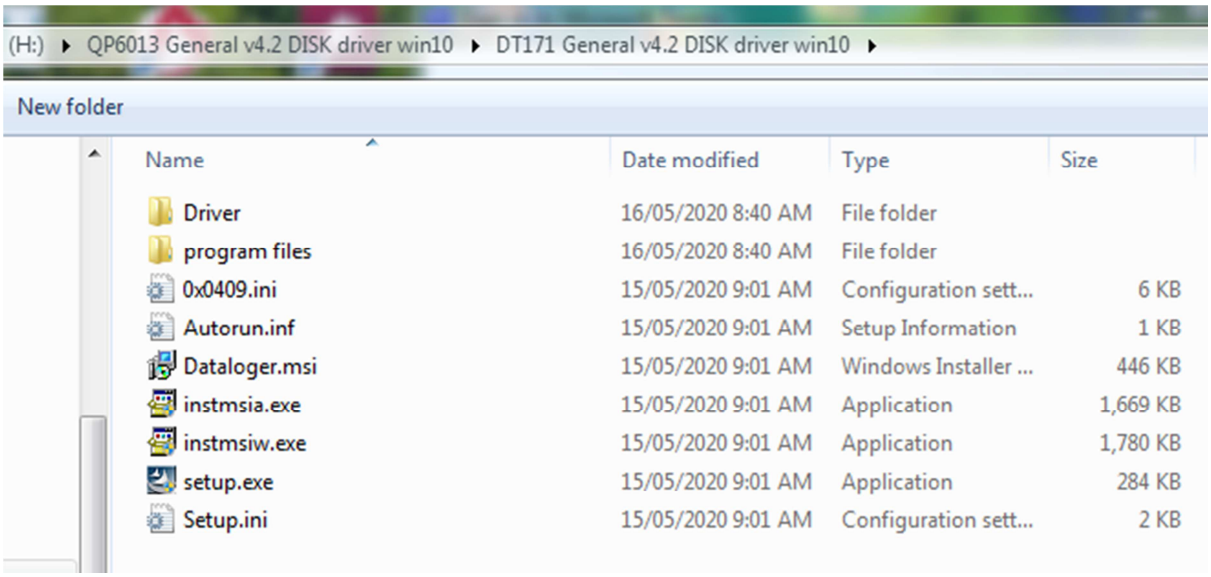
There is a pdf file called 'help' with detailed instructions should you want to read them.
To start the loggers you need to:
(1) Check that the logger is inserted in a USB port.
(2) If it's a Windows 7 computer locate the 'setup.exe' file in the folder (QP6013 WIN8 DRIVERS\DT171 General v4.2 DISK) to install the DataLogger software (see below for an example of where to find it.
On this screen, it is the setup.exe application file, second from last). Say 'yes' to any options.



