

Subject: Re: Re: pH calibration parameters?
Date: Saturday, June 1, 2019 at 12:12:51 AM Pacific Daylight Time
From: mike@yosemitech.com
To: Anthony Aufdenkampe
Attachments: 28918_28918_CatchCF10(12-20-16-50-33).jpg, 28918_28918_Catc(06-01-15-07-31).jpg, ph校准数据-模板.xlsx

Hi Anthony:

Sorry for my late replay, here is a simple excel sheet which has some formula for the calculation of k1-k6. Please note that, A6-A8, these three points are factory calibration points at pH 4, 6.86, and 9.18, and its related measured mV from electrode is recorded on B6-B8, for example, 240, 70, and -60 marked in yellow. There are some embedded formula at B10-B15 for k1-k6. The rest are some constants.

Hope that is helpful. If you have further questions, please do not hesitate to contact me.

Thanks,

Mike

Mike Tung Ph.D.
Yosemite Technologies
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From: [Anthony Aufdenkampe](mailto:Anthony.Aufdenkampe)
Date: 2019-05-24 20:48
To: mike@yosemitech.com
Subject: Re: Re: pH calibration parameters?

Thanks! I really appreciate it.

Anthony K. Aufdenkampe, Ph.D.

Senior Environmental Scientist
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Water Environment | Scientists Engineers

From: mike@yosemitech.com <mike@yosemitech.com>
Sent: Thursday, May 23, 2019 11:08 PM
To: Anthony Aufdenkampe
Subject: Re: Re: pH calibration parameters?

Hi Anthony:

I will get back with you Monday. Our support engineers are out of office for field support.

Regards,

Mike

Mike Tung Ph.D.
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From: [Anthony Aufdenkampe](mailto:Anthony.Aufdenkampe@limno.com)
Date: 2019-05-23 03:23
To: [Mike Tung](mailto:mike@yosemitech.com)
CC: [李文](#)
Subject: Re: pH calibration parameters?

Hi Mike,

Would you or your staff be able to help me better understand your pH calibration coefficients, and the underlying calibration equation?

See my email below for my detailed questions.

The Winona State University team is having issues with a few pH sensors not holding their calibrations, and I would like a quick way to confirm that the calibration coefficients are reasonable by calculating them independently in Excel.

I would very much appreciate any help or documentation that you might be able to provide.

Thanks,
Anthony

From: Anthony Aufdenkampe
Sent: Wednesday, April 10, 2019 10:33 AM
To: Mike Tung
Cc: 李文
Subject: pH calibration parameters?

Hi Mike,

I'm having challenging figuring out how to calibrate the pH sensor using ModbusRunner software.

My first request is whether you could send to me the equation for the pH calibration coefficients, which are given in the Modbus Manual as $K1=6.86$, $K2=-6.72$, $K3=0.04$, $K4=6.86$, $K5=-6.56$, $K6=-1.04$ by default. I would like to understand how these coefficients are related to calculated pH as a function of measured mV and temperature.

Second, when I GET the pH calibration coefficients using ModbusRunner, I get numbers that are very different from the stated factory defaults listed in the manual. See the following:

60.60979	52.39543	-0.48604
60.60979	52.52147	-1.38632

Are these parameters normal?

Can you explain the procedure for calculating the six pH calibration parameters from direct measurements of mV and temperature on pH calibration buffers?

Thank you,
Anthony

Anthony K. Aufdenkampe, Ph.D.
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