

Overview

Walchem's WDP Series Dual Input pH/ORP controllers make on-line process control effortless and reliable. Dual independent channels measure pH or ORP and have a versatile array of relay configurations to keep your treatment under *your* control.

Microprocessor-based, WDP Series controllers are extremely easy to install, program and operate. Automatic buffer recognition for U.S. or European standards makes electrode calibration simple and convenient. The controller will prompt you to recalibrate the electrode at a user-defined frequency.

WDP Series controllers are compatible with our WEL Series pH/ORP electrodes, which offer an extremely reliable differential measurement technique that is immune to any possible ground loop problems.

Together, they provide a true NEMA 4X system - no BNC connectors are exposed to wet or corrosive conditions; safety and reliability are optimized. Electrode troubleshooting is simplified through self-diagnostics.

The attention to detail in the design & engineering of the W300 Series controllers results in reliable user-friendly, integrated, long lasting control products.

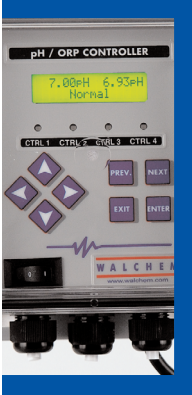


WDP Series Dual Input pH/ORP Controllers

Summary of Benefits

- Each relay may be configured for:
 - High or low set point
 - High or low alarm
 - Probe wash activation
 - In-range output
 - Out-of-range alarm
- “Percent Difference” calculation after each two point calibration displays *actual* electrode performance, allowing user to forecast electrode life.
- Control output limit timers for each relay prevent run-away chemical addition.
- Single or dual flow/level switch option (i.e., to shut off control when tank is full or empty) provides better application control.
- Probe wash feature for applications that require frequent electrode cleaning; automatic probe wash stretches out reliable measurement life between maintenance interruptions.
- Self diagnostics monitor electronic performance without taking the unit off-line. This permits faster troubleshooting and reduces down-time.

W A L C H E M



WDP300 Series

Dual Input pH/ORP Controller

One Controller That Does The Job Of Two.
In Three Models Offering a Full Range of
Control Options.

Dual electrode inputs allow one controller to take the place of two, reducing costs and simplifying installation. Pre-wired, wall mount NEMA 4X enclosure for simple, plug-in installation and reduced cost. Optional single or dual 4-20 mA outputs are internally powered and isolated for clear signal transmission to peripherals.

WDP310

- 4 powered relay outputs configurable for on/off control, alarms or automatic probe wash
- 1 powered dedicated diagnostic alarm relay

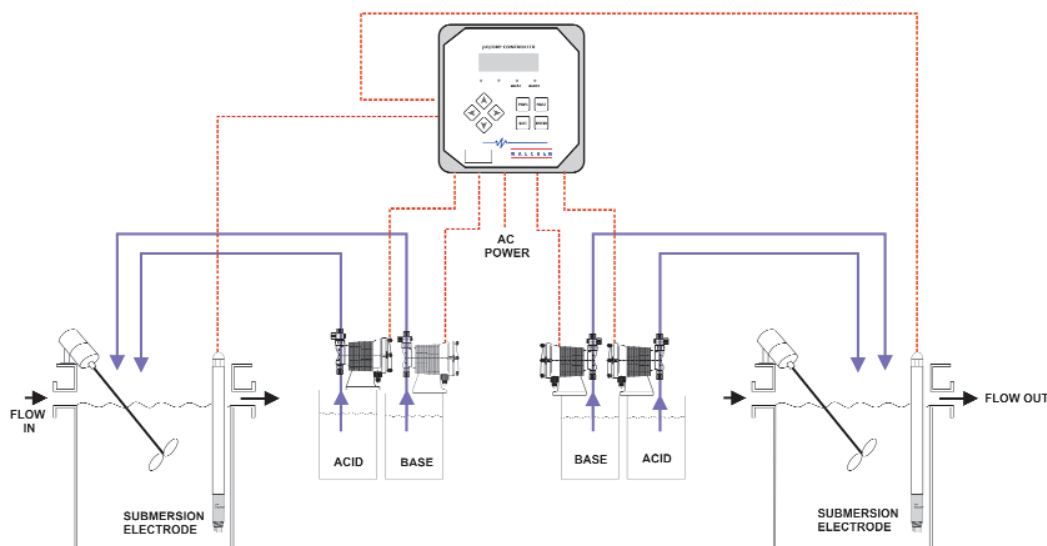
WDP320

- 2 pulse proportional control outputs
- 2 dry contact relay outputs for on/off control, alarms or automatic probe wash
- 1 dedicated dry contact diagnostic alarm relay

