Cooling Tower/Boiler Controllers

ONE simple and flexible controller for ALL your water treatment needs!

Walchem's WebMasterONE integrates advanced sensing, instrumentation, fluid handling, and data communications technologies to bring you the most sophisticated cooling tower & boiler controller in the water treatment industry.

The simple, intuitive programming makes it easy to configure your WebMasterONE to control multiple cooling towers, boilers, closed loops, or virtually any water treatment process. It will monitor and control based on a wide range of direct sensor inputs as well as measurement inputs from other devices such as corrosion, level, temperature and pressure.

WebMasterONE is on duty 24 hours a day, 365 days a year, keeping on-site and off-site personnel notified of system performance, all the while providing comprehensive and reliable water treatment control.

Summary of Key Benefits

- Extensive built-in Plug & Play communications options:
  - Ethernet
  - USB (laptop & flash disk support)
  - Cell modem
  - Landline modem

- Easy to start-up and use - with just a web browser!

- VT Touch® provides quick, centralized 24/7 awareness of account status with the ability to LIVE Connect to any of your controllers in the field with one simple mouse-click.

- System status reports and datalog files can be sent automatically

- Instant alarm notification via email, cell phone text message or local alarm relay

- PPM set points with feed verification

- Wide range of direct sensor measurements:
  - pH
  - Conductivity
  - ORP
  - Electrodeless conductivity
  - Free chlorine/bromine
  - Chlorine dioxide

- Modbus read/write is available for seamless integration with building energy management, distributed control, process management and SCADA systems

- Protect the building's infrastructure while conserving water, energy and chemicals

WALCHEM
IWAKI America Inc.
Features

Innovation
WebMasterONE is the most advanced online process controller in the water treatment industry. It supports all global communications standards:

- USB plug-n-play for local laptop communications (standard feature)
- Ethernet for LAN communications (standard feature)
- Internal analog modem (optional)
- Internal cellular modem utilizing the latest global standard digital technologies (GPRS) used by most major cellular carriers (optional)

Simplicity
True innovation has made WebMasterONE the easiest controller to use! To communicate with WebMaster ONE, simply connect the USB cable to your laptop, open a standard web browser, and type in the WebMaster default address. That’s it! You’re connected to the WebMasterONE and surfing the pages just like a website.

Convenience
Walchem’s patented ShoulderTap® technology (Internet Connectivity On Demand) allows WebMasterONE to be monitored and controlled over the Internet from any computer, anywhere in the world, with a standard web browser, without the need to be on the Internet at all times. No proprietary software, no long distance phone charges, and it’s completely safe since the controller is only connected to the Internet when you request it, or when it sends out reports and alarms.

Flexibility
WebmasterONE allows you to control cooling towers, boilers, closed loops, condensate lines, wastewater systems or any combination using one controller. All standard water treatment control methods are included in every WebMasterONE: Biocide timers, On/Off and Time Proportioning Control, Inhibitor feed, Intermittent boiler sampling with flashing detection, ORP control with periodic spike, and many others.

Compatibility
WebMasterONE supports many of the most popular global communications standards:

- MODBUS TCP/IP (Ethernet): Seamless connectivity to building energy management, distributed control, process management and SCADA systems
- SMTP: EMAIL for sending alarms, reports, or data log files
- ETHERNET
- Cell phone text messaging for instant, descriptive text message alarms
- Networking: Ethernet based networking allows the use of a single phone line or cell modem for communicating with multiple controllers at one site, even when they are located in different buildings!

Reliability
- Every part of WebMasterONE has been designed for reliable performance in any application:
  - Industrial grade pH/ORP/Conductivity sensors
  - Rugged flow switch manifold
  - UL, CSA and CE safety and electromagnetic performance approvals reduce electrical safety liability concerns and dramatically reduce electrical noise and powerline related field problems
Specifications

Measurement Performance

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Range</th>
<th>Resolution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contacting Conductivity</td>
<td>10 to 10,000 μS/cm</td>
<td>1 μS/cm</td>
</tr>
<tr>
<td>pH</td>
<td>2 to 16 pH</td>
<td>0.01 pH</td>
</tr>
<tr>
<td>ORP</td>
<td>-1400 to 1400 mV</td>
<td>1 mV</td>
</tr>
<tr>
<td>Temperature</td>
<td>0 to 200°C (32 to 392°F)</td>
<td>1°C (1°F)</td>
</tr>
<tr>
<td>Conductivity</td>
<td>1000 to 10,000 μS/cm</td>
<td>1 μS/cm</td>
</tr>
<tr>
<td>Free Chlorine/Bromine*</td>
<td>0 to 0.8 mg/l (PPM)</td>
<td>0.01 mg/l</td>
</tr>
<tr>
<td>Chlorine Dioxide</td>
<td>0 to 10 mg/l (PPM)</td>
<td>0.01 mg/l</td>
</tr>
</tbody>
</table>

*Not suitable for stabilized Bromine

Inputs

Power

- 100-120/200-240 VAC +/- 10%
- 12 amp, 50/60 Hz
- Fuse 1.6A, 5 x 20mm

Sensors (1 standard, up to 4 optional)

- Signal: +/− 1.4 VDC (isolated)
- Temperature: 1 Kohm, 10 Kohm or 100 Kohm

Digital Inputs (6 standard, additional 6 optional)

- Isolated dry contact, 0-300 kHz 1.5 msec minimum width

Analog (4-20 mA) Inputs (8 optional)

- 2 or 3 wire, internally powered by 24 VDC loop power available, 25 Ohm input resistance, 1000 Ohm maximum load

Sensor Specifications (*See graph)

<table>
<thead>
<tr>
<th>Sensor</th>
<th>Range</th>
<th>Temperature</th>
<th>Pressure</th>
<th>Process Connection</th>
<th>Materials</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electrodeless Conductivity</td>
<td>1000 to 10,000 μS/cm</td>
<td>32° to 158°F (0 to 70°C)</td>
<td>0 to 150 psi* (0 to 10.3 bar)</td>
<td>1&quot; NPTM submersion 2&quot; NPTF in-line adapter</td>
<td>CPVC, FKM in-line o-ring</td>
</tr>
<tr>
<td>pH</td>
<td>-2 to 16 pH</td>
<td>50° to 158°F (10 to 70°C)</td>
<td>0 to 100 psi* (0 to 6.9 bar)</td>
<td>1&quot; NPTM submersion 3/4&quot; NPTF in-line tee</td>
<td>CPVC, Glass, FKM o-rings, HDPE, Titanium rod, glass filled PP tee</td>
</tr>
<tr>
<td>ORP</td>
<td>-1400 to 1400 mV</td>
<td>32° to 158°F (0 to 70°C)</td>
<td>0 to 100 psi* (0 to 6.9 bar)</td>
<td>1&quot; NPTM submersion 3/4&quot; NPTF in-line tee</td>
<td>CPVC, Glass, FKM o-rings, HDPE, Titanium rod, glass filled PP tee</td>
</tr>
<tr>
<td>Contacting Conductivity (High Pressure Tower)</td>
<td>10 to 10,000 μS/cm</td>
<td>32° to 392°F (0 to 200°C)</td>
<td>0 to 300 psi (0 to 20.7 bar)</td>
<td>3/4&quot; NPTM</td>
<td>316 SS, PEEK</td>
</tr>
<tr>
<td>Contacting Conductivity (High Pressure Boiler)</td>
<td>10 to 10,000 μS/cm</td>
<td>32° to 392°F (0 to 200°C)</td>
<td>0 to 250 psi (0 to 17.2 bar)</td>
<td>3/4&quot; NPTM</td>
<td>316 SS, PEEK</td>
</tr>
<tr>
<td>Contacting Conductivity (Graphite)</td>
<td>10 to 10,000 μS/cm</td>
<td>32° to 392°F (0 to 200°C)</td>
<td>0 to 150 psi* (0 to 10.3 bar)</td>
<td>3/4&quot; NPTF</td>
<td>Graphite, glass-filled PP, FKM o-ring</td>
</tr>
<tr>
<td>Contacting Conductivity (GS)</td>
<td>10 to 10,000 μS/cm</td>
<td>32° to 392°F (0 to 200°C)</td>
<td>0 to 150 psi* (0 to 10.3 bar)</td>
<td>3/4&quot; NPTF</td>
<td>316 SS, glass-filled PP, FKM o-ring</td>
</tr>
<tr>
<td>pH (High Pressure)</td>
<td>0 to 14 pH</td>
<td>32° to 275°F (0 to 135°C)</td>
<td>0 to 300 psi (0 to 20.7 bar)</td>
<td>1/2&quot; NPTM gland</td>
<td>Graphite, Polymer, PTFE, 316 SS, FKM</td>
</tr>
<tr>
<td>ORP (High Pressure)</td>
<td>-1400 to 1400 mV</td>
<td>32° to 275°F (0 to 135°C)</td>
<td>0 to 300 psi (0 to 20.7 bar)</td>
<td>1/2&quot; NPTM gland</td>
<td>Glass-fritted PP, PVC, FKM, teflon</td>
</tr>
<tr>
<td>Flow Switch Manifold Assembly</td>
<td>&gt; 0.07 gpm</td>
<td>32° to 140°F (0 to 60°C)</td>
<td>150 psi up to 100°F (10.3 bar up to 38°C)</td>
<td>1/4&quot; NPTF</td>
<td>Glass-fritted PP, PVC, FKM, teflon</td>
</tr>
<tr>
<td>Flow Switch Manifold Assembly (High Pressure)</td>
<td>&gt; 0.07 gpm</td>
<td>32° to 158°F (0 to 70°F)</td>
<td>0 to 300 psi (0 to 20.7 bar)</td>
<td>3/8&quot; NPTF</td>
<td>Carbon steel, Brass, 316 SS, FKM</td>
</tr>
<tr>
<td>Free Chlorine/Bromine*</td>
<td>0 to 8 mg/l (PPM)</td>
<td>32° to 113°F (0 to 45°C)</td>
<td>0 to 15 psi (0 to 1 bar)</td>
<td>1/4&quot; NPTF</td>
<td>PVC, PTFE, Nylon, Teflon, FKM</td>
</tr>
<tr>
<td>Chlorine Dioxide</td>
<td>0 to 10 mg/l (PPM)</td>
<td>32° to 122°F (0 to 50°C)</td>
<td>0 to 15 psi (0 to 1 bar)</td>
<td>1/4&quot; NPTF</td>
<td>PVC, PTFE, Nylon, Teflon, FKM</td>
</tr>
</tbody>
</table>

Outputs

Mechanical relays (8 standard)

- 115VAC, 10 amp resistive, 1/8 HP
- 230VAC, 6 amp resistive, 1/8 HP

May be dry contact or powered by line voltage.
R1-R4 fused together, current not to exceed 5.5 amp
RS-R8 fused together, current not to exceed 5.5 amp

Only powered relays are fused, N.O. and N.C. contacts provided.

Analog (4-20 mA) Outputs (up to 4 optional)

- Isolated, 500 Ohm maximum load, internally powered by 24 VDC

Mechanical

- Enclosure: Thermoplastic
- NEMA Rating: NEMA 4X
- Display: 64 x 128 pixel backlight LCD
- Ambient Temp: 0 to 49°C (32 to 120°F)
- Storage Temperature: -29 to 60°C (-20 to 176°F)
- Shipping Weight: Approx. 26 lbs (11.8 kg)
**Smart** Service:
- On-line, web-based summary of account status
  - Process values continuously updated including past 24 hour min, max and average values
  - Alarm status
- One-click LIVE Connect to any device in the field for full view and reconfiguration
  - Analysis, troubleshooting, adjustments
- Seamlessly organize devices according to a process(es), facility, customer, etc.
- User “access” and “permissions” management
- Eliminates surprises during ‘routine’ visits
- Makes service PROACTIVE not reactive
- SAVES TIME! Plain & Simple

VTouch is a collection of technologies designed for companies offering managed water treatment services. The VTouch solution allows service companies to more effectively manage remote accounts by significantly reducing the complexities associated with the deployment of water treatment service programs based around communicating products.

