Gmail **Steve Nixon <steve.nixon.viamed@googlemail.com>**

Re: JFD temeprature compensationm deviations

1 message

Steve Nixon <steve.nixon@viamed.co.uk> 11 January 2018 at 13:23
To: "Dumschat, Christa" <Christa.Dumschat@honeywell.com>
Cc: "Lingies, Maik (GE0Y)" <Maik.Lingies@honeywell.com>, Marko Sprössel <marko.sproessel@honeywell.com>, Jessica Wagner <jessica.wagner@honeywell.com>

Thank you Christa, it an excellent and succinct explanation.

JFD are looking into why they set the tolerance even lower than the Teledyne specification. They may have a valid reason or it could be a mistake. Looking at their graphical results, they appear to be using a specification of +/- 4%, I suspect they have misread the Teledyne accuracy specifications at 209 mBar pO2, error min -4, max +4 mBar pO2. So, they have mixed up accuracy specifications numbers with the separate temperature specifications.

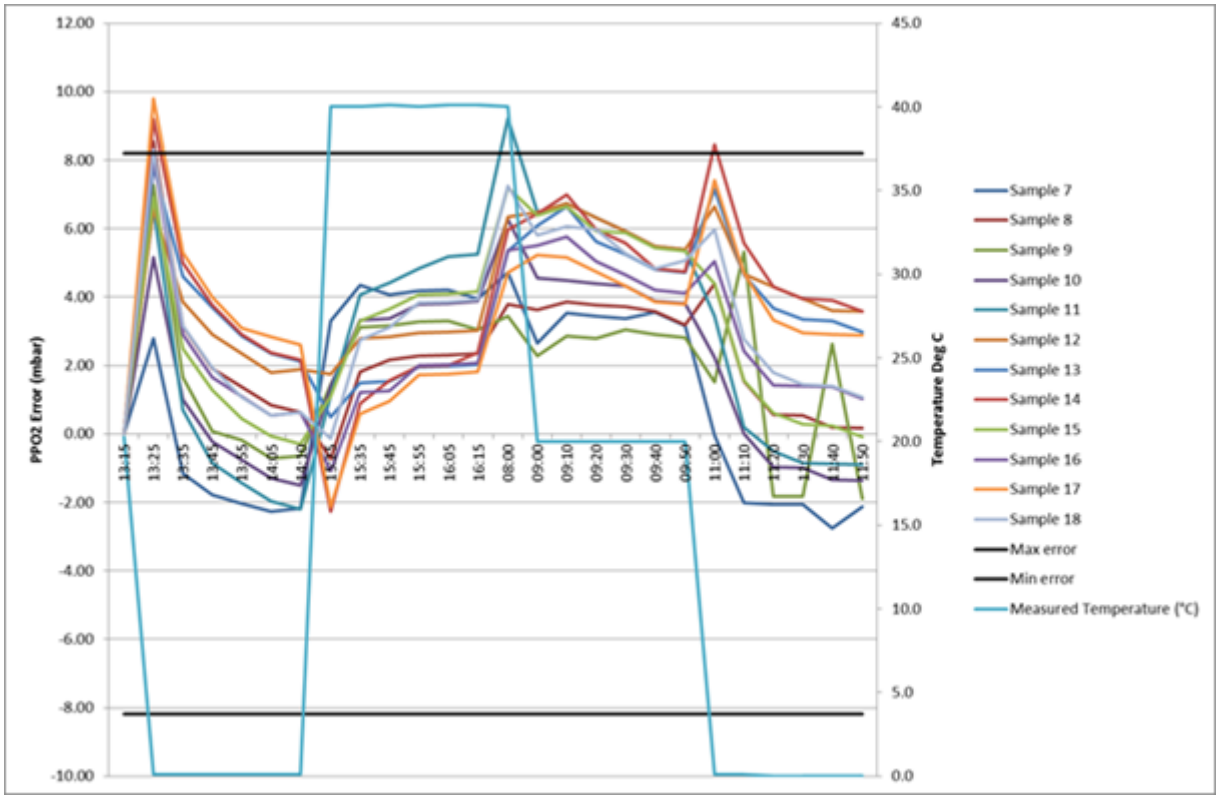
In actual field trial use the sensors are performing very well. From experience I do know that the sensors perform well when subject to real dynamic temperature fluctuations.

