Ordering Information

WCT (Cooling Tower)
WBL (Boiler)
WPH (pH)
WCN (Conductivity)
WDS (Disinfection)

Relays | Wiring | Input Cards | Analog Outputs | Ethernet - Sensors

Relays
600 = 6 powered relays
610 = 2 powered relays, 4 dry relays
620 = 2 pulse proportional, 4 dry relays
640 = 4 pulse proportional, 2 dry relays

Wiring
H = Hardwired
P = Prewired USA power cord and pigtails to powered relays
D = Prewired DIN power cord, no pigtails

Input Cards
NN = No input cards
SN = 1 sensor input card
SS = 2 sensor input cards
AN = One dual isolated analog input card
AA = Two dual isolated analog input cards
SA = One sensor input card and one dual isolated analog input card

Analog Outputs
N = No analog outputs
A = One dual isolated analog output card

Ethernet
N = No Ethernet card
E = Ethernet card

Sensors
Consult factory

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

180625.B Oct 2014

WALCHEM
IWAKI America Inc.

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NEW!! 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
- 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 graphing of sensor values and control output status
- Complete flexibility in the function of each relay
  - On/Off Setpoint
  - Time Proportional Control
  - Pulse Proportional Control (when purchased with solid-state relays)
  - 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
  - For Cooling Tower and Boiler applications:
    - Biocide Timer
    - Boiler blowdown on conductivity using intermittent sampling
- Datalogging
- Ethernet option for remote access via the Internet or LAN

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Specifications

Measurement Performance

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

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

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

Inputs

Power

100-240 VAC, 50 or 60 Hz, 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 or
Disinfection or
Amplified pH or ORP which requires a preamplified signal. Walchem 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, 2 or 4 depending on model code)

2-wire loop powered and self-powered transmitters supported
3-wire and 4-wire transmitters supported
Each sensor input board has two channels: Channel 1, 130 ohm input resistance and Channel 2, 280 ohm input resistance
Available Power: Two independent isolated 24 VDC ± 15% supplies per board. 1.5 W maximum for each channel. 2W (83 mA at 24 VDC) total power consumption for all channels (four total channels if two 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, 0-250 Hz, 1.25 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 (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

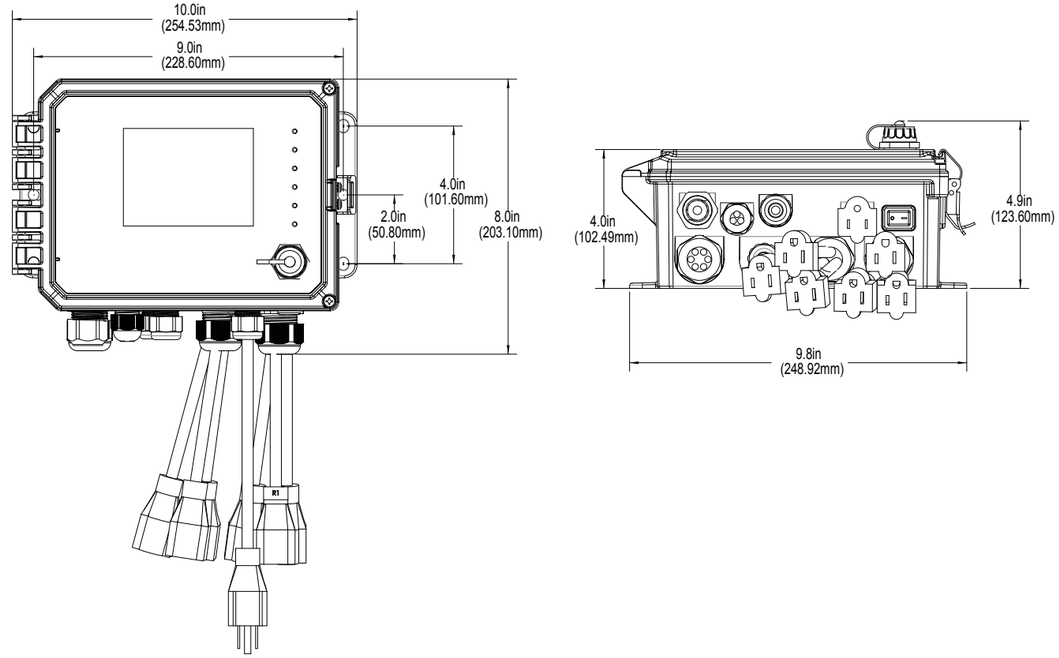
Safety: UL 61010-1:2012, 3rd Edition
CSA C22.2 No.61010-1:2012, 3rd Edition
IEC 61010-1:2010 3rd Edition
EN 61010-1:2010 3rd Edition

EMC: IEC 61326-1:2005
EN 61326-1:2006

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

Specifications

Dimensions



Mechanical (Sensors)

Sensor	Pressure	Temperature	Materials	Process Connections
Electrodeless conductivity	0-140 psi (0 to 9.6 bar)	CPVC: 32-158°F (0 to 70°C) PEEK: 32-190°F (0 to 88°C)	CPVC, FKM in-line o-ring PEEK, 316 SS in-line adapter	1" NPTM submersion 2" NPTM in-line adapter
pH	0-100 psi (0 to 6.9 bar)	50-158°F (10-70°C)	CPVC, Glass, FKM o-rings, HDPE, Titanium rod, glass-filled PP tee	1" NPTM submersion 3/4" NPTF in-line tee
ORP	0-100 psi (0 to 6.9 bar)	32-158°F (0-70°C)		
Contacting conductivity	0-200 psi (0 to 13.8 bar)	32-248°F (0-120°C)	316SS, PEEK	3/4" NPTM
Free Chlorine/Bromine	0-14.7 psi (0 to 1.0 bar)	32-113°F (0-45°C)	PVC, Polycarbonate, silicone rubber, SS, PEEK, FKM, Isoplast	1/4" NPTF Inlet 3/4" NPTF Outlet
Extended pH Range Free Chlorine/Bromine	0-14.7 psi (0 to 1.0 bar)	32-113°F (0-45°C)		
Total Chlorine	0-14.7 psi (0 to 1.0 bar)	32-113°F (0-45°C)		
Chlorine Dioxide	0-14.7 psi (0 to 1.0 bar)	32-131°F (0-55°C)		
Ozone	0-14.7 psi (0 to 1.0 bar)	32-131°F (0-55°C)		
Peracetic Acid	0-14.7 psi (0 to 1.0 bar)	32-131°F (0-55°C)		
Hydrogen Peroxide	0-14.7 psi (0 to 1.0 bar)	32-113°F (0-45°C)		
Flow switch manifold	0-150 psi (0 to 10.3 bar) up to 100°F (38°C) 0-50 psi (0 to 3.4 bar) at 140°F (60°C)	32-140°F (0-60°C)	GFRPP, PVC, FKM, Isoplast	3/4" NPTF