Conductivity, pH/ORP & Disinfection

W100P Series Controllers

The W100P series provide an economical and reliable way to keep your water treatment program under control.

Summary of Key Benefits

- Large display with icon based programming makes setup easy
- Compact ¼ DIN panel mount enclosure
- Universal sensor input provides extraordinary flexibility; the same controller can be used with almost any type of sensor needed; conductivity (contacting and electrodeless), amplified pH/ORP/ISE, or disinfection
- Two pH/ORP/ISE models available for use with non-amplified electrodes with or without a BNC connector
- Multiple language support allows simple setup no matter where your business takes you
- Four control outputs allow the controller to be used in more places than other entry level models
- Complete flexibility in the function of each relay
  - On/Off Setpoint
  - Time Proportional Control
  - Pulse Proportional Control (when purchased with 4-20mA or pulse solid state opto outputs)
  - In-range or Out-of-range activation
  - Timer-based activation
  - Activation based upon the state of a contact closure
  - Timed activation triggered by a Water Contactor or Paddlewheel flow meter's accumulated total flow
  - Activate with another output
  - Alarm
  - PID Control (when purchased with 4-20mA or pulse solid state opto outputs)

Typical Applications

- Wastewater neutralization & disinfection
- Food and Beverage disinfection
- Potable water treatment
- Swimming pools & spas
- Cooling tower biocide control
- Metal finishing & printed circuit board
- Irrigation & fertigation
- RO Systems

WALCHEM
IWAKI America Inc.

Specifications

Measurement Performance

	Range	Resolution	Accuracy
0.01 Cell Contacting Conductivity	0-300 µS/cm	0.01 µS/cm, 0.0001 mS/cm, 0.001 mS/m, 0.0001 S/m, 0.01 ppm	± 1% of reading
0.1 Cell Contacting Conductivity	0-3,000 µS/cm	0.1 µS/cm, 0.0001 mS/cm, 0.01 mS/m, 0.0001 S/m, 0.1 ppm	± 1% of reading
1.0 Cell Contacting Conductivity	0-30,000 µS/cm	1 µS/cm, 0.001 mS/cm, 0.1 mS/m, 0.0001 S/m, 1 ppm	± 1% of reading
10.0 Cell Contacting Conductivity	0-300,000 µS/cm	10 µS/cm, 0.01 mS/cm, 1 mS/m, 0.001 S/m, 10 ppm	± 1% of reading
pH	-2 to 16 pH units	0.01 pH units	± 0.01% of reading
ORP/Ion Selective Electrode	-1500 to 1500 mV	0.1 mV	± 1 mV
Disinfection sensors	-2000 to 1500 mV	0.1 mV	± 1 mV
	0 - 2 ppm to 0 - 20,000 ppm	Varies with range and slope	Varies with range and slope
Electrodeless Conductivity	500 - 12,000 µS/cm	1 µS/cm, 0.01 mS/cm, 0.1 mS/m, 0.001 S/m, 1 ppm	± 1% of reading
	3,000-40,000 µS/cm	1 µS/cm, 0.01 mS/cm, 0.1 mS/m, 0.001 S/m, 1 ppm	± 1% of reading
	10,000-150,000 µS/cm	10 µS/cm, 0.1 mS/cm, 1 mS/m, 0.01 S/m, 10 ppm	± 1% of reading
	50,000-500,000 µS/cm	10 µS/cm, 0.1 mS/cm, 1 mS/m, 0.01 S/m, 10 ppm	± 1% of reading
	200,000-2,000,000 µS/cm	100 µS/cm, 0.1 mS/cm, 1 mS/m, 0.1 S/m, 100 ppm	± 1% of reading
Temperature	23 to 500°F (-5 to 260°C)	0.1°F (0.1°C)	± 1% of reading within range

Temperature °C	0	10	15	20	25	30	35	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180
Range Multiplier %	181.3	139.9	124.2	111.1	100.0	90.6	82.5	75.5	64.3	55.6	48.9	43.5	39.2	35.7	32.8	30.4	28.5	26.9	25.5	24.4	23.6	22.9

Note: Conductivity ranges above apply at 25°C. At higher temperatures, the range is reduced per the range multiplier chart.

