LAKEWOOD INSTRUMENTS
MODEL 2830E MICROPROCESSOR-BASED
ORP & CONDUCTIVITY COOLING TOWER CONTROLLER

LONWORKS® Technology is the latest in microprocessor capability that gives the user the highest level of application flexibility. A large graphic screen, multiple inputs and very easy setup with easy field upgrades characterize this new technology.

(Shown with Mounting Plate Option)

BENEFITS

- Multiple control options in a single economical package.
- Very accurate control of chemical feed and cycles of concentration.
- Very low maintenance.
- Tolerant to power surges and brownouts.
- Power cord, plug outlets and remotely mounted plumbing make installation easy. There is plenty of protected room inside the enclosure for electrician wiring.
- Very accurate monitoring of the evaporated water.
- Feeds chemical AFTER blowdown.
- Has expansion slots to add additional control, such as chiller loop monitor and cycles of concentration based on incoming makeup water.

FEATURES

- Power On/Off switch is included.
- 4-electrode conductivity with 20 ft of cable includes fouling compensation and alarm.
- Differential ORP sensor with 15 ft of cable has diagnostics to indicate fouled reference or open pt band.
- Integral flowsight & flow switch lockout.
- Records both makeup (MTR1) and blowdown (MTR2) water meter totals.
- Configure blowdown water meter (MTR2) as second makeup meter.
- Blowdown Relay options:
  - Bleed x gallons for every x gallons makeup
  - Bleed x minutes for every x gallons of makeup
  - Bleed by setpoint
  - Bleed by cycles of concentration or multiple setpoint with NCON/NCKT Option
- **SEVEN** user-selectable and programmable relays with these control options:
  - Feed by setpoint, direct or reverse (from any input);
  - Water meter actuated feed. MTR1, MTR2 or sum;
  - Feed after blowdown by percent of bleed time;
  - Feed by percentage of time;
  - Schedule feed timer;
  - General alarm contact.
- Three security levels:
  - View only
  - Operator
  - Technician
- Includes two different languages.
  - English/Spanish

SPECIFICATIONS

Inputs

Power	120 VAC 50/60 HZ
Sensor	4 electrode Conductivity ORP combination glass electrode
Temperature comp.	Automatic
Flow switch	Dry contact
Water Meter Inputs (2)	Contacting Head, Paddle Wheel, or Turbine.

Outputs

Relays	Eight, 3 Amps @ 120 VAC
4-20 mA	Two, isolated or non-isolated w/-35L option

Sensor/Plumbing

Pressure	140 psi (9.7 bar) @ 100°F (38°C)
Max. Temperature	140°F (60°C)
Min. Flow	1 gpm (3.8 Lpm)

Controller

Conductivity Range	0-5,000 µS (other ranges optional)
Conductivity Accuracy	± 40 µS
Conductivity Resolution	10 µS
ORP Range	-1000 to +1000 mV
ORP Accuracy	± 5 mV
ORP Resolution	1 mV
Deadband	Adjustable
Setpoints	Direct or Reverse
Feed timer	Adjustable
Keypad	16 tactile push-button
Display	Illumin. 128x64 pixel LCD
Ambient Temperature	32-158°F (0-70°C)
Enclosure Rating	NEMA 4X CSA and ANSI/UL

ORDERING INFORMATION

2830e LONWORKS Technology-based ORP and conductivity controller with plumbing and flow switch. Eight relays are integral to the system. One is dedicated to blowdown. The others may be configured for ORP setpoint (direct or reverse), inhibitor feed on conductivity, water meter, percent of time, or schedule feed. ORP range is -1000 to +1000 mV and conductivity range is 0-5,000 µS.

CONTROLLER OPTIONS (optional, select one)

-BASIC As shown above

-DELUXE -Basic plus communications card (RS-232) and four 4-20mA inputs

-WEB -Deluxe plus Network/Internet communication interface

-EZWEB -WEB plus Broadband Internet two-way hub that is independent of any site infrastructure and can have up to four 2000 series controllers linked to it. Also functions a local WiFi Hotspot for those with password. Requires one year service agreement part number 126977.

ADVANCED ADD-ON REMOTE NODE OPTIONS (optional)

NRLY Four additional relays with enclosure (1 per 2800 Series Controller)

NpH pH/ORP node for a pH or ORP sensor.

2KIN-V1 Card to connect controller to LON based systems or gateways.

N420I 4-20 ma input node for up to four 4-20 ma inputs.

NDIG Digital input node for up to four digital inputs.

NCON Conductivity node for makeup water or closed loop control (node only).

NCKT Conductivity node for makeup water or closed loop control with PVC sensor, tee and enclosure. Maximum water pressure and temperature is 140 psi @ 100°F (9.7 bar @ 38°C).

NOTE: NOT FOR USE WITH MULTIPLE COOLING TOWERS.

SEE 2000e SERIES CAPABILITIES SHEET FOR FURTHER INFO.

MOUNTING OPTIONS (optional)

MP Mounting Plate.

SOFTWARE AND REMOTE COMMUNICATIONS

LRWS W*indows*-based software program for computer to communicate with 2000 Series.

MD4X High-Baud modem in NEMA-4X enclosure ready to power. (Requires -Deluxe)

MD High-Baud modem for use with 2000 Series Controllers.

MODEL 2830e

PART NO.	DESCRIPTION
1269039	2830e-BASIC
1269040	2830e-DELUXE
1269041	2830e-WEB
1269042	2830e-EZWEB
	(This price does not include 1 year service agreement 1268977)
	This controller model is available on a mounting plate

PART NO.	REPLACEMENT PARTS
1166418	O-Ring, for sensor and/or flow sight, set of 10
1169740	Red Ring replacement Kit set of two
1107004	Reed Switch w/ 20 ft of cable
1167266	Flow Sight set of five
1167234	Flow Float set of five
1169202	Sensor, Conductivity 4 elec w/ 20 ft of cable
1240473	Sensor, ORP 1530e. 2330e, 2430e w/ 15 ft of cable
1268640	Plumbing, 1512e/2412e/2430e/2812e/2830e