

CDCN670 and CDCN680 Series Conductivity Analyzers

CDCN670 Series for use with CDE3600 Electrodeless Sensors

CDCN680 Series for use with CDE680 Sensors



- ✓ Two Analog Outputs
- ✓ Two or Four Alarm/Control Relays with Overfeed Timer
- ✓ Easy Calibration
- ✓ Simple Function Menu Operation
- ✓ ½ or ¼ DIN Models
- ✓ CDCN680 Features Ultrapure Water Capabilities
- ✓ Display in English, French, German or Spanish
- ✓ Dual Input (CDCN680 Only)



CDCN684 with CDE681 electrode (sold separately)
Shown smaller than actual size

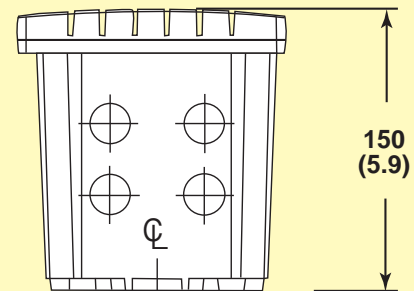
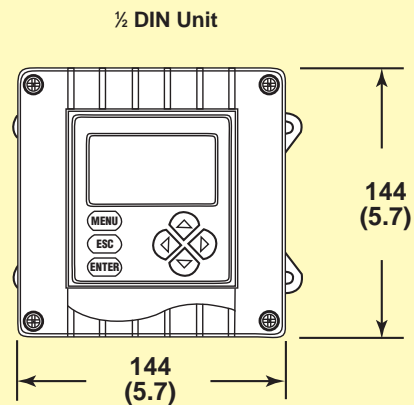
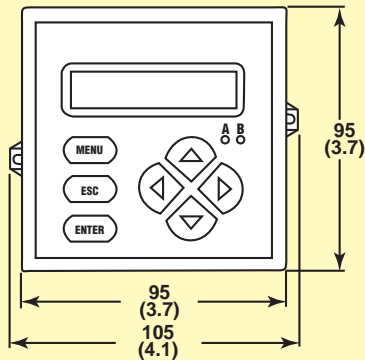
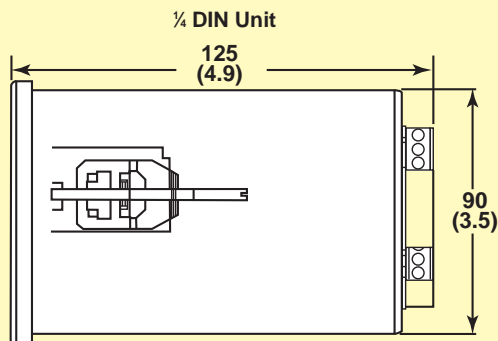


CDCN680 series conductivity analyzers are designed for use with CDE680 conductivity sensors in applications of pure water up to 200 mS. The two sensor inputs can be independently configured to measure conductivity, resistivity, total dissolved solids or to make a two-sensor calculation such as % rejection, % passage, difference or ratio.

CDCN670 series analyzers are designed for use with CDE3600 series electrodeless conductivity sensors for applications from 200 μ S to 2000 mS, particularly where coating and polarization can cause problems with other types of electrodes. The sensor input can be configured to measure conductivity, % concentration or total dissolved solids.

Both the CDCN670 and CDCN680 Series are available in either ¼ or ½ DIN versions. All models have either two or four relay outputs and two analog outputs. The ½ DIN models feature a large LCD display and hardware for wall, pipe or panel mounting.

CDCN675 with CDE3625P electrode (sold separately)
Shown smaller than actual size



Panel Cutout
 CDCN674, CDCN684: 90 (3.5) square
 CDCN675 and CDCN686:
 137 H x 131 W (5.4 x 5.2)

Dimensions shown in mm (inches)

Specifications for CDCN680 Series

Measurement and Selectable Ranges (One or Two Inputs)

Conductivity:

$\mu\text{S/cm}$: 0 to 2,000, 0 to 20.00,
0 to 200.0, or 0 to 2000

mS/cm : 0 to 2,000, 0 to 20.00,
0 to 200.0, or 0 to 2000

Resistivity: 0 to 19.99 $\text{M}\Omega \cdot \text{cm}$ or
0 to 999.9 $\text{K}\Omega \cdot \text{cm}$

TDS: 0 to 9999 ppm or 0 to 9999 ppb

Calculated Sensor A and B Measurement

% Rejection: 0 to 100%

% Passage: 0 to 100%

Ratio A/B or B/A:

0 to 99.99, 0 to 999.9, or 9999

Difference A-B or B-A:

Same ranges as those listed above for conductivity, resistivity and TDS

Analyzer Performance (Electrical, Analog Outputs)

Accuracy: 0.1% of span

Stability: 0.05% of span per 24 hours, non-cumulative

Temperature Drift: Zero and span: less than 0.03% of span/ $^{\circ}\text{C}$

Relay Function:

Each relay can be assigned to be driven by: sensor A's selected measurement (conductivity, resistivity, or TDS), or temperature; sensor B's selected measurement (conductivity, resistivity, or TDS), or temperature; calculated

sensor A and B measurement (% rejection, % passage, ratio A/B or B/A, or difference A-B or B-A)

mA Output: Two 4 to 20 mA dc outputs, each one can represent one of the following: measured sensor A or B conductivity, resistivity or TDS; measured sensor A or B temperature; calculated sensor A and B (% rejection, % pass, ratio A/B, ratio B/A, A-B or B-A)

Specifications for CDCN670 Series

Measurement and Selectable Ranges (Single Input Only)

Conductivity:

$\mu\text{S/cm}$: 0 to 2000

NOTE: Minimum reading with CDE-3600 Series is 200 μS

mS/cm : 0 to 2,000, 0 to 20.00,
0 to 200.0 or 0 to 2000

S/cm: 0 to 2,000

% Concentration:

0 to 99.99% or 0 to 200.0%

TDS: 0 to 9999 ppm

Analyzer Performance (Electrical, Analog Outputs)

Accuracy: 0.5% of span*

Stability: 0.2% of span per 24 hours, non-cumulative*

Repeatability: 0.1% of span or better*

Temperature Drift: Zero and span: less than 0.02% of span/ $^{\circ}\text{C}$

*Above 500 μS and below 100 $^{\circ}\text{C}$ (212 $^{\circ}\text{F}$)

Relay function: Each relay can be assigned to one of the following: Conductivity, % concentration or TDS temperature, diagnostic status
mA Output: Two 4-20 mA dc outputs; each one can represent one of the following: conductivity, resistivity, or TDS temperature

Common Specifications

Analog Outputs (#1 and #2):

Scalable 0.00 to 20.00 mA or 4.00 to 20.00 mA Isolated into 600 ohm max

Ambient Conditions

Operation: -20 to 60 $^{\circ}\text{C}$ (-4 to 140 $^{\circ}\text{F}$);
0 to 95% RH non-condensing

Storage: -30 to 70 $^{\circ}\text{C}$ (-22 to 158 $^{\circ}\text{F}$);
0 to 95% RH non-condensing

Relays

Types/Outputs: Two or four electromechanical relays; SPDT (Form C) contacts; U.L. rated 5 A 115/230 Vac, 5A @ 30 Vdc res

Diagnostics Status

Control: Settings for high/low phasing, setpoint, deadband, overfeed timer, off delay and on delay

Alarm: Settings for low alarm point, low alarm point deadband, high alarm point, high alarm point deadband, off delay and on delay

Temperature Compensation: Automatic or manual -20 to 200 $^{\circ}\text{C}$ (-4 to 392 $^{\circ}\text{F}$), 1000 Ω Pt RTD

Sensor-to-Analyzer Distance: 61 m (200')

Power Requirements: 90 to 130 Vac, 50/60 Hz (10 VA max.) or 180 to 260 Vac, 50/60 Hz (10 VA max)



CDCN684 with CDE681 Series electrode



CDCN675 with CDE3625P electrode (sold separately)



¼ DIN Models

Display:

Two-line by 16-character backlit LCD

Enclosure: Polycarbonate with NEMA-4X front panel; general purpose

Mounting Configuration:

Panel mounting

Net Weight: 0.8 kg (1.7 lb), approximately

½ DIN Models

Display:

Graphic dot matrix LCD, 128 x 64 pixels with LED backlighting;

13 mm (½") main character height; 3 mm

(¼") auxiliary information character height

Enclosure: Polycarbonate face panel and epoxy-coated cast aluminum door and case with four 13 mm (½") conduit holes; includes nylon mounting bracket and SS hardware

Mounting Configuration:

Panel, surface and pipe (horizontal and vertical) mounting

Net Weight: 1.6 kg (3.5 lb), approximately

Cell constant chart for CDE680 Series electrodes for use with CDCN680 Series analyzers

Sensor Cell Constants and Measuring Ranges

Sensor Cell Constant	Inherent Measuring Range	
	Conductivity (µS/cm)	Resistivity (MΩ • cm)
0.05	0 to 100	0.002 to 20
0.5	0 to 1000	0.001 to 20
1	0 to 2000	not applicable
5	0 to 10,000	not applicable
10	0 to 200,000	not applicable

TDS Ranges: To determine which cell constant to use, convert the full-scale TDS value to its equivalent conductivity value at 25°C (77°F). Do this by multiplying the TDS value by 2. Then choose the cell constant for that calculated value.



CDE3600 electrodes

MOST POPULAR MODELS HIGHLIGHTED!

To Order (Specify Model No)

Model No	Price	Sensor Type	Number of Inputs	Number Output Relays	Mounting	Range µS
CDCN674	\$645	CDE3600 Series	1	2	¼ DIN Panel	200 to 2,000,000
CDCN675	845	Electrodeless	1	2	½ DIN NEMA-4X	
CDCN684	645	CDE680 Series	1 or 2	2	¼ DIN Panel	0-2 to 0-200,000
CDCN686	920	(Contacting)	1 or 2	4	½ DIN NEMA-4X	

Note: Electrodes must be ordered separately. **Ordering Example:** CDCN686, conductivity analyzer, \$920.



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