Overview

Walchem's **WPH Series pH / ORP** on-line process controllers will improve your treatment performance.

Microprocessor-based with an easy-to-use menu format, WPH Series controllers measure in pH or mV accurately and reliably. A versatile output configuration allows you to program up to four outputs in a variety of ways with just one controller.

WPH Series controllers are available with either on / off mechanical relay outputs or direct pulse proportional control for metering pumps. Installation is as easy as unpacking the unit, mounting it and plugging it in. We also offer other wiring options to fit your requirements.

WPH Series

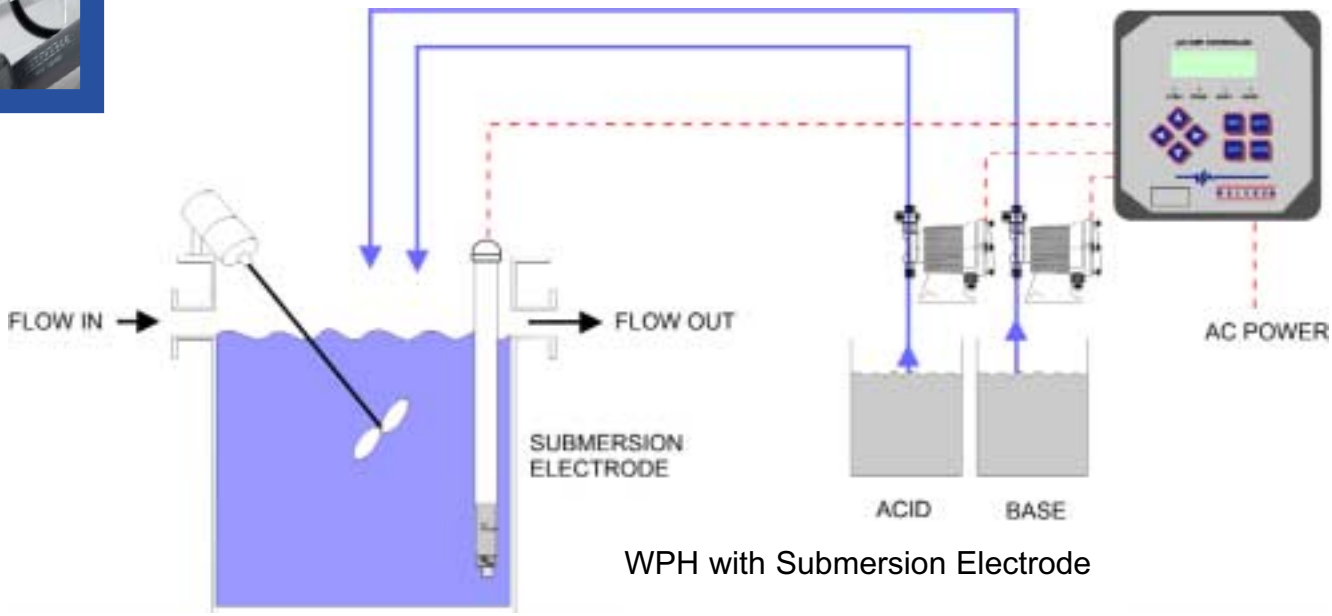
pH/ORP Controllers

Summary of Benefits

- An in-range output option is perfect for controlling a solenoid valve to dump a batch treatment tank when the pH is within limits.
- An out-of-range alarm is useful in waste treatment applications to signal when the pH is too high or low.
- Digital input for a flow switch may be used in flow-through applications such as cooling tower chlorination, preventing chemical feed based on a stagnant sample.
- Input for a level switch can prevent control of an empty batch tank.

WALCHEM

WPH300 Series Features



WPH with Submersion Electrode

WPH310 Series

On/Off Control

Four control relays may be set as all high, all low or any combination. The control deadband is fully adjustable.

WPH320 Series

Pulse Proportional Control

Two pulse outputs that may be set independently, enhanced by an adjustable minimum and maximum pulse per minute setting, plus two alarm relays.

pH or ORP measurement
Configurable via a software menu setting. Reduces inventory requirements.