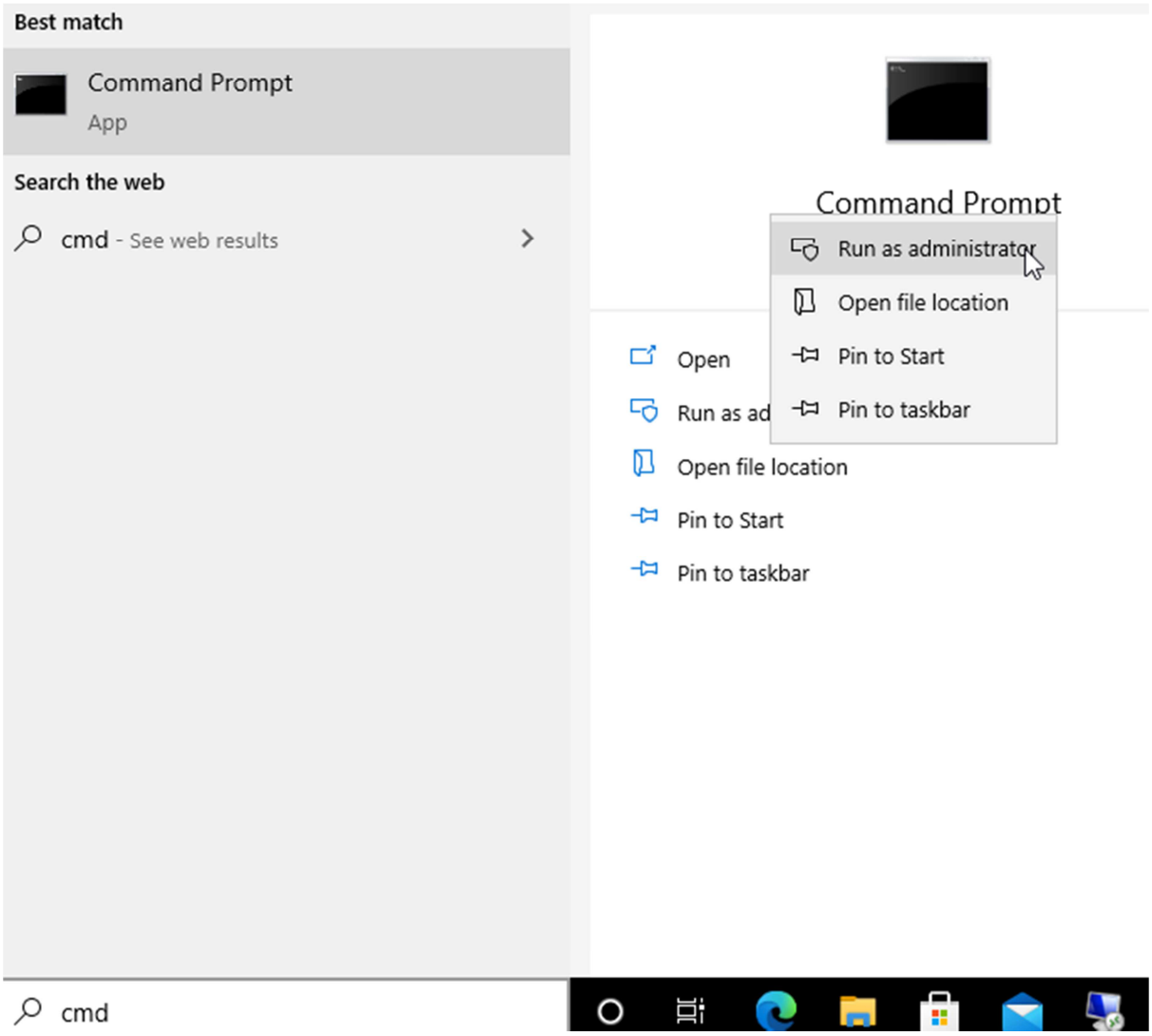
(3) Then open the ‘Datalogger’ program. This will be in the:-
‘C:\Program Files (x86)\Datalogger’ folder and is called DataLogger.exe. A shortcut to the Datalogger software should be on your desktop and should look like this:-



(4) For Windows 10 computers locate the ‘setup.exe’ file in the folder:-
(QP6013 General v4.2 DISK driver win10\DT171 General v4.2 DISK driver win10) to install the DataLogger software (see below for an example of where to find it.
On this screen, it is the setup.exe application file, second from last). Right click on the Setup.exe and choose “Run as Administrator”, Say ‘yes’ to any options.



(5) For Windows 10 computers you will also need to install an earlier version (3.3) of the USB driver. To do this go to the folder (QP6013 WIN8 DRIVERS\DT171 General v4.2 DISK\Driver) and copy the files from that Driver folder to a new folder called C:\Drivers on your computer. Then search for CMD.EXE (see Searching for cmd in Windows 10 – image below) then right click on the Command Prompt app and choose “Run as Administrator”.