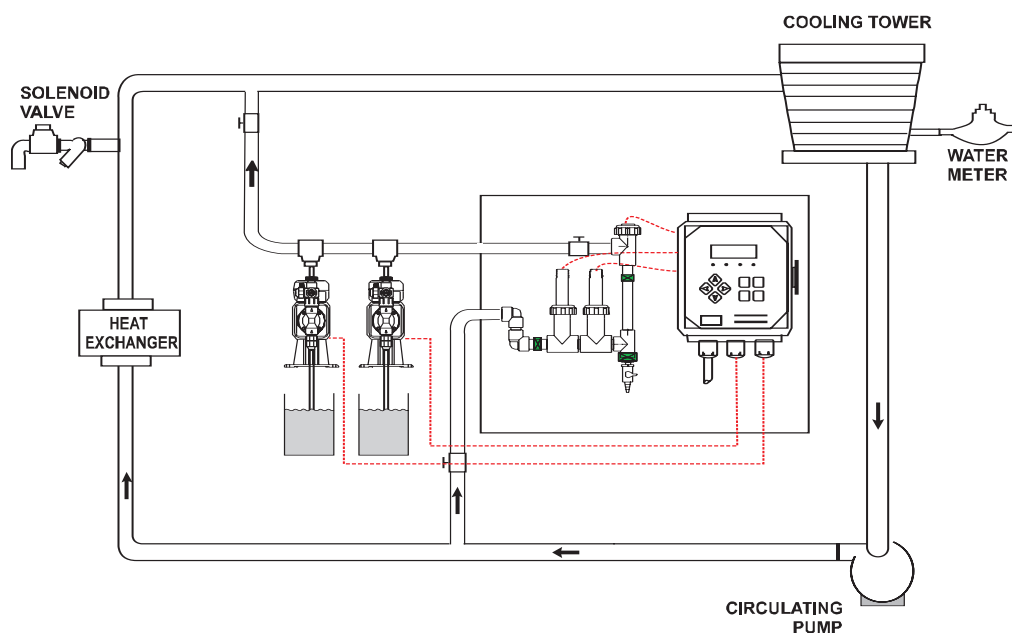
WDP340

- 4 pulse proportional control outputs
- 1 dedicated dry contact diagnostic alarm relay

TYPICAL DUAL PROCESS CONTROL APPLICATION



TYPICAL DUAL IN-LINE CONTROL APPLICATION



INPUTS

Power	110-120 VAC 50/60 Hz, 10A	220-240 VAC 50/60 HZ, 5A
Signals	pH/ORP* Temp. Comp. Interlock	±1500 mV Pt 1000 or Pt 100 Isolated dry contact closure required (flow, level, etc.)

* Note: A preamplified electrode signal is required.

The WEL electrode has preamp built-in; the controller also accepts external preamplifiers.

MEASUREMENT PERFORMANCE

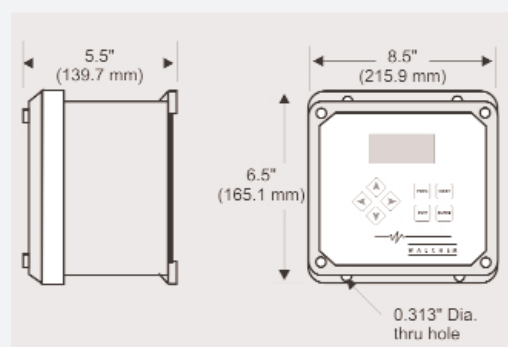
Range	-2 to 16 pH
Resolution	.0015 pH units (.01 pH displayed)
Accuracy (Calibrated)	± .01 pH
Temperature Range	32 to 212°F (0 to 100°C)
Temperature Resolution	.09°F (.05°C)
Temperature Accuracy	±.9°F (.5°C)

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	

MECHANICAL

Enclosure	Thermoplastic
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)
Flowswitch manifold (optional)	3/4" NPTF thread 100 psi maximum pressure 140°F (60°C) maximum



OUTPUTS

WDP310 (On/Off Control Version)

Control relays 1-4 and Diagnostic Alarm
Internally powered relays
@ 120VAC, 10A resistive, 1/8 HP
@ 240VAC, 6A resistive, 1/8 HP

WDP320 (Proportional Version)

Control relays 1-2
Solid state relay
150 mA, 40 VDC max.
VLOW MAX = .13V@18mA
Control relays 3-4 and Diagnostic Alarm
Dry contact relay
@ 120VAC, 10A resistive, 1/8 HP
@ 240VAC, 6A resistive, 1/8 HP