Versatile relay configuration
Control outputs can be set as high or low set points via keypad. Auxiliary outputs can be set as:

- High alarm
- Low alarm
- In-range output
- Out-of range alarm
- Probe wash

Probe wash feature
For applications that require frequent electrode cleaning, automatic probe wash stretches out *reliable* measurement life between maintenance interruptions.

Simple, plug-in installation
Prewired, wall mount NEMA 4X enclosure is easy to mount, includes power cord and pump connections. Hard-wired versions are available.

Auto buffer recognition
Software selectable for U.S. or European calibration standards.

Optional 4-20mA output
Internally powered and fully isolated, for sending signals to a chart recorder, PLC or other control device.

Display status at a glance
Look at any set point without interrupting control or needing access code. View:

- Analog graph relative to set points
- pH/ORP values
- Status of alarms, outputs

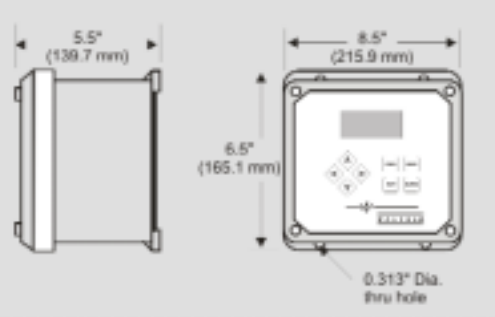
Calibration reminder
Calibration menu displays the date of the last sensor calibration and allows the user to set number of days between calibrations.

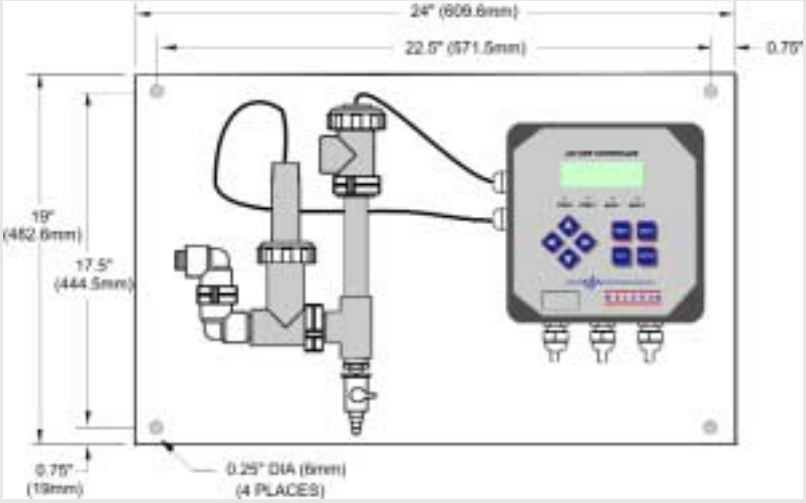
Self diagnostics
Software and electronics are constantly monitored, without having to take the controller off line. Any error messages are displayed in plain English. A fifth relay is activated by any diagnostics failures.

Programmable access code
Secures set point parameters. Program any four digit access number or disable the code requirement.

Self test
Selected via menu, a simulated pH and temperature signal is input to the controller. Diagnostic allows sensor or controller problems to be deciphered quickly.

Specifications





INPUTS

Power	115VAC ±15% 50/60 Hz, 60mA	230VAC ±15% 50/60 HZ, 30mA
Signals (pH/ORP)	± 1500 mV	
Temp. Comp. (optional)	Pt 100 or 1000	
Interlock (optional)	Isolated dry contact closure required (i.e. flow, level, etc.)	

MEASUREMENT PERFORMANCE

Range	-2 to 16 pH ±1500 mV (ORP)
Resolution	.0015 pH units (.01 pH displayed) 92 mV (1mV displayed) (ORP)
Accuracy (calibrated)	10.01 pH, ± 1mV ± 0.01 pH, ± mV
Temperature Range	32 to 212°F (0 to 100°C)
Temperature Resolution	± .09 °F (.05°C)
Temperature Accuracy	± .9°F (± 0.5°C)

WEL pH/ORP ELECTRODE (OPTIONAL)

Temperature Range	50 to 158°F (10 to 70°C)	
Operating Pressure	0 to 100 psi	
Wetted Materials of Construction:		
Electrode body	CPVC	
Electrode reference	HDPE	
O-rings	FKM	
Electrode	Glass (pH)	Platinum (ORP)
Optional ground rod	Titanium	