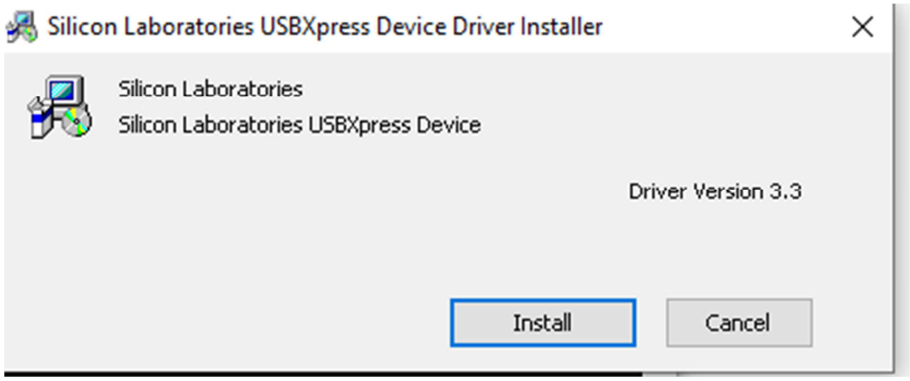
(Searching for cmd in Windows 10)

If the User Account Control dialog box appears (see below) choose **yes**.

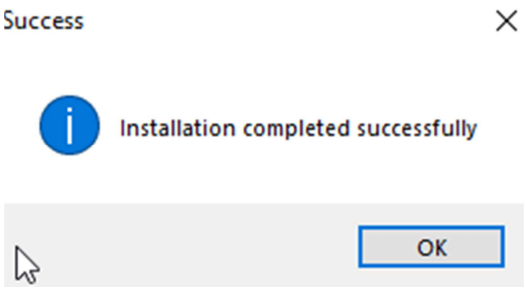
In the Command Prompt type the following commands in **bold**:-

Cd c:\drivers
then type
USBXpressInstaller.exe
then press **Enter**

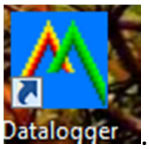
The dialog box shown below should appear. Click the Install button.



If the installation is successful you will see the following message box:-



Just click **ok** to complete the driver install.

Now the drivers are installed on Windows 10 you can start the Datalogger application from the shortcut on your desktop 

