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, or disinfection
- Two pH/ORP 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

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

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.
  - 0.1Hz, 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.
  - 0.5Hz, 1.0 msec minimum pulse width
  - Devices supported: Any device with isolated open drain, open collector, transistor or reed switch
  - Types: Paddlewheel Flowmeter

Measurement Performance

<table>
<thead>
<tr>
<th>Range</th>
<th>Resolution</th>
<th>Accuracy</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.01 Cell Contacting Conductivity</td>
<td>0.01 µS/cm</td>
<td>± 0.1% of reading</td>
</tr>
<tr>
<td>0.1 Cell Contacting Conductivity</td>
<td>0.1 µS/cm</td>
<td>± 0.2% of reading</td>
</tr>
<tr>
<td>1.0 Cell Contacting Conductivity</td>
<td>1.0 µS/cm</td>
<td>± 0.5% of reading</td>
</tr>
<tr>
<td>10 Cell Contacting Conductivity</td>
<td>10.0 µS/cm</td>
<td>± 1% of reading</td>
</tr>
</tbody>
</table>

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
- Display: 128 x 64 graphic backlit display
- Ambient Temperature: 23°F to 158°F (-5°C to 70°C)
- Shipping Temperature: 4°F to 131°F (-20°C to 55°C)
- Shipping weight: 15.7 lbs (7.1 kg) (approximately)

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

**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.

0.1Hz, 50 msec minimum pulse width

Types: Any device with isolated open drain, open collector, transistor, or Reed switch

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

0.05msec, 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, 200 mA, 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: Poly carbonate 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)

Accuracy ± 0.5% of reading

**Agency Certifications**

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

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</tr>
<tr>
<td>1.0 Cell Contacting Conductivity</td>
<td>1 µS/cm, 0.01 mS/cm, 0.1 mS/cm, 1 mS/cm</td>
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</tr>
<tr>
<td>10.0 Cell Contacting Conductivity</td>
<td>10 µS/cm, 0.1 mS/cm, 1 mS/cm, 10 mS/cm</td>
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</tr>
<tr>
<td>pH</td>
<td>0 - 16 pH units</td>
<td>± 0.01 of reading</td>
</tr>
<tr>
<td>ORP</td>
<td>-1500 to 1500 mV</td>
<td>± 1 mV</td>
</tr>
</tbody>
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**Electrodes (Conductivity)**

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>500 - 10,000 µS/cm</td>
<td>0.1 µS/cm, 0.01 mS/cm, 0.1 mS/cm</td>
<td>± 1% of reading</td>
</tr>
<tr>
<td>10,000 - 100,000 µS/cm</td>
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</tr>
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</tbody>
</table>

**Temperature**

23 to 500°F (-5 to 260°C) ± 1% of reading within range

**Dimensions**

Panel Cutout: 3.62 x 3.62" (+0.03, -0.00) (92 x 92mm) (+0.76, -0.00)
Conductivity, pH/ORP & Disinfection

Summary of Key Benefits

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

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Compact ¼ DIN panel mount enclosure

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W100P Series Controllers

Ordering Information

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