The VTouch Account Manager is fully synchronized with Walchem’s web based controllers, making set up and configuration simple and fast. Just specify the type of remote communications needed for new or existing controllers and Walchem takes care of the rest. No need to sort out and track complicated and constantly moving cellular data or dial-up ISP plans from large companies with poor customer service and unpredictable monthly charges. VTouch solves these problems by bundling the communications services, giving you a completely turn-key solution.

The innovative, fully synchronized nature of VTouch provides you with a quick, centralized 24/7 awareness of account status with the ability to LIVE Connect to any of your controllers in the field with one simple mouse-click, regardless of connection type! No phone numbers or IP addresses to remember.

Summary view of all monitored systems

Critical process data, units & custom names sent from devices, synchronized automatically in VTouch. No lengthy set-up required!
With an embedded web server, WebMasterONE utilizes standard TCP/IP Internet communications. Remote communications can be established with WebMasterONE via the Internet or on a direct line with modem-to-modem capability. **USB Plug and Play** and Ethernet are included to allow easy on-site access for plant personnel and system operators. Multiple users can access the controller simultaneously. A graduated password protection system allows users varied degrees of access from view only to full system configuration. In addition, WebMasterONE delivers a range of user-friendly information reporting tools including email notifications for datalogs, alarms and system summaries.

Walchem has made use of the Internet as a remote access communications platform for industrial control equipment a practical reality. While others just attempt to reduce the cost of embedded web server hardware, Walchem has solved the problem of the high cost and lack of availability of a permanent connection to the Internet.

WebMasterONE makes programming your cooling tower or boiler simple and fast and WebMasterONE does not require any proprietary software to reside on your computer. Set-up and programming are all done via a standard web browser. Easy to follow menus and system set-up screens make programming user friendly and intuitive. Once WebMasterONE is installed, the Start-up menu jump-starts you through the top level set-up. The Input, Output and utility menus guide you through the rest of the programming.

- **USB Plug and Play:** For local monitoring and reconfiguration of your WebMasterONE via Laptops or dedicated on-site PC.
- **ShoulderTap® Internet Communications:** For monitoring and reconfiguration of your WebMasterONE remotely via the Internet (requires landline modem card option).
- **DirectTap Modem-to-Modem:** For remote monitoring and reconfiguration of your WebMasterONE using traditional modem-to-modem communications (requires landline modem card option).
- **Ethernet:** For monitoring and reconfiguration of your WebMasterONE via Local Area Network or remotely via the Internet.
- **Cellular:** For monitoring and reconfiguration of your WebMasterONE remotely via the Internet (requires cell modem and VTouch option).

**ETHERNET NETWORKING**

Walchem’s Ethernet Networking allows you to leverage the power of the WebMasterONE communications abilities. By using the Local Area Network (LAN) or by connecting the WebMasters together via Ethernet, you can access all the controllers on the network from a single phone line. It’s simple. Each controller includes Ethernet and the Master controller requires the Ethernet Networking “Master” capability. Utilizing a Master-Slave type relationship - one controller is configured to be the Master or window to all the other units (Slaves) on the network.

By utilizing the existing LAN, wiring can be minimized. The controller simply plugs into the nearest LAN connection via a standard Ethernet cable. The Master controller detects the other Walchem devices on the network and provides a single point of access.

Modbus TCP/IP (Ethernet) is available to seamlessly connect to building energy management, distributed control, process management and SCADA systems.
Sensor Selection

1 WMT8 SINGLE COOLING TOWER
A. System Cond
0 = No sensor
1 = Graphite electrode, 150 psi
2 = Electrodeless, 150 psi
3 = SS electrode, 150 psi
4 = High pressure, 300 psi
B. pH/ORP
0 = None
1 = pH, flat, 100 psi
2 = ORP, rod, 100 psi
3 = Both, 100 psi
4 = pH, bulb, high pressure, 300 psi
5 = ORP, high pressure, 300 psi
6 = Both, 300 psi
C. Makeup Cond
0 = None
1 = Graphite electrode
2 = Electrodeless
3 = SS electrode
4 = High pressure, 300 psi

2 WMB8 BOILER
A. Boiler #1 Conductivity Sensor
0 = None
1 = 250 psi
B. Boiler #2 Conductivity Sensor
0 = None
1 = 250 psi
C. Boiler #3 Conductivity Sensor
0 = None
1 = 250 psi
D. Boiler #4 Conductivity Sensor
0 = None
1 = 250 psi

3 WMD8 DUAL COOLING TOWER
Tower #1(A) and Tower #2(C) System Conductivity
0 = No electrode
1 = Graphite electrode
2 = Electrodeless
3 = SS electrode
4 = High pressure
Tower #1(B) and Tower #2(D) 2nd Sensor
0 = No sensor
1 = pH, flat
2 = ORP, rod
3 = pH, High pressure
4 = ORP, high pressure
5 = Contacting cond, graphite
6 = Contacting cond, high pressure

4 WM18 MIXED PURPOSE
A. number of sensor inputs required
1 = One sensor input
2 = Two sensor inputs
3 = Three sensor inputs
4 = Four sensor inputs

System Options

E. VOLTAGE CODE (ALL MODELS)
0 = Prewired, 0 powered, 8 dry contact relays
1 = Prewired, 7 powered, 1 dry contact relays
2 = Prewired, 8 powered, 0 dry contact relays
3 = Prewired, 4 powered, 4 dry contact relays
4 = Hardwired, 0 powered, 8 dry contact relays
5 = Hardwired, 8 powered, 0 dry contact relays
6 = Hardwired, 7 powered, 1 dry contact relays
7 = Hardwired, 4 powered, 4 dry contact relays

F. FLOW SWITCH OPTIONS (WMT & WMD ONLY)
N = No flow switch, in-line sensors
L = Loose flow switch manifold, 20 ft cable, low pressure
P = Flow switch manifold on PP panel, 5 ft cable, low pressure
S = No flow switch, submersion sensors
F = Loose flow switch manifold, 20 ft cable, high pressure
H = Flow switch manifold on PP panel, 5 ft cable, high pressure
C = Flow switch manifold on PP panel, 5 ft cable, low pressure + corrator, tee and sensor (no electrodes)
D = Flow switch manifold on PP panel, 5 ft cable, low pressure + Little Dipper, tee
E = Flow switch manifold on PP panel, 5 ft cable, low pressure + corrator, Little Dipper, sensors

G. ANALOG OUTPUTS (ALL MODELS)
N = No analog outputs
1 - 4 = One to Four 4-20 mA output boards

H. INPUT OPTIONS
N = No input options
A = 8 analog inputs
D = 6 digital inputs
B = Both analog and digital input cards

J. COMMUNICATIONS HARDWARE
(USB & ETHERNET STANDARD)
N = No additional hardware
M = Landline Modem
G = GPRS Modem

K. COMMUNICATIONS SOFTWARE
N = No additional software
1 = Ethernet networking master capability
2 = Modbus TCP/IP
3 = Both Ethernet networking and Modbus TCP/IP
WebMaster® WIND

WebMaster® WIND sets a new standard for Industrial Water Treatment Controllers. The WIND has a flexible multi-input/output platform, a wide range of analytical sensor measurement capabilities, and an extensive assortment of integrated communications and data handling features.

Beyond the extensive list of capabilities, WIND has set an industry-wide ease-of-use benchmark. All together, it represents the perfect balance between Innovation, Flexibility, and Simplicity.

Summary of Key Benefits

- Fully integrates functions of a transmitter, PLC, datalogger and auto-dieler into a rugged, industrial, NEMA 4X package
- No proprietary software required to view live data - just a web browser
- Access live or stored data remotely within the facility (LAN connection) or from anywhere in the world (cell or landline modem)
- No expensive PLC programming and re-programming – all changes made intuitively using a standard web browser
- VTouch® provides quick, centralized 24/7 awareness of account status with the ability to LIVE Connect to any of your controllers in the field with one simple mouse-click.
- Extensive built-in Plug & Play communications options:
  - Ethernet
  - Landline modem
  - USB (Laptop and FlashDisk support)
  - Cell modem
- A wide range of direct sensor measurements:
  - pH
  - Chlorine Dioxide
  - ORP
  - Ozone
  - Conductivity
  - Peroxide Acid
  - Free Chlorine
  - Electrodeless Conductivity
- PID control for relay and analog outputs
- Instant alarm notification via cell phone text message, email or local alarm relay
- System status reports and datalog files can be emailed automatically
Features

Innovation
WebMaster® WIND has been designed with convenience and ease-of-use in mind. It has extensive built-in data-logging capability so there’s no need for a separate datalogging device. The data can be retrieved automatically (email Excel file attachment) or manually, through the convenience of a standard USB flash disk.

Simplicity and Flexibility
Unlike PLC’s or similar devices, WebMaster® WIND does not require a software programmer for customization to your application. This reduces upfront costs and eliminates recurring expenses for software maintenance. Commissioning is as simple as connecting with a laptop and following the intuitive menus to configure the WebMaster® WIND to meet your needs.

SCR Mapping
WebMaster® WIND provides the flexibility of SCR mapping (Sensor – Control – Relay) to allow you to select any Sensor input (direct analytical, 4–20mA, flowmeter or discrete) and the Control method (from a wide range of choices) and assign them to a Relay. With up to 21 user-defined inputs, the WebMaster® WIND has the flexibility to be programmed for virtually any water treatment application.

1. Sensor: User selects type of sensor
2. Control: User selects control method for each relay
3. Relay: User assigns sensor, analog input or digital input to desired relay

Each sensor input can be assigned to a relay for control. In addition to the 4 direct analytical sensor inputs, WebMaster® WIND has the ability to bring in 8 analog inputs and 9 digital inputs, and is equipped with 8 relay outputs. Sensor inputs can be assigned to any one of up to four 4–20mA outputs.

Report Options
A variety of reporting options can be utilized to meet your needs. A system summary report provides a snapshot of current conditions and alarms. A datalog report can be sent on a regular basis for historical trending. In addition, email and cell phone text alarm messages can be sent.
### Inputs

#### Power
- 100-120/220-240 VAC +/- 10%
- 12 amp, 50/60 Hz
- I/Fuse 1.6 A, 5 x 20 mm

#### Sensors
- **1 standard, up to 4 optional**
- Signal: +/- 1.4 VDC (isolated)
- Temperature: 1 Kohm, 10 Kohm or 100 Kohm

#### Digital Inputs
- 6 standard, additional 6 optional
- Isolated dry contact, 0-300 Hz, 1.5 msec minimum width

#### Analog (4-20 mA) Inputs
- 2 or 3 wire, internally powered by 24 VDC loop power available, 25 ohm input resistance, 1000 ohm maximum load

### Outputs

#### Mechanical
- Enclosure: Thermoplastic
- NEMA Rating: NEMA 4X
- Displays: 64 x 128 pixel backlit LCD
- Ambient Temp: 0 to 49°C (32 to 120°F)
- Storage Temperature: -29 to 80°C (-20 to 186°F)
- Shipping Weight: Approx. 22 lbs (10 kg)

### Specifications

#### Measurement Performance

<table>
<thead>
<tr>
<th>Sensor</th>
<th>Range</th>
<th>Resolution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contacting Conductivity</td>
<td>10 to 1,000 µS/cm</td>
<td>1 µS/cm</td>
</tr>
<tr>
<td>Chlorine Dioxide or Ozone</td>
<td>0 to 10 mg/l</td>
<td>0.01 mg/l</td>
</tr>
<tr>
<td>Chlorine/Bromine*</td>
<td>0 to 8 mg/l</td>
<td>0.01 mg/l</td>
</tr>
<tr>
<td>Peroxide Acid</td>
<td>0 to 1000 mg/l</td>
<td>1 mg/l</td>
</tr>
<tr>
<td>pH</td>
<td>-2 to 16 pH</td>
<td>0.01 pH</td>
</tr>
<tr>
<td>ORP</td>
<td>± 1400 mV</td>
<td>1 mV</td>
</tr>
<tr>
<td>Electrodeless Conductivity</td>
<td>50 to 1000 µS/cm</td>
<td>1 µS/cm or 1 mS/cm (range dependent)</td>
</tr>
<tr>
<td></td>
<td>1 to 10 mS/cm</td>
<td></td>
</tr>
<tr>
<td></td>
<td>10 to 100 mS/cm</td>
<td></td>
</tr>
<tr>
<td></td>
<td>100 to 1000 mS/cm</td>
<td></td>
</tr>
<tr>
<td>Temperature</td>
<td>32 to 392°F (0 to 200°C)</td>
<td>1°F (1°C)</td>
</tr>
</tbody>
</table>