Inputs

Power
100-240 VAC, 50 or 60 Hz, 12 VA

Digital Input Signals (1)

State-Type

Electrical: Optically-isolated input.
Provides isolated 9V power.
Current consumption when input is closed: 2.3 mA nominal.

Typical response time: <2 seconds

Devices supported: Any isolated dry contact (i.e. relay, reed switch)

Types: Interlock

Low Speed Counter-Type

Electrical: Optically-isolated input.
Provides isolated 9V power.
Current consumption when input is closed: 2.3 mA nominal.
0-10Hz, 50 msec minimum pulse width

Devices supported: Any device with isolated open drain, open collector, transistor or reed switch

Types: Contacting Flowmeter

High-Speed Counter-Type

Electrical: Optically-isolated input.
Provides isolated 9V power.
Current consumption when input is closed: 2.3 mA nominal.
0-500Hz, 1.00 msec minimum pulse width

Devices supported: Any device with isolated open drain, open collector, transistor or reed switch

Types: Paddlewheel Flowmeter

Outputs

Dry contact mechanical relays (2 or 4 depending on model code
6 A (resistive), 1/8 HP (93W) per relay
Dry contact relays are not fuse protected.

Pulse Outputs (0 or 2 model code dependent)
Opto-isolated, solid-state relay, 200mA, 40V DC
VLOWMAX = 0.05V @ 18mA

4 - 20 mA (1)
Internally powered, Fully isolated
600 Ohm max resistive load, Resolution 0.0015% of span
Accuracy ± 0.5% of reading

Mechanical (Controller)

Enclosure	Polycarbonate 1/4 DIN
Enclosure Rating	NEMA 4X (IP65)
Display	128 x 64 graphic backlit display
Ambient. Temperature	-4 to 131°F (-20 to 55°C)
Shipping Temperature	-4 to 176°F (-20 to 80°C)
Shipping weight	15.7 lbs (7.1 kg) (approximately) varies with model

