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Common eTemperature Logger Mistakes

Excerpts from eTemperature Blog by Shane van de Vorstenbosch, Managing Director of OnSolution and Chief Software Engineer.

Common temperature logger mistake:

Not turned on

There are two main causes for this.

1. Getting a new unit and placing it straight in a fridge without starting it
2. Stopping it to retrieve results, and not restarting it

The problem is quite simple – the unit is off and has no idea what was happening. Sorry.

This problem tends to lead to some awkward follow-on questions like

- "How to I retrieve the readings then?" (You can't)
- "So how can I get the results?" (You can't)
- "Is there anything I can do to get the results?" (No)

Ways to avoid the problem include:

- Don't stop the logger when retrieving results. Ensure that "rollover" has been enabled.
- Use a logger like the Logtag that has the flashing red/green LEDs to indicate that it has started.
- Train staff.

This is our most commonly reported mistake.

Common temperature logger mistake:

Sampling too slowly

There are many users who set their sample rate to one sample every couple of hours. This is typically 4 hours for the Thermocron and even slower for Logtags.

The Likely Cause

I think this is a hangover from min/max thermometers, where staff would check them once or twice a day and write down the readings. Users believe that the sample rate is repeating this process. The reality was that a min/max thermometer was responding reasonably quickly to changes in temperature and would "remember"

the highest and lowest temperature. In one sense, they were sampling every second of the day and only remembering two readings – the highest and lowest.

The Consequences

For a temperature logger to provide a reasonable coverage of what is happening it needs to be sampling at a reasonably fast rate. The definition of "reasonably fast" is fast enough to get a couple of readings in the event you are interested in. For example, if you want to know if the temperature exceeded the limit for half an hour, then you need to be sampling faster than 30 minutes. In fact, I would recommend a sample rate of 10 to 15 minutes. If you are sampling only once an hour, it is possible to totally miss the event. The second consequence is that if you do catch a sample, you have a very poor estimate as to how long the event lasted. All you know is that the reading an hour before was good, and an hour later it was good. The event could have lasted from anywhere from minutes through to nearly two hours. With a sample rate of 4 hours this scenario becomes even worse with the event possibly lasting anywhere from minutes up to nearly 8 hours. Stock being too warm for 8 hours is very different to stock being too warm for 30 minutes.

The Solution

The solution is very simple. Sample more frequently.

Reality

The reality is that stock in fridges and freezers take time to heat up and cool down so an incident in a fridge or freezer will actually need to last a reasonably long time to have an impact on the stock. So slowing the sample rate down to 20 to 30 minutes is justifiable. My recommendation is to keep it at or below 20 minutes.

Common temperature logger mistake:

Sampling too quickly

There are some users who sample as fast as possible. This is typically once a minute for Thermocron loggers and possibly even faster for Logtags.

The Likely Cause

For the sampling too slowly issue, the cause was historical. With sampling too quickly I think the main cause is just being unaware of the consequences.

The Consequences

Consequence 1

The first consequence isn't "bad", just annoying. It's too much data. That is, the user sees pages and pages of readings, and most of those readings are the same as the previous reading. For a printout, it's a lot of data. For the graph it isn't a huge issue because it looks the same. As I said, it isn't bad, but can be annoying when trying to find a specific event.

Consequence 2

The second consequence, however, can be detrimental. The faster the unit samples, the faster it will fill its memory. Once memory is full, it will either stop logging (rollover turned off), or overwrite the oldest readings (rollover turned on). Either way, data is being lost.

To avoid losing data, the logger needs to be downloaded more often. So the result will be either loss of data, or more time being consumed retrieving results more often.

The Solutions

The solutions are very simple. Either sample less frequently or download more often.

Reality

The reality is that stock in fridges and freezers take time to heat up and cool down so an incident in a fridge or freezer will actually need to last a reasonably long time to have an impact on the stock. So slowing the sample rate down is justifiable. My recommendation is to set it at about 15 minutes. This will then actually provide you with 3 weeks data for the TC and TCZ models, or 6+ weeks for the TCS and Logtags. So the other question worth considering is "how often do you want to retrieve the results?" If your answer is weekly or fortnightly then you don't have an issue. If you only want to do it once a month then you will either need to slow the TC/TCZ down more or use a different model.

Not put in place

Like I said in my last post, this one is obvious, but more often than not, it is really obvious in hindsight.

The way it comes about it quite simple and this is fairly common…

1. Someone buys a vaccine fridge and are all happy and excited about their new purchase. They turn it on, let it cool down, load it with stock, and show it off for the first couple of days. Eventually it just becomes "the vaccine fridge"
2. At the same time there was that box in it with a temperature logger in it. It was left on the table and eventually placed in a drawer and forgotten
3. A year (or two) later, there is a power failure over the weekend, and the fridge reported reaching a temperature of 24°.
4. The first question they are asked is "do you have temperature logger?" and they contact us to find out how to get the results

The Consequences

And here is an almost straight copy from common temperature logger mistakes 1 – not turned on:

The problem is quite simple – the unit is not in place and has no idea what was happening. Sorry.

This problem tends to lead to some awkward follow-on questions like

- "How to I retrieve the readings then?" (You can't)
- "So how can I get the results?" (You can't)
- "Is there anything I can do to get the results?" (No)

The Solution

Set it up and put it in the fridge!!! Now.

Not retrieved

Once again, this problem is really obvious in hindsight but is easily done.

The way it comes about it quite simple and this is fairly common…

1. Someone buys a logger and uses it
2. They leave the company
3. The new person has no idea that the logger exists, let alone that they need to do something with it
4. A year later they are being audited and they are asked for the log. They contact us to find out how to get the results

The Consequences

And here is an almost straight copy from common temperature logger mistakes 1 – not turned on:

The problem is quite simple – the unit lost the data long ago and has no idea what was happening. Sorry.

This problem tends to lead to some awkward follow-on questions like

- "How to I retrieve the readings then?" (You can't)
- "So how can I get the results?" (You can't)
- "Is there anything I can do to get the results?" (No)

The Solutions

1. Ensure that there is a procedure clearly detailing when the results need to be retrieved.
2. When training new staff, ensure they know the procedure
3. If the person is away, ensure that others know what to do
4. If there is a public holiday or similar that will stop the results from being retrieved, ensure the sample rate/memory is sufficient to allow the results to be retrieved slightly later

Support Enquiries - Emailing eTemp Logs

You can email your logs to us rather than faxing them, which is faster and easier for us to process.

To do so, click on the **Reload File** button (with no logger attached), navigate to the appropriate file, right click on the filename and choose **Send To** then **Mail Recipient**, and an email will pop up with the file attached ready to send. Just add the email address service@rollexmedical.co.nz and any message and hit send.

More Info?

For Video Guides and Tutorials, visit http://etemperature.com.au/using-etemperature/video

For Shane's Blog with more detailed discussions, visit http://etemperature.com.au/using-etemperature/blog