*Not suitable for stabilized Bromine

#### Pressure vs. Temperature

<table>
<thead>
<tr>
<th>Pressure (psi)</th>
<th>Temperature (°F)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>40°F</td>
</tr>
<tr>
<td>1</td>
<td>100°F</td>
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<tr>
<td>2</td>
<td>160°F</td>
</tr>
<tr>
<td>3</td>
<td>220°F</td>
</tr>
<tr>
<td>4</td>
<td>300°F</td>
</tr>
<tr>
<td>5</td>
<td>380°F</td>
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</tbody>
</table>

#### Sensor Specifications

<table>
<thead>
<tr>
<th>Sensor</th>
<th>Range</th>
<th>Temperature</th>
<th>Pressure</th>
<th>Process Connection</th>
<th>Materials</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electrodeless Conductivity</td>
<td>50 to 1000 µS/cm</td>
<td>CPVC, 32 to 150°F (0 to 70°C)</td>
<td>0 to 150 psi (0 to 10.3 bar)</td>
<td>1 ¾ NPT x 1 in-line tee</td>
<td>CPVC, Teflon-filled PTFE, 316 SS, PEEK</td>
</tr>
<tr>
<td>pH</td>
<td>2 to 16 pH</td>
<td>50 to 150°F (10 to 70°C)</td>
<td>0 to 150 psi (0 to 10.3 bar)</td>
<td>1 ¾ NPT x 1 in-line tee</td>
<td>CPVC, Teflon-filled PTFE, 316 SS, PEEK</td>
</tr>
<tr>
<td>ORP</td>
<td>1400 to 1400 mV</td>
<td>32 to 150°F (0 to 70°C)</td>
<td>0 to 150 psi (0 to 10.3 bar)</td>
<td>1 ¾ NPT x 1 in-line tee</td>
<td>CPVC, Teflon-filled PTFE, 316 SS, PEEK</td>
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<td>Contacting Conductivity</td>
<td>10 to 1500 µS/cm</td>
<td>32 to 392°F (0 to 200°C)</td>
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<td>1 ¾ NPT x 1 in-line tee</td>
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<td>10 to 1000 µS/cm</td>
<td>32 to 392°F (0 to 200°C)</td>
<td>0 to 250 psi (0 to 17.2 bar)</td>
<td>1 ¾ NPT x 1 in-line tee</td>
<td>CPVC, Teflon-filled PTFE, 316 SS, PEEK</td>
</tr>
<tr>
<td>Contacting Conductivity</td>
<td>10 to 1000 µS/cm</td>
<td>32 to 392°F (0 to 200°C)</td>
<td>0 to 250 psi (0 to 17.2 bar)</td>
<td>1 ¾ NPT x 1 in-line tee</td>
<td>CPVC, Teflon-filled PTFE, 316 SS, PEEK</td>
</tr>
<tr>
<td>Contacting Conductivity</td>
<td>10 to 1000 µS/cm</td>
<td>32 to 392°F (0 to 200°C)</td>
<td>0 to 250 psi (0 to 17.2 bar)</td>
<td>1 ¾ NPT x 1 in-line tee</td>
<td>CPVC, Teflon-filled PTFE, 316 SS, PEEK</td>
</tr>
<tr>
<td>pH (High Pressure)</td>
<td>0 to 14 pH</td>
<td>32 to 70°F (0 to 150°C)</td>
<td>0 to 300 psi (0 to 20.7 bar)</td>
<td>1 ¾ NPT x 1 in-line tee</td>
<td>Graphite, Teflon-filled PTFE, 316 SS, PEEK</td>
</tr>
<tr>
<td>ORP (High Pressure)</td>
<td>1400 to 1400 mV</td>
<td>32 to 70°F (0 to 150°C)</td>
<td>0 to 500 psi (0 to 34.4 bar)</td>
<td>1 ¾ NPT x 1 in-line tee</td>
<td>Graphite, Teflon-filled PTFE, 316 SS, PEEK</td>
</tr>
<tr>
<td>Flow Switch Manifold Assembly</td>
<td>Open &lt; 0.7 gpm</td>
<td>32 to 140°F (0 to 60°C)</td>
<td>160 psi max @ 100°F (10.3 bar max @ 38°C)</td>
<td>1 ¾ NPT x 1 in-line tee</td>
<td>Graphite, Teflon-filled PTFE, 316 SS, PEEK</td>
</tr>
<tr>
<td>Flow Switch Manifold Assembly</td>
<td>Open &lt; 0.7 gpm</td>
<td>32 to 140°F (0 to 60°C)</td>
<td>0 to 500 psi (0 to 34.4 bar)</td>
<td>1 ¾ NPT x 1 in-line tee</td>
<td>Graphite, Teflon-filled PTFE, 316 SS, PEEK</td>
</tr>
<tr>
<td>Free Chlorine/Bromine</td>
<td>0 to 8 mg/l, 0 to 7.5 mg/l</td>
<td>41 to 113°F (5 to 45°C)</td>
<td>0 to 160 psi (0 to 11.1 bar)</td>
<td>1 ¾ NPT x 1 in-line tee</td>
<td>PVC, Teflon-filled PTFE, 316 SS, PEEK</td>
</tr>
<tr>
<td>Chlorine Dioxide</td>
<td>0 to 10 mg/l</td>
<td>41 to 122°F (5 to 50°C)</td>
<td>0 to 150 psi (0 to 10.3 bar)</td>
<td>1 ¾ NPT x 1 in-line tee</td>
<td>PVC, Teflon-filled PTFE, 316 SS, PEEK</td>
</tr>
<tr>
<td>Ozone</td>
<td>0 to 10 mg/l</td>
<td>41 to 122°F (5 to 50°C)</td>
<td>0 to 147 psi (0 to 10 bar)</td>
<td>1 ¾ NPT x 1 in-line tee</td>
<td>PVC, Teflon-filled PTFE, 316 SS, PEEK</td>
</tr>
<tr>
<td>Peroxide Acid</td>
<td>0 to 10 mg/l</td>
<td>41 to 113°F (5 to 45°C)</td>
<td>0 to 147 psi (0 to 10 bar)</td>
<td>1 ¾ NPT x 1 in-line tee</td>
<td>PVC, Teflon-filled PTFE, 316 SS, PEEK</td>
</tr>
</tbody>
</table>
Communications

With an embedded web server, WebMaster® WIND utilizes standard TCP/IP Internet communications. Remote communications can be established with WebMaster® WIND via the Internet or on a direct line with modem-to-modem capability. USB Plug and Play and Ethernet are included to allow easy on-site access for plant personnel and system operators. Multiple users can access the controller simultaneously. A graduated password protection system allows users varied degrees of access from view only to full system configuration. In addition, WIND delivers a range of user-friendly information reporting tools including email notifications for dataloggs, alarms and system summaries.

Walchem has made use of the Internet as a remote access communications platform for industrial control equipment a practical reality. While others just attempt to reduce the cost of embedded web server hardware, Walchem has solved the problem of the high cost and lack of availability of a permanent connection to the Internet.

WebMaster® WIND makes programming your process simple and fast and does not require any proprietary software to reside on your computer. Set-up and programming are all done via a standard web browser.

Easy to follow menus and system set-up screens make programming user friendly and intuitive. Once WebMaster® WIND is installed, the Start-up menu jump-starts you through the top level set-up. The Input, Output and Utility menu's guide you through the rest of the programming.

- **USB Plug & Play**: For local monitoring and reconfiguration of your WebMaster® WIND via LapTop or dedicated on-site PC.

- **ShoulderTap® Internet Communications**: For monitoring and reconfiguration of your WebMaster® WIND remotely via the Internet (requires landline modem card option).

- **DirectTap Modem-to-Modem**: For remote monitoring and reconfiguration of your WebMaster® WIND using traditional modem-to-modem communications (Requires landline modem card option).

- **Ethernet**: For monitoring and reconfiguration of your WebMaster® WIND via Local Area Network or remotely via the Internet. Modbus TCP/IP is available to seamlessly connect to building energy & process management, distributed control, and SCADA systems.

- **Cellular**: For monitoring and reconfiguration of your WebMaster® WIND remotely via the Internet (requires cell modem and VTouch option).

**ETHERNET NETWORKING**

Walchem’s Ethernet Networking allows you to leverage the power of the WebMaster® WIND communications abilities. By using the Local Area Network (LAN) or by connecting the WebMasters together via Ethernet, you can access all the controllers on the network from a single phone line. By utilizing the existing LAN, wiring can be minimized. The controller simply plugs into the nearest LAN connection via a standard Ethernet cable. The Master controller detects the other Walchem devices on the network and provides a single point of access.
'Smart' Service:
- On-line, web-based summary of account status
  - Process values continuously updated including past 24 hour min, max and average values
  - Alarm status
- One-click LIVE Connect to any device in the field for full view and reconfiguration
  - Analysis, troubleshooting, adjustments
- Seamlessly organize devices according to a process(es), facility, customer, etc.
- User “access” and “permissions” management
- Eliminates surprises during ‘routine’ visits
- Makes service PROACTIVE not reactive
- SAVES TIME! Plain & Simple

VTouch is a collection of technologies designed for companies offering managed water treatment services. The VTouch solution allows service companies to more effectively manage remote accounts by significantly reducing the complexities associated with the deployment of water treatment service programs based around communicating products.

The VTouch Account Manager is fully synchronized with Walchem’s web based controllers, making set-up and configuration simple and fast. Just specify the type of remote communications needed for new or existing controllers and Walchem takes care of the rest. No need to sort out and track complicated and constantly moving cellular data or dial-up ISP plans from large companies with poor customer service and unpredictable monthly charges. VTouch solves these problems by bundling the communications services, giving you a completely turn-key solution.

The innovative, fully synchronized nature of VTouch provides you with a quick, centralized 24/7 awareness of account status with the ability to LIVE Connect to any of your controllers in the field with one simple mouse-click, regardless of connection type! No phone numbers or IP addresses to remember.

Summary view of all monitored systems

Critical process data, units & custom names sent from devices, synchronized automatically in VTouch. No lengthy set-up required!

One click and you connect LIVE to your device, regardless of connection type.
### Ordering Information

1 SENSOR INPUTS REQUIRED
- 1 Sensor = One sensor input
- 2 Sensor = Two sensor inputs
- 3 Sensor = Three sensor inputs
- 4 Sensor = Four sensor inputs

2 VOLTAGE CODE
- 0 = Precwired w/USA power cord, 0 powered relays,
  8 dry contact relays
- 1 = Precwired w/USA, 7 powered relays,
  1 dry contact relay
- 2 = Precwired w/USA cords, 6 powered relays,
  2 dry contact relays
- 3 = Precwired w/USA cords, 4 powered relays,
  4 dry contact relays
- 4 = Hardwired, 0 powered relays, 8 dry contact relays
- 5 = Hardwired, 8 powered relays
- 6 = Hardwired, 7 powered relays, 1 dry contact relay
- 7 = Hardwired, 4 powered relays, 4 dry contact relays
- E = Precwired w/ USA power cord, 4 powered relays,
  4 opto-isolated (pulse) relays
- F = Precwired w/ USA cords, 4 dry contact relays,
  4 opto-isolated (pulse) relays
- G = Hardwired, 4 powered relays, 4 opto-isolated (pulse) relays
- H = Hardwired, 4 dry contact relays, 4 opto-isolated (pulse) relays

3 ANALOG OUTPUTS
- N = No electrode
- 1 Sensor = One 4-20 mA output board
- 2 Sensor = Two 4-20 mA output boards
- 3 Sensor = Three 4-20 mA output boards
- 4 Sensor = Four 4-20 mA output boards

4 INPUT OPTIONS
- N = None
- A = Analog Input board (6 inputs)
- D = Digital Input board (6 inputs)
- B = Both Analog and Digital Input boards

5 DIGITAL COMMS HARDWARE
- M = Modem landline card
- G = Cellular Modem card (GPRS)

6 DIGITAL COMMS SOFTWARE
- 1 = Ethernet networking (Master capability)
- 2 = Modbus TCP
- 3 = Ethernet networking (Master capability + Modbus TCP)

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**Webmaster ONE**

Webmaster ONE is the most advanced online cooling tower and boiler controller in the water treatment industry. The flexible multi-VD platform allows you to control multiple cooling towers, boilers, closed loops, and condensate lines with just one controller. An extensive assortment of integrated communications and data handling features are included that enable water treatment professionals to provide more effective water management services to their customers.