WDP340 (Dual Proportional Control Version)

Control relays 1-4
Solid state relay
150 mA, 40 VDC max.
VLOW MAX = .13V @ 18mA
Diagnostic Alarm relay
Dry contact relay
@ 120VAC, 10A resistive, 1/8 HP
@ 240VAC, 6A resistive, 1/8 HP

ALL MODELS

4-20 mA, one or two outputs, optional

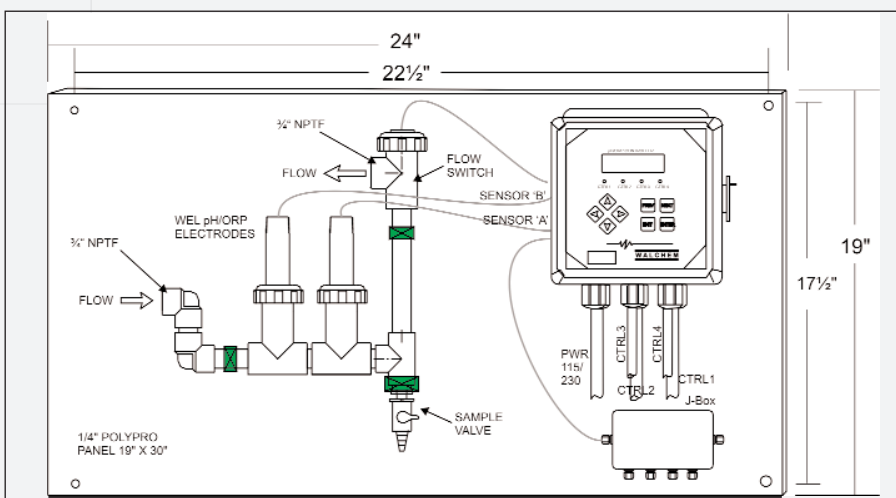
Fully isolated, internally powered, 600 Ω max. resistive load.
Resolution .001% of span, accuracy ±1% of reading.

External preamp power

± 5VDC, 5 mA available (supplied by the controller)

Junction Box

If more than 9 devices are connected (any combination of sensors, flow/level switches, control devices, chart recorders and alarms), a junction box should be ordered (P/N 190851).



WDP3 ☐ **0** - ☐ ☐ ☐
 (Control) (Voltage) (Output) (Sensor)

CONTROL

- 1 = 4 powered relay outputs (for on/off control, alarm or probe wash) *and* 1 powered dedicated alarm relay
- 2 = 2 pulse proportional outputs *and* 2 on/off dry contact relays *and* 1 dry contact dedicated alarm
- 4 = 4 pulse proportional outputs *and* 1 dry contact dedicated alarm

VOLTAGE

- 1 = 120 VAC, four prewired, 6" pigtails for all outputs (WDP310) *or* two 10' cables for EH metering pumps (WDP320) *or* four 10' cables for EH metering pumps (WDP340)
- 2 = 120 VAC, two 10' cables for LMI metering pumps (WDP320) *or* four 10' cables for LMI metering pumps (WDP340)
- 3 = 120 VAC prewired, two 10' EW cables (WDP320 models) *or* four 10' EW cables (WDP340 models)
- 4 = 120 VAC, hardwire
- 5 = 240 VAC, hardwire

OUTPUT

- N = No 4-20 mA output
- 4 = Single 4-20 mA output
- 2 = Two 4-20 mA outputs

SENSOR

- 2 = 2 WEL submersion style flat pH electrodes (without auto temp comp)
- 5 = 2 WEL submersion style ORP electrodes
- 6 = 1 WEL submersion style flat pH electrode (without auto temp comp) *and* 1 WEL submersion ORP electrode
- 7 = 1 WEL in-line style flat pH electrode (without auto temp comp; tee included) *and* 1 WEL in-line ORP electrode (tee included)
- 8 = Flow switch manifold with 2 WEL in-line electrodes; 1 pH (without auto temp comp) *and* 1 ORP mounted on 19" (483mm)H x 24" (610mm)W polypropylene panel
- 8T= Identical to option #8 above, with auto temp comp

AGENCY CERTIFICATIONS

UL	UL 61010-1, 2nd Edition
CSA	C22,2 No.61010-1 2nd Edition
CE Safety	EN 61010-1 2nd Edition
CE EMC	EN 61326 :1998 Annex A*

Note: For EN61000-4-6,3 the controller met performance criteria B.

*Class A equipment: 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.



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

W A L C H E M

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