

OAKTON®

conductivity;C and resistivity;C 1000 Series

PID ANALYZERS

Fast-responding on/off control with high $\pm 0.5\%$ full-scale accuracy
a performance breakthrough!

Large dual display shows measurement plus temperature also features multiple annunciators, set points, and status messages

Two set point, two SPDT relay operation for on/off control choose from lo/lo, lo/hi, hi/lo or hi/hi control

Separate alarm relay alerts you to set points exceeded for a specific length of time or a failed temperature sensor

0 to 2000 second time delay adjustment on all relays minimizes false alarms

Separately adjustable high and low set point hysteresis bands prevent rapid contact switching if your value is fluctuating near the set point

Adjustable temperature coefficient from 0.0 to 10.00/ $^{\circ}\text{C}$ lets you input your solution's true temperature correction for higher accuracy

Choice of 0.01, 0.1, 1.0 or 10.0 cell constants for accurate control in any solution

Selectable 0-20/4-20 mA transmitter/recorder output for remote monitoring and hard copy recording

Push button one point calibration

Two level password protection first level allows quick access to calibration; second level lets you change set-up parameters

Protected against electromagnetic interference

LED indicators signal control activities monitor controller status from a distance

Nonvolatile memory maintains setup even when power fails



ISO 9001
CERTIFIED

3 year
warranty

CE



Top: All operations on this flexible controller are accessible from the front-panel keypad.

Bottom left: OAKTON offers a large assortment of industrial conductivity and resistivity cells. See the back of this sheet for more details.

Bottom right: 1/2 DIN size fits into standard-size panel cutouts.



Advanced set up features let you customize controller to your specific application. These 1000 Series controllers provide high 0.5% full-scale accuracy for rapid on/off control of your process. Models that read conductivity or resistivity are available. Each unit is selectable for isolated 0-20 or 4-20 mA recorder output; normally activated or unactivated relays; manual or automatic temperature compensation, and much more. View control set points and other set-up information with a button press.

The controller's convenient 1/2 DIN size fits into standard panel cutouts; it includes mounting hardware for fast panel installation. The IP54 rated front panel keypad is weather resistant.

The 1000 Series controllers are supported by a full selection of OAKTON calibration solutions and industrial cells. See the back of this sheet for ordering information and complete specifications.

OAKTON® ...setting the standard, again and again®

Large dual LCD displays conductivity or resistivity reading and temperature, plus clear mode and function annunciators.



Removable terminal blocks on back for power supply, probe and temperature inputs and cold contact SPDT relay terminals.



Splash-resistant, IP54 rated membrane keypad with audible clicks that confirm your button press.



Mounting hardware (included) allows easy surface mounting to all panels and protective enclosures.



Conductivity cells ideal for most processes are available at right.



CON 1000 and RES 1000 Controllers

Applications

Industrial Applications: Use in applications involving agriculture, chemical, boiler and water heaters, microprocessor manufacturing, pharmaceuticals, pulp and paper industries, and bleach manufacturing.

Water Purification: Use these controllers to treat batches of incoming process water, ultrapure water, and for boiler and feed water control.

General Applications: Use for virtually any batching or on-line applications where you need rapid, accurate conductivity or resistivity control.

Regulatory Compliance: Hook these controllers to a recorder to document data for regulatory compliance.

Hold Function: Contact closure shuts off control functions. Use with manual, float, or flow switches for safety control, or for master/slave applications using multiple controllers.

Specifications

Control type	Range	Resolution	Cell Constant (K)
Conductivity Controller	0.000 to 1.999 µS	0.001 µS	0.01
	0.00 to 19.99 µS	0.01 µS	0.01 or 0.1
	0.0 to 199.9 µS	0.1 µS	0.1 or 1.0
	0 to 1999 µS	1 µS	1.0
	0 to 5000 µS	1 µS	1.0
	0.00 to 19.99 mS	0.01 mS	1.0
Resistivity Controller	0.000 to 2.000 M	0.001 M	0.01
	0.00 to 20.00 M	0.01 M	0.1

Control type: on/off

Control accuracy: ±0.5% full-scale

Number of inputs: one

Number of set points: two (high and low)

Output:

