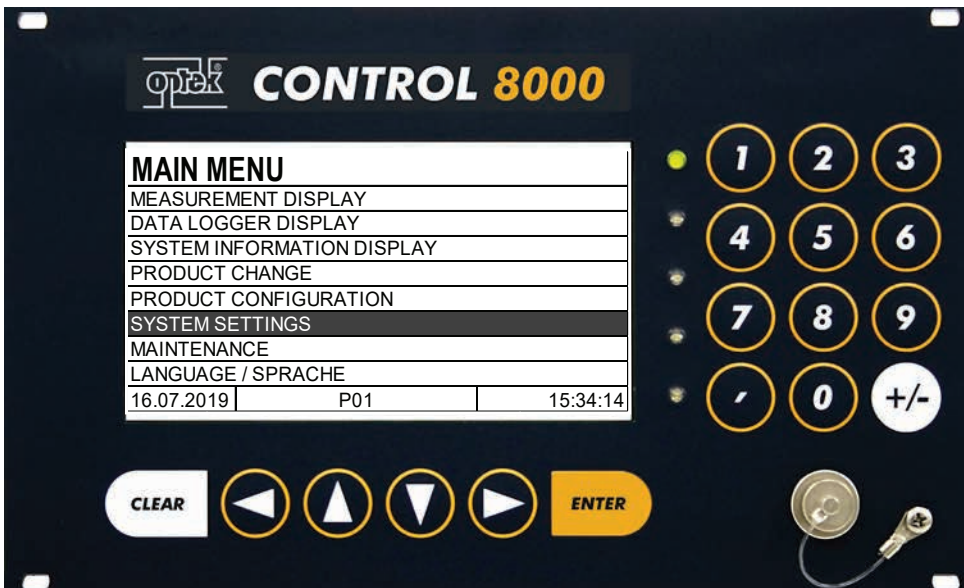
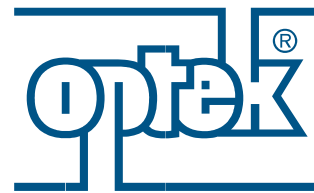


# pH Probe – Calibration Procedure with optek C8000 Converter



Make sure the pH probe is connected correctly to the C8000 back panel !

SYSTEM SETTINGS		
DISPLAY		
DATE / TIME		
DATA LOGGER		
EVENT LOGGER		
LAMP VOLTAGE		
OPTICAL INPUTS		
SENSOR TF		
SENSOR TEMPERATURE		
18.07.2019	P01	13:32:58

SYSTEM SETTINGS		
TEMPERATURE DISPLAY	: ° CELSIUS	
SENSOR	TEMP (COND1)	
	TEMP (COND2)	
	TEMP (PH1)	
	TEMP (PH2)	
SENSOR ACTIVE		
CALIBRATION	: DEFAULT	
REJECT	P01	SAVE

SYSTEM SETTINGS		
TEMPERATURE DISPLAY	: ° CELSIUS	
SENSOR	: TEMP (PH1)	
SENSOR ACTIVE	NO	
	YES	
CALIBRATION	: DEFAULT	
REJECT	P01	SAVE

SYSTEM SETTINGS		
TEMPERATURE DISPLAY	: ° CELSIUS	
SENSOR	: TEMP (PH1)	
SENSOR ACTIVE	: YES	
CALIBRATION	: DEFAULT	
REJECT	P01	SAVE

## Configure Temperature Sensor

- 1 From MAIN menu select **SYSTEM SETTINGS**
- 2 From SYSTEM SETTINGS select **SENSOR TEMPERATURE**
- 3 From SENSOR TEMPERATURE select **SENSOR**
- 4 Select **TEMP (pH1)** to get the temperature reading from the pH probe at channel 1
- 5 Select **SENSOR ACTIVE**
- 6 Select **YES** to activate the temperature probe for measurement
- 7 Select **SAVE** to keep the changes

SYSTEM SETTINGS		
SENSOR TEMPERATURE		
SENSOR CONDUCTIVITY		
SENSOR pH		
SENSOR DIAGNOSTICS pH		
mA OUTPUTS		
PASSWORD PROTECTION		
PRODUCT CHANGE		
HOLD		
18.07.2019	P01	15:02:46

SYSTEM SETTINGS		
pH-ELECTRODE : pH1		
SENSOR ACTIVE : YES		
CALIBRATION : DEFAULT		
CALIBRATION DATA		
MAX SL ADJUSTMENT [%] : 50.00		
MAX OFFSET [mV] : 50.00		
TEMP COMPENSATION : YES		
REJECT	P01	SAVE

SYSTEM SETTINGS		
pH-ELECTRODE : pH1		
SENSOR ACTIVE : YES		
CALIBRATION : DEFAULT		
CALIBRATION DATA		
MAX SL ADJUSTMENT [%] : 50.00		
MAX OFFSET [mV] : 50.00		
TEMP COMPENSATION : YES		
REJECT	P01	SAVE

