

# αlpha-pH 2000

C O N T R O L L E R



*Wide selection of pH and ORP sensors to give reliable and accurate measurements. Teflon reference junction prolongs life-span with quick and easy maintenance.*

- Wall Mount model
- Advanced Switch Mode Supply (SMPS)
- Auto-detection of Power Supply (80 to 250 V AC/DC)
- Dual 4/20 mA scaleable output (pH and Temperature), with out-of-range current at 22 mA
- Application Specific Integrated Circuit (ASIC)
- pH or ORP Mode in % or mV
- Menu-driven SETUP Program
- Push-button Calibration with choice of NIST or USA buffer options
- Limit, Proportional and Proportional Integral Control
- 2 set point relays, 1 alarm relay and 1 wash relay
- Temperature in °C or °F with Pt 1000 or Pt 100
- Programmable wash relay (automatic at time intervals or manually)
- Asymmetrical / Symmetrical Mode of Operation
- Back lit LCD display

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**INSTRUMENTS**  
*Technology Made Easy ...*

**ISO 9001**  
CERTIFIED

## pH or ORP CONTROLLER

Controller can be easily configured (via keypad) to operate in pH, ORP (mV) or ORP (% concentration) mode. Both Fahrenheit °F and Centigrade °C scales are available.

## CUSTOM LCD

Large customized LCD displays measured parameters with units of measure. Back lighting activated by any key press enhances readability in dim areas.

## CALIBRATION

Calibration is direct, online, easy and quickly done. Choice of NIST or US buffer standards is available. Electrode status is displayed after every successful calibration. Calibration values can be reset without affecting other configuration parameters.

## TEMPERATURE COMPENSATION

Choose Automatic or Manual Temperature Compensation with Pt 100 or Pt 1000 option configured as 2-wire or 3-wire wiring system in the Automatic (ATC) mode. If no temperature probe is available, Manual compensation is possible with independent Calibration and Process temperature inputs. View temperature in either °C or °F.

## CONTROL ACTION

Controller can be configured to work as limit or proportional controller. In the limit control mode, on/off timer delays are available for additional control of the relays. Rapid contact switching is prevented by hysteresis (dead band) for each set point.

For fine control, switch to proportional control – Pulse Length or Pulse Frequency. And the proportional band can be set up to 500% of full scale for very fine control.

## RELAYS

4 relays are available: two set points relay A and B, one Alarm relay and one independent Wash relay. Each set point (relay A and/or B) can be programmed to operate as 'Hi' or 'Lo', independently. Relay status can be switched from energized mode to de-energized, at the touch of a button – no necessity to re-wire the controller. Alarm relay can be set with timer delays to prevent false alarms. This can be set to delay from 0 to 2000 seconds, and the mode of activation can be configured to pulse or continuous.

Program the wash relay to activate electrode cleaning at pre-programmed intervals or manually control the relay via push-button and password. Two additional LED lights indicate status of Wash relay.

## CONFIGURATION

In environments with electrical interference, it is ideal to configure the controller to the symmetrical mode and use with a potential matching pin. For process applications where glass pH electrode is unsuitable, Antimony electrode configuration is available.

## OUTPUT

Dual 0/4-20 mA output, for pH and temperature, is galvanically isolated with a maximum load of 600Ω. The output is scaleable and can be zoomed to a 1 pH window across the measurement range of 0 to 14 pH. Out of range current at 22 mA helps in process troubleshooting a diagnosis.

## POWER REQUIREMENTS

Advanced Switch Mode Power Supply (SMPS) auto detects power supply input from 80 to 250 V, AC or DC minimizing stocking needs for varying market voltage requirements.

## WARRANTY

Eutech Instruments warrants its controller free from manufacturing defects for 1 year and electrode for 6 months.

*Note: Eutech reserves the right to make changes, improvements and modifications to products shown.*

## SPECIFICATIONS

Alpha-pH 2000 Controller / Transmitter	
pH Range	-2.00 to 16.00 pH
Resolution & Accuracy	0.01 pH & ± 0.01 pH
mV Range	0 to 100% / -1000 to 1000 mV
Resolution & Accuracy	1 mV & ± 2.0 mV
Temperature	-9.9 to 125.0 °C (15.0 to 257.0 °F)
Resolution & Accuracy	0.1 & ± 0.5 °C
Sensor	Pt 1000 or Pt 100 (2- or 3-wire)
Temperature Compensation	Automatic (± 10 °C / ± 18 °F offset adjustment) / Manual

## Set-point And Controller Functions

Function	Limit / Proportional Control / Proportional Integral (Pulse Length or Pulse Frequency)
Pickup / Dropout Delay	0 to 2000 seconds
Wash cycle	0.1 to 199.9 hours
Wash duration	1 to 1999 seconds
Switching pH Hysteresis	0.1 to 1.0 pH
Switching ORP Hysteresis	1 to 10% / 10 to 100 mV
Contact Outputs, Controller	1 SPDT; 3 SPST relays
Switching Voltage/Current/Power	Max 250 VAC / Max 3A / Max 600 VA

## Electrical Data And Connections

Power Requirements	80 to 250 V AC / DC
Signal Output / Load	4-22 mA galvanically isolated / 600 Ω
pH / ORP Input	BNC (10 <sup>12</sup> Impedance)
Signal Input	Asymmetrical / Symmetrical
Connection Terminals	3 Detachable connectors (3-pin; 19-pin & 9-pin terminal blocks)
Main Fuse	500 mA, slow-blow

## EMC Specifications

Emissions	Pending Test Results
Susceptibility	Pending Test Results

## Environmental Conditions

Ambient Temp. Operating Range	- 10 to 50 °C (14 to 122 °F)
Rel. Humidity	10 to 95 % (non-condensing)

## Mechanical Specifications

Dimensions (W x H x D)	Wall Mount 144 x 144 x 110 mm
Weight	670g (unit); 950g (boxed)
Insulation	IP 65

## ORDERING INFORMATION

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EC-PHCTP2000W	Alpha pH 2000 pH/ORP Controller/Transmitter 80 ~ 250 V AC/DC operation, IP 65 housing, wall mounted
EC-100GTSO-05B	pH electrode with Pt 100 and potential matching pin
EC-ARGTSO-05B	pH electrode with potential matching pin
EC-ARHTTSO-05B	High temperature pH electrode (up to 110 °C)
EC-ARTSOHF-05B	HF Resistant pH electrode
EC-ARTSO-05B	General purpose pH electrode
EC-HTPTTSO-05B	Platinum ORP electrode (high temperature) with potential matching pin
EC-HTAUTSO-05B	Gold ORP electrode (high temperature) with potential matching pin

\* Above electrodes come in low-noise shielded 5m cable, BNC connector

\* Eutech also provides controller accessories and calibration standards. Refer to separate brochures for information. Extension cables available.

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