Control: 2 SPDT relays, 6 A @ 110 VAC, 250 VAC max

Alarm: 1 SPDT relay, 6 A @ 110 VAC, 250 VAC max

Current: isolated 0-20/4-20 mA, with 20% to 100% full-scale

scalable boundaries, 600 max. load

Hysteresis (dead band): 0 to 10% of range

Relay delay: selectable, 0 to 2000 seconds

Input impedance: 10¹² M

Electrical isolation: yes, galvanically

Temperature:

Range: 0 to 100°C

Resolution: 0.1°C

Accuracy: ±0.5°C

Sensor: 100 or 1000 Platinum RTD, terminal strip

Temperature compensation: Automatic/manual from 0.9 to 125°C

Temperature coefficient:

Conductivity: linear 0.00 to 10.00% per °C

Resistivity: ultra-pure/linear 0.00 to 10.00% per °C

Calibration:

Conductivity or resistivity: one point

Temperature: offset up to ±5°C

Password protection: two level protection with four-digit password lockout; first level gives calibration access, second level allows set-up parameter changes

Display: Dual-line LCD; 4-digit upper and 3 1/2 digit lower

Operating temperature: 14 to 140°F (0 to 60°C)

Housing: IP54 front; DIN size

Dimensions:

Unit only: 3 1/4" W x 3 1/4" H x 6 1/4" D (9.6 x 9.6 x 17.5 cm)

Boxed: 6 1/4" W x 6" H x 9 1/4" D (16.5 x 15.2 x 23.5 cm)

Panel cut-out: 3 1/4" W x 3 1/4" H (9.2 x 9.2 cm)

Weight: Unit only: 1.5 lbs (0.7 kg); Boxed: 2.5 lbs (1.2 kg)

Ordering Information

Conductivity and Resistivity Controller

Each controller includes mounting hardware. Order power cord separately. Shpg wt 2.5 lbs (1.2 kg)

Conductivity controllers

WD-35200-20 CON 1000 controller, 120 VAC

WD-35200-25 CON 1000 controller, 220 VAC

Resistivity controllers

WD-35200-40 RES 1000 controller, 120 VAC

WD-35200-45 RES 1000 controller, 220 VAC

Calibration solutions

Catalog number	Calibration solution type	TDS conversion factors		
		ppm KCl	ppm NaCl	ppm 442
WD-00653-23	23 µS	11.6	10.7	14.74
WD-00653-16	84 µS	40.38	38.04	50.50
WD-00653-47	447 µS	225.6	215.5	300.0
WD-00653-18	1413 µS	744.7	702.1	1000
WD-00653-15	1500 µS	757.1	737.1	1050
WD-00653-27	2070 µS	1045	1041	1500
WD-00653-20	2764 µS	1382	1414.8	2062.7
WD-00653-89	8974 µS	5101	4487	7608
WD-00606-10	12,880 µS	7447	7230	11,367
WD-00653-50	15,000 µS	8759	8532	13,455
WD-00653-32	80 mS	52,168	48,384	79,688

Calibration solution bottles. 1 pint of premixed calibration solution in recyclable-PE bottle. Accuracy ±1% at 25°C. Shpg wt 1.1 lbs (510 g).

Industrial Conductivity Cells

Each features a built-in temperature sensor and 1/2" NPT(M) thread on both ends. Select a cell with K = 0.1 for low range measurements (<20 µS); select a cell with K = 10 for high range measurements (≥20 mS).

Model. no.	Electrode material	Cell constant
Epoxy body cells with 10-ft cable and 1/2" NPT(M) threaded ends		
WD-35820-20	graphite	K = 1.0
WD-35820-21	graphite	K = 0.1
WD-35820-22	2-band platinum	K = 10
WD-35820-40	stainless steel	K = 0.01

Glass body cells with 10-ft cable and 1/2" NPT(M) threaded ends		
WD-35820-25	platinized platinum	K = 1
WD-35820-26	platinized platinum	K = 0.1

New epoxy body cells with 25-ft cable. Require threaded housing order separately below

WD-35820-60	graphite	K = 0.1
WD-35820-62	graphite	K = 1.0

WD-35820-64 In-line threaded housing, 1/2" NPT(M), Nylon, for WD-35820-60 and -62

Accessories

WD-35100-90 Power cord; 3 ft with bare leads, 3 prong U.S. plug, 110 VAC

Contact your OAKTON distributor for information on calibrating resistivity to meet USP 23 requirements.

ORDER FROM

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