MAIN MENU		
MEASUREMENT DISPLAY		
DATA LOGGER DISPLAY		
SYSTEM INFORMATION DISPLAY		
PRODUCT CHANGE		
PRODUCT CONFIGURATION		
SYSTEM SETTINGS		
MAINTENANCE		
LANGUAGE / SPRACHE		
18.07.2019	P01	15:15:51

MAIN MENU		
HOLD MANUALLY		
ZERO POINT SETTING MANUALLY		
SYSTEM DIAGNOSTICS		
SENSOR ADAPTATION		
CALIBRATIONS		
SERVICE		
18.07.2019	P01	15:19:11

CALIBRATIONS		
CALIBRATION SCATTERED LIGHT		
CALIBRATION mA OUTPUTS		
CALIBRATION TEMP-INPUTS		
CALIBRATION CONDUCTIVITY MAN.		
CALIBRATION CONDUCTIVITY AUTO		
CALIBRATION pH		
CALIBRATION SUC		
18.07.2019	P01	15:23:35

CALIBRATION pH ELECTRODE		
SENSOR INPUT : pH1		
CALIBRATION DATA SET : KDS03		
CUSTOMER ID		
START CALIBRATION		
18.07.2019	P01	15:31:35

CALIBRATION pH ELECTRODE		
CALIBRATION DATA SET WITH ID		
20190724-hhmm- -1		
IS CREATED ON MEMORY CELL KDS03		
START CALIBRATION		
CONFIRM WITH ENTER		
RETURN WITH CLEAR		
18.07.2019	P01	15:33:11

## Configure pH Sensor

- 8 Select **SENSOR pH**
- 9 Select **SENSOR ACTIVE**
- 10 Select **YES** to activate the pH probe for measurement
- 11 Select **SAVE** to keep the changes

## Configure pH Calibration

- 12 Select **MAINTENANCE**
- 13 Select **CALIBRATIONS**
- 14 Select **CALIBRATION pH**
- 15 Select **START CALIBRATION**
- 16 Press **ENTER** to start the calibration

CALIBRATION pH ELECTRODE 1		
CALIBRATION POINT	: CAL pH B1	
pH-BUFFER	: 4.00	
REFERENCE TEMP	[°C]	: 25.00
TEMP COEFFICIENT	[%]	: 0.0000
TEMP COMPENSATION	: DEFAULT	
pH VAUE (REF)	: 4.00	
pH VALUE (RAW)	T=24.2°C	: 3.97
ACCEPT pH VALUE	: NO	
REJECT	P01	SAVE



CALIBRATION pH ELECTRODE 1		
CALIBRATION POINT	: CAL pH B1	
pH-BUFFER	: 4.00	
REFERENCE TEMP	[°C]	: 25.00
TEMP COEFFICIENT	[%]	: 0.0000
TEMP COMPENSATION	: DEFAULT	
pH VAUE (REF)	: 4.00	
pH VALUE (RAW)	T=24.2°C	: 3.97
ACCEPT pH VALUE	: NO	
REJECT	P01	SAVE



CALIBRATION pH ELECTRODE 1		
CALIBRATION POINT	: CAL pH B1	
pH-BUFFER	: 4.00	
REFERENCE TEMP	[°C]	: 25.00
TEMP COEFFICIENT	[%]	: 0.0000
TEMP COMPENSATION	: DEFAULT	
pH VAUE (REF)	: 4.00	
pH VALUE (RAW)	T=24.2°C	: 3.97
ACCEPT pH VALUE	: NO	
REJECT	P01	YES



CALIBRATION pH ELECTRODE 1		
CALIBRATION POINT	: CAL pH B2	
pH-BUFFER	: 10.00	
REFERENCE TEMP	[°C]	: 25.00
TEMP COEFFICIENT	[%]	: 0.0000
TEMP COMPENSATION	: DEFAULT	
pH VAUE (REF)	: 10.00	
pH VALUE (RAW)	T=24.3°C	: 7.97
ACCEPT pH VALUE	: NO	
REJECT	P01	SAVE

CALIBRATION pH ELECTRODE 1		
CALIBRATION POINT	: CAL pH B2	
pH-BUFFER	: 10.00	
REFERENCE TEMP	[°C]	: 25.00
TEMP COEFFICIENT	[%]	: 0.0000
TEMP COMPENSATION	: DEFAULT	
pH VAUE (REF)	: 10.00	
pH VALUE (RAW)	T=24.2°C	: 9.97
ACCEPT pH VALUE	: NO	
REJECT	P01	YES



CALIBRATION pH ELECTRODE 1		
CALIBRATION POINT	: CAL pH B2	
pH-BUFFER	: 10.00	
REFERENCE TEMP	[°C]	: 25.00
TEMP COEFFICIENT	[%]	: 0.0000
TEMP COMPENSATION	: DEFAULT	
pH VAUE (REF)	: 10.00	
pH VALUE (RAW)	T=24.2°C	: 9.97
SL ADJUSTMENT / OFFSET	: 0.57% / 2.58 mV	
REJECT	P01	SAVE

