



Convergent  
Water  
Controls

Rev 1.0



# Swimming Pool & Spa Automated Control Systems



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Convergent Water Controls (CWC) presents an extensive range of commercial swimming pool automated control systems, perfectly suited for all sizes of pools and spas.

The range consists of systems with dual parameter EMEC LD controllers (with & without inbuilt dosing pumps), as well as multi-parameter EMEC Centurio touchscreen controllers.

## Standard Inclusions

- ✓ All components mounted on backboards for easy site installation
- ✓ Sensor holder with sensors
- ✓ 60 micron sample line filter
- ✓ Sample point
- ✓ 20m roll of sample tubing

## Optional Dosing Pumps

A full range of solenoid, motor-driven, stepper motor and peristaltic pumps are available through CWC to complete your pool control system.

## Systems Overview

### Centurio Range - Multi-Parameter

#### POOL CENT-PHORPFCLTCL



#### Included

- ✓ pH
- ✓ ORP
- ✓ Free Chlorine
- ✓ Total Chlorine
- ✓ Temperature
- ✓ Ethernet Web Connectivity

#### Optional

- Conductivity
- 4G Web Connectivity

### Centurio Range - Multi-Parameter

#### POOL CENT-PHORPFCL



#### Included

- ✓ pH
- ✓ ORP
- ✓ Free Chlorine
- ✓ Ethernet Web Connectivity

#### Optional

- Temperature
- Conductivity
- 4G Web Connectivity



### POOL LD-PHFCL



### LD Range - Dual Parameter

#### Included

- ✓ pH
- ✓ Free Chlorine

#### Optional

- Temperature
- 4G/WiFi/Ethernet Web Connectivity

### POOL LD-PHORP



### LD Range - Dual Parameter

#### Included

- ✓ pH
- ✓ ORP

#### Optional

- Temperature
- 4G/WiFi/Ethernet Web Connectivity

### POOL WD-PHORP-PERI



### WD Range - Dual Parameter

#### Included

- ✓ pH
- ✓ ORP
- ✓ Peristaltic Pumps - silent operation
- ✓ Chlorine Pump 3 l/hr
- ✓ Acid Pump 3 l/hr

#### Optional

- 4G/Ethernet Web Connectivity

## Key Features

CWC's range of EMEC swimming pool and spa control systems are designed specifically for the control and disinfection of swimming pool water, covering applications from smaller hotel/resort pools & spas up to the most complex swimming pool installations.

Our comprehensive range begins with pH and ORP control options, moving through to our Centurio Pool controller which utilises free and total chlorine amperometric sensors, in combination with pH, ORP, temperature and optional conductivity measurement.

The CWC Pool Controller range has a solution to fit your pool chemistry control requirements and your budget.

To complement our pool control packages, CWC can supply a range of dosing pumps (diaphragm and peristaltic) and pump accessories to provide you with a complete control & dosing solution.

POOL WD- PHORP-PERI	POOL LD- PHORP	POOL LD- PHFCL	POOL CENT- PHORPFCL	POOL CENT- PHORPFCLTCL
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## Features

Programmable delay at dosing startup	Up to 60 mins	Up to 60 mins	Up to 60 mins	Up to 60 mins	Up to 60 mins
Selectable Acid (pH) priority dosage over chlorine	✓	✓	✓	✓	✓
Flocculant Pump Control	-	✓	✓	✓	✓
Combined Chlorine Display	-	-	-	-	✓
Shock Chlorination	-	-	-	✓	✓
Filter Backwash Control	-	-	-	✓	✓
Individual Timer Control/Outputs with max 10 daily schedules per timer	-	-	-	Up to 6	Up to 6
USB Data Download	-	-	-	✓	✓
Data import/export (backup & restore) via USB port to other CENTURIO controllers	-	-	-	✓	✓
Remote Portal Access with alarm notification and logged data trends	Opt	Opt	Opt	✓	✓

✓ = Standard Feature  
 - = Not Applicable  
 Opt = Optional

PWM = Pulse Width Modulation (i.e. pump ON/OFF cycle varies depending on deviation from setpoint)  
 ORP = Oxidation Reduction Potential  
 FCL = Free Chlorine  
 TCL = Total Chlorine