**Metering Pumps**

The E-Class is the most innovative and comprehensive metering pump product line in the world. Over 50 years of pump experience and a commitment to superior mechanical design has led to development of many industry firsts, including 360 strokes per minute technology, IP67 waterproof construction, and the world's highest capacity solenoid metering pumps.

**WebAlert Remote Monitor**

Walchem's WebAlert is the first stand-alone remote monitoring device that can web enable your installed equipment without having to replace or upgrade it.

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**AGENCY CERTIFICATIONS**

<table>
<thead>
<tr>
<th>Safety</th>
<th>UL 61010-1:2012 3rd Ed.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>CSA C22.2 No. 61010-1:2012 3rd Ed.</td>
</tr>
<tr>
<td></td>
<td>IEC 61010-1:2010 3rd Ed.</td>
</tr>
<tr>
<td></td>
<td>EN 61010-1:2010 3rd Ed.</td>
</tr>
<tr>
<td>EMC</td>
<td>IEC 61326-1:2012</td>
</tr>
<tr>
<td></td>
<td>EN 61326-1:2013</td>
</tr>
</tbody>
</table>

Note: For EN81000-4-6, 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.

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**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.

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Walchem, Inc./ America Inc.
Five Boyston Road, Hopkinton, MA 01748 USA
Phone: 508-429-1119 • www.walchem.com
W100W Series

The W100W series provide an economical and reliable way to keep your cooling tower, boiler, or condensate water treatment program under control.

Summary of Key Benefits

- Large display with icon based programming makes setup easy
- Universal sensor input provides extraordinary flexibility; the same controller can be used with almost any type of sensor needed
- Multiple language support allows simple setup no matter where your business takes you
- The third control relay allows the controller to be used in more places than other entry level products
- Economical package with no additional cost for timer functionality
- Complete flexibility in the function of each relay
  - Bleed on conductivity
  - Bleed time proportional to makeup water volume
  - Boiler Blowdown on conductivity using intermittent sampling
  - Feed in proportion to bleed time
  - Feed time proportional to makeup water volume
  - Feed as a percentage of elapsed time
  - Probe wash
  - Biocide timer with pre-bleed and post-feed bleed lockout options
  - Alarm
- Optional analog (4-20 mA) output for recording, datalogging or connection to building energy management systems
### Measurement Performance

<table>
<thead>
<tr>
<th>Range</th>
<th>Resolution</th>
<th>Accuracy</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.1 Cell Conductivity</td>
<td>0.300 μS/cm, 0.0001 mS/cm, 0.001 S/m</td>
<td>± 1% of reading</td>
</tr>
<tr>
<td>1.0 Cell Conductivity</td>
<td>0.300 μS/cm, 0.0001 mS/cm, 0.001 S/m</td>
<td>± 1% of reading</td>
</tr>
<tr>
<td>10.0 Cell Conductivity</td>
<td>3000 μS/cm, 0.0001 mS/cm, 0.001 S/m</td>
<td>± 1% of reading</td>
</tr>
<tr>
<td>Electrodes Conductivity</td>
<td>500-40,000 μS/cm</td>
<td>± 1% of reading</td>
</tr>
<tr>
<td></td>
<td>1 μS/cm, 0.001 mS/cm, 0.001 S/m</td>
<td>± 1% of reading</td>
</tr>
<tr>
<td></td>
<td>10,000-150,000 μS/cm</td>
<td>± 1% of reading</td>
</tr>
<tr>
<td></td>
<td>10 μS/cm, 0.001 mS/cm, 0.001 S/m</td>
<td>± 1% of reading</td>
</tr>
<tr>
<td></td>
<td>100,000-200,000 μS/cm</td>
<td>± 1% of reading</td>
</tr>
<tr>
<td></td>
<td>100 μS/cm, 0.001 mS/cm, 0.001 S/m</td>
<td>± 1% of reading</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Temperature</th>
<th>Accuracy</th>
</tr>
</thead>
<tbody>
<tr>
<td>23 to 50°F (-5 to 26°C)</td>
<td>± 1% of reading within range</td>
</tr>
</tbody>
</table>

### Inputs

**Power**
100-240 VAC, 50 or 60 Hz, 7A max

**Fuse**
6,3 Amp

**Digital Input Signals (2)**

- **State-Type**
  - **Electrical:** Optically-isolated input, provides isolated 8V power.*
  - **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 8V power.*
  - **Typical response time:** <2 seconds
  - **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 8V power.*
  - **Typical response time:** <2 seconds
  - **Devices supported:** Any device with isolated open drain, open collector, transistor or reed switch
  - **Types:** Paddlewheel Flowmeter

### Outputs

**Power**
- **Powered Mechanical Relays (0 or 3 model code dependent)**
- Pre-powered on circuit board switching line voltage.
- 6 A (resistive), 1/8 HP (93W) per relay.
- All three relays are fused together as one group, total current for this group must not exceed 6A.

**Dry contact mechanical relays (0 or 3 model code dependent)**
- 6 A (resistive), 1/8 HP (93W) per relay.
- Dry contact relays are not fuse protected.
- 4 - 20 mA (0 or 1 model code dependent)
  - Internally powered
  - Fully isolated
  - 600 Ohm max resistive load
  - Resolution .0015% of span
  - Accuracy ± 0.5% of reading

### Mechanical (Controller)

- **Enclosure:** Polycarbonate
- **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 178°F (-20 to 80°C)
- **Shipping weight:** 22 lbs (10 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:** EN 61326-1:2012
- EN 61326-1:2013

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

Mechanical (Sensors) *(See graph)*

<table>
<thead>
<tr>
<th>Sensor</th>
<th>Pressure</th>
<th>Temperature</th>
<th>Materials</th>
<th>Process Connections</th>
</tr>
</thead>
<tbody>
<tr>
<td>Graphite contacting conductivity tower</td>
<td>0-150 psi up to 100°F (38°C)*</td>
<td>32-140°F (0-60°C)*</td>
<td>GRP, Graphite, FKM</td>
<td>3/4&quot; NPTF</td>
</tr>
<tr>
<td></td>
<td>0-50 psi at 140°F (60°C)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>316 SS contacting conductivity tower</td>
<td>0-150 psi up to 100°F (38°C)*</td>
<td>32-140°F (0-60°C)*</td>
<td>GRP, 316SS, FKM</td>
<td>3/4&quot; NPTF</td>
</tr>
<tr>
<td></td>
<td>0-50 psi at 140°F (60°C)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High pressure tower</td>
<td>0-300 psi (0-20 bar)*</td>
<td>32-158°F (0-70°C)*</td>
<td>PP, PVC, FKM</td>
<td>3/4&quot; NPTF</td>
</tr>
<tr>
<td>Electrodeless tower</td>
<td>0-150 psi up to 100°F (38°C)*</td>
<td>32-140°F (0-60°C)*</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>0-50 psi at 140°F (60°C)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low pressure manifold</td>
<td>0-150 psi up to 100°F (38°C)*</td>
<td>32-140°F (0-60°C)*</td>
<td>GRP, PVC, FKM, Isoplast</td>
<td>3/4&quot; NPTF</td>
</tr>
<tr>
<td></td>
<td>0-50 psi at 140°F (60°C)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High pressure manifold</td>
<td>0-300 psi (0-20 bar)*</td>
<td>32-158°F (0-70°C)*</td>
<td>Carbon steel, steel, brass</td>
<td>3/4&quot; NPTF</td>
</tr>
<tr>
<td>Boiler/condensate contacting conductivity</td>
<td>0-250 psi (0-17 bar)</td>
<td>32-40°F (0-20°C)</td>
<td>316SS, PEEK</td>
<td>3/4&quot; NPTM</td>
</tr>
</tbody>
</table>

Dimensions

**WCTW Sensor option H shown**

![Pressure vs. Temperature Graph](image)

Panel Mounted Flow Switch Manifold Dimensions

<table>
<thead>
<tr>
<th>WCTW</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
<th>H</th>
<th>I</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sensor option H</td>
<td>24&quot;</td>
<td>610 mm</td>
<td>22.5&quot;</td>
<td>571 mm</td>
<td>19&quot;</td>
<td>483 mm</td>
<td>17.5&quot;</td>
<td>445 mm</td>
<td>0.75&quot;</td>
</tr>
<tr>
<td>Sensor options B, F</td>
<td>13&quot;</td>
<td>330 mm</td>
<td>12&quot;</td>
<td>305 mm</td>
<td>11.75&quot;</td>
<td>298 mm</td>
<td>10.75&quot;</td>
<td>273 mm</td>
<td>0.5&quot;</td>
</tr>
<tr>
<td>Sensor option D</td>
<td>22.5&quot;</td>
<td>571 mm</td>
<td>21.5&quot;</td>
<td>546 mm</td>
<td>11.75&quot;</td>
<td>298 mm</td>
<td>10.75&quot;</td>
<td>273 mm</td>
<td>0.5&quot;</td>
</tr>
</tbody>
</table>
### Ordering Information

**WCTW**

- **Relays/Wiring**
  - 100H = 3 powered relays, hardwired
  - 100P = 3 powered relays, prewired USA power cord & pigtails
  - 100D = 3 powered relays, prewired DIN power cord, no pigtails
  - 110H = 3 dry relays, hardwired
  - 110P = 3 dry relays, prewired USA power cord, no pigtails
  - 110D = 3 dry relays, prewired DIN power cord, no pigtails

- **Analog Output**
  - N = No analog output
  - A = One isolated analog (4-20 ma) output

### Sensors (WCTW)

- **N** = No sensor
- **A** = Inline/submersion graphite contacting conductivity
- **B** = Graphite contacting conductivity + Flow Switch manifold on panel
- **C** = High pressure contacting conductivity
- **D** = High pressure contacting cond + Flow Switch manifold on panel
- **E** = Inline/submersion 316SS contacting conductivity
- **F** = 316SS contacting conductivity + Flow Switch manifold on panel
- **G** = Inline/submersion electrodeless conductivity
- **H** = Electrodeless conductivity + Flow Switch manifold on panel

### Sensors (WBLW)

- **N** = No sensor
- **A** = Boiler sensor with ATC, 250 psi, 20 ft cable
- **B** = Boiler sensor without ATC, 250 psi, 20 ft cable
- **C** = Condensate sensor with ATC (cell constant 0.1), 200 psi, 10 ft cable
- **D** = Boiler sensor with ATC, up to 100 mS/cm (cell constant 10), 250 psi, 20 ft cable

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**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
W100W Series Controllers

The W100W 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
- Universal sensor input provides extraordinary flexibility; the same controller can be used with almost any type of sensor needed
- Three pH/ORP models available for use with amplified electrodes, non-amplified electrodes with a BNC connector or non-amplified electrodes without a connector
- Multiple language support allows simple setup no matter where your business takes you
- Three control outputs allow the controller to be used in more places than other entry level models
- Economical wall-mount package for easy installation
- 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
  - Probe Wash Timer
  - 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
## Specifications