## Perform pH Calibration

- 17 Verify the pH buffer is set to **4.00**  
Usually the buffers 4.00 and 10.00 are used for a complete calibration. Alternatively pH 4.00 and 7.00 or pH 7.00 and 10.00 can be taken to calibrate just a small pH range.
- 18 Place the pH probe into first pH buffer **4.00**, slowly move it to help to quicker stabilize.
- 19 Watch the pH and temperature value under **pH VALUE (RAW)**
- 20 If the pH reading is stable (and corresponds to the required pH value) select **ACCEPT pH VALUE - YES**
- 21 Rinse pH probe in deionized water, dry it with a smooth cloth or paper tissue
- 22 Select or enter **pH buffer value 10.00** and place the pH probe into second buffer 10.00, slowly move it to help to quicker stabilize.
- 23 Watch the pH and temperature value under **pH VALUE (RAW)**
- 24 If the **pH reading is stable** (and corresponds to the required pH value) select **ACCEPT pH VALUE - YES**
- 25 To accept the calibration parameters select **SAVE** and **ENTER**
- 26 Rinse pH probe in deionized water, dry it with a smooth cloth or paper tissue. Store the pH probe either in KCL electrolyte solution (e.g. 3 molar) or for short in pH buffer 7.00.

<b>MAIN MENU</b>		
MEASUREMENT DISPLAY		
DATA LOGGER DISPLAY		
SYSTEM INFORMATION DISPLAY		
PRODUCT CHANGE		
PRODUCT CONFIGURATION		
<b>SYSTEM SETTINGS</b>		
MAINTENANCE		
LANGUAGE / SPRACHE		
16.07.2019	P01	15:34:14

<b>SYSTEM SETTINGS</b>		
SENSOR TEMPERATURE		
SENSOR CONDUCTIVITY		
<b>SENSOR pH</b>		
SENSOR DIAGNOSTICS pH		
mA OUTPUTS		
PASSWORD PROTECTION		
PRODUCT CHANGE		
HOLD		
18.07.2019	P01	15:02:46

<b>SYSTEM SETTINGS</b>		
pH-ELECTRODE : pH1		
SENSOR ACTIVE : YES		
CALIBRATION : DEFAULT		
<b>CALIBRATION DATA : USER</b>		
MAX SL ADJUSTMENT [%] : 50.00		
MAX OFFSET [mV] : 50.00		
TEMP COMPENSATION : YES		
REJECT	P01	SAVE

<b>SYSTEM SETTINGS</b>		
pH-ELECTRODE : pH1		
SENSOR ACTIVE : YES		
CALIBRATION : USER		
<b>CALIBRATION DATA : 20190724-hhmm- -1</b>		
MAX SL ADJUSTMENT : 20190724-hhmm- -2		
MAX OFFSET : 20190724-hhmm- -3		
TEMP COMPENSATION : YES		
REJECT	P01	SAVE

<b>SYSTEM SETTINGS</b>		
pH-ELECTRODE : pH1		
SENSOR ACTIVE : YES		
CALIBRATION : USER		
CALIBRATION DATA : 2019724-hhmm-		
MAX SL ADJUSTMENT [%] : 50.00		
MAX OFFSET [mV] : 50.00		
TEMP COMPENSATION : YES		
REJECT	P01	SAVE

## Select User pH Calibration Data Set

27 Select **SYSTEM SETTINGS**

28 Select **SENSOR pH**

29 Select **CALIBRATION** and **USER**

30 Select **CALIBRATION DATA** and the data set with **current date**

31 Confirm with **SAVE**



M05-pH1		M08-T(pH1)	
<b>pH</b>		<b>°C</b>	
<b>7.06</b>		<b>23.4</b>	
0.00	14.00	0.0	100.0
19.07.2019	P01	8:17:59	

## Verify pH Calibration by Standard pH buffer, e.g. pH 7.00

32 Return to **MAIN** menu and select **MEASUREMENT DISPLAY**

33 Place the pH probe into the **pH buffer 7.00** to verify the **calibration** is working properly.

34 Now the calibration is done and the **pH probe is ready** for sample measurements.



### Germany

optek-Danulat GmbH  
Emscherbruchallee 2  
45356 Essen / Germany  
Phone: +49 201 63409 0  
E-Mail: info@optek.de



### USA

optek-Danulat Inc.  
N118 W18748 Bunsen Drive  
Germantown WI 53022 / USA  
Phone: +1 262 437 3600  
Toll free call: +1 800 371 4288  
Fax: +1 262 437 3699  
E-Mail: info@optek.com



### China

optek-Danulat Shanghai Co., Ltd.  
Room 718 Building 1  
No.88 Keyuan Road  
Pudong Zhangjiang  
Shanghai, China 201203  
Phone: +86 21 2898 6326  
Fax: +86 21 2898 6325  
E-Mail: info@optek-danulat.com.cn



### Singapore

optek-Danulat Pte. Ltd.  
25 Int'l Business Park  
#02-09 German Centre  
Singapore 609916  
Phone: +65 6562 8292  
Fax: +65 6562 8293  
E-Mail: info@optek.com.sg