POOL WD- PHORP-PERI	POOL LD- PHORP	POOL LD- PHFCL	POOL CENT- PHORPFCL	POOL CENT- PHORPFCLTCL
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### Parameter - Range (Resolution)

pH	0-14 pH (0.01 pH)	0-14 pH (0.01 pH)	0-14 pH (0.01 pH)	0-14 pH (0.01 pH)	0-14 pH (0.01 pH)
ORP	0-999 mV (1 mV)	0-999 mV (1 mV)	-	0-999 mV (1 mV)	0-999 mV (1 mV)
Free Chlorine (Default) - Pools not using Cyanuric Acid (indoor pools)	-	-	0-20 mg/l (0.01 mg/l)	0-20 mg/l (0.01 mg/l)	0-20 mg/l (0.01 mg/l)
Free Chlorine (Optional) - Pools using Cyanuric Acid (typically outdoor pools)	-	-	0-20 mg/l (0.01 mg/l)	0-20 mg/l (0.01 mg/l)	0-20 mg/l (0.01 mg/l)
Total Chlorine	-	-	-	-	0-20 mg/l (0.01 mg/l)
Temperature	-	Opt: 0-100°C (0.1°C)	Opt: 0-100°C (0.1°C)	Opt: 0-100°C (0.1°C)	0-100°C (0.1°C)
Conductivity	-	-	-	Opt: 0-20 mS/cm (1 uS/cm)	Opt: 0-20 mS/cm (1 uS/cm)

### Control Type

On/Off	✓	✓	✓	✓	✓
Fixed PWM	-	✓	✓	-	-
Proportional PWM	✓	✓	✓	✓	✓
Proportional (Pulse)	-	✓	✓	✓	✓
4-20mA	-	✓	✓	✓	✓

### Inputs

Standby	✓	✓	✓	✓	✓
Flow Sensor	✓	✓	✓	✓	✓
Pulse Water Meter	-	-	-	2	2
Sensors	pH, ORP	pH, ORP (Temp Opt)	pH, FCL (Temp Opt)	pH, ORP, FCL (Temp Opt)	pH, ORP, FCL, TCL, Temp (Cond Opt)
Chemical Tank Level	2	3	3	4	4

### General

Power Supply	220-240VAC 50-60Hz	90-240VAC 50-60Hz	90-240VAC 50-60Hz	90-240VAC 50-60Hz	90-240VAC 50-60Hz
IP Raing	IP65	IP65	IP65	IP65	IP65
Ambient Temperature	-10°C/45°C	-10°C/50°C	-10°C/50°C	-10°C/50°C	-10°C/50°C
Dimensions	570 (w) x 470 (h) mm	570 (w) x 470 (h) mm	570 (w) x 470 (h) mm	570 (w) x 470 (h) mm	570 (w) x 470 (h) mm

POOL WD- PHORP-PERI	POOL LD- PHORP	POOL LD- PHFCL	POOL CENT- PHORPFCL	POOL CENT- PHORPFCLTCL
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## Outputs

pH (Acid)	Relay (ON/OFF or PWM) Acid Pump: 3.0 l/hr @ 1.2bar	Relay (ON/OFF or PWM) or Pulse Proportional Control	Relay (ON/OFF or PWM) or Pulse Proportional Control	Relay (ON/OFF or PWM) or Pulse Proportional Control	Relay (ON/OFF or PWM) or Pulse Proportional Control
pH (Base)		Pulse Proportional Control	Pulse Proportional Control	Pulse Proportional Control	Pulse Proportional Control
Chlorine (Free)	Relay (ON/OFF or PWM) Chlorine Pump: 3.0 l/hr @ 1.2bar	Relay (ON/OFF or PWM) or Pulse Proportional Control	Relay (ON/OFF or PWM) or Pulse Proportional Control	Relay (ON/OFF or PWM) or Pulse Proportional Control	Relay (ON/OFF or PWM) or Pulse Proportional Control
Chlorine (Total)	-	-	-	-	Relay (ON/OFF or PWM) or Pulse Proportional Control
Flocculant	-	Powered Relay 240VAC	Powered Relay 240VAC	Powered Relay 240VAC or Volt Free Contact (N/O & N/C)	Powered Relay 240VAC or Volt Free Contact (N/O & N/C)
0/4-20 mA	-	pH, ORP, (& Temp)	pH, FCL, (& Temp)	pH, ORP, FCL, (& Temp)	pH, ORP, FCL, TCL, Temp
Alarm Relay	-	Powered Relay 240VAC	Powered Relay 240VAC	Powered Relay 240VAC or Volt Free Contact (N/O & N/C)	Powered Relay 240VAC or Volt Free Contact (N/O & N/C)

## Alarms

Max Dosing Time - Acid	✓	✓	✓	✓	✓
Max Dosing Time - Base	-	✓	✓	✓	✓
Max Dosing Time - Chlorine	✓	✓	✓	✓	✓
Damaged Probe (per sensor)	-	✓	✓	✓	✓
Chemical Tank Level	2	3	3	4	4
No Flow	✓	✓	✓	✓	✓
Out of Range (High/Low alarms)	-	✓	✓	✓	✓

## Communication

USB	-	-	-	✓	✓
4G Modem	Opt	Opt	Opt	Opt	Opt
WiFi	-	Opt	Opt	-	-
Ethernet	Opt	Opt	Opt	✓	✓
MODBUS RTU	-	Opt	Opt	✓	✓
MODBUS TCP/IP	-	-	-	✓	✓