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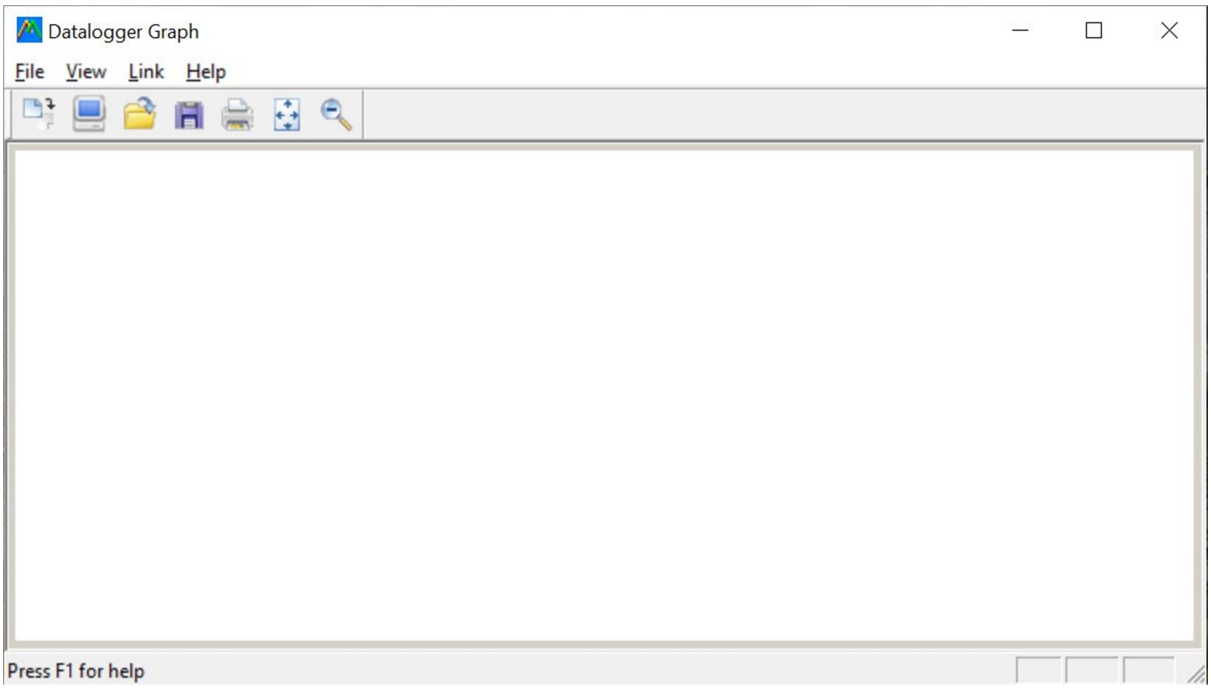
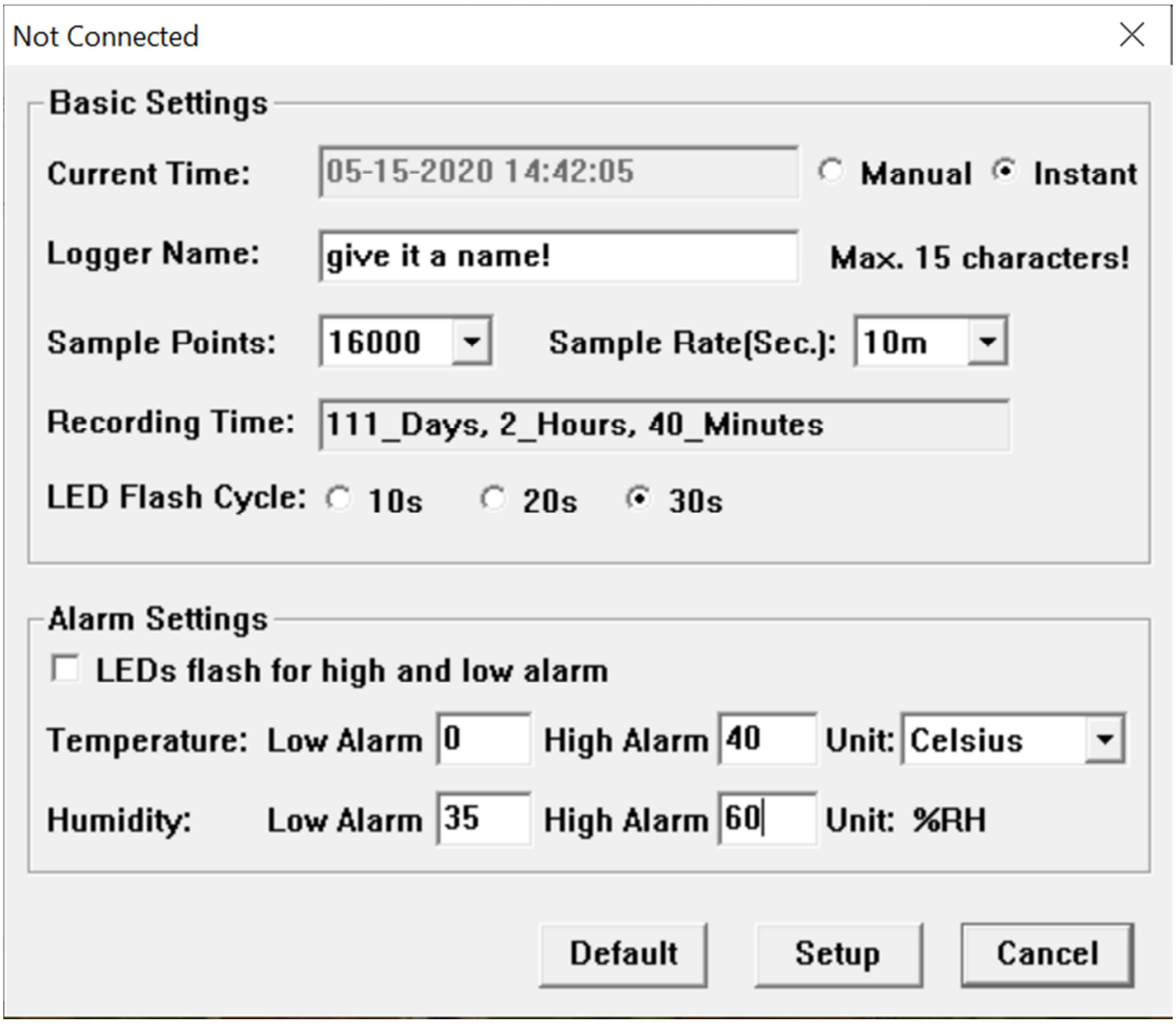