Regards

Steve

On 11 January 2018 at 11:19, Dumschat, Christa <Christa.Dumschat@honeywell.com> wrote:

> Hi Steve,
>
> In our specification, we specify the following:
>
> **Effect of Temperature Compensation**
>
> **(steady state):**
>
> Between 0°C and +50°C: 5% relative error
>
> At an pO2 of 205 mbar an error of 10.25 mbar is within the tolerances. The results in your e-mail from 08.12.17 are all within that tolerances (see picture bellow).
>
> Furthermore we specify a warm up time of 30 min. That is the time the sensors need after a sudden change in temperature to reach a stable state. The highest deviation in graph are within that stabilization period.

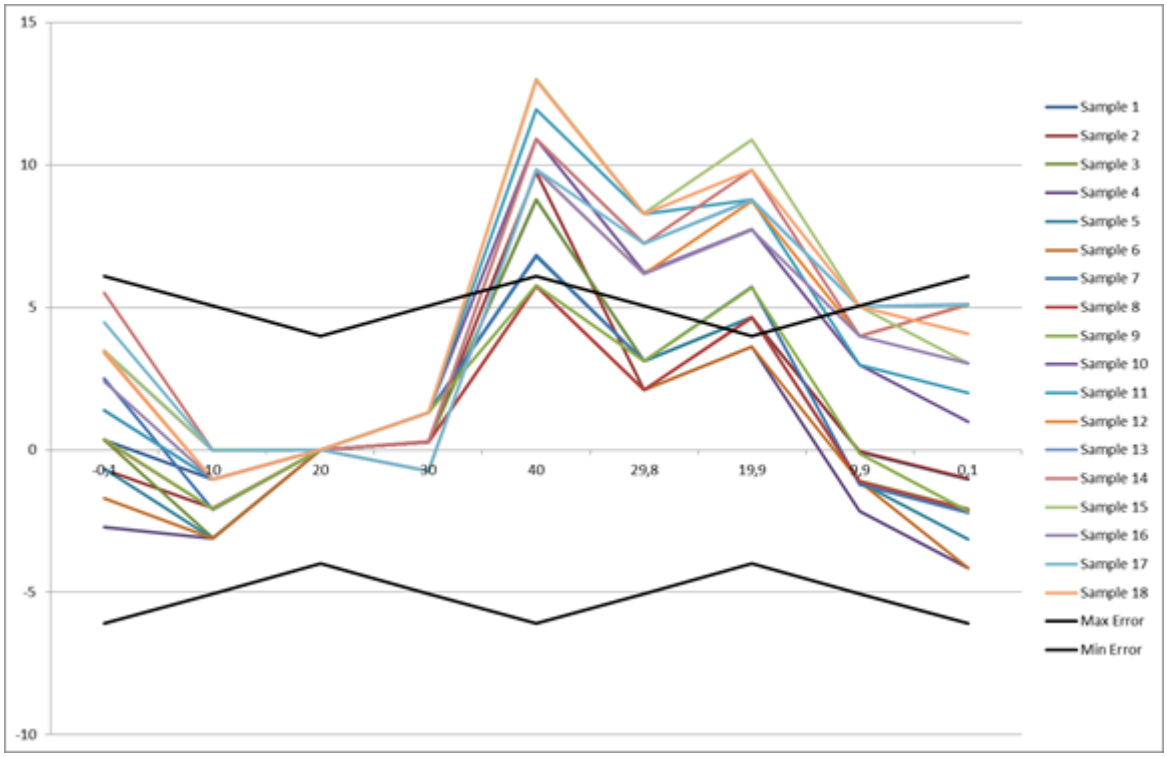


Hysteresis: we specify the following:

Repeatability: < 1% vol. O_2 @ constant temperature and pressure

In Air (20,95% O_2) a reading from 19,95% O2 to 21,95 % O2 is allowed. That are again roughly 10mbar pO2 deviation at ambient pressure. So everything was in specification.

In the results with calibration board only a few points are outside the specification. It is very likely that the resistor on the calibration board interfere with our temperature compensation.



> Our sensor and our end test procedure are designed to meet our specification. You can not expect sensor characteristics beyond that.
>
> Regards
>
> Christa
>
> Kind regards / Mit freundlichen Grüßen
>
> **i. A. Dr. Christa Dumschat**
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Steve

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