### Measurement Performance

<table>
<thead>
<tr>
<th>Range</th>
<th>Resolution</th>
<th>Accuracy</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.01 Cell Conductivity</td>
<td>0.001 µS/cm, 0.0001 mS/cm, 0.0001 mS/m, 0.0001 S/m, 0.001 ppm</td>
<td>± 1% of reading</td>
</tr>
<tr>
<td>0.1 Cell Conductivity</td>
<td>0.001 µS/cm, 0.0001 mS/cm, 0.0001 mS/m, 0.0001 S/m, 0.001 ppm</td>
<td>± 1% of reading</td>
</tr>
<tr>
<td>1.0 Cell Conductivity</td>
<td>0.001 µS/cm, 0.0001 mS/cm, 0.0001 mS/m, 0.0001 S/m, 0.001 ppm</td>
<td>± 1% of reading</td>
</tr>
<tr>
<td>10.0 Cell Conductivity</td>
<td>0.001 µS/cm, 0.0001 mS/cm, 0.0001 mS/m, 0.0001 S/m, 0.001 ppm</td>
<td>± 1% of reading</td>
</tr>
<tr>
<td>pH</td>
<td>0 to 16 pH units</td>
<td>0.01 pH units</td>
</tr>
<tr>
<td>ORP</td>
<td>-1500 to 1500 mV</td>
<td>0.1 mV</td>
</tr>
<tr>
<td>Disinfection sensors</td>
<td>2000 to 1500 mV</td>
<td>0.1 mV</td>
</tr>
<tr>
<td>Electrodeless Conductivity</td>
<td>500 to 12,200 µS/cm</td>
<td>± 1% of reading</td>
</tr>
<tr>
<td></td>
<td>1 µS/cm, 0.001 mS/cm, 0.001 mS/m, 0.001 S/m, 1 ppm</td>
<td>± 1% of reading</td>
</tr>
<tr>
<td></td>
<td>1 µS/cm, 0.001 mS/cm, 0.001 mS/m, 0.001 S/m, 1 ppm</td>
<td>± 1% of reading</td>
</tr>
<tr>
<td></td>
<td>10,000 to 150,000 µS/cm</td>
<td>0.1 µS/cm, 0.001 mS/cm, 0.001 mS/m, 0.001 S/m, 1 ppm</td>
</tr>
<tr>
<td></td>
<td>10,000 to 150,000 µS/cm</td>
<td>0.1 µS/cm, 0.001 mS/cm, 0.001 mS/m, 0.001 S/m, 1 ppm</td>
</tr>
<tr>
<td></td>
<td>50,000 to 500,000 µS/cm</td>
<td>0.1 µS/cm, 0.001 mS/cm, 0.001 mS/m, 0.001 S/m, 1 ppm</td>
</tr>
<tr>
<td></td>
<td>200,000 to 2,000,000 µS/cm</td>
<td>0.1 µS/cm, 0.001 mS/cm, 0.001 mS/m, 0.001 S/m, 1 ppm</td>
</tr>
</tbody>
</table>

### Temperature

| Temperature °C | 0 | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 50 | 60 | 70 | 80 | 90 | 100 | 110 | 120 | 130 | 140 | 150 | 160 | 170 | 180 |
|----------------|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|                | 15.1 | 10.12 | 12.4 | 11.1 | 10.0  | 9.6 | 9.6 | 8.5 | 7.5 | 6.4 | 5.6 | 4.9 | 4.5 | 3.9 | 3.5 | 3.2 | 3.0 | 2.8 | 2.5 | 2.4 | 2.3 | 2.3 |

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

### Inputs

**Power**
- 100-240 VAC, 50 or 60 Hz, 7A max
- Fuse: 6.3 Amp

**Digital Input Signals**
- State-Type
  - Electrical: Optically-isolated input
  - Typical response time: <2 seconds
  - Devices supported: Any isolated dry contact (i.e., relay, reed switch)
  - Types: Interlock

### Outputs

- **Powered Mechanical Relays (0 or 3 model code dependent)**
  - Pre-powered on circuit board switching line voltage
  - 6A (resistive), 1/8 HP (93V) per relay
  - All three relays are fused together as one group, total current for this group must not exceed 6A.

- **Dry Contact Mechanical Relays (0, 1 or 3 model code dependent)**
  - 6A (resistive), 1/8 HP (93V) 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
  - VLOMW = 0.95V @ 18mA
  - 4 - 20 mA (0 or 1 model code dependent)
  - Internally powered, Fully isolated
  - 600 Ohm max resistive load
  - Resolution 0.0015% of span, Accuracy ± 0.5% of reading

### Mechanical (Controller)

- **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**: 26 lbs (11.8 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 61326-2:2012
- **EN 61326-1:2013**

Note: For EN61000-4-6, EN61000-4-3 the controller meets 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

Mechanical (Sensors) (*see graph*)

<table>
<thead>
<tr>
<th>Sensor</th>
<th>Pressure</th>
<th>Temperature</th>
<th>Materials</th>
<th>Process Connections</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electrodeless conductivity</td>
<td>0-150 psi (0-10 bar)*</td>
<td>CPVC, 20-180°F (-5 to 80°C)* PEEK, 20-180°F (-5 to 88°C)</td>
<td>CPVC, FKM in-line o-ring PEEK, 316 SS in-line adaptor</td>
<td>1&quot; NPTM submersion 2&quot; NPTM in-line adapter</td>
</tr>
<tr>
<td>pH</td>
<td>0-100 psi (0-7 bar)*</td>
<td>50-158°F (10-70°C)*</td>
<td>CPVC, Glass, FKM O-rings, HDPE, Titanium rod, glass-filled PP tee</td>
<td>1&quot; NPTM submersion 3/4&quot; NPTF in-line tee</td>
</tr>
<tr>
<td>ORP</td>
<td>0-100 psi (0-7 bar)*</td>
<td>32-158°F (0-70°C)*</td>
<td>PVC, Polyethylene, silicone rubber, SS, PEEK, FKM, Isolplast</td>
<td>3/4&quot; NPTF Inlet 3/4&quot; NPTF Outlet</td>
</tr>
<tr>
<td>Contacting conductivity</td>
<td>0-200 psi (0-14 bar)</td>
<td>32-248°F (0-120°C)</td>
<td>316SS, PEEK</td>
<td>3/4&quot; NPTM</td>
</tr>
<tr>
<td>Free Chlorine/Bromine</td>
<td>0-14.7 psi (0-1 bar)</td>
<td>32-113°F (0-45°C)</td>
<td>PVC, Polyethylene, silicone rubber, SS, PEEK, FKM, Isolplast</td>
<td>3/4&quot; NPTF Inlet 3/4&quot; NPTF Outlet</td>
</tr>
<tr>
<td>Extended pH Range Free Chlorine/Bromine</td>
<td>0-14.7 psi (0-1 bar)</td>
<td>32-113°F (0-45°C)</td>
<td>PVC, Polyethylene, silicone rubber, SS, PEEK, FKM, Isolplast</td>
<td>3/4&quot; NPTF Inlet 3/4&quot; NPTF Outlet</td>
</tr>
<tr>
<td>Total Chlorine</td>
<td>0-14.7 psi (0-1 bar)</td>
<td>32-113°F (0-45°C)</td>
<td>PVC, Polyethylene, silicone rubber, SS, PEEK, FKM, Isolplast</td>
<td>3/4&quot; NPTF Inlet 3/4&quot; NPTF Outlet</td>
</tr>
<tr>
<td>Chlorine Dioxide</td>
<td>0-14.7 psi (0-1 bar)</td>
<td>32-131°F (0-55°C)</td>
<td>PVC, Polyethylene, silicone rubber, SS, PEEK, FKM, Isolplast</td>
<td>3/4&quot; NPTF Inlet 3/4&quot; NPTF Outlet</td>
</tr>
<tr>
<td>Ozone</td>
<td>0-14.7 psi (0-1 bar)</td>
<td>32-131°F (0-55°C)</td>
<td>PVC, Polyethylene, silicone rubber, SS, PEEK, FKM, Isolplast</td>
<td>3/4&quot; NPTF Inlet 3/4&quot; NPTF Outlet</td>
</tr>
<tr>
<td>Peracetic Acid</td>
<td>0-14.7 psi (0-1 bar)</td>
<td>32-131°F (0-55°C)</td>
<td>PVC, Polyethylene, silicone rubber, SS, PEEK, FKM, Isolplast</td>
<td>3/4&quot; NPTF Inlet 3/4&quot; NPTF Outlet</td>
</tr>
<tr>
<td>Hydrogen Peroxide</td>
<td>0-14.7 psi (0-1 bar)</td>
<td>32-113°F (0-45°C)</td>
<td>PVC, Polyethylene, silicone rubber, SS, PEEK, FKM, Isolplast</td>
<td>3/4&quot; NPTF Inlet 3/4&quot; NPTF Outlet</td>
</tr>
<tr>
<td>Flow switch manifold</td>
<td>0-150 psi (0-10 bar) up to 100°F (38°C) 0-50 psi (0-3 bar) at 140°F (60°C)</td>
<td>32-140°F (0-60°C)*</td>
<td>GFPP, PVC, FKM, Isolplast</td>
<td>3/4&quot; NPTF</td>
</tr>
</tbody>
</table>

Dimensions

WDSW Sensor option H-P shown

Panel Mounted Flow Switch Manifold Dimensions

<table>
<thead>
<tr>
<th>Tolerance</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
<th>H</th>
<th>I</th>
<th>J</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tolerance</td>
<td>+/- 0.1&quot;, 2.5 mm</td>
<td>+/- 0.3&quot;, 8 mm</td>
<td>+/- 0.01&quot;, 0.25 mm</td>
<td>+/- 0.3&quot;, 8 mm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WPHPW sensor options F, J or K</td>
<td>22.5 571 mm</td>
<td>21.5 546 mm</td>
<td>11.75 296 mm</td>
<td>10.75 273 mm</td>
<td>0.75 19 mm</td>
<td>4 102 mm</td>
<td>1.5 38 mm</td>
<td>11 279 mm</td>
<td>0.25 6.35 mm</td>
<td></td>
</tr>
<tr>
<td>WCNW sensor option E</td>
<td>24 610 mm</td>
<td>22.5 571 mm</td>
<td>19 485 mm</td>
<td>17.5 445 mm</td>
<td>0.75 19 mm</td>
<td>14 356 mm</td>
<td>6 152 mm</td>
<td>3 76 mm</td>
<td>0.25 6.35 mm</td>
<td></td>
</tr>
<tr>
<td>WDSW sensor option H-P</td>
<td>24 610 mm</td>
<td>22.5 571 mm</td>
<td>19 485 mm</td>
<td>17.5 445 mm</td>
<td>0.75 19 mm</td>
<td>15 381 mm</td>
<td>10 254 mm</td>
<td>1.5 99 mm</td>
<td>0.25 6.35 mm</td>
<td>3 76 mm</td>
</tr>
</tbody>
</table>
Ordering Information

WCNW (Contacting or Electrodeless Conductivity Sensors)
WPHPW (Amplified pH/ORP Electrodes)
WPHBW (Non-Amplified pH/ORP Electrodes with BNC)
WPHNW (Non-Amplified pH/ORP Electrodes with bare wires)
WDSW (Disinfection Sensors)

Relays/Wiring
100H = 3 powered relays, hardwired
100P = 3 powered relays, prewired USA power cord & pigtaills
100D = 3 powered relays, prewired DIN power cord, no pigtaills
110H = 3 dry relays, hardwired
110P = 3 dry relays, prewired USA power cord, no pigtaills
110D = 3 dry relays, prewired DIN power cord, no pigtaills
120H = 2 pulse, 1 dry relay, hardwired
120P = 2 pulse, 1 dry relay, prewired USA power cord, no pigtaills
120D = 2 pulse, 1 dry relay, prewired DIN power cord, no pigtaills