1" NPTM pipe submersion connection
3/4" threaded NPTF tee in-line connection

OUTPUTS

Control (On/Off) (WPH310)	Two internally powered relays 115VAC, 10A resistive, 1/8 HP 230VAC, 6A resistive, 1/8 HP
Control (Proportional) (WPH320)	Two 200 mA, 400 VDC maximum VLOWMAX = .13V @ 18mA
Aux1, Aux2, Alarm	Dry contact relays 115VAC, 10A resistive, 1/8 HP 230VAC, 6A resistive, 1/8 HP
pH Preamp	±5VDC, 5mA (supplied by controller)
4-20mA (optional)	Fully isolated, internally powered 600Ω max. resistive load. Resolution 0.001% of span, accuracy ± 1% of reading

MECHANICAL (controller)

Enclosure	Fiberglass
NEMA rating	NEMA 4X (IP65)
Display	2 x 16 character backlit liquid crystal
Ambient temperature	32 to 158°F (0 to 70°C)
Storage Temperature	-20 to 180°F (-29 to 80°C)
Shipping weight	7 lbs (3 kg) (approximately)

AGENCY CERTIFICATIONS

UL	ANSI/UL 61010-1:2004, 2nd Edition*
CAN/CSA	C22,2 No.61010-1:2004 2nd Edition*
CE Safety	EN 61010-1 2nd Edition (2001)*
CE EMC	EN 61326 :1998 Annex A*

Note: For EN61000-4-6,-3 the controller met performance criteria B.
*Equipment suitable for use in establishments other than domestic, and those directly connected to a low voltage (100-240 VAC) power supply network which supplies buildings used for domestic purposes.

Ordering Information

WPH3 ☐ **0 -** ☐ ☐ ☐ ☐

(Control) (Voltage) (Output) (Option)

CONTROL OUTPUTS

1 = Five (5) On/Off relays

2 = Three (3) On/Off relays & two (2) proportional relays

VOLTAGE

1 = 115 VAC, prewired , 1' pigtails (WPH310) or 10' EH or EK cords (WPH320)

2 = 115VAC prewired, 10' LMI cords (WPH320 only)

3 = 115VAC prewired, 10' EW cords (WPH320 only)

4 = 115 VAC, hardwire/conduit

5 = 230 VAC, hardwire/conduit

OUTPUT

N = No data output

4 = Isolated 4-20 mA output

OPTIONS

1 = Prewired preamp with 10' cable (Electrode not included. Electrode used should have BNC connector)

2 = Submersion flat pH electrode w / integral preamp (WEL-PHF-21)

3 = In-line flat pH electrode w / integral preamp (WEL-PHF-22), includes 3/4" NPTF mounting tee

4 = In-line flat pH electrode w / integral preamp (WEL-PHF-22), 3/4" manifold including flow switch and 'U' adapter mounted on polypro panel

4T = In-line flat pH electrode with ATC w / integral preamp (WEL-PHF-22), 3/4" manifold including flow switch and 'U' adapter mounted on polypro panel

5 = Submersion ORP electrode w / integral preamp (WEL-MVF-21)

6 = In-line ORP electrode w / integral preamp (WEL-MVF-22), includes 3/4" NPTF mounting tee

6R = In-line rod style ORP electrode w / integral preamp (WEL-MVR-22), includes 3/4" NPTF mounting tee

7 = In-line ORP electrode w / integral preamp (WEL-MVF-22), 3/4" manifold including flow switch and 'U' adapter mounted on polypro panel

7R = In-line rod style ORP electrode w / integral preamp (WEL-MVR-22), 3/4" manifold including flow switch and 'U' adapter mounted on polypro panel

WEBMASTER GENERAL INDUSTRIAL CONTROLLER

WEBMASTER COOLING TOWER AND BOILER CONTROLLER

METERING PUMPS AND ACCESSORIES

WEBALERT REMOTE MONITORING & DATALOGGING

Walchem designs and manufactures an integrated line of analytical control, sensing and feed devices.

Our in-house engineering is driven by quality, technology and innovation.

For more information on the entire Walchem product line, visit : www.walchem.com

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P/N 180162.E 3/2006

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