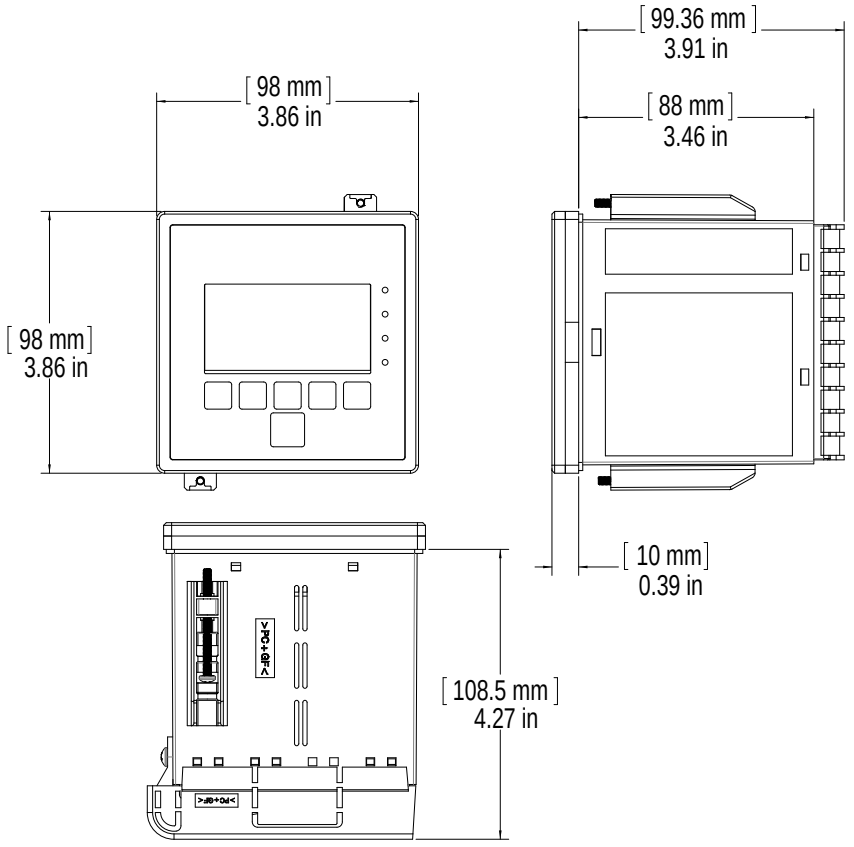
Agency Certifications

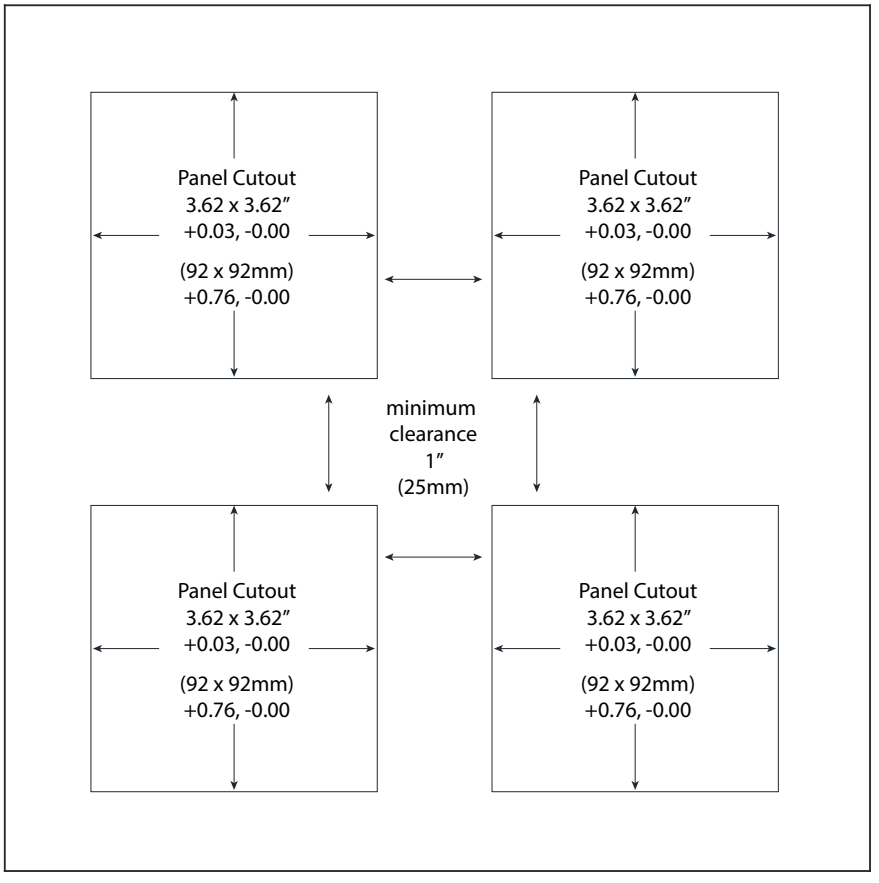
Safety:	UL 61010-1:2012, 3rd Edition CSA C22.2 No.61010-1:2012, 3rd Edition IEC 61010-1:2010 3rd Edition EN 61010-1:2010 3rd Edition
EMC:	IEC 61326-1:2012 EN 61326-1:2013

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

Specifications

Dimensions





Ordering Information

WCNP (Conductivity, Amplified pH or ORP, Disinfection

WPHBP (Non-PreAmplified pH/ORP/ISE with BNC)

WPHNP (Non-PreAmplified pH/ORP/ISE without BNC)

Relays/Wiring | Analog Output - Sensors

Relays/Wiring
110 = 4 dry relays
120 = 2 pulse, 2 dry relay

Analog Output
A = One isolated analog (4-20 ma) output

Sensors
N = No sensor

ABOUT US

Walchem integrates its advanced sensing, instrumentation, fluid pumping and communications technologies to deliver reliable and innovative solutions to the global water treatment market. Our in-house engineering is driven by quality, technology and innovation.
For more information on the entire Walchem product line, visit: www.walchem.com

WALCHEM
IWAKI America Inc.

180624.F September 2018

Walchem, Iwaki America Inc. | Five Boynton Road Hopping Brook Park | Holliston, MA 01746 USA | Phone: 508-429-1110 www.walchem.com