Analogue Output
N = No analogue output
A = One isolated analog (4-20 ma) output

Sensors (WCNW)
N = No sensor
A = Submersion PEEK electrodeless conductivity, 20 ft cable
B = Submersion CPVC electrodeless conductivity, 20 ft cable
C = Inline PEEK electrodeless conductivity, 20 ft cable
D = Inline CPVC electrodeless conductivity, 20 ft cable
E = Inline CPVC electrodeless conductivity w/ FS manifold on panel, 3 ft cable
F = Contacting conductivity, 1.0 cell constant, 100 psi, 10 ft cable
G = Contacting conductivity, 0.1 cell constant, 100 psi, 10 ft cable
H = Contacting conductivity, 10.0 cell constant, 100 psi, 10 ft cable
I = Contacting conductivity, 0.01 cell constant, 100 psi, 10 ft cable
J = Contacting conductivity, 1.0 cell constant, 200 psi, 10 ft cable
K = Contacting conductivity, 0.1 cell constant, 200 psi, 10 ft cable
L = Contacting conductivity, 10.0 cell constant, 200 psi, 10 ft cable
M = Contacting conductivity, 0.01 cell constant, 200 psi, 10 ft cable

Sensors (WPHPW)
N = No sensor
A = External preamp, 20 ft cable
B = Submersion pH, no ATC, 20 ft cable
C = Submersion pH, with ATC, 20 ft cable
D = Inline pH, no ATC, 20 ft cable
E = Inline pH, with ATC, 20 ft cable
F = Inline pH, with ATC, with FS manifold on panel, 3 ft cable
G = Submersion flat ORP, 20 ft cable
H = Inline flat ORP, 20 ft cable
I = Inline Rod Style ORP, 20 ft cable
J = Inline flat ORP with FS manifold on panel, 3 ft cable
K = Inline Rod Style ORP w/ FS manifold on panel, 3 ft cable

Sensors (WPHBW or WPHNW)
N = No sensor
A = Free chlorine, 0-20 ppm, 20 ft cable
B = ClO2, 0-20 ppm, 20 ft cable
C = Ozone, 0-10 ppm, 20 ft cable
D = PAA, 0-2000 ppm, 20 ft cable
E = Extended pH range free chlorine, 0-20 ppm, 20 ft cable
F = Total chlorine, 0-20 ppm, 20 ft cable
G = Peroxide, 0-2000 ppm, 20 ft cable
H = Free chlorine with manifold on panel, 0-20 ppm, 3 ft cable
I = ClO2 with manifold on panel, 0-20 ppm, 3 ft cable
J = Ozono with manifold on panel, 0-10 ppm, 3 ft cable
K = PAA with manifold on panel, 0-2000 ppm, 3 ft cable
L = Extended pH range Cl2 with manifold on panel, 0-20 ppm, 3 ft cable
M = Total chlorine with manifold on panel, 0-20 ppm, 3 ft cable
O = Peroxide with manifold on panel, 0-2000 ppm, 3 ft cable
P = No sensor with manifold on panel, 3 ft cable

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
W600 Series Controllers

The W600 series provides reliable, flexible and powerful control for your water treatment program.

Summary of Key Benefits

- Large touchscreen display with icon based programming makes setup easy
- Universal sensor input provides extraordinary flexibility; the same controller can be used with almost any type of sensor needed
- Combination Sensor Input and Analog Input board that add even more flexibility
- Lead/Lag control of up to 6 relays
- Optional dual analog (4-20 mA) input for Fluorometers or nearly any other process value
- Multiple language support allows simple setup no matter where your business takes you
- Six control outputs allow the controller to be used in more applications
- Economical wall-mount package for easy installation
- On-screen and web page graphing of sensor values and control output status
- Two Virtual Inputs that are calculated from two real inputs (cycles of concentration, % rejection, etc.)
- 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)
  - PID Control (when purchased with 4-20mA or pulse solid state opto outputs)
  - In-Range or Out-of-Range activation
  - Probe wash
  - 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
  - Activate as a percent of another output’s on-time
  - Alarm
  - Spike Set Point
  - For Cooling Tower and Boiler applications:
    - Biocide Timer
    - Boiler blowdown on conductivity using intermittent sampling

- Datalogging
- Emailing Alarm messages, Datalog reports or System Summary reports
- Ethernet option for remote access via the Internet, LAN or Modbus/TCP
Specifications

Inputs

Power
100-240 VAC, 50 or 60 Hz, 7A max  Fuse: 6.3 Amp

Sensor Input Signals (0, 1 or 2 depending on model code)
  - Contacting Conductivity: 0.01, 0.1, 1.0, or 10.0 cell constant, or
  - Electrodeless Conductivity (not available on the combination sensor/analog input card) or
  - Disinfection or
  - Amplified pH or ORP which requires a preamplified signal. Welchem WEL or WDS series recommended. ±5VDC power available for external preamps.
  Each sensor input card contains a temperature input.
  Temperature: 100 or 1000 ohm RTD, 10K or 100K Thermistor

Analog (4-20 mA) Sensor Input (0, 1, 2 or 4 depending on model code)
  - 2-wire loop powered and self-powered transmitters supported
  - 3-wire and 4-wire transmitters supported
  Each dual sensor input board has two channels: Channel 1, 130 ohm input resistance and Channel 2, 280 ohm input resistance. The combination input board has one channel, 280 ohm input resistance.
  Available Power: One independent isolated 24 VDC ±15% supply per channel. 1.5 W maximum for each channel.
  2W (83 mA at 24 VDC) total power consumption for all channels (four total channels possible if two dual boards are installed; 2W is equivalent to 2 Little Dipper sensors)

Digital Input Signals (6):
  - State-Type Digital Inputs
    Electrical: Optically isolated and providing an electrically isolated 9V power with a nominal 2.3mA current when the digital input switch is closed. Typical response time: < 2 seconds. Devices supported: Any isolated dry contact (i.e. relay, reed switch). Types: Interlock
  - Low Speed Counter-Type Digital Inputs
    Electrical: Optically isolated and providing an electrically isolated 9V power with a nominal 2.3mA current when the digital input switch is closed. 0-10 Hz, 50 msec minimum width. Devices supported: Any device with isolated open drain, open collector, transistor or reed switch.
    Types: Contacting Flowmeter
  - High Speed Counter-Type Digital Inputs
    Electrical: Optically isolated and providing an electrically isolated 9V power with a nominal 2.3mA current when the digital input switch is closed. 0-500 Hz, 1.00 msec minimum width. Devices supported: Any device with isolated open drain, open collector, transistor or reed switch.
    Types: Paddlewheel Flowmeter

Outputs

Powered Mechanical Relays (0 or 6 model code dependent)
  - Pre-powered on circuit board switching line voltage
  - All relays are fused together as one group, total current must not exceed 6A (resistive), 1/8 HP (93W)

Dry Contact Mechanical Relays (0, 2 or 4 model code dependent)
  - 6 A (resistive), 1/8 HP (93W)
  - Dry contact relays are not fuse protected.

Pulse Outputs (0, 2 or 4 model code dependent)
  - Opto-isolated, solid-state relay, 200mA, 40V DC
  - VLOWMAX = 0.05V @ 18mA

4 - 20 mA (0 or 2 model code dependent)
  - Internally powered, Fully isolated
  - 600 Ohm max resistive load, Resolution 0.0015% of span
  - Accuracy ± 0.5% of reading
## Mechanical (Sensors)

<table>
<thead>
<tr>
<th>Sensor</th>
<th>Pressure</th>
<th>Temperature</th>
<th>Materials</th>
<th>Process Connections</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electrodeless conductivity</td>
<td>0-150 psi (0-10 bar)*</td>
<td>CPVC: 32-158°F (0 to 70°C)*</td>
<td>CPVC, FKM in-line o-ring</td>
<td>1&quot; NPTM submersion</td>
</tr>
<tr>
<td></td>
<td></td>
<td>PEEX: 32-190°F (0 to 88°C)*</td>
<td>PEEK, 316 SS in-line adapter</td>
<td>2&quot; NPTM in-line adapter</td>
</tr>
<tr>
<td>pH</td>
<td>0-100 psi (0-7 bar)*</td>
<td>50-158°F (10-70°C)*</td>
<td>CPVC, Glass, FKM</td>
<td>1&quot; NPTM submersion</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>o-rings, HDPE, Titanium rod, glass-filled PP tee</td>
<td>3/4&quot; NPTF in-line tee</td>
</tr>
<tr>
<td>ORP</td>
<td>0-100 psi (0-7 bar)*</td>
<td>32-158°F (0-70°C)*</td>
<td>Graphite, Glass-filled PP, FKM o-ring</td>
<td>3/4&quot; NPTM</td>
</tr>
<tr>
<td>Contacting conductivity</td>
<td>0-200 psi (0-14 bar)</td>
<td>32-248°F (0-120°C)</td>
<td>316SS, PEEK</td>
<td></td>
</tr>
<tr>
<td>(Condensate)</td>
<td></td>
<td></td>
<td>3/4&quot; NPTM</td>
<td></td>
</tr>
<tr>
<td>Contacting conductivity</td>
<td>0-150 psi (0-10 bar)*</td>
<td>32-158°F (0-70°C)*</td>
<td>316SS, Glass-filled PP, FKM o-ring</td>
<td></td>
</tr>
<tr>
<td>(Graphite, Cooling Tower)</td>
<td></td>
<td></td>
<td>3/4&quot; NPTM</td>
<td></td>
</tr>
<tr>
<td>Contacting conductivity</td>
<td>0-150 psi (0-10 bar)*</td>
<td>32-158°F (0-70°C)*</td>
<td>316SS, Glass-filled PP, FKM o-ring</td>
<td></td>
</tr>
<tr>
<td>(Boiler)</td>
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<td></td>
<td>3/4&quot; NPTM</td>
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</tr>
<tr>
<td>Contacting conductivity</td>
<td>0-250 psi (0-17 bar)</td>
<td>32-401°F (0-205°C)</td>
<td>316SS, PEEK</td>
<td></td>
</tr>
<tr>
<td>(High Pressure Tower)</td>
<td></td>
<td></td>
<td>3/4&quot; NPTM</td>
<td></td>
</tr>
<tr>
<td>pH (High Pressure)</td>
<td>0-300 psi (0-21 bar)*</td>
<td>32-275°F (0-135°C)*</td>
<td>316SS, PEEK</td>
<td></td>
</tr>
<tr>
<td>ORP (High Pressure)</td>
<td>0-300 psi (0-21 bar)*</td>
<td>32-275°F (0-135°C)*</td>
<td>Glass, Polymer, PTFE, 316SS, FKM</td>
<td>1/2&quot; NPTM gland</td>
</tr>
<tr>
<td>Free Chlorine/Bromine</td>
<td>0-14.7 psi (0-1 bar)</td>
<td>32-113°F (0-45°C)</td>
<td>PVC, Polycarbonate, silicone rubber, SS, PEEX, FKM, Isoplast</td>
<td>1/4&quot; NPTF Inlet</td>
</tr>
<tr>
<td>Extended pH Range Free</td>
<td>0-14.7 psi (0-1 bar)</td>
<td>32-113°F (0-45°C)</td>
<td></td>
<td>3/4&quot; NPTF Outlet</td>
</tr>
<tr>
<td>Chlorine/Bromine</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Chlorine</td>
<td>0-14.7 psi (0-1 bar)</td>
<td>32-113°F (0-45°C)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chlorine Dioxide</td>
<td>0-14.7 psi (0-1 bar)</td>
<td>32-131°F (0-55°C)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ozone</td>
<td>0-14.7 psi (0-1 bar)</td>
<td>32-131°F (0-55°C)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Peroxide</td>
<td>0-14.7 psi (0-1 bar)</td>
<td>32-131°F (0-55°C)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hydrogen Peroxide</td>
<td>0-14.7 psi (0-1 bar)</td>
<td>32-113°F (0-45°C)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flow switch manifold</td>
<td>0-150 psi (0-10 bar) up to 100°F (38°C)</td>
<td>32-140°F (0-60°C)</td>
<td>GRP, PVC, FKM, Isoplast</td>
<td>3/4&quot; NPTF</td>
</tr>
<tr>
<td></td>
<td>0-50 psi (0-3 bar) at 140°F (60°C)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flow switch manifold (High Pressure)</td>
<td>0-300 psi (0-21 bar)*</td>
<td>32-158°F (0-70°C)*</td>
<td>Carbon steel, Brass, 316SS, FKM</td>
<td>3/4&quot; NPTF</td>
</tr>
</tbody>
</table>