Click on ‘Link’ and chose ‘Logger set…’ and the window below will appear. Some of the valueswill be different to what you see below, and you need to change them.



- Select ‘Instant’. This means it will start logging as soon as you hit ‘Setup’.
- Please give the logger a useful name e.g. where it is going to be placed and maybe the cave name (could be abbreviated). Please give the logger a name – cave name (abbreviated is ok), logger number, and location (inside or outside or …).
- Change ‘Sample Points’ to 16000 and ‘Sample Rate’ to 10m. The logger will collect data every 10 minutes and will run out of memory in 111 days.
- Select LED flash cycle of 30s (the least frequent setting will save the battery life)
- Keep the alarm settings turned off (to save the battery life) leave the ‘LEDs flash…’ box unchecked.
- Then click on ‘Setup’.

  You will get a message to say the logger is now recording. You can remove it from the USB port. (If you don’t get this message, the logger isn’t recording. Did you click on ‘setup’?) The ‘REC’ LED will now flash every 30 seconds. Please check that. The logger is ready to be used. Do this for every logger. It is much faster the second time, as the Settings are remembered, you just need to change the name.

DEPLOYING THE LOGGERS

Place one logger outside the cave. This should be in the shade and somewhere dry. For example, a blockhouse entrance, or the shadiest part of a building veranda.
Feel free to discuss with any of us deployment locations by email or any other method that is appropriate to your site.

Place the other logger(s) in your chosen location(s) in your cave(s). It has to be somewhere completely dry to protect the logger. We suggest somewhere out of reach of tourists. With the LED light facing the cave path if you want to see if it is still working or want to include it in tours.

We suggest that if you are interested in a ‘baseline’ climate, a good location for cave logger(s) is the least ventilated part of the cave that is also within the tourist zone. That location would have the least influence of seasonal air exchanges. We are very happy to advise.

Please write the location of the logger and the logger number on a cave map and send that to Andy, Andy and Dave (see e-mails at end of document)

EVERY MONTH

We recommend downloading the data every month. To do this, retrieve the logger, and put it in the same USB port that it was programmed from. Open the 'Datalogger' software and chose 'link' and 'Data download…'. Then chose 'Download'. You will be asked to give the download a filename (we suggest something that includes the logger number and/or location and date).

The program will display a graph of the temperature and relative humidity.
You can reload the graph any time using the 'File', 'Open' option. We also recommend using the 'Save as…' option to save the file as a text file that can be easily read and shared.
Then, restart the loggers by repeating the first set of instructions, and put them back in the same place they came from.
Please send the data to Andy, Andy and Dave (see e-mails at end of document)

OTHER

We recommend downloading data every month, in case the battery runs out, as the data is not stored on the logger and would be lost if the battery goes flat. The supplier suggests the battery will last up to a year, but we don't/won't know for sure.
Replacement batteries (they are 3.6V half-cell AA) can be sent on request, or loggers can be posted to your local friendly ACKMA team (DG – South Australia, AB – NSW, AS – Tasmania) for batteries to be installed. However, if you post them to the team you obviously will not collect data if you don't have a logger on site. Instructions on how to install batteries are in the 'user's guide' pdf in the 'Datalogger' folder and it is very quick and easy and we can help.

Each logger has been individually calibrated against an international temperature standard thermocouple. We can confirm that all loggers sent to all caves recorded the same temperature as each other, with a precision and accuracy of 0.1 °C, and in agreement with the standard thermocouple. In addition, all loggers measured the same relative humidity value, precise to less than 0.5%.

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