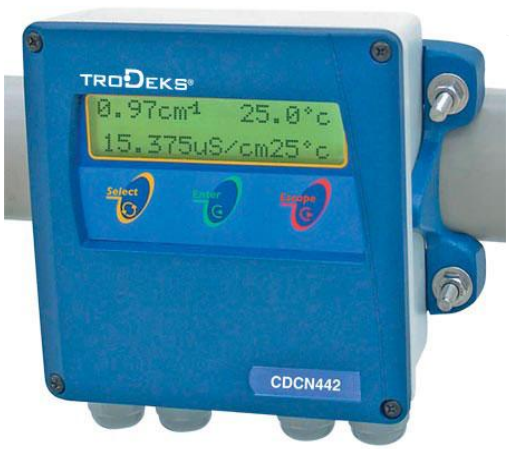
Toroidal Conductivity or Concentration Analyzer

CDCN442

2 YEAR WARRANTY

- NEMA 4X (IP68)
- 2 x 16 Digit LCD Readout
- Assembly in 51 mm (2") Tube or Flat Surface or Panel 144 x 144 x 100 mm DIN (5.7 x 5.7 x 4")
- Simple 3 Key Operation
- Cell Check
- RS485 Output MODBUS® and Proprietary Communication Protocol



CDCN442 shown smaller than actual size.

CDE-442 shown smaller than actual size.

The CDCN442 toroidal conductivity system is designed for online monitoring of chemically aggressive process solutions, water applications that coat or foul traditional sensors, and plating bath operations in which high current densities are present. The sensor consists of 2 metallic ribbon coils that are fixed in place by the sensor jacket material. The drive coil is used to induce a current in the process solution. The second sensing coil is used to measure the current in the process solution; the magnitude of this current is proportional to the conductivity of the process solution. Toroidal sensors are available in polypropylene, and PEEK™ to ensure that sensor-wetted materials are chemically resistant to process chemicals. The sensor material is non-conductive, thereby isolating the sensor from electrical noise and ground loops that can influence the integrity of the measurement. This material also makes the sensor resistant to electrode coating, since most substances do not adhere to the sensor material. Sensors can be submersion mounted for easy installation in open tanks or pipe mounted in the optional 51 mm (2") tee fitting, which is keyed to the sensor for proper alignment. Tee fitting material is polypropylene. For larger pipe diameters, the sensor can be insertion mounted through a 1½ NPT ball valve for easy retraction. The monitor comes with concentration/temperature tables for sodium hydroxide, potassium hydroxide, hydrochloric acid, nitric acid, and sulfuric acid. A configurable table allows the user to enter data points for a custom concentration curve. Typical applications include waste water treatment, power plants, thermo electric plants, pharmaceutical, photographic industries, soft drinks industries.

Specifications

General

Construction Materials:
Case: Aluminum (SAE323)
Faceplate: ABS
Anti-Corrosion Treatment: Finished with electrostatic epoxy paint
Power Consumption: 3.5 Va
Power: 90/240 Vac, 50/60 Hz
Weight: 1.3 kg (2.8 lb)

Analyzer

Conductivity Range: 10 mS/cm to 1 S/cm
Resistivity Range: 10 MΩ/cm to infinity
Resolution: 0.1 or 0.01
Automatic or Manual Temperature Compensation: 0 to 100°C (32 to 212°F)
Operating Temperature: 5 to 40°C (41 to 104°F)
Cell Constants Offered: 0.01, 0.1, 1 or 5/10 cm-1

Transmitter

Analog Output: 4 to 20 mA (2), recorder output
Impedance: 600 Ω
Optical Galvanic Isolation: 2000 Vac

Controller

On/Off Alarm Outputs (2): NO (1A/240 Vac)
Control Output (4 to 20 mA): Can be programmed for PID Control

CDE-442

Range: 1 mS to 1 S
Body Material: PVDF (Kynar®)
Temperature: 0 to 130°C (32 to 266°F)
Insertion length: 100 mm (3.93")
Process Connection: ¾ NPT
Cable Length: 5 m (15')

Element	Range	Element	Range
HNO_3	0 to 280 g/L	H_2SO_4	940 to 998 g/L
HF	0 to 300 g/L	H_2CrO_4	0 to 100 g/L
NaOH	0 to 150 g/L	NaCL	0 to 260 g/L
NaOH	150 to 500 g/L	K_2CO_3	0 to 315 g/L
H_2SO_4	0 to 300 g/L	Na_2SO_4	0 to 220 g/L
H_2SO_4	350 to 800 g/L	HCL	200 to 350 g/L

To Order

Model No.	Description
CDCN442	Conductivity and concentration analyzer
CDE-442	Toroidal conductivity cell (1 required)
CDSA-10	10 µS conductivity solution

Comes complete with operator's manual, hardware for 51 mm (2") tube installation, and wall mount brackets (sensor sold separately).

***Ordering Example: CDCN442,** toroidal conductivity analyzer, and **CDE-442,** toroidal conductivity cell.*