![Pressure vs. Temperature Graph](image-url)
### 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, 0.0001 mS/cm, 0.001 mS/cm, 0.0001 S/m, 0.01 ppm</td>
<td>±1% of reading</td>
</tr>
<tr>
<td>0.1 Cell Contacting Conductivity</td>
<td>0.1 µS/cm, 0.001 mS/cm, 0.01 mS/cm, 0.0001 S/m, 0.1 ppm</td>
<td>±1% of reading</td>
</tr>
<tr>
<td>1.0 Cell Contacting Conductivity</td>
<td>1 µS/cm, 0.01 mS/cm, 0.1 mS/cm, 0.0001 S/m, 1 ppm</td>
<td>±1% of reading</td>
</tr>
<tr>
<td>10.0 Cell Contacting Conductivity</td>
<td>10 µS/cm, 0.1 mS/cm, 1 mS/cm, 0.001 S/m, 10 ppm</td>
<td>±1% of reading</td>
</tr>
<tr>
<td>pH</td>
<td>-2 to 16 pH units, 0.01 pH units</td>
<td>±0.01% of reading</td>
</tr>
<tr>
<td>ORP</td>
<td>-1500 to 1500 mV, 0.1 mV</td>
<td>±1 mV</td>
</tr>
<tr>
<td>Disinfection sensors</td>
<td>-2000 to 1500 mV, 0.1 mV</td>
<td>±1 mV</td>
</tr>
<tr>
<td>Electrodeless Conductivity</td>
<td>500 - 12,000 µS/cm, 1 µS/cm, 0.01 mS/cm, 0.1 mS/cm, 0.001 S/m, 1 ppm</td>
<td>±1% of reading</td>
</tr>
<tr>
<td></td>
<td>3,000-40,000 µS/cm, 1 µS/cm, 0.01 mS/cm, 0.1 mS/cm, 0.001 S/m, 1 ppm</td>
<td>±1% of reading</td>
</tr>
<tr>
<td></td>
<td>10,000-150,000 µS/cm, 10 µS/cm, 0.1 mS/cm, 1 mS/cm, 0.01 S/m, 10 ppm</td>
<td>±1% of reading</td>
</tr>
<tr>
<td>Temperature</td>
<td>23 to 500°F (-5 to 260°C), 0.1°F (0.1°C), Varies with range and slope</td>
<td>±1% of reading</td>
</tr>
</tbody>
</table>

### Mechanical (Controller)

- **Enclosure Material**: Polycarbonate
- **Enclosure Rating**: NEMA 4X (IP65)
- **Dimensions**: 9.5 x 8 x 4" (241 x 203 x 102 mm)
- **Display**: 320 x 240 pixel monochrome backlit display with touchscreen
- **Ambient Temperature**: -4 to 131°F (-20 to 55°C)
- **Storage Temperature**: -4 to 176°F (-20 to 80°C)

### 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**: 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.
### Panel Mounted Flow Switch Manifold Dimensions

<table>
<thead>
<tr>
<th>W600</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
<th>H</th>
<th>I</th>
<th>J</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>+/- 0.1&quot; (2.5 mm)</td>
<td>+/- 0.3&quot; (8 mm)</td>
<td>+/- 0.01&quot; (0.25 mm)</td>
<td>+/- 0.3&quot; (8 mm)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>W600-CT-BN/FN</td>
<td>13&quot; (330 mm)</td>
<td>12&quot; (305 mm)</td>
<td>11.75&quot; (298 mm)</td>
<td>10.75&quot; (273 mm)</td>
<td>0.5&quot; (12.7 mm)</td>
<td>7&quot; (178 mm)</td>
<td>2&quot; (51 mm)</td>
<td>1.5&quot; (38 mm)</td>
<td>11&quot; (279 mm)</td>
<td></td>
</tr>
<tr>
<td>W600-CT-BA, BB, BC, BD, BH, BI, BJ, BK, FA, FB, FC, FD, FH, FI, FJ</td>
<td>22.5&quot; (571 mm)</td>
<td>21.5&quot; (546 mm)</td>
<td>11.75&quot; (298 mm)</td>
<td>10.75&quot; (273 mm)</td>
<td>0.5&quot; (12.7 mm)</td>
<td>4&quot; (102 mm)</td>
<td>1.5&quot; (38 mm)</td>
<td>11&quot; (279 mm)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>W600-CT-DN</td>
<td>22.5&quot; (571 mm)</td>
<td>21.5&quot; (546 mm)</td>
<td>11.75&quot; (298 mm)</td>
<td>10.75&quot; (273 mm)</td>
<td>0.5&quot; (12.7 mm)</td>
<td>7&quot; (178 mm)</td>
<td>2&quot; (51 mm)</td>
<td>1.5&quot; (38 mm)</td>
<td>11&quot; (279 mm)</td>
<td></td>
</tr>
<tr>
<td>W600-CT-DE/DF</td>
<td>22.5&quot; (571 mm)</td>
<td>21.5&quot; (546 mm)</td>
<td>11.75&quot; (298 mm)</td>
<td>10.75&quot; (273 mm)</td>
<td>0.5&quot; (12.7 mm)</td>
<td>7&quot; (178 mm)</td>
<td>2&quot; (51 mm)</td>
<td>110&quot; (284 mm)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>W600-CT-HN</td>
<td>24&quot; (610 mm)</td>
<td>22.5&quot; (571 mm)</td>
<td>19&quot; (483 mm)</td>
<td>17.5&quot; (445 mm)</td>
<td>0.75&quot; (19 mm)</td>
<td>14&quot; (356 mm)</td>
<td>6&quot; (152 mm)</td>
<td>3&quot; (76 mm)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>W600-CT-HA, IA, ID, HC, HD, HH, HI, HJ, HK</td>
<td>24&quot; (610 mm)</td>
<td>22.5&quot; (571 mm)</td>
<td>19&quot; (483 mm)</td>
<td>17.5&quot; (445 mm)</td>
<td>0.75&quot; (19 mm)</td>
<td>11&quot; (279 mm)</td>
<td>3&quot; (76 mm)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>W600-PH-PN/PX</td>
<td>22.5&quot; (571 mm)</td>
<td>21.5&quot; (546 mm)</td>
<td>11.75&quot; (298 mm)</td>
<td>10.75&quot; (273 mm)</td>
<td>0.5&quot; (12.7 mm)</td>
<td>4&quot; (102 mm)</td>
<td>1.5&quot; (38 mm)</td>
<td>11&quot; (279 mm)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>W600-PH-QN/QX</td>
<td>22.5&quot; (571 mm)</td>
<td>21.5&quot; (546 mm)</td>
<td>11.75&quot; (298 mm)</td>
<td>10.75&quot; (273 mm)</td>
<td>0.5&quot; (12.7 mm)</td>
<td>7&quot; (178 mm)</td>
<td>4&quot; (102 mm)</td>
<td>3&quot; (76 mm)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>W600-DS-PN</td>
<td>24&quot; (610 mm)</td>
<td>22.5&quot; (571 mm)</td>
<td>19&quot; (483 mm)</td>
<td>17.5&quot; (445 mm)</td>
<td>0.75&quot; (19 mm)</td>
<td>15&quot; (381 mm)</td>
<td>10&quot; (254 mm)</td>
<td>1.5&quot; (38 mm)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>W600-DS-PX</td>
<td>24&quot; (610 mm)</td>
<td>22.5&quot; (571 mm)</td>
<td>19&quot; (483 mm)</td>
<td>17.5&quot; (445 mm)</td>
<td>0.75&quot; (19 mm)</td>
<td>12&quot; (305 mm)</td>
<td>10&quot; (254 mm)</td>
<td>8&quot; (203 mm)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: Dimensions are approximate and subject to manufacturing tolerances.
### Ordering Information

**WCT WBL WPH WDS WCN**

<table>
<thead>
<tr>
<th>RELAYS/WIRING</th>
<th>RELAYS/WIRING</th>
</tr>
</thead>
<tbody>
<tr>
<td>6 powered relays</td>
<td>2 powered 4 day relays</td>
</tr>
<tr>
<td>600H Hardwired</td>
<td>610H Hardwired</td>
</tr>
<tr>
<td>600P Presumed with USA cords and pig tails</td>
<td>610P Presumed with USA cord and pig tails</td>
</tr>
<tr>
<td>600D Presumed with DIN power cord, no pig tails</td>
<td>610D Presumed with DIN power cord, no pig tails</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ANALOG OUTPUTS</th>
<th>ETHERNET</th>
</tr>
</thead>
<tbody>
<tr>
<td>N No analog outputs</td>
<td>N No Ethernet</td>
</tr>
<tr>
<td>A One dual isolated analog output card</td>
<td>E Ethernet card</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>INPUT CARDS</th>
</tr>
</thead>
<tbody>
<tr>
<td>NN No sensor input cards</td>
</tr>
<tr>
<td>SN One sensor input card</td>
</tr>
<tr>
<td>SS Two sensor input cards</td>
</tr>
<tr>
<td>CS One sensor input card &amp; one combination sensor/analogue input card</td>
</tr>
<tr>
<td>CN One combination sensor/analogue input card</td>
</tr>
<tr>
<td>CA One combination sensor/analogue input card &amp; one dual analogue input card</td>
</tr>
<tr>
<td>CC Two combination sensor/analogue cards</td>
</tr>
<tr>
<td>AN One dual analogue input card</td>
</tr>
<tr>
<td>AA Two dual analogue input cards</td>
</tr>
<tr>
<td>SA One sensor input card and one dual analogue input card</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>WCT COOLING TOWER SENSORS</th>
</tr>
</thead>
<tbody>
<tr>
<td>NN No sensor</td>
</tr>
<tr>
<td>AN Inline graphite contacting conductivity</td>
</tr>
<tr>
<td>BN Graphite contacting conductivity + Flow Switch manifold on panel</td>
</tr>
<tr>
<td>CN High pressure contacting conductivity</td>
</tr>
<tr>
<td>DN High pressure contacting conductivity + Flow Switch manifold panel</td>
</tr>
<tr>
<td>EN Inline 316SS contacting conductivity</td>
</tr>
<tr>
<td>FN 316SS contacting conductivity + Flow Switch manifold panel</td>
</tr>
<tr>
<td>GN Inline electrodeless conductivity</td>
</tr>
<tr>
<td>HN Electrodeless conductivity + Flow Switch manifold on panel</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Type of input card required</th>
</tr>
</thead>
<tbody>
<tr>
<td>S or C</td>
</tr>
</tbody>
</table>

### WBL BOILER SENSORS

<table>
<thead>
<tr>
<th>NN No sensor</th>
</tr>
</thead>
<tbody>
<tr>
<td>AN Boiler sensor with ATC, K=1.0, 250 psi, 20 ft. cable</td>
</tr>
<tr>
<td>BN Boiler sensor without ATC, K=1.0, 250 psi, 20 ft. cable</td>
</tr>
<tr>
<td>CN Condenser sensor with ATC, K=1.0, 250 psi, 10 ft. cable</td>
</tr>
<tr>
<td>DN Boiler sensor with ATC, K=10, 250 psi, 20 ft. cable</td>
</tr>
<tr>
<td>DA Two boiler sensors, with ATC, K=1.0, 250 psi, 20 ft. cable</td>
</tr>
<tr>
<td>CC Two condenser sensors with ATC, K=0.1, 250 psi, 10 ft. cable</td>
</tr>
<tr>
<td>DD Two Boiler sensors with ATC, K=10, 250 psi, 20 ft. cable</td>
</tr>
<tr>
<td>AB Boiler sensor with ATC, K=1.0 and boiler sensor without ATC, K=1.0, 250 psi, 20 ft. cable</td>
</tr>
<tr>
<td>AC Boiler sensor with ATC, K=1.0 20 ft. cable and Condenser sensor with ATC, K=0.1, 250 psi, 10 ft. cable</td>
</tr>
<tr>
<td>AD Boiler sensor with ATC, K=1.0 and Boiler sensor with ATC, K=10, 250 psi, 20 ft. cable</td>
</tr>
<tr>
<td>BC Boiler sensor without ATC, 20 ft. and condenser sensor with ATC, 10 ft. cable</td>
</tr>
<tr>
<td>BD Boiler sensor without ATC and Boiler sensor with ATC, K=10, 250 psi, 20 ft. cable</td>
</tr>
<tr>
<td>CD Condenser sensor with ATC, 10 ft. cable and Boiler sensor with ATC, K=10, 250 psi, 20 ft. cable</td>
</tr>
</tbody>
</table>

### WPH PH/ORP SENSORS

| NN No sensors or Flow switch manifold |
| PN Single low pressure manifold on panel** |
| QN Single high pressure manifold on panel with 190783* |
| OX Dual high pressure manifold on panel with two 190783* |

**Order 100209 pH and/or 10063 ORP electrodes separately**

**Order WEL electrode(s) and preamplifier housing(s) separately**

### WDS DISINFECTION SENSORS

| NN No sensors or Flow switch manifold |
| PN Single DDS manifold on panel* |
| PX DDS manifold plus pH/ORP/cooling tower cond tea on panel** |
| FN Single DDS flow cell/cable, no sensor* |
| FF Two DDS flow cell/cable, no sensor* |

**Order disinfection sensor(s) separately**

**Order disinfection sensor and WEL electrode and preamplifier housing or cooling tower conductivity sensor separately**

### WCN CONDUCTIVITY SENSORS

| NN No sensors or Flow switch manifold |
| PN Single DDS manifold on panel* |
| PX DDS manifold plus pH/ORP/cooling tower cond tea on panel** |

**Order conductivity sensor separately**

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Walchem, Iwaki Americas Inc. | Five Boynton Road, Hpsing Brook Park | Holliston, MA 01748 USA | Phone: 508-429-1110 | www.walchem.com
WebAlert®

WebAlert was developed to meet the increasing demands for improved operational efficiencies and enhancements to service programs that can be gained by continuous monitoring of remote equipment and systems.

WebAlert seamlessly web-enables your installed equipment, providing local and remote access to vital system information, without the need to physically visit remote sites. WebAlert monitors and datalogs analog and digital inputs from virtually any installed device, and notifies on-site and remote personnel of any system abnormalities.

The data handling and communications options in WebAlert are truly innovative. Ethernet and USB are standard features, therefore local or plant networked PC’s can be connected and communicating with WebAlert in true Plug & Play fashion. Authorized operators and quality control personnel can view LIVE system parameters and historical graphs, as well as receive emailed alarms, reports or datalog files.

Summary of Key Benefits

- WebAlert integrates the functions of a monitor, data logger and auto-dialer in one low cost package. It is easily customized to your application without the need for a programmer.

- VTouch® provides quick, centralized 24/7 awareness of account status with the ability to LIVE Connect to any of your controllers in the field with one simple mouse-click.

- No subscription service, monthly fees, or proprietary software is required. View data and program settings with just a standard web browser.

- Monitor up to six (6) 4-20mA signals and six (6) discrete inputs.

- Access live or stored data remotely within the facility (LAN) or from anywhere in the world.

- System status reports and datalog files can be emailed automatically on a regular basis. Instant alarm notification via cell phone text message, email, or local alarm relay.
WebAlert® Series | Web-Based Monitoring and Datalogging

Convenience

WebAlert has been designed with convenience and ease-of-use in mind. It has extensive built-in data logging capability so there's no need for a separate data logging device. The data can be retrieved automatically (email Excel file attachment) or manually, through the convenience of a standard USB flash disk.

Simplicity

Unlike PLC's or similar devices, WebAlert does not require a software programmer for customization to your application. This reduces upfront costs and eliminates recurring expenses for software maintenance. Commissioning is as simple as connecting with a laptop and following the intuitive menus to configure the WebAlert to meet your needs.

A variety of reporting options can be utilized to meet your needs. A system summary report provides a snapshot of current conditions and alarms. A data log report can be sent on a regular basis for historical trending. In addition, email and cell phone text alarms messages can be sent.

Remote Chemical Inventory Management

WebAlert is perfect for remote chemical inventory management. Level sensors and switches from a variety of sensing devices may be connected directly to the WebAlert, providing live information about chemical inventories, which makes management of chemical deliveries efficient, prevents down-time in critical processes, and provides immediate notification of alarm conditions. An online device management service from Walchem will be available to enable the user to view all of their locations on a single web page.

Remote System Monitoring

WebAlert will monitor up to six (6) 4–20mA signals and six (6) discrete inputs, giving you instant access (from anywhere in the world) to vital system parameters, including level, flow, pressure, temperature, or any other device with a standard 4–20mA or discrete output.
Specifications

Measurement Performance

Range: 3.75-20.25 mA
Resolution: 0.03 mA
Calibration: ±1 mA

Electrical

Input Power: 100-240VAC ±10%
1.0A, 50/60 Hz
Fuse 1.0A 5 x 20mm

Input Signals:

State-Type Digital Inputs
- Electrical: Non-Isolated 5 VDC with 301 K ohm pull-up
- Typical response time: < 10 seconds
- Devices supported: Any isolated dry contact (i.e. relay, reed switch)
- Support on inputs: 1 through 6
- Types: Generic input

Low Speed Counter-Type Digital Inputs
- Electrical: Non-Isolated 5 VDC with 301 K ohm pull-up, 0-10 Hz,
- 50 msec minimum width
- Devices supported: Any device with isolated open drain, open collector, transistor or reed switch
- Support on inputs: 1 through 4
- Types: Contacting flow meter, Generic counter

High Speed Counter-Type Digital Inputs
- Electrical: Non-Isolated 5 VDC with 301 K ohm pull-up, 0-400 Hz,
- 1.25 msec minimum width
- Devices supported: Any device with isolated open drain, open collector, transistor or reed switch
- Support on inputs: 1 through 4
- Types: Paddlewheel flow meter, Generic counter

Analog Inputs (1-6)
4-20 mA, 2-wire or 3-wire, internally powered by 24 VDC, 110 ohm input resistance, 1000 ohm maximum load, Typical response time < 10 seconds

Outputs:

Solid State relay Digital
- Dry contact, 0 to 40 VDC, No AC voltage, 150 mA maximum load
- USB, Ethernet, 10 Base T

Mechanical Specifications

Enclosure: Polycarbonate
NEMA Rating: NEMA 4X (IP65)
Ambient Temperature: 32 to 140°F (0 to 60°C)
Storage Temperature: -20 to 176°F (-29 to 80°C)
Shipping Weight: 18 lbs (8.2 kg) (approximate)

Agency Certifications

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

Note: For EN61000-4-8 and EN61000-4-3 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.
Communications

WebAlert’s embedded web-server and TCP/IP Internet communications make it possible to establish local or remote communications with a standard web browser from a laptop or PC. USB and Ethernet are standard features, allowing easy on-site access for plant personnel and system operators. Remote communications can be accomplished via the Internet or over a phone line with the PSTN (landline) or Cellular modem option. WebAlert supports simultaneous multi-user access, which makes it possible for personnel from local and remote locations to view live data, troubleshoot, and configure the system more efficiently than ever before. A graduated password protection system allows users varied degrees of access from “view only” to “full configuration”.

- **USB Plug and Play**: For local monitoring and reconfiguration of your WebAlert via LapTop or dedicated on-site PC.

- **ShoulderTap® Internet Communications**: For monitoring and reconfiguration of your WebAlert remotely via the Internet (requires landline modem card option).

- **DirectTap Modem-to-Modem**: For remote monitoring and reconfiguration of your WebAlert using traditional modem-to-modem communications (requires landline modem card option).

- **Ethernet**: For monitoring and reconfiguration of your WebAlert via Local Area Network or remotely via the Internet.

- **Cellular**: For monitoring and reconfiguration of your WebAlert remotely via the Internet (requires cell modem and VTouch option).

**ETHERNET NETWORKING**

By using the on-site Local Area Network (LAN) or by connecting the WebAlerts together via Ethernet, you can access all of the WebAlerts on a network from a single phone line or IP address. The “Master” WebAlert automatically detects the other WebAlerts and serves as a window to the “slaves” on the network, greatly reducing the cost and time associated with device configuration and running phone lines to each device. DHCP is supported to enable WebAlert to automatically obtain an IP address from the LAN.
'Smart' Service:
- On-line, web-based summary of account status
  - Process values continuously updated including past 24 hour min, max and average values
  - Alarm status
- One-click LIVE Connect to any device in the field for full view and reconfiguration
  - Analysis, troubleshooting, adjustments
- Seamlessly organize devices according to a process(ies), facility, customer, etc.
- User “access” and “permissions” management
- Eliminates surprises during 'routine' visits
- Makes service PROACTIVE not reactive
- SAVES TIME! Plain & Simple

VTouch is a collection of technologies designed for companies offering managed water treatment services. The VTouch solution allows service companies to more effectively manage remote accounts by significantly reducing the complexities associated with the deployment of water treatment service programs based around communicating products.

The VTouch Account Manager is fully synchronized with Walchem's web based controllers, making set-up and configuration simple and 'fast. Just specify the type of remote communications needed for new or existing controllers and Walchem takes care of the rest. No need to sort out and track complicated and constantly moving cellular data or dial-up ISP plans from large companies with poor customer service and unpredictable monthly charges. VTouch solves these problems by bundling the communications services, giving you a completely turn-key solution.

The innovative, fully synchronized nature of VTouch provides you with a quick, centralized 24/7 awareness of account status with the ability to LIVE Connect to any of your controllers in the field with one simple mouse-click, regardless of connection type! No phone numbers or IP addresses to remember.

Summary view of all monitored systems

List Processes

- Custom named facility
- Custom processes defined for each facility

Critical process data, units & custom names sent from devices, synchronized automatically in VTouch. No lengthy set-up required!
**Wi-Fi**

WA500 [ ] [ ] [ ]

- **Wiring**
- **Comms**
- **Hardware**
- **Software**

**WIRING**

- **H** = Hardwired, cable glands
- **P** = USA power cord w/cable glands

**COMMUNICATIONS (USB & ETHERNET STANDARD)**

- **N** = No additional communications
- **M** = Modem card
- **G** = Cellular modem card (GPRS)

**COMMUNICATIONS SOFTWARE**

- **N** = None
- **1** = Ethernet Networking Master Capability

---

**Webmaster® ONE**

WebMaster ONE is the most advanced online cooling tower and boiler controller in the water treatment industry. The flexible multi-I/O platform allows you to control multiple cooling towers, boilers, closed loop and condensate lines with just one controller. An extensive assortment of integrated communications and data handling features are included that enable water treatment professionals to provide more effective water management services to their customers.

**Metering Pumps**

The E-Class is the most innovative and comprehensive metering pump product line in the world. Over 50 years of pump experience and a proven track record of superior mechanical design has led to development of many industry firsts, including 365 stroke per minute technology, PE7 waterproof construction, and the world's highest capacity stainless steel metering pumps.

**WIND WebMaster® Industrial Water Controllers**

Walchem's WebMaster Industrial (WIND) Controller sets a new standard for Industrial Water Treatment Controllers. WIND has a flexible multi-I/O platform, a wide range of analytical sensor measurement capabilities, and an extensive assortment of integrated communications and data handling features.

**WebAlert Remote Monitor**

Walchem's WebAlert is the first stand alone remote monitoring device that can wirelessly enable your installed equipment without having to replace or upgrade it.

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**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.

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